

TECHNICAL MANUAL

**OPERATIONAL CHECKS
AND
MAINTENANCE ACTION
PRECISE
SYMPTOMS (MAPS)
DIAGRAMS**

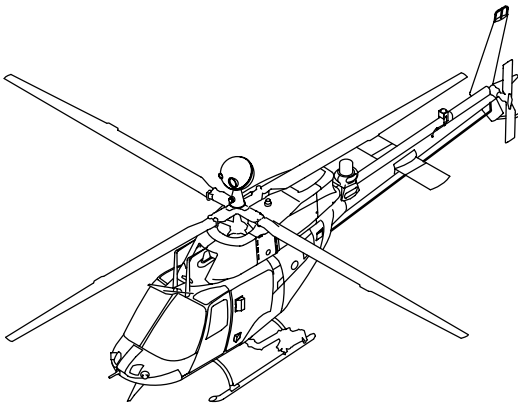
**AVIATION UNIT
AND INTERMEDIATE
MAINTENANCE MANUAL
FOR ARMY
OH-58D HELICOPTERS**

FLUID AND MECHANICAL SYSTEMS
MAINTENANCE ACTION PRECISE
SYMPTOMS (MAPS) DIAGRAMS

3-1

ARMAMENT SYSTEMS
MAINTENANCE ACTION PRECISE
SYMPTOMS (MAPS) DIAGRAMS

4-1



**ARMY MODEL
OH-58D HELICOPTER**

DISTRIBUTION STATEMENT A. Approved
for public release; distribution is
unlimited.

THIS VOLUME IS ONE OF A SERIES OF
THREE VOLUMES AND IS INCOMPLETE
WITHOUT TM 1-1520-248-T-1 AND TM 1-1520-
248-T-3.

Headquarters, Department of the Army

28 FEBRUARY 2000

CHANGE

NO. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 31 January 2001

Operational Checks and Maintenance Action Precise
Systems (MAPS) Diagrams

Aviation Unit and Intermediate
Maintenance Manual

**ARMY MODEL
OH-58D HELICOPTER**

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

TM 1-1520-248-T-2, 28 February 2000, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

Remove pages

A and B
4-217 through 4-430
4-435 through 4-507/(4-508
blank)

Insert pages

A and B
4-217 through 4-430
4-435 through 4-507/(4-508
blank)

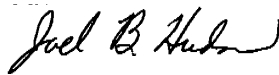
2. Retain this sheet in front of manual for reference purposes.

TM 1-1520-248-T-2
C2

By Order of the Secretary of the Army:

Official:

ERIC K. SHINSEKI
General, United States Army
Chief of Staff



JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
0100404

DISTRIBUTION:

To be distributed in accordance with initial distribution number (IDN) 313854, requirements for TM 1-1520-248-T-2.

CHANGE

NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 30 November 2000

Operational Checks and Maintenance Action Precise
Systems (MAPS) Diagrams

Aviation Unit and Intermediate
Maintenance Manual

**ARMY MODEL
OH-58D HELICOPTER**

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

TM 1-1520-248-T-2, 28 February 2000, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

Remove pages
A/(B blank)
c and d
i and ii
xxi through xxiii/(xxiv
blank)
3-1 and 3-2
3-9 through 3-12
4-1 through 4-218

Insert pages
A/(B blank)
c and d
i and ii
xxi/(xxii blank)
3-1 and 3-2
3-9 through 3-12
4-1 through 4-218

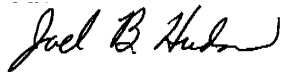
2. Retain this sheet in front of manual for reference purposes.

TM 1-1520-248-T-2
C1

By Order of the Secretary of the Army:

Official:

ERIC K. SHINSEKI
General, United States Army
Chief of Staff



JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
0023003

DISTRIBUTION:

To be distributed in accordance with initial distribution number (IDN) 313854, requirements for TM 1-1520-248-T-2.

WARNING

HIGH VOLTAGE

The helicopter contains high voltage and shall be electrically grounded when parked. Serious burns and electrical shock can result from contact with exposed electrical wires or connectors.

WARNING

HIGH VOLTAGE

High voltage may be stored in the ignition system after operation of the Aviation Ground Power Unit. This high voltage can cause injury or death.

- Do not make contact with exposed wires or connectors.
- Allow at least 5 minutes after operation of the ignition system before disconnecting or removing ignition system components.
- Turn all power switches off before making any connections or disconnections.
- Observe instructions for grounding the power cable to discharge high voltage.
- For artificial respiration, refer to FM 21-11.

WARNING

STRAY VOLTAGE

Stray voltage may exist in electronic equipment installed in the helicopter. These voltages present an explosive hazard to fuel and fuel fumes. Severe injury or death could result.

WARNING

PITOT HEAT

The pitot tube assembly is very hot during and for several minutes after operation requiring pitot heat. Severe burns will result if contacted by hands or other parts of the body.

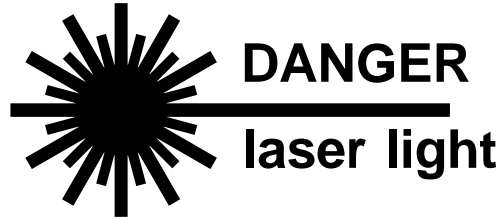
WARNING

LUBRICATING OILS HAZARDOUS

Lubricating oils DOD-L-85734, MIL-L-7808, and MIL-L-23699 contain materials hazardous to health. They can cause paralysis if swallowed. Prolonged contact with skin can cause irritation. Fire can result if exposed to heat or flames.

- Use only in areas with adequate ventilation.
- Wash hands thoroughly after handling.

WARNING



The laser rangefinder/designator (LRF/D) is very dangerous. Looking at the laser beam or its reflection from a shiny surface can cause permanent blindness. Under noncombat conditions, the laser shall be used only in controlled areas and at times specified by a range control officer.

Laser firing system may store a charge. Take care to prevent accidental pulsing of the laser and to avoid electric shock. Personal injury may result. Reflections from the laser beam are extremely dangerous. Serious eye injury will result. It is essential that all reflective material be removed from its path.

BATTERY ELECTROLYTE

Corrosive battery electrolyte (potassium hydroxide) requires rubber gloves, apron, and faceshield when handling leaking batteries. Potassium hydroxide spilled on clothing or other material shall be washed off immediately with clean water. If spilled on personnel, severe skin burns will result. Immediately start flushing the affected area with clean water and continue flushing until medical assistance arrives.

WARNING

RADIATION HAZARD



SELF-LUMINOUS DIALS

Self-luminous instrument dials contain radioactive materials.

- If glass is broken or case becomes unsealed, avoid personal contact. Injury to personnel could result.
- Forceps or gloves made of rubber or polyethylene shall be used to pick up contaminated material.
- Place material and gloves in a plastic bag and dispose of it as radioactive waste in accordance with AR 755-15 and TM 3-261.
- Repair procedure shall conform to requirements in AR 700-52.

WARNING

SOLVENT

Drycleaning solvent is flammable and toxic. It can irritate skin and cause burns.

- Use only in well-ventilated area away from heat and open flame.
- Wear rubber gloves and goggles.
- In case of contact, immediately flush skin or eyes with water for at least 15 minutes.
- Get medical attention for eyes.

WARNING

SOUND LEVEL

Sound pressure levels in this helicopter during operating conditions exceed the Surgeon General hearing conservation criteria. Hearing protection devices, such as aviator helmet or ear plugs or ear sound suppressors, are required to be worn by all personnel in and around the helicopter during its operation.

WARNING

MAIN AND TAIL ROTOR BLADES

Stay clear of turning main and tail rotor blades. Wind gusts, coast down or cyclic movement may cause the main rotor blade to flap down below the height of a person. Dangerous winds are created by the main rotor blades when blades are operated at or near top rpm. Adequate distance must be maintained from main and tail rotor blades during operation. Severe injury or death may result.

WARNING

ARMAMENT

Loaded weapons, or weapons being loaded or unloaded, shall be pointed in a direction which offers the least exposure to personnel or property in the event of accidental firing. Personnel should remain clear of all loaded weapon hazard areas. Death or severe injury may result.

WARNING

HF ANTENNA

Ensure that HF antenna is not operating while performing maintenance. When operating, HF antenna emits infrared radiation that can cause radiation burns. If exposed to infrared radiation, seek medical aid immediately.

WARNING

ASBESTOS DUST

Avoid creating dust. Breathing asbestos dust may cause serious bodily harm.

LIST OF EFFECTIVE PAGES

INSERT LATEST CHANGED PAGES. DESTROY SUPERSEDED PAGES.

NOTE: The portion of the text affected by the changes is indicated by a vertical bar in the outer margins of the page. Changes to illustrations are indicated by a vertical bar or a pointing hand adjacent to the area of the change.

Dates of issue for original and changed pages are:

Original..... 0.... 28 February 2000
 Change..... 1..... 30 November 2000
 Change..... 2..... 31 January 2001

TOTAL NUMBER OF PAGES IN THIS VOLUME IS 622, CONSISTING OF THE FOLLOWING:

Page No.	*Change No.	Page No.	*Change No.	Page No.	*Change No.
Cover-1	0	xxi	1	3-84 Blank	0
Cover-2 Blank	0	xxii Blank	0	4-1	0
A	2	3-1	0	4-2 — 4-217	1
B Blank	2	3-2	1	4-218 — 4-429	2
a — b	0	3-3 — 3-8	0	4-430 — 4-435	0
c — d	1	3-9 — 3-11	1	4-436 — 4-507	2
i — ii	1	3-12 — 3-83	0	4-508 Blank	2
iii — xx	0				

* Zero in this column indicates an original page.

**OPERATIONAL CHECKS AND MAINTENANCE ACTION
PRECISE SYMPTOMS (MAPS) DIAGRAMS****AVIATION UNIT AND INTERMEDIATE
MAINTENANCE MANUAL
FOR ARMY
OH-58D HELICOPTERS****REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in back of this manual direct to: Commander, U.S. Army Aviation and Missile Command, ATTN: AMSAM-MMC-LS-LP, Redstone Arsenal, AL 35898-5230. You may also submit your recommended changes by E-mail directly to ls-lp@redstone.army.mil in the format provided in the back of this manual immediately preceding the hard copy 2028. DA Form 2028's may also be faxed to DSN 788-6546 or commercial fax 256-842-6546. A reply will be furnished to you.

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited

	TABLE OF CONTENTS	PAGE
	HOW TO USE THIS MANUAL	iii
VOLUME 1		
CHAPTER 1	INTRODUCTION	
Section I	General Information	1-2
Section II	Equipment Description and Data	1-3
Section III	Principles of Operation	1-18
CHAPTER 2	OPERATIONAL CHECKS	
Section I	Powerplant	2-1
Section II	Hydraulic System	2-8
Section III	Instruments	2-18
Section IV	Fuel System	2-64
Section V	Armament Systems	2-76
Section VI	Electrical System	2-281
APPENDIX A	REFERENCES	A-1
APPENDIX B	TOOLS and TEST EQUIPMENT	B-1
APPENDIX C	EXPENDABLE AND DURABLE ITEMS LIST	C-1
APPENDIX D	WIRING DATA	D-1

TABLE OF CONTENTS (Cont)

PAGE

APPENDIX E	ILLUSTRATED LIST OF MANUFACTURED ITEMS (AVUM, AVIM)	E-1
APPENDIX F	FAULT DETECTION LOCATION SYSTEM (FDLS) FAILURE CODES FOR OH-58D/OH-58D(R)	F-1
APPENDIX G	Deleted
GLOSSARY	Glossary 1
ALPHABETICAL INDEX	Index 1

VOLUME 2

CHAPTER 3	FLUID AND MECHANICAL SYSTEMS MAINTENANCE ACTION PRECISE SYMPTOMS (MAPS) DIAGRAMS	
Section I	Drive Train	3-2
Section II	Hydraulic System	3-18
Section III	Instruments	3-23
Section IV	Fuel System	3-69
Section V	Flight Controls	3-76
CHAPTER 4	ARMAMENT SYSTEMS MAINTENANCE ACTION PRECISE SYMPTOMS (MAPS) DIAGRAMS	
Section I	General Faults	4-2
Section II	Jettison Faults	4-71
Section III	Gun Faults	4-81
Section IV	Rocket Faults	4-129
Section V	ATAS Faults	4-218
Section VI	HELLFIRE Faults	4-279
Section VII	Missile Sight System (MSS) Faults	4-394
Section VIII	MSS/CDS Faults	4-410
Section IX	MSS Growth Option Faults	4-430
Section X	Miscellaneous Faults	4-436

VOLUME 3

CHAPTER 5	ELECTRICAL SYSTEMS MAINTENANCE ACTION PRECISE SYMPTOMS (MAPS) DIAGRAMS	
Section I	AC and DC Electrical Systems	5-2
Section II	Lighting Electrical System	5-182
Section III	CDS Electrical System	5-280
Section IV	Powerplant Electrical System	5-339
Section V	Transmission Electrical System	5-559
Section VI	Flight Controls Electrical System	5-645
Section VII	Environmental Electrical System	5-846
Section VIII	MMS Electrical System	5-872

HOW TO USE THIS MANUAL

1. GENERAL

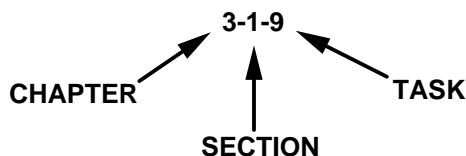
To get the job done correctly, you must be able to find all the information you need. Knowing how to use this manual is the key. You should know what is in this manual, how it is organized, and how to use it.

2. ORGANIZATION

- a. The complete OH-58D and OH-58D(R) Kiowa Warrior helicopter troubleshooting manual consists of a set of three volumes. These volumes are numbered as follows: TM 1-1520-248-T-1 through TM 1-1520-248-T-3. The troubleshooting manual, TM 1-1520-248-T, contains operational checks and maintenance action precise symptoms (MAPS) diagrams for applicable helicopter systems.
- b. Volumes are made up of chapters. Each chapter is numbered in Arabic numerals (1, 2, 3, etc.). A chapter is an individual book which has maintenance information covering a helicopter system or systems.
- c. Chapters (books) are broken down into sections. Sections are numbered in Roman numerals (I, II, III, etc.).
- d. Sections are made up of tasks. Each task is numbered in Arabic numerals (1, 2, 3, etc.). Sections cover maintenance procedures for a particular system.
- e. Tasks are detailed descriptions of operational checks and MAPS diagrams. Some tasks are brief. Some are several pages long.
- f. The title of each task contains the name of the component followed by the type of operation that is being described, e.g., operational check or MAPS diagram.
- g. A task starts with an initial setup which is followed by a step-by-step procedure on how to perform the task correctly. The steps in the procedures have illustrations to help make things clear.
- h. The words “INSPECT” or “INSPECT” may be seen in a task. “INSPECT” is a paragraph heading that introduces inspection steps to be performed by the technician. “INSPECT” means that the maintenance procedure must be stopped until a Scout Helicopter Technical Inspector (TI) has inspected the work performed to that point.
- i. If applicable, a paragraph called “FOLLOW-ON MAINTENANCE” may be seen at the end of a task. The steps listed will be required to place the helicopter in a flyable state following the completion of the maintenance task.
- j. A reference to TM 1-1520-248-23 will be made if removal and installation must be performed to effect repair of individual system components.
- k. A reference to TM 1-1520-248-23 will be made if an avionics system operational check or troubleshooting procedure needs to be performed to ensure serviceability.

3. TASK NUMBERING

Task numbers are in three parts. The first is the chapter number. The second is the section number in that chapter. The third number is the actual task sequence number in the section. Each number is separated by a (–) as shown in the example:

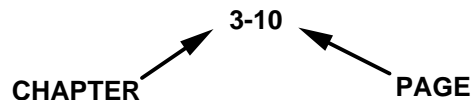


Task numbers are the most important numbers in the manual. Always use the task number to find information – NOT the page number.

HOW TO USE THIS MANUAL — continued

4. PAGE NUMBERING

All page numbering is by chapters except front matter. The first number is the number of the chapter; the second number is the number of the page in that chapter. The numbers are separated by a dash as shown in the example:

**5. MANUAL INDEX**

- a. At the end of Volume I is an alphabetical index for the entire troubleshooting manual set. The index lists all task titles and certain key paragraphs of non-task text in alphabetical order. After you find the title in the index, it tells the task number or paragraph number of that task or text. For example, if you need information on the SCAS and hydraulic electrical system, go to the “S” sections of the index and look under “SCAS.”

There you will find:

SCAS and Hydraulic Electrical System — Operational Check (OH-58D).

The index tells that the SCAS information is in chapter 2, section 6, task 43.

- b. You can find your task in the index, even if you only know a single word in the title. In the sample SCAS titles you could also find your tasks by looking under “Hydraulic”. Examples:

Hydraulic Electrical System, SCAS and — Operational Check (OH-58D) 2-6-43

Or, you could look under “Electrical”

Electrical System, SCAS and Hydraulic — Operational Check (OH-58D) 2-6-43

- c. Any task can be located in the way described. If you know the name, job, part, assembly, procedure, description, etc., you can use one of the words to find the paragraph number in the index. It makes locating information quick and easy.

6. GLOSSARY

- a. A glossary of words used throughout the manual is located just before the alphabetical index of Volume I. The glossary contains a list of abbreviations and acronyms. Abbreviations are shortened terms for words and phrases. Acronyms are words formed by the first letter of each of several words. Abbreviations and acronyms are defined where first used. The glossary provides a good place to check if there is any doubt.
- b. Review the glossary periodically to ensure familiarity with the abbreviations and acronyms.

7. INITIAL SETUP (Example next page)

The first page of each operational check in Volume I is the initial setup. Always check the initial setup before starting a task. The initial setup contains information you must know. **DON'T START A TASK UNTIL:**

- You understand the task
- You understand what you are to do
- You understand what is needed to do the work
- You have the things you need.

An example initial setup is shown below. Not all tasks have the headings shown.

Each part of the initial setup is explained by the following subparagraphs (a. through g.). Each subparagraph describes initial setup entries in the order of their appearance in the example.

HOW TO USE THIS MANUAL — continued

- a. **Title:** The title in the upper border contains the chapter/section/task number and title of the task as listed in the index.
- b. **Applicable Configuration:** Equipment model designator that the task is used to maintain.
- c. **This Task Covers:** This entry appears in the border below the title and provides a brief description of the task.
- d. **Tools:** This heading identifies the list of tool kit(s) by MOS(s). The tools in the kit(s) and any others listed will be all that is required to perform the task. Tasks requiring tools other than those in this tool kit are considered SPECIAL TOOLS. Special tools could be: (1) tools from the shop set; (2) tools from the kits of other MOS's, or (3) tools made especially for the OH-58D helicopter. Special tools will be listed in addition to MOS tool kits when needed. Tool kits and special tools have an item number assigned to them and are located in Appendix B. Appendix B contains a "Tools and Test Equipment Requirements" listing. Each item listed has an Equipment Reference Code. This code is used to clearly identify a tool or item of test equipment, e.g., (B18). It is acceptable to use a substitute torque wrench other than the one listed as long as the torque range is the same. Example: 1/4 - inch drive torque wrench **30 INCH-POUNDS to 150 INCH-POUNDS** or 3/8 -inch drive torque wrench **30 INCH-POUNDS to 150 INCH-POUNDS**. If a tool or a part will have to be made, it is listed in an index in Appendix E. The index will identify the tool or part by name or part number, and a figure number in Appendix E will be referenced. All information required to construct a part or tool is provided in the figure.

INITIAL SETUP EXAMPLE

2-2-1 HYDRAULIC SYSTEM — OPERATIONAL CHECK

This task covers: Operational Check (On Helicopter)

INITIAL SETUP
Applicable Configurations:

All

Tools:

General Mechanic Tool Kit (B15)
Maintenance Stand (B9)
Aviation Ground Power Unit (APU)
Hydraulic Test Stand

Material:

Wiping Rags (C5)

Personnel Required:

68H Aircraft Pneudraulics Repairer
67S Scout Helicopter Repairer
67S Scout Helicopter Technical Inspection (TI)

References:

TM 1-1520-248-23

Equipment Condition:

Forward Fairing Assembly Removed
(TM 1-1520-248-23)

- d. **Material:** This heading identifies the list of materials needed to complete the task. Most materials cannot be used on the helicopter a second time; they are expendable. Expendable materials are items such as solvent, grease, oil, hydraulic fluid, etc.
 - (1) Each expendable has an item number assigned to it and is located in Appendix C. The item number is placed in parentheses following the item name on the initial setup page. A typical example of an expendable item is:

Wiping Rags (C5)

See the expendable and durable item list in Appendix C for more information about expendable and durable materials.
 - (2) Some parts are also expendable.

HOW TO USE THIS MANUAL — continued

- (3) It may be necessary to use a part as a tool to do a step in a task. These parts do not appear in TM 1-1520-248-23P. A typical example would be when a bolt is used to temporarily hold an assembly in place or to align two pieces of material to be fastened.

- e. **Personnel Required:** This heading lists the people required to perform the task. It also tells the MOS of each person and the number of persons required. For example:

67S	Scout Helicopter Repairer One to Assist
67S	Scout Helicopter Technical Inspector (TI)

This listing would indicate that one 67S repairer, one of any MOS to assist, and a 67S technical inspector will be needed to complete the task.

IF YOUR MOS IS NOT LISTED IN THE PERSONNEL REQUIRED COLUMN IN THE INITIAL SETUP, CHECK WITH YOUR MAINTENANCE SUPERVISOR FIRST BEFORE STARTING THE TASK.

- f. **References:** This heading identifies the list of other technical manuals (TMs) needed to complete a task. The steps in the task will tell you when you must refer to another TM.
- g. **Equipment Condition:** This heading identifies the list of tasks or parts of tasks that must be accomplished before starting a task. It may require an operation such as jacking the helicopter, or just the tailboom; or removing parts, assemblies, etc. These operations are described in other tasks or technical manuals. The paragraphs or TMs that describe how to do these operations are referenced here. If the job is to be done on the helicopter, the statement “Helicopter Safed” will appear here. The reference will be to the TM 1-1520-248-23 task where aircraft or armament safing is described. It is essential that equipment conditions listed in a particular task be followed in sequence so that required conditions are not missed, and all required tasks are reviewed prior to start of maintenance.

8. WARNINGS, CAUTIONS AND NOTES

The warnings used in this manual may be in text or icon format. Text warnings are used to describe hazardous situations, and icons are for hazardous materials and certain operations where defined.

Icon warnings are pictorial images which may be used in place of words. The safety summary sheet explains in detail what each icon means.

WARNING AND CAUTION STATEMENTS

WARNING and CAUTION statements are used prior to operating or maintenance procedures, practices, or conditions considered essential to the protection of personnel (WARNING) or equipment and property (CAUTION). A WARNING or CAUTION will apply each time the related step is repeated. Prior to starting any task, the WARNINGS or CAUTIONS included in the text for that task will be reviewed and understood. Refer to the materials list figure at the beginning of the appropriate manual section for material used during maintenance of this equipment. The detailed warnings for hazardous material and operations are listed separately in the safety summary as “Hazardous Materials and Operations Icons.”

HAZARDOUS MATERIALS

This publication describes physical and chemical processes which may require the use of chemicals, solvents, paints, or other commercially available hazardous material. The user of this publication should obtain the material safety data sheets (Occupational Safety and Health Act (OSHA) Form 20 or equivalent) from the manufacturers or suppliers of materials to be used. The user must become

HOW TO USE THIS MANUAL — continued

completely familiar with the manufacturer/supplier information and adhere to the procedures, recommendations, warnings, and cautions of the manufacturer/supplier for the safe use, handling, storage, and disposal of these materials.

HAZARDOUS MATERIALS WARNINGS

Warnings for hazardous material in this manual are designed to warn personnel of hazards associated with such items when they come in contact with them during actual use. For each hazardous material used, the material safety data sheet (MSDS) is required to be provided and available for review by the users. Consult your local safety and health staff concerning any questions on hazardous chemicals, MSDSs, personnel protective equipment requirements, and appropriate handling and emergency procedures.

The Safety Summary gives the complete warnings for hazardous material used in this manual.

Notes tell something extra or special a person must know to do the task. They can appear before or after the item they tell about. Notes must be read and remembered when working on the helicopter.

9. USE OF SHALL, WILL, SHOULD, AND MAY

Within this technical manual the word shall is used to indicate a mandatory requirement. The word will is used to express a declaration of purpose or futurity. The word should is used to indicate a desired result or a nonmandatory but preferred method of accomplishment. The word may is used to indicate an acceptable method of accomplishment.

10. TORQUING INFORMATION

- a. An inspector shall be present to verify all torques specified in this manual.
- b. Each hardware fastener (except types used in sheet metal work) is assigned an applied torque.
- c. There are two types of applied torques. They are: special torques and standard torques.
 - (1) Special torques differ from standard torques as determined by engineers who look at each application. Special torques are given in bold type. Torque wrenches and adapters to be used when a special torque is given are listed under TOOLS in the initial setup.
 - (2) Standard torques are listed in Appendix P of TM 1-1520-248-23. Standard torques not listed in Appendix P can be found in TM 1-1500-204-23. Standard torque applies to all fasteners for which a special torque is not specified.

11. INSPECTION INFORMATION

General inspection information is in the front of each chapter or section for the equipment covered in that chapter or section. Inspection criteria peculiar to a specific part, assembly, or component are in the inspection steps of the removal/installation task for that part, assembly, or component.

12. GENERAL MAINTENANCE INFORMATION

The following are considered standard maintenance practices. Instructions about these practices will not normally be included in maintenance procedure task steps.

- a. Lines will be tagged before they are disconnected. Tubes and parts will be capped or plugged when they are disconnected.
- b. Used preformed packings, retainers, gaskets, cotter pins, lockwashers, etc., are to be discarded. New parts shall be installed.

HOW TO USE THIS MANUAL — continued

- c. Packings are coated before installation. Specific instructions are provided in each maintenance procedure.
- d. Tubes and related parts will be tied out of the way with twine, not lockwire.
- e. Disassembly procedures reflect disassembly needed to support total authorized repair. You may not need to disassemble a part as far as described in the task. Follow the steps to disassemble as far as needed to repair/replace worn or damaged parts.
- f. Before a component or the disassembled parts of a component are inspected, they are cleaned as required.
- g. Components and mating surface areas will be inspected for serviceable condition before installation.
- h. Guide lines will be used when any item is hoisted overhead.
- i. When a nut is tightened or loosened on a bolt, the bolt head will be held with a wrench.
- j. When a coupling nut on a line is tightened or loosened, the mating fitting will be held with a wrench.
- k. A special torque will be cited when the words TORQUE TO are used. A standard torque is required when no specific torque is given. Standard torque information is located in Appendix P of TM 1-1520-248-23 and in TM 1-1500-204-23.
- l. When torquing hardware, observe compliance with drag torque as required. To determine drag torque, thread nut onto screw or bolt until at least two threads protrude. The nut shall not contact the mating part. The torque necessary to begin turning the nut is the drag torque. Drag torque is explained in more detail in TM 1-1500-204-23.
- m. Chafing is a condition which occurs when two or more components contact each other in such a manner that friction and consequent wear occur. This condition is not acceptable. Proper routing, clamping, and component installation are required.

13. ELECTRICAL WIRING AND CABLING

TM 1-1520-248-23 contains removal and installation procedures for wiring harness/cable assemblies that are permanently installed in the helicopter. Wiring harnesses/cable assemblies that can be or are normally removed with avionic/electronic equipment are contained in TM 11-1520-248-23. Wiring harnesses/cable assemblies applicable to Armament Systems are contained in TM 9-1090-214-23&P where these wiring harnesses/cable assemblies are external to the helicopter fuselage.

14. REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)

This portion of the manual series, the TM 1-1520-248-23P, lists parts; special tools; test, measurement, and diagnostic equipment (TMDE); and other support equipment required for operation and performance of Aviation Unit Maintenance (AVUM), Aviation Intermediate Maintenance (AVIM), and depot maintenance of the OH-58D Scout Helicopter. Included are an Introduction, Repair Part Lists, Special Tools List, and a National Stock Number and Part Number Index.

15. UNSERVICEABLE PARTS DISPOSITION

Unserviceable parts must be tagged as unserviceable and returned to unit supply. Refer to DA PAM 738-751 for forms, records, and reporting procedures.

16. GENERAL REFERENCES

- a. Refer to TM 55-1500-323-24 for all electrical tasks of a general nature not peculiar to the OH-58D helicopter.
- b. Refer to TM 1-1500-204-23 for mechanical tasks of a general nature not peculiar to the OH-58D helicopter.

HOW TO USE THIS MANUAL — continued

- c. Refer to TM 55-1500-335-23 for approved nondestructive inspection methods.

17. APPENDICES

The organization and content of Appendices to this manual set are provided for reference as required during performance of maintenance tasks. Appendices are contained at the end of Volume I just before the glossary.

Appendix A is a list of References.

Appendix B is the Tool and Test Equipment Requirements List.

Appendix C is an Expendable Supplies and Materials List.

Appendix D is Wire Data.

Appendix E provides Manufactured Items Data.

Appendix F lists the Fault Detection Location System (FDLS) Failure Codes for OH-58D helicopters

Appendix G lists the Fault Detection Location System (FDLS) Failure Codes for OH-58D(R) helicopters

Table 1. Organization and Content of Appendix A

Organization	Content
References List	List of additional manuals required for use by Maintenance Personnel in the performance of their duties.

Table 2. Organization and Content of Appendix B

Organization	Content
Tool and Test Equipment Requirements List	List of tools and test equipment, including special tools and common tool sets required for each maintenance function as referenced in individual tasks.

Table 3. Organization and Content of Appendix C

Organization	Content
Scope	Description of purpose and limits for the Appendix.
Explanation of Columns	Description of the tabular layout by function.
	Expendable Supplies and Material List in both numerical and alphabetical order.

HOW TO USE THIS MANUAL — continued**Table 4. Organization and Content of Appendix D**

Organization	Content
Wire Data	Essential general wiring information about electrical systems and circuits.
Equipment List	Electrical equipment items listed by reference designator and their nomenclature, location, and access in tabular form.
Wire Repair and Replacement	Wiring repair and replacement data including wire sizes and part numbers, wire construction, marking, soldering, support, and stripping.

Table 5. Organization and Content of Appendix E

Organization	Content
Part Number Index	Part numbers arranged in alphanumeric order along with figure reference for each part number.
Illustrations of Manufactured Items	Illustrations of locally manufactured items in sufficient detail to enable their construction.

Table 6. Organization and Content of Appendix F

Organization	Content
Introduction	General information about the Appendix.
FDLS Codes	List of Fault Detection Location System (FDLS) failure codes for OH-58D helicopters.

Table 7. Organization and Content of Appendix G

Organization	Content
Introduction	General information about the Appendix.
FDLS Codes	List of Fault Detection Location System (FDLS) failure codes for OH-58D(R) helicopters.

SAFETY SUMMARY

1. GENERAL SAFETY INSTRUCTIONS.

This manual contains procedures which, if not followed properly, can cause injury or long-term health hazards to personnel. This safety summary includes general safety precautions and instructions that must be understood and applied during operation and maintenance to ensure personnel safety. Prior to performing any task, the WARNINGS included in that task shall be reviewed and understood.

2. WARNINGS.

WARNINGS are used in this manual to highlight operating or maintenance procedures, practices, conditions, statements which are considered essential to protection of personnel (WARNING). WARNINGS immediately precede the step or procedure to which they apply. WARNINGS consist of four parts: heading (WARNING or icon [see HAZARDOUS MATERIALS WARNINGS]), or statement of the hazard, maintenance precautions, and possible result if disregarded.

WARNING

Highlights an essential operating or maintenance procedure, practice, condition, statement, etc., which, if not strictly observed, could result in injury or long-term health hazards to personnel.

3. HAZARDOUS MATERIALS WARNINGS.

Hazardous Materials Warnings in this manual are provided through use of the Hazard Symbols listed below. Consult the HAZARDOUS MATERIALS DESCRIPTION below or Material Safety Data Sheets (MSDS) (Occupational Safety and Health Administration (OSHA) Form 20 or equivalent) for specific information on hazards, effects, and protective equipment requirements. If you do not have an MSDS for the material involved, contact your supervisor or the base Safety or Bioenvironmental Engineering Office.

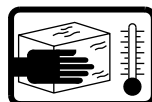
3.1 Hazardous Materials and Operations Icons. Icons are used in this manual to identify dangers associated with hazardous materials and certain conditions. The symbols used and their definitions are as follows.



The abstract bug symbol shows that a material may contain bacteria or viruses that present a danger to your life or health.



The symbol of drops of a liquid onto a hand shows that the material will cause burns or irritation of human skin or tissue.



The symbol of a hand in a block of ice shows that the material is extremely cold and can injure human skin or tissue.



The rapidly expanding symbol shows that the material may explode if subjected to high temperatures, sources of ignition, or high pressure.



The symbol of a person wearing goggles shows that the material will injure your eyes.



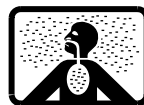
The symbol of a flame shows that a material can ignite and burn you.



The symbol of a skull and crossbones shows that a material is poisonous or is a danger to life.



The symbol of three circular wedges shows that the material emits radioactive energy and can injure human tissue or organs.



The symbol of a human figure in a cloud shows that vapors of a material present a danger to your life or health.



The symbol of a lightning bolt shows that you may contact voltage and current that may present a danger to your life or health.

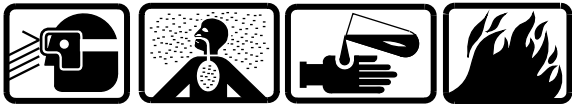


To avoid violent reactions that can cause personal injury, always pour acid into water, never water into acid.



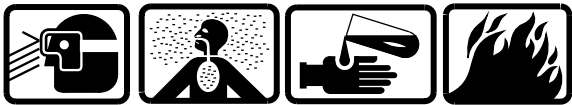
The symbol of a head with the ear highlighted shows that the noise level may injure your hearing.

3.2 Hazardous Materials Description. The following hazardous materials are used in this manual. Each icon represents certain hazards as described above. Beneath the icons is the hazardous material name. Below the icons and material name is a description of the hazardous material. Only the icons and material name are used in the text of the manual. If a full description of the hazardous material is required while performing procedures in this manual, use the material name to locate the appropriate description below.



ACETONE O-A-51

Acetone is flammable; do not use near open flames, near welding areas, or on hot surfaces. Do not smoke while using acetone, and do not use it where others are smoking. Prolonged inhalation of vapor can irritate eyes and mucous membranes and can cause dizziness and headache. If any liquid contacts skin, wash with soap and water. Immediately remove solvent-saturated clothing. If vapors cause drowsiness, go to fresh air. In all cases get immediate medical attention. When handling large quantities of liquid (more than a gallon), use at air-exhausted workbench. Wear approved gloves. Store solvent and dispose of liquid-soaked rags in approved metal safety container. Metal containers of solvent must be grounded to maintain electrical continuity.



ACRYLIC LACQUER, MIL-L-81352/MIL-L-19538

Acrylic lacquer is flammable. Keep away from open flames, sparks, and heat. Overexposure may cause coma, headache, narcotic effect, confusion, depression, irritation of skin, eyes, and respiratory system. Remove contaminated clothing. Wipe off

with towel or cloth. Remove remainder with mineral spirits or lacquer remover and thoroughly wash skin area with soap and water. Immediately flush eyes with water for 15 minutes. If inhaled, move to fresh air. If breathing has stopped perform resuscitation. In all cases get immediate medical attention. When working with acrylic lacquer, wear approved protective gloves, goggles or safety glasses, protective clothing, and approved respirator. Use in a well-ventilated area.



ADHESION PROMOTER A-934BX

Adhesion promoter is flammable; keep away from sparks, flames, and non-explosion proof devices. Inhalation may cause nose and throat irritation, headache, drowsiness, weakness, or exhaustion. Prolonged or repeated skin contact may cause irritation. Vapor and liquid may cause eye irritation. Ingestion may cause intoxication and gastrointestinal irritation. Prolonged overexposure to ethanol can have adverse effects on liver. If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Remove contaminated clothing and wash with soap and water. Flush eyes with plenty of water for 15 minutes while holding eyelids open. If ingested, dilute with one to two glasses of water or milk. Induce vomiting by sticking finger down throat. In all cases, get immediate medical attention. When working with adhesion promoter, wear approved respirator, goggles, and rubber gloves. Work in well-ventilated area.

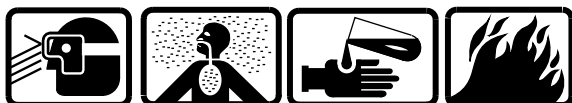


ADHESIVE

Adhesive can cause allergic reaction, skin sensitization, or gastrointestinal irritation. Contact with eyes can cause severe burns. Wash skin immediately with soap and water. Flush eyes with water for at least 15 minutes. Get immediate medical attention in event of eye contact with adhesive. Wash contaminated clothing before reuse. Wear approved respirator in closed area. Work in well-ventilated area using approved rubber gloves and safety glasses or goggles.

**ADHESIVE, EA93NA**

Adhesive may cause allergic reaction, skin sensitization, or gastrointestinal irritation. Contact with eyes can cause severe burns. Wash skin immediately with soap and water. Flush eyes with water for at least 15 minutes. Get immediate medical attention in event of eye contact with adhesive. Wash approved respirator clothing before reuse. Wear approved respirator in closed area. Work in well ventilated area using approved rubber gloves and safety glasses or goggles.

**ADHESIVE, MMM-A-1617,
TYPE I, II, OR III**

Adhesive may cause irritation to skin, eyes, and respiratory system. Thoroughly wash skin area with soap and water and immediately flush eyes with water for 15 minutes. In all cases get immediate medical attention. When working with adhesive, wear approved protective gloves, goggles or faceshield, and respirator approved for organic solvents. Use in a well-ventilated area away from open flame, spark sources, and heat.

**ADHESIVE PRIMER, BR 53**

Adhesive primer is flammable and its vapor is explosive. Keep away from heat, open flame or other sources of ignition. Inhalation will cause irritation to the respiratory tract. Symptoms are headache, nausea, dizziness, and drowsiness. Move to fresh air and administer oxygen. If skin or eyes are affected wash skin with soap and water

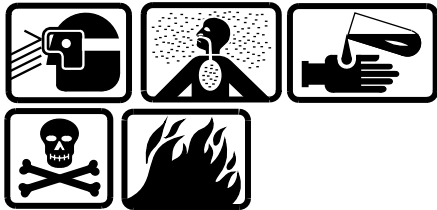
and flush eyes with water for 15 minutes. In all cases get immediate medical attention. When working with adhesive primer, wear approved respirator, rubber gloves and splashproof goggles and faceshield. Work in well-ventilated area.

**ANTI-ICING/DEICING FLUID, MIL-A-82243**

Anti-icing/Deicing fluid contains diluted alcohol. Alcohol is flammable; do not use near open flames, near welding areas, or on hot surfaces. Do not use while smoking or while others are smoking. Inhalation of vapors can cause drowsiness, dizziness and headache. If vapors cause drowsiness, go to fresh air. Contact with skin may cause irritation. If liquid touches skin or eyes, flush thoroughly with water. Remove contaminated clothing.

**ANTISEIZE COMPOUND**

Antiseize compound is flammable; do not use near open flames, welding areas, or on hot surfaces. When decomposed by heating, toxic gases are released. Do not use while smoking or when others are smoking. Liquid can cause severe skin and eye irritation. Inhalation of vapor can cause drowsiness, headache and unconsciousness. Wash affected skin with soap and water. Flush eyes with water for at least 15 minutes. If drowsiness occurs, go to fresh air. Seek medical attention if overexposed. Use approved respirator, gloves, and goggles for prolonged use. Dispose of liquid soaked rags in an approved, grounded metal safety container.



CHEMICAL CONVERSION MATERIALS, MIL-C-81706

Chemical conversion materials are strongly oxidizing and are a fire hazard in contact with acid, reducing agents, and combustible and readily oxidizing materials; separate storage is mandatory. Thoroughly rinse rags and containers contaminated with chemical conversion materials and dispose of in a fireproof container. Contact with skin and eyes can cause burns. Breathing of dust or vapors can cause ulceration of mucous membranes. Thoroughly wash skin area with soap and water and immediately flush eyes with water for 15 minutes. If ingested, drink milk of magnesia, aluminum hydroxide gel, or lime water followed by large amounts of water. In all cases get immediate medical attention. Wash contaminated clothing before wearing. When working with chemical conversion materials, wear approved respirator, rubber apron, gloves, and goggles or faceshield in a well-ventilated area away from heat, open flames or sparks. Follow approved toxic waste disposal procedures. Read manufacturers label for additional information.



CHROMIC ACID, O-C-303

Chromic acid is highly reactive; do not mix with organic or oxidizable materials such as paper or wood. When mixing solutions, add acid slowly to water, not water to acid. Any contact with skin, or inhalation of vapors and powder can irritate skin and can cause skin ulcers. Repeated or prolonged exposure can cause permanent injury. If any liquid or powder contacts skin, flush affected area with water, and immediately change contaminated clothing. If skin ulcers appear, get immediate medical attention. When handling dry material or solution at air-exhausted workbench, wear approved gloves, apron, and goggles. When handling dry material or solution at unexhausted

workbench, wear approved respirator, gloves, apron, and long sleeves.



CLEANING COMPOUND MIL-C-87936/MIL-C-43616

Aircraft cleaning compound is flammable and is toxic to the skin by absorption and to the liver and kidneys. It can cause irritation of the eyes and respiratory system, skin irritation and headache. Thoroughly wash skin area with water and immediately flush eyes with water for 15 minutes. If ingested, do not induce vomiting. In all cases get immediate medical attention. When working with cleaning compound, wear approved chemical cartridge respirator, rubber gloves, safety goggles, and protective clothing. Keep away from heat and open flames. Use in a well-ventilated area.



COMPRESSED AIR

When using compressed air for any cleaning or drying operation, do not exceed 30 psig at the nozzle. Eyes can be permanently damaged by contact with liquid or large particles propelled by compressed air. Inhalation of air-blown particles or solvent vapor can damage lungs. If injury occurs, get immediate medical attention. When using air for drying or cleaning at an air-exhausted workbench, wear approved goggles or faceshield. When using air for drying or cleaning at an unexhausted workbench, wear approved respirator and goggles.



CORROSION PREVENTIVE COMPOUND, MIL-C-11796

If solution of petrolatum corrosion preventive compound is decomposed by heat, toxic gases are released. Prolonged contact with solution or mist can cause skin irritation. If there is any prolonged contact with skin, wash contacted area with soap and water. If solution contacts eyes, flush eyes with water immediately. Remove saturated clothing. If solution is swallowed, do not

try to vomit. In all cases get immediate medical attention. When handling solution, wear approved rubber gloves. If prolonged contact with mist is likely, wear approved respirator.



CORROSION PREVENTIVE COMPOUND, MIL-C-16173

Corrosion preventive compound is combustible; do not use near open flames, near welding areas, or on hot surfaces. Prolonged contact with skin can cause skin irritation. Prolonged inhalation of vapor can cause dizziness, headache, and intoxication. If there is any prolonged contact with skin, wash affected area with soap and water. If liquid contacts eyes, flush eyes thoroughly with water. Remove contaminated clothing. If vapors cause light-headedness, go to fresh air. If liquid is swallowed, do not try to vomit. In all cases get immediate medical attention. When handling liquid or when applying it at air-exhausted workbench, wear approved gloves. When handling liquid or when applying it at unexhausted workbench, wear approved gloves and goggles. Dispose of liquid-soaked rags in approved metal container.



CORROSION PREVENTIVE COMPOUND, MIL-C-27725

Corrosion preventive compound is flammable. Keep away from ignition sources. Overexposure may cause headache, dizziness, nausea, skin drying, eye irritation, and respiratory irritation. Corrosion preventive compound may also cause narcotic effects, shortness of breath and could affect the central nervous system. Thoroughly wash with soap and water and apply emollient cream or lotion and immediately flush eyes with water for 15 minutes. If inhaled move to fresh air. In all cases get immediate medical attention. When working with corrosion preventive compound, wear approved protective gloves,

goggles, and clothing. Use in a well-ventilated area. If adequate ventilation is not available, wear approved respirator.



CORROSION REMOVING AND METAL CONDITIONING COMPOUND, MIL-C-10578

Corrosion removing and steel protecting compound causes skin irritation. Avoid contact with skin and eyes. If irritation occurs, get immediate medical attention. Wear approved gloves and goggles or faceshield when handling. Wash hands thoroughly after handling.



DENATURED ETHYL ALCOHOL MIL-STD-1201B

Denatured ethyl alcohol and its vapor are flammable and explosive — do not use it where others are smoking. POISON — do not ingest. Ingestion will cause vomiting, stupor, and collapse. Inhalation of vapor may cause headache and drowsiness. If vapors cause drowsiness, go to fresh air. Immediately remove wet clothing. When working with denatured ethyl alcohol, wear approved respirator, gloves, and goggles. If splashing could occur, wear an approved faceshield over the goggles. In case of contact with eyes, flush with water for at least 20 minutes and obtain medical attention. Dispose of liquid soaked rags in approved metal container. Metal containers must be grounded to maintain electrical continuity.



DRILLING OPERATIONS

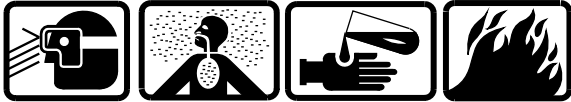
Metallic structures drilling operations produce airborne metallic dust particles that are harmful to respiratory tract and eyes. Avoid breathing dust and use eye protection when drilling.

Avoid composite materials that are toxic to skin, eyes and respiratory tract. When drilling advanced composite materials, avoid inhalation of dust and wear protective gloves and eye protection.



DRY LUBRICANT

Overexposure can cause nausea, vomiting, and irritation of skin, eyes, and respiratory system. If symptoms occur, seek fresh air. Wash affected skin with soap and water. Flush eyes with water for 15 minutes. If ingested do not induce vomiting. In all cases, seek medical attention. Wear approved protective gloves, goggles, and respirator.



DRYCLEANING SOLVENT, P-D-680, TYPE II

Drycleaning solvent is combustible; do not use near open flames, near welding areas, or on hot surfaces. Prolonged contact of skin with liquid can cause skin irritation. Repeated inhalation of vapor can irritate nose and throat and can cause dizziness. If any liquid contacts skin or eyes, immediately flush affected area thoroughly with water. Remove solvent-saturated clothing. If vapors cause dizziness, go to fresh air. In all cases get immediate medical attention. When handling liquid or when applying it in an air-exhausted, partially covered tank, wear approved gloves. When handling liquid or when applying it at an unexhausted, uncovered tank or workbench, wear approved respirator and goggles.



DYNASOLVE 165

Dynasolve 165 contains powerful organic solvents. It is harmful if inhaled or swallowed.

Avoid breathing vapors or mist. Keep away from heat and flame. Avoid contact with eyes and skin. Wear gloves, safety goggles, and protective clothing when handling. Use with adequate ventilation. Contact of skin with liquid or inhalation of vapor can cause severe burns, and respiratory system irritation. If any solution, liquid, or vapor contacts skin or eyes, flush affected areas thoroughly with water. Immediately change any contaminated clothing. If vapors are inhaled, go to fresh air. In all cases get immediate medical attention.



ELECTRIC SHOCK

To prevent electric shock, ensure electrical power is off before working on helicopter. Remove watches, rings and other jewelry before working on electrical circuits. Voltage and/or current may be contacted that could present a threat to your health or life. If voltage/current is contacted and breathing ceases, CPR must be administered by qualified personnel. Seek medical aid. For electrical shock safety steps and procedures, refer to TM 1-1500-204-23 and TB 385-4.

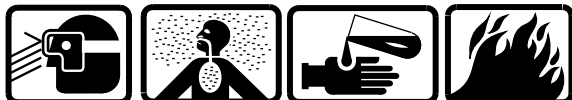


EPOXY PRIMER COATING, MIL-P-23377

Epoxy primer coating is flammable. It contains lead and may cause irritation of nose, throat, eyes, skin, respiratory system, and nervous system. Overexposure may result in headache, narcotic effect, nervousness, drying of skin, and possible death. Thoroughly wash skin area with soap and water and immediately flush eyes with water for 15 minutes. If ingested, do not induce vomiting. In all cases get immediate medical attention. When working with epoxy primer coating wear approved respirator, chemical splash goggles, solvent resistant gloves, apron, protective clothing, and barrier cream. Work in a well-ventilated area.

**EPOXY RESIN, DOD-C-24176**

Filled epoxy resin may cause skin and eye irritation. Thoroughly wash skin area with soap and warm water and immediately flush eyes with water for 15 minutes. In all cases get immediate medical attention. When working with epoxy resin, wear approved protective gloves and goggles. Use in a well-ventilated area and avoid breathing vapors.

**FINGERPRINT REMOVER, MIL-C-15074**

Fingerprint remover is flammable. Do not use near heat or flames. Overexposure may cause skin and eye irritation, dizziness, headache and nausea. Thoroughly wash skin area with soap and water and immediately flush eyes with water for 15 minutes. If inhaled, move to fresh air. In all cases get immediate medical attention. When working with fingerprint remover wear approved solvent resistant gloves, goggles or faceshield, and respirator.

FLUORESCENT PENETRANT, MIL-STD-6866

Prolonged or repeated inhalation of powders and vapors of cleaning solvent, developers, and emulsifiers used in fluorescent penetrant inspection can irritate mucous membrane areas of the body. Continual exposure to penetrant inspection materials can irritate the skin. Direct exposure of eyes to light and prolonged exposure of skin to light can inflame and damage eyes and skin. Wear approved neoprene gloves when handling penetrant inspection materials. Keep insides of gloves clean. Store all pressurized spray cans containing penetrants, developers, and emulsifiers in a cool, dry area protected from direct sunlight, heat, and open flames. Temperatures higher than 120 °F (49 °C) may cause pressurized can to burst and cause injury. If direct eye contact with light causes eye problems,

get immediate medical attention. When using black light for fluorescent inspections, wear approved safety glasses.

**GREASE, MIL-G-81322**

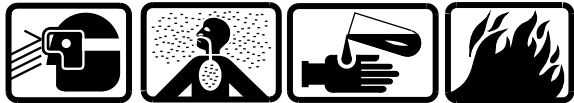
Avoid any skin contact with grease. Wash hands thoroughly with soap and water after handling grease.

**HYDRAULIC FLUID, MIL-H-5606**

MIL-H-5606 hydraulic fluid is flammable. Flashpoint is 180 °F (82 °C). When hydraulic fluid is decomposed by heat, toxic gases are released. Prolonged contact with liquid or mist can cause skin irritation. If there is any prolonged contact with skin, wash contacted area with soap and water. If liquid contacts eyes, flush eyes with water immediately. Remove saturated clothing. If fluid is swallowed, do not try to vomit. In all cases get immediate medical attention. When handling liquid, wear approved rubber gloves. If prolonged contact with mist is likely, wear approved respirator.

**HYDRAULIC FLUID, MIL-H-83282**

MIL-H-83282 hydraulic fluid is flammable. Flashpoint is 400 °F (204 °C). When hydraulic fluid is decomposed by heat, toxic gases are released. Prolonged contact with liquid or mist can cause skin irritation. If there is any prolonged contact with skin, wash contacted area with soap and water. If liquid contacts eyes, flush eyes with water immediately. Remove saturated clothing. If fluid is swallowed, do not try to vomit. In all cases get immediate medical attention. When handling liquid, wear approved rubber gloves. If prolonged contact with mist is likely, wear approved respirator.



ISOPROPYL ALCOHOL, TT-I-735

Isopropyl alcohol is flammable; do not use near open flames, near welding areas, or on hot surfaces. Do not use while smoking or while others are smoking. Inhalation of vapors can cause drowsiness, dizziness, and headache. Contact with skin may cause irritation. If liquid touches skin or eyes, flush thoroughly with water. Remove contaminated clothing. If vapors cause drowsiness, go to fresh air. When handling large quantities (greater than 1 gallon), work at air-exhausted workbench or covered tank. Store solvent and liquid-soaked clothes in an approved, grounded metal container.



JET FUEL, MIL-T-5624 AND MIL-T-83133

Jet fuel is flammable; do not use near open flames, welding areas, or on hot surfaces. Do not handle or store near strong oxidants, e.g., liquid oxygen or hypochlorite. Do not smoke when using jet fuel and do not use it where others are smoking. Contact of eyes with liquid can cause severe irritation and blurred vision. Inhalation of vapor may cause irritation, headache, nausea, and dizziness. If liquid contacts eyes, flush eyes thoroughly with water for a minimum of 15 minutes. Immediately remove fuel-saturated clothing. If vapors cause dizziness, go to fresh air. If liquid is swallowed, do not try to vomit. In all cases get immediate medical attention. When handling large quantities of liquid (more than 1 gallon) at an unexhausted workbench, wear approved respirator and goggles or faceshield. Dispose of liquid-soaked rags in approved metal container. Contaminated clothing shall be laundered prior to reuse. Metal containers of fuel must be closed and grounded to maintain electrical continuity.



The laser rangefinder/designator (LRF/D) is very dangerous. Looking at the laser beam or its reflection from a shiny surface can cause permanent blindness. Under noncombat conditions, the laser shall be used only in controlled areas and at times specified by a range control officer.



LHE CADMIUM SOLUTION SPS-5070

Cadmium brush plating solution is toxic and may cause damage to skin, eyes, and mucous membranes. Overexposure may cause skin sensitization and skin irritation. Thoroughly wash skin area with water and immediately flush eyes with water for 15 minutes. If vapor causes drowsiness, go to fresh air. In all cases get immediate medical attention. Wear approved rubber gloves, apron, boots, goggles or faceshield, and activated carbon respirator. Work in well-ventilated area. Wash hands thoroughly before eating or smoking.



LUBRICANT, SOLID FILM MIL-L-23398

Solid film lubricant is flammable. Do not use near fire or open flame. Lubricant may cause irritation to skin and upper respiratory system. Inhalation may cause a narcotic effect and light headedness. Swallowing may be fatal. Thoroughly wash skin area with soap and water and immediately flush with water for 15 minutes. If ingested, do not induce vomiting. In all cases get immediate medical attention. When working with lubricant, wear approved rubber gloves, respirator, and

safety glasses or goggles with unperforated side shields. Work in a well-ventilated area.



LUBRICATING OIL, DOD-L-8573/ MIL-L-7808/MIL-L-23699

If lubricating oil is decomposed by heat, toxic gases are released. Prolonged contact with liquid or mist may cause skin irritation. If there is any prolonged contact with skin, wash area with soap and water. If oil contacts eyes, flush eyes with water immediately. Remove saturated clothing. If oil is swallowed, do not try to vomit. In all cases get immediate medical attention. When handling liquid, wear approved rubber gloves. If prolonged contact with mist is likely, wear approved respirator.



NAPHTHA/NAPHTHALENE, TT-N-97

Naphtha/Naphthalene is combustible; do not use it near welding areas, near flames, or on hot surfaces. Avoid prolonged or repeated contact with liquid. Contact of skin with liquid can cause irritation. Inhalation of vapors can cause irritation, giddiness, and drowsiness. If liquid contacts eyes, flush eyes thoroughly with water. If there is any prolonged skin contact, wash contacted area with soap and water. If vapors cause drowsiness, go to fresh air. Remove solvent-saturated clothing. If liquid is swallowed, do not try to vomit. In all cases get immediate medical attention. When handling liquid in an air-exhausted, partially covered tank, wear approved gloves. When handling liquid in an open, unexhausted container, wear approved rubber gloves and goggles. If contact with vapor is likely, wear an approved respirator. Dispose of liquid-soaked rags in approved metal container. Metal containers of liquid must be grounded to maintain electrical continuity.



NITRIC ACID, O-N-350

Nitric acid is highly reactive; do not mix with combustible organics or other oxidizable materials such as wood, paper, and cloth. When heated, toxic gases are released. When mixing solutions, add acid slowly to water, not water to acid. Contact of skin with liquid or inhalation of mist can cause severe burns, respiratory system irritation, and chronic bronchitis. If any solution, liquid, or mist contacts skin or eyes, flush affected area thoroughly with water for a minimum of 15 minutes. Immediately change any contaminated clothing. If mist is inhaled, go to fresh air. In all cases get immediate medical attention. If handling solution or concentrated liquid in air-exhausted covered tank, wear approved gloves and apron, and wear approved goggles or faceshield. When handling solution or concentrated liquid in open tank, wear approved respirator, full-body clothing, gloves, and goggles.



NOISE HAZARD

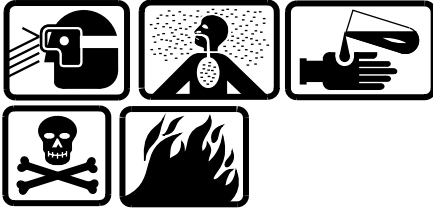
Personnel hearing can be PERMANENTLY DAMAGED if exposed to constant high noise levels of 85 dB (A) or greater. Wear approved hearing protection devices when working in high noise level areas. Hearing loss occurs gradually but becomes permanent over time. Hearing protection is required.



PAINT REMOVER, MIL-R-81294 AND TT-R-248

Paint remover can cause severe burns, narcotic effects, headache, dizziness, and nausea. In some cases it may cause elevated blood pressure, unconsciousness, shock, and death.

Contact with eyes may cause blindness. Avoid contact with flammable liquids. Contact with alkali metals, powdered magnesium, and aluminum may cause a violent reaction. Thoroughly wash skin area with water and immediately flush eyes with water for 15 minutes. In all cases get immediate medical attention. When working with paint remover wear approved respirator (manufacturer recommends approved fresh air mask), approved faceshield or goggles, neoprene or Viton gloves, solvent resistant boots, and apron. Work in a well-ventilated area. Read manufacturers label for specific instruction due to variations of each product.



**PLASTIC POLISH COMPOUND,
P-P-560**

Plastic polish compound is flammable. Keep away from heat, open flame or other sources of ignition. Plastic polish compound may be poisonous if inhaled or absorbed through the skin. Vapors may cause dizziness or suffocation and are an irritant to the skin and eyes. Move to fresh air and thoroughly wash skin with water and flush eyes with water for 15 minutes. In all cases, get immediate medical attention. Wear approved safety glasses or goggles and gloves. Use in a well-ventilated area.



**POLYURETHANE COATING
MIL-C-46168 AND MIL-C-85285**

Polyurethane coating is flammable. Keep away from open flame, sparks, heat, and organic material. Exposure can cause skin, eye, nose, throat, and respiratory system irritation. Prolonged exposure may cause headache, allergic sensitivity, narcotic effect, nausea, and vomiting. Ingestion causes lead poisoning. Thoroughly wash skin area with soap and water and immediately flush eyes with water for 15 minutes. If inhaled, move to fresh air. In all cases get immediate

medical attention. When working with polyurethane coating, wear approved chemical resistant rubber gloves, goggles, respirator, and protective clothing. Use in a well-ventilated area.



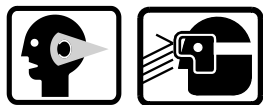
POLYURETHANE CONDUCTIVE COATING

Polyurethane conductive coating is flammable; do not use near open flames, near welding areas, or on hot surfaces. Contact with liquid or vapor can cause skin or eye irritation. Prolonged overexposure can result in kidney and liver damage, headache, nausea, vomiting, dizziness or loss of consciousness. Prolonged occupational overexposure can result also with permanent brain and nervous system damage. Deliberately concentrating and inhaling the contents may be harmful or fatal. After prolonged skin contact, wash contacted area with lukewarm water for 15 minutes. Remove contaminated clothing promptly. If vapors cause dizziness, go to fresh air, in all cases get immediate medical attention. Dispose of contents in approved metal container. Follow approved toxic waste disposal procedures.



**RESINS AND HARDENERS,
RP-1257-3/EPON 828**

Resins and hardeners are flammable; do not use near open flames, welding areas, or on hot surfaces. When decomposed by heating, toxic fumes are released. Inhalation of vapor can cause irritation, drowsiness, and headache. Contact with eyes can cause severe burns. Flush eyes with water for at least 15 minutes. Wash skin immediately with soap and water. In all cases get immediate medical attention. When mixing or applying liquid in air-exhausted paint spray booth, wear approved gloves and goggles. When mixing or applying liquid in unexhausted work area, wear approved gloves, long sleeves, apron, goggles, and respirator. Metal containers of solution must be grounded to maintain electrical continuity.



RIVETING OPERATIONS

Bucking rivets produces high levels of noise. Hearing can be PERMANENTLY DAMAGED if exposed to constant high noise levels of 85 dB (A) or greater. Wear approved hearing protection devices when working in high noise level areas. Hearing loss occurs gradually but becomes permanent over time. Hearing protection is required. Wear goggles or faceshield when riveting to prevent damaging eyes.



SANDING OPERATIONS

Avoid prolonged or repeated contact with sanding, power grinding, or drilling dust. Inhalation of dust may cause temporary coughing and wheezing, respiratory system irritation, and permanent lung problems. If dust contacts eyes, flush them thoroughly with water. If coughing or wheezing persists, get immediate medical attention. When using an air-exhausted grinding wheel, wear approved respirator and goggles or faceshield.



SEALING COMPOUND, MIL-S-22473

Anaerobic sealing compound is flammable; do not use near open flames or welding areas. Avoid prolonged exposure to light. Avoid materials such as peroxide or other strong oxidizing agents, iron rust or carbon monoxide/dioxide. Anaerobic sealing compound can cause dermatitis. It may also cause delayed eye and skin irritations and skin sensitivity. Thoroughly wash skin area with water and immediately flush eyes with water for at least 15 minutes. If ingested, do not induce vomiting. Keep individual calm. In all cases, get immediate medical attention. When working with anaerobic sealing compound, wear approved rubber apron, boots, gloves, and goggles or faceshield in well-ventilated area.



SEALING COMPOUND, MIL-S-8784

Sealing compound is flammable. Do not use near heat, open flames, or sparks. Overexposure can cause irritation of skin and eyes, headache, nausea, vomiting, and systemic problems. Thoroughly wash skin area with soap and water and immediately flush eyes with water for 15 minutes. In all cases get immediate medical attention. Wear approved protective gloves and goggles. Avoid breathing of vapors and prolonged or repeated skin contact.



SEALING COMPOUND, MIL-S-8802

Sealing compound is flammable. Do not use near heat, open flames, or sparks. Overexposure can cause irritation of skin and eyes, headache, nausea, vomiting, and systemic problems. Thoroughly wash skin area with soap and water and immediately flush eyes with water for 15 minutes. In all cases get immediate medical attention. Wear approved protective gloves and goggles. Avoid breathing of vapors and prolonged or repeated skin contact.

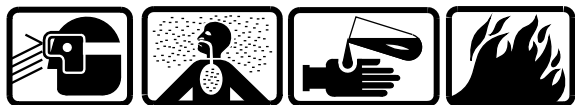


SHELLAC

Shellac is flammable. Keep away from heat, sparks, and open flame. All electrical equipment must be explosion proof. Shellac may cause irritation of eyes, nose, and throat. Headache, intoxication, and drowsiness may occur. In case of skin contact, flush contact area thoroughly with water. For inhalation, remove to fresh air and give oxygen. In all cases, get immediate medical attention. Use shellac in well-ventilated area. When handling wear approved rubber gloves and safety goggles.

**SILICONE, MIL-L-46058**

Conformal coating is flammable. Do not use near open flame or high temperatures. Repeated or prolonged contact or inhalation of vapors can cause skin and eye irritation, or damage to lungs, blood, liver, kidneys, and nervous system. Existing eye, skin, and respiratory disorders can be aggravated. Short-term inhalation of vapors can cause drowsiness and irritation of nose and throat. Use only in a well-ventilated area. If vapors are inhaled, go to fresh air. Short-term skin contact can cause irritation, redness, and swelling. Wipe off skin contact area and flush with fresh water. Flush eyes with with fresh water for 15 minutes. Get immediate medical attention if irritation develops or ill effects persist. If swallowed, do not induce vomiting. Vomiting can cause serious lung damage. If vomiting occurs, keep head below hips to prevent entry of liquid into lungs. When handling, wear approved protective gloves, goggles, and respirator with organic vapor cartridge. Metal storage containers must be grounded to eliminate static electricity fire hazard.

**THINNER, MIL-T-81772 AND TT-T-266**

Paint thinner is flammable; do not use near open flames, near welding areas, or on hot surfaces. Do not smoke when using paint thinner, and do not use it where others are smoking. Contact with liquid or vapor can cause skin, nose, throat, and eye irritation, drowsiness, headache, nausea, and vomiting. After any prolonged contact of liquid with skin, wash contacted area with soap and water. Remove solvent-saturated clothing. If vapors cause drowsiness, go to fresh air. In all cases get immediate medical attention. When handling liquid at air-exhausted workbench wear approved gloves, goggles, and long sleeves. When handling liquid or liquid-soaked cloth in open unexhausted area, wear approved respirator, gloves, and goggles. Dispose of liquid-soaked rags in approved metal container. Metal containers must be grounded to maintain electrical continuity.

**URETHANE ADHESIVE**

Urethane Adhesive Components A and B are flammable. Keep away from heat, sparks, or any source of ignition.

Overexposure to Component A may cause headache, nausea, and skin irritation and is an irritant to the upper respiratory system. In case of skin or eye contact, flush thoroughly with water. If inhaled remove to fresh air. If swallowed give large amounts of water. In all cases get immediate medical attention.

Overexposure to Component B, which is mildly toxic, may cause headache and mild irritation of nose, throat, and eyes. Contact with skin may cause irritation and dryness. Ingestion may cause vomiting and stomach cramps. In case of ingestion, get immediate medical attention. If inhaled remove to fresh air and give artificial respiration. In case of skin contact, remove contaminated clothing and wash with soap and water. Flush eyes immediately with large quantities of water. In all cases get immediate medical attention. Use in well-ventilated area and wear approved respirator, goggles, and rubber gloves.

**ZINC CHROMATE PRIMER, TT-P-1757**

Zinc chromate primer is flammable; do not use near open flames, near welding areas, or on hot surfaces. Do not smoke when using zinc chromate primer, and do not use it where others are smoking. Contact with liquid or vapor can cause skin or eye irritation, dizziness, and headache. Prolonged inhalation can result in kidney and liver damage. After prolonged skin contact, wash contacted area with soap and water. If vapors cause dizziness, go to fresh air. In all cases get immediate medical attention. When handling small

quantities (less than 1 gallon), wear approved gloves. When handling large quantities of liquid (greater than 1 gallon), at unexhausted workbench, wear approved respirator, gloves, goggles, apron, and long sleeves. Do not eat, smoke, or carry smoking materials in areas where liquid is handled. Dispose of liquid-soaked rags in approved metal container. Zinc chromate primer contains chromates. Follow approved toxic waste disposal procedures.



ZINC CHROMATE PUTTY

Zinc chromate putty is flammable; do not use near open flames, near welding areas, or on hot surfaces. Do not smoke when using zinc chromate putty, and do not use it where others are smoking. Contact with liquid or vapor can cause skin or eye irritation, dizziness, and headache. Prolonged inhalation can result in kidney and liver damage. After prolonged skin contact, wash contacted area with soap and water. If vapors cause dizziness, go to fresh air. In all cases get immediate medical attention. When handling small quantities (less than 1 gallon), wear approved gloves. Do not eat, smoke, or carry smoking materials in areas where putty is handled. Dispose of putty in approved metal container. Zinc chromate putty contains chromates. Follow approved toxic waste disposal procedures.

4. SAFETY PRECAUTIONS.

The following safety precautions shall be observed while performing procedures in this manual.

- Dangerous voltages are present at system connectors. Ensure power is OFF prior to connecting or disconnecting cables.
- Do not wear metal frame glasses, rings, watches, or other metal jewelry while working on electronic equipment.
- Some cleaning materials specified herein are flammable and/or toxic. Keep away from open flame or other ignition sources. Provide adequate ventilation and avoid skin/eye exposure.
- Cleaning with compressed air can create airborne particles that may enter eyes or

penetrate skin. Pressure shall not exceed 30 psig. Wear goggles. Do not direct compressed air against skin.

- For electrical shock safety steps and procedures, refer to TM 1-1500-204-23 and TB 385-4.

CHAPTER 3

FLUID AND MECHANICAL SYSTEMS MAINTENANCE ACTION PRECISE SYMPTOMS (MAPS) DIAGRAMS

	Page
Section I Drive Train	3-2
Section II Hydraulic System	3-18
Section III Instruments	3-23
Section IV Fuel System	3-69
Section V Flight Controls	3-76

3-1. SCOPE

This chapter contains the MAPS diagrams required to support unit troubleshooting of Fluid and Mechanical systems. The chapter is divided into 5 sections.

The Fluid and Mechanical systems are defined as; Drive Train, Hydraulic System, Instruments, Fuel System, and Flight Controls.

Armament Systems MAPS diagrams are located in Chapter 4. Electrical Systems MAPS diagrams are located in TM 1-1520-248-T-3. All Operational Checks are located in TM 1-1520-248-T-1.

3-2. FLUID AND MECHANICAL SYSTEMS MAPS DIAGRAMS

Troubleshooting procedures are presented as a guide for locating and correcting malfunctions. Use of these procedures will reduce delays and maintenance downtime and will minimize unnecessary replacement of system components.

WARNING

Helicopter armament safing procedures in TM 1-1520-248-23 must be accomplished before performing any troubleshooting procedures.

1. Four basic assumptions have been made in preparing these procedures:

a. Correct operating procedures or operational checks have been followed.

b. Problem is caused by a single failure or malfunction.

c. When any connector is disconnected, it will be checked for bent or recessed pins.

d. All continuity checks are to include checks from applicable pins to ground and to adjacent pins to verify any unintentional shorts or grounds.

2. Ensure electrical power is off before performing any continuity checks. Disconnect the appropriate connector(s) as indicated in the text prior to performing continuity or voltage checks.

3. When a repair, replacement, adjustment or other maintenance action is performed or the troubleshooting logic tree ends with "Return system to service", you must demonstrate that the original problem has been corrected by performing an operational check. System components and wiring must be restored before performing an operational check.

4. Reference designator numbers contained in troubleshooting logic trees are keyed to wiring diagram reference designators.

5. Repairing or replacing wires consists of checking and replacing connectors, or, repairing/replacing accessible wires. If wire(s) are not accessible, reroute replacement wire(s) and attach replacement pins/terminals (it is not necessary to cut into wire bundles however, replacement wire(s) must be routed with the same category wiring and clamping arrangement). Refer to wire repair and replacement in TM 1-1520-248-23.

6. LRU and connector locations are shown in Appendix D, Table D-1, TM 1-1520-248-T-1.

7. When instructions are given to "replace" a part, the part may be repaired in lieu of replacement, provided the repair is authorized (See Maintenance Allocation Chart, Appendix B, TM 1-1520-248-23).

Section I. DRIVE TRAIN

3-3. MAPS DIAGRAMS INDEX

The list of MAPS diagrams provides a numerical index of symptoms contained in this section.

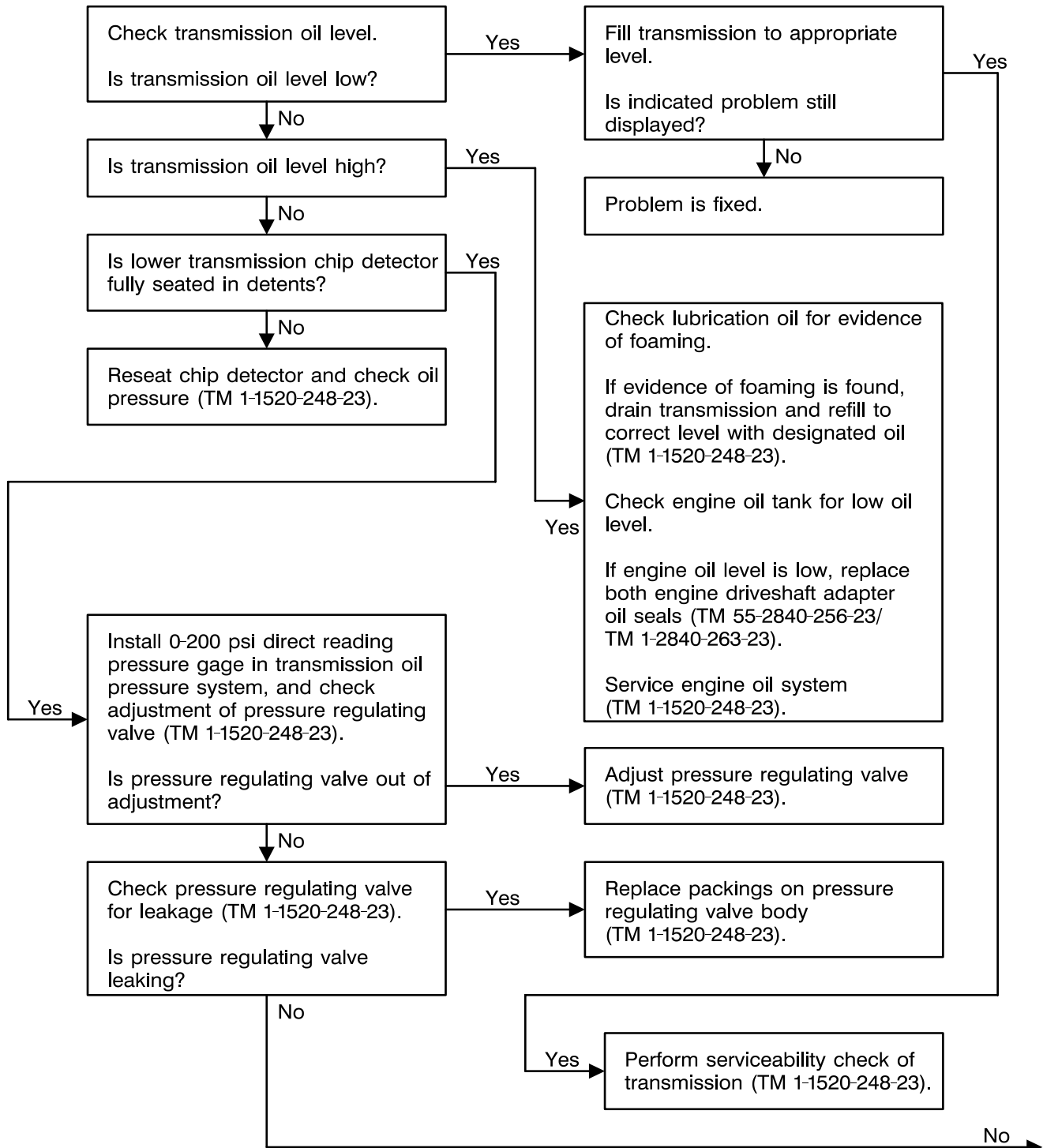
Drive train malfunctions (symptoms) are listed in column two (SYMPTOM). To perform troubleshooting of a symptom refer to column one (MAPS NUMBER) which indicates the MAPS

diagram number to perform. The procedures in the troubleshooting logic tree should be performed in sequence as specified unless otherwise noted within the logic tree.

Correction of malfunctions must be verified by performing an operational check using the procedures in TM 1-1520-248-T-1.

