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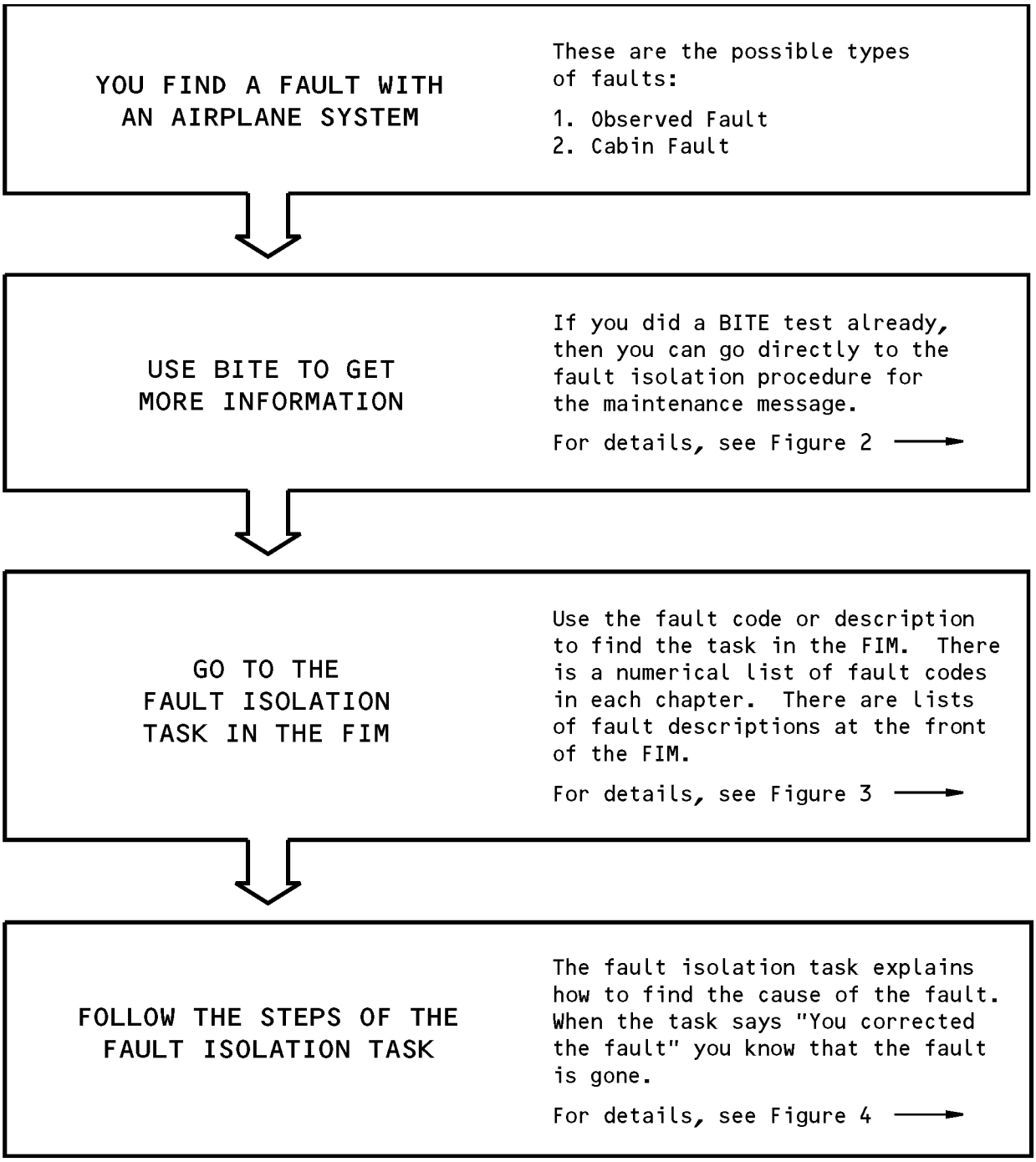

Basic Fault Isolation Process
Figure 1

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Some airplane systems have built-in test equipment (BITE). IF the system finds a fault when you do a BITE test, it will give you a maintenance message.

A maintenance message can be any of these:

- a code
- a text message
- a light
- an indication.

To find the fault isolation task for a maintenance message, go to the Maintenance Message Index in the chapter for the applicable system.

If you do not know which chapter is the correct one, look at the list at the front of any Maintenance Message Index. For each system or component (LRU) that has BITE, this list gives the chapter number where you can find the Index that you need.

Find the maintenance message for the applicable LRU or system in the Index. Then find the task number on the same line as the maintenance message. Go to the task in the FIM and do the steps of the task (see Figure 4).

Getting Fault Information from BITE
Figure 2

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IF YOU HAVE:	THEN DO THIS TO FIND THE TASK IN THE FIM:
FAULT CODE	1. The first two digits of the fault code are the FIM chapter that you need. Go to the Fault Code Index in that chapter and find the fault code. If the fault code starts with a letter, then go to the Cabin Fault Code Index at the front of the FIM. 2. Find the task number on the same line as the fault code. Go to the task in the FIM and do the steps in the task (see Figure 4).
OBSERVED FAULT DESCRIPTION	1. Go to the Observed Fault List at the front of the FIM and find the best description for the fault. 2. Find the task number on the same line as the fault description. Go to the task in the FIM and do the steps of the task (see Figure 4).
CABIN FAULT DESCRIPTION	1. Go to the Cabin Fault List at the front of the FIM and find the best description for the fault. 2. Find the task number on the same line as the fault description. Go to the task in the FIM and do the steps of the task (see Figure 4).
MAINTENANCE MESSAGE (FROM BITE)	1. Go to the Maintenance Message Index in the chapter for the LRU (the front of each Index gives you the chapter number for all LRUs). Find the maintenance message in the Index. 2. Find the task number on the same line as the maintenance message. Go to the task in the FIM and do the steps in the task (see Figure 4).

Finding the Fault Isolation Task in the FIM
Figure 3

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ASSUMED CONDITIONS AT START OF TASK

- External electrical power is ON
- Hydraulic power and pneumatic power are OFF
- Engines are shut down
- No equipment in the system is deactivated

POSSIBLE CAUSES

- The list of possible causes has the most likely cause first and the least likely cause last.
- You can use the maintenance records of your airline to determine if the fault occurred before. Compare the list of possible causes to the past maintenance actions. This will help prevent repetition of the same maintenance actions.

INITIAL EVALUATION PARAGRAPH

- The primary purpose of the Initial Evaluation paragraph at the start of the task is to help you find out if you can detect the fault right now:
  - If you cannot detect the fault right now, then the task cannot isolate the fault and the Initial Evaluation paragraph will say that there was an intermittent fault.
  - If you have an intermittent fault, you must use your judgement (and follow your airline's policy) to decide which maintenance action to take. Then monitor the airplane to see if the fault happens again on subsequent flights.
- The Initial Evaluation paragraph can also help you find out which Fault Isolation Procedure to use to isolate and correct the fault.

FAULT ISOLATION STEPS

- Do the steps of the task in the specified order. The "If ... then" statements that you see will guide you along the correct path.
- When you are at the endpoint of the path, the step says "...you corrected the fault." Complete the step and exit the procedure.

Doing the Fault Isolation Task
Figure 4

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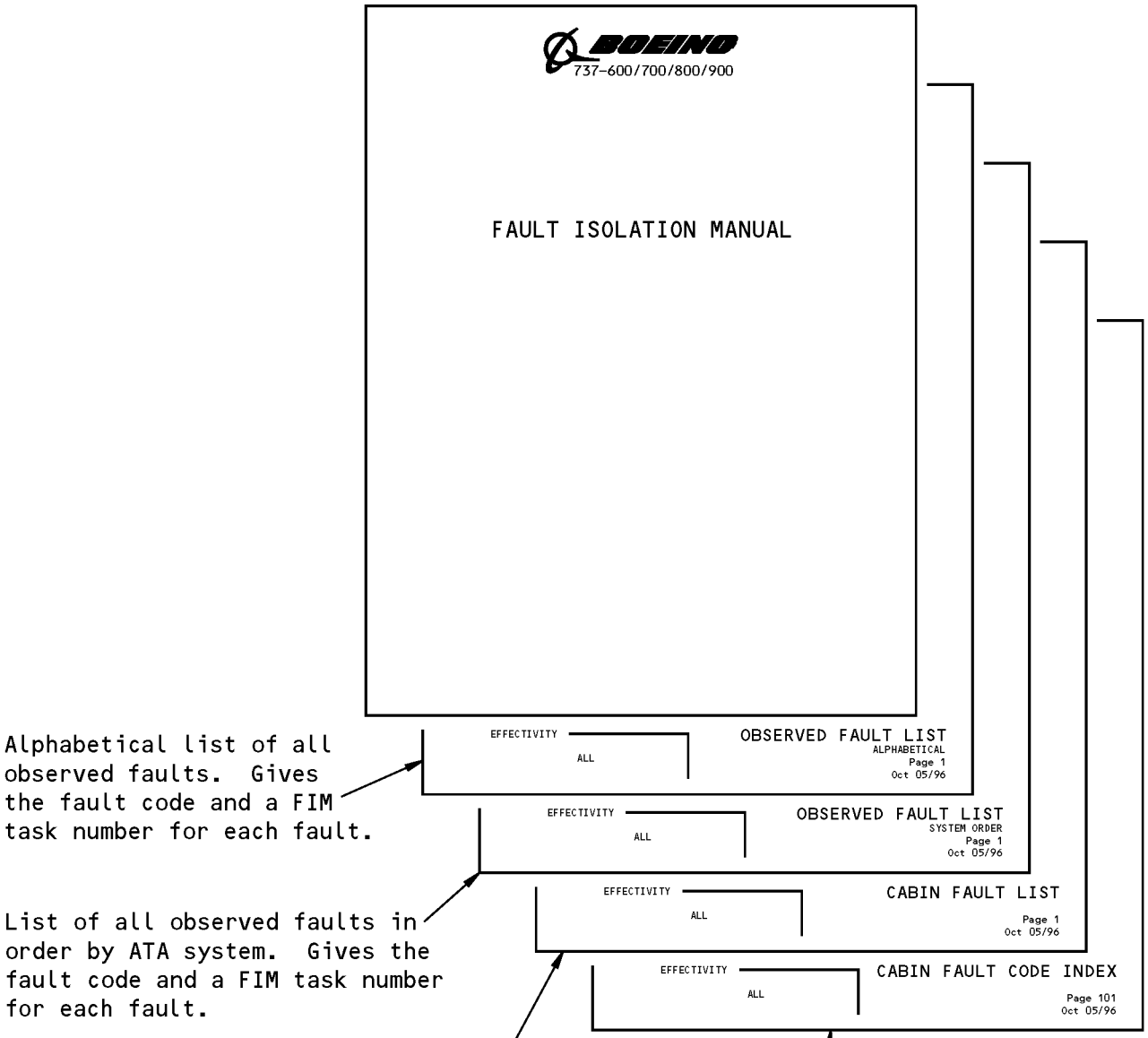

Subjects at Front of FIM
Figure 5

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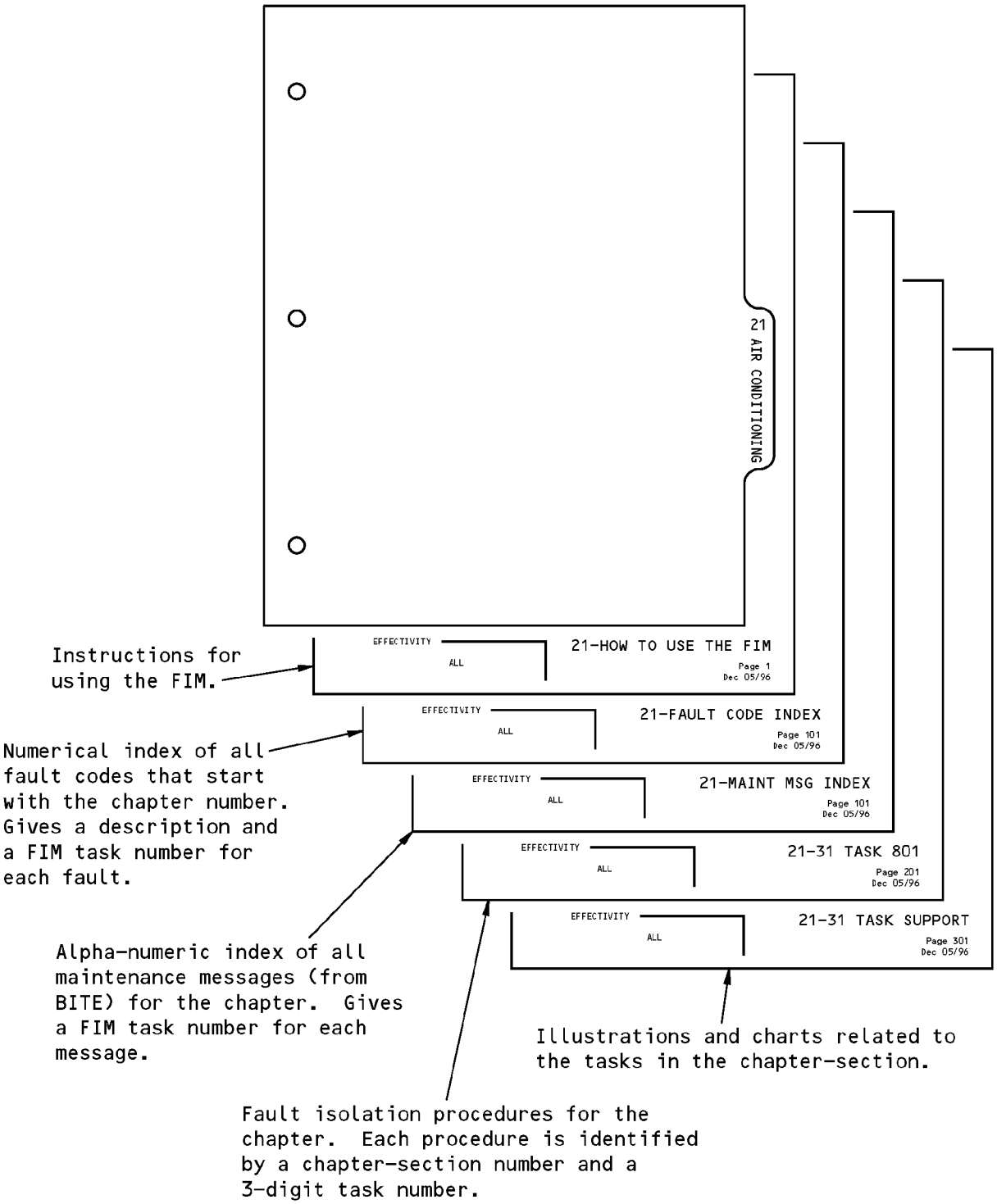

Subjects in Each FIM Chapter
Figure 6

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
341 010 00	Standby altimeter problem.	34-13 TASK 801
341 020 00	Standby airspeed indicator problem.	34-13 TASK 802
341 030 01	Mach airspeed warning: does not sound when MACH AIRSPEED WARNING TEST switch is pushed - NO 1.	34-16 TASK 801
341 030 02	Mach airspeed warning: does not sound when MACH AIRSPEED WARNING TEST switch is pushed - NO 2.	34-16 TASK 801
342 010 31	ATT flag shows on the EFIS display - captain's.	34-21 TASK 825
342 010 32	ATT flag shows on the EFIS display - first officer's.	34-21 TASK 826
342 015 31	Attitude display: does not show - captain's.	31-63 TASK 809
342 015 32	Attitude display: does not show - first officer's.	31-63 TASK 809
342 020 31	PITCH message shows on the attitude display - captain's.	34-21 TASK 825
342 020 32	PITCH message shows on the attitude display - first officer's.	34-21 TASK 826
342 030 31	ROLL message shows on the attitude display - captain's.	34-21 TASK 825
342 030 32	ROLL message shows on the attitude display - first officer's.	34-21 TASK 826
342 040 31	SPD flag shows on the EFIS display - captain's.	34-21 TASK 827
342 040 32	SPD flag shows on the EFIS display - first officer's.	34-21 TASK 828
342 044 00	Airspeed display: minimum manuever speed or minimum speed on captain's PFD disagrees with first officer's PFD.	34-21 TASK 830
342 045 31	Airspeed display: does not show - captain's.	31-63 TASK 809
342 045 32	Airspeed display: does not show - first officer's.	31-63 TASK 809
342 046 31	IAS DISAGREE message shows on airpseed display - captain's.	31-62 TASK 876
342 046 32	IAS DISAGREE message shows on airpseed display - first officer's.	31-62 TASK 876
342 050 00	TAT data: does not show on the engine display.	34-21 TASK 813
342 070 41	FAULT light for the IRS: light on - left.	34-21 TASK 803
342 070 42	FAULT light for the IRS: light on - right.	34-21 TASK 803
342 080 31	ALT flag shows on the EFIS display - captain's.	34-21 TASK 827
342 080 32	ALT flag shows on the EFIS display - first officer's.	34-21 TASK 828
342 090 31	Altitude display: is blank - captain's.	31-63 TASK 809
342 090 32	Altitude display: is blank - first officer's.	31-63 TASK 809
342 091 31	ALT DISAGREE message shows on airpseed display - captain's.	31-62 TASK 875
342 091 32	ALT DISAGREE message shows on airpseed display - first officer's.	31-62 TASK 875
342 120 31	TAS data: does not show on the navigation display - captain's.	34-21 TASK 827

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
342 120 32	TAS data: does not show on the navigation display - first officer's.	34-21 TASK 828
342 130 31	HDG/TRK flag shows on the EFIS display - captain's.	34-21 TASK 825
342 130 32	HDG/TRK flag shows on the EFIS display - first officer's.	34-21 TASK 826
342 140 31	Heading/track display: does not show - captain's.	34-21 TASK 825
342 140 32	Heading/track display: does not show - first officer's.	34-21 TASK 826
342 175 31	VSI flag shows - captain's.	34-21 TASK 825
342 175 32	VSI flag shows - first officer's.	34-21 TASK 826
342 180 31	Vertical speed data: does not show - captain's.	31-63 TASK 809
342 180 32	Vertical speed data: does not show - first officer's.	31-63 TASK 809
342 185 31	Vertical speed pointer: does not show - captain's.	34-21 TASK 825
342 185 32	Vertical speed pointer: does not show - first officer's.	34-21 TASK 826
342 190 00	Call horn: sounds, equipment cooling problem.	34-21 TASK 829
342 200 41	Call horn: sounds, ADIRU power problem, ON DC light on - left.	34-21 TASK 829
342 200 42	Call horn: sounds, ADIRU power problem, ON DC light on - right.	34-21 TASK 829
342 220 00	IRS display unit (ISDU): maintenance code shows in right window when HDG/STS mode selected.	34-21 TASK 835
342 225 00	VERIFY POSITION message shows on CDU and POS SHIFT page shows large IRS drift.	34-21 TASK 836
342 230 00	ALIGN lights for the L and R IRS: lights on flashing.	34-21 TASK 805
342 410 00	Radio magnetic indicator: HDG flag shows.	34-22 TASK 801
342 430 00	Radio magnetic indicator: ADF flag shows.	34-22 TASK 803
342 440 00	Radio magnetic indicator: VOR flag shows.	34-22 TASK 802
342 510 00	Standby magnetic compass error.	34-23 TASK 801
342 601 00	Integrated standby flight display: display blank.	34-24 TASK 804
342 602 00	Integrated standby flight display: ALT flag shows.	34-24 TASK 805
342 603 00	Integrated standby flight display: ATT flag shows.	34-24 TASK 806
342 604 00	Integrated standby flight display: G/S flag shows.	34-24 TASK 808
342 605 00	Integrated standby flight display: HDG flag shows.	34-24 TASK 809
342 606 00	Integrated standby flight display: LOC flag shows.	34-24 TASK 808
342 607 00	Integrated standby flight display: OUT OF ORDER flag shows.	34-24 TASK 810
342 608 00	Integrated standby flight display: PROGRAM PIN ERROR flag shows.	34-24 TASK 811

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
342 609 00	Integrated standby flight display: SPD flag shows.	34-24 TASK 812
342 610 00	Integrated standby flight display: WAIT ATT flag shows.	34-24 TASK 807
342 611 00	Integrated standby flight display: attitude display disagrees with primary display; no flag shows.	34-24 TASK 814
342 620 00	Standby attitude indicator: localizer deviation pointer out of view.	34-24 TASK 802
342 630 00	Standby attitude indicator: glideslope deviation pointer out of view.	34-24 TASK 802
342 650 00	Standby attitude indicator: G/S flag shows.	34-24 TASK 802
342 660 00	Standby attitude indicator: LOC flag shows.	34-24 TASK 802
342 670 00	Standby attitude indicator: GYRO flag shows.	34-24 TASK 801
343 010 31	LOC flag shows on the EFIS display - captain's.	34-31 TASK 806
343 010 32	LOC flag shows on the EFIS display - first officer's.	34-31 TASK 807
343 020 31	ILS: test problem when you push the TEST switch on the navigation control panel - captain's.	34-31 TASK 801
343 020 32	ILS: test problem when you push the TEST switch on the navigation control panel - first officer's.	34-31 TASK 801
343 030 31	G/S flag shows on the EFIS display - captain's.	34-31 TASK 806
343 030 32	G/S flag shows on the EFIS display - first officer's.	34-31 TASK 807
343 040 00	Navigation control panel: panel problem.	34-31 TASK 808
343 050 31	Localizer and glideslope pointers: do not show, LOC and G/S flags do not show - captain's.	34-31 TASK 809
343 050 32	Localizer and glideslope pointers: do not show, LOC and G/S flags do not show - first officer's.	34-31 TASK 809
343 060 01	ILS: frequency shows dashes - ILS 1.	34-31 TASK 810
343 060 02	ILS: frequency shows dashes - ILS 2.	34-31 TASK 810
343 070 31	ILS: audio tone does not occur or is weak - captain's.	34-31 TASK 811
343 070 32	ILS: audio tone does not occur or is weak - first officer's.	34-31 TASK 811
343 110 00	Marker beacon: audio tone does not occur or is weak when passing marker, indications are normal.	34-32 TASK 801
343 120 00	Marker beacon: indication does not show on the display when passing marker, audio tone does not occur or is weak.	34-32 TASK 802
343 130 00	Marker beacon: indication does not show on the display when passing marker, audio tone is normal.	34-32 TASK 803
343 140 00	Marker beacon: test problem when you push the TEST switch on the navigation control panel.	34-51 TASK 801

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
343 150 00	Marker beacon: FT does not show on the display when you push the TEST switch on the navigation control panel.	34-32 TASK 803
343 210 31	RA flag shows on the display - captain's.	34-33 TASK 801
343 210 32	RA flag shows on the display - first officer's.	34-33 TASK 801
343 220 31	Radio altimeter: display does not show, RA flag does not show - captain's.	34-33 TASK 805
343 220 32	Radio altimeter: display does not show, RA flag does not show - first officer's.	34-33 TASK 805
343 330 00	Multi-mode receiver: does not respond when TEST button pushed.	34-31 TASK 818
344 010 00	PWS FAIL message shows.	34-43 TASK 815
344 020 31	MAP/WXR RANGE DISAGREE message shows - captain's.	34-43 TASK 810
344 020 32	MAP/WXR RANGE DISAGREE message shows - first officer's.	34-43 TASK 811
344 030 31	WXR ATT message shows - captain's.	34-43 TASK 806
344 030 32	WXR ATT message shows - first officer's.	34-43 TASK 806
344 040 31	WXR DSPY message shows - captain's.	34-43 TASK 812
344 040 32	WXR DSPY message shows - first officer's.	34-43 TASK 813
344 050 31	WXR FAIL message shows - captain's.	34-43 TASK 801
344 050 32	WXR FAIL message shows - first officer's.	34-43 TASK 801
344 060 31	WXR RANGE DISAGREE message shows - captain's.	34-43 TASK 808
344 060 32	WXR RANGE DISAGREE message shows - first officer's.	34-43 TASK 809
344 070 31	WXR STAB message shows - captain's.	34-43 TASK 822
344 070 32	WXR STAB message shows - first officer's.	34-43 TASK 822
344 080 31	WXR WEAK message shows - captain's.	34-43 TASK 802
344 080 32	WXR WEAK message shows - first officer's.	34-43 TASK 802
344 090 31	Weather radar: display blank - captain's.	34-43 TASK 814
344 090 32	Weather radar: display blank - first officer's.	34-43 TASK 814
344 100 41	Weather radar: gain control problem - left.	34-43 TASK 814
344 100 42	Weather radar: gain control problem - right.	34-43 TASK 814
344 110 41	Weather radar: mode selector problem - left.	34-43 TASK 804
344 110 42	Weather radar: mode selector problem - right.	34-43 TASK 804
344 120 31	Weather radar: returns weak or incorrect colors on CDS - captain's.	34-43 TASK 802

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
344 120 32	Weather radar: returns weak or incorrect colors on CDS - first officer's.	34-43 TASK 802
344 130 41	Weather radar: tilt control problem - left.	34-43 TASK 814
344 130 42	Weather radar: tilt control problem - right.	34-43 TASK 814
344 140 00	Weather radar: no aural warnings during system displays test (predictive windshear).	34-43 TASK 820
344 150 00	Weather radar: WINDSHEAR does not show during system displays test (predictive windshear).	34-43 TASK 802
344 160 00	Weather radar: -1 tilt angle shows during system displays test (predictive windshear).	34-43 TASK 806
344 161 00	Weather radar: +1 tilt angle shows during system displays test (predictive windshear).	34-43 TASK 806
344 165 00	Weather radar: -2 tilt angle shows during system displays test (predictive windshear).	34-43 TASK 807
344 166 00	Weather radar: +2 tilt angle shows during system displays test (predictive windshear).	34-43 TASK 807
344 170 00	Weather radar: -3 tilt angle shows during system displays test (predictive windshear).	34-43 TASK 806
344 171 00	Weather radar: +3 tilt angle shows during system displays test (predictive windshear).	34-43 TASK 806
344 175 00	Weather radar: -4 tilt angle shows during system displays test (predictive windshear).	34-43 TASK 816
344 176 00	Weather radar: +4 tilt angle shows during system displays test (predictive windshear).	34-43 TASK 816
344 180 00	Weather radar: -5 tilt angle shows during system displays test (predictive windshear).	34-43 TASK 817
344 185 00	Weather radar: -6 tilt angle shows during system displays test (predictive windshear).	34-43 TASK 818
344 186 00	Weather radar: -7 tilt angle shows during system displays test (predictive windshear).	34-43 TASK 819
344 190 00	Weather radar: -8 tilt angle shows during system displays test (predictive windshear).	34-43 TASK 821
344 310 31	TCAS: display blank - captain's.	34-45 TASK 817
344 310 32	TCAS: display blank - first officer's.	34-45 TASK 817
344 310 48	TCAS: display blank - captain's and first officer's.	34-45 TASK 817
344 320 00	TCAS: intruder symbols show when the airplane is on the ground.	34-45 TASK 820
344 330 00	TCAS: navigation display shows TCAS OFF with the control panel selector switch at TA.	34-45 TASK 815

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
344 340 00	TCAS: navigation display shows TCAS OFF with the control panel selector switch at TA/RA.	34-45 TASK 815
344 350 00	TCAS: intruder symbol stays directly in front of the airplane symbol on the navigation display.	34-45 TASK 814
344 360 00	TCAS: voice annunciation (aural) problem.	34-45 TASK 816
344 370 00	TCAS FAIL flag on navigation display: shows with ATC transponder selector at TA and shows with selector at TA/RA.	34-45 TASK 821
344 371 00	TCAS FAIL flag on navigation display: shows with ATC transponder selector at TA and does not show with selector at TA/RA.	34-45 TASK 821
344 372 00	TCAS FAIL flag on navigation display: shows with ATC transponder selector at TA/RA and does not show with selector at TA.	34-45 TASK 823
344 380 00	TCAS: intruder symbols do not show on the navigation display.	34-45 TASK 814
344 390 00	TCAS: system test does not start when the TEST switch is pushed.	34-45 TASK 819
344 395 00	TCAS: system test problem.	34-45 TASK 818
344 410 00	GPWS INOP light: light on.	34-46 TASK 801
344 420 00	GPWS: BITE display is blank.	34-46 TASK 821
344 430 00	TERR POS message shows.	34-46 TASK 856
344 450 00	TERR FAIL message shows.	34-46 TASK 856
344 460 00	TERR RANGE DISAGREE message shows.	34-46 TASK 857
344 470 00	MAP/TERR RANGE DISAGREE message shows.	34-46 TASK 858
344 480 31	Ground proximity: terrain display does not show - captain's.	34-46 TASK 853
344 480 32	Ground proximity: terrain display does not show - first officer's.	34-46 TASK 853
344 480 48	Ground proximity: terrain display does not show - captain's and first officer's.	34-46 TASK 853
344 501 31	Vertical Situation Display problem - captain's.	34-46 TASK 801
344 501 32	Vertical Situation Display problem - first officer's.	34-46 TASK 801
344 502 31	VSD flag shows - captain's.	34-46 TASK 860
344 502 32	VSD flag shows - first officer's.	34-46 TASK 861
345 010 31	VOR: audio tone does not occur or is weak - captain's.	34-51 TASK 809
345 010 32	VOR: audio tone does not occur or is weak - first officer's.	34-51 TASK 809
345 020 31	VOR: test problem when you push the TEST switch on the navigation control panel - captain's.	34-51 TASK 801

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
345 020 32	VOR: test problem when you push the TEST switch on the navigation control panel - first officer's.	34-51 TASK 801
345 030 01	VOR: bearing pointer 1 does not show, VOR1 flag does not show.	34-51 TASK 805
345 030 02	VOR: bearing pointer 2 does not show, VOR2 flag does not show.	34-51 TASK 805
345 040 01	VOR1 flag shows on the display.	34-51 TASK 801
345 040 02	VOR2 flag shows on the display.	34-51 TASK 801
345 050 01	VOR: deviation bar does not show on the navigation display - VOR1.	34-51 TASK 806
345 050 02	VOR: deviation bar does not show on the navigation display - VOR2.	34-51 TASK 806
345 060 01	VOR: TO/FROM indication does not show on the navigation display - VOR1.	34-51 TASK 810
345 060 02	VOR: TO/FROM indication does not show on the navigation display - VOR2.	34-51 TASK 810
345 070 01	VOR frequency: shows dashes - VOR1.	34-51 TASK 807
345 070 02	VOR frequency: shows dashes - VOR2.	34-51 TASK 807
345 110 01	ATC: altitude reporting does not operate - no. 1.	34-53 TASK 801
345 110 02	ATC: altitude reporting does not operate - no. 2.	34-53 TASK 801
345 110 48	ATC: altitude reporting does not operate - no. 1 and no. 2.	34-53 TASK 801
345 120 00	ATC: code indicator does not respond to selector movement.	34-53 TASK 814
345 130 01	ATC: transmission weak or intermittent - no. 1.	34-53 TASK 802
345 130 02	ATC: transmission weak or intermittent - no. 2.	34-53 TASK 803
345 130 48	ATC: transmission weak or intermittent - no. 1 and no. 2.	34-53 TASK 801
345 140 00	ATC: transponder fail light on.	34-53 TASK 801
345 210 31	DME: test problem when you push the TEST switch on the navigation control panel - captain's.	34-55 TASK 801
345 210 32	DME: test problem when you push the TEST switch on the navigation control panel - first officer's.	34-55 TASK 801
345 220 01	DME1 shows on the display.	34-55 TASK 802
345 220 02	DME2 shows on the display.	34-55 TASK 802
345 230 01	DME: distance shows dashes - DME1.	34-55 TASK 801
345 230 02	DME: distance shows dashes - DME2.	34-55 TASK 801
345 310 01	ADF: audio problem - no. 1.	34-57 TASK 806
345 320 31	ADF: indication blank - no. 1 captain's.	34-57 TASK 808

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
345 320 32	ADF: indication blank - no. 1 first officer's.	34-57 TASK 809
345 320 48	ADF: indication blank - no. 1 captain's and first officer's.	34-57 TASK 810
345 340 01	ADF: tone problem - no. 1.	34-57 TASK 814
345 350 31	ADF flag shows on the display - no. 1 captain's.	34-57 TASK 816
345 350 32	ADF flag shows on the display - no. 1 first officer's.	34-57 TASK 817
345 370 01	ADF: bearing pointer 1 does not show, ADF flag does not show - no. 1.	34-57 TASK 820
345 380 00	ADF control panel problem.	34-57 TASK 822
345 410 00	IRS mode select unit: GPS light stays on continuously.	34-58 TASK 801
345 411 00	IRS mode select unit: GPS light comes on when Master Caution pushed.	34-58 TASK 802
345 412 00	IRS mode select unit: GLS light stays on continuously.	34-31 TASK 821
345 413 00	IRS mode select unit: GLS light comes on when Master Caution pushed.	34-31 TASK 822
345 414 00	IRS mode select unit: ILS light stays on continuously.	34-31 TASK 819
345 415 00	IRS mode select unit: ILS light comes on when Master Caution pushed.	34-31 TASK 820
345 416 00	IRS mode select unit: ILS, GLS and GPS lights all stay on continuously.	34-31 TASK 823
345 417 00	IRS mode select unit: ILS, GLS and GPS lights all come on when Master Caution pushed.	34-31 TASK 824
346 010 31	CDU: key does not operate when pushed - captain's.	34-61 TASK 802
346 010 32	CDU: key does not operate when pushed - first officer's.	34-61 TASK 802
346 020 31	CDU: brightness control problem - captain's.	34-61 TASK 803
346 020 32	CDU: brightness control problem - first officer's.	34-61 TASK 803
346 040 31	CDU: display blank - captain's.	34-61 TASK 804
346 040 32	CDU: display blank - first officer's.	34-61 TASK 804
346 050 31	CDU: display is dim or out of focus - captain's.	34-61 TASK 803
346 050 32	CDU: display is dim or out of focus - first officer's.	34-61 TASK 803
346 060 31	CDU: EXEC key does not operate when pushed - captain's.	34-61 TASK 805
346 060 32	CDU: EXEC key does not operate when pushed - first officer's.	34-61 TASK 805
346 065 31	CDU: EXEC key light bar does not come on - captain's.	34-61 TASK 806
346 065 32	CDU: EXEC key light bar does not come on - first officer's.	34-61 TASK 806
346 070 00	CDU: FMC shows in the middle of the display.	34-61 TASK 807

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
346 075 00	FMC DISAGREE message shows on CDU.	34-61 TASK 835
346 080 00	CDU: FAIL light is on.	34-61 TASK 807
346 090 31	MAP flag shows on CDS - captain's.	34-61 TASK 801
346 090 32	MAP flag shows on CDS - first officer's.	34-61 TASK 801
346 100 31	MAP RANGE DISAGREE message shows - captain's.	34-61 TASK 830
346 100 32	MAP RANGE DISAGREE message shows - first officer's.	34-61 TASK 830
346 120 00	FMC Nav data crossloading problem.	34-61 TASK 832
346 160 00	NAV DATA OUT OF DATE message shows on CDU.	34-61 TASK 808
346 180 00	RESYNC FAIL, SINGLE FMC OP/SINGLE FMC OP message shows on CDU.	34-61 TASK 832
346 200 31	VTK flag shows - captain's.	34-61 TASK 801
346 200 32	VTK flag shows - first officer's.	34-61 TASK 801
346 230 00	Thrust mode: does not show on the engine display.	34-61 TASK 809
346 260 00	CDU: OP PROGRAM INVALID shows in the middle of the display.	34-61 TASK 811
346 270 31	CDU: MSG light does not come on - captain's.	34-61 TASK 810
346 270 32	CDU: MSG light does not come on - first officer's.	34-61 TASK 810
346 280 31	CDU: OFST light does not come on - captain's.	34-61 TASK 810
346 280 32	CDU: OFST light does not come on - first officer's.	34-61 TASK 810
346 290 00	FMC software load: CHECK DBL OR INTERFACE message shows on CDU.	34-61 TASK 812
346 300 00	FMC software load: DB EXCEEDS FMC MEMORY message shows on CDU.	34-61 TASK 813
346 310 00	FMC software load: RESET COUNT EXCEEDED message shows on CDU.	34-61 TASK 814
346 320 00	FMC software load: DB-OFP INCOMPATIBLE message shows on CDU.	34-61 TASK 815
346 330 00	FMC software load: CHECK MEDIA message shows on CDU.	34-61 TASK 816
346 340 00	FMC software load: INCORRECT DISK INSERTED message shows on CDU.	34-61 TASK 817
346 350 00	CDU: SCANNING DME FAIL message shows.	34-61 TASK 801
346 360 00	CDU: DATA BASE INVALID message shows.	34-61 TASK 818
346 370 00	CDU: SINGLE FMC OPERATION message shows.	34-61 TASK 807
346 380 00	CDU: MODEL/ENG DATA INVALID message shows.	34-61 TASK 819
346 390 00	CDU: PROGRAM PIN ERROR message shows.	34-61 TASK 820

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
346 400 00	CDU: PROGRAM PIN NOT IN DB message shows.	34-61 TASK 821
346 440 00	CDU: IRS-L data on POS REF display is missing.	34-61 TASK 801
346 450 00	CDU: IRS-R data on POS REF display is missing.	34-61 TASK 801
346 460 00	CDU: GPS-L data on POS REF display is missing.	34-61 TASK 801
346 470 00	CDU: GPS-R data on POS REF display is missing.	34-61 TASK 801
346 480 00	CDU: GS data on POS REF display is missing.	34-61 TASK 801
346 490 00	CDU: VOR data on NAV STATUS display shows FAIL.	34-61 TASK 801
346 500 00	CDU: ILS data on NAV STATUS display shows FAIL.	34-61 TASK 801
346 510 00	CDU: DME data on NAV STATUS display shows FAIL.	34-61 TASK 801

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LRU/SYSTEM	SHORT NAME	CHAPTER
Air Data Inertial Reference System	ADIRS	34
Air Traffic Controller Transponder - 1 (Left)	ATC XPDR - 1 (L)	34
Air Traffic Controller Transponder - 2 (Right)	ATC XPDR - 2 (R)	34
Airborne Vibration Monitor System Signal Conditioner	AVM SIG COND	77
Antiskid Control Unit	ANTISKID	32
Automatic Direction Finder Receiver - 1	ADF RECVR - 1	34
Autothrottle System	A/T	22
Auxiliary Power Unit	APU	49
Auxiliary Power Unit Generator Control Unit	APU GCU	24
Bus Power Control Unit	BPCU	24
Cabin Pressure Controller	CAB PRESS CON	21
Cabin Temperature Controller	CAB TEMP CONT	21
Cargo Electronic Unit - Forward	CEU - FWD	26
Cargo Electronic Unit - Lower	CEU - LOWER	26
Cargo Electronic Unit - Main Aft	CEU - MAIN AFT	26
Cargo Electronic Unit - Main Forward	CEU - MAIN FWD	26
Common Display System	CDS	31
Compartment Overheat Detection Control Module	WING/BODY OHT	26
Digital Flight Control System	DFCS	22
Distance Measurement Equipment Interrogator	DME INTRROGTR	34
Electrical Meters, Battery, and Galley Power Module	P5-13	24
Electronic Engine Controller - 1	ENGINE - 1	73
Electronic Engine Controller - 2	ENGINE - 2	73
Emergency Locator Transmitter	ELT	23
Engine Accessory Unit	ENG ACCY UNIT	78
Engine and Auxiliary Power Unit Fire Detection Control Module	ENG/APU FIRE	26
Flap/Slat Electronics Unit	FSEU	27
Flight Data Acquisition Unit	FDAU	31
Flight Management Computer System	FMCS	34
Fuel Quantity Indicating System	FQIS	28
Generator Control Unit - 1	GCU - 1	24
Generator Control Unit - 2	GCU - 2	24
Ground Proximity Computer	GROUND PROX	34
Head Up Display	HUD	34

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LRU/SYSTEM	SHORT NAME	CHAPTER
High Frequency Transceiver	HF XCVR	23
Low Limit (35 Degree F) Controller - Left	35 DEG CONT L	21
Low Limit (35 Degree F) Controller - Right	35 DEG CONT R	21
Multi-Mode Receiver	MMR	34
Pack/Zone Temperature Controller - Left	PACK/ZN CON - L	21
Pack/Zone Temperature Controller - Right	PACK/ZN CON - R	21
Proximity Switch Electronics Unit	PSEU	32
Radio Altimeter Receiver/Transmitter	RADIO ALTIMTR	34
Stall Management Yaw Damper Computer - 1	SMYD - 1	27
Stall Management Yaw Damper Computer - 2	SMYD - 2	27
Traffic Alert and Collision Avoidance System Computer	TCAS COMPUTER	34
VHF Omnidirectional Ranging Marker Beacon Receiver	VOR/MKR RCVR	34
Very High Frequency Transceiver	VHF XCVR	23
Waste Tank Logic Control Module	WASTE TANK	38
Weather Radar Receiver/Transmitter	WEATHER RADAR	34
Window Heat Control Unit - Left Forward	WHCU - L FWD	30
Window Heat Control Unit - Left Side	WHCU - L SIDE	30
Window Heat Control Unit - Right Forward	WHCU - R FWD	30
Window Heat Control Unit - Right Side	WHCU - R SIDE	30

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
ADF RECVR - 1	ADF FAILED	34-57 TASK 802
ADF RECVR - 1	TUNING PORT B MISSING INPUT	34-57 TASK 804
ADIRS	34-21001 ISDU FAIL	34-21 TASK 802
ADIRS	34-21002 IR FAILURE	34-21 TASK 803
ADIRS	34-21003 EXCESSIVE MOTION	34-21 TASK 804
ADIRS	34-21004 ALIGN FAULT	34-21 TASK 805
ADIRS	34-21007 ADR DATA INVLD	34-21 TASK 840
ADIRS	34-21008 ENTER PPOS	34-21 TASK 807
ADIRS	34-21009 ENTER HEADING	34-21 TASK 808
ADIRS	34-21010 ISDU POWER LOSS	34-21 TASK 809
ADIRS	34-21018 NO ADR DATA	34-21 TASK 841
ADIRS	34-21019 IR PROG PIN INVLD	34-21 TASK 811
ADIRS	34-21020 ADR FAIL	34-21 TASK 839
ADIRS	34-21021 ADR PROG PIN INVLD	34-21 TASK 812
ADIRS	34-21022 TAT PROBE SIGNAL FAIL	34-21 TASK 813
ADIRS	34-21023 AOA SIGNAL FAIL	34-21 TASK 814
ADIRS	34-21024 NO AOA REF SIGNAL	34-21 TASK 815
ADIRS	34-21027 NO PITOT ADM DATA	34-21 TASK 816
ADIRS	34-21028 NO STATIC ADM DATA	34-21 TASK 817
ADIRS	34-21029 NO BARO 1 DATA	34-21 TASK 818
ADIRS	34-21030 NO BARO 2 DATA	34-21 TASK 819
ADIRS	34-21031 NO IR DATA	34-21 TASK 810
ADIRS	34-21032 PITOT ADM DATA INVLD	34-21 TASK 820
ADIRS	34-21033 STATIC ADM DATA INVLD	34-21 TASK 821
ADIRS	34-21034 BARO 1 DATA INVLD	34-21 TASK 822
ADIRS	34-21035 BARO 2 DATA INVLD	34-21 TASK 823
ADIRS	34-21037 IR DATA INVLD	34-21 TASK 806
ADIRS	34-21038 AIR/GND LOGIC INVLD	34-21 TASK 824

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
ATC XPDR - 1 (L)	ALT	34-53 TASK 804
ATC XPDR - 1 (L)	BOT	34-53 TASK 808
ATC XPDR - 1 (L)	DATA IN	34-53 TASK 810
ATC XPDR - 1 (L)	TCAS	34-53 TASK 812
ATC XPDR - 1 (L)	TOP	34-53 TASK 806
ATC XPDR - 1 (L)	TPR (red)	34-53 TASK 802
ATC XPDR - 2 (R)	ALT	34-53 TASK 805
ATC XPDR - 2 (R)	BOT	34-53 TASK 809
ATC XPDR - 2 (R)	DATA IN	34-53 TASK 811
ATC XPDR - 2 (R)	TCAS	34-53 TASK 813
ATC XPDR - 2 (R)	TOP	34-53 TASK 807
ATC XPDR - 2 (R)	TPR (red)	34-53 TASK 803
DME INTRROGTR	DME FAILED	34-55 TASK 802
DME INTRROGTR	TUNING PORT A MISSING INPUT	34-55 TASK 803
DME INTRROGTR	TUNING PORT B MISSING INPUT	34-55 TASK 804
FMCS	ADIRS-L - BARO ALT 1 - PARITY	34-61 TASK 824
FMCS	ADIRS-L - BARO ALT 1 - RATE	34-61 TASK 824
FMCS	ADIRS-L - BARO ALT 1 - REASON	34-61 TASK 824
FMCS	ADIRS-L - BARO ALT 1 - SSM	34-61 TASK 824
FMCS	ADIRS-L - BARO ALT 2 - PARITY	34-61 TASK 824
FMCS	ADIRS-L - BARO ALT 2 - RATE	34-61 TASK 824
FMCS	ADIRS-L - BARO ALT 2 - REASON	34-61 TASK 824
FMCS	ADIRS-L - BARO ALT 2 - SSM	34-61 TASK 824
FMCS	ADIRS-L - BUFF OVERFLOW	34-61 TASK 824
FMCS	ADIRS-L - COMP AIR SPD - PARITY	34-61 TASK 824
FMCS	ADIRS-L - COMP AIR SPD - RATE	34-61 TASK 824
FMCS	ADIRS-L - COMP AIR SPD - REASON	34-61 TASK 824
FMCS	ADIRS-L - COMP AIR SPD - SSM	34-61 TASK 824

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	ADIRS-L - DISCRETE 270 - PARITY	34-61 TASK 824
FMCS	ADIRS-L - DISCRETE 270 - REASON	34-61 TASK 824
FMCS	ADIRS-L - DISCRETE 270 - SSM	34-61 TASK 824
FMCS	ADIRS-L - DISCRETE 274 - PARITY	34-61 TASK 824
FMCS	ADIRS-L - DISCRETE 274 - SSM	34-61 TASK 824
FMCS	ADIRS-L - FAIL	34-61 TASK 824
FMCS	ADIRS-L - GND SPEED - PARITY	34-61 TASK 824
FMCS	ADIRS-L - GND SPEED - RATE	34-61 TASK 824
FMCS	ADIRS-L - GND SPEED - REASON	34-61 TASK 824
FMCS	ADIRS-L - GND SPEED - SSM	34-61 TASK 824
FMCS	ADIRS-L - INERT V SPD - PARITY	34-61 TASK 824
FMCS	ADIRS-L - INERT V SPD - RATE	34-61 TASK 824
FMCS	ADIRS-L - INERT V SPD - REASON	34-61 TASK 824
FMCS	ADIRS-L - INERT V SPD - SSM	34-61 TASK 824
FMCS	ADIRS-L - INERTIAL ALT - PARITY	34-61 TASK 824
FMCS	ADIRS-L - INERTIAL ALT - RATE	34-61 TASK 824
FMCS	ADIRS-L - INERTIAL ALT - REASON	34-61 TASK 824
FMCS	ADIRS-L - INERTIAL ALT - SSM	34-61 TASK 824
FMCS	ADIRS-L - MACH - PARITY	34-61 TASK 824
FMCS	ADIRS-L - MACH - RATE	34-61 TASK 824
FMCS	ADIRS-L - MACH - REASON	34-61 TASK 824
FMCS	ADIRS-L - MACH - SSM	34-61 TASK 824
FMCS	ADIRS-L - MAG HEADING - PARITY	34-61 TASK 824
FMCS	ADIRS-L - MAG HEADING - RATE	34-61 TASK 824
FMCS	ADIRS-L - MAG HEADING - SSM	34-61 TASK 824
FMCS	ADIRS-L - PITCH ANGLE - PARITY	34-61 TASK 824
FMCS	ADIRS-L - PITCH ANGLE - RATE	34-61 TASK 824
FMCS	ADIRS-L - PITCH ANGLE - REASON	34-61 TASK 824

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	ADIRS-L - PITCH ANGLE - SSM	34-61 TASK 824
FMCS	ADIRS-L - PRES POS LAT - PARITY	34-61 TASK 824
FMCS	ADIRS-L - PRES POS LAT - RATE	34-61 TASK 824
FMCS	ADIRS-L - PRES POS LAT - REASON	34-61 TASK 824
FMCS	ADIRS-L - PRES POS LAT - SSM	34-61 TASK 824
FMCS	ADIRS-L - PRES POS LON - PARITY	34-61 TASK 824
FMCS	ADIRS-L - PRES POS LON - RATE	34-61 TASK 824
FMCS	ADIRS-L - PRES POS LON - SSM	34-61 TASK 824
FMCS	ADIRS-L - PRESSURE ALT - PARITY	34-61 TASK 824
FMCS	ADIRS-L - PRESSURE ALT - RATE	34-61 TASK 824
FMCS	ADIRS-L - PRESSURE ALT - REASON	34-61 TASK 824
FMCS	ADIRS-L - PRESSURE ALT - SSM	34-61 TASK 824
FMCS	ADIRS-L - ROLL ANGLE - PARITY	34-61 TASK 824
FMCS	ADIRS-L - ROLL ANGLE - RATE	34-61 TASK 824
FMCS	ADIRS-L - ROLL ANGLE - SSM	34-61 TASK 824
FMCS	ADIRS-L - SAT - PARITY	34-61 TASK 824
FMCS	ADIRS-L - SAT - RATE	34-61 TASK 824
FMCS	ADIRS-L - SAT - REASON	34-61 TASK 824
FMCS	ADIRS-L - SAT - SSM	34-61 TASK 824
FMCS	ADIRS-L - TAT - PARITY	34-61 TASK 824
FMCS	ADIRS-L - TAT - RATE	34-61 TASK 824
FMCS	ADIRS-L - TAT - REASON	34-61 TASK 824
FMCS	ADIRS-L - TAT - SSM	34-61 TASK 824
FMCS	ADIRS-L - TRUE AIR SPD - PARITY	34-61 TASK 824
FMCS	ADIRS-L - TRUE AIR SPD - RATE	34-61 TASK 824
FMCS	ADIRS-L - TRUE AIR SPD - REASON	34-61 TASK 824
FMCS	ADIRS-L - TRUE AIR SPD - SSM	34-61 TASK 824
FMCS	ADIRS-L - TRUE HEADING - PARITY	34-61 TASK 824

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	ADIRS-L - TRUE HEADING - RATE	34-61 TASK 824
FMCS	ADIRS-L - TRUE HEADING - SSM	34-61 TASK 824
FMCS	ADIRS-L - VEL E-W - PARITY	34-61 TASK 824
FMCS	ADIRS-L - VEL E-W - RATE	34-61 TASK 824
FMCS	ADIRS-L - VEL E-W - REASON	34-61 TASK 824
FMCS	ADIRS-L - VEL E-W - SSM	34-61 TASK 824
FMCS	ADIRS-L - VEL N-S - PARITY	34-61 TASK 824
FMCS	ADIRS-L - VEL N-S - RATE	34-61 TASK 824
FMCS	ADIRS-L - VEL N-S - REASON	34-61 TASK 824
FMCS	ADIRS-L - VEL N-S - SSM	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 1 - PARITY	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 1 - RATE	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 1 - REASON	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 1 - SSM	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 2 - PARITY	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 2 - RATE	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 2 - REASON	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 2 - SSM	34-61 TASK 824
FMCS	ADIRS-R - BUFF OVERFLOW	34-61 TASK 824
FMCS	ADIRS-R - COMP AIR SPD - PARITY	34-61 TASK 824
FMCS	ADIRS-R - COMP AIR SPD - RATE	34-61 TASK 824
FMCS	ADIRS-R - COMP AIR SPD - REASON	34-61 TASK 824
FMCS	ADIRS-R - COMP AIR SPD - SSM	34-61 TASK 824
FMCS	ADIRS-R - DISCRETE 270 - PARITY	34-61 TASK 824
FMCS	ADIRS-R - DISCRETE 270 - REASON	34-61 TASK 824
FMCS	ADIRS-R - DISCRETE 270 - SSM	34-61 TASK 824
FMCS	ADIRS-R - DISCRETE 274 - PARITY	34-61 TASK 824
FMCS	ADIRS-R - DISCRETE 274 - SSM	34-61 TASK 824

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	ADIRS-R - FAIL	34-61 TASK 824
FMCS	ADIRS-R - GND SPEED - PARITY	34-61 TASK 824
FMCS	ADIRS-R - GND SPEED - RATE	34-61 TASK 824
FMCS	ADIRS-R - GND SPEED - REASON	34-61 TASK 824
FMCS	ADIRS-R - GND SPEED - SSM	34-61 TASK 824
FMCS	ADIRS-R - INERT V SPD - PARITY	34-61 TASK 824
FMCS	ADIRS-R - INERT V SPD - RATE	34-61 TASK 824
FMCS	ADIRS-R - INERT V SPD - REASON	34-61 TASK 824
FMCS	ADIRS-R - INERT V SPD - SSM	34-61 TASK 824
FMCS	ADIRS-R - INERTIAL ALT - PARITY	34-61 TASK 824
FMCS	ADIRS-R - INERTIAL ALT - RATE	34-61 TASK 824
FMCS	ADIRS-R - INERTIAL ALT - REASON	34-61 TASK 824
FMCS	ADIRS-R - INERTIAL ALT - SSM	34-61 TASK 824
FMCS	ADIRS-R - MACH - PARITY	34-61 TASK 824
FMCS	ADIRS-R - MACH - RATE	34-61 TASK 824
FMCS	ADIRS-R - MACH - REASON	34-61 TASK 824
FMCS	ADIRS-R - MACH - SSM	34-61 TASK 824
FMCS	ADIRS-R - MAG HEADING - PARITY	34-61 TASK 824
FMCS	ADIRS-R - MAG HEADING - RATE	34-61 TASK 824
FMCS	ADIRS-R - MAG HEADING - SSM	34-61 TASK 824
FMCS	ADIRS-R - PITCH ANGLE - PARITY	34-61 TASK 824
FMCS	ADIRS-R - PITCH ANGLE - RATE	34-61 TASK 824
FMCS	ADIRS-R - PITCH ANGLE - REASON	34-61 TASK 824
FMCS	ADIRS-R - PITCH ANGLE - SSM	34-61 TASK 824
FMCS	ADIRS-R - PRES POS LAT - PARITY	34-61 TASK 824
FMCS	ADIRS-R - PRES POS LAT - RATE	34-61 TASK 824
FMCS	ADIRS-R - PRES POS LAT - REASON	34-61 TASK 824
FMCS	ADIRS-R - PRES POS LAT - SSM	34-61 TASK 824

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	ADIRS-R - PRES POS LON - PARITY	34-61 TASK 824
FMCS	ADIRS-R - PRES POS LON - RATE	34-61 TASK 824
FMCS	ADIRS-R - PRES POS LON - SSM	34-61 TASK 824
FMCS	ADIRS-R - PRESSURE ALT - PARITY	34-61 TASK 824
FMCS	ADIRS-R - PRESSURE ALT - RATE	34-61 TASK 824
FMCS	ADIRS-R - PRESSURE ALT - REASON	34-61 TASK 824
FMCS	ADIRS-R - PRESSURE ALT - SSM	34-61 TASK 824
FMCS	ADIRS-R - ROLL ANGLE - PARITY	34-61 TASK 824
FMCS	ADIRS-R - ROLL ANGLE - RATE	34-61 TASK 824
FMCS	ADIRS-R - ROLL ANGLE - SSM	34-61 TASK 824
FMCS	ADIRS-R - SAT - PARITY	34-61 TASK 824
FMCS	ADIRS-R - SAT - RATE	34-61 TASK 824
FMCS	ADIRS-R - SAT - REASON	34-61 TASK 824
FMCS	ADIRS-R - SAT - SSM	34-61 TASK 824
FMCS	ADIRS-R - TAT - PARITY	34-61 TASK 824
FMCS	ADIRS-R - TAT - RATE	34-61 TASK 824
FMCS	ADIRS-R - TAT - REASON	34-61 TASK 824
FMCS	ADIRS-R - TAT - SSM	34-61 TASK 824
FMCS	ADIRS-R - TRUE AIR SPD - PARITY	34-61 TASK 824
FMCS	ADIRS-R - TRUE AIR SPD - RATE	34-61 TASK 824
FMCS	ADIRS-R - TRUE AIR SPD - REASON	34-61 TASK 824
FMCS	ADIRS-R - TRUE AIR SPD - SSM	34-61 TASK 824
FMCS	ADIRS-R - TRUE HEADING - PARITY	34-61 TASK 824
FMCS	ADIRS-R - TRUE HEADING - RATE	34-61 TASK 824
FMCS	ADIRS-R - TRUE HEADING - SSM	34-61 TASK 824
FMCS	ADIRS-R - VEL E-W - PARITY	34-61 TASK 824
FMCS	ADIRS-R - VEL E-W - RATE	34-61 TASK 824
FMCS	ADIRS-R - VEL E-W - REASON	34-61 TASK 824

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	ADIRS-R - VEL E-W - SSM	34-61 TASK 824
FMCS	ADIRS-R - VEL N-S - PARITY	34-61 TASK 824
FMCS	ADIRS-R - VEL N-S - RATE	34-61 TASK 824
FMCS	ADIRS-R - VEL N-S - REASON	34-61 TASK 824
FMCS	ADIRS-R - VEL N-S - SSM	34-61 TASK 824
FMCS	CDS DEU-L - BUFF OVERFLOW	34-61 TASK 827
FMCS	CDS DEU-L - DISCRETE 272 - PARITY	34-61 TASK 827
FMCS	CDS DEU-L - DISCRETE 272 - SSM	34-61 TASK 827
FMCS	CDS DEU-L - DISCRETE 273 - PARITY	34-61 TASK 827
FMCS	CDS DEU-L - DISCRETE 273 - SSM	34-61 TASK 827
FMCS	CDS DEU-L - DISCRETE 350 - PARITY	34-61 TASK 827
FMCS	CDS DEU-L - DISCRETE 350 - SSM	34-61 TASK 827
FMCS	CDS DEU-R - BUFF OVERFLOW	34-61 TASK 827
FMCS	CDS DEU-R - DISCRETE 272 - PARITY	34-61 TASK 827
FMCS	CDS DEU-R - DISCRETE 272 - SSM	34-61 TASK 827
FMCS	CDS DEU-R - DISCRETE 273 - PARITY	34-61 TASK 827
FMCS	CDS DEU-R - DISCRETE 273 - SSM	34-61 TASK 827
FMCS	CDS DEU-R - DISCRETE 350 - PARITY	34-61 TASK 827
FMCS	CDS DEU-R - DISCRETE 350 - SSM	34-61 TASK 827
FMCS	CLOCK - BUFF OVERFLOW	34-61 TASK 829
FMCS	CLOCK - DATE - PARITY	34-61 TASK 829
FMCS	CLOCK - DATE - SSM	34-61 TASK 829
FMCS	DFCS - BUFF OVERFLOW	34-61 TASK 825
FMCS	DFCS - DISCRETE 270 - PARITY	34-61 TASK 825
FMCS	DFCS - DISCRETE 270 - SSM	34-61 TASK 825
FMCS	DFCS - DISCRETE 272 - PARITY	34-61 TASK 825
FMCS	DFCS - DISCRETE 272 - SSM	34-61 TASK 825
FMCS	DFCS - DISCRETE 274 - PARITY	34-61 TASK 825

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	DFCS - DISCRETE 274 - REASON	34-61 TASK 825
FMCS	DFCS - DISCRETE 274 - SSM	34-61 TASK 825
FMCS	DFCS - FLAP POS - PARITY	34-61 TASK 825
FMCS	DFCS - FLAP POS - RATE	34-61 TASK 825
FMCS	DFCS - FLAP POS - REASON	34-61 TASK 825
FMCS	DFCS - FLAP POS - SSM	34-61 TASK 825
FMCS	DFCS - FOREIGN COURSE - PARITY	34-61 TASK 825
FMCS	DFCS - FOREIGN COURSE - RATE	34-61 TASK 825
FMCS	DFCS - FOREIGN COURSE - SSM	34-61 TASK 825
FMCS	DFCS - LOCAL COURSE - PARITY	34-61 TASK 825
FMCS	DFCS - LOCAL COURSE - RATE	34-61 TASK 825
FMCS	DFCS - LOCAL COURSE - SSM	34-61 TASK 825
FMCS	DFCS - SELECT ALT - PARITY	34-61 TASK 825
FMCS	DFCS - SELECT ALT - RATE	34-61 TASK 825
FMCS	DFCS - SELECT ALT - REASON	34-61 TASK 825
FMCS	DFCS - SELECT ALT - SSM	34-61 TASK 825
FMCS	DFCS - TARGET AIRSPEED - PARITY	34-61 TASK 825
FMCS	DFCS - TARGET AIRSPEED - RATE	34-61 TASK 825
FMCS	DFCS - TARGET AIRSPEED - REASON	34-61 TASK 825
FMCS	DFCS - TARGET AIRSPEED - SSM	34-61 TASK 825
FMCS	DME-L - DME DISTANCE - REASON	34-61 TASK 828
FMCS	DME-L - DME DISTANCE - SSM	34-61 TASK 828
FMCS	DME-L - DME FREQUENCY - REASON	34-61 TASK 828
FMCS	DME-R - DME DISTANCE - REASON	34-61 TASK 828
FMCS	DME-R - DME DISTANCE - SSM	34-61 TASK 828
FMCS	DME-R - DME FREQUENCY - REASON	34-61 TASK 828
FMCS	FMC-L - PGM FAULT	34-61 TASK 807
FMCS	FMC-R - PGM FAULT	34-61 TASK 807

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	FQIS - TOTAL FUEL - PARITY	34-61 TASK 826
FMCS	FQIS - TOTAL FUEL - RATE	34-61 TASK 826
FMCS	ILS-L - ILS FREQUENCY - PARITY	34-61 TASK 823
FMCS	ILS-L - ILS FREQUENCY - RATE	34-61 TASK 823
FMCS	ILS-L - LOC DEVIATION - PARITY	34-61 TASK 823
FMCS	ILS-L - LOC DEVIATION - RATE	34-61 TASK 823
FMCS	ILS-R - ILS FREQUENCY - PARITY	34-61 TASK 823
FMCS	ILS-R - ILS FREQUENCY - RATE	34-61 TASK 823
FMCS	ILS-R - LOC DEVIATION - PARITY	34-61 TASK 823
FMCS	ILS-R - LOC DEVIATION - RATE	34-61 TASK 823
FMCS	MMR-L - GPS MAINT	34-61 TASK 834
FMCS	MMR-R - GPS MAINT	34-61 TASK 834
FMCS	VOR-L - VOR BEARING - PARITY	34-61 TASK 822
FMCS	VOR-L - VOR BEARING - RATE	34-61 TASK 822
FMCS	VOR-L - VOR FREQUENCY - PARITY	34-61 TASK 822
FMCS	VOR-L - VOR FREQUENCY - RATE	34-61 TASK 822
FMCS	VOR-R - VOR BEARING - PARITY	34-61 TASK 822
FMCS	VOR-R - VOR BEARING - RATE	34-61 TASK 822
FMCS	VOR-R - VOR FREQUENCY - PARITY	34-61 TASK 822
FMCS	VOR-R - VOR FREQUENCY - RATE	34-61 TASK 822
GROUND PROX	AIR DATA BUS 1 BAROMETRIC ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 1 BAROMETRIC RATE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 1 COMPUTED AIRSPEED FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 1 CORRECTED ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 1 INACTIVE	34-46 TASK 822
GROUND PROX	AIR DATA BUS 1 QNH CORRECTED ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 1 STATIC AIR TEMPERATURE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 1 TRUE AIRSPEED FAULT	34-46 TASK 840

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
GROUND PROX	AIR DATA BUS 2 BAROMETRIC ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 2 BAROMETRIC RATE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 2 COMPUTED AIRSPEED FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 2 CORRECTED ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 2 INACTIVE	34-46 TASK 823
GROUND PROX	AIR DATA BUS 2 QNH CORRECTED ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 2 STATIC AIR TEMPERATURE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 2 TRUE AIRSPEED FAULT	34-46 TASK 840
GROUND PROX	AIR/GROUND INVALID	34-46 TASK 839
GROUND PROX	AIRCRAFT TYPE INVALID	34-46 TASK 855
GROUND PROX	APPLICATION DATABASE FAILED	34-46 TASK 854
GROUND PROX	ARINC-429 RECEIVER FAILED	34-46 TASK 854
GROUND PROX	ARINC-429 TRANSMITTER FAILED	34-46 TASK 854
GROUND PROX	AUDIO MENU INVALID	34-46 TASK 855
GROUND PROX	CALLOUTS OPTION INVALID	34-46 TASK 855
GROUND PROX	CONFIGURATION DATABASE FAILED	34-46 TASK 854
GROUND PROX	EFIS BUS 1 DECISION HEIGHT FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 1 DISCRETE WORD 1 FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 1 DISCRETE WORD 2 LEFT FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 1 DISCRETE WORD 2 RIGHT FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 1 INACTIVE	34-46 TASK 826
GROUND PROX	EFIS BUS 1 LANDING ALTITUDE FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 1 MINIMUM DECENT ALTITUDE FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 2 DECISION HEIGHT FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 2 DISCRETE WORD 1 FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 2 DISCRETE WORD 2 LEFT FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 2 DISCRETE WORD 2 RIGHT FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 2 INACTIVE	34-46 TASK 826

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
GROUND PROX	EFIS BUS 2 LANDING ALTITUDE FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 2 MINIMUM DECENT ALTITUDE FAULT	34-46 TASK 845
GROUND PROX	ENVELOPE MODULATION DATABASE FAILED	34-46 TASK 854
GROUND PROX	EXCESSIVE WATCHDOG TIMEOUTS FAILURE	34-46 TASK 854
GROUND PROX	FLAP SWITCH FAULT	34-46 TASK 838
GROUND PROX	FLASH FILE SYSTEM WRITE FAILED	34-46 TASK 854
GROUND PROX	FMC BUS 1 INACTIVE	34-46 TASK 828
GROUND PROX	FMC BUS 1 LATITUDE FAULT	34-46 TASK 841
GROUND PROX	FMC BUS 1 LONGITUDE FAULT	34-46 TASK 841
GROUND PROX	FMC BUS 1 MAGNETIC TRACK FAULT	34-46 TASK 841
GROUND PROX	FMC BUS 1 RNP FAULT	34-46 TASK 841
GROUND PROX	GEAR SWITCH FAULT	34-46 TASK 837
GROUND PROX	GPS BUS 1 ALTITUDE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 DATE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 GROUND SPEED FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 HDOP FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 HFOM FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 HORIZONTAL INTEGRITY LIMIT FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 INACTIVE	34-46 TASK 830
GROUND PROX	GPS BUS 1 LATITUDE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 LATITUDE FINE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 LONGITUDE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 LONGITUDE FINE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 SENSOR STATUS FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 TRUE TRACK FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 UTC FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 VDOP FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 VERTICAL VELOCITY FAULT	34-46 TASK 842

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
GROUND PROX	GPS BUS 1 VFOM FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 ALTITUDE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 DATE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 GROUND SPEED FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 HDOP FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 HFOM FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 HORIZONTAL INTEGRITY LIMIT FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 INACTIVE	34-46 TASK 830
GROUND PROX	GPS BUS 2 LATITUDE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 LATITUDE FINE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 LONGITUDE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 LONGITUDE FINE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 SENSOR STATUS FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 TRUE TRACK FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 UTC FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 VDOP FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 VERTICAL VELOCITY FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 VFOM FAULT	34-46 TASK 842
GROUND PROX	ILS BUS 1 GLIDESLOPE FAULT	34-46 TASK 842
GROUND PROX	ILS BUS 1 INACTIVE	34-46 TASK 829
GROUND PROX	ILS BUS 1 LOCALIZER FAULT	34-46 TASK 842
GROUND PROX	IRS BUS 1 ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 GROUND SPEED FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 INACTIVE	34-46 TASK 824
GROUND PROX	IRS BUS 1 INERTIAL VERTICAL ACCELERATION FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 LATITUDE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 LONGITUDE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 LONGITUDINAL ACCELERATION FAULT	34-46 TASK 840

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
GROUND PROX	IRS BUS 1 MAGNETIC TRACK FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 MODE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 NORMAL ACCELERATION FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 PITCH ANGLE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 PITCH RATE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 ROLL ANGLE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 TRUE HEADING FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 TRUE TRACK FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 VERTICAL SPEED FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 GROUND SPEED FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 INACTIVE	34-46 TASK 824
GROUND PROX	IRS BUS 2 INERTIAL VERTICAL ACCELERATION FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 LATITUDE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 LONGITUDE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 LONGITUDINAL ACCELERATION FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 MAGNETIC TRACK FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 MODE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 NORMAL ACCELERATION FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 PITCH ANGLE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 PITCH RATE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 ROLL ANGLE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 TRUE HEADING FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 TRUE TRACK FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 VERTICAL SPEED FAULT	34-46 TASK 840
GROUND PROX	MCP BUS INACTIVE	34-46 TASK 833
GROUND PROX	MCP BUS SELECTED COURSE FAULT	34-46 TASK 846
GROUND PROX	NVM FAILED	34-46 TASK 854

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
GROUND PROX	NVM RAM FAILED	34-46 TASK 854
GROUND PROX	PROGRAM PIN 11 INVALID	34-46 TASK 855
GROUND PROX	PROGRAM PIN 12 INVALID	34-46 TASK 855
GROUND PROX	PROGRAM PIN 14 INVALID	34-46 TASK 855
GROUND PROX	PROGRAM PIN 15 INVALID	34-46 TASK 855
GROUND PROX	PROGRAM PIN 16 INVALID	34-46 TASK 855
GROUND PROX	PROGRAM PIN 17 INVALID	34-46 TASK 855
GROUND PROX	PROGRAM PIN 9 INVALID	34-46 TASK 855
GROUND PROX	PROGRAM PIN PARITY ERROR	34-46 TASK 855
GROUND PROX	PROGRAM PIN READ ERROR	34-46 TASK 855
GROUND PROX	RADIO ALTIMETER BUS 1 INACTIVE	34-46 TASK 832
GROUND PROX	RADIO ALTIMETER BUS 1 RADIO ALTITUDE FAULT	34-46 TASK 847
GROUND PROX	RADIO ALTIMETER BUS 2 INACTIVE	34-46 TASK 832
GROUND PROX	RADIO ALTIMETER BUS 2 RADIO ALTITUDE FAULT	34-46 TASK 847
GROUND PROX	RAM FAILED	34-46 TASK 854
GROUND PROX	ROM FAILED	34-46 TASK 854
GROUND PROX	SELF TEST INVALID	34-46 TASK 850
GROUND PROX	SMYD BUS 1 CORRECTED ANGLE OF ATTACK FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 1 FLAP ANGLE FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 1 INACTIVE	34-46 TASK 827
GROUND PROX	SMYD BUS 1 INDICATED ANGLE OF ATTACK FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 1 MINIMUM OPERATING SPEED FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 1 STICK SHAKER ANGLE OF ATTACK FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 2 CORRECTED ANGLE OF ATTACK FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 2 FLAP ANGLE FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 2 INACTIVE	34-46 TASK 827
GROUND PROX	SMYD BUS 2 INDICATED ANGLE OF ATTACK FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 2 MINIMUM OPERATING SPEED FAULT	34-46 TASK 843

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
GROUND PROX	SMYD BUS 2 STICK SHAKER ANGLE OF ATTACK FAULT	34-46 TASK 843
GROUND PROX	SUPPORT TASK FAILED	34-46 TASK 854
GROUND PROX	SYSTEM OR MODE TASK FAILED	34-46 TASK 854
GROUND PROX	TERRAIN DATABASE FAILED	34-46 TASK 854
GROUND PROX	TERRAIN INHIBIT INVALID	34-46 TASK 851
GROUND PROX	TERRAIN RELAY 1 FAULT	34-46 TASK 852
GROUND PROX	TERRAIN RELAY 2 FAULT	34-46 TASK 852
GROUND PROX	VOICE GENERATOR FAILED	34-46 TASK 854
GROUND PROX	WATCHDOG TIMER TEST FAILED	34-46 TASK 854
GROUND PROX	WEATHER RADAR HAZARD BUS 1 INACTIVE	34-46 TASK 834
GROUND PROX	WEATHER RADAR HAZARD BUS 1 STATUS WORD FAULT	34-46 TASK 844
HUD	DEU74	Reference Not Currently Available
MMR	CONTROL FAIL	34-31 TASK 813
MMR	GS ANTENNA FAILED	34-31 TASK 817
MMR	LOC ANTENNA FAILED	34-31 TASK 816
MMR	LRU STATUS	34-31 TASK 812
MMR	MMR FAILED	34-31 TASK 814
MMR	TUNING PORT B MISSING INPUT	34-31 TASK 815
RADIO ALTIMTR	RADIO ALTIMETER FAILED	34-33 TASK 802
RADIO ALTIMTR	RECEIVE ANTENNA FAIL	34-33 TASK 804
RADIO ALTIMTR	TRANSMIT ANTENNA FAIL	34-33 TASK 803
TCAS COMPUTER	AG	34-45 TASK 813
TCAS COMPUTER	B1	34-45 TASK 804
TCAS COMPUTER	B2	34-45 TASK 804
TCAS COMPUTER	B3	34-45 TASK 804
TCAS COMPUTER	B4	34-45 TASK 804
TCAS COMPUTER	BOT ANT	34-45 TASK 804

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
TCAS COMPUTER	HD	34-45 TASK 809
TCAS COMPUTER	PP	34-45 TASK 810
TCAS COMPUTER	PT	34-45 TASK 809
TCAS COMPUTER	RA DISP	34-45 TASK 808
TCAS COMPUTER	RA	34-45 TASK 807
TCAS COMPUTER	RAD ALT	34-45 TASK 807
TCAS COMPUTER	RD	34-45 TASK 808
TCAS COMPUTER	RL	34-45 TASK 809
TCAS COMPUTER	SP	34-45 TASK 812
TCAS COMPUTER	T1	34-45 TASK 803
TCAS COMPUTER	T2	34-45 TASK 803
TCAS COMPUTER	T3	34-45 TASK 803
TCAS COMPUTER	T4	34-45 TASK 803
TCAS COMPUTER	TCAS FAIL	34-45 TASK 802
TCAS COMPUTER	TOP ANT	34-45 TASK 803
TCAS COMPUTER	TP	34-45 TASK 802
TCAS COMPUTER	X1	34-45 TASK 805
TCAS COMPUTER	X2	34-45 TASK 806
TCAS COMPUTER	XPDR BUS	34-45 TASK 811
VOR/MKR RCVR	MKR ANTENNA FAILED	34-51 TASK 808
VOR/MKR RCVR	TUNING PORT B MISSING INPUT	34-51 TASK 803
VOR/MKR RCVR	VOR ANTENNA FAILED	34-51 TASK 804
VOR/MKR RCVR	VOR FAILED	34-51 TASK 802
WEATHER RADAR	ANT FAULT	34-43 TASK 803
WEATHER RADAR	CON FAULT	34-43 TASK 804
WEATHER RADAR	COOLING FAULT	34-43 TASK 805
WEATHER RADAR	NO AIR DATA IN	34-43 TASK 806
WEATHER RADAR	NO ATTITUDE IN	34-43 TASK 806

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
WEATHER RADAR	NO HEADING INPUT	34-43 TASK 806
WEATHER RADAR	NO RAD ALT	34-43 TASK 807
WEATHER RADAR	R/T FAULT	34-43 TASK 802
WEATHER RADAR	tilt code +1	34-43 TASK 806
WEATHER RADAR	tilt code +2	34-43 TASK 807
WEATHER RADAR	tilt code +3	34-43 TASK 806
WEATHER RADAR	tilt code +4	34-43 TASK 816
WEATHER RADAR	tilt code -1	34-43 TASK 806
WEATHER RADAR	tilt code -2	34-43 TASK 807
WEATHER RADAR	tilt code -3	34-43 TASK 806
WEATHER RADAR	tilt code -4	34-43 TASK 816
WEATHER RADAR	tilt code -5	34-43 TASK 817
WEATHER RADAR	tilt code -6	34-43 TASK 818
WEATHER RADAR	tilt code -7	34-43 TASK 819
WEATHER RADAR	tilt code -8	34-43 TASK 821

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801. Standby Altimeter Problem - Fault Isolation

A. Description

(1) The standby altimeter does not operate correctly.

B. Possible Causes

(1) Pitot or static system.

(2) Standby altimeter/airspeed indicator, N85.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	10	C00357	STBY ALTM/ASI VIB

D. Related Data

(1) (SSM 33-11-32).

(2) (SSM 34-21-11).

(3) (WDM 33-11-32).

(4) (WDM 34-21-11).

E. Initial Evaluation

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	10	C00357	STBY ALTM/ASI VIB

(2) Maintenance action is required for reports of altitude differences between the CDS and the standby altitude indicator, if any of the following conditions are true:

ALTITUDE	CDS/STANDBY
Sea Level	> 50 feet
5,000 feet	> 80 feet
10,000 feet	> 120 feet

NOTE: Above 10,000 feet and 0.4 Mach, position error causes the tolerance to diverge rapidly and direct crosscheck becomes inconclusive. Differences greater than 400 feet should be suspect and verified by ground maintenance checks.

(3) If the standby altimeter/airspeed indicator does not operate normally, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do a leak test of the alternate pitot and static systems.

(a) Do this task: Alternate Pitot System Leak Test, AMM TASK 34-11-00-790-812.

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(b) Do this task: Alternate Static System Low-range Leak Test, AMM TASK 34-11-00-790-808.

(c) If the alternate pitot or alternate static systems have a leak, then do these steps:

1) Repair the leak.

2) For the standby altimeter/airspeed indicator, do this task: Air Data Instruments - System Test, AMM TASK 34-13-00-730-801.

a) If the standby altimeter/airspeed indicator operates normally, then you corrected the fault.

(d) If the alternate pitot and alternate static systems do not have any leaks, then continue.

(2) Replace the standby altimeter/airspeed indicator, N85.

These are the tasks:

Standby Altimeter/Airspeed Indicator Removal, AMM TASK 34-13-01-000-801,

Standby Altimeter/Airspeed Indicator Installation, AMM TASK 34-13-01-400-801.

(a) For the standby altimeter/airspeed indicator, do this task: Air Data Instruments - System Test, AMM TASK 34-13-00-730-801.

1) If the standby altimeter/airspeed indicator operates normally, then you corrected the fault.

———————— END OF TASK ————————

802. Standby Airspeed Indicator Problem - Fault Isolation

A. Description

(1) The standby airspeed indicator does not operate correctly.

B. Possible Causes

(1) Pitot system.

(2) Standby altimeter/airspeed indicator, N85.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	10	C00357	STBY ALTM/ASI VIB

D. Related Data

(1) (SSM 33-11-32).

(2) (SSM 34-21-11).

(3) (WDM 33-11-32).

(4) (WDM 34-21-11).

E. Fault Isolation Procedure

(1) Do this task: Alternate Pitot System Leak Test, AMM TASK 34-11-00-790-812.

(a) If the alternate pitot system has a leak, then do these steps:

1) Repair the leak.

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2) For the standby altimeter/airspeed indicator, do this task: Air Data Instruments - System Test, AMM TASK 34-13-00-730-801.

3) If the standby altimeter/airspeed indicator operates normally, then you corrected the fault.

(b) If the alternate pitot system does not have any leaks, then continue.

(2) Replace the standby altimeter/airspeed indicator, N85.

These are the tasks:

Standby Altimeter/Airspeed Indicator Removal, AMM TASK 34-13-01-000-801,

Standby Altimeter/Airspeed Indicator Installation, AMM TASK 34-13-01-400-801.

(a) For the standby altimeter/airspeed indicator, do this task: Air Data Instruments - System Test, AMM TASK 34-13-00-730-801.

1) If the standby altimeter/airspeed indicator operates normally, then you corrected the fault.

——————— END OF TASK ———————

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801. Mach Airspeed Warning System - Fault Isolation

A. Description

(1) The Mach Airspeed Warning System failed to sound when the Test switch is pressed.

B. Possible Causes

(1) Aural Warning Unit Module, M315.

(2) Mach Airspeed Warning Module, P5-19.

(3) Air Data Inertial Reference Unit, M1749 (Left) or M1752 (Right).

(4) ADIRU Pilot Pressure Air Data Module, M1750 (Left) or M1753 (Right).

(5) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	3	C00170	MACH WARN SYS-1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
B	7	C00549	MACH WARN SYS-2

D. Related Data

(1) (SSM 34-16-11).

(2) (SSM 34-16-21).

(3) (WDM 34-16-11).

(4) (WDM 34-16-21).

E. Initial Evaluation

(1) Make sure that no impact pressure (< 1.45mb) is applied to the applicable pitot probe.

(2) Do this task: Takeoff Warning (TOW) BITE Test, 31-51 TASK 801.

(3) On the P5 panel push the applicable MACH AIRSPEED WARNING TEST switch.

(4) If the Mach airspeed warning does not sound, then do the Fault Isolation Procedure below.

(5) If the Mach airspeed warning does sound, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Replace the Flight Recorder/Mach Airspeed Warning Module.

These are the tasks:

Flight Recorder/Mach Airspeed Warning Test Module Removal, AMM TASK 31-31-12-000-801,

Flight Recorder/Mach Airspeed Warning Test Module Installation, AMM TASK 31-31-12-400-801.

(a) On the P5 panel push the applicable MACH AIRSPEED WARNING TEST switch.

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1) If the Mach airspeed warning does sound, then you corrected the fault.

2) If the Mach airspeed warning does not sound, then continue.

(2) Do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(a) On the P5 panel push the applicable MACH AIRSPEED WARNING TEST switch.

1) If the Mach airspeed warning does sound, then you corrected the fault.

2) If the Mach airspeed warning does not sound, then continue.

(3) For the applicable Mach Airspeed Warning System, do this check of the wiring:

(a) Remove the Flight Recorder/Mach Airspeed Warning Test Module. To remove it, do this task: Flight Recorder/Mach Airspeed Warning Test Module Removal, AMM TASK 31-31-12-000-801.

(b) Remove the Aural Warning Module, M315. To remove it, do this task: Aural Warning Module Removal, AMM TASK 31-51-04-000-801.

(c) Do a check for an open circuit between these pins:

	MAS CONNECTOR		AURAL WARN CONNECTOR
MAS 1	**D483**		**D1172**
	pin 16	- - - - - - - - - - - - - - - - - -	pin 2
MAS 2	**D483**		**D940**
	pin 6	- - - - - - - - - - - - - - - - - -	pin 10

(d) Repair the wiring.

(e) Re-install the Flight Recorder/Mach Airspeed Warning Test Module. To install it, do this task: Flight Recorder/Mach Airspeed Warning Test Module Installation, AMM TASK 31-31-12-400-801.

(f) Re-install the Aural Warning Module. To install it, do this task: Aural Warning Module Installation, AMM TASK 31-51-04-400-801.

——————— END OF TASK ———————

802. Mach Airspeed Indicator Airspeed Bugs Do Not Show - Fault Isolation

A. Description

(1) This task is for these observed faults:

(a) V1 bug does not show on the Mach Airspeed Indicator (MASI).

(b) VR bug does not show on the MASI.

NOTE: The fault isolation procedure is the same for either the VR bug or the V1 bug.

B. Possible Causes

(1) No data from the EFIS control panels to the DEUs.

(2) SPD REF switch on the engine control module, P2-2.

C. Related Data

(1) (WDM 31-62-13).

(2) (WDM 31-62-23).

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D. Initial Evaluation

(1) Do these steps to prepare for initial evaluation and fault isolation:

(a) Set the outer knob on the SPD REF switch on the engine control module to V1.

(b) Turn the inner knob on the SPD REF switch on the engine control module clockwise to enter a V1 bug speed.

1) Make sure the V1 bug shows on the MASI.

2) Make sure the V1 digits on the MASI show.

(2) If the V1 bug does not show on the MASI, then do the Fault Isolation Procedure below.

(3) If the V1 bug shows on the MASI, then there was an intermittent fault.

E. Fault Isolation Procedure

NOTE: You must do the steps to prepare for fault isolation that are in the Initial Evaluation before you can do these steps.

(1) Do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If the CDS BITE test shows an EFIS data fault, then go to the FIM task for the applicable CDS maintenance message to correct the fault.

1) If the V1 bug shows on the MASI, then you corrected the fault.

2) If the V1 bug does not show on the MASI, then continue.

(b) If the CDS BITE test does not show an EFIS data fault, then continue.

(2) Replace the engine control module, P2-2.

(a) If the V1 bug shows on the MASI, then you corrected the fault.

END OF TASK

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801. Integrated Standby Flight Display BITE Procedure

A. General

(1) In this task, you do the BITE procedure for the integrated standby flight display (ISFD) system.

(2) The integrated standby flight display is installed in the P2 center instrument panel.

(3) Switches used for the self test are on the front panel of the integrated standby flight display.

(4) Current faults will show any internal faults that are active for the integrated standby flight display.

B. BITE Procedure

(1) Do these steps to find any current internal faults for the integrated standby flight display:

(a) Push APP and HP/IN, on the face of the ISFD, for approximately two seconds.

(b) Push the + select key next to <TESTS.

(c) Push the select key next to <FUNCTIONAL TEST (110s).

NOTE: The TEST screen will display IN PROGRESS 110s.

(d) If the TEST result displays OK, there are no internal faults for the integrated standby flight display.

(e) If the TEST result displays an internal fault message, replace the integrated standby flight display.

These are the tasks:

Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801,

Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

——————— END OF TASK ———————

802. Procedure To Be Determined - Fault Isolation

A. Fault Isolation Procedure

(1) At this time the FIM does not have a procedure for this fault. The FIM will contain a procedure for this fault in the future.

——————— END OF TASK ———————

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801. ADIRS BITE Procedure

A. General

(1) You do the air data inertial reference system (ADIRS) fault retrieving from the control display unit (CDU). There are two CDUs on the forward electronic panel in the flight compartment.

(2) Do one of these items on the ADIRS L BITE or ADIRS R BITE main menu to retrieve the faults:

(a) CURRENT STATUS.

(b) INFLIGHT FAULTS.

(3) CURRENT STATUS

(a) The CURRENT STATUS display shows mainteneance messages that are currently active. A maintenance message identifies a specific failure which is found by the air data inertial reference unit (ADIRU). The maintenance messages are in English text and have a seven digit number.

NOTE: The CURRENT STATUS messages can be clear on ground.

(4) INFLIGHT FAULTS

(a) The INFLIGHT FAULTS display shows the flight legs during which faults occurred. The ADIRS can display the fault data for LEG 01 through LEG 09. The flight legs are shown with the flight leg that had the most current fault at the top of the first page. Only the flight legs during which faults occurred will show. You can use the PREV PAGE and NEXT PAGE keys to see all the legs. The takeoff time, the takeoff date, and the number of faults in the leg will show under each leg.

(b) When you push the line select key next to the prompt for one of the flight legs, you will see this data for each fault in the flight leg:

1) A maintenance message number and the message text

2) The date that the fault occurred

3) The time that the fault occurred

4) The altitude when the fault occurred

5) The flight number.

NOTE: The INFLIGHT FAULTS message cannot be clear on ground.

B. BITE Procedure

(1) Do the BITE procedure for the ADIRS (Figure 201):

(a) If you are not at one of the ADIRS BITE TEST displays, then do these steps:

1) Push the INIT REF function key.

2) If the POS INIT display shows, then push the line select key next to the INDEX prompt.

NOTE: This makes the INIT/REF INDEX show.

3) Push the line select key next to the MAINT prompt.

NOTE: This will bring you to the MAINT BITE INDEX.

(b) From the MAINT BITE INDEX, push the line select key next to the ADIRS prompt.

(c) Push the line select key next to the applicable ADIRS L BITE or ADIRS R BITE prompt.

(d) Do these steps to look for maintenance message in CURRENT STATUS:

1) Push the line select key next to the CURRENT STATUS prompt.

NOTE: If there are active faults detected by the ADIRU, you will see a maintenance message number and the maintenance message text.

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(e) If there are any maintenance messages, then refer to the table at the end of this task to find the fault isolation task for the applicable maintenance message.

(f) If NO FAULTS shows for the left ADIRU and right ADIRU, then do these steps:

NOTE: There are no faults that are currently active.

1) Push the line select key next to the INDEX prompt.

NOTE: This will bring you back to the ADIRS BITE main menu.

(2) If there are no maintenance message in CURRENT STATUS for the left ADIRU and right ADIRU, then do these steps to look for maintenance message in INFLIGHT FAULTS:

(a) Push the line select key next to the INDEX prompt.

(b) Push the line select key next to the INFLIGHT FAULTS prompt.

(c) Push the line select key next to the prompt for the flight leg (LEG) during which the fault occurred.

NOTE: The most recent flight leg is LEG 01.

NOTE: INFLIGHT FAULTS cannot be cleared on ground.

(d) If there are maintenance messages, then refer to the table at the end of this task to find the fault isolation task for the applicable maintenance messages.

(e) Push the line select key next to the INDEX prompt two times to return to the ADIRS BITE main menu.

(3) If ADIRS maintenance code 05 shows on the ISDU, do this task: ADIRS Maintenance Code 05 - Fault Isolation, 34-21 TASK 832.

(4) If ADIRS maintenance code 06 shows on the ISDU, do this task: ADIRS Maintenance Code 06 - Fault Isolation, 34-21 TASK 833.

END OF TASK

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
ADIRS	34-21001 ISDU FAIL	34-21 TASK 802
ADIRS	34-21002 IR FAILURE	34-21 TASK 803
ADIRS	34-21003 EXCESSIVE MOTION	34-21 TASK 804
ADIRS	34-21004 ALIGN FAULT	34-21 TASK 805
ADIRS	34-21007 ADR DATA INVLD	34-21 TASK 840
ADIRS	34-21008 ENTER PPOS	34-21 TASK 807
ADIRS	34-21009 ENTER HEADING	34-21 TASK 808
ADIRS	34-21010 ISDU POWER LOSS	34-21 TASK 809
ADIRS	34-21018 NO ADR DATA	34-21 TASK 841
ADIRS	34-21019 IR PROG PIN INVLD	34-21 TASK 811
ADIRS	34-21020 ADR FAIL	34-21 TASK 839

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
ADIRS	34-21021 ADR PROG PIN INVLD	34-21 TASK 812
ADIRS	34-21022 TAT PROBE SIGNAL FAIL	34-21 TASK 813
ADIRS	34-21023 AOA SIGNAL FAIL	34-21 TASK 814
ADIRS	34-21024 NO AOA REF SIGNAL	34-21 TASK 815
ADIRS	34-21027 NO PITOT ADM DATA	34-21 TASK 816
ADIRS	34-21028 NO STATIC ADM DATA	34-21 TASK 817
ADIRS	34-21029 NO BARO 1 DATA	34-21 TASK 818
ADIRS	34-21030 NO BARO 2 DATA	34-21 TASK 819
ADIRS	34-21031 NO IR DATA	34-21 TASK 810
ADIRS	34-21032 PITOT ADM DATA INVLD	34-21 TASK 820
ADIRS	34-21033 STATIC ADM DATA INVLD	34-21 TASK 821
ADIRS	34-21034 BARO 1 DATA INVLD	34-21 TASK 822
ADIRS	34-21035 BARO 2 DATA INVLD	34-21 TASK 823
ADIRS	34-21037 IR DATA INVLD	34-21 TASK 806
ADIRS	34-21038 AIR/GND LOGIC INVLD	34-21 TASK 824

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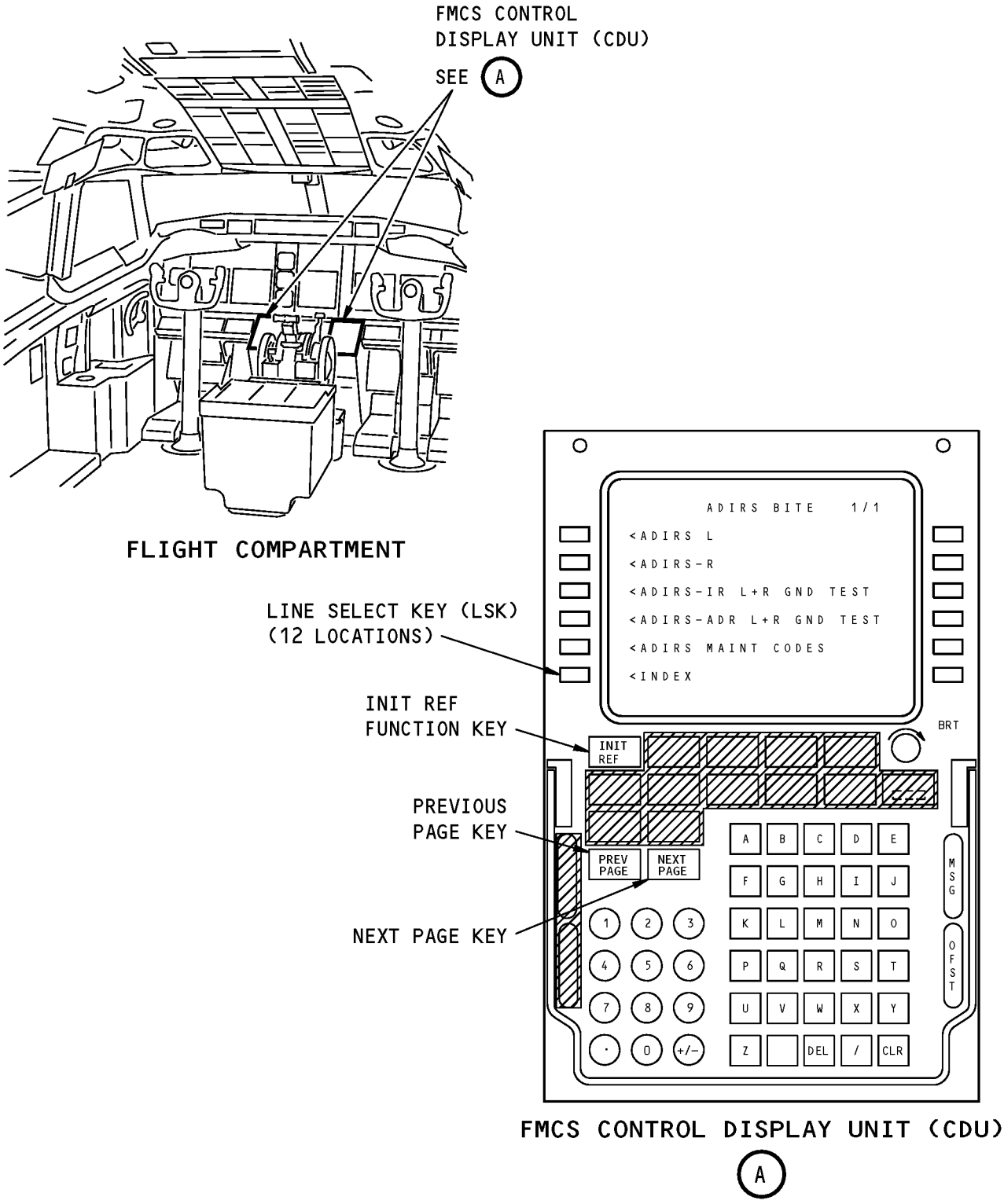

ADIRS BITE Main Menu
Figure 201 / 34-21-00-990-803

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802. ISDU FAIL - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21001 ISDU FAIL

(2) The maintenance message is identical for the left and right air data inertial reference systems ADIRS. The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) The inertial system display unit (ISDU) supplies both ADIRUs with test discrete and present position data. The ADIRUs supply IR data, ADR data, and fault data to the ISDU.

(4) This message shows when the inertial system display unit (ISDU) fails to provide data to the ADIRUs.

B. Possible Causes

(1) Wiring between the ISDU and the ADIRU

(2) ISDU P5-70

(3) ADIRU, M1749 (left) or M1752 (right)

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21-11)

(2) (WDM 34-21-11)

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If the maintenance message does not show on the CDU, then there was an intermittent fault.

(3) If the maintenance message shows on the CDU, then do the Fault Isolation Procedure below.

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F. Fault Isolation Procedure

(1) Replace the ISDU.

These are the tasks:

Inertial System Display Unit Removal, AMM TASK 34-21-02-000-801,

Inertial System Display Unit Installation, AMM TASK 34-21-02-400-801.

(a) Do a check for the bend pins at the connectors.

(b) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

1) If the maintenance message does not show on the CDU, then you corrected the fault.

2) If the maintenance message shows on the CDU, then continue.

(2) Do this check of the wiring between the applicable ADIRU and the ISDU:

(a) Remove the ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the ISDU. To remove it, do this task: Inertial System Display Unit Removal, AMM TASK 34-21-02-000-801.

(c) For the left ADIRU maintenance message, do a wiring check between these pins of connector D3687B for the ADIRU and connector D2169 for the ISDU:

D3687B		D2169
pin C5	- - - - - - - - - - - - - - - - - -	pin 24A
pin C6	- - - - - - - - - - - - - - - - - -	pin 25B

(d) For the right ADIRU maintenance message, do a wiring check between these pins of connector D3693B for the ADIRU and connector D2183 for the ISDU:

D3693B		D2183
pin C5	- - - - - - - - - - - - - - - - - -	pin 24A
pin C6	- - - - - - - - - - - - - - - - - -	pin 25B

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

3) Re-install the ISDU. To install it, do this task: Inertial System Display Unit Installation, AMM TASK 34-21-02-400-801.

4) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

5) If the maintenance message does not show on the CDU, then you corrected the fault.

6) If the maintenance message does show on the CDU, then continue.

(f) If you do not find a problem with the wiring, then do this step and continue.

1) Re-install the ISDU. To install it, do this task: Inertial System Display Unit Installation, AMM TASK 34-21-02-400-801.

(3) Replace the ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

1) If the maintenance message does not show on the CDU, then you corrected the fault.

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2) If the maintenance message shows on the CDU, then continue.

———————— END OF TASK ————————

803. IR Failure - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21002 IR FAIL

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) The IR function calculates inertial altitude, present position, groundspeed, heading and attitude etc.

(4) The message 34-21002 shows when the ADIRU detects an internal fault of the IR. The IR fault also causes the status code 02 to show on the inertial system display unit (ISDU) and the FAULT light on the mode select unit (MSU) to come on.

B. Possible Causes

(1) ADIRU, M1749 (left) or M1752 (right).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21-11)

(2) (WDM 34-21-11)

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If other maintenance messages are shown on the CDU along with the 34-21002 message, then do the corrective tasks to remove those maintenance messages first.

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(a) After you clear the correlated maintenance messages, if the maintenance message 34-21002 does not show on the CDU, the status code 02 does not show on the ISDU, and the FAULT light on the MSU goes off, then you corrected the fault.

(b) After you clear the correlated maintenance messages, if the maintenance message 34-21002 continues to show on the CDU, the status code 02 shows on the ISDU, and the FAULT light on the MSU stays on, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the applicable ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(b) If the maintenance message does not show on the CDU, the status code does not show on the ISDU, and the FAULT light on the MSU does not come on, then you corrected the fault.

——————— END OF TASK ———————

804. Excessive Motion During Alignment - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21003 EXCESSIVE MOTION

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) This message shows when the ADIRU detects airplane movement during the alignment mode, the alignment process will suspend but will start alignment again after the airplane stops moving for at least 30 seconds.

(4) This condition causes the IRS MOTION message to show on all pages of the CDU and the status code 03 to show on the inertial system display unit (ISDU)..

B. Possible Cause

(1) Airplane moves during the alignment

(2) Cross wind

NOTE: If high wind condition occurs, turn the aircraft nose into the wind prior to alignment or have the aircraft aligned in the hangar before you tow the aircraft to the flight line.

C. Initial Evaluation

(1) To clear the maintenance message, make sure the airplane is not moving while the ADIRU is in the alignment mode. No maintenance action is required.

NOTE: Approximately 30 seconds after the airplane stops moving, the ADIRU will automatically start a new alignment.

If present position was entered before the light flashed, it is not necessary to enter it again.

——————— END OF TASK ———————

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805. Align Fault - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21004 ALIGN FAULT

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) The ADIRU keeps a record of its last position. You must enter the present position data during the alignment mode.

(4) This message shows when you enter position data that is more than 1 degree different than the recorded latitude or 1 degree different than the recorded longitude.

(5) This condition causes the ALIGN light on the mode select unit (MSU) to flash, the status code 04 to show on the inertial system display unit (ISDU) and ENTER IRS POSITION message to show on CDU.

B. Possible Cause

(1) The entered present position is more than ±1 degree different than the present position stored in memory.

NOTE: This can occur when an ADIRU is replaced (if the ADIRU was turned off at a different location). It can also occur for other reasons.

NOTE: If this condition occur, the ALIGN light on the mode select unit (MSU) will flash, enter the present position again to align the ADIRU.

NOTE: You might need to enter the data three times.

(2) ADIRU, M1749 (left) or M1752 (right).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (WDM 34-61-14)

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(2) (WDM 34-21-12)

E. Initial Evaluation

(1) Use the CDU to enter the correct present position again.

(2) Do the applicable ADIRS BITE procedure (34-21 TASK 801).

(3) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

(4) If the maintenance message shows on the CDU and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do these steps from the CDU again to enter the present position:

(a) Set the mode select switches on the inertial reference system (IRS) mode select unit (MSU) to the off position.

1) Make sure the ALIGN light are off.

NOTE: It can takes up to 30 seconds for the ALIGN light to turn off.

(b) Set the mode select switches on the inertial reference system (IRS) mode select unit (MSU) to the NAV position.

(c) Make sure the ON DC lights on the IRS MSU come on for a short time.

(d) Make sure the ALIGN lights on the IRS MSU come on.

(e) Do these steps to enter the latitude and longitude from a control display unit (CDU):

NOTE: CDU data lines that permit a selection are identified with a caret (or >). The CDU has 12 line-select-keys (LSK). Six keys are on each side of the display. LSK 1L thru 6L are on the left side, and LSK 1R thru 6R are on the right side.

1) Push the INIT REF key on the CDU.

2) Push the LSK 6L adjacent to the < INDEX prompt on the CDU.

a) Make sure the CDU shows the INIT/REF INDEX 1/1 page.

3) Push the LSK 2L adjacent to the < POS prompt on the CDU.

a) Make sure the CDU shows the POS INIT 1/3 page.

4) Put the latitude and longitude data in the scratch pad line of the CDU.

NOTE: Do not put a space between the latitude and longitude. The format of the latitude and longitude data is as follows:

Latitude and longitude: XDDMM.MYDDDMM.M

- Where:

X is N or S for latitude

Y is E or W for longitude

D is the number of degrees

M is the number of minutes

5) Push the LSK 4R adjacent to the SET IRS POS > prompt on the CDU.

a) Make sure the CDU shows the latitude and longitude below the SET IRS POS line.

(2) Do the repair confirmation below.

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(a) If the maintenance message shows on the CDU and the status code shows on the ISDU, then continue.

(3) Use the CDU to enter the present position again.

(4) Do the repair confirmation below.

(a) If the maintenance message shows on the CDU and the status code shows on the ISDU, then continue.

(5) Replace the applicable ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(6) If the test in the installation task for the ADIRU is satisfactory, then you corrected the fault.

(7) Do the repair confirmation below.

G. Repair Confirmation

(1) Do these steps:

(a) Do the applicable ADIRU BITE procedure (34-21 TASK 801).

1) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

——————— END OF TASK ———————

806. IR Data Invalid - Fault Isolation

A. Description

(1) This task is for these maintenance messages:

(a) 34-21037 IR DATA INVLD

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) Each ADIRU supplies inertial reference (IR) data to many systems and components. IR data is on ARINC 429 data buses. The data on each IR bus is the same. One data bus goes from the IR section of the ADIRU to the ADR section.

(4) The message 34-21037 shows when the ADR receives invalid data from the IR section of the ADIRU. The IR fault also causes the status code 37 to show on the inertial system display unit (ISDU).

B. Possible Causes

(1) ADIRU, M1749 (left) or M1752 (right)

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

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CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21)

(2) (WDM 34-21)

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If other maintenance messages show on the CDU along with the maintenance message 34-2103, then do the corrective tasks to remove those maintenance messages first.

(a) After you clear the correlated faults, if the maintenance message 34-21037 does not show on the CDU, and the status code 37 does not show on the ISDU, then you corrected the fault.

(b) After you clear the correlated faults, if the maintenance message 34-21037 continues to show on the CDU, and the status code 37 shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the wiring between the applicable ADIRU and the ADM:

(a) Remove the ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the ADMs. To remove them, do these tasks:

Pitot Air Data Module Removal, AMM TASK 34-21-04-000-801,

Static Air Data Module Removal, AMM TASK 34-21-04-000-802.

(c) For the left ADIRU, do a wiring check between these pins of connector D3687A for the ADIRU and connector D3689 for the pitot ADM and D3691 for the static ADM:

D3687A		**D3689**
D10	- - - - - - - - - - - - - - - - - - - -	7
E10	- - - - - - - - - - - - - - - - - - - -	8

D3687A		**D3691**
D9	- - - - - - - - - - - - - - - - - - - -	7
E9	- - - - - - - - - - - - - - - - - - - -	8

(d) For the right ADIRU, do a wiring check between these pins of connector D3693A for the ADIRU and connector D3695 for the pitot ADM and D3697 for the static ADM:

D3687A		**D3689**
D10	- - - - - - - - - - - - - - - - - - - -	7
E10	- - - - - - - - - - - - - - - - - - - -	8

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D3687A	D3691
D9	7
E9	8

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

3) Re-install the ADMs. To install them, do these tasks:

Pitot Air Data Module Installation, AMM TASK 34-21-04-400-801,

Static Air Data Module Installation, AMM TASK 34-21-04-400-802.

4) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

5) If the maintenance message does not show on the CDU, then you corrected the fault.

(f) If you do not find a problem with the wiring, then do these steps:

1) Re-install the ADMs. To install them, do these tasks:

Pitot Air Data Module Installation, AMM TASK 34-21-04-400-801,

Static Air Data Module Installation, AMM TASK 34-21-04-400-802.

(2) Replace the applicable ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) If the test in the installation task for the ADIRU is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

807. Enter Present Position - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21008 ENTER PPOS

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) A present position must be entered to the ADIRU during the alignment period.

(4) This message shows if the alignment period ends and present position has not been entered to the ADIRU.

(5) This condition also causes the ALIGN light on the mode select unit (MSU) to flash, the status code 08 to show on the inertial system display unit (ISDU) and ENTER IRS POSITION message to show on CDU.

B. Possible Causes

(1) The present position was not entered during the alignment period.

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C. Initial Evaluation

(1) To clear this maintenance message, you must enter the present position from the CDU or ISDU. No maintenance action is required.

———————— END OF TASK ————————

808. ADIRS Enter Heading - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21009 ENTER HEADING

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) This message shows when the ADIRU is in the attitude mode and does not receive the magnetic heading data from CDU or ISDU.

(4) This condition causes the status code 09 to show on the ISDU.

B. Possible Causes

(1) The magnetic heading data was not entered during the attitude mode.

C. Initial Evaluation

(1) To clear this maintenance message, you must enter the present magnetic heading data from the CDU or ISDU. No maintenance action is required.

———————— END OF TASK ————————

809. ISDU Power Loss - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21010 ISDU POWER LOSS

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) The inertial system display unit (ISDU) gets 28v dc from the left and the right ADIRU.

(4) This message shows when the inertial system display unit does not receive 28v dc power signal from ADIRUs.

B. Possible Causes

(1) ISDU, P5-70

(2) Wiring problem

(3) ADIRU, M1749 (left) or M1752 (right)

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21)

(2) (WDM 34-21)

E. Initial Evaluation

(1) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

(2) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(3) If the maintenance message does not show on the CDU and the ISDU is powered, then you corrected fault.

(4) If the maintenance message shows on the CDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check for 28v dc power signal:

(a) Remove the ISDU. To remove it, do this task: Inertial System Display Unit Removal, AMM TASK 34-21-02-000-801.

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(b) For the left ADIRU:

1) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

(c) For the right ADIRU:

1) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	15	C00426	ADIRU RIGHT EXC

(d) Do a check for a 28v dc from pin 3 to pin 4 (ground) of the connector D2169.

(e) Do a check for a 28v dc from pin 3 to pin 4 (ground) of the connector D2183.

(f) If there is a 28v dc at pin 3 of connector D2169 and D2183, then do these steps:

1) Install a new ISDU. To install it, do this task: Inertial System Display Unit Installation, AMM TASK 34-21-02-400-801.

2) For the applicable ADIRU, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

3) If the maintenance message does not show on the CDU and the ISDU is powered, then you corrected the fault.

(g) If there is not a 28v dc at pin 3 of connector D2169 or D2183, then continue.

(2) Do this check of the wiring between the ADIRUs and the ISDU:

(a) Remove the ADIRUs. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the ISDU. To remove it, do this task: Inertial System Display Unit Removal, AMM TASK 34-21-02-000-801.

(c) For the left ADIRU, do a wiring check between these pins of connector D3687B for the ADIRU and connector D2169 for the ISDU:

D3687B		**D2169**
pin D1	- - - - - - - - - - - - - - - - - -	pin 3
pin D2	- - - - - - - - - - - - - - - - - -	pin 4

(d) For the right ADIRU, do a wiring check between these pins of connector D3693B for the ADIRU and connector D2183 for the ISDU:

D3693B		**D2183**
pin D1	- - - - - - - - - - - - - - - - - -	pin 3
pin D2	- - - - - - - - - - - - - - - - - -	pin 4

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the ADIRUs. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

3) Re-install the ISDU. To install it, do this task: Inertial System Display Unit Installation, AMM TASK 34-21-02-400-801.

4) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

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5) If the maintenance message does not show on the CDU and the ISDU is powered, then you corrected the fault.

(f) If you do not find a problem with the wiring, then do this step and continue:

1) Re-install the ISDU. To install it, do this task: Inertial System Display Unit Installation, AMM TASK 34-21-02-400-801.

(3) Install a new ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) If the test in the installation task for the ADIRU is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

810. No IR Data - Fault Isolation

A. Description

(1) This task is for these maintenance messages:

(a) 34-21031 NO IR DATA

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) The maintenance message 34-21031 shows when the air data reference does not receive data from the inertial reference.

(4) These faults cause the status code 31 to show on the inertial system display unit (ISDU).