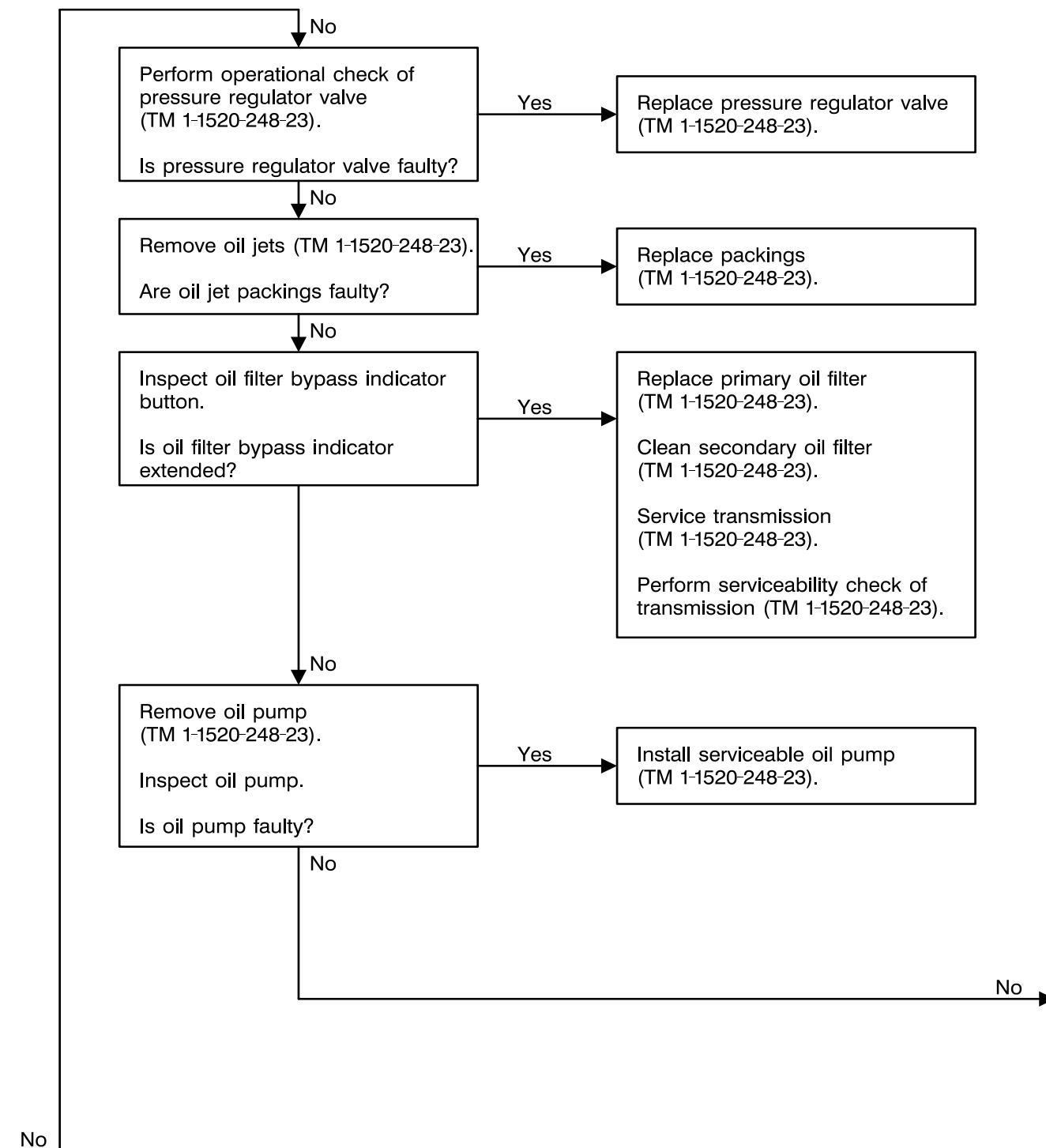
MAPS NUMBER	SYMPTOM	PAGE NUMBER
3-1-1	Transmission oil pressure on TRANS OIL PSI x10 indicator (VSI) reads low and LOW OIL PRESS XMSN caution message appears on MFD	3-3
3-1-2	Transfer of oil between engine and transmission systems	3-6
3-1-3	CHIPS XMSN SUMP caution message on MFD	3-7
3-1-4	Rubber particles found during inspection of filter	3-8
3-1-5	CHIPS FREEWHEELING UNIT (OH-58D) or CHIPS ENG FREEWHEELING OH-58D(R) caution message on MFD	3-9
3-1-6	High frequency vibration	3-10
3-1-7	Abnormal fretting and/or wear of flexframes at bolted joints	3-12
3-1-8	Vibration in tail rotor driveshaft	3-13
3-1-9	Loss of grease from hanger bearing(s)	3-15
3-1-10	CHIPS XMSN UPPER caution message on MFD	3-16
3-1-11	CHIPS T/R GRBX caution message on MFD	3-17

3-1-1. TRANSMISSION OIL PRESSURE ON TRANS OIL PSI X10 INDICATOR (VSI) READS LOW AND LOW OIL PRESS XMSN CAUTION MESSAGE APPEARS ON MFD

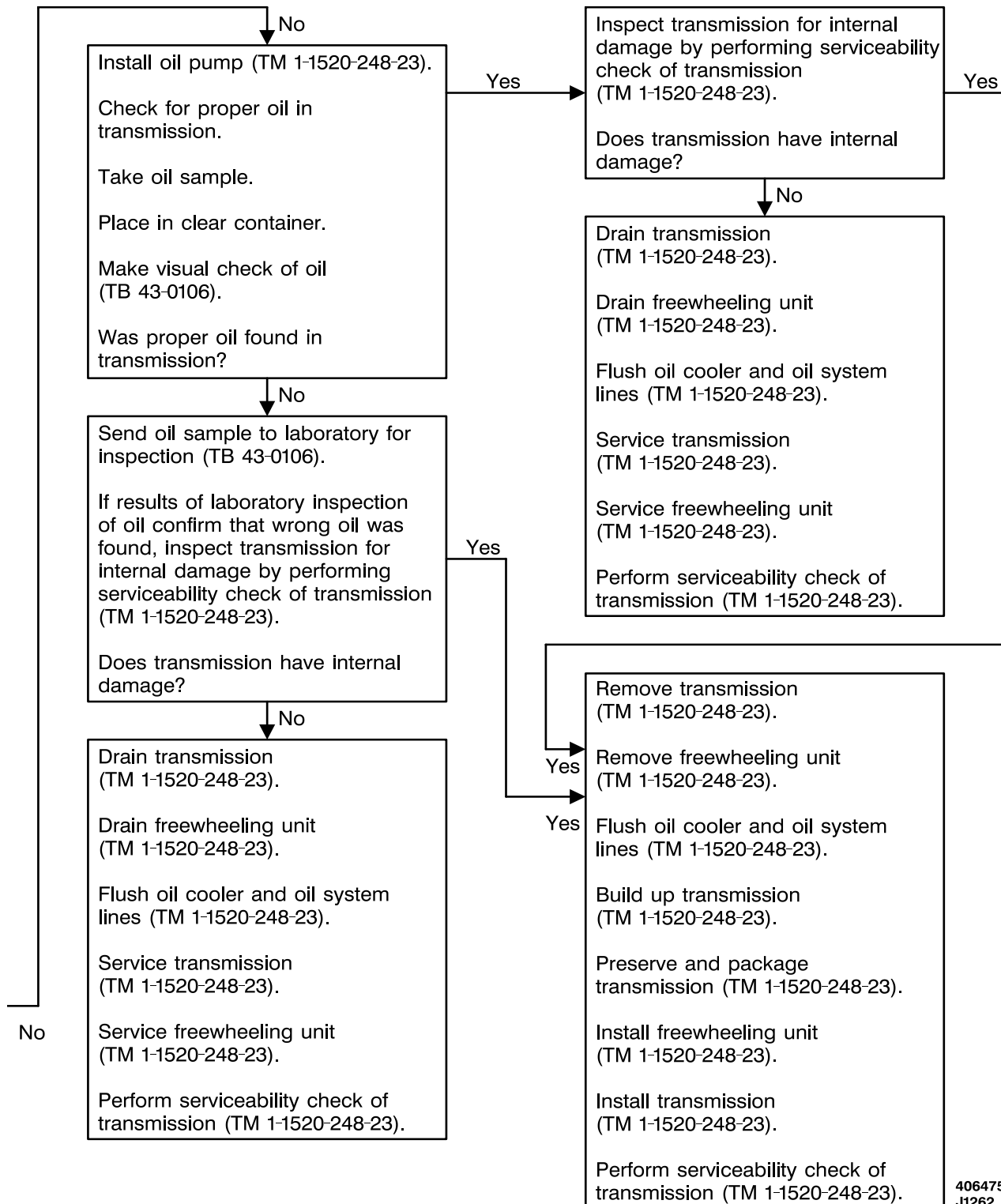


406475-541-37
J1262

3-1-1. TRANSMISSION OIL PRESSURE ON TRANS OIL PSI X10 INDICATOR (VSI) READS LOW AND **LOW OIL PRESS XMSN** CAUTION MESSAGE APPEARS ON MFD (CONT)



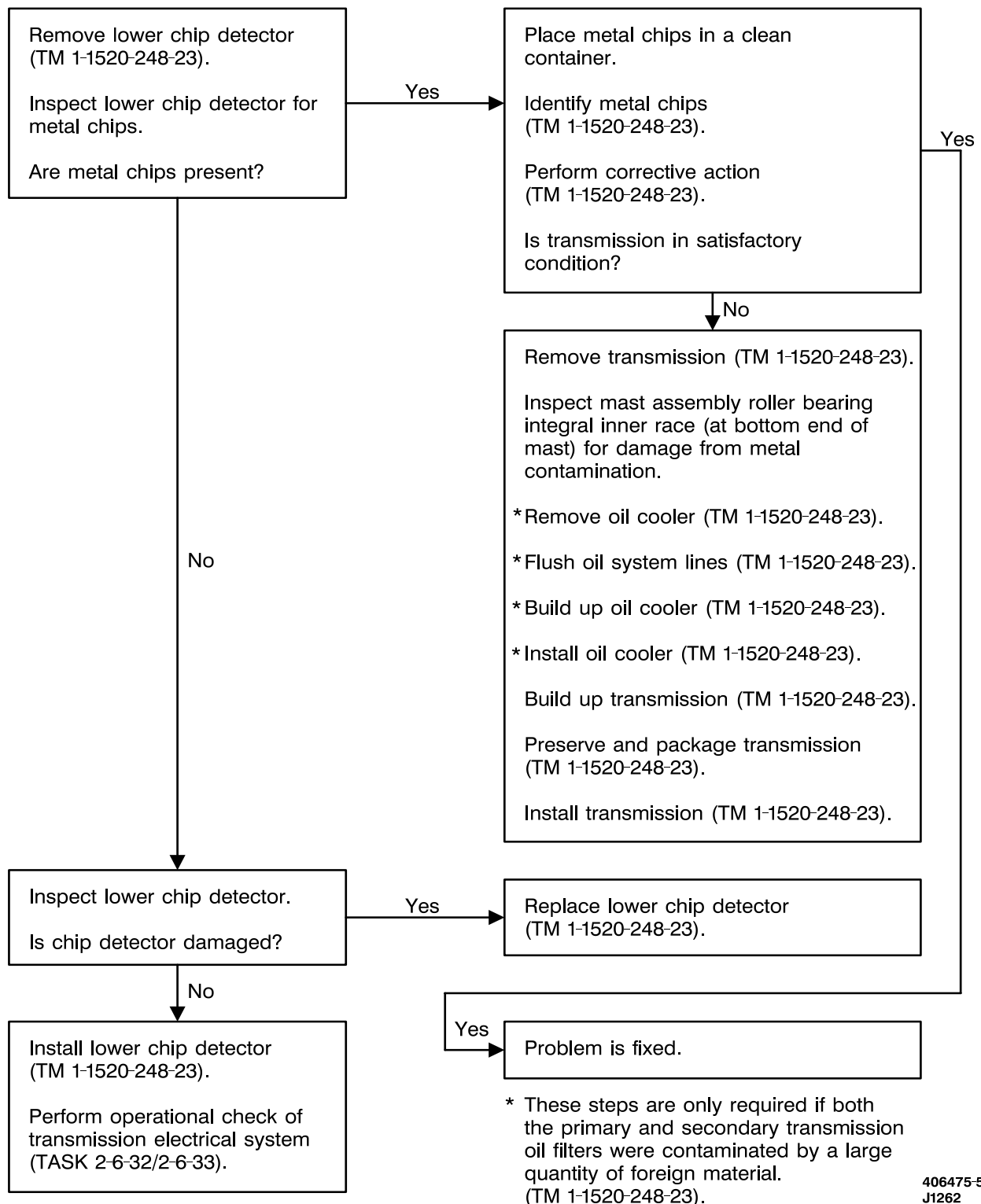
3-1-1. TRANSMISSION OIL PRESSURE ON TRANS OIL PSI X10 INDICATOR (VSI) READS LOW AND LOW OIL PRESS XMSN CAUTION MESSAGE APPEARS ON MFD (CONT)



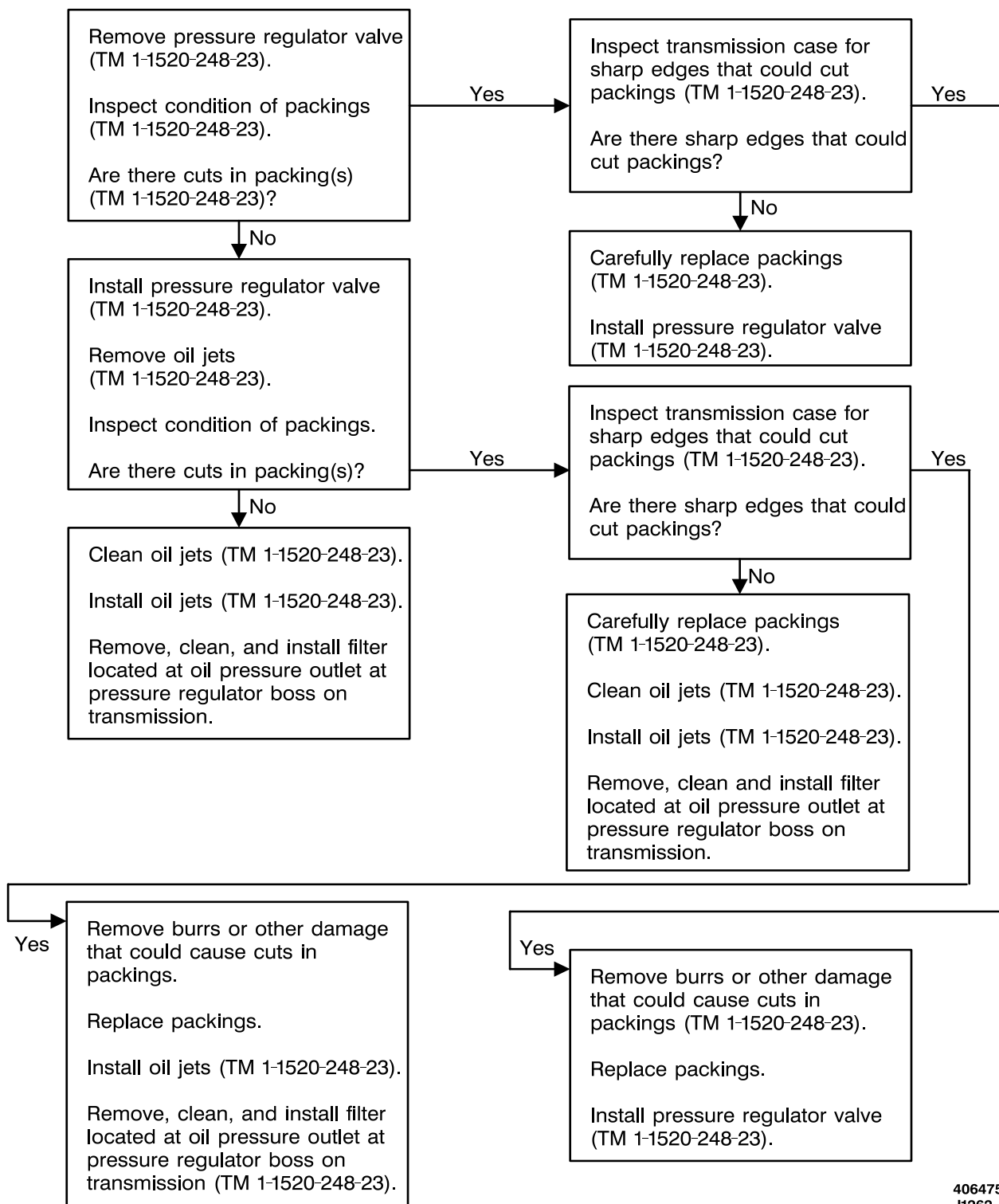
406475-541-39
J1262

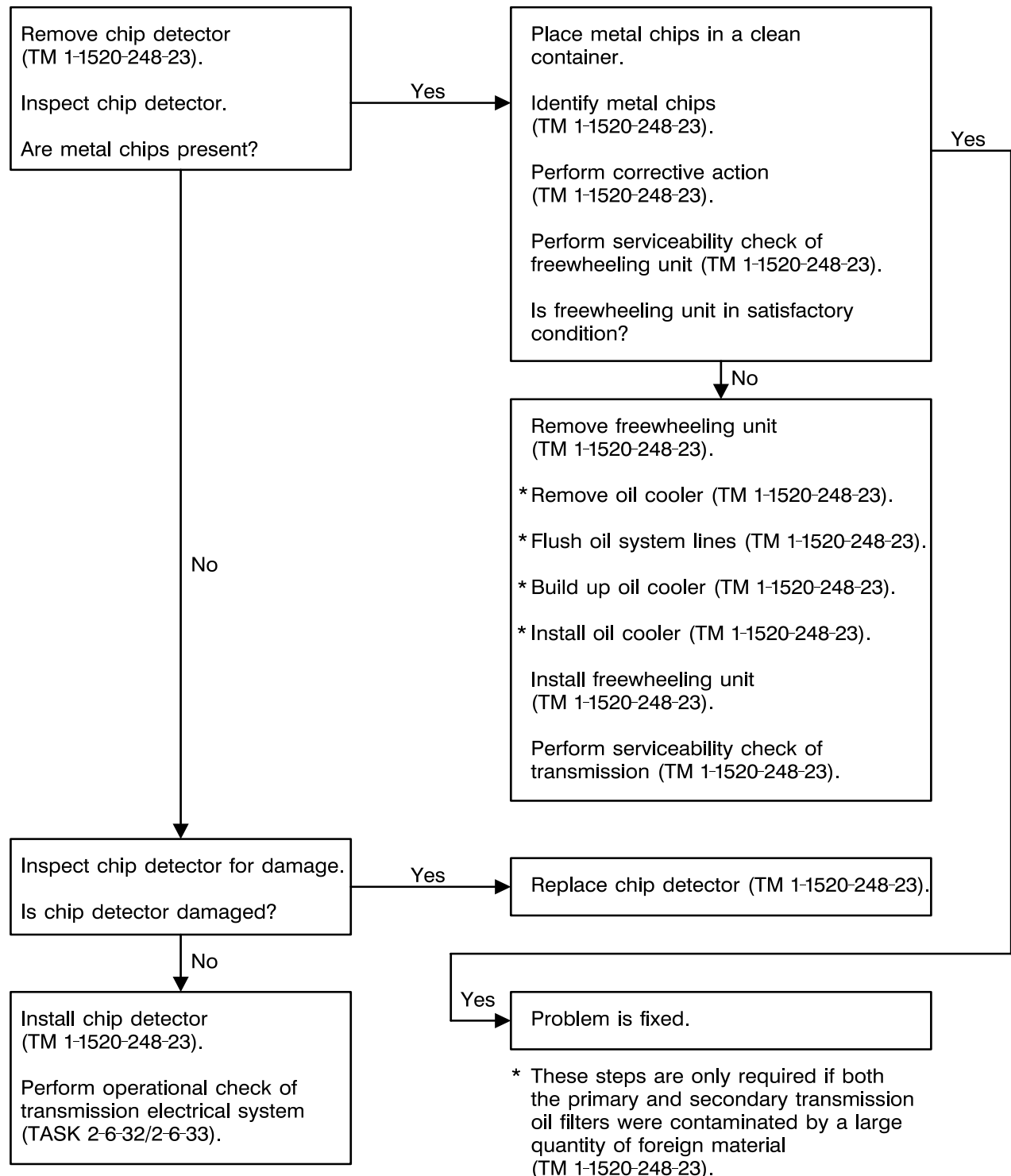
3-1-2. TRANSFER OF OIL BETWEEN ENGINE AND TRANSMISSION SYSTEMS

Replace double lip seal at forward and aft end of engine power output shaft (TM 1-1520-248-23).

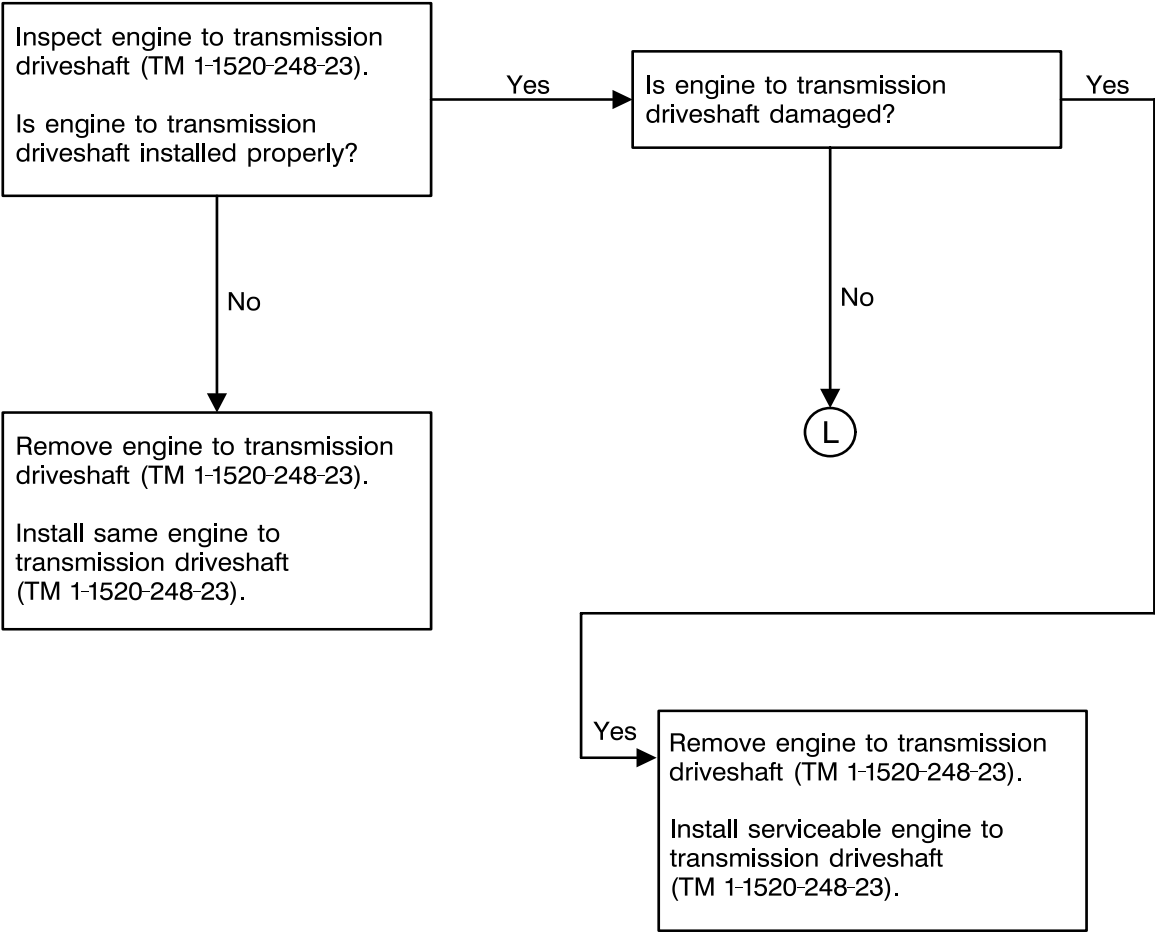
3-1-3. **CHIPS XMSN SUMP** CAUTION MESSAGE ON MFD

3-1-4. RUBBER PARTICLES FOUND DURING INSPECTION OF FILTER

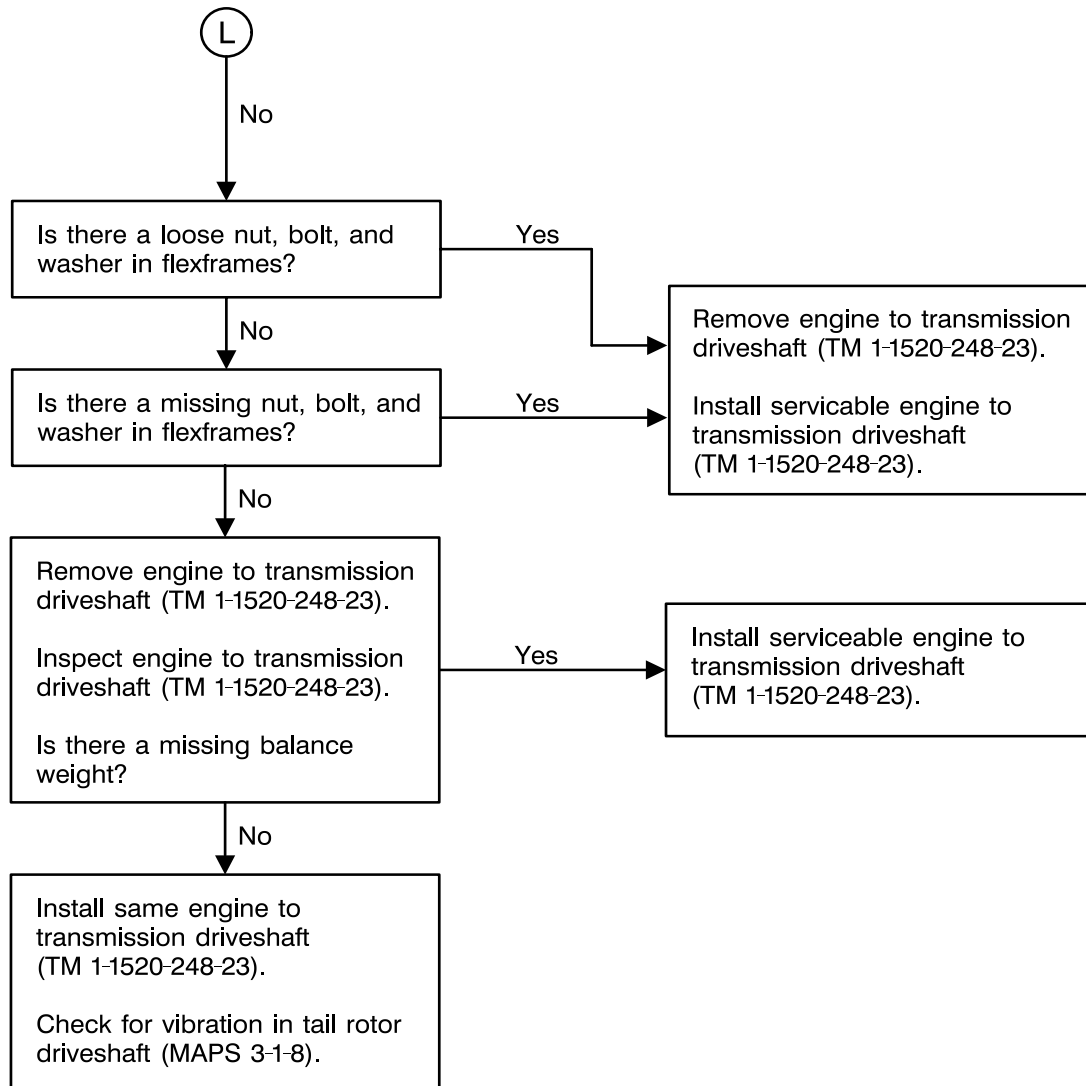
406475-541-42
J1262

3-1-5. CHIPS FREEWHEELING UNIT (OH-58D) OR CHIPS ENG FREEWHEELING OH-58D(R) CAUTION MESSAGE ON MFD

 406475-541-43
J1262

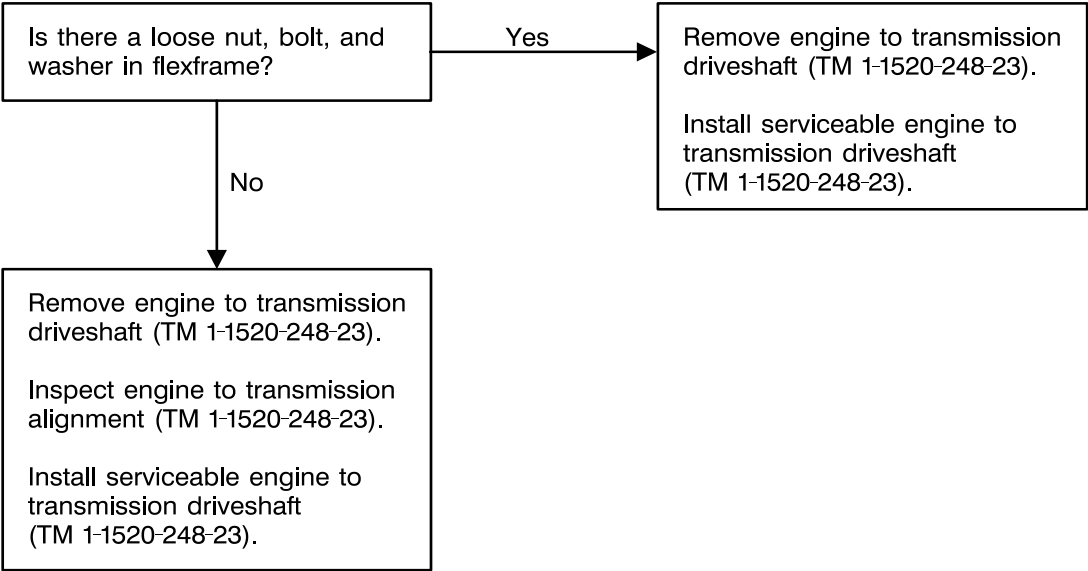
3-1-6. HIGH FREQUENCY VIBRATION



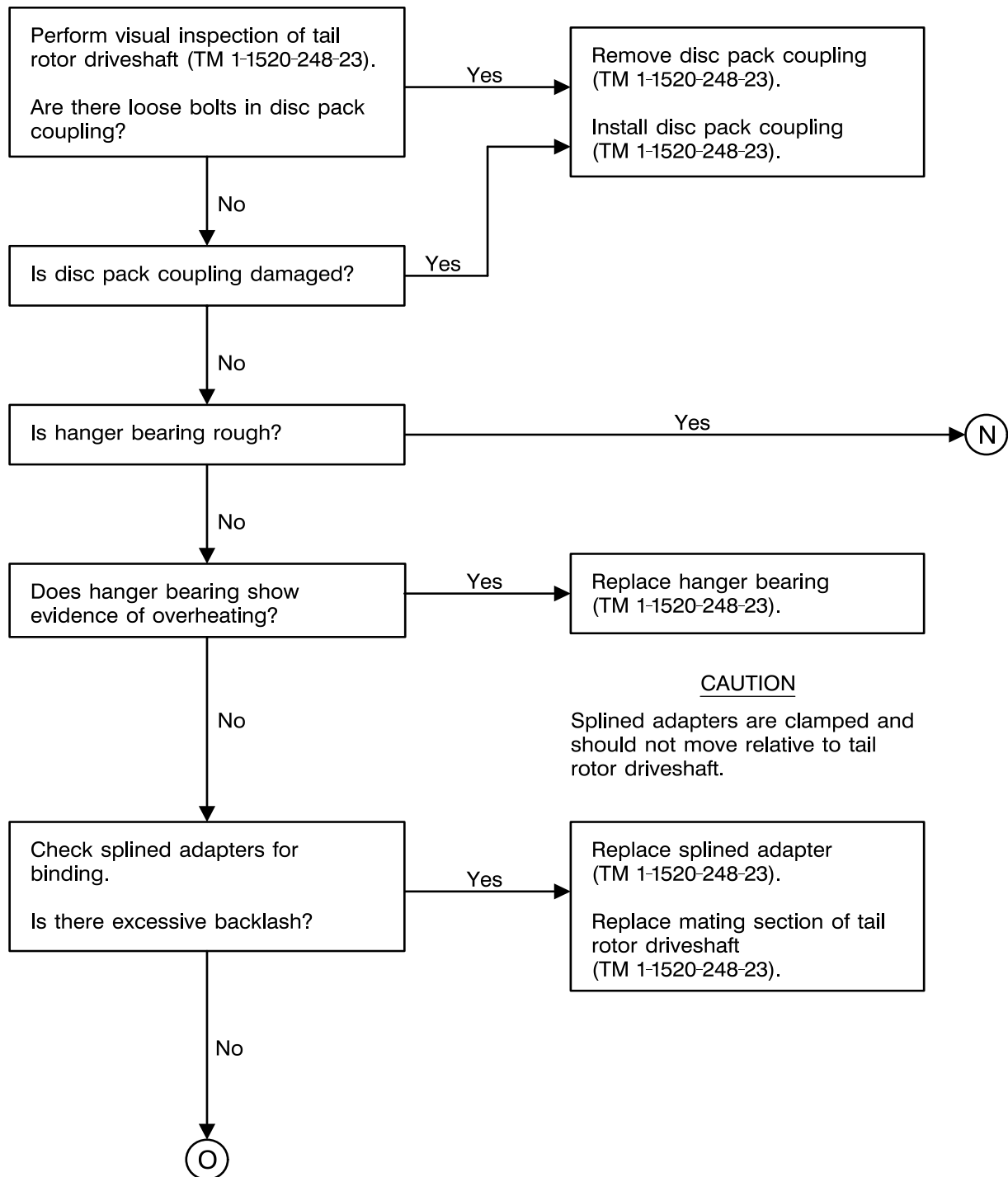
3-1-6. HIGH FREQUENCY VIBRATION (CONT)

406475-541-45
J1262

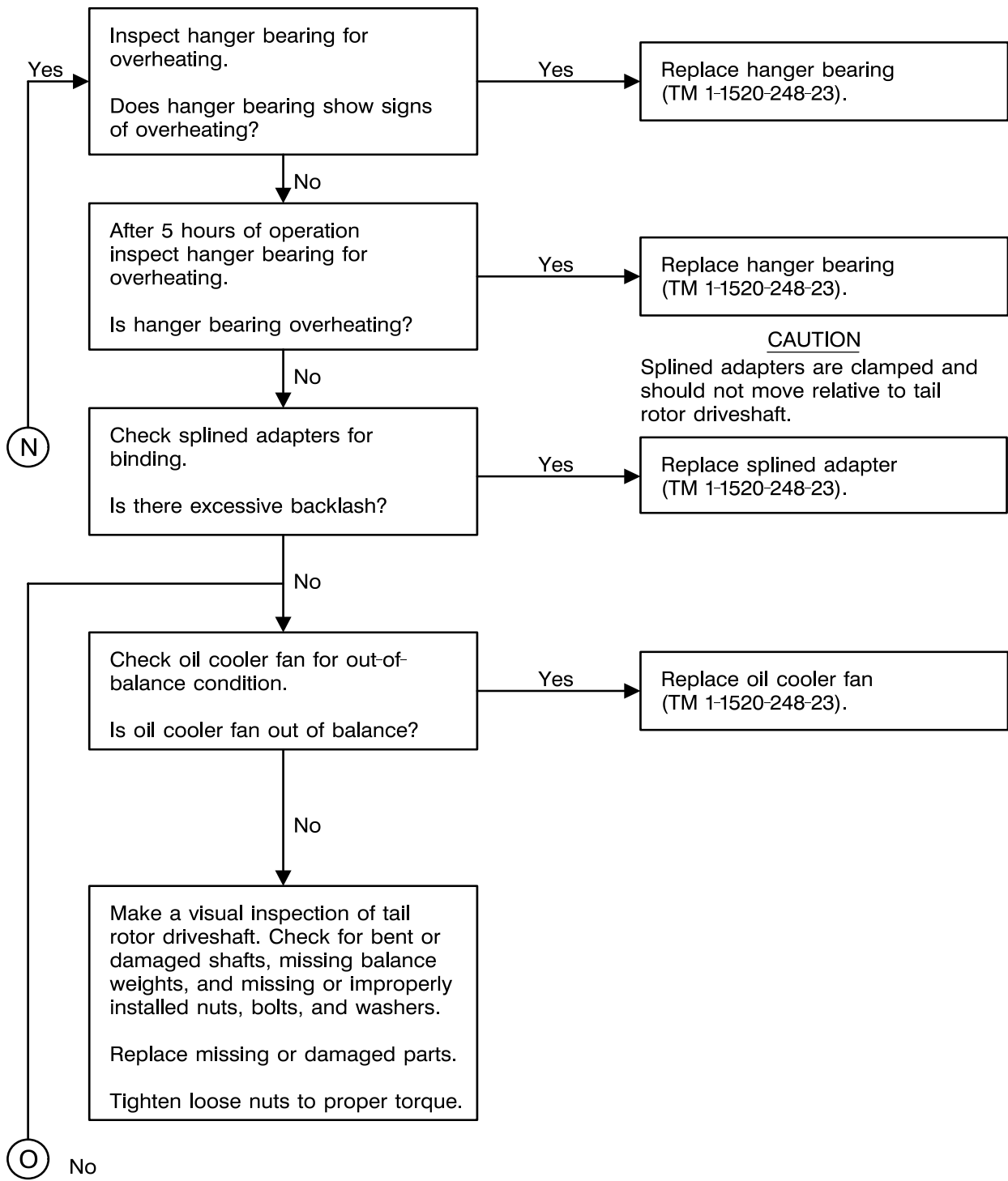
3-1-7. ABNORMAL FRETTING AND/OR WEAR OF FLEXFRAMES AT BOLTED JOINTS



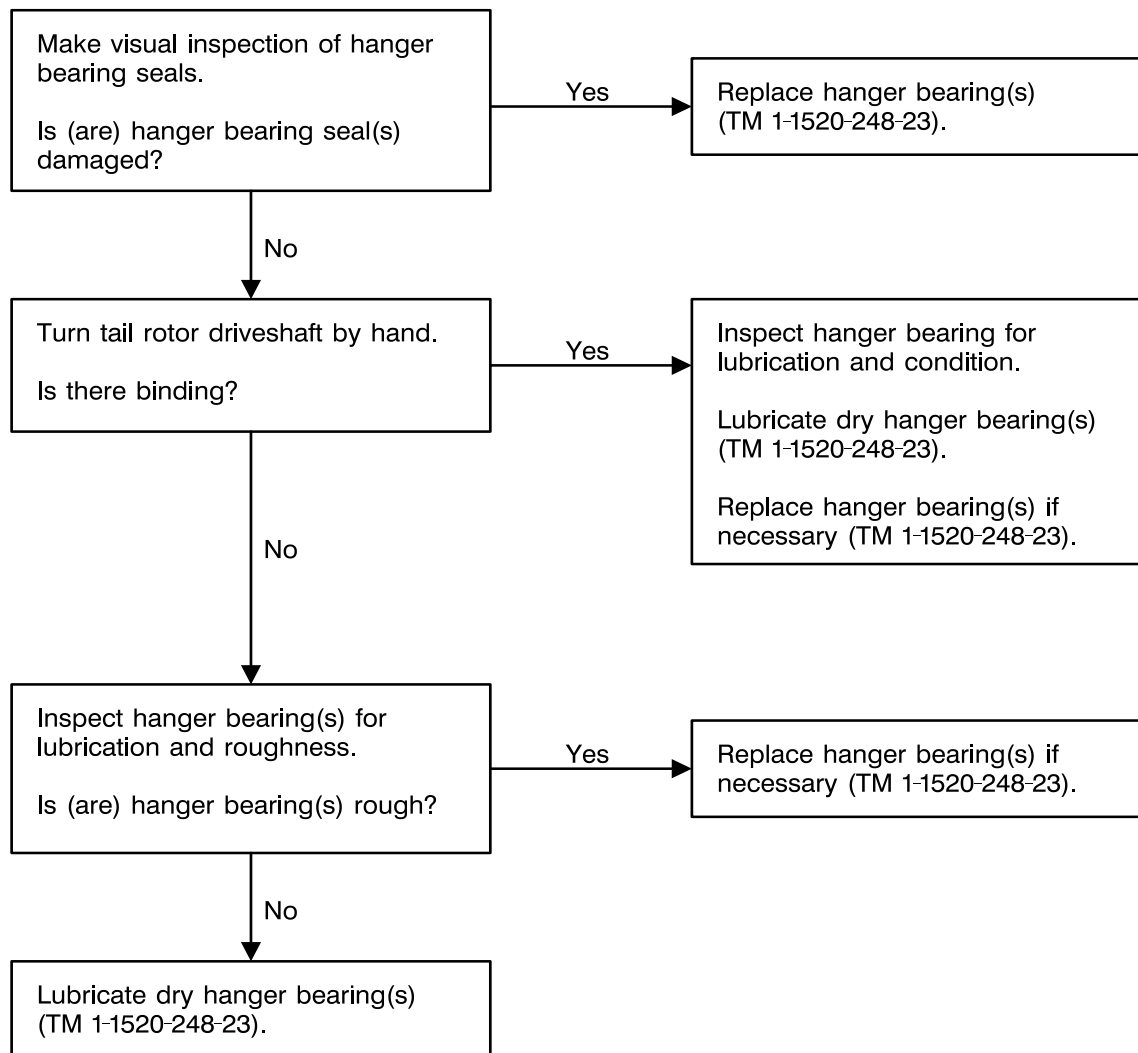
3-1-8. VIBRATION IN TAIL ROTOR DRIVESHAFT

406475-541-47
J1262

3-1-8. VIBRATION IN TAIL ROTOR DRIVESHAFT (CONT)

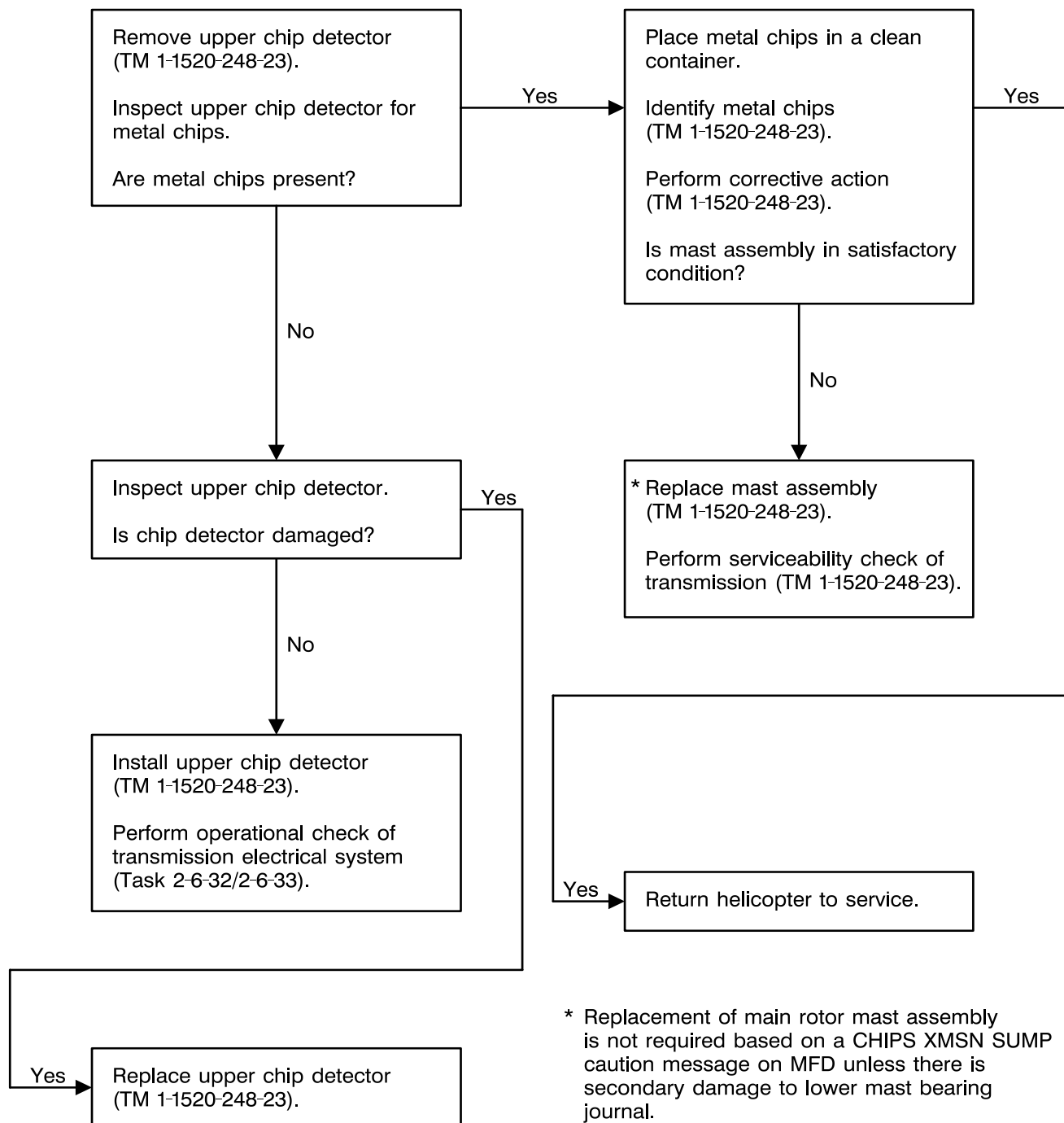


3-1-9. LOSS OF GREASE FROM HANGER BEARING(S)

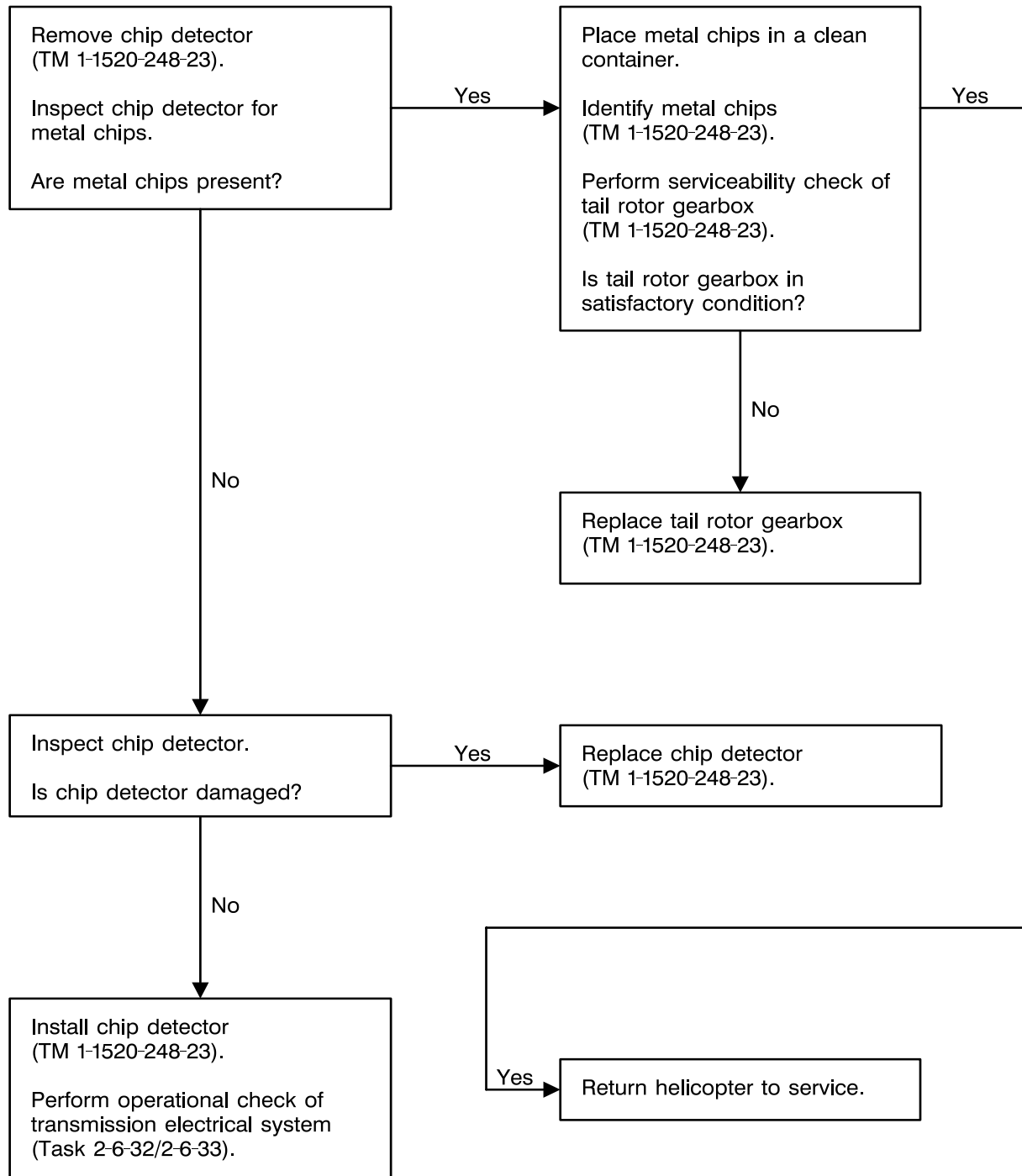
**NOTE**

If necessary, sections of tail rotor driveshaft may be removed to help identify faulty hanger bearings.

3-1-10. CHIPS XMSN UPPER CAUTION MESSAGE ON MFD

406475-541-50
J1262

3-1-11. CHIPS T/R GRBX CAUTION MESSAGE ON MFD

406475-541-51
J1262

Section II. HYDRAULIC SYSTEM

3-4. MAPS DIAGRAMS INDEX

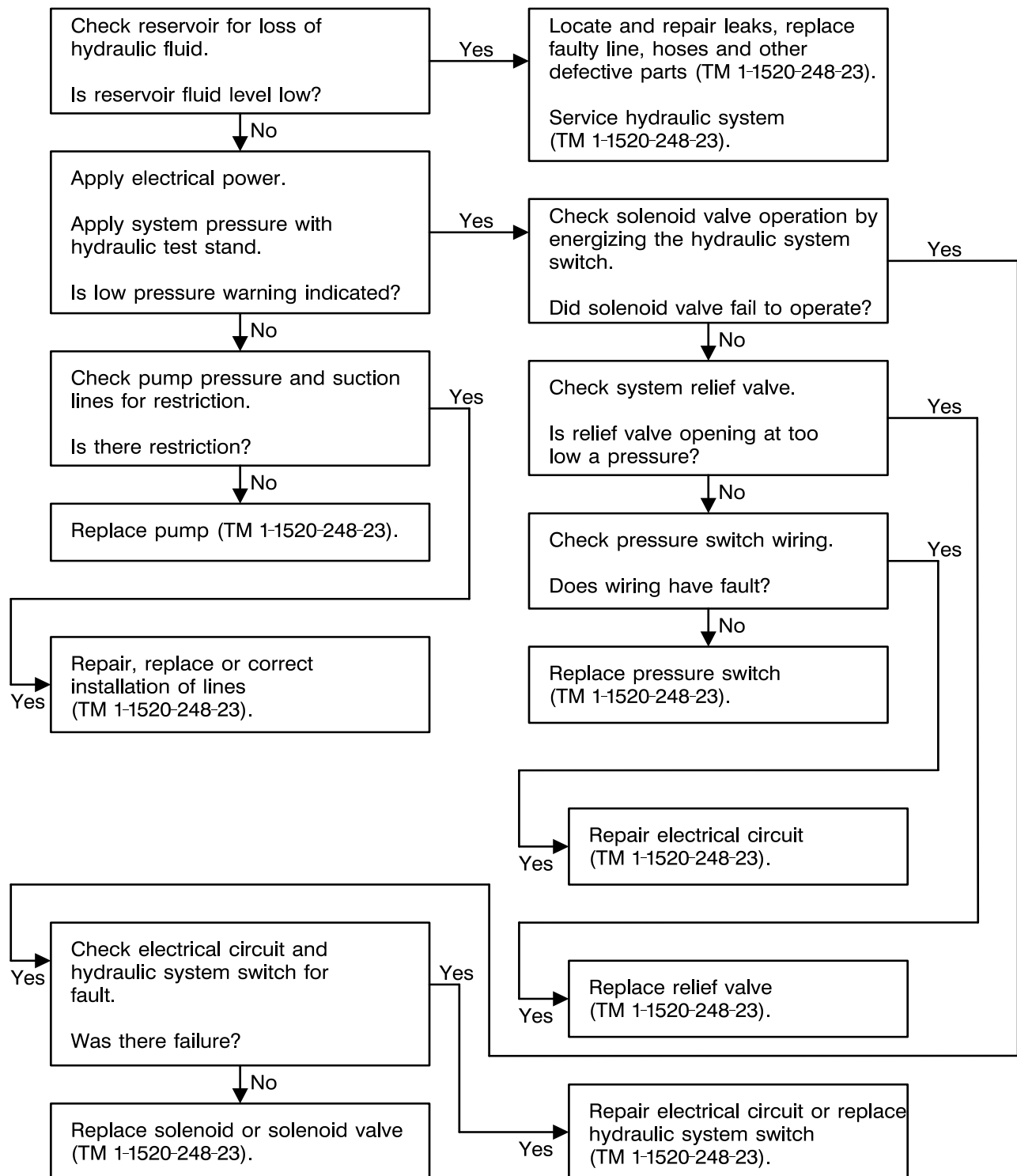
The list of MAPS diagrams provides a numerical index of symptoms contained in this section.

Hydraulic System malfunctions (symptoms) are listed in column two (SYMPTOM). To perform troubleshooting of a symptom refer to column one (MAPS NUMBER) which indicates the MAPS

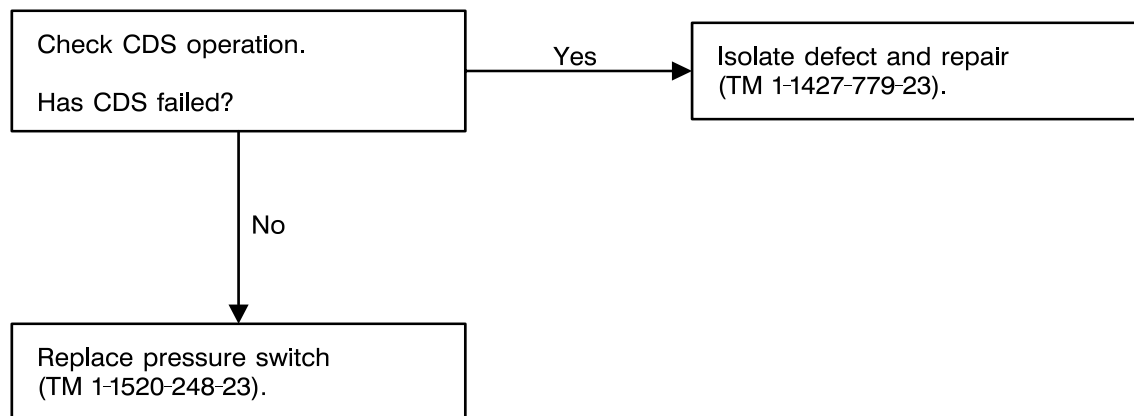
diagram number to perform. The procedures in the troubleshooting logic tree should be performed in sequence as specified unless otherwise noted within the logic tree.

Correction of malfunctions must be verified by performing an operational check using the procedures in TM 1-1520-248-T-1.

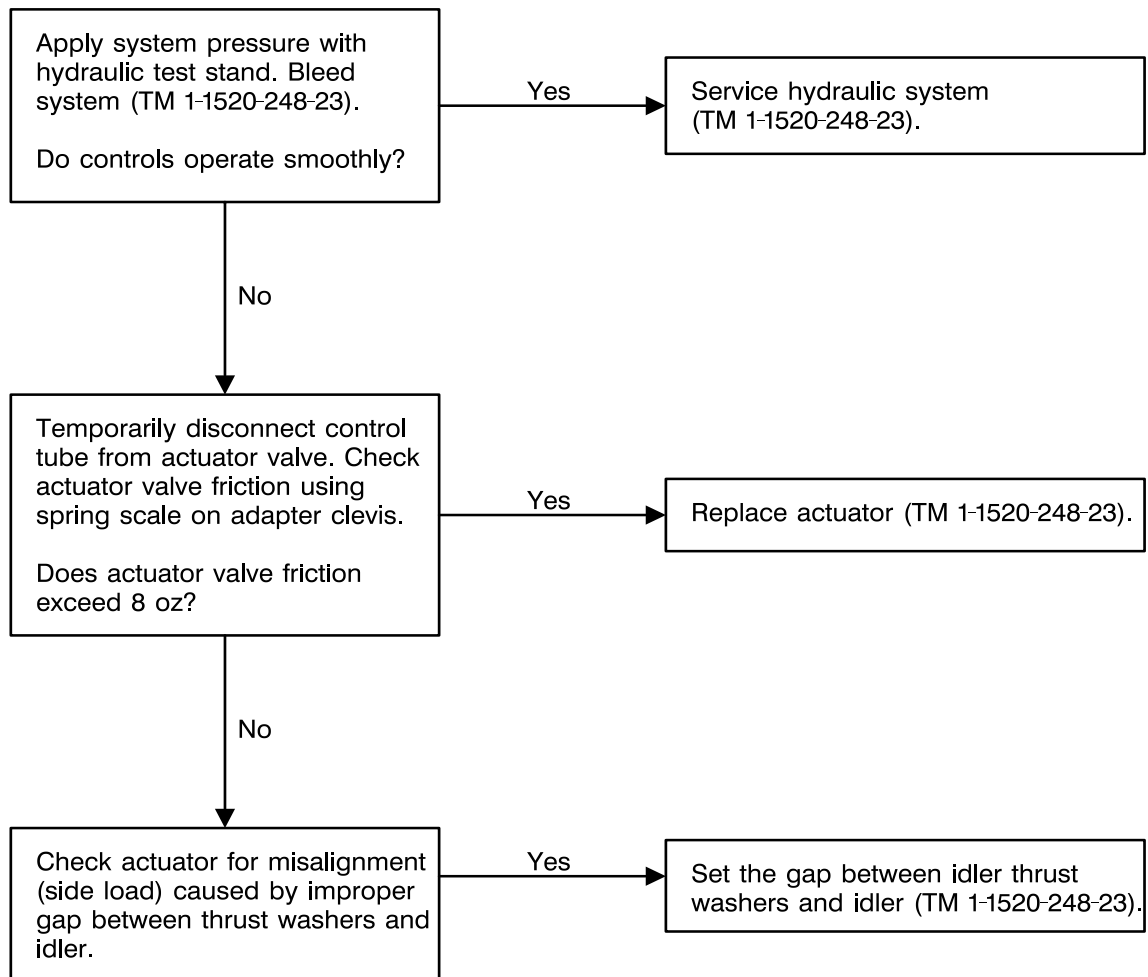
MAPS NUMBER	SYMPTOM	PAGE NUMBER
3-2-1	LOW HYD PRESS caution message displayed on MFD during normal operation	3-19
3-2-2	CDS indicates hydraulic system failed, but hydraulic system functions normally	3-20
3-2-3	Servoactuator chatters when controls are moved	3-21
3-2-4	Hydraulic system will not turn off	3-22

3-2-1. **LOW HYD PRESS** CAUTION MESSAGE DISPLAYED ON MFD DURING NORMAL OPERATION406475-541-52
J1262

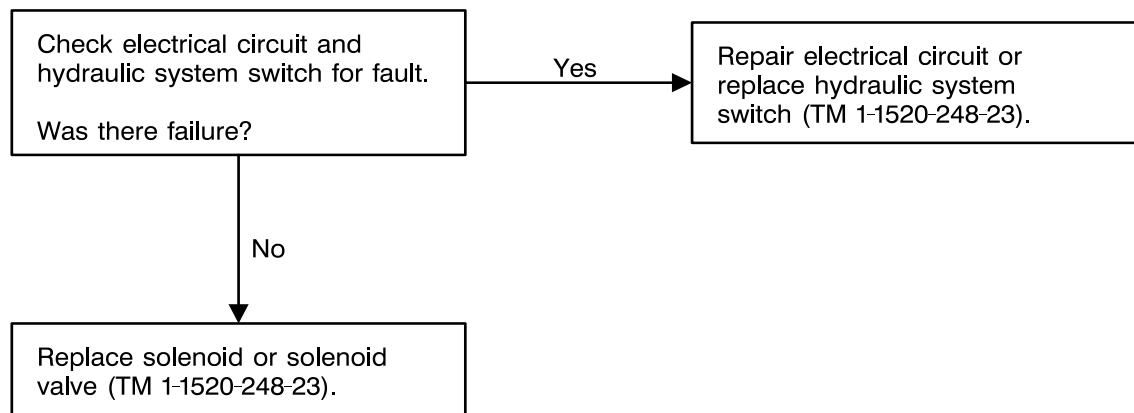
3-2-2. CDS INDICATES HYDRAULIC SYSTEM FAILED, BUT HYDRAULIC SYSTEM FUNCTIONS NORMALLY



3-2-3. SERVOACTUATOR CHATTERS WHEN CONTROLS ARE MOVED



3-2-4. HYDRAULIC SYSTEM WILL NOT TURN OFF



406475-541-55
J1262

Section III. INSTRUMENTS

3-5. MAPS DIAGRAMS INDEX

The list of MAPS diagrams provides a numerical index of symptoms contained in this section.

Instrument malfunctions (symptoms) are listed in column two (SYMPTOM). To perform troubleshooting of a symptom refer to column one (MAPS NUMBER) which indicates the MAPS diagram number to perform. The procedures in the troubleshooting logic tree should be performed in sequence as specified unless otherwise noted within the logic tree.

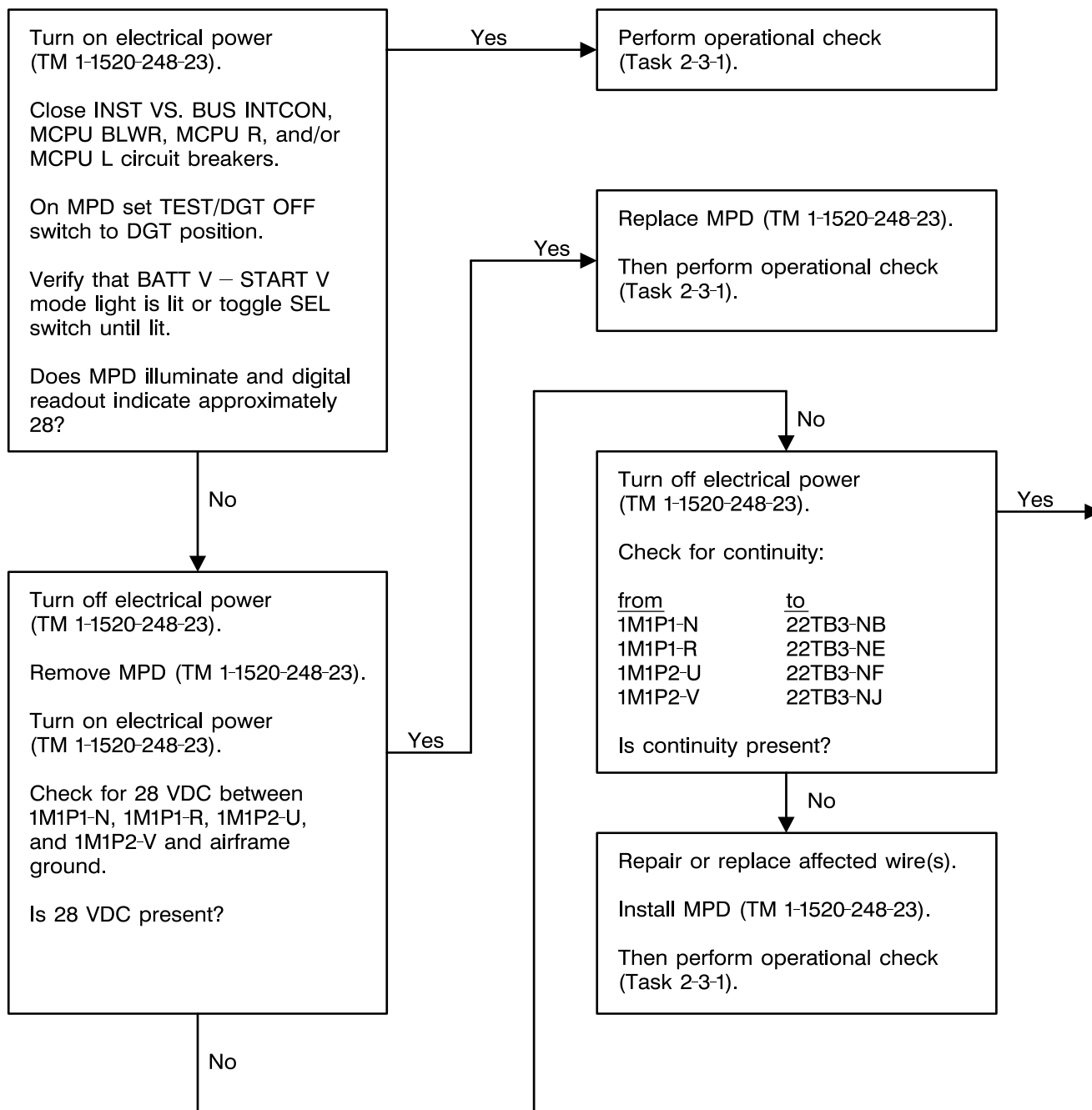
Correction of malfunctions must be verified by performing an operational check using the procedures in TM 1-1520-248-T-1.

NOTE

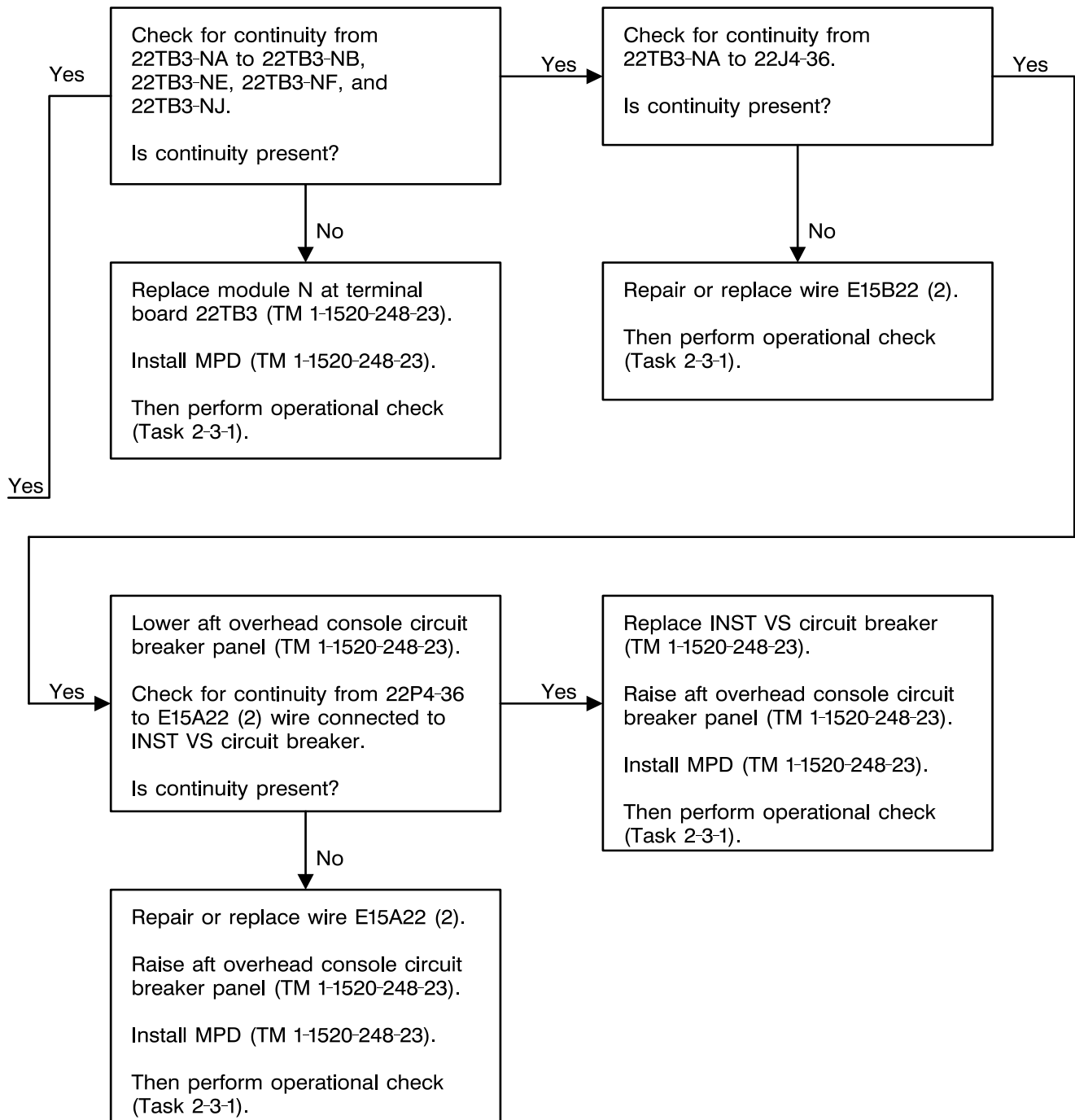
The task number(s) referenced in the symptom title is the related operational check for the affected system.

MAPS NUMBER	SYMPTOM	PAGE NUMBER
3-3-1	MPD does not illuminate or digital readout does not indicate approximately 28 Vdc (Task 2-3-1)	3-24
3-3-2	TGT/TRQ indicator does not function properly with MPD operating normally (Task 2-3-1)	3-27
3-3-3	Dual tachometer does not function properly with MPD operating normally (Task 2-3-1)	3-29
3-3-4	Standby altimeter fails to illuminate (Task 2-3-2)	3-31
3-3-5	Standby attitude indicator OFF flag does not move from view (Task 2-3-3)	3-34
3-3-6	Standby attitude indicator fails to illuminate (Task 2-3-3)	3-38
3-3-7	Standby airspeed indicator fails to illuminate (Task 2-3-4)	3-41
3-3-8	Pitot tube does not get hot (Task 2-3-9)	3-44
3-3-9	Standby compass fails to illuminate (Task 2-3-6)	3-46
3-3-10	Clock fails to illuminate (Task 2-3-7/2-3-8)	3-49
3-3-11	Standby altimeter pointer sticks (Task 2-3-2)	3-52
3-3-12	MFD does not indicate RPM and TRQ readings with backup switch on MPD pressed (Task 2-3-1)	3-53
3-3-13	NR vertical indicator does not work properly and mast torque inoperative (Task 2-3-1)	3-55
3-3-14	Airspeed input invalid (Task 2-3-5)	3-63

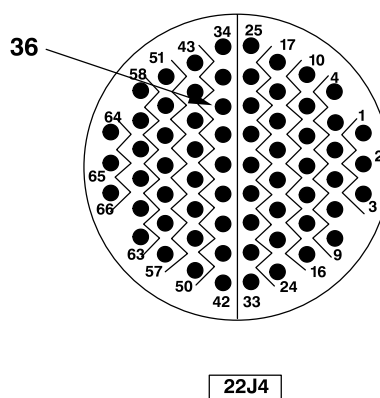
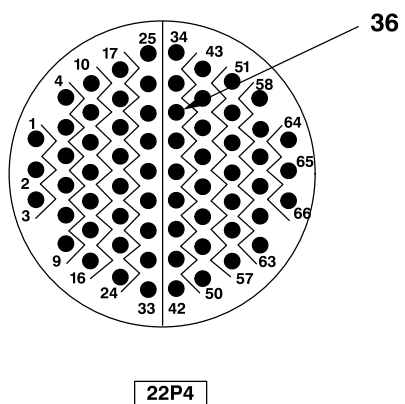
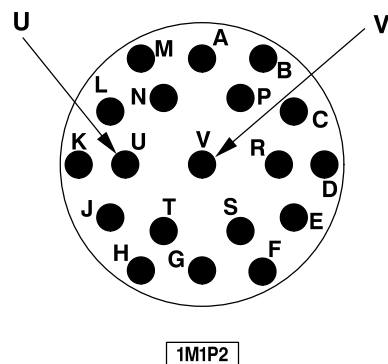
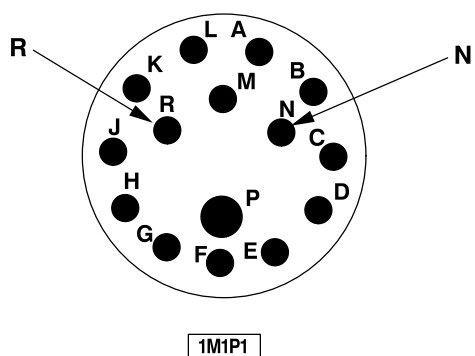
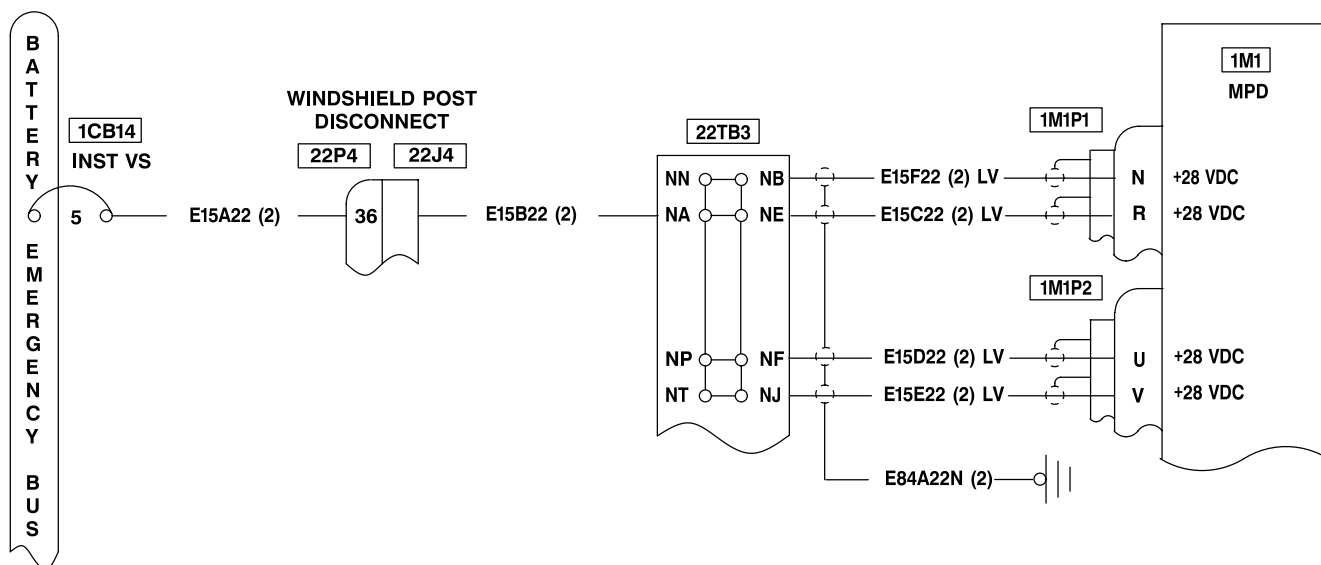
3-3-1. MPD DOES NOT ILLUMINATE OR DIGITAL READOUT DOES NOT INDICATE APPROXIMATELY 28 VDC (TASK 2-3-1)



3-3-1. MPD DOES NOT ILLUMINATE OR DIGITAL READOUT DOES NOT INDICATE APPROXIMATELY 28 VDC (TASK 2-3-1) (CONT)

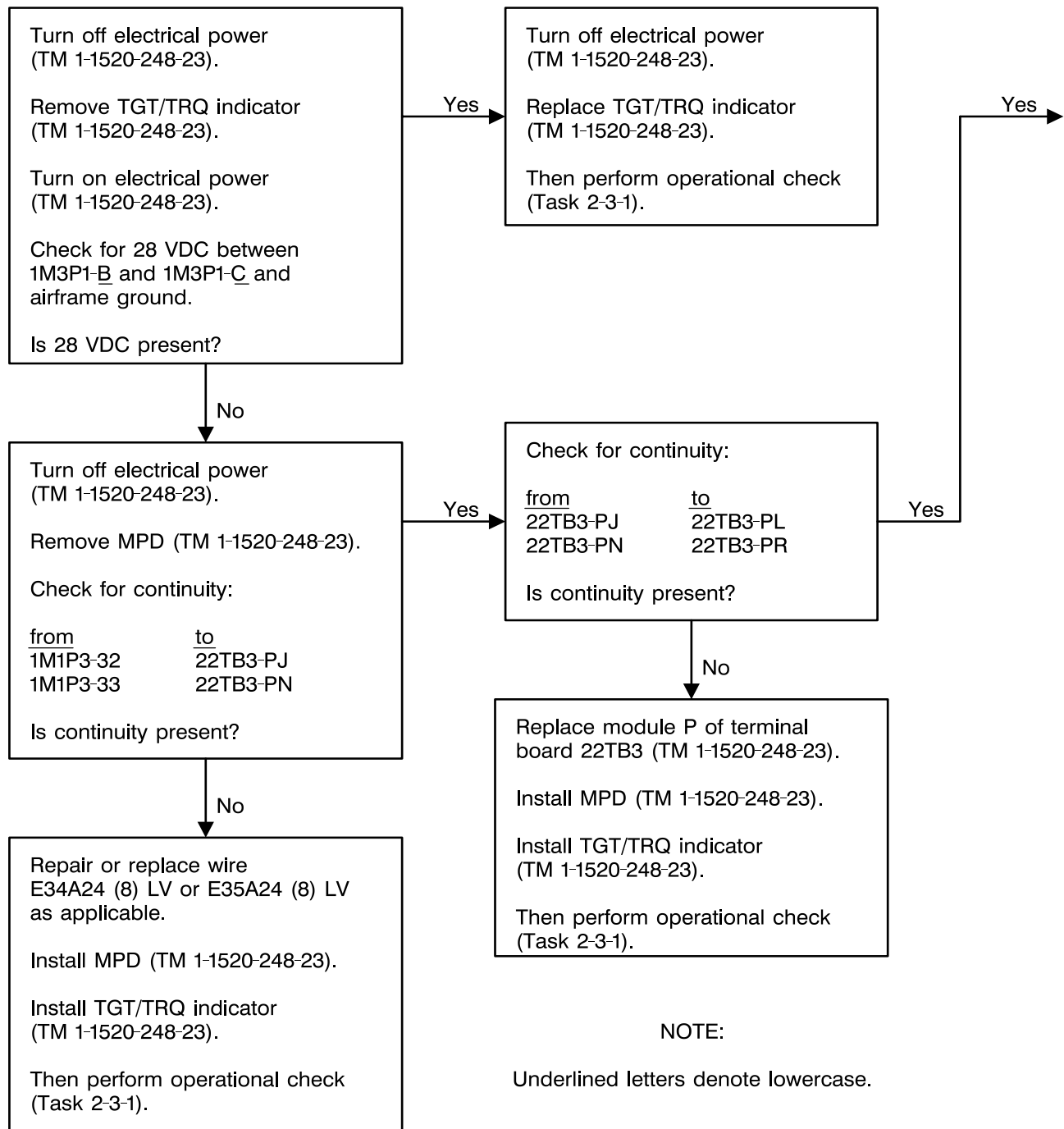


3-3-1. MPD DOES NOT ILLUMINATE OR DIGITAL READOUT DOES NOT INDICATE APPROXIMATELY 28 VDC (TASK 2-3-1) (CONT)

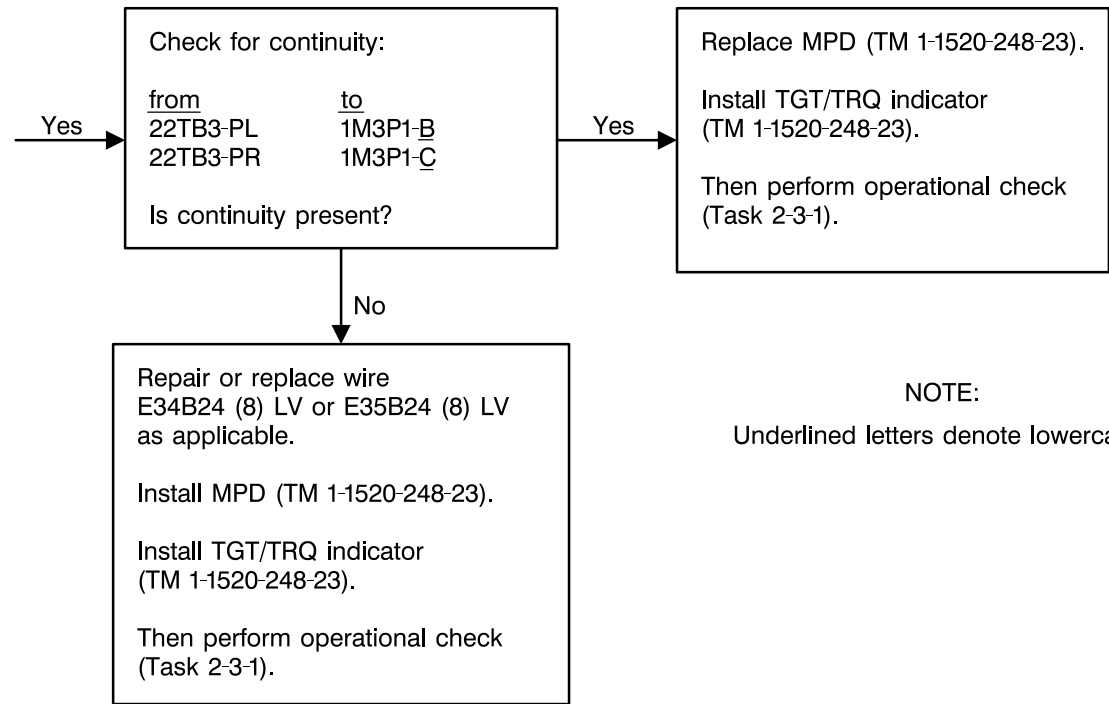


406475-299-T
J2668

3-3-2. TGT/TRQ INDICATOR DOES NOT FUNCTION PROPERLY WITH MPD OPERATING NORMALLY (TASK 2-3-1)

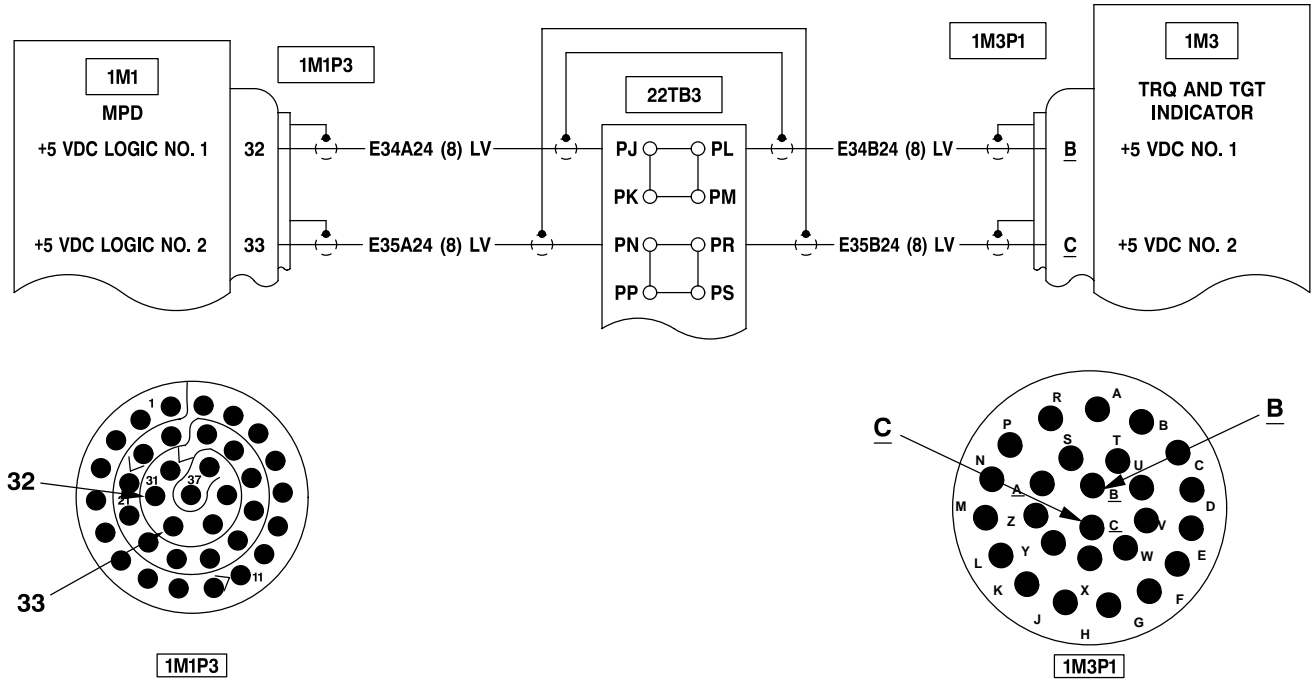


3-3-2. TGT/TRQ INDICATOR DOES NOT FUNCTION PROPERLY WITH MPD OPERATING NORMALLY (TASK 2-3-1) (CONT)



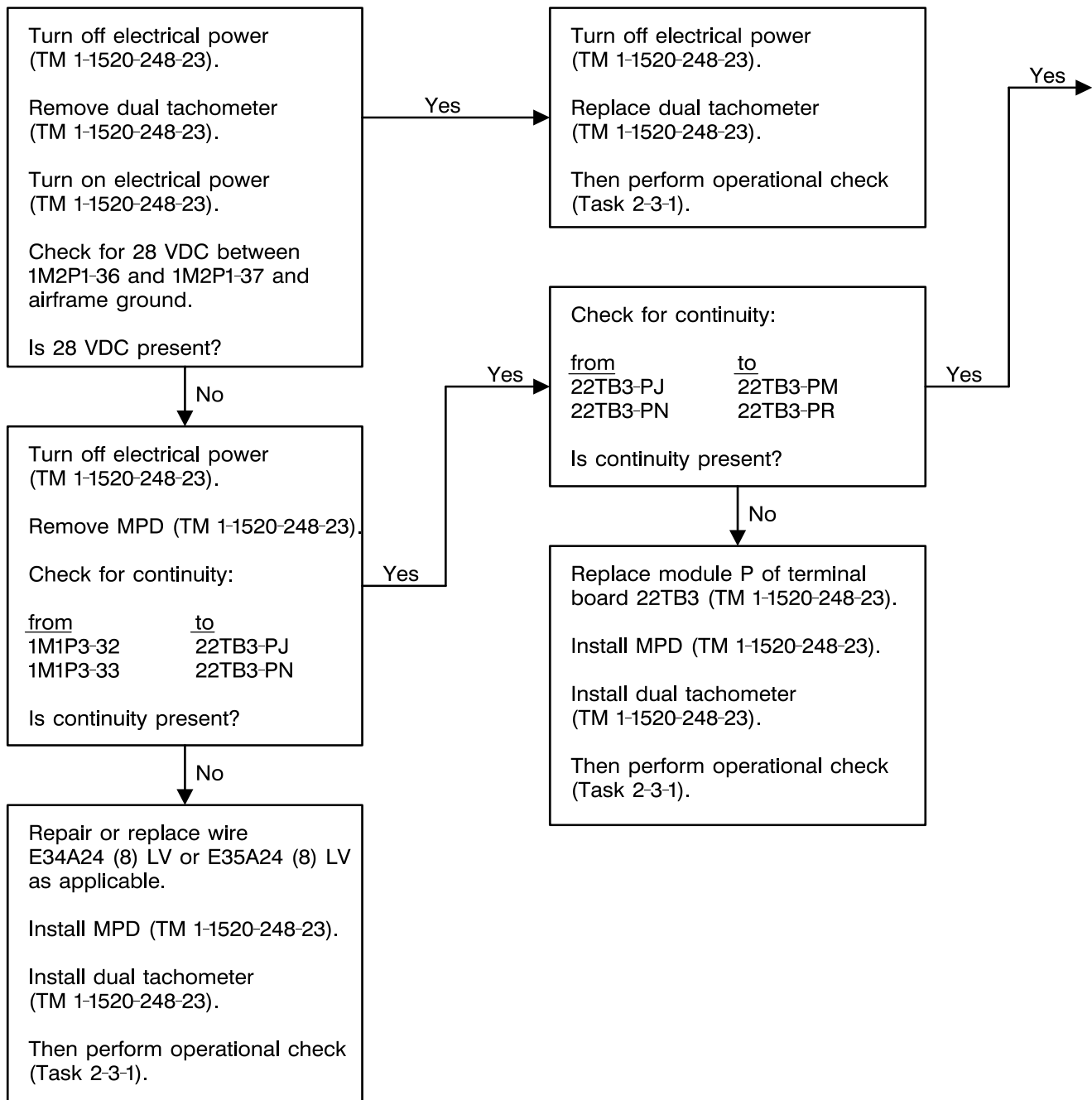
NOTE:
Underlined letters denote lowercase.