B. Possible Causes

(1) ADIRU, M1749 (left) or M1752 (right).

(2) Wiring problem.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21).

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(2) (WDM 34-21).

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then there was an intermittent fault.

(3) If the maintenance message shows on the CDU, and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the applicable ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) Do a check of the condition of the pins and connector of the applicable ADIRU.

(b) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

1) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then you corrected the fault.

2) If the maintenance message does show on the CDU, and the status code does show on the ISDU, then continue.

(2) Do this check of the wiring for the applicable ADIRU:

(a) Remove the ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) For the left ADIRU, do a wiring check between these pins of connectors:

1) Do a wiring check between these pins of connectors D3687B and D3687A:

D3687B		**D3687A**
pin K11	- - - - - - - - - - - - - - - -	pin D6
pin K12	- - - - - - - - - - - - - - - -	pin E6

(c) For the right ADIRU, do a wiring check between these pins of connectors:

1) Do a wiring check between these pins of connectors D3693B and D3693A:

D3693B		**D3693A**
pin K11	- - - - - - - - - - - - - - - -	pin D6
pin K12	- - - - - - - - - - - - - - - -	pin E6

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

3) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

4) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

———————— END OF TASK ————————

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811. IR Program Pin Invalid - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21019 IR PROG PIN INVLD

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) Selected display options and configurations are set by IR program pins. The status of these program pins are monitored by the ADIRU during power up.

(4) This message shows when the ADIRU detects an invalid program pin configuration of the IR.

(5) This fault causes the status code 19 to show on the inertial system display unit (ISDU) and the FAULT light on the mode select unit (MSU) to come on.

(6) This is a critical fault which also causes the status code 02 to show on the ISDU.

B. Possible Causes

(1) ADIRU, M1749 (left) or M1752 (right)

(2) Wiring problem

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
HAP 001-013, 015-026, 028-030			
D	10	C00357	STBY ALTM/ASI VIB
HAP ALL			
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (WDM 34-21)

(2) (SSM 34-21)

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

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(2) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then there was an intermittent fault.

(3) If the maintenance message shows on the CDU and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the applicable ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) Do a check of the condition of the pins and connector of the applicable ADIRU.

(b) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

1) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then you corrected the fault.

2) If the maintenance message does show on the CDU, and the status code does show on the ISDU, then continue.

(2) Do this check of the wiring of the program pins for the applicable ADIRU:

(a) Remove the ADIRU, to remove it do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Do a wiring check of these program pins for a ground or an open circuit, per WDM 34-21-11,WDM 34-21-12,WDM 34-21-13,WDM 34-21-21,WDM 34-21-22,WDM 34-21-23,WDM 34-21-24,WDM 34-21-14.

NOTE: Open circuit pins are not shown on the WDMs.

(c) For the left ADIRU, do a check of these pins at connector D3687B. For the right ADIRU, do a check of these pins at connector D3693B:

Pin No.	Signal
A2	Mounting Position 1
A3	Mounting Position 2
A5	IR SDI LSB
A6	IR SDI MSB
C3	GPIRU/IRU select
E7	ADIRU/IRU select
J5	Enhanced alignment mode select
K3	Mag Var model select
K9	Mag Var coverage select

(d) For the left ADIRU, do a check of these pins at connector D3687A. For the right ADIRU, do a check iof these pins at connector D3693A:

Pin No.	Signal
1E	A/C IDENT CODE 1/0
1F	A/C IDENT CODE 2/0

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(Continued)

Pin No.	Signal
1G	A/C IDENT CODE 4/0
1H	A/C IDENT CODE 8/0
1J	A/C IDENT CODE 16/0
4A	A/C IDENT CODE 32/0
4B	A/C IDENT CODE 64/0
1K	A/C IDENT CODE PARITY

(e) Make sure the program pins are connected correctly (WDM 34-21).

(f) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

3) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

4) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

END OF TASK

812. ADR Program Pin Invalid - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21021 ADR PROG PIN INVLD

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) Selected display options and configurations are set by ADR program pins. The status of these program pins are monitored by the ADIRU during power up.

(4) This message shows when the ADIRU detects an invalid program pin configuration of the air data reference.

(5) This fault causes the status code 21 to show on the inertial system display unit (ISDU) and the FAULT light on the mode select unit (MSU) to come on.

(6) This is a critical fault which also causes the status code 02 to show on the ISDU.

B. Possible Causes

(1) ADIRU, M1749 (left) or M1752 (right).

(2) Wiring problem

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (WDM 34-21)

(2) (SSM 34-21)

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then there was an intermittent fault.

(3) If the maintenance message shows on the CDU and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the applicable ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) Do a check of the condition of the pins and connectors of the applicable ADIRU.

(b) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

1) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then you corrected the fault.

2) If the maintenance message does show on the CDU, and the status code does show on the ISDU, then continue.

(2) Do this check of the wiring of the program pins for the applicable ADIRU:

(a) Remove the ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

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(b) Do a wiring check of the following program pins for a ground or an open circuit, per WDM 34-21-11, WDM 34-21-12, WDM 34-21-13, WDM 34-21-21, WDM 34-21-22, WDM 34-21-23, WDM 34-21-24, WDM 34-21-14.

NOTE: Open circuit pins are not shown on the WDMs.

(c) For the left ADIRU, do the check of these pins at connector D3687B. For the right ADIRU, do the check of these pins at connector D3693B:

Pin No.	Signal
A5	SDI LSB
A6	SDI MSB

(d) For the left ADIRU, do the check of these pins at connector D3687A. For the right ADIRU, do the check of these pins at connector D3693A:

Pin No.	Signal
3C	TAT recovery corr. program
7F	Baro. select program #2
14F	ADR program pin parity discrete
7G	Baro. select program #3
8G	Baro. select program #1
2H	SSEC program
2J	AOA correction program
5J	Zero SSEC (AOA) program
1E	A/C IDENT CODE 1/0
1F	A/C IDENT CODE 2/0
1G	A/C IDENT CODE 4/0
1H	A/C IDENT CODE 8/0
1J	A/C IDENT CODE 16/0
4A	A/C IDENT CODE 32/0
4B	A/C IDENT CODE 64/0
1K	A/C IDENT CODE PARITY
7F	BARO SELECT PROG #2
7G	BARO SELECT PROG #3
8G	BARO SELECT PRO #1
3D	VMO/MMO DISCRETE INPUT #4
3E	VMO/MMO DISCRETE INPUT #3
3F	VMO/MMO DISCRETE INPUT #2
3G	VMO/MMO DISCRETE INPUT #1
9F	ALT #3 BARO ASSIGN #1 DISC IN

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(Continued)

Pin No.	Signal
9G	ALT #4 BARO ASSIGN #3 DISC IN
10F	ALT #3 BARO ASSIGN #2 DISC IN
10G	ALT #4 BARO ASSIGN #2 DISC IN
11G	ALT #4 BARO ASSIGN #1 DISC IN

(e) Make sure the program pins are connected correctly (WDM 34-21).

(f) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

3) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

4) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

———————— END OF TASK ————————

813. TAT Probe Signal Fail - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21022 TAT PROBE SIGNAL FAIL

(2) The maintenance message is the same for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) The total air temperature (TAT) probe measures the outside air temperature. It changes the temperature value to an electrical signal and sends to the ADIRUs.

(4) This message shows when the ADIRU receives an invalid signal from the total air temperature (TAT) probe.

(5) This fault causes the status code 22 to show on the inertial system display unit (ISDU).

B. Possible Causes

(1) TAT probe, M171

(2) Wiring Problem

(3) ADIRU, M1749 (left) or M1752 (right)

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

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CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
C	2	C00238	HEATERS TEMP PROBE

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21-12)

(2) (SSM 30-31-11)

(3) (SSM 34-21-22)

(4) (WDM 34-21-12)

(5) (WDM 30-31-11)

(6) (WDM 34-21-22)

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then there was an intermittent fault.

(3) If the maintenance message shows on the CDU and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the TAT probe.

These are the tasks:

Total Air Temperature Probe Removal, AMM TASK 34-21-06-000-801,

Total Air Temperature Probe Installation, AMM TASK 34-21-06-400-801.

(a) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(b) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

(c) If the maintenance message shows on the CDU and the status code shows on the ISDU, then continue.

(2) Do this check of the wiring between the applicable ADIRU and the TAT probe:

(a) Remove the ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the TAT probe. To remove it, do this task: Total Air Temperature Probe Removal, AMM TASK 34-21-06-000-801.

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(c) For the left ADIRU, do a wiring check between these pins of connector D277 for the TAT probe and connector D3687A for the ADIRU:

D277		D3687A
pin 3	- - - - - - - - - - - - - - - - - -	pin H8
pin 4	- - - - - - - - - - - - - - - - - -	pin J8

(d) For the right ADIRU, do a wiring check between these pins of connector D277 for the TAT probe and connector D3693A for the ADIRU:

D277		D3693A
pin 5	- - - - - - - - - - - - - - - - - -	pin H8
pin 2	- - - - - - - - - - - - - - - - - -	pin J8

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

3) Re-install the TAT probe. To install it, do this task: Total Air Temperature Probe Installation, AMM TASK 34-21-06-400-801.

4) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

5) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

(f) If you do not find a problem with the wiring, then do this step and continue:

1) Re-install the TAT probe. To install it, do this task: Total Air Temperature Probe Installation, AMM TASK 34-21-06-400-801.

(3) Install a new ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(b) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

——————— END OF TASK ———————

814. AOA Signal Fail - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21023 AOA SIGNAL FAIL

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) The angle of attack (AOA) sensors measure and convert angle of attack to electrical signals. These electrical signals go to the ADIRUs.

(4) This message shows when the ADIRU receives an invalid signal from the angle of attack (AOA) sensor.

(5) This fault causes the status code 23 to show on the inertial system display unit (ISDU).

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(6) This fault causes the SPD flag to show on the airspeed indicator and the ALT flag to show on the altimeter indicator.

B. Possible Causes

(1) AOA sensor, T433 (left) or T437 (right)

(2) Wiring between the AOA sensor and the ADIRU

(3) ADIRU, M1749 (left) or M1752 (right)

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21)

(2) (WDM 34-21)

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then there was an intermittent fault.

(3) If the maintenance message shows on the CDU and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the applicable AOA sensor.

These are the tasks:

Angle of Attack Sensor Removal, AMM TASK 34-21-05-000-801,

Angle of Attack Sensor Installation, AMM TASK 34-21-05-400-801.

(a) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(b) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

(c) If the maintenance message shows on the CDU and the status code shows on the ISDU, then continue.

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(2) Do this check of the wiring between the applicable ADIRU and the AOA sensor:

(a) Remove the ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the AOA sensor. To remove it, do this task: Angle of Attack Sensor Removal, AMM TASK 34-21-05-000-801.

(c) For the left ADIRU and left AOA sensor, do a wiring check between these pins of connector D10015 for the AOA sensor and connector D3687A for the ADIRU:

D10015		D3687A
pin 3	- - - - - - - - - - - - - - - - - -	pin J7
pin 4	- - - - - - - - - - - - - - - - - -	pin H7
pin 5	- - - - - - - - - - - - - - - - - -	pin K7

(d) For the right ADIRU and right AOA sensor, do a wiring check between these pins of connector D10017 for the AOA sensor and connector D3693A for the ADIRU:

D10017		D3693A
pin 3	- - - - - - - - - - - - - - - - - -	pin J7
pin 4	- - - - - - - - - - - - - - - - - -	pin H7
pin 5	- - - - - - - - - - - - - - - - - -	pin K7

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

3) Re-install the AOA sensor. To install it, do this task: Angle of Attack Sensor Installation, AMM TASK 34-21-05-400-801.

4) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

5) If the maintenance messages does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

(f) If you do not find a problem with the wiring, then do this step and continue:

1) Re-install the AOA sensor. To install it, do this task: Angle of Attack Sensor Installation, AMM TASK 34-21-05-400-801.

a) If the test in the installation task for the AOA Sensor is satisfactory, then you corrected the fault.

b) If the test in the installation task for the AOA Sensor is unsatisfactory, then continue.

(3) Install a new ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) If the test in the installation task for the ADIRU is satisfactory, then you corrected the fault.

———————— END OF TASK ————————

815. No AOA Reference Signal - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21024 NO AOA REF SIGNAL

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(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) The 28v ac stby bus supplies a servo reference voltage to the left ADIRU and to the left angle of attack (AOA) sensor. The 28v ac xfr bus 2 supplies servo reference voltage to the right AIDRU and to the right AOA sensor.

(4) This message shows when the ADIRU does not receive a 28v ac reference signal.

(5) This fault causes the status code 24 to show on the inertial system display unit (ISDU).

(6) This fault causes the ALT flag to show on the altimeter indicator and the SPD flag to show on the airspeed indicator.

B. Possible Causes

(1) Wiring problem

(2) ADIRU LEFT EXCITE circuit breaker, C425 or ADIRU RIGHT EXCITE circuit breaker, C426

(3) AOA

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21)

(2) (WDM 34-21)

E. Initial Evaluation

(1) For the left ADIRU:

(a) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

(2) For the right ADIRU:

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(a) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	15	C00426	ADIRU RIGHT EXC

(3) Do the applicable ADIRS BITE procedure (34-21 TASK 801).

(4) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected fault.

(5) If the maintenance message shows on the CDU and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check for a 28v ac reference signal at the applicable ADIRU connector:

(a) Remove the ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) For the left ADIRU:

1) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

(c) For the right ADIRU:

1) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	15	C00426	ADIRU RIGHT EXC

(d) For the left ADIRU, do a check for a 28v ac from pin 10 to pin 4 (ground) of the connector D3687C.

(e) For the right ADIRU, do a check for a 28v ac from pin 10 to pin 4 (ground) of the connector D3693C.

(f) If there is a 28v ac at connector D3687C and D3693C, then do these steps:

1) Replace the ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

2) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

3) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

(g) If there is not 28v ac at connector D3687C or D3693C, then continue.

(2) Do this check of the wiring between the applicable ADIRU and the 28v ac circuit breaker connector:

(a) For the left ADIRU:

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1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

(b) For the right ADIRU:

1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC

(c) For the left ADIRU, disconnect connector D41809P from the P18-2 panel.

(d) For the right ADIRU, disconnect connector D46065P from the P6-1 panel.

(e) For the left ADIRU, do a wiring check between these pins of connector D3687C for the ADIRU and connector D41809P:

D3687C	**D41809P**
pin 10 - - - - - - - - - - - - - - - - - -	pin 4

(f) For the right ADIRU, do a wiring check between these pins of connector D3693C for the ADIRU and connector D46065P:

D3693C	**D46065P**
pin 10 - - - - - - - - - - - - - - - - - -	pin 7

(g) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) For the left ADIRU, re-connect connector D41809P to the P18-2 panel.
3) For the right ADIRU, re-connect connector D46065P to the P6-1 panel.
4) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.
5) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.
   a) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected fault.

(h) If you do not find a problem with the wiring, then do these steps and continue:

1) For the left ADIRU, re-connect connector D41809P to the P18-2 panel.
2) For the right ADIRU, re-connect connector D46065P to the P6-1 panel.

(3) Intall a new ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) If the test in the installation task for the ADIRU is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

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816. No Pitot ADM Data - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21027 NO PITOT ADM DATA

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRU maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRU maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) This message shows when the ADIRU does not receive signal from the pitot air data module (ADM).

(4) This fault causes the status code 27 to show on the inertial system display unit (ISDU).

(5) This fault causes the SPD flag to show on the airspeed indicator and the ALT flag to show on the altimeter indicator.

B. Possible Causes

(1) Pitot ADM, M1750 (left) or M1753 (right).

(2) Wiring between pitot ADM and ADIRU.

(3) ADIRU, M1749 (left) or M1752 (right).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21).

(2) (WDM 34-21).

E. Initial Evaluation

(1) For the applicable ADIRU, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then there was an intermittent fault.

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(3) If the maintenance message shows on the CDU and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the applicable pitot ADM.

These are the tasks:

Pitot Air Data Module Removal, AMM TASK 34-21-04-000-801,

Pitot Air Data Module Installation, AMM TASK 34-21-04-400-801.

(a) For the applicable ADIRU, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(b) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

(c) If the maintenance message shows on the CDU and the status code shows on the ISDU, then continue.

(2) Do this check of the wiring between the applicable ADIRU and pitot ADM:

(a) Remove the applicable ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) For the left ADIRU, disconnect the connector D3689 from the left pitot ADM.

(c) For the right ADIRU, disconnect the connector D3695 from the right pitot ADM.

(d) For the left ADIRU, do a wiring check between these pins of connector D3689 and connector D3687A for the ADIRU:

D3689		D3687A
pin 7	- - - - - - - - - - - - - - - - - -	pin D10
pin 8	- - - - - - - - - - - - - - - - - -	pin E10
pin 1	- - - - - - - - - - - - - - - - - -	pin G6
pin 3	- - - - - - - - - - - - - - - - - -	pin H6
pin 5	- - - - - - - - - - - - - - - - - -	pin J6

(e) For the right ADIRU, do a wiring check between these pins of connector D3695 and connector D3693A for the ADIRU:

D3695		D3693A
pin 7	- - - - - - - - - - - - - - - - - -	pin D10
pin 8	- - - - - - - - - - - - - - - - - -	pin E10
pin 1	- - - - - - - - - - - - - - - - - -	pin G6
pin 3	- - - - - - - - - - - - - - - - - -	pin H6
pin 5	- - - - - - - - - - - - - - - - - -	pin J6

(f) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) For the left ADIRU, re-connect the connector D3689 to the left pitot ADM.

3) For the right ADIRU, re-connect the connector D3695 to the right pitot ADM.

4) Re-install the applicable ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

5) For the applicable ADIRU, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

6) If the maintenance messages does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

(g) If you do not find a problem with the wiring, then do these steps and continue:

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1) For the left ADIRU, re-connect the connector D3689 to the left pitot ADM.

2) For the right ADIRU, re-connect the connector D3695 to the right pitot ADM.

(3) Install a new ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) If the test in the installation task for the ADIRU is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

817. No Static ADM Data - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21028 NO STATIC ADM DATA

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRU maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRU maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) This message shows when the ADIRU does not receive a valid signal from the static air data module (ADM).

(4) This fault causes the status code 28 to show on the inertial system display unit (ISDU).

(5) This fault causes the SPD flag to show on the airspeed indicator and the ALT flag to show on the altimeter indicator.

B. Possible Causes

(1) Static ADM, M1751 (left) or M1754 (right).

(2) Wiring problem between the ADM and the ADIRU.

(3) ADIRU, M1749 (left) or M1752 (right).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21).

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(2) (WDM 34-21).

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then there was an intermittent fault.

(3) If the maintenance message shows on the CDU and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the applicable static ADM.

These are the tasks:

Static Air Data Module Removal, AMM TASK 34-21-04-000-802,

Static Air Data Module Installation, AMM TASK 34-21-04-400-802.

(a) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(b) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

(c) If the maintenance message shows on the CDU and the status code shows on the ISDU, then continue.

(2) Do this check of the wiring between the applicable ADIRU and static ADM:

(a) Remove the applicable ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) For the left ADIRU, disconnect the connector D3691 from the left static ADM.

(c) For the right ADIRU, disconnect the connector D3697 from the right static ADM.

(d) For the left ADIRU, do a wiring check between these pins of connector D3691 and connector D3687A for the ADIRU:

D3691		D3687A
pin 7	- - - - - - - - - - - - - - - - - -	pin D9
pin 8	- - - - - - - - - - - - - - - - - -	pin E9
pin 1	- - - - - - - - - - - - - - - - - -	pin G6
pin 3	- - - - - - - - - - - - - - - - - -	pin H6
pin 5	- - - - - - - - - - - - - - - - - -	pin J6

(e) For the right ADIRU, do a wiring check between these pins of connector D3697 and connector D3693A for the ADIRU:

D3697		D3693A
pin 7	- - - - - - - - - - - - - - - - - -	pin D9
pin 8	- - - - - - - - - - - - - - - - - -	pin E9
pin 1	- - - - - - - - - - - - - - - - - -	pin G6
pin 3	- - - - - - - - - - - - - - - - - -	pin H6
pn 5	- - - - - - - - - - - - - - - - - -	pin J6

(f) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) For the left ADIRU, re-connect the connector D3691 to the left static ADM.

3) For the right ADIRU, re-connect the connector D3697 to the right static ADM.

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4) Re-install the applicable ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

5) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

6) If the maintenance messages does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

(g) If you do not find a problem with the wiring, then do these steps and continue:

1) For the left ADIRU, re-connect the connector D3691 to the left static ADM.

2) For the right ADIRU, re-connect the connector D3697 to the right static ADM.

(3) Install a new applicable ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) If the test in the installation task for the ADIRU is satisfactory, then you corrected the fault.

—————— END OF TASK ——————

818. No Baro 1 Data - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21029 NO BARO 1 DATA

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRU maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRU maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) This message shows when the ADIRU does not receive the BARO 1 data from the display electronic unit (DEU).

(4) This fault causes the status code 29 to show on the inertial system display unit (ISDU).

B. Possible Causes

(1) DEU 1, M1808 or DEU 2, M1809.

(2) ADIRU, M1749 (left) or M1752 (right).

(3) Wiring problem between the DEU and the ADIRU.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

D. Related Data

(1) (SSM 34-21).

(2) (WDM 34-21).

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E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then there was an intermittent fault.

(3) If the maintenance message shows on the CDU and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) For the applicable DEU, do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If there is a maintenance message for a DEU or EFIS control panel failure, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

2) If the ADIRS maintenance message does not show on the CDU, and the status code does not show on the ISDU, then you corrected the fault.

3) If the ADIRS maintenance message shows on the CDU, and the status code shows on the ISDU, then continue.

(b) If there is no maintenance message for a DEU or EFIS control panel failure, then continue.

(2) Replace the applicable ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) Do a check of the condition of the pins and connector of the applicable ADIRU.

(b) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

1) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then you corrected the fault.

2) If the maintenance message does show on the CDU, and the status code does show on the ISDU, then continue.

(3) Do this check of the wiring between the applicable ADIRU and DEU:

(a) Remove the ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the DEU. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) For the left ADIRU, do a wiring check between these pins of connector D3973B for the DEU and connector D3687A for the ADIRU:

D3975D		D3687A
pin C7	- - - - - - - - - - - - - - - - - -	pin F15
pin D7	- - - - - - - - - - - - - - - - - -	pin G15

(d) For the right ADIRU, do a wiring check between these pins of connector D3975B for the DEU and connector D3693A for the ADIRU:

D3975B		D3693A
pin C7	- - - - - - - - - - - - - - - - - -	pin F15
pin D7	- - - - - - - - - - - - - - - - - -	pin G15

(e) If you find a problem with the wiring, then do these steps:

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1) Repair the wiring.
2) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.
3) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.
4) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.
5) If the maintenance messages does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

——————— END OF TASK ———————

819. No Baro 2 Data - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21030 NO BARO 2 DATA

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRU maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRU maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) This message shows when the ADIRU does not receive the BARO 2 data from the display electronic unit (DEU).

(4) This fault causes the status code 30 to show on the inertial system display unit (ISDU).

B. Possible Causes

(1) DEU 1, M1808 or DEU 2, M1809.

(2) ADIRU, M1749 (left) or M1752 (right).

(3) Wiring problem between the DEU and the ADIRU.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

D. Related Data

(1) (SSM 34-21).

(2) (WDM 34-21).

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

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(2) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then there was an intermittent fault.

(3) If the maintenance message shows on the CDU and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) For the applicable DEU, do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If there is a maintenance message for a DEU or EFIS control panel failure, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

2) If the ADIRS maintenance message does not show on the CDU, and the status code does not show on the ISDU, then you corrected the fault.

3) If the ADIRS maintenance message shows on the CDU, and the status code shows on the ISDU, then continue.

(b) If there is no maintenance message for a DEU or EFIS control panel failure, then continue.

(2) Replace the applicable ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) Do a check of the condition of the pins and connector of the applicable ADIRU.

(b) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

1) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then you corrected the fault.

2) If the maintenance message does show on the CDU, and the status code does show on the ISDU, then continue.

(3) Do this check of the wiring between the applicable ADIRU and DEU:

(a) Remove the ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the DEU. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) For the left ADIRU, do a wiring check between these pins of connector D3975D for the DEU and connector D3687A for the ADIRU:

D3975D		D3687A
pin J3	- - - - - - - - - - - - - - - - - -	pin F13
pin K3	- - - - - - - - - - - - - - - - - -	pin G13

(d) For the right ADIRU, do a wiring check between these pins of connector D3973D for the DEU and connector D3693A for the ADIRU:

D3973D		D3693A
pin J3	- - - - - - - - - - - - - - - - - -	pin F13
pin K3	- - - - - - - - - - - - - - - - - -	pin G13

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

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2) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

3) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

4) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

5) If the maintenance messages does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

——————— END OF TASK ———————

820. Pitot ADM Data Invalid - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21032 PITOT ADM DATA INVLD

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRU maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRU maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) This message shows when the ADIRU receives an invalid signal from pitot air data module (ADM).

(4) This fault causes the status code 32 to show on the inertial system display unit (ISDU).

B. Possible Causes

(1) Pitot ADM, M1750 (left) or M1753 (right).

(2) ADIRU, M1749 (left) or M1752 (right).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21).

(2) (WDM 34-21).

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E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then there was an intermittent fault

(3) If the maintenance message shows on the CDU, and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the applicable pitot ADM.

These are the tasks:

Pitot Air Data Module Removal, AMM TASK 34-21-04-000-801,

Pitot Air Data Module Installation, AMM TASK 34-21-04-400-801.

(a) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(b) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then you corrected the fault.

(c) If the maintenance message shows on the CDU, and the status code shows on the ISDU, then continue.

(2) Replace the applicable ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) If the test in the installation task for the ADIRU is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

821. Static ADM Data Invalid - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21033 STATIC ADM DATA INVLD

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRU maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRU maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) This message shows when the ADIRU receives an invalid signal from static air data module (ADM).

(4) This fault causes the status code 33 to show on the inertial system display unit (ISDU).

B. Possible Causes

(1) Static port.

(2) Static ADM, M1751 (left) or M1754 (right).

(3) ADIRU, M1749 (left) or M1752 (right).

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21).

(2) (WDM 34-21).

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then there was an intermittent fault.

(3) If the maintenance message shows on the CDU, and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the applicable static ADM.

These are the tasks:

Static Air Data Module Removal, AMM TASK 34-21-04-000-802,

Static Air Data Module Installation, AMM TASK 34-21-04-400-802.

(a) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(b) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then you corrected the fault.

(c) If the maintenance message shows on the CDU, and the status code shows on the ISDU, then continue.

(2) Install a new ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) If the test in the installation task for the ADIRU is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

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822. Baro 1 Data Invalid - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21034 BARO 1 DATA INVLD

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) The ADIRU use the the BARO 1 data from the display electronic unit (DEU) to compute BARO corrected altitude. This message shows when the ADIRU receives an invalid BARO 1 data from the DEU.

(4) This fault causes the status code 34 to show on the inertial system display unit (ISDU).

B. Possible Causes

(1) EFIS control panel.

(2) DEU, M1808 (DEU 1) or M1809 (DEU 2).

(3) ADIRU, M1749 (left) or M1752 (right).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

D. Related Data

(1) (SSM 34-21).

(2) (WDM 34-21).

E. Initial Evaluation

(1) Make sure you enter the correct barometric data from the EFIS control panel.

(2) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(3) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then there was an intermittent fault.

(4) If the maintenance message shows on the CDU and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) For the applicable DEU, do this task: CDS BITE Procedure, 31-62 TASK 801.

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(a) If the CDS BITE shows a DEU internal fault or an EFIS control panel fault in CURRENT STATUS, then go to the fault isolation task for the applicable CDS maintenance message to correct the fault.

1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

2) If the ADIRS maintenance message does not show on the CDU, and the status code does not show on the ISDU, then you corrected the fault.

(b) If the CDS BITE does not show a DEU internal fault or an EFIS control panel fault, then continue.

(2) Replace the applicable ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) If the test in the installation task for the ADIRU is satisfactory, then you corrected the fault.

———————— END OF TASK ————————

823. Baro 2 Data Invalid - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21035 BARO 2 DATA INVLD

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) The ADIRU use the the BARO 2 data from the display electronic unit (DEU) to compute BARO corrected altitude. This message shows when the ADIRU receives invalid BARO 2 data from the DEU.

(4) This fault causes the status code 35 to show on the inertial system display unit (ISDU).

B. Possible Causes

(1) EFIS control panel.

(2) DEU, M1808 (DEU 1) or M1809 (DEU 2).

(3) ADIRU, M1749 (left) or M1752 (right).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21).

(2) (WDM 34-21).

E. Initial Evaluation

(1) Make sure you enter the correct barometric data from the EFIS control panel.

(2) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(3) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then you corrected the fault.

(4) If the maintenance message shows on the CDU and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) For the applicable DEU, do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If the CDS BITE shows a DEU internal fault or an EFIS control panel fault in CURRENT STATUS, then go to the fault isolation task for the applicable CDS maintenance message to correct the fault.

1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

2) If the ADIRS maintenance message does not show on the CDU, and the status code does not show on the ISDU, then you corrected the fault.

(b) If the CDS BITE does not show a DEU internal fault or an EFIS control panel fault, then continue.

(2) Replace the applicable ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) If the test in the installation task for the ADIRU is satisfactory, then you corrected the fault.

———————— END OF TASK ————————

824. Air/Ground Logic Invalid - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21038 AIR/GND LOGIC INVLD

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

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(3) The ADIRU receives the air/ground signal from the proximity switch electronics unit (PSEU) to determine the airplane is in air or on ground status. This message shows when the ADIRU receives an invalid air/ground signal from the PSEU.

(4) This fault causes the status code 38 to show on the inertial system display unit (ISDU).

B. Possible Causes

(1) Proximity switch electronics unit (PSEU), M2061

(2) ADIRU, M1749 (left) or M1752 (right)

(3) Wiring problem between the PSEU and the ADIRU

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21)

(2) (WDM 34-21-21)

(3) (WDM 32-31-12)

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then there was an intermittent fault.

(3) If the maintenance message shows on the CDU and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Put the airplane in the air mode. To put it in the air mode, do these tasks: Prepare to Put the Airplane in the Air Mode, AMM TASK 32-09-00-840-801 and Put the Airplane in the Air Mode, AMM TASK 32-09-00-860-801.

(a) Do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(b) Do this task: Proximity Switch Electronics Unit (PSEU) BITE Procedure, 32-09 TASK 801.

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1) If the PSEU BITE shows an air/ground relay fault or a PSEU internal fault in EXISTING FAULTS, then go to the fault isolation task for the applicable PSEU maintenance message to correct the fault.
   a) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.
   b) If the ADIRS maintenance message does not show on the CDU, and the status code does not show on the ISDU, then you corrected the fault.
2) If the PSEU BITE does not show an air/ground relay fault or a PSEU internal fault, then continue.

(2) Replace the applicable ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(b) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

(c) If the maintenance message shows on the CDU and the status code shows on the ISDU, then continue.

(3) Do this check of the wiring between the ADIRU and PSEU:

(a) Remove the applicable ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Do the steps for Prepare for the Removal in this task: Proximity Switch Electronics Unit (PSEU) Removal, AMM TASK 32-09-10-000-801.

(c) For the left ADIRU, do this wiring check:

1) Disconnect connector D11138 from the PSEU.

2) Do a wiring check between these pins of connector D11138 and connector D3687B for the left ADIRU:

D11138		D3687B
pin 53	- - - - - - - - - - - - - - - - - -	pin K15

(d) For the right ADIRU, do this wiring check:

1) Disconnect connector D11140 from the PSEU.

2) Do a wiring check between these pins of connector D11140 and connector D3693B for the right ADIRU:

D11140		D3693B
pin 53	- - - - - - - - - - - - - - - - - -	pin K15

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect connector to the PSEU.

3) Put the airplane systems back to normal on ground condition. To put it back to normal, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

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4) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	17	C00129	LANDING GEAR LATCH & PRESS WARN
C	15	C01355	LANDING GEAR AIR/GND SYS 2
C	16	C01356	LANDING GEAR AIR/GND SYS 1
D	1	C01399	PSEU PRI
D	2	C01400	PSEU ALTN

5) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

6) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

7) If the maintenance messages does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

——————— END OF TASK ———————

825. IR Observed Faults on Captain's EFIS Displays - Fault Isolation

A. Description

(1) This task is for these observed faults:

(a) HDG flag shows on the captain's electronic flight instrument system (EFIS) display.

(b) TRK flag shows on the captain's EFIS display.

(c) Heading or track data does not show on captain's EFIS display.

(d) PITCH message shows on the captain's EFIS display.

(e) ROLL message shows on the captain's EFIS display.

(f) Vertical speed pointer removed from view on the captain's EFIS display.

(g) ATT flag shows on captain's EFIS display.

(h) VSI flag shows on captain's EFIS display.

B. Possible Causes

(1) Left ADIRU, M1749

(2) DEU 1, M1808

(3) Wiring between ADR to IR

(4) Wiring between the ADIRUs and the DEU 1

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	5	C01359	DISPLAY DEU 1 PRI
E	8	C00425	ADIRU LEFT EXC

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC
D	10	C01361	DISPLAY DEU 1 HOLDUP

D. Related Data

(1) (SSM 34-21-11)

(2) (WDM 34-21-11)

(3) (WDM 31-62-11)

E. Initial Evaluation

(1) Do these steps to prepare for initial evaluation and fault isolation:

(a) Make sure the DISPLAY switch on the P5 panel is in the AUTO position.

(b) Make sure the IRS switch on the P5 panel is in the NORMAL position.

(c) Make sure the left ADIRU is aligned and in the NAV mode.

(2) If the observed fault shows on the captain's EFIS display, then do the Fault Isolation Procedure below.

(3) If the observed fault does not show on the captain's EFIS display, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do the DEU 1 BITE (31-62 TASK 801).

(a) If there is a maintenance message that relates to the DEU 1 internal fault, the captain's EFIS display, or the left ADIRU, then go to the applicable fault isolation task for that message to correct the fault.

1) If the observed fault does not show on the captain's EFIS display, then you corrected the fault.

2) If the observed fault shows on the captain's EFIS display, then continue.

(2) Do the left ADIRS BITE (34-21 TASK 801).

(a) If there is a left ADIRS fault message that shows on the CDU, then go to the FIM task to clear that message.

(b) After you clear the left ADIRS maintenance messages, if the observed fault does not show on the captain's EFIS display, then you corrected the fault.

(c) After you clear the left ADIRS maintenance messages, if the observed fault continues to shows on the captain's EFIS display, then continue.

(3) Do this check of the ADIRU switching:

(a) Make sure the right ADIRU is aligned and in the NAV mode.

(b) Set the IRS switch on the P5 panel to the BOTH ON R position.

(c) If the observed fault does not show on the captain's EFIS display, then do these steps:

1) Replace the left ADIRU.

These are the tasks:

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Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(d) If the observed fault shows on the captain's EFIS display, then continue.

(4) Replace the DEU 1.

These are the Task:

Display Electronic Unit Removal, AMM TASK 31-62-21-000-801

Display Electronic Unit Installation, AMM TASK 31-62-21-400-801

(a) If the installation test is satisfactory, then you corrected the fault.

(5) Do a wiring check between the ADR to IR section of the ADIRU.

(a) For the left ADIRU, do a wiring check between terminal block TB523, to D3687B and D3687A:

TB523		**D3687B**
ZA21	- - - - - - - - - - - - - - - - - -	pin K4
ZB21	- - - - - - - - - - - - - - - - - -	pin K5

TB523		**D3687A**
ZA21	- - - - - - - - - - - - - - - - - -	pin A9
ZB21	- - - - - - - - - - - - - - - - - -	pin B9

(b) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Do the left ADIRS BITE (34-21 TASK 801).

a) If there is a left ADIRS fault message that shows on the CDU, then go to the FIM task to clear that message.

b) After you clear the left ADIRS maintenance messages, if the observed fault does not show on the captain's EFIS display, then you corrected the fault.

c) After you clear the left ADIRS maintenance messages, if the observed fault continues to shows on the captain's EFIS display, then continue.

(c) If you don't find the problem with the wiring, then continue.

(6) Do this check of the wiring between the ADIRUs and the DEU 1:

(a) Remove the left and right ADIRUs. To remove them, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the DEU 1. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) For the left ADIRU, do a wiring check between these pins of connectors D3687B and D3973A:

D3687B		**D3973A**
pin G7	- - - - - - - - - - - - - - - - - -	pin C2
pin G8	- - - - - - - - - - - - - - - - - -	pin D2

(d) For the right ADIRU, do a wiring check between these pins of connectors D3693B and D3973D:

D3693B		**D3973D**
pin C10	- - - - - - - - - - - - - - - - -	pin C2
pin C11	- - - - - - - - - - - - - - - - -	pin D2

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(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the DEU 1. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

3) Re-install the left and right ADIRUs. To install them, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

4) If the observed fault does not show on the captain's EFIS display, then you corrected the fault.

——————— END OF TASK ———————

826. IR Observed Faults on First Officer's EFIS Displays - Fault Isolation

A. Description

(1) This task is for these observed faults:

(a) HDG flag shows on the first officer's electronic flight instrument system (EFIS) display.

(b) TRK flag shows on the first officer's EFIS display.

(c) Heading or track does not show on first officer's EFIS display.

(d) PITCH message shows on the first officer's EFIS display.

(e) ROLL message shows on the first officer's EFIS display.

(f) Vertical speed pointer removed from view on the first officer's EFIS display.

(g) ATT flag shows on the first officer's EFIS display.

(h) VSI flag shows on the first officer's EFIS display.

B. Possible Causes

(1) Right ADIRU, M1752

(2) DEU 2, M1809

(3) Wiring between ADR to IR

(4) Wiring between the ADIRUs and the DEU 2

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

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Row	Col	Number	Name
D	9	C01362	DISPLAY DEU 2 HOLDUP
D	11	C01360	DISPLAY DEU 2 PRI

D. Related Data

(1) (SSM 34-21-11)

(2) (WDM 34-21-11)

(3) (WDM 34-62-11)

E. Initial Evaluation

(1) Do these steps to prepare for initial evaluation and fault isolation:

(a) Make sure the DISPLAY switch on the P5 panel is in the AUTO position.

(b) Make sure the IRS switch on the P5 panel is in the NORMAL position.

(c) Make sure the right ADIRS is aligned and in the NAV mode.

(2) If the observed fault shows on the first officer's EFIS display, then do the Fault Isolation Procedure below.

(3) If the observed fault does not show on the first officer's EFIS display, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do the DEU 2 BITE (31-62 TASK 801).

(a) If there is a fault message that relates to the DEU 2 internal fault, the first officer's EFIS display, or the right ADIRU; then go to the FIM task to clear that message.

(b) After you clear the DEU 2 maintenance messages, if the observed fault does not show on the first officer's EFIS display, then you corrected the fault.

(c) After you clear the DEU 2 maintenance messages, if the observed fault continues to show on the first officer's EFIS display, then continue.

(2) Do the right ADIRS BITE (34-21 TASK 801).

(a) If there is a right ADIRS fault message that shows on the CDU, then go to the FIM task to clear that message.

(b) After you clear the right ADIRS maintenance messages, if the observed fault does not show on the first officer's EFIS display, then you corrected the fault.

(c) After you clear the right ADIRS maintenance messages, if the observed fault continues to show on the first officer's EFIS display, then continue.

(3) Do this check of the ADIRU switching:

(a) Make sure the left ADIRU is aligned and in the NAV mode.

(b) Set the IRS switch on the P5 panel to the BOTH ON L position.

(c) If the observed fault does not show on the first officer's EFIS display, then do these steps:

1) Replace the right ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(d) If the observed fault shows on the first officer's EFIS display, then continue.

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(4) Replace the DEU 2.

These are the Task:

Display Electronic Unit Removal, AMM TASK 31-62-21-000-801,

Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

(a) If the installation test is satisfactory, then you corrected the fault.

(5) Do a wiring check between the ADR to IR section of the ADIRU.

(a) For the right ADIRU, do a wiring check between terminal block TB521, to D3693B and D3693A:

TB523		**D3687B**
ZA21	- - - - - - - - - - - - - - - - - -	pin K4
ZB21	- - - - - - - - - - - - - - - - - -	pin K5

TB523		**D3687A**
ZA21	- - - - - - - - - - - - - - - - - -	pin A9
ZB21	- - - - - - - - - - - - - - - - - -	pin B9

(b) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Do the left ADIRS BITE (34-21 TASK 801).

a) If there is a left ADIRS fault message that shows on the CDU, then go to the FIM task to clear that message.

b) After you clear the left ADIRS maintenance messages, if the observed fault does not show on the captain's EFIS display, then you corrected the fault.

c) After you clear the left ADIRS maintenance messages, if the observed fault continues to shows on the captain's EFIS display, then continue.

(c) If you don't find the problem with the wiring, then continue.

(6) Do this check of the wiring between the ADIRUs and the DEU 2:

(a) Remove the left and right ADIRUs. To remove them, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the DEU 2. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) For the left ADIRU, do a wiring check between these pins of connectors D3687B and D3975A:

D3687B		**D3975A**
pin C10	- - - - - - - - - - - - - - - - -	pin C2
pin C11	- - - - - - - - - - - - - - - - -	pin D2

(d) For the right ADIRU, do a wiring check between these pins of connectors D3693B and D3975D:

D3693B		**D3975D**
pin G7	- - - - - - - - - - - - - - - - -	pin C2
pin G8	- - - - - - - - - - - - - - - - -	pin D2

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

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2) Re-install the DEU 2. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

3) Re-install the left and right ADIRUs. To install them, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

4) If the observed fault does not show on the first officer's EFIS display, then you corrected the fault.

——————— END OF TASK ———————

827. ADR Observed Faults on Captain's EFIS Displays - Fault Isolation

A. Description

(1) This task is for these observed faults:

(a) ALT flag shows on the captain's EFIS display.

(b) SPD flag shows on captain's EFIS display.

(c) True airspeed (TAS) data does not show on the captain's EFIS display.

B. Possible Causes

(1) Loose AOA vane ground wire in ground stud

(2) ADM sensor

(3) Wiring between the ADIRUs and the DEU 1

(4) Left ADIRU, M1749

(5) DEU 1, M1808

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	5	C01359	DISPLAY DEU 1 PRI
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC
D	10	C01361	DISPLAY DEU 1 HOLDUP

D. Related Data

(1) (SSM 34-21-14)

(2) (SSM 34-21-24)

(3) (WDM 34-21-14)

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(4) (WDM 34-21-24)

E. Initial Evaluation

(1) Do these steps to prepare for initial evaluation and fault isolation:

(a) Make sure the DISPLAY switch on the P5 panel is in the AUTO position.

(b) Make sure the left ADIRU is aligned and in the NAV mode.

(c) Make sure the R IRS switch on the mode select unit is in the OFF position.

(d) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

(2) If the observed fault shows on the captain's EFIS display, then do the Fault Isolation Procedure below.

(a) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

(3) If the observed fault does not show on the captain's EFIS display, then there was an intermittent fault.

(a) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

F. Fault Isolation Procedure

(1) Do the air data inertial reference system self-test in this task: Air Data Inertial Reference System - Operational Test, AMM TASK 34-21-00-710-801.

(a) If static or pitot ADM test is unsatisfactory, then do these steps.

1) Replace the static and/or pitot ADM as appropriate, these are the tasks:

Pitot Air Data Module Removal, AMM TASK 34-21-04-000-801,

Pitot Air Data Module Installation, AMM TASK 34-21-04-400-801,

Static Air Data Module Removal, AMM TASK 34-21-04-000-802,

Static Air Data Module Installation, AMM TASK 34-21-04-400-802.

a) If static and/or pitot ADM test is satisfactory, then you corrected the fault.

b) If the test is unsatisfactory, then continue.

(b) If the test is satisfactory, then continue.

(2) For the left ADIRS, Do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(a) If there is a left ADIRS fault message that shows on the CDU, then go to the FIM task to clear that message.

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(b) After you clear the left ADIRS maintenance messages, if the observed fault does not show on the captain's EFIS display, then you corrected the fault.

(c) After you clear the left ADIRS maintenance messages, if the observed fault continues to show on the captain's EFIS display, then continue.

(3) For the DEU 1, do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If there is a fault message that relates to the DEU 1 internal fault, the captain's EFIS displays, or the left ADIRU; then go to the FIM task to clear that message.

(b) After you clear the DEU 1 maintenance messages, if the observed fault does not show on the captain's EFIS display, then you corrected the fault.

(c) After you clear the DEU 1 maintenance messages, if the observed fault continues to show on the captain's EFIS display, then continue.

(4) Do this check of the left ADIRU:

(a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

(b) Align the left ADIRU in the NAV mode.

(c) If the observed fault does not show on the captain's EFIS display, then do these steps:

1) Replace the left ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(d) If the observed fault shows on the captain's EFIS display, then do this step and continue.

1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

(5) Replace the DEU 1.

These are the Task:

Display Electronic Unit Removal, AMM TASK 31-62-21-000-801

Display Electronic Unit Installation, AMM TASK 31-62-21-400-801

(a) If the observed fault does not show on the captain's EFIS display, then you corrected the fault.

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(b) If the observed fault shows on the captain's EFIS display, then continue.

(6) Do this check of the wiring between the ADIRUs and the DEU 1:

(a) Remove the left and right ADIRUs. To remove them, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the DEU 1. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) For the left ADIRU, do a wiring check between these pins of connectors D3687A, D3973B, and D3973D:

D3687A		D3973B
pin A5	- - - - - - - - - - - - - - - - - -	pin C5
pin B5	- - - - - - - - - - - - - - - - - -	pin D5

D3687A		D3973D
pin A5	- - - - - - - - - - - - - - - - - -	pin E5
pin B5	- - - - - - - - - - - - - - - - - -	pin F5

(d) For the right ADIRU, do a wiring check between these pins of connectors D3693A, D3973A, and D3973E:

D3693A		D3973A
pin A9	- - - - - - - - - - - - - - - - - -	pin J15
pin B9	- - - - - - - - - - - - - - - - - -	pin K15

D3693A		D3973E
pin A9	- - - - - - - - - - - - - - - - - -	pin C5
pin B9	- - - - - - - - - - - - - - - - - -	pin D5

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the DEU 1. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

3) Re-install the left and right ADIRUs. To install them, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

4) If the observed fault does not show on the captain's EFIS display, then you corrected the fault.

——————— END OF TASK ———————

828. ADR Observed Faults on First Officer's EFIS Displays - Fault Isolation

A. Description

(1) This task is for these observed faults:

(a) ALT flag shows on the first officer's EFIS display.

(b) SPD flag shows on first officer's EFIS display.

(c) True airspeed (TAS) data does not show on the first officer's EFIS display.

B. Possible Causes

(1) Loose AOA vane ground wire in ground stud

(2) ADM

(3) Wiring between the ADIRUs and the DEU 2

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(4) Right ADIRU, M1752

(5) DEU 2, M1809

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC
D	9	C01362	DISPLAY DEU 2 HOLDUP
D	11	C01360	DISPLAY DEU 2 PRI

D. Related Data

(1) (SSM 34-21-11)

(2) (WDM 34-21-11)

(3) (WDM 31-62-11)

E. Initial Evaluation

(1) Do these steps to prepare for initial evaluation and fault isolation:

(a) Make sure the DISPLAY switch on the P5 panel is in the AUTO position.

(b) Make sure the right ADIRU is aligned and in the NAV mode.

(c) Make sure the L IRS switch on the mode select unit is in the OFF position.

(d) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

(2) If the observed fault shows on the first officer's EFIS display, then do the Fault Isolation Procedure below.

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(a) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

(3) If the observed fault does not show on the first officer's EFIS display, then continue.

(a) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F. Fault Isolation Procedure

(1) Do the air data inertial reference system self-test in this task:
Air Data Inertial Reference System - Operational Test, AMM TASK 34-21-00-710-801.

(a) If static and/or pitot ADM test is unsatisfactory, then do these steps.

1) Replace the static and/or pitot ADM as appropriate, these are the task:
Pitot Air Data Module Removal, AMM TASK 34-21-04-000-801,
Pitot Air Data Module Installation, AMM TASK 34-21-04-400-801,
Static Air Data Module Removal, AMM TASK 34-21-04-000-802,
Static Air Data Module Installation, AMM TASK 34-21-04-400-802.

a) If static and/or pitot ADM is satisfactory, then you corrected the fault.

b) If the test is unsatisfactory, then continue.

(b) If the test is satisfactory, then continue.

(2) For the right ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(a) If there is a right ADIRS fault message that shows on the CDU, then go to the FIM task to clear that message.

(b) After you clear the right ADIRS maintenance messages, if the observed fault does not show on the first officer's EFIS display, then you corrected the fault.

(c) After you clear the right ADIRS maintenance messages, if the observed fault continues to show on the first officer's EFIS display, then continue.

(3) For the DEU 2, do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If there is a fault message that relates to the DEU 2 internal fault, the first officer's EFIS displays, or the left ADIRU; then go to the FIM task to clear that message.

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(b) After you clear the DEU 2 maintenance messages, if the observed fault does not show on the first officer's EFIS display, then you corrected the fault.

(c) After you clear the DEU 2 maintenance messages, if the observed fault continues to show on the first officer's EFIS display, then continue.

(4) Do this check of the right ADIRU:

(a) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

(b) Align the right ADIRU in the NAV mode.

(c) If the observed fault does not show on the first officer's EFIS display, then do these steps:

1) Replace the right ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801 ,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(d) If the observed fault shows on the first officer's EFIS display, then do this step and continue.

1) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

(5) Replace the DEU 2.

These are the Task:

Display Electronic Unit Removal, AMM TASK 31-62-21-000-801,

Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

(a) If the observed fault does not show on the first officer's EFIS display, then you corrected the fault.

(b) If the observed fault shows on the first officer's EFIS display, then continue.

(6) Do this check of the wiring between the ADIRUs and the DEU 2:

(a) Remove the left and right ADIRUs. To remove them, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the DEU 2. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) For the left ADIRU, do a wiring check between these pins of connectors D3687A, D3975B, and D3975D:

D3687A		**D3975B**
pin A9	- - - - - - - - - - - - - - - - - -	pin C5
pin B9	- - - - - - - - - - - - - - - - - -	pin D5

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D3687A		D3975D
pin A9	- - - - - - - - - - - - - - - - - -	pin E5
pin B9	- - - - - - - - - - - - - - - - - -	pin F5

(d) For the right ADIRU, do a wiring check between these pins of connectors D3693A, D3975A, and D3975E:

D3693A		D3975A
pin A5	- - - - - - - - - - - - - - - - - -	pin J15
pin B5	- - - - - - - - - - - - - - - - - -	pin K15

D3693A		D3975E
pin A5	- - - - - - - - - - - - - - - - - -	pin C5
pin B5	- - - - - - - - - - - - - - - - - -	pin D5

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-install the DEU 2. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.
3) Re-install the left and right ADIRUs. To install them, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.
4) If the observed fault does not show on the first officer's EFIS display, then you corrected the fault.

——————— END OF TASK ———————

829. Ground Crew Call Horn Sounds - Fault Isolation

A. Description

(1) This task is for the observed fault:

(a) Ground crew call horn sounds continuously.

(2) Under normal operation, the ground crew call horn sounds when air data inertial reference unit (ADIRU) has one of these condition:

- no equipment cooling
- no AC power and operates on DC power

(3) This fault is for ground crew call horn sounds continuously when there is equipment cooling and ADIRU is operated on AC power.

B. Possible Causes

(1) Integrated flight system accessory unit (IFSAU), M1474

(2) Air supply low flow detector, M1915

(3) Air exhaust low flow detector, M100

(4) Left ADIRU, M1749 or Right ADIRU, M1752

(5) IRS Master Caution Unit, M1206

(6) Wiring problem

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21-11)

(2) (WDM 34-21-11)

(3) (WDM 31-62-11)

E. Initial Evaluation

(1) Make sure the equipment cooling fans are on.

(2) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	7	C01007	ADIRU LEFT AC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC

(3) Make sure the ON DC lights on the mode select unit (MSU) are off.

(4) If the ground crew call horn does not sound, then there was an intermittent fault.

(5) If the ground crew call horn sounds continuously, then do the Fault Isolation Procedure below.

NOTE: You can open the ADIRU DC circuit breakers to temporarily turn off the ground crew call horn. The MSU will show DC FAIL for the ADIRU that was turned off.

F. Fault Isolation Procedure

(1) Do the left and right ADIRU BITE procedures (34-21 TASK 801).

(a) If there is a fault message that relates to the ADIRU internal fault, then go to the FIM task to clear that message.

(b) After you clear the ADIRU fault message, if the ground crew call horn does not sound, then you corrected the fault.

(c) After you clear the ADIRU fault message, if the ground crew call horn continues to sound, then continue.

(2) Do the installation test of the integrated flight system accessory unit Installation (IFSAU) in this task: Integrated Flight System Accessory Unit Installation, AMM TASK 22-11-37-400-801.

(a) If there is a fault message that relates to the IFSAU internal fault, then go to the FIM task to clear that message.

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(b) After you clear the IFSAU fault message, if the ground crew call horn does not sound, then you corrected the fault.

(c) After you clear the IFSAU fault message, if the ground crew call horn continues to sound, then continue.

(3) Replace the air supply low flow detector.

These are the tasks:

Equipment Cooling Low Flow Sensors Removal, AMM TASK 21-27-03-000-802,

Equipment Cooling Low Flow Sensors Installation, AMM TASK 21-27-03-400-802.

(a) If the ground crew call horn does not sound, then you corrected the fault.

(b) If the ground crew call horn continues to sound, then continue.

(4) Replace the air exhaust low flow detector.

These are the tasks:

Equipment Cooling Low Flow Sensors Removal, AMM TASK 21-27-03-000-802,

Equipment Cooling Low Flow Sensors Installation, AMM TASK 21-27-03-400-802.

(a) If the ground crew call horn does not sound, then you corrected the fault.

(b) If the ground crew call horn continues to sound, then continue.

(5) Do a check of the terminal ground block of the IRS master caution unit.

(a) Remove the IRS master caution unit. To remove it, do this task: IRS Master Caution Unit Removal, AMM TASK 34-21-07-000-801.

(b) Do a wiring check between these pins of connectors D2269 and GD624-DC:

D2269		GD624-DC
pin 4	- - - - - - - - - - - - - - - - - -	Ground

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the IRS master caution unit. To install it, do this task: IRS Master Caution Unit Installation, AMM TASK 34-21-07-400-801.

3) If the ground crew call horn does not sound, then you corrected the fault.

(d) If you do not find a problem with the wiring, then do these steps:

1) Re-install the IRS master caution unit. To install it, do this task: IRS Master Caution Unit Installation, AMM TASK 34-21-07-400-801.

2) If the ground crew call horn continues to sound, then continue.

(6) Do this check of the wiring between the low flow detectors and the integrated flight systems accessory unit (IFSAU).

(a) Disconnect the connector D3464 from the air supply low flow detector.

(b) Disconnect the connector D164 from the air exhaust low flow detector.

(c) Remove the IFSAU. To remove it, do this task: Integrated Flight System Accessory Unit (IFSAU) Removal, AMM TASK 22-11-37-000-801.

(d) For the air supply low flow detector, do a wiring check between these pins of connectors D3464 and D235B:

D3464		D235B
pin 8	- - - - - - - - - - - - - - - - - -	pin 69

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(e) For the air exhaust low flow detector, do a wiring check between these pins of connectors D164 and D235B:

D164		D235B
pin 8	- - - - - - - - - - - - - - - - - -	pin 69

(f) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-install the IFSAU. To install it, do this task: Integrated Flight System Accessory Unit Installation, AMM TASK 22-11-37-400-801.
3) Re-connect the connector D3464 to the air supply low flow detector.
4) Re-connect the connector D164 to the air exhaust low flow detector.
5) If the ground crew call horn does not sound, then you corrected the fault.

(g) If you do not find a problem with the wiring, then do these steps:

1) Re-connect the connector D3464 to the air supply low flow detector.
2) Re-connect the connector D164 to the air exhaust low flow detector.
3) Re-install the IFSAU. To install it, do this task: Integrated Flight System Accessory Unit Installation, AMM TASK 22-11-37-400-801.
4) If the ground crew call horn continues to sound, then continue.

(7) Do this check of the wiring between the ADIRUs and the IFSAU.

(a) Remove the left and right ADIRUs. To remove them, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the IFSAU. To remove it, do this task: Integrated Flight System Accessory Unit (IFSAU) Removal, AMM TASK 22-11-37-000-801.

(c) For the left ADIRU, do a wiring check between these pins of connectors D3687B and D235A:

D3687B		D235A
pin E11	- - - - - - - - - - - - - - - - - -	pin 60

(d) For the right ADIRU, do a wiring check between these pins of connectors D3693B and D235B:

D164		D235B
pin E11	- - - - - - - - - - - - - - - - - -	pin 60

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-install the IFSAU. To install it, do this task: Integrated Flight System Accessory Unit Installation, AMM TASK 22-11-37-400-801.
3) Re-install the left and right ADIRUs. To install them, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.
4) If the ground crew call horn does not sound, then you corrected the fault.

(f) If you do not find a problem with the wiring, then do these steps:

1) Re-install the left and right ADIRUs. To install them, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.
2) Install a new IFSAU. To install it, do this task: Integrated Flight System Accessory Unit Installation, AMM TASK 22-11-37-400-801.

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3) If the tests in the installation tasks for the ADIRU and the IFSAU are satisfactory and the ground crew call horn does not sound, then you corrected the fault.

——————— END OF TASK ———————

830. Minimum Maneuver Speed or Stick Shaker Speed Difference - Fault Isolation

A. Description

(1) This task is for this observed fault:

(a) Captain's minimum maneuver speed or stick shaker speed is different from the first officer's speed.

B. Possible Causes

(1) Stall Management

(2) ADIRU, M1749 (left) or M1752 (right)

(3) AOA sensors

C. Initial Evaluation

(1) If the stick shaker speeds are different by less than 3 knots with airspeed at or near stick shaker speed, then the cause of the fault is either crosswind or system tolerance. If the stick shaker speeds are different by less than 15 knots with airspeed at or near cruise, then the cause of the fault is either crosswind or system tolerance.

(a) No maintenance action is necessary.

(2) If the stick shaker speeds are different by more than 3 knots with airspeed at or near stick shaker speed, or if the stick shaker speeds are different by more than 15 knots with airspeed at or near cruise, then do the fault isolation.

D. Fault Isolation Procedure

(1) Do this task: Stall Management Yaw Damper BITE Procedure, 27-32 TASK 801.

(a) Do the fault isolation tasks for the maintenance messages that you find.

1) If the observed fault does not occur on the next flight leg, then you corrected the fault.

2) If the observed fault occurs on the next flight leg, then continue.

(b) If you find no maintenance messages, then continue.

(2) Do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(a) Do the fault isolation tasks for the maintenance messages that you find.

(b) If you find no maintenance messages, then continue.

(3) Replace the left and right AOA Sensors.

These are the tasks:

Angle of Attack Sensor Removal, AMM TASK 34-21-05-000-801,

Angle of Attack Sensor Installation, AMM TASK 34-21-05-400-801.

(a) If the observed fault does not occur on the next flight leg, then you corrected the fault.

——————— END OF TASK ———————

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832. ADIRS Maintenance Code 05 - Fault Isolation

A. Description

(1) This task is for ADIRS maintenance code 05.

(2) ADIRS maintenance code 05, shows on the inertial system display unit (ISDU), indicates that the ISDU pin 10 does not receive 28 Vdc from the left ADIRU.

(3) There is no related ADIRS maintenance message that shows on the ADIRS BITE page on the CDU.

B. Possible Causes

(1) Inertial system display unit (ISDU), P5-70

(2) Wiring between the ISDU and the ADIRU

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

D. Related Data

(1) (SSM 34-21-11)

(2) (WDM 34-21-11)

E. Initial Evaluation

(1) For the left ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If the maintenance code does not show on the ISDU, then there was an intermittent fault.

(3) If the maintenance code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the inertial system display unit (ISDU).

These are the tasks:

Inertial System Display Unit Removal, AMM TASK 34-21-02-000-801,

Inertial System Display Unit Installation, AMM TASK 34-21-02-400-801.

(a) For the left ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

1) If the maintenance code does not show on the ISDU, then you corrected the fault.

2) If the maintenance code shows on the ISDU, then continue.

(2) Do this check of the wiring between the left ADIRU and the ISDU:

(a) Remove the left ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the ISDU. To remove it, do this task: Inertial System Display Unit Removal, AMM TASK 34-21-02-000-801.

(c) Do this wiring check between connector D3687B for the left ADIRU and connector D2169 for the ISDU:

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D3687B		D2169
pin D1	- - - - - - - - - - - - - - - - - -	pin 10

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

3) Re-install the ISDU. To install it, do this task: Inertial System Display Unit Installation, AMM TASK 34-21-02-400-801.

4) For the left ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

5) If the maintenance code does not show on the ISDU, then you corrected the fault.

——————— END OF TASK ———————

833. ADIRS Maintenance Code 06 - Fault Isolation

A. Description

(1) This task is for ADIRS maintenance code 06.

(2) ADIRS maintenance code 06, shows on the inertial system display unit (ISDU), indicates that the ISDU pin 10 does not receive 28 Vdc from the right ADIRU.

(3) There is no related ADIRS maintenance message that shows on the ADIRS BITE page on the CDU.

B. Possible Causes

(1) Inertial system display unit (ISDU), P5-70

(2) Wiring between the ISDU and the right ADIRU

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21-21)

(2) (WDM 34-21-21)

E. Initial Evaluation

(1) For the right ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If the maintenance code does not show on the ISDU, then there was an intermittent fault.

(3) If the maintenance code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the inertial system display unit (ISDU).

These are the tasks:

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Inertial System Display Unit Removal, AMM TASK 34-21-02-000-801,

Inertial System Display Unit Installation, AMM TASK 34-21-02-400-801.

(a) For the right ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

1) If the maintenance code does not show on the ISDU, then you corrected the fault.

2) If the maintenance code shows on the ISDU, then continue.

(2) Do this check of the wiring between the right ADIRU and the ISDU:

(a) Remove the right ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the ISDU. To remove it, do this task: Inertial System Display Unit Removal, AMM TASK 34-21-02-000-801.

(c) Do this wiring check between connector D3693B for the right ADIRU and connector D2183 for the ISDU:

D3693B		D2183
pin D1	- - - - - - - - - - - - - - - - - -	pin 10

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

3) Re-install the ISDU. To install it, do this task: Inertial System Display Unit Installation, AMM TASK 34-21-02-400-801.

4) For the right ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

5) If the maintenance code does not show on the ISDU, then you corrected the fault.

——————— END OF TASK ———————

835. Maintenance Code Shows on ISDU - Fault Isolation

A. Description

(1) This task is for this observed fault:

(a) A maintenance code shows on the ISDU.

B. Possible Causes

(1) One or more ADIRS faults.

NOTE: The fault monitor that causes the status code also causes a maintenance message.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21)

(2) (WDM 34-21-21)

(3) (WDM 32-31-12)

E. Initial Evaluation

(1) Do the applicable ADIRS BITE procedure (ADIRS BITE Procedure, 34-21 TASK 801)

(2) If the maintenance code does not show on the ISDU, then there was a intermittent fault.

(3) If the maintenance code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do these steps to look for maintenance codes on the ISDU:

(a) Set the DSPL SEL switch on the ISDU to the HDG/STS position.

(b) Set the SYS DSPL to 'R' for the right ADIRU and 'L' for the left ADIRU.

(c) If there is a maintenance code, it will be shown on the right side of the right display of the ISDU.

NOTE: If there are more status codes, the CLR key will be on.

(d) If the CLR key is on, push it one time to show each maintenance code.

(e) Make a record of each maintenance code.

(2) Use the table that follows to find the correct task for each maintenance code:

Table 1.

LRU/SYSTEM	MAINTENANCE CODE	GO TO FIM TASK
ADIRS	01	34-21 TASK 802
ADIRS	02	34-21 TASK 803
ADIRS	03	34-21 TASK 804
ADIRS	04	34-21 TASK 805
ADIRS	05	34-21 TASK 832
ADIRS	06	34-21 TASK 833
ADIRS	07	34-21 TASK 840
ADIRS	08	34-21 TASK 807
ADIRS	09	34-21 TASK 808
ADIRS	10	34-21 TASK 809
ADIRS	18	34-21 TASK 841
ADIRS	19	34-21 TASK 811

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(Continued)

LRU/SYSTEM	MAINTENANCE CODE	GO TO FIM TASK
ADIRS	20	34-21 TASK 839
ADIRS	21	34-21 TASK 812
ADIRS	22	34-21 TASK 813
ADIRS	23	34-21 TASK 814
ADIRS	24	34-21 TASK 815
ADIRS	27	34-21 TASK 816
ADIRS	28	34-21 TASK 817
ADIRS	29	34-21 TASK 818
ADIRS	30	34-21 TASK 819
ADIRS	31	34-21 TASK 810
ADIRS	32	34-21 TASK 820
ADIRS	33	34-21 TASK 821
ADIRS	34	34-21 TASK 822
ADIRS	35	34-21 TASK 823
ADIRS	37	34-21 TASK 806
ADIRS	38	34-21 TASK 824

G. Repair Confirmation

(1) Do the applicable ADIRS BITE procedure (ADIRS BITE Procedure, 34-21 TASK 801)

(2) If the maintenance code does not show on the ISDU, then you corrected the fault.

——————— END OF TASK ———————

836. VERIFY POSITION shows on the CDU, and POS SHIFT page shows large ADIRU drift - Fault Isolation

A. Description

(1) This task is for this observed fault:

(a) VERIFY POSITION shows on the CDU and the POS SHIFT page shows a large position differences between the ADIRU and the FMC.

B. Possible Causes

(1) ADIRU, M1749 (left) or M1752 (right)

HAP 001-013, 015-026, 028-036

(2) Flight management computer (FMC), M1175.

HAP 037-054, 101-999

(3) Flight management computer (FMC), M1175 (left) or M1632 (right).

HAP ALL

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21-11).

(2) (WDM 34-21-11).

E. Initial Evaluation

(1) The flight crew observed that VERIFY POSITION showed on the CDU and the POS SHIFT page showed a large position differences between the ADIRU and the FMC.

F. Fault Isolation Procedure

(1) Do these tasks:

(a) IR Radial Position Error Check, AMM TASK 34-21-00-200-801

(b) Inertial Reference Residual Groundspeed Error Check, AMM TASK 34-21-00-200-802

(2) If the ADIRS is not in tolerance for the two checks, follow the instruction in the task to fix the problem.

(3) If the ADIRS is in tolerance for the two checks, then continue.

(4) Do this task:Flight Management Computer System BITE Procedure, 34-61 TASK 801

(a) Do the fault isolation tasks for the maintenance messages that you find.

(b) If you find no maintenance messages, monitor the applicable after the subsequent flight leg.

(5) Do the repair confirmation below.

G. Repair Confirmation

(1) Do these tasks:

(a) IR Radial Position Error Check, AMM TASK 34-21-00-200-801

(b) Inertial Reference Residual Groundspeed Error Check, AMM TASK 34-21-00-200-802

(c) Flight Management Computer System BITE Procedure, 34-61 TASK 801

(2) Check and make sure the IR radial position and inertial reference residual groundspeed is satisfactory and there are no maintenance messages found.

——————— END OF TASK ———————

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839. ADR Failure - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21020 ADR FAIL

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) The ADR function calculates airspeed and altitude etc.

(4) The message 34-21020 shows when the ADIRU detects an internal fault of the ADR. The ADR fault also causes the status code 20 to show on the inertial system display unit (ISDU).

B. Possible Causes

(1) ADMs

(2) AOA sensors

(3) Wiring problem

(4) ADIRU, M1749 (left) or M1752 (right)

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21-11)

(2) (WDM 34-21-12, 34-21-22)

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If other maintenance messages are shown on the CDU along with the 34-21020 message, then do the corrective tasks to remove those maintenance messages first.

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(a) After you clear the correlated maintenance messages, if the maintenance message 34-21020 does not show on the CDU, and the status code 20 does not show on the ISDU, and the FAULT light on the MSU goes off, then you corrected the fault.

(b) After you clear the correlated maintenance messages, if the maintenance message 34-21020 continues to shows on the CDU, and the status code 20 shows on the ISDU, and the FAULT light on the MSU stays on, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do the air data inertial reference system self-test in this task:

Air Data Inertial Reference System - Operational Test, AMM TASK 34-21-00-710-801.

(a) If static and/or pitot ADM test is unsatisfactory, then do these steps.

1) Replace the static and/or pitot ADM as appropriate, these are the tasks:

Pitot Air Data Module Removal, AMM TASK 34-21-04-000-801,

Pitot Air Data Module Installation, AMM TASK 34-21-04-400-801,

Static Air Data Module Removal, AMM TASK 34-21-04-000-802,

Static Air Data Module Installation, AMM TASK 34-21-04-400-802.

a) If static and/or pitot ADM test is satisfactory, then you corrected the fault.

b) If the test is unsatisfactory, then continue.

(b) If the test is satisfactory, then continue.

(2) Do the test of the AOA sensor in this task: Angle of Attack Sensor - Inspection, AMM TASK 34-21-05-200-801.

(a) If the test is unsatisfactory, then replace AOA sensor. These are the tasks:

Angle of Attack Sensor Removal, AMM TASK 34-21-05-000-801,

Angle of Attack Sensor Installation, AMM TASK 34-21-05-400-801.

1) Re-run the test of the AOA sensor in this task: Angle of Attack Sensor - Inspection, AMM TASK 34-21-05-200-801.

a) If AOA sensor test is satisfactory, then you corrected the fault.

b) If the test is unsatisfactory, then continue.

(b) If the test is satisfactory, then continue.

(3) Do this check of the wiring between the applicable ADIRU and the ADM:

(a) Remove the ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the ADMs. To remove them, do these tasks:

Pitot Air Data Module Removal, AMM TASK 34-21-04-000-801,

Static Air Data Module Removal, AMM TASK 34-21-04-000-802.

(c) For the left ADIRU, do a wiring check between these pins of connector D3687A for the ADIRU and connector D3689 for the pitot ADM and D3691 for the static ADM:

D3687A	**D3689**
D10	7
E10	8

D3687A	**D3691**
D9	7
E9	8

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(d) For the right ADIRU, do a wiring check between these pins of connector D3693A for the ADIRU and connector D3695 for the pitot ADM and D3697 for the static ADM:

D3687A		D3689
D10	- - - - - - - - - - - - - - - - - - - -	7
E10	- - - - - - - - - - - - - - - - - - - -	8

D3687A		D3691
D9	- - - - - - - - - - - - - - - - - - - -	7
E9	- - - - - - - - - - - - - - - - - - - -	8

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.
3) Re-install the ADMs. To install them, do these tasks:
   Pitot Air Data Module Installation, AMM TASK 34-21-04-400-801,
   Static Air Data Module Installation, AMM TASK 34-21-04-400-802.
4) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.
5) If the maintenance message does not show on the CDU, then you corrected the fault.

(f) If you do not find a problem with the wiring, then do this step and continue:

1) Re-install the ADMs. To install them, do these tasks:
   Pitot Air Data Module Installation, AMM TASK 34-21-04-400-801,
   Static Air Data Module Installation, AMM TASK 34-21-04-400-802.

(4) Do this check of the wiring between the applicable ADIRU and the AOA sensors:

(a) Remove the AOA sensor. To remove it, do this task: Angle of Attack Sensor Removal, AMM TASK 34-21-05-000-801.

(b) For the left ADIRU, do a wiring check between these pins of connector D3687A for the ADIRU and connector D10015 for the left AOA sensor:

D3687A		D10015
J7	- - - - - - - - - - - - - - - - - - - -	3
H7	- - - - - - - - - - - - - - - - - - - -	4
K7	- - - - - - - - - - - - - - - - - - - -	5

(c) For the right ADIRU, do a wiring check between these pins of connector D3693A for the ADIRU and connector D10017 for the right AOA sensor:

D3687A		D10017
J7	- - - - - - - - - - - - - - - - - - - -	3
H7	- - - - - - - - - - - - - - - - - - - -	4
K7	- - - - - - - - - - - - - - - - - - - -	5

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.
3) Re-install the AOA sensor. To install it, do this task: Angle of Attack Sensor Installation, AMM TASK 34-21-05-400-801.
4) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

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5) If the maintenance message does not show on the CDU, then you corrected the fault.

(e) If you do not find a problem with the wiring, then do this step and continue:

1) Re-install the AOA sensor. To install it, do this task: Angle of Attack Sensor Installation, AMM TASK 34-21-05-400-801.

(5) Replace the ADIRU, these are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) If you find a problem during the test, then correct the problem and re-run the test.

1) If the test is satisfactory, then you corrected the fault.

END OF TASK

840. ADR Data Invalid - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) 34-21007 ADR DATA INVLD

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) Each ADIRU supplies air data reference (ADR) data to many systems and components. ADR data is on ARINC 429 data buses. The data on each ADR bus is the same. One data bus goes from the ADR section of the ADIRU to the IR section.

(4) The message 34-21007 shows when the IR receives invalid data from the ADR section of the ADIRU. The ADR fault also causes the status code 07 to show on the inertial system display unit (ISDU).

B. Possible Causes

(1) ADM Sensors

(2) AOA Sensors

(3) TAT Probe

(4) ADIRU, M1749 (left) or M1752 (right)

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21)

(2) (WDM 34-21)

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If other maintenance messages show on the CDU along with the maintenance message 34-21007, then do the corrective tasks to remove those maintenance messages first.

(a) After you clear the correlated faults, if the maintenance message 34-21007 does not show on the CDU, and the status code 07 does not show on the ISDU, then you corrected the fault.

(b) After you clear the correlated faults, if the maintenance message 34-21007 continues to show on the CDU, and the status code 07 shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do the air data inertial reference (ADIRS) system self-test in this task:

Air Data Inertial Reference System - Operational Test, AMM TASK 34-21-00-710-801.

(a) If static and/or pitot ADM test is unsatisfactory, then do these steps.

1) Replace the static and/or pitot ADM as appropriate. These are the tasks:

Pitot Air Data Module Removal, AMM TASK 34-21-04-000-801

Pitot Air Data Module Installation, AMM TASK 34-21-04-400-801

Static Air Data Module Removal, AMM TASK 34-21-04-000-802

Static Air Data Module Installation, AMM TASK 34-21-04-400-802

a) If pitot and/or static ADM test is satisfactory, then you corrected the fault.

b) If the test is unsatisfactory, then continue.

(b) If the test is satisfactory, then continue.

(2) Do the test of the AOA sensor in this task: Angle of Attack Sensor - Inspection, AMM TASK 34-21-05-200-801.

(a) If the test is unsatisfactory, then replace AOA sensor. These are the tasks:

Angle of Attack Sensor Removal, AMM TASK 34-21-05-000-801,

Angle of Attack Sensor Installation, AMM TASK 34-21-05-400-801.

1) Re-run the test of the AOA sensor in this task: Angle of Attack Sensor - Inspection, AMM TASK 34-21-05-200-801.

a) If AOA sensor test is satisfactory, then you corrected the fault.

b) If the test is unsatisfactory, then continue.

(b) If the test is satisfactory, then continue.

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(3) Do the test of the TAT probe in this task: Air Data Reference - System Test, AMM TASK 34-21-00-730-802.

(a) If the test is unsatisfactory, then replace TAT probe. These are the tasks:

Total Air Temperature Probe Removal, AMM TASK 34-21-06-000-801,

Total Air Temperature Probe Installation, AMM TASK 34-21-06-400-801.

1) Re-run the test of the TAT probe in this task: Air Data Reference - System Test, AMM TASK 34-21-00-730-802.

a) If TOT probe test is satisfactory, then you corrected the fault.

b) If the test is unsatisfactory, then continue.

(b) If the test is satisfactory, then continue.

(4) Replace the applicable ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) If the test in the installation task for the ADIRU is satisfactory, then you corrected the fault.

———————— END OF TASK ————————

841. No ADR Data - Fault Isolation

A. Description

(1) This task is for this maintenance messages:

(a) 34-21018 NO ADR DATA

(2) The maintenance message is identical for the left and right air data inertial reference systems (ADIRS). The left ADIRS maintenance message is shown on the ADIRS L BITE page on the control display unit (CDU). The right ADIRS maintenance message is shown on the ADIRS R BITE page on the CDU.

(3) The maintenance message 34-21018 shows when the inertial reference does not receive data from the air data reference.

(4) This faults cause the status code 18 to show on the inertial system display unit (ISDU).

B. Possible Causes

(1) ADIRU, M1749 (left) or M1752 (right).

(2) Wiring problem.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-21).

(2) (WDM 34-21).

E. Initial Evaluation

(1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(2) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then there was an intermittent fault.

(3) If the maintenance message shows on the CDU, and the status code shows on the ISDU, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the applicable ADIRU.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) Do a check of the condition of the pins and connector of the applicable ADIRU.

(b) If the maintenance message does not show on the CDU, and the status code does not show on the ISDU, then you corrected the fault.

(c) If the maintenance message does show on the CDU, and the status code does show on the ISDU, then continue.

(2) Do this check of the wiring for the applicable ADIRU:

(a) Remove the ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) For the left ADIRU, do a wiring check between these pins of connectors:

1) Do a wiring check between these pins of connectors D3687A and D3687B:

D3687A		**D3687B**
pin A9	- - - - - - - - - - - - - - - - -	pin K4
pin B9	- - - - - - - - - - - - - - - - -	pin K5

(c) For the right ADIRU, do a wiring check between these pins of connectors:

1) Do a wiring check between these pins of connector D3693A and D3693B:

D3693A		**D3693B**
pin A9	- - - - - - - - - - - - - - - - -	pin K4
pin B9	- - - - - - - - - - - - - - - - -	pin K5

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

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2) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

3) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

4) If the maintenance message does not show on the CDU and the status code does not show on the ISDU, then you corrected the fault.

——————— END OF TASK ———————

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801. HDG Flag Shows on RMI - Fault Isolation

A. Description

(1) This task is for this observed fault:

(a) The HDG flag shows on the radio magnetic indicator (RMI).

(2) The HDG flag shows when RMI receives an invalid signal from air data inertial reference unit (ADIRU).

(3) The HDG flag is located on the top center of the RMI.

B. Possible Causes

(1) Left ADIRU, M1749.

(2) Right ADIRU, M1753.

(3) RMI, N185.

(4) Wiring between the RMI and the ADIRUs.

C. Initial Evaluation

(1) Make sure the ADIRUs are aligned and in the NAV mode.

(2) Make sure the heading source select switch on the instrument switching module is in the normal position.

(3) If the HDG flag does not show on the RMI, then you corrected the fault.

(4) If the HDG flag shows on the RMI, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

(1) Set the heading source select switch on the instrument switching module to the BOTH ON R position.

(2) If the HDG flag does not show on the RMI, then there is a fault in the left ADIRU or wiring problem between the left ADIRU and the RMI. Do these steps to isolate the fault:

(a) Set the heading source select switch on the instrument switching module to the BOTH ON L or normal position.

(b) Do the left ADIRU BITE procedure (34-21 TASK 801).

(c) If there is a fault that relates to the inertial reference module or the ADIRU internal fault, then do the FIM task to clear that message.

1) If the HDG flag does not show on the RMI, then you corrected the fault.

(d) If there is no fault message that relates to the inertial reference module or the ADIRU internal fault, then continue.

(e) Do this check of the wiring between the left ADIRU and the RMI:

1) Remove the left ADIRU. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

2) Remove the RMI. To remove it, do this task: Radio Magnetic Indicator (RMI) Removal, AMM TASK 34-22-01-000-801.

3) Do a wiring check between these pins of connectors D3679 and D3687B:

D3679		D3687B
pin 41	- - - - - - - - - - - - - - - - - -	pin G7
pin 42	- - - - - - - - - - - - - - - - - -	pin G8

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4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.
   c) Re-install the RMI. To install it, do this task: Radio Magnetic Indicator (RMI) Installation, AMM TASK 34-22-01-400-801.
   d) If the HDG flag does not show on the RMI, then you corrected the fault.
5) If you do not find a problem with the wiring, then do these steps:
   a) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.
   b) Install a new RMI. To install it, do this task: Radio Magnetic Indicator (RMI) Installation, AMM TASK 34-22-01-400-801.
   c) If the test in the installation task for the RMI is satisfactory, then you corrected the fault.

(3) If the HDG flag shows on the RMI, then there is a fault in the RMI or wiring problem between the RMI and the ADIRUs. Do these steps to isolate the fault:
   (a) Replace the RMI.

   These are the tasks:

   Radio Magnetic Indicator (RMI) Removal, AMM TASK 34-22-01-000-801,

   Radio Magnetic Indicator (RMI) Installation, AMM TASK 34-22-01-400-801.
   (b) If the HDG flag does not show on the RMI, then you corrected the fault.
   (c) If the HDG flag shows on the RMI, then continue.
   (d) Do this check of the wiring between the ADIRUs and the RMI:
      1) Remove the ADIRUs. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.
      2) Remove the RMI. To remove it, do this task: Radio Magnetic Indicator (RMI) Removal, AMM TASK 34-22-01-000-801.
      3) For the left ADIRU, do a wiring check between these pins of connectors D3679 and D3687B:

D3679		D3687B
pin 41	- - - - - - - - - - - - - - - - - -	pin G7
pin 42	- - - - - - - - - - - - - - - - - -	pin G8

      4) For the right ADIRU, do a wiring check between these pins of connectors D3679 and D3693B:

D3679		D3693B
pin 44	- - - - - - - - - - - - - - - - - -	pin G7
pin 45	- - - - - - - - - - - - - - - - - -	pin G8

      5) If you find a problem with the wiring, then do these steps:
         a) Repair the wiring.
         b) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.
         c) Re-install the RMI. To install it, do this task: Radio Magnetic Indicator (RMI) Installation, AMM TASK 34-22-01-400-801.

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d) If the HDG flag does not show on the RMI, then you corrected the fault.

6) If you do not find a problem with the wiring, then do these steps:

a) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

b) Re-install the RMI. To install it, do this task: Radio Magnetic Indicator (RMI) Installation, AMM TASK 34-22-01-400-801.

c) Do the left and right ADIRU BITE procedure (34-21 TASK 801).

d) If there is a fault that relates to the inertial reference module or the ADIRU internal fault, then do the FIM task to clear that message.

e) If the HDG flag does not show on the RMI, then you corrected the fault.

——————— END OF TASK ———————

802. VOR Flag Shows on RMI - Fault Isolation

A. Description

(1) This task is for this observed fault:

(a) The VOR flag shows on the radio magnetic indicator (RMI).

(2) The VOR flags show when RMI receives an invalid signal from VHF omnidirectional range (VOR) receivers .

(3) The VOR flags are shown on the left and right sides of the RMI.

B. Possible Causes

(1) Left VOR receiver, M1724.

(2) Right VOR receiver, M1725.

(3) RMI, N185.

(4) Wiring between the RMI and the VOR receivers.

C. Initial Evaluation

(1) Make sure the switches on the RMI are in the VOR position.

(2) If the VOR flags do not show on the RMI, then there was an intermittent fault.

(3) If the VOR flags show on the RMI, then continue.

D. Fault Isolation Procedure

(1) If the VOR flag shows on the left side of the RMI, then do these steps:

(a) Do the VOR receiver 1 BITE procedure (34-51 TASK 801).

(b) If there is a fault that relates to the VOR receiver 1, then do the FIM task to clear that message.

1) If the VOR flag does not show on the left side of the RMI, then you corrected the fault.

(c) If there is no fault that relates to the VOR receiver 1, then continue.

(d) Do this check of the wiring between the VOR receiver 1 and the RMI:

1) Remove the VOR receiver 1. To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.

2) Remove the RMI. To remove it, do this task: Radio Magnetic Indicator (RMI) Removal, AMM TASK 34-22-01-000-801.

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3) Do a wiring check between these pins of connectors D3679 and D3623B:

D3679		D3623B
pin 38	- - - - - - - - - - - - - - - - - -	pin B13
pin 39	- - - - - - - - - - - - - - - - - -	pin C13

4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the VOR receiver 1. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.
   c) Re-install the RMI. To install it, do this task: Radio Magnetic Indicator (RMI) Installation, AMM TASK 34-22-01-400-801.
   d) If the VOR flag does not show on the left side of the RMI, then you corrected the fault.

5) If you do not find a problem with wiring, then do these steps:
   a) Re-install the VOR receiver 1. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.
   b) Install a new RMI. To install it, do this task: Radio Magnetic Indicator (RMI) Installation, AMM TASK 34-22-01-400-801.
   c) If the test in the installation task for the RMI is satisfactory, then you corrected the fault.

(2) If the VOR flag shows on the right side of the RMI, then do these steps:
   (a) Do the VOR receiver 2 BITE procedure (34-51 TASK 801).
   (b) If there is a fault that relates to the VOR receiver 2, then do the FIM task to clear that message.
      1) If the VOR flag does not show on the RMI, then you corrected the fault.
   (c) If there is no fault that relates to the VOR receiver 2, then continue.
   (d) Do this check of the wiring between the VOR receiver 2 and the RMI:
      1) Remove the VOR receiver 2. To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.
      2) Remove the RMI. To remove it, do this task: Radio Magnetic Indicator (RMI) Removal, AMM TASK 34-22-01-000-801.
      3) Do a wiring check between these pins of connectors D3679 and D3625B:

D3679		D3625B
pin 48	- - - - - - - - - - - - - - - - - -	pin B13
pin 49	- - - - - - - - - - - - - - - - - -	pin C13

      4) If you find a problem with the wiring, then do these steps:
         a) Repair the wiring.
         b) Re-install the VOR receiver 2. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.
         c) Re-install the RMI. To install it, do this task: Radio Magnetic Indicator (RMI) Installation, AMM TASK 34-22-01-400-801.
         d) If the VOR flag does not show on the right side of the RMI, then you corrected the fault.
      5) If you do not find a problem with wiring, then do these steps:

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a) Re-install the VOR receiver 2. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

b) Install a new RMI. To install it, do this task: Radio Magnetic Indicator (RMI) Installation, AMM TASK 34-22-01-400-801.

c) If the test in the installation task for the RMI is satisfactory, then you corrected the fault.

END OF TASK

803. ADF Flag Shows on RMI - Fault Isolation

A. Description

(1) This task is for this observed fault:

(a) The ADF flag shows on the radio magnetic indicator (RMI).

(2) The ADF flags show when RMI receives an invalid signal from the automatic direction finder (ADF) receivers.

(3) The ADF flags are shown on the left and right sides of the RMI.

B. Possible Causes

(1) ADF receiver 1, M1731.

(2) ADF receiver 2, M1732.

(3) RMI, N185..

(4) Wiring between the RMI and the ADF receivers.

C. Initial Evaluation

(1) Make sure the switches on the RMI are in the ADF position.

(2) If the ADF flag does not show on the RMI, then there was an intermittent fault.

(3) If the ADF flag shows on the RMI, then continue.

D. Fault Isolation Procedure

(1) If the ADF flag shows on the left side of the RMI, then do these steps:

(a) Do the ADF receiver 1 BITE procedure (34-57 TASK 801).

(b) If there is a fault that relates to the ADF receiver 1, then do the FIM task to clear that message.

1) If the ADF flag does not show on the left side of the RMI, then you corrected the fault.

(c) If there is no fault that relates to the ADF receiver 1, then continue.

(d) Do this check of the wiring between the ADF receiver 1 and the RMI:

1) Remove the ADF receiver 1. To remove it, do this task: ADF Receiver Removal, AMM TASK 34-57-03-000-801.

2) Remove the RMI. To remove it, do this task: Radio Magnetic Indicator (RMI) Removal, AMM TASK 34-22-01-000-801.

3) Do a wiring check between these pins of connectors D3679 and D3651B:

D3679		D3651B
pin 18	- - - - - - - - - - - - - - - - - -	pin B10
pin 19	- - - - - - - - - - - - - - - - - -	pin C11

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4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the ADF receiver 1. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.
   c) Re-install the RMI. To install it, do this task: Radio Magnetic Indicator (RMI) Installation, AMM TASK 34-22-01-400-801.
   d) If the ADF flag does not show on the left side of the RMI, then you corrected the fault.
5) If you do not find a problem with wiring, then do these steps:
   a) Re-install the ADF receiver 1. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.
   b) Install a new RMI. To install it, do this task: Radio Magnetic Indicator (RMI) Installation, AMM TASK 34-22-01-400-801.
   c) If the test in the installation task for the RMI is satisfactory, then you corrected the fault.

(2) If the ADF flag shows on the right side of the RMI, then do these steps:
   (a) Do the ADF receiver 2 BITE procedure (34-57 TASK 801).
   (b) If there is a fault that relates to the ADF receiver 2, then do the FIM task to clear that message.
      1) If the ADF flag does not show on the right side of the RMI, then you corrected the fault.
   (c) If there is no fault that relates to the ADF receiver 2, then continue.
   (d) Do this check of the wiring between the ADF receiver 2 and the RMI:
      1) Remove the ADF receiver 2. To remove it, do this task: ADF Receiver Removal, AMM TASK 34-57-03-000-801.
      2) Remove the RMI. To remove it, do this task: Radio Magnetic Indicator (RMI) Removal, AMM TASK 34-22-01-000-801.
      3) Do a wiring check between these pins of connectors D3679 and D3653B:

D3679		D3653B
pin 31	- - - - - - - - - - - - - - - - - -	pin B10
pin 32	- - - - - - - - - - - - - - - - - -	pin B11

      4) If you find a problem with the wiring, then do these steps:
         a) Repair the wiring.
         b) Re-install the ADF receiver 2. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.
         c) Re-install the RMI. To install it, do this task: Radio Magnetic Indicator (RMI) Installation, AMM TASK 34-22-01-400-801.
         d) If the ADF flag does not show on the right side of the RMI, then you corrected the fault.
      5) If you do not find a problem with wiring, then do these steps:
         a) Re-install the ADF receiver 2. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.
         b) Install a new RMI. To install it, do this task: Radio Magnetic Indicator (RMI) Installation, AMM TASK 34-22-01-400-801.

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c) If the test in the installation task for the RMI is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

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801. Standby Magnetic Compass Error - Fault Isolation

A. Description

(1) This task is for this observered fault:

(a) The standby magnetic compass indicates an incorrect magnetic heading.

B. Possible Causes

(1) Standby magnetic compass, N74.

C. Initial Evaluation

(1) Make sure the air data inertial reference system is aligned and in the NAV mode.

(2) Do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(a) If there is a maintenance message that relates to the ADIRU internal fault, then go to the FIM task for that message.

(3) If the magnetic heading on the standby magnetic compass is different more than ± 8 degrees (FAA certification) or ± 5 degrees (CAA certification) of the magnetic heading on the EHSI display, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

(1) Do the standby magnetic compass calibration (AMM TASK 34-23-00-820-802 or AMM TASK 34-23-00-820-801).

(a) If the standby magnetic compass heading agrees with the magnetic heading on the EHSI, then you corrected the fault.

(b) If the standby magnetic compass heading does not agree with the magnetic heading on the EHSI, then continue.

(2) Replace the standby magnetic compass.

These are the tasks:

Standby Magnetic Compass Removal, AMM TASK 34-23-01-000-801,

Standby Magnetic Compass Installation, AMM TASK 34-23-01-400-801.

(a) If the test in the installation task for the standby magnetic compass is satisfactory, then you corrected the fault.

———————— END OF TASK ————————

802. Standby Magnetic Compass Light Not Illuminated

A. Description

(1) This task is for this observed fault:

(a) The standby magnetic compass light not illuminate.

B. Possible Causes

(1) Standby magnetic light

(2) Wiring

C. Related Data

(1) WDM 33-14-12

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D. Initial Evaluation

(1) Set the compass light switch to ON and then to BRIGHT.

(a) Make sure the standby magnetic compass light is on and bright.

(b) If the standby magnetic compass light is on and bright, then there was an intermittent fault.

(c) If the standby magnetic compass light is not on and bright, then do the Fault Isolation Procedure below.

E. Fault Isolation Procedure

(1) Replace the standby magnetic compass light.

These are the tasks:

Standby Magnetic Compass Light - Removal, AMM TASK 34-23-01-000-802,

Standby Magnetic Compass Light - Installation, AMM TASK 34-23-01-400-802.

(a) If the test in the installation task for the standby magnetic compass is satisfactory, then you corrected the fault.

(b) If the test in the installation task for the standby magnetic compass is not satisfactory, then continue.

(2) Do a voltage check of the standby compass indicator:

(a) Set the compass light switch to off.

(b) Remove the standby compass indicator. To remove it, do this task:Standby Magnetic Compass Removal, AMM TASK 34-23-01-000-801.

(c) Set the compass light switch to ON and BRIGHT.

(d) Make sure that 28vdc is present at pin A1 of connector D918.

(e) Set the compass light switch to DIM.

(f) Make sure that 14vdc is present at pin A1 of connector D918.

(g) Set the compass light switch to OFF.

(h) Make sure the outer ring (connector shell) of the D918 connector has continuity to ground.

(i) If the D918 connector shell does not have continuity to ground, then do these steps:

1) Do a check of the GD264 and make sure the wire W2508–2002B-20 is properly inserted into the ground block.

2) If the wire W2508–2002B-20 is properly connected, then do these steps:

a) Do a continuity check between D918 connector and GD264.

b) If there is continuity between D918 connector and GD264, then do these steps:

<1> Install a new standby compass indicator. To install it, do this task: Standby Magnetic Compass Installation, AMM TASK 34-23-01-400-801.

c) If there is no continuity between D918 connector and GD26, then do these steps:

<1> Repair the wiring.

<2> Do the Repair Confirmation Procedure below.

3) If the wire W2508–2002B-20 is not properly connected, then do these steps:

a) Repair the wiring.

b) Do the Repair Confirmation Procedure below.

(j) If the D918 connector shell has continuity, then do these steps:

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1) Install a new standby compass indicator. To install it, do this task: Standby Magnetic Compass Installation, AMM TASK 34-23-01-400-801.

2) Do the Repair Confirmation Procedure below.

F. Repair Confirmation Procedure

(1) Set the compass light switch to ON and then to BRIGHT.

(a) Make sure the standby magnetic compass lights are on and bright.

——————— END OF TASK ———————

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801. GYRO Flag Shows on Standby Attitude Indicator - Fault Isolation

A. Description

(1) The GYRO flag shows when the standby attitude indicator loses 28 VDC power or when the GYRO speed is reduced to below 18000 rpm.

B. Possible Causes

(1) Standby attitude indicator, N186.

(2) Loss of 28 VDC power source from the circuit breaker C1387.

(3) Wiring problem between the circuit breaker C1387 and the standby attitude indicator.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	9	C01387	STBY ATT IND

D. Related Data

(1) (SSM 34-24-11).

(2) (WDM 34-24-11).

E. Initial Evaluation

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	9	C01387	STBY ATT IND

(2) If the GYRO flag does not show on the standby attitude indicator, then there was an intermittent fault.

(3) If the GYRO flag shows on the standby attitude indicator, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check for 28 VDC at connector D3681 (WDM 34-24-11):

(a) Remove the standby attitude indicator. To remove it, do this task: Standby Attitude Indicator Removal, AMM TASK 34-24-01-000-801.

(b) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	9	C01387	STBY ATT IND

(c) Do a check for 28 VDC between pin 7 and pin 8 (ground) of connector D3681.

(d) If there is 28 VDC at pin 7 of D3681, then do these steps:

1) Replace the standby attitude indicator.

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These are the tasks:

Standby Attitude Indicator Removal, AMM TASK 34-24-01-000-801,

Standby Attitude Indicator Installation, AMM TASK 34-24-01-400-801.

2) If the GYRO flag does not show on the standby attitude indicator, then you corrected the fault.

(e) If there is not 28 VDC at pin 7 of D3681, then do these steps:

1) Do a check for 28 VDC at the load point of circuit breaker C1387.

2) If there is not 28 VDC at the load point, then replace the circuit breaker C1387.

3) If there is 28 VDC at the load point, then continue.

(2) Do this check of the wiring between the circuit breaker C1387 and the standby attitude indicator:

(a) Remove the standby attitude indicator. To remove it, do this task: Standby Attitude Indicator Removal, AMM TASK 34-24-01-000-801.

(b) Make sure that this circuit breaker is open and has safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	9	C01387	STBY ATT IND

(c) Diconnect the connector D41807P from the P18-2 panel.

(d) Do a wiring check between these pins of connectors D41807P and D3681 (WDM 34-24-11):

D41807P		D3681
pin 9	- - - - - - - - - - - - - - - - - - -	pin 7

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the standby attitude indicator. To install it, do this task: Standby Attitude Indicator Installation, AMM TASK 34-24-01-400-801.

3) Re-connect the connector D41807P to the P18-2 panel.

4) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	9	C01387	STBY ATT IND

5) If the GYRO flag does not show on the standby attitude indicator, then you corrected the fault.

(f) If you do not find a problem with the wiring, then do this step and continue:

1) Re-connect the connector D41807P to the P18-2 panel.

(3) Install a new standby attitude indicator, N186. To install it, do this task: Standby Attitude Indicator Installation, AMM TASK 34-24-01-400-801.

(a) If the test in the installation task for the standby attitude indicator is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

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802. LOC or G/S Problem on Standby Attitude Indicator - Fault Isolation

A. Description

(1) This task is for these observed faults:

(a) The LOC flag shows on the standby attitude indicator.

(b) The G/S flag shows on the standby attitude indicator.

(c) The LOC deviation pointer is out of view.

(d) The G/S deviation pointer is out of view.

(2) The LOC and G/S flags show when the standby attitude indicator receives an invalid signal from the left (No. 1) multi-mode receiver (MMR) or instrument landing system (ILS) receiver.

(3) The LOC and G/S flags show when the standby attitude indicator loses 28 VDC power.

(4) The LOC and G/S deviation pointers do not show when the standby attitude indicator receives an invalid signal from the left (No. 1) MMR/ILS receiver.

B. Possible Causes

(1) MMR/ILS receiver, M2104/M1728 (No. 1).

(2) Standby attitude indicator, N186.

(3) Loss of 28 VDC power source from the circuit breaker C1387.

(4) Wiring problem between the left (No. 1) MMR/ILS receiver and the standby attitude indicator.

(5) Wiring problem between the standby attitude indicator and the circuit breaker C1387.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	9	C01387	STBY ATT IND

D. Related Data

(1) (SSM 34-24-11).

(2) (WDM 34-24-11).

E. Initial Evaluation

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	9	C01387	STBY ATT IND

HAP 001-013, 015-026, 028-030; AIRPLANES WITHOUT THE ALTERNATE NAVIGATION SYSTEM

(2) Make sure the select switch on the standby attitude indicator is in the APP position.

HAP 001-013, 015-026, 028-030

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(3) If the LOC and G/S flags do not show on the standby attitude indicator, then there was an intermittent fault.

(4) If the LOC and G/S flags show on the standby attitude indicator, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) For the left (No. 1) MMR/ILS receiver, do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If there is an MMR/ILS maintenance message that relates to the left (No. 1) MMR/ILS receiver, then go to the applicable fault isolation task for that message to correct the fault.

1) If the LOC and G/S flags do not show on the standby attitude indicator, then you corrected the fault.

(b) If there is no MMR/ILS maintenance message that relates to the left (No. 1) MMR/ILS receiver, then continue.

(2) Replace the standby attitude indicator, N186.

These are the tasks:

Standby Attitude Indicator Removal, AMM TASK 34-24-01-000-801,

Standby Attitude Indicator Installation, AMM TASK 34-24-01-400-801.

(a) If the LOC and G/S flags do not show on the standby attitude indicator, then you corrected the fault.

(b) If the LOC and G/S flags show on the standby attitude indicator, then continue.

(3) Do this check of the wiring between the left (No. 1) MMR/ILS receiver and the standby attitude indicator:

(a) Remove the standby attitude indicator. To remove it, do this task: Standby Attitude Indicator Removal, AMM TASK 34-24-01-000-801.

(b) Remove the left (No. 1) MMR/ILS receiver. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

(c) Do a wiring check between these pins of connectors D3647B and D3681:

D3647B		D3681
pin B11	- - - - - - - - - - - - - - - - -	pin 15
pin C11	- - - - - - - - - - - - - - - - -	pin 16

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the standby attitude indicator. To install it, do this task: Standby Attitude Indicator Installation, AMM TASK 34-24-01-400-801.

3) Re-install the left (No. 1) MMR/ILS receiver. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

4) If the LOC and G/S flags do not show on the standby attitude indicator, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

(4) Do this check for 28 VDC at connector D3681:

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(a) Remove the standby attitude indicator. To remove it, do this task: Standby Attitude Indicator Removal, AMM TASK 34-24-01-000-801.

(b) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	9	C01387	STBY ATT IND

(c) Do a check for 28 VDC between pin 7 and pin 8 (ground) of connector D3681.

(d) If there is 28 VDC at pin 7 of D3681, then do this step:

1) Install a new standby attitude indicator. To install it, do this task: Standby Attitude Indicator Installation, AMM TASK 34-24-01-400-801.

(e) If there is not 28 VDC at pin 7 of D3681, then do these steps:

1) Do a check for 28 VDC at the load point of the circuit breaker C1387.

a) If there is not 28 VDC at the load point, then replace the circuit breaker C1387.

b) If there is 28 VDC at the load point, then continue:

(5) Do this check of the wiring between the circuit breaker C1387 and the standby attitude indicator:

(a) Remove the standby attitude indicator. To remove it, do this task: Standby Attitude Indicator Removal, AMM TASK 34-24-01-000-801.

(b) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	9	C01387	STBY ATT IND

(c) Disconnect the connector D41807P from the P18-2 panel.

(d) Do a wiring check between these pins of connectors D41807P and D3681:

D41807P		**D3681**
pin 9	- - - - - - - - - - - - - - - - - -	pin 7

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the left (No. 1) MMR/ILS receiver. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

3) Re-connect the connector D41807P to the P18-2 panel.

4) Re-install the standby attitude indicator. To install it, do this task: Standby Attitude Indicator Installation, AMM TASK 34-24-01-400-801.

5) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	9	C01387	STBY ATT IND

6) If the LOC and G/S flags do not show on the standby attitude indicator, then you corrected the fault.

(f) If you do not find a problem with the wiring, then do these steps:

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1) Re-install the left (No. 1) MMR/ILS receiver. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.
2) Re-connect the connector D41807P to the P18-2 panel.
3) Re-install the standby attitude indicator. To install it, do this task: Standby Attitude Indicator Installation, AMM TASK 34-24-01-400-801.
4) If the test in the installation task for the standby attitude indicator is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

803. ATT Flag Shows on Standby Attitude Indicator - Fault Isolation

A. Description

(1) The ATT flag shows when the standby attitude indicator shows an invalid attitude.

B. Possible Causes

(1) Standby attitude indicator, N186.

(2) Power loss.

(3) Wiring problem between the circuit breaker C1387 and the standby attitude indicator.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	9	C01387	STBY ATT IND

D. Related Data

(1) (SSM 34-24-11).

(2) (WDM 34-24-11).

E. Initial Evaluation

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	9	C01387	STBY ATT IND

(2) If the ATT flag does not show on the standby attitude indicator, then there was an intermittent fault.

(3) If the ATT flag shows on the standby attitude indicator, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the standby attitude indicator, N186.

These are the tasks:

Standby Altimeter/Airspeed Indicator Removal, AMM TASK 34-13-01-000-801,

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Standby Altimeter/Airspeed Indicator Installation, AMM TASK 34-13-01-400-801.

(a) If the test in the installation task is satisfactory and the ATT flag does not show on the standby attitude indicator, then you corrected the fault.

(b) If the ATT flag shows on the standby attitude indicator, then continue.

(2) If all the flags show on the standby attitude indicator, then do these steps:

(a) Do this check of the wiring between the circuit breaker C1387 and the standby attitude indicator:

1) Remove the standby attitude indicator. To remove it, do this task: Standby Attitude Indicator Removal, AMM TASK 34-24-01-000-801.

2) Make sure that this circuit breaker is open and has safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	9	C01387	STBY ATT IND

3) Disconnect the connector D41807P from the P18-2 panel.

4) Do a wiring check between these pins of connectors D41807P and D11647 (WDM 34-24-11):

D41807P		D11647
pin 9	- - - - - - - - - - - - - - - - - -	pin E

(b) If you find a problem with the wiring, then do this step:

1) Repair the problems that you find.

(c) Re-install the standby attitude indicator. To install it, do this task: Standby Attitude Indicator Installation, AMM TASK 34-24-01-400-801.

(d) Re-connect the connector D41807P to the P18-2 panel.

(e) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	9	C01387	STBY ATT IND

(f) If the ATT flag does not show on the standby attitude indicator, then you corrected the fault.

END OF TASK

HAP 031-054, 101-999

804. Integrated Standby Flight Display Blank - Fault Isolation

A. Description

(1) The integrated standby flight display (ISFD) is blank.

B. Possible Causes

(1) Power loss.

(2) Integrated standby flight display, N226.

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(3) ISFD dedicated battery system, M2100.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

HAP 031-037, 049, 102, 103

(a) Front of the ISFD Dedicated Battery System, M2100, E1-3

1) DBC Output breaker

HAP 038-048, 050-054, 101, 104-999

(b) Front of the ISFD Dedicated Battery System, M2100, E4–1

1) DBC Output breaker

HAP 031-054, 101-999

D. Related Data

(1) (SSM 34-24-15).

(2) (WDM 34-24-15).

E. Initial Evaluation

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

HAP 031-037, 049, 102, 103

(a) Front of the ISFD Dedicated Battery System, M2100, E1-3

1) DBC Output breaker

HAP 038-048, 050-054, 101, 104-999

(b) Front of the ISFD Dedicated Battery System, M2100, E4–1

1) DBC Output breaker

HAP 031-054, 101-999

(2) If the integrated standby flight display shows, then there was an intermittent fault.

(3) If the integrated standby flight display is blank, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the integrated standby flight display, N226.
These are the tasks:
Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801,
Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

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(a) If the installation task for the integrated standby flight display is satisfactory and the display shows, then you corrected the fault.

(b) If the integrated standby flight display is blank, then continue.

(2) Replace the ISFD dedicated battery system, M2100.

These are the tasks:

ISFD Dedicated System and Battery Pack Removal, AMM TASK 34-24-03-000-801,

ISFD Dedicated Battery System and Battery Pack Installation, AMM TASK 34-24-03-400-801.

(a) If the test in the installation task for the ISFD dedicated battery system is satisfactory and the integrated standby flight display shows, then you corrected the fault.

(b) If the integrated standby flight display is blank, then continue.

(3) Do this check of the wiring between the circuit breaker C1551 and the integrated standby flight display, N226:

(a) Remove the integrated standby flight display. To remove it, do this task: Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801.

(b) Remove the ISFD dedicated battery system. To remove it, do this task: ISFD Dedicated System and Battery Pack Removal, AMM TASK 34-24-03-000-801.

(c) Disconnect the connector D41807P from the P18-2 panel.

(d) Make sure that this circuit breaker is open and has safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(e) Do a wiring check between the pins of these connectors (WDM 34-24-15):

D10853	**D11281**
pin D - - - - - - - - - - - - - - - - - -	pin 9
D11281	**D41807P**
pin 6 - - - - - - - - - - - - - - - - - -	pin 29

(f) Repair the problems that you find and continue.

(g) Re-install the ISFD dedicated battery system, M2100. To install it, do this task: ISFD Dedicated Battery System and Battery Pack Installation, AMM TASK 34-24-03-400-801.

(h) Re-install the integrated standby flight display, N226. To install it, do this task: Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

(i) Connect the connector D41807P to the P18-2 panel.

(j) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(k) If the test in the installation task for the integrated standby flight display is satisfactory and the display shows, then you corrected the fault.

——————— END OF TASK ———————

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805. ALT Flag on Integrated Standby Flight Display - Fault Isolation

A. Description

(1) The ALT flag shows on the integrated standby flight display when the altitude data is invalid.

B. Possible Causes

(1) Integrated standby flight display, N226.

(2) Alternate pitot system.

(3) Alternate static system.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

D. Related Data

(1) (SSM 34-24-15).

(2) (WDM 34-24-15).

E. Initial Evaluation

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(2) If the ALT flag does not show on the integrated standby flight display, then there was an intermittent fault.

(3) If the ALT flag shows on the integrated standby flight display, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the integrated standby flight display, N226.

These are the tasks:

Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801,

Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

(a) If the installation task for the integrated standby flight display is satisfactory and the ALT flag does not show, then you corrected the fault.

(b) If the ALT flag shows on the integrated standby flight display, then continue.

(2) Do a leak test of the alternate pitot and static systems:

(a) Do this task: Alternate Pitot System Leak Test, AMM TASK 34-11-00-790-812.

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(b) Do this task: Alternate Static System Low-range Leak Test, AMM TASK 34-11-00-790-808.

(c) If the alternate pitot or alternate static system has a leak, then do these steps:

1) Repair the leak.

2) Do this task: Integrated Standby Flight Display - System Test, AMM TASK 34-24-02-730-801.

a) If the operational test is satisfactory and the ALT flag does not show on the integrated standby flight display, then you corrected the fault.

——————— END OF TASK ———————

806. ATT Flag on Integrated Standby Flight Display - Fault Isolation

A. Description

(1) The ATT flag shows when the integrated standby flight display shows an invalid attitude.

B. Possible Causes

(1) Integrated standby flight display, N226.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

D. Related Data

(1) (SSM 34-24-15).

(2) (WDM 34-24-15).

E. Initial Evaluation

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(2) If the ATT flag does not show on the integrated standby flight display, then there was an intermittent fault.

(3) If the ATT flag shows on the integrated standby flight display, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the integrated standby flight display, N226.

These are the tasks:

Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801,

Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

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(a) If the installation task for the integrated standby flight display is satisfactory and the ATT flag does not show, then you corrected the fault.

—————— END OF TASK ——————

807. WAIT ATT Flag on the Integrated Standby Flight Display - Fault Isolation

A. Description

(1) The WAIT ATT message shows when there is a temporary loss of attitude function. The attitude function will automatically come back. No maintenance action is necessary.

—————— END OF TASK ——————

808. G/S or LOC Flag on the Integrated Standby Flight Display - Fault Isolation

A. Description

(1) The G/S or the LOC flag shows when there is a loss of glide slope or localizer functions.