406475-541-4
J2668

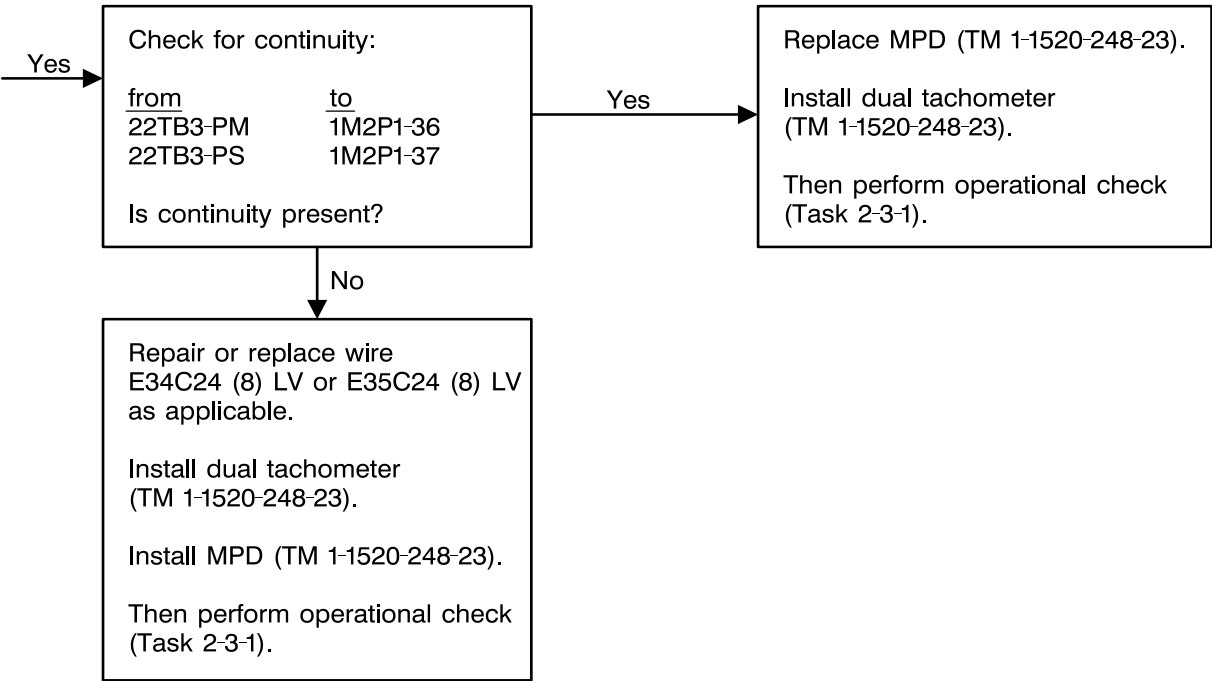


406475-541-5
J1262

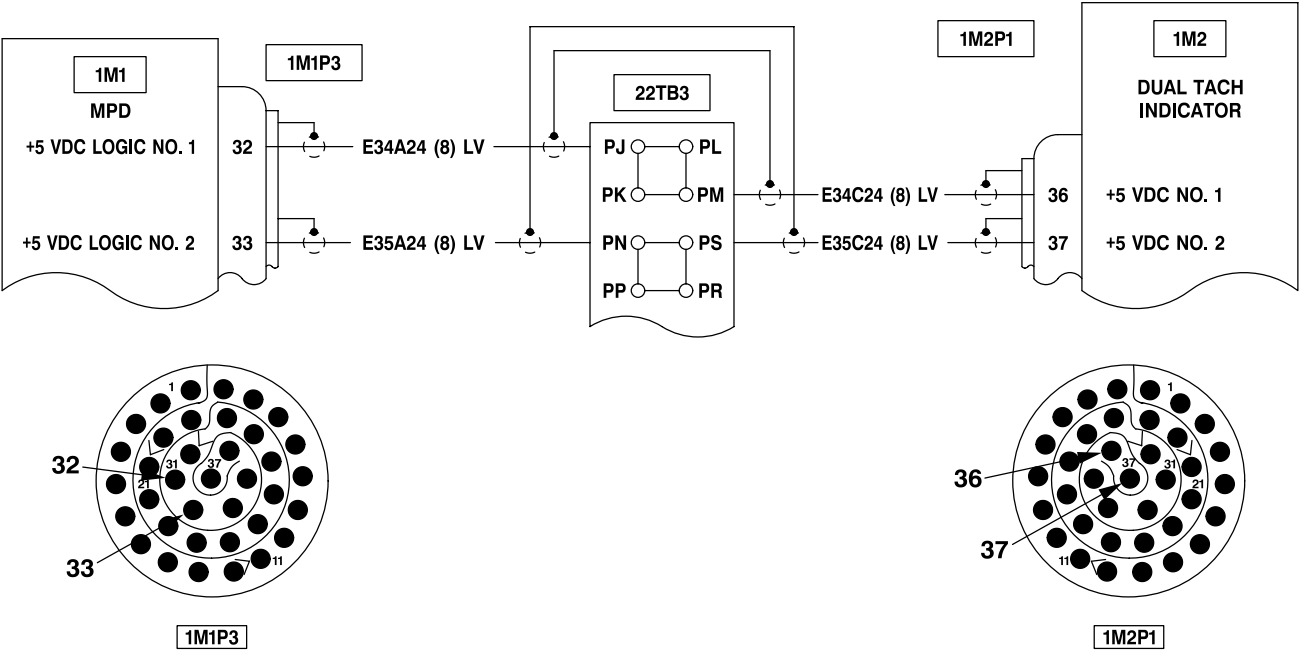
3-3-3. DUAL TACHOMETER DOES NOT FUNCTION PROPERLY WITH MPD OPERATING NORMALLY (TASK 2-3-1)



3-3-3. DUAL TACHOMETER DOES NOT FUNCTION PROPERLY WITH MPD OPERATING NORMALLY (TASK 2-3-1) (CONT)

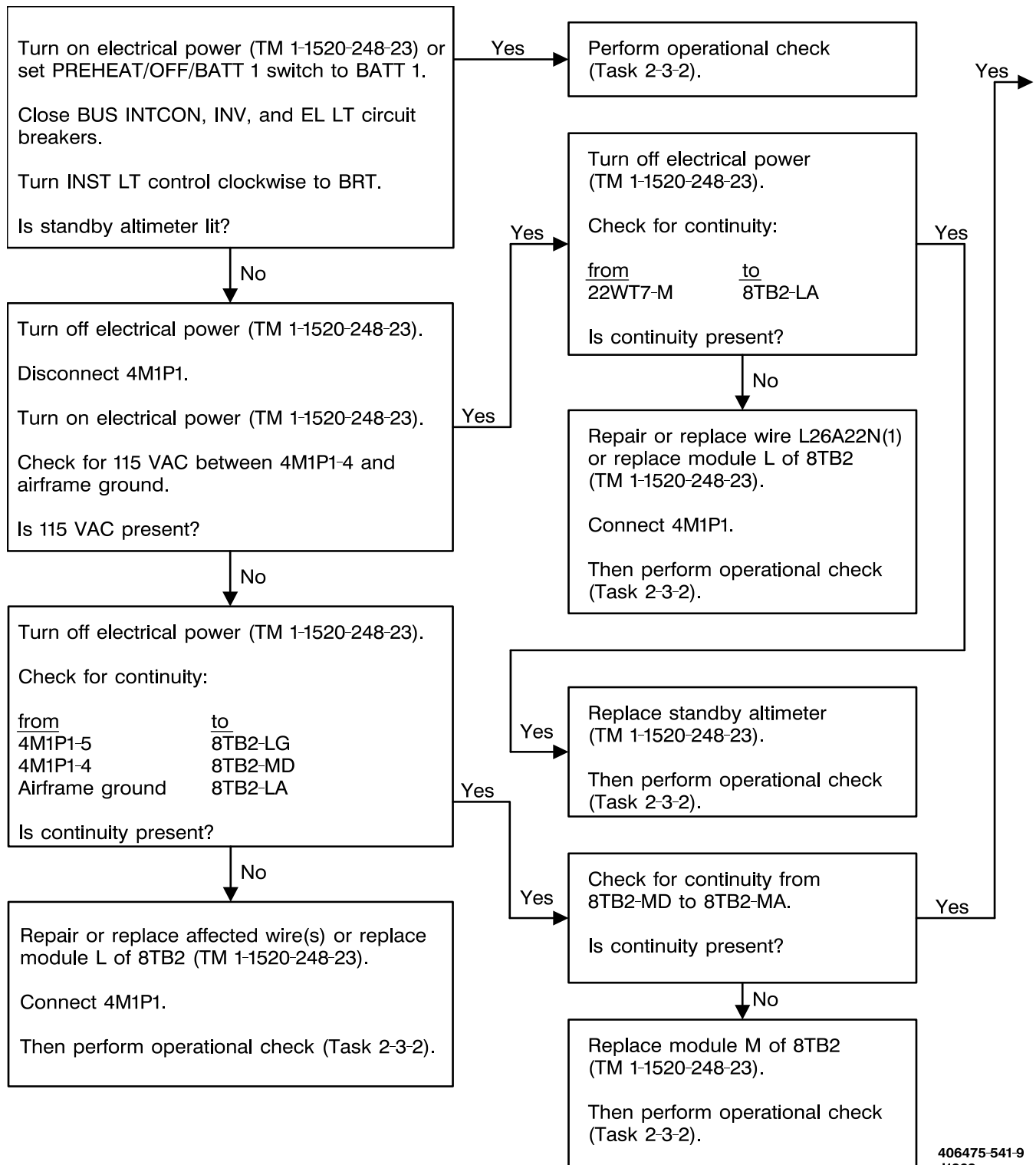


406475-541-7
J2668

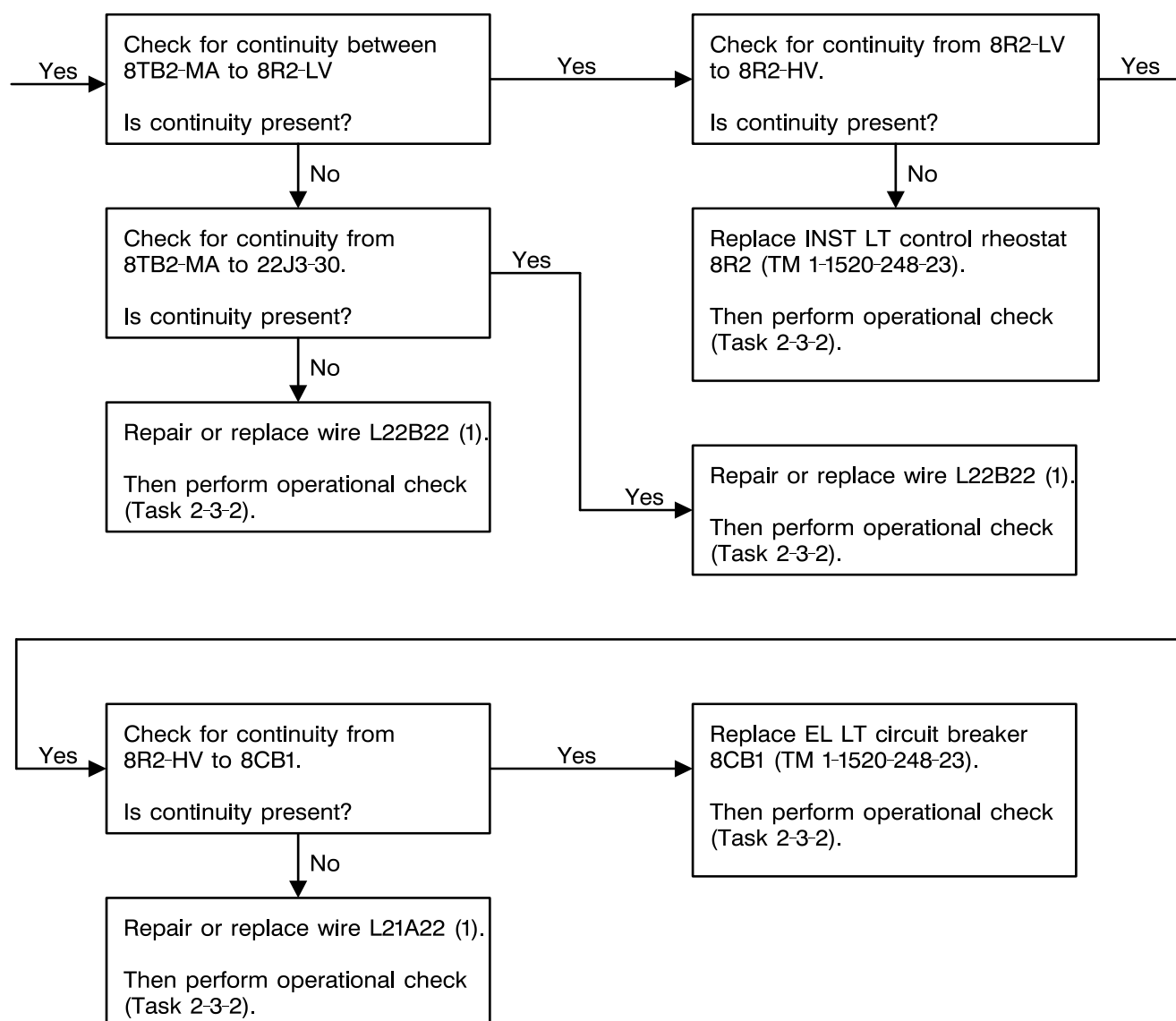


406475-541-8
J2668

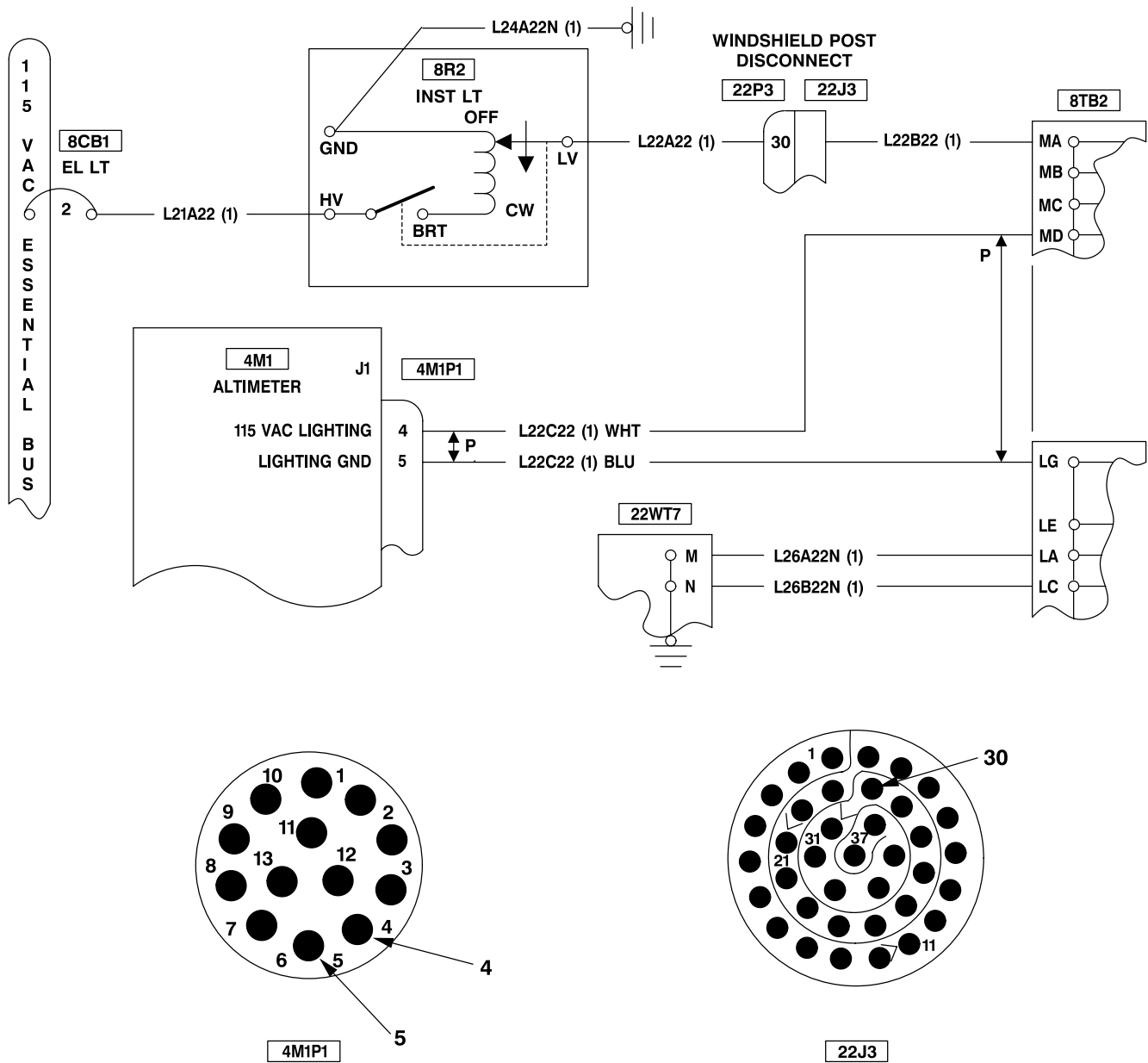
3-3-4. STANDBY ALTIMETER FAILS TO ILLUMINATE (TASK 2-3-2)

406475-541-9
J1262

3-3-4. STANDBY ALTIMETER FAILS TO ILLUMINATE (TASK 2-3-2) (CONT)

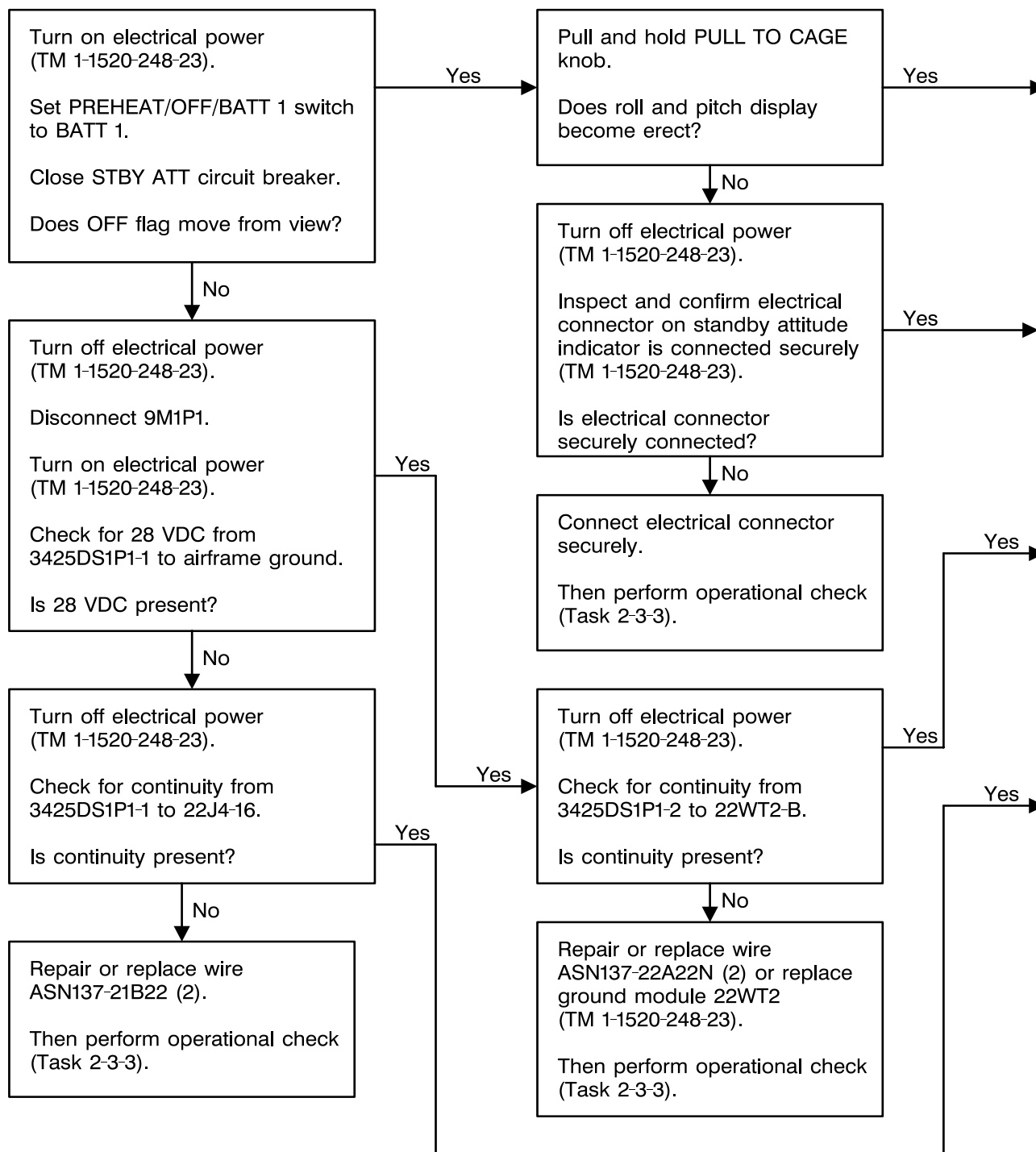


3-3-4. STANDBY ALTIMETER FAILS TO ILLUMINATE (TASK 2-3-2) (CONT)



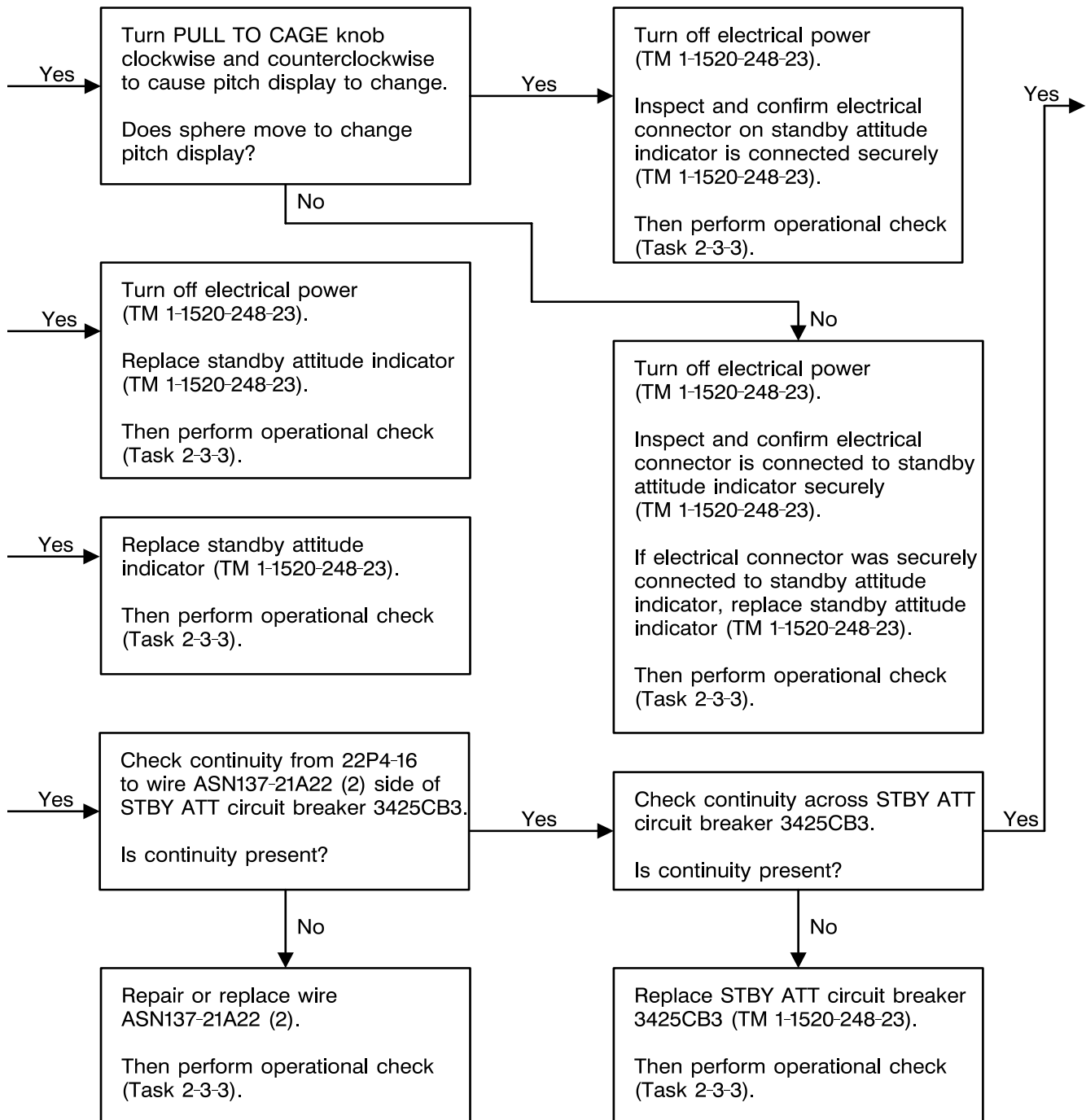
406475-300-T
J2668

3-3-5. STANDBY ATTITUDE INDICATOR OFF FLAG DOES NOT MOVE FROM VIEW (TASK 2-3-3)

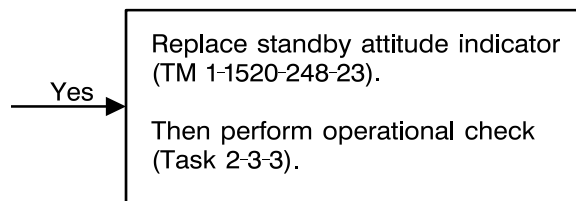


406475-541-11
J1262

3-3-5. STANDBY ATTITUDE INDICATOR OFF FLAG DOES NOT MOVE FROM VIEW (TASK 2-3-3) (CONT)

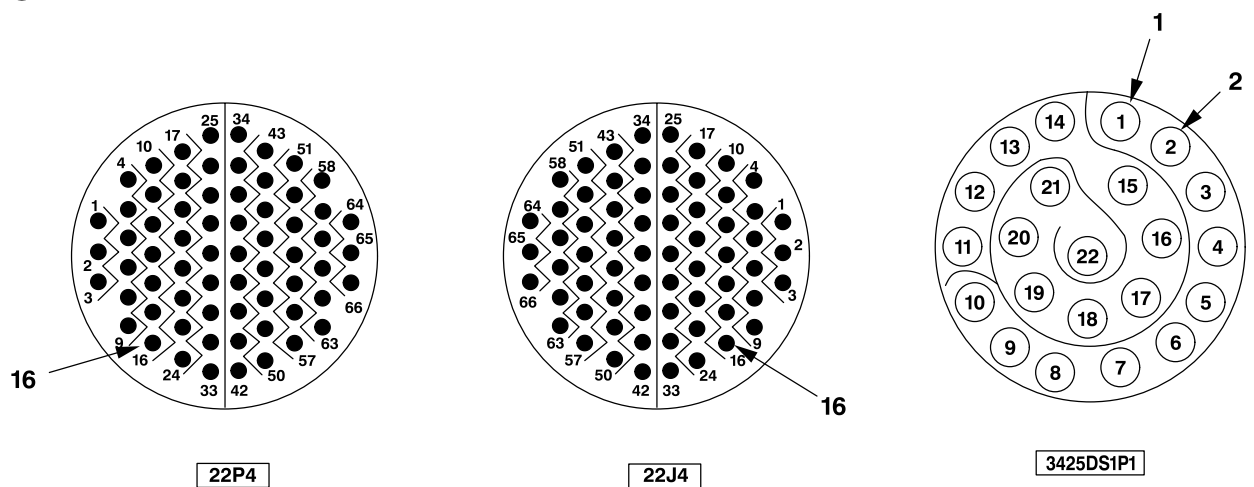
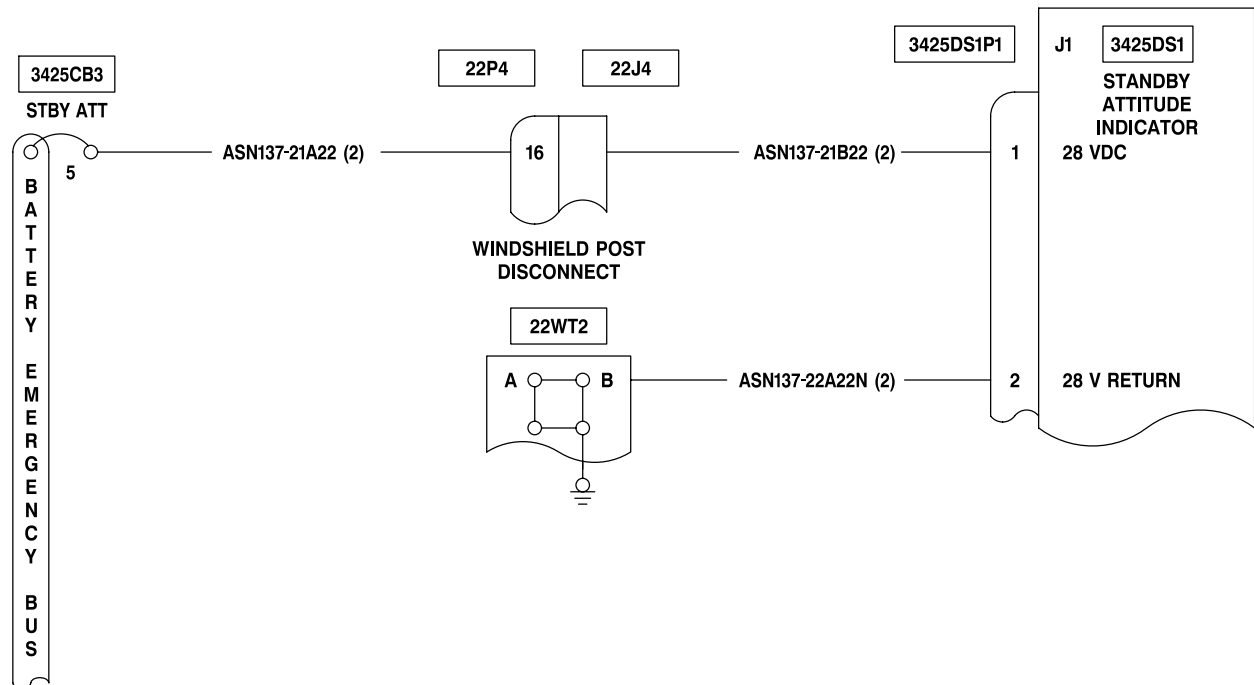


3-3-5. STANDBY ATTITUDE INDICATOR OFF FLAG DOES NOT MOVE FROM VIEW (TASK 2-3-3)
(CONT)



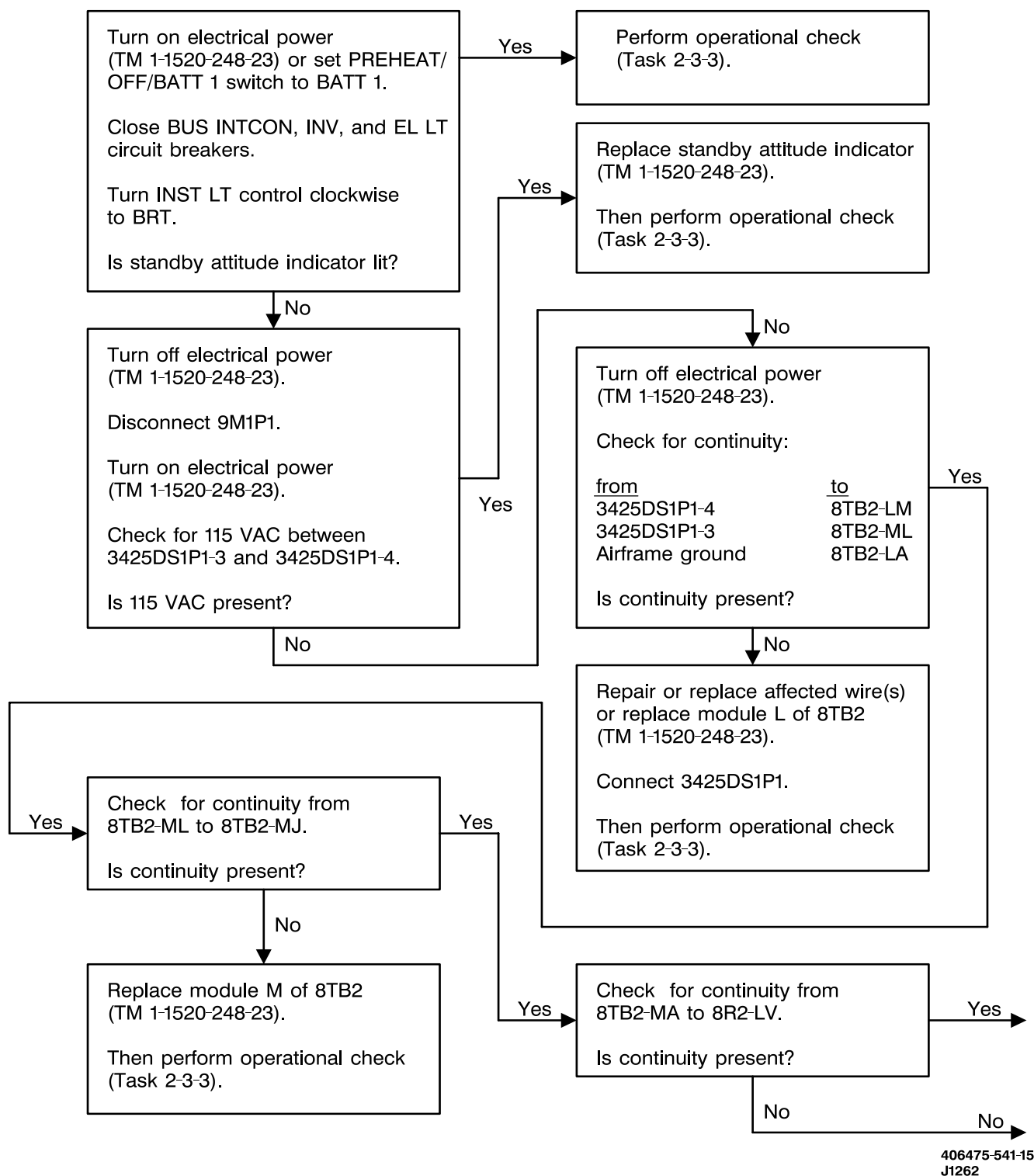
406475-541-13
J1262

3-3-5. STANDBY ATTITUDE INDICATOR OFF FLAG DOES NOT MOVE FROM VIEW (TASK 2-3-3)
(CONT)

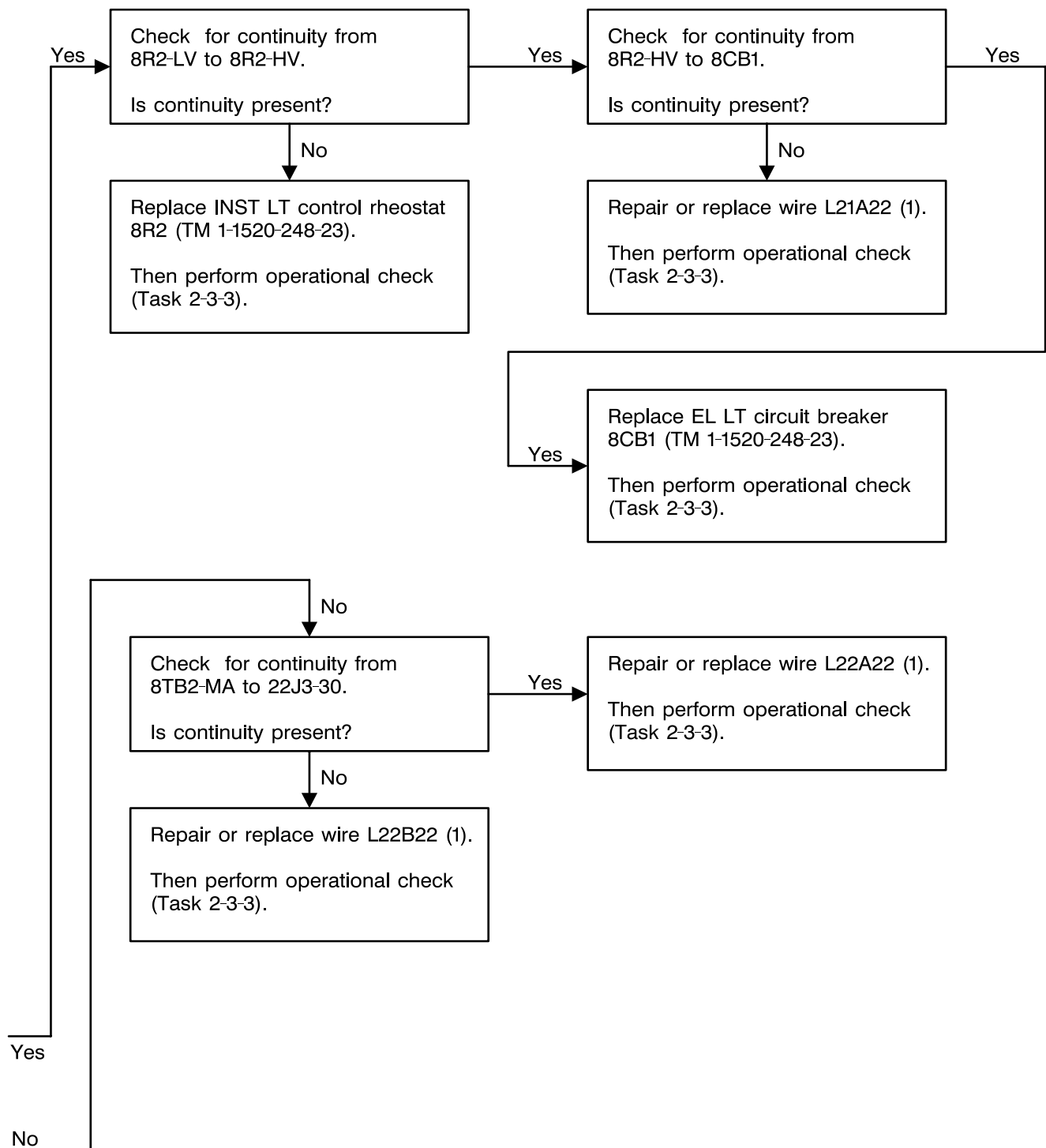


406475-541-14
J2668

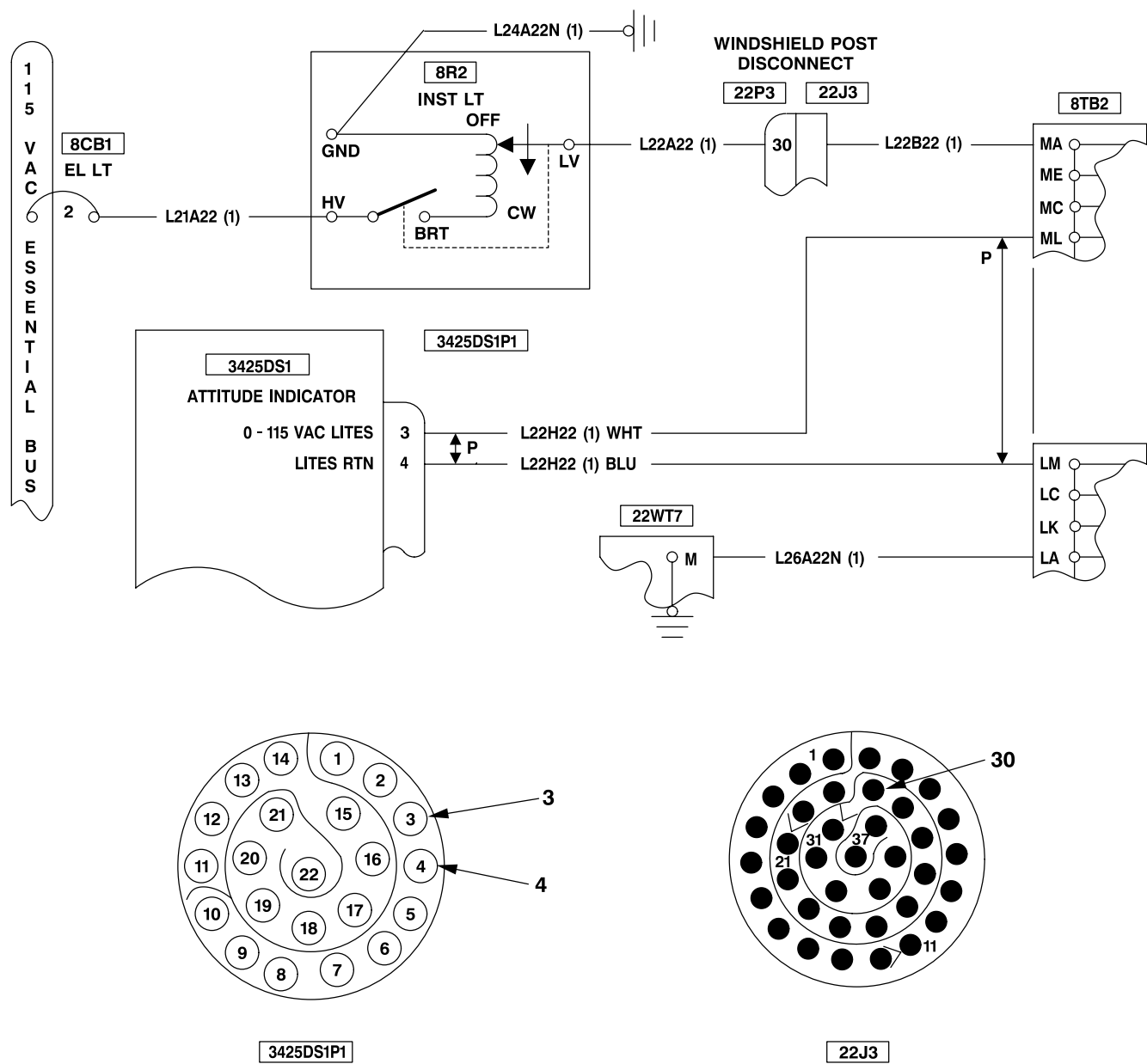
3-3-6. STANDBY ATTITUDE INDICATOR FAILS TO ILLUMINATE (TASK 2-3-3)



3-3-6. STANDBY ATTITUDE INDICATOR FAILS TO ILLUMINATE (TASK 2-3-3) (CONT)

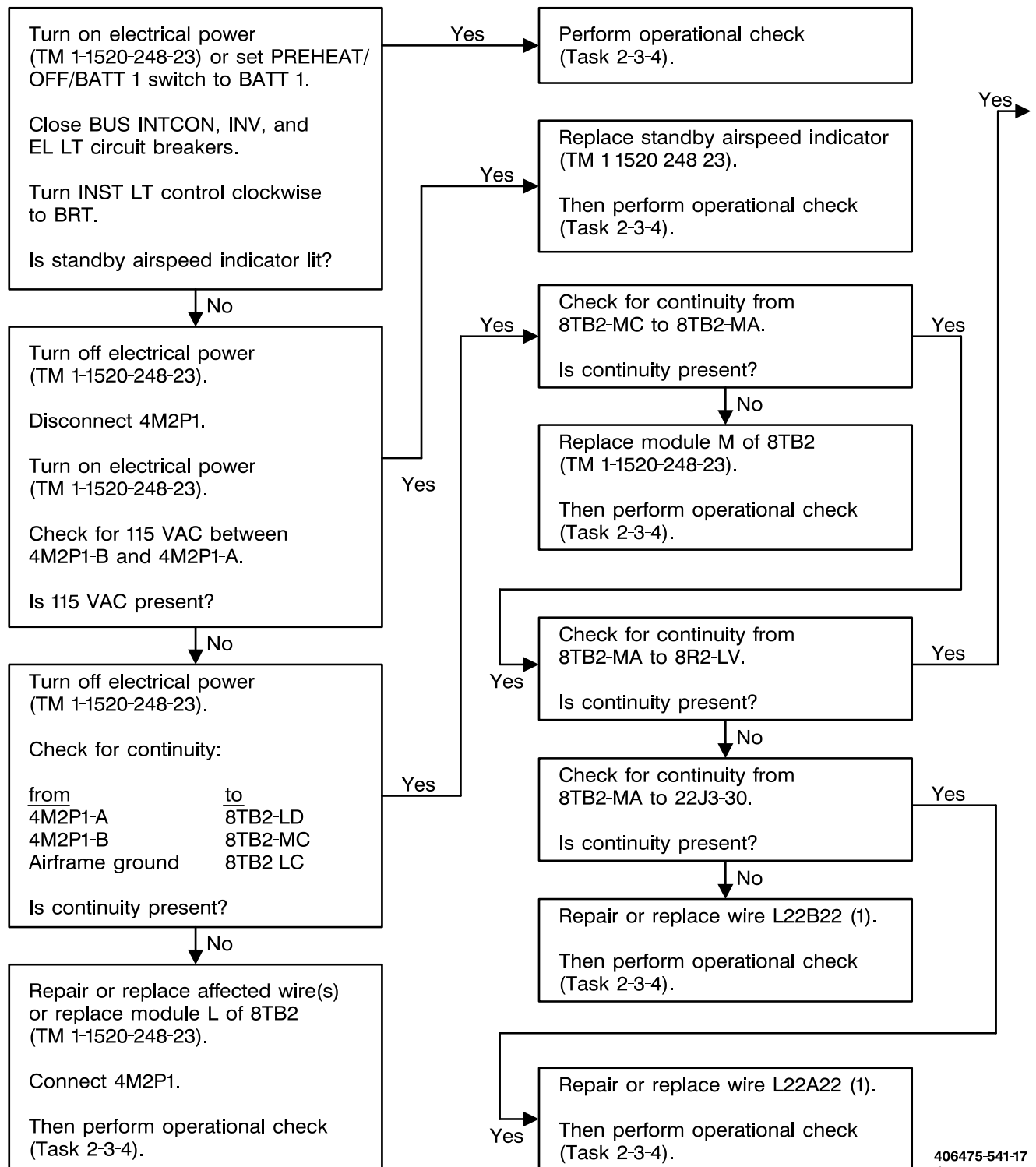
406475-541-16
J1262

3-3-6. STANDBY ATTITUDE INDICATOR FAILS TO ILLUMINATE (TASK 2-3-3) (CONT)

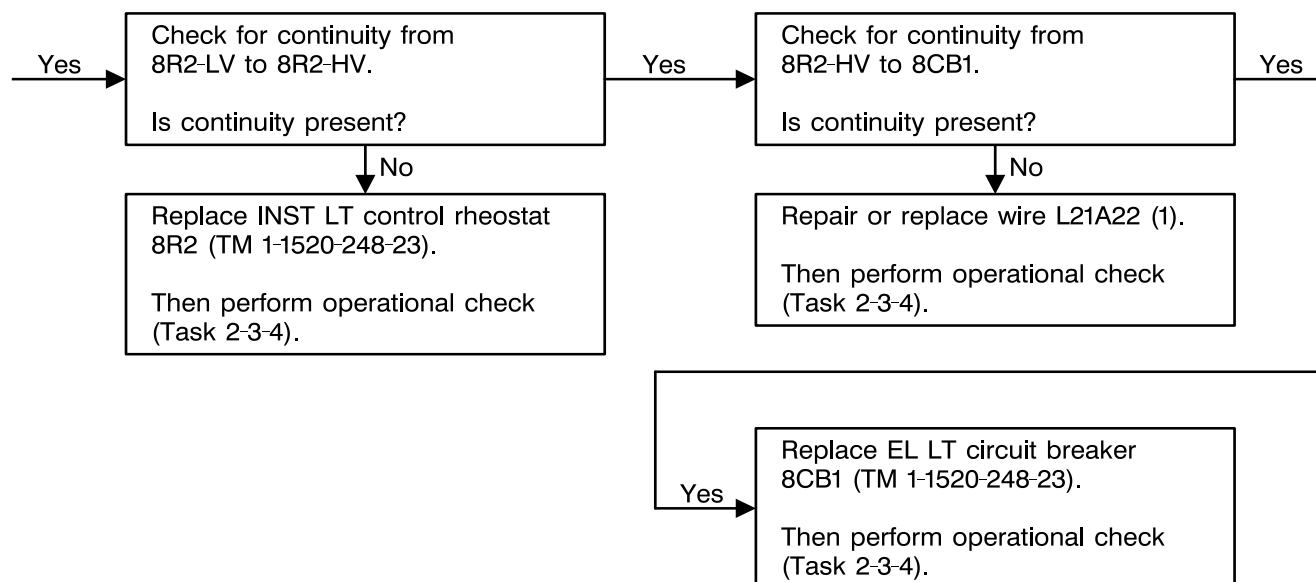


406475-302-T
J2668

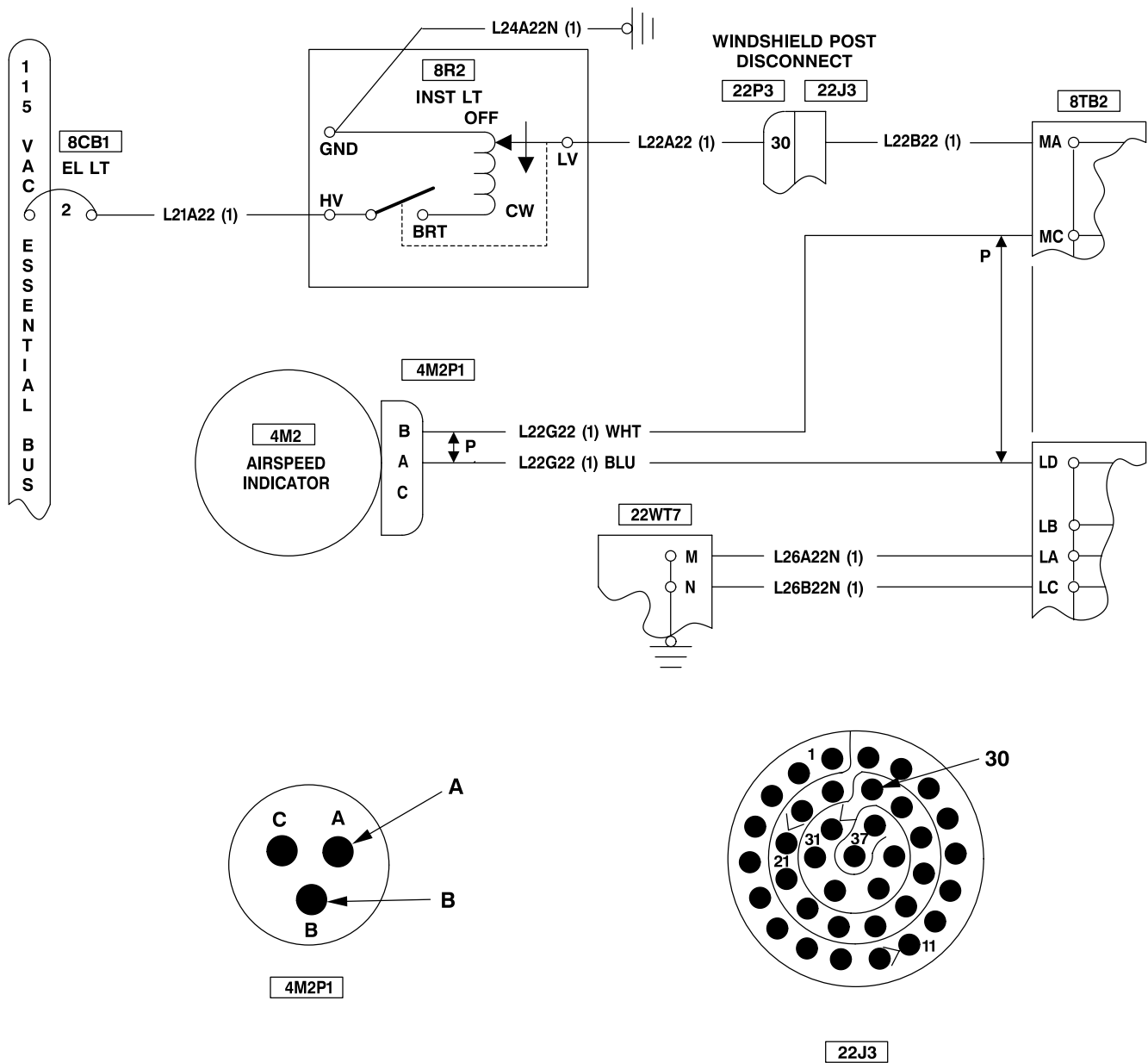
3-3-7. STANDBY AIRSPEED INDICATOR FAILS TO ILLUMINATE (TASK 2-3-4)

406475-541-17
J1262

3-3-7. STANDBY AIRSPEED INDICATOR FAILS TO ILLUMINATE (TASK 2-3-4) (CONT)

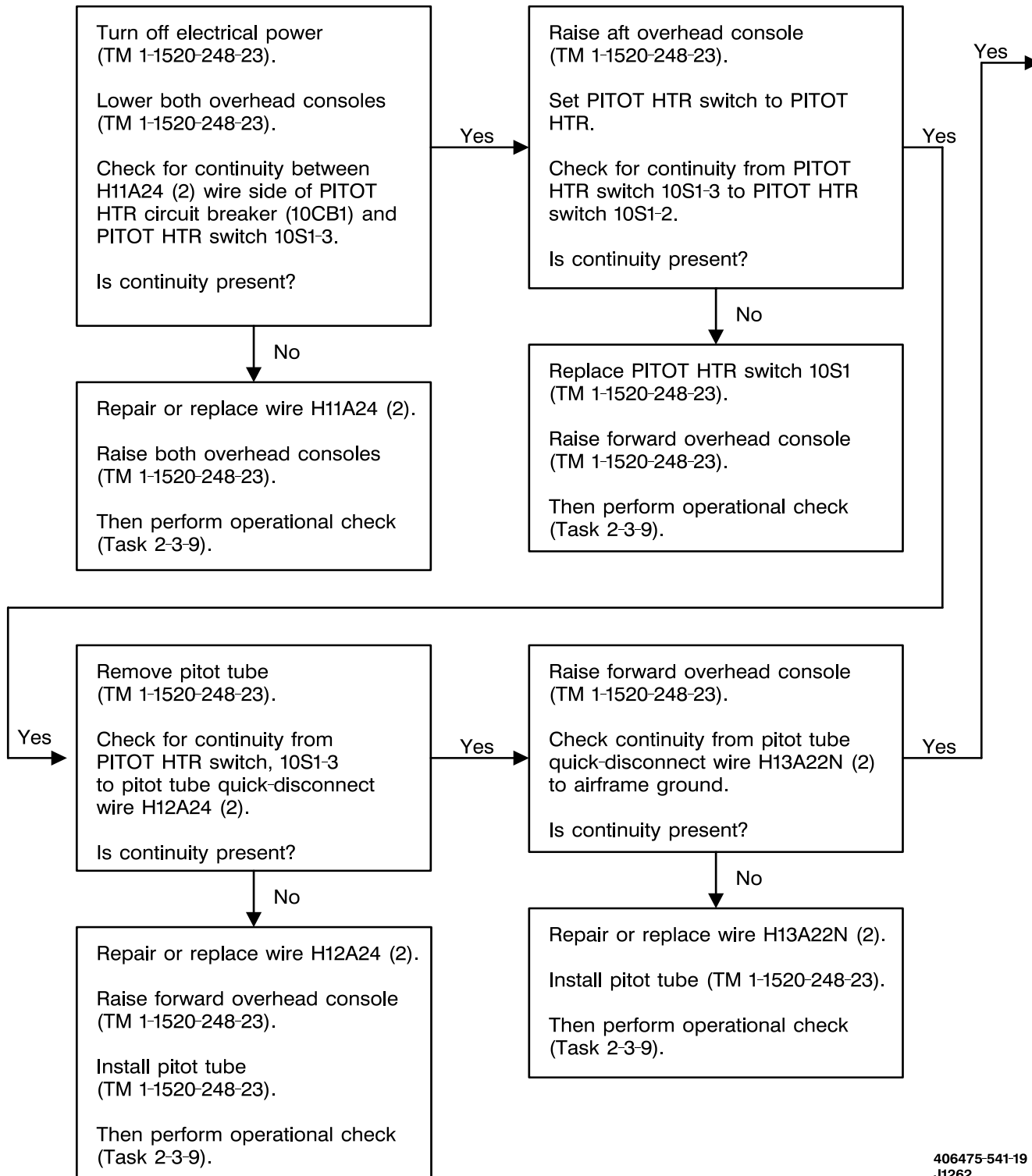
406475-541-18
J1262

3-3-7. STANDBY AIRSPEED INDICATOR FAILS TO ILLUMINATE (TASK 2-3-4) (CONT)

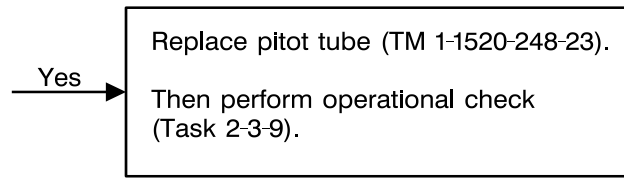


406475-303-T
J2668

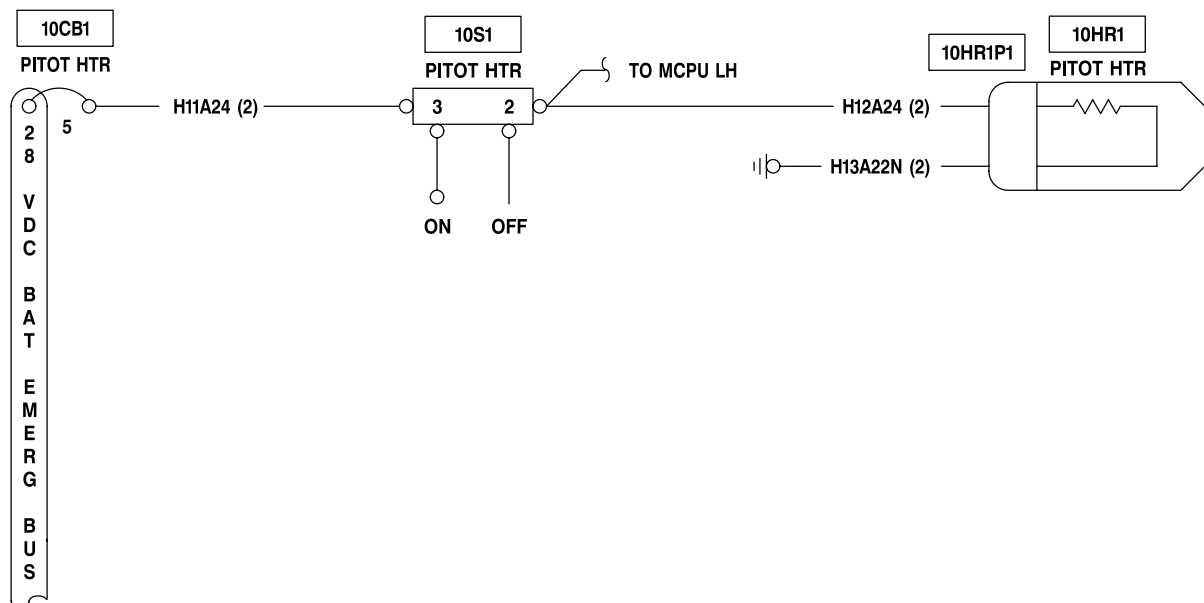
3-3-8. PITOT TUBE DOES NOT GET HOT (TASK 2-3-9)



3-3-8. PITOT TUBE DOES NOT GET HOT (TASK 2-3-9) (CONT)

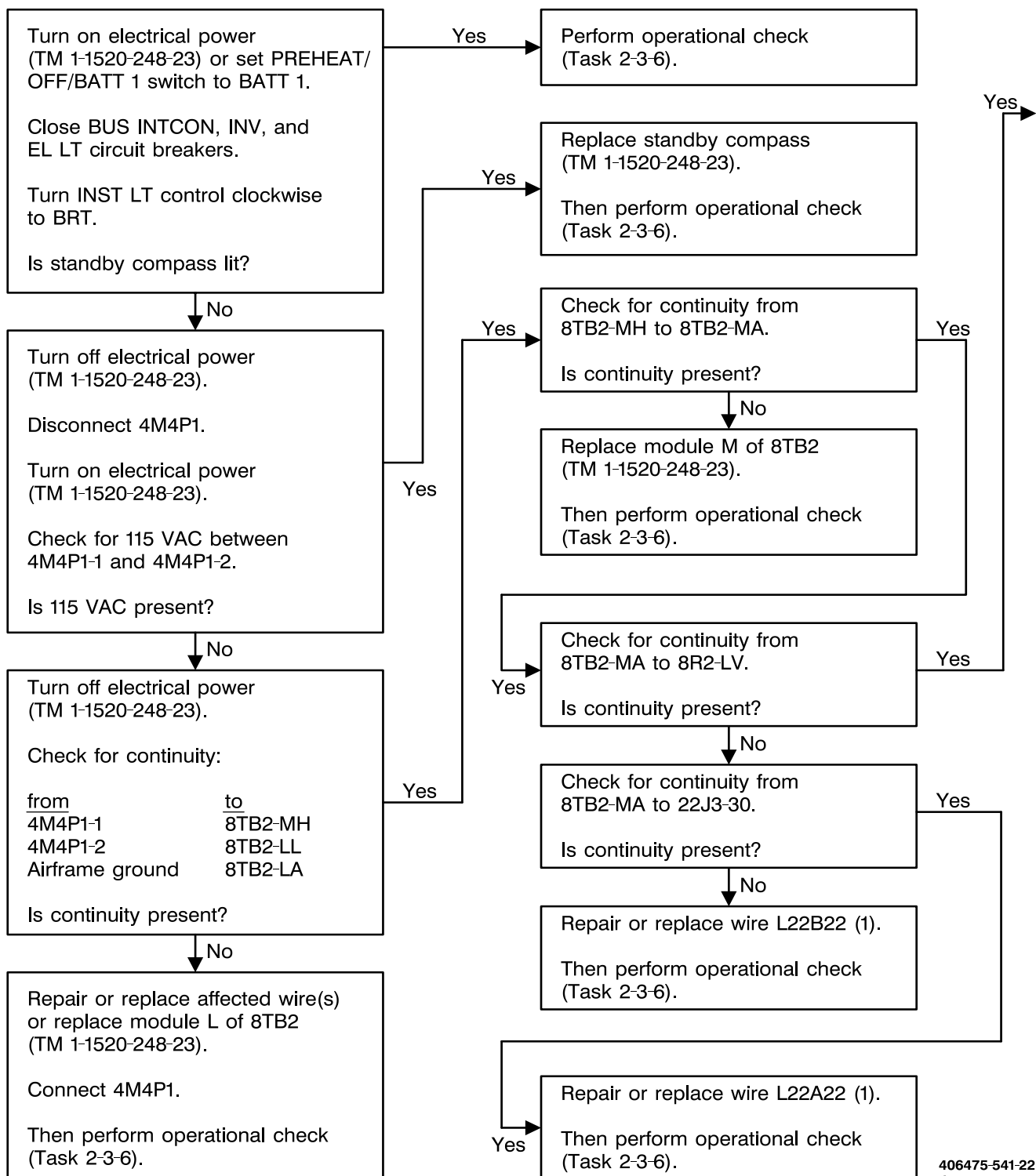


406475-541-20
J1262

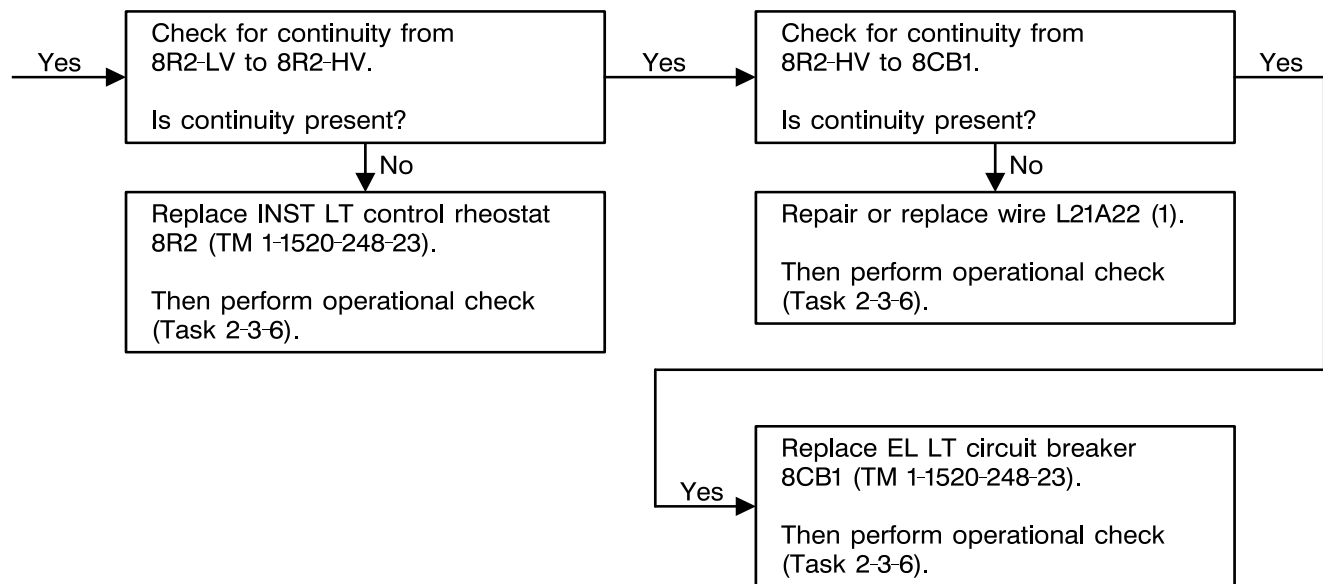


406475-541-21
J1262

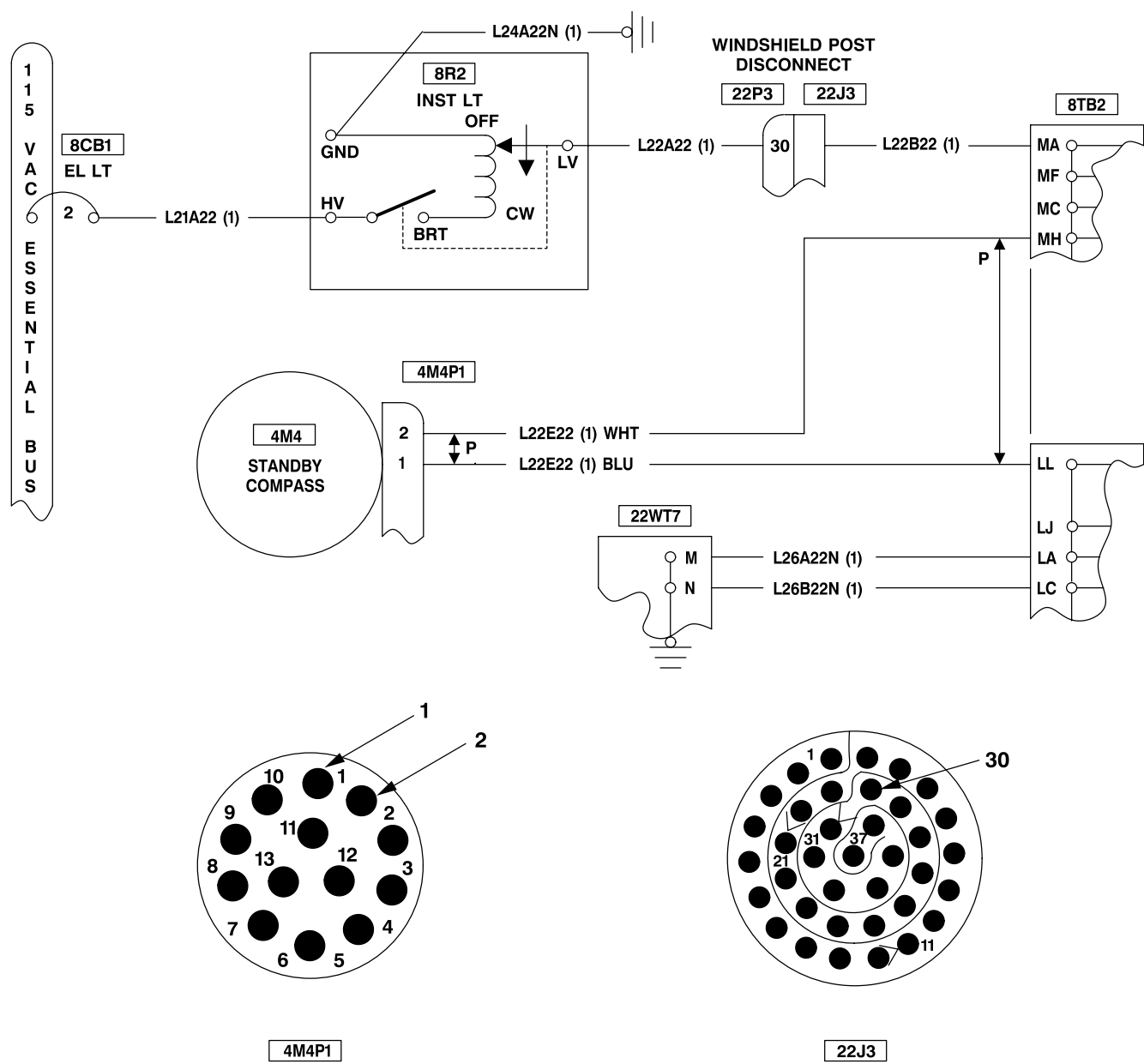
3-3-9. STANDBY COMPASS FAILS TO ILLUMINATE (TASK 2-3-6)



3-3-9. STANDBY COMPASS FAILS TO ILLUMINATE (TASK 2-3-6) (CONT)

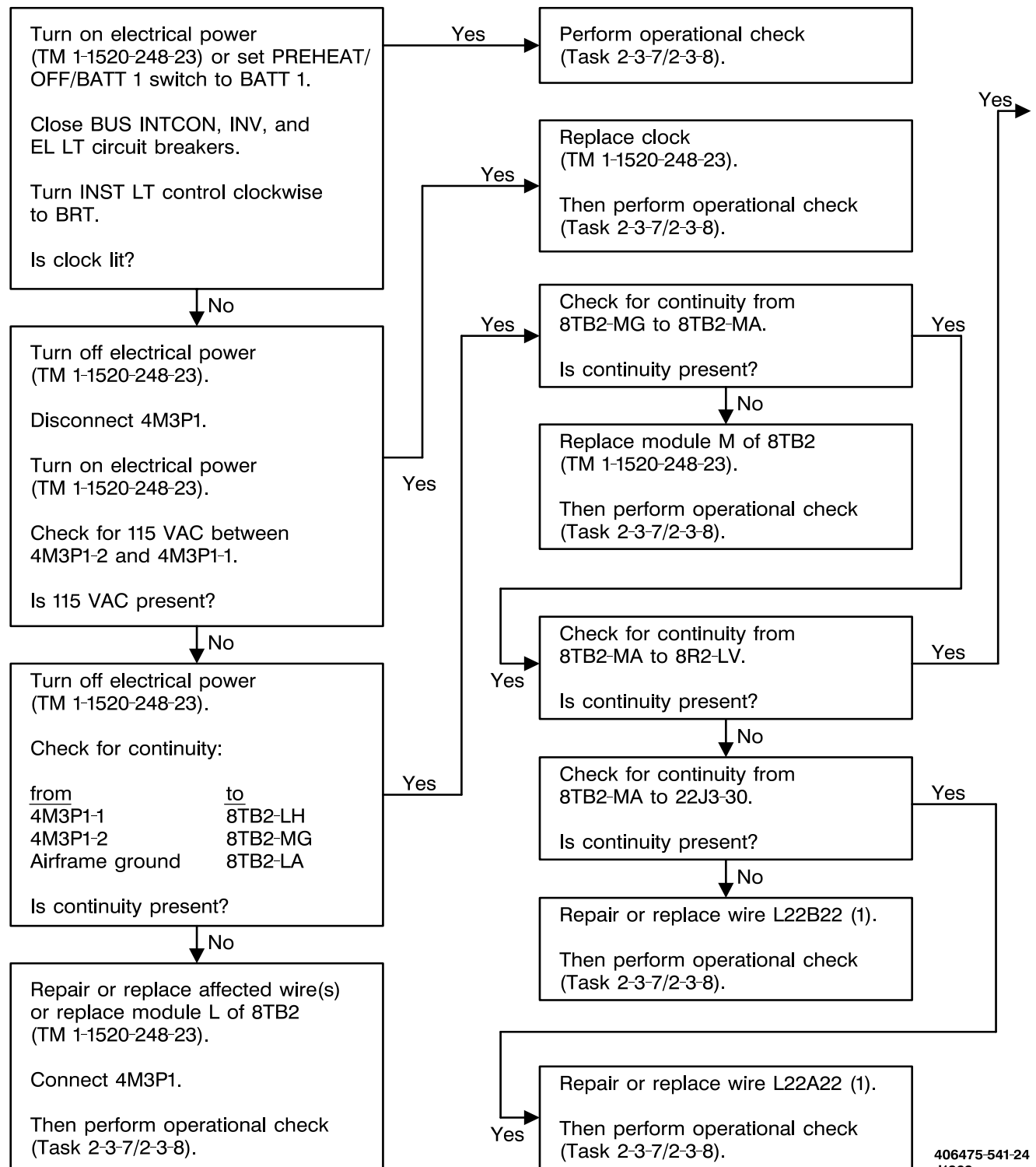
406475-541-23
J1262

3-3-9. STANDBY COMPASS FAILS TO ILLUMINATE (TASK 2-3-6) (CONT)

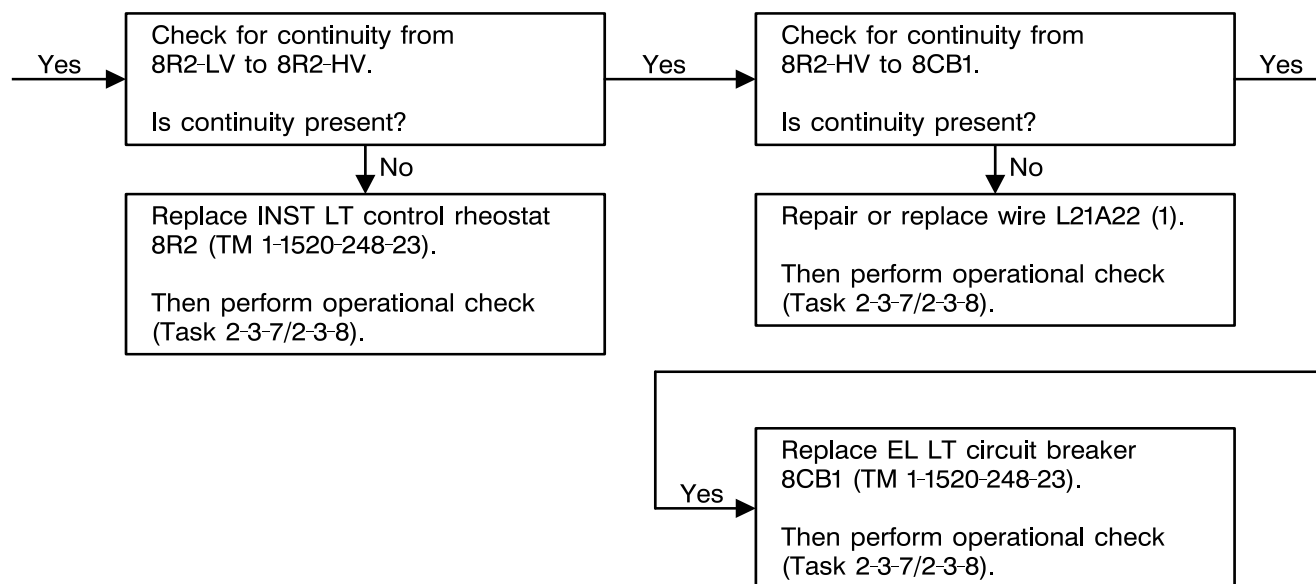


406475-373-T
J2668

3-3-10. CLOCK FAILS TO ILLUMINATE (TASK 2-3-7/2-3-8)

406475-541-24
J1262

3-3-10. CLOCK FAILS TO ILLUMINATE (TASK 2-3-7/2-3-8) (CONT)



406475-541-25
J1262

3-3-11. STANDBY ALTIMETER POINTER STICKS (TASK 2-3-2)

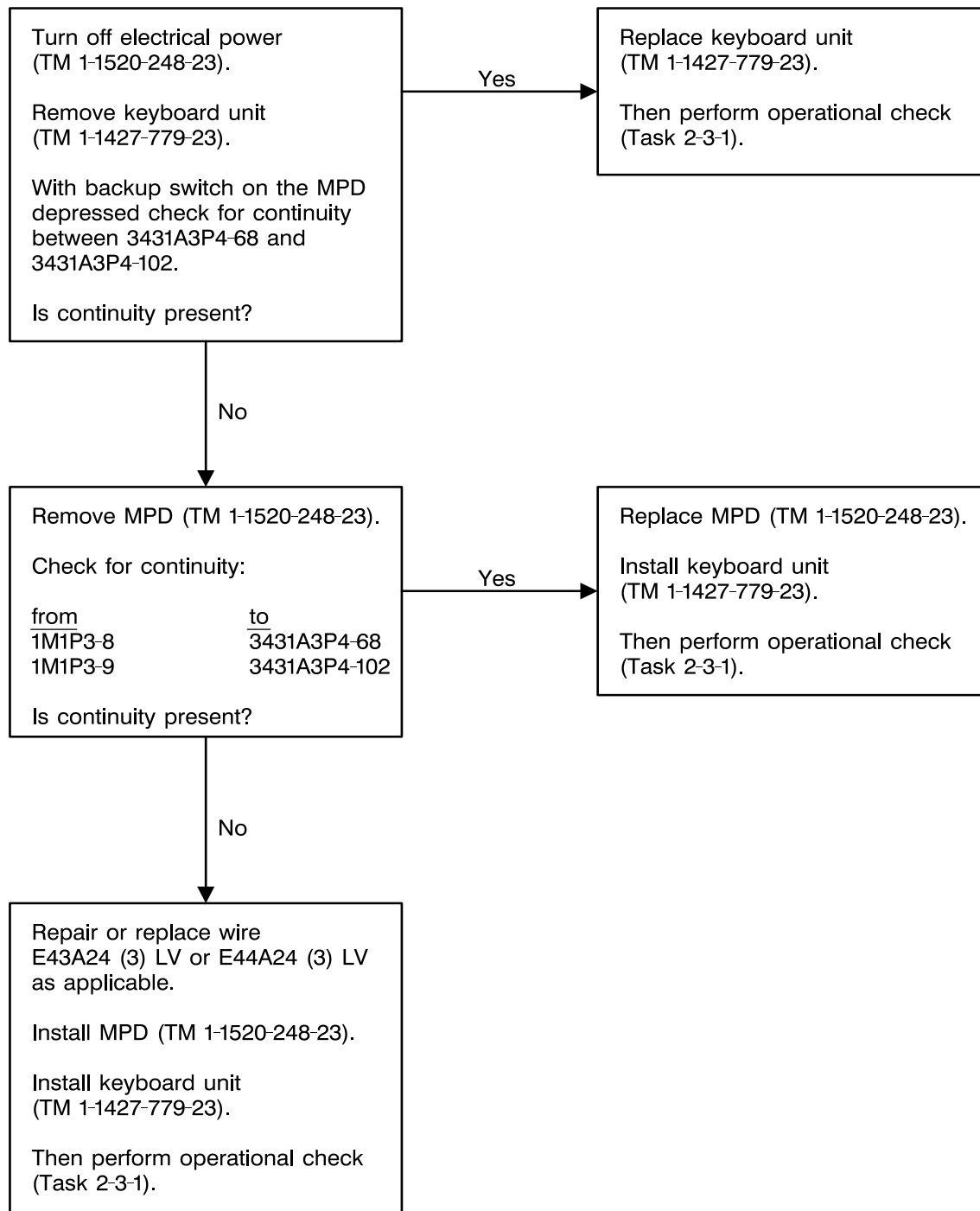
Turn off electrical power
(TM 1-1520-248-23).