B. Possible Causes

(1) Instrument Landing System.

(2) Integrated Standby Flight Display.

C. Related Data

(1) (SSM 34-24-15).

(2) (WDM 34-24-15).

D. Initial Evaluation

(1) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	2	C01479	RADIO NAVIGATION MMR 1

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(2) If the G/S or LOC flag does not show on the integrated standby flight display, then there was an intermittent fault.

(3) If the G/S or LOC flag shows on the integrated standby flight display, then do the Fault Isolation Procedure below.

E. Fault Isolation Procedure

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) Repair the problems that you find.

(b) If the G/S or LOC flag does not show on the integrated standby flight display and the attitude is displayed, then you have corrected the fault.

(c) If the G/S or LOC flag shows on the integrated standby flight display, then continue.

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(2) Replace the integrated standby flight display, N226.

These are the tasks:

Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801,

Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

(a) If the G/S or LOC flag does not show on the integrated standby flight display and the attitude is displayed, then you have corrected the fault.

(b) If the G/S or LOC flag shows on the integrated standby flight display, then continue.

(3) Do this check of wiring between the integrated standby flight display and the multi-mode receiver.

(a) Remove the multi-mode receiver, M2104. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

(b) Remove the integrated standby flight display, N226. To remove it, do this task: Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801.

(c) Do a wiring check between these pins of connector D10719B for the MMR and connector D10853 for the integrated standby flight display (WDM 34-24-15):

D10719B		D10853
pin G1	- - - - - - - - - - - - - - - - - -	pin A
pin H1	- - - - - - - - - - - - - - - - - -	pin W

(d) Repair the problems that you find.

(e) Re-install the multi-mode receiver, M2104. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

(f) Re-install the integrated standby flight display, N226. To install it, do this task: Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

(g) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	2	C01479	RADIO NAVIGATION MMR 1

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(h) If the tests in the installation tasks for the instrument landing system and the integrated standby flight display are satisfactory, and the G/S or LOC flag does not show on the integrated standby flight display, then you corrected the fault.

END OF TASK

809. HDG Flag on the Integrated Standby Flight Display - Fault Isolation

A. Description

(1) The HDG flag shows when there is a loss of magnetic heading function.

B. Possible Causes

(1) ADIRU.

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(2) Integrated Standby Flight Display.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD
E	8	C00425	ADIRU LEFT EXC

D. Related Data

(1) (SSM 34-24-15).

(2) (WDM 34-24-15).

E. Initial Evaluation

(1) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD
E	8	C00425	ADIRU LEFT EXC

(2) If the HDG flag does not show on the integrated standby flight display, then there was an intermittent fault.

(3) If the HDG flag shows on the integrated standby flight display, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this task: Air Data Inertial Reference System - Alignment from the ISDU, AMM TASK 34-21-00-820-802 or Air Data Inertial Reference System - Alignment from the FMC CDU, AMM TASK 34-21-00-820-801.

(a) If the HDG flag does not show on the integrated standby flight display, then you corrected the fault.

(b) If the HDG flag shows on the integrated standby flight display, then continue.

(2) Replace the left air data inertial reference unit, M1749.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

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Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) If the test in the installation task for the air data inertial reference unit is satisfactory and the HDG flag does not show on the integrated standby flight display, then you corrected the fault.

(b) If the HDG flag shows on the integrated standby flight display, then continue.

(3) Replace the integrated standby flight display, N226.

These are the tasks:

Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801,

Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

(a) If the test in the installation task for the integrated standby flight display is satisfactory and the HDG flag does not show, then you corrected the fault.

(b) If the HDG flag shows on the integrated standby flight display, then continue.

(4) Do this check of the wiring between the left air data inertial reference unit and the integrated standby flight display:

(a) Remove the air data inertial reference unit, M1749. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(b) Remove the integrated standby flight display, N226. To remove it, do this task: Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801.

(c) Make sure that this circuit breaker is open and has safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(d) Do a wiring check between these pins of connector D3687B for the air data inertial reference unit and connector D10853 for the integrated standby flight display (WDM 34-24-15):

D3687B		D10853
pin G7	- - - - - - - - - - - - - - - - - -	pin T
pin G8	- - - - - - - - - - - - - - - - - -	pin S

(e) Repair the problems that you find.

(f) Re-install the air data inertial reference unit. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(g) Re-install the integrated standby flight display. To install it, do this task: Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

(h) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

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(i) If the tests in the installation tasks for the air data inertial reference unit and the integrated standby flight display are satisfactory, and the HDG flag does not show on the integrated standby flight display, then you corrected the fault.

———————— END OF TASK ————————

810. OUT OF ORDER on the Integrated Standby Flight Display - Fault Isolation

A. Description

(1) OUT OF ORDER shows when there is a complete loss of integrated standby flight display function.

B. Possible Causes

(1) Integrated standby flight display.

C. Related Data

(1) (SSM 34-24-15).

(2) (WDM 34-24-15).

D. Initial Evaluation

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(2) If OUT OF ORDER does not show on the integrated standby flight display, then there was an intermittent fault.

(3) If OUT OF ORDER shows on the integrated standby flight display, then do the Fault Isolation Procedure below.

E. Fault Isolation Procedure

(1) Cycle electrical power.These are the tasks:

Remove Electrical Power, AMM TASK 24-22-00-860-812

Supply Electrical Power, AMM TASK 24-22-00-860-811

(a) If the test in the installation task for the integrated standby flight display is satifactory and the OUT OF ORDER message does not show on the integrated standby flight display, then you corrected the fault.

(b) If the OUT OF ORDER message shown on the integrated standby flight display, then continue.

(2) Replace the integrated standby flight display, N226.

These are the tasks:

Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801,

Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

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(a) If the test in the installation task for the integrated standby flight display is satisfactory and the OUT OF ORDER message does not show on the integrated standby flight display, then you corrected the fault.

———————— END OF TASK ————————

811. PROGRAM PIN ERROR on the Integrated Standby Flight Display - Fault Isolation

A. Description

(1) PROGRAM PIN ERROR shows when the program pin parity is incorrect.

B. Possible Causes

(1) Integrated Standby Flight Display Program Pins.

(2) Integrated Standby Flight Display, N226.

C. Related Data

(1) (SSM 34-24-15).

(2) (WDM 34-24-15).

D. Initial Evaluation

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(2) If PROGRAM PIN ERROR does not show on the integrated standby flight display, then there was an intermittent fault.

(3) If PROGRAM PIN ERROR shows on the integrated standby flight display, then do the Fault Isolation Procedure below.

E. Fault Isolation Procedure

(1) Do this check of the integrated standby flight display program pins:

(a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(b) Remove the integrated standby flight display, N226. To remove it, do this task: Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801.

(c) Do a continuity check of the wiring between these pins of connector D10853 (WDM 34-24-15):

D10853		**D10853**
pin G	- - - - - - - - - - - - - - - - - -	pin D
pin G	- - - - - - - - - - - - - - - - - -	pin K

(d) Make sure that these program pins of connector D10853 are open:

1) B, C, E, F, M, N, P, S, Z.

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(e) Re-install the integrated standby flight display. To install it, do this task: Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

(f) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(g) If the test in the installation task for the integrated standby flight display is satisfactory and PROGRAM PIN ERROR does not show, then you corrected the fault.

(h) If PROGRAM PIN ERROR shows on the integrated standby flight display, then continue.

(2) Replace the integrated standby flight display, N226.

These are the tasks:

Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801,

Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

(a) If the test in the installation task is satisfactory and the PROGRAM PIN ERROR does not show on the integrated standby flight display, then you corrected the fault.

———————— END OF TASK ————————

812. SPD Flag on the Integrated Standby Flight Display - Fault Isolation

A. Description

(1) The SPD flag shows when there is a loss of standby airspeed function.

B. Possible Causes

(1) Alternate pitot system.

(2) Alternate static system.

(3) Integrated standby flight display.

C. Related Data

(1) (SSM 34-24-15).

(2) (WDM 34-24-15).

D. Initial Evaluation

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(2) If the SPD flag does not show on the integrated standby flight display, then there was an intermittent fault.

(3) If the SPD flag shows on the integrated standby flight display, then do the Fault Isolation Procedure below.

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E. Fault Isolation Procedure

(1) Do a leak test of the alternate pitot and static systems:

(a) Do this task: Alternate Pitot System Leak Test, AMM TASK 34-11-00-790-812.

(b) Do this task: Alternate Static System Low-range Leak Test, AMM TASK 34-11-00-790-808.

(c) If the alternate pitot or alternate static systems have a leak, then do these steps:

1) Repair the leak.

2) Do this task: Integrated Standby Flight Display - System Test, AMM TASK 34-24-02-730-801.

a) If the SPD flag does not show on the integrated standby flight display, then you have corrected the fault.

b) If the SPD message shows on the integrated standby flight display, then continue.

(d) If the alternate pitot and alternate static systems do not have any leaks, then continue.

(2) Replace the integrated standby flight display, N226.

These are the tasks:

Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801,

Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

(a) Do this task: Integrated Standby Flight Display - System Test, AMM TASK 34-24-02-730-801.

1) If the SPD flag does not show, then you corrected the fault.

———————— END OF TASK ————————

813. Altitude Difference Between Integrated Standby Flight Display and Common Display System - Fault Isolation

A. Description

(1) Altitude indications are different between the integrated standby flight display (ISFD) and the common display system (CDS).

B. Possible Causes

(1) Integrated standby flight display, N226.

(2) Alternate pitot system.

(3) Alternate static system.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

D. Related Data

(1) (SSM 34-24-15).

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(2) (WDM 34-24-15).

E. Initial Evaluation

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(2) Maintenance action is required for reports of altitude differences between the ISFD and the CDS, if all of the following conditions are true:

(a) The altitude in the report is greater than 10,000 feet (3048 meters).

(b) The Mach number in the report is greater than 0.4 Mach.

(c) The difference in altitude between the ISFD and the CDS is more than 400 feet (122 meters).

(3) If all of the conditions above are true, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the integrated standby flight display, N226.

These are the tasks:

Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801,

Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

(a) If the installation task for the integrated standby flight display is satisfactory and all of the conditions in the Initial Evaluation are not true, then you corrected the fault.

(b) If all of the conditions in the Initial Evaluation above are true, then continue.

(2) Do a leak test of the alternate pitot and static systems:

(a) Do this task: Alternate Pitot System Leak Test, AMM TASK 34-11-00-790-812.

(b) Do this task: Alternate Static System Low-range Leak Test, AMM TASK 34-11-00-790-808.

(c) If the alternate pitot or alternate static system has a leak, then do these steps:

1) Repair the leak.

2) Do this task: Integrated Standby Flight Display - System Test, AMM TASK 34-24-02-730-801.

a) If the operational test is satisfactory and all of the conditions in the Initial Evaluation are not true, then you corrected the fault.

——————— END OF TASK ———————

814. Integrated Standby Flight Display - Attitude Display Difference With No Flag - Fault Isolation

A. Description

(1) The attitude shown on the integrated standby flight display following takeoff is different from the known attitude, and no flag is displayed.

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B. Possible Causes

(1) Movement of the airplane has occured during the power up and automatic alignment of the integrated standby flight display, N226.

NOTE: The ISFD alignment occurs automatically when the ISFD is powered up, and is indicated by the ATT and INIT 90s messages.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

D. Related Data

(1) (SSM 34-24-15).

(2) (WDM 34-24-15).

E. Initial Evaluation

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(2) For a reported incorrect attitude shown on the integrated standby flight display while in flight, and no flag displayed, do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

CAUTION: DO NOT MOVE THE AIRPLANE WHILE THE ISFD SHOWS THE YELLOW "ATT" AND "INIT90S" MESSAGES. IF YOU MOVE THE AIRPLANE DURING THE ISFD SYSTEM POWER-UP AND INITIALIZATION ALIGNMENT, THE ISFD MAY DISPLAY INCORRECT ATTITUDE INFORMATION WITH NO ATT FLAG OR MESSAGE.

(1) Do an electrical power cycle of the integrated standby flight display by using one of these procedures:

HAP 031-037, 049, 102, 103

(a) Operate the circuit breaker on the front of the ISFD dedicated battery charger, M2100, E1-3:

1) Open the DBC Output breaker

2) Close the DBC Output breaker

HAP 038-048, 050-054, 101, 104-999

(b) Operate the circuit breaker on the front of the ISFD dedicated battery charger, M2100, E4-1:

1) Open the DBC Output breaker

2) Close the DBC Output breaker

HAP 031-054, 101-999

(c) Operate the ISFD circuit breaker and the battery switch:

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1) Open this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

2) Open the S5 battery switch on panel P5-13, electrical meter module.
3) Close the S5 battery switch on panel P5-13, electrical meter module.
4) Close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(d) Cycle electrical power.

These are the tasks:

Remove Electrical Power, AMM TASK 24-22-00-860-812,

Supply Electrical Power, AMM TASK 24-22-00-860-811.

(2) If the next flight reports incorrect attitude shown on the integrated standby flight display while in flight, and no flag displayed, replace the integrated standby flight display.

These are the tasks:

Integrated Standby Flight Display Removal, AMM TASK 34-24-02-000-801,

Integrated Standby Flight Display Installation, AMM TASK 34-24-02-400-801.

(3) If the next flight does not produce a report that the integrated standby flight attitude display following takeoff is different from the known attitude and no flag is displayed, you corrected the fault.

———————— END OF TASK ————————

815. ISFD Dedicated Battery System Fault Light is On - Fault Isolation

A. Description

(1) The Fault light on the face of the ISFD dedicated battery system is on.

B. Possible Causes

(1) ISFD dedicated battery pack.

(a) Voltage levels in the cells of the battery are not equal.

(2) ISFD dedicated battery system, M2100.

(a) Battery charger operating temperature is more than 180°(83C) or less than 5°(-15C).

(b) Battery charger does not provide the correct output voltage.

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HAP 031-054, 101-999 (Continued)

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

HAP 031-037, 049, 102, 103

(a) Front of the Dedicated Battery System, M2100, E1-3

1) DBC Output breaker

HAP 038-048, 050-054, 101, 104-999

(b) Front of the Dedicated Battery System, M2100, E4–1

1) DBC Output breaker

HAP 031-054, 101-999

D. Related Data

(1) (SSM 34-24-15).

(2) (WDM 34-24-15).

E. Initial Evaluation

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

HAP 031-037, 049, 102, 103

(a) Front of the Dedicated Battery System, M2100, E1-3

1) DBC Output breaker

HAP 038-048, 050-054, 101, 104-999

(b) Front of the Dedicated Battery System, M2100, E4–1

1) DBC Output breaker

HAP 031-054, 101-999

(2) If the FAULT light on the face of the ISFD dedicated battery system is not on, then there was an intermittent fault.

(3) If the FAULT light on the front of the dedicated battery system is on, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the ISFD dedicated battery pack.

These are the tasks:

ISFD Dedicated System and Battery Pack Removal, AMM TASK 34-24-03-000-801,

ISFD Dedicated Battery System and Battery Pack Installation, AMM TASK 34-24-03-400-801.

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(a) If the test in the installation task for the ISFD dedicated battery system is satisfactory and the FAULT light on the face of the dedicated battery charger is not on, then you corrected the fault.

(b) If the FAULT light on the face of the ISFD dedicated battery system is on, then continue.

(2) Replace the ISFD dedicated battery system, M2100.

These are the tasks:

ISFD Dedicated System and Battery Pack Removal, AMM TASK 34-24-03-000-801,

ISFD Dedicated Battery System and Battery Pack Installation, AMM TASK 34-24-03-400-801.

(a) If the test in the installation task for the ISFD dedicated battery system is satisfactory and the FAULT light on the face of the dedicated battery charger is not on, then you corrected the fault.

(b) If the FAULT light on the face of the ISFD dedicated battery system is on, then continue.

(3) Do this check of the wiring between the circuit breaker C1551 and the ISFD dedicated battery charger, M2100:

(a) Remove the ISFD dedicated battery system. To remove it, do this task: ISFD Dedicated System and Battery Pack Removal, AMM TASK 34-24-03-000-801.

(b) Disconnect the connector D41807P from the P18-2 panel.

(c) Make sure that this circuit breaker is open and has safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(d) Do a wiring check between the pins of these connectors (WDM 34-24-15):

D11281		**D41807P**
pin 6	- - - - - - - - - - - - - - - - - -	pin 29

(e) Repair the problems that you find and continue.

(f) Re-install the ISFD dedicated battery system, M2100. To install it, do this task: ISFD Dedicated Battery System and Battery Pack Installation, AMM TASK 34-24-03-400-801.

(g) Connect the connector D41807P to the P18-2 panel.

(h) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	8	C01551	ISFD

(i) If the test in the installation task for the ISFD dedicated battery system is satisfactory and the FAULT light on the face of the IFSD dedicated battery system is not on, then you corrected the fault.

——————— END OF TASK ———————

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801. ILS or Multi-Mode Receiver BITE Procedure

A. General

(1) You do the multi-mode receiver (MMR) BITE test at the front panel of the MMR.

(2) There are two multi-mode receivers (MMR). MMR 1 is on the E1-2 shelf and MMR 2 is on the E1-4 shelf in the electronic equipment compartment.

HAP 001-013, 015-026, 028-036, 038-054, 101-999; AIRPLANES WITH BENDIX (ALLIED SIGNAL) MULTI-MODE RECEIVERS

(3) The MMR BITE test does a self check for existing internal and external faults. Results of the BITE test are displayed on the LCD screen on the front panel of the MMR.

HAP 037; AIRPLANES WITH COLLINS OR SEXTON RECEIVERS

(4) The MMR BITE test does a self check for existing internal and external faults. Results of the BITE test are displayed on the front panel of the MMR.

HAP 001-013, 015-026, 028-036, 038-054, 101-999

(5) The MMR flight fault memory stores fault data that occurs in flight. You can view faults that occurred on previous flight legs to help isolate an intermittent fault that is not found by the BITE self-test.

HAP 037

(6) The Collins multi-mode receivers have 3 indicating lights on the front panel. However, the ANTENNA FAIL light is not used and it will stay off at all time.

NOTE: On airplanes with Collins SB GLU-920-34-15, the ANTENNA FAIL light will come on but this does not indicate a failure.

NOTE: On airplanes with GLS capabilities, the ANTENNA FAIL light on the Collins MMR may indicate GPS antenna/connection failure.

HAP ALL

B. BITE Procedure

(1) Do the BITE procedure for the MMR.

HAP 037; AIRPLANES WITH COLLINS MULTI-MODE RECEIVERS

(2) Push and release the TEST switch on the front panel of the receiver to start the BITE test.

(a) Make sure that these indications occur:

1) All the red lights come on.

2) The LRU STATUS light changes to green after 2 seconds.

3) All the lights go off after 2 seconds.

4) The green LRU STATUS light comes on after 30 seconds.

(b) Refer to the table at the end of this task to find the fault isolation task for the applicable maintenance messages.

HAP 001-013, 015-026, 028-036, 038-054, 101-999; AIRPLANES WITH BENDIX (ALLIED SIGNAL) MULTI-MODE RECEIVERS

(3) Push and release either of the two switches on the front panel of the receiver to start the BITE test.

(a) Make sure that LCD screen shows MMR TEST IN PROGRESS.

(b) If the LCD screen shows MMR TEST COMPLETE NO FAILURES, then the MMR BITE test passed.

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(c) If the LCD screen shows MMR TEST COMPLETE FAILURES, then continue.

(d) Push the right switch under the WHY? prompt.

(e) If the LCD screen shows MMR FAIL or MMR FAIL EXTERNAL FAILURES PRESENT, then refer to the table at the end of this task to find the fault isolation task.

(f) If the LCD screen shows MMR OK EXTERNAL FAILURES PRESENT, then do these steps:

1) Push the right switch under the MORE prompt.

NOTE: The LCD screen will show the first maintenance message. The LCD screen can show only one maintenance message at a time.

2) Push the right switch under the MORE prompt to view more maintenance messages if multiple maintenances exist.

NOTE: If you continue to push the MORE switch, you will see all of the maintenance messages that are present. You will return to the first maintenance message when you push the MORE switch after the last maintenance message.

3) Refer to the table at the end of this task to find the fault isolation task for the applicable maintenance messages.

4) Push the left switch under the RETURN prompt to return to the normal mode screen.

NOTE: If no switch is pushed for five minutes on the receiver while in self-test mode, the LCD screen will return to the normal mode screen automatically.

HAP ALL

———————— END OF TASK ————————

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
MMR	CONTROL FAIL	34-31 TASK 813
MMR	GS ANTENNA FAILED	34-31 TASK 817
MMR	LOC ANTENNA FAILED	34-31 TASK 816
MMR	LRU STATUS	34-31 TASK 812
MMR	MMR FAILED	34-31 TASK 814
MMR	TUNING PORT B MISSING INPUT	34-31 TASK 815

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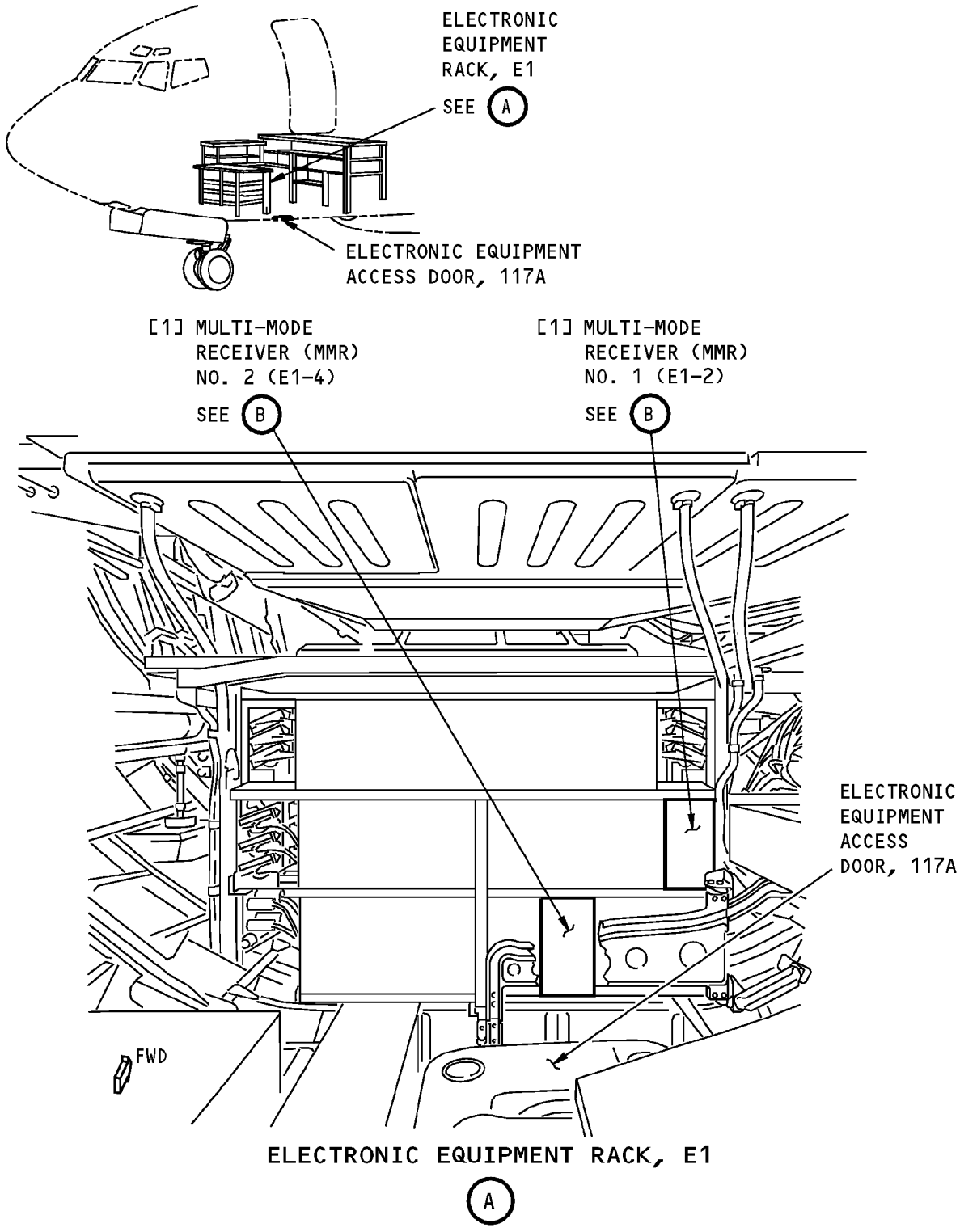

ILS Receiver
Figure 201 (Sheet 1 of 3)/ 34-31-00-990-802

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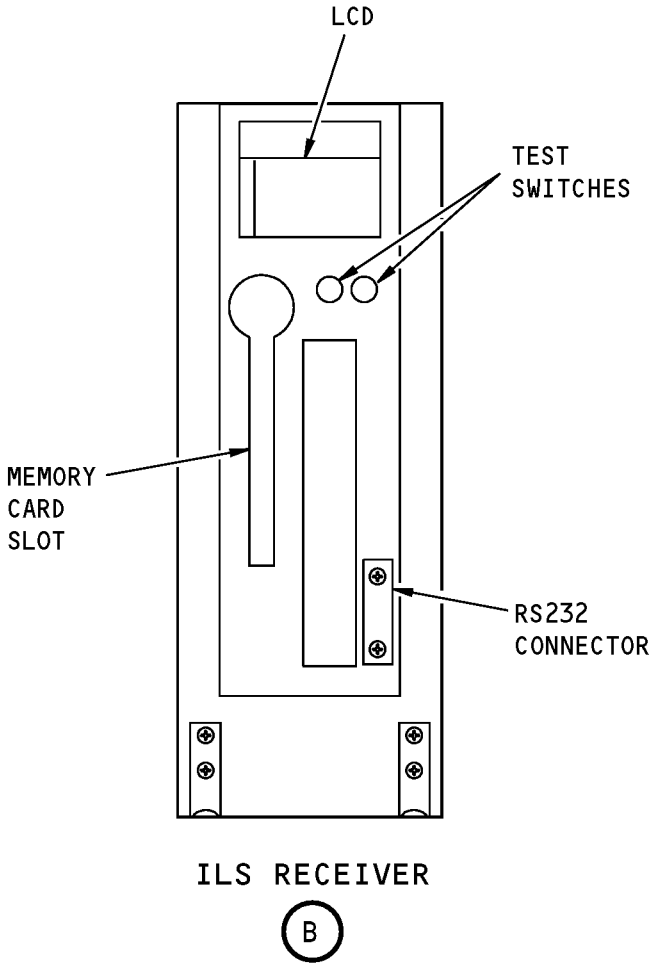

ILS Receiver
Figure 201 (Sheet 2 of 3)/ 34-31-00-990-802

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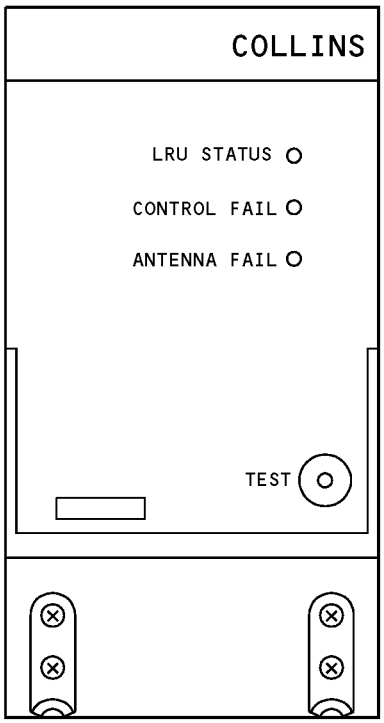

MULTI–MODE RECEIVER (MMR)

B

ILS Receiver
Figure 201 (Sheet 3 of 3)/ 34-31-00-990-802

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806. LOC And G/S Flags Show On The Captain's Display - Fault Isolation

A. Description

(1) The localizer (LOC) and glideslope (G/S) receiver functions have a failure.

B. Possible Causes

(1) MMR-1, M2104.

(2) VHF NAV switch S2, P5-28.

(3) Wiring problem.

(4) Display electronic unit (DEU), M1808.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 004, 005, 008-013, 015-026, 028-030			
A	2	C01380	RADIO NAVIGATION ILS 1
HAP 001, 004-013, 015-026, 028-054, 101-999			
A	2	C01479	RADIO NAVIGATION MMR 1
HAP ALL			

D. Related Data

(1) (SSM 34-31-11).

(2) (WDM 34-31-11).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If the flags show on the captain's display, then do the Fault Isolation below.

(b) If the flags do not show on the captain's display, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this task: Instrument Landing System - Operational Test, AMM TASK 34-31-00-710-801.

(a) If the flags show on the captain's and F/O's displays while the VHF NAV switch is in the BOTH ON 1 position, then do these steps:

1) Replace the MMR-1, M2104.

These are the tasks:

Receiver for ILS - Removal, AMM TASK 34-31-42-000-801,

Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

2) If the flags do not show on the captain's and F/O's displays, then you corrected the fault.

(b) If the flags show on just the captain's or F/O's displays, then do these steps:

1) Replace the VHF NAV switch S2, P5-28.

2) If the flags does not show on the captain's and F/O's displays, then you corrected the fault.

3) If the flags show on the captain's or F/O's displays, then continue.

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(c) If the flags only show on the captain's display while the VHF NAV switch is in the BOTH ON 1 position, then continue.

(2) Do this check of the wiring between the VHF NAV switch and the DEU, M1808:

(a) Set the VHF NAV switch to the BOTH ON 1 position.

(b) Remove the DEU, M1808. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) Do a continuity check between pin G10 of the connector D3973E and structure ground

(d) If there is not continuity between pin G10 and structure ground, then do these steps:

1) Repair the wiring.

2) Re-install the DEU, M1808. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

3) If the flags does not show on the F/O's display, then you corrected the fault.

(e) If there is continuity between pin G10 and structure ground, then continue.

HAP ALL; AIRPLANES WITH MULTI-MODE RECEIVERS (MMR)

(3) Do this check of the wiring between the DEU and the MMR:

(a) Remove the DEU, M1808. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(b) Remove the MMR-1, M2104. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

(c) Do a check for an open circuit between the pins specified for the applicable fault flag:

	DEU CONNECTOR		MMR CONNECTOR
LOC FLAG	**D3973A**		**D10719B**
	pin C15	- - - - - - - - - - - - - - - - -	pin G1
	pin D15	- - - - - - - - - - - - - - - - -	pin H1
G/S FLAG	**D3973E**		**D10719B**
	pin G3	- - - - - - - - - - - - - - - - - -	pin G1
	pin H3	- - - - - - - - - - - - - - - - - -	pin H1

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the MMR-1, M2104. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

3) Re-install the DEU, M1808. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

4) If the flags does not show on the captain's display, then you corrected the fault.

(e) If there is continuity between the pins, then continue.

1) Re-install the MMR-1, M2104. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

2) Re-install the DEU, M1808. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

HAP ALL

(4) Do this check of the display electronic unit (DEU):

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(a) Do this task: DEU Self-Test Procedure, 31-62 TASK 802.

(b) If the DEU shows FAILED, then do these steps:

1) Replace the DEU, M1808.

These are the tasks:

Display Electronic Unit Removal, AMM TASK 31-62-21-000-801,

Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

——————— END OF TASK ———————

807. LOC And G/S Flags Show On The F/O's Display - Fault Isolation

A. Description

(1) The localizer (LOC) and glideslope (G/S) receiver functions have a failure.

B. Possible Causes

(1) MMR-2, M2105.

(2) VHF NAV switch S2, P5-28.

(3) Wiring problem.

(4) Display electronic unit (DEU), M1809.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
HAP 001, 004-013, 015-026, 028-054, 101-999			
A	13	C01480	RADIO NAVIGATION MMR 2
HAP ALL			

D. Related Data

(1) (SSM 34-31-21).

(2) (WDM 34-31-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If the flags show on the F/O's display, then do the Fault Isolation below.

(b) If the flags do not show on the F/O's display, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this task: Instrument Landing System - Operational Test, AMM TASK 34-31-00-710-801.

(a) If the flags show on the captain's and F/O's displays while the VHF NAV switch is in the BOTH ON 2 position, then do these steps:

1) Replace the MMR-2, M2105.

These are the tasks:

Receiver for ILS - Removal, AMM TASK 34-31-42-000-801,

Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

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2) If the flags do not show on the captain's and F/O's displays, then you corrected the fault.

(b) If the flags show just on the captain's or F/O's displays, then do these steps:

1) Replace the VHF NAV switch S2, P5-28.

2) If the flags do not show on the captain's and F/O's displays, then you corrected the fault.

3) If the flags show on the captain's or F/O's displays, then continue.

(c) If the flags only show on the F/O's display while the VHF NAV switch is in the BOTH ON 2 position, then continue.

(2) Do this check of the wiring between the VHF NAV switch and the DEU, M1809:

(a) Set the VHF NAV switch to the BOTH ON 2 position.

(b) Remove the DEU, M1809. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) Do a continuity check between pin G10 of the connector D3975B and structure ground.

(d) If there is not continuity between pin G10 and structure ground, then do these steps:

1) Repair the wiring.

2) Re-install the DEU, M1809. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

3) If the flags do not show on the F/O's display, then you corrected the fault.

(e) If there is continuity between pin G10 and structure ground, then continue.

HAP ALL; AIRPLANES WITH MULTI-MODE RECEIVERS (MMR)

(3) Do this check of the wiring between the DEU and the MMR:

(a) Remove the DEU, M1809. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(b) Remove the MMR-2, M2105. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

(c) Do a check for an open circuit between the pins specified for the applicable fault flag:

	DEU CONNECTOR		MMR CONNECTOR
LOC FLAG	**D3975D**		**D10721B**
	pin C15	- - - - - - - - - - - - - - - - -	pin G1
	pin D15	- - - - - - - - - - - - - - - - -	pin H1
G/S FLAG	**D3975B**		**D10721B**
	pin G3	- - - - - - - - - - - - - - - - - -	pin G1
	pin H3	- - - - - - - - - - - - - - - - - -	pin H1

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install MMR-2, M2105. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

3) Re-install the DEU, M1809. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

4) If the flags do not show on the F/O's display, then you corrected the fault.

(e) If there is continuity between the pins, then continue.

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1) Re-install the MMR-2, M2105. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.
2) Re-install the DEU, M1809. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

HAP ALL

(4) Do this check of the display electronic unit (DEU):
(a) Do this task: DEU Self-Test Procedure, 31-62 TASK 802.
(b) If the DEU shows FAILED, then do these steps:
1) Replace the DEU, M1809.
These are the tasks:
Display Electronic Unit Removal, AMM TASK 31-62-21-000-801,
Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

——————— END OF TASK ———————

808. Navigation Control Panel Problem - Fault Isolation

A. Description

(1) The Navigation Control Panel shows a failure.

B. Possible Causes

(1) Navigation control panel, P8-25 (Captain) or P8-26 (F/O).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 004, 005, 008-013, 015-026, 028-030			
A	2	C01380	RADIO NAVIGATION ILS 1
HAP 001, 004-013, 015-026, 028-054, 101-999			
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

HAP ALL

D. Related Data

(1) (WDM 34-31-11).

(2) (SSM 34-31-11).

E. Initial Evaluation

(1) Do this check of the NAV control panel:
(a) If the NAV control panel does display FAIL on the ACTIVE or STANDBY frequency indicators, then do the Fault Isolation Procedure below.

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(b) If the NAV control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators, then it was an intermittent fault.

F. Fault Isolation Procedure

(1) Replace the NAV control panel, P8-25 (Captain) or P8-26 (F/O) as applicable.

These are the tasks:

Navigation Control Panel Removal, AMM TASK 34-31-52-000-801,

Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

(a) If the NAV control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators, then you corrected the fault.

——————— END OF TASK ———————

809. No Pointers and No Flags - Fault Isolation

A. Description

(1) The ILS data goes to a no computed data (NCD) condition.

B. Possible Causes

(1) MMR-1, M2104 or MMR-2, M2105.

(2) Navigation control panel, P8-25 (Captain) or P8-26 (F/O).

(3) ILS antenna, M40 (G/S) or M1102 (LOC).

(4) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 004, 005, 008-013, 015-026, 028-030			
A	2	C01380	RADIO NAVIGATION ILS 1
HAP 001, 004-013, 015-026, 028-054, 101-999			
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

HAP ALL

D. Related Data

(1) (SSM 31-62-15).

(2) (SSM 34-31-11).

(3) (WDM 31-62-15).

(4) (WDM 34-31-11).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

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(a) If the localizer and glideslope pointers do not show on the captain's or F/O's displays, then do the Fault Isolation Procedure below.

(b) If the localizer and glideslope pointers show on the captain's or F/O's displays, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this check of the navigation control panel:

(a) Make sure that the navigation control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators.

(b) If the navigation control panel display FAIL on the ACTIVE or STANDBY frequency indicators, then do these steps:

1) Replace the navigation control panel, P8-25 (Captain) or P8-26 (F/O).

These are the tasks:

Navigation Control Panel Removal, AMM TASK 34-31-52-000-801,

Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

(c) If the navigation control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators, then continue.

HAP ALL; AIRPLANES WITH MULTI-MODE RECEIVERS (MMR)

(2) Do this check of the wiring:

(a) Remove the navigation control panel. To remove it, do this task: Navigation Control Panel Removal, AMM TASK 34-31-52-000-801.

(b) Remove the MMR. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

(c) Do a continuity check between the MMR and the applicable navigation control panel:

	NAV CONNECTOR		MMR CONNECTOR
CAPTAIN (P8-25)	**D303**		**D10719B**
	pin 28	- - - - - - - - - -	pin J1
	pin 29	- - - - - - - - - -	pin K1
FIRST OFFICER (P8-26)	**D305**		**D10721B**
	pin 28	- - - - - - - - - -	pin J1
	pin 29	- - - - - - - - - -	pin K1

(d) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-install the navigation control panel. To install it, do this task: Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

3) Re-install the MMR. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

4) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

5) If the localizer and glideslope pointers show on the captain's or F/O's displays, then you corrected the fault.

(e) If there is continuity, then continue.

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1) Re-install the navigation control panel. To install it, do this task: Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

(3) Use a time domain reflectometer (TDR) test set to do an electrical check of the coaxial cable and antenna:

CAUTION: YOU MUST PUT RF ABSORBENT MATERIAL ON THE ANTENNA BEFORE YOU USE THE TDR TEST SET. YOU CAN DAMAGE THE TEST SET IF A HIGH POWER TRANSMITTER OPERATES WITHIN 500 FEET OF THE ANTENNA.

(a) Cover the applicable MMR antenna with RF absorbent material.

(b) Connect the TDR test set at pins 13 and C13 of connector D10719C or D10721C as applicable at the MMR receiver (WDM 34-31-11).

	TDR	MMR CONNECTOR
LOCALIZER	**TEST SET**	**D10719C**
	TDR - - - - - - - - - - - - - - - - - - -	pin 13
	TDR - - - - - - - - - - - - - - - - - - -	pin C13
GLIDE/SLOPE	**TEST SET**	**D10719C**
	TDR - - - - - - - - - - - - - - - - - - -	pin 12
	TDR - - - - - - - - - - - - - - - - - - -	pin C12

(c) Do an electrical check of the coaxial cable and the antenna.

NOTE: The TDR test set has instructions which tell how to do the check of the cable and antenna.

(d) Disconnect the TDR test set.

(e) Re-install the MMR. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

(f) If you find a problem with the coaxial cable, then do these steps:

1) Replace the coaxial cable (WDM 34-31-11).

2) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

3) If the localizer and glideslope pointers show on the captain's or F/O's displays, then you corrected the fault.

(g) If you find a problem with the antenna, do these steps:

1) Replace the MMR antenna, M40 (G/S) or M1102 (LOC).

These are the tasks:

ILS Glide Slope Antenna Removal, AMM TASK 34-31-21-000-801,

ILS Glide Slope Antenna Installation, AMM TASK 34-31-21-400-801.

2) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

3) If the localizer and glideslope pointers show on the captain's or F/O's displays, then you corrected the fault.

HAP ALL

——————— END OF TASK ———————

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810. ILS Frequency Shows Dashes - Fault Isolation

A. Description

(1) There are no computed data (NCD) for the ILS frequency.

B. Possible Causes

(1) MMR-1, M2104 or MMR-2, M2105.

(2) Navigation Control Panel, P8-25 (Captain) or P8-26 (F/O).

(3) Display Electronic Unit (DEU), M1808 (No. 1) or M1809 (No. 2).

(4) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 004, 005, 008-013, 015-026, 028-030			
A	2	C01380	RADIO NAVIGATION ILS 1
HAP 001, 004-013, 015-026, 028-054, 101-999			
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

HAP ALL

D. Related Data

(1) (SSM 34-31-11).

(2) (SSM 34-31-21).

(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If the frequency show dashes on the captain's or F/O's displays, then do the Fault Isolation Procedure below.

(b) If the frequency do not shows dashes on the captain's or F/O's displays, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this check of the NAV control panel:

(a) Make sure that the NAV control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators.

(b) If the NAV control panel does display FAIL on the ACTIVE or STANDBY frequency indicators, then do these steps:

1) Replace the NAV control panel, P8-25 (Captain) or P8-26 (F/O).

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These are the tasks:

Navigation Control Panel Removal, AMM TASK 34-31-52-000-801,

Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

2) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

3) If the ILS frequency do not show dashes on the display, then you corrected the fault.

(c) If the NAV control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators, then continue.

(2) Do this check of the display electronic unit (DEU):

(a) Do this task: DEU Self-Test Procedure, 31-62 TASK 802.

(b) If the DEU shows FAILED, then do these steps:

1) Replace the DEU, M1808 (No. 1) or M1809 (No. 2).

These are the tasks:

Display Electronic Unit Removal, AMM TASK 31-62-21-000-801,

Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

2) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

3) If the ILS frequency do not show dashes on the display, then you corrected the fault.

(c) If the DEU shows PASSED, then continue.

HAP ALL; AIRPLANES WITH MULTI-MODE RECEIVERS (MMR)

(3) Do this check of the wiring between the MMR and the NAV control panel:

(a) Remove the applicable Navigation Control Panel. To remove it, do this task: Navigation Control Panel Removal, AMM TASK 34-31-52-000-801.

(b) Remove the applicable MMR. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

(c) Do a continuity check between the pins specified for the applicable MMR FAULT:

	NAV CONNECTOR	MMR CONNECTOR
MMR 1	**D303**	**D10719B**
	pin 28 - - - - - - - - - - - - - - - - - -	pin J1
	pin 29 - - - - - - - - - - - - - - - - - -	pin K1
MMR 2	**D305**	**D10721B**
	pin 28 - - - - - - - - - - - - - - - - - -	pin J1
	pin 29 - - - - - - - - - - - - - - - - - -	pin K1

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the Navigation Control Panel. To install it, do this task: Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

3) Re-install the MMR. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

4) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

5) If the ILS frequency do not show dashes on the display, then you corrected the fault.

(e) If there is continuity between the pins, then continue.

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1) Re-install the Navigation Control Panel. To install it, do this task: Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

(4) Do this check of the wiring between the DEU and the MMR:

(a) Remove the applicable DEU. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(b) Do a check for an open circuit between the pins specified for the applicable MMR FAULT:

	DEU CONNECTOR		MMR CONNECTOR
MMR 1	**D3973A**		**D10719B**
	pin C15	- - - - - - - - - - - - - - - - -	pin G1
	pin D15	- - - - - - - - - - - - - - - - -	pin H1
	D3973E		**D10719B**
	pin G3	- - - - - - - - - - - - - - - - -	pin G1
	pin H3	- - - - - - - - - - - - - - - - -	pin H1
	D3975A		**D10719B**
	pin C15	- - - - - - - - - - - - - - - - -	pin G1
	pin D15	- - - - - - - - - - - - - - - - -	pin H1
	D3975E		**D10719B**
	pin G3	- - - - - - - - - - - - - - - - -	pin G1
	pin H3	- - - - - - - - - - - - - - - - -	pin H1
MMR 2	**D3973D**		**D10721B**
	pin C15	- - - - - - - - - - - - - - - - -	pin G1
	pin D15	- - - - - - - - - - - - - - - - -	pin H1
	D3973E		**D10721B**
	pin G3	- - - - - - - - - - - - - - - - -	pin G1
	pin H3	- - - - - - - - - - - - - - - - -	pin H1
	D3975D		**D10721B**
	pin C15	- - - - - - - - - - - - - - - - -	pin G1
	pin D15	- - - - - - - - - - - - - - - - -	pin H1
	D3975B		**D10721B**
	pin G3	- - - - - - - - - - - - - - - - -	pin G1
	pin H3	- - - - - - - - - - - - - - - - -	pin H1

(c) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the MMR. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

3) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

4) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

5) If the ILS frequency do not show dashes on the display, then you corrected the fault.

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HAP ALL

END OF TASK

811. Audio Tone Problem - Fault Isolation

A. Description

(1) Audio tone does not occur or is weak.

B. Possible Causes

(1) MMR-1, M2104 or MMR-2, M2105.

(2) Remote electronics unit (REU), M1353.

(3) Wiring.

(4) Nose Radome moisture.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 004, 005, 008-013, 015-026, 028-030			
A	2	C01380	RADIO NAVIGATION ILS 1
HAP 001, 004-013, 015-026, 028-054, 101-999			
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

HAP ALL

D. Related Data

(1) (SSM 34-31-11).

(2) (SSM 34-31-21).

(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

E. Initial Evaluation

(1) Do this task: Instrument Landing System - System Test, AMM TASK 34-31-00-730-801.

(a) If there is no audio tone or the audio tone is weak, then do the Fault Isolation Procedure below.

(b) If the audio tone is normal, then there was an intermittent fault.

F. Fault Isolation Procedure

HAP 001-013, 015-026, 028-036, 038-054, 101-999; AIRPLANES WITH BENDIX (ALLIED SIGNAL) MULTI-MODE RECEIVERS

(1) Do this check of the MMR:

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(a) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(b) If the LCD display on the multi-mode receiver shows MMR TEST COMPLETE FAILURES, then follow the BITE procedure and go to the task for the applicable maintenance message.

(c) If the LCD display on the multi-mode receiver shows MMR TEST COMPLETE NO FAILURES, then continue.

HAP 037; AIRPLANES WITH COLLINS MULTI-MODE RECEIVERS

(2) Do this check of the MMR:

(3) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If the red LRU STATUS light comes on after approximately 15 seconds, then follow the BITE procedure and go to the task for the applicable maintenance message.

(b) If the green LRU STATUS light comes on after approximately 15 seconds, then continue.

HAP ALL

(4) Replace the remote electronics unit, M1353.

These are the tasks:

Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,

Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

(a) Do this task: Instrument Landing System - System Test, AMM TASK 34-31-00-730-801.

(b) If the audio tone is normal, then you corrected the fault.

(5) Do this check of the wiring:

(a) Remove the remote electronics unit. To remove it, do this task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.

(b) Remove the MMR. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

(c) Do a continuity check between these pins of connector D10719B for the MMR and connector D2501A for the remote electronics unit:

D10719B		D2501A
pin J10	- - - - - - - - - - - - - - - - - -	pin E12
pin K10	- - - - - - - - - - - - - - - - - -	pin E11

D10721B		D2501A
pin J10	- - - - - - - - - - - - - - - - - -	pin H9
pin K10	- - - - - - - - - - - - - - - - - -	pin G9

(d) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-install the remote electronics unit. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

3) Re-install the MMR. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

4) Do this task: Instrument Landing System - System Test, AMM TASK 34-31-00-730-801.

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5) If the audio tone is normal, then you corrected the fault.

(e) If there is continuity, then continue.

1) Re-install the MMR. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

(f) Do a Nose Radome InspectionAMM TASK 53-52-00-200-801.

———————— END OF TASK ————————

HAP 037

812. ILS or Multi-Mode Receiver Failed - Fault Isolation

A. Description

(1) The task is for this maintenance message:

(a) LRU STATUS

(2) The MMR has an internal failure.

B. Possible Causes

(1) Multi-Mode Receiver, M2104 (No. 1) or M2105 (No. 2).

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	2	C01479	RADIO NAVIGATION MMR 1

D. Related Data

(1) (SSM 34-31-11).

(2) (SSM 34-31-21).

(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If the red LRU STATUS light comes on after approximately 15 seconds, then do the Fault Isolation Procedure below.

(b) If the green LRU STATUS light comes on after approximately 15 seconds, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Replace the MMR, M2104 (No. 1) or M2105 (No. 2).

These are the tasks:

Receiver for ILS - Removal, AMM TASK 34-31-42-000-801,

Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

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HAP 037 (Continued)

(a) If the green LRU STATUS light comes on after approximately 15 seconds, then you corrected the fault.

——————— END OF TASK ———————

813. ILS Tuning Port-B Missing Input - Fault Isolation

A. Description

(1) The task is for this maintenance message:

(a) CONTROL FAIL

(2) MMR receives no input data from the navigation control panel.

B. Possible Causes

(1) Wiring problem.

(2) Navigation control panel, P8-25 (captain's) or P8-26 (first officer's).

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	2	C01479	RADIO NAVIGATION MMR 1

D. Related Data

(1) (SSM 34-31-11).

(2) (SSM 34-31-21).

(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If the red CONTROL FAIL light comes on after approximately 15 seconds, then do the Fault Isolation Procedure below.

(b) If the green LRU STATUS light comes on after approximately 15 seconds, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this check of the navigation control panel:

(a) Make sure that the navigation control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators.

(b) If the navigation control panel display FAIL on the ACTIVE or STANDBY frequency indicators, then do these steps:

1) Replace the navigation control panel, P8-25 (captain's) or P8-26 (first officer's).

These are the tasks:

Navigation Control Panel Removal, AMM TASK 34-31-52-000-801,

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HAP 037 (Continued)

Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

2) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

3) If the green LRU STATUS light comes on after approximately 15 seconds, then you corrected the fault.

(c) If the navigation control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators, then continue.

(2) Do this check of the wiring:

(a) Remove the navigation control panel. To remove it, do this task: Navigation Control Panel Removal, AMM TASK 34-31-52-000-801.

(b) Remove the MMR. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

(c) Do a continuity check between the MMR and the applicable navigation control panel:

	NAV CONNECTOR		MMR CONNECTOR
CAPTAIN (P8-25)	**D303**		**D10719B**
	pin 28	- - - - - - - - - - - - - - - - - -	pin J1
	pin 29	- - - - - - - - - - - - - - - - - -	pin K1
FIRST OFFICER (P8-26)	**D305**		**D10721B**
	pin 28	- - - - - - - - - - - - - - - - - -	pin J1
	pin 29	- - - - - - - - - - - - - - - - - -	pin K1

(d) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-install the navigation control panel. To install it, do this task: Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

3) Re-install the MMR. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

4) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

5) If the green LRU STATUS light comes on after approximately 15 seconds, then you corrected the fault.

——————— END OF TASK ———————

HAP 001-013, 015-026, 028-036, 038-054, 101-999

814. MMR Failed - Fault Isolation

A. Description

(1) The task is for this maintenance message:

(a) MMR FAILED

(2) The multi-mode receiver (MMR) has an internal failure.

B. Possible Causes

(1) Multi-mode receiver, M2104 (MMR-1) or M2105 (MMR-2).

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 001, 004-013, 015-026, 028-036, 038-054, 101-999			
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

HAP 001-013, 015-026, 028-036, 038-054, 101-999

D. Related Data

(1) (SSM 34-31-11, SSM 34-31-21).

(2) (WDM 34-31-11, WDM 34-31-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If the maintenance message shows, then do the Fault Isolation Procedure below.

(b) If the maintenance message does not show, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Replace the multi-mode receiver, M2104 (MMR-1) or M2105 (MMR-2),
These are the tasks:
Receiver for ILS - Removal, AMM TASK 34-31-42-000-801,
Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

(a) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

———————— END OF TASK ————————

815. ILS Tuning Port-B Missing Input - Fault Isolation

A. Description

(1) The task is for this maintenance message:

(a) TUNING PORT-B MISSING INPUT

(2) MMR receives no input data from the navigation control panel.

B. Possible Causes

(1) Wiring problem.

(2) Navigation control panel, P8-25 (captain's) or P8-26 (first officer's).

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 001, 004-013, 015-026, 028-036, 038-054, 101-999			
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

HAP 001-013, 015-026, 028-036, 038-054, 101-999

D. Related Data

(1) (SSM 34-31-11).

(2) (SSM 34-31-21).

(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If the maintenance message shows, then do the Fault Isolation Procedure below.

(b) If the maintenance message does not show, then there was an intermittent fault

F. Fault Isolation Procedure

(1) Do this check of the navigation control panel:

(a) Make sure that the navigation control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators.

(b) If the navigation control panel display FAIL on the ACTIVE or STANDBY frequency indicators, then do these steps:

1) Replace the navigation control panel, P8-25 (captain's) or P8-26 (first officer's).

These are the tasks:

Navigation Control Panel Removal, AMM TASK 34-31-52-000-801,

Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

2) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(c) If the navigation control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators, then continue.

(2) Do this check of the wiring:

(a) Remove the navigation control panel. To remove it, do this task: Navigation Control Panel Removal, AMM TASK 34-31-52-000-801.

(b) Remove the MMR. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

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(c) Do a continuity check between the MMR and the applicable navigation control panel:

	NAV CONNECTOR		MMR CONNECTOR
CAPTAIN (P8-25)	**D303**		**D10719B**
	pin 28	- - - - - - - - - -	pin J1
	pin 29	- - - - - - - - - -	pin K1
FIRST OFFICER (P8-26)	**D305**		**D10721B**
	pin 28	- - - - - - - - - -	pin J1
	pin 29	- - - - - - - - - -	pin K1

(d) If there is not continuity, then do these steps:

1) Repair the wiring.
2) Re-install the navigation control panel. To install it, do this task: Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.
3) Re-install the MMR. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.
4) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.
5) If the maintenance message does not show, then you corrected the fault.

——————— END OF TASK ———————

816. ILS LOC Antenna Failed - Fault Isolation

A. Description

(1) The task is for this maintenance message:
(a) LOC ANTENNA FAILED

(2) The multi-mode receiver receives no input signal from the localizer (LOC) antenna, M1102.

B. Possible Causes

(1) LOC antenna switch, R315 or R316.

(2) Wiring problem.

(3) LOC antenna, M1102.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 001, 004-013, 015-026, 028-036, 038-054, 101-999			
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

HAP 001-013, 015-026, 028-036, 038-054, 101-999

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D. Related Data

(1) (SSM 34-31-11).

(2) (SSM 34-31-21).

(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If the maintenance message shows, then do the Fault Isolation Procedure below.

(b) If the maintenance message does not show, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Replace the applicable LOC antenna switch, R315 or R316.

These are the tasks:

Localizer Antenna Switch Removal, AMM TASK 34-31-72-000-801,

Localizer Antenna Switch Installation, AMM TASK 34-31-72-400-801.

(a) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(b) If the LCD display on the multi-mode receiver shows ILS TEST COMPLETE NO FAILURES, then you corrected the fault.

(c) If the multi-mode receiver LCD display shows LOC ANTENNA FAILED, then continue.

(2) Do this check of the wiring:

(a) Remove the multi-mode receiver. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

(b) Disconnect the applicable connector from the applicable LOC antenna switch.

(c) Do a continuity check between the multi-mode receiver and the applicable LOC antenna switch:

	SWITCH CONNECTOR		MMR CONNECTOR
SWITCH 1 (R315)	**D2115**		**D10719C**
	pin A1	- - - - - - - - - - - - - - - - - -	pin 12
	pin C1	- - - - - - - - - - - - - - - - - -	pin C12
SWITCH 2 (R316)	**D2123**		**D10721C**
	pin A1	- - - - - - - - - - - - - - - - - -	pin 12
	pin C1	- - - - - - - - - - - - - - - - - -	pin C12

(d) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-connect the applicable connector.

3) Re-install the multi-mode receiver. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

4) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

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5) If the LCD display on the multi-mode receiver shows MMR TEST COMPLETE NO FAILURES, then you corrected the fault.

(e) If there is continuity, then continue.

(3) Use a time domain reflectometer (TDR) test set to do an electrical check of the coaxial cable and antenna:

CAUTION: YOU MUST PUT RF ABSORBENT MATERIAL ON THE ANTENNA BEFORE YOU USE THE TDR TEST SET. YOU CAN DAMAGE THE TEST SET IF A HIGH POWER TRANSMITTER OPERATES WITHIN 500 FEET OF THE ANTENNA.

(a) Cover the ILS localizer antenna, M1102 with RF absorbent material.

(b) Disconnect connector D2117 from the ILS localizer antenna switch-1, R315 or connector D2125 from the ILS localizer antenna switch-2, P316 as applicable.

(c) Connect the TDR test set at pins A1 and C1 of the applicable connector at the ILS localizer antenna switch.

(d) Do an electrical check of the coaxial cable and the antenna.

NOTE: The TDR test set has instructions which tell how to do the check of the cable and antenna.

(e) Disconnect the TDR test set.

(f) Re-connect connector D2117 or D2125 as applicable.

(g) If you find a problem with the coaxial cable, then do these steps:

1) Replace the coaxial cable.

2) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

3) If the LCD display on the multi-mode receiver shows MMR TEST COMPLETE NO FAILURES, then you corrected the fault.

(h) If you find a problem with the antenna, then do these steps:

1) Replace the ILS LOC antenna, M1102.

These are the tasks:

Localizer Antenna Removal, AMM TASK 34-31-31-000-801,

Localizer Antenna Installation, AMM TASK 34-31-31-400-801.

2) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

3) If the LCD display on the multi-mode receiver shows MMR TEST COMPLETE NO FAILURES, then you corrected the fault.

——————— END OF TASK ———————

817. ILS GS Antenna Failed - Fault Isolation

A. Description

(1) The task is for this maintenance message:

(a) GS ANTENNA FAILED

(2) Multi-mode receiver receives no input signal from the glideslope (GS) antenna, M40.

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B. Possible Causes

(1) Wiring problem.

(2) GS antenna, M40.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 001, 004-013, 015-026, 028-036, 038-054, 101-999			
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

HAP 001-013, 015-026, 028-036, 038-054, 101-999

D. Related Data

(1) (SSM 34-31-11).

(2) (SSM 34-31-21).

(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If the maintenance message shows, then do the Fault Isolation Procedure below.

(b) If the maintenance message does not show, then there was an intermittent fault

F. Fault Isolation Procedure

(1) Use a time domain reflectometer (TDR) test set to do an electrical check of the coaxial cable and antenna:

CAUTION: YOU MUST PUT RF ABSORBENT MATERIAL ON THE ANTENNA BEFORE YOU USE THE TDR TEST SET. YOU CAN DAMAGE THE TEST SET IF A HIGH POWER TRANSMITTER OPERATES WITHIN 500 FEET OF THE ANTENNA.

(a) Cover the left ILS GS antenna, M40 with RF absorbent material.

(b) Remove the multi-mode receiver. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

(c) Connect the TDR test set at pins 13 and C13 of connector D10719C or pins 12 and C12 of connector D10721C as applicable at the multi-mode receiver.

(d) Do an electrical check of the coaxial cable and the antenna.

NOTE: The TDR test set has instructions which tell how to do the check of the cable and antenna.

(e) Disconnect the TDR test set.

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(f) Re-install the multi-mode receiver. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

(g) If you find a problem with the coaxial cable, then do these steps:

1) Replace the coaxial cable.

2) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

3) If the LCD display on the multi-mode receiver shows MMR TEST COMPLETE NO FAILURES, then you corrected the fault.

(h) If you find a problem with the antenna, then do these steps:

1) Replace the ILS GS antenna, M40.

These are the tasks:

ILS Glide Slope Antenna Removal, AMM TASK 34-31-21-000-801,

ILS Glide Slope Antenna Installation, AMM TASK 34-31-21-400-801.

2) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

3) If the LCD display on the multi-mode receiver shows MMR TEST COMPLETE NO FAILURES, then you corrected the fault.

———————— END OF TASK ————————

HAP ALL

818. MMR No Response to TEST Switch - Fault Isolation

A. Description

(1) MMR does nothing when you push the TEST switch.

B. Possible Causes

(1) MMR-1, M2104 or MMR-2, M2105.

(2) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 001, 004-013, 015-026, 028-054, 101-999			
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

HAP ALL

D. Related Data

(1) (SSM 34-31-11).

(2) (SSM 34-31-21).

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(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If the MMR does nothing, then do the Fault Isolation Procedure below.

(b) If the MMR indicates that there are no fault, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Replace the multi-mode receiver, M2104 (MMR-1) or M2105 (MMR-2).

These are the tasks:

Receiver for ILS - Removal, AMM TASK 34-31-42-000-801,

Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

(a) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(b) If the MMR indicates that there are no fault, then you corrected the fault.

(c) If the MMR does nothing, then continue.

(2) Do this check of the wiring between the MMR and the MMR circuit breaker:

(a) Remove the applicable MMR. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

(b) Do a continuity check between the specified pins for the applicable MMR FAULT:

	MMR CIRCUIT BREAKER		MMR CONNECTOR
MMR 1	**C1479**		**D10719C**
	pin A2	- - - - - - - - - - - - - - - - - -	pin 9
MMR 2	**C1480**		**D10721C**
	pin A13	- - - - - - - - - - - - - - - - - -	pin 9

(c) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the MMR. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

3) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

4) If the MMR indicates that there are no fault, then you corrected the fault.

(d) If there is continuity between the pins, then continue.

1) Replace these applicable circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 001, 004-013, 015-026, 028-054, 101-999			
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

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HAP 037

819. ILS Light Stays On Continuously - Fault Isolation

A. Description

(1) The ILS light shows on the IRS Mode Select Unit.

B. Possible Causes

(1) Multi-Mode Receiver (MMR-1), M2104 or (MMR-2), M2105.

(2) IRS Mode Select Unit, P5–69.

(3) IRS Master Caution Unit, M1206.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

D. Related Data

(1) (SSM 34-58-11).

(2) (SSM 34-58-21).

(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

(5) (WDM 34-58-11).

(6) (WDM 34-58-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801

(a) If the ILS light shows on the IRS Mode Select Unit, then do the Fault Isolation Procedure below.

(b) If the ILS light does not show on the IRS Mode Select Unit, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) If LOC and G/S Flags are shown on both the Captain's and F/O's Displays, then do these tasks:

LOC And G/S Flags Show On The Captain's Display - Fault Isolation, 34-31 TASK 806

and LOC And G/S Flags Show On The F/O's Display - Fault Isolation, 34-31 TASK 807.

(a) If the ILS light does not show on the IRS Mode Select Unit and both LOC and G/S Flags does not shown on the Captain's and F/O's Displays, then your corrected the fault.

(b) If the ILS light shows on the IRS Mode Select Unit, then continue.

(2) Replace the IRS Mode Select Unit, P5-69

These are the tasks:

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AMM TASK 34-21-03-000-801,

AMM TASK 34-21-03-400-801.

(a) If the ILS light does not show on the IRS Mode Select Unit, then you corrected the fault.

(b) If the ILS light shows on the IRS Mode Select Unit, then continue.

(3) Replace the IRS Master Caution Unit, M1206, on the P61 sidewall panel.

These are the tasks:

AMM TASK 34-21-07-000-801,

AMM TASK 34-21-07-400-801.

(a) If the ILS light does not show on the IRS Mode Select Unit, then you corrected the fault.

(b) If the ILS light shows on the IRS Mode Select Unit, then continue.

(4) Do this check of the wiring:

(a) Remove the IRS Mode Select Unit. To remove it, do this task: AMM TASK 34-21-03-000-801.

(b) Remove the MMR. To remove it, do this task: AMM TASK 34-31-42-000-801.

(c) Remove the IRS MCU. To remove it, do this task: AMM TASK 34-21-07-000-801.

(d) Do a continuity check between the MMR and the IRS MCU:

IRS MCU CONNECTOR D2269		**MMR CONNECTOR D10719B**
pin 7	- - - - - - - - - - - - - - - - - - -	pin G1
pin 10	- - - - - - - - - - - - - - - - - - -	pin H1
D2271		**D10721B**
pin 7	- - - - - - - - - - - - - - - - - - -	pin G1
pin 10	- - - - - - - - - - - - - - - - - - -	pin H1

(e) Do a continuity check between the IRS Mode Select Unit and IRS MCU:

IRS MSU CONNECTOR D2171		**IRS MCU CONNECTOR D2269**
pin 19	- - - - - - - - - - - - - - - - - - -	pin 12

(f) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-install the IRS Mode Select Unit. To install it, do this task: AMM TASK 34-21-03-400-801.

3) Re-install the MMR. To install it, do this task: AMM TASK 34-31-42-400-801.

4) Re-install the IRS MCU. To install it, do this task: AMM TASK 34-21-07-400-801.

5) If the ILS light does not show on the IRS Mode Select Unit, then you corrected the fault.

——————— END OF TASK ———————

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820. ILS Light On When Master Caution Pushed - Fault Isolation

A. Description

(1) The ILS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed.

B. Possible Causes

(1) Multi-Mode Receiver (MMR-1), M2104 or (MMR-2), M2105.

(2) IRS Mode Select Unit, P5–69.

(3) IRS Master Caution Unit, M1206.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

D. Related Data

(1) (SSM 34-58-11).

(2) (SSM 34-58-21).

(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

(5) (WDM 34-58-11).

(6) (WDM 34-58-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801

(a) If the ILS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then do the Fault Isolation Procedure below.

(b) If the ILS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) If LOC and G/S Flags are shown on either the Captain's and F/O's Displays, then do the appropriate task:

either LOC And G/S Flags Show On The Captain's Display - Fault Isolation, 34-31 TASK 806,

or LOC And G/S Flags Show On The F/O's Display - Fault Isolation, 34-31 TASK 807.

(a) If the ILS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed and LOC and G/S Flags does not shown on either the Captain's and F/O's Displays, then your corrected the fault.

(b) If the ILS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then continue.

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(2) Replace the IRS Mode Select Unit, P5-69

These are the tasks:

AMM TASK 34-21-03-000-801,

AMM TASK 34-21-03-400-801.

(a) If the ILS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then you corrected the fault.

(b) If the ILS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then continue.

(3) Replace the IRS Master Caution Unit, M1206, on the P61 sidewall panel.

These are the tasks:

AMM TASK 34-21-07-000-801,

AMM TASK 34-21-07-400-801.

(a) If the ILS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then you corrected the fault.

(b) If the ILS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then continue.

(4) Do this check of the wiring:

(a) Remove the IRS Mode Select Unit. To remove it, do this task: AMM TASK 34-21-03-000-801.

(b) Remove the MMR. To remove it, do this task: AMM TASK 34-31-42-000-801.

(c) Remove the IRS MCU. To remove it, do this task: AMM TASK 34-21-07-000-801.

(d) Do a continuity check between the MMR and the IRS MCU:

IRS MCU CONNECTOR D2269		**MMR CONNECTOR D10719B**
pin 7	- - - - - - - - - - - - - - - - - -	pin G1
pin 10	- - - - - - - - - - - - - - - - - -	pin H1
D2271		**D10721B**
pin 7	- - - - - - - - - - - - - - - - - -	pin G1
pin 10	- - - - - - - - - - - - - - - - - -	pin H1

(e) Do a continuity check between the IRS Mode Select Unit and IRS MCU:

IRS MSU CONNECTOR D2171		**IRS MCU CONNECTOR D2269**
pin 19	- - - - - - - - - - - - - - - - - -	pin 12

(f) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-install the IRS Mode Select Unit. To install it, do this task: AMM TASK 34-21-03-400-801.

3) Re-install the MMR. To install it, do this task: AMM TASK 34-31-42-400-801.

4) Re-install the IRS MCU. To install it, do this task: AMM TASK 34-21-07-400-801.

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5) If the ILS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then you corrected the fault.

—————— END OF TASK ——————

821. GLS Light Stays On Continuously - Fault Isolation

A. Description

(1) The GLS light shows on the IRS Mode Select Unit.

B. Possible Causes

(1) GPS antenna connection (M2102), D2947 or (M2103), D2941.

(2) Multi-Mode Receiver (MMR-1), M2104 or (MMR-2), M2105.

(3) IRS Mode Select Unit, P5–69.

(4) IRS Master Caution Unit, M1206.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

D. Related Data

(1) (SSM 34-58-11).

(2) (SSM 34-58-21).

(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

(5) (WDM 34-58-11).

(6) (WDM 34-58-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801

(a) If the GLS light shows on the IRS Mode Select Unit, then do the Fault Isolation Procedure below.

(b) the GLS light does not show on the IRS Mode Select Unit, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) If LOC and G/S Flags are shown on both or either the Captain's and F/O's Displays, then do these tasks:

LOC And G/S Flags Show On The Captain's Display - Fault Isolation, 34-31 TASK 806

and/or LOC And G/S Flags Show On The F/O's Display - Fault Isolation, 34-31 TASK 807.

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(a) If the GLS light does not show on the IRS Mode Select Unit and LOC and G/S Flags does not shown on the Captain's and/or F/O's Displays, then you corrected the fault

(b) If the GLS light shows on the IRS Mode Select Unit and LOC and G/S Flags shown on the Captain's and/or F/O's Displays, then continue.

(2) Do the inspection of the GPS antenna connection.

(a) Check for any loose GPS cable connections between the MMR and the GPS antenna:

MMR CONNECTOR D10719A pin 2	**E1-2 CONNECTOR D42941P** pin A1
E1-2 CONNECTOR D42941J A1	**GPS ANTENNA CONNECTOR D2941** A1
MMR CONNECTOR D10721A pin 2	**E1-4 CONNECTOR D42943P** pin A1
E1-4 CONNECTOR D42943J A1	**GPS ANTENNA CONNECTOR D2947** A1

(b) If the cable connection is loose, repair the wiring.

(c) If the flags do not show on the Captain's and/or F/O's Displays and GLS light does not show on the IRS Mode Select Unit, then you corrected the fault.

(d) If the flags show on the Captain's and/or F/O's Displays and GLS light still shows on the IRS Mode Select Unit, then continue.

(e) Do this task: AMM TASK 25-21-45-000-801.

(f) Inspect the GPS antenna connector (M2102), D2947 or (M2103), D2941 for water contamination and repair if necessary.

(g) Do this task: AMM TASK 25-21-45-400-801.

(h) If the GLS light does not show on the IRS Mode Select Unit, then your corrected the fault.

(i) If the GLS light shows on the IRS Mode Select Unit, then continue.

(3) Replace the IRS Mode Select Unit, P5-69

These are the tasks:

AMM TASK 34-21-03-000-801,

AMM TASK 34-21-03-400-801.

(a) If the GLS light does not show on the IRS Mode Select Unit, then you corrected the fault.

(b) If the GLS light shows on the IRS Mode Select Unit, then continue.

(4) Replace the IRS Master Caution Unit, M1206, on the P61 sidewall panel.

These are the tasks:

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AMM TASK 34-21-07-000-801,

AMM TASK 34-21-07-400-801.

(a) If the GLS light does not show on the IRS Mode Select Unit, then you corrected the fault.

(b) If the GLS light shows on the IRS Mode Select Unit, then continue.

(5) Do this check of the wiring:

(a) Remove the IRS Mode Select Unit. To remove it, do this task: AMM TASK 34-21-03-000-801.

(b) Remove the MMR. To remove it, do this task: AMM TASK 34-31-42-000-801.

(c) Remove the IRS MCU. To remove it, do this task: AMM TASK 34-21-07-000-801.

(d) Do a continuity check between the MMR and the IRS MCU:

IRS MCU CONNECTOR D2269		MMR CONNECTOR D10719B
pin 7	- - - - - - - - - - - - - - - - - -	pin G1
pin 10	- - - - - - - - - - - - - - - - - -	pin H1
D2271		**D10721B**
pin 7	- - - - - - - - - - - - - - - - - -	pin G1
pin 10	- - - - - - - - - - - - - - - - - -	pin H1

(e) Do a continuity check between the IRS Mode Select Unit and IRS MCU:

IRS MSU CONNECTOR D2173		IRS MCU CONNECTOR D2271
pin 24	- - - - - - - - - - - - - - - - - -	pin 8

(f) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-install the IRS Mode Select Unit. To install it, do this task: AMM TASK 34-21-03-400-801.

3) Re-install the MMR. To install it, do this task: AMM TASK 34-31-42-400-801.

4) Re-install the IRS MCU. To install it, do this task: AMM TASK 34-21-07-400-801.

5) If the GLS light does not show on the IRS Mode Select Unit, then you corrected the fault.

——————— END OF TASK ———————

822. GLS Light On When Master Caution Pushed - Fault Isolation

A. Description

(1) If the GLS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed.

B. Possible Causes

(1) GPS antenna connection (M2102), D2947 or (M2103), D2941.

(2) Multi-Mode Receiver (MMR-1), M2104 or (MMR-2), M2105.

(3) IRS Mode Select Unit, P5–69.

(4) IRS Master Caution Unit, M1206.

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

D. Related Data

(1) (SSM 34-58-11).

(2) (SSM 34-58-21).

(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

(5) (WDM 34-58-11).

(6) (WDM 34-58-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801

(a) If the GLS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then do the Fault Isolation Procedure below.

(b) If the GLS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) If LOC and G/S Flags are shown on both or either the Captain's and F/O's Displays, then do these tasks:

LOC And G/S Flags Show On The Captain's Display - Fault Isolation, 34-31 TASK 806

and/or LOC And G/S Flags Show On The F/O's Display - Fault Isolation, 34-31 TASK 807.

(a) If the GLS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed and LOC and G/S Flags does not shown on the Captain's and/or F/O's Displays, then you corrected the fault

(b) If the GLS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed and LOC and G/S Flags shown on the Captain's and/or F/O's Displays, then continue.

(2) Do the inspection of the GPS antenna connection.

(a) Check for any loose GPS cable connections between the MMR and the GPS antenna:

MMR CONNECTOR D10719A		**E1-2 CONNECTOR D42941P**
pin 2	- - - - - - - - - - - - - - - - - -	pin A1

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E1-2 CONNECTOR D42941J	**GPS ANTENNA CONNECTOR D2941**
A1 -	A1
MMR CONNECTOR D10721A	**E1-4 CONNECTOR D42943P**
pin 2 - - - - - - - - - - - - - - - - - -	pin A1
E1-4 CONNECTOR D42943J	**GPS ANTENNA CONNECTOR D2947**
A1 -	A1

(b) If the cable connection is loose, repair the wiring.

(c) If the flags do not show on the Captain's and/or F/O's Displays and GLS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then you corrected the fault.

(d) If the flags show on the Captain's and/or F/O's Displays and GLS light still shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then continue.

(e) Do this task: AMM TASK 25-21-45-000-801.

(f) Inspect the GPS antenna connector (M2102), D2947 or (M2103), D2941 for water contamination and repair if necessary.

(g) Do this task: AMM TASK 25-21-45-400-801.

(h) If the GLS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then your corrected the fault.

(i) If the GLS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then continue.

(3) Replace the IRS Mode Select Unit, P5-69

These are the tasks:

AMM TASK 34-21-03-000-801,

AMM TASK 34-21-03-400-801.

(a) If the GLS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then you corrected the fault.

(b) If the GLS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then continue.

(4) Replace the IRS Master Caution Unit, M1206, on the P61 sidewall panel.

These are the tasks:

AMM TASK 34-21-07-000-801,

AMM TASK 34-21-07-400-801.

(a) If the GLS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then you corrected the fault.

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(b) If the GLS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then continue.

(5) Do this check of the wiring:

(a) Remove the IRS Mode Select Unit. To remove it, do this task: AMM TASK 34-21-03-000-801.

(b) Remove the MMR. To remove it, do this task: AMM TASK 34-31-42-000-801.

(c) Remove the IRS MCU. To remove it, do this task: AMM TASK 34-21-07-000-801.

(d) Do a continuity check between the MMR and the IRS MCU:

IRS MCU CONNECTOR		MMR CONNECTOR
D2269		**D10719B**
pin 7	- - - - - - - - - - - - - - - - - -	pin G1
pin 10	- - - - - - - - - - - - - - - - - -	pin H1
D2271		**D10721B**
pin 7	- - - - - - - - - - - - - - - - - -	pin G1
pin 10	- - - - - - - - - - - - - - - - - -	pin H1

(e) Do a continuity check between the IRS Mode Select Unit and IRS MCU:

IRS MSU CONNECTOR		IRS MCU CONNECTOR
D2173		**D2271**
pin 24	- - - - - - - - - - - - - - - - - -	pin 8

(f) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-install the IRS Mode Select Unit. To install it, do this task: AMM TASK 34-21-03-400-801.

3) Re-install the MMR. To install it, do this task: AMM TASK 34-31-42-400-801.

4) Re-install the IRS MCU. To install it, do this task: AMM TASK 34-21-07-400-801.

5) If the GLS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then you corrected the fault.

———————— END OF TASK ————————

823. ILS, GLS and GPS Lights All Stay On Continuously - Fault Isolation

A. Description

(1) The ILS, GLS and GPS lights come on, on the IRS Mode Select Unit.

B. Possible Causes

(1) Multi-Mode Receiver (MMR-1), M2104 or (MMR-2), M2105.

(2) IRS Mode Select Unit, P5–69.

(3) IRS Master Caution Unit, M1206.

(4) GPS antenna connection (M2102), D2947 or (M2103), D2941.

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

D. Related Data

(1) (SSM 34-58-11).

(2) (SSM 34-58-21).

(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

(5) (WDM 34-58-11).

(6) (WDM 34-58-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801

(a) If the ILS, GLS and GPS lights come on, on the IRS Mode Select Unit, then do the Fault Isolation Procedure below.

(b) If the ILS, GLS and GPS lights do not come on, on the IRS Mode Select unit, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Replace the MMR, (M2104 and M2105).

These are the tasks:

AMM TASK 34-31-42-000-801

AMM TASK 34-31-42-400-801

(a) If the ILS, GLS and GPS lights do not come on, on the IRS Mode Select Unit, then you corrected the fault.

(b) If the ILS, GLS and GPS lights come on, on the IRS Mode Select Unit, then continue.

(2) Do this check of the wiring:

(a) Remove the MMR. To remove it, do this task: AMM TASK 34-31-42-000-801.

(b) Do a MMR continuity check:

MMR CONNECTOR D10719B		**A/C REFERENCE DC Ground**	
pin D5	- - - - - - - - - - - - - - - - - -	DC Ground	= < 10 Ohms
pin D7	- - - - - - - - - - - - - - - - - -	DC Ground	= < 10 Ohms
pin H5	- - - - - - - - - - - - - - - - - -	DC Ground	= < 10 Ohms
pin J5	- - - - - - - - - - - - - - - - - -	DC Ground	= < 10 Ohms

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HAP 037 (Continued)

MMR CONNECTOR D10719B		**MMR CONNECTOR D10719B**	
pin B5	- - - - - - - - - - - - - - - - - -	pin K4	> 100 KOhms
MMR CONNECTOR D10721B		**A/C REFERENCE DC Ground**	
pin D5	- - - - - - - - - - - - - - - - - -	DC Ground	= < 10 Ohms
pin D7	- - - - - - - - - - - - - - - - - -	DC Ground	= < 10 Ohms
pin H5	- - - - - - - - - - - - - - - - - -	DC Ground	= < 10 Ohms
pin J5	- - - - - - - - - - - - - - - - - -	DC Ground	= < 10 Ohms
MMR CONNECTOR D10721B		**MMR CONNECTOR D10721B**	
pin B5	- - - - - - - - - - - - - - - - - -	pin K4	> 100 KOhms

(c) If the result is not as expected, then do these steps:

1) Repair the wiring.

2) Re-install the MMR. To install it, do this task: AMM TASK 34-31-42-400-801.

3) If the ILS, GLS and GPS lights do not come on, on the IRS Mode Select Unit, then you corrected the fault.

4) If the ILS, GLS and GPS lights come on, on the IRS Mode Select Unit, then continue.

(3) If the ILS, GLS and GPS lights come on, on the IRS Model Select Unit, then do these tasks:

ILS Light Stays On Continuously - Fault Isolation, 34-31 TASK 819

GLS Light Stays On Continuously - Fault Isolation, 34-31 TASK 821

GPS Light Stays On Continuously - Fault Isolation, 34-58 TASK 801

(a) If the ILS, GLS and GPS lights do not come on, on the IRS Mode Select Unit, then you corrected the fault.

———————— END OF TASK ————————

824. ILS, GLS and GPS Lights All Come On When Master Caution Pushed - Fault Isolation

A. Description

(1) The ILS, GLS and GPS lights come on, on the IRS Mode Select Unit, when the RECALL annunciator on the IRS Master Caution Unit is pushed.

B. Possible Causes

(1) Multi-Mode Receiver (MMR-1), M2104 or (MMR-2), M2105.

(2) IRS Mode Select Unit, P5–69.

(3) IRS Master Caution Unit, M1206.

(4) GPS antenna connection (M2102), D2947 or (M2103), D2941.

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HAP 037 (Continued)

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

D. Related Data

(1) (SSM 34-58-11).

(2) (SSM 34-58-21).

(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

(5) (WDM 34-58-11).

(6) (WDM 34-58-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801

(a) If the ILS, GLS and GPS lights come on, on the IRS Mode Select Unit, when the RECALL annunciator on the IRS Master Caution Unit is pushed, then do the Fault Isolation Procedure below.

(b) If the ILS, GLS and GPS lights do not come on, on the IRS Mode Select Unit, when the RECALL annunciator on the IRS Master Caution Unit is pushed, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Replace the MMR, (M2104 and M2105).

These are the tasks:

AMM TASK 34-31-42-000-801

AMM TASK 34-31-42-400-801

(a) If the ILS, GLS and GPS lights do not come on, on the IRS Mode Select Unit, when the RECALL annunciator on the IRS Master Caution Unit is pushed, then you corrected the fault.

(b) If the ILS, GLS and GPS lights come on, on the IRS Mode Select Unit, when the RECALL annunciator on the IRS Master Caution Unit is pushed, then continue.

(2) Do this check of the wiring:

(a) Remove the MMR. To remove it, do this task: AMM TASK 34-31-42-000-801.

(b) Do a MMR continuity check:

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HAP 037 (Continued)

MMR CONNECTOR D10719B	**A/C REFERENCE DC Ground**	
pin D5	DC Ground	= < 10 Ohms
pin D7	DC Ground	= < 10 Ohms
pin H5	DC Ground	= < 10 Ohms
pin J5	DC Ground	= < 10 Ohms

MMR CONNECTOR D10719B	**MMR CONNECTOR D10719B**	
pin B5	pin K4	> 100 KOhms

MMR CONNECTOR D10721B	**A/C REFERENCE DC Ground**	
pin D5	DC Ground	= < 10 Ohms
pin D7	DC Ground	= < 10 Ohms
pin H5	DC Ground	= < 10 Ohms
pin J5	DC Ground	= < 10 Ohms

MMR CONNECTOR D10721B	**MMR CONNECTOR D10721B**	
pin B5	pin K4	> 100 KOhms

(c) If the result is not as expected, then do these steps:

1) Repair the wiring.

2) Re-install the MMR. To install it, do this task: AMM TASK 34-31-42-400-801.

3) If the ILS, GLS and GPS lights do not come on, on the IRS Mode Select Unit, when the RECALL annunciator on the IRS Master Caution Unit is pushed, then you corrected the fault.

4) If the ILS, GLS and GPS lights come on, on the IRS Mode Select Unit, when the RECALL annunciator on the IRS Master Caution Unit is pushed, then continue.

(3) If the ILS, GLS and GPS lights come on, on the IRS Mode Select Unit, when the RECALL annunciator on the IRS Master Caution Unit is pushed, then do these tasks:

ILS Light On When Master Caution Pushed - Fault Isolation, 34-31 TASK 820

GLS Light On When Master Caution Pushed - Fault Isolation, 34-31 TASK 822

GPS Light On When Master Caution Pushed - Fault Isolation, 34-58 TASK 802

(a) If the ILS, GLS and GPS lights do not come on, on the IRS Mode Select Unit, when the RECALL annunciator on the IRS Master Caution Unit is pushed, then you corrected the fault.

——————— END OF TASK ———————

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801. Indications Normal, Audio Tone Problem - Fault Isolation

A. Description

(1) The audio tone does not occur or is weak when passing a marker, however indications are normal.

B. Possible Causes

(1) VOR/marker beacon receiver, M1724.

(2) Remote electronics unit, M1353.

(3) Wiring.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1

D. Related Data

(1) (SSM 34-32-11).

(2) (WDM 34-32-11).

E. Initial Evaluation

(1) Do this task: Marker Beacon System - System Test, AMM TASK 34-32-00-730-801.

(a) If the audio tone do not occur or is weak, then do the Fault Isolation Procedure below.

(b) If the audio tone is normal, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

(a) If the VOR/marker beacon BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Do this task: Marker Beacon System - System Test, AMM TASK 34-32-00-730-801.

a) If the audio tone do not occur or is weak, then continue.

b) If the audio tone is normal, then you corrected the fault.

(b) If the VOR/marker beacon BITE test does not show a fault, then continue.

(2) Do this check of the wiring:

(a) Remove the remote electronics unit, M1353. To remove it, do this task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.

(b) Remove the VOR/marker beacon receiver, M1724. To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.

(c) Do a continuity check between these pins of connector D3623B for the VOR/marker beacon receiver and connector D2501A for the remote electronics unit:

D3623B		D2501A
pin C4	- - - - - - - - - - - - - - - - - -	pin A15
pin D4	- - - - - - - - - - - - - - - - - -	pin A14

(d) If there is not continuity, then do these steps:

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1) Repair the wiring.
2) Re-install the remote electronics unit. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
3) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.
4) Do this task: Marker Beacon System - System Test, AMM TASK 34-32-00-730-801.
5) If the audio tone is normal, then you corrected the fault.

(e) If there is continuity, then do this step and continue:

1) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

(3) Replace the remote electronics unit, M1353.

These are the tasks:

Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,

Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

(a) Do this task: Marker Beacon System - System Test, AMM TASK 34-32-00-730-801.

(b) If the audio tone is normal, then you corrected the fault.

——————— END OF TASK ———————

802. Indication And Audio Tone Problem - Fault Isolation

A. Description

(1) Indication does not show on the display when passing a marker, audio tone does not occur or is weak.

B. Possible Causes

(1) Marker Beacon antenna and its coaxial cable.

(2) VOR/marker beacon receiver, M1724.

(3) Wiring.

(4) Remote electronics unit, M1353.

(5) Display electronics unit (DEU), M1808 (No. 1) or M1809 (No. 2).

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1

D. Related Data

(1) (SSM 34-32-11).

(2) (WDM 34-32-11).

E. Initial Evaluation

(1) Do this task: Marker Beacon System - System Test, AMM TASK 34-32-00-730-801.

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(a) If the indication do not show on the display and the audio tone is weak, then do the Fault Isolation Procedure below.

(b) If the indications and the audio tone are normal, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this task:Audio Tone Problem - Fault Isolation, 34-51 TASK 809

(a) If the indications do not show on the display and the audio tone does not occur or is weak, then continue.

(b) If the indications shows on the display and the audio tone is normal, then you corrected the fault.

(2) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

(a) If the VOR/Marker Beacon BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Do this task: Marker Beacon System - System Test, AMM TASK 34-32-00-730-801.

a) If the indications do not show on the display and the audio tone does not occur or is weak, then continue.

b) If the indications shows on the display and the audio tone is normal, then you corrected the fault.

(b) If the VOR/marker beacon BITE test does not show a fault, then continue.

(3) Do this check of the wiring:

(a) Remove the remote electronics unit, M1353. To remove it, do this task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.

(b) Remove the VOR/marker beacon receiver, M1724. To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.

(c) Do a continuity check between these pins of connector D3623B for the VOR/marker beacon receiver and connector D2501A for the remote electronics unit:

D3623B		D2501A
pin C4	- - - - - - - - - - - - - - - - - -	pin A15
pin D4	- - - - - - - - - - - - - - - - - -	pin A14

(d) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-install the remote electronics unit. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

3) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

4) Do this task: Marker Beacon System - System Test, AMM TASK 34-32-00-730-801.

a) If the audio tone is normal, then you corrected the fault for the audio tone, continue for the indications problem.

(e) If there is continuity, then do this step and continue:

1) Re-install the remote electronics unit. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

(4) Do this check of the wiring between the DEU and the VOR/marker beacon receiver:

(a) Remove the applicable DEU, M1808 (No. 1) or M1809 (No. 2). To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

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(b) Remove the VOR/marker beacon receiver, M1724. To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.

(c) Do a continuity check between these pins of connector D3623B for the VOR/marker beacon receiver (VOR 1) and the connector for the DEU:

	DEU CONNECTOR		VOR CONNECTOR
DEU 1	**D3973B**		**D3623B**
	pin C3	- - - - - - - - - - - - - - - - - -	pin B13
	pin D3	- - - - - - - - - - - - - - - - - -	pin C13
DEU 2	**D3975B**		**D3623B**
	pin C3	- - - - - - - - - - - - - - - - - -	pin B13
	pin D3	- - - - - - - - - - - - - - - - - -	pin C13

(d) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

3) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

4) Do this task: Marker Beacon System - System Test, AMM TASK 34-32-00-730-801.

a) If the indications are normal, then you corrected the fault for the indications problem.

(e) If there is continuity, then do these steps and continue:

1) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

2) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

(5) Do this check of the display electronics unit (DEU) if there are still indications problem:

(a) For the applicable DEU, do this task: DEU Self-Test Procedure, 31-62 TASK 802.

(b) If the DEU shows FAILED, then do these steps:

1) Replace the DEU, M1808 (No. 1) or M1809 (No. 2).

These are the tasks:

Display Electronic Unit Removal, AMM TASK 31-62-21-000-801,

Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

2) Do this task: Marker Beacon System - System Test, AMM TASK 34-32-00-730-801.

a) If the indications are normal, then you corrected the fault.

(6) Replace the remote electronics unit, M1353 if there are still audio tone problems.

These are the tasks:

Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,

Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

(a) Do this task: Marker Beacon System - System Test, AMM TASK 34-32-00-730-801.

1) If the audio tone is normal, then you corrected the fault.

END OF TASK

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803. Audio Tone Normal, Indication Problem - Fault Isolation

A. Description

(1) Indication does not show on the display when passing a marker, however audio tone is normal.

B. Possible Causes

(1) VOR/marker beacon receiver, M1724.

(2) Display electronics unit (DEU), M1808 (No. 1) or M1809 (No. 2).

(3) Wiring.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1

D. Related Data

(1) (SSM 34-32-11).

(2) (WDM 34-32-11).

E. Initial Evaluation

(1) Do this task: Marker Beacon System - System Test, AMM TASK 34-32-00-730-801.

(a) If the indication do not show on the display, then do the Fault Isolation Procedure below.

(b) If the indications are normal, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

(a) If the VOR/marker beacon BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Do this task: Marker Beacon System - System Test, AMM TASK 34-32-00-730-801.

a) If the indication does not show on the display, then continue.

b) If the indication is normal, then you corrected the fault.

(b) If the VOR/marker beacon BITE test does not show a fault, then continue.

(2) Do this check of the wiring between the DEU and the VOR/marker beacon receiver:

(a) Remove the applicable DEU, M1808 (No. 1) or M1809 (No. 2). To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(b) Remove the VOR/marker beacon receiver, M1724. To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.

(c) Do a check for an open circuit between these pins of connector D3623B for the VOR/marker beacon receiver (VOR 1) and the connector for the DEU:

	DEU CONNECTOR		VOR CONNECTOR
DEU 1	**D3973B**		**D3623B**
	pin C3	- - - - - - - - - - - - - - - - - -	pin B13
	pin D3	- - - - - - - - - - - - - - - - - -	pin C13

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DEU 2	D3975B		D3623B
	pin C3	- - - - - - - - - - - - - - - - - -	pin B13
	pin D3	- - - - - - - - - - - - - - - - - -	pin C13

(d) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

3) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

4) Do this task: Marker Beacon System - System Test, AMM TASK 34-32-00-730-801.

a) If the indications are normal, then you corrected the fault.

(e) If there is continuity, then do these steps and continue:

1) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

2) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

(3) Do this check of the display electronics unit (DEU):

(a) Do this task: DEU Self-Test Procedure, 31-62 TASK 802.

(b) If the DEU shows FAILED, then do these steps:

1) Replace the DEU, M1808 (No. 1) or M1809 (No. 2).

These are the tasks:

Display Electronic Unit Removal, AMM TASK 31-62-21-000-801,

Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

2) Do this task: Marker Beacon System - System Test, AMM TASK 34-32-00-730-801.

a) If the indications are normal, then you corrected the fault.

——————— END OF TASK ———————

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801. Low Range Radio Altimeter (LRRA) BITE Procedure

A. General

(1) You do the Low Range Radio Altimeter (LRRA) BITE test at the front panel of the LRRA receiver/transmitter.

(2) The LRRA system has two receiver/transmitters. The LRRA receiver/transmitters are on the E3 rack in the electronic equipment compartment.

HAP ALL; AIRPLANES WITH ALLIED SIGNAL LRRA

(3) The LRRA receiver/transmitter BITE test does a self check for existing internal and external faults. Results of the BITE test are displayed on the LCD screen on the front panel of the LRRA receiver/transmitter.

HAP ALL

(4) The LRRA receiver flight fault memory stores fault data that occurs in flight. You can view faults that occurred on previous flight legs to help isolate an intermittent fault that is not found by the BITE self-test.

B. BITE Procedure

(1) Do the applicable BITE procedure for the LRRA receiver/transmitter:

HAP ALL; AIRPLANES WITH ALLIED SIGNAL LRRA

(2) Push and release either of the two switches on the front panel of the LRRA receiver/transmitter to start the BITE test.

(a) Make sure that LCD screen shows RADIO ALTIMETER TEST IN PROGRESS.

(b) If the LCD screen shows RADIO ALTIMETER TEST COMPLETE NO FAILURES, then no internal or external faults are found by the BITE test.

(c) If the LCD screen shows RADIO ALTIMETER TEST COMPLETE FAILURES, then do these steps:

(d) Push the right switch under the WHY? prompt.

1) If the LCD screen shows RADIO ALTIMETER FAIL or RADIO ALTIMETER FAIL EXTERNAL FAILURES PRESENT, then refer to table at the end of the task to find the fault isolation task.

2) If the LCD screen shows RADIO ALTIMETER OK EXTERNAL FAILURES PRESENT, then do these steps:

(e) Push the right switch under the MORE prompt.

NOTE: The LCD screen will show the first maintenance message. The LCD screen can show only one maintenance message at a time.

(f) Push the right switch under the MORE prompt to view more maintenance messages if multiple maintenances exist.

NOTE: If you continue to push the MORE switch, you will see all of the maintenance messages that are present. You will return to the first maintenance message when you push the MORE switch after the last maintenance message.

(g) Refer to the table at the end of this task to find the fault isolation task for the applicable maintenance messages.

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HAP ALL; AIRPLANES WITH ALLIED SIGNAL LRRA (Continued)

(h) Push the left switch under the RETURN prompt to return to the normal mode screen.

NOTE: If no switch is pushed for five minutes on the LRRA receiver/transmitter while in self-test mode, the LCD screen will return to the normal mode screen automatically.

(i) Refer to the table at the end of this task to find the fault isolation task for the applicable maintenance messages.

HAP ALL

——————— END OF TASK ———————

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
RADIO ALTIMTR	RADIO ALTIMETER FAILED	34-33 TASK 802
RADIO ALTIMTR	RECEIVE ANTENNA FAIL	34-33 TASK 804
RADIO ALTIMTR	TRANSMIT ANTENNA FAIL	34-33 TASK 803

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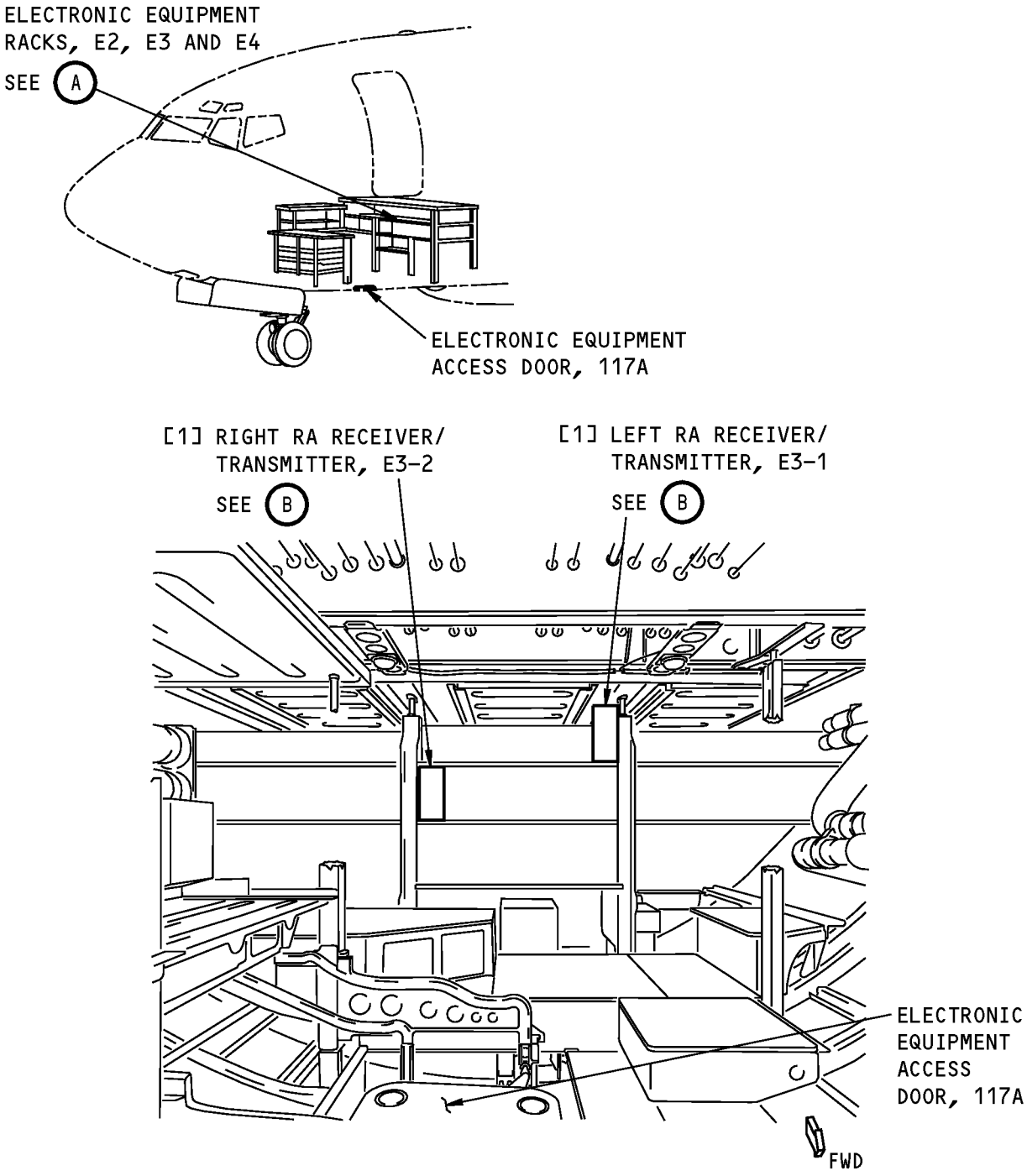

Low Range Radio Altimeter (LRRA) Receiver/Transmitter
Figure 201 (Sheet 1 of 2)/ 34-33-00-990-802

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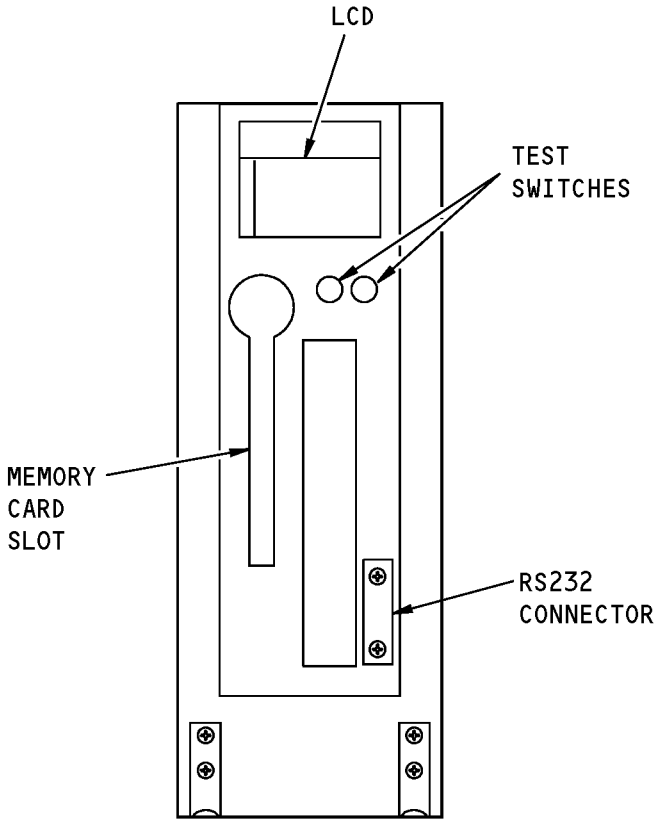

RANGE RADIO ALTIMETER (LRRA) RECEIVER/TRANSMITTER

B

Low Range Radio Altimeter (LRRA) Receiver/Transmitter
Figure 201 (Sheet 2 of 2)/ 34-33-00-990-802

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802. Radio Altimeter Receiver/Transmitter Failed - Fault Isolation

A. Description

(1) The task is for this maintenance message:

(a) RADIO ALTIMETER FAILED

(2) The radio altimeter receiver/transmitter has an internal failure.

B. Possible Causes

(1) LRRA receiver/transmitter, M1735 (No. 1) or M1736 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	4	C01384	RADIO NAVIGATION RADIO ALTM 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	16	C01385	RADIO NAVIGATION RADIO ALTM 2

D. Related Data

(1) (SSM 34-33-11).

(2) (SSM 34-33-21).

(3) (WDM 34-33-11).

(4) (WDM 34-33-21).

E. Initial Evaluation

(1) Do this task: Low Range Radio Altimeter (LRRA) BITE Procedure, 34-33 TASK 801.

(a) If the maintenance message shows, then do the Fault Isolation Procedure below.

(b) If the maintenance message does not show, then there was an intermittent fault

F. Fault Isolation Procedure

(1) Replace the LRRA receiver/transmitter, M1735 (No. 1) or M1736 (No. 2).

These are the tasks:

Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801,

Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

(a) If the maintenance message does not show, then you corrected the fault.

——————— END OF TASK ———————

803. LRRA Transmit Antenna Failed - Fault Isolation

A. Description

(1) The task is for this maintenance message:

(a) TRANSMIT ANTENNA FAIL

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B. Possible Causes

(1) Transmitter antenna, M1737 (No. 1) or M1738 (No. 2).

(2) Wiring problem.

NOTE: Moisture contamination between the antenna and the airplane skin or in the antenna co-ax connector can cause false altitude output from the Radio Altimeter system.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	4	C01384	RADIO NAVIGATION RADIO ALTM 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	16	C01385	RADIO NAVIGATION RADIO ALTM 2

D. Related Data

(1) (SSM 34-33-11).

(2) (SSM 34-33-21).

(3) (WDM 34-33-11).

(4) (WDM 34-33-21).

E. Initial Evaluation

(1) Do this task: Low Range Radio Altimeter (LRRA) BITE Procedure, 34-33 TASK 801.

(a) If the LRRA receiver/transmitter LCD display shows TRANSMIT ANTENNA FAIL, then do the Fault Isolation Procedure below.

(b) If the LCD display on the LRRA receiver/transmitter shows RADIO ALTIMETER TEST COMPLETE NO FAILURES, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Use a time domain reflectometer (TDR) test set to do an electrical check of the coaxial cable and antenna:

CAUTION: YOU MUST PUT RF ABSORBENT MATERIAL ON THE ANTENNA BEFORE YOU USE THE TDR TEST SET. YOU CAN DAMAGE THE TEST SET IF A HIGH POWER TRANSMITTER OPERATES WITHIN 500 FEET OF THE ANTENNA.

(a) Cover the applicable LRRA transmitter antenna with RF absorbent material.

(b) Remove the applicable LRRA receiver/transmitter. To remove it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801.

(c) Connect the TDR test set at pins 71 and C71 of the applicable connector at the LRRA receiver/transmitter (WDM 34-33-11, WDM 34-33-21).

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	TDR TEST SET	**LRRA CONNECTOR**
LRRA-1 (M1735)	**TDR TEST SET**	**D3667B**
	TDR - - - - - - - - - - - - - - - - - - -	pin 71
	TDR - - - - - - - - - - - - - - - - - - -	pin C71
LRRA-2 (M1736)	**TDR TEST SET**	**D3669**
	TDR - - - - - - - - - - - - - - - - - - -	pin 71
	TDR - - - - - - - - - - - - - - - - - - -	pin C71

(d) Do an electrical check of the coaxial cable and the antenna.

NOTE: The TDR test set has instructions which tell how to do the check of the cable and antenna.

(e) Disconnect the TDR test set.

(f) Re-install the LRRA receiver/transceiver. To install it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

(g) If you find a problem with the coaxial cable, then do these steps:

1) Replace the applicable coaxial cable (WDM 34-31-11).

2) Do this task: Low Range Radio Altimeter (LRRA) BITE Procedure, 34-33 TASK 801.

3) If the LCD display on the LRRA receiver/transmitter shows RADIO ALTIMETER TEST COMPLETE NO FAILURES, then you corrected the fault.

(h) If you find a problem with the antenna, do these steps:

1) Replace the applicable LRRA antenna.

These are the tasks:

Low Range Radio Altimeter (LRRA) Antenna Removal, AMM TASK 34-33-11-000-801,

Low Range Radio Altimeter (LRRA) Antenna Installation, AMM TASK 34-33-11-400-801.

2) Do this task: Low Range Radio Altimeter (LRRA) BITE Procedure, 34-33 TASK 801.

3) If the LCD display on the LRRA receiver/transmitter shows RADIO ALTIMETER TEST COMPLETE NO FAILURES, then you corrected the fault.

———————— END OF TASK ————————

804. LRRA Receive Antenna Failed - Fault Isolation

A. Description

(1) The task is for this maintenance message:

(a) RECEIVE ANTENNA FAIL

B. Possible Causes

(1) Receiver antenna, M1739 (No. 1) or M1740 (No. 2).

(2) Wiring problem.

NOTE: Moisture contamination between the antenna and the airplane skin or in the antenna co-ax connector can cause false altitude output from the Radio Altimeter system.

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	4	C01384	RADIO NAVIGATION RADIO ALTM 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	16	C01385	RADIO NAVIGATION RADIO ALTM 2

D. Related Data

(1) (SSM 34-33-11).

(2) (SSM 34-33-21).

(3) (WDM 34-33-11).

(4) (WDM 34-33-21).

E. Initial Evaluation

(1) Do this task: Low Range Radio Altimeter (LRRA) BITE Procedure, 34-33 TASK 801.

(a) If the LRRA receiver/transmitter LCD display shows RECEIVE ANTENNA FAIL, then do the Fault Isolation Procedure below.

(b) If the LCD display on the LRRA receiver/transmitter shows RADIO ALTIMETER TEST COMPLETE NO FAILURES, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Use a time domain reflectometer (TDR) test set to do an electrical check of the coaxial cable and antenna:

CAUTION: YOU MUST PUT RF ABSORBENT MATERIAL ON THE ANTENNA BEFORE YOU USE THE TDR TEST SET. YOU CAN DAMAGE THE TEST SET IF A HIGH POWER TRANSMITTER OPERATES WITHIN 500 FEET OF THE ANTENNA.

(a) Cover the applicable LRRA receiver antenna with RF absorbent material.

(b) Remove the applicable LRRA receiver/transmitter. To remove it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801.

(c) Connect the TDR test set at pins 71 and C71 of the applicable connector at the LRRA receiver/transmitter (WDM 34-33-11, WDM 34-33-21).

	TDR	**LRRA CONNECTOR**
LRRA-1 (M1735)	**TEST SET**	**D3667A**
	TDR -	pin 71
	TDR -	pin C71
LRRA-2 (M1736)	**TEST SET**	**D3669A**
	TDR -	pin 71
	TDR -	pin C71

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(d) Do an electrical check of the coaxial cable and the antenna.

NOTE: The TDR test set has instructions which tell how to do the check of the cable and antenna.

(e) Disconnect the TDR test set.

(f) Re-install the LRRA receiver/transceiver. To install it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

(g) If you find a problem with the coaxial cable, then do these steps:

1) Replace the applicable coaxial cable (WDM 34-31-11).

2) Do this task: Low Range Radio Altimeter (LRRA) BITE Procedure, 34-33 TASK 801.

3) If the LCD display on the LRRA receiver/transmitter shows RADIO ALTIMETER TEST COMPLETE NO FAILURES, then you corrected the fault.

(h) If you find a problem with the antenna, then do these steps:

1) Replace the applicable LRRA antenna.

These are the tasks:

Low Range Radio Altimeter (LRRA) Antenna Removal, AMM TASK 34-33-11-000-801,

Low Range Radio Altimeter (LRRA) Antenna Installation, AMM TASK 34-33-11-400-801.

2) Do this task: Low Range Radio Altimeter (LRRA) BITE Procedure, 34-33 TASK 801.

3) If the LCD display on the LRRA receiver/transmitter shows RADIO ALTIMETER TEST COMPLETE NO FAILURES, then you corrected the fault.

——————— END OF TASK ———————

805. No Radio Altimeter Display and No Flags - Fault Isolation

A. Description

(1) The LRRA data goes to a no computed data (NCD) condition.

B. Possible Causes

(1) LRRA receiver/transmitter, M1735 (No. 1) or M1736 (No. 2).

(2) LRRA transmit antenna, M1737 (No. 1) or M1738 (No. 2).

(3) LRRA receive antenna, M1739 (No. 1) or M1740 (No. 2).

(4) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	4	C01384	RADIO NAVIGATION RADIO ALTM 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	16	C01385	RADIO NAVIGATION RADIO ALTM 2

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D. Related Data

(1) (SSM 34-33-11).

(2) (SSM 34-33-21).

(3) (WDM 34-33-11).

(4) (WDM 34-33-21).

E. Initial Evaluation

(1) Do this task: Low Range Radio Altimeter (LRRA) BITE Procedure, 34-33 TASK 801.

(a) If the radio altimeter display and the RA flag do not show on the captain's or F/O's displays, then do the Fault Isolation Procedure below.