Replace standby altimeter
(TM 1-1520-248-23).

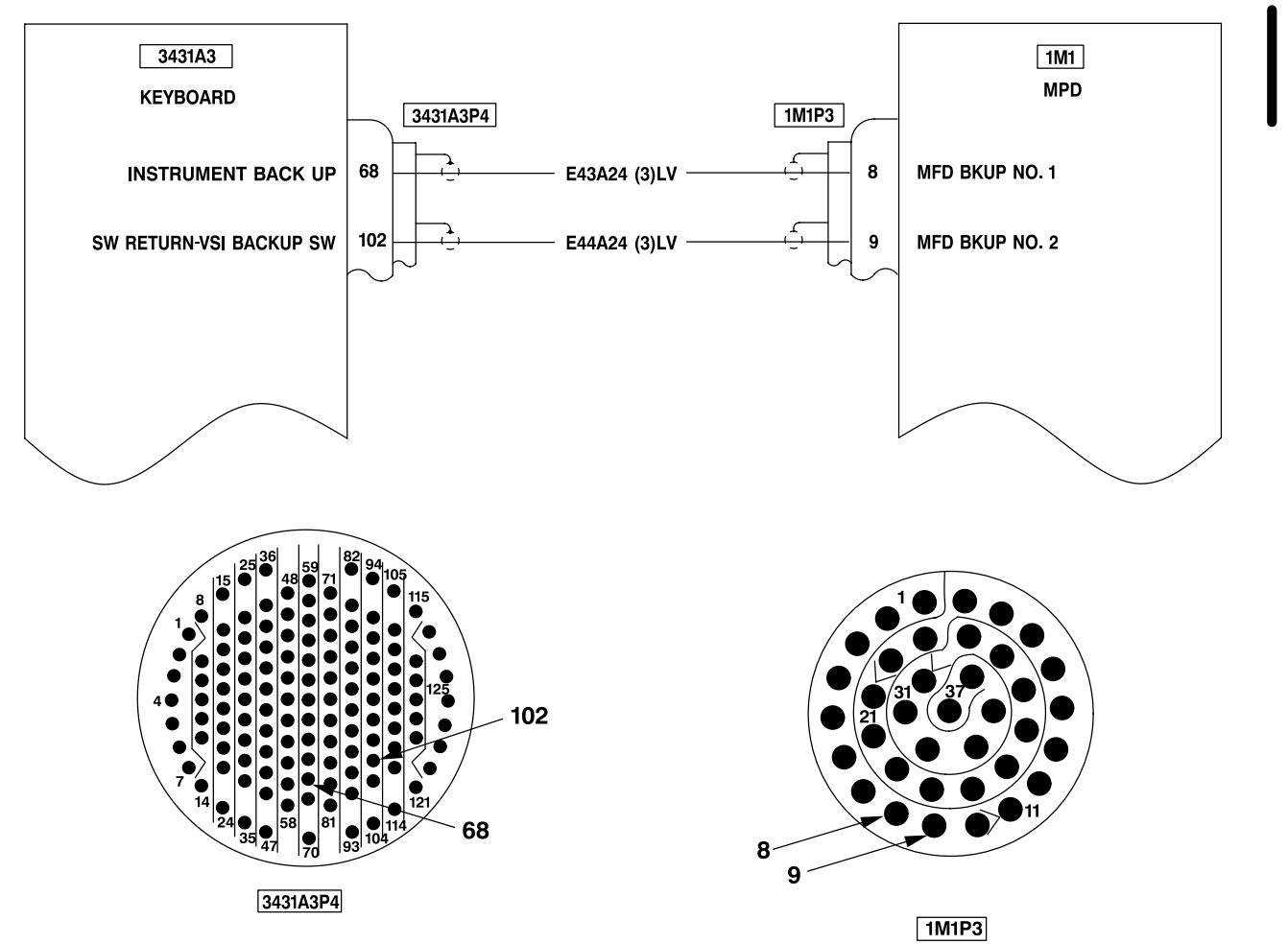
Then perform operational check
(Task 2-3-2).

406475-541-26
J1262

3-3-12. MFD DOES NOT INDICATE RPM AND TRQ READINGS WITH BACKUP SWITCH ON MPD PRESSED (TASK 2-3-1)

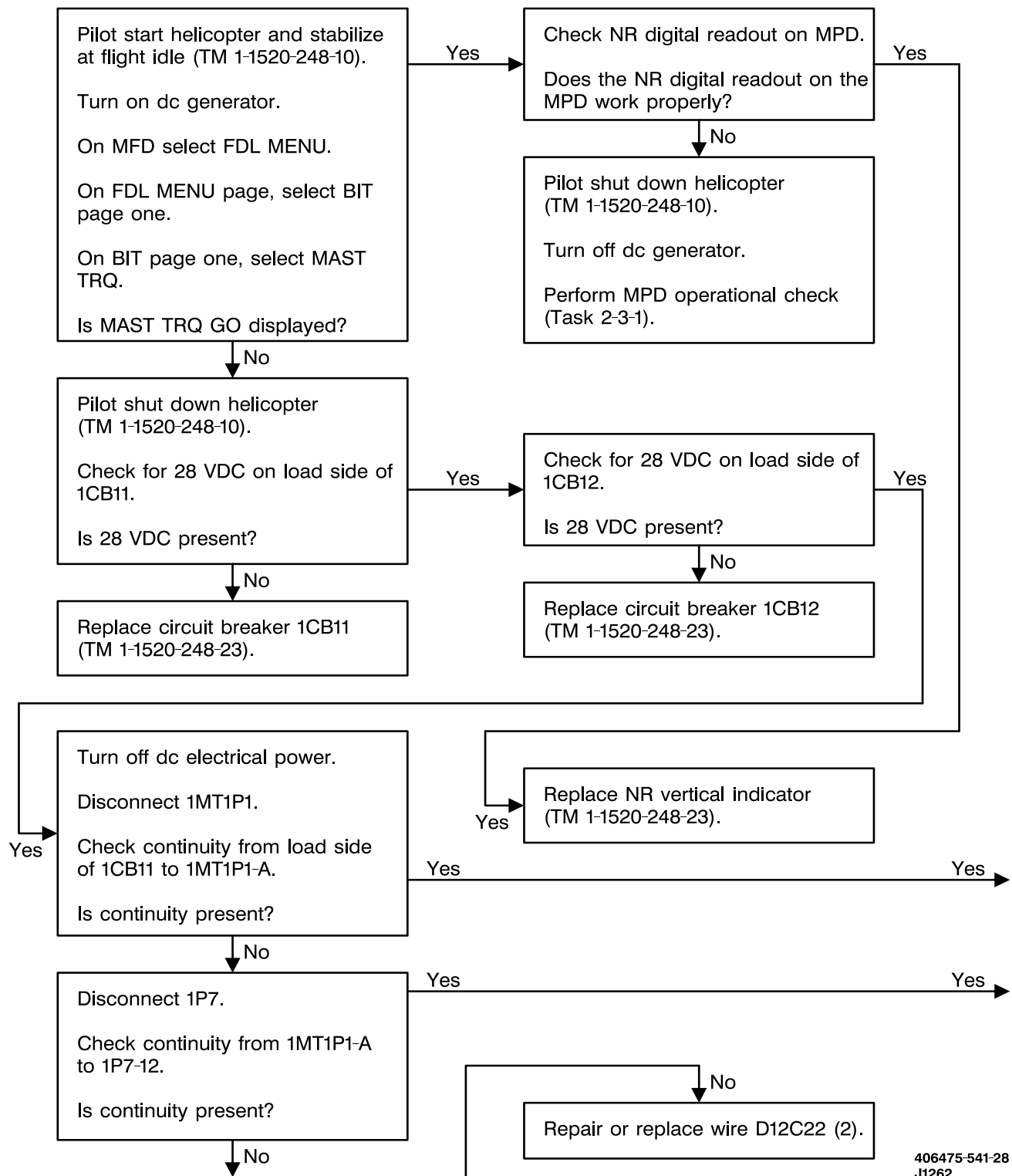
406475-541-27
J1262

3-3-12. MFD DOES NOT INDICATE RPM AND TRQ READINGS WITH BACKUP SWITCH ON MPD PRESSED (TASK 2-3-1) (CONT)

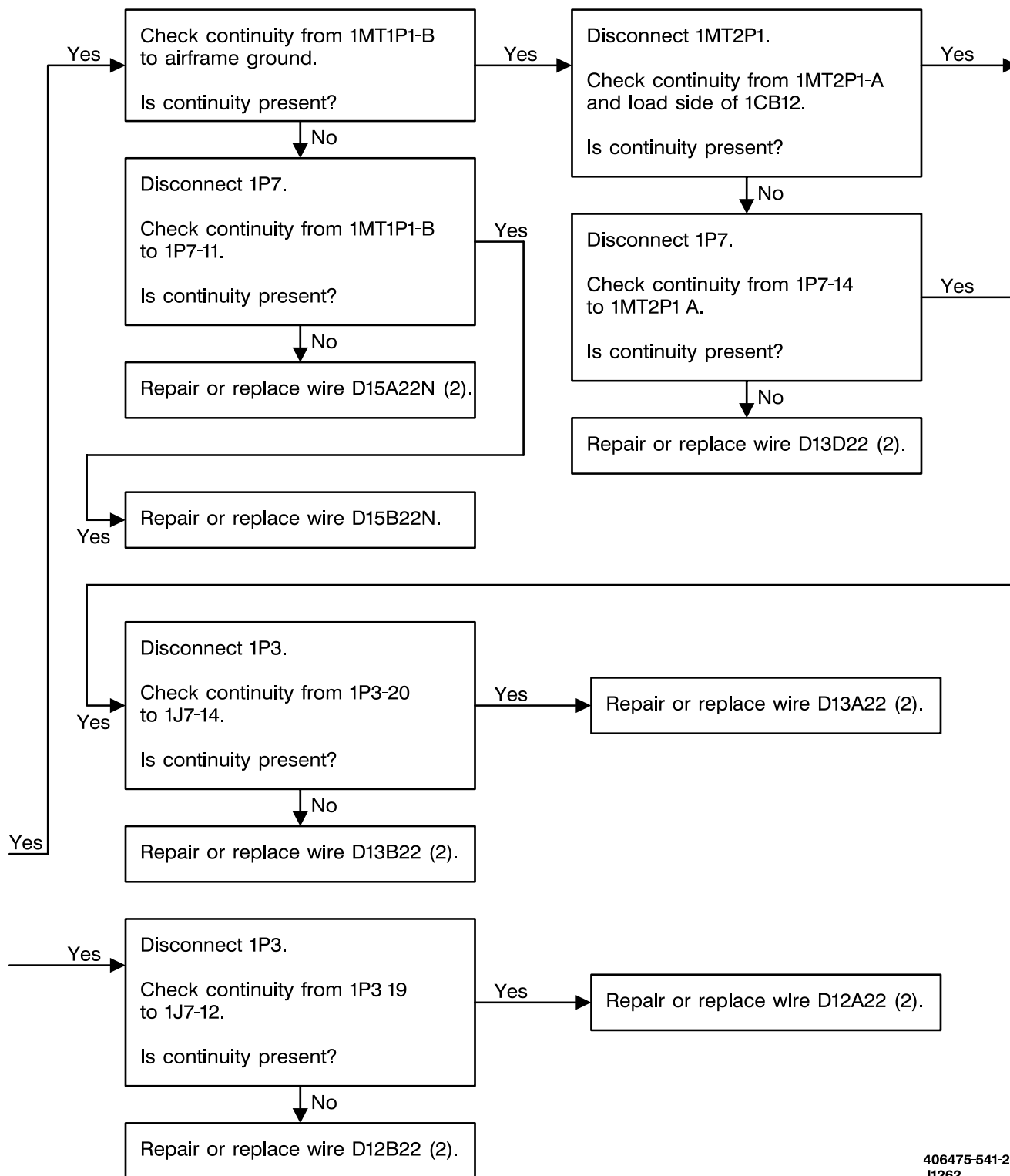


406475-374-T
 J2668

3-3-13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE INOPERATIVE (TASK 2-3-1)

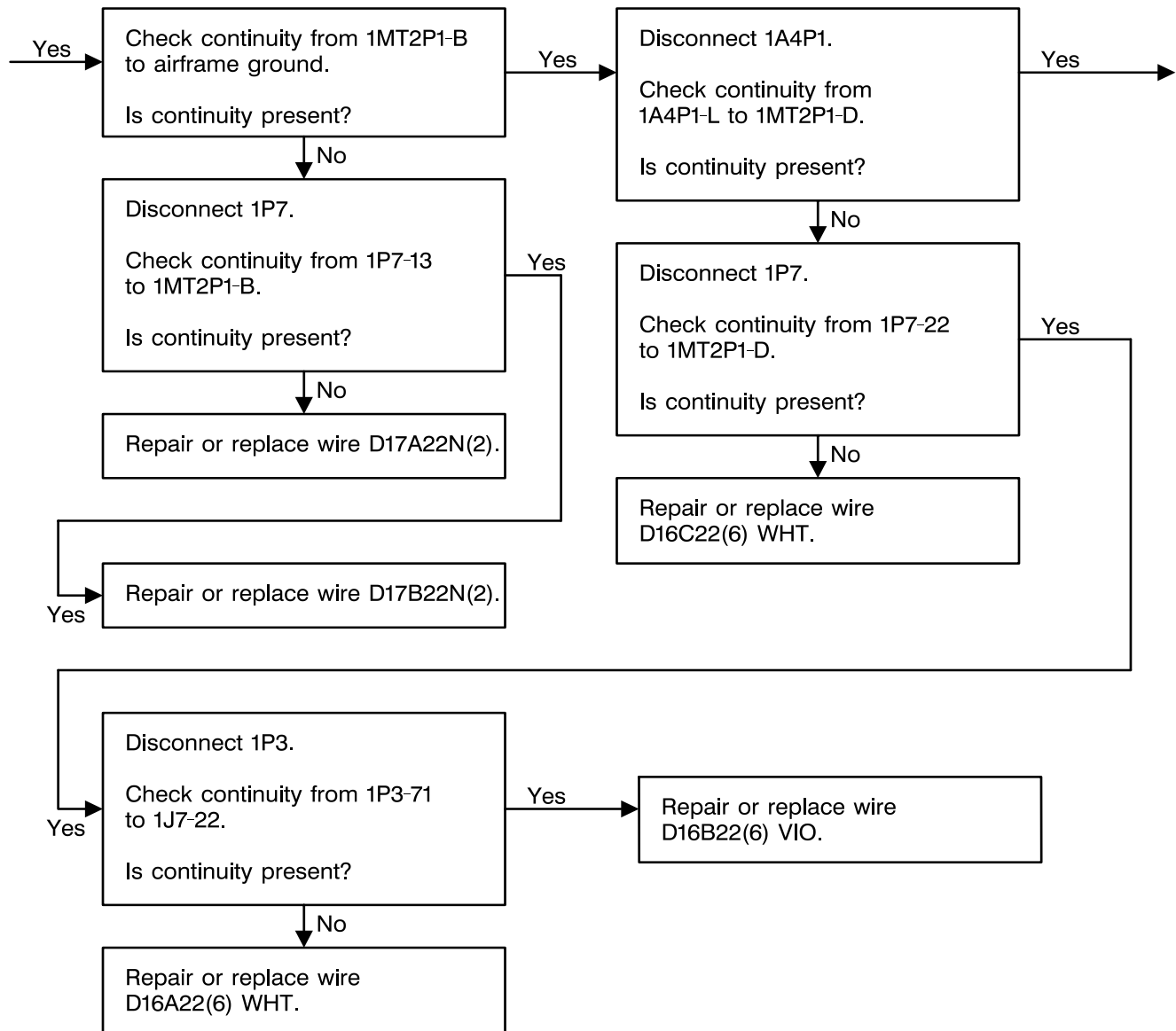
406475-541-28
J1262

3-3-13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE INOPERATIVE (TASK 2-3-1) (CONT)

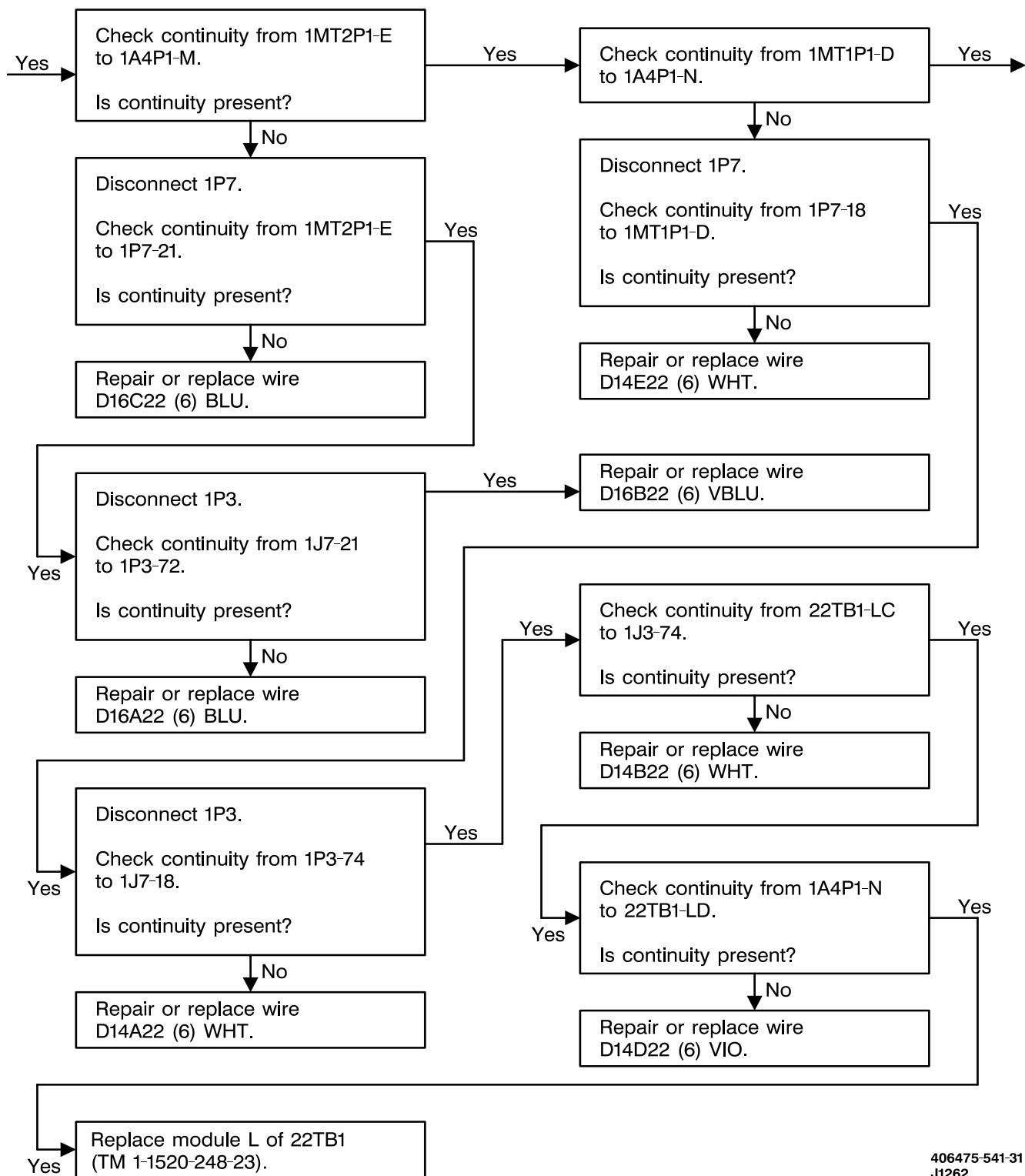


406475-541-29
J1262

3-3-13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE INOPERATIVE (TASK 2-3-1) (CONT)

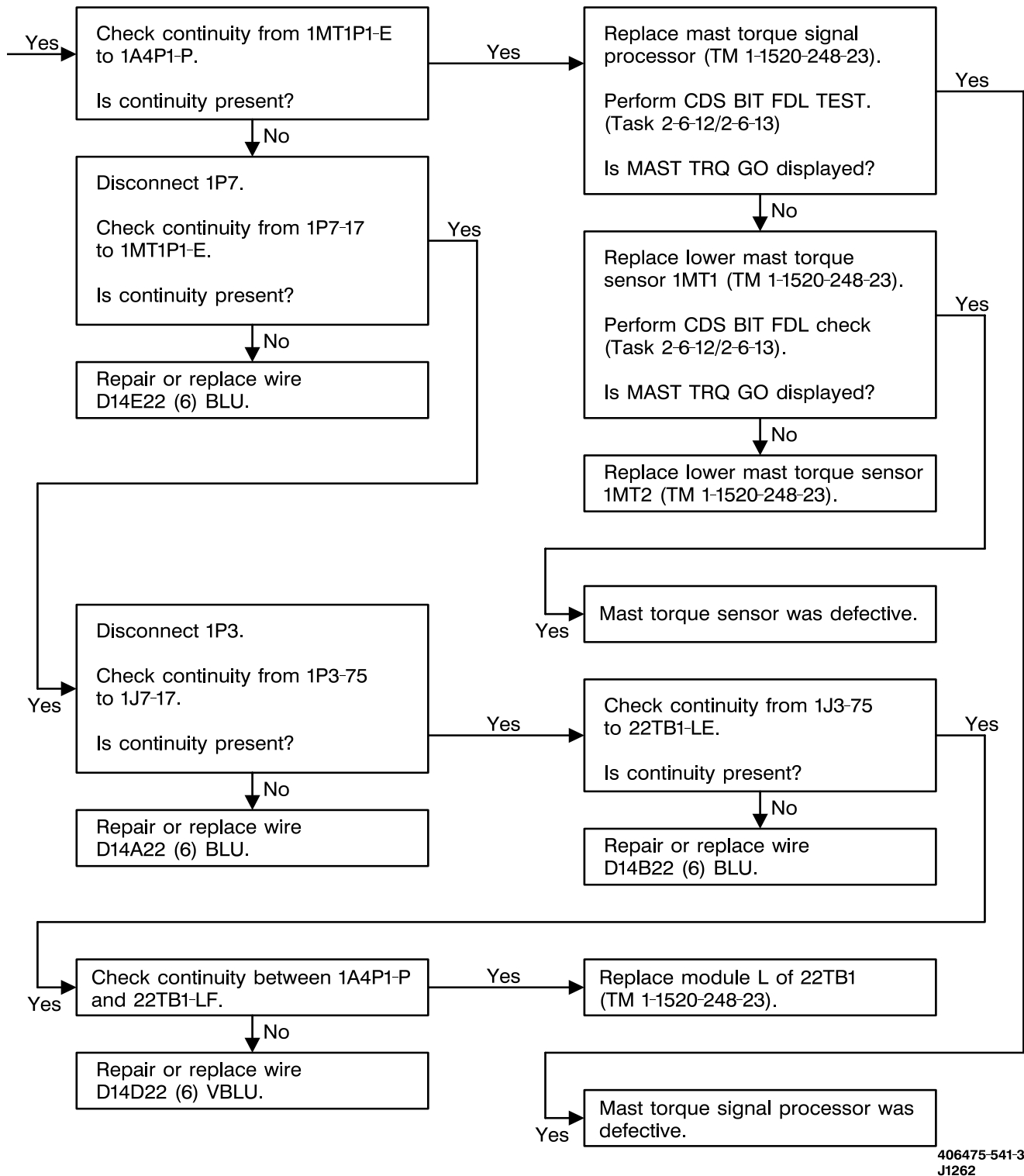


3-3-13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE INOPERATIVE (TASK 2-3-1) (CONT)

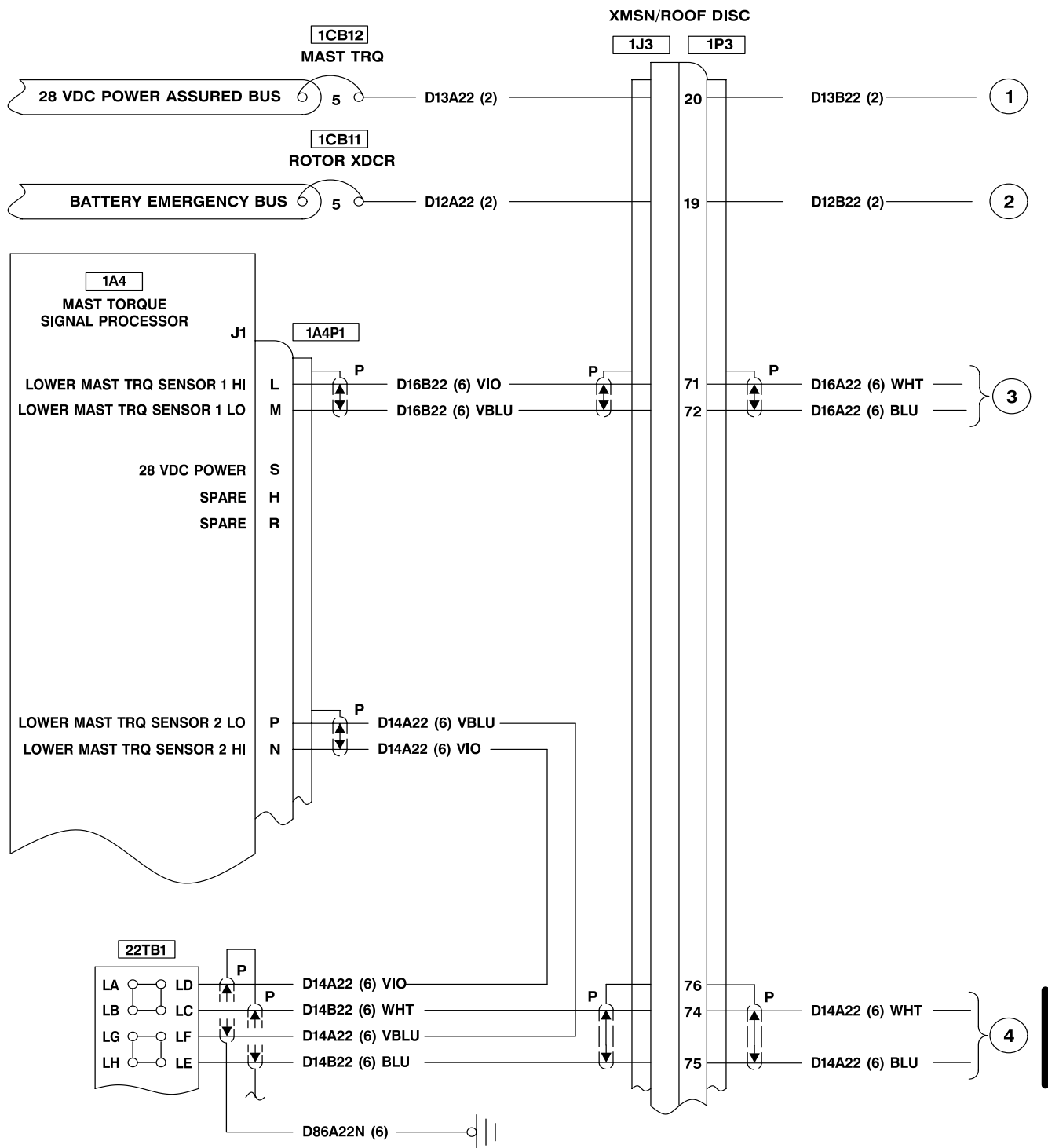


406475-541-31
J1262

3-3-13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE INOPERATIVE (TASK 2-3-1) (CONT)

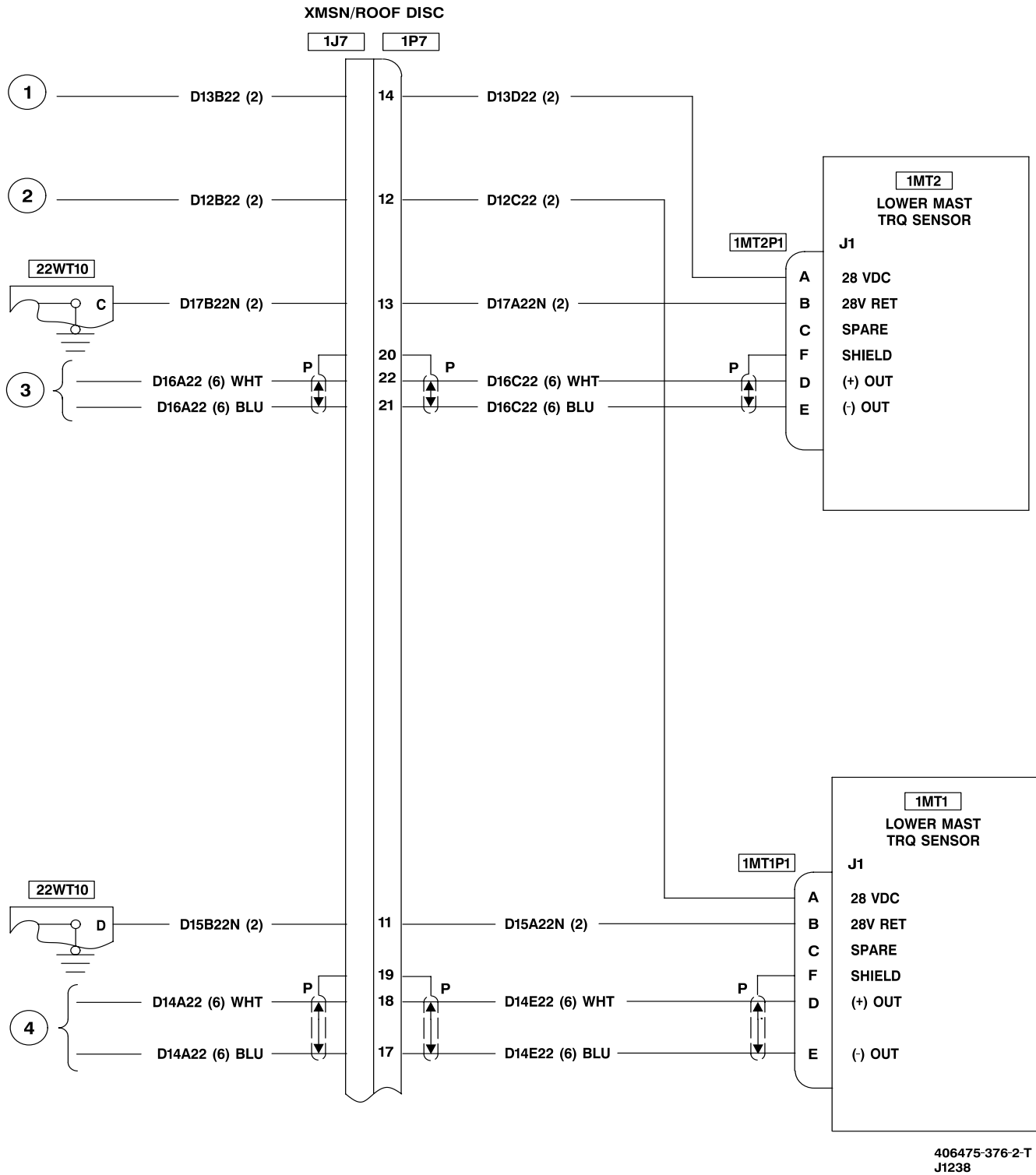


3-3-13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE INOPERATIVE (TASK 2-3-1) (CONT)

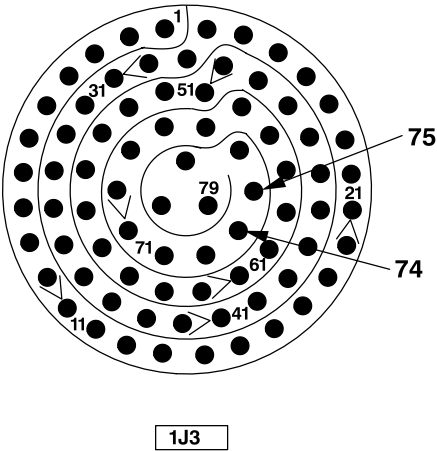
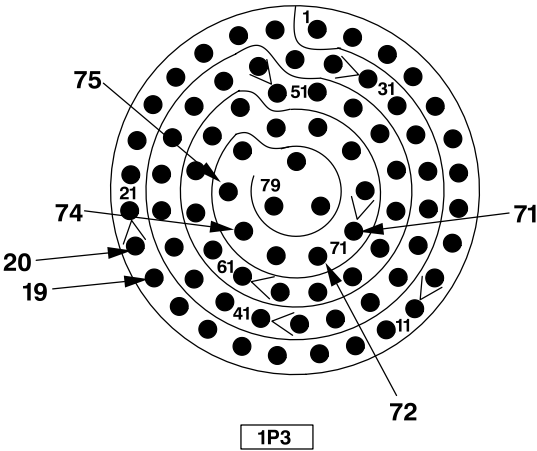
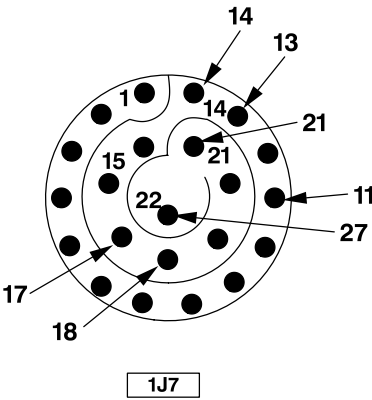
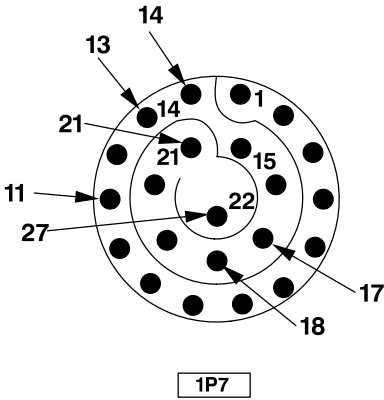
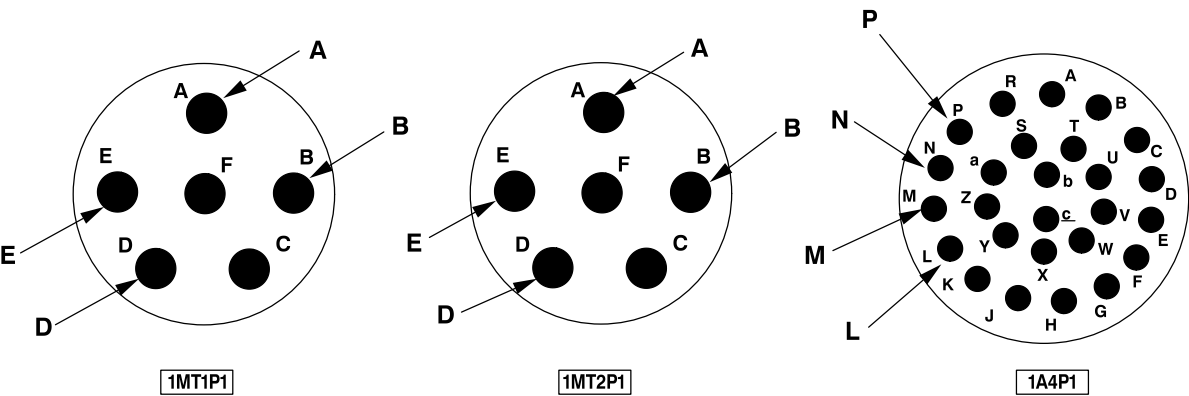


406475-376-1-T
J1238

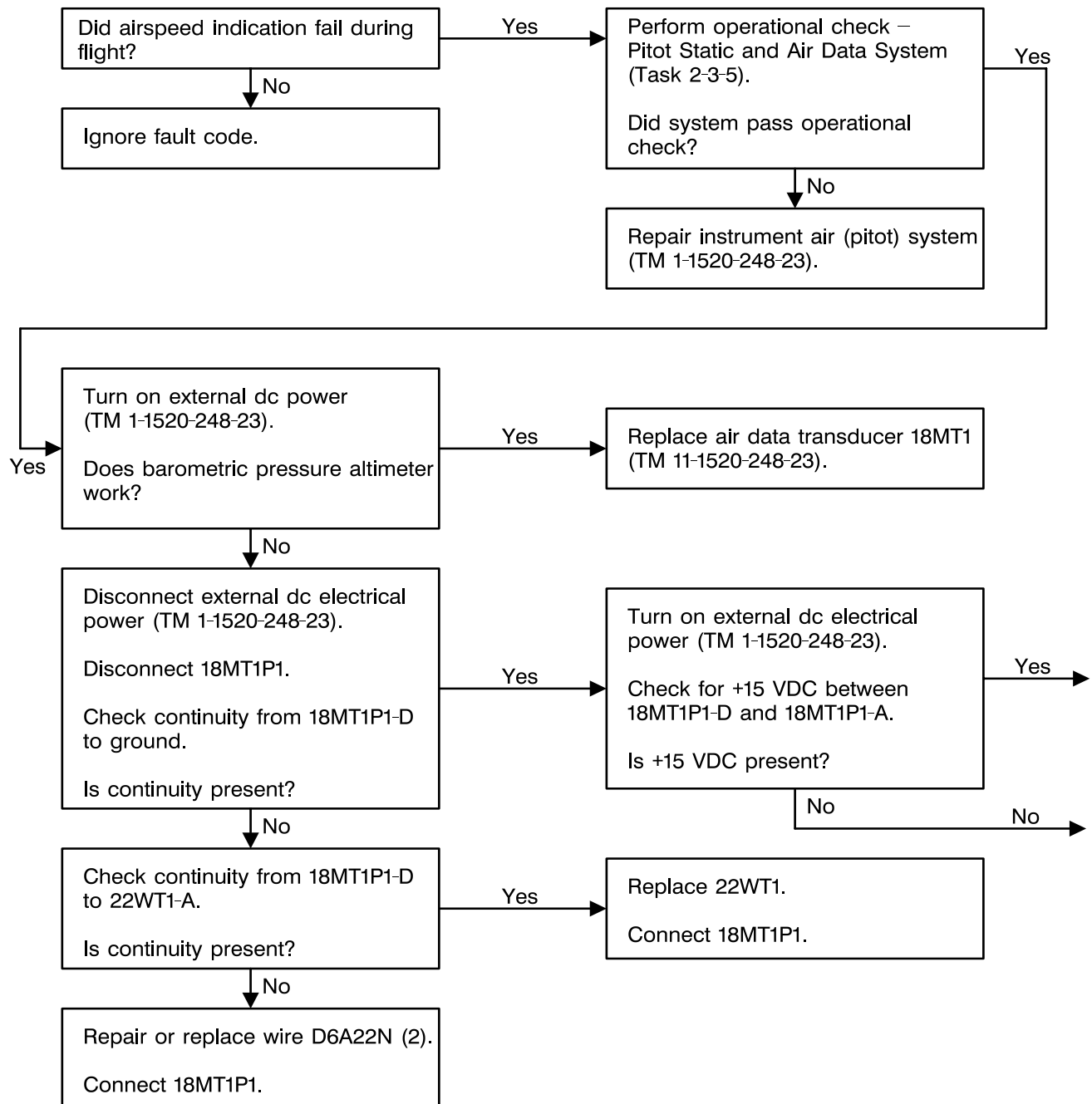
3-3-13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE INOPERATIVE (TASK 2-3-1) (CONT)



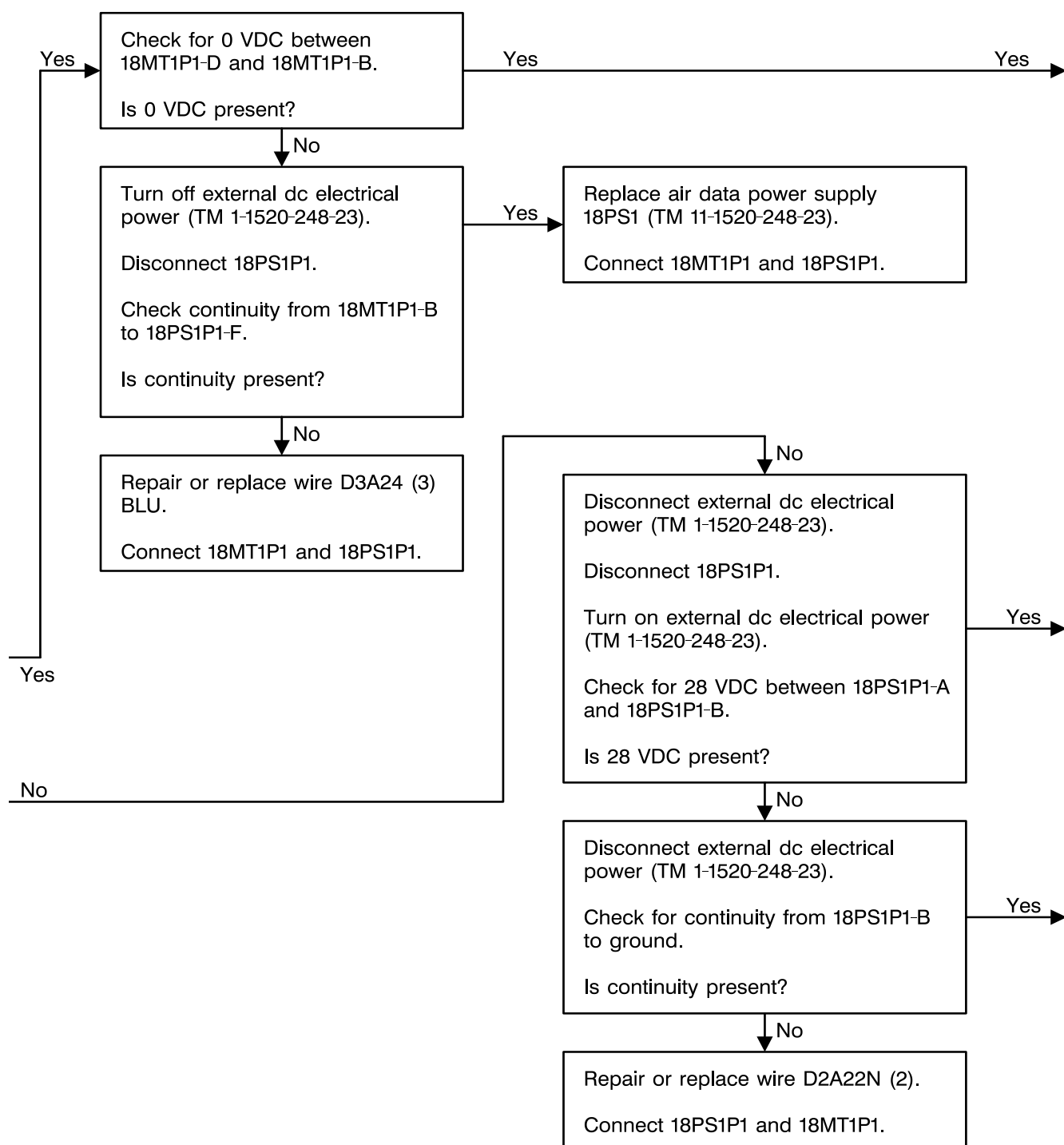
3-3-13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE
INOPERATIVE (TASK 2-3-1) (CONT)



3-3-14. AIRSPEED INPUT INVALID (TASK 2-3-5)

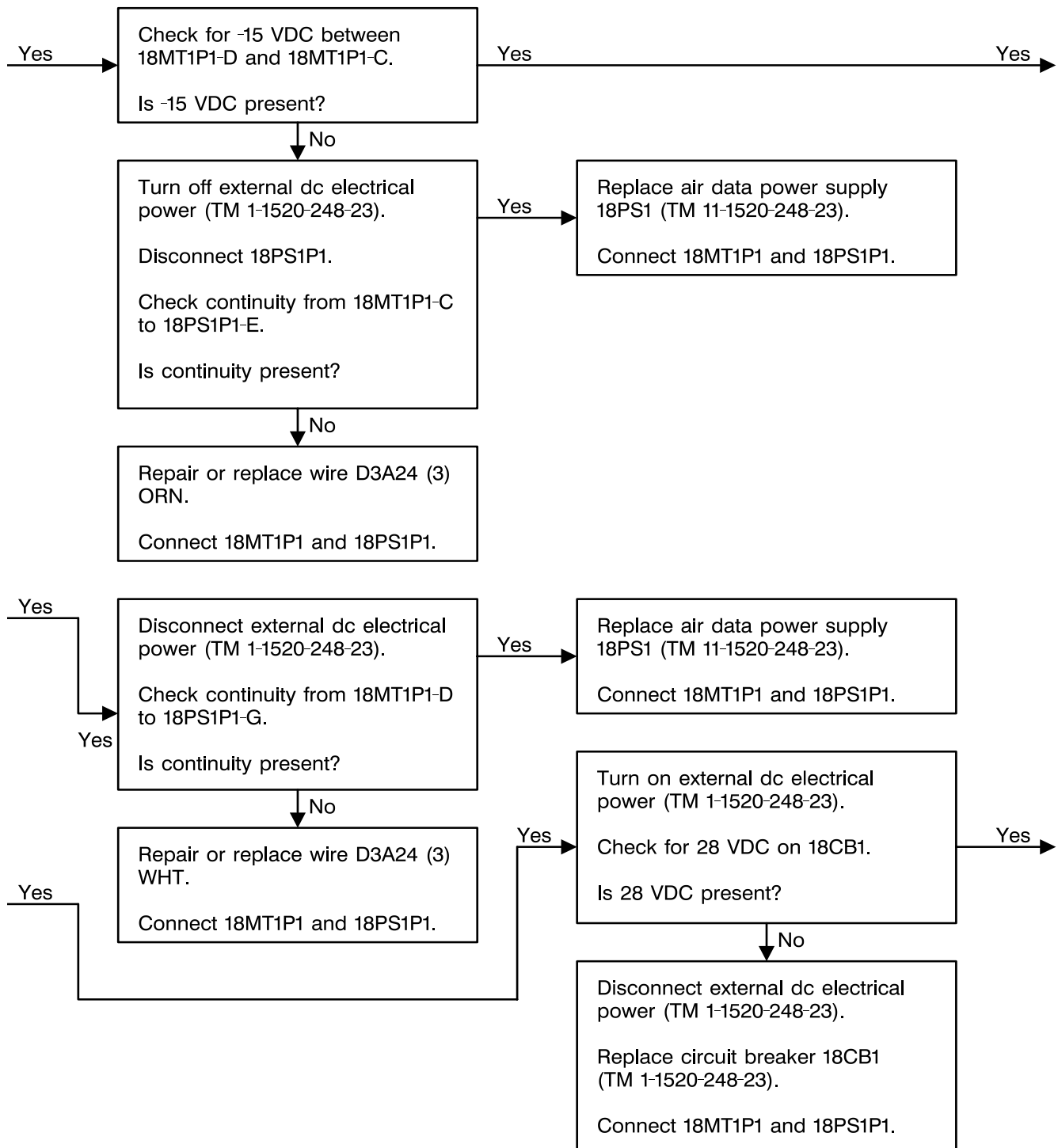


3-3-14. AIRSPEED INPUT INVALID (TASK 2-3-5) (CONT)

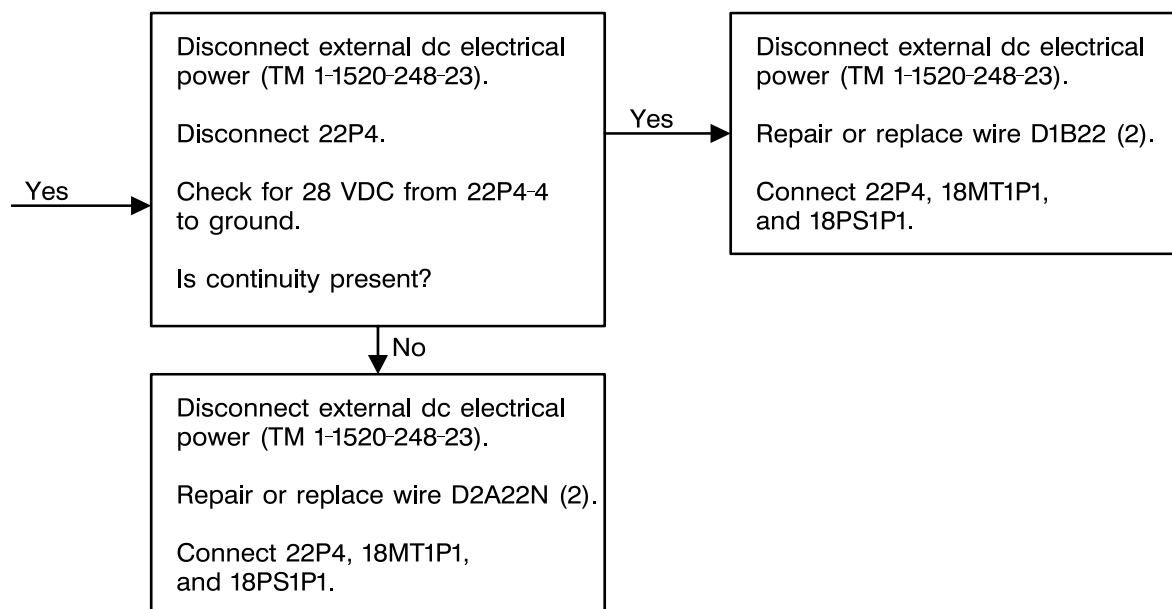
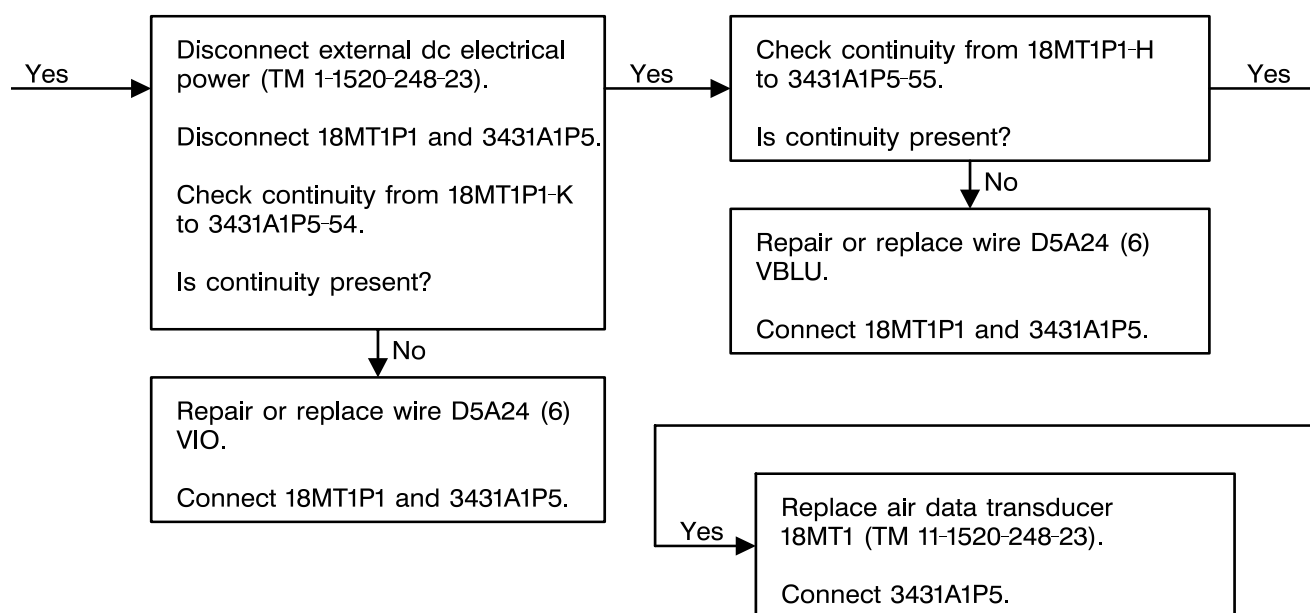


406475-541-34
J1262

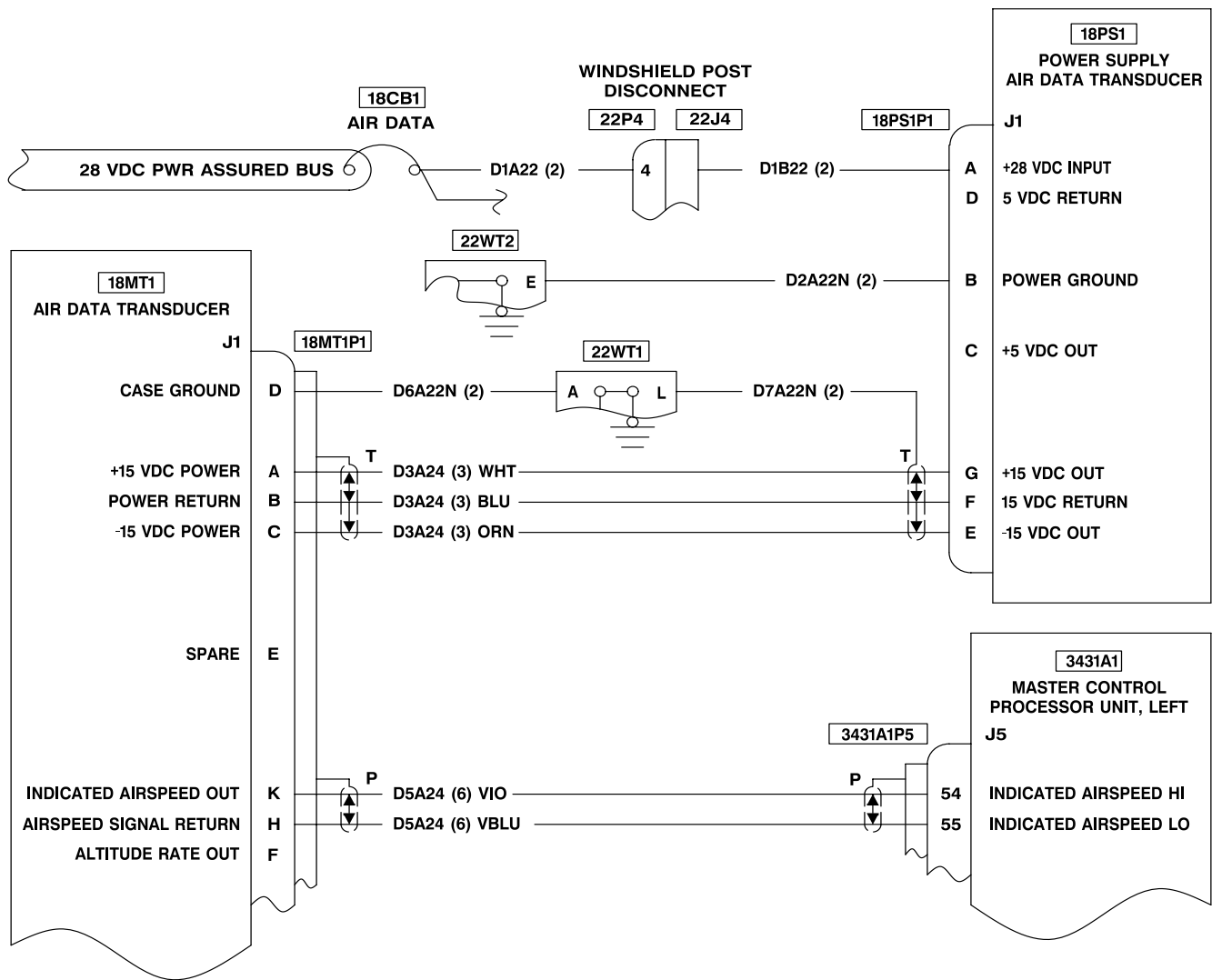
3-3-14. AIRSPEED INPUT INVALID (TASK 2-3-5) (CONT)

406475-541-35
J1262

3-3-14. AIRSPEED INPUT INVALID (TASK 2-3-5) (CONT)

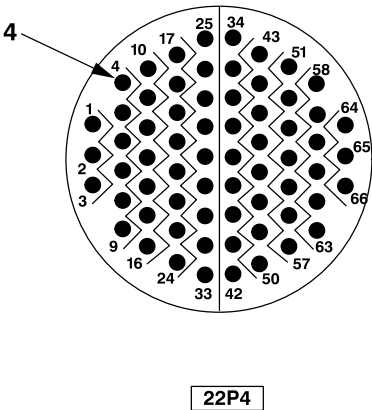
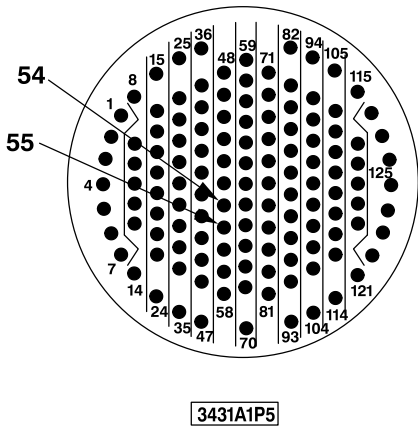
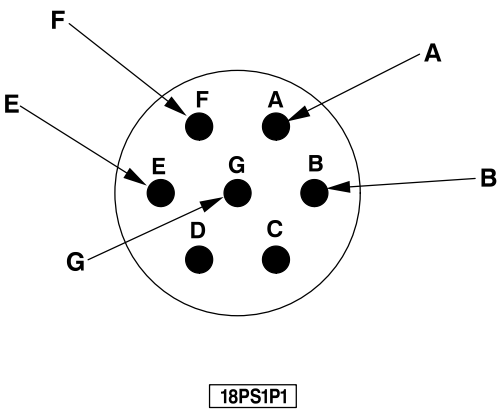
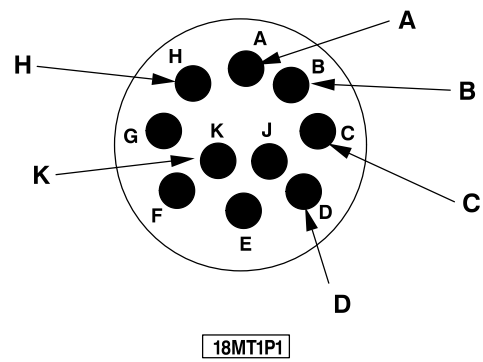
406475-541-36
J1262

3-3-14. AIRSPEED INPUT INVALID (TASK 2-3-5) (CONT)



406475-434-2-T
J1238

3-3-14. AIRSPEED INPUT INVALID (TASK 2-3-5) (CONT)



Section IV. FUEL SYSTEM

3-6. MAPS DIAGRAMS INDEX

List of MAPS diagrams provides a numerical index of symptoms contained in this section.

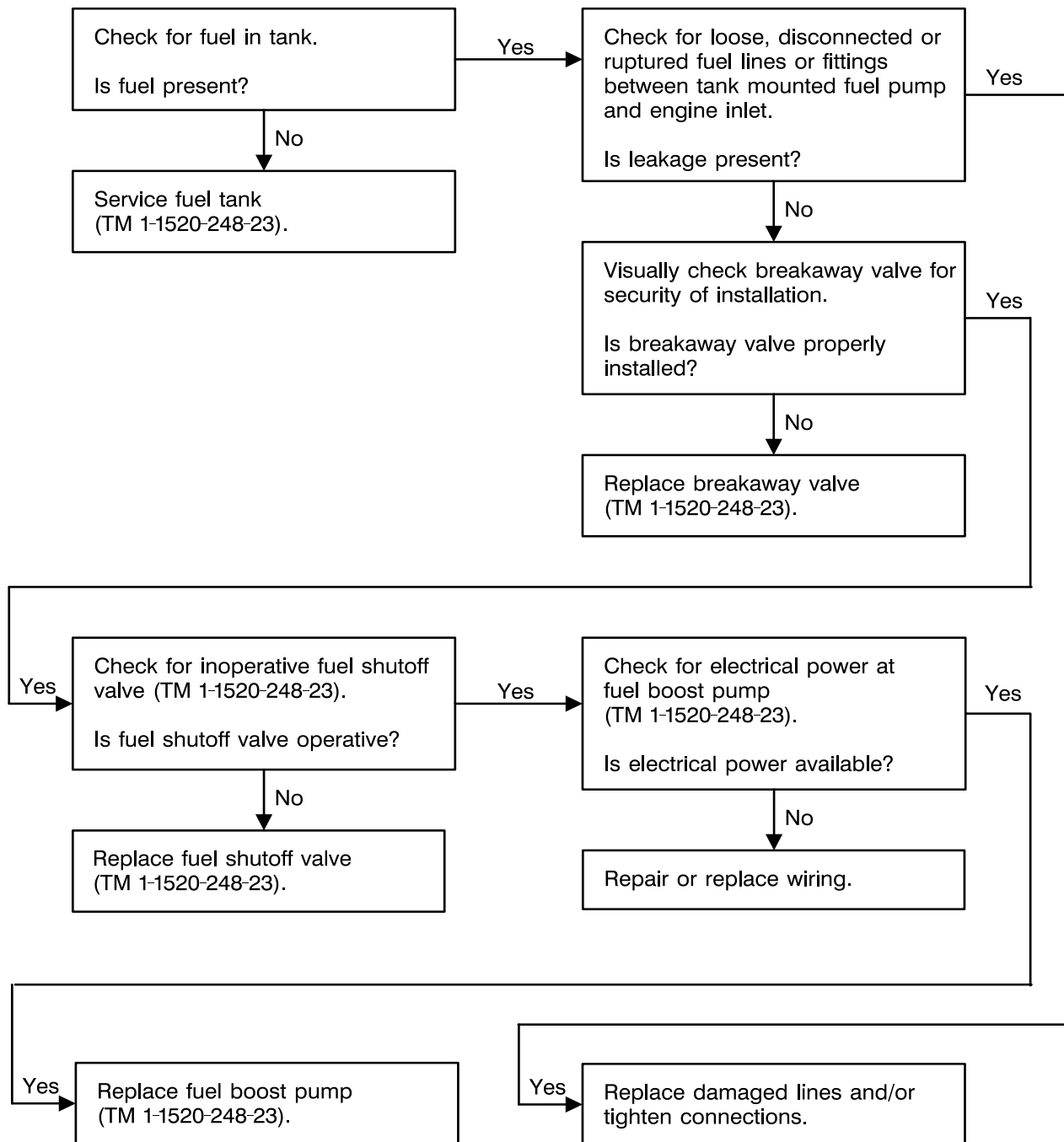
Fuel System malfunctions (symptoms) are listed in column two (SYMPTOM). To perform troubleshooting of a symptom refer to column one (MAPS NUMBER) which indicates the MAPS

diagram number to perform. The procedures in the troubleshooting logic tree should be performed in sequence as specified unless otherwise noted within the logic tree.

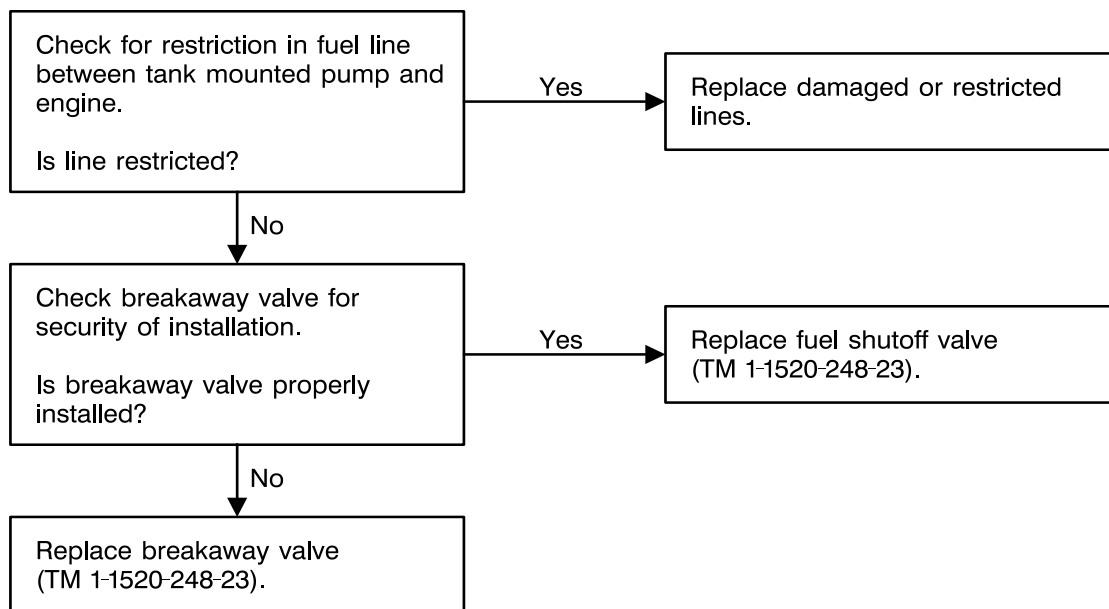
Correction of malfunctions must be verified by performing an operational check using the procedures in TM 1-1520-248-T-1.

MAPS NUMBER	SYMPTOM	PAGE NUMBER
3-4-1	No fuel flow to engine driven pump	3-70
3-4-2	Fuel flow to engine driven pump restricted	3-71
3-4-3	Incorrect capacitance reading on test set	3-72
3-4-4	Fuel low quantity indication inoperable	3-74

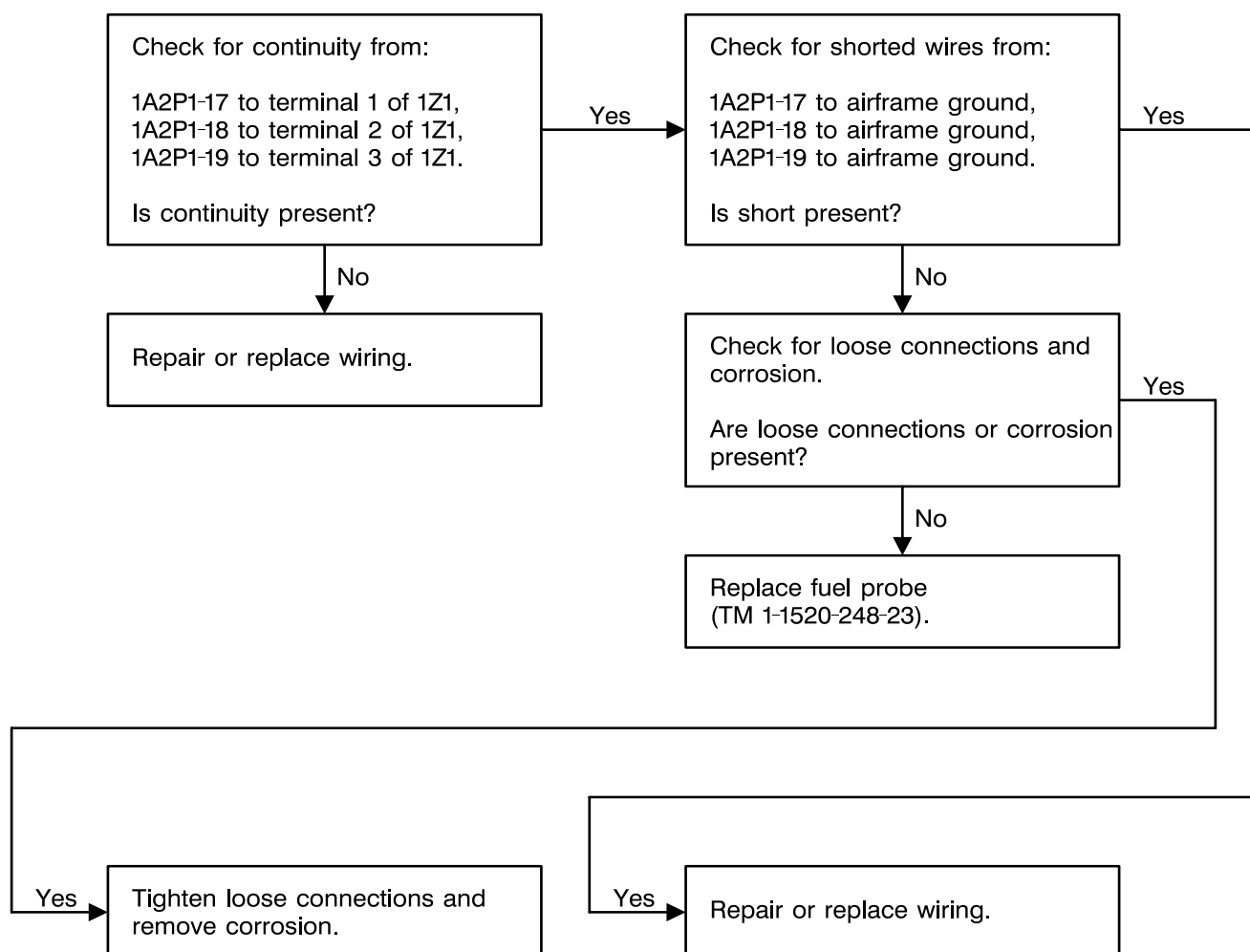
3-4-1. NO FUEL FLOW TO ENGINE DRIVEN PUMP



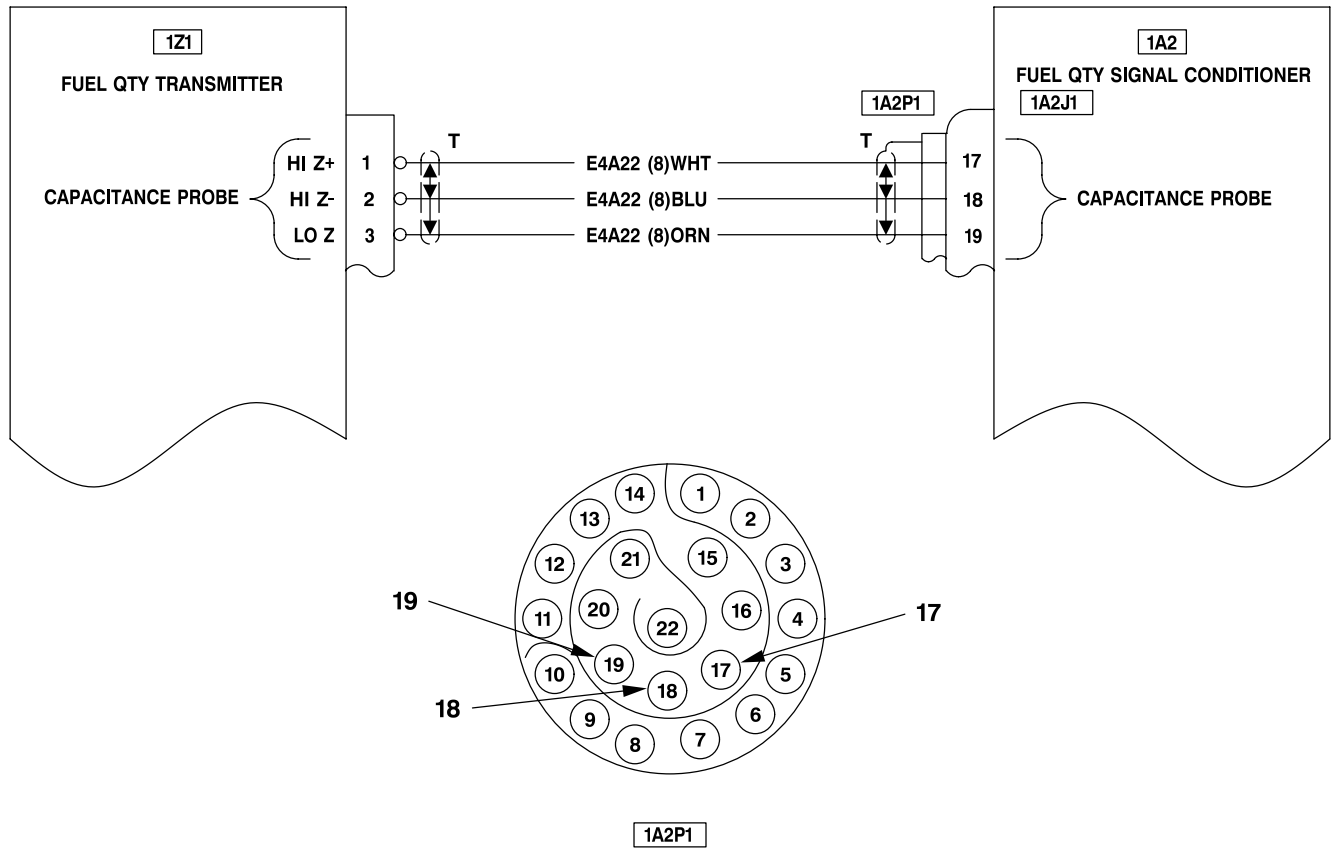
3-4-2. FUEL FLOW TO ENGINE DRIVEN PUMP RESTRICTED



3-4-3. INCORRECT CAPACITANCE READING ON TEST SET

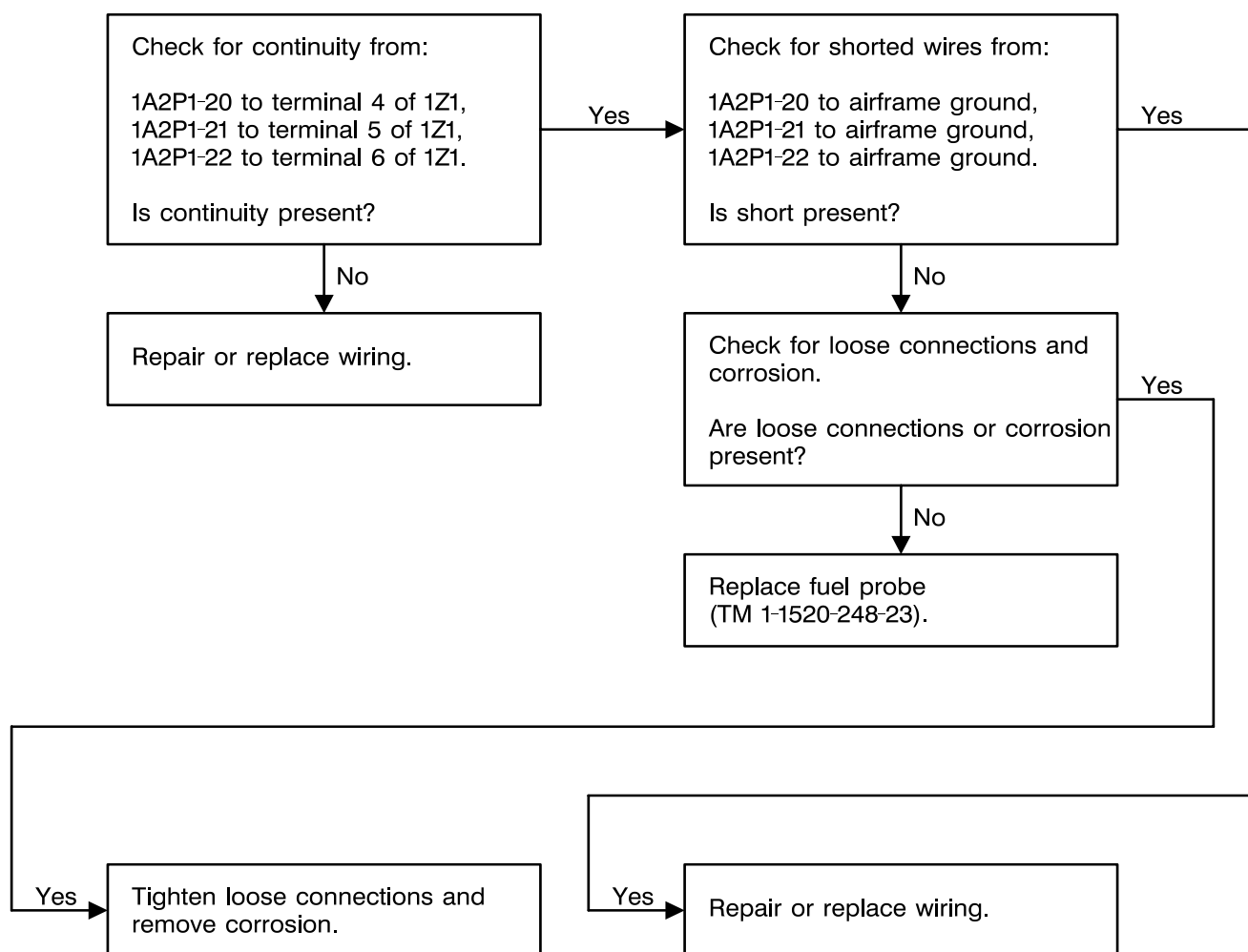


3-4-3. INCORRECT CAPACITANCE READING ON TEST SET (CONT)

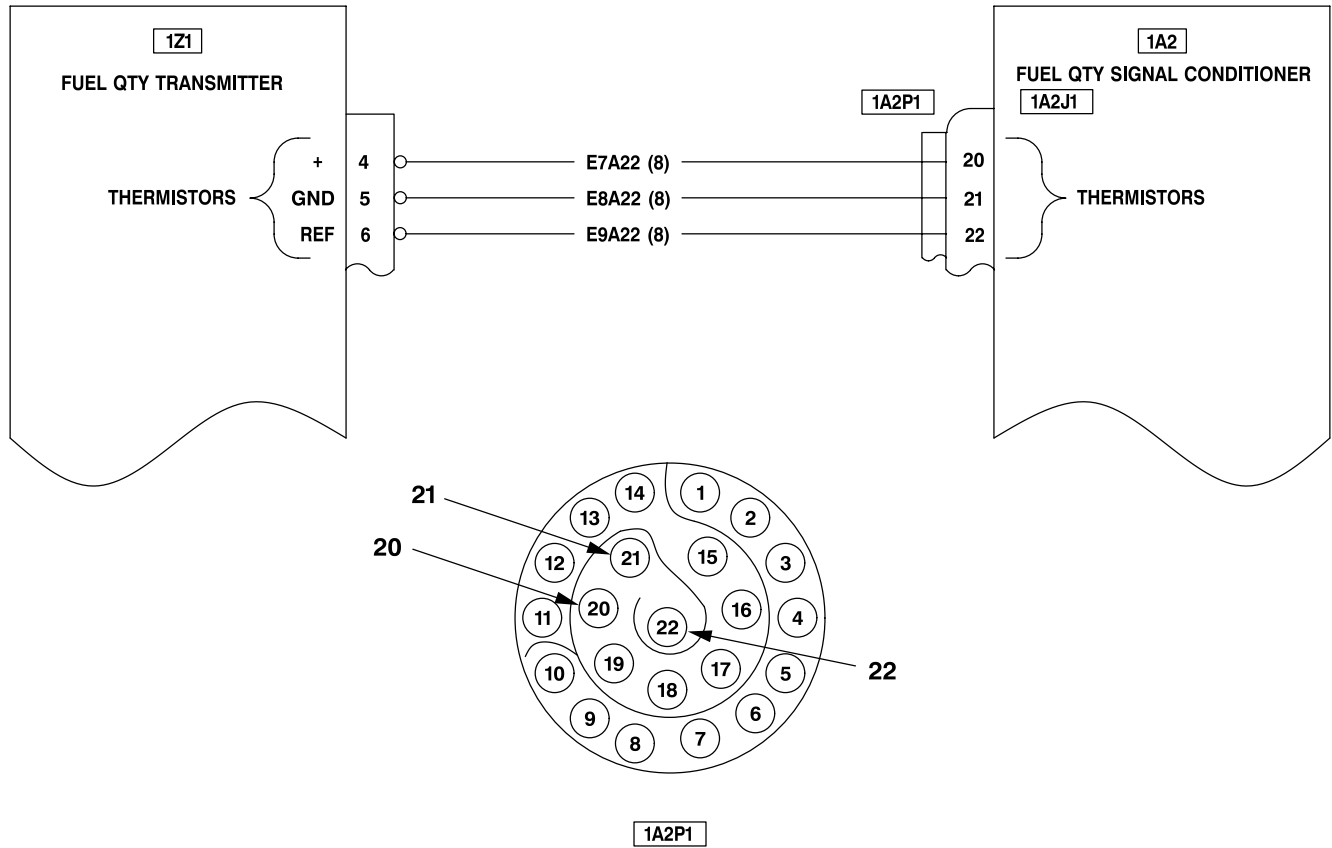


406475-446-T
J2668

3-4-4. FUEL LOW QUANTITY INDICATION INOPERABLE



3-4-4. FUEL LOW QUANTITY INDICATION INOPERABLE (CONT)



406475-445-T
J2668

Section V. FLIGHT CONTROLS

3-7. MAPS DIAGRAMS INDEX

List of MAPS diagrams provides a numerical index of symptoms contained in this section.