(b) If the radio altimeter display shows on the captain's or F/O's displays, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Use a time domain reflectometer (TDR) test set to do an electrical check of the coaxial cable and antenna:

(a) Remove the LRRA receiver/transmitter. To remove it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801.

(b) Connect the TDR test set at pins 71 and C71 of the applicable connector at the LRRA receiver/transmitter (WDM 34-33-11, WDM 34-33-21).

	TDR TEST SET	LRRA CONNECTOR D3667B
LRRA-1 (M1735) XMTR ANTENNA		
	TDR	pin 71
	TDR	pin C71
LRRA-1 (M1735) RCVR ANTENNA	**TEST SET**	**D3667A**
	TDR	pin 71
	TDR	pin C71
LRRA-2 (M1736) XMTR ANTENNA	**TEST SET**	**D3669**
	TDR	pin 71
	TDR	pin C71
LRRA-2 (M1736) RCVR ANTENNA	**TEST SET**	**D3669A**
	TDR	pin 71
	TDR	pin C71

(c) Do an electrical check of the coaxial cable and the antenna.

NOTE: The TDR test set has instructions which tell how to do the check of the cable and antenna.

(d) Disconnect the TDR test set.

(e) Re-install the LRRA receiver/transceiver. To install it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

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(f) If you find a problem with the coaxial cable, then do these steps:

1) Replace the coaxial cable (WDM 34-31-11).
2) Do this task: Low Range Radio Altimeter (LRRA) BITE Procedure, 34-33 TASK 801.
3) If the radio altimeter display shows on the captain's or F/O's displays, then you corrected the fault.

(g) If you find a problem with the antenna, then do these steps:

1) Replace the LRRA antenna.

   These are the tasks:

   Low Range Radio Altimeter (LRRA) Antenna Removal, AMM TASK 34-33-11-000-801,

   Low Range Radio Altimeter (LRRA) Antenna Installation, AMM TASK 34-33-11-400-801.
2) Do this task: Low Range Radio Altimeter (LRRA) BITE Procedure, 34-33 TASK 801.
3) If the radio altimeter display shows on the captain's or F/O's displays, then you corrected the fault.

——————— END OF TASK ———————

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801. Weather Radar System BITE Procedure

A. General

(1) You do the weather radar receiver/transmitter BITE test from the front panel of the weather radar control panel.

B. BITE Procedure

(1) Do the BITE procedure for the weather radar receiver/transmitter.

(a) Make sure the air data inertial reference unit (ADIRU) is aligned to the NAV mode. To align it, do this task: Air Data Inertial Reference System - Alignment from the ISDU, AMM TASK 34-21-00-820-802 or Air Data Inertial Reference System - Alignment from the FMC CDU, AMM TASK 34-21-00-820-801.

(b) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

WARNING: DO NOT OPERATE THE WEATHER RADAR UNLESS ALL PERSONNEL ARE MORE THAN 50 FT (15 M) FROM THE RADAR. DO NOT OPERATE THE WEATHER RADAR IN A HANGAR. IF YOU DO NOT OBEY THESE PRECAUTIONS, INJURIES TO PERSONNEL CAN OCCUR.

WARNING: IF THERE IS FUEL LEAKAGE OR AN OPEN FUEL CELL LESS THAN 50 FT (15 M) FROM THE RADAR, DO NOT OPERATE THE WEATHER RADAR. IF THERE IS FUEL IN THE 50-FOOT RADIUS AROUND THE RADAR, IT CAN CAUSE A FIRE AND EXPLOSION. THESE CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT. THESE CAN KILL PERSONNEL.

(c) Set the SOURCE switch on the instrument switching module to the ALL ON 1 position.

(d) Push the WXR power switch on the Captain's EFIS control panel to the ON position.

(e) Put the mode selector switch on the WXR control panel to the TEST position.

(f) Make sure these indications occur:

NOTE: All times are approximate.

1) In 0-3 seconds:
   a) A PWS FAIL message shows ON the Captain's display unit (DU).
   b) A WINDSHEAR SYS advisory EICAS message shows on the CDU.
2) In 3-9 seconds:
   a) An amber WINDSHEAR shows on the Captain's display unit (DU).
   b) The aural message MONITOR RADAR DISPLAY is heard on the flight desk warning speakers.
   c) A WINDSHEAR SYS advisory EICAS message shows on the CDU.
3) In 9-12 seconds:
   a) GO AROUND, WINDSHEAR AHEAD, (pause) WINDSHEAR AHEAD, WINDSHEAR AHEAD is heard on the flight desk aural warning speakers.
   b) A red WINDSHEAR shows on the Captain's display unit (DU).
4) After 15 seconds:

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a) Make sure the weather radar test display on the Captain's display unit (DU) has a multi-colored displayed.

(g) Set the SOURCE switch on the instrument switching module to the ALL ON 2 position.

(h) Push the WXR power switch on the First Officer's EFIS control panel to ON position.

(i) Put the mode selector switch on the WXR control panel to the TEST position.

(j) Make sure these indications occur:

NOTE: All times are approximate.

1) In 0-3 seconds:
   a) A PWS FAIL message shows ON the First Officer's display unit (DU).
   b) A WINDSHEAR SYS advisory EICAS message shows on the CDU.
2) In 3-9 seconds:
   a) An amber WINDSHEAR shows on the First Officer's display unit (DU).
   b) The aural message MONITOR RADAR DISPLAY is heard on the flight desk warning speakers.
   c) A WINDSHEAR SYS advisory EICAS message shows on the CDU.
3) In 9-12 seconds:
   a) GO AROUND, WINDSHEAR AHEAD, (pause) WINDSHEAR AHEAD, WINDSHEAR AHEAD is heard on the flight desk aural warning speakers.
   b) A red WINDSHEAR shows on the First Officer's display unit (DU).
4) After 15 seconds:
   a) Make sure the weather radar test display on the First Officer's display unit (DU) has a multi-colored displayed.

(k) Set the SOURCE switch on the instrument switching module to the AUTO position.

(l) Make sure the test pattern stays on the Captain's and First Officers display unit (DU).

(m) Push the WXR switch on the Captain's EFIS control panel to the OFF position.

NOTE: These steps make sure the correct operation of the WXR power switch on the First Officer's EFIS control panel.

1) Make sure the weather radar data on the Captain's DU is removed.
2) Make sure the test pattern stays on the First Officer's DU.

(n) Push the WXR switch on the Captain's EFIS control panel to the ON position.

1) Make sure that WXR FAIL does not show on the Captain's or First Officer's DU.
2) If WXR FAIL shows on the Captain's or First Officer's DU, then refer to the applicable Maintenance Message Index to find the fault isolation task.

END OF TASK

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
WEATHER RADAR	ANT FAULT	34-43 TASK 803
WEATHER RADAR	CON FAULT	34-43 TASK 804
WEATHER RADAR	COOLING FAULT	34-43 TASK 805

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
WEATHER RADAR	NO AIR DATA IN	34-43 TASK 806
WEATHER RADAR	NO ATTITUDE IN	34-43 TASK 806
WEATHER RADAR	NO HEADING INPUT	34-43 TASK 806
WEATHER RADAR	NO RAD ALT	34-43 TASK 807
WEATHER RADAR	R/T FAULT	34-43 TASK 802
WEATHER RADAR	tilt code +1	34-43 TASK 806
WEATHER RADAR	tilt code +2	34-43 TASK 807
WEATHER RADAR	tilt code +3	34-43 TASK 806
WEATHER RADAR	tilt code +4	34-43 TASK 816
WEATHER RADAR	tilt code -1	34-43 TASK 806
WEATHER RADAR	tilt code -2	34-43 TASK 807
WEATHER RADAR	tilt code -3	34-43 TASK 806
WEATHER RADAR	tilt code -4	34-43 TASK 816
WEATHER RADAR	tilt code -5	34-43 TASK 817
WEATHER RADAR	tilt code -6	34-43 TASK 818
WEATHER RADAR	tilt code -7	34-43 TASK 819
WEATHER RADAR	tilt code -8	34-43 TASK 821

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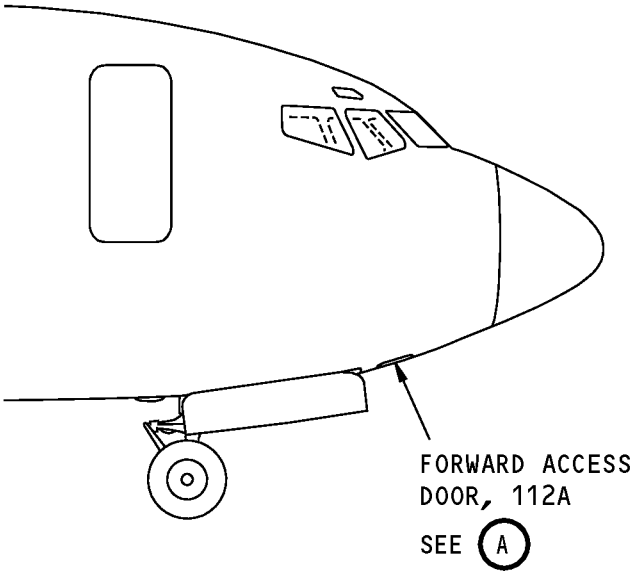

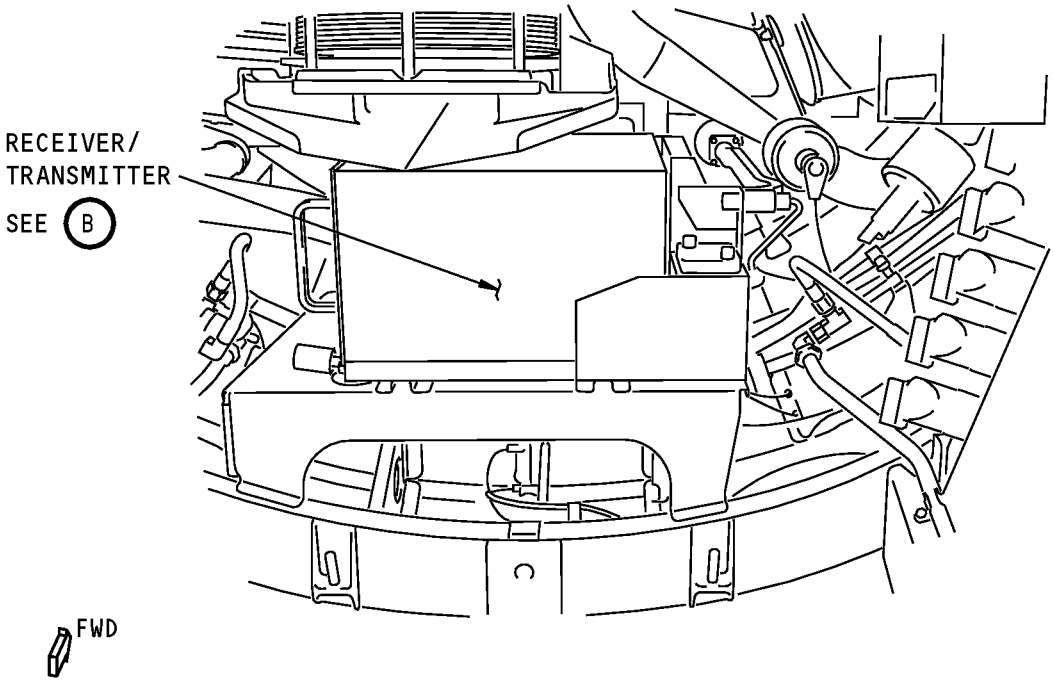

A

Weather Radar Receiver/Transmitter
Figure 201 (Sheet 1 of 2)/ 34-43-00-990-803

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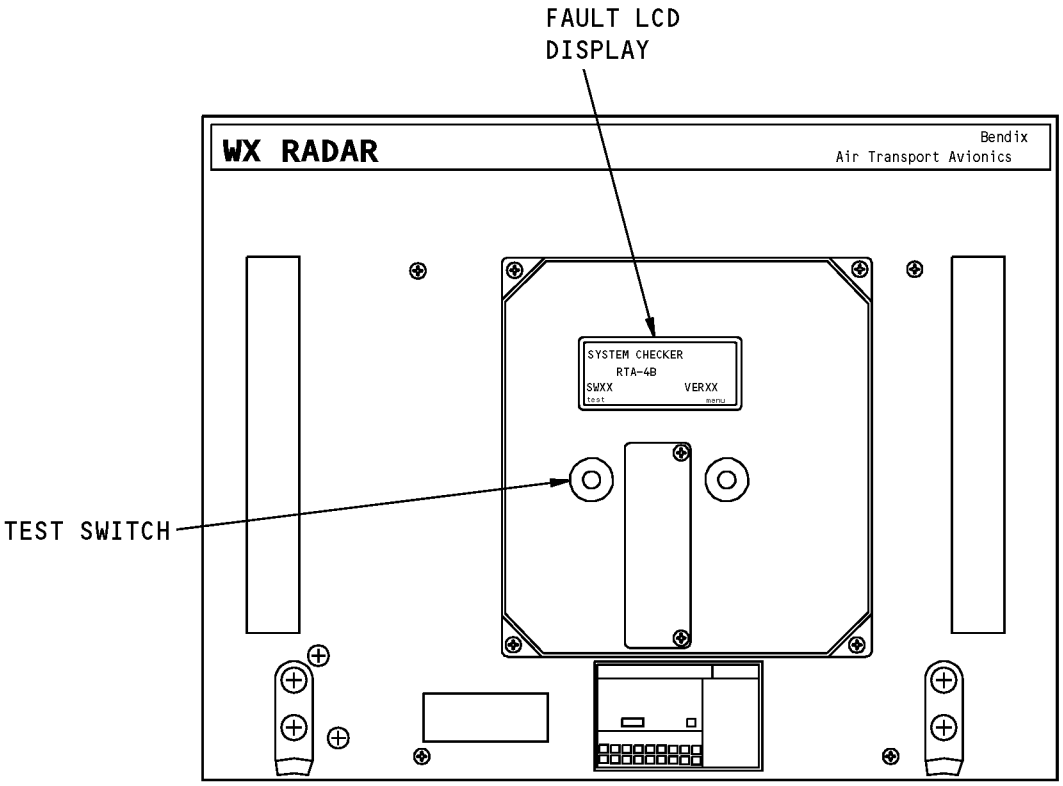

RECEIVER/TRANSMITTER

B

Weather Radar Receiver/Transmitter
Figure 201 (Sheet 2 of 2)/ 34-43-00-990-803

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802. Weather Radar Receiver/Transmitter Problem - Fault Isolation

A. Description

(1) The weather radar operational test shows a receiver/transmitter fault.

B. Possible Causes

(1) Weather radar receiver/transmitter, M101.

(2) Weather radar waveguide assembly.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

D. Related Data

(1) (SSM 34-41-11).

E. Initial Evaluation

(1) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

(a) If the weather radar operational test passes, then there was an intermittent fault.

(b) If WXR FAIL RT or WXR WEAK shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the weather radar receiver/transmitter, M101.

These are the tasks:

- Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801
- Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the weather radar operational test passes, then you corrected the fault.

2) If the weather radar operational test does not pass, then continue.

(2) Do a visual check of the waveguide assemblies.

(a) Make sure the waveguide connection to the antenna drive assembly is attached correctly.

(b) Examine the waveguide for damage, dirt and moisture.

(c) If you find a problem with the waveguide assemblies, then do these steps:

- WXR Waveguide Removal, AMM TASK 34-43-21-000-801
- WXR Waveguide Installation, AMM TASK 34-43-21-400-801

(d) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002

1) If the weather radar operational test passes, then you corrected the fault.

——————— END OF TASK ———————

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803. Weather Radar Antenna Problem - Fault Isolation

A. Description

(1) The weather radar operational test shows an antenna fault.

B. Possible Causes

(1) Weather radar antenna drive unit, M1209.

(2) Weather radar receiver/transmitter, M101.

(3) Wiring.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

D. Related Data

(1) (SSM 34-41-11).

(2) (WDM 34-41-11).

E. Initial Evaluation

(1) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the weather radar antenna drive, M1209.

These are the tasks:

- Weather Radar Antenna Flat Plate Removal, AMM TASK 34-43-11-000-801
- Weather Radar Antenna Drive Unit Removal, AMM TASK 34-43-11-000-802
- Weather Radar Antenna Drive Unit Installation, AMM TASK 34-43-11-400-802
- Weather Radar Antenna Flat Plate Installation, AMM TASK 34-43-11-400-801

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the weather radar operational test passes, then you corrected the fault.

2) If WXR FAIL ANT shows, then continue.

(2) Replace the weather radar receiver/transmitter, M101.

These are the tasks:

- Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801
- Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the weather radar operational test passes, then you corrected the fault.

2) If WXR FAIL ANT shows, then continue.

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(3) Do this check of the wiring between the weather radar receiver/transmitter and the weather radar antenna drive unit:

(a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

(b) Disconnect the weather radar antenna drive unit connector D119.

(c) Do a wiring check between the weather radar receiver/transmitter connector D189B, D189C and the weather radar antenna drive unit connector D119 (WDM 34-41-11).

D119		D189C
pin i	- - - - - - - - - - - - - - - - - - -	pin 3
pin z	- - - - - - - - - - - - - - - - - - -	pin 8

D119		D189B
pin s	- - - - - - - - - - - - - - - - - - -	pin C13
pin t	- - - - - - - - - - - - - - - - - - -	pin C14
pin D	- - - - - - - - - - - - - - - - - - -	pin C10
pin E	- - - - - - - - - - - - - - - - - - -	pin C11
pin F	- - - - - - - - - - - - - - - - - - -	pin C12
pin p	- - - - - - - - - - - - - - - - - - -	pin E13
pin q	- - - - - - - - - - - - - - - - - - -	pin E14
pin A	- - - - - - - - - - - - - - - - - - -	pin E10
pin B	- - - - - - - - - - - - - - - - - - -	pin E11
pin C	- - - - - - - - - - - - - - - - - - -	pin E12
pin HH	- - - - - - - - - - - - - - - - - - -	pin D11

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

3) Re-connect the weather radar antenna drive unit connector D119.

4) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the weather radar operational test passes, then you corrected the fault.

———————— END OF TASK ————————

804. Weather Radar Control Panel Problem - Fault Isolation

A. Description

(1) The weather radar operational test shows a control panel fault.

B. Possible Causes

(1) Weather radar control panel, P8-52.

(2) Wiring.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

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D. Related Data

(1) (SSM 34-41-11).

(2) (WDM 34-41-11).

E. Initial Evaluation

(1) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

(a) If the weather radar operational test passes, then there was an intermittent fault.

(b) If WXR FAIL CONT shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the weather radar control panel, P8-52.

These are the tasks:

- Weather Radar Control Panel Removal, AMM TASK 34-43-91-000-801
- Weather Radar Control Panel Installation, AMM TASK 34-43-91-400-801

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the weather radar operational test passes, then you corrected the fault.

2) If WXR FAIL CONT shows, then continue.

(2) Do this check of the wiring between the weather radar control panel and the weather radar receiver/transmitter:

(a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

(b) Remove the weather radar control panel. To remove it, do this task: Weather Radar Control Panel Removal, AMM TASK 34-43-91-000-801.

(c) Do a wiring check between the weather radar receiver/transmitter connector D189B and the weather radar control panel connector D193 (WDM 34-41-11).

D193		D189B
pin D	- - - - - - - - - - - - - - - - - -	pin D8
pin V	- - - - - - - - - - - - - - - - - -	pin B6
pin K	- - - - - - - - - - - - - - - - - -	pin C6
pin L	- - - - - - - - - - - - - - - - - -	pin D6
pin M	- - - - - - - - - - - - - - - - - -	pin D7
pin h	- - - - - - - - - - - - - - - - - -	pin B7
pin j	- - - - - - - - - - - - - - - - - -	pin B8

1) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

c) Re-install the weather radar control panel. To install it, do this task: AMM TASK 34-43-91-400-801.

2) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the weather radar operational test passes, then you corrected the fault.

END OF TASK

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805. Weather Radar Cooling Problem - Fault Isolation

A. Description

(1) The weather radar receiver/transmitter has found a fault with the cooling system.

B. Possible Causes

(1) Weather radar receiver/transmitter mount, M1209.

(2) Weather radar receiver/transmitter, M101.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

D. Related Data

(1) (SSM 34-41-11).

(2) (WDM 34-41-11).

E. Initial Evaluation

(1) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the weather radar receiver/transmitter cooling system:

(a) Select WXR ON on the EFIS control panel.

(b) If the fan comes on, then do these steps:

1) Remove the weather radar receiver/transmitter. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

2) Look for any objects or dust that can stop the weather radar receiver/transmitter air flow.

a) Remove the unwanted objects that stop the air flow.

b) Clean the air filter. To clean the filter, do this task: Weather Radar R/T Mount Filter Cleaning, AMM TASK 34-43-09-100-801

3) Re-install the weather radar receiver/transmitter. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

(c) If the fan does not come on, then replace the weather radar receiver/transmitter mount, M1209.

These are the tasks:

- Weather Radar Receiver/Transmitter Mount Removal, AMM TASK 34-43-31-000-801
- Weather Radar Receiver/Transmitter Mount Installation, AMM TASK 34-43-31-400-801

(d) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002

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1) If the weather radar operational test passes, then you corrected the fault.

—————— END OF TASK ——————

806. Weather Radar System, Inertial Reference System Problem - Fault Isolation

A. Description

(1) This task is for these observed faults:

(a) Tilt Code ''-1'' Attitude - Left.

(b) Tilt Code ''+1'' Attitude - Right.

(c) Tilt Code ''-3'' Air Data - Left.

(d) Tilt Code ''+3'' Air Data - Right.

(2) The weather radar has found a problem with the data sent from the inertial reference system portion of the ADIRU.

B. Possible Causes

(1) Air data inertial reference unit (ADIRU), M1749 (left ADIRU) or M1752 (right ADIRU).

(2) Wiring.

(3) Weather radar receiver/transmitter, M101.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC
D	13	C00120	WEATHER RADAR RT

D. Related Data

(1) (SSM 34-41-11).

(2) (WDM 34-41-11).

(3) (WDM 34-21-13).

(4) (WDM 34-21-23).

(5) (WDM 34-21-14).

(6) (WDM 34-21-24).

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E. Initial Evaluation

(1) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

(a) If the weather radar operational test passes, then there was an intermittent fault.

(b) If WXR FAIL ATT shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(a) If you find CURRENT STATUS faults, then do these steps:

1) Do the FIM tasks for the maintenance messages that you find.

2) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the weather radar operational test passes, then you corrected the fault.

b) If WXR FAIL ATT shows, then continue.

(b) If you do not find any CURRENT STATUS faults, then continue.

(2) Do this check of the wiring between the left ADIRU and the weather radar receiver/transmitter, applicable to tilt codes ''-1'' and ''-3'':

(a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

(b) Remove the left ADIRU, M1749. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(c) Do a wiring check between these pins on connector D189B weather radar receiver/transmitter, at the forward equipment center, and on connector D3687B of the left ADIRU, at the E5-2 shelf (WDM 34-21-13).

D3687B		**D189B**
pin C10	- - - - - - - - - - - - - - - - -	pin J11
pin C11	- - - - - - - - - - - - - - - - -	pin J12

D3687A		**D189B**
pin A9	- - - - - - - - - - - - - - - - - -	pin K11
pin B9	- - - - - - - - - - - - - - - - - -	pin K12

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

3) Re-install the left ADIRU, M1749. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

4) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the weather radar operational test passes, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

1) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

2) Re-install the left ADIRU, M1749. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

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(3) Do this check of the wiring between the right ADIRU and the weather radar receiver/transmitter, applicable to tilt codes ''+1'' and ''+3'':

(a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

(b) Remove the right ADIRU, M1752. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(c) Do a wiring check between these pins on connector D189B of the weather radar receiver/transmitter, at the forward equipment center, and on connector D3693B of the right ADIRU, at the E5-2 shelf (WDM 34-21-23).

D3693B		**D189B**
pin C10	- - - - - - - - - - - - - - - - -	pin G12
pin C11	- - - - - - - - - - - - - - - - -	pin G13

D3693A		**D189B**
pin A9	- - - - - - - - - - - - - - - - - -	pin J9
pin B9	- - - - - - - - - - - - - - - - - -	pin J10

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

3) Re-install the right ADIRU, M1752. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

4) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the weather radar operational test passes, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

1) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

2) Re-install the right ADIRU, M1752. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(4) Replace the weather radar receiver/transmitter. Do the following tasks:

- Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801
- Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

——————— END OF TASK ———————

807. Weather Radar System, Radio Altimeter Problem - Fault Isolation

A. Description

(1) This task is for these weather radar system observed faults:

(a) Tilt Code "-2" Radio Altitude - Left.

(b) Tilt Code "+2" Radio Altitude - Right.

(2) The weather radar has found a problem with the data sent from the radio altimeters.

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B. Possible Causes

(1) Low range radio altimeter (LRRA), M1735 (left LRRA) or M1736 (right LRRA).

(2) Wiring.

(3) Weather radar receiver/transmitter, M101.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	4	C01384	RADIO NAVIGATION RADIO ALTM 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	16	C01385	RADIO NAVIGATION RADIO ALTM 2
D	13	C00120	WEATHER RADAR RT

D. Related Data

(1) (SSM 34-41-11).

(2) (WDM 34-41-11).

(3) (WDM 34-33-11).

(4) (WDM 34-33-21).

E. Initial Evaluation

(1) Do the right or left (LRRA) depend on the titl code.

(2) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

(a) If the tilt code does not show then there was an intermittent fault.

(b) If the tilt code shows then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the left LRRA, applicable to tilt code ''-2''. To replace it,

These are the tasks:

- Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801
- Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

2) If the tilt code shows then continue.

(2) Replace the right LRRA, applicable to tilt code ''+2''. To replace it,

These are the tasks:

- Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801

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- Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

2) If the tilt code shows then continue.

(3) Do this check of the wiring between the left LRRA and the weather radar receiver/transmitter, applicable to tilt code ''-2'':

(a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

(b) Remove the left LRRA, M1735. To remove it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801.

(c) Do a wiring check between these pins on connector D189B of the weather radar receiver/transmitter, in the forward equipment center, and on connector D3667B of the low range radio altimeter, at the E3-1 shelf (WDM 34-33-11).

D3667B		D189B
pin G2	- - - - - - - - - - - - - - - - - -	pin C1
pin G3	- - - - - - - - - - - - - - - - - -	pin C2

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

3) Re-install the left LRRA, M1735. To install it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

4) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the tilt code does not show, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

1) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

2) Re-install the left LRRA, M1735. To install it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

(4) Do this check of the wiring between the right LRRA and the weather radar receiver/transmitter, applicable to tilt code ''+2'':

(a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

(b) Remove the right LRRA, M1736. To remove it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801.

(c) Do a wiring check between these pins on connector D189B of the weather radar receiver/transmitter, in the forward equipment center, and on connector D3669B of the low range radio altimeter, at the E3-2 shelf (WDM 34-33-21).

D3669B		D189B
pin G2	- - - - - - - - - - - - - - - - - -	pin A5
pin G3	- - - - - - - - - - - - - - - - - -	pin A6

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(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

3) Re-install the right LRRA, M1736. To install it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

4) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the tilt code does not show, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

1) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

2) Re-install the right LRRA, M1736. To install it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

(5) Replace the weather radar receiver/transmitter. To replace it,

These are the tasks:

- Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801
- Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

———————— END OF TASK ————————

808. WXR RANGE DISAGREE Message Shows on CDS - Captain's - Fault Isolation

A. Description

(1) The display electronic unit 1 (DEU-1) senses the range differences between the captain's EFIS control panel and the weather radar receiver/transmitter (WXR).

B. Possible Causes

(1) Captain's EFIS control panel, P7-1.

(2) Weather radar receiver/transmitter, M101.

(3) Display electronic unit 1, M1808.

(4) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	1	C01369	DISPLAY CAPT EFIS CONT PANEL
D	5	C01359	DISPLAY DEU 1 PRI

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	10	C01361	DISPLAY DEU 1 HOLDUP

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Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

D. Related Data

(1) (SSM 34-41-11).

E. Initial Evaluation

(1) Make sure the WXR switch on the captain's EFIS control panel is selected.

(2) Make sure the CONTROL PANEL switch on the instrument switching module is set to NORMAL.

(a) If the WXR RANGE DISAGREE message does not show on the captain's display, then there was an intermittent fault.

(b) If the WXR RANGE DISAGREE message shows on the captain's display, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) For DEU-1, do this task: CDS BITE Procedure, 31-62 TASK 801.

Look for any of the maintenance messages related to the LRUs that follow:

(a) EFIS control panel

(b) Weather radar

(c) Display electronic unit

1) If any of the above maintenance messages show, then go to the FIM task for that message.

2) If the WXR RANGE DISAGREE message does not show on the captain's display, then you corrected the fault.

3) If the WXR RANGE DISAGREE message shows on the captain's display, then continue.

(2) Do this check of the wiring between the weather radar receiver/transmitter and the captain's DEU-1:

(a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

(b) Remove the DEU-1, M1808. To move it, do this task: AMM TASK 31-62-21-000-801.

(c) Do a wiring check between the weather radar receiver/transmitter connector D189B, and the captain's DEU-1 connector D3973F (WDM 34-41-11).

D3973B		D189B
pin C7	- - - - - - - - - - - - - - - - - -	pin B3
pin D7	- - - - - - - - - - - - - - - - - -	pin B4

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

3) Re-install the captain's DEU-1, M1808. To install it, do this task: AMM TASK 31-62-21-400-801.

4) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the weather radar operational test passes, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

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1) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

2) Re-install the captain's DEU-1, M1808. To install it, do this task: AMM TASK 31-62-21-400-801.

(3) Replace the weather radar receiver/transmitter. To replace it,

These are the tasks:

- Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801
- Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

—————— END OF TASK ——————

809. WXR RANGE DISAGREE Message Shows on CDS - First Officer's - Fault Isolation

A. Description

(1) The display electronic unit 2 (DEU-2) senses the range differences between the first officer's EFIS control panel and the weather radar receiver/transmitter (WXR).

B. Possible Causes

(1) First officer's EFIS control panel, P7-2.

(2) Weather radar receiver/transmitter, M101.

(3) Display electronic unit 2, M1809.

(4) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	9	C01362	DISPLAY DEU 2 HOLDUP
D	11	C01360	DISPLAY DEU 2 PRI
D	13	C00120	WEATHER RADAR RT
E	13	C01370	DISPLAY F/O EFIS CONT PANEL

D. Related Data

(1) (SSM 34-41-11).

E. Initial Evaluation

(1) Make sure the WXR switch on the first officer's EFIS control panel is selected.

(2) Make sure the CONTROL PANEL switch on the instrument switching module is set to NORMAL.

(a) If the WXR RANGE DISAGREE message does not show on the first officer's display, then there was an intermittent fault.

(b) If the WXR RANGE DISAGREE message shows on the first officer's display, then do the Fault Isolation Procedure below.

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F. Fault Isolation Procedure

(1) For DEU-2, do this task: CDS BITE Procedure, 31-62 TASK 801.

Look for any of the maintenance messages related to the LRUs that follow:

(a) EFIS control panel

(b) Weather radar

(c) Display electronic unit

1) If any of the above maintenance messages show, then go to the FIM task for that message.

2) If the WXR RANGE DISAGREE message does not show on the first officer's display, then you corrected the fault.

3) If the WXR RANGE DISAGREE message shows on the first officer's display, then continue.

(2) Do this check of the wiring between the weather radar receiver/transmitter and the first officer's DEU-2:

(a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

(b) Remove the first officer's DEU-2, M1809. To move it, do this task: AMM TASK 31-62-21-000-801.

(c) Do a wiring check between the weather radar receiver/transmitter connector D189B, and the first officer's DEU-2 connector D3975F (WDM 34-41-11).

D3975B		D189B
pin C7	- - - - - - - - - - - - - - - - - -	pin J3
pin B7	- - - - - - - - - - - - - - - - - -	pin J4

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

3) Re-install the first officer's DEU-2, M1809. To install it, do this task: AMM TASK 31-62-21-400-801.

4) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the weather radar operational test passes, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

1) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

2) Re-install the first officier's DEU-2, M1809. To install it, do this task: AMM TASK 31-62-21-400-801.

(3) Replace the weather radar receiver/transmitter. To replace it,

These are the tasks:

- Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801
- Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

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1) If the tilt code does not show then you corrected the fault.

——————— END OF TASK ———————

810. MAP/WXR RANGE DISAGREE Message Shows on CDS - Captain's - Fault Isolation

A. Description

(1) The display electronic unit 1 (DEU-1) senses the range differences from the captain's EFIS control panel, the weather radar receiver/transmitter (WXR) and the flight management computer (FMC).

B. Possible Causes

(1) Captain's EFIS control panel, P7-1.

(2) Weather radar receiver/transmitter, M101.

(3) Flight management computer (FMC), M1175 (FMC 1) or M1632 (FMC 2) (if installed).

(4) Display electronic unit 1, M1808.

(5) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1
D	5	C01359	DISPLAY DEU 1 PRI

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	10	C01361	DISPLAY DEU 1 HOLDUP
D	13	C00120	WEATHER RADAR RT

HAP 037-054, 101-999

D	16	C01262	FMCS CMPTR 2

HAP ALL

D. Related Data

(1) (SSM 34-41-11).

E. Initial Evaluation

(1) Make sure the WXR switch on the captain's EFIS control panel is selected.

(2) Make sure the CONTROL PANEL switch on the instrument switching module is set to NORMAL.

(a) If the MAP/WXR RANGE DISAGREE message does not show on the captain's display, then there was an intermittent fault.

(b) If the MAP/WXR RANGE DISAGREE message shows on the captain's display, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) For DEU-1, do this task: CDS BITE Procedure, 31-62 TASK 801.

Look for any of the maintenance messages related to the LRUs that follow:

(a) EFIS control panel

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(b) Weather radar

(c) Flight management computer

(d) Display electronic unit

1) If any of the above maintenance messages show, then go to the FIM task for that message.

2) If the MAP/WXR RANGE DISAGREE message does not show on the captain's display, then you corrected the fault.

3) If the MAP/WXR RANGE DISAGREE message shows on the captain's display, then continue.

(2) Do this check of the wiring between the weather radar receiver/transmitter and the captain's DEU-1:

(a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

(b) Remove the DEU-1, M1808. To move it, do this task: AMM TASK 31-62-21-000-801.

(c) Do a wiring check between the weather radar receiver/transmitter connector D189B, and the captain's DEU-1 connector D3973F (WDM 34-41-11).

D3973B		D189B
pin C7	- - - - - - - - - - - - - - - - - -	pin B3
pin D7	- - - - - - - - - - - - - - - - - -	pin B4

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

3) Re-install the captain's DEU-1, M1808. To install it, do this task: AMM TASK 31-62-21-400-801.

4) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the weather radar operational test passes, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

1) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

2) Re-install the captain's DEU-1, M1808. To install it, do this task: AMM TASK 31-62-21-400-801.

(3) Replace the weather radar receiver/transmitter. To replace it,

These are the tasks:

Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801,

Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

———————— END OF TASK ————————

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811. MAP/WXR RANGE DISAGREE Message Shows on CDS - First Officer's - Fault Isolation

A. Description

(1) The display electronic unit (DEU-2) senses the range differences from the first officer's EFIS control panel, the weather radar receiver/transmitter (WXR) and the flight management computer (FMC).

B. Possible Causes

(1) First officer's EFIS control panel, P7-2.

(2) Weather radar receiver/transmitter, M101.

(3) Flight management computer (FMC), M1175 (FMC 1) or M1632 (FMC 2) (if installed).

(4) Display electronic unit 2, M1809.

(5) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	11	C01360	DISPLAY DEU 2 PRI
D	13	C00120	WEATHER RADAR RT
HAP 037-054, 101-999			
D	16	C01262	FMCS CMPTR 2
HAP ALL			
E	13	C01370	DISPLAY F/O EFIS CONT PANEL

D. Related Data

(1) (SSM 34-41-11).

E. Initial Evaluation

(1) Make sure the WXR switch on the first officer's EFIS control panel is selected.

(2) Make sure the CONTROL PANEL switch on the instrument switching module is set to NORMAL.

(a) If the MAP/WXR RANGE DISAGREE message does not show on the first officer's display, then there was an intermittent fault.

(b) If the MAP/WXR RANGE DISAGREE message shows on the first officer's display, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) For DEU-2, do this task: CDS BITE Procedure, 31-62 TASK 801.

Look for any of the maintenance messages related to the LRUs that follow:

(a) EFIS control panel

(b) Weather radar

(c) Flight management computer

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(d) Display electronic unit

1) If any of the above maintenance messages show, then go to the FIM task for that message.

2) If the MAP/WXR RANGE DISAGREE message does not show on the first officer's display, then you corrected the fault.

3) If the MAP/WXR RANGE DISAGREE message shows on the first officer's display, then continue.

(2) Do this check of the wiring between the weather radar receiver/transmitter and the first officer's DEU-2:

(a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

(b) Remove the first officer's DEU-2, M1809. To move it, do this task: AMM TASK 31-62-21-000-801.

(c) Do a wiring check between the weather radar receiver/transmitter connector D189B, and the first officer's DEU-2 connector D3975F (WDM 34-41-11).

D3975B		D189B
pin C7	- - - - - - - - - - - - - - - - - -	pin J3
pin B7	- - - - - - - - - - - - - - - - - -	pin J4

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

3) Re-install the first officer's DEU-2, M1809. To install it, do this task: AMM TASK 31-62-21-400-801.

4) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the weather radar operational test passes, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

1) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

2) Re-install the captain's DEU-2, M1809. To install it, do this task: AMM TASK 31-62-21-400-801.

(3) Replace the weather radar receiver/transmitter. To replace it,

These are the tasks:

Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801,

Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

END OF TASK

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812. WXR DSPY Message Shows on CDS - Captain's - Fault Isolation

A. Description

(1) The applicable captain's display unit is overheated.

B. Possible Causes

(1) Applicable captain's display unit (N187, N188, N189).

(2) Display electronic unit 1, M1808.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	1	C01369	DISPLAY CAPT EFIS CONT PANEL
D	2	C01372	DISPLAY CTR UPR
D	3	C01365	DISPLAY CAPT INBD
D	5	C01359	DISPLAY DEU 1 PRI

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	10	C01361	DISPLAY DEU 1 HOLDUP

D. Related Data

(1) (SSM 34-41-11).

E. Initial Evaluation

(1) Make sure the WXR switch on the captain's EFIS control panel is selected.

(2) Make sure the CONTROL PANEL switch on the instrument switching module is set to NORMAL.

(a) If the WXR DSPY message does not show on the captain's display, then there was an intermittent fault.

(b) If the WXR DSPY message shows on the captain's display, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) For DEU-1, do this task: CDS BITE Procedure, 31-62 TASK 801.

Look for any of the maintenance messages related to the LRUs that follow:

(a) Applicable display unit

(b) Display electronic unit

1) If any of the above maintenance messages show, then go to the FIM task for that message.

2) If the WXR DSPY message does not show on the captain's display, then you corrected the fault.

——————— END OF TASK ———————

813. WXR DSPY Message Shows on CDS - First Officer's - Fault Isolation

A. Description

(1) The applicable first officer's display unit is overheated.

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B. Possible Causes

(1) Applicable first officer's display unit (N191, N192, N190).

(2) Display electronic unit 2, M1809.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	9	C01362	DISPLAY DEU 2 HOLDUP
D	11	C01360	DISPLAY DEU 2 PRI
E	10	C01364	DISPLAY F/O OUTBD
E	11	C01366	DISPLAY F/O INBD
E	12	C01373	DISPLAY CTR LWR

D. Related Data

(1) (SSM 34-41-11).

E. Initial Evaluation

(1) Make sure the WXR switch on the first officer's EFIS control panel is selected.

(2) Make sure the CONTROL PANEL switch on the instrument switching module is set to NORMAL.

(a) If the WXR DSPY message does not show on the first officer's display, then there was an intermittent fault.

(b) If the WXR DSPY message shows on the first officer's display, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) For DEU-2, do this task: CDS BITE Procedure, 31-62 TASK 801.

Look for any of the maintenance messages related to the LRUs that follow:

(a) Applicable display unit

(b) Display electronic unit

1) If any of the above maintenance messages show, then go to the FIM task for that message.

2) If the WXR DSPY message does not show on the first officer's display, then you corrected the fault.

———————— END OF TASK ————————

814. Weather Radar System Problem - Fault Isolation

A. Description

(1) This task is for these weather radar system problems:

(a) Tilt control.

(b) Gain control.

(c) Display blank.

B. Possible Causes

(1) Weather radar receiver/transmitter, M101.

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(2) Weather radar control panel, P8-52.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

D. Initial Evaluation

(1) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

(2) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

(3) If the test passes, then there was an intermittent fault.

(4) If the test does not pass, then do the applicable steps:

(a) If WXR FAIL RT shows, then do this task: Weather Radar Receiver/Transmitter Problem - Fault Isolation, 34-43 TASK 802.

(b) If WXR FAIL ANT shows, then do this task: Weather Radar Antenna Problem - Fault Isolation, 34-43 TASK 803.

(c) If WXR FAIL CONT shows, then do this task: Weather Radar Control Panel Problem - Fault Isolation, 34-43 TASK 804.

(d) If WXR FAIL ATT shows, then do this task: Weather Radar System, Inertial Reference System Problem - Fault Isolation, 34-43 TASK 806.

(e) If WXR FAIL WEAK shows, then do this task: Weather Radar Cooling Problem - Fault Isolation, 34-43 TASK 805.

(f) If WXR FAIL shows, then do this task: Weather Radar System BITE Procedure, 34-43 TASK 801.

———————— END OF TASK ————————

815. Predictive Windshear System Problem - Fault Isolation

A. Description

(1) This task is for this fault:

(a) PWS FAIL

B. Possible Causes

(1) Weather radar antenna drive, M1209.

(2) Weather radar receiver/transmitter, M101.

(3) ADIRU, M1749 (left) or M1752 (right).

(4) Low range radio altimeter (LRRA), M1735 (left LRRA) or M1736 (right LRRA).

(5) Autothrottle microswitch assembly, M1766 (left) or M1767 (right).

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C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

D. Related Data

(1) (SSM 34-41-11).

(2) (WDM 34-41-11).

E. Initial Evaluation

(1) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

(a) If the weather radar operational test passes, then there was an intermittent fault.

(b) If the weather radar operational test does not pass, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the weather radar receiver/transmitter blower assembly.

(a) To get access to the weather radar R/T mount, open this access panel:

Number	Name/Location
112A	Forward Access Door

(b) Push the blower assembly test switch on the R/T mount.

(c) If the fan comes on, then do these steps:

1) Remove the weather radar receiver/transmitter. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

2) Look for any objects or dust that can stop the weather radar receiver/transmitter air flow.

a) Remove the unwanted objects that stop the air flow.

3) Re-install the weather/radar transmitter. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

(d) If the fan does not come one, then replace the weather radar receiver/transmitter mount, M1209.

These are the tasks:

Weather Radar Receiver/Transmitter Mount Removal, AMM TASK 34-43-31-000-801,

Weather Radar Receiver/Transmitter Mount Installation, AMM TASK 34-43-31-400-801.

(e) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the weather radar operational test passes, then you corrected the fault.

2) If the weather radar operational test does not pass, then continue.

(2) Replace the weather radar antenna drive, M1209.

These are the tasks:

Weather Radar Antenna Flat Plate Removal, AMM TASK 34-43-11-000-801,

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Weather Radar Antenna Drive Unit Removal, AMM TASK 34-43-11-000-802.

Weather Radar Antenna Drive Unit Installation, AMM TASK 34-43-11-400-802,

Weather Radar Antenna Flat Plate Installation, AMM TASK 34-43-11-400-801.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the weather radar operational test passes, then you corrected the fault.

2) If the weather radar operational test does not pass, then continue.

(3) Replace the weather radar receiver/transmitter, M101.

These are the tasks:

Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801,

Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the weather radar operational test passes, then you corrected the fault.

2) If the weather radar operational test does not pass, then continue.

(4) Replace the applicable ADIRU, M1749 (M1752).

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the weather radar operational test passes, then you corrected the fault.

2) If the weather radar operational test does not pass, then continue.

(5) Replace the low range radio altimeter (LRRA), M1735 (left LRRA) or M1736 (right LRRA).

These are the tasks:

Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801,

Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the weather radar operational test passes, then you corrected the fault.

2) If the weather radar operational test does not pass, then continue.

(6) Replace the autothrottle microswitch, M1766 (M1767).

These are the tasks:

Switch Removal, AMM TASK 76-11-07-020-801-F00.

Switch Installation, AMM TASK 76-11-07-400-801-F00,

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the weather radar operational test passes, then you corrected the fault.

——————— END OF TASK ———————

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816. No Range Data From EFIS Control Panel - Fault Isolation

A. Description

(1) This task is for these observed faults:

(a) Tilt Code of "-4" EFIS - Left.

(b) Tilt Code of "+4" EFIS - Right.

(2) No range data is detected from the EFIS control panel by the weather radar receiver/transmitter.

B. Possible Causes

(1) EFIS control panel, P7-1 (captain's) or P7-2 (first officer's).

(2) DEU-1 (captain's) or DEU-2 (first officer's).

(3) Wiring.

(4) Weather radar receiver/transmitter, M101.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	1	C01369	DISPLAY CAPT EFIS CONT PANEL
D	5	C01359	DISPLAY DEU 1 PRI

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	11	C01360	DISPLAY DEU 2 PRI
D	13	C00120	WEATHER RADAR RT

D. Related Data

(1) (SSM 34-41-11).

(2) (WDM 34-41-11).

E. Fault Isolation Procedure

(1) To do a check of the DEUs, do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If the CDS BITE test shows any faults for the LRUs that follow, then go to the fault isolation task for the applicable CDS maintenance message to correct the fault:

1) EFIS control panel

2) Weather radar

3) Display electronic unit.

(b) If the tilt code does not show on the display, then you corrected the fault.

(c) If the tilt codes shows, then continue.

(d) If the CDS BITE test does not show, any faults for the above LRUs, then continue.

(2) Do this check of the wiring between the applicable DEU and the weather radar receiver/transmitter:

(a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

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(b) Remove the DEU, M1808 (DEU-1) or M1809 (DEU-2). To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) Do a wiring check between these pins on connector D189B of the weather radar receiver/transmitter, in the forward equipment center, and connector D3973B (DEU-1) or D3975B (DEU-2) at the E3-1 shelf (WDM 34-41-11).

DEU-1 (Tilt "-4")	**D189B**		**D3973B**
	pin B3	- - - - - - - - - - - - - - - - - -	pin C7
	pin B4	- - - - - - - - - - - - - - - - - -	pin D7
DEU-2 (Tilt "+4")	**D189B**		**D3975B**
	pin J3	- - - - - - - - - - - - - - - - - -	pin C7
	pin J4	- - - - - - - - - - - - - - - - - -	pin D7

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

3) Re-install the DEU, M1808 (DEU-1) or M1809 (DEU-2). To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

4) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the weather radar operational test passes, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

1) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

2) Re-install the DEU, M1808 (DEU-1) or M1809 (DEU-2). To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

(3) Replace the weather radar receiver/transmitter. To replace it,

These are the tasks:

Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801,

Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show, then you corrected the fault.

———————— END OF TASK ————————

817. No Thrust Input from the Autothrottle - Fault Isolation

A. Description

(1) This task is for this observed fault:

(a) Tilt Code of ‘‘-5’’ Autothrottle - Left or Right.

(2) No thrust data is detected from the autothrottle microswitches by the weather radar receiver/transmitter.

B. Possible Causes

(1) Wiring.

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(2) Autothrottle microswitch assembly, M1766 (left) or M1767 (right).

(3) Weather radar receiver/transmitter, M101.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
A	18	C00583	LANDING GEAR AUTOBRAKE BITE CONT 1

D. Related Data

(1) (SSM 34-41-11).

(2) (WDM 34-41-11).

E. Fault Isolation Procedure

(1) Do this check of the wiring between the weather radar receiver/transmitter and the autothrottle microswitch assembly:

(a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

(b) Disconnect the left and right autothrottle microswitch, M1766 (M1767). To disconnect it, do this task: Switch Removal, AMM TASK 76-11-07-020-801-F00.

(c) Do a wiring check between these pins on connector D189B for the weather radar receiver/transmitter, in the forward equipment center, and connector D11128 (left) and D11132 (right) for the autothrottle microswitch assembly at switch pack #1 and #2 (WDM 34-41-11).

LEFT AUTO THROTTLE	**D189B**		**D11128**
	pin B9	- - - - - - - - - - - - - - - - - -	pin 18
RIGHT AUTO THROTTLE	**D189B**		**D11132**
	pin B10	- - - - - - - - - - - - - - - - - -	pin 18

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

3) Re-install the left and right autothrottle microswitch, M1766 (M1767). To connect it, do this task: Switch Installation, AMM TASK 76-11-07-400-801-F00.

4) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the weather radar operational test passes, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

1) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

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2) Re-connect the left and right autothrottle microswitch, M1766 (M1767). To connect it, do this task: Switch Installation, AMM TASK 76-11-07-400-801-F00.

(2) Replace the autothrottle microswitch, M1766 (M1767).

These are the tasks:

Switch Removal, AMM TASK 76-11-07-020-801-F00.

Switch Installation, AMM TASK 76-11-07-400-801-F00,

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

2) If the tilt code shows then continue.

(3) Replace the weather radar receiver/transmitter, M101.

These are the tasks:

Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801,

Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

———————— END OF TASK ————————

818. Total ADIRU Failure - Fault Isolation

A. Description

(1) This task is for this observed fault:

(a) Tilt Code of "-6" ADIRU.

(2) No air data detected from the ADIRUs to the weather radar receiver/transmitter.

B. Possible Causes

(1) ADIRU, M1749 (left) or M1752 (right).

(2) Display electronics unit (DEU), M1808 (DEU 1) or M1809 (DEU-2).

(3) Weather radar receiver/transmitter, M101.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	5	C01359	DISPLAY DEU 1 PRI

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC

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Row	Col	Number	Name
D	9	C01362	DISPLAY DEU 2 HOLDUP
D	10	C01361	DISPLAY DEU 1 HOLDUP
D	11	C01360	DISPLAY DEU 2 PRI
D	13	C00120	WEATHER RADAR RT

D. Related Data

(1) (SSM 34-41-11), .

(2) (WDM 34-41-11), .

E. Fault Isolation Procedure

(1) Replace the applicable ADIRU, M1749 (M1752).

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

2) If the tilt code shows, then continue.

(2) Replace the weather radar receiver/transmitter, M101.

These are the tasks:

Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801,

Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

——————— END OF TASK ———————

819. No Input from the Air/Ground Relay - Fault Isolation

A. Description

(1) This task is for this weather radar system observed fault:

(a) Tilt Code of ''-7'' Air/Ground.

(2) No data is detected from the air/ground relay by the weather radar receiver/transmitter.

B. Possible Causes

(1) Air/ground relay, R589.

(2) Wiring.

(3) Weather radar receiver/transmitter, M101.

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	17	C00129	LANDING GEAR LATCH & PRESS WARN

D. Related Data

(1) (SSM 34-41-11), .

(2) (WDM 34-41-11),.

E. Initial Evaluation

(1) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

(a) If the tilt code does not show then there was an intermittent fault.

(b) If the tilt code shows then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do the Fault Isolation steps for Air/Ground Relay fault.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

2) If the tilt code shows then continue.

(2) Do this check of the wiring between the weather radar receiver/transmitter and the air/ground relay:

(a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

(b) Remove the air/ground relay, R589.

(c) Do a wiring check between these pins on connector D189B of the weather radar receiver/transmitter, in the forward equipment center, and connector D11012 of the air/ground relay (WDM 34-41-11).

D189B		**D11012**
pin K10	- - - - - - - - - - - - - - - - -	pin C3

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

3) Re-install the air/ground relay, R589.

4) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the weather radar operational test passes, then you corrected the fault.

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(e) If you do not find a problem with the wiring, then continue.

1) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

2) Re-install the air/ground relay, R589.

(3) Replace the weather radar receiver/transmitter, M101.

These are the tasks:

Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801,

Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

END OF TASK

820. No Aural Warnings (PWS) - Fault Isolation

A. Description

(1) No Aural Warnings are detected over the flight deck speakers during PWS Warnings or Cautions.

B. Possible Causes

(1) Remote Electronic Unit (REU), M1353.

(2) Autothrottle microswitch assembly, M1766 (left) or M1767 (right).

(3) Weather radar receiver/transmitter, M101.

(4) Wiring.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

D. Related Data

(1) (SSM 34-41-11), .

E. Initial Evaluation

(1) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

(a) If the tilt code does not show then there was an intermittent fault.

(b) If the tilt code shows then do the Fault Isolation Procedure below.

(2) To do a check of the DEUs, M1808 (M1809), do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If the CDS BITE test shows any faults for the LRUs that follow, then go to the fault isolation task for the applicable CDS maintenance message to correct the fault:

1) Weather radar

2) Display electronic unit.

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(b) If the CDS BITE test does not show, any faults for the above LRUs, then continue.

F. Fault Isolation Procedure

(1) Replace the Remote Electronic Unit, M1353.

These are the tasks:

Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,

Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the aural warnings are heard, then you corrected the fault.

2) If the aural warnings are not heard, then continue.

(2) Replace the autothrottle microswitch, M1766 (M1767).

These are the tasks:

Switch Installation, AMM TASK 76-11-07-400-801-F00,

Switch Removal, AMM TASK 76-11-07-020-801-F00.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the aural warnings are heard, then you corrected the fault.

2) If the aural warnings are not heard, then continue.

(3) Replace the weather radar receiver/transmitter, M101.

These are the tasks:

Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801,

Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the aural warnings are heard, then you corrected the fault.

2) If the aural warnings are not heard, then continue.

(4) Do this check of the wiring between the weather radar receiver/transmitter and the remote electronic unit::

(a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

(b) Remove the Remote Electronic Unit, M1353. To remove it, do this task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.

(c) Do a wiring check between these pins on connector D189B of the weather radar receiver/transmitter, in the forward equipment center, and connector D2501A of the Remote Electronic Unit WDM 34-41-11).

D189B		D2501A
pin K8	- - - - - - - - - - - - - - - - - -	pin D11
pin K9	- - - - - - - - - - - - - - - - - -	pin J8

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

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3) Re-install the Remote Electronic Unit, M1353. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

4) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the aural warnings are heard, then you corrected the fault.

END OF TASK

821. No Windshear Inhibit from EGPWS - Fault Isolation

A. Description

(1) This task is for this fault:

(a) Tilt Code of ''-8'' Left (Right) EFIS is displayed.

(2) No Windshear Inhibit is detected from the Enhanced Ground Proximity System by the Weather Radar Receiver/Transmitter.

B. Possible Causes

(1) Enhanced Ground Proximity Warning Computer, M652.

(2) Weather radar receiver/transmitter, M101.

(3) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	7	C00629	GND PROX WARN

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

D. Related Data

(1) (SSM 34-41-11), .

(2) (WDM 34-49-11).

E. Initial Evaluation

(1) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

(a) If the tilt code does not show then there was an intermittent fault.

(b) If the tilt code shows then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the Weather Radar Receiver/Transmitter, M101.

These are the tasks:

Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801,

Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

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(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

2) If the tilt code shows, then continue.

(2) Replace the Enhanced Ground Proximity Warning Computer, M652.

These are the tasks:

Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

(a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

1) If the tilt code does not show then you corrected the fault.

2) If the tilt code shows, then continue.

(3) Do this check of the wiring between the weather radar receiver/transmitter and the ground proximity warning module:

(a) Remove the Weather Radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

(b) Remove the Ground Proximity Warning Module, P3-7. To remove it, do this task: Ground Proximity Warning Module Removal, AMM TASK 34-46-02-000-801.

(c) Do a wiring check between these pins on connector D189B of the weather radar receiver/transmitter, in the forward equipment center, and connector D2501A of the Ground Proximity Warning Module (WDM 34-49-11).

D189B		D1153A
pin F1	- - - - - - - - - - - - - - - - - -	pin B12

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

3) Re-install the Ground Proximity Warning Module P3-7. To install it, do this task: Ground Proximity Warning Module Installation, AMM TASK 34-46-02-400-801.

4) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

a) If the weather radar operational test passes, then you corrected the fault.

———————— END OF TASK ————————

822. Weather Radar System - Fault Isolation

A. Description

(1) This task is for this fault:

(a) WXR STAB

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B. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	13	C00120	WEATHER RADAR RT

C. Initial Evaluation

(1) Do this task: Weather Radar System BITE Procedure, 34-43 TASK 801

END OF TASK

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801. Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure

A. General

(1) You do the TCAS BITE test from the TCAS computer front panel. The Traffic Alert and Collision Avoidance System (TCAS) BITE Test is a real-time check for faults in the TCAS system. The BITE Test checks TCAS components and the inputs of the systems that interface with TCAS.

HAP 031-054, 101-999; AIRPLANES WITH HONEYWELL OR L3 COMMUNICATIONS TCAS COMPUTER

(2) If the TCAS BITE test detects a fault, it will show a fault light, which is referred to as a maintenance message, on the front panel of the TCAS computer. These are the fault lights:

(a) TCAS FAIL

(b) TOP ANT

(c) BOT ANT

(d) HDG

NOTE: The HDG fault light is not used.

(e) RA LOG

NOTE: The RA LOG fault light is not used.

(f) TA DISP

NOTE: The TA DISP fault light is not used.

(g) RA DISP

(h) RAD ALT

(i) XPDR BUS

(j) ATT

NOTE: The ATT fault light is not used.

HAP 001-013, 015-026, 028-030; AIRPLANES WITH ALLIED SIGNAL TCAS COMPUTER

(3) If the TCAS BITE test detects a fault, it will show a maintenance message in the fault display located on the front panel of the TCAS computer. The maintenance messages are as follows:

(a) TP, TCAS Computer fail

(b) T1-T4, Top Antenna Elements #1 through #4 resistance values incorrect

(c) B1-B4, Bottom Antenna Elements #1 through #4 resistance values incorrect

(d) X1-X2, Mode S Transponder #1 and #2 input to TCAS fault

(e) RA, Radio Altimeter #1 and #2 input to TCAS fault

(f) PT, Pitch Attitude Data incorrect

(g) RL, Roll Attitude Data incorrect

(h) HD, Heading data input incorrect

(i) RD, Resolution Advisory display fault

(j) PP, Program Pins configuration fault

(k) SP, Suppression fault

(l) AG, AIR/GND Logic Input fault

HAP ALL

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B. BITE Procedure (Figure 201)

(1) Do this task: Air Data Inertial Reference System - Alignment from the ISDU, AMM TASK 34-21-00-820-802 or Air Data Inertial Reference System - Alignment from the FMC CDU, AMM TASK 34-21-00-820-801.

(2) Set the transponder select switch on the ATC control panel to 1 or L.

HAP 031-054, 101-999; AIRPLANES WITH COLLINS, HONEYWELL, OR L3 COMMUNICATIONS TCAS COMPUTER

(3) Do the BITE procedure for the TCAS computer.

(a) Push the test switch on the front panel of the TCAS computer.

(b) Make sure all of the lights on the front panel of the TCAS computer come on for approximately 1 second, then go off.

HAP 031-054, 101-999

1) If the TCAS PASS light stays on, then the BITE test passed.

2) If a maintenance message other than TCAS PASS shows, then refer to the table at the end of this task to find the fault isolation procedure for the applicable maintenance message.

HAP 001-013, 015-026, 028-030; AIRPLANES WITH ALLIED SIGNAL TCAS COMPUTER

(4) Do the BITE procedure for the TCAS computer.

HAP 001-013, 015-026, 028-030

(a) Push and hold the TEST switch on the front panel of the TCAS computer.

(b) If OK shows in the fault display on the front panel of the TCAS computer, then the BITE test passed.

(c) If a maintenance message other than OK shows on the fault display, then refer to the table at the end of this task to find the fault isolation procedure for the applicable maintenance message.

NOTE: If multiple faults exist, each maintenance message is shown one at a time with a one second time delay between maintenance messages.

(d) The TCAS BITE must be done prior to any tasks.

HAP ALL

(5) Set the transponder select switch on the ATC control panel to 2 or R and do the BITE test for the TCAS computer again.

———————— END OF TASK ————————

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
TCAS COMPUTER	AG	34-45 TASK 813
TCAS COMPUTER	B1	34-45 TASK 804
TCAS COMPUTER	B2	34-45 TASK 804
TCAS COMPUTER	B3	34-45 TASK 804
TCAS COMPUTER	B4	34-45 TASK 804

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
TCAS COMPUTER	BOT ANT	34-45 TASK 804
TCAS COMPUTER	HD	34-45 TASK 809
TCAS COMPUTER	PP	34-45 TASK 810
TCAS COMPUTER	PT	34-45 TASK 809
TCAS COMPUTER	RA DISP	34-45 TASK 808
TCAS COMPUTER	RA	34-45 TASK 807
TCAS COMPUTER	RAD ALT	34-45 TASK 807
TCAS COMPUTER	RD	34-45 TASK 808
TCAS COMPUTER	RL	34-45 TASK 809
TCAS COMPUTER	SP	34-45 TASK 812
TCAS COMPUTER	T1	34-45 TASK 803
TCAS COMPUTER	T2	34-45 TASK 803
TCAS COMPUTER	T3	34-45 TASK 803
TCAS COMPUTER	T4	34-45 TASK 803
TCAS COMPUTER	TCAS FAIL	34-45 TASK 802
TCAS COMPUTER	TOP ANT	34-45 TASK 803
TCAS COMPUTER	TP	34-45 TASK 802
TCAS COMPUTER	X1	34-45 TASK 805
TCAS COMPUTER	X2	34-45 TASK 806
TCAS COMPUTER	XPDR BUS	34-45 TASK 811

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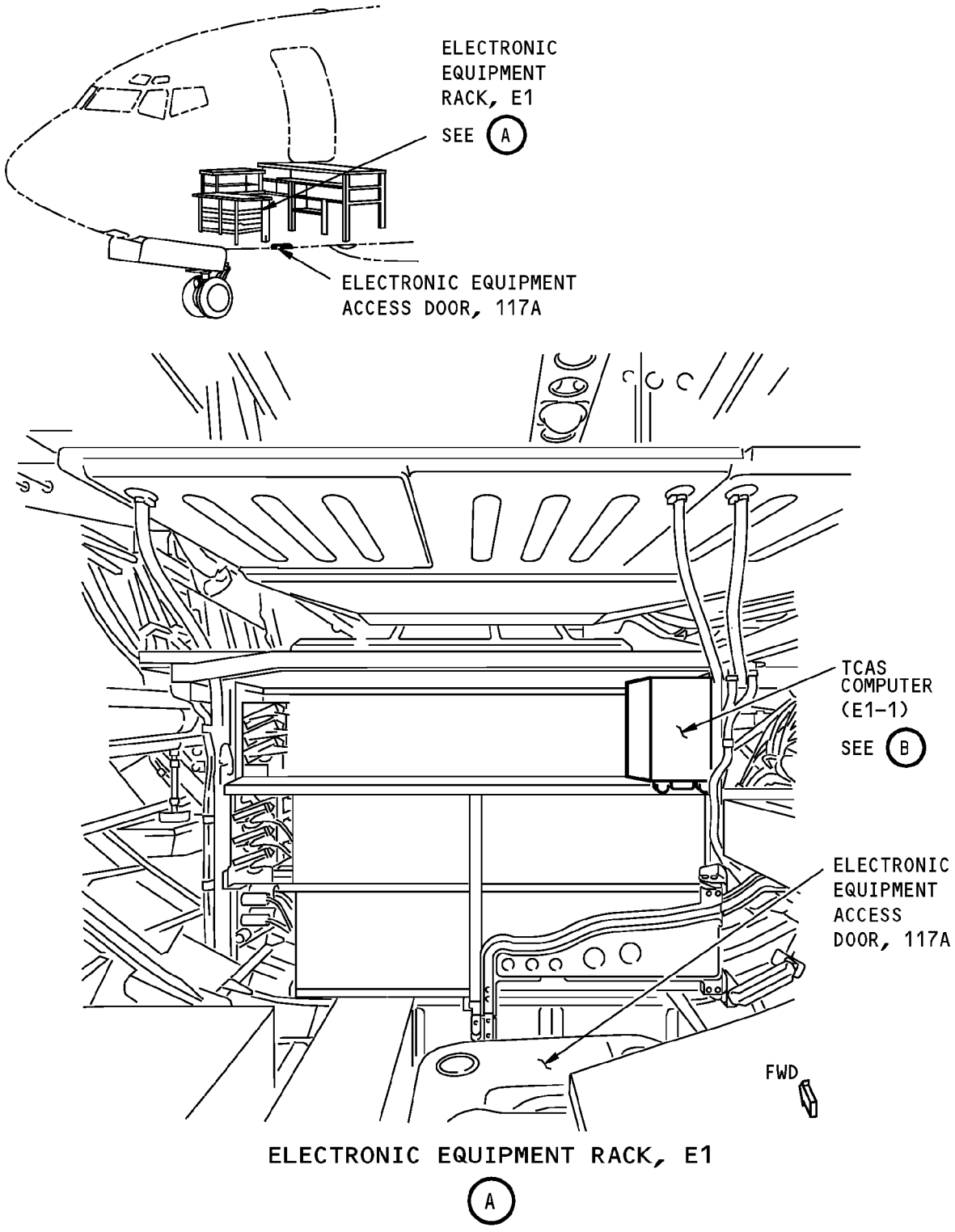

TCAS Computer
Figure 201 (Sheet 1 of 4)/ 34-45-00-990-804

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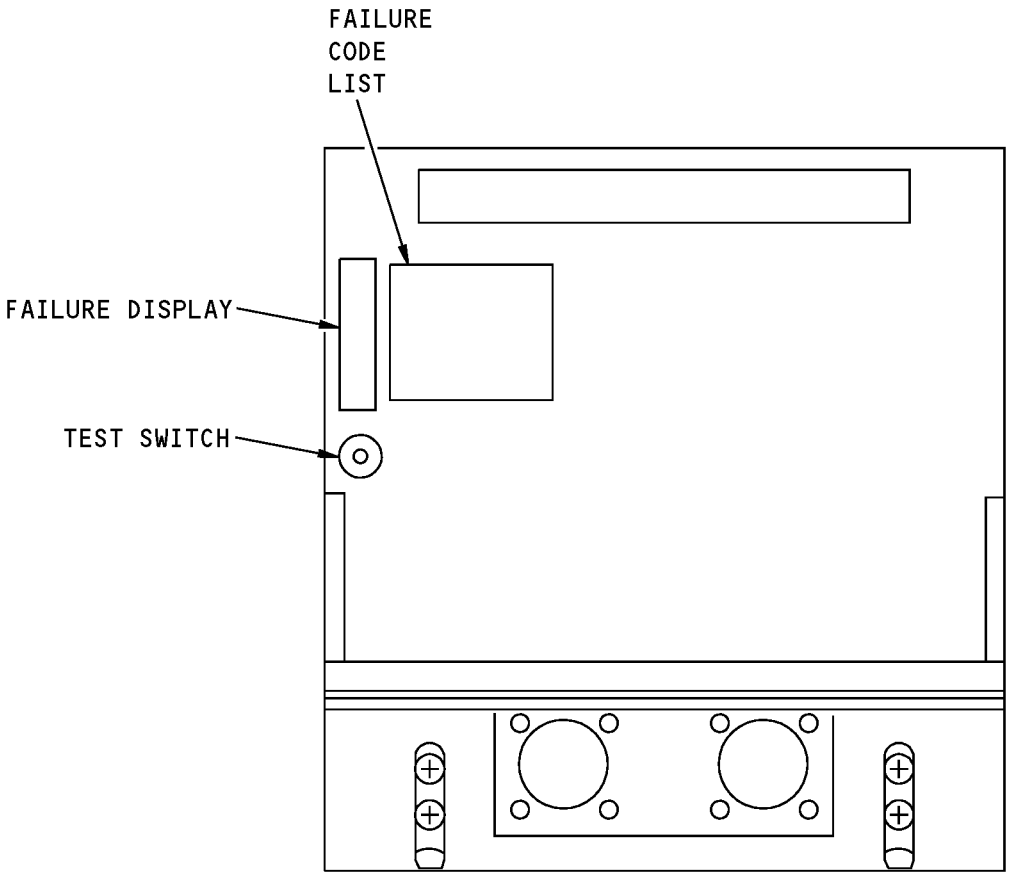

TCAS Computer
Figure 201 (Sheet 2 of 4)/ 34-45-00-990-804

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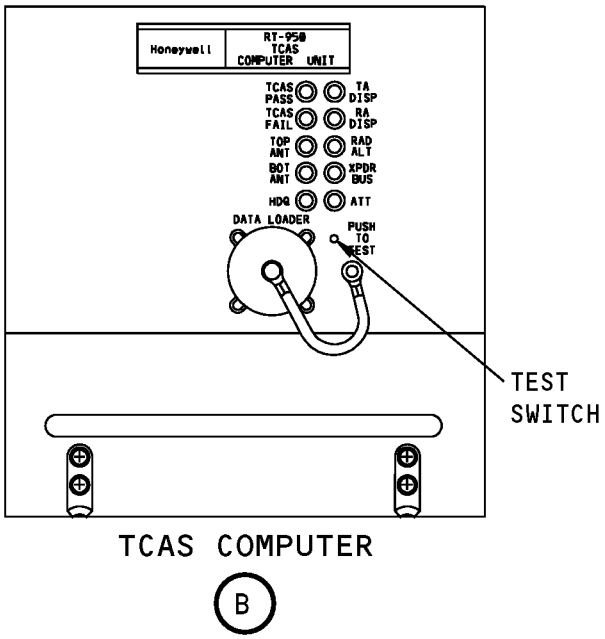

TCAS Computer
Figure 201 (Sheet 3 of 4)/ 34-45-00-990-804

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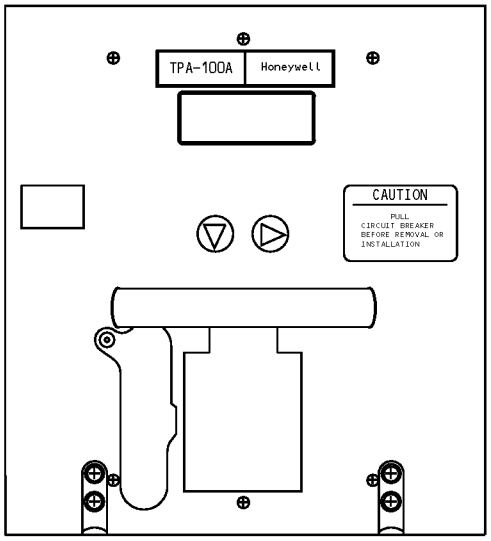

TCAS Computer
Figure 201 (Sheet 4 of 4)/ 34-45-00-990-804

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802. TCAS Computer Problem - Fault Isolation

A. Description

(1) This task is for this TCAS maintenance message:

HAP 001-013, 015-026, 028-030

(a) TP

HAP 031-054, 101-999

(b) TCAS FAIL

HAP ALL

(2) The TCAS computer has detected an internal fault.

B. Possible Causes

(1) TCAS computer, M1485.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	6	C01195	TCAS

D. Initial Evaluation

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

E. Fault Isolation Procedure

(1) Replace the TCAS computer, M1485, at the E1-1 shelf.

These are the tasks:

TCAS Computer Removal, AMM TASK 34-45-01-000-801,

TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

———————— END OF TASK ————————

803. TCAS Top Antenna Problem - Fault Isolation

A. Description

HAP 001-013, 015-026, 028-030

(1) This task is for these TCAS maintenance messages:

(a) T1

(b) T2

(c) T3

(d) T4

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HAP 031-054, 101-999

(2) This task is for this TCAS maintenance message:

(a) TOP ANT

HAP ALL

(3) The TCAS computer has detected a fault with the top TCAS antenna.

B. Possible Causes

(1) Antenna coax connectors.

(2) Coax cable.

(3) TCAS antenna, M1486.

(4) TCAS computer, M1485.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	6	C01195	TCAS

D. Related Data

(1) (WDM 34-45-21).

(2) (SSM 34-45-21).

E. Initial Evaluation

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do these checks of the coax connectors:

(a) Make sure the connectors are installed as follows:

Table 201

CABLE SLEEVE COLOR	TCAS ANTENNA CONNECTOR
Yellow	J1
Black	J2
Blue	J3
Red	J4

1) If the connectors are not connected correctly, then do these steps:

a) Re-connect the connectors to their correct positions.

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b) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

c) If the maintenance message does not show, then you corrected the fault.

2) If the connectors are connected correctly, then continue.

(b) Make sure there is no corrosion or unwanted material on the connectors between the TCAS rack and the top antenna.

1) If you find corrosion or unwanted material on the connectors, then do these steps:

a) Clean or replace the connectors as necessary.

b) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

c) If the maintenance message does not show, then you corrected the fault.

d) If the maintenance message shows, then continue.

2) If you do not find corrosion or unwanted material on the connectors, then continue.

(2) Do this check of the coaxial cable:

CAUTION: YOU MUST PUT RF ABSORBENT MATERIAL ON THE ANTENNA BEFORE YOU USE THE TDR TEST SET. YOU CAN DAMAGE THE TEST SET IF A HIGH POWER TRANSMITTER OPERATES WITHIN 500 FEET OF THE ANTENNA.

(a) Cover the antenna with RF absorbent material.

(b) Use a time domain reflectometer (TDR) test set to do an electrical check of the coaxial cable and antenna:

1) Remove the TCAS computer. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

2) Connect the TDR test set at pins C1, C2, C3, C4 of connector D2743A at the E1-1 shelf (WDM 34-45-21).

3) Do an electrical check of the coaxial cable and the antenna.

NOTE: The TDR test set has instructions which tell how to perform the check of the cable and antenna.

4) Disconnect the TDR test set.

5) Re-install the TCAS computer. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(c) If you find a problem with the coaxial cable, then do these steps:

1) Replace the coaxial cable (WDM 34-45-21).

2) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

a) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the coaxial cable, then continue.

(3) Examine the TCAS antenna for damage.

(a) If you find a problem with the antenna, then do these steps:

1) Replace the antenna, M1486.

These are the tasks:

TCAS Antenna Removal, AMM TASK 34-45-02-000-801,

TCAS Antenna Installation, AMM TASK 34-45-02-400-801.

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2) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

a) If the maintenance message does not show, then you corrected the fault.

b) If the maintenance message shows, then continue.

(b) If you do not find a problem with the TCAS antenna, then continue.

(4) Replace the TCAS computer, M1485.

These are the tasks:

TCAS Computer Removal, AMM TASK 34-45-01-000-801,

TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

804. TCAS Bottom Antenna Problem - Fault Isolation

A. Description

HAP 001-013, 015-026, 028-030

(1) This task is for these maintenance messages:

(a) B1

(b) B2

(c) B3

(d) B4

HAP 031-054, 101-999

(2) This task is for this TCAS maintenance message:

(a) BOT ANT

HAP ALL

(3) The TCAS computer has detected a fault with the bottom TCAS antenna.

B. Possible Causes

(1) Antenna coax connectors.

(2) Coax cable.

(3) TCAS antenna, M1487.

(4) TCAS computer, M1485.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	6	C01195	TCAS

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D. Related Data

(1) (WDM 34-45-21).

(2) (SSM 34-45-21).

E. Initial Evaluation

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do these checks of the coax connectors:

(a) Make sure the connectors are installed as follows:

Table 202

CABLE SLEEVE COLOR	TCAS ANTENNA CONNECTOR
Yellow	J1
Black	J2
Blue	J3
Red	J4

1) If the connectors are not connected correctly, then do these steps:

a) Reconnect the connectors to their correct positions.

b) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

c) If the maintenance message does not show, then you corrected the fault.

2) If the connectors are connected correctly, then continue.

(b) Make sure there is no corrosion or unwanted material on the connectors between the TCAS rack and the bottom antenna.

1) If you find corrosion or unwanted material on the connectors, then do these steps:

a) Clean and replace as necessary.

b) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

c) If the maintenance message does not show, then you corrected the fault.

d) If the maintenance message shows, then continue.

2) If you do not find corrosion or unwanted material on the connectors, then continue.

(2) Do this check of the coaxial cable:

CAUTION: YOU MUST PUT RF ABSORBENT MATERIAL ON THE ANTENNA BEFORE YOU USE THE TDR TEST SET. YOU CAN DAMAGE THE TEST SET IF A HIGH POWER TRANSMITTER OPERATES WITHIN 500 FEET OF THE ANTENNA.

(a) Cover the antenna with RF absorbent material.

(b) Use a time domain reflectometer (TDR) test set to do an electrical check of the coaxial cable and antenna:

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1) Remove the TCAS computer. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.
2) Connect the TDR test set at pins C1, C2, C3, C4 of connector D2743B at the E1-1 shelf (WDM 34-45-21).
3) Do an electrical check of the coaxial cable and the antenna.

NOTE: The TDR test set has instructions which tell how to perform the check of the cable and antenna.

4) Disconnect the TDR test set.
5) Re-install the TCAS computer. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(c) If you find a problem with the coaxial cable, then do these steps:
1) Replace the coaxial cable (WDM 34-45-21).
2) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.
a) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the coaxial cable, then continue.

(3) Do a check of the TCAS antenna:
(a) If you find a problem with the antenna, then do these steps:
1) Replace the antenna, M1487.

These are the tasks:

TCAS Antenna Removal, AMM TASK 34-45-02-000-801,

TCAS Antenna Installation, AMM TASK 34-45-02-400-801.

2) Re-install the TCAS computer. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.
3) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.
a) If the maintenance message does not show, then you corrected the fault.

(b) If you do not find a problem with the TCAS antenna, then continue.

(4) Replace the TCAS computer, M1485.

These are the tasks:

TCAS Computer Removal, AMM TASK 34-45-01-000-801,

TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.
1) If the maintenance message does not show, then you corrected the fault.

——————— END OF TASK ———————

HAP 001-013, 015-026, 028-030

805. TCAS Computer No Input from Left ATC Transponder - Fault Isolation

A. Description

(1) This task is for this TCAS maintenance message:

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(a) X1

(2) TCAS computer has found a fault with the left ATC transponder.

B. Possible Causes

(1) Left ATC transponder, M163.

(2) Wiring.

(3) TCAS computer, M1485.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	5	C00186	ATC 1
B	6	C01195	TCAS

D. Related Data

(1) (WDM 34-45-21).

(2) (WDM 34-53-11).

(3) (SSM 34-53-11).

(4) (SSM 34-45-21).

E. Initial Evaluation

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

(2) If the operator experiences an intermittent failure for the TCAS system, check these components:

(a) ATC antennas for cracking and/or corrosion

(b) ATC antenna switches (S942 and S943) for moisture contamination in the co-axial connectors.

(3) Do this task:Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

F. Fault Isolation Procedure

(1) Replace the left ATC transponder, M163, at the E1-2 shelf.

These are the tasks:

ATC Transponder Removal, AMM TASK 34-53-02-020-801,

ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

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(2) Do this check of the wiring:

(a) Remove the left ATC transponder, M163. To remove it, do this task: ATC Transponder Removal, AMM TASK 34-53-02-020-801.

(b) Remove the TCAS computer, M1485. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

(c) Do a wiring check between these pins of connector D149A at the E1-2 shelf and connector D2743E at the E1-1 shelf (WDM 34-45-21).

D149A		D2743E
pin E5	- - - - - - - - - - - - - - - - - -	pin J15
pin F5	- - - - - - - - - - - - - - - - - -	pin K15
pin G5	- - - - - - - - - - - - - - - - - -	pin F14
pin H5	- - - - - - - - - - - - - - - - - -	pin G14

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the left ATC transponder, M163. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

3) Re-install the TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

4) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

a) If the maintenance message does not show, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

(3) Replace the TCAS computer, M1485.

These are the tasks:

TCAS Computer Removal, AMM TASK 34-45-01-000-801,

TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

806. TCAS Computer No Input from Right ATC Transponder - Fault Isolation

A. Description

(1) This task is for this TCAS maintenance message:

(a) X2

(2) The TCAS computer has found a fault with the right ATC transponder.

B. Possible Causes

(1) Right ATC transponder, M381.

(2) Wiring.

(3) TCAS computer, M1485.

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	6	C01195	TCAS

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	14	C00188	ATC 2

D. Related Data

(1) (WDM 34-45-21).

(2) (WDM 34-53-21).

(3) (SSM 34-45-21).

(4) (SSM 34-53-21).

E. Initial Evaluation

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

(2) If the operator experiences an intermittent failure for the TCAS system, check these components:

(a) ATC antennas for cracking and/or corrosion

(b) ATC antenna switches (S942 and S943) for moisture contamination in the co-axial connectors.

(3) Do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

F. Fault Isolation Procedure

(1) Replace the right ATC transponder, M381.

These are the tasks:

ATC Transponder Removal, AMM TASK 34-53-02-020-801,

ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring:

(a) Remove the right ATC transponder, M381. To remove it, do this task: ATC Transponder Removal, AMM TASK 34-53-02-020-801.

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(b) Remove the TCAS computer, M1485. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

(c) Do a wiring check between these pins of connector D155A at the E1-5 shelf and connector D2743E at the E1-1 shelf (WDM 34-45-21).

D155A		D2743E
pin E5	- - - - - - - - - - - - - - - - - -	pin A14
pin F5	- - - - - - - - - - - - - - - - - -	pin B14
pin G5	- - - - - - - - - - - - - - - - - -	pin H14
pin H5	- - - - - - - - - - - - - - - - - -	pin J14

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the right ATC transponder, M381. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

3) Re-install the TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

4) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

a) If the maintenance message does not show, then you corrected the fault.

(e) If you did not find a problem with the wiring, then continue.

(3) Replace the TCAS computer, M1485.

These are the tasks:

TCAS Computer Removal, AMM TASK 34-45-01-000-801,

TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

HAP ALL

——————— END OF TASK ———————

807. TCAS, Radio Altimeter Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

HAP 001-013, 015-026, 028-030

(a) RA

HAP 031-054, 101-999

(b) RAD ALT

HAP ALL

(2) The TCAS computer has found a fault in the data from the radio altimeters.

B. Possible Causes

(1) Radio altimeter #1, M1735.

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(2) Radio altimeter #2, M1736.

(3) Wiring.

(4) TCAS computer, M1485.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	4	C01384	RADIO NAVIGATION RADIO ALTM 1
B	6	C01195	TCAS

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	16	C01385	RADIO NAVIGATION RADIO ALTM 2

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	15	C01355	LANDING GEAR AIR/GND SYS 2

D. Related Data

(1) (WDM 34-33-11).

(2) (WDM 34-33-21).

(3) (WDM 34-45-11).

(4) (SSM 34-33-11).

(5) (SSM 34-33-21).

(6) (SSM 34-45-11).

E. Initial Evaluation

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Examine the radio altimeter

(a) If the radio altimeter shows an altitude of more than 50 feet while the AIR/GND logic is in GND, then do these steps:

1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	15	C01355	LANDING GEAR AIR/GND SYS 2

2) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

a) If the maintenance message does not show, then you corrected the fault.

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(b) If the radio altimeter shows an altitude of less than 50 feet, then continue.

(2) Replace the radio altimeter #1, M1735.

These are the tasks:

Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801,

Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(3) Replace the radio altimeter #2, M1736.

These are the tasks:

Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801,

Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(4) Do this check of the wiring for radio altimeter #1:

(a) Remove the radio altimeter #1, M1735. To remove it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801.

(b) Remove the TCAS computer, M1485. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

(c) Do a wiring check between these pins of connector D3667B, at the E3-1 shelf, and connector D2743E, at the E1-1 shelf (WDM 34-45-11).

D3667B		D2743E
pin G2	- - - - - - - - - - - - - - - - - -	pin H13
pin G3	- - - - - - - - - - - - - - - - - -	pin J13

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the Radio Altimeter #1, M1735. To install it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

3) Re-install the TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

4) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

a) If the maintenance message does not show, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

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1) Re-install the radio altimeter #1, M1735. To install it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

(5) Do this check of the wiring for radio altimeter #2:

(a) Remove the radio altimeter #2, M1736. To remove it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801.

(b) Do a wiring check between these pins of connector D3669B, at the E3-1 shelf, and connector D2743F, at the E1-1 shelf (WDM 34-45-11).

D3669B		D2743F
pin G2	- - - - - - - - - - - - - - - - - -	pin D3
pin G3	- - - - - - - - - - - - - - - - - -	pin E3

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the radio altimeter #2, M1736. To install it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

3) Re-install the TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

4) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

a) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-install the radio altimeter #2, M1736. To install it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

(6) Install a new TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

——————— END OF TASK ———————

808. TCAS Resolution Advisory Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

HAP 001-013, 015-026, 028-030

(a) RD

HAP 031-054, 101-999

(b) RA DISP

HAP ALL

(2) The resolution advisory displays have reported a problem to the TCAS computer.

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B. Possible Causes

(1) Display electronic unit (DEU) 1, M1808.

(2) Display electronic unit (DEU) 2, M1809.

(3) Wiring.

(4) TCAS computer, M1485.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	6	C01195	TCAS

D. Related Data

(1) (WDM 34-45-11).

(2) (WDM 31-62-15).

(3) (WDM 31-62-25).

(4) (SSM 31-62-15).

(5) (SSM 31-62-25).

(6) (SSM 34-45-11).

E. Initial Evaluation

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If you find CDS CURRENT STATUS faults, then go to the fault isolation task for the applicable CDS maintenance message to correct the fault.

1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

a) If the maintenance message does not show, then you corrected the fault.

b) If the maintenance message shows, then continue.

(b) If you did not find any CDS CURRENT STATUS faults, then continue.

(2) Do this check of the RA STATUS discretes (WDM 34-45-11):

(a) Remove the TCAS computer, M1485. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

(b) Measure the wiring impedance between connector D2743E pin C14 and structure ground.

(c) Measure the wiring impedance between connector D2743E pin E13 and structure ground.

(d) If the impedance of each measurement is greater than 10 ohms, replace the DEUs #1 and #2.

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These are the tasks:

Display Electronic Unit Removal, AMM TASK 31-62-21-000-801,

Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

1) Measure the impedances again.

2) If the impedance of each measurement is still greater than 10 ohms, then do these steps:

a) Repair the wiring.

b) Re-install the TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

c) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

d) If the maintenance message does not show, then you corrected the fault.

3) If the impedance is less than 10 ohms, then do these steps:

a) Re-install the TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

b) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

c) If the maintenance message does not show, then you corrected the fault.

(e) If the impedance is less than 10 ohms, then continue.

(3) Replace the TCAS computer, M1485.

These are the tasks:

TCAS Computer Removal, AMM TASK 34-45-01-000-801,

TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

———————— END OF TASK ————————

HAP 001-013, 015-026, 028-030

809. TCAS, Inertial Reference System Problem - Fault Isolation

A. Description

(1) This task is for these maintenance messages:

(a) PT

(b) RL

(c) HD

(2) The TCAS computer has found a problem in the data from the inertial reference system portion of the ADIRU.

B. Possible Causes

(1) Left air data inertial reference unit (ADIRU), M1749.

(2) Wiring.

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(3) TCAS computer, M1485.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	6	C01195	TCAS
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

D. Related Data

(1) (WDM 34-45-11).

(2) (WDM 34-21-13).

(3) (SSM 34-21-13).

E. Initial Evaluation

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) For the left ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(a) If you find ADIRS CURRENT STATUS faults, then go to the fault isolation task for the applicable ADIRS maintenance message to correct the fault.

1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

a) If the maintenance message does not show, then you corrected the fault.

(b) If you do not find any ADIRS CURRENT STATUS faults, then continue.

(2) Do this check of the wiring:

(a) Remove the TCAS computer, M1485. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

(b) Remove the Left ADIRU, M1749. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(c) Do a wiring check between these pins of connector D2743E, at the E1-1 shelf, and connector D3687B, at the E5-2 shelf.

D3687B		D2743E
pin C10	- - - - - - - - - - - - - - - - -	pin A7
pin C11	- - - - - - - - - - - - - - - - -	pin B7

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(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

3) Re-install the left ADIRU, M1749. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

4) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

a) If the maintenance message does not show, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

1) Re-install the left ADIRU, M1749. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(3) Install a the TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

——————— END OF TASK ———————

810. TCAS Program Pins Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) PP

(2) The TCAS computer has found a problem in the program pin configuration.

B. Possible Causes

(1) Wiring.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	6	C01195	TCAS

D. Related Data

(1) (WDM 34-45-21).

(2) (SSM 34-45-21).

E. Initial Evaluation

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

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(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the TCAS computer program pins:

(a) Remove the TCAS computer, M1485. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

(b) Do a check of the program pin wiring (WDM 34-45-21, SSM 34-45-21).

(c) Put the program pins to their correct configuration (WDM 34-45-21, SSM 34-45-21).

(d) Re-install the TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(e) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

———————— END OF TASK ————————

HAP 031-054, 101-999

811. TCAS Computer No Input from an ATC Transponder - Fault Isolation

A. Description

(1) This task is for this TCAS maintenance message:

(a) XPDR BUS

(2) The TCAS computer has found a fault with an ATC transponder.

B. Possible Causes

(1) ATC transponder, M163 (left) or M381 (right).

(2) Wiring.

(3) TCAS computer, M1485.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	5	C00186	ATC 1
B	6	C01195	TCAS

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	14	C00188	ATC 2

D. Related Data

(1) (SSM 34-53-11).

(2) (SSM 34-45-21).

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(3) (WDM 34-45-21).

(4) (WDM 34-53-11).

E. Initial Evaluation

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows with the transponder select switch on the ATC control panel at ATC 1 or L (ATC 2 or R), then the fault is in the circuit for the left ATC (right ATC). Do the Fault Isolation Procedure below for the applicable ATC.

F. Fault Isolation Procedure

(1) Replace the left ATC transponder, M163, at the E1-2 shelf or the right ATC transponder, M381, at the E1-5 shelf as applicable.

These are the tasks:

ATC Transponder Removal, AMM TASK 34-53-02-020-801,

ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring:

(a) Remove the ATC transponder, M163 (left) or M381 (right). To remove it, do this task: ATC Transponder Removal, AMM TASK 34-53-02-020-801.

(b) Remove the TCAS computer, M1485. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

(c) Do a wiring check between these pins for the applicable ATC circuit (WDM 34-45-21):

	ATC TRANSPONDER CONNECTOR		TCAS COMPUTER CONNECTOR
LEFT	**D149A**		**D2743E**
	pin E5	- - - - - - - - - - - - - - - - - -	pin J15
	pin F5	- - - - - - - - - - - - - - - - - -	pin K15
	pin G5	- - - - - - - - - - - - - - - - - -	pin F14
	pin H5	- - - - - - - - - - - - - - - - - -	pin G14
RIGHT	**D155A**		**D2743E**
	pin E5	- - - - - - - - - - - - - - - - - -	pin A14
	pin F5	- - - - - - - - - - - - - - - - - -	pin B14
	pin G5	- - - - - - - - - - - - - - - - - -	pin H14
	pin H5	- - - - - - - - - - - - - - - - - -	pin J14

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

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2) Re-install the ATC transponder, M163 (left) or M381 (Right). To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

3) Re-install the TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

4) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

a) If the maintenance message does not show, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

(3) Replace the TCAS computer, M1485.

These are the tasks:

TCAS Computer Removal, AMM TASK 34-45-01-000-801,

TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

HAP ALL

——————— END OF TASK ———————

812. TCAS Suppression Coax Problem - Fault Isolation

A. Description

(1) This task is for this TCAS maintenance message:

(a) SP

(2) The TCAS computer has detected fault with the suppression bus.

B. Possible Causes

(1) Coax tees, M1908, M1346 and M1347.

(2) Coax cables.

(3) TCAS computer, M1485.

(4) DME interrogators, M164 (DME-1) and M165 (DME-2).

(5) ATC Transponders, M163 (Left) and M381 (Right).

C. Related Data

(1) (SSM 34-53-31).

(2) (WDM 34-53-31).

(3) (WDM 34-55-11, 34-55-21)

D. Initial Evaluation

(1) Do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(2) Do this task: DME Interrogator BITE Procedure, 34-55 TASK 801.

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(3) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

E. Fault Isolation Procedure

(1) Remove the TCAS computer, M1485. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

(2) Remove the ATC transponders, M163 (Left) and M381 (Right). To remove it, do this task: ATC Transponder Removal, AMM TASK 34-53-02-020-801.

(3) Remove the DME interrogators, M164 (DME-1) and M165 (DME-2). To remove it, do this task: DME Interrogator Removal, AMM TASK 34-55-21-000-801.

(4) Do these checks of the coax cables:

(a) Check for shorted coax.

(b) Disconnect connector D10161 from the coax tee, M1908.

NOTE: The coax tee, M1908 is at the E1-1 shelf in the electronic equipment bay.

1) Do a check for an open circuit between these pins at connector D2743C for the TCAS computer and connector D10161 at the coax tee:

D2743C		D10161
pin 12	- - - - - - - - - - - - - - - - - -	pin A1

2) If there is an open circuit, repair or replace the coax cable between the TCAS computer and the coax tee, M1908.

(c) Disconnect connector D10163 from the coax tee, M1908 and disconnect connector D2473 from the coax tee, M1346.

1) Do a check for an open circuit between these pins at connector D10163 and at connector D2473:

D10163		D2473
A1	- - - - - - - - - - - - - - - - - - - -	A1

2) If there is an open circuit, repair or replace the coax cable between coax tee, M1908 and coax tee M1346.

(d) Disconnect connector D10159 from the coax tee, M1908 and disconnect connector D2851 from the coax tee, M1347.

NOTE: The coax tee, M11347 is at the E1-5 shelf in the electronic equipment bay.

1) Do a check for an open circuit between these pins at connector D10159 and at connector D2851:

D10159		D2851
A1	- - - - - - - - - - - - - - - - - - - -	A1

2) If there is an open circuit, repair or replace the coax cable between coax tee, M1908 and coax tee M1347.

(e) Disconnect connector D2477 from the coax tee, M1346.

NOTE: The coax tee, M11346 is at the E1-2 shelf in the electronic equipment bay.

1) Do a check for an open circuit between these pins at connector D2477 and connector D149C at ATC 1 Transponder, M163:

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D2477		D149C
A1	- - - - - - - - - - - - - - - - - - - -	A1

2) If there is an open circuit, repair or replace the coax cable between coax tee, M1346 and ATC 1 Transponder, M163.

(f) Disconnect connector D2475 from the coax tee, M1346.

1) Do a check for an open circuit between these pins at connector D2475 and connector D161C at DME 1 Interrogator, M164:

D2475		D161C
A1	- - - - - - - - - - - - - - - - - - - -	12

2) If there is an open circuit, repair or replace the coax cable between coax tee, M1346 and DME 1 Interrogatorr, M164.

(g) Disconnect connector D2853 from the coax tee, M1347.

1) Do a check for an open circuit between these pins at connector D2853 and connector D155C at ATC 2 Transponder, M381:

D2853		D155C
A1	- - - - - - - - - - - - - - - - - - - -	12

2) If there is an open circuit, repair or replace the coax cable between coax tee, M1347 and ATC 2 Transponder, M381.

(h) Disconnect connector D2849 from the coax tee, M1347.

1) Do a check for an open circuit between these pins at connector D2849 and connector D169C at DME 2 Interrogator, M165:

D2849		D169C
A1	- - - - - - - - - - - - - - - - - - - -	12

2) If there is an open circuit, repair or replace the coax cable between coax tee, M1347 and DME 2 Interrogator, M165.

(5) If no wiring faults were found, replace the coax tees, M1908, M1346 and M1347. Otherwise, continue.

(6) Re-install the TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(7) Re-install the ATC transponders, M163 (Left) and M381 (Right). To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(8) Re-install the DME interrogators, M164 (DME-1) and M165 (DME-2). To install it, do this task: DME Interrogator Installation, AMM TASK 34-55-21-400-801.

(9) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the maintenance message does not show, then you corrected the fault.

(b) If the maintenance message shows, then continue.

(10) Replace the TCAS computer, M1485, at the E1-1 shelf.

These are the tasks:

TCAS Computer Removal, AMM TASK 34-45-01-000-801,

TCAS Computer Installation, AMM TASK 34-45-01-400-801.

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(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

——————— END OF TASK ———————

HAP 001-013, 015-026, 028-030

813. TCAS Air/Ground Input Problem - Fault Isolation

A. Description

(1) This task is for this TCAS maintenance message:

(a) AG

(2) The TCAS computer has detected an air/ground input fault or the input shows ground while the radio altimeter input is more than 1000 feet .

(3) The TCAS has detected a No Computed Data (NCD) Radio Altitude ARINC 429 bus input, which TCAS thinks is a Radio Altitude input more than 2500 feet, when air/ground input shows ground.

B. Possible Causes

(1) Wiring.

(2) Proximity switch electronics unit (PSEU).

(3) TCAS computer, M1485.

(4) Radio Altimeter Computer M1735/6

C. Related Data

(1) (SSM 34-45-11).

(2) (WDM 34-45-11).

D. Initial Evaluation

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

(2) Use the PSEU BITE to put the airplane in the air mode. To do this, do this task: AMM TASK 32-09-00-860-801

(3) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801

(a) TCAS BITE should not work in air mode.

(4) Do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-840-802

E. Fault Isolation Procedure

(1) Do this check of the PSEU:

(a) Do this task: Proximity Switch Electronics Unit (PSEU) BITE Procedure, 32-09 TASK 801.

(b) If the PSEU BITE shows any PSEU internal faults, then replace the PSEU.

These are the tasks:

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Proximity Switch Electronics Unit (PSEU) Removal, AMM TASK 32-09-10-000-801,

Proximity Switch Electronics Unit (PSEU) Installation, AMM TASK 32-09-10-400-801.

1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

a) If the maintenance message does not show, then you corrected the fault.

(c) If the PSEU BITE does not show any PSEU internal faults, then continue.

(2) Do this check of the wiring:

(a) Remove the TCAS computer, M1485. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

(b) Disconnect connector D11138 from the PSEU.

(c) Do a check of the wiring between these pins at connector D2743E for the TCAS computer and connector D11138 at the PSEU:

D2743E		D11138
pin K5	- - - - - - - - - - - - - - - - - -	pin 47

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect connector D11138 to the PSEU.

3) Re-install the TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

4) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

a) If the maintenance message does not show, then you corrected the fault.

(e) If you do not find a problem with the wiring, then do this step and continue:

1) Re-connect connector D11138 to the PSEU.

(3) Examine the radio altimiter

(a) If the radio altimeter shows an altitude of more than 50 feet while the AIR/GND logic is in GND, then do these steps: Low Range Radio Altimeter (LRRA) BITE Procedure, 34-33 TASK 801

1) If you do not find a problem with the Radio Altimeter, do this task: TCAS, Radio Altimeter Problem - Fault Isolation, 34-45 TASK 807

(b) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801

1) If the maintenance message does not show, then you corrected the fault.

(4) Install a new TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

HAP ALL

——————— END OF TASK ———————

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814. TCAS Intruder Symbol Problem - Fault Isolation

A. Description

(1) The navigation display does not show the correct TCAS data or TCAS data is missing.

B. Initial Evaluation

(1) Do this task: TCAS - System test AMM TASK 34-45-00-730-801 or AMM TASK 34-45-00-730-802.

(a) If the system test is satisfactory, then there was an intermittent fault.

(b) If the system test is not satisfactory, then do the Fault Isolation Procedure below.

C. Fault Isolation Procedure

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the TCAS BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Do this task: TCAS - System test AMM TASK 34-45-00-730-801 or AMM TASK 34-45-00-730-802.

2) If the system test is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

815. TCAS OFF Message - Fault Isolation

A. Description

(1) The TCAS OFF message shows on the navigation display when the TCAS/ATC control panel selector is in the TA or TA/RA position.

B. Possible Causes

(1) ATC control panel, P8-29.

(2) ATC transponder, M163 (left) or M381 (right).

(3) Wiring

(4) TCAS Computer, M1485.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	5	C00186	ATC 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	14	C00188	ATC 2

D. Related Data

(1) (SSM 34-45-21).

(2) (SSM 34-53-11).

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(3) (SSM 34-53-21).

(4) (WDM 34-45-21).

(5) (WDM 34-53-11).

(6) (WDM 34-53-21).

E. Initial Evaluation

(1) Make sure the selector switch on the ATC control panel is at the TA or TA/RA position.

(2) Put the ATC switch on the ATC control panel to the 1 or L position.

(3) Make sure the transponder fail light on the ATC control panel is off.

(a) If the transponder fail light is on, then the fault is in the ATC system. To find the fault, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(4) Look for the TCAS OFF message on the navigation display.

(5) Put the ATC switch on the ATC control panel to the 2 or R position.

(6) Make sure the transponder fail light on the ATC control panel is off.

(a) If the transponder fail light is on, then the fault is in the ATC system. To find the fault, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(7) Look for the TCAS OFF message on the navigation display.

(8) If the TCAS OFF message does not show in either ATC switch position, then there was an intermittent fault.

(9) If the TCAS OFF message shows in ony one ATC switch position, then do the Fault Isolation Procedure - One ATC below.

(10) If the TCAS OFF message shows in both ATC switch positions, then do the Fault Isolation Procedure - Both ATCs below.

F. Fault Isolation Procedure - One ATC

NOTE: You must do the steps in the Initial Evaluation before you can do these steps.

(1) For the applicable ATC transponder, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If the ATC transponder BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Do the Repair Confirmation at the end of this task.

(b) If the ATC transponder BITE test does not show a fault, then continue.

(2) Replace the ATC control panel, P8-29.

These are the tasks:

ATC Control Panel Removal, AMM TASK 34-53-03-000-801,

ATC Control Panel Installation, AMM TASK 34-53-03-400-801.

(a) Do the Repair Confirmation at the end of this task.

(b) If the Repair Confirmation is not satisfactory, then continue.

(3) Replace the TCAS computer, M1485.

These are the tasks:

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TCAS Computer Removal, AMM TASK 34-45-01-000-801,

TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) Do the Repair Confirmation at the end of this task.

G. Fault Isolation Procedure - Both ATCs

NOTE: You must do the steps in the Initial Evaluation before you can do these steps.

(1) Replace the ATC control panel, P8-29.

These are the tasks:

ATC Control Panel Removal, AMM TASK 34-53-03-000-801,

ATC Control Panel Installation, AMM TASK 34-53-03-400-801.

(a) Do the Repair Confirmation at the end of this task.

(b) If the Repair Confirmation is not satisfactory, then continue.

(2) Replace the TCAS computer, M1485.

These are the tasks:

TCAS Computer Removal, AMM TASK 34-45-01-000-801,

TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) Do the Repair Confirmation at the end of this task.

H. Repair Confirmation

(1) Do this check for the TCAS OFF message:

(a) Make sure the selector switch on the ATC control panel is at the TA or TA/RA position.

(b) Put the ATC switch on the ATC control panel to the 1 or L position.

(c) Look for the TCAS OFF message on the navigation display.

(d) Put the ATC switch on the ATC control panel to the 2 or R position.

(e) Look for the TCAS OFF message on the navigation display.

(f) If the TCAS OFF message does not show in either ATC switch position, then you corrected the fault.

——————— END OF TASK ———————

816. TCAS Voice Annunciation (Aural) Problem - Fault Isolation

A. Description

(1) The TCAS aural messages do not sound.

B. Possible Causes

(1) Remote electronic unit (REU), M1353.

(2) TCAS computer, M1485.

(3) Wiring.

C. Related Data

(1) (SSM 34-45-11).

(2) (WDM 34-45-11).

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D. Initial Evaluation

(1) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

(a) If the operational test is satisfactory, then there was an intermittent fault.

(b) If the operational test is not satisfactory, then do the Fault Isolation Procedure below.

E. Fault Isolation Procedure

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the TCAS BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

2) If the operational test is satisfactory, then you corrected the fault.

(b) If the TCAS BITE test does not show a fault, then continue.

(2) Do this check of the REU:

(a) Push the SYS TEST switch on the GROUND PROXIMITY module.

NOTE: The GROUND PROXIMITY module is on the first officer's instrument panel, P3.

(b) If you do not hear the ground proximity aural annunciations during the test, then do these steps:

1) Replace the REU, M1353.

These are the tasks:

Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,

Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

2) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

a) If the operational test is satisfactory, then you corrected the fault.

(c) If you hear the ground proximity aural annunciations during the test, then continue.

(3) Do this check of the wiring:

(a) Remove the TCAS computer, M1485. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

(b) Remove the REU, M1353. To remove it, do this task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.

(c) Do a check of the wiring between these pins of connector D2743E for the TCAS computer and D2501A for the REU:

D2743E		D2501A
pin F3	- - - - - - - - - - - - - - - - - -	pin H15
pin F3	- - - - - - - - - - - - - - - - - -	pin F14
pin G3	- - - - - - - - - - - - - - - - - -	pin J15
pin G3	- - - - - - - - - - - - - - - - - -	pin F13

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the REU. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

3) Re-install the TCAS computer. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

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4) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

a) If the operational test is satisfactory, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

(4) Install a new TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

1) If the operational test is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

817. TCAS Display Blank - Fault Isolation

A. Description

(1) The navigation display does not show any TCAS data.

B. Initial Evaluation

(1) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

(a) If the operational test is satisfactory, then there was an intermittent fault.

(b) If the operational test is not satisfactory, then do the Fault Isolation Procedure below.

C. Fault Isolation Procedure

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the TCAS BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

2) If the operational test is satisfactory, then you corrected the fault.

(b) If the TCAS BITE test does not show a fault, then continue.

(2) Do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If the CDS BITE test shows a TCAS data fault, then go to the fault isolation task for that CDS maintenance message to correct the fault.

1) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

2) If the operational test is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

818. TCAS TEST FAIL - Fault Isolation

A. Description

(1) This task is for a TEST FAIL indication and an aural test fail annunciation after the TCAS system test. You do the TCAS system test from the TEST switch on the ATC control panel.

B. Initial Evaluation

(1) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

(a) If the operational test is satisfactory, then there was an intermittent fault.

(b) If the operational test is not satisfactory, then do the Fault Isolation Procedure below.

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C. Fault Isolation Procedure

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the TCAS BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

2) If the operational test is satisfactory, then you corrected the fault.

———————— END OF TASK ————————

819. TCAS System Test Does Not Start when the TEST Switch is Pushed - Fault Isolation

A. Description

(1) You do the TCAS system test from the TEST switch on the ATC control panel. The control signal goes through the ATC transponder to the TCAS computer.

(2) You can also start the TCAS system test when you do the TCAS BITE test.

B. Possible Causes

(1) ATC control panel, P8-29.

(2) ATC transponder, M163 (left) or M381 (right).

(3) Wiring.

(4) TCAS computer, M1485.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	5	C00186	ATC 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	14	C00188	ATC 2

D. Related Data

(1) (SSM 34-45-21).

(2) (SSM 34-53-11).

(3) (SSM 34-53-21).

(4) (WDM 34-45-21).

(5) (WDM 34-53-11).

(6) (WDM 34-53-21).

E. Initial Evaluation

(1) Put the ATC switch on the ATC control panel to the 1 or L position.

(2) Make sure the transponder fail light on the ATC control panel is off.

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(a) If the transponder fail light is on, then the fault is in the ATC system. To find the fault, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(3) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

(4) Put the ATC switch on the ATC control panel to the 2 or R position.

(5) Make sure the transponder fail light on the ATC control panel is off.

(a) If the transponder fail light is on, then the fault is in the ATC system. To find the fault, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(6) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

(7) If the operational test is satisfactory in both ATC switch positions, then there was an intermittent fault.

(8) If test does not start in only one ATC switch position, then do the Fault Isolation Procedure - One ATC below.

(9) If test does not start in both ATC switch positions, then do the Fault Isolation Procedure - Both ATCs below.

F. Fault Isolation Procedure - One ATC

NOTE: You must do the steps in the Initial Evaluation before you can do these steps.

(1) For the applicable ATC transponder, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If the ATC transponder BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

a) If the operational test is satisfactory, then you corrected the fault.

(b) If the ATC transponder BITE test does not show a fault, then continue.

(2) Replace the ATC control panel, P8-29.

These are the tasks:

ATC Control Panel Removal, AMM TASK 34-53-03-000-801,

ATC Control Panel Installation, AMM TASK 34-53-03-400-801.

(a) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

1) If the operational test is satisfactory, then you corrected the fault.

2) If the test does not start, then continue.

(3) Replace the TCAS computer, M1485.

These are the tasks:

TCAS Computer Removal, AMM TASK 34-45-01-000-801,

TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

1) If the operational test is satisfactory, then you corrected the fault.

G. Fault Isolation Procedure - Both ATCs

NOTE: You must do the steps in the Initial Evaluation before you can do these steps.

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(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the TCAS system test does not start when you do the TCAS BITE test, then do these steps:

1) Replace the TCAS computer, M1485.

These are the tasks:

TCAS Computer Removal, AMM TASK 34-45-01-000-801,

TCAS Computer Installation, AMM TASK 34-45-01-400-801.

2) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

a) If the operational test is satisfactory, then you corrected the fault.

(b) If the TCAS system test starts when you do the TCAS BITE test, then continue.

(2) Replace the ATC control panel, P8-29.

These are the tasks:

ATC Control Panel Removal, AMM TASK 34-53-03-000-801,

ATC Control Panel Installation, AMM TASK 34-53-03-400-801.

(a) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

1) If the operational test is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

820. TCAS Intruder Symbols Show on the Ground - Fault Isolation

A. Description

(1) The TCAS computer uses an air/ground discrete to prevent the TCAS intruder symbols from showing when the airplane is on the ground. The air/ground discrete comes from the proximity switch electronics unit (PSEU).

B. Possible Causes

(1) Wiring.

(2) Proximity switch electronics unit.

(3) TCAS computer, M1485.

C. Related Data

(1) (SSM 34-45-11).

(2) (WDM 34-45-11).

D. Initial Evaluation

(1) If the TCAS intruder symbols do not show with the airplane in the ground mode, then there was an intermittent fault.

(2) If the TCAS intruder symbols show with the airplane in the ground mode, then do the Fault Isolation Procedure below.

E. Fault Isolation Procedure

HAP 001-013, 015-026, 028-030; AIRPLANES WITH ALLIED SIGNAL TCAS COMPUTER

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

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(a) If the TCAS BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) If the TCAS intruder symbols do not show with the airplane in the ground mode, then you corrected the fault.

HAP 031-054, 101-999; AIRPLANES WITH COLLINS, HONEYWELL, OR L3 COMMUNICATIONS TCAS COMPUTER

(2) Do this check of the PSEU:

(a) Do this task: Proximity Switch Electronics Unit (PSEU) BITE Procedure, 32-09 TASK 801.

(b) If the PSEU BITE shows any PSEU internal faults, then replace the PSEU, M2061.

These are the tasks:

Proximity Switch Electronics Unit (PSEU) Removal, AMM TASK 32-09-10-000-801,

Proximity Switch Electronics Unit (PSEU) Installation, AMM TASK 32-09-10-400-801.

1) If the TCAS intruder symbols do not show with the airplane in the ground mode, then you corrected the fault.

(c) If the PSEU BITE does not show any PSEU internal faults, then continue.

(3) Do this check of the wiring:

(a) Remove the TCAS computer, M1485. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

(b) Disconnect connector D11138 from the PSEU.

(c) Do a check of the wiring between these pins at connector D2743E for the TCAS computer and connector D11138 at the PSEU:

D2743E		D11138
pin K5	- - - - - - - - - - - - - - - - - -	pin 47

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect connector D11138 to the PSEU.

3) Re-install the TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

4) If the TCAS intruder symbols do not show with the airplane in the ground mode, then you corrected the fault.

(e) If you do not find a problem with the wiring, then do this step and continue:

1) Re-connect connector D11138 to the PSEU.

(4) Install a new TCAS computer, M1485. to install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) If the TCAS intruder symbols do not show with the airplane in the ground mode, then you corrected the fault.

HAP ALL

——————— END OF TASK ———————

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821. TCAS FAIL - Fault Isolation

A. Description

(1) This task is for a TCAS FAIL message. It is correct for TCAS FAIL to show on the display if the display is in compacted mode.

(2) The TCAS FAIL message can show for faults that are external to the TCAS computer as well as for faults that are internal to the TCAS computer.

(a) These are the faults that can cause the TCAS FAIL message to show and will cause a TCAS maintenance message to show:

1) Left ADIRU failure or ADIRU bus failure.

2) Top antenna failure.

3) Bottom antenna failure.

4) ATC transponder failure or ATC bus failure.

5) TCAS computer failure or TCAS bus to the ATC failure.

HAP 001-013, 015-026, 028-030

6) Air/ground discrete short to ground.

HAP ALL

7) Both RA status discretes from the DEUs are grounded.

8) A failure of both radio altimeters or a failure of both radio altimeter busses.

(b) These are the faults that can cause the TCAS FAIL message to show and will not cause a TCAS maintenance message to show:

HAP 031-054, 101-999

1) Air/ground discrete short to ground.

HAP ALL

2) One RA status discrete from the DEUs is grounded.

B. Initial Evaluation

(1) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

(a) If the operational test is satisfactory, then there was an intermittent fault.

(b) If the operational test is not satisfactory, then do the Fault Isolation Procedure below.

C. Fault Isolation Procedure

(1) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, 34-45 TASK 801.

(a) If the TCAS BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

2) If the operational test is satisfactory, then you corrected the fault.

(b) If the TCAS BITE test does not show a fault, then continue.

HAP 031-054, 101-999; AIRPLANES WITH COLLINS, HONEYWELL, OR L3 COMMUNICATIONS TCAS COMPUTER

(2) Do this check of the air/ground discrete input to the TCAS computer.

(a) Do this task: Proximity Switch Electronics Unit (PSEU) BITE Procedure, 32-09 TASK 801.

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1) If the PSEU BITE shows any PSEU internal faults, then replace the PSEU, M2061.

These are the tasks:

Proximity Switch Electronics Unit (PSEU) Removal, AMM TASK 32-09-10-000-801,

Proximity Switch Electronics Unit (PSEU) Installation, AMM TASK 32-09-10-400-801.

a) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

b) If the operational test is satisfactory, then you corrected the fault

2) If the PSEU BITE does not show any PSEU internal faults, then continue.

(b) Do this check of the wiring:

1) Remove the TCAS computer, M1485. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

2) Disconnect connector D11138 from the PSEU.

3) Do a check of the wiring between these pins at connector D2743E for the TCAS computer and connector D11138 at the PSEU:

D2743E		D11138
pin K5	- - - - - - - - - - - - - - - - -	pin 47

4) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect connector D11138 to the PSEU.

c) Re-install the TCAS computer, M1485. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

d) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

e) If the operational test is satisfactory, then you corrected the fault.

5) If you do not find a problem with the wiring, then do this step and continue:

a) Re-connect connector D11138 to the PSEU.

HAP ALL

(3) Do this check of the RA status discrete:

(a) Make sure the MAIN PANEL DUs switches, on the captain's and first officer's display select modules, are at the NORM position.

(b) Make sure the captain's and first officer's displays are in the normal expanded format.

(c) Move the MAIN PANEL DUs switch, on the captain's display select module, to OUTBD PFD.

NOTE: This makes the captain's displays go to compacted mode.

1) If TCAS FAIL shows on the first officer's display, then the RA 2 status discrete is an open circuit.

(d) Move the MAIN PANEL DUs switch, on the captain's display select module, to NORM.

(e) Move the MAIN PANEL DUs switch, on the first officer's display select module, to OUTBD PFD.

NOTE: This makes the first officer's displays go to compacted mode.

1) If TCAS FAIL shows on the captain's display, then the RA 1 status discrete is an open circuit.

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(f) Move the MAIN PANEL DUs switch, on the first officer's display select module, to NORM.

(g) If one of the RA status discretes is an open circuit, then do these steps:

1) Replace the applicable DEU, M1808 (DEU 1) or M1809 (DEU 2).

These are the tasks:

Display Electronic Unit Removal, AMM TASK 31-62-21-000-801,

Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

a) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

b) If the operational test is satisfactory, then you corrected the fault.

c) If the operational test is not satisfactory, then continue.

d) Repair the wiring for the applicable RA STATUS:

	DEU CONNECTOR		TCAS COMPUTER CONNECTOR
RA 1	**D3973E (DEU 1)**		**D2743E**
	pin D4	- - - - - - - - - - - - - - - -	pin C14
RA 2	**D3975E (DEU 2)**		**D2743E**
	pin D4	- - - - - - - - - - - - - - - -	pin E13

e) Do this task: TCAS - Operational Test, AMM TASK 34-45-00-710-801.

f) If the operational test is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

823. TCAS Fail in TA/RA Mode and Normal in the TA (only) Mode - Fault Isolation

A. Description

(1) The TCAS computer calculates the resolution advisory (RA) by communicating with other aircraft TCAS computers. For TCAS computers on different aircraft to communicate, the ATC transponders are used. If the ATC transponder transmission is not good, the TCAS computer will not be able to coordinate with other aircraft TCAS computers. However the TCAS computer can still communicate with other ATC transponders and compute the traffic advisory (TA) only, but will not be able to do resolution advisory (RA).

B. Possible Causes

(1) ATC 1 transponder M163, or ATC 2 transponder M381.

(2) ATC top antenna M1046 or ATC bottom antenna M44.

(3) ATC antenna select coax switches or coax transmission lines.

C. Related Data

(1) (WDM 34-53-31).

D. Initial Evaluation

(1) If the condition TA/RA fail and TA (only) is okay condition is present when one ATC transponder is selected and not present when the other ATC transponder is selected, it is likely that the problem exists within that transponder.

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(2) If the TA/RA fail and TA (only) is okay condition is present when either (both) ATC transponders are selected, it is likely that the problem exists with the ATC antennas, ATC coax switches, or cables.

E. Fault Isolation Procedure

(1) Do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If a fail indication on the ATC shows, resolve it first and repeat the TCAS test.

——————— END OF TASK ———————

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801. GPWS BITE Procedure

A. General

HAP **HAP ALL; AIRPLANES WITH ENHANCED GROUND PROXIMITY WARNING SYSTEM**

HAP (1) This is a description of the GPWS BITE:

HAP (a) In this task, you do the BITE procedure at the front of the Ground Proximity Warning HAP Computer (GPWC).

HAP (b) The GPWC is installed on the E1-1 shelf in the electronic equipment bay.

HAP (c) A self test switch is on the front panel of the GPWC behind the hinged door.

HAP (d) There are six levels in the self test. This procedure uses these levels:

HAP 1) Level 2 - Current Faults

HAP 2) Level 4 - Fault History

HAP (e) Current faults will show any GPWC internal faults and input signal faults that are currently HAP active.

HAP (f) Faults history will show any GPWC internal faults and input signal faults from the last 10 HAP flight legs.

HAP (g) You must use headphones to do the self test. The maintenance messages and test prompts HAP are aural.

HAP (h) You can also do the self test from the flight compartment. From the flight compartment, you HAP start the self test when you push the SYS TEST switch on the ground proximity module, P3-HAP 7.

B. BITE Procedure

HAP (1) Do these steps to find any current faults:

HAP (a) Look at the Ground Proximity Warning Computer (GPWC) status indicators to find a fault HAP condition.

HAP **Table 201**

HAP HAP HAP EXTERNAL FAULT Light	COMPUTER OK Light	COMPUTER FAIL Light	CONDITION
HAP off	off	off	No power to the GPWC
HAP off	off	red	GPWC internal fault
HAP off	green	off	No current faults
HAP off	green	red	GPWC internal fault
HAP yellow	off	red	GPWC internal fault *[1] and GPWS external fault
HAP yellow	green	off	GPWS external fault
HAP yellow	green	red	GPWC internal fault

HAP *[1] A program pin parity error can cause the COMPUTER FAIL light to come on red.

HAP 1) If there is a GPWC internal fault condition, then, do this task: GPWC COMPUTER FAIL HAP Status Indicator - Fault Isolation, 34-46 TASK 859.

HAP 2) If the status indicator lights do not show any current faults, then do the steps to find HAP faults in fault history below.

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HAP 3) If there is a no power condition (none of the status indicators are on), then, do this task:
HAP GPWC BITE Does Not Operate - Fault Isolation, 34-46 TASK 821.

HAP 4) If there is a GPWS external fault condition, then continue.

HAP NOTE: You can do the steps that follow from the flight compartment. In the flight
HAP compartment, you push the SYS TEST switch on the ground proximity module,
HAP P3-7.

HAP (b) Open the door on the front of the GPWC.

HAP (c) Connect a 600 ohm, with 1/4 inch mono RCA audio plug headphones, STD-1390 to the
HAP HEADPHONES jack on the front of GPWC.

HAP (d) Push the PRESS TO TEST switch momentarily (less the 2 seconds), wait for the first audio
HAP message to start, then push the PRESS TO TEST switch momentarily again. You will hear
HAP "CURRENT FAULTS".

HAP (e) Listen for any faults.

HAP NOTE: Faults that you hear are referred to as maintenance messages. You will hear
HAP "PRESS TO CONTINUE" after the last maintenance message.

HAP 1) If you hear maintenance messages, then do these steps:

HAP a) Refer to the table at the end of this task to find the fault isolation task for the
HAP applicable maintenance message.

HAP b) Disconnect the 600 ohm, with 1/4 inch mono RCA audio plug headphones,
HAP STD-1390 from the HEADPHONES jack on the front of GPWC.

HAP c) Close the door on the front of the GPWC.

HAP 2) If you hear "NO FAULTS", then there are no current faults.

HAP NOTE: Messages that are identified following "NO FAULTS" are EGPWS system
HAP status information type messages, where no maintenance action is required.
HAP These messages, such as "TERRAIN AWARENESS POSITION ERROR" and
HAP "TERRAIN CLEARANCE FLOOR POSITION ERROR", are intended to advise
HAP that the data is NCD (no current data) or invalid. This does not mean that there
HAP is a problem with the data source, or the system interface, unless a related
HAP "GPWS INTERNAL FAULTS" or "GPWS EXTERNAL FAULTS" message is also
HAP announced.

HAP (2) Do these steps to find faults in fault history:

HAP (a) Make sure a 600 ohm, with 1/4 inch mono RCA audio plug headphones, STD-1390 is
HAP connected to the HEADPHONES jack on the front of GPWC.

HAP (b) Push the PRESS TO TEST switch momentarily (less the 2 seconds) again and again until
HAP you hear "SYSTEM CONFIGURATION".

HAP NOTE: Wait until the audio message starts each time you push the PRESS TO TEST
HAP switch.

HAP (c) When you hear "SYSTEM CONFIGURATION", push the PRESS TO TEST switch for more
HAP than 2 seconds to end the level 3 test. You will hear "PRESS TO CONTINUE".

HAP (d) Push the PRESS TO TEST switch momentarily (less the 2 seconds). You will hear "FAULT
HAP HISTORY".

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HAP (e) Listen for any faults.

HAP NOTE: Faults that you hear are referred to as maintenance messages. You will hear
HAP "PRESS TO CONTINUE" after the last maintenance message.

HAP NOTE: Maintenance messages in fault history are grouped by flight leg. You will hear the
HAP maintenance messages for the most recent flight legs first. You will hear "FLIGHT
HAP X" ("X" being the flight leg number) before you hear the maintenance messages
HAP for that flight leg.

HAP 1) Refer to the table at the end of this task to find the fault isolation task for the applicable
HAP maintenance message.

HAP 2) Disconnect the 600 ohm, with 1/4 inch mono RCA audio plug headphones, STD-1390
HAP from the HEADPHONES jack on the front of GPWC.

HAP 3) Close the door on the front of the GPWC.

HAP **HAP ALL**

END OF TASK

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
GROUND PROX	AIR DATA BUS 1 BAROMETRIC ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 1 BAROMETRIC RATE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 1 COMPUTED AIRSPEED FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 1 CORRECTED ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 1 INACTIVE	34-46 TASK 822
GROUND PROX	AIR DATA BUS 1 QNH CORRECTED ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 1 STATIC AIR TEMPERATURE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 1 TRUE AIRSPEED FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 2 BAROMETRIC ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 2 BAROMETRIC RATE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 2 COMPUTED AIRSPEED FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 2 CORRECTED ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 2 INACTIVE	34-46 TASK 823
GROUND PROX	AIR DATA BUS 2 QNH CORRECTED ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 2 STATIC AIR TEMPERATURE FAULT	34-46 TASK 840
GROUND PROX	AIR DATA BUS 2 TRUE AIRSPEED FAULT	34-46 TASK 840

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
GROUND PROX	AIR/GROUND INVALID	34-46 TASK 839
GROUND PROX	AIRCRAFT TYPE INVALID	34-46 TASK 855
GROUND PROX	APPLICATION DATABASE FAILED	34-46 TASK 854
GROUND PROX	ARINC-429 RECEIVER FAILED	34-46 TASK 854
GROUND PROX	ARINC-429 TRANSMITTER FAILED	34-46 TASK 854
GROUND PROX	AUDIO MENU INVALID	34-46 TASK 855
GROUND PROX	CALLOUTS OPTION INVALID	34-46 TASK 855
GROUND PROX	CONFIGURATION DATABASE FAILED	34-46 TASK 854
GROUND PROX	EFIS BUS 1 DECISION HEIGHT FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 1 DISCRETE WORD 1 FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 1 DISCRETE WORD 2 LEFT FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 1 DISCRETE WORD 2 RIGHT FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 1 INACTIVE	34-46 TASK 826
GROUND PROX	EFIS BUS 1 LANDING ALTITUDE FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 1 MINIMUM DECENT ALTITUDE FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 2 DECISION HEIGHT FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 2 DISCRETE WORD 1 FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 2 DISCRETE WORD 2 LEFT FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 2 DISCRETE WORD 2 RIGHT FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 2 INACTIVE	34-46 TASK 826
GROUND PROX	EFIS BUS 2 LANDING ALTITUDE FAULT	34-46 TASK 845
GROUND PROX	EFIS BUS 2 MINIMUM DECENT ALTITUDE FAULT	34-46 TASK 845
GROUND PROX	ENVELOPE MODULATION DATABASE FAILED	34-46 TASK 854
GROUND PROX	EXCESSIVE WATCHDOG TIMEOUTS FAILURE	34-46 TASK 854
GROUND PROX	FLAP SWITCH FAULT	34-46 TASK 838
GROUND PROX	FLASH FILE SYSTEM WRITE FAILED	34-46 TASK 854
GROUND PROX	FMC BUS 1 INACTIVE	34-46 TASK 828

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
GROUND PROX	FMC BUS 1 LATITUDE FAULT	34-46 TASK 841
GROUND PROX	FMC BUS 1 LONGITUDE FAULT	34-46 TASK 841
GROUND PROX	FMC BUS 1 MAGNETIC TRACK FAULT	34-46 TASK 841
GROUND PROX	FMC BUS 1 RNP FAULT	34-46 TASK 841
GROUND PROX	GEAR SWITCH FAULT	34-46 TASK 837
GROUND PROX	GPS BUS 1 ALTITUDE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 DATE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 GROUND SPEED FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 HDOP FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 HFOM FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 HORIZONTAL INTEGRITY LIMIT FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 INACTIVE	34-46 TASK 830
GROUND PROX	GPS BUS 1 LATITUDE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 LATITUDE FINE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 LONGITUDE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 LONGITUDE FINE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 SENSOR STATUS FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 TRUE TRACK FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 UTC FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 VDOP FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 VERTICAL VELOCITY FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 1 VFOM FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 ALTITUDE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 DATE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 GROUND SPEED FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 HDOP FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 HFOM FAULT	34-46 TASK 842

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
GROUND PROX	GPS BUS 2 HORIZONTAL INTEGRITY LIMIT FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 INACTIVE	34-46 TASK 830
GROUND PROX	GPS BUS 2 LATITUDE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 LATITUDE FINE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 LONGITUDE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 LONGITUDE FINE FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 SENSOR STATUS FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 TRUE TRACK FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 UTC FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 VDOP FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 VERTICAL VELOCITY FAULT	34-46 TASK 842
GROUND PROX	GPS BUS 2 VFOM FAULT	34-46 TASK 842
GROUND PROX	ILS BUS 1 GLIDESLOPE FAULT	34-46 TASK 842
GROUND PROX	ILS BUS 1 INACTIVE	34-46 TASK 829
GROUND PROX	ILS BUS 1 LOCALIZER FAULT	34-46 TASK 842
GROUND PROX	IRS BUS 1 ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 GROUND SPEED FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 INACTIVE	34-46 TASK 824
GROUND PROX	IRS BUS 1 INERTIAL VERTICAL ACCELERATION FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 LATITUDE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 LONGITUDE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 LONGITUDINAL ACCELERATION FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 MAGNETIC TRACK FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 MODE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 NORMAL ACCELERATION FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 PITCH ANGLE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 PITCH RATE FAULT	34-46 TASK 840

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
GROUND PROX	IRS BUS 1 ROLL ANGLE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 TRUE HEADING FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 TRUE TRACK FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 1 VERTICAL SPEED FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 ALTITUDE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 GROUND SPEED FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 INACTIVE	34-46 TASK 824
GROUND PROX	IRS BUS 2 INERTIAL VERTICAL ACCELERATION FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 LATITUDE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 LONGITUDE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 LONGITUDINAL ACCELERATION FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 MAGNETIC TRACK FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 MODE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 NORMAL ACCELERATION FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 PITCH ANGLE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 PITCH RATE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 ROLL ANGLE FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 TRUE HEADING FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 TRUE TRACK FAULT	34-46 TASK 840
GROUND PROX	IRS BUS 2 VERTICAL SPEED FAULT	34-46 TASK 840
GROUND PROX	MCP BUS INACTIVE	34-46 TASK 833
GROUND PROX	MCP BUS SELECTED COURSE FAULT	34-46 TASK 846
GROUND PROX	NVM FAILED	34-46 TASK 854
GROUND PROX	NVM RAM FAILED	34-46 TASK 854
GROUND PROX	PROGRAM PIN 11 INVALID	34-46 TASK 855
GROUND PROX	PROGRAM PIN 12 INVALID	34-46 TASK 855
GROUND PROX	PROGRAM PIN 14 INVALID	34-46 TASK 855

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
GROUND PROX	PROGRAM PIN 15 INVALID	34-46 TASK 855
GROUND PROX	PROGRAM PIN 16 INVALID	34-46 TASK 855
GROUND PROX	PROGRAM PIN 17 INVALID	34-46 TASK 855
GROUND PROX	PROGRAM PIN 9 INVALID	34-46 TASK 855
GROUND PROX	PROGRAM PIN PARITY ERROR	34-46 TASK 855
GROUND PROX	PROGRAM PIN READ ERROR	34-46 TASK 855
GROUND PROX	RADIO ALTIMETER BUS 1 INACTIVE	34-46 TASK 832
GROUND PROX	RADIO ALTIMETER BUS 1 RADIO ALTITUDE FAULT	34-46 TASK 847
GROUND PROX	RADIO ALTIMETER BUS 2 INACTIVE	34-46 TASK 832
GROUND PROX	RADIO ALTIMETER BUS 2 RADIO ALTITUDE FAULT	34-46 TASK 847
GROUND PROX	RAM FAILED	34-46 TASK 854
GROUND PROX	ROM FAILED	34-46 TASK 854
GROUND PROX	SELF TEST INVALID	34-46 TASK 850
GROUND PROX	SMYD BUS 1 CORRECTED ANGLE OF ATTACK FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 1 FLAP ANGLE FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 1 INACTIVE	34-46 TASK 827
GROUND PROX	SMYD BUS 1 INDICATED ANGLE OF ATTACK FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 1 MINIMUM OPERATING SPEED FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 1 STICK SHAKER ANGLE OF ATTACK FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 2 CORRECTED ANGLE OF ATTACK FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 2 FLAP ANGLE FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 2 INACTIVE	34-46 TASK 827
GROUND PROX	SMYD BUS 2 INDICATED ANGLE OF ATTACK FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 2 MINIMUM OPERATING SPEED FAULT	34-46 TASK 843
GROUND PROX	SMYD BUS 2 STICK SHAKER ANGLE OF ATTACK FAULT	34-46 TASK 843
GROUND PROX	SUPPORT TASK FAILED	34-46 TASK 854
GROUND PROX	SYSTEM OR MODE TASK FAILED	34-46 TASK 854

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
GROUND PROX	TERRAIN DATABASE FAILED	34-46 TASK 854
GROUND PROX	TERRAIN INHIBIT INVALID	34-46 TASK 851
GROUND PROX	TERRAIN RELAY 1 FAULT	34-46 TASK 852
GROUND PROX	TERRAIN RELAY 2 FAULT	34-46 TASK 852
GROUND PROX	VOICE GENERATOR FAILED	34-46 TASK 854
GROUND PROX	WATCHDOG TIMER TEST FAILED	34-46 TASK 854
GROUND PROX	WEATHER RADAR HAZARD BUS 1 INACTIVE	34-46 TASK 834
GROUND PROX	WEATHER RADAR HAZARD BUS 1 STATUS WORD FAULT	34-46 TASK 844

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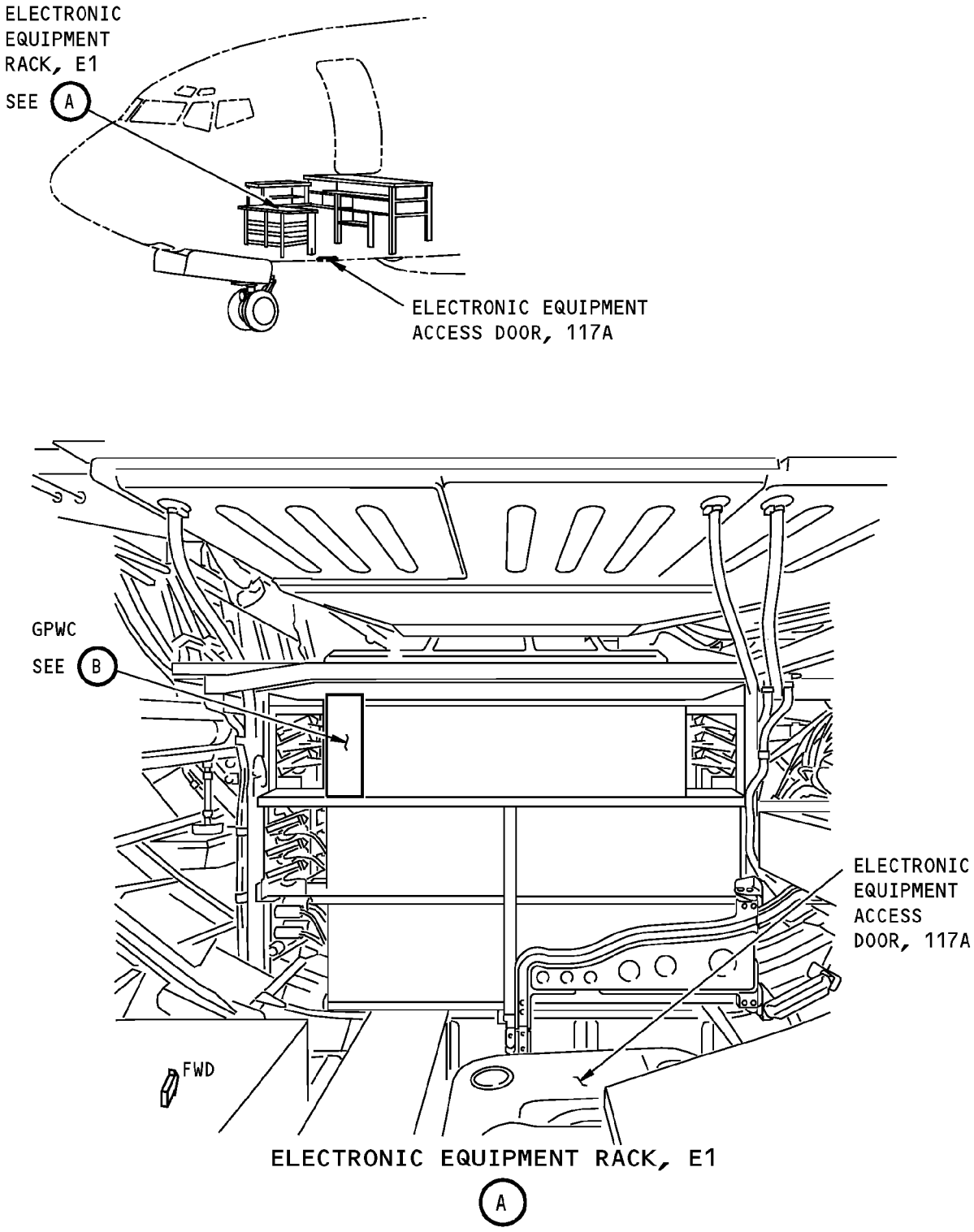

HAP

Ground Proximity Warning Computer Location
Figure 201 (Sheet 1 of 2)/ 34-46-00-990-814

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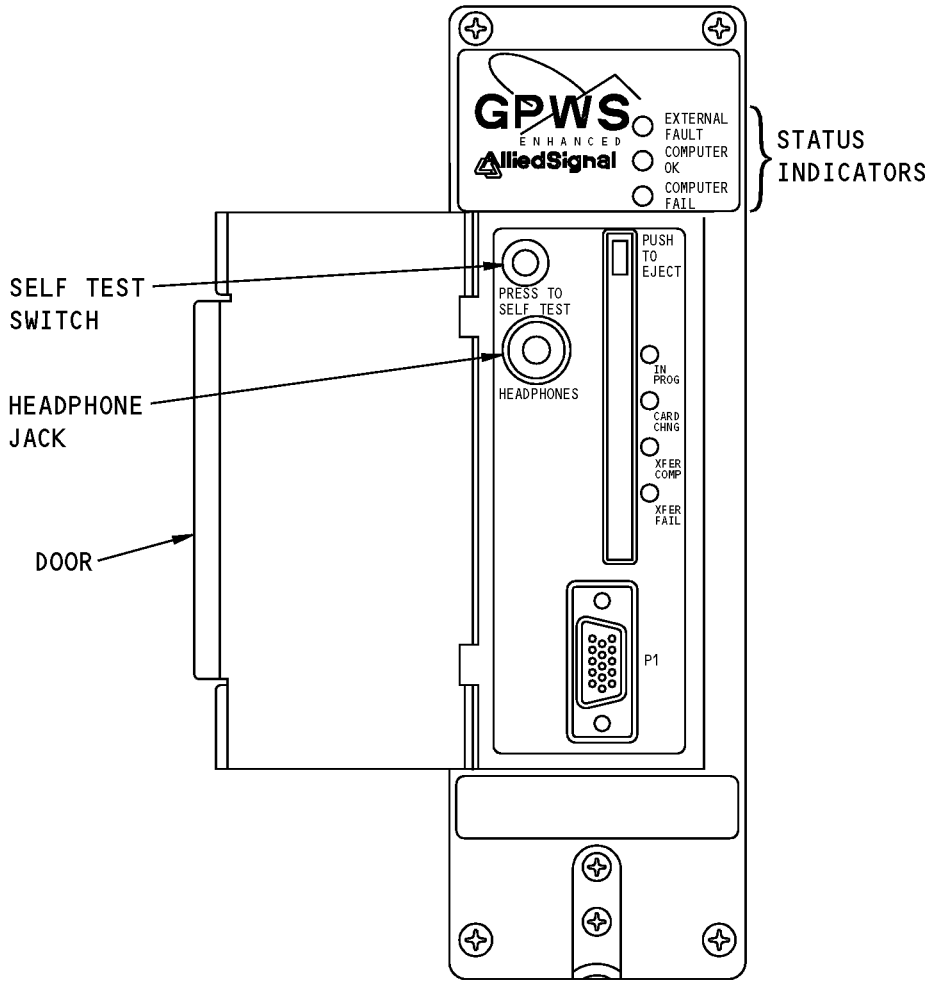

HAP

Ground Proximity Warning Computer Location
Figure 201 (Sheet 2 of 2)/ 34-46-00-990-814

EFFECTIVITY
HAP ALL; AIRPLANES WITH ENHANCED GROUND PROXIMITY WARNING SYSTEM

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821. GPWC BITE Does Not Operate - Fault Isolation

A. Description

(1) The GPWC does not respond when you start the BITE test from the GPWC front panel.

B. Possible Causes

(1) Ground proximity warning computer (GPWC), M652.

(2) Wiring.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	7	C00629	GND PROX WARN

D. Related Data

(1) (SSM 34-49-11).

(2) (WDM 34-49-11).

E. Initial Evaluation

(1) Open and close this circuit breaker:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	7	C00629	GND PROX WARN

(2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

(a) If the GPWS BITE operates correctly, then there was an intermittent fault.

(b) If the GPWS BITE does not operate, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check for 115 VAC at the GPWC:

(a) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

(b) Do a check for 115 VAC between pin 2 and pin 3 (ground) of connector D1153C for the GPWC.

(c) If there is not 115 VAC between pin 2 and pin 3 of D1153C, then do these steps:

1) Do a check for an open circuit between these pins of connector D1153C for the GPWC and the GROUND PROX WARNING circuit breaker, C629:

NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then re-install the LRUs when you are done.

D1153C		C629
pin 2	- - - - - - - - - - - - - - - - - -	term L

2) Make sure pin 3 of D1153C goes to ground.

3) Repair the wiring problem that you find.

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4) Re-install the the GPWC, M652. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

5) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

a) If the GPWC BITE operates correctly, then you corrected the fault.

(d) If there is 115 VAC between pin 2 and pin 3 of D1153C, then continue.

(2) Install a new ground proximity warning computer (GPWC), M652. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

(a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

1) If the GPWC BITE operates correctly, then you corrected the fault.

——————— END OF TASK ———————

HAP **HAP ALL; AIRPLANES WITH ENHANCED GROUND PROXIMITY WARNING SYSTEM**

HAP **822. Air Data Bus 1 to GPWS Problem - Fault Isolation**

HAP A. Description

HAP (1) This task is for this maintenance message:

HAP (a) AIR DATA BUS 1 INACTIVE

HAP (2) The data from the ADIRU ARINC 429 air data bus 1 is stopped. Bus 1 has air data from the left HAP ADIRU.

HAP B. Possible Causes

HAP (1) Left air data inertial reference unit (ADIRU), M1749.

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP (3) Wiring.

HAP C. Related Data

HAP (1) Simplified Schematic (Figure 301).

HAP (2) (SSM 34-21-14).

HAP (3) (SSM 34-49-11).

HAP (4) (WDM 34-21-14).

HAP (5) (WDM 34-49-11).

HAP D. Initial Evaluation

HAP (1) If you hear the maintenance message in Current Faults, then do the Fault Isolation Procedure HAP below.

HAP (2) If you hear the maintenance message in Fault History and not in Current Faults, then there was HAP an intermittent fault.

HAP E. Fault Isolation Procedure

HAP (1) For the left ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

HAP (a) If the ADIRS BITE test shows an ADIRU internal fault in CURRENT STATUS, then do these HAP steps:

HAP 1) Replace the left ADIRU, M1749.

HAP These are the tasks:

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HAP Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

HAP Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

HAP (b) If the ADIRS BITE test does not show an ADIRU internal fault in CURRENT STATUS, then continue.

HAP (2) Do a check for this bus fault at another component.

HAP NOTE: This check looks for the same fault on another component. If the fault shows on another component, then the fault is not in the GPWC.

HAP (a) Do this task: Flap/Slat Electronics Unit (FSEU) BITE Procedure, 27-51 TASK 801.

HAP (b) If the FSEU BITE test does not show an air data fault in EXISTING FAULTS, then do these steps:

HAP 1) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 3) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

HAP 4) If you hear the maintenance message in Current Faults, then do these steps:

HAP a) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

HAP b) Do a check of the wiring at the E1-1 shelf between these pins of connector D1153B for the GPWC and terminal block TB1110 (WDM 34-21-14):

HAP NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when you are done.

HAP	D1153B		TB1110
HAP	pin A11	- - - - - - - - - - - - - - -	term YA21
HAP	pin B11	- - - - - - - - - - - - - - -	term YB21

HAP c) Repair the wiring problem that you find.

HAP d) Re-install the the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP e) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP f) If you do not hear the maintenance message in Current Status, then you corrected the fault.

HAP (c) If the FSEU BITE test shows an air data fault in EXISTING FAULTS, then continue.

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HAP (3) Do this check of the wiring:

HAP NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the
HAP exact resistance of the bus wiring), first remove all the LRUs that are connected to the
HAP bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when
HAP you are done.

HAP (a) Remove the left ADIRU, M1749. To remove it, do this task: Air Data Inertial Reference Unit
HAP Removal, AMM TASK 34-21-01-000-801.

HAP (b) Do a wiring check between these pins of connector D3687A for the ADIRU and terminal
HAP block TB1110 at the E1-1 shelf (WDM 34-21-14):

	D3687A		TB1110
HAP	pin A9	- - - - - - - - - - - - - - - - - -	term YA21
HAP	pin B9	- - - - - - - - - - - - - - - - - -	term YB21

HAP (c) Repair the wiring problem that you find.

HAP (d) Re-install the left ADIRU. To install it, do this task: Air Data Inertial Reference Unit
HAP Installation, AMM TASK 34-21-01-400-801.

HAP (e) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the
HAP fault.

———————— END OF TASK ————————

HAP **823. Air Data Bus 2 to GPWS Problem - Fault Isolation**

HAP A. Description

HAP (1) This task is for this maintenance message:

HAP (a) AIR DATA BUS 2 INACTIVE

HAP (2) The data from the ADIRU ARINC 429 air data bus 2 is stopped. Bus 2 has air data from the right
HAP ADIRU.

HAP B. Possible Causes

HAP (1) Right air data inertial reference unit (ADIRU), M1752.

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP (3) Wiring.

HAP C. Related Data

HAP (1) Simplified Schematic (Figure 301).

HAP (2) (SSM 34-21-24).

HAP (3) (SSM 34-49-11).

HAP (4) (WDM 34-21-24).

HAP (5) (WDM 34-49-11).

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HAP D. Initial Evaluation

HAP (1) If you hear the maintenance message in Current Faults, then do the Fault Isolation Procedure HAP below.

HAP (2) If you hear the maintenance message in Fault History and not in Current Faults, then there was HAP an intermittent fault.

HAP E. Fault Isolation Procedure

HAP (1) For the right ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

HAP (a) If the ADIRS BITE test shows an ADIRU internal fault in CURRENT STATUS, then do these HAP steps:

HAP 1) Replace the right ADIRU, M1752.

HAP These are the tasks:

HAP Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

HAP Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Faults, then you corrected HAP the fault.

HAP (b) If the ADIRS BITE test does not show an ADIRU internal fault in CURRENT STATUS, then HAP continue.

HAP (2) Do a check for this bus fault at another component.

HAP NOTE: This check looks for the same fault on another component. If the fault shows on another HAP component, then the fault is not in the GPWC.

HAP (a) For SMYD 2, do this task: Stall Management Yaw Damper BITE Procedure, HAP 27-32 TASK 801.

HAP (b) If the SMYD BITE test shows an air data fault for SMYD 2 in EXISTING FAULTS, then do HAP these steps:

HAP 1) Remove the right ADIRU, M1752. To remove it, do this task: Air Data Inertial HAP Reference Unit Removal, AMM TASK 34-21-01-000-801.

HAP 2) Do a wiring check at the E5-2 shelf between these pins of connector D3693A for the HAP ADIRU and terminal block TB521 (WDM 34-21-24):

HAP NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you HAP need the exact resistance of the bus wiring), first remove all the LRUs that are HAP connected to the bus (use the WDM to tell which LRUs are on the bus). Then, HAP re-install the LRUs when you are done.

HAP	D3693A		TB521
HAP	pin A9	- - - - - - - - - - - - - - - - -	term ZA21
HAP	pin B9	- - - - - - - - - - - - - - - - -	term ZB21

HAP 3) Repair the wiring problem that you find.

HAP 4) Re-install the right ADIRU. To install it, do this task: Air Data Inertial Reference Unit HAP Installation, AMM TASK 34-21-01-400-801.

HAP 5) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

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HAP a) If you do not hear the maintenance message in Current Status, then you corrected the fault.

HAP (c) If the SMYD BITE test does not show an air data fault for SMYD 2 in existing faults, then continue:

HAP (3) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the fault.

HAP 2) If you hear the maintenance message in Current Status, then continue.

HAP (4) Do this check of the wiring:

HAP NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when you are done.

HAP (a) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

HAP (b) Do a wiring check between these pins of connector D1153A for the GPWC and terminal block TB521 at the E5-2 shelf (WDM 34-21-24):

	D1153A		TB521
HAP	pin C1	- - - - - - - - - - - - - - - - - -	term ZA21
HAP	pin D1	- - - - - - - - - - - - - - - - - -	term ZB21

HAP (c) Repair the wiring problem that you find.

HAP (d) Re-install the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (e) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the fault.

———————— END OF TASK ————————

HAP **824. IRS Bus to GPWS Problem - Fault Isolation**

HAP A. Description

HAP (1) This task is for these maintenance messages:

HAP (a) IRS BUS 1 INACTIVE

HAP (b) IRS BUS 2 INACTIVE

HAP (2) The data from the ADIRU ARINC 429 air data bus is stopped. Bus 1 has data from the left ADIRU. Bus 2 has data from the right ADIRU.

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HAP B. Possible Causes

HAP (1) Air data inertial reference unit (ADIRU), M1749 (L ADIRU) or M1752 (R ADIRU).

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP (3) Wiring.

HAP C. Related Data

HAP (1) Simplified Schematic (Figure 301).

HAP (2) (SSM 34-21-13).

HAP (3) (SSM 34-21-23).

HAP (4) (SSM 34-49-11).

HAP (5) (WDM 34-21-13).

HAP (6) (WDM 34-21-23).

HAP (7) (WDM 34-49-11).

HAP D. Initial Evaluation

HAP (1) If you hear the maintenance message in Current Faults, then do the Fault Isolation Procedure below.

HAP (2) If you hear the maintenance message in Fault History and not in Current Faults, then there was an intermittent fault.

HAP E. Fault Isolation Procedure

HAP (1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

HAP NOTE: For a Bus 1 fault, make the L ADIRS selection. For a Bus 2 fault, make the R ADIRS selection.

HAP (a) If the ADIRS BITE test shows an ADIRU internal fault in CURRENT STATUS, then do these steps:

HAP 1) Replace the applicable ADIRU, M1749 (L ADIRU) or M1752 (R ADIRU).

HAP These are the tasks:

HAP Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

HAP Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

HAP (b) If the ADIRS BITE test does not show an an ADIRU internal fault in CURRENT STATUS, then continue.

HAP (2) Do a check for this bus fault at another component.

HAP NOTE: This check looks for the same fault on another component. If the fault shows on another component, then the fault is not in the GPWC.

HAP (a) Do this task: Autothrottle BITE Procedure, 22-31 TASK 801.

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(b) If the Autothrottle BITE test does not show an ADIRU-IR fault in CURRENT STATUS, then do these steps:

1) Replace the ground proximity warning computer (GPWC), M652.

These are the tasks:

Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

3) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

4) If you hear the maintenance message in Current Faults, then do these steps:

a) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

b) Do a check of the wiring at the E1-1 shelf between these pins of the connector for the GPWC and the applicable terminal block for the applicable IRS BUS (WDM 34-21-13, WDM 34-21-23):

NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when you are done.

	GPWC CONNECTOR	TERMINAL BLOCK
BUS 1	**D1153B**	**TB1110**
	pin A6 - - - - - - - - - - - - - - - -	term ZA9
	pin B6 - - - - - - - - - - - - - - - -	term ZB9
BUS 2	**D1153A**	**TB1109**
	pin A5 - - - - - - - - - - - - - - - -	term ZA9
	pin A6 - - - - - - - - - - - - - - - -	term ZB9

c) Repair the wiring problem that you find.

d) Re-install the the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

e) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

f) If you do not hear the maintenance message in Current Status, then you corrected the fault.

(c) If the autothrottle BITE test shows an ADIRU-IR fault in CURRENT STATUS, then continue.

(3) Do this check of the wiring:

NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when you are done.

(a) Remove the applicable ADIRU, M1749 (L ADIRU) or M1752 (R ADIRU). To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

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HAP (b) Do a wiring check between these pins of the connector for the ADIRU and applicable
HAP terminal block at the E1-1 shelf for the applicable IRS BUS (WDM 34-21-13, WDM 34-21-23):

		ADIRU CONNECTOR		TERMINAL BLOCK
HAP	BUS 1	D3687B		TB1110
HAP		pin C10	- - - - - - - - - - - - - - - - -	term ZA9
HAP		pin C11	- - - - - - - - - - - - - - - - -	term ZB9
HAP				
HAP	BUS 2	D3693B		TB1109
HAP		pin C10	- - - - - - - - - - - - - - - - -	term ZA9
HAP		pin C11	- - - - - - - - - - - - - - - - -	term ZB9

HAP (c) Repair the wiring problem that you find.

HAP (d) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit
HAP Installation, AMM TASK 34-21-01-400-801.

HAP (e) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the
HAP fault.

——————— END OF TASK ———————

HAP **826. EFIS BUS to GPWS Problem - Fault Isolation**

HAP A. Description

HAP (1) This task is for these maintenance messages:

HAP (a) EFIS BUS 1 INACTIVE

HAP (b) EFIS BUS 2 INACTIVE

HAP (2) The data from the DEU ARINC 429 IRS bus is stopped. Bus 1 has data from the DEU 1. Bus 2 has
HAP data from the DEU 2.

HAP B. Possible Causes

HAP (1) Display electronic unit (DEU), M1808 (DEU 1) or M1809 (DEU 2).

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP (3) Wiring.

HAP C. Related Data

HAP (1) Simplified Schematic (Figure 305).

HAP (2) (SSM 31-62-15).

HAP (3) (SSM 31-62-25).

HAP (4) (SSM 34-49-11).

HAP (5) (WDM 31-62-15).

HAP (6) (WDM 31-62-25).

HAP (7) (WDM 34-49-11).

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HAP D. Initial Evaluation

HAP (1) If you hear the maintenance message in Current Faults, then do the Fault Isolation Procedure HAP below.

HAP (2) If you hear the maintenance message in Fault History and not in Current Faults, then there was HAP an intermittent fault.

HAP E. Fault Isolation Procedure

HAP (1) For the applicable DEU, do this task: CDS BITE Procedure, 31-62 TASK 801.

HAP NOTE: For a Bus 1 fault, make the DEU-1 selection. For a Bus 2 fault, make the DEU-2 HAP selection.

HAP (a) If the CDS BITE test shows a DEU internal fault in CURRENT STATUS, then do these steps:

HAP 1) Replace the applicable DEU, M1808 (DEU 1) or M1809 (DEU 2).

HAP These are the tasks:

HAP Display Electronic Unit Removal, AMM TASK 31-62-21-000-801,

HAP Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Faults, then you corrected HAP the fault.

HAP (b) If the CDS BITE test does not show a DEU internal fault in CURRENT STATUS, then HAP continue.

HAP (2) Do a check for this bus fault at another component.

HAP NOTE: This check looks for the same fault on another component. If the fault shows on another HAP component, then the fault is not in the GPWC.

HAP (a) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

HAP NOTE: For a Bus 1 fault, make the L ADIRS selection. For a Bus 2 fault, make the R ADIRS HAP selection.

HAP (b) If the ADIRS BITE test shows a NO BARO DATA fault in CURRENT STATUS, then do these HAP steps:

HAP 1) Remove the applicable DEU, M1808 (DEU 1) or M1809 (DEU 2). To remove it, do this HAP task: Display Unit Removal, AMM TASK 31-62-11-000-801.

HAP 2) Do a wiring check at the E3-1 shelf between these pins of the connector for the DEU and HAP the terminal block TB3101 for the applicable EFIS BUS (WDM 31-62-15, WDM HAP 31-62-25):

	DEU CONNECTOR	TERMINAL BLOCK
BUS 1	**D3973B**	**TB3101**
	pin C7	term YA15
	pin D7	term YB15
BUS 2	**D3975B**	**TB3101**
	pin C7	term YA91
	pin D7	term YB91

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HAP 3) Repair the wiring problem that you find.

HAP 4) Re-install the DEU. To install it, do this task: Display Unit Installation, AMM
HAP TASK 31-62-11-400-801.

HAP 5) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Status, then you corrected
HAP the fault.

HAP (c) If the ADIRS BITE test does not show a NO BARO DATA fault in CURRENT STATUS, then
HAP continue:

HAP (3) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Faults, then you corrected the
HAP fault.

HAP 2) If you hear the maintenance message in Current Faults, then continue.

HAP (4) Do this check of the wiring:

HAP NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the
HAP exact resistance of the bus wiring), first remove all the LRUs that are connected to the
HAP bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when
HAP you are done.

HAP (a) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning
HAP Computer Removal, AMM TASK 34-46-01-000-801.

HAP (b) Do a wiring check between these pins of the connector for the GPWC at the E1-1 shelf and
HAP terminal block TB3101 at the E3-1 shelf for the applicable EFIS BUS (WDM 31-62-15, WDM
HAP 31-62-25):

		GPWC CONNECTOR		TERMINAL BLOCK
HAP	**BUS 1**	**D1153B**		**TB3101**
HAP		pin A10	- - - - - - - - - - - - - - - - -	term YA15
HAP		pin B10	- - - - - - - - - - - - - - - - -	term YB15
HAP				
HAP	**BUS 2**	**D1153A**		**TB3101**
HAP		pin A9	- - - - - - - - - - - - - - - - -	term YA91
HAP		pin B9	- - - - - - - - - - - - - - - - -	term YB91

HAP (c) Repair the wiring problem that you find.

HAP (d) Re-install the GPWC. To install it, do this task: Ground Proximity Warning Computer
HAP Installation, AMM TASK 34-46-01-400-801.

HAP (e) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Faults, then you corrected the
HAP fault.

——————— END OF TASK ———————

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HAP **827. SMYD Bus to GPWS Problem - Fault Isolation**

HAP A. Description

HAP (1) This task is for these maintenance messages:

HAP (a) SMYD BUS 1 INACTIVE

HAP (b) SMYD BUS 2 INACTIVE

HAP (2) The data from the stall management yaw damper (SMYD) ARINC 429 bus is stopped. Bus 1 has data from SMYD 1. Bus 2 has data from SMYD 2.

HAP B. Possible Causes

HAP (1) Stall management yaw damper computer (SMYD), M1747 (SMYD 1) or M1748 (SMYD 2).

HAP (2) Ground proximity warning computer (GPWC), M652

HAP (3) Wiring.

HAP C. Related Data

HAP (1) Simplified Schematic (Figure 304).

HAP (2) (SSM 27-32-12).

HAP (3) (SSM 27-32-22).

HAP (4) (SSM 34-49-11).

HAP (5) (WDM 27-32-12).

HAP (6) (WDM 27-32-22).

HAP (7) (WDM 34-49-11).

HAP D. Initial Evaluation

HAP (1) If you hear the maintenance message in Current Faults, then do the Fault Isolation Procedure below.

HAP (2) If you hear the maintenance message in Fault History and not in Current Faults, then there was an intermittent fault.

HAP E. Fault Isolation Procedure

HAP (1) For the applicable SMYD, do this task: Stall Management Yaw Damper BITE Procedure, 27-32 TASK 801.

HAP NOTE: For a Bus 1 fault, do the BITE test on SMYD 1. For a Bus 2 fault, do the BITE test on SMYD 2.

HAP (a) If the SMYD BITE test shows a SMYD internal fault in EXISTING FAULTS, then do these steps:

HAP 1) Replace the applicable SMYD, M1747 (SMYD 1) or M1748 (SMYD 2).

HAP These are the tasks:

HAP Stall Management Yaw Damper (SMYD) Removal, AMM TASK 27-32-42-000-801,

HAP Stall Management Yaw Damper (SMYD) Installation, AMM TASK 27-32-42-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 3) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

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(b) If the SMYD BITE test does not show a SMYD internal fault in EXISTING FAULTS, then continue.

(2) Do a check for this bus fault at another component.

NOTE: This check looks for the same fault on another component. If the fault shows on another component, then the fault is not in the GPWC.

(a) Do this task: Autothrottle BITE Procedure, 22-31 TASK 801.

(b) If the autothrottle BITE test does not show a SMYD fault in CURRENT STATUS, then do these steps:

1) Replace the ground proximity warning computer (GPWC), M652.

These are the tasks:

Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

3) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

4) If you hear the maintenance message in Current Faults, then do these steps:

a) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

b) Do a check of the wiring at the E1-1 shelf between these pins of the connector for the GPWC and the applicable terminal block for the applicable SMYD BUS (WDM 27-32-12, WDM 27-32-22):

NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when you are done.

	GPWC CONNECTOR	TERMINAL BLOCK
BUS 1	**D1153B**	**TB1109**
	pin C12 - - - - - - - - - - - - - - -	term YA5
	pin D12 - - - - - - - - - - - - - - -	term YB5
BUS 2	**D1153A**	**TB1110**
	pin C9 - - - - - - - - - - - - - - - -	term YA1
	pin D9 - - - - - - - - - - - - - - - -	term YB1

c) Repair the wiring problem that you find.

d) Re-install the the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

e) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

f) If you do not hear the maintenance message in Current Status, then you corrected the fault.

(c) If the autothrottle BITE test shows a SMYD fault in CURRENT STATUS, then continue.

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(3) Do this check of the wiring:

NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when you are done.

(a) Remove the applicable SMYD, M1747 (SMYD 1) or M1749 (SMYD 2). To remove it, do this task: Stall Management Yaw Damper (SMYD) Removal, AMM TASK 27-32-42-000-801.

(b) Do a wiring check between these pins of the connector for the SMYD and the applicable terminal block at the E1-1 shelf for the applicable SMYD BUS (WDM 27-32-12, WDM 27-32-22):

	SMYD CONNECTOR	TERMINAL BLOCK
BUS 1	**D3683B**	**TB1109**
	pin 94	term YB5
	pin 95	term YA5
BUS 2	**D3685B**	**TB1110**
	pin 94	term YB1
	pin 95	term YA1

(c) Repair the wiring problem that you find.

(d) Re-install the SMYD. To install it, do this task: Stall Management Yaw Damper (SMYD) Installation, AMM TASK 27-32-42-400-801.

(e) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

1) If you do not hear the maintenance message in Current Status, then you corrected the fault.

——————— END OF TASK ———————

828. FMC Bus to GPWS Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) FMC BUS 1 INACTIVE

(2) The data from the FMC ARINC 429 bus is stopped.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(3) With the FMC source select switch at NORMAL, the GPWC gets data from the left FMC (FMC 1).

HAP ALL; AIRPLANES WITH ENHANCED GROUND PROXIMITY WARNING SYSTEM

B. Possible Causes

(1) Flight management computer system (FMCS).

(2) FMCS transfer relay No. 1, R475.

(3) Ground proximity warning computer (GPWC), M652.

(4) Wiring.

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C. Related Data

(1) Simplified Schematic (Figure 306).

(2) (SSM 34-49-11).

(3) (SSM 34-61-15).

(4) (WDM 34-49-11).

(5) (WDM 34-61-15).

D. Initial Evaluation

(1) If you hear the maintenance message in Current Faults, then do the Fault Isolation Procedure below.

(2) If you hear the maintenance message in Fault History and not in Current Faults, then there was an intermittent fault.

E. Fault Isolation Procedure

(1) Make sure the FMCS operation is normal:

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(a) With the FMC select switch at NORMAL, look for these indications of a failed FMC:

1) FAIL light on the CDU is on.

2) SINGLE FMC OPERATION shows on the CDU.

3) FMC shows in the middle of the CDU display.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(b) Look for these indications of a failed FMC:

1) FAIL light on the CDU is on.

2) FMC shows in the middle of the CDU display.

HAP ALL; AIRPLANES WITH ENHANCED GROUND PROXIMITY WARNING SYSTEM

(c) If there is an FMCS failure, then go to the FIM task for the applicable FMCS observed fault.

(d) If the FMCS operation is normal, then continue.

(2) Do this check of the FMCS transfer relay No. 1:

(a) Disconnect connectors D3263 and D3267 from the FMCS transfer relay No. 1, R475.

NOTE: R475 is on the E5-2 shelf in the electronic equipment bay.

(b) Do a continuity check between these pins on the FMCS transfer relay No. 1, R475:

D3263		D3267
pin R	- - - - - - - - - - - - - - - - - -	pin R
pin S	- - - - - - - - - - - - - - - - - -	pin S

(c) If there is not continuity between the pins, then do these steps:

1) Replace the FMCS transfer relay No. 1, R475.

2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

a) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

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(d) If there is continuity between the pins, then re-connect connectors D3263 and D3267 to the FMCS transfer relay No. 1 and continue.

(3) Replace the ground proximity warning computer (GPWC), M652.

These are the tasks:

Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

(a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

1) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

2) If you hear the maintenance message in Current Faults, then continue.

(4) Do this check of the wiring between the GPWC and the FMCS transfer relay no. 1:

NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when you are done.

(a) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

(b) Disconnect connector D3263 from the FMCS transfer relay no. 1, R475.

NOTE: R475 is on the E5-2 shelf in the electronic equipment bay.

(c) Do a wiring check between these pins of connector D1153B for the GPWC and connector D3263 (WDM 34-61-15):

D1153B		D3263
pin C10	- - - - - - - - - - - - - - - - -	pin R
pin D10	- - - - - - - - - - - - - - - - -	pin S

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

3) Re-connect connector D3263 to the FMCS transfer relay no. 1, R475.

4) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

a) If you do not hear the maintenance message in Current Status, then you corrected the fault.

(e) If you do not find a problem with the wiring, then do these steps and continue:

1) Re-install the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

2) Re-connect connector D3263 to the FMCS transfer relay no. 1, R475.

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HAP (5) Do this check of the wiring at the E5-2 shelf:

HAP NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the
HAP exact resistance of the bus wiring), first remove all the LRUs that are connected to the
HAP bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when
HAP you are done.

HAP (a) Remove FMC 1, M1175. To remove it, do this task: FMCS Computer Removal, AMM
HAP TASK 34-61-02-000-801.

HAP (b) Disconnect connector D3267 from the FMCS transfer relay No. 1, R475

HAP (c) Do a wiring check at the E5-2 shelf between these pins of connector D2179A for the FMC
HAP and connector D3267 (WDM 34-61-15):

HAP	D2179A		D3267
HAP	pin A11	- - - - - - - - - - - - - - - - -	pin R
HAP	pin B11	- - - - - - - - - - - - - - - - -	pin S

HAP (d) Repair the wiring problem that you find.

HAP (e) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM
HAP TASK 34-61-02-400-801.

HAP (f) Re-connect connector D3267 to the FMCS transfer relay No. 1.

HAP (g) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Faults, then you corrected the
HAP fault.

——————— END OF TASK ———————

HAP **829. ILS Bus 1 to GPWS Problem - Fault Isolation**

HAP A. Description

HAP (1) This task is for this maintenance message:

HAP (a) ILS BUS 1 INACTIVE

HAP (2) The data from the ILS ARINC 429 bus 1 is stopped.

HAP B. Possible Causes

HAP (1) Multi-mode receiver 1 (MMR-1), M2104.

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP (3) Wiring.

HAP C. Related Data

HAP (1) Simplified Schematic (Figure 302).

HAP (2) (SSM 34-31-11).

HAP (3) (SSM 34-49-11).

HAP (4) (WDM 34-31-11).

HAP (5) (WDM 34-49-11).

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HAP D. Initial Evaluation

HAP (1) If you hear the maintenance message in Current Faults, then do the Fault Isolation Procedure HAP below.

HAP (2) If you hear the maintenance message in Fault History and not in Current Faults, then there was HAP an intermittent fault.

HAP E. Fault Isolation Procedure

HAP (1) For MMR-1, do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

HAP (a) If the MMR BITE test shows an MMR internal fault, then do these steps:

HAP 1) Replace MMR-1, M2104.

HAP These are the tasks:

HAP Receiver for ILS - Removal, AMM TASK 34-31-42-000-801,

HAP Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Faults, then you corrected HAP the fault.

HAP (b) If the MMR BITE test does not show an MMR internal fault, then continue.

HAP (2) Do a check for this bus fault at another component.

HAP NOTE: This check looks for the same fault on another component. If the fault shows on another HAP component, then the fault is not in the GPWC.

HAP (a) Do this task: CDS BITE Procedure, 31-62 TASK 801.

HAP (b) If the CDS BITE test shows a NO ILS 1 DATA fault in CURRENT STATUS, then do these HAP steps:

HAP 1) Remove MMR-1, M2104. To remove it, do this task: Receiver for ILS - Removal, AMM HAP TASK 34-31-42-000-801.

HAP 2) Do a wiring check at the E1-2 shelf between these pins of connector D10719B for the HAP MMR and terminal block TB1201 (WDM 34-31-11):

HAP NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you HAP need the exact resistance of the bus wiring), first remove all the LRUs that are HAP connected to the bus (use the WDM to tell which LRUs are on the bus). Then, HAP re-install the LRUs when you are done.

HAP	D10719B		TB1201
HAP	pin G1	- - - - - - - - - - - - - - - - -	term ZA1
HAP	pin H1	- - - - - - - - - - - - - - - - -	term ZB1

HAP 3) Repair the wiring problem that you find.

HAP 4) Re-install MMR-1. To install it, do this task: Receiver for ILS - Installation, AMM HAP TASK 34-31-42-400-801.

HAP 5) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Status, then you corrected HAP the fault.

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(c) If the CDS BITE test does not show a NO ILS 1 DATA fault in CURRENT STATUS, then continue:

(3) Replace the ground proximity warning computer (GPWC), M652.

These are the tasks:

Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

(a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

1) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

2) If you hear the maintenance message in Current Faults, then continue.

(4) Do this check of the wiring:

NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when you are done.

(a) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

(b) Do a wiring check between these pins of connector D1153B for the GPWC and terminal block TB1201 at the E1-2 shelf (WDM 34-31-11):

D1153B		TB1201
pin C11	- - - - - - - - - - - - - - - - -	term ZA1
pin D11	- - - - - - - - - - - - - - - - -	term ZB1

(c) Repair the wiring problem that you find.

(d) Re-install the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

(e) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

1) If you do not hear the maintenance message in Current Status, then you corrected the fault.

——————— END OF TASK ———————

830. GPS Bus to GPWS Problem - Fault Isolation

A. Description

(1) This task is for these maintenance messages:

(a) GPS BUS 1 INACTIVE

(b) GPS BUS 2 INACTIVE

(2) The data from the global positioning system (GPS) ARINC 429 bus is stopped. Bus 1 has data from the multi-mode receiver (MMR) 1. Bus 2 has data from MMR 2.

B. Possible Causes

(1) Multi-mode receiver (MMR), M2104 (MMR-1) or M2105 (MMR-2).

(2) Ground proximity warning computer (GPWC), M652.

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HAP (3) Wiring.

HAP C. Related Data

HAP (1) Simplified Schematic (Figure 302).

HAP (2) (SSM 34-49-11).

HAP (3) (SSM 34-58-11).

HAP (4) (SSM 34-58-21).

HAP (5) (WDM 34-49-11).

HAP (6) (WDM 34-58-11).

HAP (7) (WDM 34-58-21).

HAP D. Initial Evaluation

HAP (1) If you hear the maintenance message in Current Faults, then do the Fault Isolation Procedure below.

HAP (2) If you hear the maintenance message in Fault History and not in Current Faults, then there was an intermittent fault.

HAP E. Fault Isolation Procedure

HAP (1) For the applicable MMR, do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

HAP NOTE: For a Bus 1 fault, do the BITE test on MMR-1 selection. For a Bus 2 fault, do the BITE test on MMR-2.

HAP (a) If the MMR BITE test shows an MMR internal fault, then do these steps:

HAP 1) Replace the applicable MMR, M2104 (MMR-1) or M2105 (MMR-2).

HAP These are the tasks:

HAP Receiver for ILS - Removal, AMM TASK 34-31-42-000-801,

HAP Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

HAP (b) If the MMR BITE test does not show an MMR internal fault, then continue.

HAP (2) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

HAP 2) If you hear the maintenance message in Current Faults, then continue.

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(3) Do this check of the wiring:

NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when you are done.

(a) Remove the applicable MMR, M2104 (MMR-1) or M2105 (MMR-2). To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

(b) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

(c) Do a wiring check between these pins of the connector for the GPWC at the E1-1 shelf and the connector for the MMR for the applicable GPS BUS (WDM 34-58-11, WDM 34-58-21):

	GPWC CONNECTOR		MMR CONNECTOR
BUS 1	**D1153B**		**D10719B (MMR-1)**
	pin C6	- - - - - - - - - - - - - - - - - -	pin E9
	pin D6	- - - - - - - - - - - - - - - - - -	pin F9
BUS 2	**D1153A**		**D10721B (MMR-2)**
	pin C11	- - - - - - - - - - - - - - - - - -	pin E9
	pin D11	- - - - - - - - - - - - - - - - - -	pin F9

(d) Repair the wiring problem that you find.

(e) Re-install the MMR. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

(f) Re-install the the GPWC, M652. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

(g) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

1) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

——————— END OF TASK ———————

832. Radio Altimeter Bus to GPWS Problem - Fault Isolation

A. Description

(1) This task is for these maintenance messages:

(a) RADIO ALTIMETER BUS 1 INACTIVE

(b) RADIO ALTIMETER BUS 2 INACTIVE

(2) The data from the radio altimeter ARINC 429 bus is stopped. Bus 1 has data from radio altimeter transceiver 1. Bus 2 has data from radio altimeter transceiver 2.

B. Possible Causes

(1) Radio altimeter receiver/transmitter, M1735 (No. 1) or M1736 (No. 2).

(2) Ground proximity warning computer (GPWC), M652.

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HAP (3) Wiring.

HAP C. Related Data

HAP (1) Simplified Schematic (Figure 303).

HAP (2) (SSM 34-33-11).

HAP (3) (SSM 34-33-21).

HAP (4) (SSM 34-49-11).

HAP (5) (WDM 34-33-11).

HAP (6) (WDM 34-33-21).

HAP (7) (WDM 34-49-11).

HAP D. Initial Evaluation

HAP (1) If you hear the maintenance message in Current Faults, then do the Fault Isolation Procedure HAP below.

HAP (2) If you hear the maintenance message in Fault History and not in Current Faults, then there was HAP an intermittent fault.

HAP E. Fault Isolation Procedure

HAP (1) For the applicable radio altimeter receiver/transmitter, do this task: Low Range Radio Altimeter HAP (LRRA) BITE Procedure, 34-33 TASK 801.

HAP NOTE: For a Bus 1 fault, do the BITE test on the No. 1 radio altimeter receiver/transmitter. For HAP a Bus 2 fault, do the BITE test on the No. 2 radio altimeter receiver/transmitter.

HAP (a) If the LRRA BITE test shows a receiver/transmitter internal fault, then do these steps:

HAP 1) Replace the applicable radio altimeter receiver/transmitter, M1735 (No. 1) or M1736 HAP (No. 2).

HAP These are the tasks:

HAP Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM HAP TASK 34-33-21-000-801,

HAP Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM HAP TASK 34-33-21-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Faults, then you corrected HAP the fault.

HAP (b) If the LRRA BITE test does not show a receiver/transmitter internal fault, then continue.

HAP (2) Do a check for this bus fault at another component.

HAP NOTE: This check looks for the same fault on another component. If the fault shows on another HAP component, then the fault is not in the GPWC.

HAP (a) Do this task: Traffic Alert and Collision Avoidance System (TCAS) BITE Procedure, HAP 34-45 TASK 801.

HAP (b) If the TCAS BITE test does not show a radio altimeter fault, then do these steps:

HAP 1) Replace the ground proximity warning computer (GPWC), M652.

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HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 3) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

HAP 4) If you hear the maintenance message in Current Faults, then do these steps:

HAP a) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

HAP b) Do a check of the wiring at the E1-1 shelf between these pins of the connector for the GPWC and the applicable terminal block for the applicable RADIO ALTIMETER BUS (WDM 34-33-11, WDM 34-33-21):

HAP NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when you are done.

		GPWC CONNECTOR		TERMINAL BLOCK
HAP	BUS 1	D1153B		TB1108
HAP		pin A13	- - - - - - - - - - - - - - -	term YA3
HAP		pin B13	- - - - - - - - - - - - - - -	term YB3
HAP				
HAP	BUS 2	D1153A		TB1101
HAP		pin A8	- - - - - - - - - - - - - - - -	term YA1
HAP		pin B8	- - - - - - - - - - - - - - - -	term YB1

HAP c) Repair the wiring problem that you find.

HAP d) Re-install the the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP e) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP f) If you do not hear the maintenance message in Current Status, then you corrected the fault.

HAP (c) If the TCAS BITE test shows a radio altimeter fault, then continue.

HAP (3) Do this check of the wiring:

HAP NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when you are done.

HAP (a) Remove the applicable radio altimeter receiver/transmitter, M1735 (No. 1) or M1736 (No. 2). To remove it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801.

HAP (b) Do a wiring check between these pins of the connector for the radio altimeter receiver/transmitter and applicable terminal block at the E1-1 shelf for the applicable RADIO ALTIMETER BUS (WDM 34-33-11, WDM 34-33-21):

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		RADIO ALTIMETER CONNECTOR	TERMINAL BLOCK
BUS 1	**D3667B**		**TB1108**
	pin G2	- - - - - - - - - - - - - - - - - -	term YA3
	pin G3	- - - - - - - - - - - - - - - - - -	term YB3
BUS 2	**D3669B**		**TB1101**
	pin G2	- - - - - - - - - - - - - - - - - -	term YA1
	pin G3	- - - - - - - - - - - - - - - - - -	term YB1

(c) Repair the wiring problem that you find.

(d) Re-install the radio altimeter receiver/transmitter. To install it, do this task: Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

(e) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

1) If you do not hear the maintenance message in Current Status, then you corrected the fault.

——————— END OF TASK ———————

833. MCP Bus to GPWS Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) MCP BUS INACTIVE

(2) The data from the mode control panel (MCP) ARINC 429 bus is stopped.

B. Possible Causes

(1) DFCS mode control panel (MCP), M198.

(2) Ground proximity warning computer (GPWC), M652.

(3) Wiring.

C. Related Data

(1) Simplified Schematic (Figure 306).

(2) (SSM 22-11-51).

(3) (SSM 34-49-11).

(4) (WDM 22-11-51).

(5) (WDM 34-49-11).

D. Initial Evaluation

(1) If you hear the maintenance message in Current Faults, then do the Fault Isolation Procedure below.

(2) If you hear the maintenance message in Fault History and not in Current Faults, then there was an intermittent fault.

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HAP E. Fault Isolation Procedure

HAP (1) For the MCP, do this task: LRU Replacement Test, 22-11 TASK 802.

HAP (a) If the MCP replacement test shows an MCP internal fault, then do these steps:

HAP 1) Replace the DFCS mode control panel, M198.

HAP These are the tasks:

HAP DFCS Mode Control Panel Removal, AMM TASK 22-11-34-000-801,

HAP DFCS Mode Control Panel Installation, AMM TASK 22-11-34-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

HAP (b) If the MCP replacement test does not show an MCP internal fault, then continue.

HAP (2) Do a check for this bus fault at another component.

HAP NOTE: This check looks for the same fault on another component. If the fault shows on another component, then the fault is not in the GPWC.

HAP (a) Do this task: CDS BITE Procedure, 31-62 TASK 801.

HAP (b) If the CDS BITE test does not show a NO MCP DATA fault in CURRENT STATUS, then do these steps:

HAP 1) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 3) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

HAP 4) If you hear the maintenance message in Current Faults, then do these steps:

HAP a) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

HAP b) Do a check of the wiring at the E1-1 shelf between these pins of connector D1153B for the GPWC and terminal block TB1110 (WDM 22-11-51):

HAP NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when you are done.

HAP	D1153B		TB1110
HAP	pin A12	- - - - - - - - - - - - - - -	term ZA17
HAP	pin B12	- - - - - - - - - - - - - - -	term ZB17

HAP c) Repair the wiring problem that you find.

HAP d) Re-install the the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP e) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

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HAP f) If you do not hear the maintenance message in Current Status, then you corrected the fault.

HAP (c) If the CDS BITE test shows a NO MCP DATA fault in CURRENT STATUS, then continue.

HAP (3) Do this check of the wiring:

HAP NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when you are done.

HAP (a) Remove the MCP, M198. To remove it, do this task: DFCS Mode Control Panel Removal, AMM TASK 22-11-34-000-801.

HAP (b) Do a wiring check between these pins of connector D299 at the glareshield and terminal block TB1110 at the E1-1 shelf (WDM 22-11-51):

	D299	TB1110
HAP	pin 17	term ZB17
HAP	pin 18	term ZA17

HAP (c) Repair the wiring problem that you find.

HAP (d) Re-install the MCP. To install it, do this task: DFCS Mode Control Panel Installation, AMM TASK 22-11-34-400-801.

HAP (e) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the fault.

END OF TASK

HAP **834. Weather Radar Hazard Bus to GPWS Problem - Fault Isolation**

HAP A. Description

HAP (1) This task is for this maintenance message:

HAP (a) WEATHER RADAR HAZARD 1 BUS INACTIVE

HAP (2) The data from the weather radar receiver/transmitter ARINC 429 bus is stopped.

HAP B. Possible Causes

HAP (1) Weather radar receiver/transmitter, M101.

HAP (2) Ground proximity warning computer (GPWC), M652

HAP (3) Wiring.

HAP C. Related Data

HAP (1) Simplified Schematic (Figure 306).

HAP (2) (SSM 34-49-11).

HAP (3) (WDM 34-49-11).

HAP D. Initial Evaluation

HAP (1) If you hear the maintenance message in Current Faults, then do the Fault Isolation Procedure below.

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HAP (2) If you hear the maintenance message in Fault History and not in Current Faults, then there was an intermittent fault.

HAP E. Fault Isolation Procedure

HAP (1) Do this check of the weather radar receiver/transmitter:

HAP (a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

HAP 1) If the operational test is not satisfactory, then go to the fault isolation task for the problem that you find to correct the fault.

HAP a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP b) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

HAP 2) If the operational test is satisfactory, then continue.

HAP (2) Do this check of the wiring:

HAP NOTE: If you use a megohmmeter to do wiring checks on an ARINC 429 bus (or if you need the exact resistance of the bus wiring), first remove all the LRUs that are connected to the bus (use the WDM to tell which LRUs are on the bus). Then, re-install the LRUs when you are done.

HAP (a) Remove the weather radar receiver/transmitter, M101. To remove it, do this task: Weather Radar Receiver/Transmitter Removal, AMM TASK 34-43-41-000-801.

HAP (b) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

HAP (c) Do a wiring check between these pins of connector D189B for the weather radar receiver/transmitter and connector D1153A for the GPWC:

	D189B		D1153A
HAP	pin J5	- - - - - - - - - - - - - - - - - -	pin C8
HAP	pin J6	- - - - - - - - - - - - - - - - - -	pin D8

HAP (d) If you find a problem with the wiring, then do these steps:

HAP 1) Repair the wiring.

HAP 2) Re-install the weather radar receiver/transmitter. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

HAP 3) Re-install the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP 4) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Status, then you corrected the fault.

HAP (e) If you do not find a problem with the wiring, then do this step and continue:

HAP 1) Re-install the weather radar receiver/transmitter, M101. To install it, do this task: Weather Radar Receiver/Transmitter Installation, AMM TASK 34-43-41-400-801.

HAP (3) Install a new ground proximity warning computer (GPWC), M652. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

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HAP 1) If you do not hear the maintenance message in Current Faults, then you corrected the
HAP fault.

———————— END OF TASK ————————

HAP
HAP **HAP ALL; AIRPLANES WITH THE GEAR INHIBIT SWITCH ON THE EGPWS MODULE**

HAP **837. Landing Gear Inhibit Discrete Signal Problem - Fault Isolation**

HAP A. Description

HAP (1) This task is for this maintenance message:

HAP (a) GEAR SWITCH FAULT

HAP (2) The discrete signal from the landing gear control lever is not correct.

HAP (3) You will hear this message during either of these conditions:

HAP (a) The discrete signal is grounded and the air/ground logic is set for air mode with an
HAP airspeed of more than 290 knots.

HAP (b) The discrete signal is open and the air/ground logic is set for ground mode.

HAP (c) With the GEAR INHIBIT switch set to INHIBIT, The discrete signal is grounded giving a gear
HAP down signal to the GPWC.

HAP B. Possible Causes

HAP (1) Landing gear lever switch module, M1952.

HAP (2) GEAR INHIBIT switch (S790) in the GPWS module, P3-7.

HAP (3) Ground proximity warning computer (GPWC), M652.

HAP (4) Wiring.

HAP C. Related Data

HAP (1) Simplified Schematic (Figure 308).

HAP (2) (SSM 32-64-11).

HAP (3) (SSM 34-49-11).

HAP (4) (WDM 32-64-11).

HAP (5) (WDM 34-49-11).

HAP D. Initial Evaluation

HAP (1) Do this check of the landing gear discrete input:

HAP (a) Make sure the GEAR INHIBIT switch on the GPWS module, P3-7, is in the NORM position.

HAP (b) Push the GROUND PROXIMITY SYS TEST switch momentarily (less than 2 seconds) again
HAP and again until you hear "DISCRETE TEST".

HAP **WARNING:** THE GROUND LOCKING PINS MUST BE INSTALLED IN THE LANDING GEAR
HAP BEFORE YOU MOVE THE LANDING GEAR LEVER. IF YOU DO NOT, YOU CAN
HAP INJURE PEOPLE OR DAMAGE EQUIPMENT.

HAP (c) Set the landing gear lever to the OFF position.

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HAP (d) Listen for the "LANDING GEAR UP" aural message.

HAP (e) Move the GEAR INHIBIT switch to INHIBIT.

HAP (f) Listen for the "LANDING GEAR DOWN" aural message.

HAP (g) Move the GEAR INHIBIT switch to NORM.

HAP (h) Listen for the "LANDING GEAR UP" aural message.

HAP (i) Set the landing gear lever to the DOWN position.

HAP (j) Listen for the "LANDING GEAR DOWN" aural message.

HAP (k) If the check of the landing gear discrete input is satisfactory, then there was an intermittent
HAP fault.

HAP (l) If the check of the landing gear discrete input is not satisfactory when you move the GEAR
HAP INHIBIT switch, then do the Fault Isolation Procedure - GEAR INHIBIT Switch below.

HAP (m) If the check of the landing gear discrete input is not satisfactory when you move the landing
HAP gear lever, then do the Fault Isolation Procedure - Landing Gear Lever Switch below.

HAP (n) If the check of the landing gear discrete input does not change when you move the landing
HAP gear lever or when you move the GEAR INHIBIT switch, then do the Fault Isolation
HAP Procedure - Input Does Not Change below.

HAP E. Fault Isolation Procedure - Landing Gear Lever Switch

HAP NOTE: You must do the steps in the Initial Evaluation before you can do these steps:

HAP (1) Do this check of the landing gear lever switch module:

HAP (a) Do this task: Proximity Switch Electronics Unit (PSEU) BITE Procedure, 32-09 TASK 801.

HAP (b) If the PSEU BITE test shows a lever up or lever down fault, then do these steps:

HAP 1) Replace the landing gear control lever module, M1952.

HAP These are the tasks:

HAP Landing Gear Control Lever Module Removal, AMM TASK 32-31-11-020-801,

HAP Landing Gear Control Lever Module Installation, AMM TASK 32-31-11-400-801.

HAP 2) Do the Repair Confirmation at the end of this task.

HAP (c) If the PSEU BITE test does not show a lever up or lever down fault, then continue.

HAP (2) Replace the GPWS module, P3-7.

HAP These are the tasks:

HAP Ground Proximity Warning Module Removal, AMM TASK 34-46-02-000-801,

HAP Ground Proximity Warning Module Installation, AMM TASK 34-46-02-400-801.

HAP (a) Do the Repair Confirmation at the end of this task.

HAP 1) If the Repair Confirmation is not satisfactory, then continue.

HAP (3) Do this check of the wiring at the first officer's instument panel, P3:

HAP (a) Remove the GPWS module, P3-7. To remove it, do this task: Ground Proximity Warning
HAP Module Removal, AMM TASK 34-46-02-000-801.

HAP (b) Do a wiring check at the first officer's instrument panel, P3, between these pins of
HAP connector D1205 for the GPWS module and terminal block TB201 (WDM 34-49-11):

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	D1205		TB201
pin 9	- - - - - - - - - - - - - - - - - -		term ZA1

(c) Repair the wiring problem that you find.

(d) Re-install the GPWS module, P3-7. To install it, do this task: Ground Proximity Warning Module Installation, AMM TASK 34-46-02-400-801.

(e) Do the Repair Confirmation at the end of this task.

F. Fault Isolation Procedure - GEAR INHIBIT Switch

NOTE: You must do the steps in the Initial Evaluation before you can do these steps:

(1) Replace the GPWS module, P3-7.

These are the tasks:

Ground Proximity Warning Module Removal, AMM TASK 34-46-02-000-801,

Ground Proximity Warning Module Installation, AMM TASK 34-46-02-400-801.

(a) Do the Repair Confirmation at the end of this task.

G. Fault Isolation Procedure - Input Does Not Change

NOTE: You must do the steps in the Initial Evaluation before you can do these steps:

(1) Do this check of the wiring between the GPWS module and the GPWC:

(a) Remove the GPWS module, P3-7. To remove it, do this task: Ground Proximity Warning Module Removal, AMM TASK 34-46-02-000-801.

(b) Remove the ground proximity warning computer (GPWC), M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

(c) Do a wiring check between these pins of connector D1153B for the GPWC and connector D1205 for the GPWS module (WDM 34-49-11):

	D1153B		D1205
pin B9	- - - - - - - - - - - - - - - - - -		pin 8

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

3) Re-install the GPWS module, P3-7. To install it, do this task: Ground Proximity Warning Module Installation, AMM TASK 34-46-02-400-801.

4) Do the Repair Confirmation at the end of this task.

(e) If you do not find a problem with the wiring, then do this step and continue.

1) Re-install the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

(2) Replace the ground proximity warning computer (GPWC), M652.

These are the tasks:

Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

(a) Do the Repair Confirmation at the end of this task.

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HAP 1) If the Repair Confirmation is not satisfactory, then continue.

HAP (3) Install a new GPWS module, P3-7. To install it, do this task: Ground Proximity Warning Module Installation, AMM TASK 34-46-02-400-801.

HAP (a) Do the Repair Confirmation at the end of this task.

HAP H. Repair Confirmation

HAP (1) Do this check of the landing gear discrete input:

HAP (a) Make sure the GEAR INHIBIT switch on the GPWS module, P3-7, is in the NORM position.

HAP (b) Push the GROUND PROXIMITY SYS TEST switch momentarily (less than 2 seconds) again and again until you hear "DISCRETE TEST".

HAP **WARNING:** THE GROUND LOCKING PINS MUST BE INSTALLED IN THE LANDING GEAR BEFORE YOU MOVE THE LANDING GEAR LEVER. IF YOU DO NOT, YOU CAN INJURE PEOPLE OR DAMAGE EQUIPMENT.

HAP (c) Set the landing gear lever to the OFF position.

HAP (d) Listen for the "LANDING GEAR UP" aural message.

HAP (e) Move the GEAR INHIBIT switch to INHIBIT.

HAP (f) Listen for the "LANDING GEAR DOWN" aural message.

HAP (g) Move the GEAR INHIBIT switch to NORM.

HAP (h) Listen for the "LANDING GEAR UP" aural message.

HAP (i) Set the landing gear lever to the DOWN position.

HAP (j) Listen for the "LANDING GEAR DOWN" aural message.

HAP (k) If the check of the landing gear discrete input is satisfactory, then you corrected the fault.

END OF TASK

HAP

HAP **HAP ALL; AIRPLANES WITH ENHANCED GROUND PROXIMITY WARNING SYSTEM**

HAP **838. Flap Position Discrete Signal Problem - Fault Isolation**

HAP A. Description

HAP (1) This task is for this maintenance message:

HAP (a) FLAP SWITCH FAULT

HAP (2) This message will show for one of these conditions:

HAP (a) The altitude is more than 50 feet, the airspeed is more than 250 knots, and the flap signal is for flaps down.

HAP (b) The altitude is between 100 and 50 feet on approach and the flap signal is for flaps up.

HAP B. Possible Causes

HAP (1) FLAP INHIBIT switch (S658) in the GPWS module, P3-7.

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP (3) Wiring.

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HAP C. Related Data

HAP (1) Simplified Schematic (Figure 308).

HAP (2) (SSM 34-49-11).

HAP (3) (WDM 34-49-11).

HAP D. Initial Evaluation

HAP (1) Do this check of the flap inhibit discrete input:

HAP (a) Make sure the FLAP INHIBIT switch on the GPWS module, P3-7, is in the NORM position.

HAP (b) Push the GROUND PROXIMITY SYS TEST switch momentarily (less than 2 seconds) again and again until you hear "DISCRETE TEST".

HAP (c) Move the FLAP INHIBIT switch to INHIBIT.

HAP (d) Listen for the "LANDING FLAPS" aural message.

HAP (e) Move the FLAP INHIBIT switch to NORM.

HAP (f) Listen for the "NOT LANDING FLAPS" aural message.

HAP (g) If the check of the flap inhibit discrete input is satisfactory, then there was an intermittent fault.

HAP (h) If the check of the flap inhibit discrete input is not satisfactory, then do the Fault Isolation Procedure below.

HAP E. Fault Isolation Procedure

HAP (1) Do this check of the FLAP INHIBIT switch on the GPWS module, P3-7:

HAP (a) Remove the GPWS module, P3-7. To remove it, do this task: Ground Proximity Warning Module Removal, AMM TASK 34-46-02-000-801.

HAP (b) Make sure the FLAP INHIBIT switch is in the NORMAL position.

HAP (c) Do a continuity check between pin 5 and pin 6 on the GPWS module.

HAP (d) If there is not continuity between pin 5 and pin 6 on the GPWS module, then do these steps:

HAP 1) Install a new GPWS module, P3-7. To install it, do this task: Ground Proximity Warning Module Installation, AMM TASK 34-46-02-400-801.

HAP 2) Do the Repair Confirmation at the end of this task.

HAP (e) If there is continuity between pin 5 and pin 6 on the GPWS module, then do this step and continue:

HAP 1) Re-install the GPWS module, P3-7. To install it, do this task: Ground Proximity Warning Module Installation, AMM TASK 34-46-02-400-801.

HAP (2) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do the Repair Confirmation at the end of this task.

HAP 1) If the Repair Confirmation is not satisfactory, then continue.

HAP (3) Do this check of the wiring:

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HAP (a) Remove the ground proximity module P3-7, from the P3 first officer's instrument panel. To remove it, do this task: Ground Proximity Warning Module Removal, AMM TASK 34-46-02-000-801.

HAP (b) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

HAP (c) Do a wiring check between these pins of connector D1205 for the GPWS module and connector D1153B for the GPWC:

D1205		D1153B
pin 5	- - - - - - - - - - - - - - - - - -	pin C9

HAP (d) Make sure pin 6 of connector D1205 goes to ground.

HAP (e) Repair the wiring problem that you find.

HAP (f) Re-install the ground proximity module P3-7. To install it, do this task: Ground Proximity Warning Module Installation, AMM TASK 34-46-02-400-801.

HAP (g) Re-install the GPWC, M652. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (h) Do the Repair Confirmation at the end of this task.

HAP F. Repair Confirmation

HAP (1) Do this check of the flap inhibit discrete input:

HAP (a) Make sure the FLAP INHIBIT switch on the GPWS module, P3-7, is in the NORM position.

HAP (b) Push the GROUND PROXIMITY SYS TEST switch momentarily (less than 2 seconds) again and again until you hear "DISCRETE TEST".

HAP (c) Move the FLAP INHIBIT switch to INHIBIT.

HAP (d) Listen for the "LANDING FLAPS" aural message.

HAP (e) Move the FLAP INHIBIT switch to NORM.

HAP (f) Listen for the "NOT LANDING FLAPS" aural message.

HAP (g) If the check of the flap inhibit discrete input is satisfactory, then you corrected the fault.

HAP **HAP ALL**

——————— END OF TASK ———————

839. Air/Ground Discrete Signal Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) AIR/GROUND INVALID

(2) The discrete from the ground sensing logic is bad.

(3) The AIR/GROUND discrete is considered bad if the ground sensing relay is on ground AND the airspeed is more than 290 knots and the airspeed is valid.

B. Possible Causes

HAP (1) Air/ground input to the PSEU.

(2) Proximity switch electronics unit (PSEU), M2061.

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(3) Ground proximity warning computer (GPWC), M652.

(4) Wiring.

C. Related Data

(1) Simplified Schematic (Figure 308).

(2) (SSM 32-31-11).

(3) (SSM 34-49-11).

(4) (WDM 32-31-11).

(5) (WDM 34-49-11).

D. Initial Evaluation

HAP (1) Do this check of the air/ground discrete input:

HAP (a) Push the GROUND PROXIMITY SYS TEST switch momentarily (less than 2 seconds) again
HAP and again until you hear "DISCRETE TEST".

HAP (b) For SYS #1, do this task: Put the Airplane in the Air Mode, AMM TASK 32-09-00-860-801.

HAP (c) Listen for the "NOT ON GROUND" aural message.

HAP (d) Do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

HAP (e) Listen for the "ON GROUND" aural message.

HAP (f) If the check of the air/ground discrete input is satisfactory, then there was an intermittent
HAP fault.

HAP (g) If the check of the air/ground discrete input is not satisfactory, then do the Fault Isolation
HAP Procedure below.

E. Fault Isolation Procedure

HAP (1) Do this check of the PSEU:

HAP (a) Do this task: Proximity Switch Electronics Unit (PSEU) BITE Procedure, 32-09 TASK 801.

HAP 1) If the PSEU BITE test shows a PSEU internal fault or an air/ground fault, then go to the
HAP fault isolation task for the applicable PSEU maintenance to correct the fault.

HAP a) Do the Repair Confirmation at the end of this task.

HAP 2) If the PSEU BITE test does not show a PSEU internal fault or an air/ground fault, then
HAP continue:

HAP (2) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do the Repair Confirmation at the end of this task.

HAP 1) If the Repair Confirmation is not satisfactory, then continue.

HAP (3) Do this check of the wiring:

HAP (a) Disconnect connector D1142 from the PSEU.

HAP (b) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning
HAP Computer Removal, AMM TASK 34-46-01-000-801.

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(c) Do a wiring check panel between these pins of connector D1142 and connector D1153B for the GPWC:

D1142	D1153B
pin 29	pin A1

(d) Repair the wiring problem that you find.

(e) Reinstall the GPWC, M652. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

(f) Reconnect connector D1142 to the PSEU.

(g) Do the Repair Confirmation at the end of this task.

F. Repair Confirmation

(1) Do this check of the air/ground discrete input:

(a) Push the GROUND PROXIMITY SYS TEST switch momentarily (less than 2 seconds) again and again until you hear "DISCRETE TEST".

(b) For SYS #1, do this task: Put the Airplane in the Air Mode, AMM TASK 32-09-00-860-801.

(c) Listen for the "NOT ON GROUND" aural message.

(d) Do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(e) Listen for the "ON GROUND" aural message.

(f) If the check of the air/ground discrete input is satisfactory, then you corrected the fault.

END OF TASK

HAP ALL; AIRPLANES WITH ENHANCED GROUND PROXIMITY WARNING SYSTEM

840. IRS or AIR DATA ARINC 429 Signal Fault - Fault Isolation

A. Description

(1) This task is for these maintenance messages:

(a) AIR DATA BUS 1 BAROMETRIC ALTITUDE FAULT

(b) AIR DATA BUS 1 BAROMETRIC RATE FAULT

(c) AIR DATA BUS 1 COMPUTED AIRSPEED FAULT

(d) AIR DATA BUS 1 CORRECTED ALTITUDE FAULT

(e) AIR DATA BUS 1 QNH CORRECTED ALTITUDE FAULT

(f) AIR DATA BUS 1 TRUE AIRSPEED FAULT

(g) AIR DATA BUS 1 STATIC AIR TEMPERATURE FAULT

(h) AIR DATA BUS 2 BAROMETRIC ALTITUDE FAULT

(i) AIR DATA BUS 2 BAROMETRIC RATE FAULT

(j) AIR DATA BUS 2 COMPUTED AIRSPEED FAULT

(k) AIR DATA BUS 2 CORRECTED ALTITUDE FAULT

(l) AIR DATA BUS 2 QNH CORRECTED ALTITUDE FAULT

(m) AIR DATA BUS 2 TRUE AIRSPEED FAULT

(n) AIR DATA BUS 2 STATIC AIR TEMPERATURE FAULT

(o) IRS BUS 1 ALTITUDE FAULT

(p) IRS BUS 1 GROUND SPEED FAULT

(q) IRS BUS 1 INERTIAL VERTICAL ACCELERATION FAULT

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HAP (r) IRS BUS 1 LATITUDE FAULT
HAP (s) IRS BUS 1 LONGITUDE FAULT
HAP (t) IRS BUS 1 LONGITUDINAL ACCELERATION FAULT
HAP (u) IRS BUS 1 MAGNETIC TRACK FAULT
HAP (v) IRS BUS 1 MODE FAULT
HAP (w) IRS BUS 1 NORMAL ACCELERATION FAULT
HAP (x) IRS BUS 1 PITCH ANGLE FAULT
HAP (y) IRS BUS 1 PITCH RATE FAULT
HAP (z) IRS BUS 1 ROLL ANGLE FAULT
HAP (aa) IRS BUS 1 TRUE HEADING FAULT
HAP (ab) IRS BUS 1 TRUE TRACK FAULT
HAP (ac) IRS BUS 1 VERTICAL SPEED FAULT
HAP (ad) IRS BUS 2 ALTITUDE FAULT
HAP (ae) IRS BUS 2 GROUND SPEED FAULT
HAP (af) IRS BUS 2 INERTIAL VERTICAL ACCELERATION FAULT
HAP (ag) IRS BUS 2 LATITUDE FAULT
HAP (ah) IRS BUS 2 LONGITUDE FAULT
HAP (ai) IRS BUS 2 LONGITUDINAL ACCELERATION FAULT
HAP (aj) IRS BUS 2 MAGNETIC TRACK FAULT
HAP (ak) IRS BUS 2 MODE FAULT
HAP (al) IRS BUS 2 NORMAL ACCELERATION FAULT
HAP (am) IRS BUS 2 PITCH ANGLE FAULT
HAP (an) IRS BUS 2 PITCH RATE FAULT
HAP (ao) IRS BUS 2 ROLL ANGLE FAULT
HAP (ap) IRS BUS 2 TRUE HEADING FAULT
HAP (aq) IRS BUS 2 TRUE TRACK FAULT
HAP (ar) IRS BUS 2 VERTICAL SPEED FAULT

HAP (2) Data is still being transmitted on the ARINC 429 bus, but the data is not reasonable. Bus 1 has
HAP data from the left ADIRU. Bus 2 has data from the right ADIRU.

HAP B. Possible Causes

HAP (1) Air data or IRS data input problem to the ADIRU.

HAP (2) Air data inertial reference unit (ADIRU), M1749 (left ADIRU) or M1752 (right ADIRU).

HAP (3) Ground proximity warning computer (GPWC), M652

HAP C. Initial Evaluation

HAP (1) If you also hear the maintenance message AIR DATA BUS 1 INACTIVE during Current Faults,
HAP then, do this task: Air Data Bus 1 to GPWS Problem - Fault Isolation, 34-46 TASK 822.

HAP (2) If you also hear the maintenance message AIR DATA BUS 2 INACTIVE during Current Faults,
HAP then, do this task: Air Data Bus 2 to GPWS Problem - Fault Isolation, 34-46 TASK 823.

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HAP (3) If you also hear the maintenance message IRS BUS 1 INACTIVE or IRS BUS 2 INACTIVE during Current Faults, then, do this task: IRS Bus to GPWS Problem - Fault Isolation, 34-46 TASK 824.

HAP (4) If you hear the maintenance message in Current Faults and you do not hear an AIR DATA BUS INACTIVE or IRS BUS INACTIVE maintenance message, then do the Fault Isolation Procedure below.

HAP (5) If you hear the maintenance message in Fault History and not in Current Faults, then there was an intermittent fault.

HAP D. Fault Isolation Procedure

HAP (1) For the applicable ADIRS, do this task: ADIRS BITE Procedure, 34-21 TASK 801

HAP NOTE: For a Bus 1 maintenance message, make the L ADIRS selection. For a Bus 2 maintenance message, make the R ADIRS selection.

HAP (a) If the ADIRS BITE test shows a similar IR data fault, air data fault, or ADIRU internal fault, then do these steps:

HAP 1) Go to the fault isolation task for the applicable ADIRS maintenance message to correct the fault.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Status, then you corrected the fault.

HAP b) If you hear the maintenance message in Current Status, then continue.

HAP (b) If the ADIRS BITE test does not show a similar IR data fault, air data fault, or ADIRU internal fault then continue.

HAP (2) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the fault.

——————— END OF TASK ———————

HAP **841. FMC ARINC 429 Signal Fault - Fault Isolation**

HAP A. Description

HAP (1) This task is for these maintenance messages:

HAP (a) FMC BUS 1 LATITUDE FAULT

HAP (b) FMC BUS 1 LONGITUDE FAULT

HAP (c) FMC BUS 1 MAGNETIC TRACK FAULT

HAP (d) FMC BUS 1 RNP FAULT

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(2) The GPWC uses latitude, longitude and magnetic track for envelope modulation. Envelope modulation is different for particular airports, so the aircraft location must be known. The GPWC can used latitude and longitude from the FMC or from the IRS. The FMC is preferred. The IRS will automatically be selected if the FMC is not valid.

(a) Loss of latitude and longitude will not cause the INOP light to come on. An FMC error of this magnitude will appear elsewhere first.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(3) With the FMC souce select switch at NORMAL, the GPWC get data from the left FMC (FMC 1).

HAP ALL; AIRPLANES WITH ENHANCED GROUND PROXIMITY WARNING SYSTEM

B. Possible Causes

(1) ADIRU input problem to the FMC.

(2) Ground proximity warning computer (GPWC), M652.

(3) FMC, M1175.

C. Initial Evaluation

(1) If you also hear the maintenance message FMC BUS 1 INACTIVE during Current Faults, then, do this task: FMC Bus to GPWS Problem - Fault Isolation, 34-46 TASK 828.

(2) If you hear the maintenance message in Current Faults and you do not hear FMC BUS 1 INACTIVE, then do the Fault Isolation Procedure below.

(3) If you hear the maintenance message in Fault History and not in Current Faults, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Make sure the FMCS operation is normal

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(a) With the FMC select switch at NORMAL, look for these indications of a failed FMC:

1) FAIL light on the CDU is on

2) SINGLE FMC OPERATION shows on the CDU.

3) FMC shows in the middle of the CDU display.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(b) Look for these indications of a failed FMC:

1) FAIL light on the CDU is on

2) FMC shows in the middle of the CDU display.

HAP ALL; AIRPLANES WITH ENHANCED GROUND PROXIMITY WARNING SYSTEM

(c) If there is an indication of an FMCS failure, then do these steps:

1) Replace the FMCS computer, M1175.

These are the tasks:

FMCS Computer Removal, AMM TASK 34-61-02-000-801,

FMCS Computer Installation, AMM TASK 34-61-02-400-801.

2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

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HAP a) If you do not hear the maintenance message in Current Status, then you corrected the fault.

HAP (d) If there is no indication of an FMCS failure, then continue.

HAP (2) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

HAP (a) If the FMCS BITE tests shows an input fault in FMC SENSOR STATUS, then go to the fault isolation task for the applicable FMCS maintenance message to correct the fault.

HAP 1) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Status, then you corrected the fault.

HAP b) If you hear the maintenance message in Current Status, then continue.

HAP (b) If the FMCS BITE tests shows an input fault in FMC SENSOR STATUS, then continue.

HAP (3) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the fault.

———————— END OF TASK ————————

HAP **842. GPS or ILS ARINC 429 Signal Fault - Fault Isolation**

HAP A. Description

HAP (1) This task is for these maintenance messages:

HAP (a) GPS BUS 1 ALTITUDE FAULT

HAP (b) GPS BUS 1 DATE FAULT

HAP (c) GPS BUS 1 GROUND SPEED FAULT

HAP (d) GPS BUS 1 HDOP FAULT

HAP (e) GPS BUS 1 HFOM FAULT

HAP (f) GPS BUS 1 HORIZONTAL INTEGRITY LIMIT FAULT

HAP (g) GPS BUS 1 LATITUDE FAULT

HAP (h) GPS BUS 1 LATITUDE FINE FAULT

HAP (i) GPS BUS 1 LONGITUDE FAULT

HAP (j) GPS BUS 1 LONGITUDE FINE FAULT

HAP (k) GPS BUS 1 SENSOR STATUS FAULT

HAP (l) GPS BUS 1 TRUE TRACK FAULT

HAP (m) GPS BUS 1 UTC FAULT

HAP (n) GPS BUS 1 VDOP FAULT

HAP (o) GPS BUS 1 VERTICAL VELOCITY FAULT

HAP (p) GPS BUS 1 VFOM FAULT

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HAP (q) GPS BUS 2 ALTITUDE FAULT
HAP (r) GPS BUS 2 DATE FAULT
HAP (s) GPS BUS 2 GROUND SPEED FAULT
HAP (t) GPS BUS 2 HDOP FAULT
HAP (u) GPS BUS 2 HFOM FAULT
HAP (v) GPS BUS 2 HORIZONTAL INTEGRITY LIMIT FAULT
HAP (w) GPS BUS 2 LATITUDE FAULT
HAP (x) GPS BUS 2 LATITUDE FINE FAULT
HAP (y) GPS BUS 2 LONGITUDE FAULT
HAP (z) GPS BUS 2 LONGITUDE FINE FAULT
HAP (aa) GPS BUS 2 SENSOR STATUS FAULT
HAP (ab) GPS BUS 2 TRUE TRACK FAULT
HAP (ac) GPS BUS 2 UTC FAULT
HAP (ad) GPS BUS 2 VDOP FAULT
HAP (ae) GPS BUS 2 VERTICAL VELOCITY FAULT
HAP (af) GPS BUS 2 VFOM FAULT
HAP (ag) ILS BUS 1 GLIDESLOPE FAULT
HAP (ah) ILS BUS 1 LOCALIZER FAULT

HAP (2) The GPWS receives GPS BUS 1 and ILS data from the MMR No. 1. It receives GPS BUS 2 data
HAP from the MMR No. 2.

HAP B. Possible Causes

HAP (1) Input problem to the multi-mode receiver (MMR).

HAP (2) MMR, M2104 (No. 1), or M2105 (No. 2).

HAP (3) Ground proximity warning computer (GPWC), M652.

HAP (4) Wiring.

HAP C. Initial Evaluation

HAP (1) If you also hear the maintenance message GPS BUS 1 INACTIVE or GPS BUS 2 INACTIVE
HAP during Current Faults, then, do this task: GPS Bus to GPWS Problem - Fault Isolation,
HAP 34-46 TASK 830.

HAP (2) If you also hear the maintenance message ILS BUS 2 INACTIVE during Current Faults, then, do
HAP this task: ILS Bus 1 to GPWS Problem - Fault Isolation, 34-46 TASK 829.

HAP (3) If you hear the maintenance message in Current Faults and you do not hear a GPS BUS
HAP INACTIVE or ILS BUS 1 INACTIVE maintenance message, then do the Fault Isolation Procedure
HAP below.

HAP (4) If you hear the maintenance message in Fault History and not in Current Faults, then there was
HAP an intermittent fault.

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HAP D. Fault Isolation Procedure

HAP (1) For the applicable MMR, do this task: ILS or Multi-Mode Receiver BITE Procedure,
HAP 34-31 TASK 801.

HAP NOTE: For a Bus 1 fault, do the BITE test on MMR-1. For a Bus 2 fault, do the BITE test on
HAP MMR-2.

HAP (a) If the MMR BITE test shows a fault, then go to the fault isolation task for the applicable MMR
HAP maintenance message to correct the fault.

HAP 1) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Status, then you corrected
HAP the fault.

HAP (b) If the MMR BITE test does not show a fault, then continue.

HAP (2) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the
HAP fault.

——————— END OF TASK ———————

HAP **843. SMYD ARINC 429 Signal Fault - Fault Isolation**

HAP A. Description

HAP (1) This task is for these maintenance messages:

HAP (a) SMYD BUS 1 CORRECTED ANGLE OF ATTACK FAULT

HAP (b) SMYD BUS 1 FLAP ANGLE FAULT

HAP (c) SMYD BUS 1 INDICATED ANGLE OF ATTACK FAULT

HAP (d) SMYD BUS 1 MINIMUM OPERATING SPEED FAULT

HAP (e) SMYD BUS 1 STICK SHAKER ANGLE OF ATTACK FAULT

HAP (f) SMYD BUS 2 CORRECTED ANGLE OF ATTACK FAULT

HAP (g) SMYD BUS 2 FLAP ANGLE FAULT

HAP (h) SMYD BUS 2 INDICATED ANGLE OF ATTACK FAULT

HAP (i) SMYD BUS 2 MINIMUM OPERATING SPEED FAULT

HAP (j) SMYD BUS 2 STICK SHAKER ANGLE OF ATTACK FAULT

HAP (2) The GPWC receives SMYD Bus 1 data from SMYD 1. It receives SMYD Bus 2 data from SMYD 2.

HAP (3) The GPWC uses the SMYD inputs for windshear computations. Redundant failures can cause
HAP the INOP light to come on.

HAP B. Possible Causes

HAP (1) Air data input problem to SMYD 1 or SMYD 2.

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HAP (2) Ground proximity warning computer (GPWC), M652.

HAP (3) Stall management yaw damper (SMYD), M1747 (SMYD 1) or M1748 (SMYD 2).

HAP C. Initial Evaluation

HAP (1) If you also hear the maintenance message SMYD BUS 1 INACTIVE or SMYD BUS 2 INACTIVE during Current Faults, then, do this task: SMYD Bus to GPWS Problem - Fault Isolation, 34-46 TASK 827.

HAP (2) If you hear the maintenance message in Current Faults and you do not hear a SMYD BUS 1 INACTIVE or SMYD BUS 2 INACTIVE maintenance message, then do the Fault Isolation Procedure below.

HAP (3) If you hear the maintenance message in Fault History and not in Current Faults, then there was an intermittent fault.

HAP D. Fault Isolation Procedure

HAP (1) For the applicable SMYD, do this task: Stall Management Yaw Damper BITE Procedure, 27-32 TASK 801.

HAP NOTE: For Bus 1 faults, do the BITE test on SMYD 1. For Bus 2 faults, do the BITE test on SMYD 2.

HAP (a) If the SMYD BITE test shows an internal SMYD fault or a related air data fault in EXISTING FAULTS, then go to the fault isolation task for the applicable SMYD maintenance message to correct the fault.

HAP 1) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Status, then you corrected the fault.

HAP (b) If the SMYD BITE test does not show an internal SMYD fault or a related air data fault, then continue.

HAP (2) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the fault.

——————— END OF TASK ———————

HAP **844. Weather Radar Hazard ARINC 429 Signal Fault - Fault Isolation**

HAP A. Description

HAP (1) This task is for this maintenance message:

HAP (a) WEATHER RADAR HAZARD BUS 1 STATUS WORD FAULT

HAP (2) The weather radar receiver/transmitter gives an indication to the GPWC of any weather radar alerts. If the GPWC has an alert, then the GPWC will compare the priority of its alert to that of the weather radar. The higher priority alert will show or be heard.

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HAP B. Possible Causes

HAP (1) Ground proximity warning computer (GPWC), M652.

HAP (2) Weather radar receiver/transmitter, M101.

HAP C. Initial Evaluation

HAP (1) If you also hear the maintenance message WEATHER RADAR HAZARD BUS 1 INACTIVE during Current Faults, then, do this task: Weather Radar Hazard Bus to GPWS Problem - Fault Isolation, 34-46 TASK 834.

HAP (2) If you hear the maintenance message in Current Faults and you do not hear a WEATHER RADAR HAZARD BUS 1 INACTIVE maintenance message, then do the Fault Isolation Procedure below.

HAP (3) If you hear the maintenance message in Fault History and not in Current Faults, then there was an intermittent fault.

HAP D. Fault Isolation Procedure

HAP (1) Do this check of the weather radar receiver/transmitter:

HAP (a) Do this task: Weather Radar (WXR) System - Operational Test, AMM TASK 34-43-00-710-803-002.

HAP 1) If the operational test is not satisfactory, then go to the fault isolation task for the problem that you find to correct the fault.

HAP a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP b) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

HAP 2) If the operational test is satisfactory, then continue.

HAP (2) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the fault.

——————— END OF TASK ———————

HAP **845. <u>EFIS ARINC 429 Signal Fault - Fault Isolation</u>**

HAP A. Description

HAP (1) This task is for these maintenance messages:

HAP (a) EFIS BUS 1 DECISION HEIGHT FAULT

HAP (b) EFIS BUS 1 DISCRETE WORD 1 FAULT

HAP (c) EFIS BUS 1 DISCRETE WORD 2 LEFT FAULT

HAP (d) EFIS BUS 1 DISCRETE WORD 2 RIGHT FAULT

HAP (e) EFIS BUS 1 LANDING ALTITUDE FAULT

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HAP (f) EFIS BUS 1 MINIMUM DECISION ALTITUDE FAULT
HAP (g) EFIS BUS 2 DECISION HEIGHT FAULT
HAP (h) EFIS BUS 2 DISCRETE WORD 1 FAULT
HAP (i) EFIS BUS 2 DISCRETE WORD 2 LEFT FAULT
HAP (j) EFIS BUS 2 DISCRETE WORD 2 RIGHT FAULT
HAP (k) EFIS BUS 2 LANDING ALTITUDE FAULT
HAP (l) EFIS BUS 2 MINIMUM DECISION ALTITUDE FAULT

HAP (2) The GPWC receives EFIS Bus 1 data from DEU 1. The GPWC receives EFIS Bus 2 data from DEU 2.

HAP B. Possible Causes

HAP (1) Air data input problem to DEU 1 or DEU 2.

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP (3) Display electronics unit (DEU), M1808 (DEU-1) or M1809 (DEU-2).

HAP C. Initial Evaluation

HAP (1) If you also hear the maintenance message EFIS BUS 1 INACTIVE or EFIS BUS 2 INACTIVE during Current Faults, then, do this task: EFIS BUS to GPWS Problem - Fault Isolation, 34-46 TASK 826.

HAP (2) If you hear the maintenance message in Current Faults and you do not hear an EFIS BUS 1 INACTIVE or EFIS BUS 2 INACTIVE maintenance message, then do the Fault Isolation Procedure below.

HAP (3) If you hear the maintenance message in Fault History and not in Current Faults, then there was an intermittent fault.

HAP D. Fault Isolation Procedure

HAP (1) For the applicable DEU, do this task: CDS BITE Procedure, 31-62 TASK 801.

HAP NOTE: For Bus 1 faults, make the DEU-1 selection. For Bus 2 faults, make the DEU-2 selection.

HAP (a) If the CDS BITE test shows an internal DEU fault or a related air data fault in CURRENT STATUS, then go to the fault isolation task for the applicable DEU maintenance message to correct the fault.

HAP 1) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Status, then you corrected the fault.

HAP (b) If the CDS BITE test does not show an internal DEU fault or a related air data fault in CURRENT STATUS, then continue.

HAP (2) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

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HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the fault.

—————— END OF TASK ——————

HAP **846. MCP ARINC 429 Signal Fault - Fault Isolation**

HAP A. Description

HAP (1) This task is for this maintenance message:

HAP (a) MCP BUS SELECTED COURSE FAULT

HAP (2) The selected course data from the Mode Control Panel (MCP) is not reasonable.

HAP B. Possible Causes

HAP (1) DFCS mode control panel (MCP), M198.

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP C. Initial Evaluation

HAP (1) If you also hear the maintenance message MCP BUS INACTIVE during Current Faults, then, do this task: MCP Bus to GPWS Problem - Fault Isolation, 34-46 TASK 833.

HAP (2) If you hear the maintenance message in Current Faults and you do not hear an MCP BUS INACTIVE maintenance message, then do the Fault Isolation Procedure below.

HAP (3) If you hear the maintenance message in Fault History and not in Current Faults, then there was an intermittent fault.

HAP D. Fault Isolation Procedure

HAP (1) For the MCP, do this task: LRU Replacement Test, 22-11 TASK 802.

HAP (a) If the MCP replacement test shows an MCP internal fault, then do these steps:

HAP 1) Replace the mode control panel, M198.

HAP These are the tasks:

HAP DFCS Mode Control Panel Removal, AMM TASK 22-11-34-000-801,

HAP DFCS Mode Control Panel Installation, AMM TASK 22-11-34-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 3) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

HAP (b) If the MCP replacement test does not show an MCP internal fault, then continue.