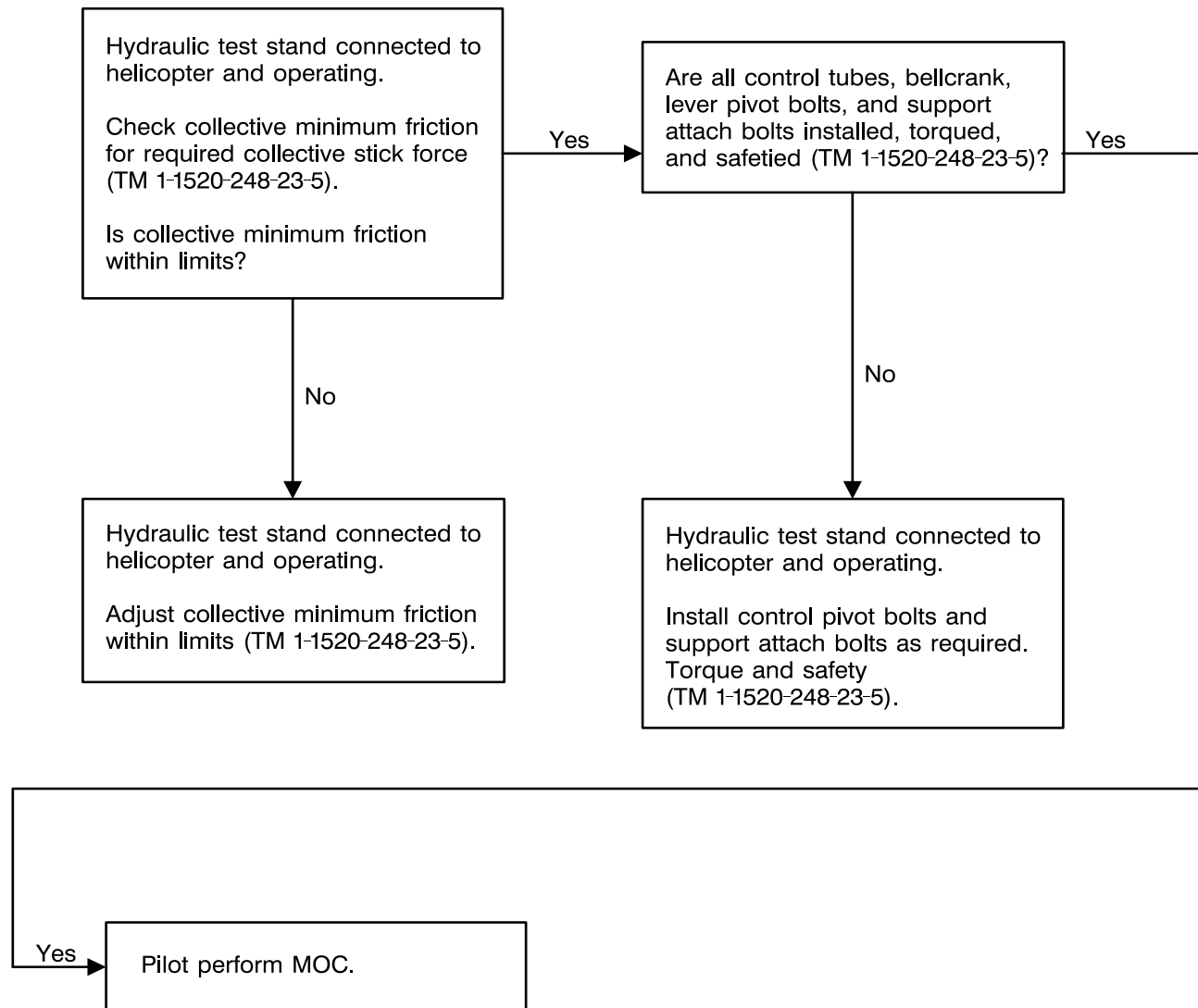
Flight Control malfunctions (symptoms) are listed in column two (SYMPTOM). To perform troubleshooting of a symptom refer to column one (MAPS NUMBER) which indicates the MAPS

diagram number to perform. The procedures in the troubleshooting logic tree should be performed in sequence as specified unless otherwise noted within the logic tree.

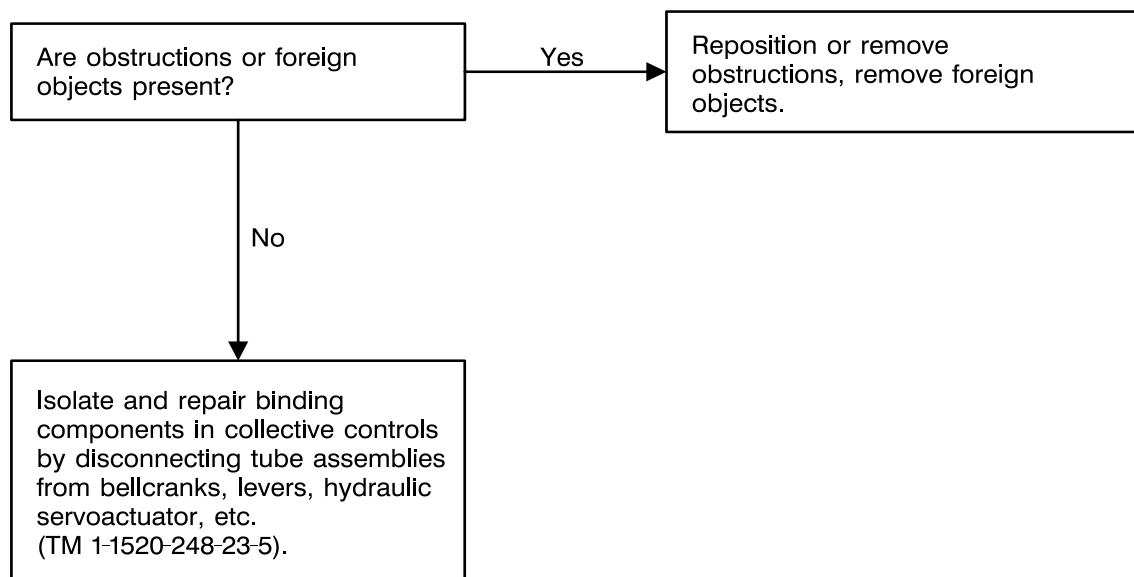
Correction of malfunctions must be verified by performing an operational check using the procedures in TM 1-1520-248-T-1.

MAPS NUMBER	SYMPTOM	PAGE NUMBER
3-5-1	Collective controls feel loose	3-77
3-5-2	Collective controls binding	3-78
3-5-3	Cyclic controls feel loose	3-79
3-5-4	Cyclic controls binding	3-80
3-5-5	Directional controls feel loose	3-81
3-5-6	Directional control pedals motoring (creeping)	3-82
3-5-7	Directional controls binding	3-83

3-5-1. COLLECTIVE CONTROLS FEEL LOOSE

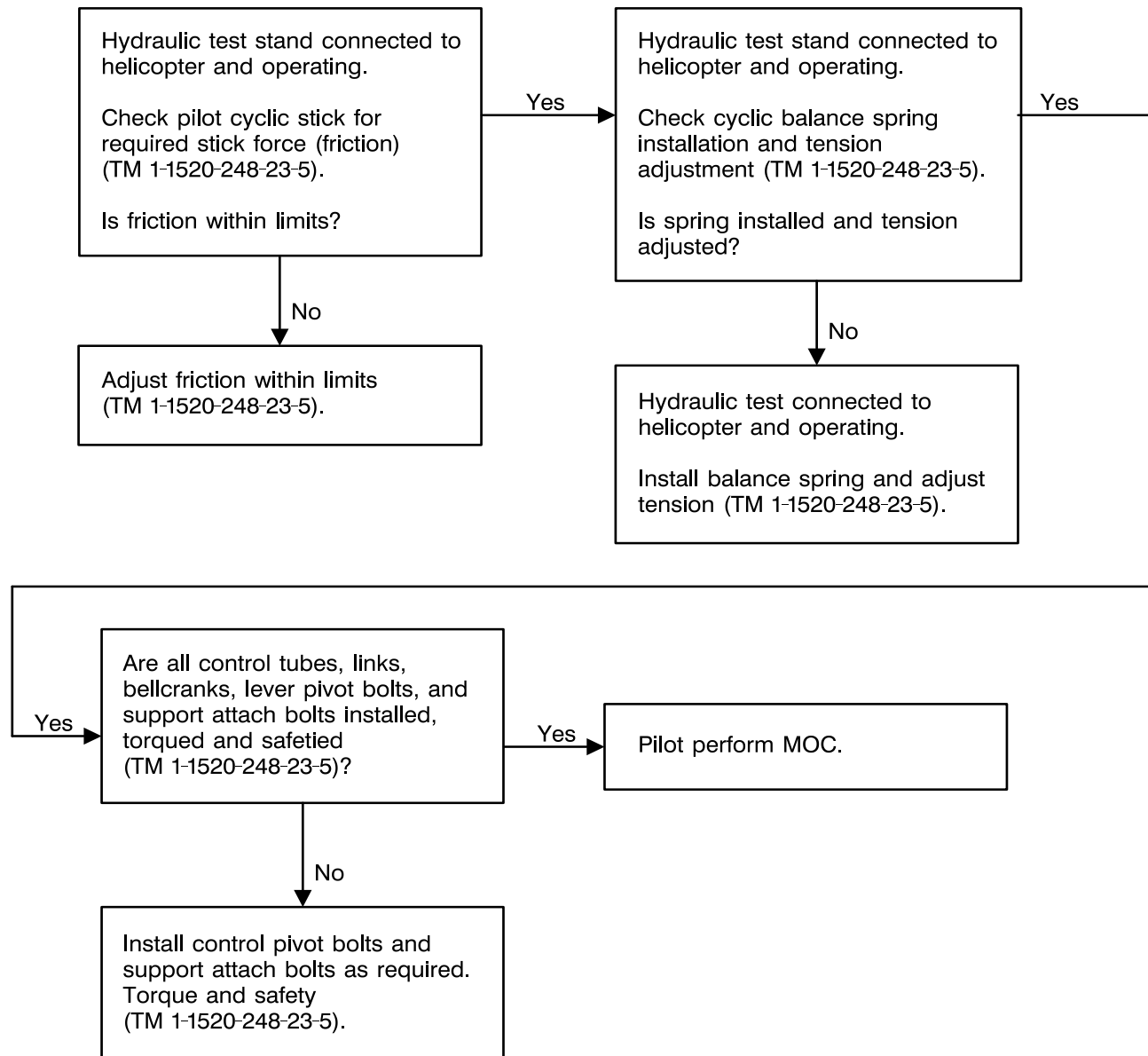


3-5-2. COLLECTIVE CONTROLS BINDING

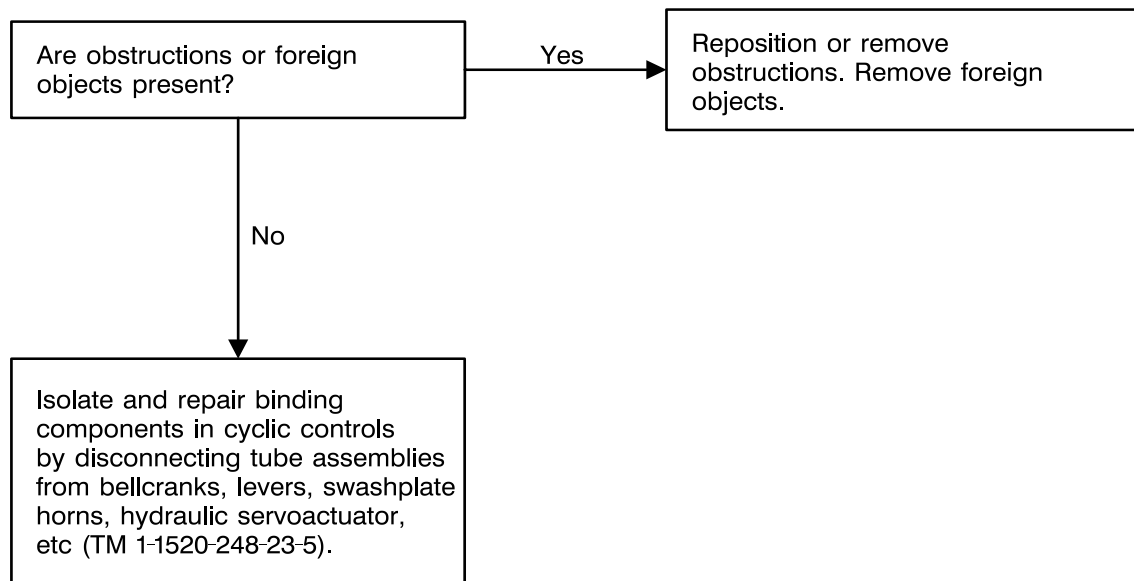


406475-541-61
J1262

3-5-3. CYCLIC CONTROLS FEEL LOOSE

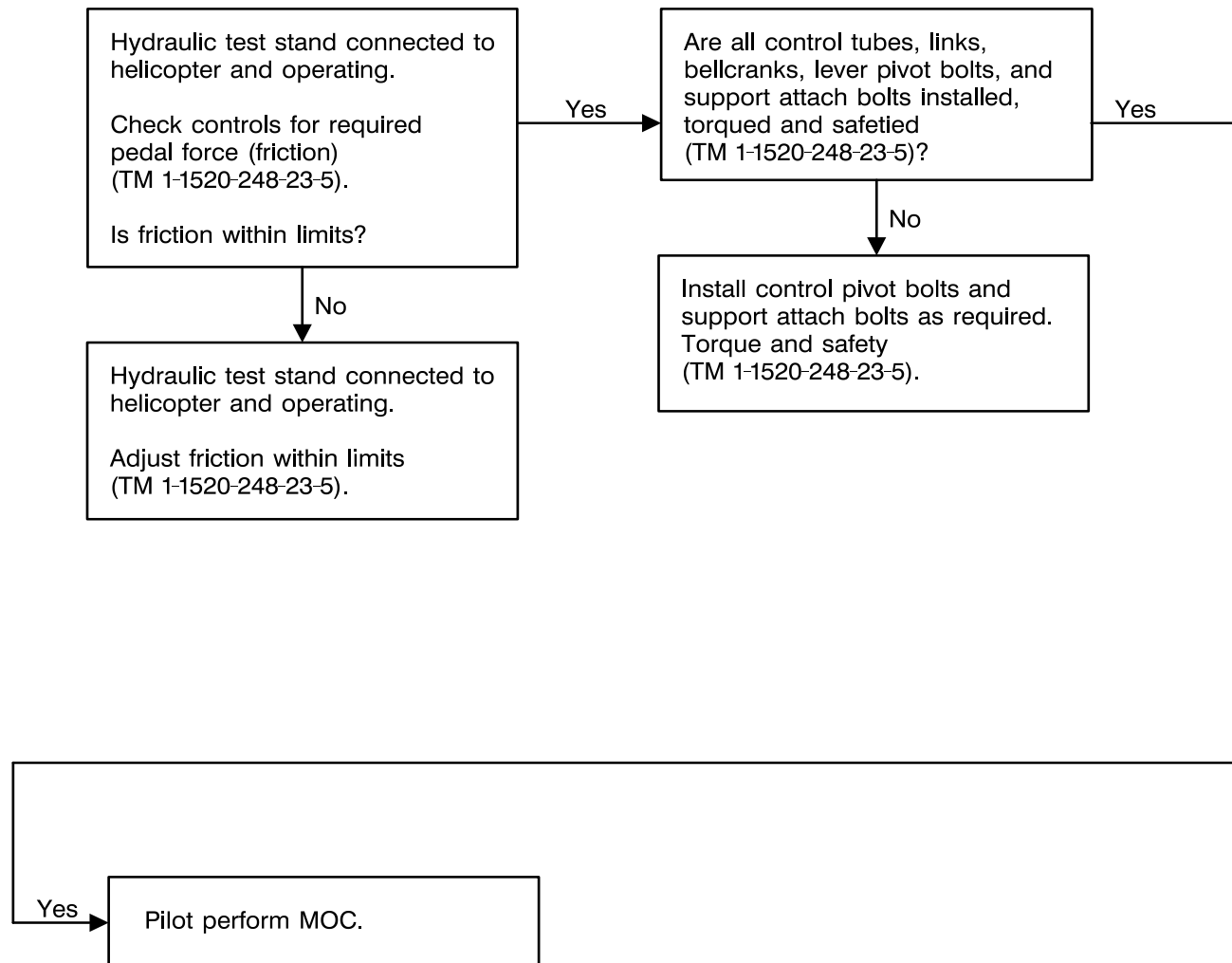


3-5-4. CYCLIC CONTROLS BINDING

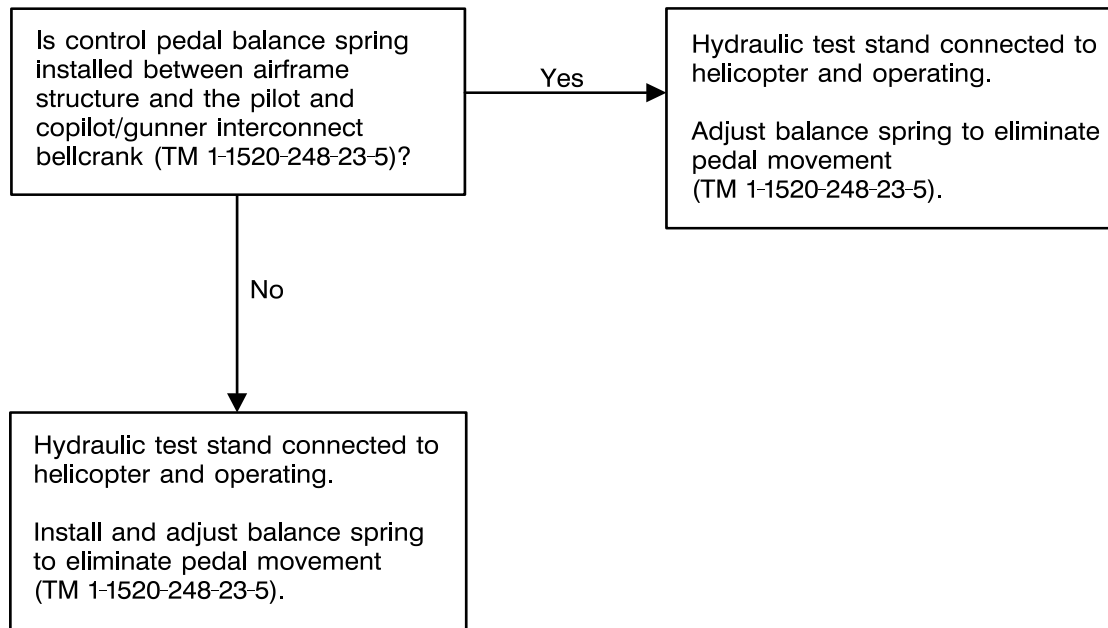


406475-541-63
J1262

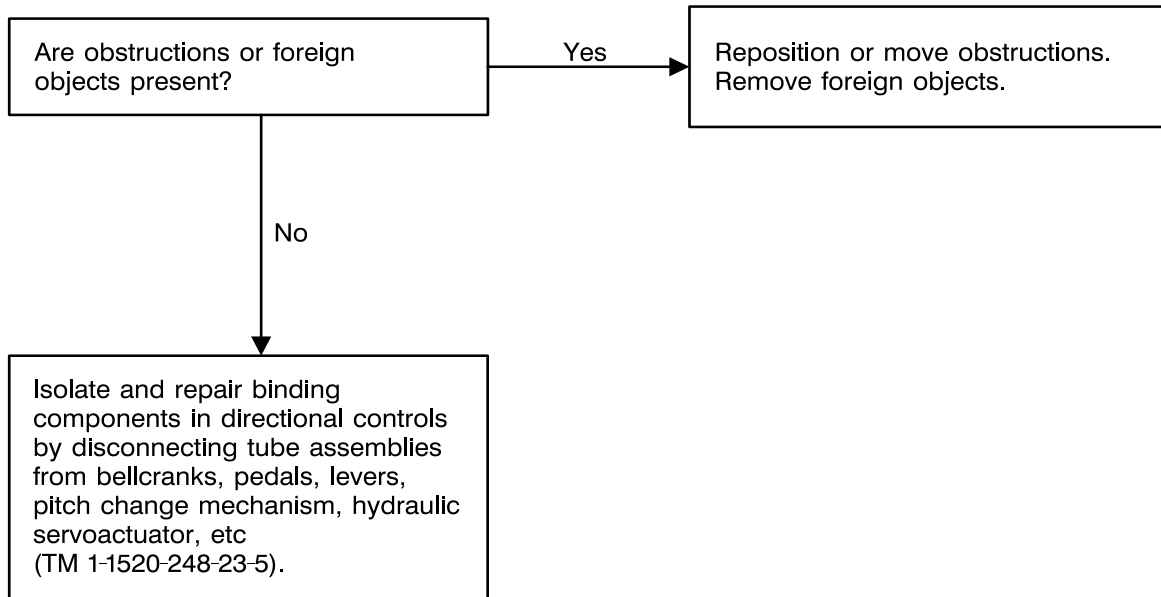
3-5-5. DIRECTIONAL CONTROLS FEEL LOOSE



3-5-6. DIRECTIONAL CONTROL PEDALS MOTORING (CREEPING)



3-5-7. DIRECTIONAL CONTROLS BINDING



CHAPTER 4

ARMAMENT SYSTEMS MAINTENANCE ACTION PRECISE SYMPTOMS (MAPS) DIAGRAMS

	Page
Section I General Faults	4-2
Section II Jettison Faults	4-71
Section III Gun Faults	4-81
Section IV Rocket Faults	4-129
Section V ATAS Faults	4-218
Section VI HELLFIRE Faults	4-279
Section VII Missile Sight System (MSS) Faults	4-394
Section VIII MSS/CDS Faults	4-410
Section IX MSS Growth Option Faults	4-430
Section X Miscellaneous Faults	4-436

4-1. SCOPE

This chapter contains the MAPS diagrams required to support unit troubleshooting. This chapter is divided into 10 sections. Mechanical and fluid system MAPS diagrams are located in Chapter 3. Electrical Systems MAPS diagrams are located in TM 1-1520-248-T-3. Operational checks are located in TM 1-1520-248-T-1.

4-2. ARMAMENT SYSTEMS MAPS DIAGRAMS

Troubleshooting procedures are presented as a guide for locating and correcting malfunctions. Use of these procedures will reduce delays and maintenance downtime and will minimize unnecessary replacement of electrical components.

WARNING

Helicopter armament safing procedures in TM 1-1520-248-23 must be accomplished before performing any troubleshooting procedures.

1. Four basic assumptions have been made in preparing these procedures:

a. Correct operating procedures or operational checks have been followed.

b. Problem is caused by a single failure or malfunction.

c. When any connector is disconnected, it will be checked for recessed or bent pins.

d. All continuity checks are to include checks from applicable pins to ground and to adjacent pins to verify any unintentional shorts or grounds.

2. Ensure electrical power is off before doing continuity checks. Disconnect appropriate connector(s) as indicated in the text prior to performing continuity or voltage checks.

3. When a repair, replacement, adjustment or other maintenance action is performed or the troubleshooting logic tree ends with "Return system to service", you must demonstrate that the original problem has been corrected by performing an operational check. System components and wiring must be restored before performing an operational check.

4. Reference designator numbers contained in troubleshooting logic trees are keyed to wiring diagram reference designators.

5. Repairing or replacing wires consists of checking and replacing connectors or repairing/replacing accessible wires. If wire(s) are not accessible, reroute replacement wire(s) (it is not necessary to cut into wire bundles; however, replacement wire(s) must be routed with the same category wiring and clamping arrangement) and attach replacement pins/terminals. Refer to repair and replacement in TM 1-1520-248-23.

6. LRU and connector locations are shown in Appendix D, Table D-1, TM 1-1520-248-T-1.

7. When instructions are given to "replace" a part, the part may be repaired in lieu of replacement, provided the repair is authorized (See Maintenance Allocation Chart, Appendix B, TM 1-1520-248-23).

Section I. GENERAL FAULTS

4-3. MAPS DIAGRAMS INDEX

The MAPS diagrams index provides a numerical list of symptoms contained in this section.

General systems malfunctions (symptoms) are listed in column two (SYMPTOM). To locate troubleshooting procedures refer to column one (MAPS NUMBER) which indicates the MAPS diagram number to be utilized. The procedures in the troubleshooting logic tree shall be performed in sequence as specified unless otherwise noted within the logic tree.

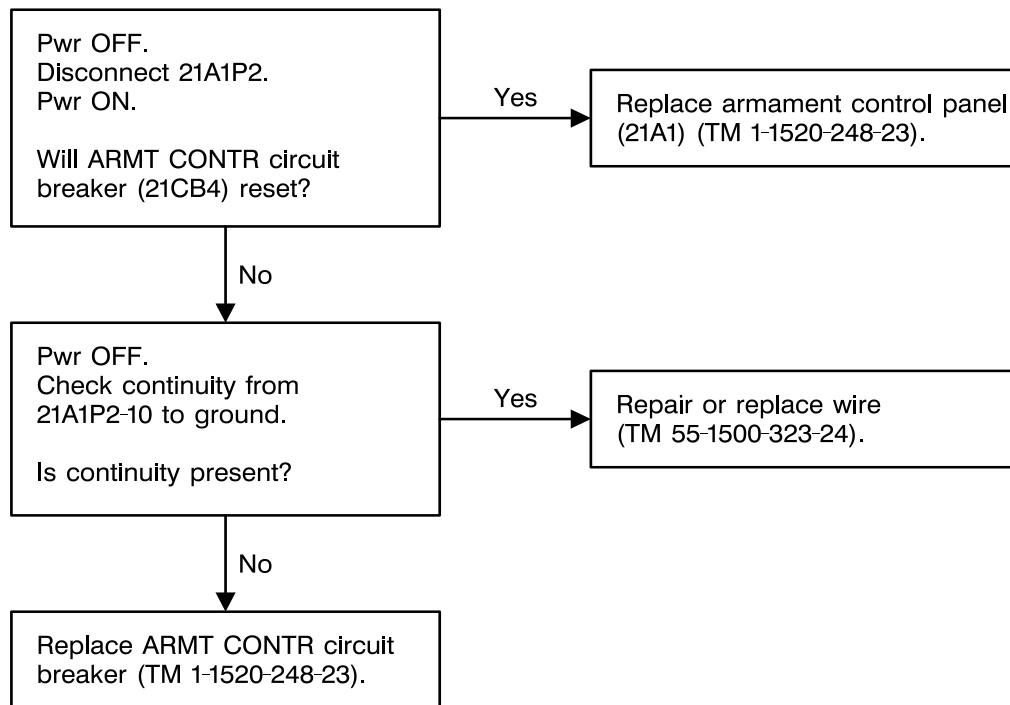
Correction of malfunctions must be verified by performing an operational check utilizing the procedures in TM 1-1520-248-T-1.

NOTE

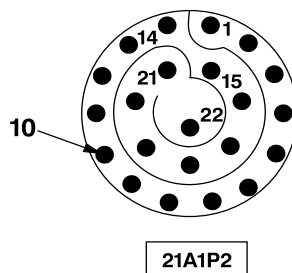
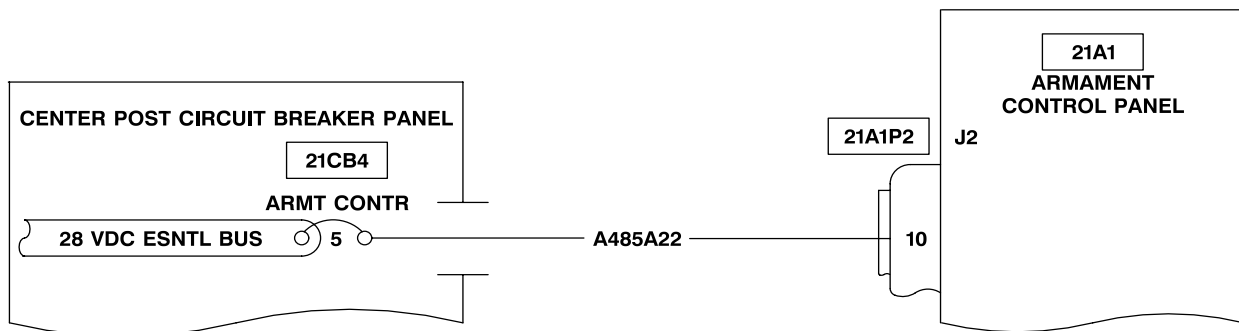
The task number(s) referenced in the symptom title is the related operational check for the affected system.

MAPS NUMBER	SYMPTOM	PAGE NUMBER
4-1-1	ARMT CONTR circuit breaker will not reset (Task 2-5-1/2-5-2)	4-3
4-1-2	Reticle not displayed on PDU (Task 2-5-1/2-5-2)	4-4
4-1-3	TEST not displayed on PDU (Task 2-5-1/2-5-2)	4-10
4-1-4	WEAPONS PAGE not displayed on MFD (Task 2-5-5/2-5-6)	4-11
4-1-5	Gun symbology not displayed on PDU (Task 2-5-5) - OH-58D	4-13
4-1-6	Gun symbology not displayed on PDU (Task 2-5-6) - OH-58D(R)	4-15
4-1-7	Gun WEAPONS PAGE not displayed on CPG MFD (Task 2-5-5/2-5-6)	4-17
4-1-8	Gun VSD PAGE not displayed on MFD (Task 2-5-5/2-5-6)	4-19
4-1-9	Gun fires with MASTER switch in STBY (Task 2-5-5) - OH-58D	4-22
4-1-10	Gun fires with MASTER switch in STBY (Task 2-5-6) - OH-58D(R)	4-24
4-1-11	Gun does not recock when GUN switch toggled to RECOCK (Task 2-5-5/2-5-6)	4-26
4-1-12	Gun not in hold back with GUN switch in SAFE position (Task 2-5-5/2-5-6)	4-33
4-1-13	Gun not in battery with GUN switch in ARMED position (Task 2-5-5/2-5-6)	4-35
4-1-14	Gun does not fire when WPN-FIRE switch is pressed to first detent (Task 2-5-5) - OH-58D	4-37
4-1-15	Gun does not fire when WPN-FIRE switch is pressed to first detent (Task 2-5-6) - OH-58D(R)	4-42
4-1-16	Gun does not fire when WPN-FIRE switch is pressed to second detent (Task 2-5-5) - OH-58D	4-47
4-1-17	Gun does not fire when WPN-FIRE switch is pressed to second detent (Task 2-5-6) - OH-58D(R)	4-51
4-1-18	Gun does not fire with ISP FAIL caution message displayed on MFD and WPN-FIRE switch pressed to second detent (Task 2-5-5) - OH-58D	4-55
4-1-19	Gun does not fire with RIGHT MCPU FAIL caution message displayed on MFD and WPN-FIRE switch pressed to second detent (Task 2-5-6) - OH-58D(R)	4-56
4-1-20	Faulty armament cable assembly - GUN (Task 2-5-5/2-5-6)	4-57
4-1-21	Faulty armament cable assembly - RCKT (Task 2-5-9/2-5-10)	4-59
4-1-22	Faulty armament cable assembly - ATAS (Task 2-5-3/2-5-4)	4-62
4-1-23	Faulty armament cable assembly - HELLFIRE (Task 2-5-7/2-5-8)	4-66
4-1-24	Faulty jettison cable assembly (Task 2-5-11)	4-70

4-1-1. ARMT CONTR CIRCUIT BREAKER WILL NOT RESET (TASK 2-5-1/2-5-2)

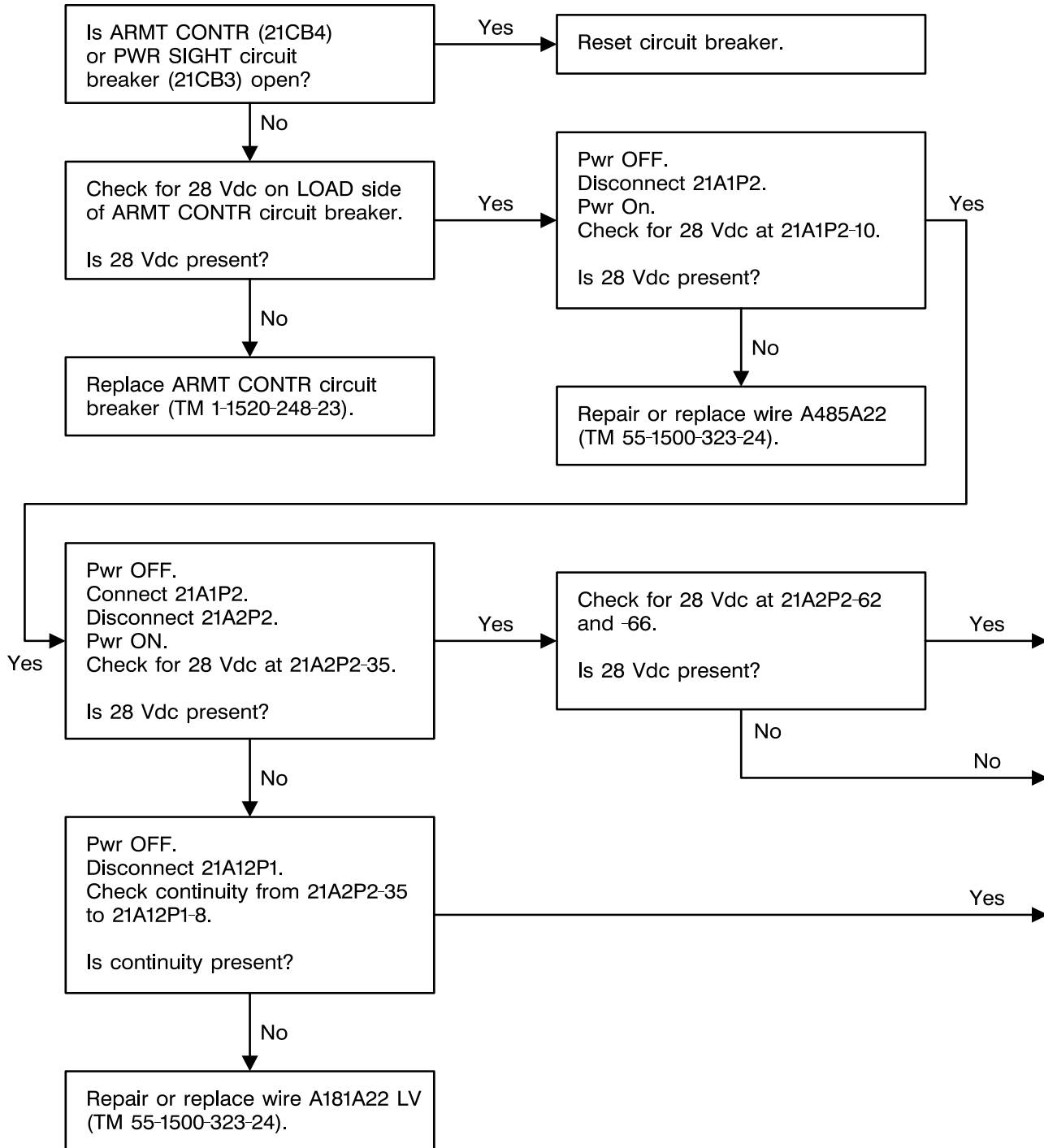


406475-542-1
J1493



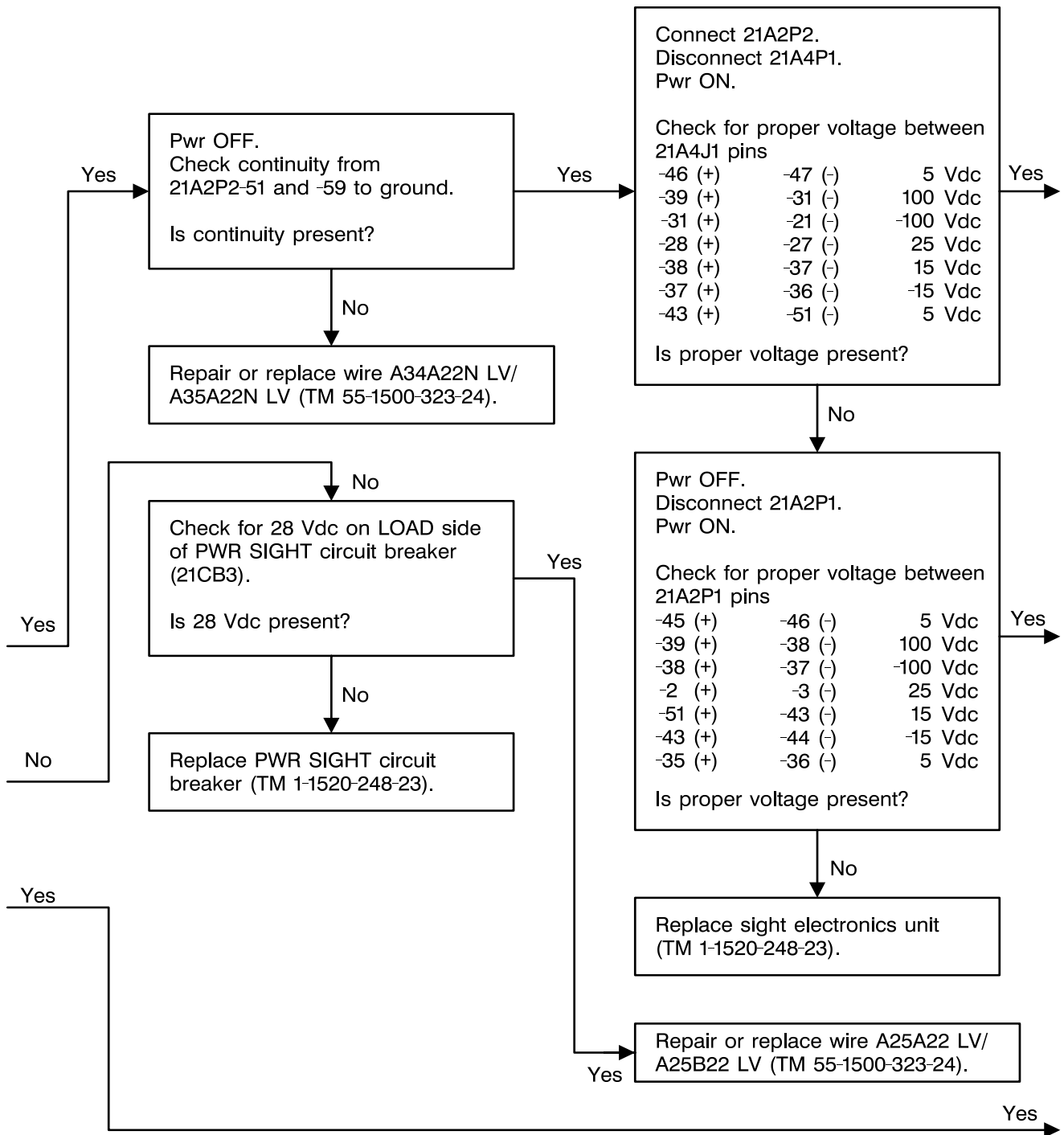
406475-542-2
J1493

4-1-2. RETICLE NOT DISPLAYED ON PDU (TASK 2-5-1/2-5-2)



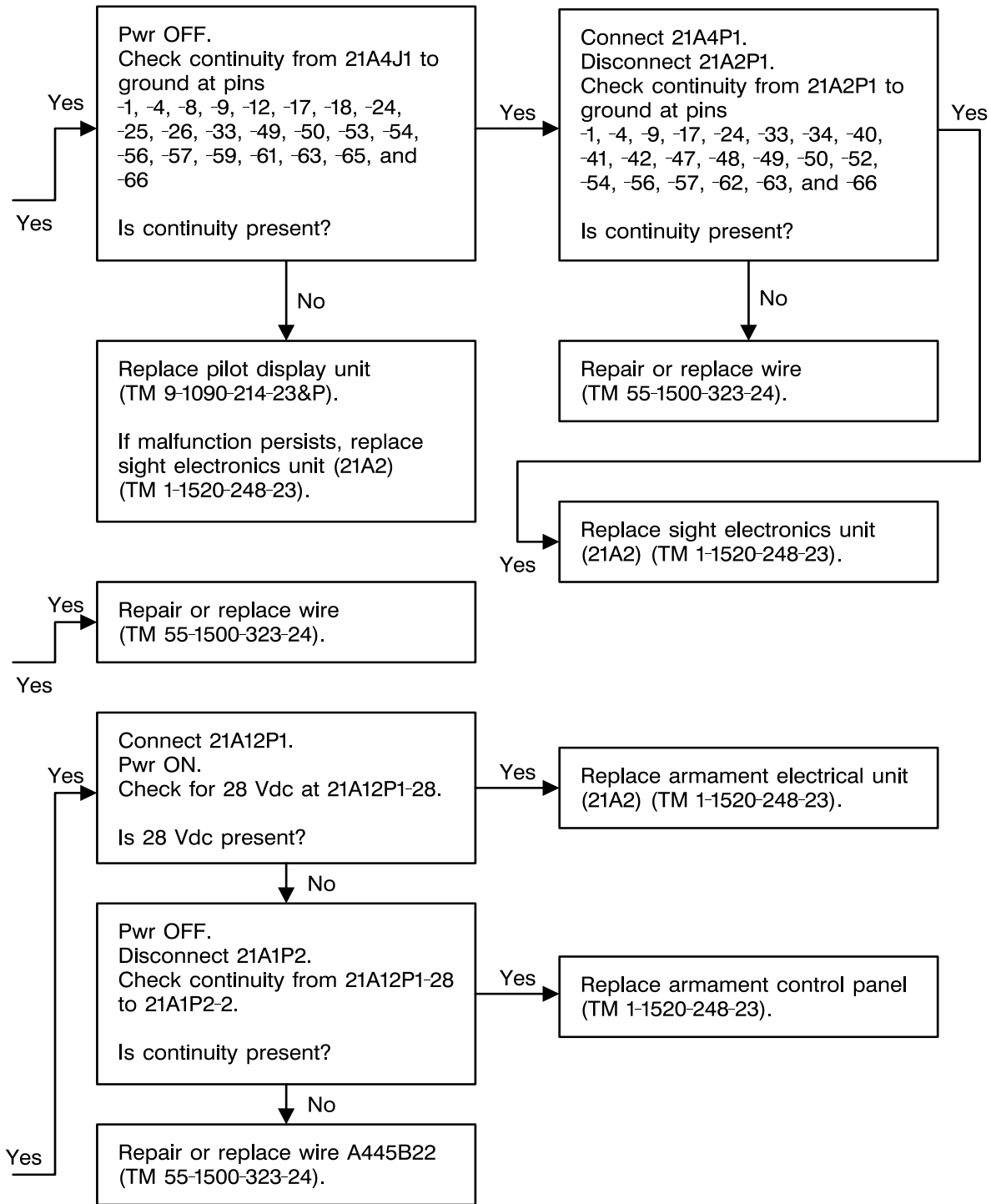
406475-542-3
J1493

4-1-2. RETICLE NOT DISPLAYED ON PDU (TASK 2-5-1/2-5-2) (CONT)



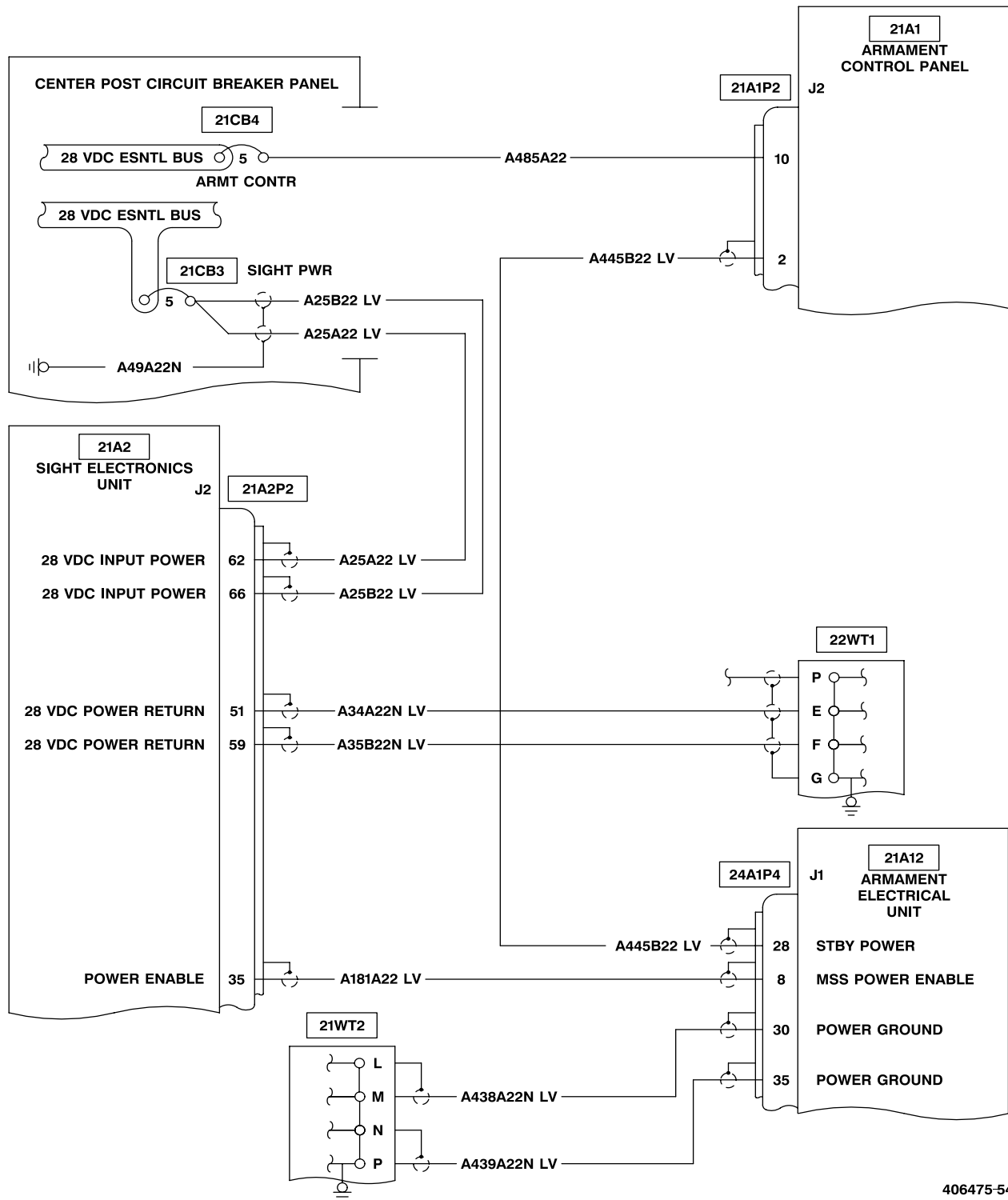
406475-542-4
J1493

4-1-2. RETICLE NOT DISPLAYED ON PDU (TASK 2-5-1/2-5-2) (CONT)



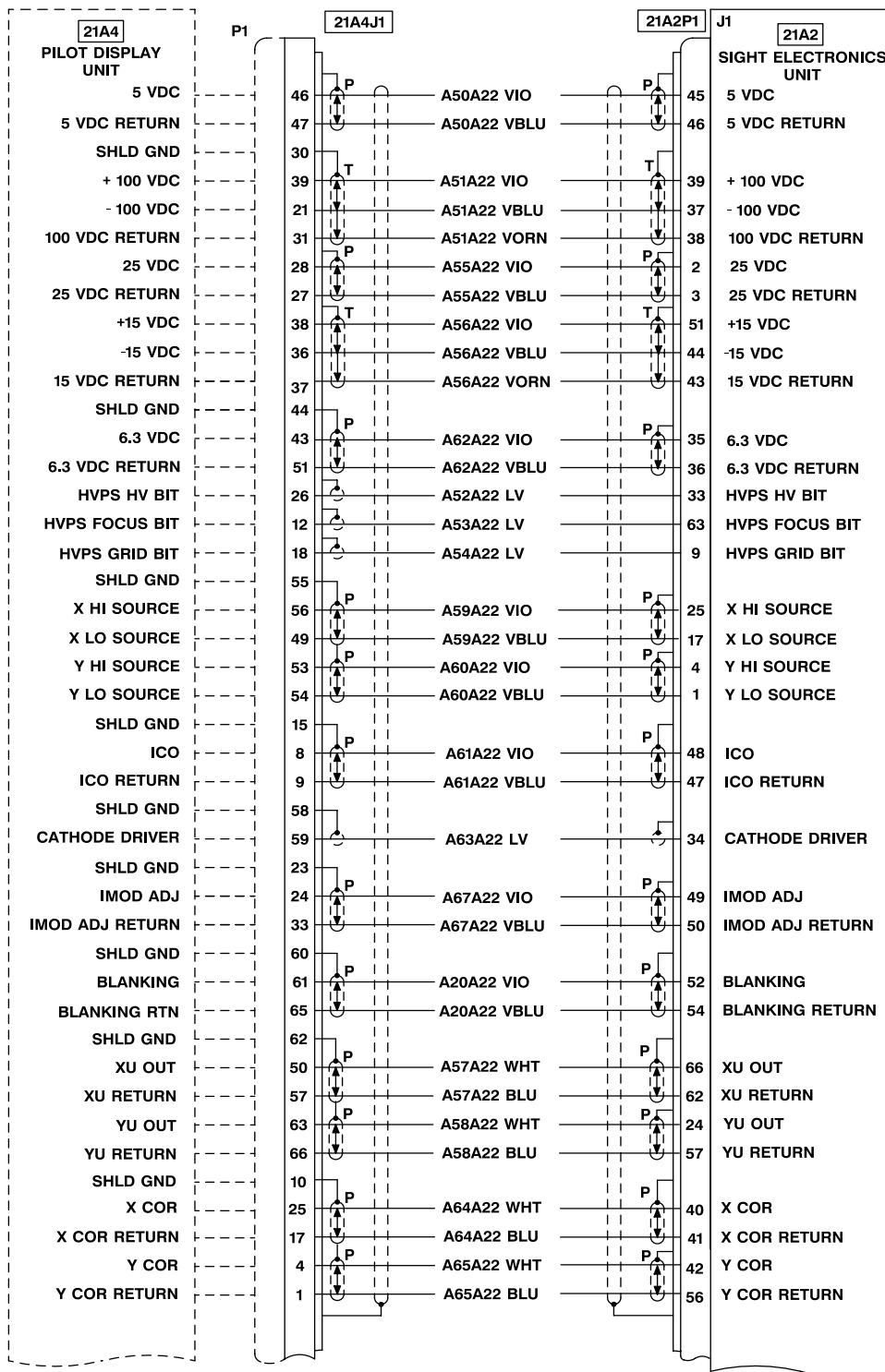
406475-542-5
J1493

4-1-2. RETICLE NOT DISPLAYED ON PDU (TASK 2-5-1/2-5-2) (CONT)



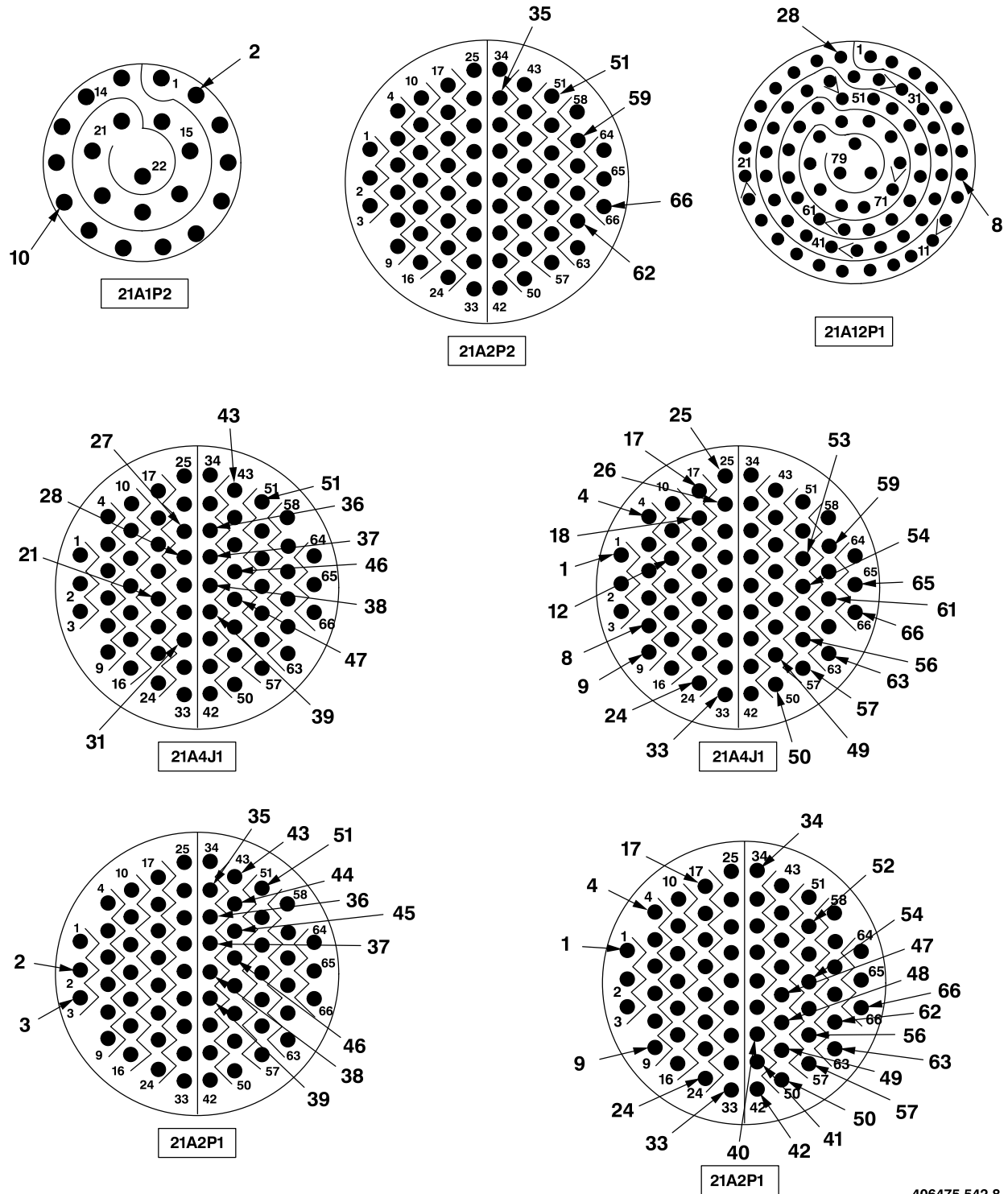
406475-542-6
J1493

4-1-2. RETICLE NOT DISPLAYED ON PDU (TASK 2-5-1/2-5-2) (CONT)



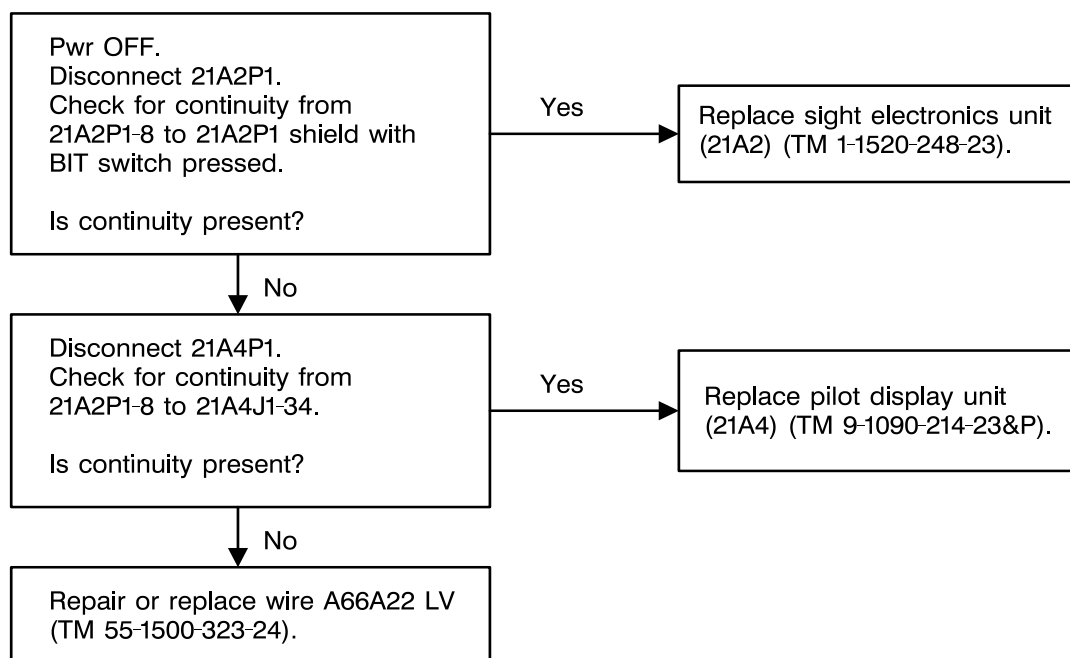
406475-542-7
J1493

4-1-2. RETICLE NOT DISPLAYED ON PDU (TASK 2-5-1/2-5-2) (CONT)



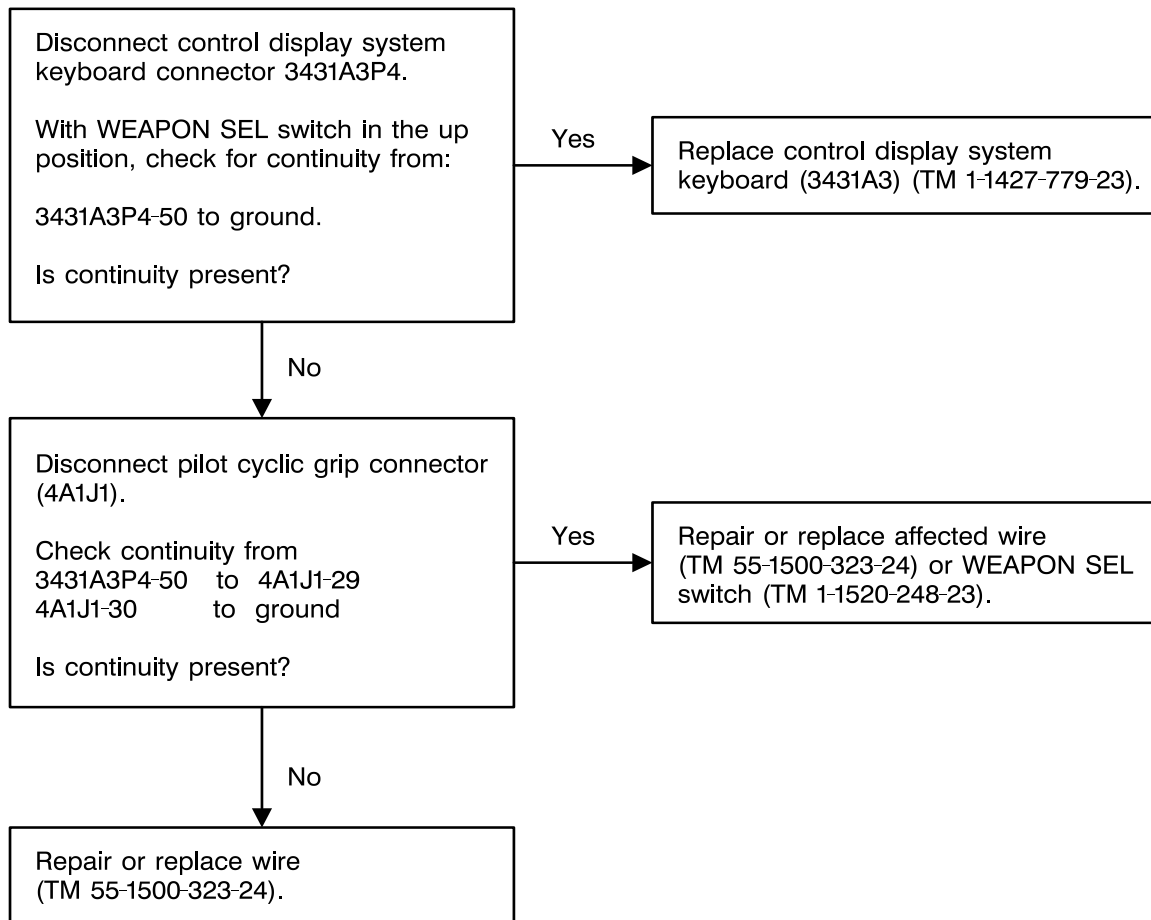
406475-542-8
J1493

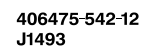
4-1-3. TEST NOT DISPLAYED ON PDU (TASK 2-5-1/2-5-2)



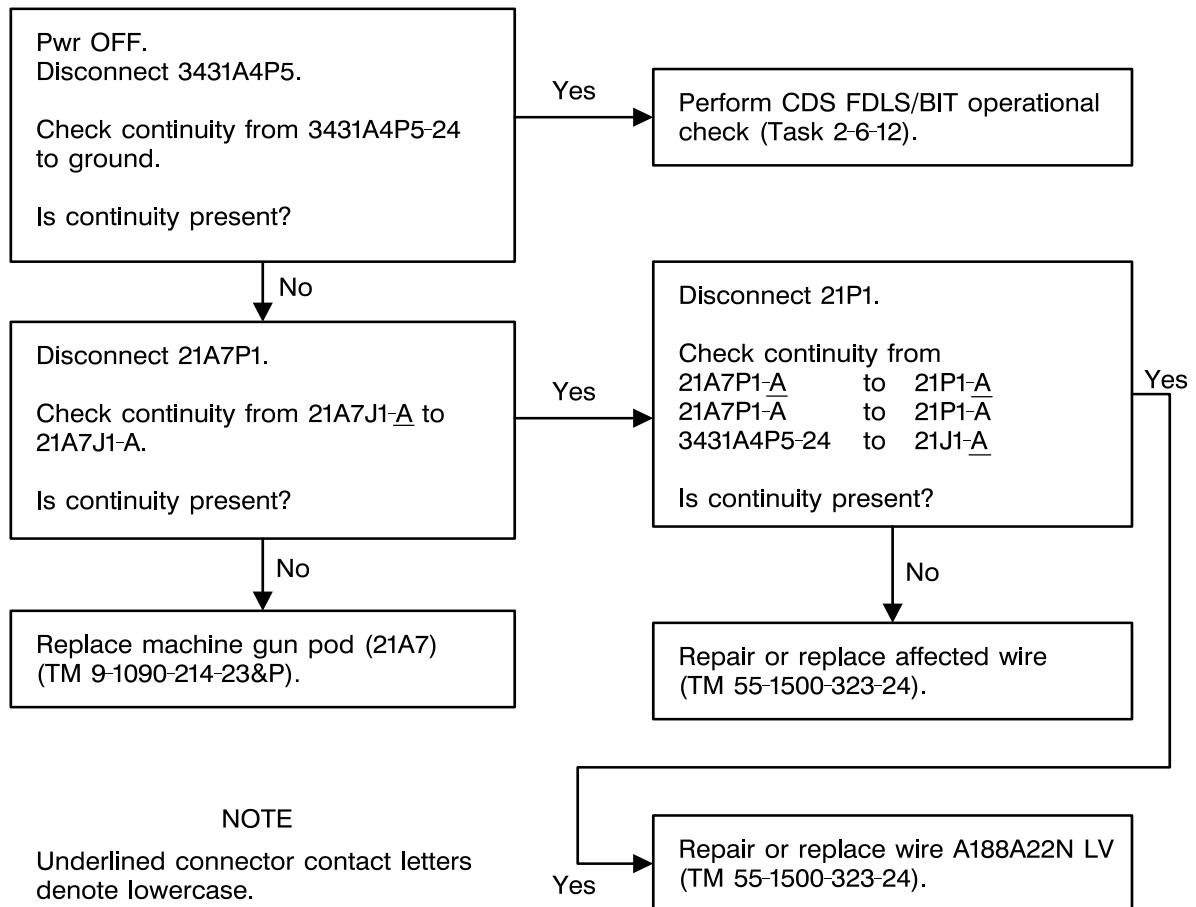
406475-542-9
J1493

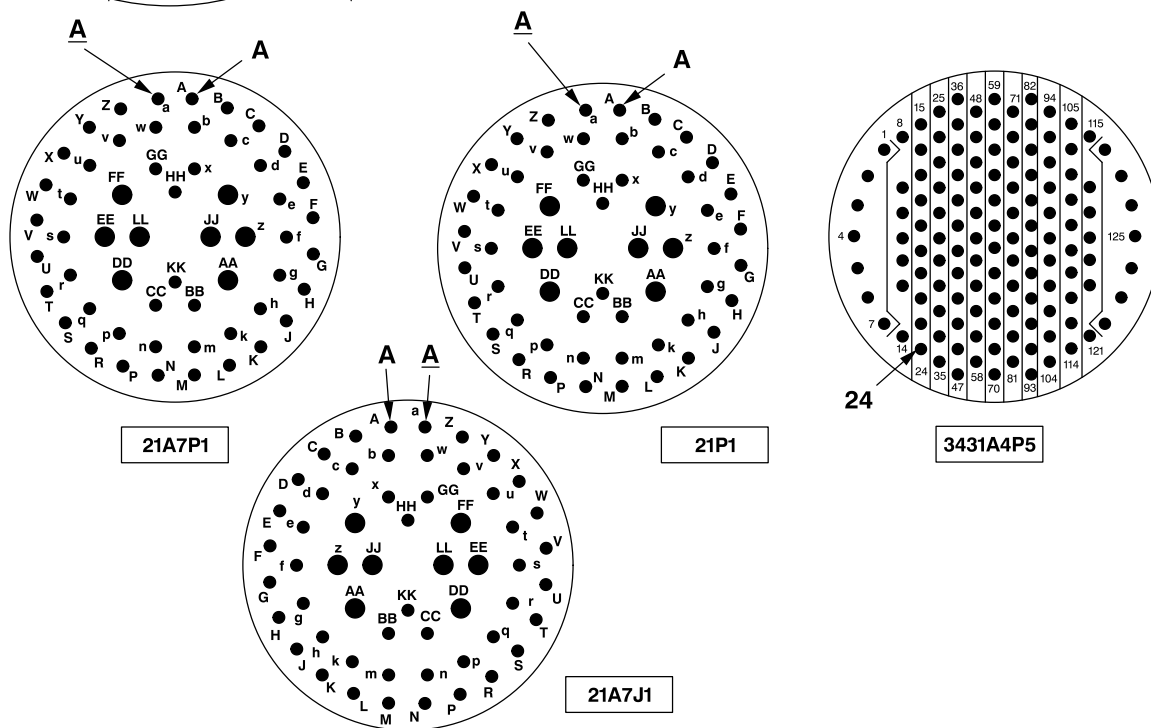
4-1-4. WEAPONS PAGE NOT DISPLAYED ON MFD (TASK 2-5-5/2-5-6)

406475-542-11
J1493



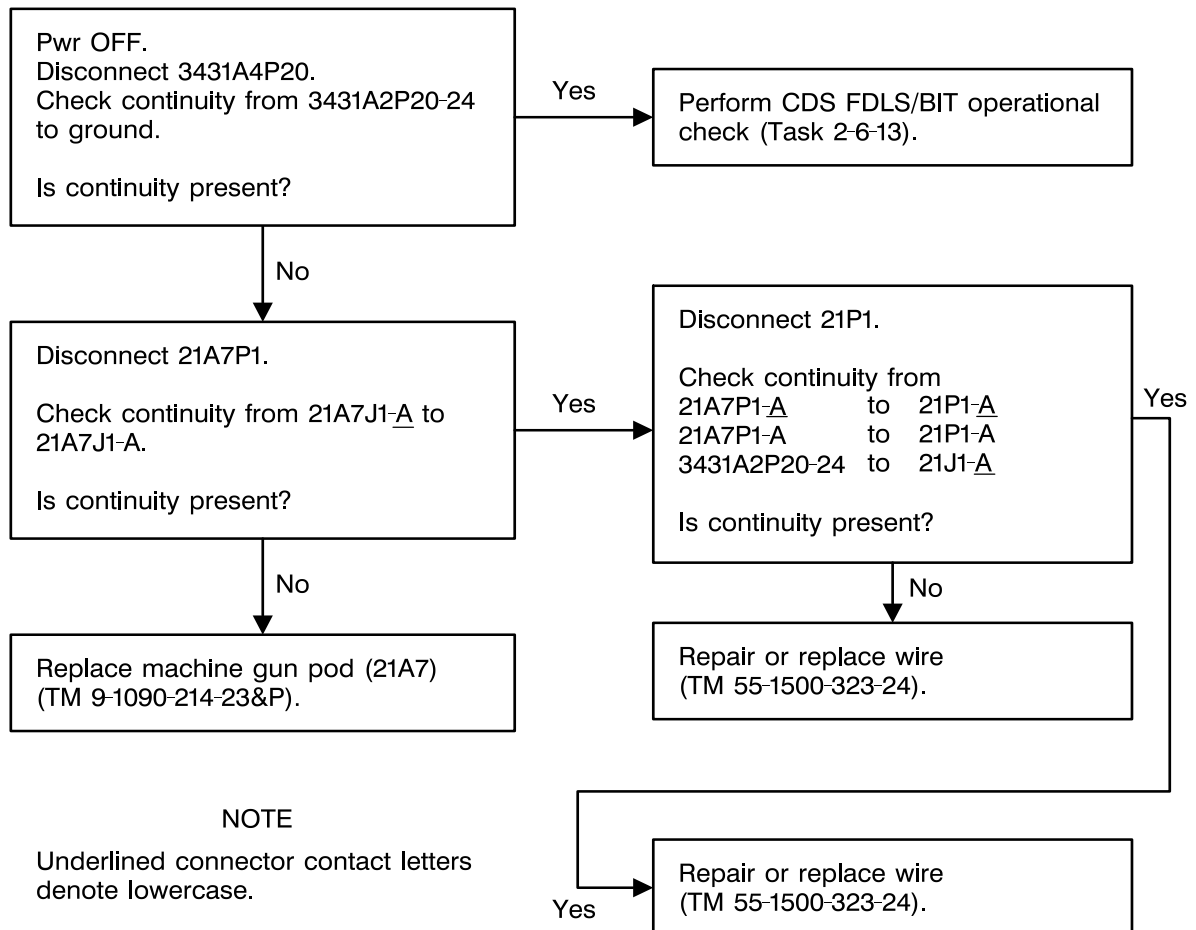
4-1-5. GUN SYMBOLOGY NOT DISPLAYED ON PDU (TASK 2-5-5) - OH-58D

406475-542-13
J1493

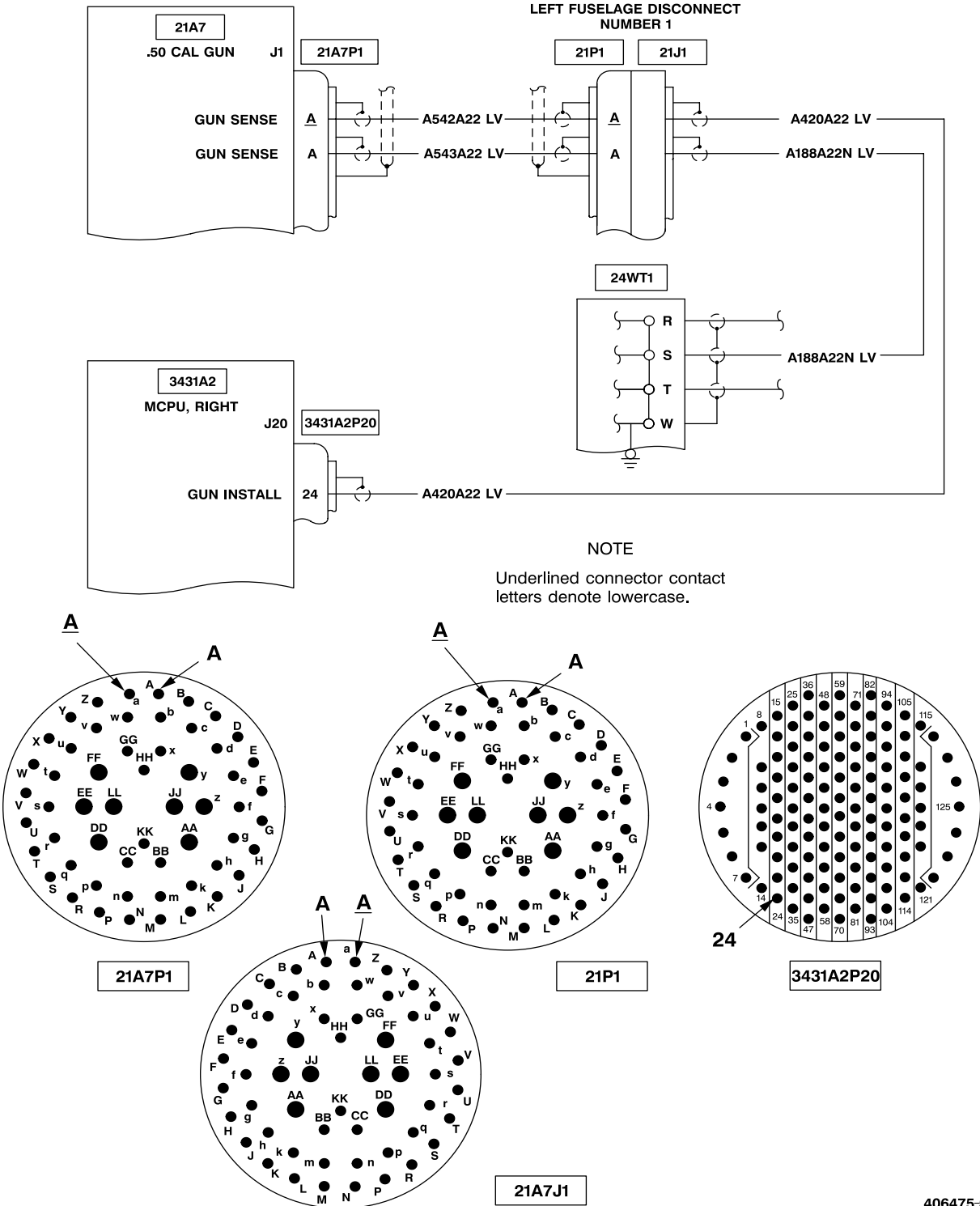


Change 1

4-1-6. GUN SYMBOLOGY NOT DISPLAYED ON PDU (TASK 2-5-6) - OH-58D(R)

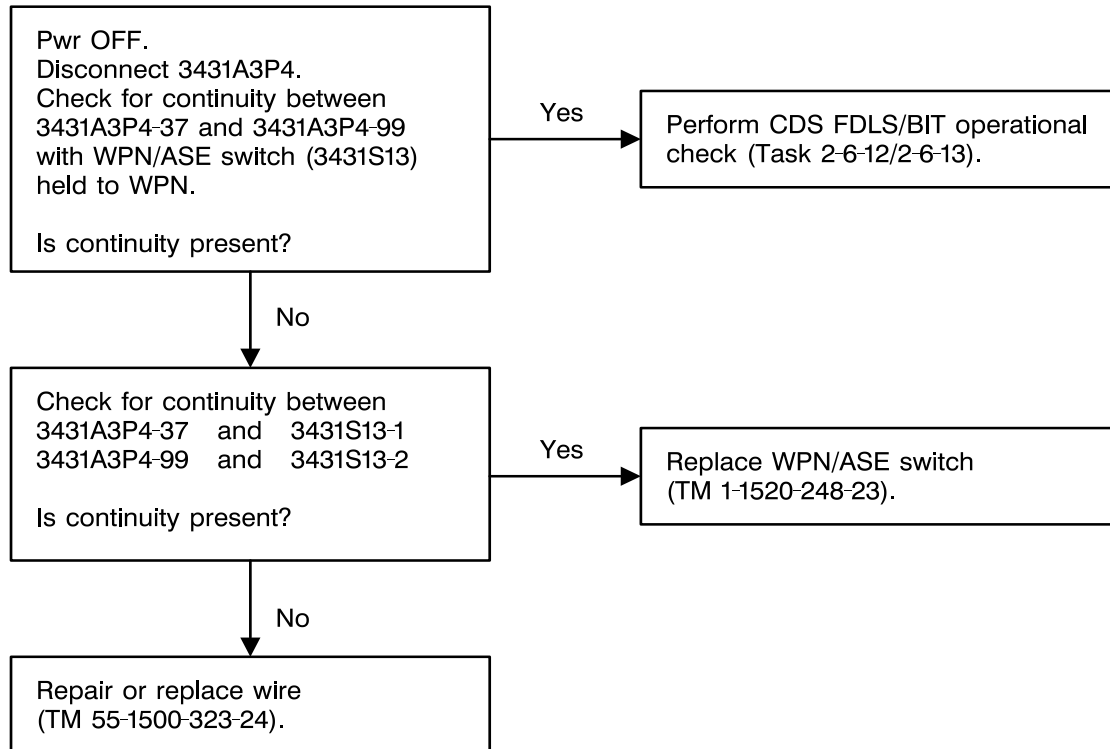
406475-542-15
J1493

4-1-6. GUN SYMBOLOGY NOT DISPLAYED ON PDU (TASK 2-5-6) - OH-58D(R) (CONT)

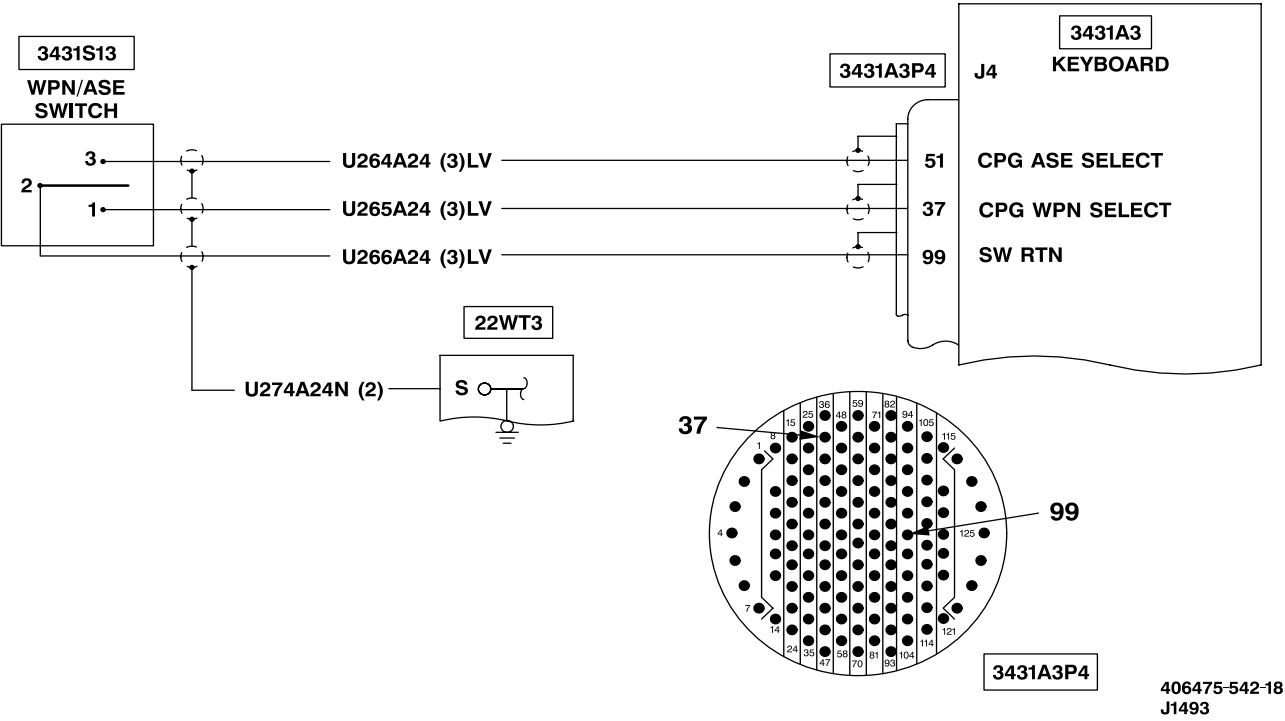


406475-542-16
J1493

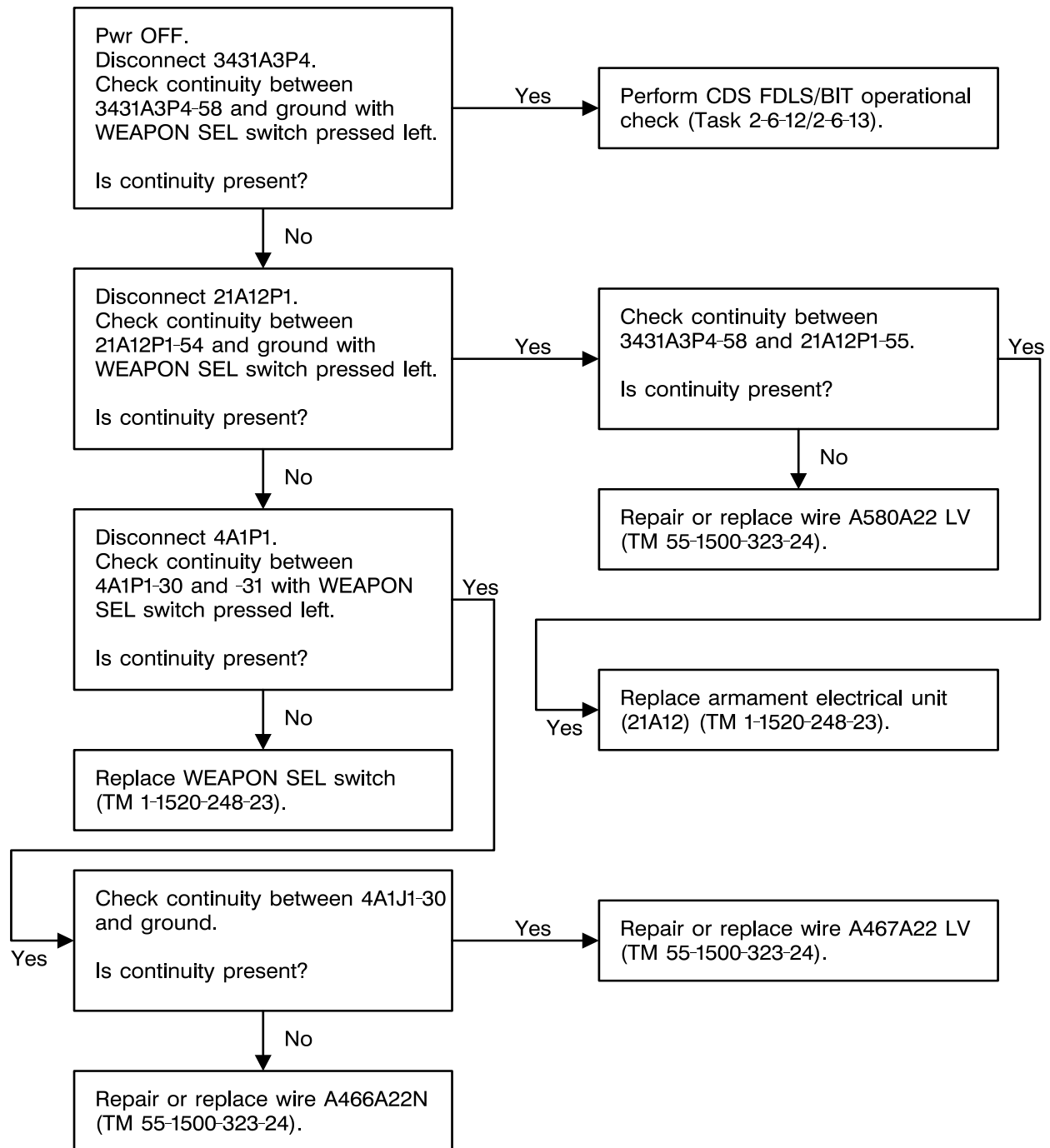
4-1-7. GUN WEAPONS PAGE NOT DISPLAYED ON CPG MFD (TASK 2-5-5/2-5-6)