HAP (2) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the fault.

—————— END OF TASK ——————

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HAP **847. Radio Altimeter ARINC 429 Signal Fault - Fault Isolation**

HAP A. Description

HAP (1) This task is for these maintenance messages:

HAP (a) RADIO ALTIMETER BUS 1 RADIO ALTITUDE FAULT

HAP (b) RADIO ALTIMETER BUS 2 RADIO ALTITUDE FAULT

HAP (2) The GPWC receives radio altimeter Bus 1 data from the No. 1 radio altimeter reciecer/ transmitter. The GPWC receives radio altimeter Bus 2 data from the No. 2 radio altimeter reciecer/transmitter.

HAP B. Possible Causes

HAP (1) Radio altimeter receiver/transmitter, M1735 (No. 1) or M1736 (No. 2).

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP C. Initial Evaluation

HAP (1) If you also hear the maintenance message RADIO ALTIMETER BUS 1 INACTIVE or RADIO ALTIMETER BUS 2 INACTIVE during Current Faults, then, do this task: Radio Altimeter Bus to GPWS Problem - Fault Isolation, 34-46 TASK 832.

HAP (2) If you hear the maintenance message in Current Faults and you do not hear a RADIO ALTIMETER BUS 1 INACTIVE or RADIO ALTIMETER BUS 2 INACTIVE maintenance message, then do the Fault Isolation Procedure below.

HAP (3) If you hear the maintenance message in Fault History and not in Current Faults, then there was an intermittent fault.

HAP D. Fault Isolation Procedure

HAP (1) For the applicable radio altimeter receiver/transmitter, do this task: Low Range Radio Altimeter (LRRA) BITE Procedure, 34-33 TASK 801.

HAP NOTE: For Bus 1 faults, do the BITE test on the No. 1 radio altimeter receiver/transmitter. For Bus 2 faults, do the BITE test on the No. 2 radio altimeter receiver/transmitter.

HAP (a) If the LRRA BITE test shows a receiver/transmitter internal fault, then do these steps:

HAP 1) Replace the applicable radio altimeter receiver/transmitter, M1735 (No. 1) or M1736 (No. 2).

HAP These are the tasks:

HAP Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Removal, AMM TASK 34-33-21-000-801,

HAP Low Range Radio Altimeter (LRRA) Receiver/Transmitter (R/T) Installation, AMM TASK 34-33-21-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 3) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

HAP (b) If the LRRA BITE test does not show a receiver/transmitter internal fault, then continue.

HAP (2) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

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HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the
HAP fault.

——————— END OF TASK ———————

HAP **848. Glideslope Cancel Discrete Signal Problem - Fault Isolation**

HAP A. Description

HAP (1) This task is for this maintenance message:

HAP (a) GLIDESLOPE CANCEL INVALID

HAP B. Possible Causes

HAP (1) BELOW G/S light, L1 (captain's) or L2 (first officer's).

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP (3) Wiring.

HAP C. Related Data

HAP (1) Simplified Schematic (Figure 308).

HAP (2) (SSM 34-49-11).

HAP (3) (WDM 34-49-11).

HAP D. Initial Evaluation

HAP (1) Do this check of the glideslope cancel discrete input:

HAP (a) Push the GROUND PROXIMITY SYS TEST switch momentarily (less than 2 seconds) again
HAP and again until you hear "DISCRETE TEST".

HAP (b) Push and hold the captain's BELOW G/S light switch on the captain's instrument panel, P1-
HAP 1.

HAP (c) Listen for the "GLIDESLOPE CANCELED" aural message.

HAP (d) Release the captain's BELOW G/S light switch.

HAP (e) Listen for the "GLIDESLOPE ENABLED" aural message.

HAP (f) Push and hold the first officer's BELOW G/S light switch on the first officer's instrument
HAP panel, P3-1.

HAP (g) Listen for the "GLIDESLOPE CANCELED" aural message.

HAP (h) Release the first officer's BELOW G/S light switch.

HAP (i) Listen for the "GLIDESLOPE ENABLED" aural message.

HAP (j) If the check of the glideslope cancel discrete input is satisfactory, then there was an
HAP intermittent fault.

HAP (k) If the check of the glideslope cancel discrete input is not satisfactory for the captain's
HAP BELOW G/S light switch only, then do the Fault Isolation Procedure - Captain's BELOW G/S
HAP Light Switch below.

HAP (l) If the check of the glideslope cancel discrete input is not satisfactory for the first officer's
HAP BELOW G/S light switch only, then do the Fault Isolation Procedure - First Officer's BELOW
HAP G/S Light Switch below.

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HAP (m) If the check of the glideslope cancel discrete input is not satisfactory for both BELOW G/S light switches, then do the Fault Isolation Procedure - GPWC below.

HAP E. Fault Isolation Procedure - Captain's BELOW G/S Light Switch

HAP NOTE: You must do the steps in the Initial Evaluation before you do these steps.

HAP (1) Replace the captain's BELOW G/S light switch, L1 on the captain's instrument panel, P1-1.

HAP (a) Do the Repair Confirmation at the end of this task.

HAP 1) If the Repair Confirmation is not satisfactory, then continue.

HAP (2) Do this check of the wiring:

HAP (a) Disconnect connector D423 from the captain's instrument panel, P1-1.

HAP (b) Do a wiring check at the P1 panel between these pins of connector D423 and terminal block TB101:

	D423		TB101
HAP	pin 5	- - - - - - - - - - - - - - - - - -	term YA9

HAP (c) Make sure pin 4 of D423 goes to ground.

HAP (d) Repair the wiring problem that you find.

HAP (e) Re-connect connector D423 to the captain's instrument panel.

HAP (f) Do the Repair Confirmation at the end of this task.

HAP F. Fault Isolation Procedure - First Officer's BELOW G/S Light Switch

HAP NOTE: You must do the steps in the Initial Evaluation before you do these steps.

HAP (1) Replace the first officer's BELOW G/S light switch, L2 on the first officer's instrument panel, P3-1.

HAP (a) Do the Repair Confirmation at the end of this task.

HAP 1) If the Repair Confirmation is not satisfactory, then continue.

HAP (2) Do this check of the wiring:

HAP (a) Disconnect connector D3991 from the first officer's instrument panel, P3-1.

HAP (b) Do a wiring check between these pins of connector D3991 at the P3-1 panel and terminal block TB101 at the captain's instrument panel, P1:

	D3991		TB101
HAP	pin 12	- - - - - - - - - - - - - - - - - -	term YA9

HAP (c) Make sure pin 13 of D3991 goes to ground.

HAP (d) Repair the wiring problem that you find.

HAP (e) Re-connect connector D3991 to the first officer's instrument panel.

HAP (f) Do the Repair Confirmation at the end of this task.

HAP G. Fault Isolation Procedure - GPWC

HAP NOTE: You must do the steps in the Initial Evaluation before you do these steps.

HAP (1) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

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HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do the Repair Confirmation at the end of this task.

HAP 1) If the Repair Confirmation is not satisfactory, then continue.

HAP (2) Do this check of the wiring:

HAP (a) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning
HAP Computer Removal, AMM TASK 34-46-01-000-801.

HAP (b) Do a wiring check panel between these pins of connector D1153B for the GPWC and
HAP terminal block TB101 at the captain's instument panel, P1:

HAP	D1153B		TB101
HAP	pin D9	- - - - - - - - - - - - - - - - - -	term YA9

HAP (c) Repair the wiring problem that you find.

HAP (d) Re-install the GPWC, M652. To install it, do this task: Ground Proximity Warning
HAP Computer Installation, AMM TASK 34-46-01-400-801.

HAP (e) Do the Repair Confirmation at the end of this task.

HAP H. Repair Confirmation

HAP (1) Do this check of the glideslope cancel discrete input:

HAP (a) Push the GROUND PROXIMITY SYS TEST switch momentarily (less than 2 seconds) again
HAP and again until you hear "DISCRETE TEST".

HAP (b) Push and hold the captain's BELOW G/S light switch on the captain's instrument panel, P1-
HAP 1.

HAP (c) Listen for the "GLIDESLOPE CANCELED" aural message.

HAP (d) Release the captain's BELOW G/S light switch.

HAP (e) Listen for the "GLIDESLOPE ENABLED" aural message.

HAP (f) Push and hold the first officer's BELOW G/S light switch on the first officer's instrument
HAP panel, P3-1.

HAP (g) Listen for the "GLIDESLOPE CANCELED" aural message.

HAP (h) Release the first officer's BELOW G/S light switch.

HAP (i) Listen for the "GLIDESLOPE ENABLED" aural message.

HAP (j) If the check of the glideslope cancel discrete input is satisfactory, then you corrected the
HAP fault.

——————— END OF TASK ———————

HAP **850. Self Test Discrete Signal Problem - Fault Isolation**

HAP A. Description

HAP (1) This task is for this maintenance message:

HAP (a) SELF TEST INVALID

HAP B. Possible Causes

HAP (1) SELF TEST switch (S653) in the GPWS module, P3-7.

HAP (2) Ground proximity warning computer (GPWC), M652.

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HAP (3) Wiring.

HAP C. Related Data

HAP (1) Simplified Schematic (Figure 308).

HAP (2) (SSM 34-49-11).

HAP (3) (WDM 34-49-11).

HAP D. Initial Evaluation

HAP (1) If you hear the maintenance message in Current Faults, then do the Fault Isolation Procedure
HAP below.

HAP (2) If you hear the maintenance message in Fault History and not in Current Faults, then there was
HAP an intermittent fault.

HAP E. Fault Isolation Procedure

HAP (1) Replace the GPWS module, P3-7.

HAP These are the tasks:

HAP Ground Proximity Warning Module Removal, AMM TASK 34-46-02-000-801,

HAP Ground Proximity Warning Module Installation, AMM TASK 34-46-02-400-801.

HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the
HAP fault.

HAP 2) If you hear the maintenance message in Current Status, then continue.

HAP (2) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the
HAP fault.

HAP 2) If you hear the maintenance message in Current Status, then continue.

HAP (3) Do this check of the wiring:

HAP (a) Remove the ground proximity module P3-7, from the P3 first officer's instrument panel. To
HAP remove it, do this task: Ground Proximity Warning Module Removal, AMM
HAP TASK 34-46-02-000-801.

HAP (b) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning
HAP Computer Removal, AMM TASK 34-46-01-000-801.

HAP (c) Do a wiring check between these pins of connector D1205 for the GPWS module and
HAP connector D1153B for the GPWC:

HAP	D1205		D1153B
HAP	pin 4	- - - - - - - - - - - - - - - - - - -	pin A9

HAP (d) Repair the wiring problem that you find.

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HAP (e) Re-install the ground proximity module. To install it, do this task: Ground Proximity Warning Module Installation, AMM TASK 34-46-02-400-801.

HAP (f) Re-install the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (g) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 1) If you do not hear the maintenance message in Current Status, then you corrected the fault.

——————— END OF TASK ———————

HAP **851. Terrain Inhibit Discrete Signal Problem - Fault Isolation**

HAP A. Description

HAP (1) This task is for this maintenance message:

HAP (a) TERRAIN INHIBIT INVALID

HAP B. Possible Causes

HAP (1) TERR INHIBIT switch (S1120), in the GPWS module, P3-7.

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP (3) Wiring.

HAP C. Related Data

HAP (1) Simplified Schematic (Figure 308).

HAP (2) (SSM 34-49-11).

HAP (3) (WDM 34-49-11).

HAP D. Initial Evaluation

HAP (1) Do this check of the terrain inhibit discrete input:

HAP (a) Make sure the TERR INHIBIT switch on the GPWS module, P3-7 is in the NORMAL position.

HAP (b) Push the GROUND PROXIMITY SYS TEST switch momentarily (less than 2 seconds) again and again until you hear "DISCRETE TEST".

HAP (c) Put the TERR INHIBIT switch in the INHIBIT position.

HAP (d) Listen for the "TERRAIN OFF" aural message.

HAP (e) Put the TERR INHIBIT switch in the NORMAL position.

HAP (f) Listen for the "TERRAIN ON" aural message.

HAP (g) If the check of the terrain inhibit discrete input is satisfactory, then there was an intermittent fault.

HAP (h) If the check of the terrain inhibit discrete input is not satisfactory, then do the Fault Isolation Procedure below.

HAP E. Fault Isolation Procedure

HAP (1) Do this check of the TERR INHIBIT switch on the GPWS module, P3-7:

HAP (a) Remove the GPWS module, P3-7. To remove it, do this task: Ground Proximity Warning Module Removal, AMM TASK 34-46-02-000-801.

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HAP (b) With the TERR INHIBIT switch at NORM, make sure there is not continuity between pin 10 and pin 6 on the GPWS module.

HAP (c) Move the TERR INHIBIT switch to INHIBIT.

HAP (d) Make sure there is continuity between pin 10 and pin 6 on the GPWS module.

HAP (e) If the TERR INHIBIT switch does not operate correctly, then do these steps:

HAP 1) Install a new GPWS module, P3-7. To install it, do this task: Ground Proximity Warning Module Installation, AMM TASK 34-46-02-400-801.

HAP 2) Do the Repair Confirmation at the end of this task.

HAP (f) If the TERR INHIBIT switch operates correctly, then do this step and continue:

HAP 1) Re-install the GPWS module, P3-7. To install it, do this task: Ground Proximity Warning Module Installation, AMM TASK 34-46-02-400-801.

HAP (2) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do the Repair Confirmation at the end of this task.

HAP 1) If the Repair Confirmation is not satisfactory, then continue.

HAP (3) Do this check of the wiring:

HAP (a) Remove the ground proximity module P3-7, from the P3 first officer instrument panel. To remove it, do this task: Ground Proximity Warning Module Removal, AMM TASK 34-46-02-000-801.

HAP (b) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

HAP (c) Do a wiring check between these pins of connector D1205 for the GPWS module and connector D1153B for the GPWC:

	D1205	D1153B
HAP	pin 10	pin B14

HAP (d) Repair the wiring problem that you find.

HAP (e) Re-install the ground proximity module P3-7, to the P3 first officer instrument panel. To install it, do this task: Ground Proximity Warning Module Installation, AMM TASK 34-46-02-400-801.

HAP (f) Re-install the GPWC, M652. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (g) Do the Repair Confirmation at the end of this task.

HAP F. Repair Confirmation

HAP (1) Do this check of the terrain inhibit discrete input:

HAP (a) Make sure the TERR INHIBIT switch on the GPWS module, P3-7 is in the NORMAL position.

HAP (b) Push the GROUND PROXIMITY SYS TEST switch momentarily (less than 2 seconds) again and again until you hear "DISCRETE TEST".

HAP (c) Put the TERR INHIBIT switch in the INHIBIT position.

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HAP (d) Listen for the "TERRAIN OFF" aural message.

HAP (e) Put the TERR INHIBIT switch in the NORMAL position.

HAP (f) Listen for the "TERRAIN ON" aural message.

HAP (g) If the check of the terrain inhibit discrete input is satisfactory, then you corrected the fault.

——————— END OF TASK ———————

HAP **852. Terrain Relay Problem - Fault Isolation**

HAP A. Description

HAP (1) This task is for these maintenance messages:

HAP (a) TERRAIN RELAY 1 FAULT

HAP (b) TERRAIN RELAY 2 FAULT

HAP (2) You will hear a TERRAIN RELAY FAULT message when one of these conditions occur:

HAP (a) Terrain data is selected to display and the GPWC does not get a 28 VDC monitor signal back from the terrain/weather relay.

HAP (b) Terrain data is not selected to display and the GPWC gets a 28 VDC monitor signal from the terrain/weather relay.

HAP B. Possible Causes

HAP (1) Terrain/weather relay, R745 (No. 1) or R746 (No. 2).

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP (3) Wiring.

HAP C. Circuit Breakers

HAP (1) This is the primary circuit breaker related to the fault:

HAP CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 008-013, 015-026, 028-054, 101-999			
A	7	C01519	TERRAIN DISPLAY

HAP ALL; AIRPLANES WITH ENHANCED GROUND PROXIMITY WARNING SYSTEM

HAP D. Related Data

HAP (1) Simplified Schematic (Figure 307).

HAP (2) (SSM 34-49-11).

HAP (3) (WDM 34-49-11).

HAP E. Initial Evaluation

HAP (1) Do this check of the discrete input for the terrain relay monitor:

HAP (a) Make sure the DISPLAYS SOURCE selector switch on the forward overhead panel, P5, is in the AUTO position.

HAP (b) Set the WX RADAR mode selector switch on the aft electronic panel, P8, to TEST.

HAP (c) On both EFIS control panels, set these switches:

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HAP 1) Mode selector - MAP

HAP 2) Range selector - 40

HAP 3) TERR - on

HAP (d) Make sure terrain data shows on both navigation displays.

HAP 1) If terrain data does not show on one of the navigation displays, then do the Fault Isolation Procedure - One Relay below.

HAP 2) If terrain data does not show on both of the navigation displays, then do the Fault Isolation Procedure - Both Relays below.

HAP F. Fault Isolation Procedure - One Relay

HAP (1) Do this check for 28 VDC at the terrain/weather relay:

HAP (a) Remove the applicable terrain/weather relay, R745 (No. 1) or R746 (No. 2)

HAP NOTE: R745 is in the J24 junction box. The J24 junction box is behind an access panel on the right bulkhead in the nose landing gear wheel well. R746 is in the J22 junction box. The J22 junction box is behind an access panel on the left bulkhead in the nose landing gear wheel well.

HAP (b) Do a check for 28 VDC between pin 12 of the relay connector, D10847 (R745) or D10849 (R746) and structure ground.

HAP (c) Do a check for 28 VDC between pin 7 of the relay connector, D10847 (R745) or D10849 (R746) and structure ground.

HAP (d) If there is not 28 VDC at pin 7 or pin 12 of the relay connector, then do these steps.

HAP 1) Do a check of the wiring between these pins of the connector for the applicable terrain/weather relay and connector D40680P at the J22 junction box:

	RELAY CONNECTOR	J22 CONNECTOR
NO. 1 (R745)	**D10847**	**D40680P**
	pin 7	pin 9
	pin 12	pin 9
NO. 2 (R746)	**D10849**	**D40680P**
	pin 7	pin 9
	pin 12	pin 9

HAP 2) Repair the wiring problem that you find.

HAP 3) Re-install the terrain/weather relay.

HAP 4) Do the Repair Confirmation at the end of this task.

HAP (e) If there is 28 VDC at pin 7 and pin 12 of the relay connector, then continue.

HAP (2) Install a new terrain/weather relay, R746 (No. 1) or R746 (No. 2).

HAP (a) Do the Repair Confirmation at the end of this task.

HAP 1) If the Repair Confirmation is not satisfactory, then continue.

HAP (3) Do this check of the wiring:

HAP (a) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

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(b) Remove the applicable terrain/weather relay, R745 (No. 1) or R746 (No. 2)

(c) Do a check for an open circuit between these pins of connector D1153A for the GPWC and the connecter for the applicable relay:

	GPWC CONNECTOR		TERRAIN/ WEATHER RELAY CONNECTOR
NO. 1 (R745)	**D1153A**		**D10847**
	pin C7	- - - - - - - - - - - - - - - - - -	pin 8
NO. 2 (R746)	**D1153A**		**D10849**
	pin D7	- - - - - - - - - - - - - - - - - -	pin 8

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the terrain/weather relay.

3) Re-install the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

4) Do the Repair Confirmation at the end of this task.

(e) If there is continuity between the pins, then re-install the terrain/weather relay and continue.

(4) Install a new ground proximity warning computer (GPWC), M652. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

(a) Do the Repair Confirmation at the end of this task.

G. Fault Isolation Procedure - Both Relays

(1) Do this check of the wiring:

(a) Remove the No. 2 terrain/weather relay, R746.

NOTE: R746 is in the J22 junction box. The J22 junction box is behind an access panel on the left bulkhead in the nose landing gear wheel well.

(b) Do a wiring check between these pins of connector D10849 for the terrain/weather relay and the DISPLAY TERRAIN circuit breaker, C1519:

	D10849		C1519
	pin 7	- - - - - - - - - - - - - - - - - -	term L

(c) Repair the wiring problem that you find.

(d) Re-install the terrain/weather relay.

(e) Do the Repair Confirmation at the end of this task.

H. Repair Confirmation

(1) Do this check of the discrete input for the terrain relay monitor:

(a) Make sure the DISPLAYS SOURCE selector switch on the forward overhead panel, P5, is in the AUTO position.

(b) Set the WX RADAR mode selector switch on the aft electronic panel, P8, to TEST.

(c) On both EFIS control panels, set these switches:

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HAP 1) Mode selector - MAP
HAP 2) Range selector - 40
HAP 3) TERR - on
HAP (d) Make sure terrain data shows on both navigation displays.
HAP (e) Do this task: GPWS BITE Procedure, 34-46 TASK 801.
HAP 1) If you do not hear the maintenance message in Current Faults, then you corrected fault.

——————— END OF TASK ———————

HAP **853. Terrain Display Does Not Show - Fault Isolation**

HAP A. Description

HAP (1) The weather radar receiver/transmitter and the enhanced Ground Proximity Warning Computer (GPWC) share a port into the Display Electronics Units (DEUs). There is a terrain/weather relay for each DEU that switches between the terrain data from the GPWC and the weather radar data.

HAP (2) With the DISPLAYS SOURCE selector switch at AUTO, DEU-1 controls the captain's displays and DEU-2 contols the first officer's displays.

HAP (3) Both terrain/weather relays switch from weather radar data to terrain data automatically when GPWC has an alert that is a higher priority than the weather radar alert.

HAP (4) Either terrain/weather relay can switch from weather radar data to terrain data manually when you push the TERR switch on the applicable EFIS control panel.

HAP B. Possible Causes

HAP (1) Terrain/weather relay, R745 (No. 1) or R746 (No. 2).

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP (3) Wiring.

HAP C. Circuit Breakers

HAP (1) This is the primary circuit breaker related to the fault:

HAP CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 008-013, 015-026, 028-054, 101-999			
A	7	C01519	TERRAIN DISPLAY

HAP ALL; AIRPLANES WITH ENHANCED GROUND PROXIMITY WARNING SYSTEM

HAP D. Related Data

HAP (1) Simplified Schematic (Figure 307).

HAP (2) (SSM 34-49-11).

HAP (3) (WDM 34-49-11).

HAP E. Initial Evaluation

HAP (1) Do this check of the terrain display:

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HAP (a) Make sure the DISPLAYS SOURCE selector switch on the forward overhead panel, P5, is in the AUTO position.

HAP (b) Set the WX RADAR mode selector switch on the aft electronic panel, P8, to TEST.

HAP (c) On both EFIS control panels, set these switches:

HAP 1) Mode selector - MAP

HAP 2) Range selector - 40

HAP 3) TERR - on

HAP (d) Make sure terrain data shows on both navigation displays.

HAP 1) If terrain data shows on both of the navigation displays, then there was an intermittent fault.

HAP 2) If terrain data does not show on one or both of the navigation displays, then do the Fault Isolation Procedure below.

HAP F. Fault Isolation Procedure - No Terrain Data on One Display

HAP (1) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP (a) If you hear a TERRAIN RELAY FAULT during the Ground Prox BITE test, then, do this task: Terrain Relay Problem - Fault Isolation, 34-46 TASK 852.

HAP (b) If you do not hear a TERRAIN RELAY FAULT during the Ground Prox BITE test, then continue.

HAP (2) Do this of the wiring between the GPWC and the terrain/weather relay:

HAP (a) Remove the GPWC, M652. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

HAP (b) Remove the applicable terrain/weather relay, R745 (No. 1) or R746 (No. 2)

HAP NOTE: The terrain data for the captain's display goes through R745. The terrain data for the first officer's display goes through R746.

HAP NOTE: R745 is in the J24 junction box. The J24 junction box is behind an access panel on the right bulkhead in the nose landing gear wheel well. R746 is in the J22 junction box. The J22 junction box is behind an access panel on the left bulkhead in the nose landing gear wheel well.

HAP (c) Do a check for an open circuit between these pins of the connector for the GPWC and the connecter for the relay for the applicable display:

			TERRAIN/ WEATHER RELAY CONNECTOR
	GPWC CONNECTOR		
Captain's	**D1153A**		**D10847 (R745)**
	pin A3	- - - - - - - - - - - - - - - - - -	pin 2
	pin B3	- - - - - - - - - - - - - - - - - -	pin 4
First Officer's	**D1153B**		**D10849 (R746)**
	pin C3	- - - - - - - - - - - - - - - - - -	pin 2
	pin D3	- - - - - - - - - - - - - - - - - -	pin 4

HAP (d) If there is an open circuit, then do these steps:

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HAP 1) Repair the wiring.

HAP 2) Re-install the terrain/weather relay.

HAP 3) Re-install the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP 4) Do the Repair Confirmation at the end of this task.

HAP (e) If there is continuity between the pins, then re-install the terrain/weather relay and continue.

HAP (3) Install a new ground proximity warning computer (GPWC), M652. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do the Repair Confirmation at the end of this task.

HAP G. Fault Isolation Procedure - No Terrain Data on Both Displays

HAP (1) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP (a) If you hear both TERRAIN RELAY 1 FAULT and TERRAIN RELAY 2 FAULT during the Ground Prox BITE test, then, do this task: Terrain Relay Problem - Fault Isolation, 34-46 TASK 852.

HAP (b) If you do not hear both TERRAIN RELAY 1 FAULT and TERRAIN RELAY 2 FAULT during the Ground Prox BITE test, then continue.

HAP (2) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do the Repair Confirmation at the end of this task.

HAP H. Repair Confirmation

HAP (1) Do this check of the terrain display:

HAP (a) Make sure the DISPLAYS SOURCE selector switch on the forward overhead panel, P5, is in the AUTO position.

HAP (b) Set the WX RADAR mode selector switch on the aft electronic panel, P8, to TEST.

HAP (c) On both EFIS control panels, set these switches:

HAP 1) Mode selector - MAP

HAP 2) Range selector - 40

HAP 3) TERR - on

HAP (d) Make sure terrain data shows on both navigation displays.

HAP 1) If terrain data shows on both of the navigation displays, then you corrected the fault.

———————— END OF TASK ————————

HAP **854. GPWC Internal Fault - Fault Isolation**

HAP A. Description

HAP (1) This task is for these maintenance messages:

HAP (a) APPLICATION DATABASE FAILED

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HAP (b) ARINC-429 RECEIVER FAILED
HAP (c) ARINC-429 TRANSMITTER FAILED
HAP (d) CONFIGURATION DATABASE FAILED
HAP (e) ENVELOPE MODULATION DATABASE FAILED
HAP (f) EXCESSIVE WATCHDOG TIMEOUTS FAILURE
HAP (g) FLASH FILE SYSTEM WRITE FAILED
HAP (h) NVM FAILED
HAP (i) NVM RAM FAILED
HAP (j) RAM FAILED
HAP (k) ROM FAILED
HAP (l) SUPPORT TASK FAILED
HAP (m) SYSTEM OR MODE TASK FAILED
HAP (n) TERRAIN DATABASE FAILED
HAP (o) VOICE GENERATOR FAILED
HAP (p) WATCHDOG TIMER TEST FAILED

HAP (2) The Ground Proximity Warning Computer (GPWC) has a internal fault.

HAP B. Possible Causes

HAP (1) Ground proximity warning computer (GPWC), M652.

HAP C. Initial Evaluation

HAP (1) If you hear the maintenance message in Current Faults, then do the Fault Isolation Procedure
HAP below.

HAP (2) If you hear the maintenance message in Fault History and not in Current Faults, then there was
HAP an intermittent fault.

HAP D. Fault Isolation Procedure

HAP (1) Replace the ground proximity warning computer (GPWC), M652.
HAP These are the tasks:
HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,
HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.
HAP (a) If the replacement test for the GPWC is satisfactory, then you corrected the fault.

———————— END OF TASK ————————

HAP **855. Program Pin Problem - Fault Isolation**

HAP A. Description

HAP (1) This task is for these maintenance messages:
HAP (a) AIRCRAFT TYPE INVALID
HAP (b) AUDIO MENU INVALID
HAP (c) CALLOUTS OPTION INVALID
HAP (d) PROGRAM PIN 11 INVALID

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HAP (e) PROGRAM PIN 12 INVALID
HAP (f) PROGRAM PIN 14 INVALID
HAP (g) PROGRAM PIN 15 INVALID
HAP (h) PROGRAM PIN 16 INVALID
HAP (i) PROGRAM PIN 17 INVALID
HAP (j) PROGRAM PIN 9 INVALID
HAP (k) PROGRAM PIN PARITY ERROR
HAP (l) PROGRAM PIN READ ERROR

HAP (2) There is a problem with the how the program pins for the Ground Proximity Warning Computer
HAP (GPWC) are connected.

HAP B. Possible Causes

HAP (1) Wiring.

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP C. Related Data

HAP (1) (SSM 34-49-11).

HAP (2) (WDM 34-49-11).

HAP D. Initial Evaluation

HAP (1) If you hear the maintenance message in Current Faults, then do the Fault Isolation Procedure
HAP below.

HAP (2) If you hear the maintenance message in Fault History and not in Current Faults, then there was
HAP an intermittent fault.

HAP E. Fault Isolation Procedure

HAP (1) Do this check of the GPWC program pin wiring:

HAP (a) Use the wiring diagram to make sure these program pin connections for the applicable
HAP maintenance message are correct.

HAP **Table 202**

HAP MAINTENANCE MESSAGE	GPWC CONNECTOR
HAP AIRCRAFT TYPE INVALID	D1153A pins A10, B10, C10
HAP AUDIO MENU INVALID	D1153B pin A5
HAP CALLOUTS OPTION INVALID	D1153B pins A8, B4, D4
HAP PROGRAM PIN 9 INVALID	D1153B pin C2
HAP PROGRAM PIN 11 INVALID	D1153B pin C4

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(Continued)

HAP	MAINTENANCE MESSAGE	GPWC CONNECTOR
HAP	PROGRAM PIN 12 INVALID	D1153A pin B5
HAP	PROGRAM PIN 14 INVALID	D1153A pin C2
HAP	PROGRAM PIN 15 INVALID	D1153B pin C15
HAP	PROGRAM PIN 16 INVALID	D1153B pin B8
HAP	PROGRAM PIN 17 INVALID	D1153A pin D6
HAP	PROGRAM PIN PARITY ERROR	D1153A pins A10, B5, B10, C2, C10
HAP	PROGRAM PIN PARITY ERROR	D1153B pins A4, A5, A8, B4, B5, B8, C2, C4, C15, D4, D14
HAP	PROGRAM PIN READ ERROR	D1153A pins A10, B5, B10, C2, C10
HAP	PROGRAM PIN READ ERROR	D1153B pins A4, A5, A8, B4, B5, B8, C2, C4, C15, D4, D14

HAP (b) If you find a problem with the wiring, then do these steps:

HAP 1) Repair the wiring.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP 3) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

HAP (c) If you do not find a problem with the wiring, then continue.

HAP (2) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP (b) If you do not hear the maintenance message in Current Faults, then you corrected the fault.

——————— END OF TASK ———————

HAP **856. GPWS System Alert Message - Fault Isolation**

HAP A. Description

HAP (1) This task is for these GPWS system alert messages that can show on the navigation display:

HAP (a) TERR POS

HAP (b) TERR FAIL

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HAP (2) TERR POS shows when there is not enough accuracy in the horizontal position data or if the horizontal position data is not available. This message will stop showing when the accuracy returns or when the data becomes available.

HAP NOTE: This message will show if the airplane's GPS antennas do not have a clear view of the GPS satellites.

HAP (3) TERR FAIL shows when there is a Ground Proximity Warning System (GPWS) fault.

HAP B. Initial Evaluation

HAP (1) If the GPWS system alert message shows on the navigation display, then do the Fault Isolation Procedure below.

HAP (2) If the GPWS system alert message does not show on the navigation display, then there was an intermittent fault.

HAP C. Fault Isolation Procedure

HAP (1) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP (a) If the GPWS BITE test shows a fault, then go to the fault isolation task for the applicable GPWC maintenance message to correct the fault.

HAP 1) If the GPWS system alert message does not show on the navigation display, then you corrected the fault.

———————— END OF TASK ————————

HAP **857. TERR RANGE DISAGREE Message - Fault Isolation**

HAP A. Description

HAP (1) This task is for the alert message TERR RANGE DISAGREE.

HAP (2) A TERR RANGE DISAGREE message shows when the range data to the DEU disagrees between the GPWC and the on-side EFIS control panel. This can happen only when the DEU expects terrain data from the GPWC.

HAP B. Possible Causes

HAP (1) EFIS control panel, P7-1 (captain's) or P7-1 (first officer's).

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP (3) Wiring.

HAP (4) Display electronic unit, M1808 (DEU-1) or M1809 (DEU-2).

HAP C. Related Data

HAP (1) (SSM 31-62-15).

HAP (2) (SSM 34-49-11).

HAP (3) (WDM 31-62-15).

HAP (4) (WDM 34-49-11).

HAP D. Initial Evaluation

HAP (1) Make sure the TERR switch is selected on the applicable EFIS control panel.

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HAP (2) Make sure the CONTROL PANEL switch on the instrument switching module is set to NORMAL.

HAP (3) If TERR RANGE DISAGREE shows on the navigation display, then do the Fault Isolation Procedure below.

HAP (4) If TERR RANGE DISAGREE does not show on the navigation display, then there was an intermittent fault.

HAP E. Fault Isolation Procedure

HAP (1) For the applicable DEU, do this task: CDS BITE Procedure, 31-62 TASK 801.

HAP (a) Look for these types of faults:

HAP 1) EFIS CP DATA fault

HAP 2) ARINC-708 DATA fault

HAP 3) GPWC DATA fault

HAP 4) DEU fault

HAP (b) If the CDS BITE test shows any of the above types of faults, then go to the fault isolation task for the applicable CDS maintenance message to correct the fault.

HAP 1) If TERR RANGE DISAGREE does not show on the navigation display, then you corrected the fault.

———————— END OF TASK ————————

HAP **858. MAP/TERR RANGE DISAGREE Message - Fault Isolation**

HAP A. Description

HAP (1) This task is for the alert message MAP/TERR RANGE DISAGREE.

HAP (2) A MAP/TERR RANGE DISAGREE message shows when the range data to the DEU disagrees between the GPWC, the on-side EFIS control panel, and the FMC. This can happen only when the DEU expects terrain data from the GPWC.

HAP B. Possible Causes

HAP (1) EFIS control panel, P7-1 (captain's) or P7-1 (first officer's).

HAP (2) Ground proximity warning computer (GPWC), M652.

HAP (3) Flight management computer (FMC), M1175.

HAP (4) Wiring.

HAP (5) Display electronic unit, M1808 (DEU-1) or M1809 (DEU-2).

HAP C. Related Data

HAP (1) (SSM 31-62-15).

HAP (2) (SSM 34-49-11).

HAP (3) (SSM 34-61-13).

HAP (4) (WDM 31-62-15).

HAP (5) (WDM 34-49-11).

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HAP (6) (WDM 34-61-13).

HAP D. Initial Evaluation

HAP (1) Make sure the TERR switch is selected on the applicable EFIS control panel.

HAP (2) Make sure the CONTROL PANEL switch on the instrument switching module is set to NORMAL.

HAP (3) If MAP/TERR RANGE DISAGREE shows on the navigation display, then do the Fault Isolation
HAP Procedure below.

HAP (4) If MAP/TERR RANGE DISAGREE does not show on the navigation display, then there was an
HAP intermittent fault.

HAP E. Fault Isolation Procedure

HAP (1) Make sure the FMCS operation is normal.

HAP **HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC**

HAP (a) With the FMC select switch at NORMAL, look for these indications of a failed FMC:

HAP 1) FAIL light on the CDU is on

HAP 2) SINGLE FMC OPERATION shows on the CDU.

HAP 3) FMC shows in the middle of the CDU display.

HAP **HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC**

HAP (b) Look for these indications of a failed FMC:

HAP 1) FAIL light on the CDU is on

HAP 2) FMC shows in the middle of the CDU display.

HAP **HAP ALL; AIRPLANES WITH ENHANCED GROUND PROXIMITY WARNING SYSTEM**

HAP (c) If there is an indication of an FMCS failure, then do these steps:

HAP 1) Replace the FMCS computer, M1175.

HAP These are the tasks:

HAP FMCS Computer Removal, AMM TASK 34-61-02-000-801,

HAP FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP 2) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP a) If you do not hear the maintenance message in Current Status, then you corrected
HAP the fault.

HAP (d) If there is no indication of a FMCS failure, then continue.

HAP (2) For the applicable DEU, do this task: CDS BITE Procedure, 31-62 TASK 801.

HAP (a) Look for these types of faults:

HAP 1) EFIS CP DATA fault

HAP 2) ARINC-708 DATA fault

HAP 3) GPWC DATA fault

HAP 4) FMC DATA fault

HAP 5) DEU fault

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HAP (b) If the CDS BITE test shows any of the above types of faults, then go to the fault isolation task
HAP for the applicable CDS maintenance message to correct the fault.

HAP 1) If MAP/TERR RANGE DISAGREE does not show on the navigation display, then you
HAP corrected the fault.

———————— END OF TASK ————————

HAP **859. GPWC COMPUTER FAIL Status Indicator - Fault Isolation**

HAP A. Description

HAP (1) This task is for the COMPUTER FAIL red status indicator light on the front panel of the ground
HAP proximity warning computer (GPWC).

HAP (2) The COMPUTER FAIL status indicator usually means the GPWC has an internal fault. A program
HAP pin parity error can also cause the red COMPUTER FAIL status indicator light to come on.

HAP B. Possible Causes

HAP (1) Ground proximity warning computer (GPWC), M652.

HAP (2) GPWC program pin problem.

HAP C. Initial Evaluation

HAP (1) Do this task: GPWS BITE Procedure, 34-46 TASK 801.

HAP (a) If the red COMPUTER FAIL status indicator light is on and you hear a program pin fault in
HAP current status, then, do this task: GPWC Internal Fault - Fault Isolation, 34-46 TASK 854.

HAP (b) If the red COMPUTER FAIL status indicator light is on and you do not hear a program pin
HAP fault in current status, then do the Fault Isolation Procedure below.

HAP (c) If the red COMPUTER FAIL status indicator light is not on, then there was an intermittent
HAP fault.

HAP D. Fault Isolation Procedure

HAP (1) Replace the ground proximity warning computer (GPWC), M652.

HAP These are the tasks:

HAP Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801,

HAP Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

HAP (a) If the replacement test for the GPWC is satisfactory, then you corrected the fault.

———————— END OF TASK ————————

HAP 031-054, 101-999; HAP 001-013, 015-026, 028-030 POST SB 737-31-1246 OR POST SB 737-31-1295

860. VSD Flag Shows on Captains Display

A. Description

(1) This task is for these observed faults:

(a) VSD TERR flag shows on the captains display.

(b) VSD flag shows on the captains display.

B. Possible Causes

(1) Ground Proximity Warning Computer (GPWC), M652.

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(2) Display Electronic Unit (DEU) 1, M1808.

(3) Airplane wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	7	C00629	GND PROX WARN

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	5	C01359	DISPLAY DEU 1 PRI

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	10	C01361	DISPLAY DEU 1 HOLDUP

D. Related Data

(1) SSM 34-49-11

(2) WDM 34-49-11

E. Initial Evaluation

(1) Do these steps to prepare for initial evaluation and fault isolation:

(a) Make sure the DISPLAYS - SOURCE Selector on the P5 panel is in the AUTO position.

(b) Make sure the DISPLAYS - CONTROL PANEL Switch on the P5 panel is in the NORMAL position.

(2) If the VSD TERR flag shows on the captains ND display unit, then do the Fault Isolation Procedure below.

(3) If the VSD flag shows on the captains ND display unit, then do these tasks to replace Display Electronic Unit (DEU) 1:

(a) DEU 1 Removal. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(b) DEU 1 Installation. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

(4) If the VSD TERR or VSD flags do not show on the captains ND display unit, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do these tasks to replace the Ground Proximity Warning Computer (GPWC).

(a) GPWC Removal. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

(b) GPWC Installation. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

(2) If the VSD TERR flag does not show on the captains ND, then you corrected the fault.

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(3) If the VSD TERR flag shows on the captains ND display unit, then continue.

(4) Do this check of the wiring between the GPWC and DEU 1:

(a) Remove the GPWC. To do it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

(b) Remove the DEU 1. To do it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) Do a check of the wiring between these pins of connectors D1153B and D3973D, WDM 34-49-11

D1153B		D3973D
pin C1	- - - - - - - - - - - - - - - - - -	pin A9
pin D1	- - - - - - - - - - - - - - - - - -	pin B9

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the DEU 1. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

3) Re-install the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801

4) If the VSD TERR flag does not show on the captains display, then you corrected the fault.

——————— END OF TASK ———————

861. VSD Flag Shows on First Officers Display

A. Description

(1) This task is for these observed faults:

(a) VSD TERR flag shows on the first officers display.

(b) VSD flag shows on the first officers display.

B. Possible Causes

(1) Ground Proximity Warning Computer (GPWC), M652.

(2) Display Electronic Unit (DEU) 2, M1809.

(3) Airplane wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	7	C00629	GND PROX WARN

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	9	C01362	DISPLAY DEU 2 HOLDUP
D	11	C01360	DISPLAY DEU 2 PRI

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D. Related Data

(1) SSM 34-49-11

(2) WDM 34-49-11

E. Initial Evaluation

(1) Do these steps to prepare for initial evaluation and fault isolation:

(a) Make sure the DISPLAYS - SOURCE Selector on the P5 panel is in the AUTO position.

(b) Make sure the DISPLAYS - CONTROL PANEL Switch on the P5 panel is in the NORMAL position.

(2) If the VSD TERR flag shows on the first officers display unit, then do the Fault Isolation Procedure below.

(3) If the VSD flag shows on the first officers display unit, then do these tasks to replace Display Electronic Unit (DEU) 1:

(a) DEU 2 Removal. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(b) DEU 2 Installation. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

(4) If the VSD TERR or VSD flags do not show on the first officers display unit, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do these tasks to replace the Ground Proximity Warning Computer (GPWC).

(a) GPWC Removal. To remove it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

(b) GPWC Installation. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801.

(2) If the VSD TERR flag does not show on the first officers display, then you corrected the fault.

(3) If the VSD TERR flag shows on the first officers display unit, then continue.

(4) Do this check of the wiring between the GPWC and DEU 2:

(a) Remove the GPWC. To do it, do this task: Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801.

(b) Remove the DEU 2. To do it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) Do a check of the wiring between these pins of connectors D1153B and D3973D, WDM 34-49-11

D1153B		D3975D
pin C1	- - - - - - - - - - - - - - - - - -	pin A9
pin D1	- - - - - - - - - - - - - - - - - -	pin B9

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the DEU 2. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

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3) Re-install the GPWC. To install it, do this task: Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801
4) If the VSD TERR flag does not show on the first officers display, then you corrected the fault.

——————— END OF TASK ———————

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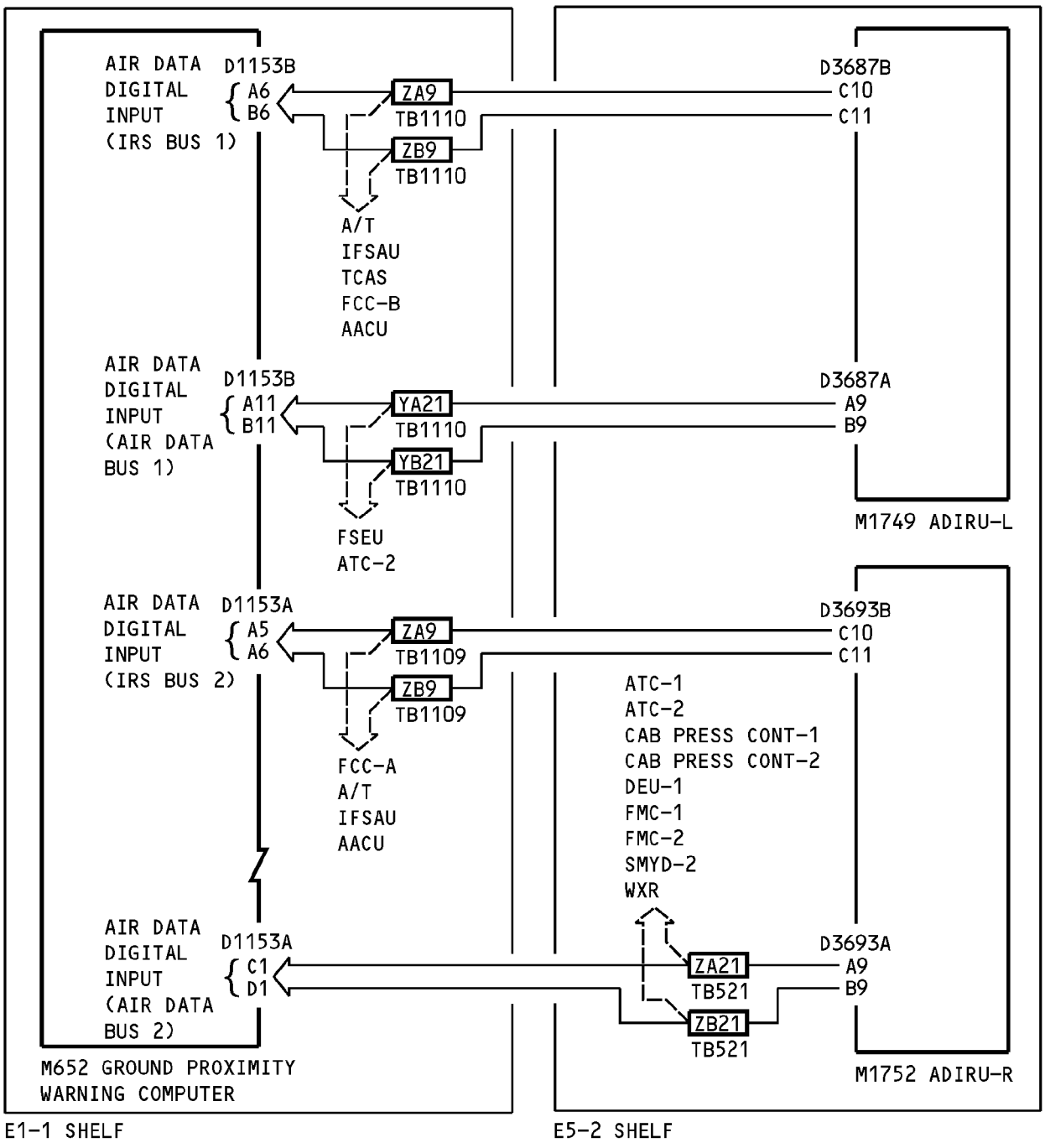
HAP



SSM 34-21-13
34-21-14
34-21-23
34-21-24
34-49-11

WDM 34-21-13
34-21-14
34-21-23
34-21-24

HAP

Enhanced GPWS IRS/Air Data Buses Simplified Schematic
Figure 301 / 34-46-00-990-801

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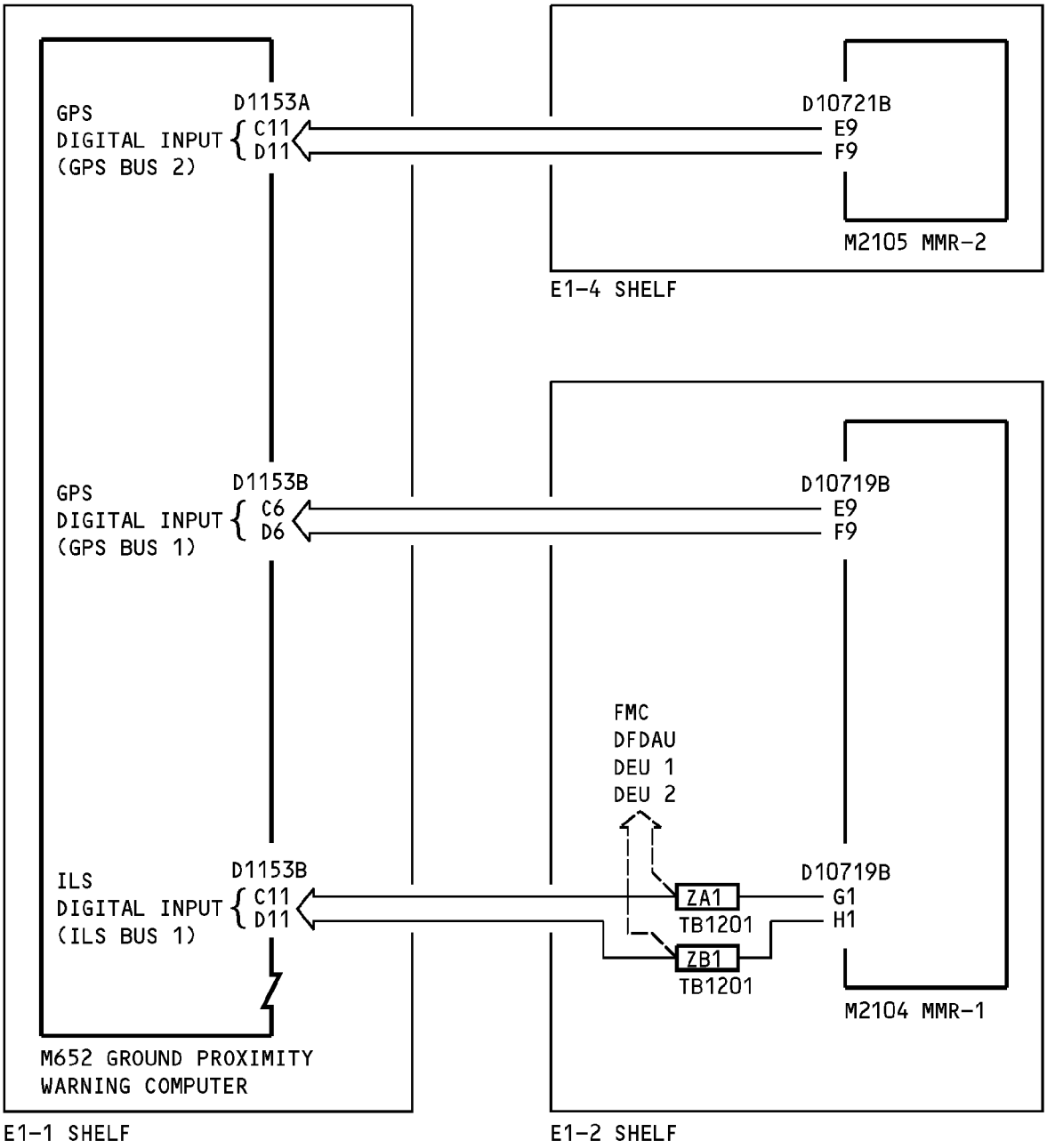

SSM	WDM
34-31-11	34-31-11
34-58-11	34-58-11
34-58-21	34-58-21

HAP

Enhanced GPWS ILS/GPS Data Buses Simplified Schematic
Figure 302 / 34-46-00-990-802

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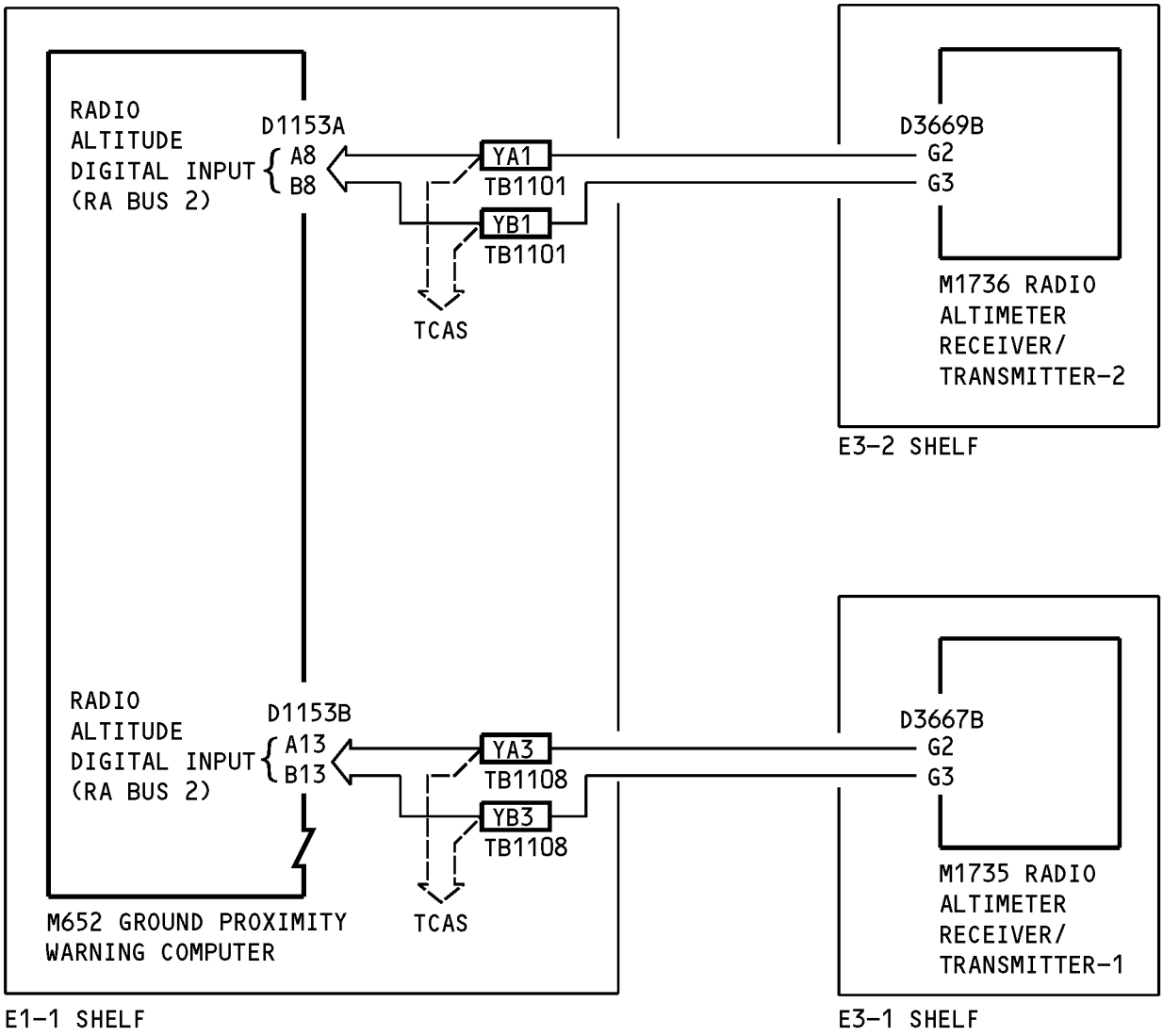

SSM 34-33-11
34-33-21
34-49-11

WDM 34-33-11
34-33-21

HAP

Enhanced GPWS Radio Altimeter Data Buses Simplified Schematic
Figure 303 / 34-46-00-990-803

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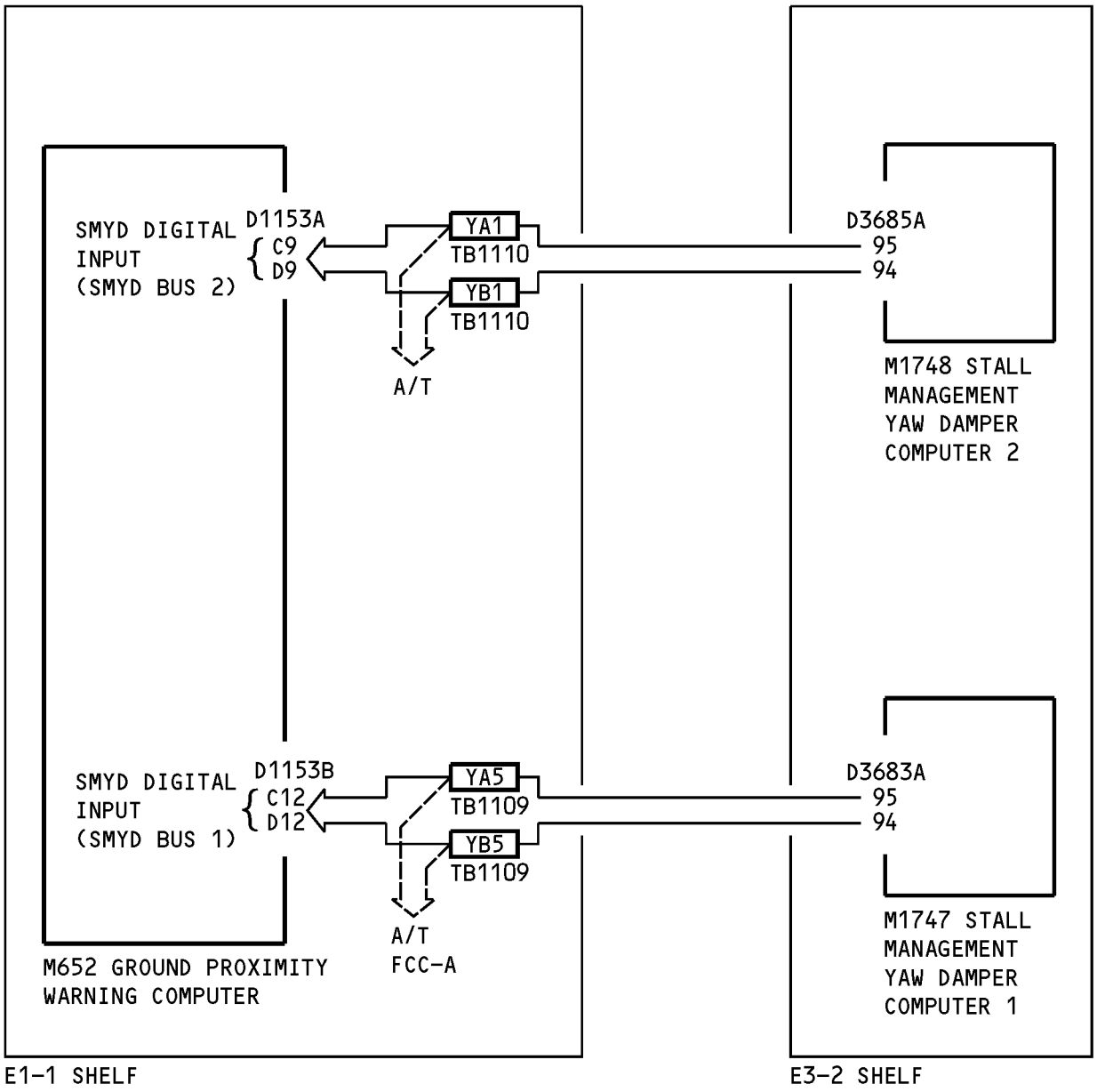

SSM 27-32-12
27-32-22
34-49-11

WDM 27-32-12
27-32-22

HAP

Enhanced GPWS SMYD Data Buses Simplified Schematic
Figure 304 / 34-46-00-990-804

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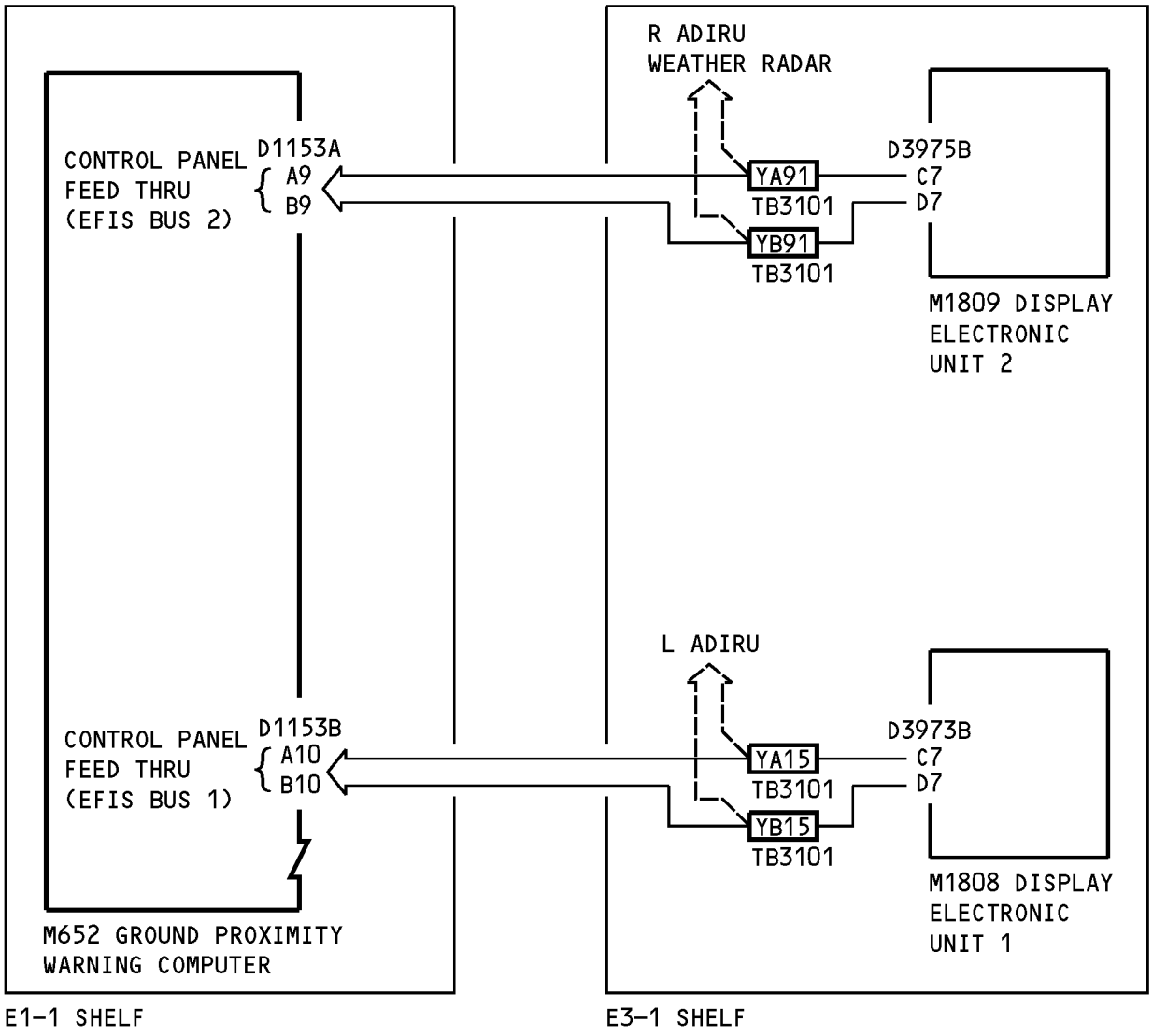

SSM 31-62-15
31-62-25
34-49-11

WDM 31-62-15
31-62-25

HAP

Enhanced GPWS DEU Data Buses Simplified Schematic
Figure 305 / 34-46-00-990-805

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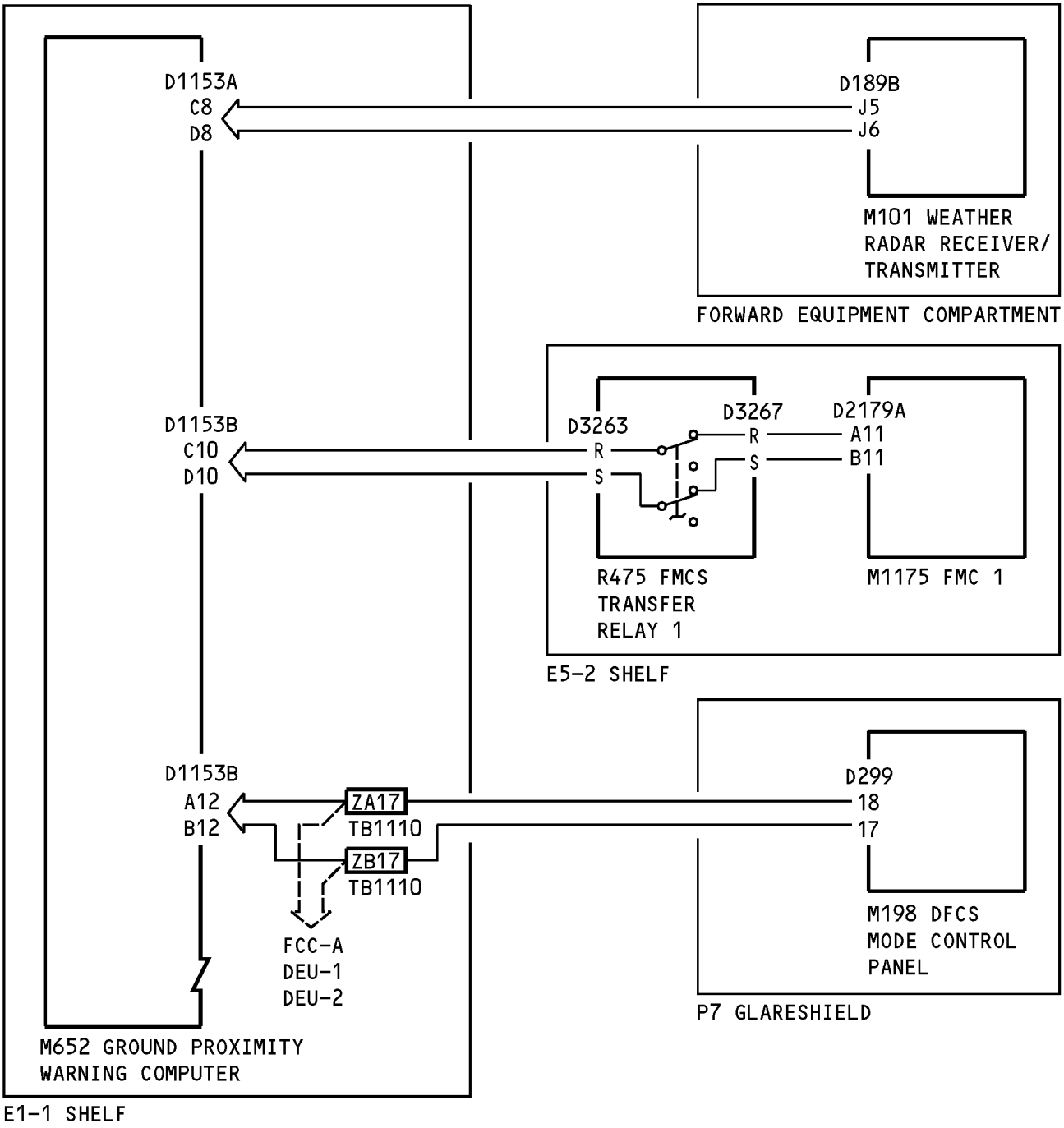

SSM	WDM
22-11-51	22-11-51
34-41-11	34-41-11
34-49-11	34-49-11
34-61-15	34-61-15

HAP Enhanced GPWS MCP, FMC, and Weather Radar Hazard Buses Simplified Schematic
Figure 306 / 34-46-00-990-806

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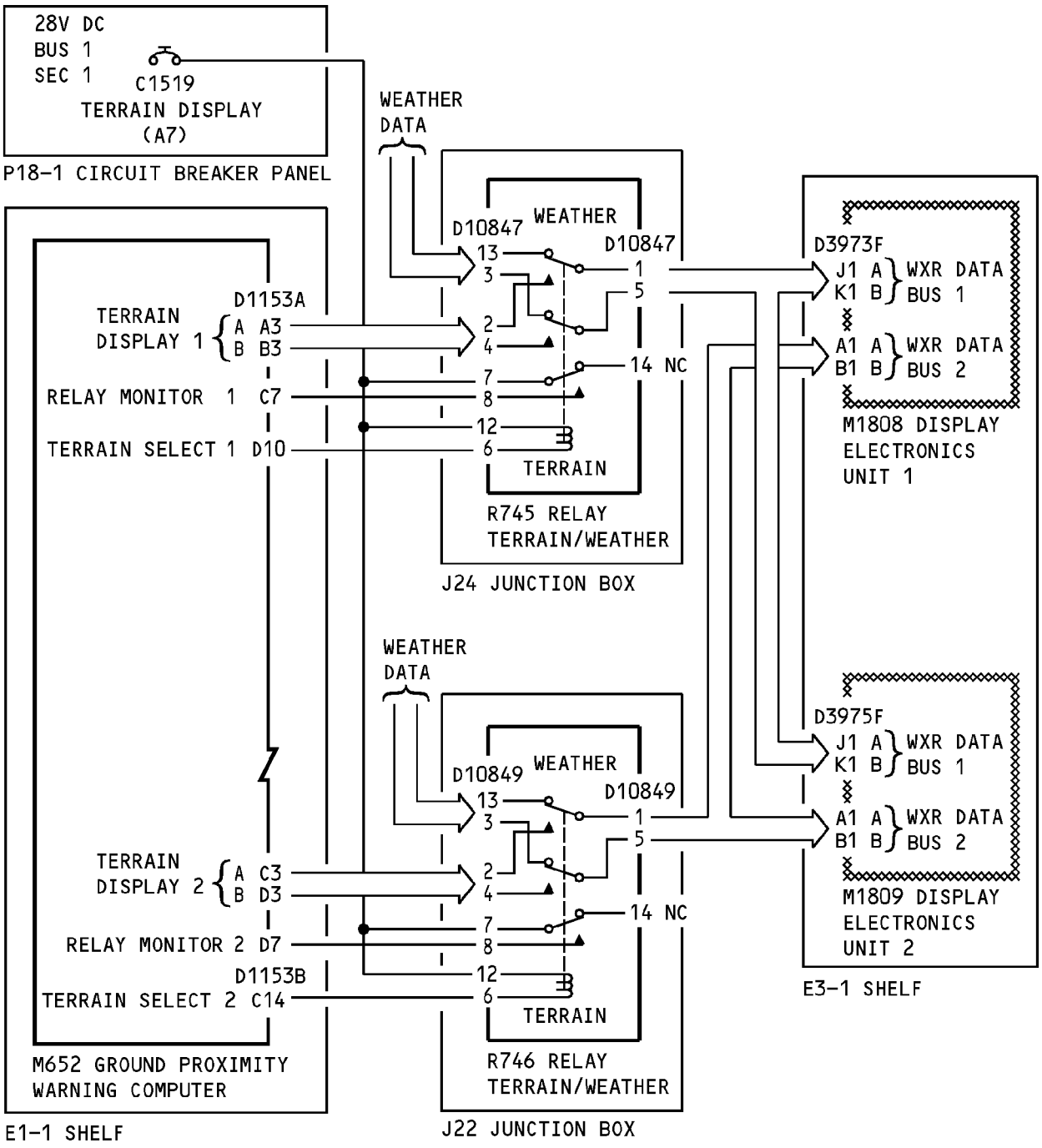

SSM 34-49-11

WDM 34-49-11

HAP

Enhanced GPWS Terrain Display Simplified Schematic
Figure 307 / 34-46-00-990-807

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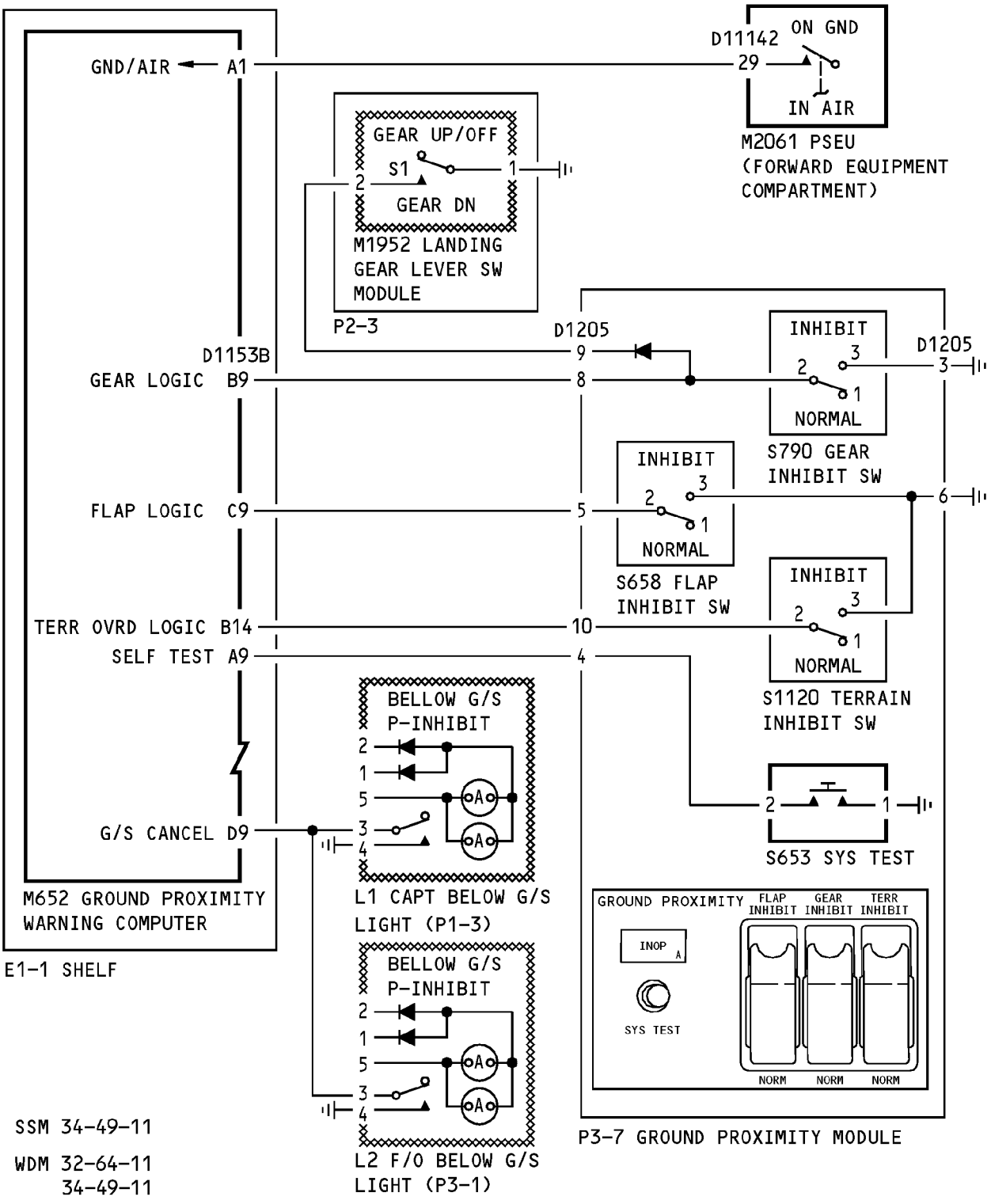

HAP

Enhanced GPWS Discrete Inputs Simplified Schematic
Figure 308 / 34-46-00-990-808

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801. VOR/Marker Beacon Receiver BITE Procedure Figure 201

A. General

(1) You do the VOR/Marker Beacon receiver BITE test at the front panel of the receiver.

(2) The VOR system has two receivers. Receiver 1 is on the E1-2 shelf and receiver 2 is on the E1-4 shelf in the electronic equipment compartment.

(3) The VOR/marker beacon receiver BITE test does a self check for existing internal and external faults. Results of the BITE test are displayed on the front panel of the VOR/marker beacon receiver.

(4) If applicable, the VOR/marker beacon receiver flight fault memory stores fault data that occurs in flight. You can view faults that occurred on previous flight legs to help isolate an intermittent fault that is not found by the BITE self-test.

B. BITE Procedure

HAP ALL; AIRPLANES WITH ALLIED SIGNAL VOR/MKR RECEIVER

(1) Push and release either of the two switches on the front panel of the VOR/marker beacon receiver to start the BITE test.

(a) Make sure that LCD screen shows VOR TEST IN PROGRESS.

(b) If the LCD screen shows VOR TEST COMPLETE NO FAILURES, then no internal or external faults are found by the BITE test.

(c) If the LCD screen shows VOR TEST COMPLETE FAILURES, then do these steps:

1) Push the right switch under the WHY? prompt.

2) If the LCD screen shows VOR FAIL or VOR FAIL EXTERNAL FAILURES PRESENT, then refer to the table at the end of this task to find the applicable fault isolation task.

3) If the LCD screen shows VOR OK EXTERNAL FAILURES PRESENT, then do these steps:

a) Push the right switch under the MORE prompt.

NOTE: The LCD screen will show the first maintenance message. The LCD screen can show only one maintenance message at a time.

b) Push the right switch under the MORE prompt to view more maintenance messages if multiple maintenance messages exist.

NOTE: If you continue to push the MORE switch, you will see all of the maintenance messages that are present. You will return to the first maintenance message when you push the MORE switch after the last maintenance message.

c) Refer to the table at the end of this task to find the fault isolation task for the applicable maintenance messages.

d) Push the left switch under the RETURN prompt to return to the normal mode screen.

NOTE: If no switch is pushed for five minutes on the VOR/Marker beacon receiver while in self-test mode, the LCD screen will return to the normal mode screen automatically.

HAP ALL

——————— END OF TASK ———————

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
VOR/MKR RCVR	MKR ANTENNA FAILED	34-51 TASK 808
VOR/MKR RCVR	TUNING PORT B MISSING INPUT	34-51 TASK 803
VOR/MKR RCVR	VOR ANTENNA FAILED	34-51 TASK 804
VOR/MKR RCVR	VOR FAILED	34-51 TASK 802

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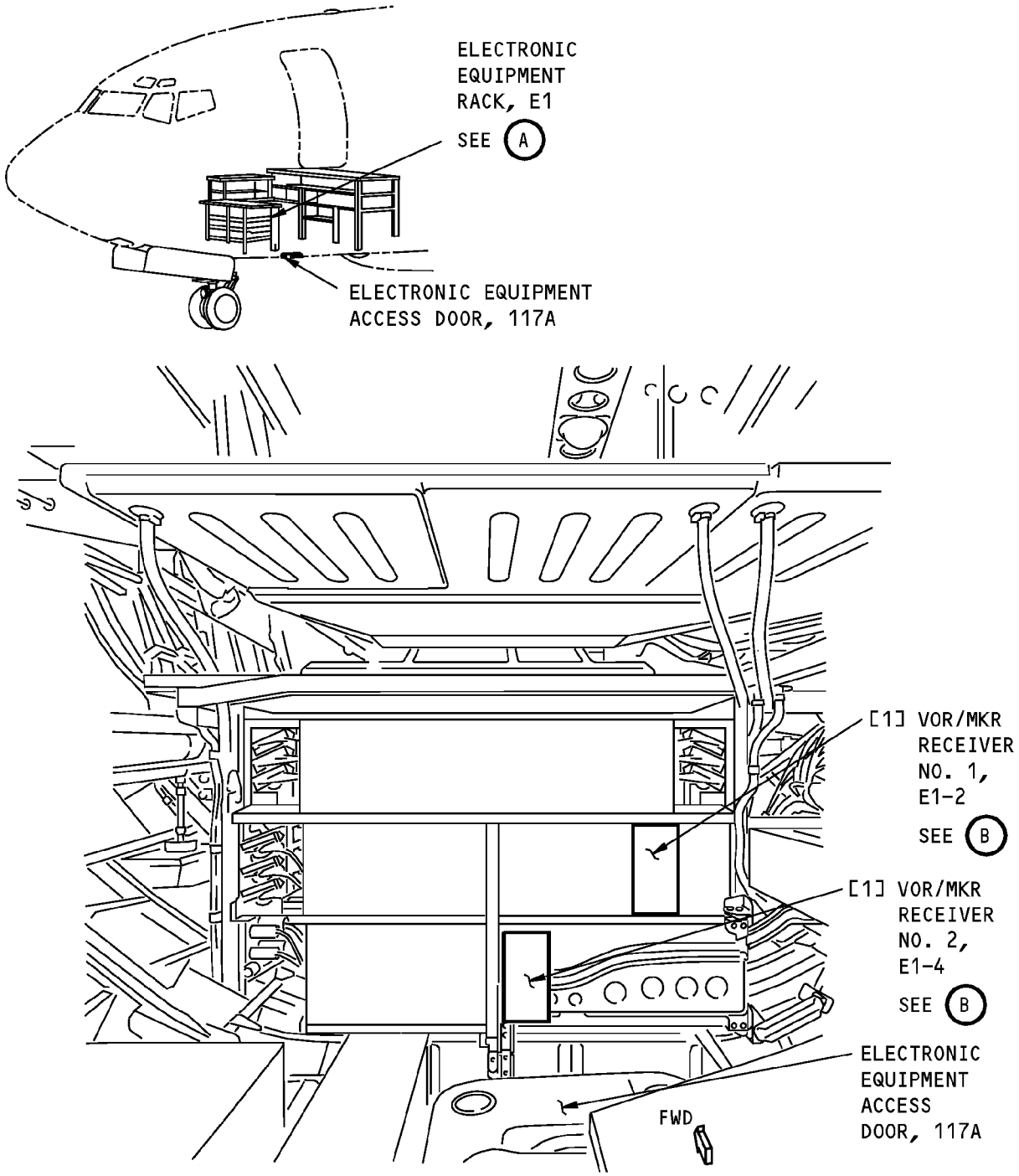

ELECTRONIC EQUIPMENT RACK, E1

A

VOR/MKR Receiver
Figure 201 (Sheet 1 of 2)/ 34-51-00-990-803

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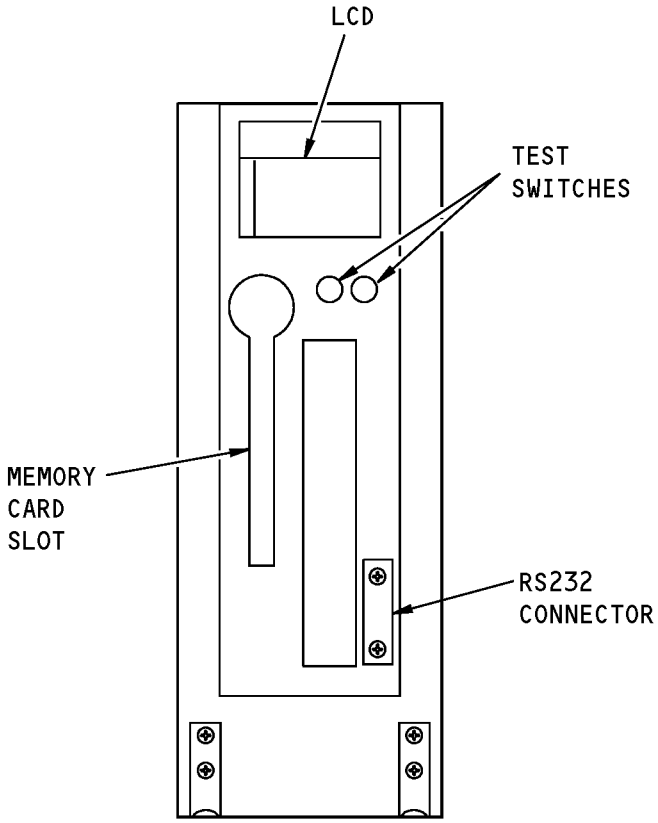

VOR/MKR Receiver
Figure 201 (Sheet 2 of 2)/ 34-51-00-990-803

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802. VOR/Marker Beacon Receiver Failed

A. Description

(1) The task is for this maintenance message:

(a) VOR FAILED

(2) The VOR/marker beacon receiver has an internal failure.

B. Possible Causes

(1) VOR/marker beacon receiver M1724 (No. 1) or M1725 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	12	C01375	RADIO NAVIGATION VOR 2

D. Related Data

(1) (SSM 34-51-11).

(2) (SSM 34-51-21).

(3) (WDM 34-51-11).

(4) (WDM 34-51-21).

E. Initial Evaluation

(1) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

(a) If the maintenance message shows, then do the Fault Isolation Procedure below.

(b) If the maintenance message does not show, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Replace the VOR/marker beacon receiver, M1724 (No. 1) or M1725 (No. 2) as applicable.
These are the tasks:
VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801,
VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

(a) If the maintenance message does not show, then you corrected the fault.

——————— END OF TASK ———————

803. VOR Tuning Port-B Missing Input - Fault Isolation

A. Description

(1) The task is for this maintenance message:

(a) TUNING PORT-B MISSING INPUT

(2) VOR-1 receives no input data from the captain's navigation control panel, P8-25.

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B. Possible Causes

(1) Wiring problem.

(2) Navigation control panel, P8-25 (captain's) or P8-26 (first officer's).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1
A	3	C01378	RADIO NAVIGATION NAV CONT PNL 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	12	C01375	RADIO NAVIGATION VOR 2
A	15	C01379	RADIO NAVIGATION NAV CONT PNL 2

D. Related Data

(1) (SSM 34-51-11).

(2) (WDM 34-51-11).

E. Initial Evaluation

(1) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

(a) If the maintenance message shows, then do the Fault Isolation Procedure below.

(b) If the maintenance message does not show, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this check of the navigation control panel:

(a) Make sure that the navigation control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators.

(b) If the navigation control panel display FAIL on the ACTIVE or STANDBY frequency indicators, then do these steps:

1) Replace the navigation control panel, P8-25 (captain's) or P8-26 (first officer's).

These are the tasks:

Navigation Control Panel Removal, AMM TASK 34-31-52-000-801,

Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

2) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(c) If the navigation control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators, then continue.

(2) Do this check of the wiring:

(a) Remove the navigation control panel. To remove it, do this task: Navigation Control Panel Removal, AMM TASK 34-31-52-000-801.

(b) Remove the VOR/marker beacon receiver. To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.

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(c) For the applicable panel, do a continuity check between these pins of the connector for the VOR receiver and the connector for applicable navigation control panel:

	NAV CONNECTOR	VOR CONNECTOR
CAPTAIN (P8-25)	**D263**	**D3623B**
	pin 20	pin B11
	pin 21	pin C11
FIRST OFFICER (P8-26)	**D265**	**D3625B**
	pin 20	pin B11
	pin 21	pin C11

(d) If there is not continuity, then do these steps:

1) Repair the wiring.
2) Re-install the navigation control panel. To install it, do this task: Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.
3) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.
4) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.
5) If the maintenance message does not show, then you corrected the fault.

END OF TASK

804. VOR Antenna Failed - Fault Isolation

A. Description

(1) The task is for this maintenance message:
(a) VOR ANTENNA FAILED

(2) The VOR/marker beacon receiver receives no input signal from the VOR antenna, M41.

B. Possible Causes

(1) RF power divider, M1726.
(2) Wiring problem.
(3) VOR antenna, M41.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	12	C01375	RADIO NAVIGATION VOR 2

D. Related Data

(1) (SSM 34-31-11).

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(2) (SSM 34-31-21).

(3) (WDM 34-31-11).

(4) (WDM 34-31-21).

E. Initial Evaluation

(1) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

(a) If the maintenance message shows, then do the Fault Isolation Procedure below.

(b) If the maintenance message does not show, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Replace the applicable LOC antenna switch, R315 or R316.

These are the tasks:

Localizer Antenna Removal, AMM TASK 34-31-31-000-801,

Localizer Antenna Installation, AMM TASK 34-31-31-400-801.

(a) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(b) If the LCD display on the ILS receiver shows ILS TEST COMPLETE NO FAILURES, then you corrected the fault.

(c) If the ILS receiver LCD display shows LOC ANTENNA FAILED, then continue.

(2) Do this check of the wiring:

(a) Remove the VOR/marker beacon receiver. To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.

(b) Disconnect the applicable connector from the applicable RF power divider.

(c) Do a continuity check between the VOR receiver and the applicable RF power divider:

	RF POWER DIVIDER CONNECTOR		VOR CONNECTOR
NO. 1, (M1726)	**D3781**		**D3623C**
	pin A1	- - - - - - - - - - - - - - - - - -	pin 1
	pin C1	- - - - - - - - - - - - - - - - - -	pin C1
NO. 2, (M1727)	**D3787**		**D3625C**
	pin A1	- - - - - - - - - - - - - - - - - -	pin 1
	pin C1	- - - - - - - - - - - - - - - - - -	pin C1

(d) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-connect the applicable connector.

3) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

4) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

5) If the LCD display on the VOR/marker beacon receiver shows VOR TEST COMPLETE NO FAILURES, then you corrected the fault.

(e) If there is continuity, then continue.

(3) Use a time domain reflectometer (TDR) test set to do an electrical check of the coaxial cable and antenna:

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CAUTION: YOU MUST PUT RF ABSORBENT MATERIAL ON THE ANTENNA BEFORE YOU USE THE TDR TEST SET. YOU CAN DAMAGE THE TEST SET IF A HIGH POWER TRANSMITTER OPERATES WITHIN 500 FEET OF THE ANTENNA.

(a) Cover the VOR antenna, M41 with RF absorbent material.

(b) Disconnect connector D3699 or D3683 from the RF power divider as applicable.

(c) Connect the TDR test set at pins A1 and C1 of the applicable connector at the RF power divider.

(d) Do an electrical check of the coaxial cable and the antenna.

NOTE: The TDR test set has instructions which tell how to do the check of the cable and antenna.

(e) Disconnect the TDR test set.

(f) Re-connect connector D3699 or D3683 as applicable.

(g) If you find a problem with the coaxial cable, then do these steps:

1) Replace the coaxial cable.

2) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

3) If the LCD display on the VOR/marker beacon receiver shows VOR TEST COMPLETE NO FAILURES, then you corrected the fault.

(h) If you find a problem with the antenna, then do these steps:

1) Replace the VOR antenna, M41.

These are the tasks:

VOR/LOC Antenna Removal, AMM TASK 34-51-02-000-801,

VOR/LOC Antenna Installation, AMM TASK 34-51-02-400-801.

2) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

3) If the LCD display on the VOR/marker beacon receiver shows VOR TEST COMPLETE NO FAILURES, then you corrected the fault.

——————— END OF TASK ———————

805. No Pointers and No Flags - Fault Isolation

A. Description

(1) The VOR data goes to a no computed data (NCD) condition.

B. Possible Causes

(1) VOR/marker beacon receiver, M1724 (No. 1) or M1725 (No. 2).

(2) Navigation control panel, P8-25 (captain) or P8-26 (F/O).

(3) VOR antenna, M41.

(4) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	12	C01375	RADIO NAVIGATION VOR 2

D. Related Data

(1) (SSM 31-62-15).

(2) (SSM 34-51-11)

(3) (WDM 31-62-15).

(4) (WDM 34-51-11).

E. Initial Evaluation

(1) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

(a) If the bearing pointers 1 and 2 do not show on the captain's or F/O's displays, then do the Fault Isolation Procedure below.

(b) If the bearing pointers 1 and 2 show on the captain's or F/O's displays, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this check of the navigation control panel:

(a) Make sure that the navigation control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators.

(b) If the navigation control panel display FAIL on the ACTIVE or STANDBY frequency indicators, then do these steps:

1) Replace the navigation control panel, P8-25 (Captain) or P8-26 (F/O).

These are the tasks:

Navigation Control Panel Removal, AMM TASK 34-31-52-000-801,

Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

(c) If the navigation control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators, then continue.

(2) Do this check of the wiring:

(a) Remove the navigation control panel. To remove it, do this task: Navigation Control Panel Removal, AMM TASK 34-31-52-000-801.

(b) Remove the VOR/marker beacon receiver. To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.

(c) Do a continuity check between the VOR/marker beacon receiver and the applicable navigation control panel:

	NAV CONNECTOR D263	**VOR CONNECTOR D3623B**
CAPTAIN'S (P8-25)		
	pin 20 - - - - - - - - - - - - - - - - - -	pin B11
	pin 21 - - - - - - - - - - - - - - - - - -	pin C11

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FIRST OFFICER'S (P8-26)	**D265**	**D3625B**
	pin 20	pin B11
	pin 21	pin C11

(d) If there is not continuity, then do these steps:

1) Repair the wiring.
2) Re-install the navigation control panel. To install it, do this task: Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.
3) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.
4) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.
5) If the bearing pointers 1 and 2 show on the captain's or F/O's displays, then you corrected the fault.

(e) If there is continuity, then continue.

1) Re-install the navigation control panel. To install it, do this task: Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

(3) Use a time domain reflectometer (TDR) test set to do an electrical check of the coaxial cable and antenna:

CAUTION: YOU MUST PUT RF ABSORBENT MATERIAL ON THE ANTENNA BEFORE YOU USE THE TDR TEST SET. YOU CAN DAMAGE THE TEST SET IF A HIGH POWER TRANSMITTER OPERATES WITHIN 500 FEET OF THE ANTENNA.

(a) Cover the applicable VOR antenna with RF absorbent material.

(b) Connect the TDR test set at pins 1 and C1 of connector D3623C or D3625C as applicable at the VOR/marker beacon receiver (WDM 34-31-11).

	TDR TEST SET	**VOR CONNECTOR**
VOR-1	**TDR TEST SET**	**D3623C**
	TDR	pin 1
	TDR	pin C1
VOR-2	**TDR TEST SET**	**D3625C**
	TDR	pin 1
	TDR	pin C1

(c) Do an electrical check of the coaxial cable and the antenna.

NOTE: The TDR test set has instructions which tell how to do the check of the cable and antenna.

(d) Disconnect the TDR test set.

(e) If you find a problem with the coaxial cable, then do these steps:

1) Replace the coaxial cable (WDM 34-31-11).
2) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.
3) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

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4) If the bearing pointers 1 and 2 show on the captain's or F/O's displays, then you corrected the fault.

(f) If you find a problem with the antenna, do these steps:

1) Replace the VOR antenna, M41.

These are the tasks:

VOR/LOC Antenna Removal, AMM TASK 34-51-02-000-801,

VOR/LOC Antenna Installation, AMM TASK 34-51-02-400-801.

2) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

3) If the bearing pointers 1 and 2 show on the captain's or F/O's displays, then you corrected the fault.

———————— END OF TASK ————————

806. No Deviation Bar - Fault Isolation

A. Description

(1) The VOR data goes to a no computed data (NCD) condition.

B. Possible Causes

(1) VOR/marker beacon receiver, M1724 (No. 1) or M1725 (No. 2).

(2) Navigation control panel, P8-25 (captain) or P8-26 (F/O).

(3) VOR antenna, M41.

(4) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	12	C01375	RADIO NAVIGATION VOR 2

D. Related Data

(1) (SSM 31-62-15).

(2) (SSM 34-51-11).

(3) (WDM 31-62-15).

(4) (WDM 34-51-11).

E. Initial Evaluation

(1) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

(a) If the deviation bar do not show on the captain's or F/O's displays, then do the Fault Isolation Procedure below.

(b) If the deviation bar show on the captain's or F/O's displays, then there was an intermittent fault.

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F. Fault Isolation Procedure

(1) Do this check of the navigation control panel:

(a) Make sure that the navigation control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators.

(b) If the navigation control panel display FAIL on the ACTIVE or STANDBY frequency indicators, then do these steps:

1) Replace the navigation control panel, P8-25 (Captain) or P8-26 (F/O).

These are the tasks:

Navigation Control Panel Removal, AMM TASK 34-31-52-000-801,

Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

(c) If the navigation control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators, then continue.

(2) Do this check of the wiring:

(a) Remove the navigation control panel. To remove it, do this task: Navigation Control Panel Removal, AMM TASK 34-31-52-000-801.

(b) Remove the VOR/marker beacon receiver. To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.

(c) Do a continuity check between the VOR/marker beacon receiver and the applicable navigation control panel:

	NAV CONNECTOR	VOR CONNECTOR
CAPTAIN'S (P8-25)	**D263**	**D3623B**
	pin 20	pin B11
	pin 21	pin C11
FIRST OFFICER'S (P8-26)	**D265**	**D3625B**
	pin 20	pin B11
	pin 21	pin C11

(d) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-install the navigation control panel. To install it, do this task: Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

3) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

4) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

5) If the deviation bar show on the captain's or F/O's displays, then you corrected the fault.

(e) If there is continuity, then continue.

1) Re-install the navigation control panel. To install it, do this task: Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

(3) Use a time domain reflectometer (TDR) test set to do an electrical check of the coaxial cable and antenna:

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CAUTION: YOU MUST PUT RF ABSORBENT MATERIAL ON THE ANTENNA BEFORE YOU USE THE TDR TEST SET. YOU CAN DAMAGE THE TEST SET IF A HIGH POWER TRANSMITTER OPERATES WITHIN 500 FEET OF THE ANTENNA.

(a) Cover the applicable VOR antenna with RF absorbent material.

(b) Connect the TDR test set at pins 1 and C1 of connector D3623C or D3625C as applicable at the VOR/marker beacon receiver (WDM 34-31-11).

	TDR TEST SET	VOR CONNECTOR
VOR-1	**TDR TEST SET**	**D3623C**
	TDR -	pin 1
	TDR -	pin C1
VOR-2	**TDR TEST SET**	**D3625C**
	TDR -	pin 1
	TDR -	pin C1

(c) Do an electrical check of the coaxial cable and the antenna.

NOTE: The TDR test set has instructions which tell how to do the check of the cable and antenna.

(d) Disconnect the TDR test set.

(e) If you find a problem with the coaxial cable, then do these steps:

1) Replace the coaxial cable (WDM 34-31-11).
2) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.
3) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.
4) If the deviation bar show on the captain's or F/O's displays, then you corrected the fault.

(f) If you find a problem with the antenna, do these steps:

1) Replace the VOR antenna, M41.

These are the tasks:

VOR/LOC Antenna Removal, AMM TASK 34-51-02-000-801,

VOR/LOC Antenna Installation, AMM TASK 34-51-02-400-801.

2) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.
3) If the deviation bar show on the captain's or F/O's displays, then you corrected the fault.

———————— END OF TASK ————————

807. VOR Frequency Shows Dashes - Fault Isolation

A. Description

(1) There are no computed data (NCD) for the VOR frequency.

B. Possible Causes

(1) VOR/marker beacon receiver, M1724 (No. 1) or M1725 (No. 2).

(2) Navigation control panel, P8-25 (captain's) or P8-26 (first officer's).

(3) Display electronic unit (DEU), M1808 (No. 1) or M1809 (No. 2).

(4) Wiring.

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	12	C01375	RADIO NAVIGATION VOR 2

D. Related Data

(1) (WDM 34-51-11).

(2) (WDM 34-51-21).

(3) (SSM 34-51-11).

(4) (SSM 34-51-21).

E. Initial Evaluation

(1) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

(a) If the frequency show dashes on the captain's or F/O's displays, then do the Fault Isolation Procedure below.

(b) If the frequency do not shows dashes on the captain's or F/O's displays, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this check of the NAV control panel:

(a) Make sure that the NAV control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators.

(b) If the NAV control panel does display FAIL on the ACTIVE or STANDBY frequency indicators, then do these steps:

1) Replace the NAV control panel, P8-25 (captain's) or P8-26 (first officer's).

These are the tasks:

Navigation Control Panel Removal, AMM TASK 34-31-52-000-801,

Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

2) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

3) If the VOR frequency do not show dashes on the display, then you corrected the fault.

(c) If the NAV control panel does not display FAIL on the ACTIVE or STANDBY frequency indicators, then continue.

(2) Do this check of the display electronic unit (DEU):

(a) Do this task: DEU Self-Test Procedure, 31-62 TASK 802.

(b) If the DEU shows FAILED, then do these steps:

1) Replace the DEU, M1808 (No. 1) or M1809 (No. 2).

These are the tasks:

Display Electronic Unit Removal, AMM TASK 31-62-21-000-801,

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Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

2) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

3) If the VOR frequency do not show dashes on the display, then you corrected the fault.

(c) If the DEU shows PASSED, then continue.

(3) Do this check of the wiring between the VOR receiver and the NAV control panel:

(a) Remove the navigation control panel. To remove it, do this task: Navigation Control Panel Removal, AMM TASK 34-31-52-000-801.

(b) Remove the VOR/marker beacon receiver. To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.

(c) Do a continuity check between these pins for the applicable VOR FAULT:

	NAV CONNECTOR		VOR CONNECTOR
VOR 1	**D263**		**D3623B**
	pin 20	- - - - - - - - - -	pin B11
	pin 21	- - - - - - - - - -	pin C11
VOR 2	**D265**		**D3625B**
	pin 20	- - - - - - - - - -	pin B11
	pin 21	- - - - - - - - - -	pin C11

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the navigation control panel. To install it, do this task: Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

3) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

4) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

5) If the VOR frequency do not show dashes on the display, then you corrected the fault.

(e) If there is continuity between the pins, then continue.

1) Re-install the navigation control panel. To install it, do this task: Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

(4) Do this check of the wiring between the DEU and the VOR/marker beacon receiver:

(a) Remove the DEU. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(b) Do a check for an open circuit between these pins for the applicable VOR FAULT:

	DEU CONNECTOR		VOR CONNECTOR
VOR 1	**D3973B**		**D3623B**
	pin C3	- - - - - - - - - -	pin B13
	pin D3	- - - - - - - - - -	pin C13
	D3975B		**D3623B**
	pin C3	- - - - - - - - - -	pin B13
	pin D3	- - - - - - - - - -	pin C13

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VOR 2	**D3973E**	**D3625B**
	pin C3 - - - - - - - - - - - - - - - - - -	pin B13
	pin D3 - - - - - - - - - - - - - - - - - -	pin C13
	D3975E	**D3625B**
	pin C3 - - - - - - - - - - - - - - - - - -	pin B13
	pin D3 - - - - - - - - - - - - - - - - - -	pin C13

(c) If there is an open circuit, then do these steps:

1) Repair the wiring.
2) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.
3) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.
4) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.
5) If the VOR frequency do not show dashes on the display, then you corrected the fault.

———————— END OF TASK ————————

808. Marker Beacon Antenna Failed - Fault Isolation

A. Description

(1) The task is for this maintenance message:

(a) MKR ANTENNA FAILED

(2) The VOR/marker beacon receiver receives no input signal from the marker beacon antenna, M27.

B. Possible Causes

(1) Wiring problem.

(2) Marker beacon antenna, M27.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	12	C01375	RADIO NAVIGATION VOR 2

D. Related Data

(1) (SSM 34-32-11).

(2) (WDM 34-32-11).

E. Initial Evaluation

(1) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

(a) If the maintenance message shows, then do the Fault Isolation Procedure below.

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(b) If the maintenance message does not show, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Use a time domain reflectometer (TDR) test set to do an electrical check of the coaxial cable and antenna:

CAUTION: YOU MUST PUT RF ABSORBENT MATERIAL ON THE ANTENNA BEFORE YOU USE THE TDR TEST SET. YOU CAN DAMAGE THE TEST SET IF A HIGH POWER TRANSMITTER OPERATES WITHIN 500 FEET OF THE ANTENNA.

(a) Cover the marker beacon antenna, M27 with RF absorbent material.

(b) Remove the VOR/marker beacon receiver. To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.

(c) Connect the TDR test set at pins 5 and C5 of connector D3623C.

(d) Do an electrical check of the coaxial cable and the antenna.

NOTE: The TDR test set has instructions which tell how to do the check of the cable and antenna.

(e) Disconnect the TDR test set.

(f) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

(g) If you find a problem with the coaxial cable, then do these steps:

1) Replace the coaxial cable.

2) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

3) If the LCD display on the VOR/marker beacon receiver shows VOR TEST COMPLETE NO FAILURES, then you corrected the fault.

(h) If you find a problem with the antenna, then do these steps:

1) Replace the marker beacon antenna, M27.

These are the tasks:

Marker Beacon Antenna Removal, AMM TASK 34-32-11-000-801,

Marker Beacon Antenna Installation, AMM TASK 34-32-11-400-801.

2) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

3) If the LCD display on the VOR/marker beacon receiver shows VOR TEST COMPLETE NO FAILURES, then you corrected the fault.

———————— END OF TASK ————————

809. Audio Tone Problem - Fault Isolation

A. Description

(1) Audio tone does not occur or is weak.

B. Possible Causes

(1) VOR/marker beacon receiver, M1724 (No. 1) or M1725 (No. 2).

(2) Remote electronics unit (REU), M1353.

(3) Wiring.

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C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1

D. Related Data

(1) (SSM 34-51-11).

(2) (SSM 34-51-21).

(3) (WDM 34-51-11).

(4) (WDM 34-51-21).

E. Initial Evaluation

(1) Do this task: VOR System - System Test, AMM TASK 34-51-00-730-801.

(a) If there is no audio tone or the audio tone is weak, then do the Fault Isolation Procedure below.

(b) If the audio tone is normal, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this check of the VOR/marker beacon receiver:

(a) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

(b) If the LCD display on the VOR/marker beacon receiver shows VOR TEST COMPLETE FAILURES, then follow the BITE procedure to correct the failure.

(c) If the LCD display on the VOR/marker beacon receiver shows VOR TEST COMPLETE NO FAILURES, then continue.

(2) Do this check of the wiring:

(a) Remove the remote electronics unit. To remove it, do this task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.

(b) Remove the VOR/marker beacon receiver. To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.

(c) Do a continuity check between the VOR/marker beacon receiver and the remote electronics unit:

D3623B		**D2501A**
pin B7	- - - - - - - - - - - - - - - - - -	pin K13
pin C7	- - - - - - - - - - - - - - - - - -	pin J13

(d) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-install the remote electronics unit. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

3) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

4) Do this task: VOR System - System Test, AMM TASK 34-51-00-730-801.

5) If the audio tone is normal, then you corrected the fault.

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(e) If there is continuity, then continue.

1) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

(3) Replace the remote electronics unit, M1353.

These are the tasks:

Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,

Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

(a) Do this task: VOR System - System Test, AMM TASK 34-51-00-730-801.

(b) If the audio tone is normal, then you corrected the fault.

——————— END OF TASK ———————

810. TO/FROM Indication Problem - Fault Isolation

A. Description

(1) The TO/FROM indication does not show on the display.

B. Possible Causes

(1) VOR/marker beacon receiver, M1724 (No. 1) or M1725 (No. 2).

(2) Remote electronics unit (REU), M1353.

(3) Display electronics unit (DEU), M1808 (No. 1) or M1809 (No. 2).

(4) Wiring.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1

D. Related Data

(1) (SSM 34-51-11).

(2) (SSM 34-51-21).

(3) (WDM 34-51-11).

(4) (WDM 34-51-21).

E. Initial Evaluation

(1) Do this task: VOR System - System Test, AMM TASK 34-51-00-730-801.

(a) If the TO/FROM indication do not show on the display, then do the Fault Isolation Procedure below.

(b) If the TO/FROM indication is normal, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this check of the VOR/marker beacon receiver:

(a) Do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

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(b) If the LCD display on the VOR/marker beacon receiver shows VOR TEST COMPLETE FAILURES, then follow the BITE procedure to correct the failure.

(c) If the LCD display on the VOR/marker beacon receiver shows VOR TEST COMPLETE NO FAILURES, then continue.

(2) Do this check of the wiring between the DEU and the VOR/marker beacon receiver:

(a) Remove the DEU. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(b) Remove the VOR/marker beacon receiver. To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.

(c) Do a continuity check between the applicable pins of the connector for the VOR/marker beacon receiver and the connector for the DEU for the applicable VOR FAULT:

	DEU CONNECTOR		VOR CONNECTOR
VOR 1	**D3973B**		**D3623B**
	pin C3	- - - - - - - - - - - - - - - - - -	pin B13
	pin D3	- - - - - - - - - - - - - - - - - -	pin C13
	D3975B		**D3623B**
	pin C3	- - - - - - - - - - - - - - - - - -	pin B13
	pin D3	- - - - - - - - - - - - - - - - - -	pin C13
VOR 2	**D3973E**		**D3625B**
	pin C3	- - - - - - - - - - - - - - - - - -	pin B13
	pin D3	- - - - - - - - - - - - - - - - - -	pin C13
	D3975E		**D3625B**
	pin C3	- - - - - - - - - - - - - - - - - -	pin B13
	pin D3	- - - - - - - - - - - - - - - - - -	pin C13

(d) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

3) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

4) Do this task: VOR System - System Test, AMM TASK 34-51-00-730-801.

5) If the TO/FROM indication shows on the display, then you corrected the fault.

(e) If there is continuity, then continue.

1) Re-install the VOR/marker beacon receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

2) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

(3) Do this check of the display electronics unit (DEU):

(a) Do this task: DEU Self-Test Procedure, 31-62 TASK 802.

(b) If the DEU shows FAILED, then do these steps:

1) Replace the DEU, M1808 (No. 1) or M1809 (No. 2).

These are the tasks:

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Display Electronic Unit Removal, AMM TASK 31-62-21-000-801,
Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

2) Do this task: VOR System - System Test, AMM TASK 34-51-00-730-801.
3) If the TO/FROM indication shows on the display, then you corrected the fault.

——————— END OF TASK ———————

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801. Air Traffic Control (ATC) Transponder BITE Procedure

A. General

(1) You do the ATC transponder BITE test from the ATC transponder front panel. The ATC transponder BITE test is a real-time check for faults in the ATC system. The BITE test checks ATC transponder circuitry and the inputs of the systems that interface with the ATC transponder.

(2) If the ATC transponder BITE test detects a fault, it will turn on the applicable light on the front panel of the ATC transponder. There is a related maintenance message.

HAP ALL; AIRPLANES WITH ALLIED SIGNAL SERIES TRANSPONDERS

(3) The maintenance messages for the lights are as follow:

(a) TPR

(b) ALT

(c) DATA IN

(d) TOP

(e) BOT

(f) TCAS

HAP ALL

B. BITE Procedure

HAP ALL; AIRPLANES WITH ALLIED SIGNAL SERIES TRANSPONDERS

(1) Momentarily push the TEST switch on the front panel of the applicable ATC transponder.

(a) If the green TPR light comes on, then the BITE test passed.

(b) If a different light comes on, other than the green TPR light, then refer to the table at the end of this task to find the fault isolation procedure for the applicable maintenance message.

(c) The ATC BITE test must be done prior to any tasks.