406475-542-17
J1493

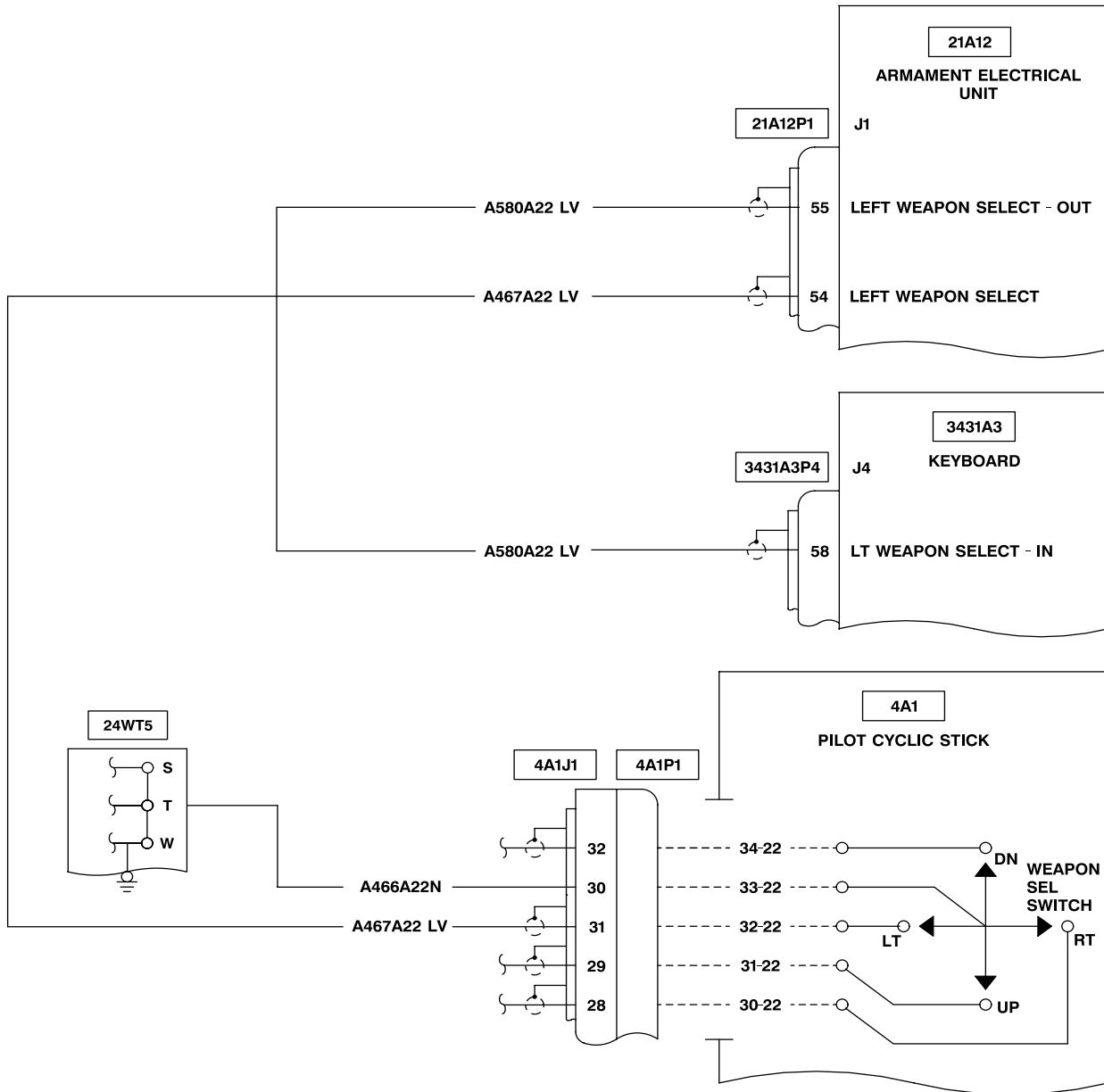
4-1-7. GUN WEAPONS PAGE NOT DISPLAYED ON CPG MFD (TASK 2-5-5/2-5-6) (CONT)



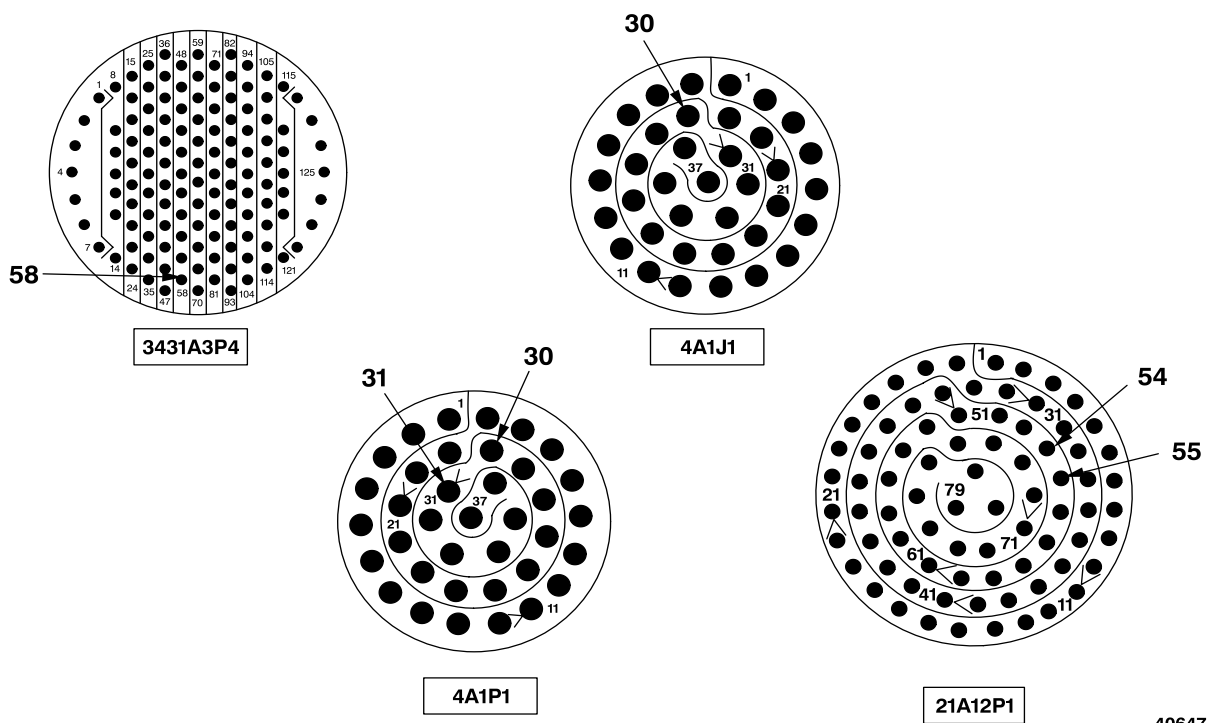
4-1-8. GUN VSD PAGE NOT DISPLAYED ON MFD (TASK 2-5-5/2-5-6)

406475-542-19
J1493

4-1-8. GUN VSD PAGE NOT DISPLAYED ON MFD (TASK 2-5-5/2-5-6) (CONT)

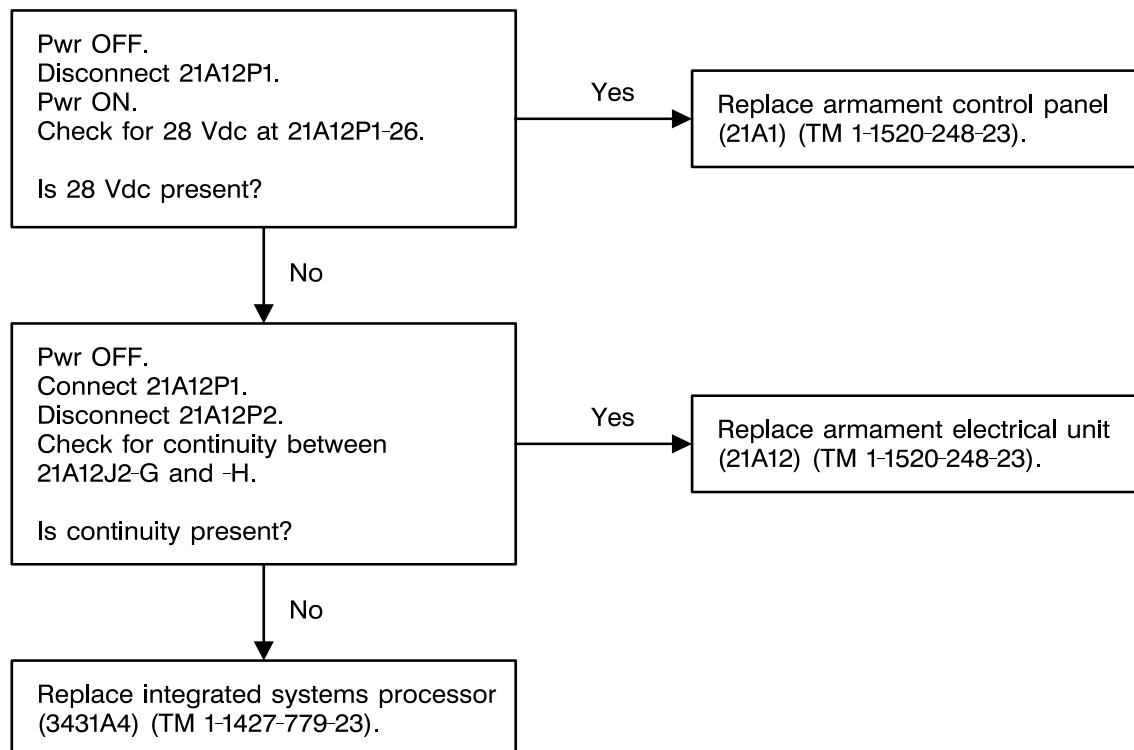


406475-542-20
J1493



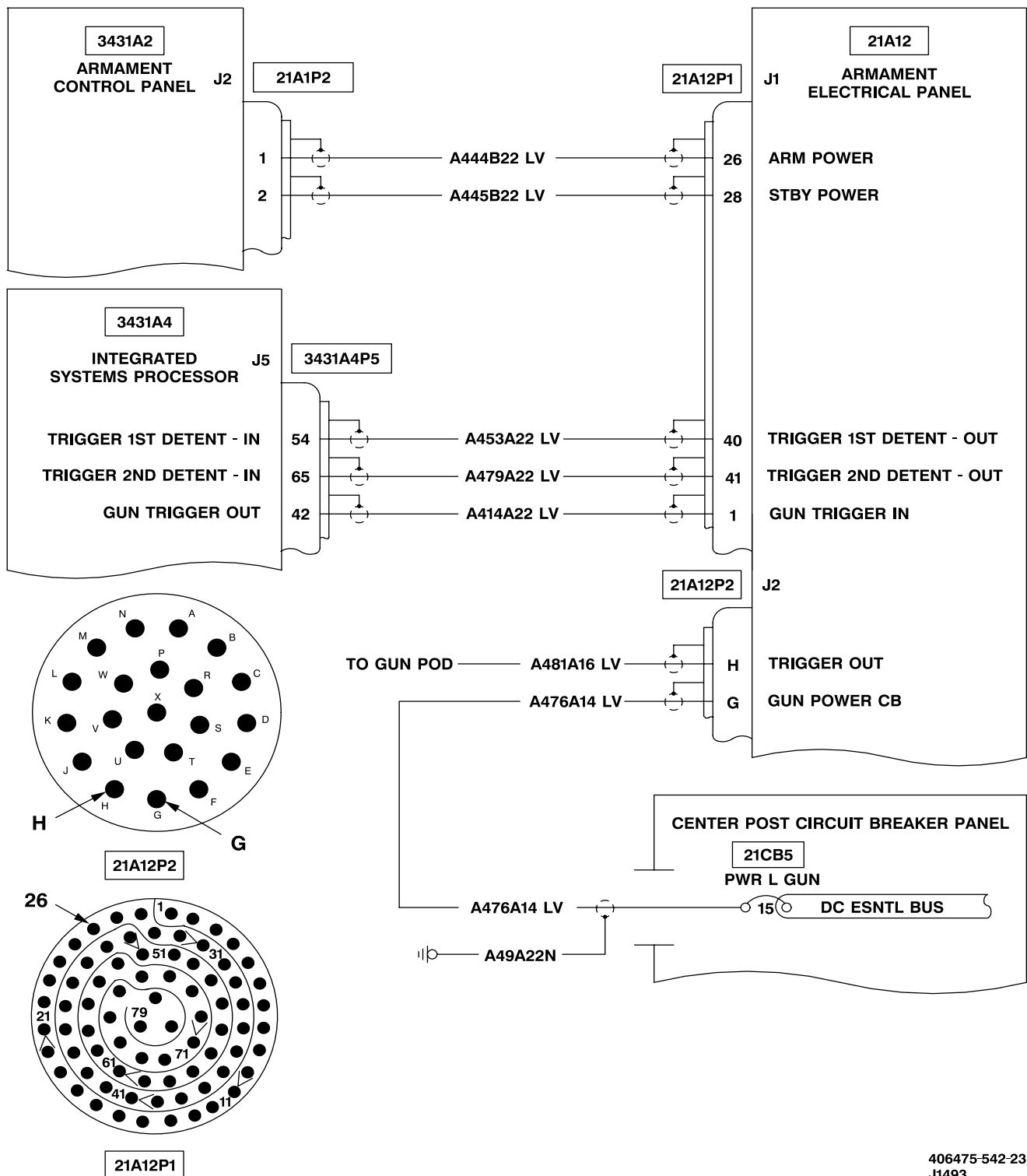
406475-542-21
J1493

4-1-9. GUN FIRES WITH MASTER SWITCH IN STBY (TASK 2-5-5) - OH-58D



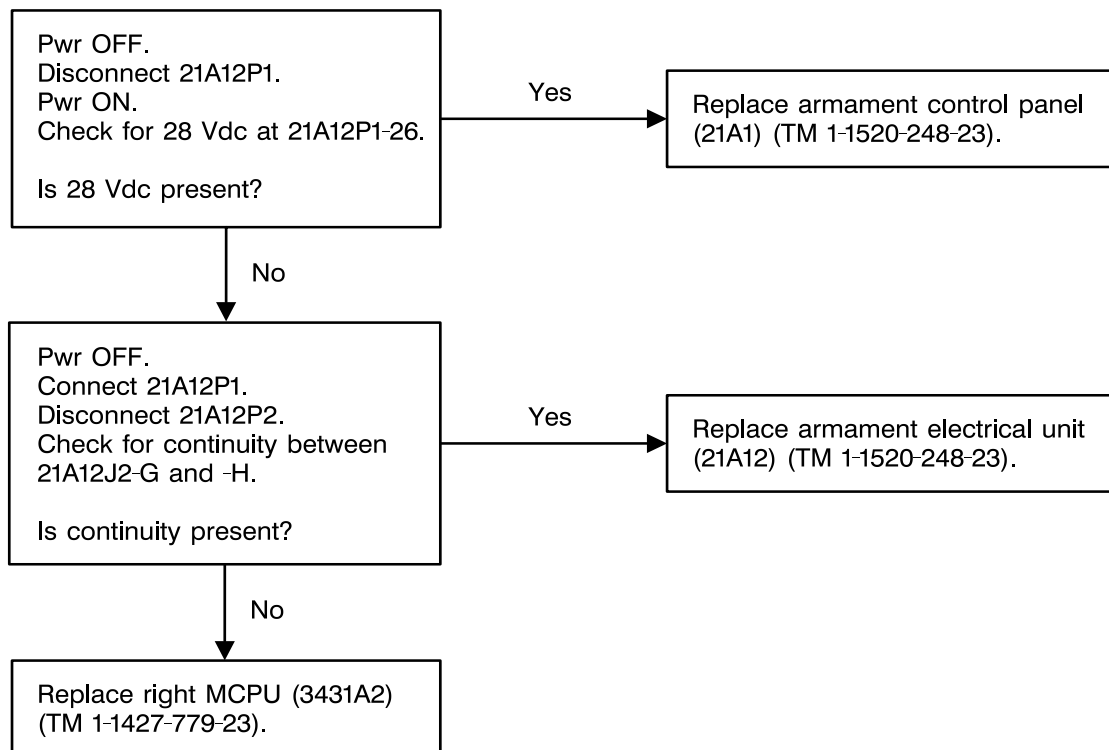
406475-542-22
J1493

4-1-9. GUN FIRES WITH MASTER SWITCH IN STBY (TASK 2-5-5) - OH-58D (CONT)



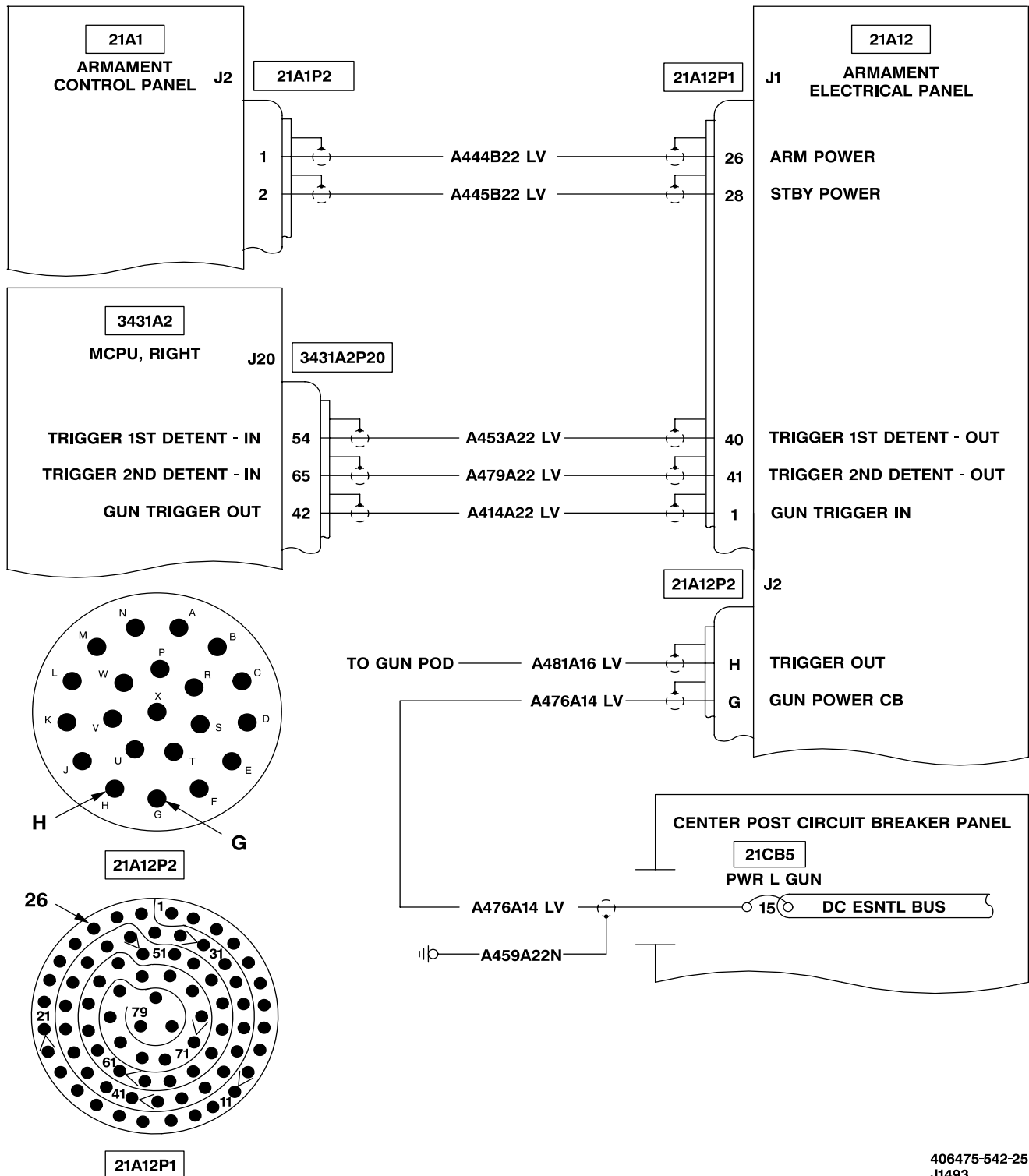
406475-542-23
J1493

4-1-10. GUN FIRES WITH MASTER SWITCH IN STBY (TASK 2-5-6) - OH-58D(R)



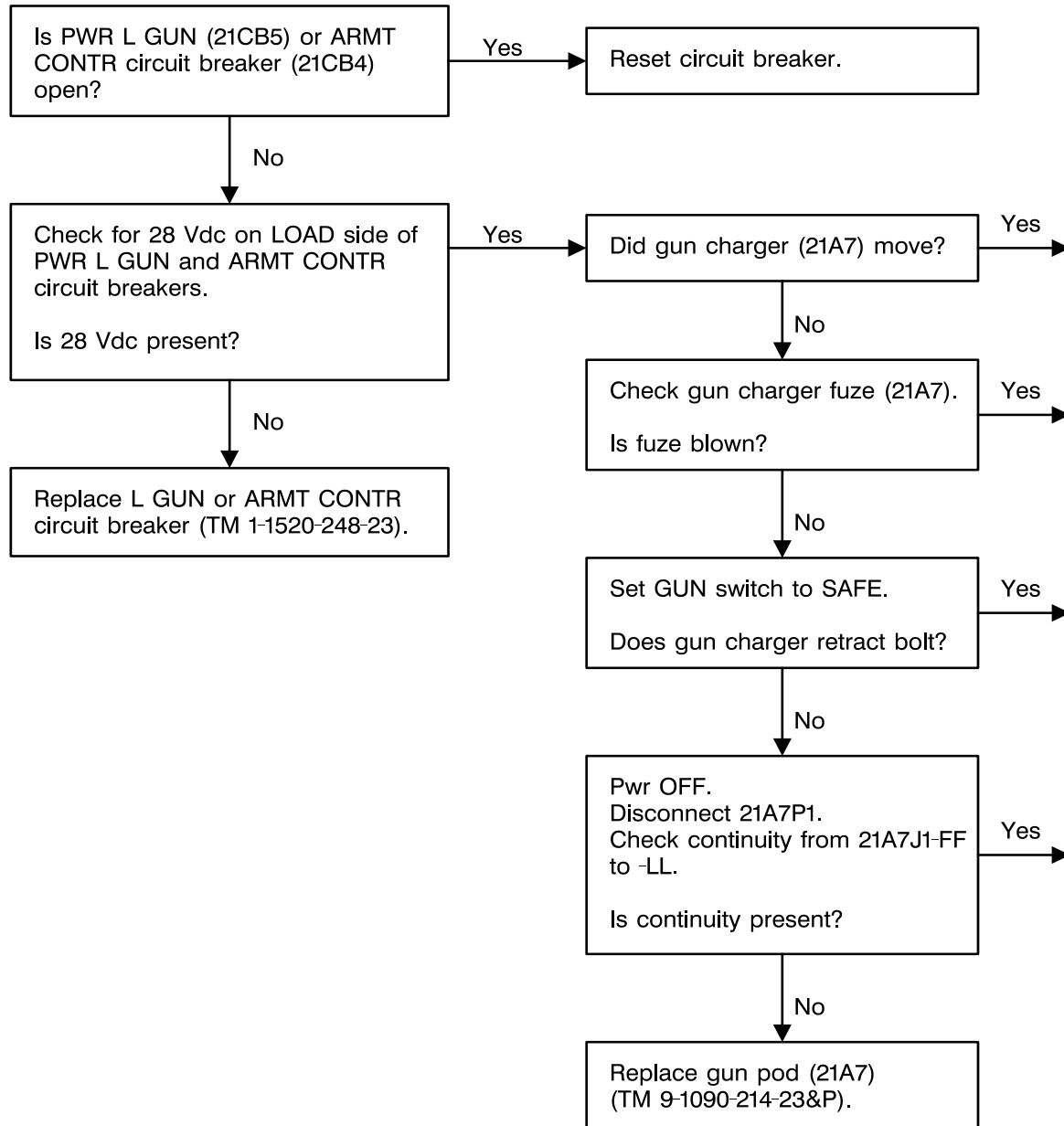
406475-542-24
J1493

4-1-10. GUN FIRES WITH MASTER SWITCH IN STBY (TASK 2-5-6) - OH-58D(R) (CONT)



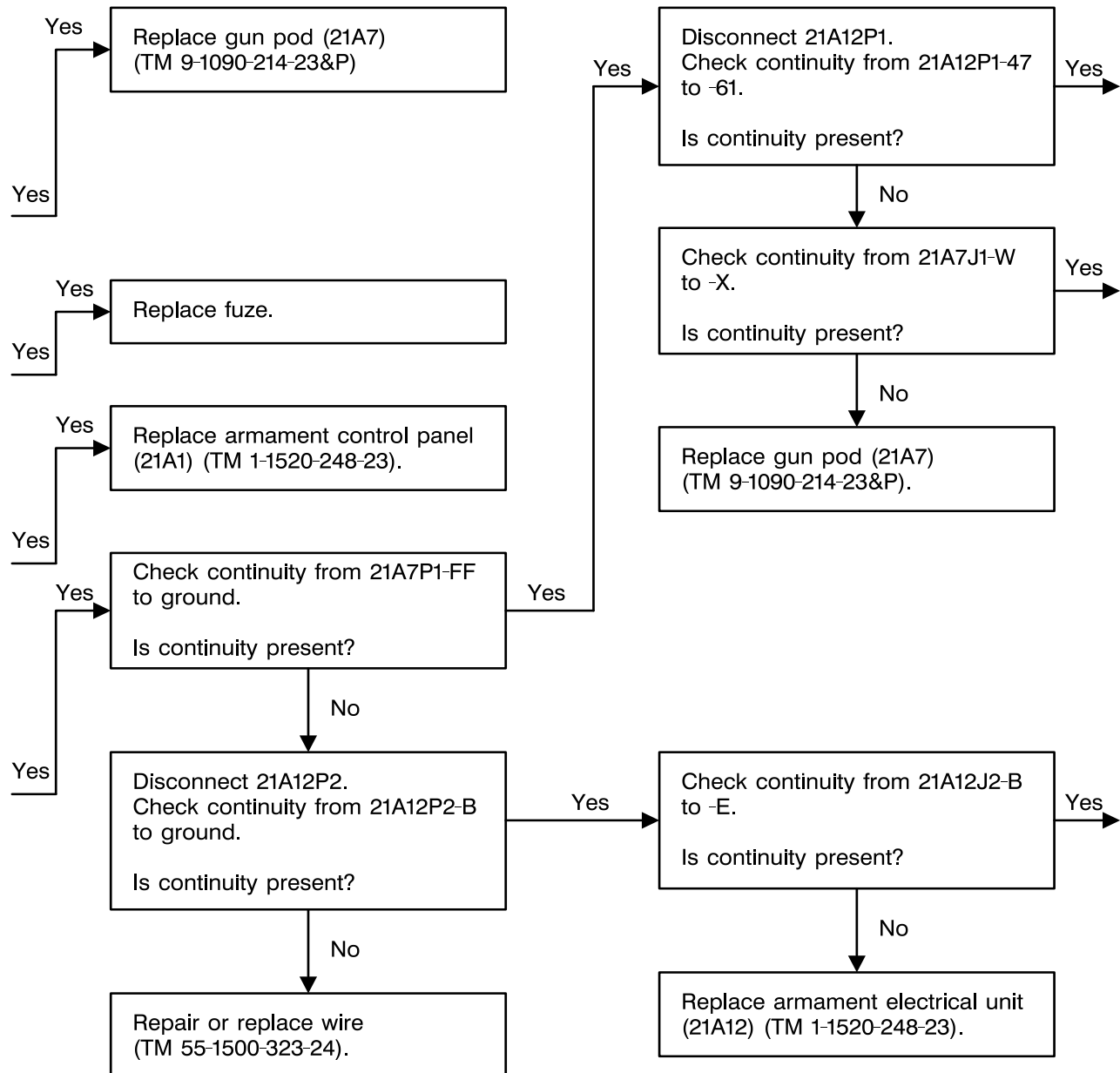
406475-542-25
J1493

4-1-11. GUN DOES NOT RECOCK WHEN GUN SWITCH TOGGLED TO RECOCK (TASK 2-5-5/2-5-6)



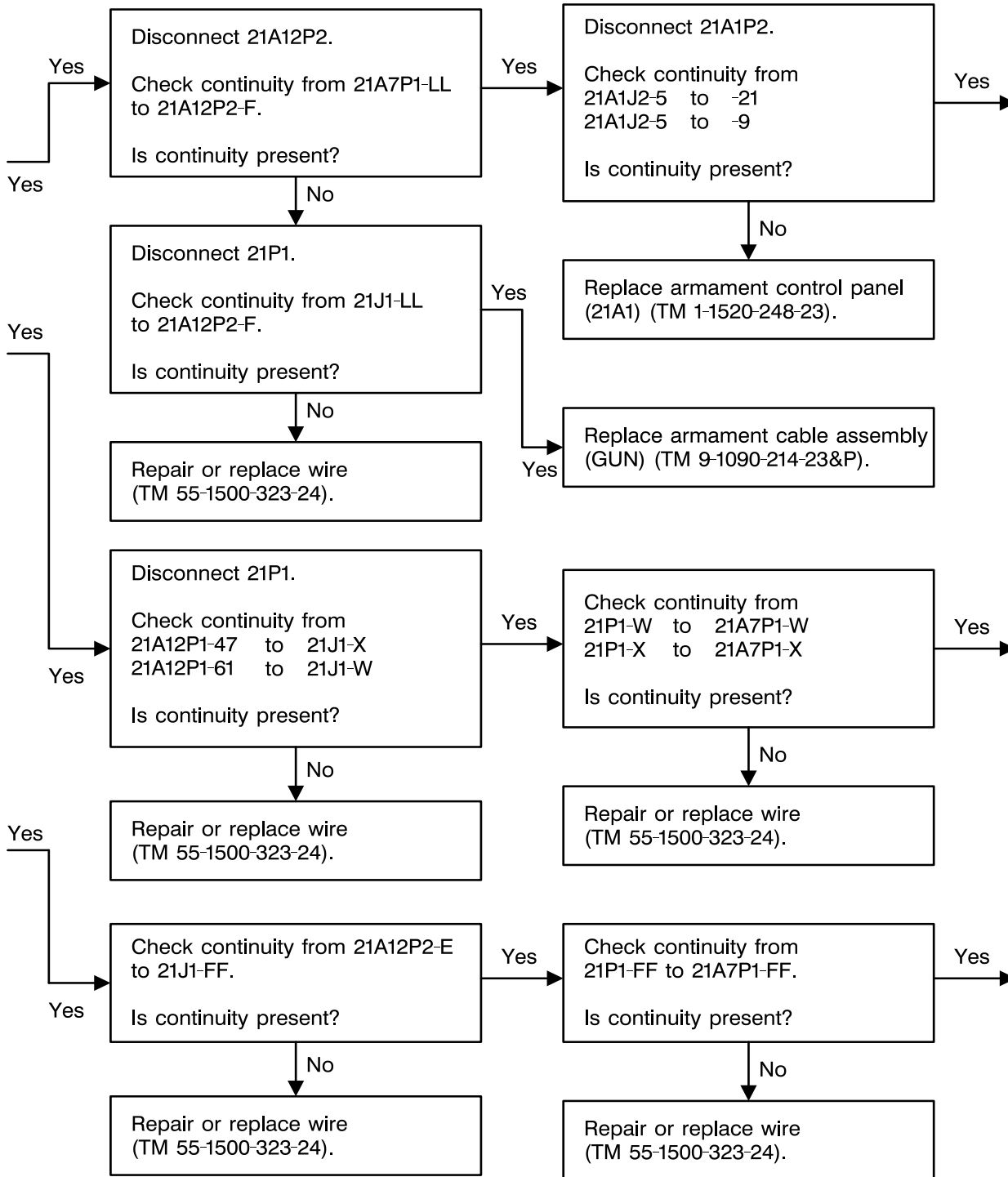
406475-542-26
J1493

4-1-11. GUN DOES NOT RECOCK WHEN GUN SWITCH TOGGLED TO RECOCK (TASK 2-5-5/2-5-6) (CONT)

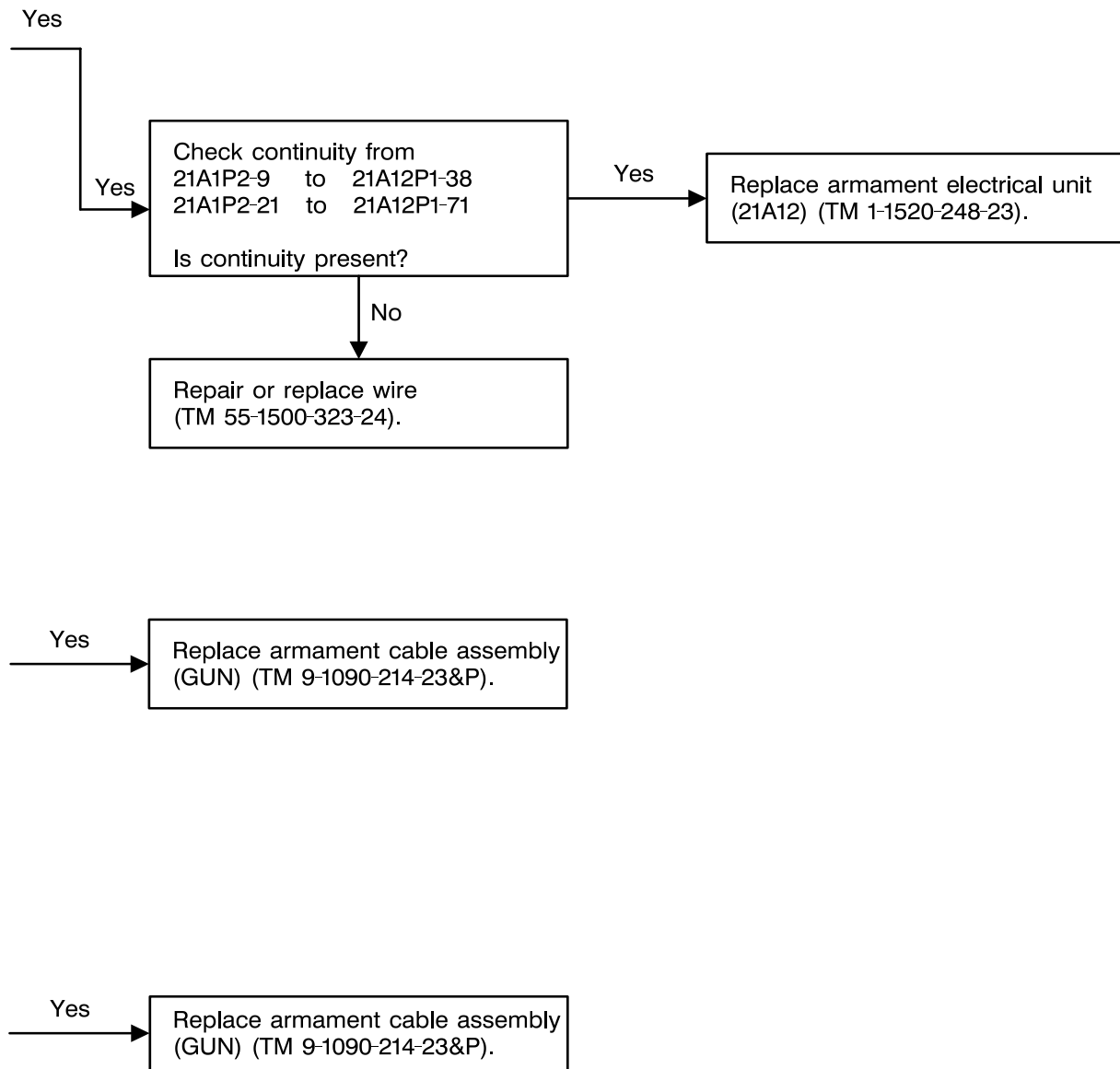


406475-542-27
J1493

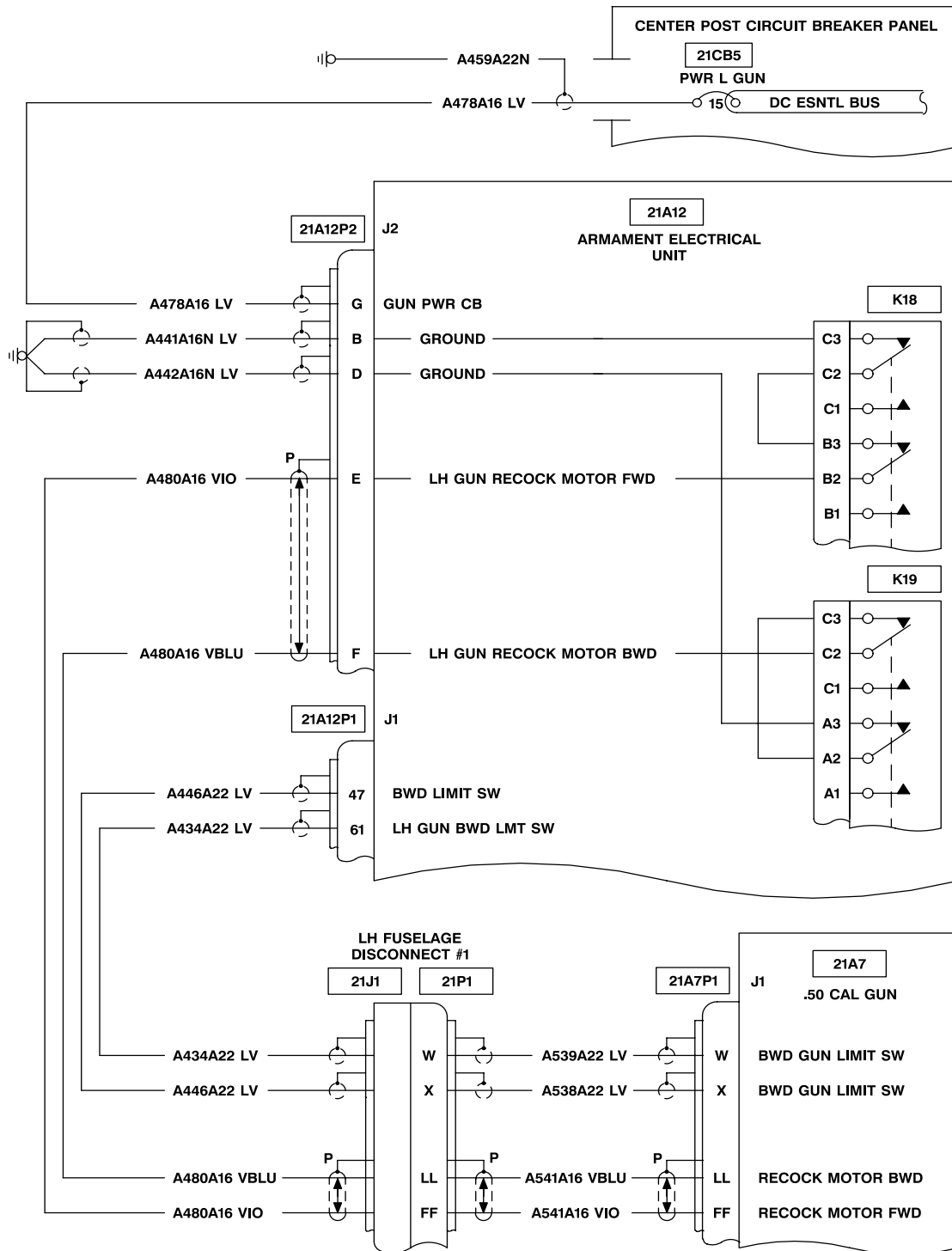
4-1-11. GUN DOES NOT RECOCK WHEN GUN SWITCH TOGGLED TO RECOCK (TASK 2-5-5/2-5-6) (CONT)

406475-542-28
J1493

4-1-11. GUN DOES NOT RECOCK WHEN GUN SWITCH TOGGLED TO RECOCK (TASK 2-5-5/2-5-6)
(CONT)

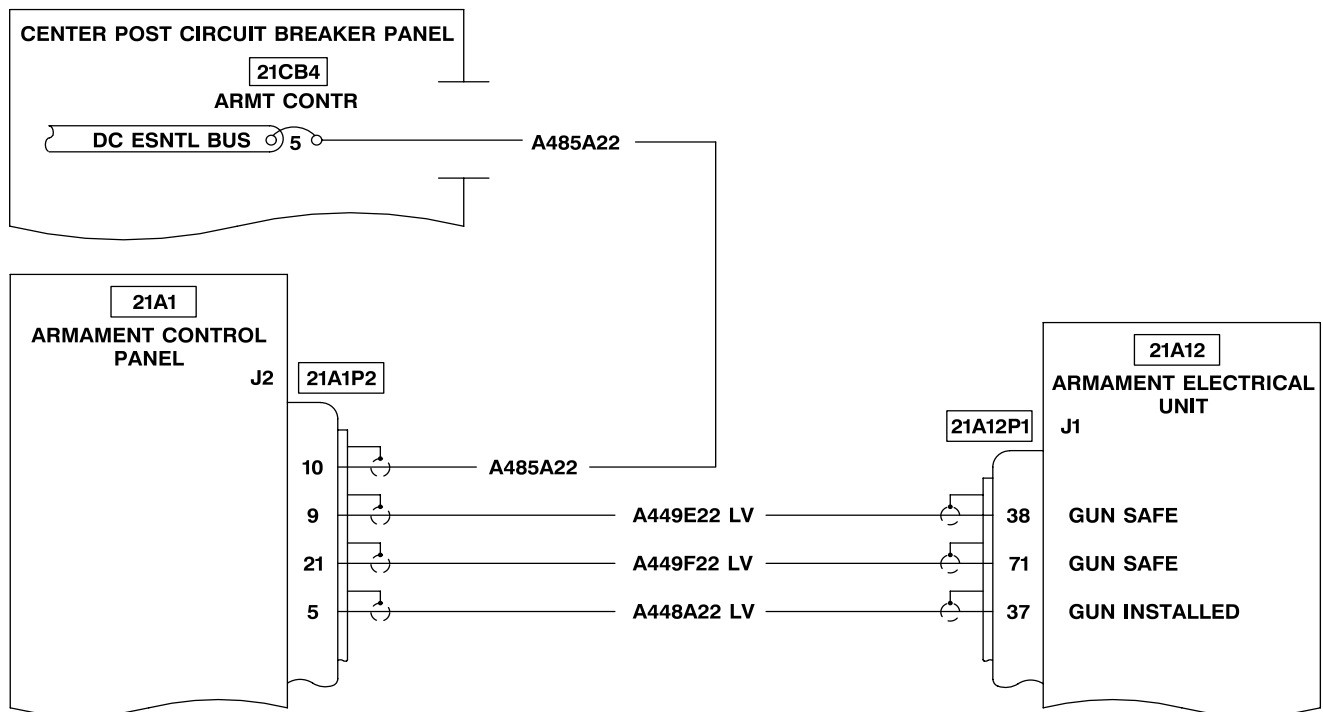
406475-542-29
J1493

4-1-11. GUN DOES NOT RECOCK WHEN GUN SWITCH TOGGLED TO RECOCK (TASK 2-5-5/2-5-6)
(CONT)



406475-542-30
J1493

4-1-11. GUN DOES NOT RECOCK WHEN GUN SWITCH TOGGLED TO RECOCK (TASK 2-5-5/2-5-6)
(CONT)

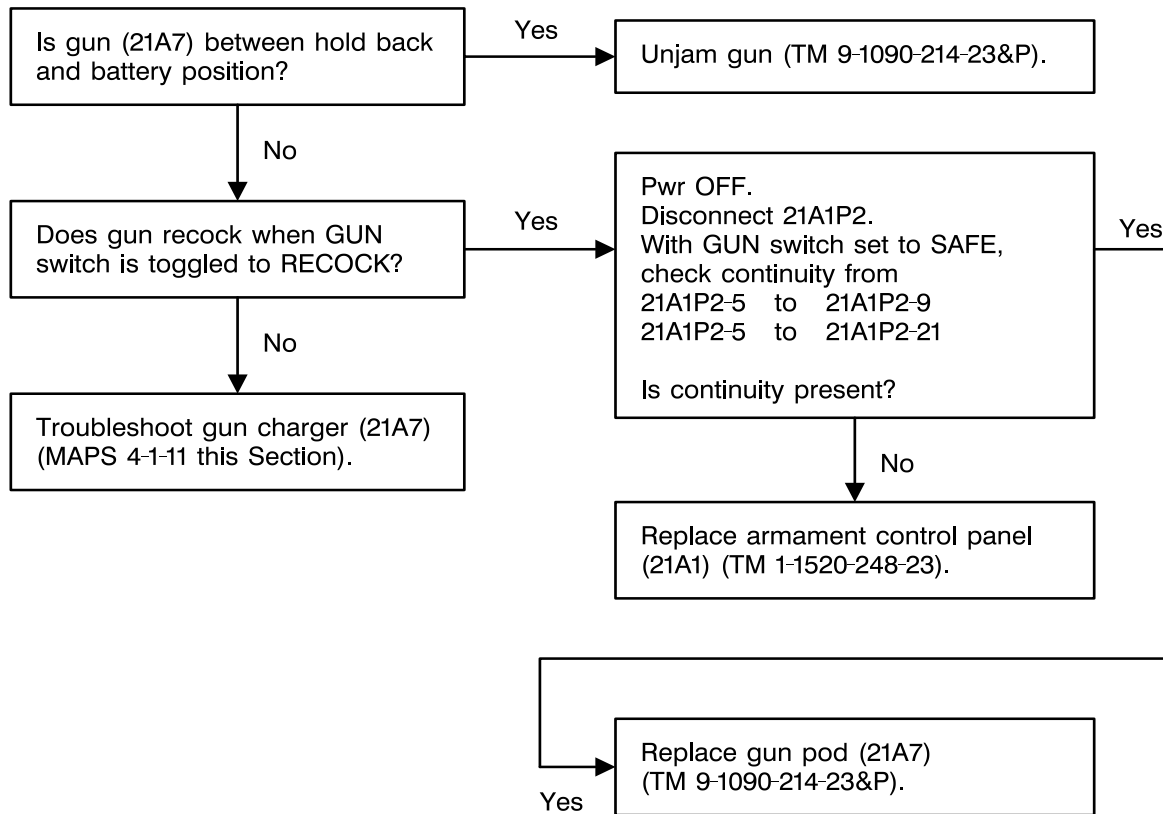


406475-542-31
J1493

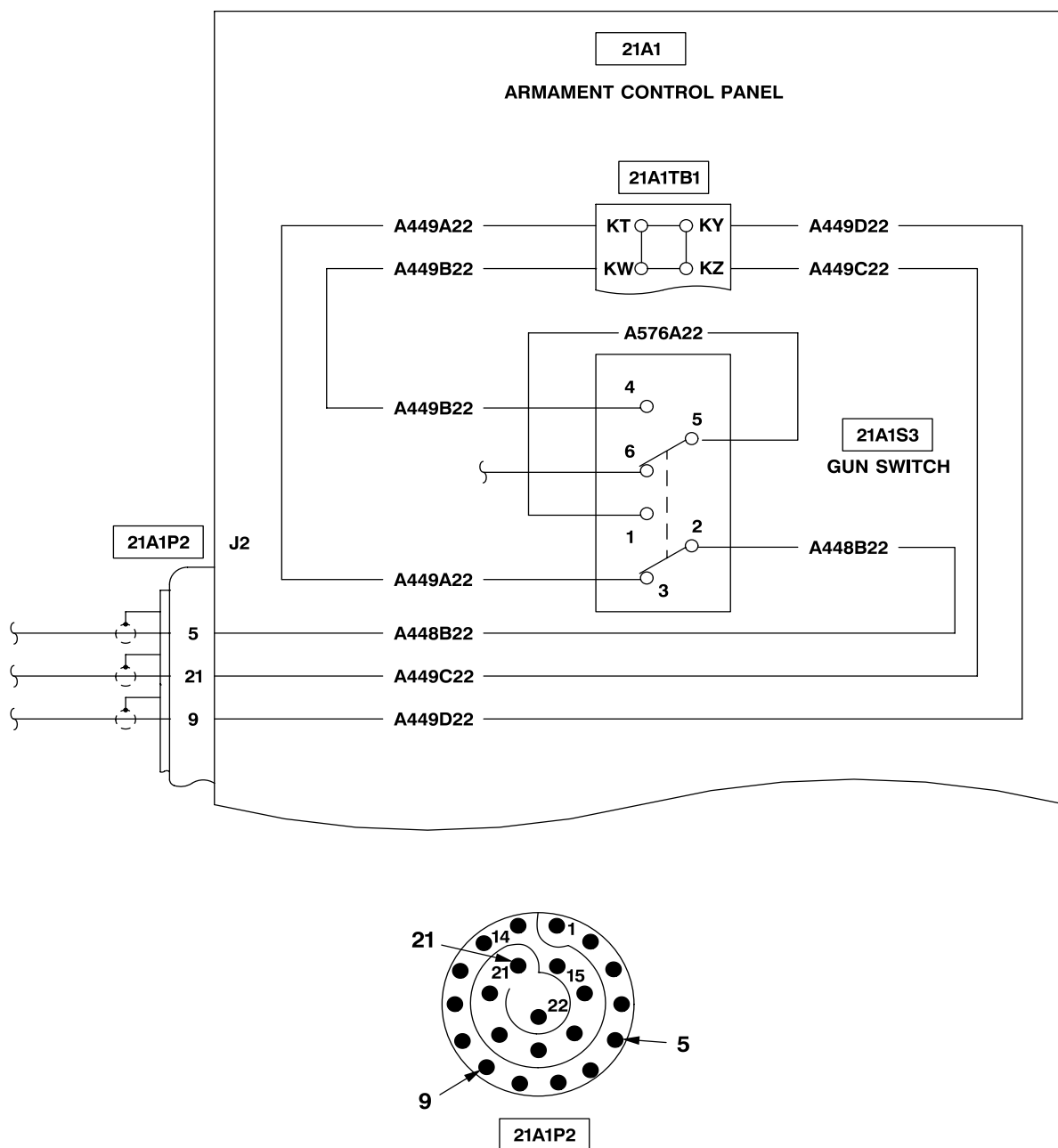


Change 1

4-1-12. GUN NOT IN HOLD BACK WITH GUN SWITCH IN SAFE POSITION (TASK 2-5-5/2-5-6)

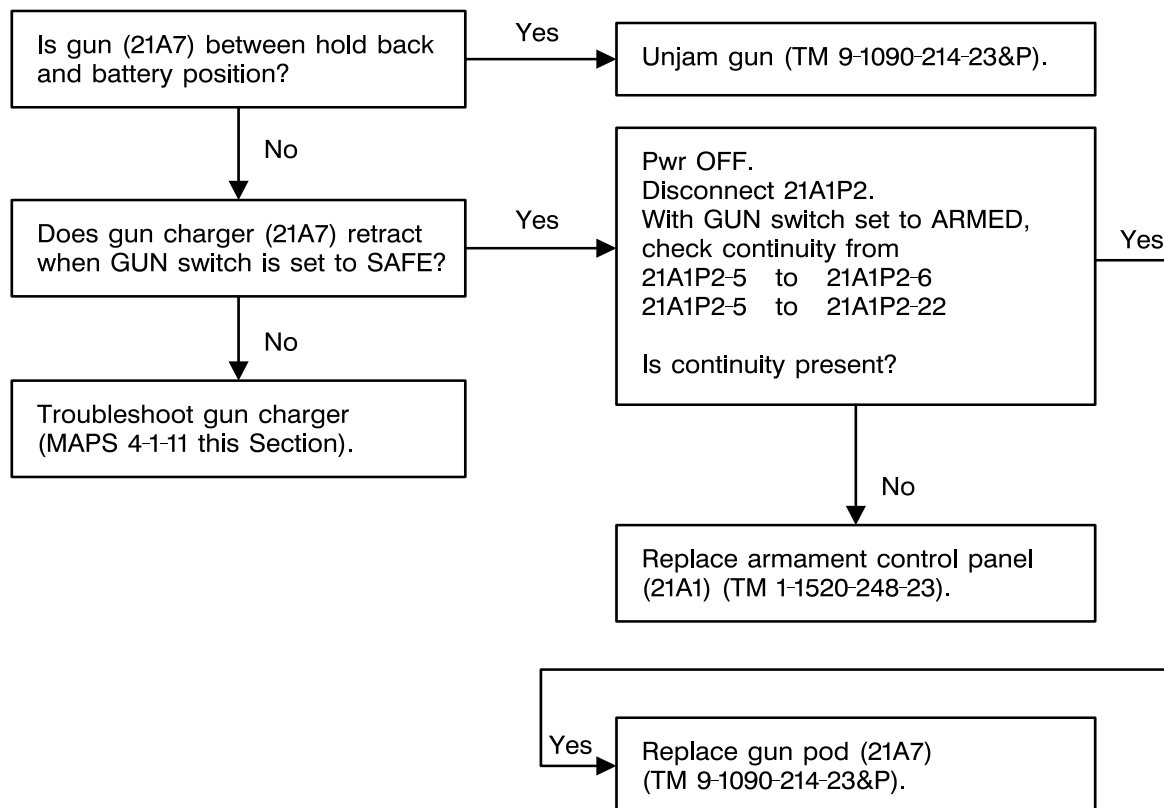
406475-542-33
J1493

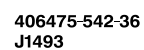
4-1-12. GUN NOT IN HOLD BACK WITH GUN SWITCH IN SAFE POSITION (TASK 2-5-5/2-5-6)
(CONT)



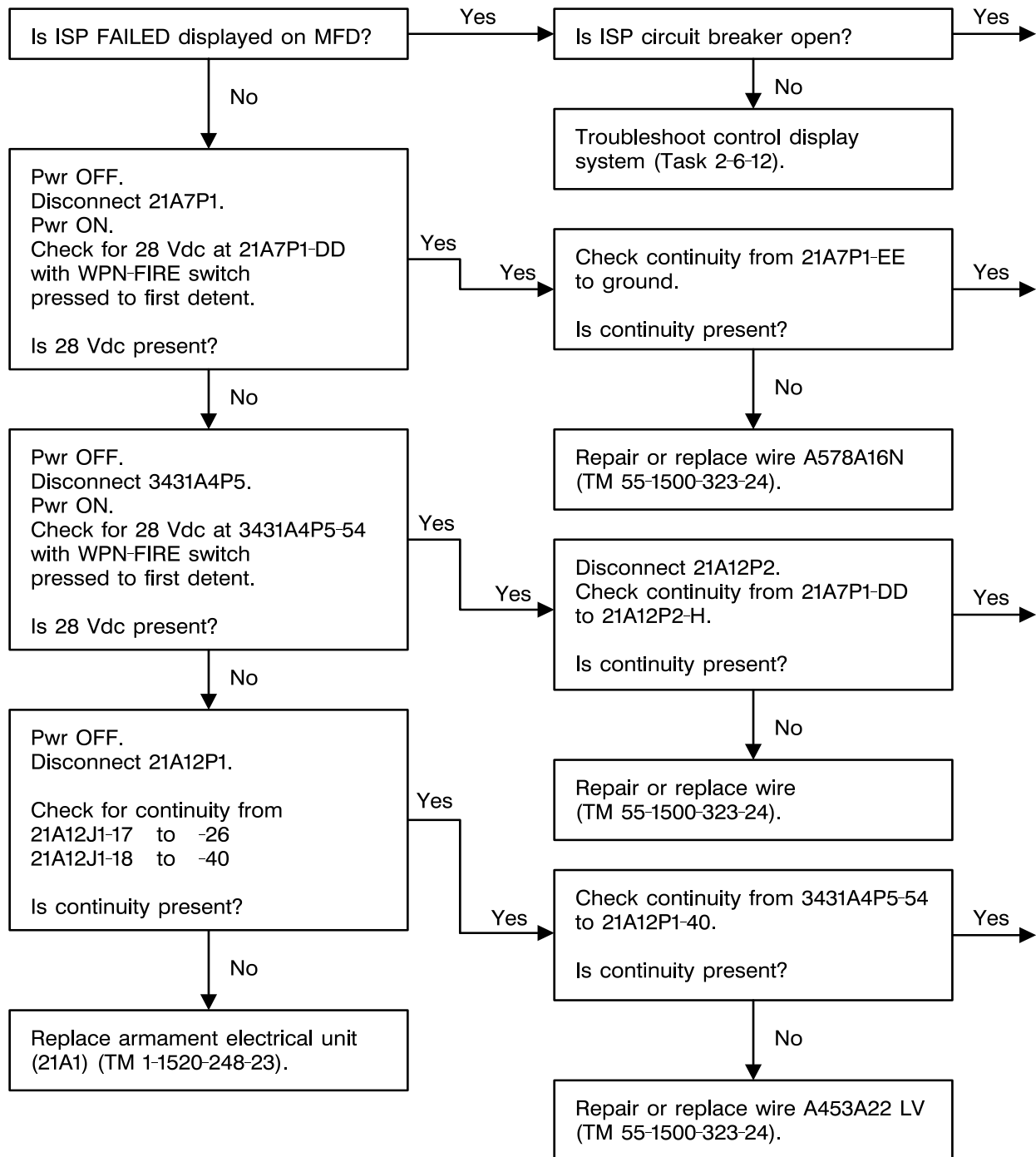
406475-542-34
J1493

4-1-13. GUN NOT IN BATTERY WITH GUN SWITCH IN ARMED POSITION (TASK 2-5-5/2-5-6)

406475-542-35
J1493

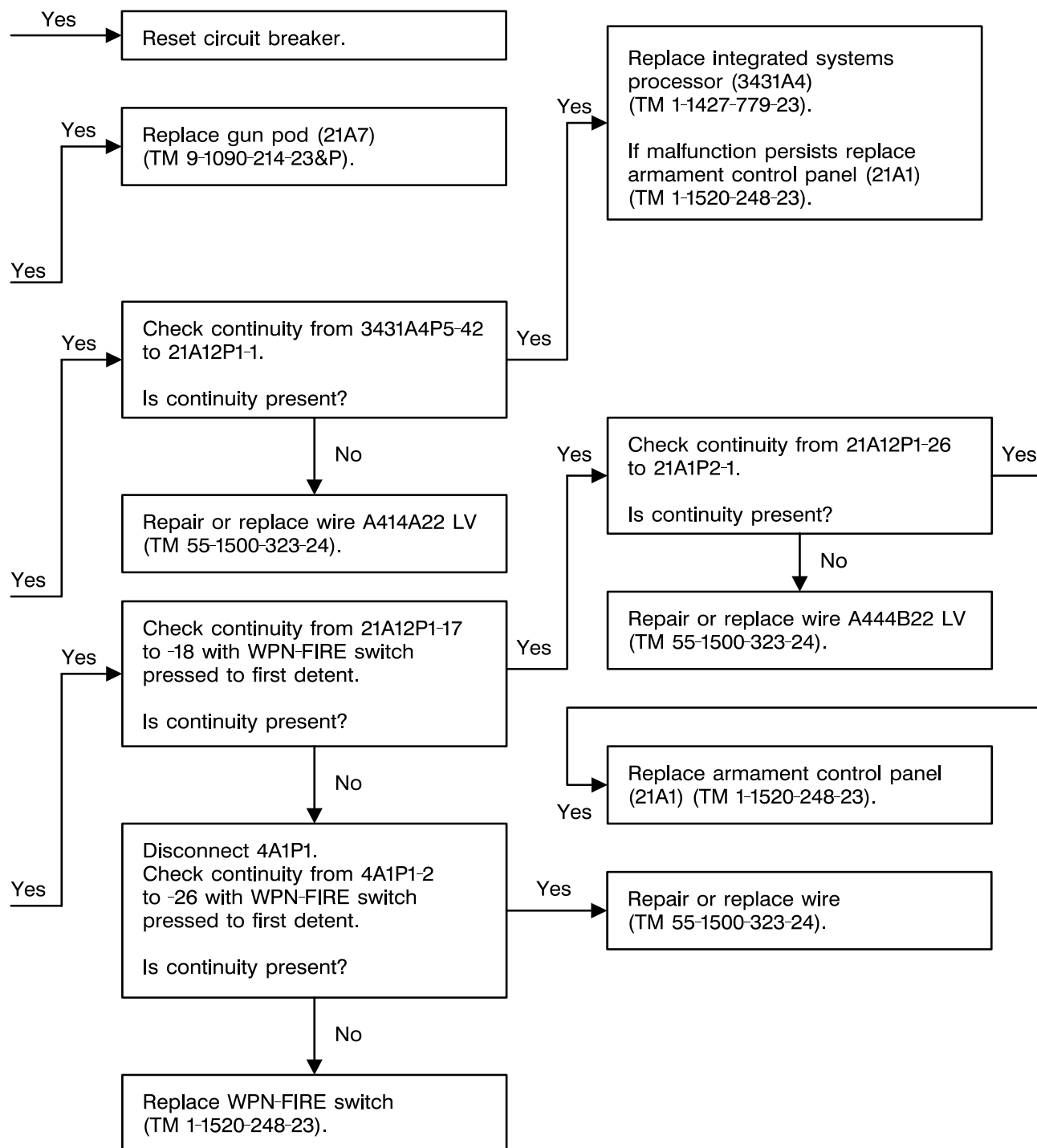


4-1-14. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-5) - OH-58D



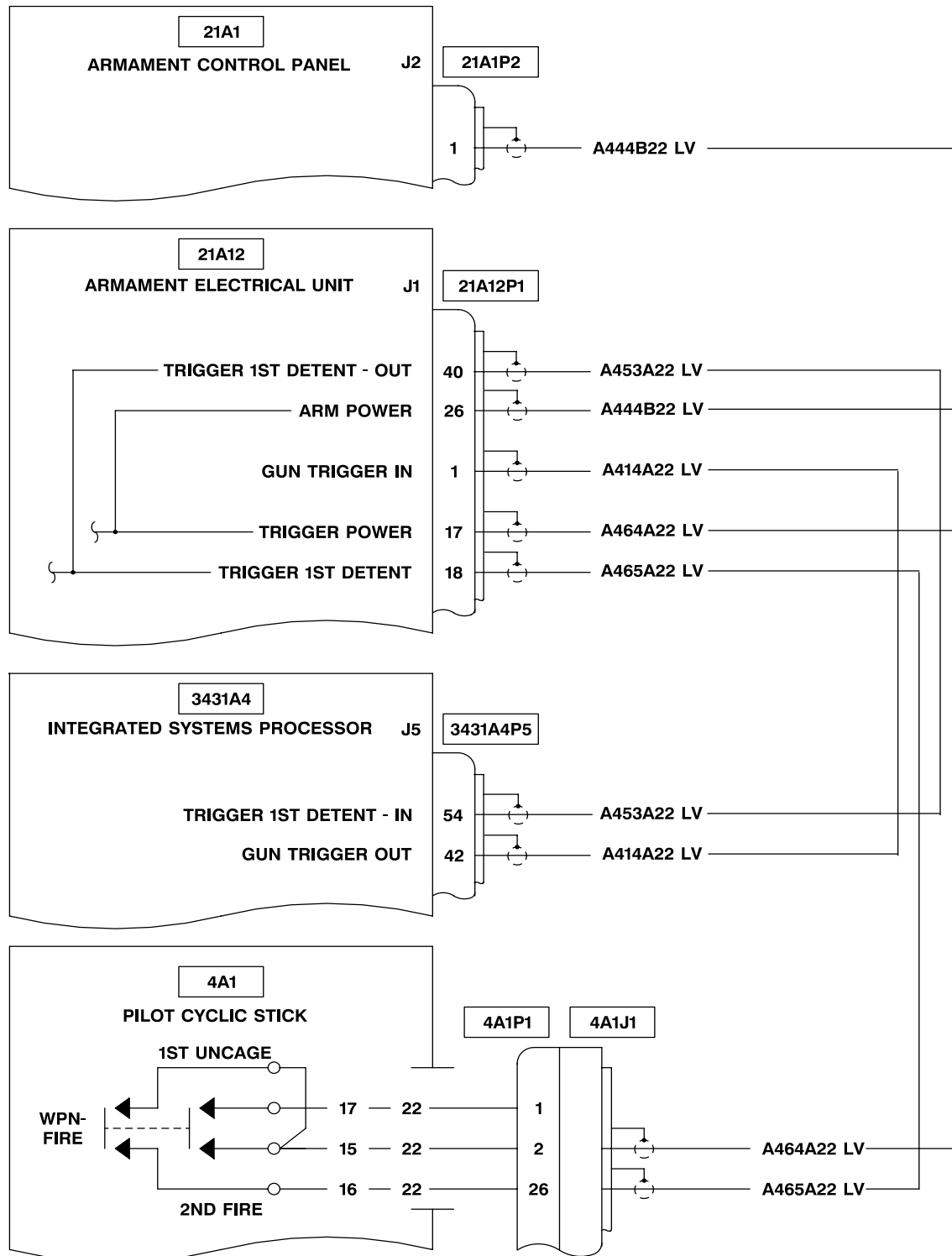
406475-542-37
J1493

4-1-14. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-5) - OH-58D (CONT)



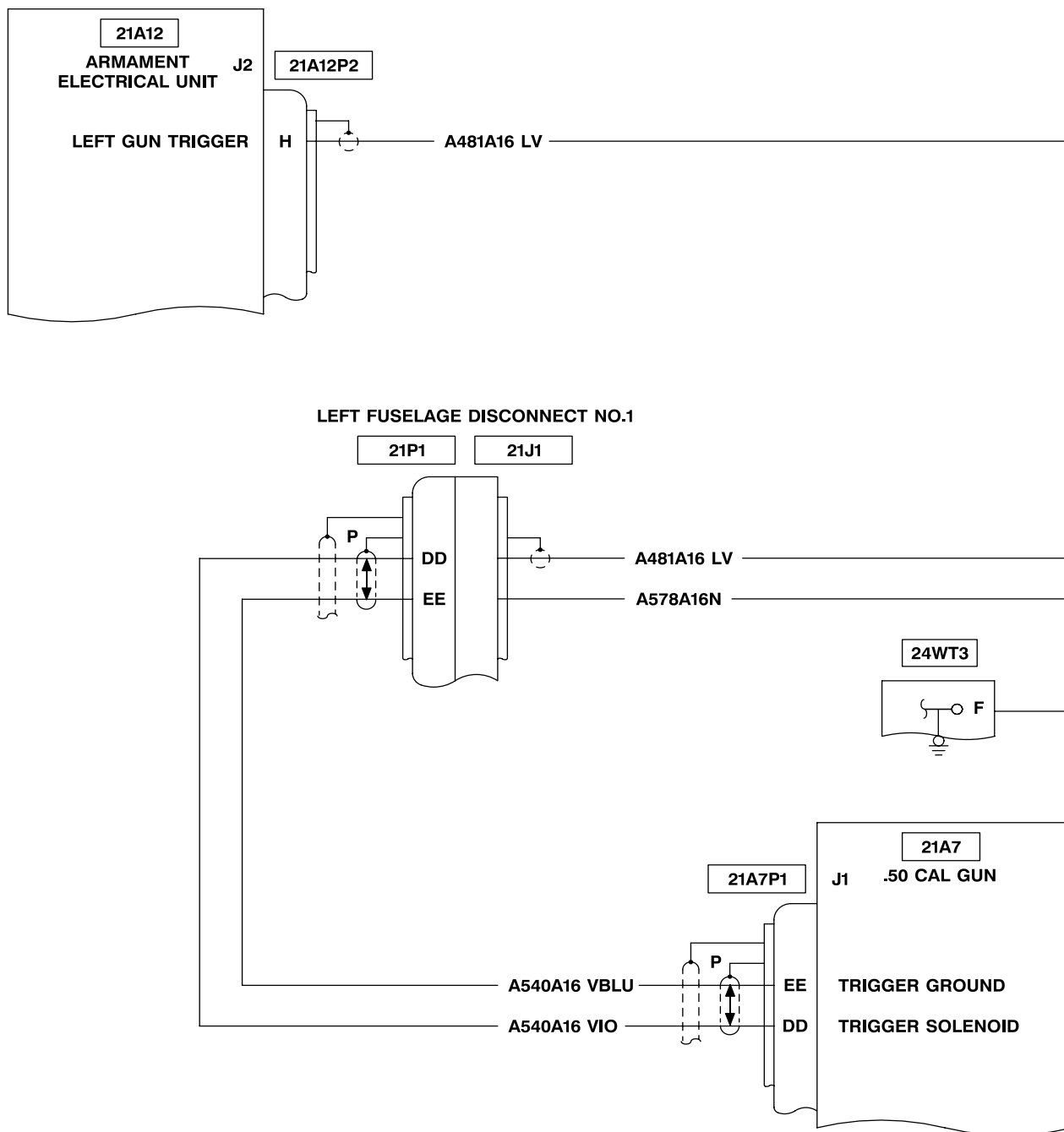
406475-542-38
J1493

4-1-14. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-5) - OH-58D (CONT)



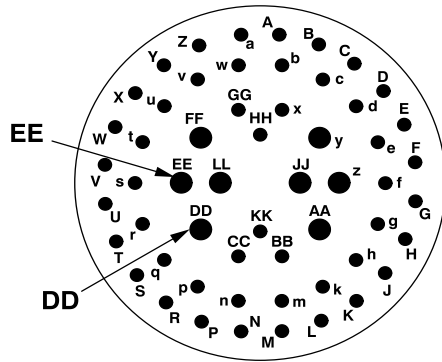
406475-542-39
J1493

4-1-14. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-5) - OH-58D (CONT)

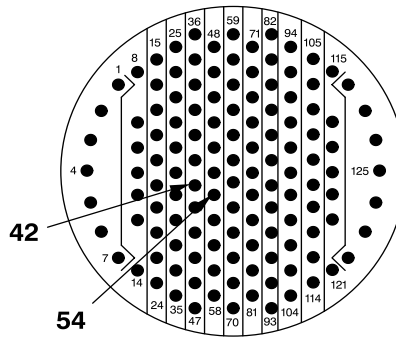


406475-542-40
J1493

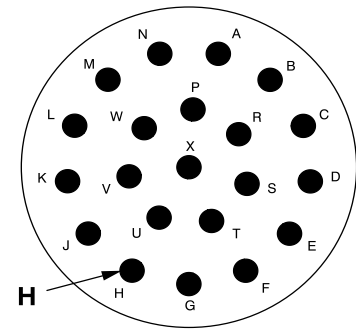
4-1-14. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-5) - OH-58D (CONT)



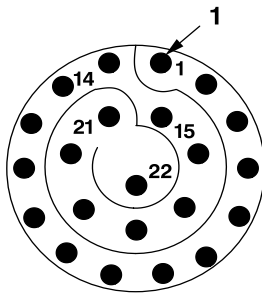
21A7P1



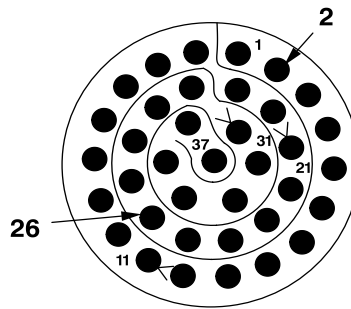
3431A4P5



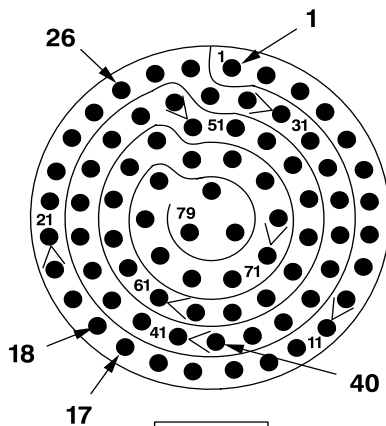
21A12P2



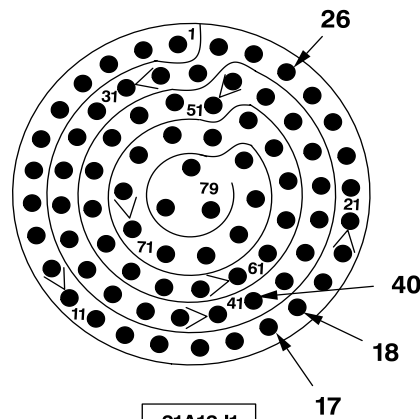
21A1P2



4A1P1



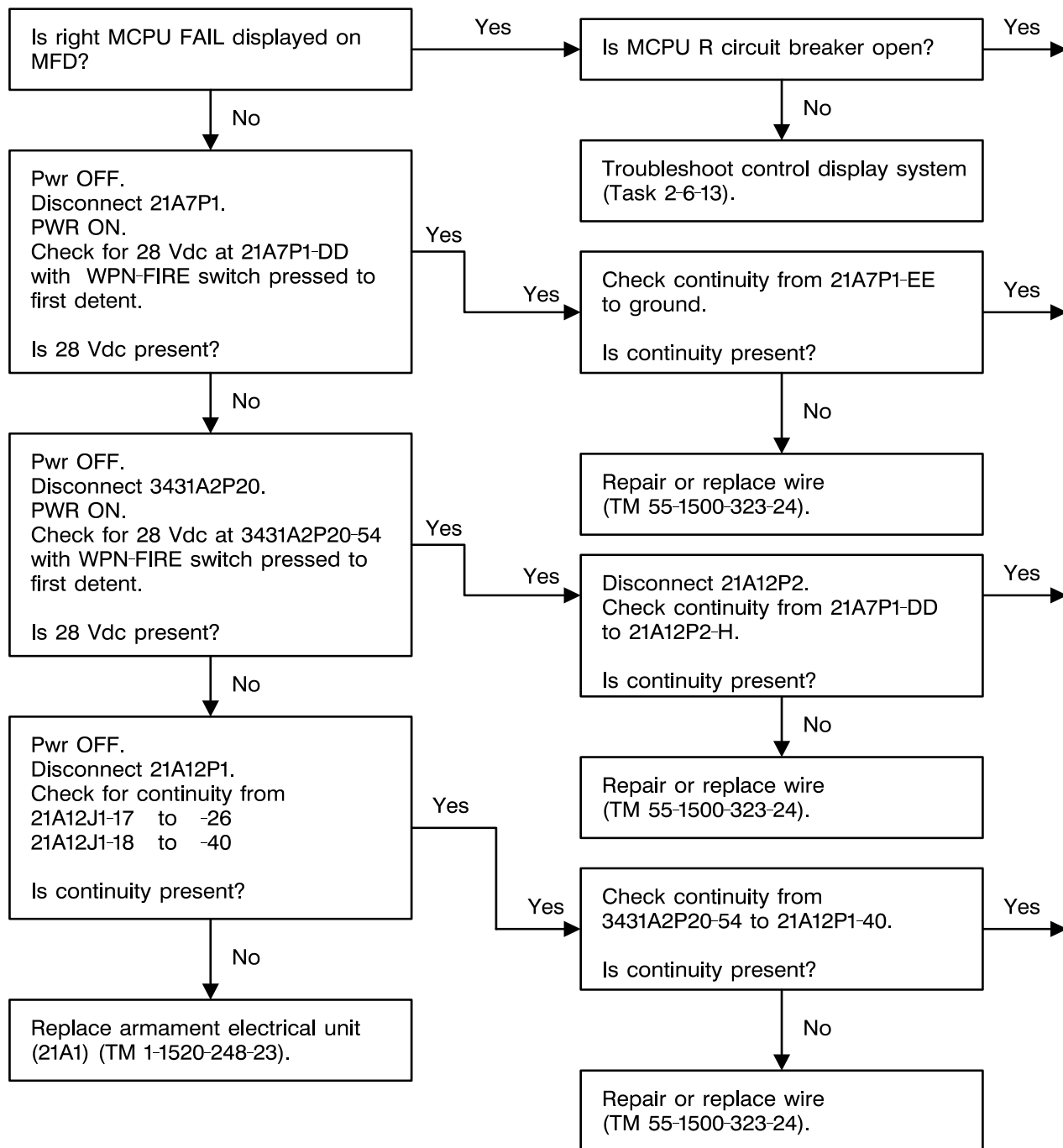
21A12P1



21A12J1

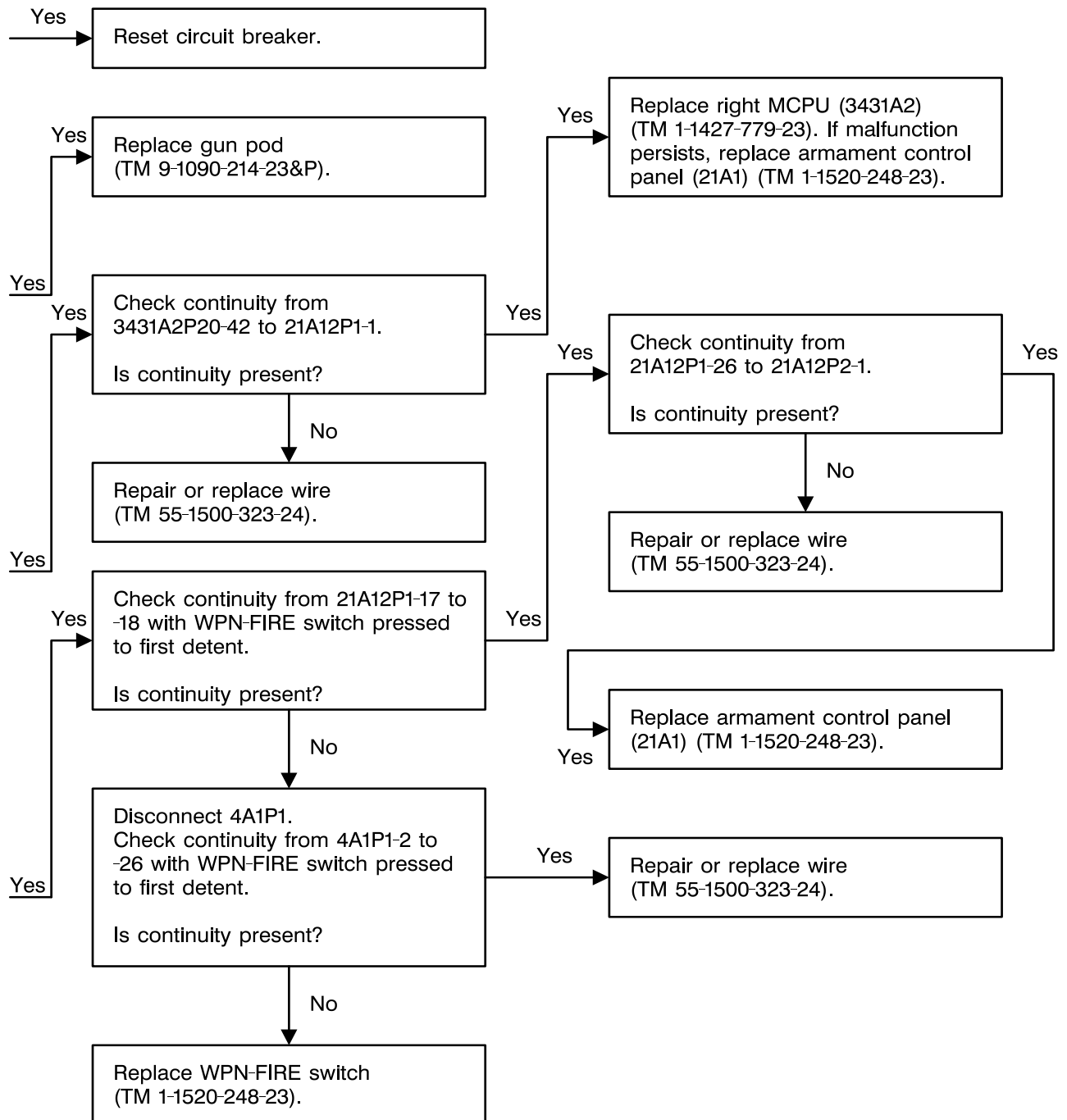
406475-542-41
J1493

4-1-15. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-6) - OH-58D(R)