HAP ALL

——————— END OF TASK ———————

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
ATC XPDR - 1 (L)	ALT	34-53 TASK 804
ATC XPDR - 1 (L)	BOT	34-53 TASK 808
ATC XPDR - 1 (L)	DATA IN	34-53 TASK 810
ATC XPDR - 1 (L)	TCAS	34-53 TASK 812
ATC XPDR - 1 (L)	TOP	34-53 TASK 806
ATC XPDR - 1 (L)	TPR (red)	34-53 TASK 802
ATC XPDR - 2 (R)	ALT	34-53 TASK 805
ATC XPDR - 2 (R)	BOT	34-53 TASK 809
ATC XPDR - 2 (R)	DATA IN	34-53 TASK 811

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
ATC XPDR - 2 (R)	TCAS	34-53 TASK 813
ATC XPDR - 2 (R)	TOP	34-53 TASK 807
ATC XPDR - 2 (R)	TPR (red)	34-53 TASK 803

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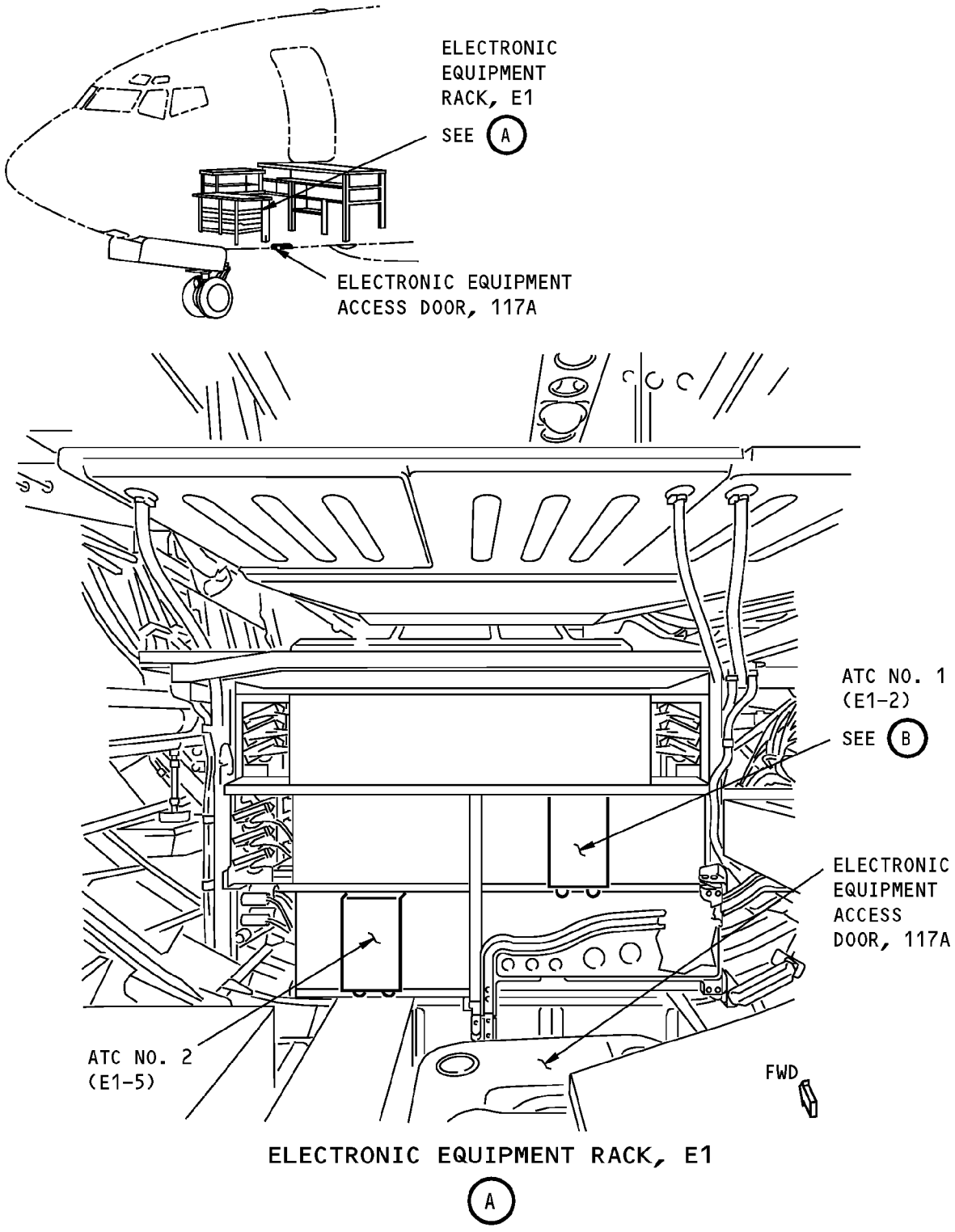

ATC Transponder
Figure 201 (Sheet 1 of 2)/ 34-53-00-990-804

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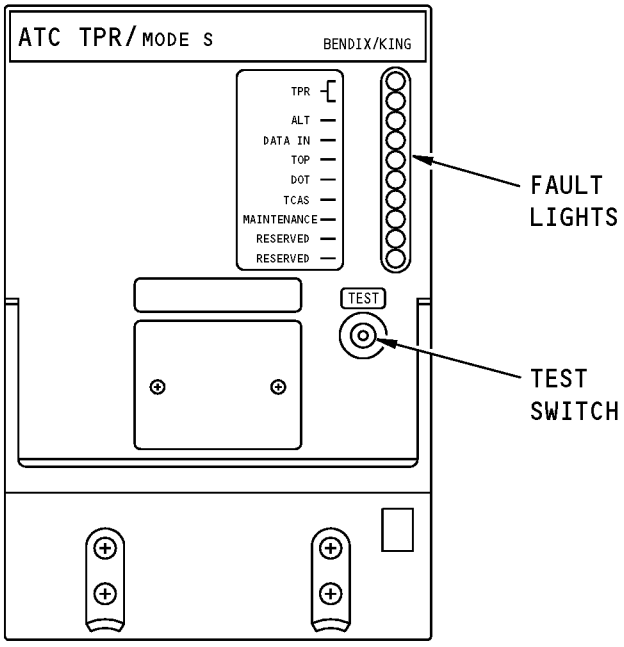

ATC Transponder
Figure 201 (Sheet 2 of 2)/ 34-53-00-990-804

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802. Left Air Traffic Control (ATC) Transponder Internal Fault - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) TPR (red)

(2) The left ATC transponder BITE has detected an internal fault.

B. Possible Causes

(1) Left ATC transponder, M163.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	5	C00186	ATC 1

D. Related Data

(1) (WDM 34-53-11).

(2) (SSM 34-53-11).

E. Initial Evaluation

(1) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If the BITE test passed, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the left ATC transponder, M163.

These are the tasks:

ATC Transponder Removal, AMM TASK 34-53-02-020-801,

ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

———————— END OF TASK ————————

803. Right Air Traffic Control (ATC) Transponder Internal Fault - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) TPR (red)

(2) The right ATC transponder BITE has detected an internal fault.

B. Possible Causes

(1) Right ATC transponder, M381.

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C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	14	C00188	ATC 2

D. Related Data

(1) (WDM 34-53-21).

(2) (SSM 34-53-21).

E. Initial Evaluation

(1) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If the BITE test passed, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the right ATC transponder, M381.

These are the tasks:

ATC Transponder Removal, AMM TASK 34-53-02-020-801,

ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

——————— END OF TASK ———————

804. Left Air Traffic Control (ATC) Transponder, Air Data Altitude Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) ALT

(2) The left transponder has found a fault with the ADIRU data input.

B. Possible Causes

(1) Left air data inertial reference unit (ADIRU), M1749.

(2) Wiring.

(3) Left ATC transponder, M163.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	5	C00186	ATC 1
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

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CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

D. Related Data

(1) (WDM 34-53-11).

(2) (WDM 34-21-14).

(3) (SSM 34-21-14).

E. Initial Evaluation

(1) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If the BITE test passed, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(a) If the ADIRS BITE shows a CURRENT STATUS fault, then got to the applicable fault isolation task for the maintenance messages to correct the fault.

1) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

a) If the BITE test passed, then you corrected the fault.

b) If the maintenance message shows, then continue.

(b) If the ADIRS BITE does not show any CURRENT STATUS faults, then continue.

(2) Do this check of the wiring:

(a) Remove the left ATC transponder, M163. To remove it, do this task: ATC Transponder Removal, AMM TASK 34-53-02-020-801.

(b) Remove the left ADIRU, M1749. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(c) Do a wiring check between these pins of connector D149A, at the E1-1 shelf, and connector D3687A, at the E5-2 shelf (WDM 34-21-14, WDM 34-53-11).

D149A		**D3687A**
pin H7	- - - - - - - - - - - - - - - - - -	pin A9
pin J7	- - - - - - - - - - - - - - - - - -	pin B9

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the left ATC transponder, M163. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

3) Re-install the left ADIRU, M1749. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

4) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

a) If the BITE test passed, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

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1) Re-install the Left ADIRU, M1749. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(3) Install a new left ATC transponder, M163. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

———————— END OF TASK ————————

805. Right Air Traffic Control (ATC) Transponder, Air Data Altitude Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message

(a) ALT

(2) The right transponder has found a fault with the ADIRU data input.

B. Possible Causes

(1) Right air data inertial reference unit (ADIRU), M1752.

(2) Wiring.

(3) Right ATC transponder, M381.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC
D	14	C00188	ATC 2

D. Related Data

(1) (WDM 34-53-21).

(2) (WDM 34-21-24).

(3) (SSM 34-21-24).

(4) (SSM 34-53-21).

E. Initial Evaluation

(1) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If the BITE test passed, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this task: ADIRS BITE Procedure, 34-21 TASK 801.

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(a) If the ADIRS BITE shows a CURRENT STATUS fault, then go to the applicable fault isolation task for the maintenance message to correct the fault

1) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

a) If the BITE test passed, then you corrected the fault.

b) If the maintenance message shows, then continue.

(b) If the ADIRS BITE does not show any CURRENT STATUS faults, then continue.

(2) Do this check of the wiring:

(a) Remove the right ATC transponder, M381. To remove it, do this task: ATC Transponder Removal, AMM TASK 34-53-02-020-801.

(b) Remove the right ADIRU, M1752. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(c) Do a wiring check between these pins of connector D155A, at the E1-5 shelf, and connector D3693A, at the E5-2 shelf (WDM 34-21-24, WDM 34-53-21).

D155A		D3693A
pin H7	- - - - - - - - - - - - - - - - - -	pin A9
pin J7	- - - - - - - - - - - - - - - - - -	pin B9

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the right ATC transponder, M381. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

3) Re-install the right ADIRU, M1752. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

4) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

a) If the BITE test passed, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

1) Re-install the right ADIRU, M1752. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

(3) Install a new right ATC transponder, M381. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

——————— END OF TASK ———————

806. Left Air Traffic Control (ATC) Transponder, Top ATC Antenna Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) TOP

(2) The left ATC transponder BITE found a defective top ATC antenna or a fault in the transponder circuitry.

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B. Possible Causes

(1) Wiring.

(2) ATC antenna switch, S942.

(3) ATC top antenna, M1406.

(4) Left ATC transponder, M163.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	5	C00186	ATC 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	14	C01194	ATC ANT SWITCH

D. Related Data

(1) (WDM 34-53-31).

(2) (SSM 34-53-31).

E. Initial Evaluation

(1) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If the BITE test passed, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the left ATC transponder, M163.

These are the tasks:

ATC Transponder Removal, AMM TASK 34-53-02-020-801,

ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring:

(a) Remove the left ATC transponder, M163. To remove it, do this task: ATC Transponder Removal, AMM TASK 34-53-02-020-801.

(b) Do a wiring check between pin 71 of connector D149A and structure ground (WDM 34-53-31).

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the left ATC transponder. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

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3) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

a) If the BITE test passed, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-install the left ATC transponder. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(3) Replace the top ATC antenna switch, S942.

These are the tasks:

ATC Antenna Switch Removal, AMM TASK 34-53-04-000-801,

ATC Antenna Switch Installation, AMM TASK 34-53-04-400-801.

(a) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

2) If the maintenance message shows, then continue.

(4) Replace the top ATC antenna, M1406.

These are the tasks:

ATC Antenna Removal, AMM TASK 34-53-01-000-801,

ATC Antenna Installation, AMM TASK 34-53-01-400-801.

(a) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

——————— END OF TASK ———————

807. Right Air Traffic Control (ATC) Transponder, Top ATC Antenna Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) TOP

(2) The right ATC transponder BITE found a defective top ATC antenna or a fault in the transponder circuitry.

B. Possible Causes

(1) Wiring.

(2) ATC antenna switch, S942.

(3) ATC top antenna, M1406.

(4) Right ATC transponder, M381.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	14	C00188	ATC 2
E	14	C01194	ATC ANT SWITCH

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D. Related Data

(1) (WDM 34-53-31).

(2) (SSM 34-53-31).

E. Initial Evaluation

(1) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If the BITE test passed, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the right ATC transponder, M381.

These are the tasks:

ATC Transponder Removal, AMM TASK 34-53-02-020-801,

ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring:

(a) Remove the right ATC transponder, M381. To remove it, do this task: ATC Transponder Removal, AMM TASK 34-53-02-020-801.

(b) Do a wiring check between pin 71 of connector D155A and structure ground (WDM 34-53-31).

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the right ATC transponder. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

3) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

a) If the BITE test passed, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-install the right ATC transponder. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(3) Replace the top ATC antenna switch, S942.

These are the tasks:

ATC Antenna Switch Removal, AMM TASK 34-53-04-000-801,

ATC Antenna Switch Installation, AMM TASK 34-53-04-400-801.

(a) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

2) If the maintenance message shows, then continue.

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(4) Replace the top ATC antenna, M1406.

These are the tasks:

ATC Antenna Removal, AMM TASK 34-53-01-000-801,

ATC Antenna Installation, AMM TASK 34-53-01-400-801.

(a) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

——————— END OF TASK ———————

808. Left Air Traffic Control (ATC) Transponder, Bottom ATC Antenna Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) BOT

(2) The left ATC transponder BITE found a defective bottom ATC antenna or a fault in the transponder circuitry.

B. Possible Causes

(1) Wiring.

(2) ATC antenna switch, S943.

(3) ATC bottom antenna, M44

(4) Left ATC transponder, M163.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	5	C00186	ATC 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	14	C01194	ATC ANT SWITCH

D. Related Data

(1) (WDM 34-53-31).

(2) (SSM 34-53-31).

E. Initial Evaluation

(1) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If the BITE test passed, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the left ATC transponder, M163.

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These are the tasks:

ATC Transponder Removal, AMM TASK 34-53-02-020-801,

ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring:

(a) Remove the left ATC transponder, M163. To remove it, do this task: ATC Transponder Removal, AMM TASK 34-53-02-020-801.

(b) Do a check of the wiring between pin 71 of connector D149B and structure ground (WDM 34-53-31).

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the left ATC transponder. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

3) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

a) If the BITE test passed, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-install the left ATC transponder. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(3) Replace the bottom ATC antenna switch, S943.

These are the tasks:

ATC Antenna Switch Removal, AMM TASK 34-53-04-000-801,

ATC Antenna Switch Installation, AMM TASK 34-53-04-400-801.

(a) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

2) If the maintenance message shows, then continue.

(4) Replace the bottom ATC antenna, M44.

These are the tasks:

ATC Antenna Removal, AMM TASK 34-53-01-000-801,

ATC Antenna Installation, AMM TASK 34-53-01-400-801.

(a) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

—————— END OF TASK ——————

809. Right Air Traffic Control (ATC) Transponder, Bottom ATC Antenna Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

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(a) BOT

(2) The right ATC transponder BITE found a defective bottom ATC antenna or a fault in the transponder circuitry.

B. Possible Causes

(1) Wiring.

(2) ATC antenna switch, S943.

(3) ATC bottom antenna, M44.

(4) Right ATC transponder, M381.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	14	C00188	ATC 2
E	14	C01194	ATC ANT SWITCH

D. Related Data

(1) (WDM 34-53-31).

(2) (SSM 34-53-31).

E. Initial Evaluation

(1) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If the BITE test passed, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the right ATC transponder, M381.

These are the tasks:

ATC Transponder Removal, AMM TASK 34-53-02-020-801,

ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring:

(a) Remove the right ATC transponder, M381. To remove it, do this task: ATC Transponder Removal, AMM TASK 34-53-02-020-801.

(b) Do a check of the wiring between pin 71 of connector D155B and structure ground (WDM 34-53-31).

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

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2) Re-install the right ATC transponder. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

3) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

a) If the BITE test passed, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-install the right ATC transponder. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(3) Replace the bottom ATC antenna switch, S943.

These are the tasks:

ATC Antenna Switch Removal, AMM TASK 34-53-04-000-801,

ATC Antenna Switch Installation, AMM TASK 34-53-04-400-801.

(a) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

2) If the maintenance message shows, then continue.

(4) Replace the top ATC antenna, M1406.

These are the tasks:

ATC Antenna Removal, AMM TASK 34-53-01-000-801,

ATC Antenna Installation, AMM TASK 34-53-01-400-801.

(a) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

——————— END OF TASK ———————

810. Left Air Traffic Control (ATC) Transponder, ATC Control Panel Input Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) DATA IN

(2) The left ATC transponder BITE found a fault with the ATC control panel.

B. Possible Causes

(1) ATC control panel, P8-29.

(2) Wiring.

(3) Left ATC transponder, M163.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	5	C00186	ATC 1

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	14	C00188	ATC 2

D. Related Data

(1) (WDM 34-53-11).

E. Initial Evaluation

(1) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If the BITE test passed, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the ATC control panel, P8-29, at the P8 aft aisle stand.

These are the tasks:

ATC Control Panel Removal, AMM TASK 34-53-03-000-801,

ATC Control Panel Installation, AMM TASK 34-53-03-400-801.

(a) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring:

(a) Remove the ATC control panel, P8-29, at the P8 aft aisle stand. To remove it, do this task: ATC Control Panel Removal, AMM TASK 34-53-03-000-801.

(b) Remove the left ATC transponder, M163. To remove it, do this task: ATC Transponder Removal, AMM TASK 34-53-02-020-801.

(c) Do a wiring check between these pins of connector D211 at the P8 aft aisle stand and connector D149A at the E1-2 shelf (WDM 34-53-11).

D211		**D149A**
pin 22	- - - - - - - - - - - - - - - - - -	pin E7
pin 23	- - - - - - - - - - - - - - - - - -	pin F7

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the ATC control panel. To install it, do this task: ATC Control Panel Installation, AMM TASK 34-53-03-400-801.

3) Re-install the left ATC transponder. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

4) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

a) If the BITE test passed, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

1) Re-install the ATC control panel. To install it, do this task: ATC Control Panel Installation, AMM TASK 34-53-03-400-801.

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(3) Install a new left ATC transponder. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

———————— END OF TASK ————————

811. Right Air Traffic Control (ATC) Transponder, ATC Control Panel Input Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) DATA IN

(2) The right ATC transponder BITE found a fault with the ATC control panel.

B. Possible Causes

(1) ATC control panel, P8-29.

(2) Wiring.

(3) Right ATC transponder, M381.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	5	C00186	ATC 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	14	C00188	ATC 2

D. Related Data

(1) (WDM 34-53-21).

(2) (SSM 34-53-21).

E. Initial Evaluation

(1) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If the BITE test passed, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the ATC control panel, P8-29, at the P8 aft aisle stand.

These are the tasks:

ATC Control Panel Removal, AMM TASK 34-53-03-000-801,

ATC Control Panel Installation, AMM TASK 34-53-03-400-801.

(a) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

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1) If the BITE test passed, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring:

(a) Remove the ATC control panel, P8-29, at the P8 aft aisle stand. To remove it, do this task: ATC Control Panel Removal, AMM TASK 34-53-03-000-801.

(b) Remove the right ATC transponder, M381. To remove it, do this task: ATC Transponder Removal, AMM TASK 34-53-02-020-801.

(c) Do a wiring check between these pins of connector D519 at the P8 aft aisle stand and connector D155A at the E1-5 shelf (WDM 34-53-11).

D519	D155A
pin 22	pin E7
pin 23	pin F7

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the ATC control panel. To install it, do this task: ATC Control Panel Installation, AMM TASK 34-53-03-400-801.

3) Re-install the right ATC transponder. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

4) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

a) If the BITE test passed, then you corrected the fault.

(e) If you do not find a problem with the wiring, then continue.

1) Re-install the ATC control panel. To install it, do this task: ATC Control Panel Installation, AMM TASK 34-53-03-400-801.

(3) Install a new right ATC transponder. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

———————— END OF TASK ————————

HAP ALL; AIRPLANES WITH ALLIED SIGNAL SERIES TRANSPONDERS

812. Left Air Traffic Control (ATC) Transponder, TCAS Computer Input Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) TCAS

(2) The left ATC transponder BITE found a fault with the input from the traffic alert and collision avoidance system (TCAS).

B. Possible Causes

(1) TCAS computer, M1485.

(2) Wiring.

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(3) Left ATC transponder, M163.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	5	C00186	ATC 1
B	6	C01195	TCAS

D. Related Data

(1) (WDM 34-45-21).

(2) (WDM 34-53-11).

(3) (SSM 34-45-21).

(4) (SSM 34-53-11).

E. Initial Evaluation

(1) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If the BITE test passed, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the TCAS computer, M1485.

These are the tasks:

TCAS Computer Removal, AMM TASK 34-45-01-000-801,

TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Replace the ATC transponder, M163.

These are the tasks:

ATC Transponder Removal, AMM TASK 34-53-02-020-801,

ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

2) If the maintenance message shows, then continue.

(3) Do this check of the wiring:

(a) Remove the left ATC transponder, M163. To remove it, do this task: ATC Transponder Removal, AMM TASK 34-53-02-020-801.

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(b) Remove the TCAS computer, M1485. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

(c) Do a wiring check between these pins of connector D149A at the E1-2 shelf and connector D2743E at the E1-1 shelf (WDM 34-45-21, WDM 34-53-11):

D149A		D2743E
pin E5	- - - - - - - - - - - - - - - - - -	pin J15
pin F5	- - - - - - - - - - - - - - - - - -	pin K15

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the left ATC transponder. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

3) Re-install the TCAS computer. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

4) For the left ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

a) If the BITE test passed, then you corrected the fault.

———————— END OF TASK ————————

813. Right Air Traffic Control (ATC) Transponder, TCAS Computer Input Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) TCAS

(2) The right ATC transponder BITE found a fault with the input from the traffic alert and collision avoidance system (TCAS).

B. Possible Causes

(1) TCAS computer, M1485.

(2) Wiring.

(3) Right ATC transponder, M381.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	6	C01195	TCAS

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	14	C00188	ATC 2

D. Related Data

(1) (WDM 34-45-21).

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(2) (WDM 34-53-21).

(3) (SSM 34-45-21).

(4) (SSM 34-53-21).

E. Initial Evaluation

(1) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

(a) If the BITE test passed, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the TCAS computer, M1485.

These are the tasks:

TCAS Computer Removal, AMM TASK 34-45-01-000-801,

TCAS Computer Installation, AMM TASK 34-45-01-400-801.

(a) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Replace the right ATC transponder, M381.

These are the tasks:

ATC Transponder Removal, AMM TASK 34-53-02-020-801,

ATC Transponder Installation, AMM TASK 34-53-02-400-801.

(a) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

1) If the BITE test passed, then you corrected the fault.

2) If the maintenance message shows, then continue.

(3) Do this check of the wiring:

(a) Remove the right ATC transponder, M381. To remove it, do this task: ATC Transponder Removal, AMM TASK 34-53-02-020-801.

(b) Remove the TCAS computer, M1485. To remove it, do this task: TCAS Computer Removal, AMM TASK 34-45-01-000-801.

(c) Do a wiring check between these pins of connector D155A at the E1-5 shelf and connector D2743E at the E1-1 shelf (WDM 34-45-21, WDM 34-53-11):

D155A		D2743E
pin E5	- - - - - - - - - - - - - - - - - -	pin A14
pin F5	- - - - - - - - - - - - - - - - - -	pin B14

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the right ATC transponder. To install it, do this task: ATC Transponder Installation, AMM TASK 34-53-02-400-801.

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3) Re-install the TCAS computer. To install it, do this task: TCAS Computer Installation, AMM TASK 34-45-01-400-801.

4) For the right ATC, do this task: Air Traffic Control (ATC) Transponder BITE Procedure, 34-53 TASK 801.

a) If the BITE test passed, then you corrected the fault.

HAP ALL

———————— END OF TASK ————————

814. ATC Control Panel Code Indicator Problem - Fault Isolation

A. Description

(1) The ATC control panel code select knobs do not change the 4 digit indentification code shown in the ATC code display window.

B. Possible Causes

(1) ATC control panel, P8-29.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	5	C00186	ATC 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	14	C00188	ATC 2

D. Related Data

(1) (WDM 34-53-11).

(2) (WDM 34-53-21).

E. Initial Evaluation

(1) Set the ATC control panel select knobs to 1600.

(a) If the ATC code indicator display window changes to 1600, then there was an intermittent fault.

(b) If the ATC code indicator display window does not change to 1600, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the ATC control panel, P8-29, at the P8 aft aisle stand.

These are the tasks:

ATC Control Panel Removal, AMM TASK 34-53-03-000-801,

ATC Control Panel Installation, AMM TASK 34-53-03-400-801.

(a) Set the ATC code switches to a code of 1600.

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1) If the ATC code indicator display window changes to 1600, then you corrected the fault.

—————— END OF TASK ——————

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801. DME Interrogator BITE Procedure

A. General

(1) You do the DME Interrogator BITE test at the front panel of the DME Interrogator. The DME-1 Interrogator is on the E1-2 shelf in the Electronic Equipment Bay. DME-2 Interrogator is on the E1-5 shelf in the Electronic Equipment Bay.

HAP ALL; AIRPLANES WITH ALLIED SIGNAL DME INTERROGATOR

(2) The DME Interrogator BITE test does a check for existing internal and external faults. Results of the BITE test are displayed on the fault LCD display on the front panel of the DME interrogator.

HAP ALL

B. BITE Procedure

HAP ALL; AIRPLANES WITH ALLIED SIGNAL DME INTERROGATOR

(1) Do the BITE procedure for the DME interrogator.

(a) Push and release either of the two switches on the front panel of the DME interrogator to start the BITE test.

1) Make sure that LCD screen shows DME TEST IN PROGRESS.

(b) If the LCD screen shows DME TEST COMPLETE NO FAILURES, then the DME BITE test passed.

(c) If the LCD screen shows DME TEST COMPLETE FAILURES, then do these steps:

1) Push the right switch under the WHY? prompt.

2) If the LCD screen shows DME FAIL or DME FAIL EXTERNAL FAILURES PRESENT, then refer to Table 201 to find the fault isolation task.

3) If the LCD screen shows DME OK EXTERNAL FAILURES PRESENT, then do these steps:

a) Push the right switch under the MORE prompt.

NOTE: The LCD screen will show the first maintenance message. The LCD screen can show only one maintenance message at a time.

b) Push the right switch under the MORE prompt to view more maintenance messages if multiple maintenances exist.

NOTE: If you continue to push the MORE switch, you will see all of the maintenance messages that are present. You will return to the first maintenance message when you push the MORE switch after the last maintenance message.

c) Refer to the table at the end of this task to find the fault isolation task for the applicable maintenance messages.

d) Push the left switch under the RETURN prompt to return to the normal mode screen.

NOTE: If no switch is pushed for five minutes on the DME interrogator while in self-test mode, the LCD screen will return to the normal mode screen automatically.

HAP ALL

——————— END OF TASK ———————

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
DME INTRROGTR	DME FAILED	34-55 TASK 802
DME INTRROGTR	TUNING PORT A MISSING INPUT	34-55 TASK 803
DME INTRROGTR	TUNING PORT B MISSING INPUT	34-55 TASK 804

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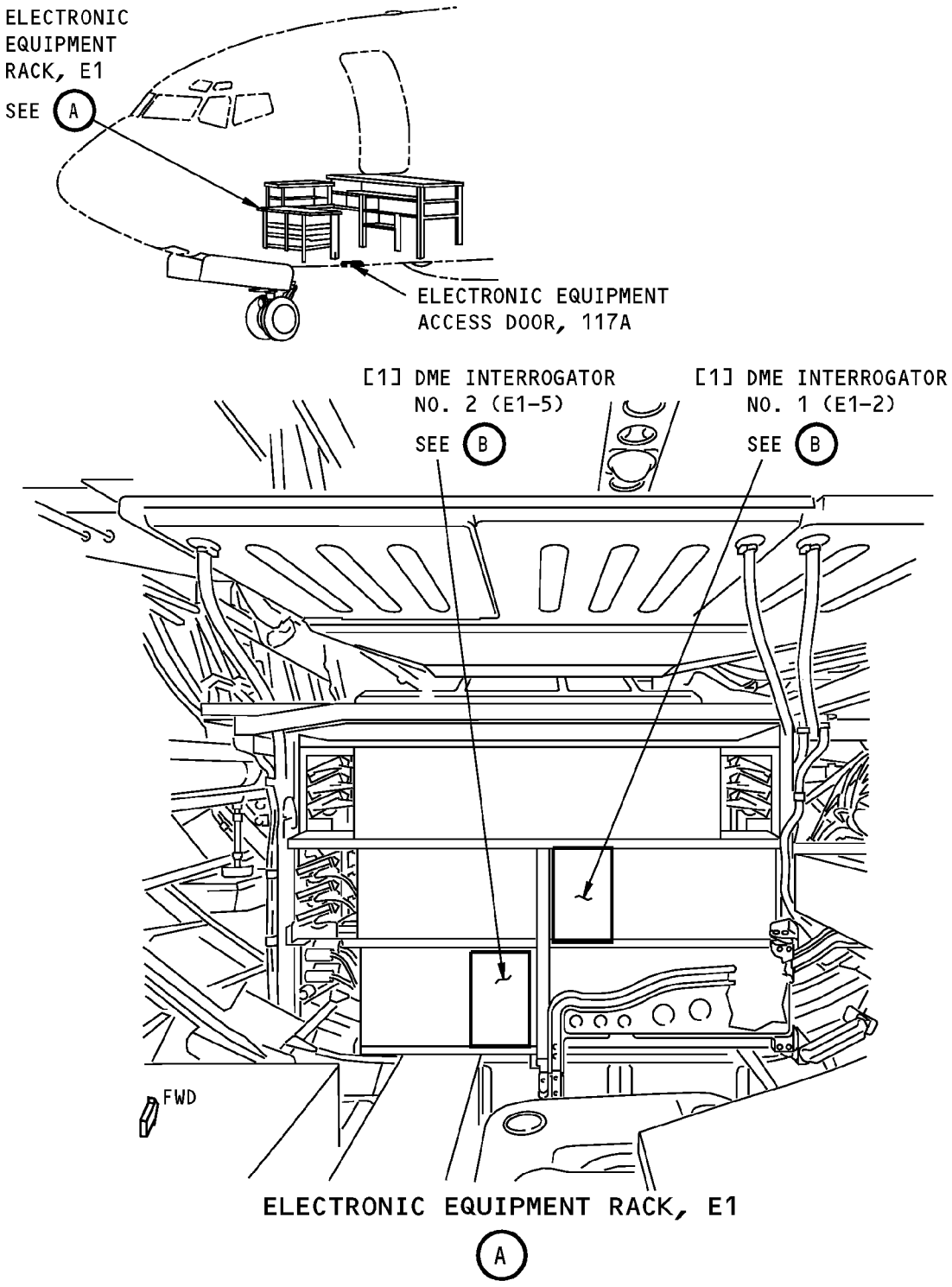

DME Interrogator
Figure 201 (Sheet 1 of 2)/ 34-55-00-990-805

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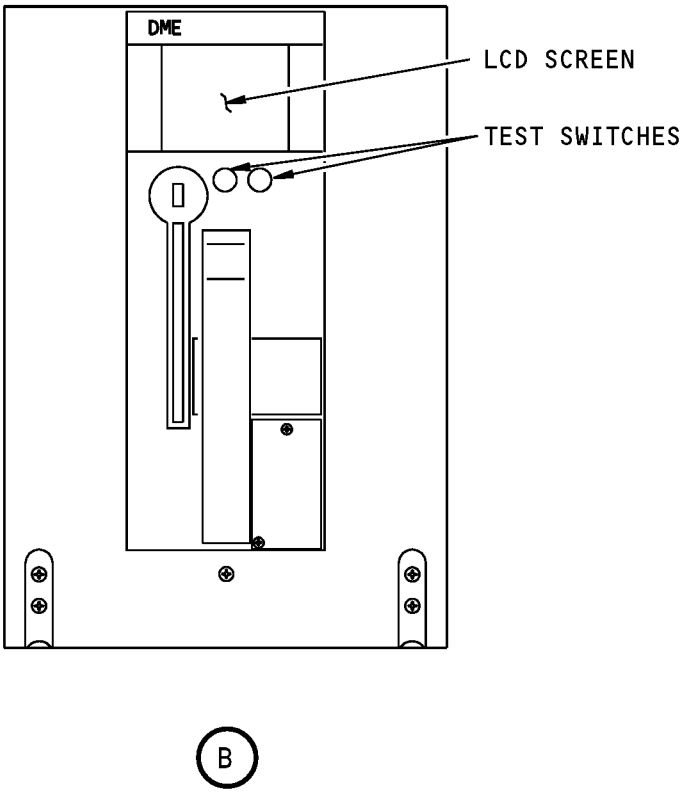

DME Interrogator
Figure 201 (Sheet 2 of 2)/ 34-55-00-990-805

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802. DME Interrogator Problem - Fault Isolation

A. Description

(1) This task is for this DME maintenance message:

(a) DME FAILED

(2) An internal fault has been found for either the DME-1 or DME-2 interrogators.

B. Possible Causes

(1) DME interrogator, M164 (DME-1) or M165 (DME-2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	3	C00190	RADIO NAVIGATION DME 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	14	C00192	RADIO NAVIGATION DME 2

D. Related Data

(1) (SSM 34-55-11).

(2) (SSM 34-55-21).

(3) (WDM 34-55-11).

(4) (WDM 34-55-21).

E. Initial Evaluation

(1) Do this task: DME Interrogator BITE Procedure, 34-55 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the applicable DME interrogator, M164 (DME-1) or M165 (DME-2).
These are the tasks:
DME Interrogator Removal, AMM TASK 34-55-21-000-801,
DME Interrogator Installation, AMM TASK 34-55-21-400-801.

(a) Do this task: DME Interrogator BITE Procedure, 34-55 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

——————— END OF TASK ———————

803. DME Tuning Port-A Missing Input - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) TUNING PORT-A MISSING INPUT

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(2) DME receives no input data from navigation control panels.

B. Possible Causes

(1) Navigation control panel, P8-25 (captain's) or P8-26 (first officer's).

(2) Wiring problem.

C. Related Data

(1) (SSM 34-51-41).

(2) (SSM 34-55-11).

(3) (SSM 34-55-21).

(4) (WDM 34-51-41).

(5) (WDM 34-55-11).

(6) (WDM 34-55-21).

D. Initial Evaluation

(1) Do this task: DME Interrogator BITE Procedure, 34-55 TASK 801.

(a) If the maintenance message shows, then do the Fault Isolation Procedure below.

(b) If the maintenance message does not show, then there was an intermittent fault.

E. Fault Isolation Procedure

(1) Do this check of the navigation control panel:

(a) Make sure that the navigation control panel does not show FAIL on the ACTIVE or STANDBY frequency indicators.

(b) If the navigation control panel shows FAIL on the ACTIVE or STANDBY frequency indicators, then do these steps:

1) Replace the navigation control panel, P8-25 (captain's) or P8-26 (first officer's).

These are the tasks:

Navigation Control Panel Removal, AMM TASK 34-31-52-000-801,

Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.

2) Do this task: DME Interrogator BITE Procedure, 34-55 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(c) If the navigation control panel does not show FAIL on the ACTIVE and STANDBY frequency indicators, then continue.

(2) Do this check of the wiring:

(a) Remove the navigation control panel. To remove it, do this task: Navigation Control Panel Removal, AMM TASK 34-31-52-000-801.

(b) Remove the DME Interrogator. To remove it, do this task: DME Interrogator Removal, AMM TASK 34-55-21-000-801.

(c) Do wiring check between these pins of the connector for the DME interrogator and the connector for the navigation control panel:

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	NAV CONNECTOR	DME CONNECTOR
CAPTAIN (P8-25)	**D263**	**D161B**
	pin 20	pin A3
	pin 21	pin B3
FIRST OFFICER (P8-26)	**D305**	**D3649B**
	pin 28	pin A3
	pin 29	pin B3

(d) If the DME distance indication has been replaced by three dashes on the Captain's RDMI, do these steps:

1) Remove the DEU. To remove it, do this task: AMM TASK 31-62-21-000-801.
2) Check the following wiring:

	NAV CONNECTOR	DEU CONNECTOR
CAPTAIN (P8-25)	**D263**	**D3973B**
	pin 40	pin C8

	NAV CONNECTOR	NAV CONNECTOR
CAPTAIN (P8-25)	**D263**	**D263**
	pin 40	pin 51

(e) If the DME distance indication has been replaced by three dashes on the First Officer's RDMI, do these steps:

1) Remove the DEU. To remove it, do this task: AMM TASK 31-62-21-000-801.
2) Check the following wiring:

	NAV CONNECTOR	DEU CONNECTOR
FIRST OFFICER (P8-26)	**D265**	**D3973E**
	pin 40	pin C8

	NAV CONNECTOR	NAV CONNECTOR
FIRST OFFICER (P8-26)	**D265**	**D265**
	pin 40	pin 51

(f) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-install the navigation control panel. To install it, do this task: Navigation Control Panel Installation, AMM TASK 34-31-52-400-801.
3) Re-install the DME interrogator. To install it, do this task: DME Interrogator Installation, AMM TASK 34-55-21-400-801.
4) Re-install the DEU. To install it, do this task: AMM TASK 31-62-21-400-801.

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5) Do this task: DME Interrogator BITE Procedure, 34-55 TASK 801.
   a) If the maintenance message does not show, then you corrected the fault.

——————— END OF TASK ———————

804. DME Tuning Port-B Missing Input - Fault Isolation

A. Description

(1) This task is for this maintenance message:
   (a) TUNING PORT-B MISSING INPUT

(2) DME receives no input data from the flight management computer.

B. Possible Causes

HAP 001-013, 015-026, 028-036

(1) Flight management computer, M1175.

HAP 037-054, 101-999

(2) Flight management computer, M1175 or M1632.

HAP ALL

(3) Wiring problem.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	3	C00190	RADIO NAVIGATION DME 1

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	14	C00192	RADIO NAVIGATION DME 2

D. Related Data

(1) (SSM 34-55-11).

(2) (SSM 34-55-21).

(3) (SSM 34-61-14).

(4) (WDM 34-55-11).

(5) (WDM 34-55-21).

(6) (WDM 34-61-14).

E. Initial Evaluation

(1) Do this task: DME Interrogator BITE Procedure, 34-55 TASK 801.
   (a) If the maintenance message shows, then do the Fault Isolation Procedure below.

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(b) If the maintenance message does not show, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this task: FMC Hardware/Software Faults - Fault Isolation, 34-61 TASK 807.

(a) Do this task: DME Interrogator BITE Procedure, 34-55 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message does show, then continue.

(2) Do this check of the wiring:

HAP 001-013, 015-026, 028-036

(a) Remove the FMC 1, M1175. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP 037-054, 101-999

(b) Remove the applicable FMC, M1175 or M1632. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP ALL

(c) Remove the DME interrogator. To remove it, do this task: DME Interrogator Removal, AMM TASK 34-55-21-000-801.

(d) Do a wiring check between these pins of the connector for the DME interrogator and the connector for the FMC:

HAP 001-013, 015-026, 028-036

DME INTERROGATOR

	DME CONNECTOR		**FMC CONNECTOR**
DME-1	**D161B**		**D2179A**
	pin D3	- - - - - - - - - - - - - - - - - -	pin H9
	pin E3	- - - - - - - - - - - - - - - - - -	pin G9
DME-2	**D169B**		**D2179B**
	pin D3	- - - - - - - - - - - - - - - - - -	pin E7
	pin E3	- - - - - - - - - - - - - - - - - -	pin D7

HAP 037-054, 101-999

	DME CONNECTOR		**FMC CONNECTOR**
DME-1	**D161B**		**FMC 1 - D2179A**
	pin D3	- - - - - - - - - - - - - - - - - -	pin H9
	pin E3	- - - - - - - - - - - - - - - - - -	pin G9
DME-2	**D169B**		**FMC 2 - D3261B**
	pin D3	- - - - - - - - - - - - - - - - - -	pin E7
	pin E3	- - - - - - - - - - - - - - - - - -	pin D7

HAP ALL

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

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2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

3) Re-install the DME interrogator. To install it, do this task: DME Interrogator Installation, AMM TASK 34-55-21-400-801.

4) Do this task: DME Interrogator BITE Procedure, 34-55 TASK 801.

   a) If the maintenance message does not show, then you corrected the fault.

——————— END OF TASK ———————

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801. ADF BITE Procedure

A. General

HAP ALL; AIRPLANES WITH SINGLE ADF SYSTEM

(1) You do the ADF Receiver BITE test at the front panel of the ADF Receiver. The ADF Receiver is on the E3-1 shelf in the Electronic Equipment Center.

HAP ALL; AIRPLANES WITH ALLIED SIGNAL ADF RECEIVER

(2) The ADF Receiver BITE test does a self check for existing internal and external faults. Results of the BITE test are displayed on the LCD screen on the front panel of the ADF Receiver

HAP ALL

(3) The ADF Receiver flight fault memory stores fault data that occurs in flight. You can view faults that occurred on previous flight legs to help isolate an intermittent fault that is not found by the BITE self-test.

B. BITE Procedure

HAP ALL; AIRPLANES WITH ALLIED SIGNAL ADF RECEIVER

(1) Do the BITE procedure for the ADF receiver.

(a) Push and release either of the two switches on the front panel of the ADF receiver to start the BITE test.

1) Make sure that LCD screen shows ADF TEST IN PROGRESS.

(b) If the LCD screen shows ADF TEST COMPLETE NO FAILURES, then the ADF BITE test passed.

(c) If the LCD screen shows ADF TEST COMPLETE FAILURES, then do these steps:

1) Push the right switch under the WHY? prompt.

2) If the LCD screen shows ADF FAIL or ADF FAIL EXTERNAL FAILURES PRESENT, then refer to the table at the end of this task to find the fault isolation task for the applicable maintenance message.

3) If the LCD screen shows ADF OK EXTERNAL FAILURES PRESENT, then do these steps:

a) Push the right switch under the MORE prompt.

NOTE: The LCD screen will show the first maintenance message. The LCD screen can show only one maintenance message at a time.

b) Push the right switch under the MORE prompt to view more maintenance messages if multiple maintenances exist.

NOTE: If you continue to push the MORE switch, you will see all of the maintenance messages that are present. You will return to the first maintenance message when you push the MORE switch after the last maintenance message.

c) Refer to the table at the end of this task to find the fault isolation task for the applicable maintenance messages.

d) Push the left switch under the RETURN prompt to return to the normal mode screen.

NOTE: If no switch is pushed for five minutes on the ADF receiver while in self-test mode, the LCD screen will return to the normal mode screen automatically.

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HAP ALL; AIRPLANES WITH ALLIED SIGNAL ADF RECEIVER (Continued)

HAP ALL

——————— END OF TASK ———————

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
ADF RECVR - 1	ADF FAILED	34-57 TASK 802
ADF RECVR - 1	TUNING PORT B MISSING INPUT	34-57 TASK 804

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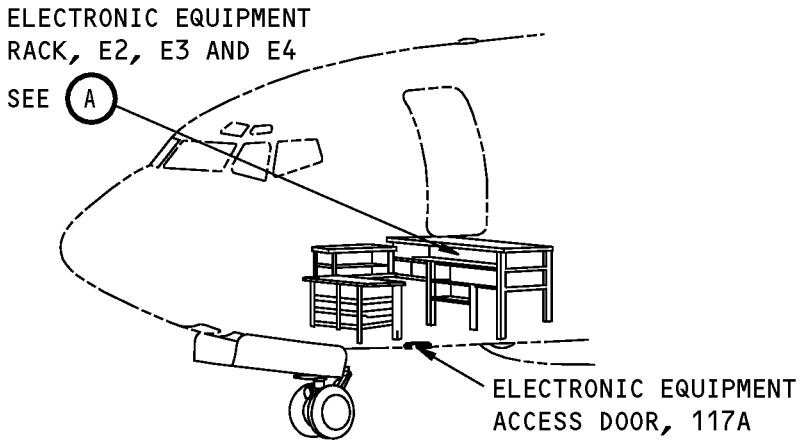

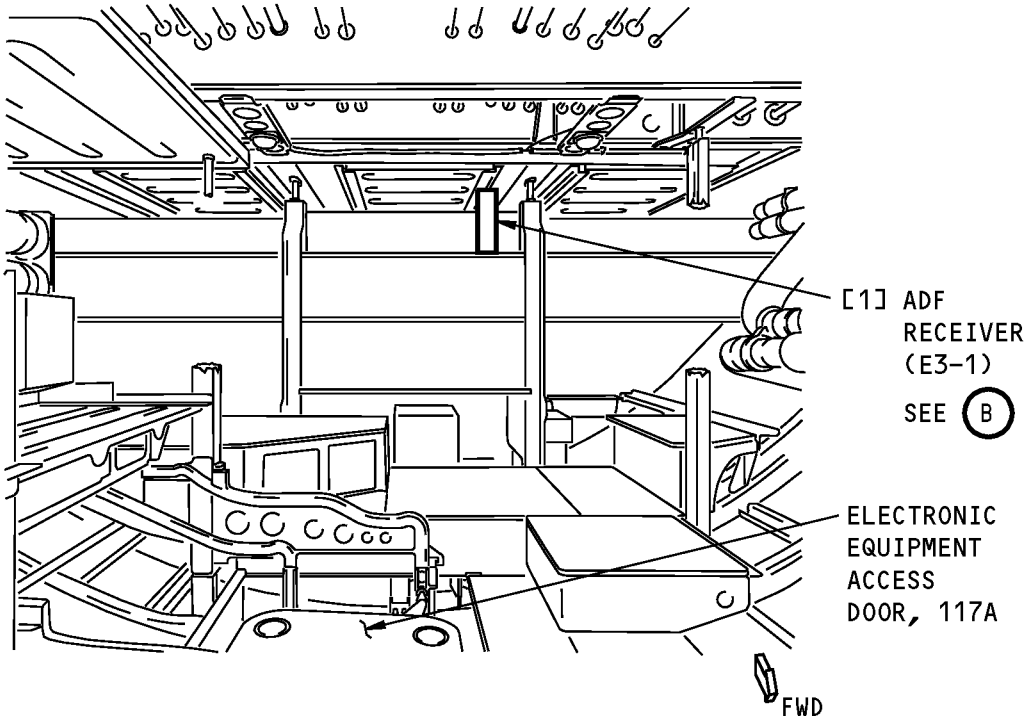

ELECTRONIC EQUIPMENT RACK, E2, E3 AND E4
A

ADF Receiver Installation
Figure 201 (Sheet 1 of 2)/ 34-57-00-990-808

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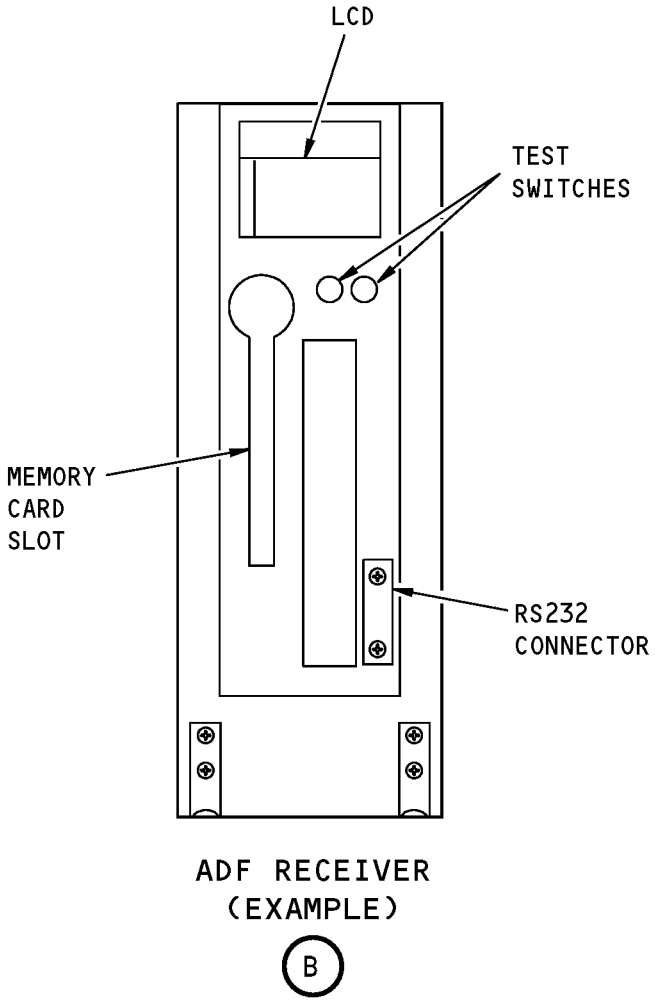

ADF Receiver Installation
Figure 201 (Sheet 2 of 2)/ 34-57-00-990-808

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802. ADF Receiver 1 Failed - Fault Isolation

A. Description

(1) This task is for this ADF receiver 1 maintenance message:

HAP ALL; AIRPLANES WITH ALLIED SIGNAL ADF RECEIVER

(a) ADF FAILED

HAP ALL

B. Possible Causes

(1) ADF receiver-1, M1731.

(2) ADF control panel, P8-68 or P8-70.

(3) Wiring problem.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	4	C01382	RADIO NAVIGATION ADF 1

D. Related Data

(1) (SSM 34-57-11).

(2) (WDM 34-57-11).

E. Initial Evaluation

(1) Do this task: ADF BITE Procedure, 34-57 TASK 801.

(2) If the maintenance message shows, then do the Fault Isolation Procedure below.

(3) If the maintenance message does not show, then there was an intermittent fault.

NOTE: If this message occurs frequently, then the fault can be a loose connection at the sensor.

F. Fault Isolation Procedure

(1) Replace the ADF receiver, M1731.

These are the tasks:

ADF Receiver Removal, AMM TASK 34-57-03-000-801,

ADF Receiver Installation, AMM TASK 34-57-03-400-801.

(a) If the installation test for the ADF receiver is satisfactory, then you corrected the fault.

(b) If the maintenance message shows during the installation test for the ADF receiver, then continue.

(2) Replace the ADF control panel, P8-68 or P8-70.

These are the tasks:

ADF Control Panel Removal, AMM TASK 34-57-02-000-801,

ADF Control Panel Installation, AMM TASK 34-57-02-400-801.

(a) Do this task: ADF BITE Procedure, 34-57 TASK 801.

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(b) If the maintenance message does not show during the ADF BITE test, then you corrected the fault.

(c) If the maintenance message shows during the ADF BITE test, then continue.

(3) Do this check of the wiring:

(a) Remove the ADF receiver. To remove it, do this task: ADF Receiver Removal, AMM TASK 34-57-03-000-801.

(b) Do a continuity check between pin 4 of connector D3651C and structure ground.

(c) If there is not continuity between pin 4 and structure ground, then do these steps:

1) Repair the wiring.

2) Re-install the ADF receiver. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.

3) Do this task: ADF BITE Procedure, 34-57 TASK 801.

4) If the maintenance message does not show during the ADF receiver BITE procedure, then you corrected the fault.

(d) If there is continuity between pin 4 and structure ground, then continue.

HAP ALL; AIRPLANES WITH G7402-2, G7402-04, OR G7402-05 CONTROL PANEL

(4) Do this check of the wiring:

(a) Remove the ADF control panel. To remove it, do this task: ADF Control Panel Removal, AMM TASK 34-57-02-000-801.

(b) Do a check for an open circuit between these pins of connector D3655 at the ADF control panel and connector D3651C at the ADF receiver:

D3655		D3651C
pin 9	- - - - - - - - - - - - - - - - - -	pin 2

(c) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the ADF receiver. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.

3) Re-install the ADF control panel. To install it, do this task: ADF Control Panel Installation, AMM TASK 34-57-02-400-801.

4) Do this task: ADF BITE Procedure, 34-57 TASK 801.

5) If the maintenance message does not show during the ADF receiver BITE procedure, then you corrected the fault.

———————— END OF TASK ————————

HAP ALL; AIRPLANES WITH ALLIED SIGNAL ADF RECEIVER

804. ADF-1 Tuning Port-B Missing Input - Fault Isolation

A. Description

(1) This task is for this ADF receiver-1 maintenance message:

(a) TUNING PORT B MISSING INPUT

B. Possible Causes

(1) ADF control panel, P8-68 or P8-70.

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(2) Wiring problem.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	4	C01382	RADIO NAVIGATION ADF 1

D. Related Data

(1) (SSM 34-57-11).

(2) (WDM 34-57-11).

E. Initial Evaluation

(1) Do this task: ADF BITE Procedure, 34-57 TASK 801.

(a) If the maintenance message shows during the ADF BITE procedure, then do the Fault Isolation Procedure below.

(b) If the maintenance message does not show during the ADF BITE procedure, then there was an intermittent fault.

F. Fault Isolation Procedure

HAP ALL; AIRPLANES WITH G7402-2, G7402-04, OR G7402-05 CONTROL PANEL

(1) Replace the ADF control panel, P8-68.

These are the tasks:

ADF Control Panel Removal, AMM TASK 34-57-02-000-801,

ADF Control Panel Installation, AMM TASK 34-57-02-400-801.

(a) Do this task: ADF BITE Procedure, 34-57 TASK 801.

1) If the maintenance message does not show during the ADF BITE procedure, then you corrected the fault.

2) If the maintenance message shows during the ADF BITE procedure, then continue.

(2) Do this check of the wiring:

(a) Remove the ADF control panel. To remove it, do this task: ADF Control Panel Removal, AMM TASK 34-57-02-000-801.

(b) Remove the ADF receiver. To remove it, do this task: ADF Receiver Removal, AMM TASK 34-57-03-000-801.

(c) Do a wiring check between these pins of connector D3655 at the ADF control panel and connector D3651B at the ADF receiver:

D3655	D3651B
pin 12	pin B7
pin 13	pin B8

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

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2) Re-install the ADF control panel, P8-68. To install it, do this task: ADF Control Panel Installation, AMM TASK 34-57-02-400-801.

3) Re-install the ADF receiver. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.

4) Do this task: ADF BITE Procedure, 34-57 TASK 801.

a) If the maintenance message does not show during the ADF BITE procedure, then you corrected the fault.

HAP ALL

———————— END OF TASK ————————

806. Audio Problem No. 1 - Fault Isolation

A. Description

(1) The ADF audio functions have a failure.

B. Possible Causes

(1) ADF receiver 1, M1731.

(2) Remote electronic unit (REU), M1353.

(3) Wiring problem.

C. Circuit Breaker

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	4	C01382	RADIO NAVIGATION ADF 1

D. Related Data

(1) (SSM 34-57-11).

(2) (WDM 34-57-11).

E. Initial Evaluation

(1) Do the ADF System - Audio Test. To do the test, do this task: Automatic Direction Finder System - System Test, AMM TASK 34-57-00-730-802.

(a) If the ADF System - Audio Test is not satisfactory, then do the Fault Isolation Procedure below.

(b) If the ADF System - Audio Test is satisfactory, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this task: Captain's Flight Interphone Speaker Problem - Fault Isolation, 23-51 TASK 805.

(a) If the captain's flight interphone speaker is not the cause of the fault, then do these steps:

1) Replace the applicable ADF receiver.

These are the tasks:

ADF Receiver Removal, AMM TASK 34-57-03-000-801,

ADF Receiver Installation, AMM TASK 34-57-03-400-801.

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2) If the installation test for the ADF receiver is satisfactory, then you corrected the fault.

(b) If the installation test for the ADF receiver is not satisfactory, then continue.

(2) Do this check of the wiring between the ADF and the REU, M1353.

(a) Remove the ADF receiver. To remove it, do this task: ADF Receiver Removal, AMM TASK 34-57-03-000-801.

(b) Remove the REU receiver. To remove it, do this task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.

(c) Do a check for an open circuit between these pins:

	ADF CONNECTOR		REU CONNECTOR
ADF 1	D3651B		D2501A
	pin B1	- - - - - - - - - - - - - - - - - -	pin C11
	pin B2	- - - - - - - - - - - - - - - - - -	pin B11

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the ADF receiver. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.

3) Re-install the REU. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

4) Do the ADF System - Audio Test. To do the test, do this task: Automatic Direction Finder System - System Test, AMM TASK 34-57-00-730-802.

5) If the ADF audio is functional, then you corrected the fault.

END OF TASK

808. ADF-1 Captain's Indication Blank - Fault Isolation

A. Description

(1) The captain's ADF display is blank.

B. Possible Causes

(1) ADF receiver 1, M1731.

(2) Display electronic unit (DEU-1), M1808.

(3) Wiring.

C. Circuit Breaker

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	4	C01382	RADIO NAVIGATION ADF 1

D. Related Data

(1) (SSM 34-57-11).

(2) (WDM 34-57-11).

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E. Initial Evaluation

(1) If the captain's ADF display does not show, then do the Fault Isolation below.

(2) If the captain's display shows, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this task: ADF BITE Procedure, 34-57 TASK 801.

(a) If you find an ADF fault, then do these steps:

1) Replace the ADF receiver, M1731.

These are the tasks:

ADF Receiver Removal, AMM TASK 34-57-03-000-801,

ADF Receiver Installation, AMM TASK 34-57-03-400-801.

2) If the ADF display is normal, then you corrected the fault.

(b) If you do not find an ADF system fault, then continue.

(2) Do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If you find an ADF data fault or DEU internal fault, then go to the applicable task for that DEU maintenance message to correct the fault.

1) If the ADF display is normal, then you corrected the fault.

(b) If the ADF display does not show, then continue.

(3) Do this check of the wiring between the applicable ADF and DEU-1.

(a) Remove the ADF receiver. To remove it, do this task: ADF Receiver Removal, AMM TASK 34-57-03-000-801.

(b) Remove the DEU 1, M1808. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) Do a check for an open circuit between these pins:

	ADF CONNECTOR		DEU 1 CONNECTOR
ADF 1	**D3651B**		**D3973A**
	pin B13	- - - - - - - - - - - - - - - - -	pin C3
	pin B14	- - - - - - - - - - - - - - - - -	pin D3

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the ADF receiver. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.

3) Re-install the DEU 1. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

4) If the ADF display is normal, then you corrected the fault.

——————— END OF TASK ———————

809. ADF-1 First Officer's Indication Blank - Fault Isolation

A. Description

(1) The first officer's ADF display is blank.

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B. Possible Causes

(1) ADF receiver 1, M1731.

(2) Display electronic unit (DEU-2), M1809.

(3) Wiring.

C. Circuit Breaker

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	4	C01382	RADIO NAVIGATION ADF 1

D. Related Data

(1) (SSM 34-57-11).

(2) (WDM 34-57-11).

E. Initial Evaluation

(1) If the First Officer's ADF display does not show, then do the Fault Isolation Procedure below.

(2) If the First Officer's ADF display shows, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this task: ADF BITE Procedure, 34-57 TASK 801.

(a) If you find an ADF fault, then do these steps:

1) Replace the ADF receiver, M1731.

These are the tasks:

ADF Receiver Removal, AMM TASK 34-57-03-000-801,

ADF Receiver Installation, AMM TASK 34-57-03-400-801.

2) If the ADF display is normal, then you corrected the fault.

(b) If you do not find an ADF system fault, then continue.

(2) Do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If you find an ADF data fault or DEU internal fault, then go to the applicable task for that DEU maintenance message to correct the fault.

1) If the ADF display is normal, then you corrected the fault.

(b) If the ADF display does not show, then continue.

(3) Do this check of the wiring between the ADF-1 and DEU-2.

(a) Remove the ADF receiver. To remove it, do this task: ADF Receiver Removal, AMM TASK 34-57-03-000-801.

(b) Remove the DEU 2, M1809. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) Do a check for an open circuit between these pins:

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	ADF CONNECTOR		DEU 2 CONNECTOR
ADF 1	D3651B		D3975A
	pin B13	- - - - - - - - - - - - - - - - -	pin C3
	pin B14	- - - - - - - - - - - - - - - - -	pin D3

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the ADF receiver. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.

3) Re-install the DEU-2. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

4) If the ADF display is normal, then you corrected the fault.

——————— END OF TASK ———————

810. ADF-1 Captain's and First Officer's Indication Blank - Fault Isolation

A. Description

(1) The captain's and first officer's ADF display is blank.

B. Possible Causes

(1) ADF receiver 1, M1731.

(2) Display electronic unit (DEU-1), M1808.

(3) Display electronic unit (DEU-2), M1809.

(4) Wiring.

C. Circuit Breaker

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	4	C01382	RADIO NAVIGATION ADF 1

D. Related Data

(1) (SSM 34-57-11).

(2) (SSM 34-57-21).

(3) (WDM 34-57-11).

(4) (WDM 34-57-21).

E. Initial Evaluation

(1) If the captain's and first officer's displays are blank, then do the Fault Isolation below.

(2) If the captain's and first officer's displays are normal, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this task: ADF BITE Procedure, 34-57 TASK 801.

(a) If you find an ADF fault, then do these steps:

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1) Replace the ADF receiver.

These are the tasks:

ADF Receiver Removal, AMM TASK 34-57-03-000-801,

ADF Receiver Installation, AMM TASK 34-57-03-400-801.

2) If the ADF displays are normal, then you corrected the fault.

(b) If you do not find an ADF fault, then continue.

(2) Do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If you find an ADF data fault or DEU internal fault, then go to the applicable task for that DEU maintenance message to correct the fault.

1) If the ADF displays are normal, then you corrected the fault.

(b) If the ADF displays do not show, then continue.

(3) Do this check of the wiring between the ADF-1 and DEU-1.

(a) Remove the ADF receiver. To remove it, do this task: ADF Receiver Removal, AMM TASK 34-57-03-000-801.

(b) Remove the DEU-1, M1808. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) Do a check for an open circuit between these pins:

	ADF CONNECTOR		DEU-1 CONNECTOR
ADF 1	**D3651B**		**D3973A**
	pin B13	- - - - - - - - - - - - - - - - -	pin C3
	pin B14	- - - - - - - - - - - - - - - - -	pin D3

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the ADF receiver. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.

3) Re-install the DEU-1. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

4) If the ADF displays are normal, then you corrected the fault.

———————— END OF TASK ————————

814. ADF-1 Tone Problem - Fault Isolation

A. Description

(1) The ADF audio functions have a failure.

B. Possible Causes

(1) ADF control panel, P8-68 or P8-70.

(2) ADF receiver-1, M1731.

(3) Remote electronic unit (REU), M1353.

(4) Wiring.

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C. Circuit Breaker

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	4	C01382	RADIO NAVIGATION ADF 1

D. Related Data

(1) (SSM 34-57-11).

(2) (WDM 34-57-11).

E. Initial Evaluation

(1) Do the ADF System - Audio Test. To do the test, do this task: Automatic Direction Finder System - System Test, AMM TASK 34-57-00-730-802.

(a) If the ADF System - Audio Test is not satisfactory, then do the Fault Isolation below.

(b) If the ADF System - Audio Test is satisfactory, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this task: ADF BITE Procedure, 34-57 TASK 801.

(a) If you find an ADF fault, then do these steps:

1) Replace the ADF receiver, M1731.

These are the tasks:

ADF Receiver Removal, AMM TASK 34-57-03-000-801,

ADF Receiver Installation, AMM TASK 34-57-03-400-801.

2) Do the ADF System - Audio Test. To do the test, do this task: Automatic Direction Finder System - System Test, AMM TASK 34-57-00-730-802.

a) If the ADF System - Audio Test is satisfactory, then you corrected the fault.

(b) If you do not find an ADF fault, then continue.

HAP ALL; AIRPLANES WITH G7402-2, G7402-04, OR G7402-05 CONTROL PANEL

(2) Do this task: Microphone/Headset Problem - Fault Isolation, 23-51 TASK 801.

(a) If the ADF tone problem continues, then do these steps:

1) Replace the ADF control panel-1, P8-68.

These are the tasks:

ADF Control Panel Removal, AMM TASK 34-57-02-000-801,

ADF Control Panel Installation, AMM TASK 34-57-02-400-801.

2) Do the ADF System - Audio Test. To do the test, do this task: Automatic Direction Finder System - System Test, AMM TASK 34-57-00-730-802.

a) If the ADF System - Audio Test is satisfactory, then you corrected the fault.

b) If the ADF System - Audio Test is not satisfactory, then continue.

HAP ALL

(3) Replace the REU, M1353.

These are the tasks:

Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,

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Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

(a) Do the ADF System - Audio Test. To do the test, do this task: Automatic Direction Finder System - System Test, AMM TASK 34-57-00-730-802.

1) If the ADF System - Audio Test is satisfactory, then you corrected the fault.

2) If the ADF System - Audio Test is not satisfactory, then continue.

HAP ALL; AIRPLANES WITH G7402-2, G7402-04, OR G7402-05 CONTROL PANEL

(4) Do this check of the wiring between the ADF-1, M1731 and the ADF control panel-1:

(a) Remove the ADF receiver. To remove it, do this task: ADF Receiver Removal, AMM TASK 34-57-03-000-801.

(b) Remove the ADF control panel-1. To remove it, do this task: ADF Control Panel Removal, AMM TASK 34-57-02-000-801.

(c) Do a check for an open circuit between these pins:

ADF SYSTEM

	ADF CONNECTOR		PANEL CONNECTOR
ADF 1	**D3651B**		**D3655**
	pin B7	- - - - - - - - - - - - - - - - - -	pin 12
	pin B8	- - - - - - - - - - - - - - - - - -	pin 13

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the ADF receiver. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.

3) Re-install the ADF Control Panel-1. To install it, do this task: ADF Control Panel Installation, AMM TASK 34-57-02-400-801.

4) Do the ADF System - Audio Test. To do the test, do this task: Automatic Direction Finder System - System Test, AMM TASK 34-57-00-730-802.

a) If the ADF System - Audio Test is satisfactory, then you corrected the fault.

b) If the ADF System - Audio Test is not satisfactory, then continue.

HAP ALL

(5) Do this check of the wiring between the ADF-1, M1731 and the REU, M1353.

(a) Remove the ADF receiver. To remove it, do this task: ADF Receiver Removal, AMM TASK 34-57-03-000-801.

(b) Remove the REU receiver. To remove it, do this task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.

(c) Do a check for an open circuit between these pins:

	ADF CONNECTOR		REU CONNECTOR
ADF 1	**D3651B**		**D2501A**
	pin B1	- - - - - - - - - - - - - - - - - -	pin C11
	pin B2	- - - - - - - - - - - - - - - - - -	pin B11

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.

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2) Re-install the ADF receiver. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.

3) Re-install the REU. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

4) Do the ADF System - Audio Test. To do the test, do this task: Automatic Direction Finder System - System Test, AMM TASK 34-57-00-730-802.

a) If the ADF System - Audio Test is satisfactory, then you corrected the fault.

END OF TASK

816. ADF Flag Shows on the display - No. 1 Captain's Fault Isolation

A. Description

(1) The ADF flag shows on the captain's display.

B. Possible Causes

(1) ADF receiver-1, M1731.

(2) Wiring.

(3) Display electronic unit (DEU-1), M1808.

C. Circuit Breaker

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	4	C01382	RADIO NAVIGATION ADF 1

D. Related Data

(1) (SSM 34-57-11).

(2) (WDM 34-57-11).

E. Initial Evaluation

(1) If the ADF flag shows on the Captain's display, then do the Fault Isolation below.

(2) If the ADF flag does not show on the Captain's display, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this task: ADF BITE Procedure, 34-57 TASK 801.

(a) If you find an ADF fault, then do these steps:

1) Replace the ADF receiver.

These are the tasks:

ADF Receiver Removal, AMM TASK 34-57-03-000-801,

ADF Receiver Installation, AMM TASK 34-57-03-400-801.

2) If the ADF flag does not show on the captain's display, then you corrected the fault.

(b) If you do not find an ADF fault, then continue.

(2) Do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If you find an ADF data fault or a DEU internal fault, the go to the applicable fault isolation task for that DEU maintenance message to correct the fault.

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1) If the ADF flag does not show on the captain's display, then you corrected the fault.
2) If the ADF flag shows on the captain's display, then continue.

(3) Do this check of the wiring between the ADF-1 and DEU-1.

(a) Remove the ADF receiver. To remove it, do this task: ADF Receiver Removal, AMM TASK 34-57-03-000-801.

(b) Remove the DEU receiver. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) Do a check for an open circuit between these pins:

	ADF CONNECTOR		DEU CONNECTOR
ADF 1	D3651B		D3973A
	pin B13	- - - - - - - - - - - - - - - - -	pin C3
	pin B14	- - - - - - - - - - - - - - - - -	pin D3

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.
2) Re-install the ADF receiver. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.
3) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.
4) If the ADF flag does not show on the captain's display, then you corrected the fault.

——————— END OF TASK ———————

817. ADF Flag shows on the display - No. 1 First Officer's - Fault Isolation

A. Description

(1) The ADF flag shows on the first officer's display.

B. Possible Causes

(1) ADF receiver-1, M1731.

(2) Wiring.

(3) Display electronic unit (DEU-2), M1809.

C. Circuit Breaker

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	4	C01382	RADIO NAVIGATION ADF 1

D. Related Data

(1) (SSM 34-57-11).

(2) (WDM 34-57-11).

E. Initial Evaluation

(1) If the ADF flag shows on the First Officer's display, then do the Fault Isolation below.

(2) If the ADF flag does not show on the First Officer's display, then there was an intermittent fault.

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F. Fault Isolation Procedure

(1) Do this task: ADF BITE Procedure, 34-57 TASK 801.

(a) If you find an ADF fault, then do these steps:

1) Replace the ADF receiver.

These are the tasks:

ADF Receiver Removal, AMM TASK 34-57-03-000-801,

ADF Receiver Installation, AMM TASK 34-57-03-400-801.

2) If the ADF flag does not show on the first officer's display, then you corrected the fault.

(b) If you do not find an ADF fault, then continue.

(2) Do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If you find an ADF data fault or a DEU internal fault then go to the applicable fault isolation task for the DEU maintenance message to correct the fault.

1) If the ADF flag does not show on the first officer's display, then you corrected the fault.

2) If the ADF flag shows on the first officer's display, then continue.

(3) Do this check of the wiring between the ADF-1 and DEU-2.

(a) Remove the ADF receiver. To remove it, do this task: ADF Receiver Removal, AMM TASK 34-57-03-000-801.

(b) Remove the DEU receiver. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) Do a check for an open circuit between these pins:

	ADF CONNECTOR		DEU CONNECTOR
ADF 1	**D3651B**		**D3975A**
	pin B13	- - - - - - - - - - - - - - - - -	pin C3
	pin B14	- - - - - - - - - - - - - - - - -	pin D3

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the ADF receiver. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.

3) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

4) If the ADF flag does not show on the first officer's display, then you corrected the fault.

———————— END OF TASK ————————

820. <u>ADF Bearing Pointer 1 Does Not Show, ADF Flag Does Not Show - No. 1 - Fault Isolation</u>

A. Description

(1) The captain's ADF display is does not show bearing pointer 1 or an ADF flag.

B. Possible Causes

(1) ADF receiver-1, M1731.

(2) Wiring.

(3) Display electronic unit (DEU-1), M1808.

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C. Circuit Breaker

(1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	4	C01382	RADIO NAVIGATION ADF 1

D. Related Data

(1) (SSM 34-57-11).

(2) (WDM 34-57-11).

E. Initial Evaluation

(1) If the bearing pointer does not show on the Captain's display, then do the Fault Isolation below.

(2) If the Captain's display is normal, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do this task: ADF BITE Procedure, 34-57 TASK 801.

(a) If you find an ADF fault, then do these steps:

1) Replace the ADF receiver.

These are the tasks:

ADF Receiver Removal, AMM TASK 34-57-03-000-801,

ADF Receiver Installation, AMM TASK 34-57-03-400-801.

2) If the Captain's display is normal, then you corrected the fault.

(b) If you do not find an ADF fault, then continue.

(2) Do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If you find an ADF fault or a DEU internal fault, then go to the applicable fault isolation task for the DEU maintenance message to correct the fault.

1) If the Captain's display is normal, then you corrected the fault.

(b) If you do not find an ADF fault or a DEU internal fault, then continue.

(3) Do this check of the wiring between the applicable ADF-1 and DEU-1.

(a) Remove the ADF receiver. To remove it, do this task: ADF Receiver Removal, AMM TASK 34-57-03-000-801.

(b) Remove the DEU receiver. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) Do a check for an open circuit between these pins:

	ADF CONNECTOR		**DEU CONNECTOR**
ADF 1	**D3651B**		**D3973A**
	pin B13	- - - - - - - - - - - - - - - - -	pin C3
	pin B14	- - - - - - - - - - - - - - - - -	pin D3

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the ADF receiver. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.

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3) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

4) If the captain's display is normal, then you corrected the fault.

———————— END OF TASK ————————

822. ADF Control Panel Problem - Fault Isolation

A. Description

(1) The ADF control panel has a failure.

B. Possible Causes

HAP ALL; AIRPLANES WITH G7402-2, G7402-04, OR G7402-05 CONTROL PANEL

(1) ADF control panel-1, P8-68.

HAP ALL

(2) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	4	C01382	RADIO NAVIGATION ADF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
HAP 031-054			
A	17	C01383	RADIO NAVIGATION ADF 2
HAP ALL			

D. Related Data

(1) (SSM 34-57-11).

(2) (SSM 34-57-21).

(3) (WDM 34-57-11).

(4) (WDM 34-57-21).

E. Initial Evaluation

(1) Do the ADF System - Audio Test. To do the test, do this task: Automatic Direction Finder System - System Test, AMM TASK 34-57-00-730-802.

(a) If the ADF control panel operates correctly, then there was an intermittent fault.

(b) If the ADF control panel has a problem, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this task: ADF BITE Procedure, 34-57 TASK 801.

(a) If you find an ADF system fault, then do these steps:

1) Go to the applicable fault isolation task for the maintenance message to correct the fault.

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2) Do the ADF System - Audio Test. To do the test, do this task: Automatic Direction Finder System - System Test, AMM TASK 34-57-00-730-802.

a) If the ADF control panel operates correctly, then you corrected the fault.

(b) If you do not find any ADF system faults, then continue.

HAP ALL; AIRPLANES WITH THE G7402-X ADF CONTROL PANEL AND SINGLE ADF RECEIVER

(2) Do this check for 115 VAC power at the ADF control panel-1:

(a) Remove the ADF control panel-1, P8-68. To remove it, do this task: ADF Control Panel Removal, AMM TASK 34-57-02-000-801.

(b) Do a check for 115 VAC between pin 10 and pin 8 (ground) of connector D3655.

(c) If there is not 115 VAC at pin 10, then do these steps:

1) Check and repair the wiring between pin 10 of connector D3655 and the circuit breaker.

2) Re-install the ADF control panel-1. To install it, do this task: ADF Control Panel Installation, AMM TASK 34-57-02-400-801.

3) Do the ADF System - Audio Test. To do the test, do this task: Automatic Direction Finder System - System Test, AMM TASK 34-57-00-730-802.

a) If the ADF control panel operates correctly, then you corrected the fault.

(d) If there is 115 VAC at pin 10, then continue.

(3) Install a new ADF control panel-1, P8-68. To install it, do this task: ADF Control Panel Installation, AMM TASK 34-57-02-400-801.

(a) If the ADF control panel operates normally, then you corrected the fault.

(b) If the ADF control panel problem continues, then continue.

(4) Do this check of the wiring between the ADF receiver and the ADF control panel:

(a) Remove the ADF receiver. To remove it, do this task: ADF Receiver Removal, AMM TASK 34-57-03-000-801.

(b) Remove the ADF control panel-1, P8-68. To remove it, do this task: ADF Control Panel Removal, AMM TASK 34-57-02-000-801.

(c) Do a check for an open circuit between these pins:

	ADF CONNECTOR D3651B		PANEL CONNECTOR D3655
ADF 1	pin B7	- - - - - - - - - - - - - - - - - -	pin 12
	pin B8	- - - - - - - - - - - - - - - - - -	pin 13

(d) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the ADF receiver-1. To install it, do this task: ADF Receiver Installation, AMM TASK 34-57-03-400-801.

3) Re-install the ADF control panel. To install it, do this task: ADF Control Panel Installation, AMM TASK 34-57-02-400-801.

4) Do the ADF System - Audio Test. To do the test, do this task: Automatic Direction Finder System - System Test, AMM TASK 34-57-00-730-802.

a) If the ADF control panel operates correctly, then you corrected the fault.

END OF TASK

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801. GPS Light Stays On Continuously - Fault Isolation

A. Description

(1) The GPS light shows on the IRS Mode Select Unit.

B. Possible Causes

(1) GPS antenna connection (M2102), D2947 or (M2103), D2941.

(2) Multi-mode receiver (MMR-1), M2104 or (MMR-2), M2105.

(3) IRS Mode Select Unit, P5-69.

(4) IRS Master Caution Unit, M1206.

C. Circuit breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 001, 004-013, 015-026, 028-054, 101-999			
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

HAP ALL

D. Related Data

(1) (SSM 34-58-11).

(2) (SSM 34-58-21).

(3) (WDM 34-58-11).

(4) (WDM 34-58-21).

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If the GPS light shows on the IRS Mode Select Unit, then do the Fault Isolation Procedure below.

(b) If the GPS light does not show on the IRS Mode Select Unit, then there was an intermittent fault.

F. Fault Isolation Procedure

(1) Do the inspection of the GPS antenna connection.

(a) Do this task: Sculptured Ceiling Panel Removal, AMM TASK 25-21-45-000-801.

(b) Inspect the GPS antenna connector (M2102), D2947 or (M2103), D2941 for water contamination and repair if necessary.

(c) Do this task: Sculptured Ceiling Panel Installation, AMM TASK 25-21-45-400-801.

(d) If the GPS light does not show on the IRS Mode Select Unit, then you corrected the fault.

(e) If the GPS light shows on the IRS Mode Select Unit, then continue.

(2) Replace the MMR, (M2104 or M2105),

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These are the tasks:

Receiver for ILS - Removal, AMM TASK 34-31-42-000-801,

Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

(a) If the GPS light does not show on the IRS Mode Select Unit, then then you corrected the fault.

(b) If the GPS light shows on the IRS Mode Select Unit, then continue.

(3) Replace the IRS Mode Select Unit, P5-69,

These are the tasks:

IRS Mode Select Unit Removal, AMM TASK 34-21-03-000-801,

IRS Mode Select Unit Installation, AMM TASK 34-21-03-400-801.

(a) If the GPS light does not show on the IRS Mode Select Unit, then then you corrected the fault.

(b) If the GPS light shows on the IRS Mode Select Unit, then continue.

(4) Replace the IRS Master Caution Unit, M1206, on the P61 sidewall panel.

These are the tasks:

IRS Master Caution Unit Removal, AMM TASK 34-21-07-000-801,

IRS Master Caution Unit Installation, AMM TASK 34-21-07-400-801.

(a) If the GPS light does not show on the IRS Mode Select Unit, then then you corrected the fault.

(b) If the GPS light shows on the IRS Mode Select Unit, then continue.

(5) Do this check of the wiring:

(a) Remove the IRS Mode Select Unit. To remove it, do this task: IRS Mode Select Unit Removal, AMM TASK 34-21-03-000-801.

(b) Remove the MMR. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

(c) Remove the IRS MCU. To remove it, do this task: IRS Master Caution Unit Removal, AMM TASK 34-21-07-000-801.

(d) Do a continuity check between the MMR and the IRS MCU:

IRS MCU CONNECTOR D2269		**MMR CONNECTOR D10719B**
pin 1	- - - - - - - - - - - - - - - - - -	pin C2
pin 2	- - - - - - - - - - - - - - - - - -	pin D2
D2171		**D10721B**
pin 1	- - - - - - - - - - - - - - - - - -	pin C2
pin 2	- - - - - - - - - - - - - - - - - -	pin D2

(e) Do a continuity check between the IRS Mode Select Unit and IRS MCU:

IRS MSU CONNECTOR D2173		**IRS MCU CONNECTOR D2271**
pin 19	- - - - - - - - - - - - - - - - - -	pin 3

(f) If there is not continuity, then do these steps:

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1) Repair the wiring.
2) Re-install the IRS Mode Select Unit. To install it, do this task: IRS Mode Select Unit Installation, AMM TASK 34-21-03-400-801.
3) Re-install the MMR. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.
4) Re-install the IRS MCU. To install it, do this task: IRS Master Caution Unit Installation, AMM TASK 34-21-07-400-801.
5) If the GPS light does not show on the IRS Mode Select Unit, then you corrected the fault.

——————— END OF TASK ———————

802. GPS Light On When Master Caution Pushed - Fault Isolation

A. Description

(1) The GPS light shows on the IRS Mode Select Unit when the RECALL annunciator, on the IRS Master Caution Unit, is pushed .

B. Possible Causes

(1) Multi-mode receiver (MMR-1), M2104 or MMR-2, M2105.

(2) IRS Master Caution Unit, M1206.

(3) IRS Mode Select Unit, P5-69.

C. Circuit breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 001, 004-013, 015-026, 028-054, 101-999			
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

HAP ALL

D. Related Data

(1) (SSM 34-58-11).

(2) SSM 34-58-21

(3) (WDM 34-58-11).

(4) WDM 34-58-21

E. Initial Evaluation

(1) Do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If the GPS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then do the Fault Isolation Procedure below.

(b) If the GPS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then there was an intermittent fault.

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F. Fault Isolation Procedure

(1) Replace the MMR, (M2104 or M2105),

These are the tasks:

Receiver for ILS - Removal, AMM TASK 34-31-42-000-801,

Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

(a) If the GPS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then then you corrected the fault.

(b) If the GPS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then continue.

(2) Replace the IRS Mode Select Unit, P5-69,

These are the tasks:

IRS Mode Select Unit Removal, AMM TASK 34-21-03-000-801,

IRS Mode Select Unit Installation, AMM TASK 34-21-03-400-801.

(a) If the GPS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then then you corrected the fault.

(b) If the GPS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then continue.

(3) Replace the IRS Master Caution Unit, M1206, on the P61 sidewall panel.

(a) If the GPS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then then you corrected the fault.

(b) If the GPS light shows on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then continue.

(4) Do this check of the wiring:

(a) Remove the IRS Master Caution Unit on P61 sidewall panel. To remove it, do this task: IRS Master Caution Unit Removal, AMM TASK 34-21-07-000-801.

(b) Remove the MMR. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

(c) Do a continuity check between the MMR and the applicable IRS Master Caution Unit:

	IRS CONNECTOR		**MMR CONNECTOR**
IRS MCU P61	**D2269**		**D10719B**
	pin 1	- - - - - - - - - - - - - - - - - -	pin C2
	pin 2	- - - - - - - - - - - - - - - - - -	pin D2
IRS MCU P61	**D2271**		**D10721B**
	pin 1	- - - - - - - - - - - - - - - - - -	pin C2
	pin 2	- - - - - - - - - - - - - - - - - -	pin D2

(d) If there is not continuity, then do these steps:

1) Repair the wiring.

2) Re-install the IRS Mode Master Caution Unit on the P61 sidewall panel. To install it, do this task: IRS Master Caution Unit Installation, AMM TASK 34-21-07-400-801.

3) Re-install the MMR. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

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4) If the GPS light does not show on the IRS Mode Select Unit when the RECALL annunciator on the IRS Master Caution Unit is pushed, then you corrected the fault.

——————— END OF TASK ———————

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801. Flight Management Computer System BITE Procedure

A. General

(1) You get access to the Flight Management Computer System (FMCS) BITE from the control display unit (CDU).

(2) These are the items on the FMCS BITE menu that you will use to do this task:

(a) SENSORS

(b) INFLT FAULT

(3) SENSORS

(a) The FMCS SENSOR STATUS pages show the current status of all sensors that supply data to the FMC. The messages shown are OK, FAIL and TEST:

1) When OK is shown, there are no faults due to that sensor.

2) If FAIL is shown, there are one or more faults due to that sensor.

3) If TEST is shown, the sensor is in test.

4) When dashes (——) are shown, there is no sensor in that location.

(b) The FMCS SENSOR DATA page shows data for sensors which have a FAIL status shown on the FMCS SENSOR STATUS page. You put together the' failed sensor (LRU) data and the description of the failed test to make a maintenance message. You get access to the FMCS SENSOR DATA page from the FMCS SENSOR STATUS page. This data is shown for each fault:

1) The sensor (LRU) that has FAIL status

2) A description of the failed test

3) The fail reason (rate, parity, SSM, or reasonableness)

4) If the fault is steady or intermittent (S or I)

5) The time that the fault occurred.

(4) INFLT FAULT

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(a) The INFLT FAULT pages show the flights during which faults occurred. The FMCS can show data for nine flights, 1 through 9, where flight 1 is the most recent. In addition, the FMCS can show faults that occurred on the ground since the most recent flight. These are shown as flight G. If the FMC detected a fault for an LRU, the CDU shows G, 1, 2, 3, 4, 5, 6, 7, 8, or 9 under the applicable flight number.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(b) The INFLT FAULT pages show the flights during which faults occurred. The FMCS can show data for nine flights, 1 through 9, where flight 1 is the most recent. In addition, the FMCS can show faults that occurred on the ground since the most recent flight. These are shown as flight G. If an FMC detects a fault for an LRU, the CDU shows the letters L, R or B under the applicable flight G, 1, 2, 3, 4, 5, 6, 7, 8 or 9. The letters L, R, B identify which FMC (left, right or both) detected the failure.

HAP ALL

(c) The FMCS FLIGHT X pages show fault data that occurred on a flight, or ground period. You put together the failed sensor (LRU) data and the description of the failed test to make a maintenance message. You get access to the FMCS FLIGHT X page from the FMCS INFLT FAULT page. This data is shown for each fault:

1) The sensor (LRU) that has FAIL status.

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2) A description of the failed test.
3) The fail reason (rate, parity, SSM, or reasonableness).
4) If the fault is steady or intermittent (S or I).
5) The time that the fault occurred.

B. BITE Procedure

(1) Do the BITE procedure for the FMCS:

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(a) Do these steps:
1) Set the FMCS transfer switch to the NORMAL position.
2) Push the MENU key.
3) Push the LSK next to <FMC.

HAP ALL

(b) Push the INIT REF function key on the CDU.
(c) Push line select key (LSK) 6L, adjacent to INDEX.
(d) Push LSK 6R (MAINT).
(e) Push LSK 1L (FMCS).

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(f) Push the applicable LSK 1L (L FMCS) or LSK 2L (R FMCS).

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(g) Do these steps to look for maintenance messages on the FMCS SENSOR STATUS page:
1) Push LSK next to <SENSORS.

NOTE: This shows the FMCS SENSOR STATUS 1/2 page. You push the NEXT PAGE key to show page 2/2.

2) When the status of all sensors is OK or TEST, there are no currently active faults.
a) Do the subtask for FMCS IN FLT FAULTS that follows.
b) Push LSK next to INDEX to go back to the FMCS BITE menu.
3) If FAIL shows for any LRU, then do these steps:

NOTE: If there are any active faults detected by the FMCS, you will see FAIL for the applicable LRU.

a) Push the keys "1" "0" "0" on the CDU.
b) Push LSK 6R.

NOTE: There is no prompt adjacent to LSK 6R.

c) Put together the failed sensor (LRU) data and the description of the failed test to make the maintenance message.
d) Refer to the table of maintenance messages at the end of this task to find the applicable fault isolation task.

(h) Do these steps to look for maintenance messages in FMCS IN FLT FAULTS:
1) Push LSK 1L (INFLT FAULTS).

NOTE: This brings you to the FMCS IN FLT FAULTS 1/3 page. Pages 2/3 and 3/3 show more LRUs. Push the NEXT PAGE key to access pages 2/3 and 3/3.

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2) If the letter G or the numbers 1, 2, 3, 4, 5, 6, 7, 8, or 9 are shown adjacent to the LRU, then do these steps.

NOTE: If G, 1, 2, 3, 4, 5, 6, 7, 8, or 9 show, this means that a fault occurred during that flight or ground period.

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3) If the letters L, R, B are shown adjacent to the LRU, then do these steps.

NOTE: The letters L, R, B identify which FMC (left, right or both) detected the failure.

a) Push the keys "3" "0" "0" on the CDU.

b) Push LSK 6R.

NOTE: There is no prompt adjacent to LSK 6R.

c) Put together the failed sensor (LRU) data and the description of the failed test to make the maintenance message.

d) Refer to the table at the end of this task to find the fault isolation task for the applicable maintenance messages.

HAP ALL

——————— END OF TASK ———————

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	ADIRS-L - BARO ALT 1 - PARITY	34-61 TASK 824
FMCS	ADIRS-L - BARO ALT 1 - RATE	34-61 TASK 824
FMCS	ADIRS-L - BARO ALT 1 - REASON	34-61 TASK 824
FMCS	ADIRS-L - BARO ALT 1 - SSM	34-61 TASK 824
FMCS	ADIRS-L - BARO ALT 2 - PARITY	34-61 TASK 824
FMCS	ADIRS-L - BARO ALT 2 - RATE	34-61 TASK 824
FMCS	ADIRS-L - BARO ALT 2 - REASON	34-61 TASK 824
FMCS	ADIRS-L - BARO ALT 2 - SSM	34-61 TASK 824
FMCS	ADIRS-L - BUFF OVERFLOW	34-61 TASK 824
FMCS	ADIRS-L - COMP AIR SPD - PARITY	34-61 TASK 824
FMCS	ADIRS-L - COMP AIR SPD - RATE	34-61 TASK 824
FMCS	ADIRS-L - COMP AIR SPD - REASON	34-61 TASK 824
FMCS	ADIRS-L - COMP AIR SPD - SSM	34-61 TASK 824
FMCS	ADIRS-L - DISCRETE 270 - PARITY	34-61 TASK 824
FMCS	ADIRS-L - DISCRETE 270 - REASON	34-61 TASK 824

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	ADIRS-L - DISCRETE 270 - SSM	34-61 TASK 824
FMCS	ADIRS-L - DISCRETE 274 - PARITY	34-61 TASK 824
FMCS	ADIRS-L - DISCRETE 274 - SSM	34-61 TASK 824
FMCS	ADIRS-L - FAIL	34-61 TASK 824
FMCS	ADIRS-L - GND SPEED - PARITY	34-61 TASK 824
FMCS	ADIRS-L - GND SPEED - RATE	34-61 TASK 824
FMCS	ADIRS-L - GND SPEED - REASON	34-61 TASK 824
FMCS	ADIRS-L - GND SPEED - SSM	34-61 TASK 824
FMCS	ADIRS-L - INERT V SPD - PARITY	34-61 TASK 824
FMCS	ADIRS-L - INERT V SPD - RATE	34-61 TASK 824
FMCS	ADIRS-L - INERT V SPD - REASON	34-61 TASK 824
FMCS	ADIRS-L - INERT V SPD - SSM	34-61 TASK 824
FMCS	ADIRS-L - INERTIAL ALT - PARITY	34-61 TASK 824
FMCS	ADIRS-L - INERTIAL ALT - RATE	34-61 TASK 824
FMCS	ADIRS-L - INERTIAL ALT - REASON	34-61 TASK 824
FMCS	ADIRS-L - INERTIAL ALT - SSM	34-61 TASK 824
FMCS	ADIRS-L - MACH - PARITY	34-61 TASK 824
FMCS	ADIRS-L - MACH - RATE	34-61 TASK 824
FMCS	ADIRS-L - MACH - REASON	34-61 TASK 824
FMCS	ADIRS-L - MACH - SSM	34-61 TASK 824
FMCS	ADIRS-L - MAG HEADING - PARITY	34-61 TASK 824
FMCS	ADIRS-L - MAG HEADING - RATE	34-61 TASK 824
FMCS	ADIRS-L - MAG HEADING - SSM	34-61 TASK 824
FMCS	ADIRS-L - PITCH ANGLE - PARITY	34-61 TASK 824
FMCS	ADIRS-L - PITCH ANGLE - RATE	34-61 TASK 824
FMCS	ADIRS-L - PITCH ANGLE - REASON	34-61 TASK 824
FMCS	ADIRS-L - PITCH ANGLE - SSM	34-61 TASK 824

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	ADIRS-L - PRES POS LAT - PARITY	34-61 TASK 824
FMCS	ADIRS-L - PRES POS LAT - RATE	34-61 TASK 824
FMCS	ADIRS-L - PRES POS LAT - REASON	34-61 TASK 824
FMCS	ADIRS-L - PRES POS LAT - SSM	34-61 TASK 824
FMCS	ADIRS-L - PRES POS LON - PARITY	34-61 TASK 824
FMCS	ADIRS-L - PRES POS LON - RATE	34-61 TASK 824
FMCS	ADIRS-L - PRES POS LON - SSM	34-61 TASK 824
FMCS	ADIRS-L - PRESSURE ALT - PARITY	34-61 TASK 824
FMCS	ADIRS-L - PRESSURE ALT - RATE	34-61 TASK 824
FMCS	ADIRS-L - PRESSURE ALT - REASON	34-61 TASK 824
FMCS	ADIRS-L - PRESSURE ALT - SSM	34-61 TASK 824
FMCS	ADIRS-L - ROLL ANGLE - PARITY	34-61 TASK 824
FMCS	ADIRS-L - ROLL ANGLE - RATE	34-61 TASK 824
FMCS	ADIRS-L - ROLL ANGLE - SSM	34-61 TASK 824
FMCS	ADIRS-L - SAT - PARITY	34-61 TASK 824
FMCS	ADIRS-L - SAT - RATE	34-61 TASK 824
FMCS	ADIRS-L - SAT - REASON	34-61 TASK 824
FMCS	ADIRS-L - SAT - SSM	34-61 TASK 824
FMCS	ADIRS-L - TAT - PARITY	34-61 TASK 824
FMCS	ADIRS-L - TAT - RATE	34-61 TASK 824
FMCS	ADIRS-L - TAT - REASON	34-61 TASK 824
FMCS	ADIRS-L - TAT - SSM	34-61 TASK 824
FMCS	ADIRS-L - TRUE AIR SPD - PARITY	34-61 TASK 824
FMCS	ADIRS-L - TRUE AIR SPD - RATE	34-61 TASK 824
FMCS	ADIRS-L - TRUE AIR SPD - REASON	34-61 TASK 824
FMCS	ADIRS-L - TRUE AIR SPD - SSM	34-61 TASK 824
FMCS	ADIRS-L - TRUE HEADING - PARITY	34-61 TASK 824

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	ADIRS-L - TRUE HEADING - RATE	34-61 TASK 824
FMCS	ADIRS-L - TRUE HEADING - SSM	34-61 TASK 824
FMCS	ADIRS-L - VEL E-W - PARITY	34-61 TASK 824
FMCS	ADIRS-L - VEL E-W - RATE	34-61 TASK 824
FMCS	ADIRS-L - VEL E-W - REASON	34-61 TASK 824
FMCS	ADIRS-L - VEL E-W - SSM	34-61 TASK 824
FMCS	ADIRS-L - VEL N-S - PARITY	34-61 TASK 824
FMCS	ADIRS-L - VEL N-S - RATE	34-61 TASK 824
FMCS	ADIRS-L - VEL N-S - REASON	34-61 TASK 824
FMCS	ADIRS-L - VEL N-S - SSM	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 1 - PARITY	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 1 - RATE	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 1 - REASON	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 1 - SSM	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 2 - PARITY	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 2 - RATE	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 2 - REASON	34-61 TASK 824
FMCS	ADIRS-R - BARO ALT 2 - SSM	34-61 TASK 824
FMCS	ADIRS-R - BUFF OVERFLOW	34-61 TASK 824
FMCS	ADIRS-R - COMP AIR SPD - PARITY	34-61 TASK 824
FMCS	ADIRS-R - COMP AIR SPD - RATE	34-61 TASK 824
FMCS	ADIRS-R - COMP AIR SPD - REASON	34-61 TASK 824
FMCS	ADIRS-R - COMP AIR SPD - SSM	34-61 TASK 824
FMCS	ADIRS-R - DISCRETE 270 - PARITY	34-61 TASK 824
FMCS	ADIRS-R - DISCRETE 270 - REASON	34-61 TASK 824
FMCS	ADIRS-R - DISCRETE 270 - SSM	34-61 TASK 824
FMCS	ADIRS-R - DISCRETE 274 - PARITY	34-61 TASK 824

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	ADIRS-R - DISCRETE 274 - SSM	34-61 TASK 824
FMCS	ADIRS-R - FAIL	34-61 TASK 824
FMCS	ADIRS-R - GND SPEED - PARITY	34-61 TASK 824
FMCS	ADIRS-R - GND SPEED - RATE	34-61 TASK 824
FMCS	ADIRS-R - GND SPEED - REASON	34-61 TASK 824
FMCS	ADIRS-R - GND SPEED - SSM	34-61 TASK 824
FMCS	ADIRS-R - INERT V SPD - PARITY	34-61 TASK 824
FMCS	ADIRS-R - INERT V SPD - RATE	34-61 TASK 824
FMCS	ADIRS-R - INERT V SPD - REASON	34-61 TASK 824
FMCS	ADIRS-R - INERT V SPD - SSM	34-61 TASK 824
FMCS	ADIRS-R - INERTIAL ALT - PARITY	34-61 TASK 824
FMCS	ADIRS-R - INERTIAL ALT - RATE	34-61 TASK 824
FMCS	ADIRS-R - INERTIAL ALT - REASON	34-61 TASK 824
FMCS	ADIRS-R - INERTIAL ALT - SSM	34-61 TASK 824
FMCS	ADIRS-R - MACH - PARITY	34-61 TASK 824
FMCS	ADIRS-R - MACH - RATE	34-61 TASK 824
FMCS	ADIRS-R - MACH - REASON	34-61 TASK 824
FMCS	ADIRS-R - MACH - SSM	34-61 TASK 824
FMCS	ADIRS-R - MAG HEADING - PARITY	34-61 TASK 824
FMCS	ADIRS-R - MAG HEADING - RATE	34-61 TASK 824
FMCS	ADIRS-R - MAG HEADING - SSM	34-61 TASK 824
FMCS	ADIRS-R - PITCH ANGLE - PARITY	34-61 TASK 824
FMCS	ADIRS-R - PITCH ANGLE - RATE	34-61 TASK 824
FMCS	ADIRS-R - PITCH ANGLE - REASON	34-61 TASK 824
FMCS	ADIRS-R - PITCH ANGLE - SSM	34-61 TASK 824
FMCS	ADIRS-R - PRES POS LAT - PARITY	34-61 TASK 824
FMCS	ADIRS-R - PRES POS LAT - RATE	34-61 TASK 824

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	ADIRS-R - PRES POS LAT - REASON	34-61 TASK 824
FMCS	ADIRS-R - PRES POS LAT - SSM	34-61 TASK 824
FMCS	ADIRS-R - PRES POS LON - PARITY	34-61 TASK 824
FMCS	ADIRS-R - PRES POS LON - RATE	34-61 TASK 824
FMCS	ADIRS-R - PRES POS LON - SSM	34-61 TASK 824
FMCS	ADIRS-R - PRESSURE ALT - PARITY	34-61 TASK 824
FMCS	ADIRS-R - PRESSURE ALT - RATE	34-61 TASK 824
FMCS	ADIRS-R - PRESSURE ALT - REASON	34-61 TASK 824
FMCS	ADIRS-R - PRESSURE ALT - SSM	34-61 TASK 824
FMCS	ADIRS-R - ROLL ANGLE - PARITY	34-61 TASK 824
FMCS	ADIRS-R - ROLL ANGLE - RATE	34-61 TASK 824
FMCS	ADIRS-R - ROLL ANGLE - SSM	34-61 TASK 824
FMCS	ADIRS-R - SAT - PARITY	34-61 TASK 824
FMCS	ADIRS-R - SAT - RATE	34-61 TASK 824
FMCS	ADIRS-R - SAT - REASON	34-61 TASK 824
FMCS	ADIRS-R - SAT - SSM	34-61 TASK 824
FMCS	ADIRS-R - TAT - PARITY	34-61 TASK 824
FMCS	ADIRS-R - TAT - RATE	34-61 TASK 824
FMCS	ADIRS-R - TAT - REASON	34-61 TASK 824
FMCS	ADIRS-R - TAT - SSM	34-61 TASK 824
FMCS	ADIRS-R - TRUE AIR SPD - PARITY	34-61 TASK 824
FMCS	ADIRS-R - TRUE AIR SPD - RATE	34-61 TASK 824
FMCS	ADIRS-R - TRUE AIR SPD - REASON	34-61 TASK 824
FMCS	ADIRS-R - TRUE AIR SPD - SSM	34-61 TASK 824
FMCS	ADIRS-R - TRUE HEADING - PARITY	34-61 TASK 824
FMCS	ADIRS-R - TRUE HEADING - RATE	34-61 TASK 824
FMCS	ADIRS-R - TRUE HEADING - SSM	34-61 TASK 824

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	ADIRS-R - VEL E-W - PARITY	34-61 TASK 824
FMCS	ADIRS-R - VEL E-W - RATE	34-61 TASK 824
FMCS	ADIRS-R - VEL E-W - REASON	34-61 TASK 824
FMCS	ADIRS-R - VEL E-W - SSM	34-61 TASK 824
FMCS	ADIRS-R - VEL N-S - PARITY	34-61 TASK 824
FMCS	ADIRS-R - VEL N-S - RATE	34-61 TASK 824
FMCS	ADIRS-R - VEL N-S - REASON	34-61 TASK 824
FMCS	ADIRS-R - VEL N-S - SSM	34-61 TASK 824
FMCS	CDS DEU-L - BUFF OVERFLOW	34-61 TASK 827
FMCS	CDS DEU-L - DISCRETE 272 - PARITY	34-61 TASK 827
FMCS	CDS DEU-L - DISCRETE 272 - SSM	34-61 TASK 827
FMCS	CDS DEU-L - DISCRETE 273 - PARITY	34-61 TASK 827
FMCS	CDS DEU-L - DISCRETE 273 - SSM	34-61 TASK 827
FMCS	CDS DEU-L - DISCRETE 350 - PARITY	34-61 TASK 827
FMCS	CDS DEU-L - DISCRETE 350 - SSM	34-61 TASK 827
FMCS	CDS DEU-R - BUFF OVERFLOW	34-61 TASK 827
FMCS	CDS DEU-R - DISCRETE 272 - PARITY	34-61 TASK 827
FMCS	CDS DEU-R - DISCRETE 272 - SSM	34-61 TASK 827
FMCS	CDS DEU-R - DISCRETE 273 - PARITY	34-61 TASK 827
FMCS	CDS DEU-R - DISCRETE 273 - SSM	34-61 TASK 827
FMCS	CDS DEU-R - DISCRETE 350 - PARITY	34-61 TASK 827
FMCS	CDS DEU-R - DISCRETE 350 - SSM	34-61 TASK 827
FMCS	CLOCK - BUFF OVERFLOW	34-61 TASK 829
FMCS	CLOCK - DATE - PARITY	34-61 TASK 829
FMCS	CLOCK - DATE - SSM	34-61 TASK 829
FMCS	DFCS - BUFF OVERFLOW	34-61 TASK 825
FMCS	DFCS - DISCRETE 270 - PARITY	34-61 TASK 825

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	DFCS - DISCRETE 270 - SSM	34-61 TASK 825
FMCS	DFCS - DISCRETE 272 - PARITY	34-61 TASK 825
FMCS	DFCS - DISCRETE 272 - SSM	34-61 TASK 825
FMCS	DFCS - DISCRETE 274 - PARITY	34-61 TASK 825
FMCS	DFCS - DISCRETE 274 - REASON	34-61 TASK 825
FMCS	DFCS - DISCRETE 274 - SSM	34-61 TASK 825
FMCS	DFCS - FLAP POS - PARITY	34-61 TASK 825
FMCS	DFCS - FLAP POS - RATE	34-61 TASK 825
FMCS	DFCS - FLAP POS - REASON	34-61 TASK 825
FMCS	DFCS - FLAP POS - SSM	34-61 TASK 825
FMCS	DFCS - FOREIGN COURSE - PARITY	34-61 TASK 825
FMCS	DFCS - FOREIGN COURSE - RATE	34-61 TASK 825
FMCS	DFCS - FOREIGN COURSE - SSM	34-61 TASK 825
FMCS	DFCS - LOCAL COURSE - PARITY	34-61 TASK 825
FMCS	DFCS - LOCAL COURSE - RATE	34-61 TASK 825
FMCS	DFCS - LOCAL COURSE - SSM	34-61 TASK 825
FMCS	DFCS - SELECT ALT - PARITY	34-61 TASK 825
FMCS	DFCS - SELECT ALT - RATE	34-61 TASK 825
FMCS	DFCS - SELECT ALT - REASON	34-61 TASK 825
FMCS	DFCS - SELECT ALT - SSM	34-61 TASK 825
FMCS	DFCS - TARGET AIRSPEED - PARITY	34-61 TASK 825
FMCS	DFCS - TARGET AIRSPEED - RATE	34-61 TASK 825
FMCS	DFCS - TARGET AIRSPEED - REASON	34-61 TASK 825
FMCS	DFCS - TARGET AIRSPEED - SSM	34-61 TASK 825
FMCS	DME-L - DME DISTANCE - REASON	34-61 TASK 828
FMCS	DME-L - DME DISTANCE - SSM	34-61 TASK 828
FMCS	DME-L - DME FREQUENCY - REASON	34-61 TASK 828

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
FMCS	DME-R - DME DISTANCE - REASON	34-61 TASK 828
FMCS	DME-R - DME DISTANCE - SSM	34-61 TASK 828
FMCS	DME-R - DME FREQUENCY - REASON	34-61 TASK 828
FMCS	FMC-L - PGM FAULT	34-61 TASK 807
FMCS	FMC-R - PGM FAULT	34-61 TASK 807
FMCS	FQIS - TOTAL FUEL - PARITY	34-61 TASK 826
FMCS	FQIS - TOTAL FUEL - RATE	34-61 TASK 826
FMCS	ILS-L - ILS FREQUENCY - PARITY	34-61 TASK 823
FMCS	ILS-L - ILS FREQUENCY - RATE	34-61 TASK 823
FMCS	ILS-L - LOC DEVIATION - PARITY	34-61 TASK 823
FMCS	ILS-L - LOC DEVIATION - RATE	34-61 TASK 823
FMCS	ILS-R - ILS FREQUENCY - PARITY	34-61 TASK 823
FMCS	ILS-R - ILS FREQUENCY - RATE	34-61 TASK 823
FMCS	ILS-R - LOC DEVIATION - PARITY	34-61 TASK 823
FMCS	ILS-R - LOC DEVIATION - RATE	34-61 TASK 823
FMCS	MMR-L - GPS MAINT	34-61 TASK 834
FMCS	MMR-R - GPS MAINT	34-61 TASK 834
FMCS	VOR-L - VOR BEARING - PARITY	34-61 TASK 822
FMCS	VOR-L - VOR BEARING - RATE	34-61 TASK 822
FMCS	VOR-L - VOR FREQUENCY - PARITY	34-61 TASK 822
FMCS	VOR-L - VOR FREQUENCY - RATE	34-61 TASK 822
FMCS	VOR-R - VOR BEARING - PARITY	34-61 TASK 822
FMCS	VOR-R - VOR BEARING - RATE	34-61 TASK 822
FMCS	VOR-R - VOR FREQUENCY - PARITY	34-61 TASK 822
FMCS	VOR-R - VOR FREQUENCY - RATE	34-61 TASK 822

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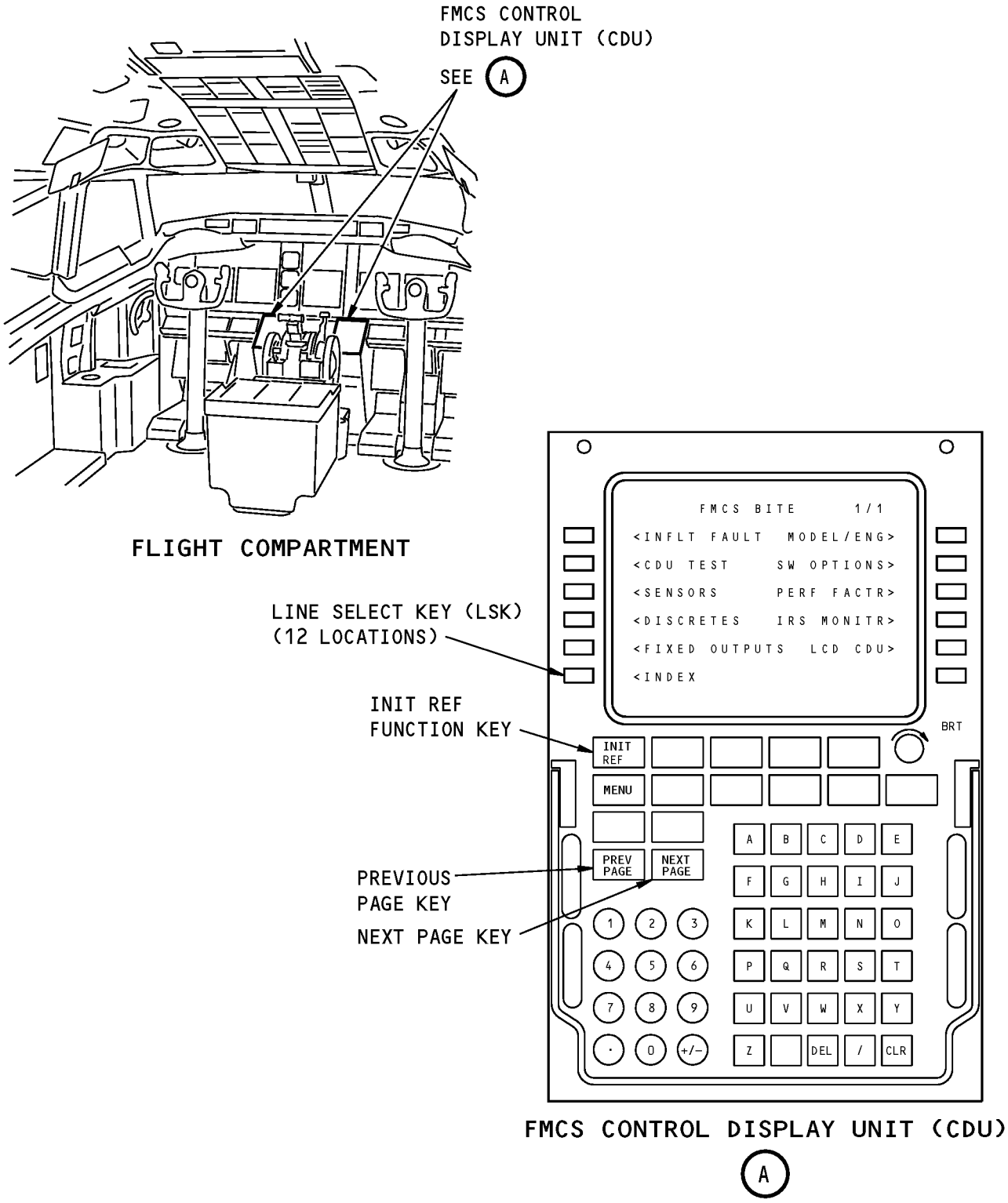

FMCS BITE Procedure
Figure 201 / 34-61-00-990-802

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802. CDU Key Does Not Operate - Fault Isolation

A. Description

(1) An alphanumeric, function, or line select key on the control display unit (CDU) does not operate when expected.