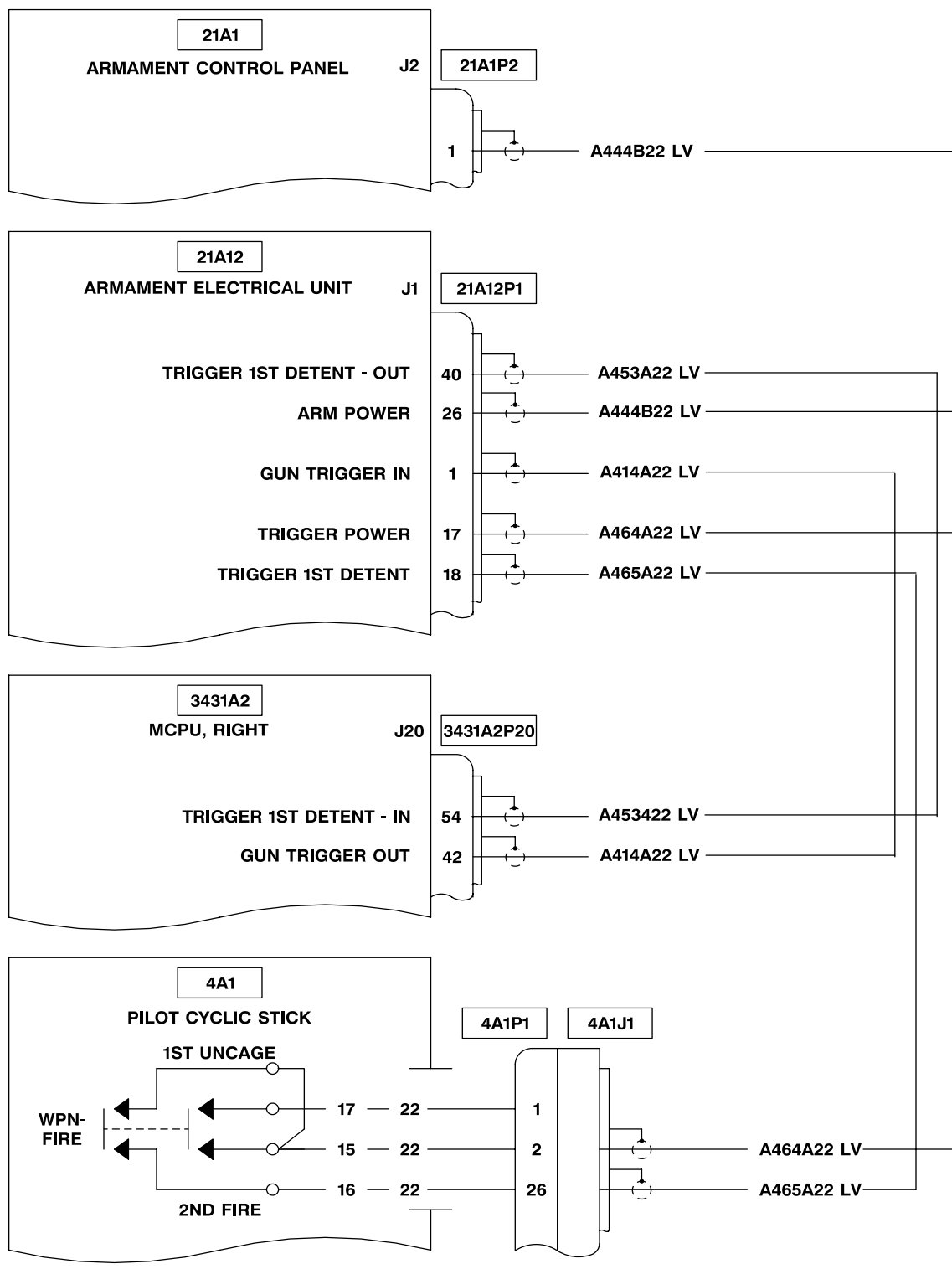
406475-542-42
J1493

4-1-15. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-6) - OH-58D(R) (CONT)



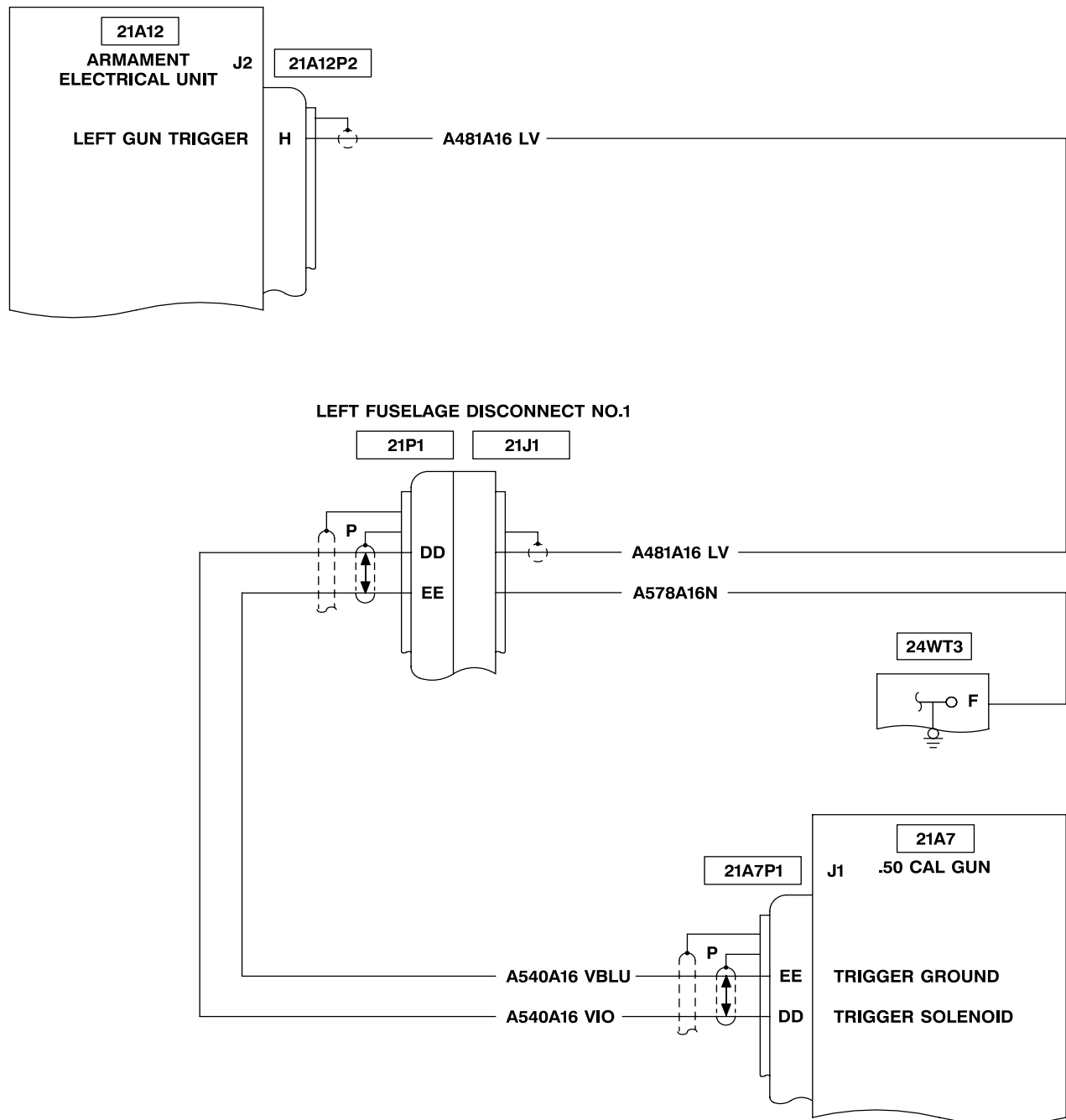
406475-542-43
J1493

4-1-15. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-6) - OH-58D(R) (CONT)



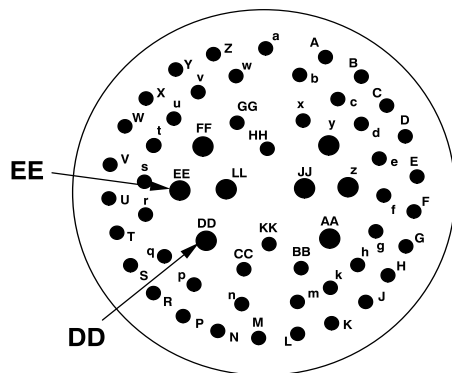
406475-542-44
J1493

4-1-15. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-6) - OH-58D(R) (CONT)

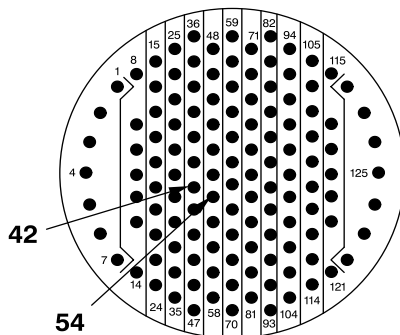


406475-542-45
J1493

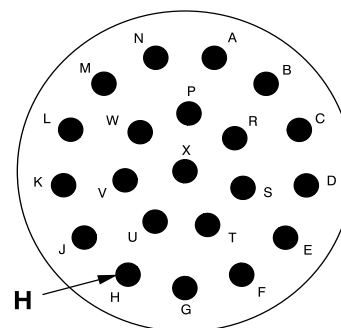
4-1-15. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-6) - OH-58D(R) (CONT)



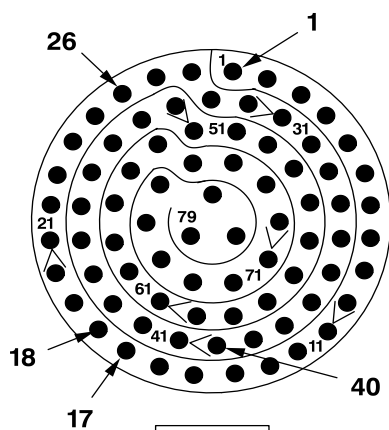
21A7P1



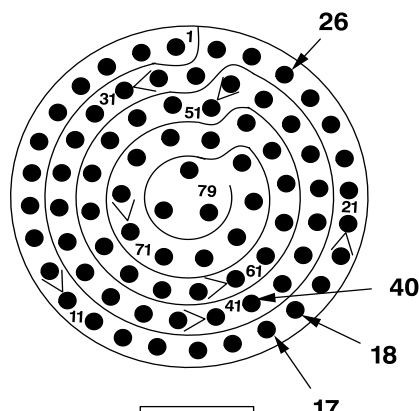
3431A2P20



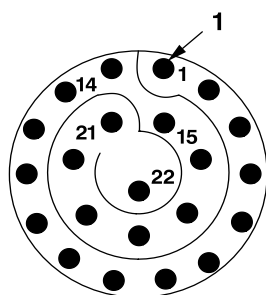
21A12P2



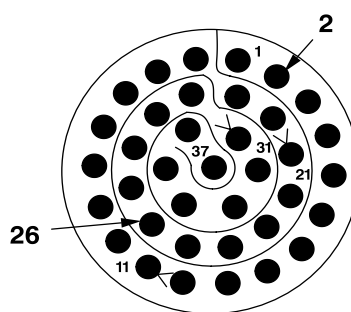
21A12P1



21A12J1



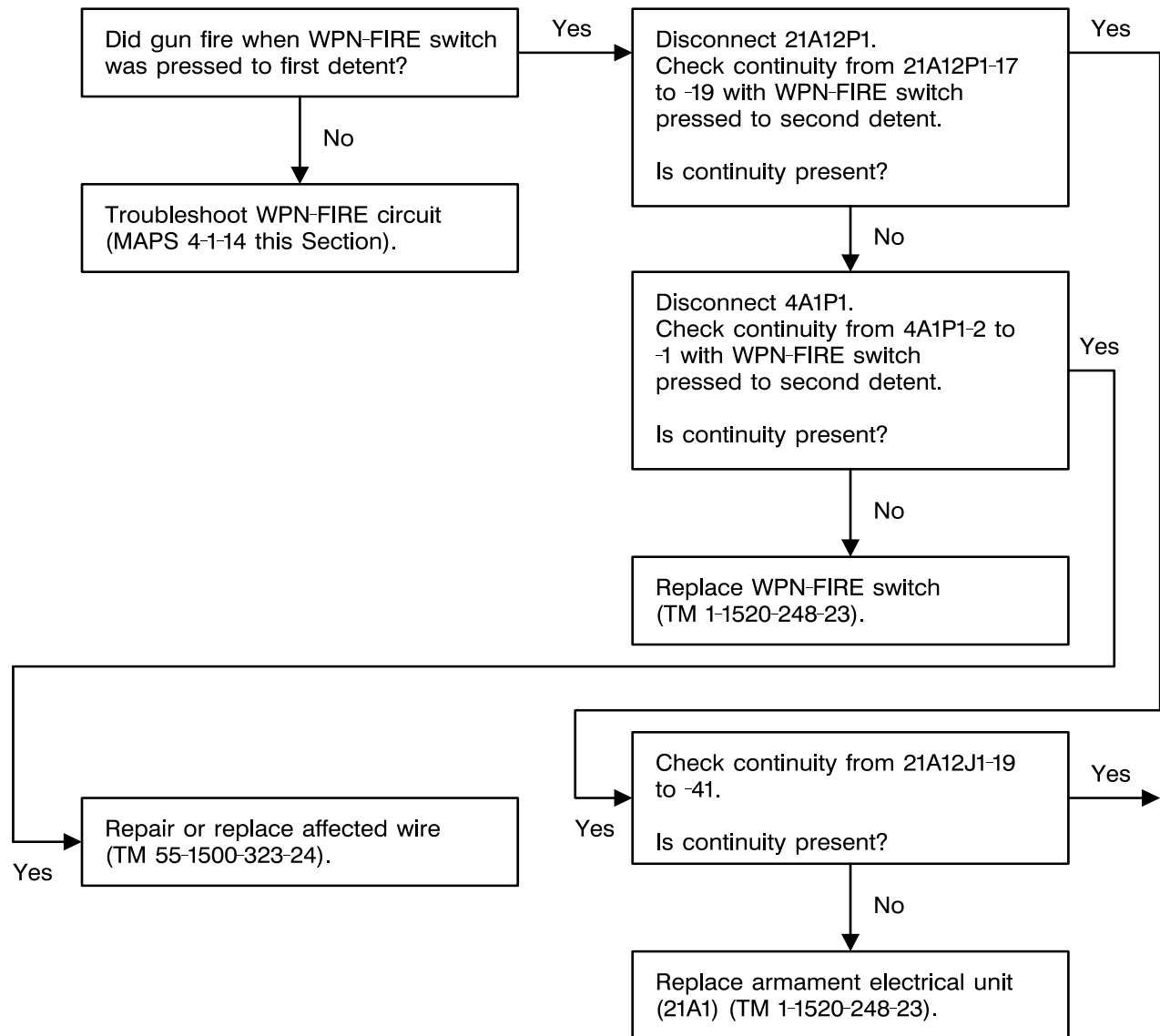
21A1P2



4A1P1

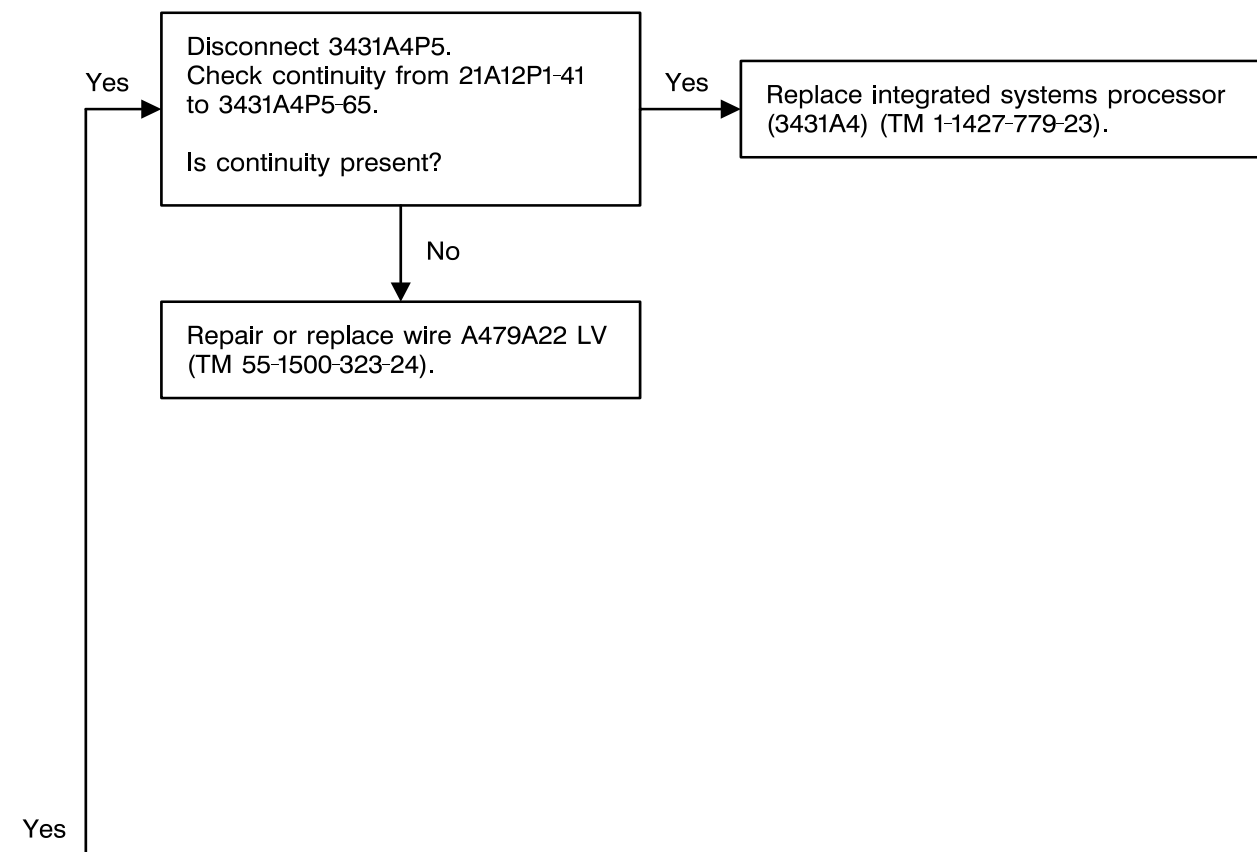
406475-542-46
J1493

4-1-16. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-5) - OH-58D



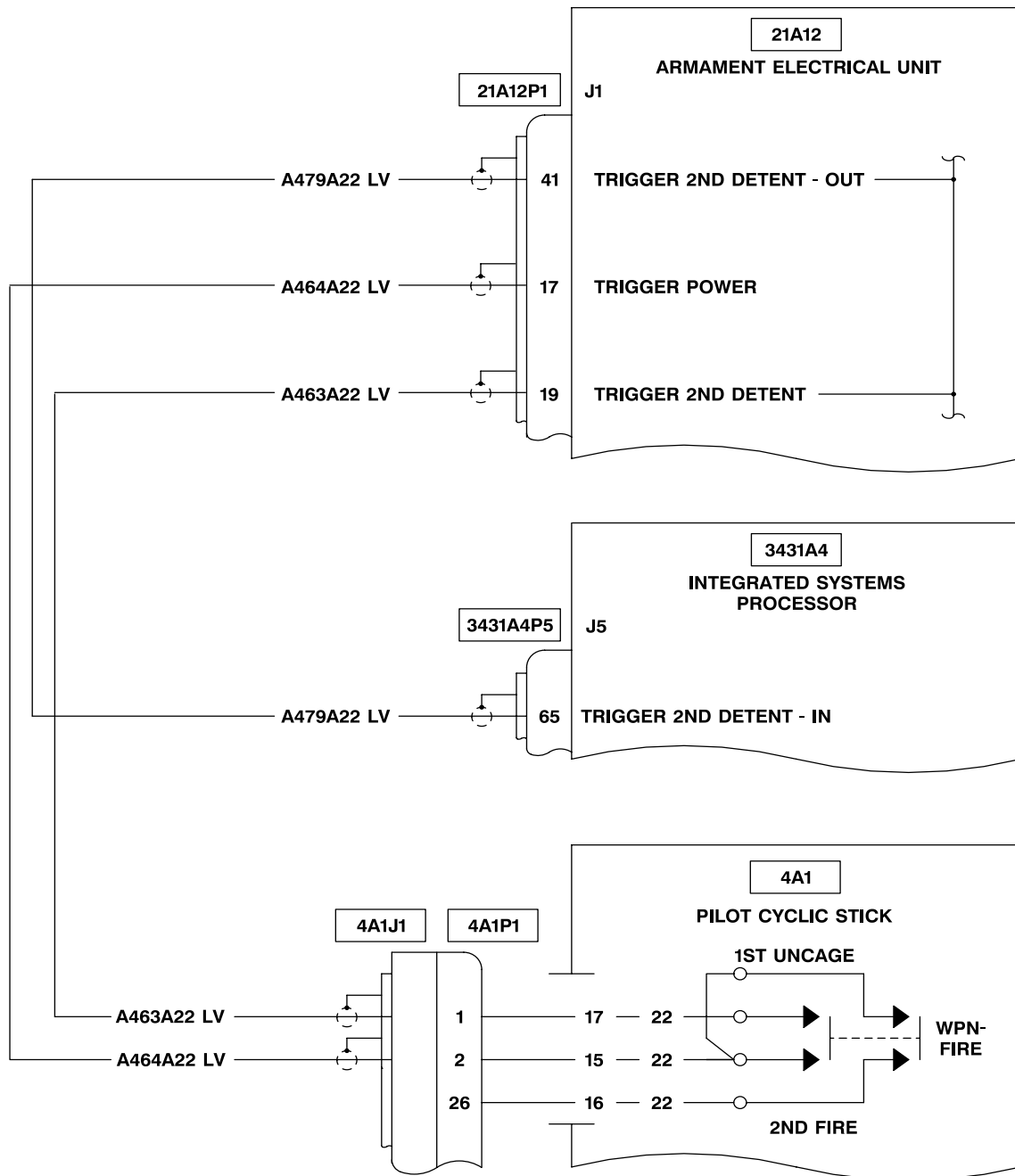
406475-542-47
J1493

4-1-16. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-5) - OH-58D (CONT)



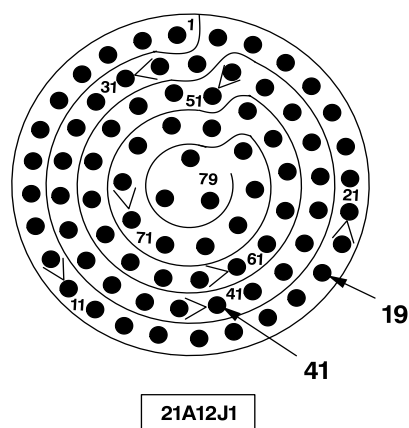
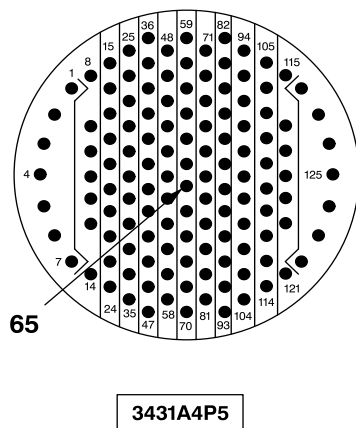
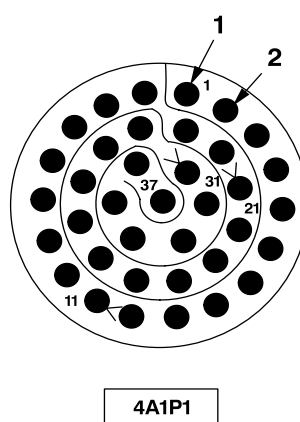
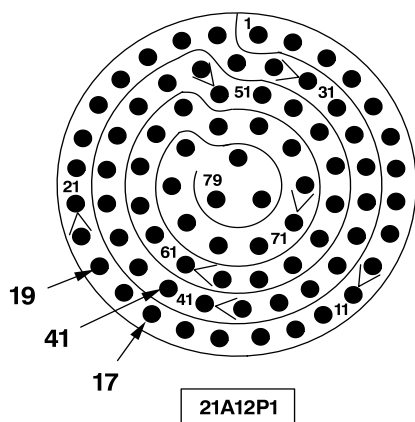
406475-542-48
J1493

4-1-16. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-5) - OH-58D (CONT)



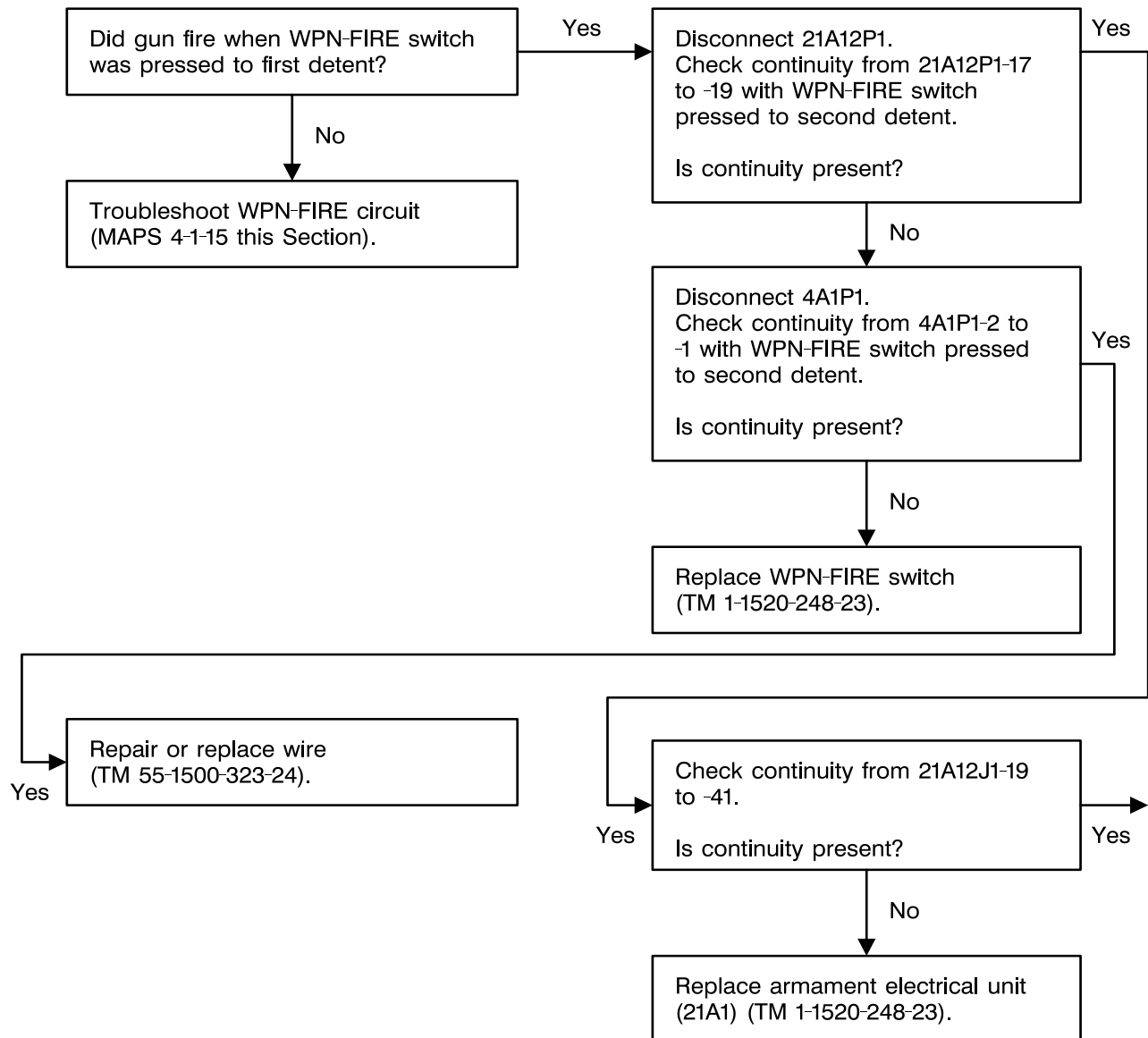
406475-542-49
J1493

4-1-16. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-5) - OH-58D (CONT)



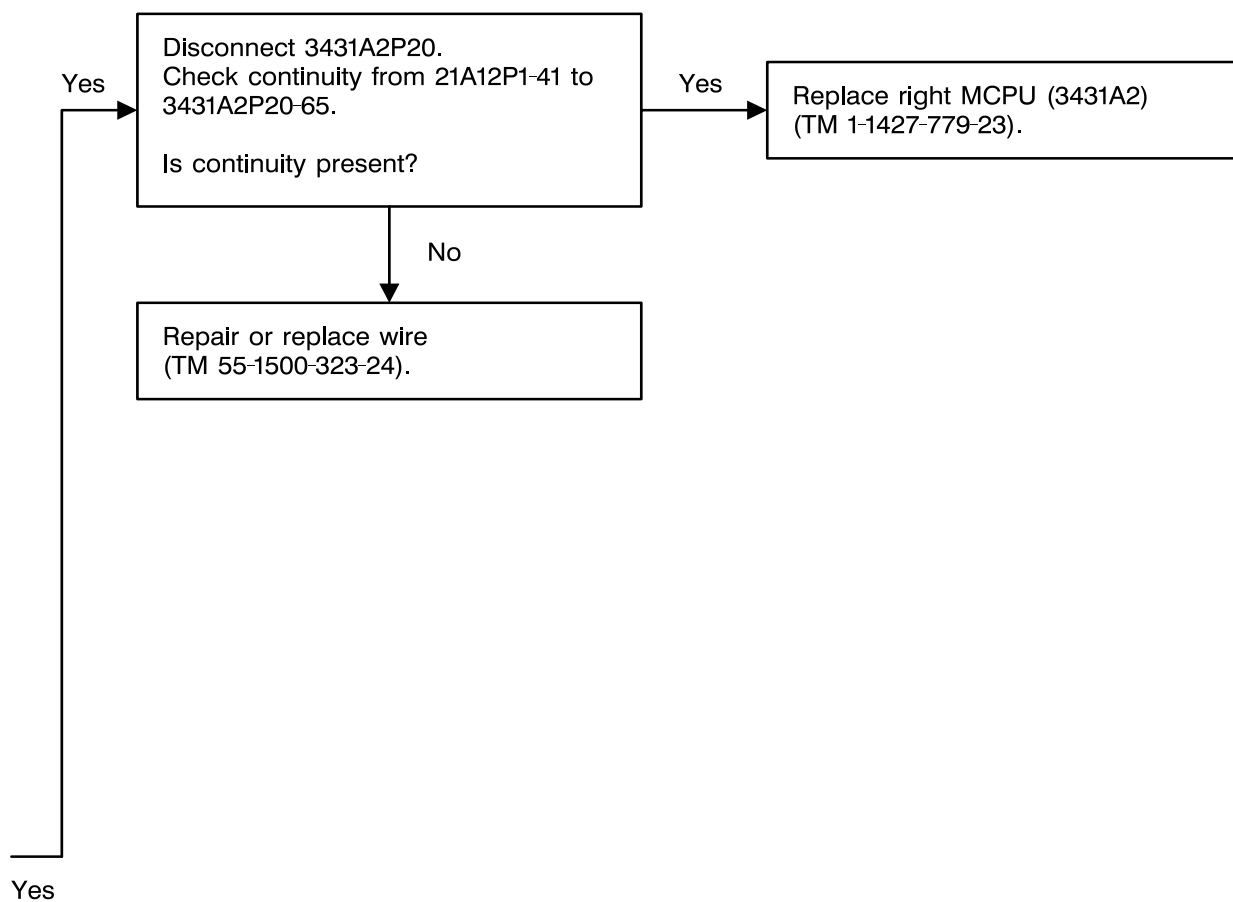
406475-542-50
J1493

4-1-17. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-6) - OH-58D(R)



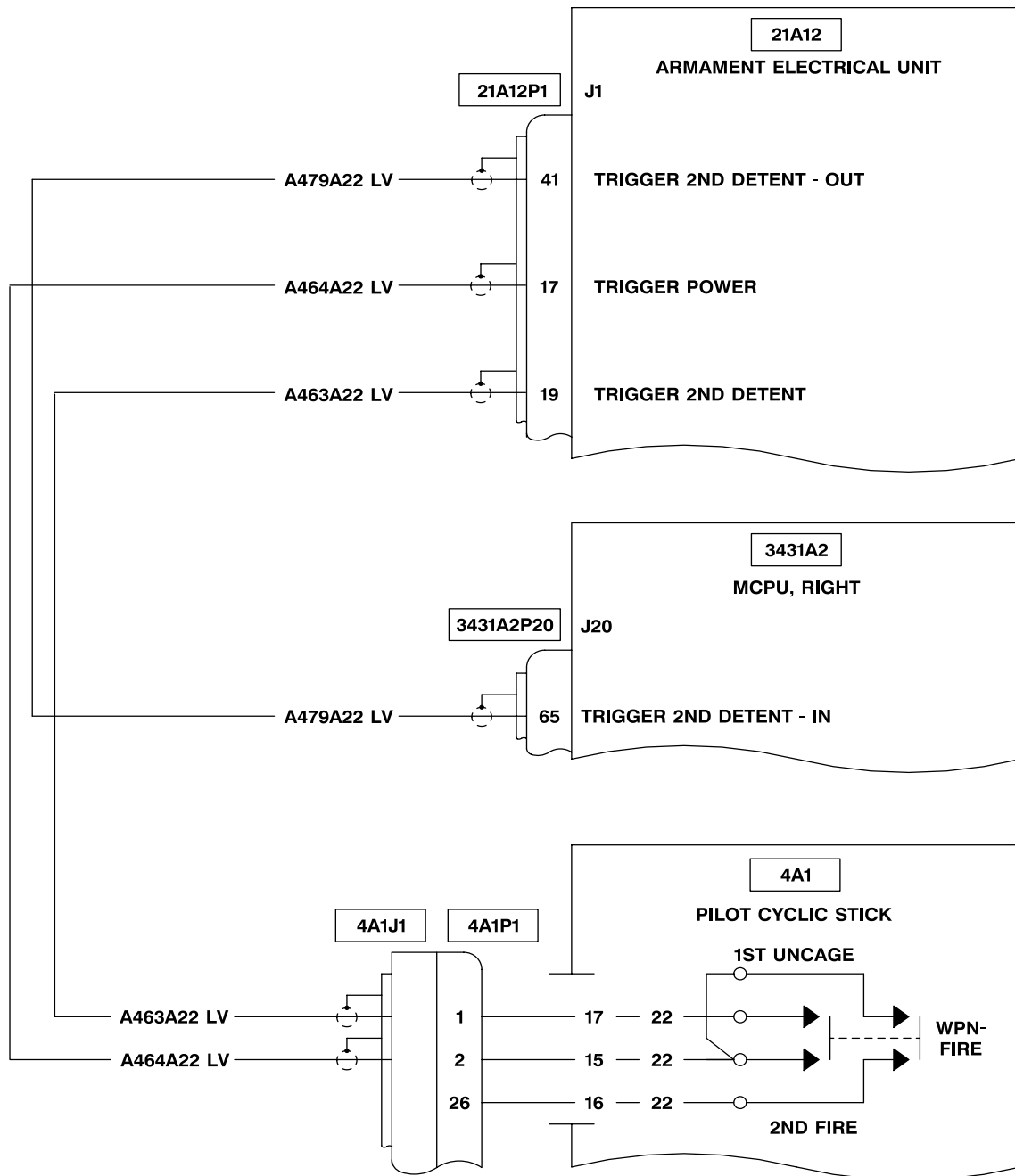
406475-542-51
J1493

4-1-17. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-6) - OH-58D(R) (CONT)



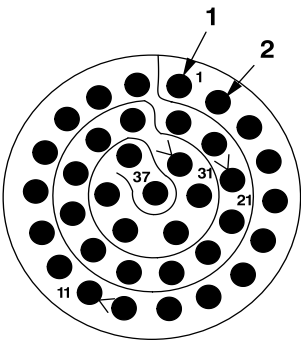
406475-542-52
J1493

4-1-17. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-6) - OH-58D(R) (CONT)

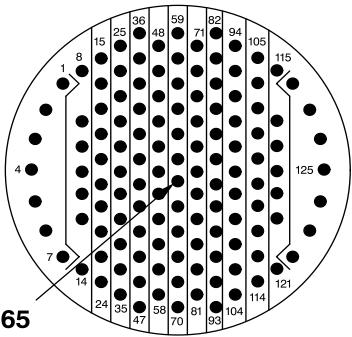


406475-542-53
J1493

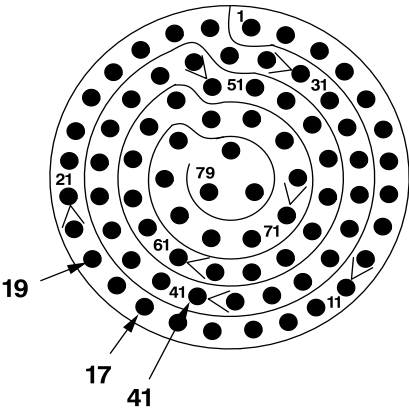
4-1-17. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-6) - OH-58D(R) (CONT)



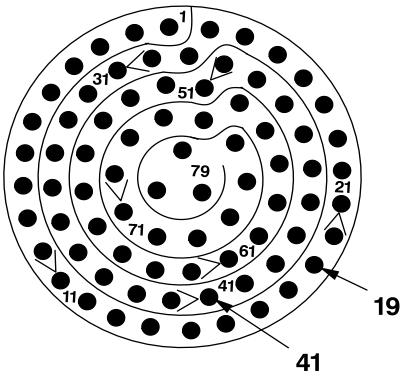
4A1P1



3431A2P20

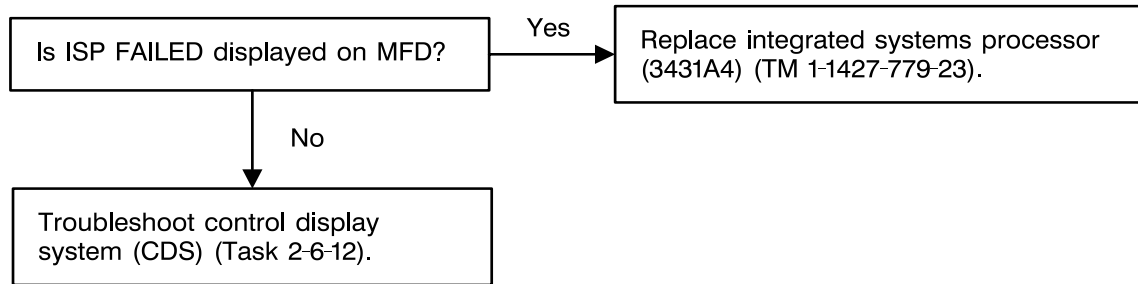


21A12P1



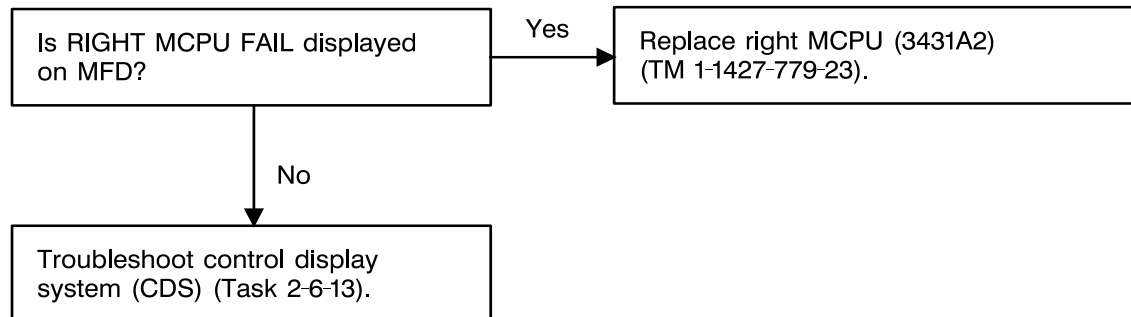
21A12J1

4-1-18. GUN DOES NOT FIRE WITH **ISP FAIL** CAUTION MESSAGE DISPLAYED ON MFD AND WPN-FIRE SWITCH PRESSED TO SECOND DETENT (TASK 2-5-5) - OH-58D



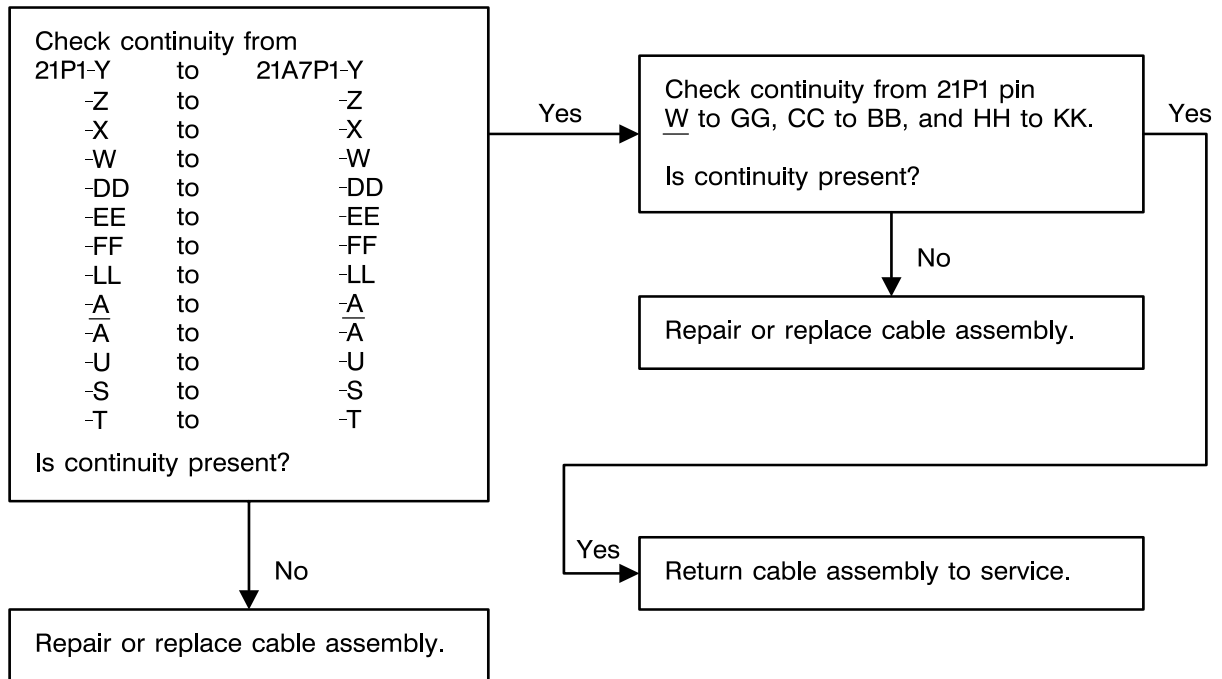
406475-542-55
J1493

4-1-19. GUN DOES NOT FIRE WITH **RIGHT MCPU FAIL** CAUTION MESSAGE DISPLAYED ON MFD AND WPN-FIRE SWITCH PRESSED TO SECOND DETENT (TASK 2-5-6) - OH-58D(R)



406475-542-56
J1493

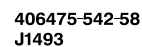
4-1-20. FAULTY ARMAMENT CABLE ASSEMBLY - GUN (TASK 2-5-5/2-5-6)



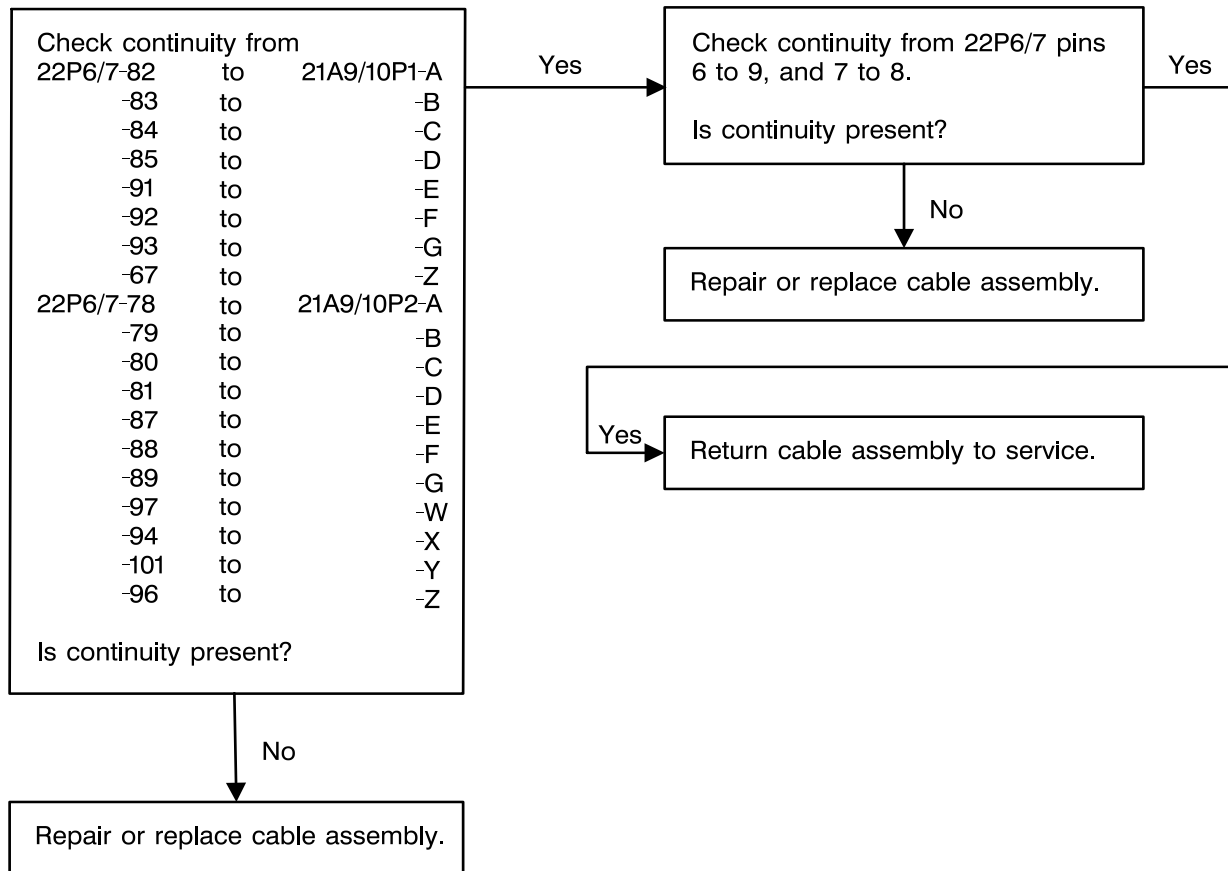
NOTE

Underlined connector contact letters
denote lowercase.

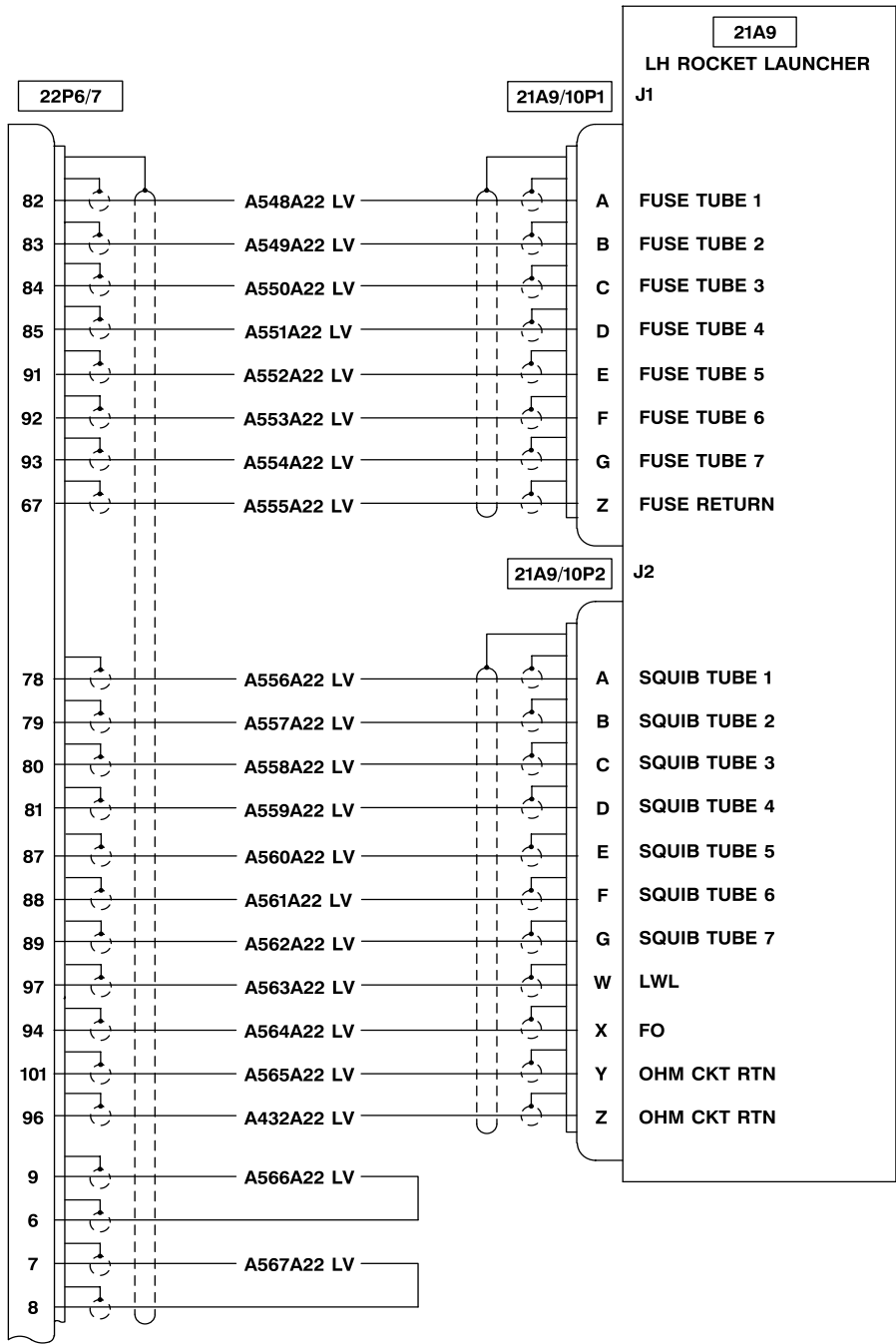
406475-542-57
J1493



4-1-21. FAULTY ARMAMENT CABLE ASSEMBLY - RCKT (TASK 2-5-9/2-5-10)

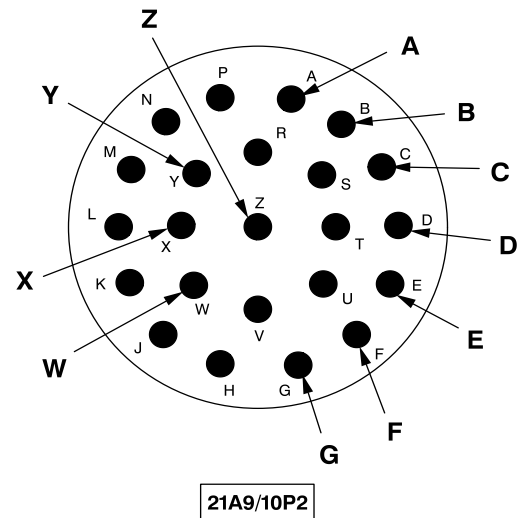
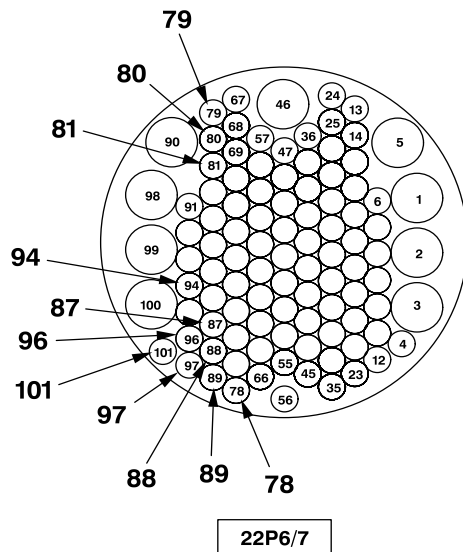
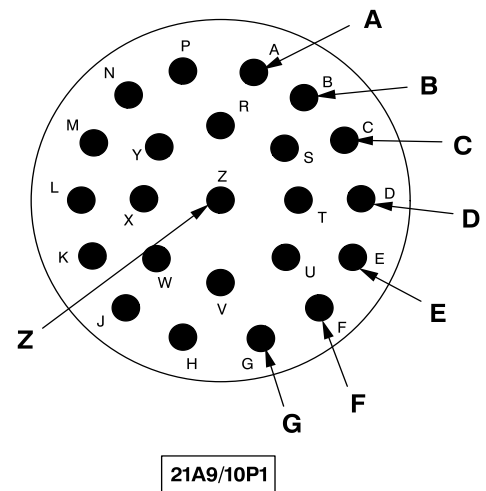
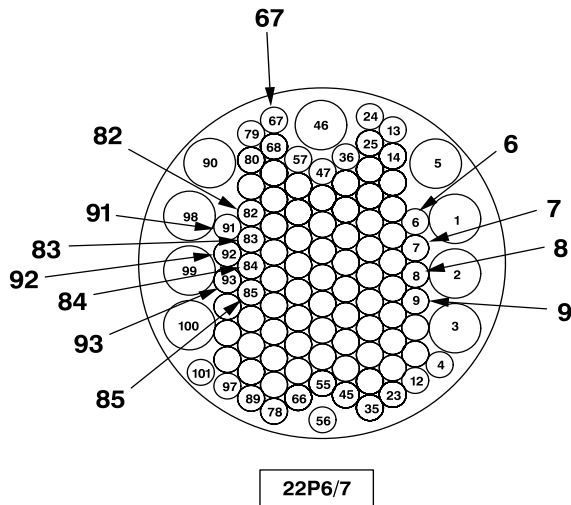
406475-542-59
J1493

4-1-21. FAULTY ARMAMENT CABLE ASSEMBLY - RCKT (TASK 2-5-9/2-5-10) (CONT)



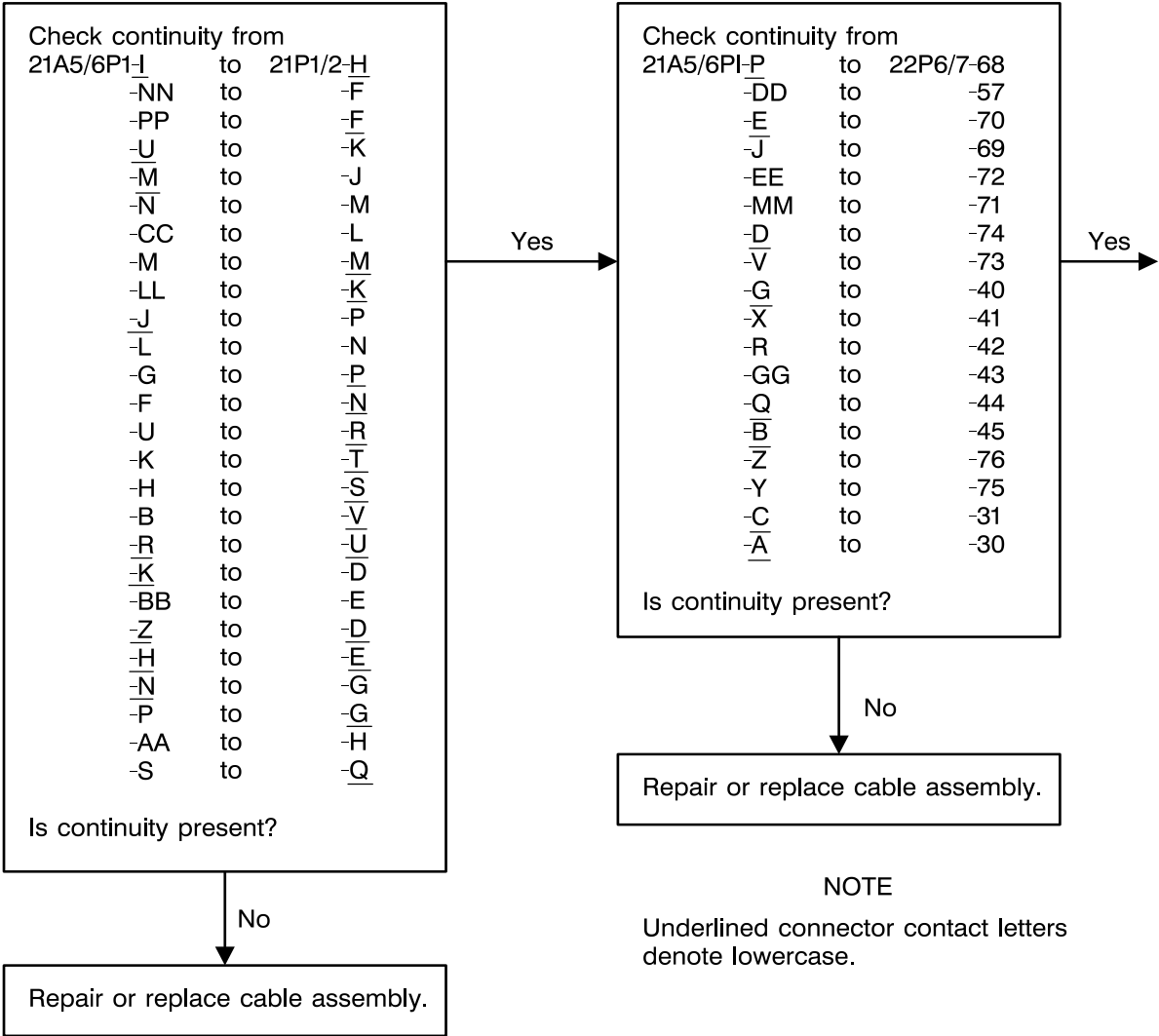
406475-542-60
J1493

4-1-21. FAULTY ARMAMENT CABLE ASSEMBLY - RCKT (TASK 2-5-9/2-5-10) (CONT)

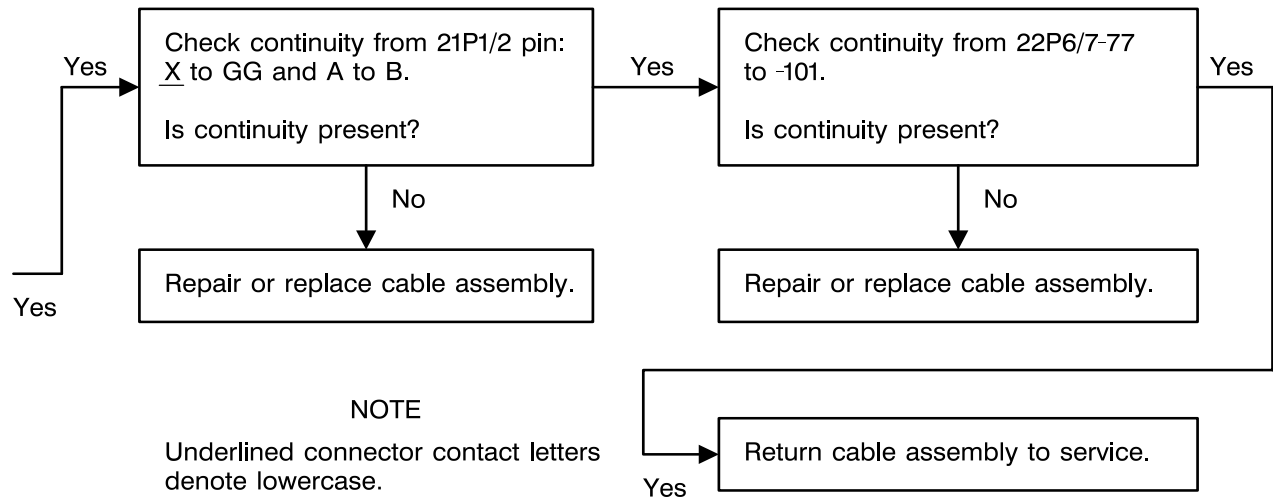


406475-542-61
J1493

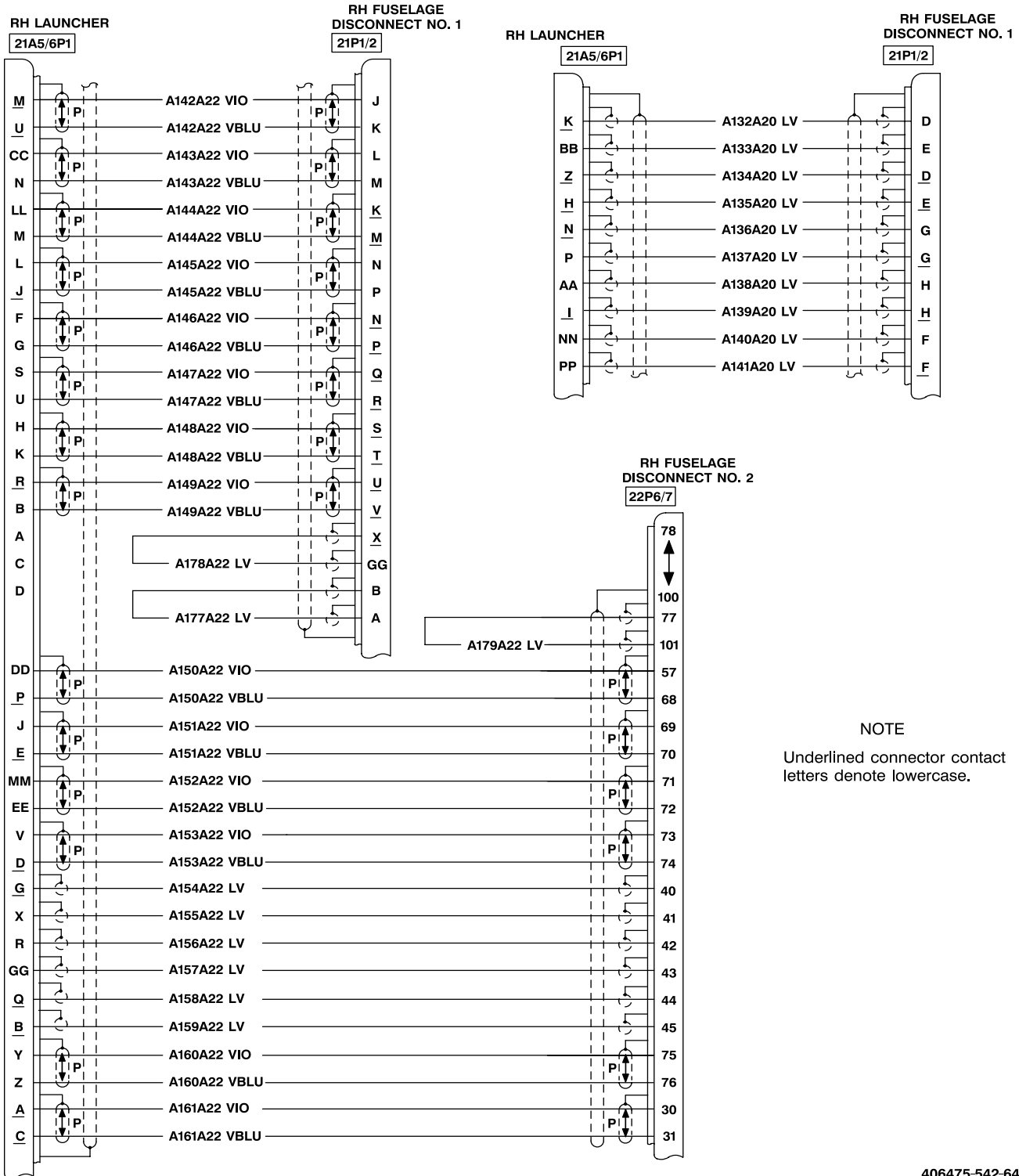
4-1-22. FAULTY ARMAMENT CABLE ASSEMBLY - ATAS (TASK 2-5-3/2-5-4)



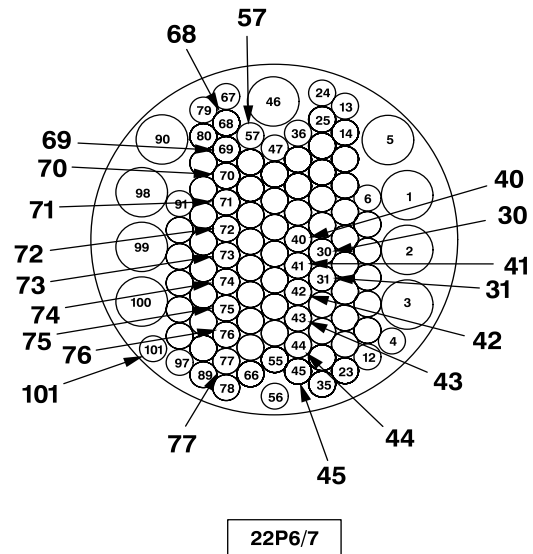
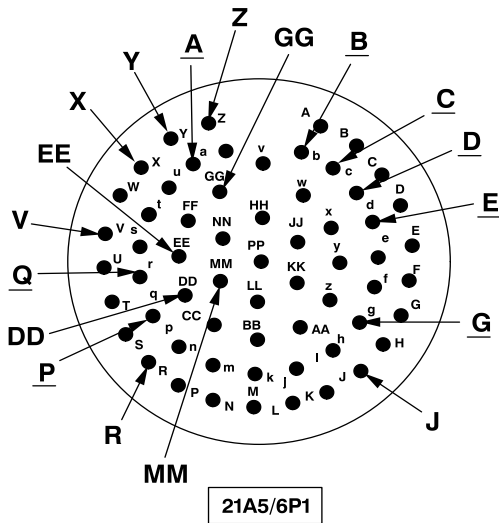
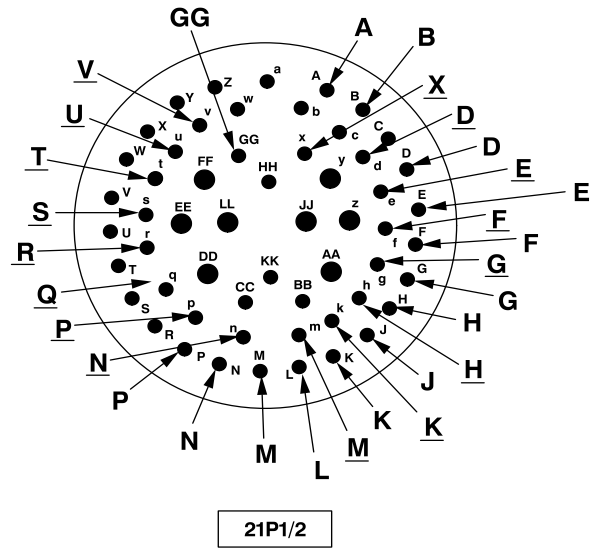
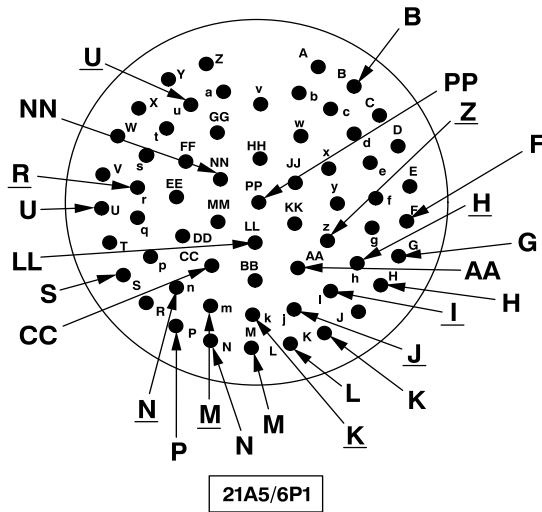
4-1-22. FAULTY ARMAMENT CABLE ASSEMBLY - ATAS (TASK 2-5-3/2-5-4) (CONT)

406475-542-63
J1493

4-1-22. FAULTY ARMAMENT CABLE ASSEMBLY - ATAS (TASK 2-5-3/2-5-4) (CONT)

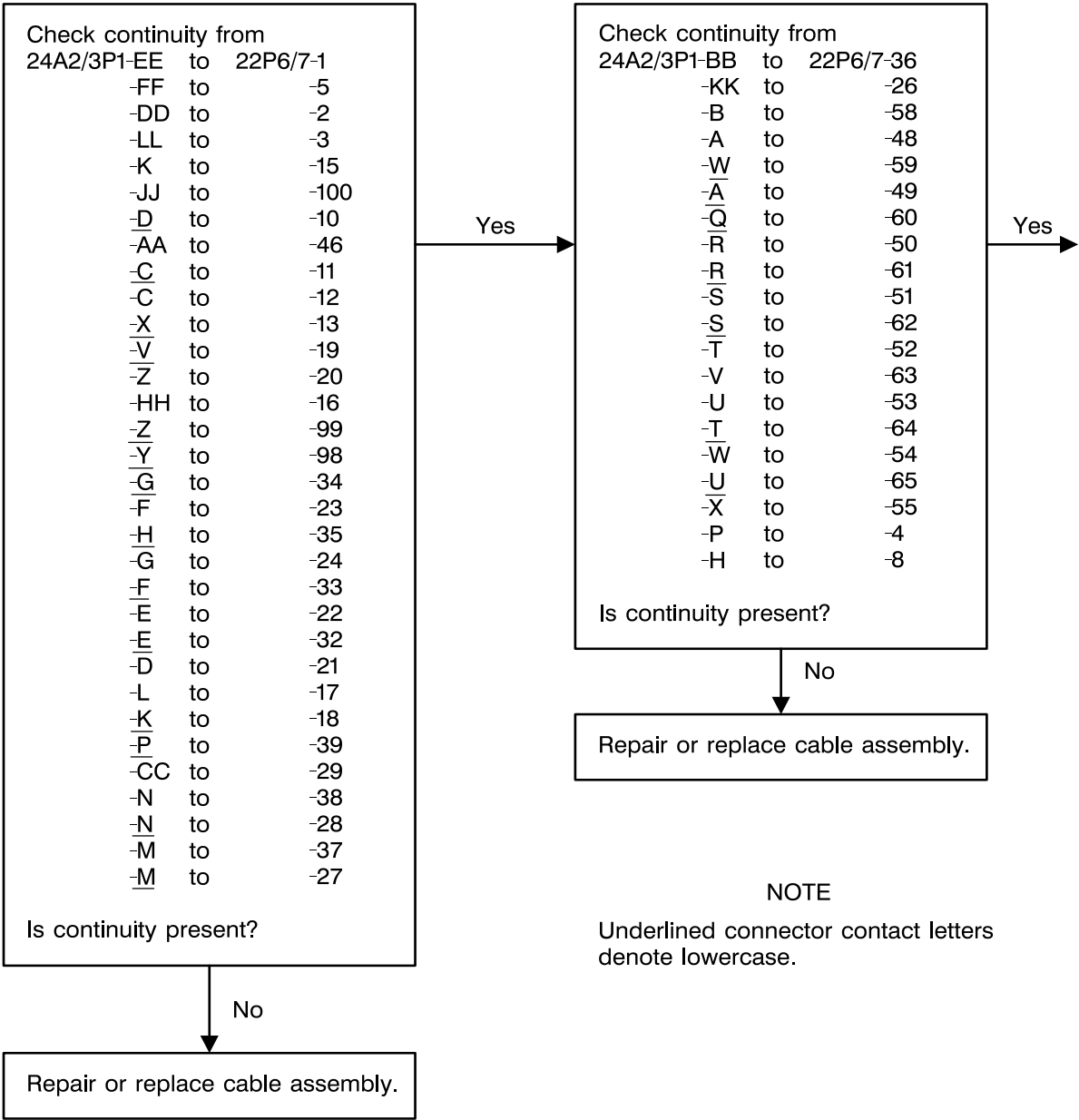


4-1-22. FAULTY ARMAMENT CABLE ASSEMBLY - ATAS (TASK 2-5-3/2-5-4) (CONT)

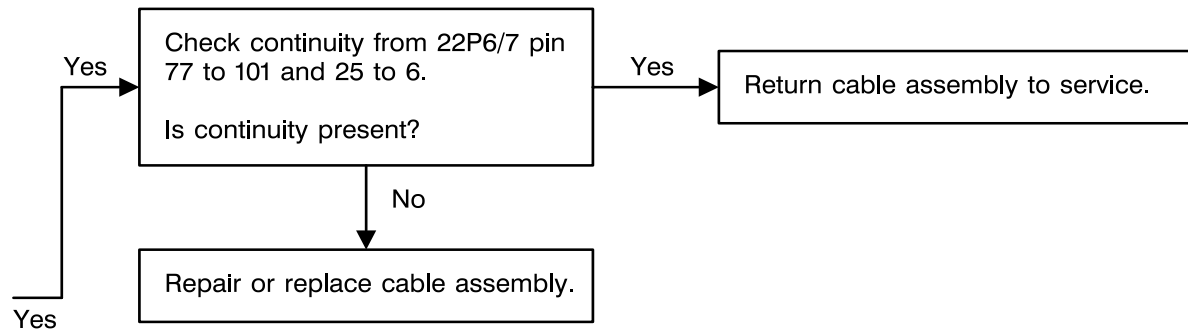


406475-542-65
J1493

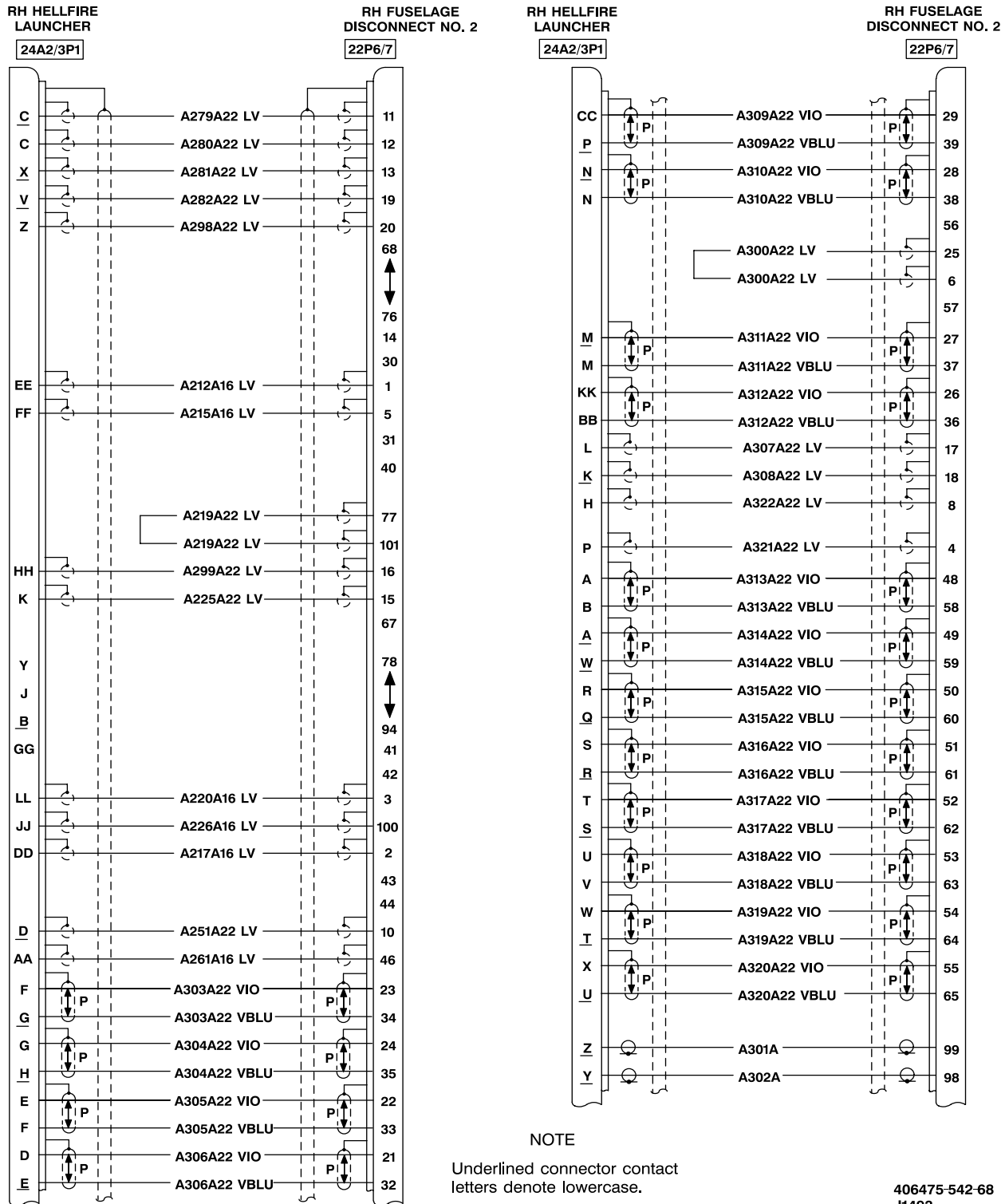
4-1-23. FAULTY ARMAMENT CABLE ASSEMBLY - HELLFIRE (TASK 2-5-7/2-5-8)



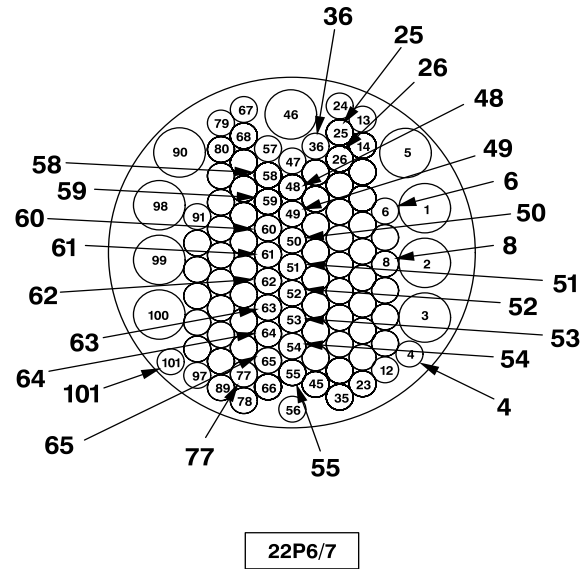
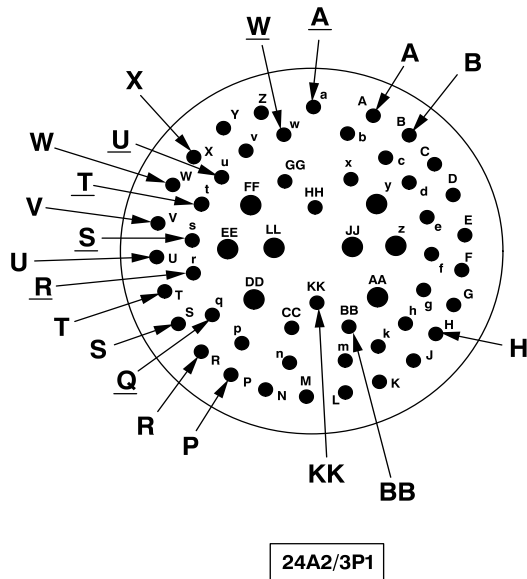
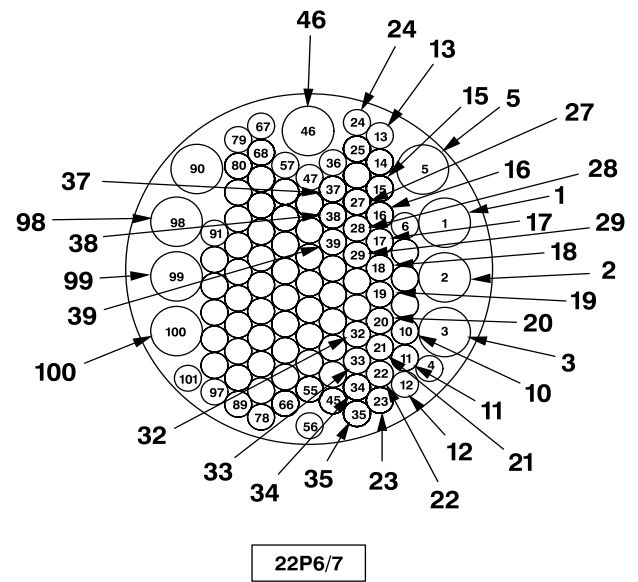
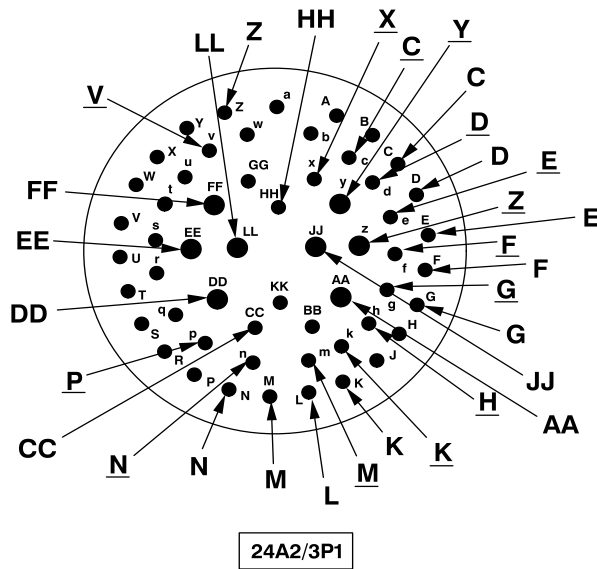
4-1-23. FAULTY ARMAMENT CABLE ASSEMBLY - HELLFIRE (TASK 2-5-7/2-5-8) (CONT)

406475-542-67
J1493

4-1-23. FAULTY ARMAMENT CABLE ASSEMBLY - HELLFIRE (TASK 2-5-7/2-5-8) (CONT)



4-1-23. FAULTY ARMAMENT CABLE ASSEMBLY - HELLFIRE (TASK 2-5-7/2-5-8) (CONT)

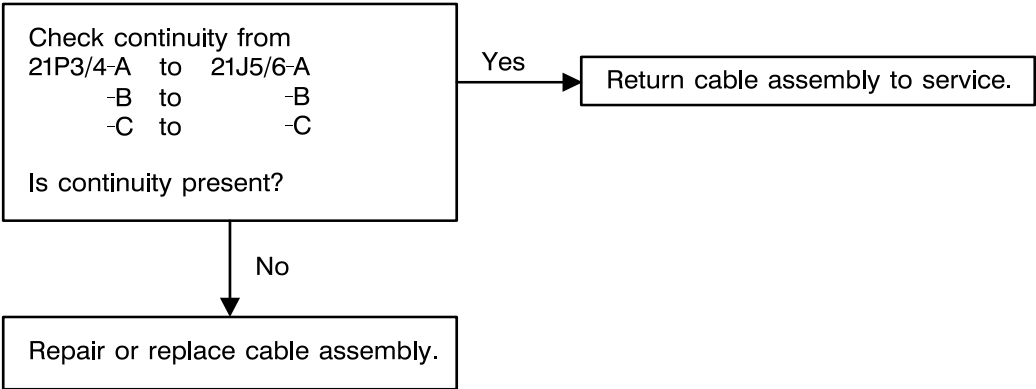


NOTE

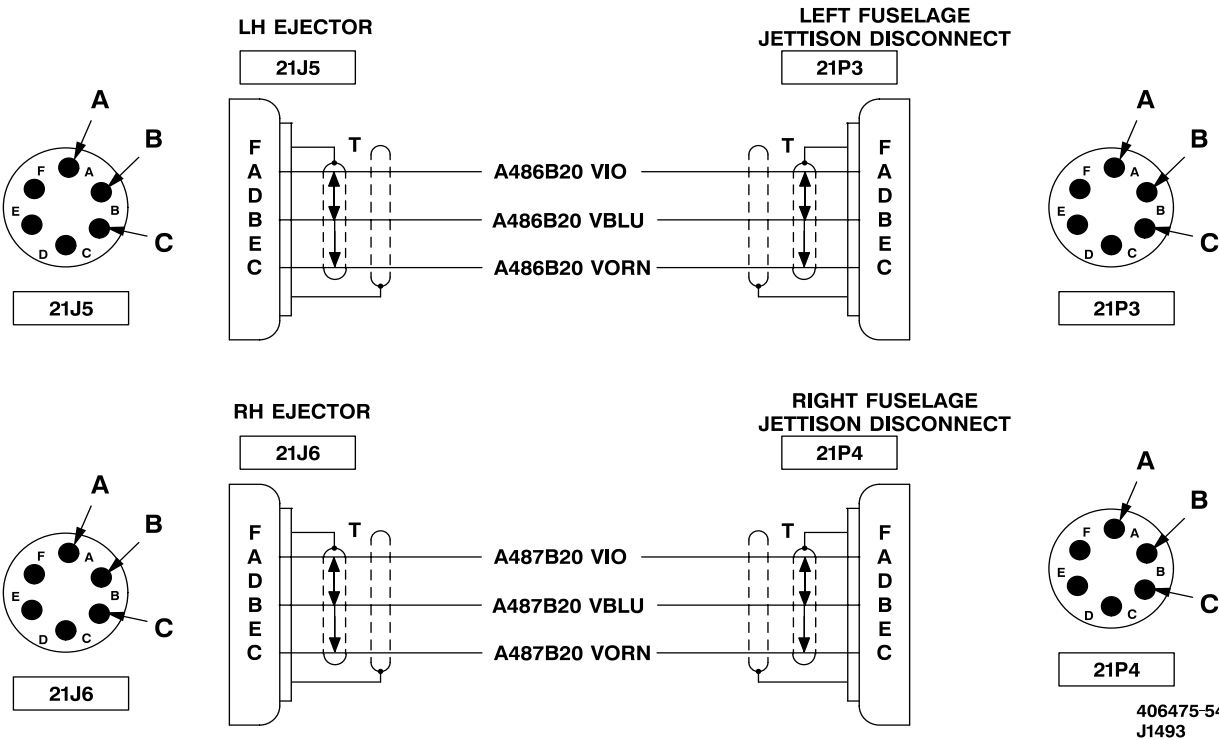
Underlined connector contact letters denote lowercase.