B. Possible Causes

(1) CDU, P9-65 (captain's) or P9-66 (first officer's).

C. Initial Evaluation

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(1) Do this test of the CDU keyboard:

(a) Set the FMCS transfer switch to the NORMAL position.

(b) Push this sequence of keys on the CDU to show the FMCS KEY TEST page:

1) Push the INIT REF key.

2) Push line select key (LSK) 6L (INDEX).

3) Push LSK 6R (MAINT).

4) Push the applicable LSK 1L (L FMCS) or LSK 2L (R FMCS).

HAP 037-054, 101-999; AIRPLANES WITH THE LCD MCDU

5) Push LSK 5R (LCD CDU).

6) Push LSK 2L (KEY TEST).

NOTE: The CDU KEY TEST page shows all the keys on the CDU keypad.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(c) Push the key that you think is defective on the CDU.

HAP 037-054, 101-999; AIRPLANES WITH THE LCD MCDU

1) If the name of the key you pushed, is shown shaded white on the display, then there was an intermittent fault.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

2) If there is no change to the CDU display, then do the Fault Isolation Procedure below.

3) If any of the above keys do not change the CDU display when pushed, then do the Fault Isolation Procedure below.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(2) Do this test of the CDU keyboard:

(a) Push this sequence of keys on the CDU to show the FMCS KEY TEST page:

1) Push the INIT REF key.

2) Push line select key (LSK) 6L (INDEX).

3) Push LSK 6R (MAINT).

4) Push LSK 1L (FMCS).

HAP 001-005; AIRPLANES WITH CRT CDU (P/N 10-XXXXX-XXX)

5) Push LSK 2L (CDU TEST).

6) Push LSK 5L (KEY TEST).

NOTE: The FMCS KEY TEST page shows all the keys on the CDU keypad.

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HAP 006-013, 015-026, 028-036; HAP 001-005 POST SB 737-34-1951 GRP 1; AIRPLANES WITH THE LCD MCDU

7) Push LSK 5R (LCD CDU).

8) Push LSK 2L (KEY TEST).

NOTE: The CDU KEY TEST page shows all the keys on the CDU keypad.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(b) Push the key that you think is defective on the CDU.

HAP 001-005; AIRPLANES WITH CRT CDU (P/N 10-XXXXX-XXX)

1) If the name of the key you pushed, followed by KEY PUSHED, is shown on the bottom line of the CDU display, then there was an intermittent fault.

HAP 006-013, 015-026, 028-036; HAP 001-005 POST SB 737-34-1951 GRP 1; AIRPLANES WITH THE LCD MCDU

2) If the name of the key you pushed, is shown shaded white on the display, then there was an intermittent fault.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

3) If there is no change to the CDU display, then do the Fault Isolation Procedure below.

4) If any of the above keys do not change the CDU display when pushed, then do the Fault Isolation Procedure below.

HAP ALL

D. Fault Isolation Procedure

(1) Replace the CDU.

These are the tasks:

FMCS Control Display Unit (CDU) Removal, AMM TASK 34-61-01-000-802,

FMCS Control Display Unit (CDU) Installation, AMM TASK 34-61-01-400-802.

——————— END OF TASK ———————

803. CDU Display Problem - Fault Isolation

A. Description

(1) The control display unit (CDU) is too bright, too dim, or out of focus.

B. Possible Causes

(1) CDU, P9-65 (captain's) or P9-66 (first officer's).

C. Initial Evaluation

(1) Do this check of the CDU:

(a) Make sure the light sensors at the top of the CDU are free from dirt and debris.

(b) Adjust the brightness control knob on the front panel of the CDU to full brightness and then to minimum brightness. Finally, set an appropriate brightness level.

(c) If the CDU display quality did not change, do the Fault Isolation Procedure below.

(d) If the CDU is readable and at an appropriate brightness level, then there was an intermittent fault.

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D. Fault Isolation Procedure

(1) Replace the CDU.

These are the tasks:

FMCS Control Display Unit (CDU) Removal, AMM TASK 34-61-01-000-802,

FMCS Control Display Unit (CDU) Installation, AMM TASK 34-61-01-400-802.

END OF TASK

804. Control Display Unit Blanks - Fault Isolation

A. Description

(1) The captain's or first officer's control display unit (CDU) screen is blank.

B. Possible Causes

(1) Control display unit (CDU), P9-65 (captain's) or P9-66 (first officer's).

(2) No power to the CDU.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	7	C01238	FMCS MCDU 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	15	C01239	FMCS MCDU 2

D. Related Data

(1) (SSM 34-61-11).

(2) (WDM 34-61-11).

E. Initial Evaluation

(1) Do this check of the control display unit (CDU):

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(a) Set the FMCS transfer switch to the NORMAL position.

HAP ALL

(b) Open these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	7	C01238	FMCS MCDU 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	15	C01239	FMCS MCDU 2

NOTE: These circuit breakers must be opened for at least 10 seconds before you continue.

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(c) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	7	C01238	FMCS MCDU 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	15	C01239	FMCS MCDU 2

(d) After 20 seconds, make sure the display unit shows the FMC prompt on the Menu page.

(e) If the Menu page is not shown, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this exchange of the CDUs:

(a) Put a tag that reads "SUSPECT" on the CDU that does not operate.

(b) Put a tag that reads "OK" on the CDU that operates.

(c) Exchange the locations of CDU 1, P9-65, and CDU 2, P9-66.

These are the tasks:

FMCS Control Display Unit (CDU) Removal, AMM TASK 34-61-01-000-802,

FMCS Control Display Unit (CDU) Installation, AMM TASK 34-61-01-400-802.

(d) If the CDU labeled "SUSPECT" is blank in its new location, then replace the CDU.

These are the tasks:

FMCS Control Display Unit (CDU) Removal, AMM TASK 34-61-01-000-802,

FMCS Control Display Unit (CDU) Installation, AMM TASK 34-61-01-400-802.

NOTE: If it is your airline's policy, you must return the CDU tagged "OK" to its original location.

1) Do the Repair Confirmation at the end of this task.

a) If the Repair Confirmation is OK, then you corrected the fault.

b) Remove the tags from the CDUs.

(e) If the CDU labeled "OK" is blank in its new location, then continue.

(2) Do this check for electrical power to the CDU:

(a) Remove the CDU labeled "OK". To remove it, do this task: FMCS Control Display Unit (CDU) Removal, AMM TASK 34-61-01-000-802.

(b) Do a check for 115V AC power between pins 30 and 31 of connector D2181 for the captain's CDU, or connector D2221 for the first officer's CDU.

(c) If there is not 115V AC, then do these steps:

1) Repair the wiring.

2) Re-install the CDU. To install it, do this task: FMCS Control Display Unit (CDU) Installation, AMM TASK 34-61-01-400-802.

3) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do this check of the control display unit (CDU):

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HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(a) Set the FMCS transfer switch to the NORMAL position.

HAP ALL

(b) Open these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1
A	7	C01238	FMCS MCDU 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	15	C01239	FMCS MCDU 2

HAP 037-054, 101-999

D	16	C01262	FMCS CMPTR 2

HAP ALL

NOTE: These circuit breakers must be opened for at least 10 seconds before you continue.

(c) Close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1
A	7	C01238	FMCS MCDU 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	15	C01239	FMCS MCDU 2

HAP 037-054, 101-999

D	16	C01262	FMCS CMPTR 2

HAP ALL

(d) After 20 seconds, make sure that the IDENT 1/x page shows on the CDU.

(e) After 20 seconds, make sure the display unit shows the FMC prompt on the Menu page.

(f) Push the LSK adjacent to the FMC prompt and make sure the IDENT 1/x page is shown on the display unit.

(g) If the IDENT 1/x page shows on the CDU, then you corrected the fault.

——————— END OF TASK ———————

805. EXEC Key Does Not Operate - Fault Isolation

A. Description

(1) The EXEC key on the control display unit (CDU) does not operate when expected.

B. Possible Causes

(1) EXEC key on the CDU.

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C. Initial Evaluation

(1) Do this test of the EXEC key:

(a) Push this sequence of keys on the CDU to show the FMCS KEY TEST page:

1) Push the INIT REF function key.

2) Push line select key (LSK) 6L (INDEX).

3) Push LSK 6R (MAINT).

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

4) Push LSK 1L (FMCS).

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

5) Push LSK 1L (L FMCS) on CDU 1 (Captain's).

6) Push LSK 2L (R FMCS) on CDU 2 (First Officer's).

HAP 001-005; AIRPLANES WITH CRT CDU (P/N 10-XXXXX-XXX)

7) Push LSK 2L (CDU TEST).

8) Push LSK 5L (KEY TEST).

NOTE: The FMCS KEY TEST page shows all the keys on the CDU keypad.

HAP 006-013, 015-026, 028-054, 101-999; HAP 001-005 POST SB 737-34-1951 GRP 1; AIRPLANES WITH THE LCD MCDU

9) Push LSK 5R (LCD CDU).

10) Push LSK 2L (KEY TEST).

NOTE: The CDU KEY TEST page shows all the keys on the CDU keypad.

HAP ALL

(b) Push the EXEC key on the CDU.

HAP 001-005; AIRPLANES WITH CRT CDU (P/N 10-XXXXX-XXX)

1) If "EXE" KEY PUSHED shows on the bottom line of the CDU display then there was an intermittent fault.

NOTE: The area around EXE on the CDU display will illuminate if the EXEC key has been pushed.

HAP 006-013, 015-026, 028-054, 101-999; HAP 001-005 POST SB 737-34-1951 GRP 1; AIRPLANES WITH THE LCD MCDU

2) If the "EXE" is shown shaded white then there was an intermittent fault. A second push removes the shaded white area.

HAP ALL

3) If there is no change to the CDU display, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

HAP 001-005; AIRPLANES WITH CRT CDU (P/N 10-XXXXX-XXX)

(1) Replace the EXEC key. To replace it, do this task: EXEC Key Replacement (CRT CDU P/N 10-XXXXX-XXX), AMM TASK 34-61-01-960-802.

(a) Push this sequence of keys on the CDU to show the FMCS KEY TEST page:

1) Push the INIT REF function key.

2) Push line select key (LSK) 6L (INDEX).

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3) Push LSK 6R (MAINT).

HAP 001-005; AIRPLANES WITH A SINGLE FMC

4) Push LSK 1L (FMCS).

HAP 001-005; AIRPLANES WITH CRT CDU (P/N 10-XXXXX-XXX)

5) Push LSK 2L (CDU TEST).

6) Push LSK 5L (KEY TEST).

(b) Push the EXEC key on the CDU.

1) If "EXE" KEY PUSHED shows on the bottom line of the CDU display then you corrected the fault.

HAP 006-013, 015-026, 028-054, 101-999; HAP 001-005 POST SB 737-34-1951 GRP 1; AIRPLANES WITH LCD CDUs (P/N S242A600-XXXX)

(2) The LCD CDU (P/N S242A600-XXXX) EXEC key lamps are not line replaceable units. You must replace the keyboard or the CDU. To replace it, do this task: FMCS CDU Keyboard Removal, AMM TASK 34-61-01-000-801

or, do this task: FMCS Control Display Unit (CDU) Removal, AMM TASK 34-61-01-000-802.

HAP ALL

———————— END OF TASK ————————

806. EXEC Light Does Not Operate - Fault Isolation

A. Description

(1) The light in the EXEC key on the control display unit (CDU) does not come on when expected.

B. Possible Causes

(1) EXEC key on the CDU.

C. Initial Evaluation

(1) Do this test of the EXEC light:

(a) Hold the LIGHTS switch on the pilot's center instrument panel (P2) to the TEST position.

1) Make sure that the light in the EXEC key comes on.

(b) Put the LIGHTS switch to the BRT or DIM position as applicable.

(c) If the light does not come on, then do the Fault Isolation Procedure below.

(d) If the light comes on, then there was an intermittent fault.

D. Fault Isolation Procedure

HAP 001-005; AIRPLANES WITH CRT CDU (P/N 10-XXXXX-XXX)

(1) Replace the EXEC key. To replace it, do this task: EXEC Key Replacement (CRT CDU P/N 10-XXXXX-XXX), AMM TASK 34-61-01-960-802.

(a) Hold the LIGHTS switch on the pilot's center instrument panel (P2) to the TEST position.

1) Make sure that the light in the EXEC key comes on.

(b) Put the LIGHTS switch to the BRT or DIM position as applicable.

(c) If the light comes on, then you corrected the fault.

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HAP 006-013, 015-026, 028-054, 101-999; HAP 001-005 POST SB 737-34-1951 GRP 1; AIRPLANES WITH THE LCD MCDU

(2) The LCD CDU (P/N S242A600-XXXX) EXEC key lamps are not line replaceable units. You must replace the keyboard or the CDU. To replace it, do this task: FMCS CDU Keyboard Removal, AMM TASK 34-61-01-000-801

or, do this task: FMCS Control Display Unit (CDU) Removal, AMM TASK 34-61-01-000-802.

HAP ALL

———————— END OF TASK ————————

807. FMC Hardware/Software Faults - Fault Isolation

A. Description

(1) The flight management computer (FMC) has a hardware or software fault.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(2) The CDU can indicate a hardware failure if the FAIL light is on, or FMC shows in the middle of the CDU. The FMCS BITE can also show maintenance messages that indicate a hardware failure has occurred. The FMC should only be replaced if a hardware failure exists.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(3) The CDU can indicate a hardware or software failure if SINGLE FMC OPERATION shows in the scratchpad with the FMCS transfer switch in the NORMAL position, or the FMC prompt does not show on the MENU page. The FMCS BITE can also show maintenance messages that indicate a hardware failure has occurred. The FMC should only be replaced if a hardware failure exists.

HAP ALL

(4) A program fault occurs when the FMC cannot execute a software instruction. Do not replace the FMC if the only maintenance message shown by the FMC BITE is for a program fault (PGM FAULT).

B. Possible Causes

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(1) Flight Management Computer (FMC), M1175.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(2) Flight Management Computer (FMC), M1175 (left) or M1632 (right).

HAP ALL

(3) Airplane wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
HAP 037-054, 101-999			
D	16	C01262	FMCS CMPTR 2
HAP ALL			

D. Related Data

(1) (SSM 34-61-11).

(2) (WDM 34-61-11).

E. Initial Evaluation

(1) Do this test of the flight management computer (FMC):

(a) Open these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
HAP 037-054, 101-999			
D	16	C01262	FMCS CMPTR 2
HAP ALL			

NOTE: This circuit breaker must be open for at least 10 seconds before you continue.

(b) Close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
HAP 037-054, 101-999			
D	16	C01262	FMCS CMPTR 2

HAP ALL

(c) After 20 seconds, make sure the FMC prompt is shown on the MENU page of the MCDU.

(d) If the FMC prompt does not show, then do the Fault Isolation Procedure.

(e) If the prompt shows, then there was an intermittent fault.

(2) If FMC - L(R) PGM FAULT is the only maintenance message shown by FMC BITE, do not replace the FMC.

(a) For multiple occurences of this message you may want to do the task, FMC Diagnostic Data Transfer AMM TASK 34-61-00-810-801.

(3) If the FMC BITE shows multiple maintenance messages, FMC - L(R) xxxxxxxx, then do the Fault Isolation Procedure.

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F. Fault Isolation Procedure

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(1) Replace the flight management computer (FMC), M1175.

These are the tasks:

FMCS Computer Removal, AMM TASK 34-61-02-000-801,

FMCS Computer Installation, AMM TASK 34-61-02-400-801.

(2) If the fault still exists, continue the procedure.

(3) Do these checks of the airplane wiring.

(a) Remove the flight management computer (FMC), M1175. Do this task: AMM TASK 34-61-02-000-801

(b) Do a check for 115V AC between pins 1 and 7 of FMC connector D2179C SSM 34-61-11.

(c) Do a check of the wiring between the FMC and CDUs SSM 34-61-11.

(d) Repair the wiring, if necessary.

(e) Install the flight management computer (FMC), M1175. Do this task: AMM TASK 34-61-02-400-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(4) Replace the flight management computer (FMC), M1175 or M1632.

These are the tasks:

FMCS Computer Removal, AMM TASK 34-61-02-000-801,

FMCS Computer Installation, AMM TASK 34-61-02-400-801.

(5) If the fault still exists, continue the procedure.

(6) Do these checks of the airplane wiring.

(a) Remove the flight management computer (FMC), M1175 or M1632. Do this task: AMM TASK 34-61-02-000-801

(b) Do a check for 115V AC between pins 1 and 7 of FMC connector D2179C (M1175) or D3261C (M1632) SSM 34-61-11.

(c) Do a check of the wiring between the FMC (M1175 or M1632) and CDUs SSM 34-61-11.

(d) Repair the wiring, if necessary.

(e) Install the flight management computer (FMC), M1175 or M1632. Do this task: AMM TASK 34-61-02-400-801.

HAP ALL

———————— END OF TASK ————————

808. NAV DATA OUT OF DATE Message on CDU - Fault Isolation

A. Description

(1) The active navigation database (NAV DATA) shown on the IDENT 1/x page of the control display unit (CDU) is out of date.

B. Possible Causes

(1) FMC database software.

C. Initial Evaluation

(1) Do these steps to check the navigation database:

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HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(a) Set the FMCS transfer switch to the NORMAL position.

(b) Make sure the two CDUs show the IDENT 1/x page.

1) If the IDENT 1/x page does not show, then do these steps:

a) Push the INIT REF function key.

b) Push line select key (LSK) 6L (INDEX).

c) Push LSK 1L (IDENT).

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(c) Make sure the CDU shows the IDENT 1/x page.

1) If the IDENT 1/x page does not show, then do these steps:

a) Push the INIT REF function key.

b) Push line select key (LSK) 6L (INDEX).

c) Push LSK 1L (IDENT).

HAP ALL

(d) Make sure today's date is within the date range shown adjacent to LSK 2R on the CDU, below ACTIVE.

(e) If today's date is within the date range shown below ACTIVE, then there was an intermittent fault.

(f) If today's date is outside of the date range shown below ACTIVE, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

(1) Do this check of the navigation database:

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(a) Set the FMCS transfer switch to the NORMAL position.

HAP 037-054, 101-999

(b) Push this sequence of keys on the two CDUs to show the IDENT 1/x page:

1) Push the INIT REF function key.

2) Push LSK 6L (INDEX).

3) Push LSK 1L (IDENT).

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(c) Push this sequence of keys on the CDU to show the IDENT 1/x page:

1) Push the INIT REF function key.

2) Push LSK 6L (INDEX).

3) Push LSK 1L (IDENT).

HAP ALL

(d) If today's date is within the date range shown adjacent to LSK 3R, then do these steps:

1) Push LSK 3R.

a) Make sure the data shown next to LSK 3R now appears on the bottom of the CDU display (scratchpad).

2) Push LSK 2R.

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a) Make sure today's date is within the date range now shown adjacent to LSK 2R.

b) If today's date is within the date range adjacent to LSK 2R, then you corrected the fault.

(e) If today's date is not within the date range shown adjacent to LSK 3R, then continue.

(2) Install a new navigation database. To install it, do this task: FMC Software Installation with an Airborne Data Loader, AMM TASK 34-61-00-470-804 or FMC Software Installation with a Portable Data Loader, AMM TASK 34-61-00-470-805.

(a) Make sure today's date is within the date range now shown adjacent to LSK 2R.

1) If today's date is within the date range shown adjacent to LSK 2R, then you corrected the fault:

———————— END OF TASK ————————

809. Thrust Mode Does Not Display - Fault Isolation

A. Description

(1) The thrust mode does not show on the engine display when expected.

B. Possible Causes

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(1) Flight management computer (FMC), M1175.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(2) Flight management computer (FMC), M1175 (left) or M1632 (right).

HAP ALL

(3) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1
A	7	C01238	FMCS MCDU 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	15	C01239	FMCS MCDU 2

HAP 037-054, 101-999

D	16	C01262	FMCS CMPTR 2

HAP ALL

D. Initial Evaluation

(1) Do the FMC fixed outputs test:

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(a) Push this sequence of keys on the CDU to show the FMCS FIXED OUTPUTS 1/3 page:

1) Push the INIT REF function key.

2) Push line select key (LSK) 6L (INDEX).

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3) Push LSK 6R (MAINT).
4) Push LSK 1L (FMCS).
5) Push LSK 5L (FIXED OUTPUTS).

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(b) Set the FMCS transfer switch to the NORMAL position.

(c) Push this sequence of keys on the two CDUs to show the FMCS FIXED OUTPUTS 1/3 page:
1) Push the INIT REF function key.
2) Push line select key (LSK) 6L (INDEX).
3) Push LSK 6R (MAINT).
4) Push LSK 1L (L FMCS) on CDU 1 (captain's).
5) Push LSK 2L (R FMCS) on CDU 2 (first officer's).
6) Push LSK 5L (FIXED OUTPUTS).

HAP ALL

(d) Make sure the thrust mode on the engine display changes in the order shown on the FMCS FIXED OUTPUTS 1/3 page.

(e) If the thrust mode display is blank or does not change, then do the Fault Isolation Procedure below.

(f) If the thrust mode display changes in the order shown on the FMCS FIXED OUTPUTS 1/3 page, then there was an intermittent fault.

E. Fault Isolation Procedure

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(1) Do this check of the FMC:

HAP 001-013, 015-026, 028-036

(a) If the center of the CDU is blank, then replace the FMC.

These are the tasks:

FMCS Computer Removal, AMM TASK 34-61-02-000-801,

FMCS Computer Installation, AMM TASK 34-61-02-400-801.

(b) If any other data is shown on the CDU, then continue.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(2) Do this check of the FMC:

(a) Set the FMCS transfer switch to the NORMAL position.

HAP 037-054, 101-999

(b) If the center of CDU 1 (captain's) screen is blank, then replace the left FMC, M1175.

These are the tasks:

FMCS Computer Removal, AMM TASK 34-61-02-000-801,

FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(c) Set the FMCS transfer switch to the BOTH ON R position.

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HAP 037-054, 101-999

(d) If the center of CDU 2 (first officer's) screen is blank, then replace the right FMC, M1632.

These are the tasks:

FMCS Computer Removal, AMM TASK 34-61-02-000-801,

FMCS Computer Installation, AMM TASK 34-61-02-400-801.

(e) If any other data is shown on the CDU, then continue.

HAP ALL

(3) Do this check of the wiring:

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(a) Remove the FMC, M1175. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(b) Remove the two FMCs, M1175 and M1632. To remove them, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP ALL

(c) Remove the two CDS DEUs, M1808 and M1809. To remove them, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(d) Do a continuity check between the flight management computer, M1175 and the applicable CDS DEUs:

	FMC (M1175) CONNECTOR		DEU CONNECTOR
DEU 1 (M1808)	**D2179A**		**D3973B**
	pin G9	- - - - - - - - - - - - - - - - - -	pin C2
	pin H9	- - - - - - - - - - - - - - - - - -	pin D2
DEU 2 (M1809)	**D2179B**		**D3975B**
	pin D7	- - - - - - - - - - - - - - - - - -	pin C2
	pin E7	- - - - - - - - - - - - - - - - - -	pin D2

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(e) Do a continuity check between the flight management computer, M1632 and the applicable CDS DEUs:

	FMC (M1632) CONNECTOR		DEU CONNECTOR
DEU 1 (M1808)	**D3261A**		**D3973B**
	pin G9	- - - - - - - - - - - - - - - - - -	pin C2
	pin H9	- - - - - - - - - - - - - - - - - -	pin D2
DEU 2 (M1809)	**D3261B**		**D3975B**
	pin D7	- - - - - - - - - - - - - - - - - -	pin C2
	pin E7	- - - - - - - - - - - - - - - - - -	pin D2

HAP ALL

(f) If there is not continuity, then do these steps:

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1) Repair the wiring.

2) Re-install the CDS DEUs. To install them, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

3) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

4) Re-install the FMCs. To install them, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(g) Push this sequence of keys on the CDU to show the FMCS FIXED OUTPUTS 1/3 page:

1) Push the INIT REF function key.

2) Push line select key (LSK) 6L (INDEX).

3) Push LSK 6R (MAINT).

4) Push LSK 1L (FMCS).

5) Push LSK 5L (FIXED OUTPUTS).

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(h) Set the FMCS transfer switch to the NORMAL position.

(i) Push this sequence of keys on the two CDUs to show the FMCS FIXED OUTPUTS 1/3 page:

1) Push the INIT REF function key.

2) Push line select key (LSK) 6L (INDEX).

3) Push LSK 6R (MAINT).

4) Push LSK 1L (L FMCS) on the two CDUs.

5) Push LSK 5L (FIXED OUTPUTS).

HAP ALL

(j) Make sure the thrust mode on the engine display changes in the order shown on the FMCS FIXED OUTPUTS 1/3 page.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(k) Set the FMCS transfer switch to the BOTH ON R position.

1) Push the PREV PAGE function key two times.

2) Push LSK 2L (R FMCS) on the two CDUs.

3) Push LSK 5L (FIXED OUTPUTS).

(l) Make sure the thrust mode on the engine display changes in the order shown on the FMCS FIXED OUTPUTS 1/3 page.

HAP ALL

(m) If the thrust mode display changes in the order shown on the FMCS FIXED OUTPUTS 1/3 page, then you corrected the fault.

———————— END OF TASK ————————

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810. Control Display Unit Annunciator Problem - Fault Isolation

A. Description

(1) One or all of these control display unit (CDU) annunciators do not operate when expected:

NOTE: The DSPY annunciator does not operate during normal FMC operation.

(a) FAIL

(b) MSG

(c) OFST

B. Possible Causes

(1) CDU annunciator.

C. Initial Evaluation

(1) Do this test of the CDU annunciators:

(a) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
E	12	C00314	INDICATOR MASTER DIM SECT 2
E	13	C00315	INDICATOR MASTER DIM SECT 3

(b) Hold the LIGHTS switch on the pilot's center instrument panel (P2) to the TEST position.

1) Make sure that the DSPY, FAIL, MSG, and OFST annunciators come on.

(c) Set the LIGHTS switch to the BRT or DIM position if it is necessary.

(d) If one or all of the annunciators (DSPY, FAIL, MSG, or OFST) does not come on, then do the Fault Isolation Procedure below.

(e) If all of the annunciators come on, then there was an intermittent fault.

D. Fault Isolation Procedure

HAP 001-005; AIRPLANES WITH CRT CDU (P/N 10-XXXXX-XXX)

(1) Replace the applicable annunciator. To replace it, do this task: Annunciator Replacement (CRT CDU P/N 10-XXXXX-XXX), AMM TASK 34-61-01-960-801.

NOTE: The annunciators are installed in pairs. The DSPY and FAIL annunciators are installed together on the left side of the CDU. The MSG and OFST annunciators are installed together on the right side of the CDU. If only one annunciator in the pair is defective, the two must be replaced.

(a) Hold the LIGHTS switch on the pilot's center instrument panel (P2) to the TEST position.

1) Make sure that the DSPY, FAIL, MSG, and OFST annunciators come on.

(b) If all of the CDU annunciators come on, then you corrected the fault.

(c) Set the LIGHTS switch to the BRT or DIM position if it is necessary.

HAP 006-013, 015-026, 028-054, 101-999; HAP 001-005 POST SB 737-34-1951 GRP 1; AIRPLANES WITH THE LCD MCDU

(2) The LCD CDU (P/N S242A600-XXXX) annunciator lamps are not line replaceable units. You must replace the keyboard or the CDU. To replace it, do this task: FMCS CDU Keyboard Removal, AMM TASK 34-61-01-000-801

or, do this task: FMCS Control Display Unit (CDU) Removal, AMM TASK 34-61-01-000-802.

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HAP ALL

——————— END OF TASK ———————

811. OP Program Invalid - Fault Isolation

A. Description

(1) The operational program software (OP PROGRAM) is not installed or not operational.

B. Possible Causes

(1) FMC operational program software.

C. Fault Isolation Procedure

(1) Install new FMC OP program software and databases. To install the software, do this task: FMC Software Installation with an Airborne Data Loader, AMM TASK 34-61-00-470-804 or FMC Software Installation with a Portable Data Loader, AMM TASK 34-61-00-470-805.

——————— END OF TASK ———————

812. CHECK DBL OR INTERFACE Message on CDU - Fault Isolation

A. Description

(1) The CHECK DBL OR INTERFACE message shows on the CDU when the software loading process has failed because of the data loader or the wiring between the data loader and the FMC.

B. Possible Causes

(1) Data loader.

HAP 001-013, 015-026, 028-030; AIRPLANES THAT USE THE PORTABLE DATA LOADER

(2) Interface cable

HAP ALL

(3) Wiring.

C. Circuit Breakers

(1) This is the circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

D. Related Data

(1) (SSM 34-61-18).

(2) (WDM 34-61-18).

E. Fault Isolation Procedure

HAP 001-013, 015-026, 028-030; AIRPLANES THAT USE THE PORTABLE DATA LOADER

(1) Install the software with a different data loader.

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HAP 031-054, 101-999; AIRPLANES WITH THE AIRBORNE DATA LOADER

(2) Replace the airborne data loader (ADL).

These are the tasks:

Airborne Data Loader Removal, AMM TASK 34-61-03-000-801,

Airborne Data Loader Installation, AMM TASK 34-61-03-400-801.

(a) If the software installed successfully, then you corrected the fault.

(b) If the message CHECK DBL OR INTERFACE still shows on the CDU, then continue.

HAP 001-013, 015-026, 028-030; AIRPLANES THAT USE THE PORTABLE DATA LOADER

(3) Do this check of the interface cable:

(a) Do a continuity check between the pins on the connectors at each end of the interface cable.

(b) If there is not continuity between the pins on the interface cable, then replace the interface cable.

1) Install the software with the new interface cable.

2) If the software installed successfully, then you corrected the fault.

3) If the message CHECK DBL OR INTERFACE still shows on the CDU, then continue.

HAP ALL

(4) Do this check of the wiring between the data transfer unit and the data loader control panel:

(a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

(b) Remove the data loader control panel, panel P61-01.

(c) Disconnect connector D2875 from the data loader control panel.

(d) Do a continuity check between these pins on connector D1907 of the data transfer unit receptacle, P61, and connector D2875 of the data loader control panel, P61:

D1907		D2875
pin 1	- - - - - - - - - - - - - - - - - -	pin 1
pin 2	- - - - - - - - - - - - - - - - - -	pin 2
pin 8	- - - - - - - - - - - - - - - - - -	pin 8
pin 9	- - - - - - - - - - - - - - - - - -	pin 9
pin 10	- - - - - - - - - - - - - - - - - -	pin 10
pin 11	- - - - - - - - - - - - - - - - - -	pin 11
pin 20	- - - - - - - - - - - - - - - - - -	pin 20
pin 50	- - - - - - - - - - - - - - - - - -	pin 50
pin 51	- - - - - - - - - - - - - - - - - -	pin 51
pin 52	- - - - - - - - - - - - - - - - - -	pin 52
pin 53	- - - - - - - - - - - - - - - - - -	pin 53

1) If there is not continuity between the pins, then do these steps:

a) Repair the wiring.

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b) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

c) Re-install the data loader control panel in the P61 panel.

d) Install the software.

e) If the software installed successfully, then you corrected the fault.

f) If the message CHECK DBL OR INTERFACE still shows on the CDU, then continue.

2) If there is continuity between the pins, then continue.

(5) Do this check of the wiring between the FMC and the data loader control panel:

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(a) Remove the FMC, M1175. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(b) Remove the FMCs, M1175 and M1632. To remove them, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP 001-011 PRE SB 737-31-1136; AIRPLANES WITH SINGLE FMC AND ONE SWITCH ON THE DATA LOADER PANEL

(c) Do a continuity check between these pins on connector D10193 or D2877 of the data loader control panel, P61, and connector D2179A or D2179B of the flight management computer in the E5-2 shelf:

	FMC CONNECTOR		P61-01 PANEL CONNECTOR
FMC (M1175)	**D2179A**		**D10193**
	pin D5	- - - - - - - - - - - - - - - - - -	pin 19
	pin E5	- - - - - - - - - - - - - - - - - -	pin 20
	pin F9	- - - - - - - - - - - - - - - - - -	pin 21
FMC (M1175)	**D2179A**		**D2877**
	pin G11	- - - - - - - - - - - - - - - - - -	pin 4
	pin H11	- - - - - - - - - - - - - - - - - -	pin 5
FMC (M1175)	**D2179B**		**D2877**
	pin A11	- - - - - - - - - - - - - - - - - -	pin 7

HAP 012, 013, 015-026, 028-036; HAP 001-011 POST SB 737-31-1136; AIRPLANES WITH SINGLE FMC AND TWO SWITCHES ON THE DATA LOADER PANEL

(d) Do a continuity check between these pins on connector D2877 or D2879 of the data loader control panel, P61, and connector D2179A or D2179B of the flight management computer in the E5-2 shelf:

	FMC CONNECTOR		P61-01 PANEL CONNECTOR
FMC (M1175)	**D2179A**		**D2877**
	pin D9	- - - - - - - - - - - - - - - - - -	pin 3
	pin E9	- - - - - - - - - - - - - - - - - -	pin 5

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HAP 012, 013, 015-026, 028-036; HAP 001-011 POST SB 737-31-1136; AIRPLANES WITH SINGLE FMC AND TWO SWITCHES ON THE DATA LOADER PANEL (Continued)

FMC (M1175)	**D2179A**		**D2877**
	pin G11	- - - - - - - - - - - - - - - - -	pin 41
	pin H11	- - - - - - - - - - - - - - - - -	pin 22
FMC (M1175)	**D2179B**		**D2877**
	pin A11	- - - - - - - - - - - - - - - - -	pin 42
FMC (M1175)	**D2179B**		**D2879**
	pin D9	- - - - - - - - - - - - - - - - - -	pin 46
	pin E9	- - - - - - - - - - - - - - - - - -	pin 47

HAP 012, 013, 015-026, 028-054, 101-999; HAP 001-011 POST SB 737-31-1136; AIRPLANES WITH DUAL FMC AND TWO SWITCHES ON THE DATA LOADER PANEL

(e) Do a continuity check between these pins on connector D10193, D2877 or D2879 of the data loader control panel, P61, and connector D2179A, D2179B, D3261A, and D3261B of the flight management computers in the E5-2 shelf:

	FMC CONNECTOR		**P61-01 ADL PANEL CONNECTOR**
FMC R (M1632)	**D3261A**		**D10193**
	pin D9	- - - - - - - - - - - - - - - - - -	pin 6
	pin E9	- - - - - - - - - - - - - - - - - -	pin 4
FMC R (M1632)	**D3261A**		**D10193**
	pin G11	- - - - - - - - - - - - - - - - -	pin 42
	pin H11	- - - - - - - - - - - - - - - - -	pin 41
FMC R (M1632)	**D3261B**		**D10193**
	pin A11	- - - - - - - - - - - - - - - - -	pin 9
FMC R (M1632)	**D3261B**		**D2879**
	pin D9	- - - - - - - - - - - - - - - - - -	pin 46
	pin E9	- - - - - - - - - - - - - - - - - -	pin 47
FMC L (M1175)	**D2179A**		**D2877**
	pin D9	- - - - - - - - - - - - - - - - - -	pin 3
	pin E9	- - - - - - - - - - - - - - - - - -	pin 5
FMC L (M1175)	**D2179A**		**D2877**
	pin G11	- - - - - - - - - - - - - - - - -	pin 41
	pin H11	- - - - - - - - - - - - - - - - -	pin 22
FMC L (M1175)	**D2179B**		**D2877**
	pin A11	- - - - - - - - - - - - - - - - -	pin 42
FMC L (M1175)	**D2179B**		**D2879**
	pin D9	- - - - - - - - - - - - - - - - - -	pin 46
	pin E9	- - - - - - - - - - - - - - - - - -	pin 47

HAP ALL

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(f) If there is not continuity between the pins, then do these steps:

1) Repair the wiring.
2) Re-install the data loader control panel in the P61 panel.
3) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.
4) Install the software.
5) If the software installed successfully, then you corrected the fault.

——————— END OF TASK ———————

813. DB EXCEEDS FMC MEMORY Message on CDU - Fault Isolation

A. Description

(1) The DB EXCEEDS FMC MEMORY message shows on the CDU when the database being installed is larger than the memory in the flight management computer. Contact the applicable airline department for a smaller database or an option code to increase available FMC memory.

——————— END OF TASK ———————

814. RESET COUNT EXCEEDED Message on CDU - Fault Isolation

A. Description

(1) The RESET COUNT EXCEEDED message shows on the CDU when five load attempts have failed.

——————— END OF TASK ———————

815. DB-OFP INCOMPATIBLE Message on CDU - Fault Isolation

A. Description

(1) The DB-OFP INCOMPATIBLE message shows on the CDU when the database being installed is incompatible with the FMC software. Contact the applicable airline department for the correct database version.

——————— END OF TASK ———————

816. CHECK MEDIA Message on CDU - Fault Isolation

A. Description

(1) The CHECK MEDIA message shows on the CDU when some of the data on the disk is damaged. Contact the applicable airline department for a replacement disk.

——————— END OF TASK ———————

817. INCORRECT DISK INSERTED Message on CDU - Fault Isolation

A. Description

(1) The INCORRECT DISK INSERTED message shows on the CDU when a disk of a multi-disk set is put in the data loader out of sequence.

B. Fault Isolation Procedure

(1) Put the next disk in sequence into the data loader.

——————— END OF TASK ———————

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818. DATA BASE INVALID Message on CDU - Fault Isolation

A. Description

(1) The DATA BASE INVALID message shows on the CDU when no navigation database (NDB) is installed, or when the FMC has found a problem with the NDB already installed.

B. Initial Evaluation

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(1) Do this check of the FMC navigation database (NDB):

(a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

NOTE: This circuit breaker must be left open for at least 15 seconds.

(b) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

(c) If the message DATA BASE INVALID shows on the CDU, then do the Fault Isolation Procedure below.

(d) If DATA BASE INVALID does not show on the CDU, then there was an intermittent fault.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(2) Do this check of the FMC navigation database (NDB):

(a) Set the FMCS transfer switch to the NORMAL position.

1) If the message DATA BASE INVALID shows on the CDU, then cycle the circuit breaker for FMC L, (M1175).

a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

NOTE: This circuit breaker must be left open for at least 15 seconds.

b) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

(b) Set the FMCS transfer switch to the BOTH ON R position.

1) If the message DATA BASE INVALID shows on the CDU, then cycle the circuit breaker for the FMC R, (M1632).

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a) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	16	C01262	FMCS CMPTR 2

NOTE: This circuit breaker must be left open for at least 15 seconds.

b) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	16	C01262	FMCS CMPTR 2

2) If the message DATA BASE INVALID shows on the CDU, then do the Fault Isolation Procedure below.

3) If DATA BASE INVALID does not show on the CDUs, then you corrected the fault.

HAP ALL

C. Fault Isolation Procedure

(1) Install a new navigation database (NDB). To install it, do this task: FMC Software Installation with an Airborne Data Loader, AMM TASK 34-61-00-470-804 or FMC Software Installation with a Portable Data Loader, AMM TASK 34-61-00-470-805.

(a) If the software installed successfully, then you corrected the fault.

———————— END OF TASK ————————

819. MODEL/ENG DATA INVALID Message on CDU - Fault Isolation

A. Description

(1) The MODEL/ENG DATA INVALID message shows on the CDU when no performance database is installed, or when the FMC has found a problem with the performance database already installed.

B. Initial Evaluation

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(1) Do this check of the FMC performance database:

(a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

NOTE: This circuit breaker must be left open for at least 15 seconds.

(b) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

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(c) If the message MODEL/ENG DATA INVALID shows on the CDU, then do the Fault Isolation Procedure below.

(d) If MODEL/ENG DATA INVALID does not show on the CDU, then there was an intermittent fault.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(2) Do this check of the FMC performance database:

(a) Set the FMCS transfer switch to the NORMAL position.

1) If the message MODEL/ENG DATA INVALID shows on the CDUs, then cycle the circuit breaker for the left FMC, M1175.

a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

NOTE: This circuit breaker must be left open for at least 15 seconds.

b) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

(b) Set the FMCS transfer switch to the BOTH ON R position.

1) If the message MODEL/ENG DATA INVALID shows on the CDUs, then cycle the circuit breaker for the right FMC, M1632.

a) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	16	C01262	FMCS CMPTR 2

NOTE: This circuit breaker must be left open for at least 15 seconds.

b) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	16	C01262	FMCS CMPTR 2

(c) If the message MODEL/ENG DATA INVALID shows on the CDUs, then do the Fault Isolation Procedure below.

(d) If MODEL/ENG DATA INVALID does not show on either CDU, then there was an intermittent fault.

HAP ALL

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C. Fault Isolation Procedure

(1) Install a new performance database. To install it, do this task: FMC Software Installation with an Airborne Data Loader, AMM TASK 34-61-00-470-804 or FMC Software Installation with a Portable Data Loader, AMM TASK 34-61-00-470-805.

——————— END OF TASK ———————

820. PROGRAM PIN ERROR Message on CDU - Fault Isolation

A. Description

(1) The PROGRAM PIN ERROR message shows on the CDU when there is a parity error in the FMC airframe/engine program pins, or the SDI discrete pin is incorrect.

B. Possible Causes

(1) Airframe/engine program pins.

(2) SDI discrete pin.

C. Related Data

(1) (SSM 34-61-19).

(2) (WDM 34-61-19).

D. Initial Evaluation

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(1) Do this check of the FMCS analog discretes:

(a) Push this sequence of keys on the CDU to show the FMCS ANALOG DISC 2/4 page:

1) Push the INIT REF function key.

2) Push line select key (LSK) 6L (INDEX).

3) Push LSK 6R (MAINT).

4) Push LSK 1L (FMCS).

5) Push LSK 4L (DISCRETES).

6) Push the NEXT PAGE key.

(b) Make sure that SRCE/DEST IDENT adjacent to LSK 3R shows LEFT on the captain's CDU.

(c) Push the NEXT PAGE key on the CDU.

(d) Make sure that MODEL/ENG adjacent to LSK 2R shows VALID.

1) If the MODEL/ENG does not show VALID, then do the Fault Isolation Procedure - Model/Engine below.

2) If the MODEL/ENG shows VALID, then there was an intermittent fault.

HAP ALL

(2) Do this check of the FMCS analog discretes:

(a) Set the FMCS transfer switch to the NORMAL position.

(b) Push this sequence of keys on the two CDUs to show the FMCS ANALOG DISC 2/4 page:

1) Push the INIT REF function key.

2) Push line select key (LSK) 6L (INDEX).

3) Push LSK 6R (MAINT).

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4) Push LSK 1L (L FMCS) on CDU 1 (captain's).

5) Push LSK 2L (R FMCS) on CDU 2 (first officer's).

6) Push LSK 4L (DISCRETES).

7) Push the NEXT PAGE key.

(c) Make sure that SRCE/DEST IDENT adjacent to LSK 3R shows LEFT on the captain's CDU.

1) If the SRCE/DEST IDENT shows LEFT, then continue.

(d) Make sure that SRCE/DEST IDENT adjacent to LSK 3R shows RIGHT on the first officer's CDU.

1) If the SRCE/DEST IDENT does not show RIGHT, then do the Fault Isolation Procedure - SDI below for the right FMC, M1632.

2) If the SRCE/DEST IDENT shows RIGHT, then continue.

(e) Push the NEXT PAGE key on the two CDUs.

(f) Make sure that MODEL/ENG adjacent to LSK 2R shows VALID.

1) If the MODEL/ENG does not show VALID on the captain's CDU, then do the Fault Isolation Procedure - Model/Engine below for the left FMC, M1175.

2) If the MODEL/ENG does not show VALID on the first officer's CDU, then do the Fault Isolation Procedure - Model/Engine below for the right FMC, M1632.

3) If the MODEL/ENG shows VALID, then there was an intermittent fault.

E. Fault Isolation Procedure - SDI

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(1) Do this check of the SDI discrete for the FMC:

(a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

(b) Remove the FMC, M1175. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

(c) Do a continuity check between pin K1 of FMC connector D2179A and structure ground.

(d) If there is no continuity, then do these steps:

1) Repair the wiring between pin K1 and ground.

2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

3) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

4) Do the Repair Confirmation at the end of this task.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(2) Do this check of the SDI discrete for the left FMC:

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(a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

(b) Remove the FMC, M1175. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

(c) Do a continuity check between pin K1 of FMC connector D2179A and structure ground.

(d) If there is no continuity, then do these steps:

1) Repair the wiring between pin K1 and ground.

2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

3) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

4) Do the Repair Confirmation at the end of this task.

(3) Do this check of the SDI discrete for the right FMC:

(a) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	16	C01262	FMCS CMPTR 2

(b) Remove the FMC, M1632. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

(c) Do a continuity check between pin K1 of FMC connector D3261A and structure ground.

(d) If there is no continuity, then do these steps:

1) Repair the wiring between pin K1 and ground.

2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	16	C01262	FMCS CMPTR 2

4) Do the Repair Confirmation at the end of this task.

HAP ALL

F. Fault Isolation Procedure - Model/Engine

(1) Do this check of the airframe/engine program pins:

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(a) For the FMC, M1175,

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(a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(b) For the left FMC, M1175,

(b) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

(c) For the right FMC, M1632,

(c) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	16	C01262	FMCS CMPTR 2

HAP ALL

(d) Find the FMCS dip switch 1, M1990, on P59 near the FMC.

(e) Make sure that switches 1 through 8 on M1990 are set to the same positions as shown on WDM 34-61-19.

NOTE: You must make sure that the engine/airframe codes on the wiring diagram are for the current engine configuration.

(f) If the switches are not in the same positions as shown in WDM 34-61-19, then do these steps:

1) Set the switches to the switch positions shown in WDM 34-61-19.

2) Do the Repair Confirmation at the end of this task.

a) If the Repair Confirmation is not satisfactory, then continue.

(g) If the switches are in the correct position, then continue.

(2) Do this check of the wiring:

(a) Remove the FMC. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(b) For the FMC, M1175, do a continuity check between these pins of FMC connector D2179B and FMCS dip switch 1, M1990:

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D2179B		M1990
pin C11	- - - - - - - - - - - - - - - - -	pin 1
pin D11	- - - - - - - - - - - - - - - - -	pin 2
pin E11	- - - - - - - - - - - - - - - - -	pin 3
pin F11	- - - - - - - - - - - - - - - - -	pin 4
pin G11	- - - - - - - - - - - - - - - - -	pin 5
pin H11	- - - - - - - - - - - - - - - - -	pin 6
pin A12	- - - - - - - - - - - - - - - - -	pin 7
pin B12	- - - - - - - - - - - - - - - - -	pin 8

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(c) For the left FMC, M1175, do a continuity check between these pins of FMC connector D2179B and FMCS dip switch 1, M1990:

D2179B		M1990
pin C11	- - - - - - - - - - - - - - - - -	pin 1
pin D11	- - - - - - - - - - - - - - - - -	pin 2
pin E11	- - - - - - - - - - - - - - - - -	pin 3
pin F11	- - - - - - - - - - - - - - - - -	pin 4
pin G11	- - - - - - - - - - - - - - - - -	pin 5
pin H11	- - - - - - - - - - - - - - - - -	pin 6
pin A12	- - - - - - - - - - - - - - - - -	pin 7
pin B12	- - - - - - - - - - - - - - - - -	pin 8

(d) For the right FMC, M1632, do a continuity check between these pins of FMC connector D3261B and FMCS dip switch 1, M1990:

D3261B		M1990
pin C11	- - - - - - - - - - - - - - - - -	pin 1
pin D11	- - - - - - - - - - - - - - - - -	pin 2
pin E11	- - - - - - - - - - - - - - - - -	pin 3
pin F11	- - - - - - - - - - - - - - - - -	pin 4
pin G11	- - - - - - - - - - - - - - - - -	pin 5
pin H11	- - - - - - - - - - - - - - - - -	pin 6
pin A12	- - - - - - - - - - - - - - - - -	pin 7
pin B12	- - - - - - - - - - - - - - - - -	pin 8

HAP ALL

(e) If there is not continuity between these pins, then do these steps:

1) Repair the wiring.

2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

3) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(1) Do this check of the FMCS analog discretes:

(a) Push this sequence of keys on the CDU to show the FMCS ANALOG DISC 2/4 page:

1) Push the INIT REF function key.

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2) Push line select key (LSK) 6L (INDEX).
3) Push LSK 1L (FMCS).
4) Push LSK 4L (DISCRETES).
5) Push the NEXT PAGE key.

(b) Make sure that SRCE/DEST IDENT adjacent to LSK 3R shows LEFT.

(c) Push the NEXT PAGE key on the CDU.

(d) Make sure that MODEL/ENG adjacent to LSK 2R shows VALID.

(e) If SRCE DEST IDENT shows LEFT and MODEL/ENG shows VALID, then you corrected the fault.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(2) Do this check of the FMCS analog discretes:

(a) Set the FMCS transfer switch to the NORMAL position.

(b) Push this sequence of keys on the two CDUs to show the FMCS ANALOG DISC 2/4 page:

1) Push the INIT REF function key.
2) Push line select key (LSK) 6L (INDEX).
3) Push LSK 1L (L FMCS) on CDU 1 (captain's).
4) Push LSK 2L (R FMCS) on CDU 2 (first officer's).
5) Push LSK 4L (DISCRETES).
6) Push the NEXT PAGE key.

(c) Make sure that SRCE/DEST IDENT adjacent to LSK 3R shows LEFT on the captain's CDU.

(d) Make sure that SRCE/DEST IDENT adjacent to LSK 3R shows RIGHT on the first officer's CDU.

(e) Push the NEXT PAGE key on the CDU.

(f) Make sure that MODEL/ENG adjacent to LSK 2R shows VALID.

(g) If SRCE DEST IDENT shows LEFT and MODEL/ENG shows VALID on the captain's CDU, then you corrected the fault.

(h) If SRCE DEST IDENT shows RIGHT and MODEL/ENG shows VALID on the first officer's CDU, then you corrected the fault.

HAP ALL

———————— END OF TASK ————————

821. PROGRAM PIN NOT IN DB Message on CDU - Fault Isolation

A. Description

(1) The PROGRAM PIN NOT IN DB message shows when the FMC airframe/engine program pins do not agree with the data in the model/engine database.

B. Possible Causes

(1) FMC airframe/engine program pins.

(2) Model/engine database.

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C. Fault Isolation Procedure

(1) Do this check of the airframe/engine program pins:

HAP 001-013, 015-026, 028-036

(a) For the FMC, M1175, open this circuit breaker and install a safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

HAP 037-054, 101-999

(b) For the left FMC, M1175, open this circuit breaker and install a safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

(c) For the right FMC, M1632, open this circuit breaker and install a safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	16	C01262	FMCS CMPTR 2

HAP ALL

(d) Find the FMCS dip switch 1, M1990, on P59 near the FMC.

(e) Make sure that switches 1 through 8 on M1990 are set to the same positions as shown on WDM 34-61-19.

NOTE: You must make sure that the engine/airframe codes on the wiring diagram are for the current engine configuration.

(f) If the switches are not in the same positions as shown in WDM 34-61-19, do these steps:

1) Set the switches to the switch positions shown in WDM 34-61-19.

2) Do the Repair Confirmation at the end of this task.

a) If the Repair Confirmation is not satisfactory, then continue.

(2) Do this check of the wiring:

(a) Remove the FMC. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP 001-013, 015-026, 028-036

(b) For the FMC, M1175, do a continuity check between these pins of FMC connector D2179B and FMCS dip switch 1, M1990:

D2179B		**M1990**
pin C11	- - - - - - - - - - - - - - - - -	pin 1
pin D11	- - - - - - - - - - - - - - - - -	pin 2
pin E11	- - - - - - - - - - - - - - - - -	pin 3
pin F11	- - - - - - - - - - - - - - - - -	pin 4
pin G11	- - - - - - - - - - - - - - - - -	pin 5
pin H11	- - - - - - - - - - - - - - - - -	pin 6
pin A12	- - - - - - - - - - - - - - - - -	pin 7
pin B12	- - - - - - - - - - - - - - - - -	pin 8

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HAP 001-013, 015-026, 028-036 (Continued)

HAP 037-054, 101-999

(c) For the left FMC, M1175, do a continuity check between these pins of FMC connector D2179B and FMCS dip switch 1, M1990:

D2179B		M1990
pin C11	- - - - - - - - - - - - - - - - -	pin 1
pin D11	- - - - - - - - - - - - - - - - -	pin 2
pin E11	- - - - - - - - - - - - - - - - -	pin 3
pin F11	- - - - - - - - - - - - - - - - -	pin 4
pin G11	- - - - - - - - - - - - - - - - -	pin 5
pin H11	- - - - - - - - - - - - - - - - -	pin 6
pin A12	- - - - - - - - - - - - - - - - -	pin 7
pin B12	- - - - - - - - - - - - - - - - -	pin 8

(d) For the right FMC, M1632, do a continuity check between these pins of FMC connector D3261B and FMCS dip switch 1, M1990:

D3261B		M1990
pin C11	- - - - - - - - - - - - - - - - -	pin 1
pin D11	- - - - - - - - - - - - - - - - -	pin 2
pin E11	- - - - - - - - - - - - - - - - -	pin 3
pin F11	- - - - - - - - - - - - - - - - -	pin 4
pin G11	- - - - - - - - - - - - - - - - -	pin 5
pin H11	- - - - - - - - - - - - - - - - -	pin 6
pin A12	- - - - - - - - - - - - - - - - -	pin 7
pin B12	- - - - - - - - - - - - - - - - -	pin 8

HAP ALL

(e) If there is not continuity between these pins, then do these steps:

1) Repair the wiring.

HAP 001-013, 015-026, 028-036

2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP 037-054, 101-999

3) Re-install the two FMCs. To install them, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP ALL

4) Do the Repair Confirmation at the end of this task.

a) If the Repair Confirmation is not satisfactory, then continue.

(f) If there is continuity between the pins, then continue.

(3) Install new performance database software:

(a) Install new performance database (model/engine database) software that agrees with the airframe/engine program pins. To install it, do this task: FMC Software Installation with an Airborne Data Loader, AMM TASK 34-61-00-470-804 or FMC Software Installation with a Portable Data Loader, AMM TASK 34-61-00-470-805.

(b) Do the Repair Confirmation at the end of this task.

D. Repair Confirmation

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HAP 001-013, 015-026, 028-036

(1) Do this check of the airframe/engine program pins:

(a) Push this sequence of keys on the CDU:

1) Push the INIT REF function key.

2) Push LSK 6L (INDEX).

3) Push LSK 6R (MAINT).

4) Push LSK 1L (FMCS).

5) Push LSK 1R (MODEL/ENG).

(b) Make sure that PROGRAM PIN NOT IN MODEL/ENGINE DATA BASE does not show on this page.

(c) If PROGRAM PIN NOT IN MODEL/ENGINE DATA BASE does not show, then you corrected the fault.

HAP 037-054, 101-999

(2) Do this check of the airframe/engine program pins:

(a) Push this sequence of keys on the two CDUs:

1) Push the INIT REF function key.

2) Push LSK 6L (INDEX).

3) Push LSK 6R (MAINT).

4) Push LSK 1L (L FMCS) on CDU 1 (captain's).

5) Push LSK 2L (R FMCS) on CDU 2 (first officer's).

6) Push LSK 1R (MODEL/ENG).

(b) Make sure that PROGRAM PIN NOT IN MODEL/ENGINE DATA BASE does not show on this page.

(c) If PROGRAM PIN NOT IN MODEL/ENGINE DATA BASE does not show, then you corrected the fault.

HAP ALL

——————— END OF TASK ———————

822. VOR Input Problem - Fault Isolation

A. Description

NOTE: VOR-L is the same as VOR 1 and VOR-R is the same as VOR 2.

(1) This task is for these maintenance messages:

(a) VOR-L - VOR BEARING - RATE

(b) VOR-L - VOR BEARING - PARITY

(c) VOR-L - VOR FREQUENCY - RATE

(d) VOR-L - VOR FREQUENCY - PARITY

(e) VOR-R - VOR BEARING - RATE

(f) VOR-R - VOR BEARING - PARITY

(g) VOR-R - VOR FREQUENCY - RATE

(h) VOR-R - VOR FREQUENCY - PARITY

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(2) The flight management computer (FMC) found a failure in the data from the VOR/MKR receiver.

(3) These faults can cause the control display unit (CDU) to show FAIL under VOR on the NAV STATUS display.

B. Possible Causes

(1) VOR/MKR receiver, M1724 (VOR-L) or M1725 (VOR-R).

(2) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1
A	3	C01378	RADIO NAVIGATION NAV CONT PNL 1
B	1	C01376	RADIO NAVIGATION NAV SNSR DC-1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	10	C01377	RADIO NAVIGATION NAV SNSR DC-2
A	12	C01375	RADIO NAVIGATION VOR 2
A	15	C01379	RADIO NAVIGATION NAV CONT PNL 2

D. Related Data

(1) (SSM 34-61-13).

(2) (WDM 34-61-13).

E. Fault Isolation Procedure

(1) For the applicable VOR/MKR receiver, do this task: VOR/Marker Beacon Receiver BITE Procedure, 34-51 TASK 801.

(a) If the VOR/MKR receiver BITE shows a fault, then go to the task for the applicable maintenance message to correct the fault.

1) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If the FMCS maintenance message does not show, then you corrected the fault.

b) If the FMCS maintenance message shows, then continue.

(b) If the VOR/MKR receiver BITE does not show a fault, then continue.

(2) Do this check of the wiring:

(a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1
A	3	C01378	RADIO NAVIGATION NAV CONT PNL 1
B	1	C01376	RADIO NAVIGATION NAV SNSR DC-1

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	10	C01377	RADIO NAVIGATION NAV SNSR DC-2
A	12	C01375	RADIO NAVIGATION VOR 2
A	15	C01379	RADIO NAVIGATION NAV CONT PNL 2
HAP 037-054, 101-999			
D	16	C01262	FMCS CMPTR 2

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(b) Remove the FMC, M1175. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(c) Remove the two FMCs, M1175 and M1632. To remove them, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP ALL

(d) Remove the applicable VOR/MKR receiver, M1724 (VOR-L) or M1725 (VOR-R). To remove it, do this task: VOR/MKR Receiver Removal, AMM TASK 34-51-01-000-801.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(e) Do a continuity check between the flight management computer and the VOR/MKR receiver:

	FMC CONNECTOR		VOR/MKR CONNECTOR
VOR-L (M1724)	**D2179A**		**D3623B**
	pin A1	- - - - - - - - - - - - - - - - - -	pin B13
	pin B1	- - - - - - - - - - - - - - - - - -	pin C13
VOR-R (M1725)	**D2179B**		**D3625B**
	pin D1	- - - - - - - - - - - - - - - - - -	pin B13
	pin E1	- - - - - - - - - - - - - - - - - -	pin C13

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(f) Do a continuity check between the flight management computers and the applicable VOR/MKR receiver:

	LEFT FMC CONNECTOR		VOR/MKR CONNECTOR		RIGHT FMC CONNECTOR
VOR-L (M1724)	**D2179A**		**D3623B**		**D3261A**
	pin A1	- - - - - - - - - - - - - -	pin B13	- - - - - - - - - - - - -	pin A1
	pin B1	- - - - - - - - - - - - - -	pin C13	- - - - - - - - - - - - -	pin B1
VOR-R (M1725)	**D2179B**		**D3625B**		**D3261B**
	pin D1	- - - - - - - - - - - - - -	pin B13	- - - - - - - - - - - - -	pin D1
	pin E1	- - - - - - - - - - - - - -	pin C13	- - - - - - - - - - - - -	pin E1

HAP ALL

(g) If there is not continuity between these pins, then do these steps:

1) Repair the wiring.

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HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

3) Re-install the two FMCs. To install them, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP ALL

4) Re-install the VOR/MKR receiver. To install it, do this task: VOR/MKR Receiver Installation, AMM TASK 34-51-01-400-801.

5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
A	1	C01374	RADIO NAVIGATION VOR/MKR BCN 1
A	3	C01378	RADIO NAVIGATION NAV CONT PNL 1
B	1	C01376	RADIO NAVIGATION NAV SNSR DC-1

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	10	C01377	RADIO NAVIGATION NAV SNSR DC-2
A	12	C01375	RADIO NAVIGATION VOR 2
A	15	C01379	RADIO NAVIGATION NAV CONT PNL 2
HAP 037-054, 101-999			
D	16	C01262	FMCS CMPTR 2
HAP ALL			

6) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.
   a) If the maintenance message does not show, then you corrected the fault.

——————— END OF TASK ———————

823. ILS Input Problem - Fault Isolation

A. Description

NOTE: ILS-L is the same as MMR/ILS receiver 1 and ILS-R is the same as MMR/ILS receiver 2.

(1) This task is for these maintenance messages:
   (a) ILS-L - ILS FREQUENCY - RATE
   (b) ILS-L - ILS FREQUENCY - PARITY
   (c) ILS-L - LOC DEVIATION - RATE
   (d) ILS-L - LOC DEVIATION - PARITY
   (e) ILS-R - ILS FREQUENCY - RATE
   (f) ILS-R - ILS FREQUENCY - PARITY
   (g) ILS-R - LOC DEVIATION - RATE

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(h) ILS-R - LOC DEVIATION - PARITY

(2) The flight management computer (FMC) found a failure in the data from the instrument landing system (ILS).

(3) These faults can cause the CDU to show FAIL under ILS on the NAV STATUS display.

B. Possible Causes

(1) MMR/ILS receiver, M2104/M1728 (No. 1) or M2105/M1729 (No. 2).

(2) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 004, 005, 008-013, 015-026, 028-030			
A	2	C01380	RADIO NAVIGATION ILS 1
HAP 001, 004-013, 015-026, 028-054, 101-999			
A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

HAP ALL

D. Related Data

(1) (SSM 34-61-13).

(2) (WDM 34-61-13).

E. Fault Isolation Procedure

(1) For the applicable MMR/ILS receiver, do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If a fault is found in the MMR/ILS receiver BITE, then go to the tasks for the applicable MMR/ILS receiver maintenance message to correct the fault.

1) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If the FMCS maintenance message does not show, then you corrected the fault.

b) If the FMCS maintenance message shows, then continue.

(b) If no fault is found in the MMR/ILS receiver BITE, then continue.

(2) Do this check of the wiring:

(a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 004, 005, 008-013, 015-026, 028-030			
A	2	C01380	RADIO NAVIGATION ILS 1

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CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
HAP ALL			
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
HAP 037-054, 101-999			
D	16	C01262	FMCS CMPTR 2

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(b) Remove the FMC, M1175. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(c) Remove the two FMCs, M1175 and M1632. To remove them, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP ALL

(d) Remove the applicable MMR/ILS receiver. To remove it, do this task: Receiver for ILS - Removal, AMM TASK 34-31-42-000-801.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(e) Do a continuity check between these pins of the connector for the the flight management computer system and the connector for the applicable MMR/ILS receiver:

	FMC CONNECTOR		**MMR/ILS RECEIVER CONNECTOR**
ILS-L (No. 1) (M2104/M1728)	**D2179A**		**D3647B**
	pin G1	- - - - - - - - - - - - - - - - - -	pin B11
	pin H1	- - - - - - - - - - - - - - - - - -	pin C11
ILS-R (No. 2) (M2105/M1729)	**D2179B**		**D3649B**
	pin G5	- - - - - - - - - - - - - - - - - -	pin B11
	pin H5	- - - - - - - - - - - - - - - - - -	pin C11

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(f) Do a continuity check between these pins of the connectors for the flight management computer system and the connector for the applicable MMR/ILS receiver:

	LEFT FMC CONNECTOR		**MMR/ILS RECEIVER CONNECTOR**		**RIGHT FMC CONNECTOR**
ILS-L (No. 1) (M2104/ M1728)	**D2179A**		**D3647B**		**D3261A**
	pin G1	- - - - - - - - - - - - - -	pin B11	- - - - - - - - - - - - -	pin G1
	pin H1	- - - - - - - - - - - - - -	pin C11	- - - - - - - - - - - - -	pin H1

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ILS-R (No. 2) (M2105/ M1729)	**D2179B**	**D3649B**	**D3261B**
	pin G5	pin B11	pin G5
	pin H5	pin C11	pin H5

HAP ALL

(g) If there is not continuity between these pins, then do these steps:

1) Repair the wiring.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

3) Re-install the two FMCs. To install them, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP ALL

4) Re-install the MMR/ILS receiver. To install it, do this task: Receiver for ILS - Installation, AMM TASK 34-31-42-400-801.

5) Close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
HAP 004, 005, 008-013, 015-026, 028-030			
A	2	C01380	RADIO NAVIGATION ILS 1

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
HAP ALL			
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
HAP 037-054, 101-999			
D	16	C01262	FMCS CMPTR 2

HAP ALL

6) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If there is no maintenance message for ILS, then you corrected the fault.

——————— END OF TASK ———————

824. ADIRS Input Problem - Fault Isolation

A. Description

(1) This task is for these maintenance messages:

(a) ADIRS-L - BARO ALT 1 - RATE

(b) ADIRS-L - BARO ALT 1 - PARITY

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(c) ADIRS-L - BARO ALT 1 - SSM
(d) ADIRS-L - BARO ALT 1 - REASON
(e) ADIRS-L - BARO ALT 2 - RATE
(f) ADIRS-L - BARO ALT 2 - PARITY
(g) ADIRS-L - BARO ALT 2 - SSM
(h) ADIRS-L - BARO ALT 2 - REASON
(i) ADIRS-L - BUFF OVERFLOW
(j) ADIRS-L - COMP AIR SPD - RATE
(k) ADIRS-L - COMP AIR SPD - PARITY
(l) ADIRS-L - COMP AIR SPD - SSM
(m) ADIRS-L - COMP AIR SPD - REASON
(n) ADIRS-L - MACH - RATE
(o) ADIRS-L - MACH - PARITY
(p) ADIRS-L - MACH - SSM
(q) ADIRS-L - MACH - REASON
(r) ADIRS-L - PRESSURE ALT - RATE
(s) ADIRS-L - PRESSURE ALT - PARITY
(t) ADIRS-L - PRESSURE ALT - SSM
(u) ADIRS-L - PRESSURE ALT - REASON
(v) ADIRS-L - SAT - RATE
(w) ADIRS-L - SAT - PARITY
(x) ADIRS-L - SAT - SSM
(y) ADIRS-L - SAT - REASON
(z) ADIRS-L - TAT - RATE
(aa) ADIRS-L - TAT - PARITY
(ab) ADIRS-L - TAT - SSM
(ac) ADIRS-L - TAT - REASON
(ad) ADIRS-L - TRUE AIR SPD - RATE
(ae) ADIRS-L - TRUE AIR SPD - PARITY
(af) ADIRS-L - TRUE AIR SPD - SSM
(ag) ADIRS-L - TRUE AIR SPD - REASON
(ah) ADIRS-L - DISCRETE 270 - PARITY
(ai) ADIRS-L - DISCRETE 270 - SSM
(aj) ADIRS-L - DISCRETE 270 - REASON
(ak) ADIRS-L - DISCRETE 274 - PARITY
(al) ADIRS-L - DISCRETE 274 - SSM
(am) ADIRS-L - GND SPEED - RATE
(an) ADIRS-L - GND SPEED - PARITY
(ao) ADIRS-L - GND SPEED - SSM
(ap) ADIRS-L - GND SPEED - REASON

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(aq) ADIRS-L - INERT V SPD - RATE
(ar) ADIRS-L - INERT V SPD - PARITY
(as) ADIRS-L - INERT V SPD - SSM
(at) ADIRS-L - INERT V SPD - REASON
(au) ADIRS-L - INERTIAL ALT - RATE
(av) ADIRS-L - INERTIAL ALT - PARITY
(aw) ADIRS-L - INERTIAL ALT - SSM
(ax) ADIRS-L - INERTIAL ALT - REASON
(ay) ADIRS-L - MAG HEADING - RATE
(az) ADIRS-L - MAG HEADING - PARITY
(ba) ADIRS-L - MAG HEADING - SSM
(bb) ADIRS-L - PITCH ANGLE - RATE
(bc) ADIRS-L - PITCH ANGLE - PARITY
(bd) ADIRS-L - PITCH ANGLE - SSM
(be) ADIRS-L - PITCH ANGLE - REASON
(bf) ADIRS-L - PRES POS LAT - RATE
(bg) ADIRS-L - PRES POS LAT - PARITY
(bh) ADIRS-L - PRES POS LAT - SSM
(bi) ADIRS-L - PRES POS LAT - REASON
(bj) ADIRS-L - PRES POS LON - RATE
(bk) ADIRS-L - PRES POS LON - PARITY
(bl) ADIRS-L - PRES POS LON - SSM
(bm) ADIRS-L - ROLL ANGLE - RATE
(bn) ADIRS-L - ROLL ANGLE - PARITY
(bo) ADIRS-L - ROLL ANGLE - SSM
(bp) ADIRS-L - TRUE HEADING - RATE
(bq) ADIRS-L - TRUE HEADING - PARITY
(br) ADIRS-L - TRUE HEADING - SSM
(bs) ADIRS-L - VEL E-W - RATE
(bt) ADIRS-L - VEL E-W - PARITY
(bu) ADIRS-L - VEL E-W - SSM
(bv) ADIRS-L - VEL E-W - REASON
(bw) ADIRS-L - VEL N-S - RATE
(bx) ADIRS-L - VEL N-S - PARITY
(by) ADIRS-L - VEL N-S - SSM
(bz) ADIRS-L - VEL N-S - REASON
(ca) ADIRS-L - FAIL
(cb) ADIRS-R - BARO ALT 1 - RATE
(cc) ADIRS-R - BARO ALT 1 - PARITY
(cd) ADIRS-R - BARO ALT 1 - SSM

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(ce) ADIRS-R - BARO ALT 1 - REASON
(cf) ADIRS-R - BARO ALT 2 - RATE
(cg) ADIRS-R - BARO ALT 2 - PARITY
(ch) ADIRS-R - BARO ALT 2 - SSM
(ci) ADIRS-R - BARO ALT 2 - REASON
(cj) ADIRS-R - BUFF OVERFLOW
(ck) ADIRS-R - COMP AIR SPD - RATE
(cl) ADIRS-R - COMP AIR SPD - PARITY
(cm) ADIRS-R - COMP AIR SPD - SSM
(cn) ADIRS-R - COMP AIR SPD - REASON
(co) ADIRS-R - MACH - RATE
(cp) ADIRS-R - MACH - PARITY
(cq) ADIRS-R - MACH - SSM
(cr) ADIRS-R - MACH - REASON
(cs) ADIRS-R - PRESSURE ALT - RATE
(ct) ADIRS-R - PRESSURE ALT - PARITY
(cu) ADIRS-R - PRESSURE ALT - SSM
(cv) ADIRS-R - PRESSURE ALT - REASON
(cw) ADIRS-R - SAT - RATE
(cx) ADIRS-R - SAT - PARITY
(cy) ADIRS-R - SAT - SSM
(cz) ADIRS-R - SAT - REASON
(da) ADIRS-R - TAT - RATE
(db) ADIRS-R - TAT - PARITY
(dc) ADIRS-R - TAT - SSM
(dd) ADIRS-R - TAT - REASON
(de) ADIRS-R - TRUE AIR SPD - RATE
(df) ADIRS-R - TRUE AIR SPD - PARITY
(dg) ADIRS-R - TRUE AIR SPD - SSM
(dh) ADIRS-R - TRUE AIR SPD - REASON
(di) ADIRS-R - DISCRETE 270 - PARITY
(dj) ADIRS-R - DISCRETE 270 - SSM
(dk) ADIRS-R - DISCRETE 270 - REASON
(dl) ADIRS-R - DISCRETE 274 - PARITY
(dm) ADIRS-R - DISCRETE 274 - SSM
(dn) ADIRS-R - GND SPEED - RATE
(do) ADIRS-R - GND SPEED - PARITY
(dp) ADIRS-R - GND SPEED - SSM
(dq) ADIRS-R - GND SPEED - REASON
(dr) ADIRS-R - INERT V SPD - RATE

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(ds) ADIRS-R - INERT V SPD - PARITY
(dt) ADIRS-R - INERT V SPD - SSM
(du) ADIRS-R - INERT V SPD - REASON
(dv) ADIRS-R - INERTIAL ALT - RATE
(dw) ADIRS-R - INERTIAL ALT - PARITY
(dx) ADIRS-R - INERTIAL ALT - SSM
(dy) ADIRS-R - INERTIAL ALT - REASON
(dz) ADIRS-R - MAG HEADING - RATE
(ea) ADIRS-R - MAG HEADING - PARITY
(eb) ADIRS-R - MAG HEADING - SSM
(ec) ADIRS-R - PITCH ANGLE - RATE
(ed) ADIRS-R - PITCH ANGLE - PARITY
(ee) ADIRS-R - PITCH ANGLE - SSM
(ef) ADIRS-R - PITCH ANGLE - REASON
(eg) ADIRS-R - PRES POS LAT - RATE
(eh) ADIRS-R - PRES POS LAT - PARITY
(ei) ADIRS-R - PRES POS LAT - SSM
(ej) ADIRS-R - PRES POS LAT - REASON
(ek) ADIRS-R - PRES POS LON - RATE
(el) ADIRS-R - PRES POS LON - PARITY
(em) ADIRS-R - PRES POS LON - SSM
(en) ADIRS-R - ROLL ANGLE - RATE
(eo) ADIRS-R - ROLL ANGLE - PARITY
(ep) ADIRS-R - ROLL ANGLE - SSM
(eq) ADIRS-R - TRUE HEADING - RATE
(er) ADIRS-R - TRUE HEADING - PARITY
(es) ADIRS-R - TRUE HEADING - SSM
(et) ADIRS-R - VEL E-W - RATE
(eu) ADIRS-R - VEL E-W - PARITY
(ev) ADIRS-R - VEL E-W - SSM
(ew) ADIRS-R - VEL E-W - REASON
(ex) ADIRS-R - VEL N-S - RATE
(ey) ADIRS-R - VEL N-S - PARITY
(ez) ADIRS-R - VEL N-S - SSM
(fa) ADIRS-R - VEL N-S - REASON
(fb) ADIRS-R - FAIL

(2) The flight management computer (FMC) found a failure in the data from the air data inertial reference system (ADIRS).

(3) These faults can cause the position data from the air data inertial reference unit (ADIRU) to not show on the control display unit (CDU).

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B. Possible Causes

(1) ADIRU, M1749 (ADIRU-L) or M1752 (ADIRU-R).

(2) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
HAP 001-013, 015-026, 028-030			
D	10	C00357	STBY ALTM/ASI VIB
HAP ALL			
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

(1) (SSM 34-61-13).

(2) (WDM 34-61-13).

E. Initial Evaluation

(1) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

(2) If a maintenance message for the ADIRS with a fault type of BUFF OVERFLOW, FAIL, SSM or REASON shows, then do the Fault Isolation Procedure - BUFF OVERFLOW, FAIL, REASON, and SSM Fault.

(3) If a maintenance message for the ADIRS with a fault type of RATE or PARITY shows, then do the Fault Isolation Procedure - RATE and PARITY Fault.

(4) If a maintenance message for the ADIRS does not show, then there was an intermittent fault.

F. Fault Isolation Procedure - BUFF OVERFLOW, FAIL, REASON and SSM Fault

(1) For the applicable ADIRU, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(a) If you find an ADIRS maintenance message, then do these steps:

1) Go to the fault isolation task for the applicable ADIRS maintenance message to correct the fault.

2) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If there is no maintenance message for ADIRS, then you corrected the fault.

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G. Fault Isolation Procedure - RATE and PARITY Fault

(1) For the applicable ADIRU, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(a) If you find an ADIRS maintenance message, then do these steps:

1) Go to the fault isolation task for the applicable ADIRS maintenance message to correct the fault.

2) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If there is no maintenance message for ADIRS, then you corrected the fault.

b) If there is still a maintenance message for ADIRS, then continue.

(b) If you do not find an ADIRS maintenance message, then continue.

(2) Do this check of the wiring:

(a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

HAP 001-013, 015-026, 028-030

D	10	C00357	STBY ALTM/ASI VIB

HAP ALL

E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

HAP 037-054, 101-999

D	16	C01262	FMCS CMPTR 2

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(b) Remove the FMC, M1175. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(c) Remove the two FMCs, M1175 and M1632. To remove them, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP ALL

(d) Remove the applicable ADIRU, M1749 (ADIRU-L) or M1752 (ADIRU-R). To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(e) Do a continuity check between the applicable pins of the connector for the FMC and the connector for the applicable ADIRU:

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	FMC CONNECTOR		ADIRU CONNECTOR
ADIRU-L (M1749)	**D2179A**		**D3687B**
	pin A3	- - - - - - - - - - - - - - - - - -	pin C10
	pin B3	- - - - - - - - - - - - - - - - - -	pin C11
	D2179A		**D3687A**
	pin D7	- - - - - - - - - - - - - - - - - -	pin A9
	pin E7	- - - - - - - - - - - - - - - - - -	pin B9
ADIRU-R (M1752)	**D2179B**		**D3693B**
	pin A3	- - - - - - - - - - - - - - - - - -	pin C10
	pin B3	- - - - - - - - - - - - - - - - - -	pin C11
	D2179B		**D3693A**
	pin D5	- - - - - - - - - - - - - - - - - -	pin A9
	pin E5	- - - - - - - - - - - - - - - - - -	pin B9

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(f) Do a continuity check between the applicable pins of the connector for the FMC and the connector for the applicable ADIRU:

	LEFT FMC CONNECTOR		ADIRU CONNECTOR		RIGHT FMC CONNECTOR
ADIRU-L (M1749)	**D2179A**		**D3687B**		**D3261A**
	pin A3	- - - - - - - - - - - - - -	pin C10	- - - - - - - - - - - - -	pin A3
	pin B3	- - - - - - - - - - - - - -	pin C11	- - - - - - - - - - - - -	pin B3
	D2179A		**D3687A**		**D3261A**
	pin D7	- - - - - - - - - - - - - -	pin A9	- - - - - - - - - - - - - -	pin D7
	pin E7	- - - - - - - - - - - - - -	pin B9	- - - - - - - - - - - - - -	pin E7
ADIRU-R (M1752)	**D2179B**		**D3693B**		**D3261B**
	pin A3	- - - - - - - - - - - - - -	pin C10	- - - - - - - - - - - - -	pin A3
	pin B3	- - - - - - - - - - - - - -	pin C11	- - - - - - - - - - - - -	pin B3
	D2179B		**D3693A**		**D3261B**
	pin D5	- - - - - - - - - - - - - -	pin A9	- - - - - - - - - - - - - -	pin D5
	pin E5	- - - - - - - - - - - - - -	pin B9	- - - - - - - - - - - - - -	pin E5

HAP ALL

(g) If there is not continuity between these pins, then do these steps:

1) Repair the wiring.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

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HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

3) Re-install the two FMCs. To install them, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP ALL

4) Re-install the ADIRU. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1
HAP 001-013, 015-026, 028-030			
D	10	C00357	STBY ALTM/ASI VIB
HAP ALL			
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC
HAP 037-054, 101-999			
D	16	C01262	FMCS CMPTR 2
HAP ALL			

6) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.
   a) If there is no maintenance message for ADIRU, then you corrected the fault.

——————— END OF TASK ———————

825. DFCS Input Problem - Fault Isolation

A. Description

(1) This task is for these maintenance messages:
   (a) DFCS - BUFF OVERFLOW
   (b) DFCS - DISCRETE 270 - PARITY
   (c) DFCS - DISCRETE 270 - SSM
   (d) DFCS - DISCRETE 272 - PARITY
   (e) DFCS - DISCRETE 272 - SSM
   (f) DFCS - DISCRETE 274 - PARITY
   (g) DFCS - DISCRETE 274 - SSM

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(h) DFCS - DISCRETE 274 - REASON
(i) DFCS - FLAP POS - RATE
(j) DFCS - FLAP POS - PARITY
(k) DFCS - FLAP POS - SSM
(l) DFCS - FLAP POS - REASON
(m) DFCS - FOREIGN COURSE - RATE
(n) DFCS - FOREIGN COURSE - PARITY
(o) DFCS - FOREIGN COURSE - SSM
(p) DFCS - LOCAL COURSE - RATE
(q) DFCS - LOCAL COURSE - PARITY
(r) DFCS - LOCAL COURSE - SSM
(s) DFCS - SELECT ALT - RATE
(t) DFCS - SELECT ALT - PARITY
(u) DFCS - SELECT ALT - SSM
(v) DFCS - SELECT ALT - REASON
(w) DFCS - TARGET AIRSPEED - RATE
(x) DFCS - TARGET AIRSPEED - PARITY
(y) DFCS - TARGET AIRSPEED - SSM
(z) DFCS - TARGET AIRSPEED - REASON

(2) The flight management computer (FMC) found a failure in the data from the digital flight control system (DFCS).

B. Possible Causes

(1) DFCS mode control panel (MCP), M198.

(2) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
C	5	C01041	AFCS SYS A SNSR EXC AC
D	2	C01045	AFCS SYS A FCC DC
D	3	C01048	AFCS SYS A ENGAGE INTLK
D	5	C01044	AFCS MCP DC 1

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
B	3	C01046	AFCS SYS B FCC DC
B	4	C00716	AFCS SYS B ENGAGE INTLK
C	2	C01042	AFCS SYS B SNSR EXC AC
C	3	C01047	AFCS MCP DC 2

D. Related Data

(1) (SSM 34-61-13).

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(2) (WDM 34-61-13).

E. Initial Evaluation

(1) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

(2) If a maintenance message for the DFCS with a fault type of BUFF OVERFLOW, REASON or SSM shows, then do the Fault Isolation Procedure - BUFF OVERFLOW, REASON or SSM Fault.

(3) If a maintenance message for the DFCS with a fault type of RATE or PARITY shows, then do the Fault Isolation Procedure - RATE or PARITY Fault.

(4) If a maintenance message for the DFCS does not show, then there was an intermittent fault.

F. Fault Isolation Procedure - BUFF OVERFLOW, REASON or SSM Fault

(1) Do this task: Digital Flight Control System (DFCS) BITE Procedure, 22-11 TASK 801.

(a) If you find a DFCS maintenance message, then do these steps:

1) Go to the fault isolation task for the applicable DFCS maintenance message to correct the fault.

2) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If there is no maintenance message for DFCS, then you corrected the fault.

G. Fault Isolation Procedure - RATE or PARITY Fault

(1) Do this task: Digital Flight Control System (DFCS) BITE Procedure, 22-11 TASK 801.

(a) If you find a DFCS maintenance message, then do these steps:

1) Go to the fault isolation task for the applicable DFCS maintenance message to correct the fault.

2) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If there is no maintenance message for DFCS, then you corrected the fault.

b) If there is still a maintenance message for DFCS, then continue.

(b) If you do not find a DFCS maintenance message, then continue.

(2) Do this check of the wiring:

(a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
C	5	C01041	AFCS SYS A SNSR EXC AC
D	3	C01048	AFCS SYS A ENGAGE INTLK
D	5	C01044	AFCS MCP DC 1

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
HAP 037-054, 101-999			
D	16	C01262	FMCS CMPTR 2

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F/O Electrical System Panel, P6-2

Row	Col	Number	Name
HAP ALL			
B	4	C00716	AFCS SYS B ENGAGE INTLK
C	3	C01047	AFCS MCP DC 2

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(b) Remove the FMC, M1175. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(c) Remove the two FMCs, M1175 and M1632. To remove them, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP ALL

(d) Remove the DFCS mode control panel, M198. To remove it, do this task: DFCS Mode Control Panel Removal, AMM TASK 22-11-34-000-801.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(e) Do a continuity check between these pins of connector D2179A for the left FMC and connector D301 for the MCP:

D2179A		**D301**
pin G7	- - - - - - - - - - - - - - - - - -	pin 2
pin H7	- - - - - - - - - - - - - - - - - -	pin 1

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(f) Do a continuity check between these pins of connector D2179A for the left FMC or connector D3261A for the right FMC and connector D301 for the MCP:

D2179A OR D3261A		**D301**
pin G7	- - - - - - - - - - - - - - - - - -	pin 2
pin H7	- - - - - - - - - - - - - - - - - -	pin 1

HAP ALL

(g) If there is not continuity between these pins, then do these steps:

1) Repair the wiring.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

3) Re-install the two FMCs. To install them, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP ALL

4) Re-install the MCP. To install it, do this task: DFCS Mode Control Panel Installation, AMM TASK 22-11-34-400-801.

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5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
C	5	C01041	AFCS SYS A SNSR EXC AC
D	3	C01048	AFCS SYS A ENGAGE INTLK
D	5	C01044	AFCS MCP DC 1

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
HAP 037-054, 101-999			
D	16	C01262	FMCS CMPTR 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
HAP ALL			
B	4	C00716	AFCS SYS B ENGAGE INTLK
C	3	C01047	AFCS MCP DC 2

6) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.
   a) If there is no maintenance message for DFCS, then you corrected the fault.

——————— END OF TASK ———————

826. FQIS Input Problem - Fault Isolation

A. Description

(1) This task is for these maintenance messages:
   (a) FQIS - TOTAL FUEL - RATE
   (b) FQIS - TOTAL FUEL - PARITY

(2) The flight management computer (FMC) found a failure in the data from the fuel quantity indicating system (FQIS).

B. Possible Causes

(1) Fuel quantity processor unit (FQPU), M1827.

(2) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
A	4	C01441	FUEL FUELING IND
A	5	C00398	FUEL QTY 2
A	6	C00397	FUEL QTY 1

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D. Related Data

(1) (SSM 34-61-13).

(2) (WDM 34-61-13).

E. Fault Isolation Procedure

(1) Do this task: FQIS Fault Message - 1 OR MORE TANK UNIT OPEN - Fault Isolation, 28-41 TASK 818.

(a) If you find an FQIS maintenance message, then do these steps:

1) Go to the fault isolation task for the applicable FQIS maintenance message to correct the fault.

2) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If there is no maintenance message for FQIS, then you corrected the fault.

b) If there is still a maintenance message for FQIS, then continue.

(b) If you do not find an FQIS maintenance message, then continue.

(2) Do this check of the wiring:

(a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
HAP 037-054, 101-999			
D	16	C01262	FMCS CMPTR 2

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
HAP ALL			
A	4	C01441	FUEL FUELING IND
A	5	C00398	FUEL QTY 2
A	6	C00397	FUEL QTY 1

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(b) Remove the FMC, M1175. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(c) Remove the two FMCs, M1175 and M1632. To remove them, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP ALL

(d) Remove the fuel quantity processor unit (FQPU), M1827. To remove it, do this task: Remove the Fuel Quantity Processor Unit, AMM TASK 28-41-81-000-801.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(e) Do a continuity check between these pins of connector D2179A for the FMC and connector D11306 for the FQPU:

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D2179A		D11306
pin D5	- - - - - - - - - - - - - - - - - -	pin 1
pin E5	- - - - - - - - - - - - - - - - - -	pin 3

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(f) Do a continuity check between these pins of connector D2179A for the left FMC or connector D3261A for the right FMC and connector D11306 for the FQPU:

D2179A OR D3261A		D11306
pin D5	- - - - - - - - - - - - - - - - - -	pin 1
pin E5	- - - - - - - - - - - - - - - - - -	pin 3

HAP ALL

(g) If there is not continuity between these pins, then do these steps:

1) Repair the wiring.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

3) Re-install the two FMCs. To install them, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP ALL

4) Re-install the FQPU. To install it, do this task: Install the Fuel Quantity Processor Unit, AMM TASK 28-41-81-400-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	16	C01262	FMCS CMPTR 2

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
A	4	C01441	FUEL FUELING IND
A	5	C00398	FUEL QTY 2
A	6	C00397	FUEL QTY 1

HAP ALL

6) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If there is no maintenance message for FQIS, then you corrected the fault.

——————— END OF TASK ———————

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827. CDS DEU Input Problem - Fault Isolation

A. Description

(1) This task is for these maintenance messages:

NOTE: CDS DEU-L is the same as DEU 1 and the CDS DEU-R is the same as DEU 2.

(a) CDS DEU-L - BUFF OVERFLOW
(b) CDS DEU-L - DISCRETE 272 - PARITY
(c) CDS DEU-L - DISCRETE 272 - SSM
(d) CDS DEU-L - DISCRETE 273 - PARITY
(e) CDS DEU-L - DISCRETE 273 - SSM
(f) CDS DEU-L - DISCRETE 350 - PARITY
(g) CDS DEU-L - DISCRETE 350 - SSM
(h) CDS DEU-R - BUFF OVERFLOW
(i) CDS DEU-R - DISCRETE 272 - PARITY
(j) CDS DEU-R - DISCRETE 272 - SSM
(k) CDS DEU-R - DISCRETE 273 - PARITY
(l) CDS DEU-R - DISCRETE 273 - SSM
(m) CDS DEU-R - DISCRETE 350 - PARITY
(n) CDS DEU-R - DISCRETE 350 - SSM

(2) The flight management computer (FMC) found a failure in the data from the common display system (CDS) display electronic unit (DEU).

B. Possible Causes

(1) CDS DEU, M1808 (DEU 1) or M1809 (DEU 2).

(2) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	1	C01369	DISPLAY CAPT EFIS CONT PANEL
D	2	C01372	DISPLAY CTR UPR
D	3	C01365	DISPLAY CAPT INBD
D	4	C01363	DISPLAY CAPT OUTBD
D	5	C01359	DISPLAY DEU 1 PRI

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	10	C01361	DISPLAY DEU 1 HOLDUP

D. Related Data

(1) (SSM 34-61-13).

(2) (WDM 34-61-13).

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E. Initial Evaluation

(1) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

(2) If a maintenance message for the DEU with a fault type of BUFF OVERFLOW, REASON or SSM shows, then do the Fault Isolation Procedure - BUFF OVERFLOW, REASON or SSM Fault.

(3) If a maintenance message for the DEU with a fault type of RATE or PARITY shows, then do the Fault Isolation Procedure - RATE or PARITY Fault.

(4) If a maintenance message for the DEU does not show, then there was an intermittent fault.

F. Fault Isolation Procedure - BUFF OVERFLOW, REASON or SSM Fault

(1) For the applicable DEU, do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If you find a CDS maintenance message, then do these steps:

1) Go to the fault isolation task for the applicable CDS maintenance message to correct the fault.

2) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If there is no maintenance message for DEU, then you corrected the fault.

G. Fault Isolation Procedure - RATE or PARITY Fault

(1) For the applicable DEU, do this task: CDS BITE Procedure, 31-62 TASK 801.

(a) If you find a CDS maintenance message, then do these steps:

1) Go to the fault isolation task for the applicable CDS maintenance message to correct the fault.

2) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If there is no maintenance message for DEU, then you corrected the fault.

b) If there is still a maintenance message for CDS DEU, then continue.

(b) If you do not find a CDS maintenance message, then continue.

(2) Do this check of the wiring:

(a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1
D	1	C01369	DISPLAY CAPT EFIS CONT PANEL
D	2	C01372	DISPLAY CTR UPR
D	3	C01365	DISPLAY CAPT INBD
D	4	C01363	DISPLAY CAPT OUTBD
D	5	C01359	DISPLAY DEU 1 PRI

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	10	C01361	DISPLAY DEU 1 HOLDUP

HAP 037-054, 101-999

D	16	C01262	FMCS CMPTR 2

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(b) Remove the FMC, M1175. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

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HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(c) Remove the two FMCs, M1175 and M1632. To remove them, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP ALL

(d) Remove the applicable CDS DEU, M1808 (DEU 1) or M1809 (DEU 2). To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(e) Do a continuity check between the applicable pins of connector D2179A for the left FMC and the connector for the applicable DEU:

	FMC (M1175) CONNECTOR		DEU CONNECTOR
DEU 1 (M1808)	**D2179A**		**D3973B**
	pin G15	- - - - - - - - - - - - - - - - -	pin A15
	pin H15	- - - - - - - - - - - - - - - - -	pin B15
DEU 2 (M1809)	**D2179A**		**D3975B**
	pin G3	- - - - - - - - - - - - - - - - -	pin A15
	pin H3	- - - - - - - - - - - - - - - - -	pin B15

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(f) Do a continuity check between the applicable pins of connector D3261A for the right FMC and the connector for the applicable DEU:

	FMC (M1632) CONNCECTOR		DEU CONNECTOR
DEU 1 (M1808)	**D3261A**		**D3973B**
	pin G15	- - - - - - - - - - - - - - - - -	pin A15
	pin H15	- - - - - - - - - - - - - - - - -	pin B15
DEU 2 (M1809)	**D3261A**		**D3975B**
	pin G3	- - - - - - - - - - - - - - - - -	pin A15
	pin H3	- - - - - - - - - - - - - - - - -	pin B15

HAP ALL

(g) If there is not continuity between these pins, then do these steps:

1) Repair the wiring.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

3) Re-install the two FMCs. To install them, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP ALL

4) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

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5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1
D	1	C01369	DISPLAY CAPT EFIS CONT PANEL
D	2	C01372	DISPLAY CTR UPR
D	3	C01365	DISPLAY CAPT INBD
D	4	C01363	DISPLAY CAPT OUTBD
D	5	C01359	DISPLAY DEU 1 PRI

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	10	C01361	DISPLAY DEU 1 HOLDUP

HAP 037-054, 101-999

D	16	C01262	FMCS CMPTR 2

HAP ALL

6) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.
   a) If there is no maintenance message for CDS DEU, then you corrected the fault.

——————— END OF TASK ———————

828. DME Input Problem - Fault Isolation

A. Description

NOTE: DME-L is the same as DME 1 and the DME-R is the same as DME 2.

(1) This task is for these maintenance messages:
   (a) DME-L - DME DISTANCE - SSM
   (b) DME-L - DME DISTANCE - REASON
   (c) DME-L - DME FREQUENCY - REASON
   (d) DME-R - DME DISTANCE - SSM
   (e) DME-R - DME DISTANCE - REASON
   (f) DME-R - DME FREQUENCY - REASON

(2) The flight management computer (FMC) found a failure in the data from the distance measuring equipment (DME) interrogator.

B. Possible Causes

(1) DME interrogator, M164 (DME-L) or M165 (DME-R).

(2) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	3	C00190	RADIO NAVIGATION DME 1

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	14	C00192	RADIO NAVIGATION DME 2

D. Related Data

(1) (SSM 34-55-11).

(2) (WDM 34-55-11).

E. Initial Evaluation

(1) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

(2) If a maintenance message for the DME with a fault type of REASON or SSM shows, then do the Fault Isolation Procedure - REASON or SSM Fault.

(3) If a maintenance message for the DME with a fault type of RATE or PARITY shows, then do the Fault Isolation Procedure - RATE or PARITY Fault.

(4) If a maintenance message for the DME does not show, then there was an intermittent fault.

F. Fault Isolation Procedure - REASON or SSM Fault

(1) For the applicable DME interrogator, do this task: DME Interrogator BITE Procedure, 34-55 TASK 801.

(a) If you find a DME maintenance message, then do these steps:

1) Go to the fault isolation task for the applicable DME maintenance message to correct the fault.

2) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If there is no maintenance message for DME, then you corrected the fault.

G. Fault Isolation Procedure - RATE or PARITY Fault

(1) For the applicable DME interrogator, do this task: DME Interrogator BITE Procedure, 34-55 TASK 801.

(a) If you find a DME maintenance message, then do these steps:

1) Go to the fault isolation task for the applicable DME maintenance message to correct the fault.

2) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If there is no maintenance message for DME, then you corrected the fault.

b) If there is still a maintenance message for DME, then continue.

(b) If you do not find a DME maintenance message, then continue.

(2) Do this check of the wiring:

(a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	3	C00190	RADIO NAVIGATION DME 1

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	14	C00192	RADIO NAVIGATION DME 2

HAP 037-054, 101-999

D	16	C01262	FMCS CMPTR 2

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(b) Remove the FMC, M1175. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(c) Remove the two FMCs, M1175 and M1632. To remove them, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP ALL

(d) Remove the applicable DME interrogator, M164 (DME-L) or M165 (DME-R). To remove it, do this task: DME Interrogator Removal, AMM TASK 34-55-21-000-801.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(e) Do a continuity check between the applicable pins of the connector for the left FMC and the connector for the applicable DME interrogator:

	FMC CONNECTOR		DME CONNECTOR
DME-L (M164)	**D2179A**		**D161B**
	pin D1	- - - - - - - - - - - - - - - - - -	pin G1
	pin E1	- - - - - - - - - - - - - - - - - -	pin H1
DME-R (M165)	**D2179B**		**D169B**
	pin D1	- - - - - - - - - - - - - - - - - -	pin G1
	pin E1	- - - - - - - - - - - - - - - - - -	pin H1

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(f) Do a continuity check between the applicable pins of the connector for the FMCs, the connector for the applicable DME interrogator:

	LEFT FMC CONNECTOR		DME CONNECTOR		RIGHT FMC CONNECTOR
DME-L (M164)	**D2179A**		**D161B**		**D3261A**
	pin D1	- - - - - - - - - - - - - -	pin G1	- - - - - - - - - - - - - -	pin D1
	pin E1	- - - - - - - - - - - - - -	pin H1	- - - - - - - - - - - - - -	pin E1
DME-R (M165)	**D2179B**		**D169B**		**D3261B**
	pin D1	- - - - - - - - - - - - - -	pin G1	- - - - - - - - - - - - - -	pin D1
	pin E1	- - - - - - - - - - - - - -	pin H1	- - - - - - - - - - - - - -	pin E1

HAP ALL

(g) If there is not continuity between these pins, then do these steps:

1) Repair the wiring.

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HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

3) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP ALL

4) Re-install the DME interrogator. To install it, do this task: DME Interrogator Installation, AMM TASK 34-55-21-400-801.

5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	3	C00190	RADIO NAVIGATION DME 1

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	14	C00192	RADIO NAVIGATION DME 2

HAP 037-054, 101-999

D	16	C01262	FMCS CMPTR 2

HAP ALL

6) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If there is no maintenance message for CDS DEU, then you corrected the fault.

——————— END OF TASK ———————

829. Clock Input Problem - Fault Isolation

A. Description

(1) This task is for these maintenance messages:

(a) CLOCK - BUFF OVERFLOW

(b) CLOCK - DATE - PARITY

(c) CLOCK - DATE - SSM

(2) The FMC has detected a failure for the data coming from the captain's clock.

B. Possible Causes

(1) Captain's clock.

(2) Wiring.

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
A	1	C00736	MISC CLOCK DISPLAY
A	2	C00737	MISC CLOCK

D. Related Data

(1) (SSM 31-22-11).

(2) (WDM 31-22-11).

E. Initial Evaluation

(1) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

(2) If a maintenance message for the clock with a fault type of BUFF OVERFLOW or SSM shows, then do the Fault Isolation Procedure - BUFF OVERFLOW or SSM Fault.

(3) If a maintenance message for the clock with a fault type of PARITY shows, then do the Fault Isolation Procedure - PARITY Fault.

(4) If a maintenance message for the clock does not show, then there was an intermittent fault.

F. Fault Isolation Procedure - BUFF OVERFLOW or SSM Fault

(1) Do this task: Captain's Clock Problem - Fault Isolation, 31-25 TASK 801.

(a) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

G. Fault Isolation Procedure - PARITY Fault

(1) Do this task: Captain's Clock Problem - Fault Isolation, 31-25 TASK 801.

(a) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring:

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(a) Remove the FMC, M1175. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(b) Remove the two FMCs, M1175 and M1632. To remove them, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

HAP ALL

(c) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	3	C00190	RADIO NAVIGATION DME 1

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CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	14	C00192	RADIO NAVIGATION DME 2

HAP 037-054, 101-999

D	16	C01262	FMCS CMPTR 2

HAP ALL

(d) Remove the clock. To remove it, do this task: Clock Removal, AMM TASK 31-25-11-000-801.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(e) Do a continuity check between these pins of connector D2179B for the left FMC and connector D714 for the clock:

D2179B		**D714**
pin D3	- - - - - - - - - - - - - - - - - -	pin 24
pin E3	- - - - - - - - - - - - - - - - - -	pin 23

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(f) Do a continuity check between these pins of connector D2179B for the left FMC and connector D3261B for the right FMC and connector D714 for the clock:

D2179B OR D3261B		**D714**
pin D3	- - - - - - - - - - - - - - - - - -	pin 24
pin E3	- - - - - - - - - - - - - - - - - -	pin 23

HAP ALL

(g) If there is not continuity between these pins, then do these steps:

1) Repair the wiring.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

3) Re-install the FMCs. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

HAP ALL

4) Re-install the clock. To install it, do this task: Clock Installation, AMM TASK 31-25-11-400-801.

5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	3	C00190	RADIO NAVIGATION DME 1

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CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	14	C00192	RADIO NAVIGATION DME 2

HAP 037-054, 101-999

D	16	C01262	FMCS CMPTR 2

HAP ALL

6) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.
   a) If there is no maintenance message for clock, then you corrected the fault.

———————— END OF TASK ————————

830. MAP RANGE DISAGREE Message Shows on CDS - Fault Isolation

A. Description

(1) The display electronic unit (DEU) senses a failure in the range data from the flight management computer (FMC). The FMC range data does not agree with the data from the EFIS control panel and the weather radar receiver/transmitter.

B. Possible Causes

(1) Wiring.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1
D	5	C01359	DISPLAY DEU 1 PRI

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	10	C01361	DISPLAY DEU 1 HOLDUP

HAP 037-054, 101-999

D	16	C01262	FMCS CMPTR 2

HAP ALL

D. Initial Evaluation

(1) Make sure the WXR switch on the captain's EFIS control panel is selected.

(2) Make sure the CONTROL PANEL switch on the instrument switching module is set to NORMAL.

(a) If the MAP RANGE DISAGREE message does not show on either display, then there was an intermittent fault.

HAP 001-013, 015-026, 028-036; AIRPLANES WITH A SINGLE FMC

(b) If the MAP RANGE DISAGREE message shows on the captain's or first officer's display, then do the Fault Isolation Procedure below.

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HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(3) Set the FMCS transfer switch to the BOTH ON L position.

(a) If the MAP RANGE DISAGREE message shows on the captain's or first officer's display, then do the the Fault Isolation Procedure below.

HAP ALL

E. Fault Isolation Procedure

(1) Do this check of the wiring:

(a) Remove the FMC. To remove it, do this task: FMCS Computer Removal, AMM TASK 34-61-02-000-801.

(b) Remove the DEU. To remove it, do this task: Display Electronic Unit Removal, AMM TASK 31-62-21-000-801.

(c) Do a continuity check between the applicable pins of the connector for the FMC and the connector for the applicable DEU:

	FMC (M1175) CONNECTOR		DEU CONNECTOR
DEU 1 (M1808)	**D2179A**		**D3973B**
	pin G15	- - - - - - - - - - - - - - - - -	pin A15
	pin H15	- - - - - - - - - - - - - - - - -	pin B15
DEU 2 (M1809)	**D2179A**		**D3975B**
	pin G3	- - - - - - - - - - - - - - - - -	pin C2
	pin H3	- - - - - - - - - - - - - - - - -	pin C2

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

(d) Do a continuity check between the applicable pins of connector for the FMC and the connector for the applicable DEU:

	FMC (M1632) CONNECTOR		DEU CONNECTOR
DEU 1 (M1808)	**D3261A**		**D3973B**
	pin G15	- - - - - - - - - - - - - - - - -	pin A15
	pin H15	- - - - - - - - - - - - - - - - -	pin B15
DEU 2 (M1809)	**D3261A**		**D3975B**
	pin G3	- - - - - - - - - - - - - - - - -	pin C2
	pin H3	- - - - - - - - - - - - - - - - -	pin C2

HAP ALL

(e) If there is not continuity between these pins, then do these steps:

1) Repair the wiring.

2) Re-install the FMC. To install it, do this task: FMCS Computer Installation, AMM TASK 34-61-02-400-801.

3) Re-install the DEU. To install it, do this task: Display Electronic Unit Installation, AMM TASK 31-62-21-400-801.

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a) If the MAP RANGE DISAGREE message does not show on either display, then you corrected the fault.

——————— END OF TASK ———————

HAP 037-054, 101-999; AIRPLANES WITH DUAL FMC

832. RESYNC FAIL Message on CDU - Fault Isolation

A. Description

(1) The RESYNC FAIL message shows on the CDU when no performance database is installed in one FMC, or when one FMC has found a problem with the performance database already installed on the other FMC.

B. Initial Evaluation

(1) Do this check of the FMC performance database:

(a) Set the FMCS transfer switch to the NORMAL position.

(b) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

NOTE: This circuit breaker must be left open for at least 15 seconds.

(c) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

(d) If the message RESYNC FAIL shows on the captain's CDU, then do the Fault Isolation Procedure below for the left FMC, M1175.

(e) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	16	C01262	FMCS CMPTR 2

NOTE: This circuit breaker must be left open for at least 15 seconds.

(f) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	16	C01262	FMCS CMPTR 2

(g) If the message RESYNC FAIL shows on the first officer's CDU, then do the Fault Isolation Procedure below for the right FMC, M1632.

(h) If RESYNC FAIL does not show on either CDU, then there was an intermittent fault.

C. Fault Isolation Procedure

(1) Install a new performance database. To install it, do this task: FMC Software Installation with an Airborne Data Loader, AMM TASK 34-61-00-470-804.

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(a) If the software installed successfully, then you corrected the fault.

HAP ALL

——————— END OF TASK ———————

834. GPS Input Problem - Fault Isolation

A. Description

(1) This task is for these maintenance messages:

(a) MMR-L - GPS MAINT

(b) MMR-R - GPS MAINT

(2) A 6-character maintenance code follows the maintenance message.

(a) The second character tells the type of problem.

1) If the maintenance code is X1XXXX (where X is a character), then the GPS BITE found a problem.

2) If the code is X2XXXX, then there is a problem with GPS RF Input.

3) If the code is X3XXXX, then the GPS BITE found a problem or there is a problem with the GPS RF input.

4) If the code is X4XXXX, then there is a problem with the GPS Receiver.

B. Possible Causes

(1) Multi-mode receiver (MMR-L), M2104 or (MMR-R), M2105.

(2) GPS antenna connector, D2941 or D2947.

(3) GPS antenna, M2102 or M2103.

C. Circuit breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name

HAP 001, 004-013, 015-026, 028-054, 101-999

A	2	C01479	RADIO NAVIGATION MMR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	13	C01480	RADIO NAVIGATION MMR 2

HAP ALL

D. Related Data

(1) (SSM 34-58-11).

(2) (SSM 34-58-21).

(3) (WDM 34-58-11).

(4) (WDM 34-58-21).

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E. Fault Isolation Procedure

(1) Look at the maintenance code.

(a) If the code is X1XXXX, X3XXXX or X4XXXX (where X is a character), start with the BITE procedure of the Multi-Mode Receiver.

(b) If the code is X2XXXX, start with the inspection of the GPS antenna connector.

(2) For the applicable MMR receiver, do this task: ILS or Multi-Mode Receiver BITE Procedure, 34-31 TASK 801.

(a) If a fault is found in the MMR receiver BITE, then go to the tasks for the applicable MMR receiver maintenance message to correct the fault.

1) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If the FMCS maintenance message does not show, then you corrected the fault.

b) If the FMCS maintenance message shows, then continue.

(b) If no fault is found in the MMR receiver BITE, then continue.

(3) Do the inspection of the GPS antenna connector:

(a) Do this task: Sculptured Ceiling Panel Removal, AMM TASK 25-21-45-000-801.

(b) Inspect the GPS antenna connector:

1) If the MMR-L message shows, inspect the left GPS antenna connector, D2941 for water contamination and repair if necessary.

2) If the MMR-R message shows, inspect the right GPS antenna connector, D2947 for water contamination and repair if necessary.

3) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If the FMCS maintenance message does not show, then you corrected the fault.

b) If the FMCS maintenance message shows, then continue.

(c) Do this task: Sculptured Ceiling Panel Installation, AMM TASK 25-21-45-400-801.

(4) Replace the GPS Antenna:

(a) If MMR-L message shows, replace the left GPS Antenna, M2103.

These are the tasks:

GPS Antenna Removal, AMM TASK 34-58-02-000-802,

GPS Antenna Installation, AMM TASK 34-58-02-400-802.

(b) If MMR-R message shows, replace the right GPS Antenna, M2102.

These are the tasks:

GPS Antenna Removal, AMM TASK 34-58-02-000-802,

GPS Antenna Installation, AMM TASK 34-58-02-400-802.

1) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

a) If the FMCS maintenance message does not show, then you corrected the fault.

——————— END OF TASK ———————

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HAP 037-054, 101-999

835. FMC DISAGREE Message on CDU - Fault Isolation

A. Description

(1) During approach or when the airplane is on the ground, the FMC senses a disagreement in monitored parameters required for dual FMC operation.

B. Possible Causes

(1) Synchronization error between the two FMCs

(2) Wiring

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	16	C01262	FMCS CMPTR 2

D. Initial Evaluation

(1) Do these steps if the logbook indicates the message was shown inflight or the message is shown on the ground.

(a) Open these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	16	C01262	FMCS CMPTR 2

(b) Wait 15 seconds.

(c) Close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	16	C01262	FMCS CMPTR 2

(2) If the FMC DISAGREE message does not show on either display after 5 minutes, then there was an intermittent fault. For multiple occurrences of this message you may want to do these tasks, Flight Management Computer System BITE Procedure, 34-61 TASK 801 and/or FMC Diagnostic Data Transfer, AMM TASK 34-61-00-810-801.

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(3) If the FMC DISAGREE message shows on either display, then do the Fault Isolation Procedure below.

E. Fault Isolation Procedure

(1) Do this task: Flight Management Computer System BITE Procedure, 34-61 TASK 801.

——————— END OF TASK ———————

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