406475-542-69
J1493

4-1-24. FAULTY JETTISON CABLE ASSEMBLY (TASK 2-5-11)



406475-542-70
J1493



406475-542-71
J1493

Section II. JETTISON FAULTS

4-4. MAPS DIAGRAMS INDEX

The MAPS diagrams index provides a numerical list of symptoms contained in this section.

Jettison System malfunctions (symptoms) are listed in column two (SYMPTOM). To locate troubleshooting procedures refer to column one (MAPS NUMBER) which indicates the MAPS diagram number to be utilized. The procedures in the troubleshooting logic tree shall be performed in sequence as specified unless otherwise noted within the logic tree.

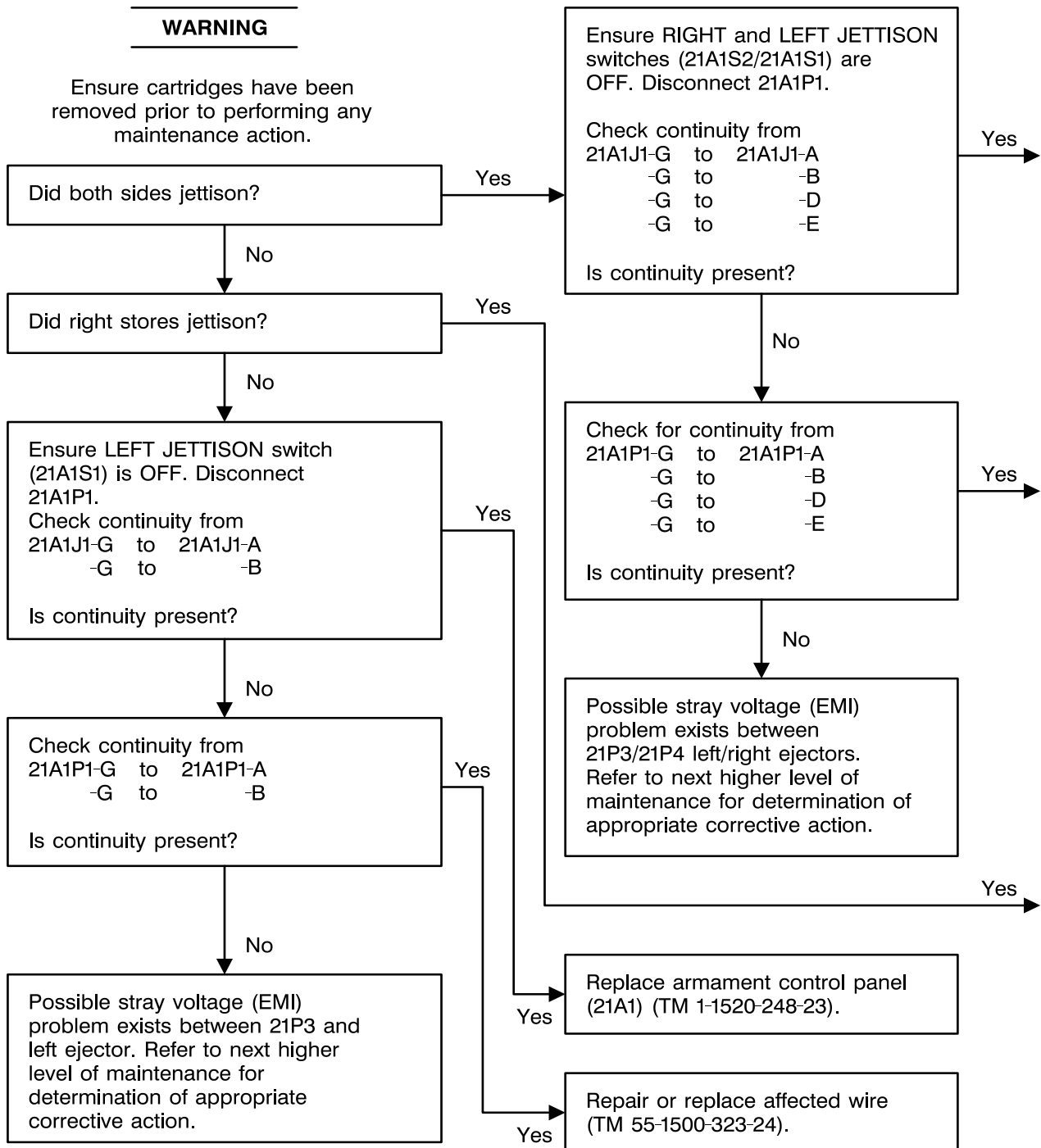
Correction of malfunctions must be verified by performing an operational check utilizing the procedures in TM 1-1520-248-T-1.

NOTE

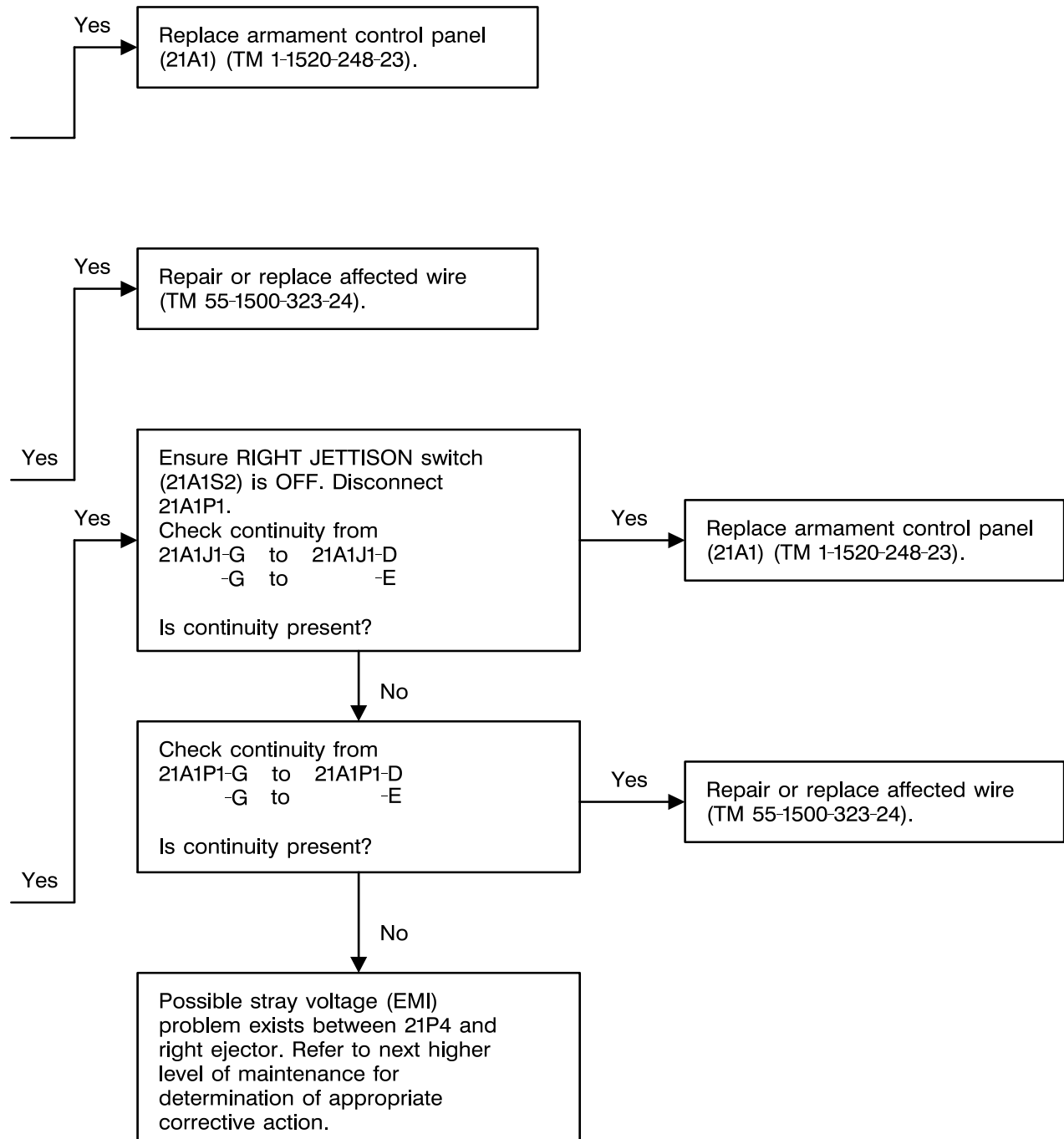
The task number(s) referenced in the symptom title is the related operational check for the affected system.

MAPS NUMBER	SYMPTOM	PAGE NUMBER
4-2-1	Stores jettison on power up (Task 2-5-11)	4-72
4-2-2	Stores fail to jettison (Task 2-5-11)	4-76

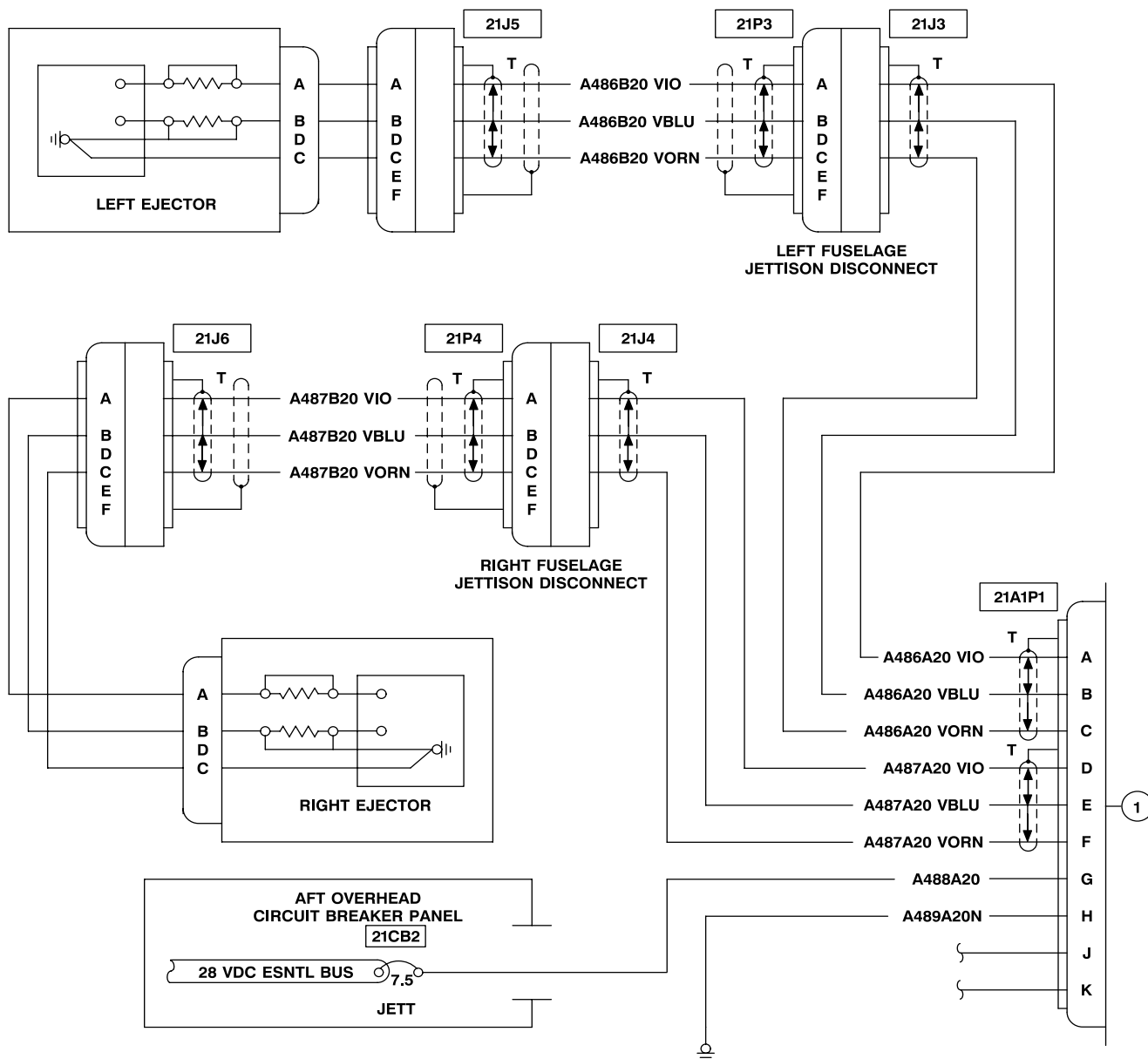
4-2-1. STORES JETTISON ON POWER UP (TASK 2-5-11)

406475-542-72
J1493

4-2-1. STORES JETTISON ON POWER UP (TASK 2-5-11) (CONT)

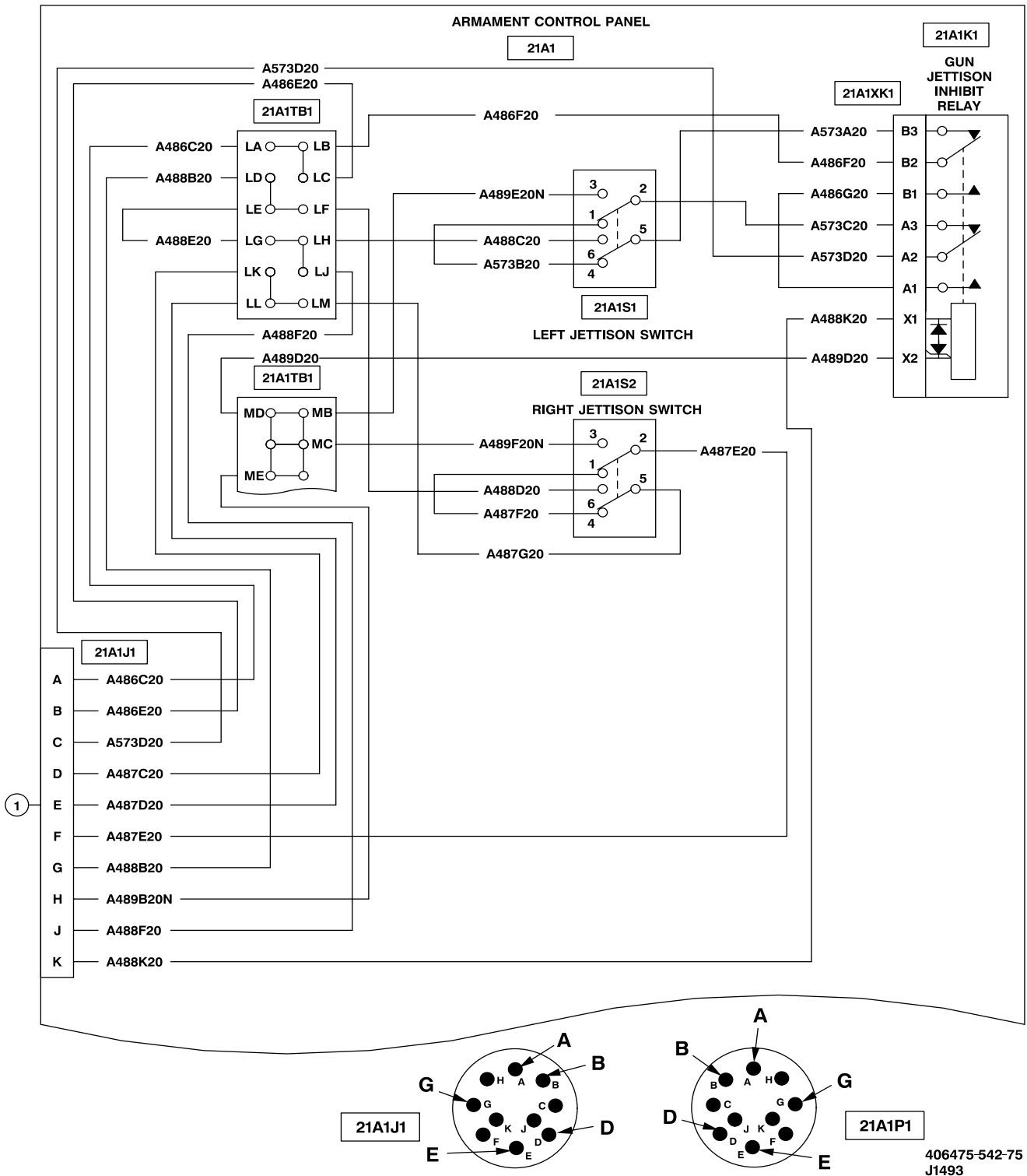
406475-542-73
J1493

4-2-1. STORES JETTISON ON POWER UP (TASK 2-5-11) (CONT)

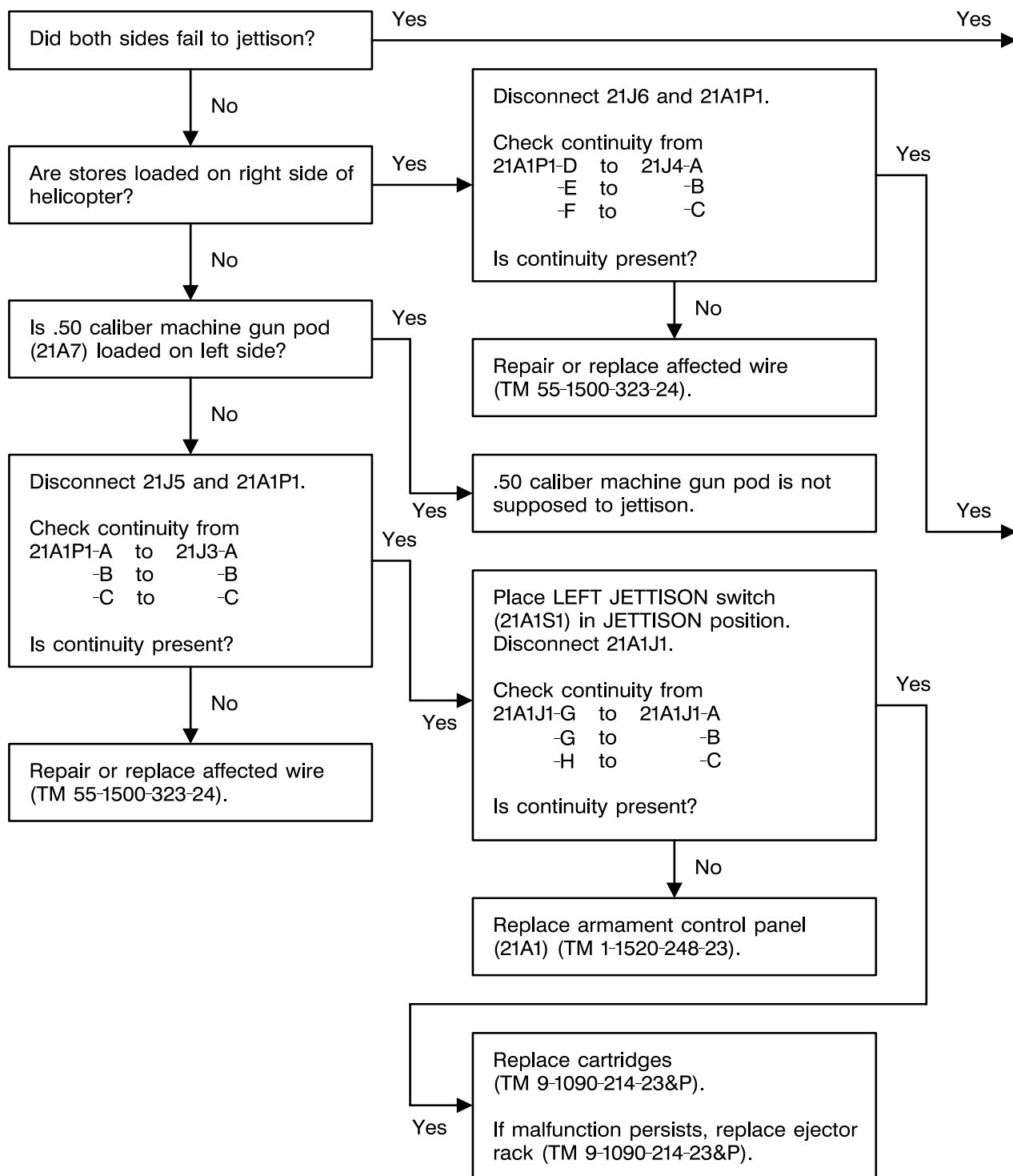


406475-542-74
J1493

4-2-1. STORES JETTISON ON POWER UP (TASK 2-5-11) (CONT)

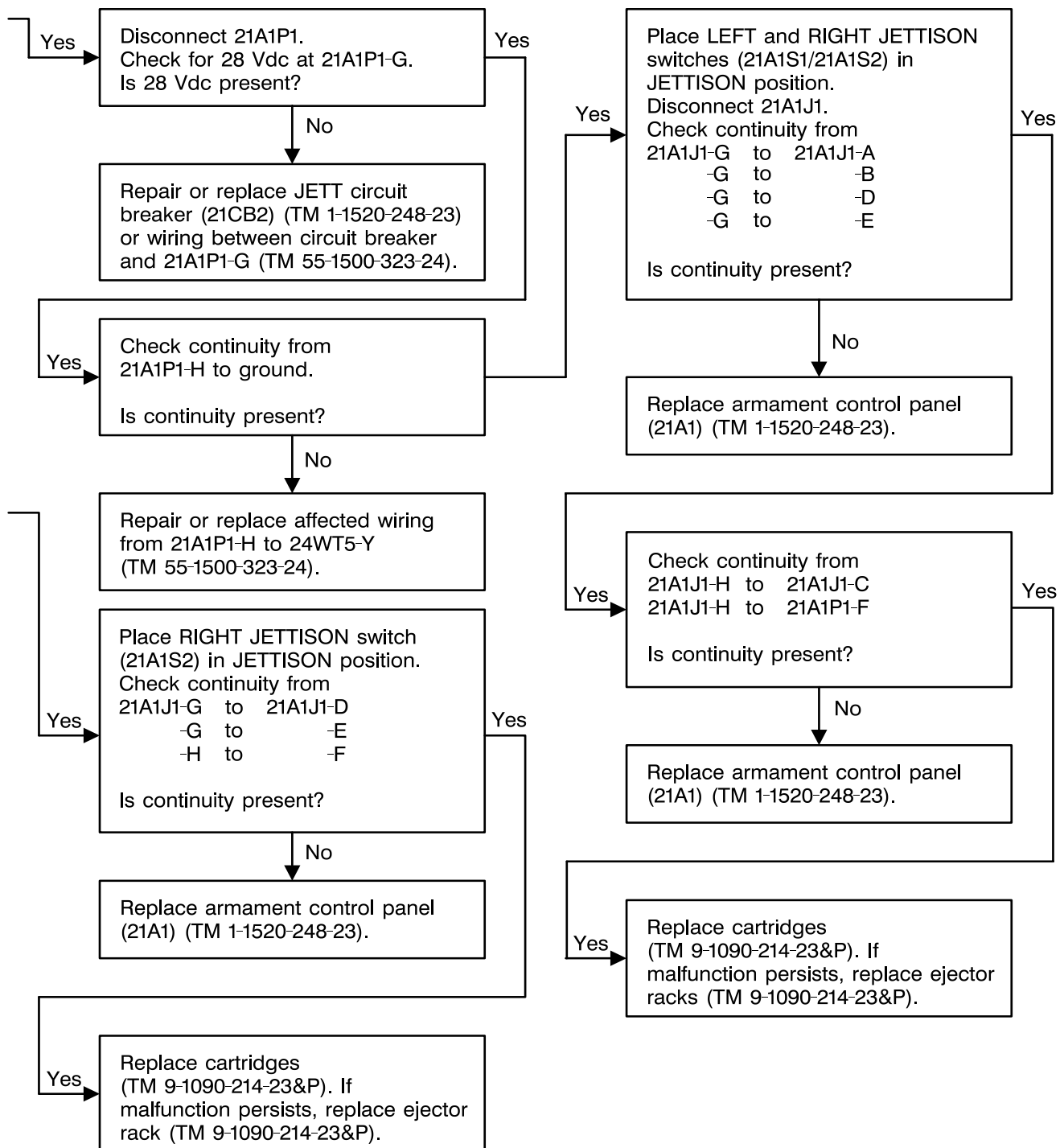


4-2-2. STORES FAIL TO JETTISON (TASK 2-5-11)

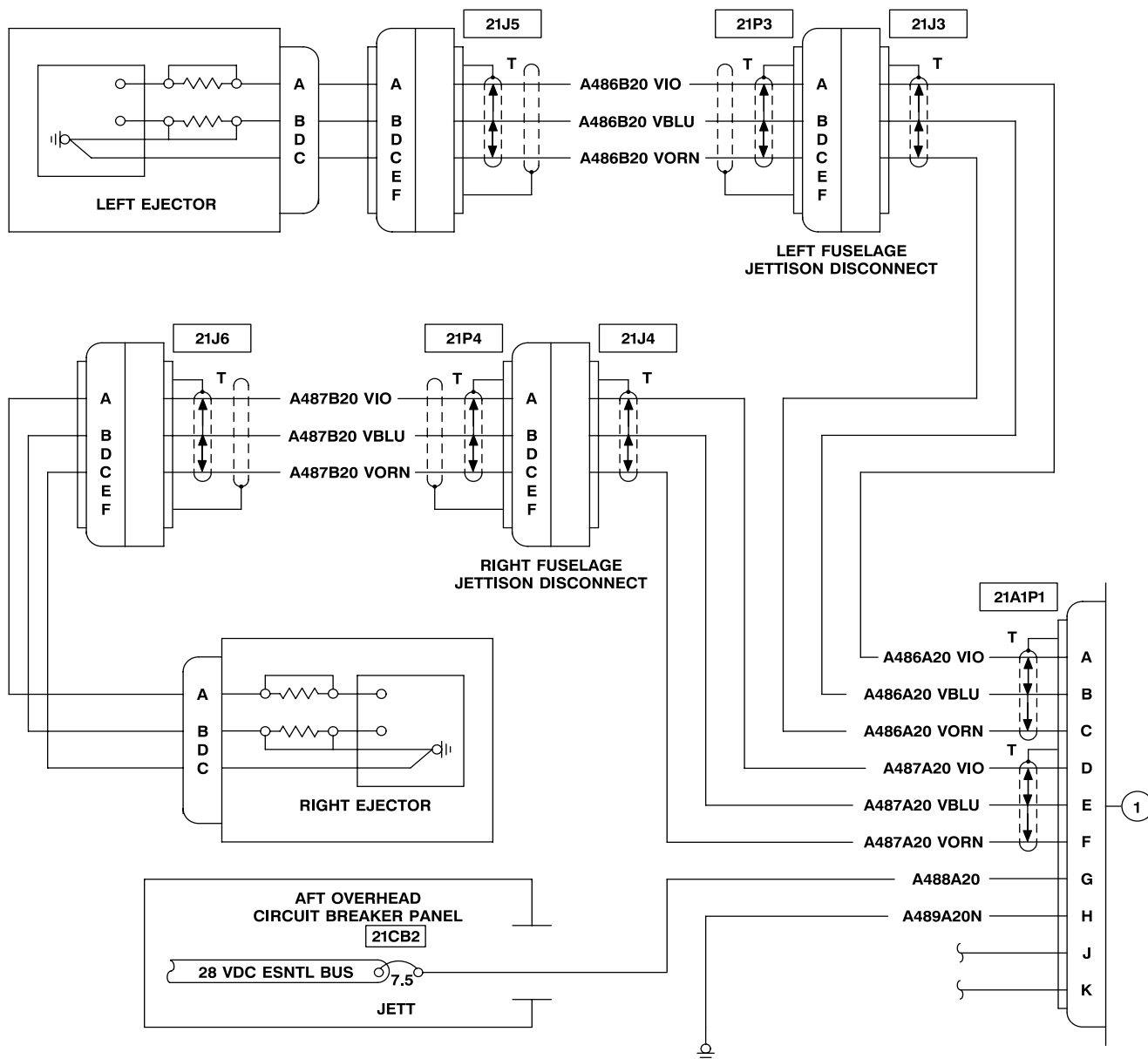


406475-542-76
J1493

4-2-2. STORES FAIL TO JETTISON (TASK 2-5-11) (CONT)

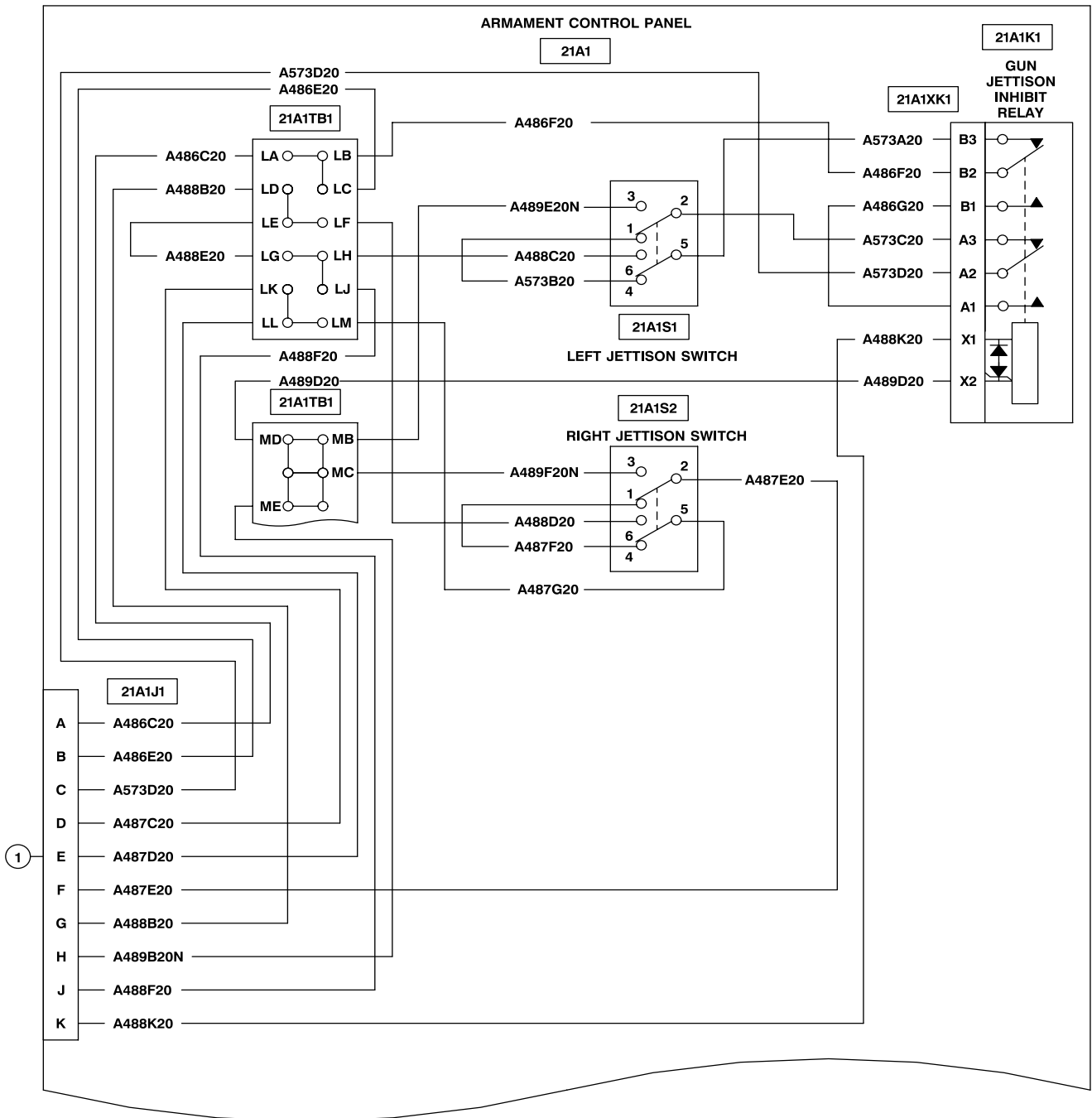
406475-542-77
J1493

4-2-2. STORES FAIL TO JETTISON (TASK 2-5-11) (CONT)



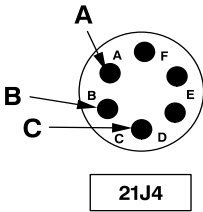
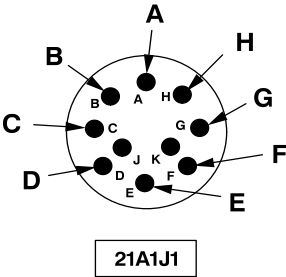
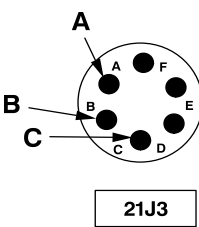
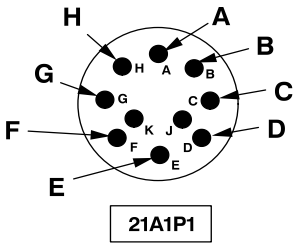
406475-542-78
J1493

4-2-2. STORES FAIL TO JETTISON (TASK 2-5-11) (CONT)



406475-542-79
J1493

4-2-2. STORES FAIL TO JETTISON (TASK 2-5-11) (CONT)



406475-542-80
J1493

Section III. GUN FAULTS

4-5. MAPS DIAGRAMS INDEX

The MAPS diagrams index provides a numerical list of symptoms contained in this section.

Gun System malfunctions (symptoms) are listed in column two (SYMPTOM). To locate troubleshooting procedures refer to column one (MAPS NUMBER) which indicates the MAPS diagram number to be utilized. The procedures in the troubleshooting logic tree shall be performed in sequence as specified unless otherwise noted within the logic tree.

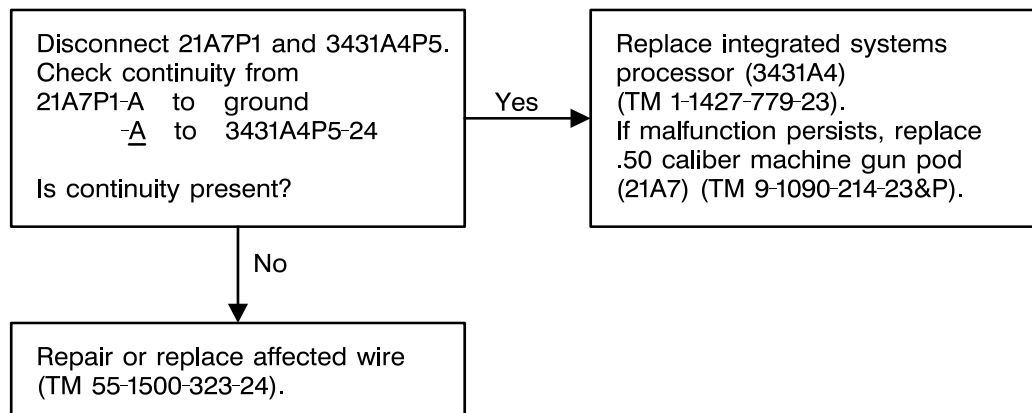
Correction of malfunctions must be verified by performing an operational check utilizing the procedures in TM 1-1520-248-T-1.

NOTE

The task number(s) referenced in the symptom title is the related operational check for the affected system.

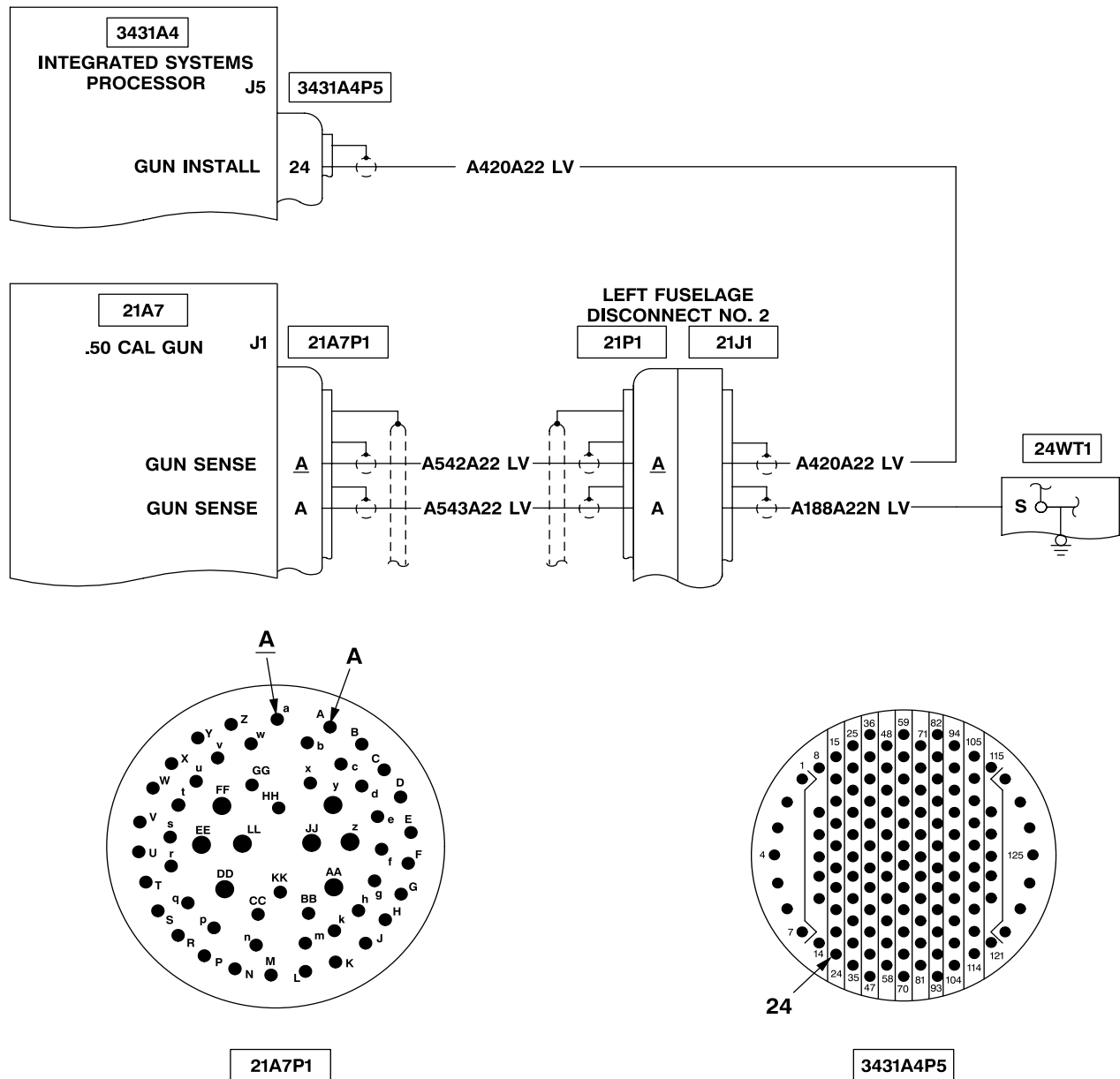
MAPS NUMBER	SYMPTOM	PAGE NUMBER
4-3-1	Gun does not indicate as installed on MFD (Task 2-5-5) - OH-58D	4-82
4-3-2	Gun does not indicate as installed on MFD (Task 2-5-6) - OH-58D(R)	4-84
4-3-3	Gun shows as installed but does not operate (Task 2-5-5/2-5-6)	4-86
4-3-4	Gun will not respond to GUN switch RECOCK command (Task 2-5-5/2-5-6)	4-92
4-3-5	ARM/SAFE indication on MFD does not respond properly to gun position (Task 2-5-5) - OH-58D	4-97
4-3-6	ARM/SAFE indication on MFD does not respond properly to gun position (Task 2-5-6) - OH-58D(R)	4-100
4-3-7	Gun does not fire limited burst when WPN-FIRE switch is pressed to first detent (Task 2-5-5) - OH-58D	4-103
4-3-8	Gun does not fire limited burst when WPN-FIRE switch is pressed to first detent (Task 2-5-6) - OH-58D(R)	4-108
4-3-9	Gun does not fire when WPN-FIRE switch is pressed to second detent (Task 2-5-5) - OH-58D	4-113
4-3-10	Gun does not fire when WPN-FIRE switch is pressed to second detent (Task 2-5-6) - OH-58D(R)	4-117
4-3-11	Gun rounds counter does not decrement properly (Task 2-5-5) - OH-58D	4-121
4-3-12	Gun rounds counter does not decrement properly (Task 2-5-6) - OH-58D(R)	4-123
4-3-13	Gun charger will not go forward from SAFE (Task 2-5-5/2-5-6)	4-125

4-3-1. GUN DOES NOT INDICATE AS INSTALLED ON MFD (TASK 2-5-5) - OH-58D



406475-542-81
J1493

4-3-1. GUN DOES NOT INDICATE AS INSTALLED ON MFD (TASK 2-5-5) - OH-58D (CONT)

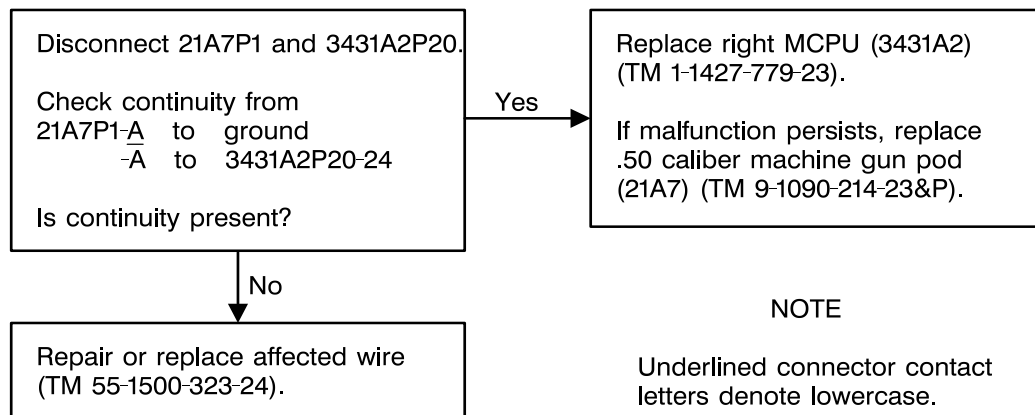


NOTE

Underlined connector contact letters denote lowercase.

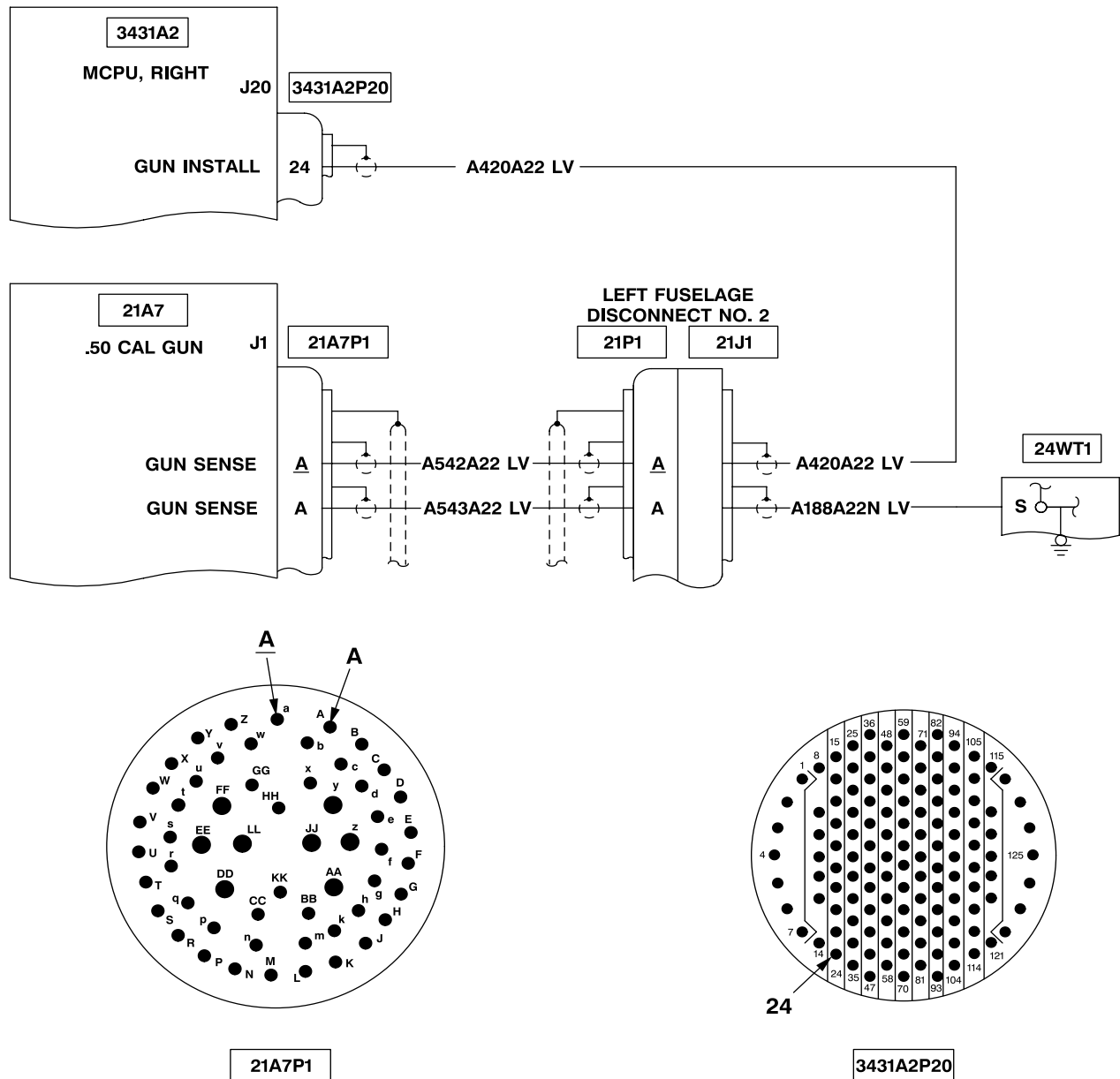
406475-542-82
J1493

4-3-2. GUN DOES NOT INDICATE AS INSTALLED ON MFD (TASK 2-5-6) - OH-58D(R)



406475-542-83
J1493

4-3-2. GUN DOES NOT INDICATE AS INSTALLED ON MFD (TASK 2-5-6) - OH-58D(R) (CONT)

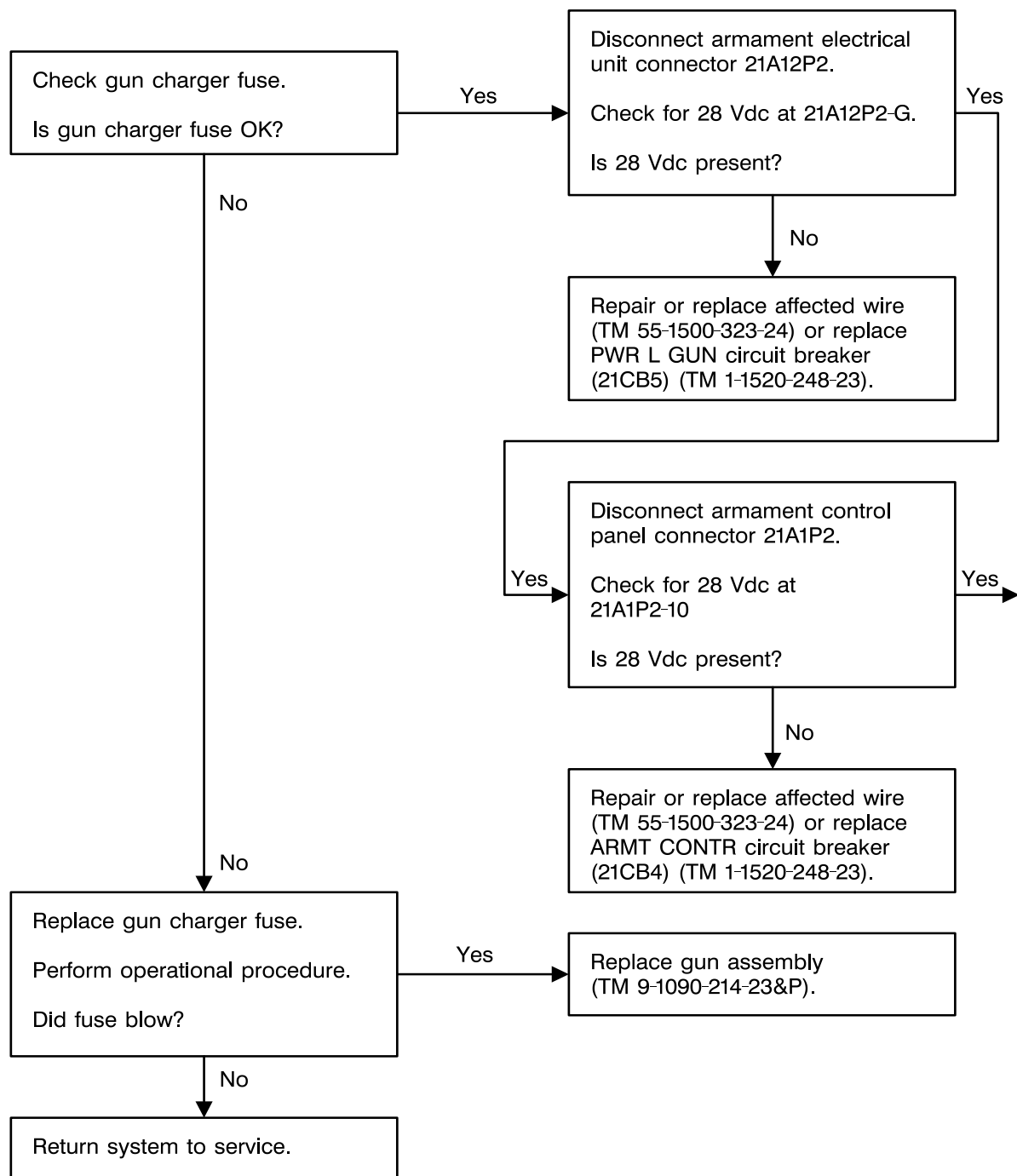


NOTE

Underlined connector contact letters denote lowercase.

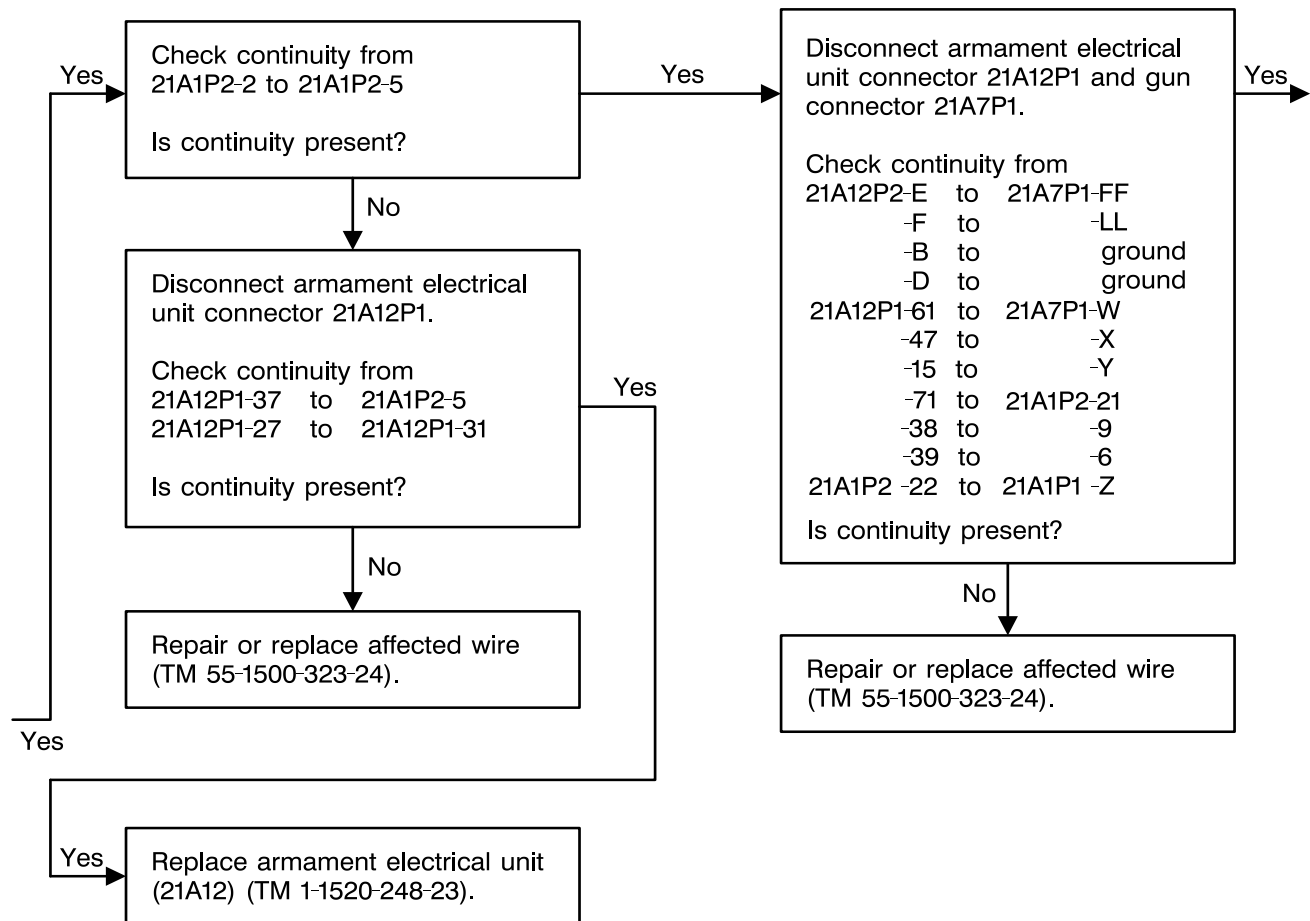
406475-542-84
J1493

4-3-3. GUN SHOWS AS INSTALLED BUT DOES NOT OPERATE (TASK 2-5-5/2-5-6)

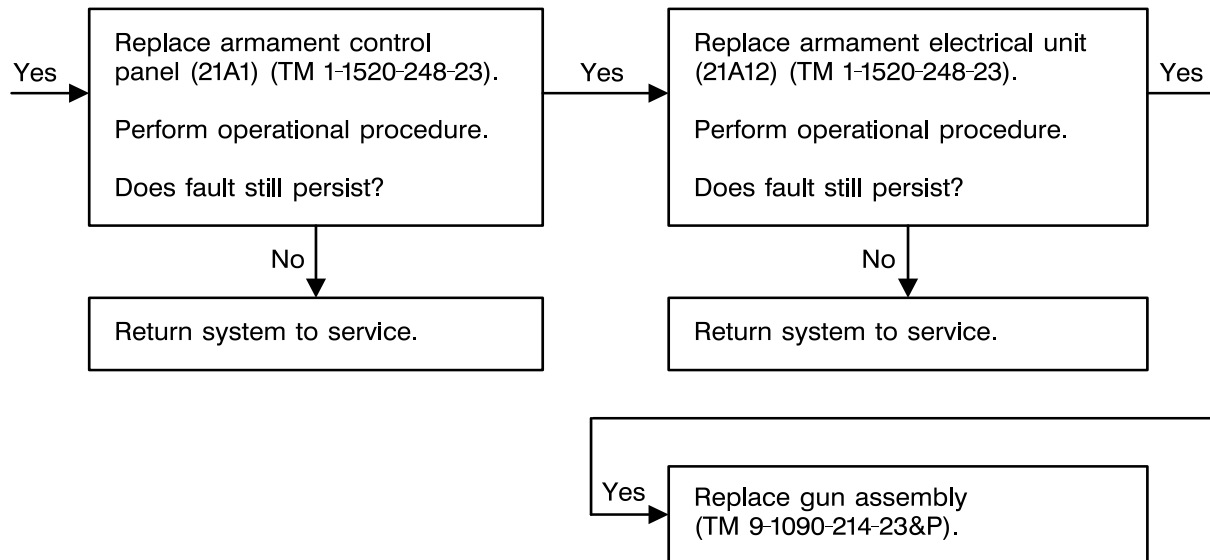


406475-542-85
J1493

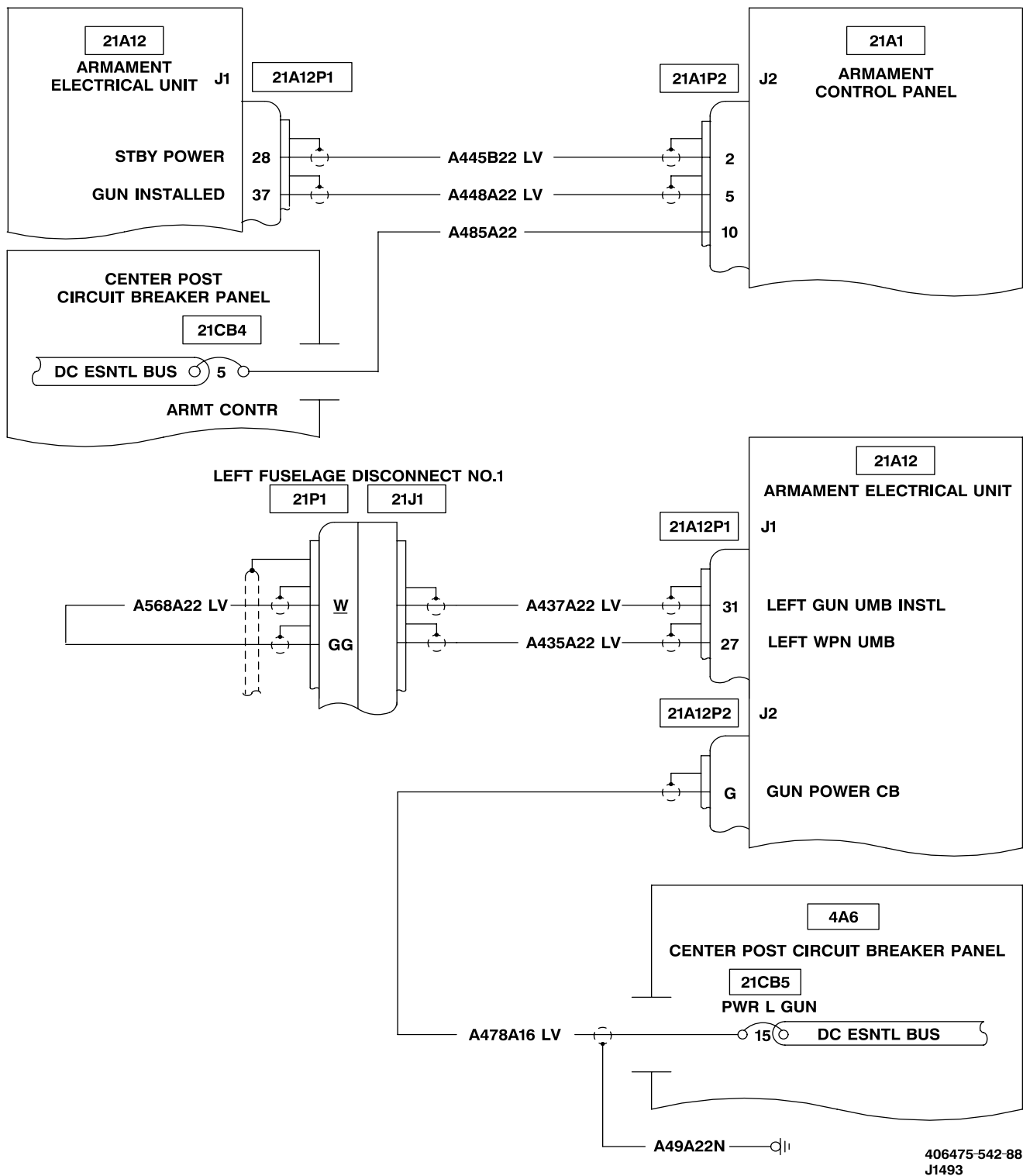
4-3-3. GUN SHOWS AS INSTALLED BUT DOES NOT OPERATE (TASK 2-5-5/2-5-6) (CONT)

406475-542-86
J1493

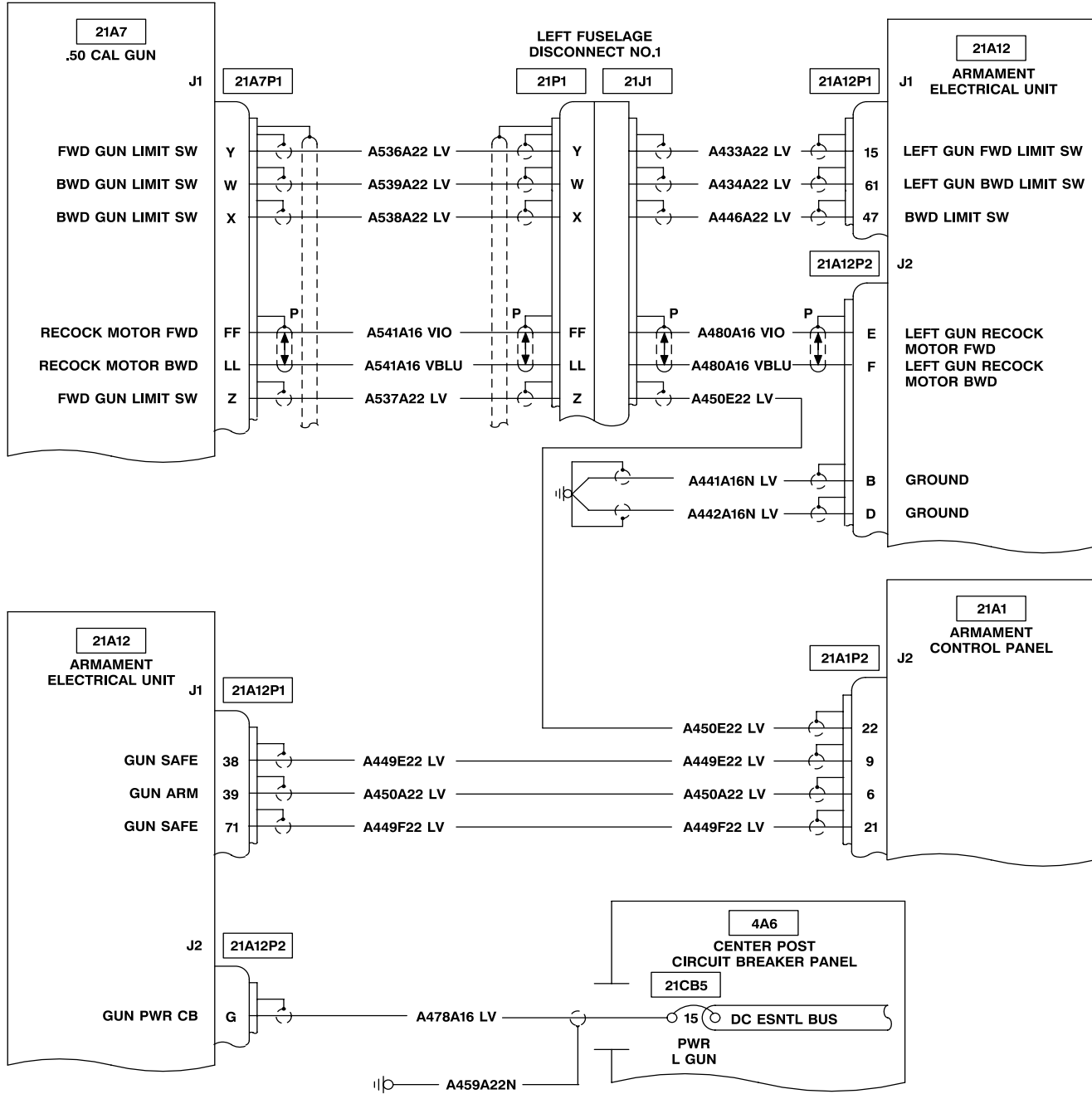
4-3-3. GUN SHOWS AS INSTALLED BUT DOES NOT OPERATE (TASK 2-5-5/2-5-6) (CONT)

406475-542-87
J1493

4-3-3. GUN SHOWS AS INSTALLED BUT DOES NOT OPERATE (TASK 2-5-5/2-5-6) (CONT)

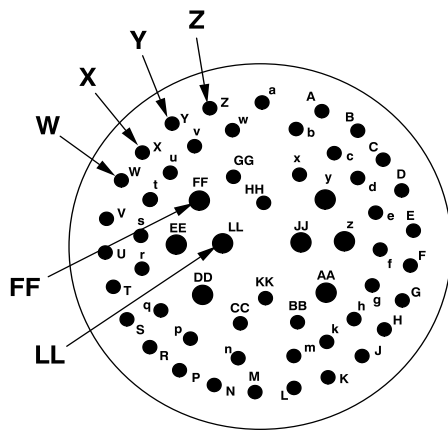


4-3-3. GUN SHOWS AS INSTALLED BUT DOES NOT OPERATE (TASK 2-5-5/2-5-6) (CONT)

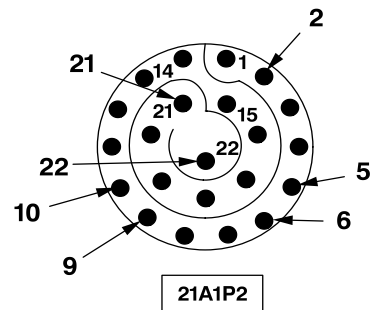


406475-542-89
J1493

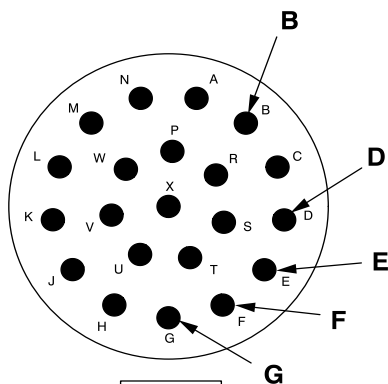
4-3-3. GUN SHOWS AS INSTALLED BUT DOES NOT OPERATE (TASK 2-5-5/2-5-6) (CONT)



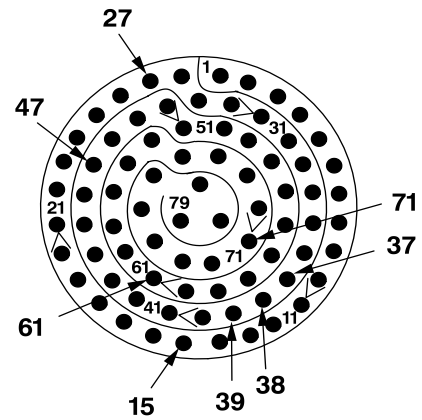
21A7P1



21A1P2



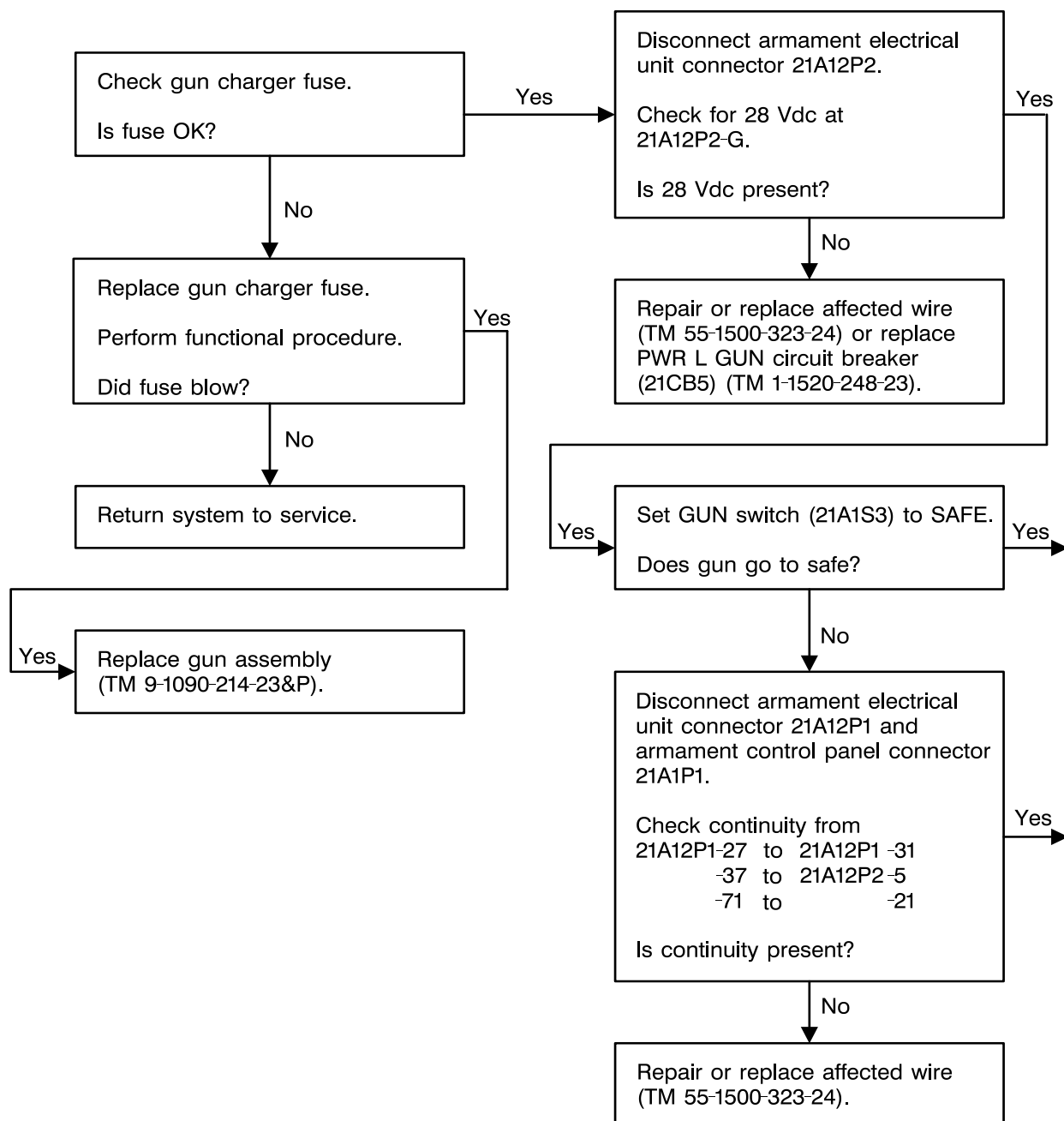
21A12P2



21A12P1

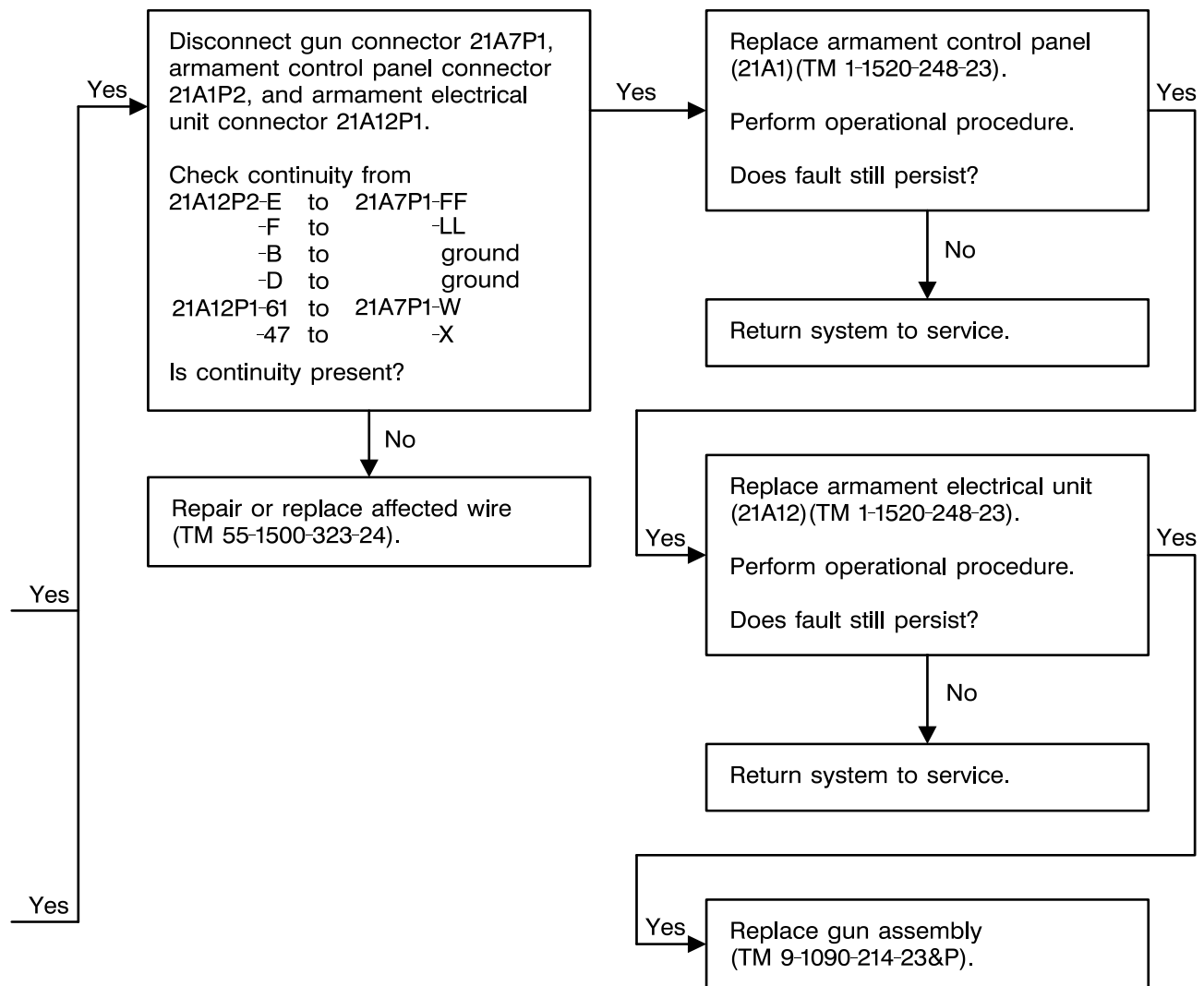
406475-542-90
J1493

4-3-4. GUN WILL NOT RESPOND TO GUN SWITCH RECOCK COMMAND (TASK 2-5-5/2-5-6)

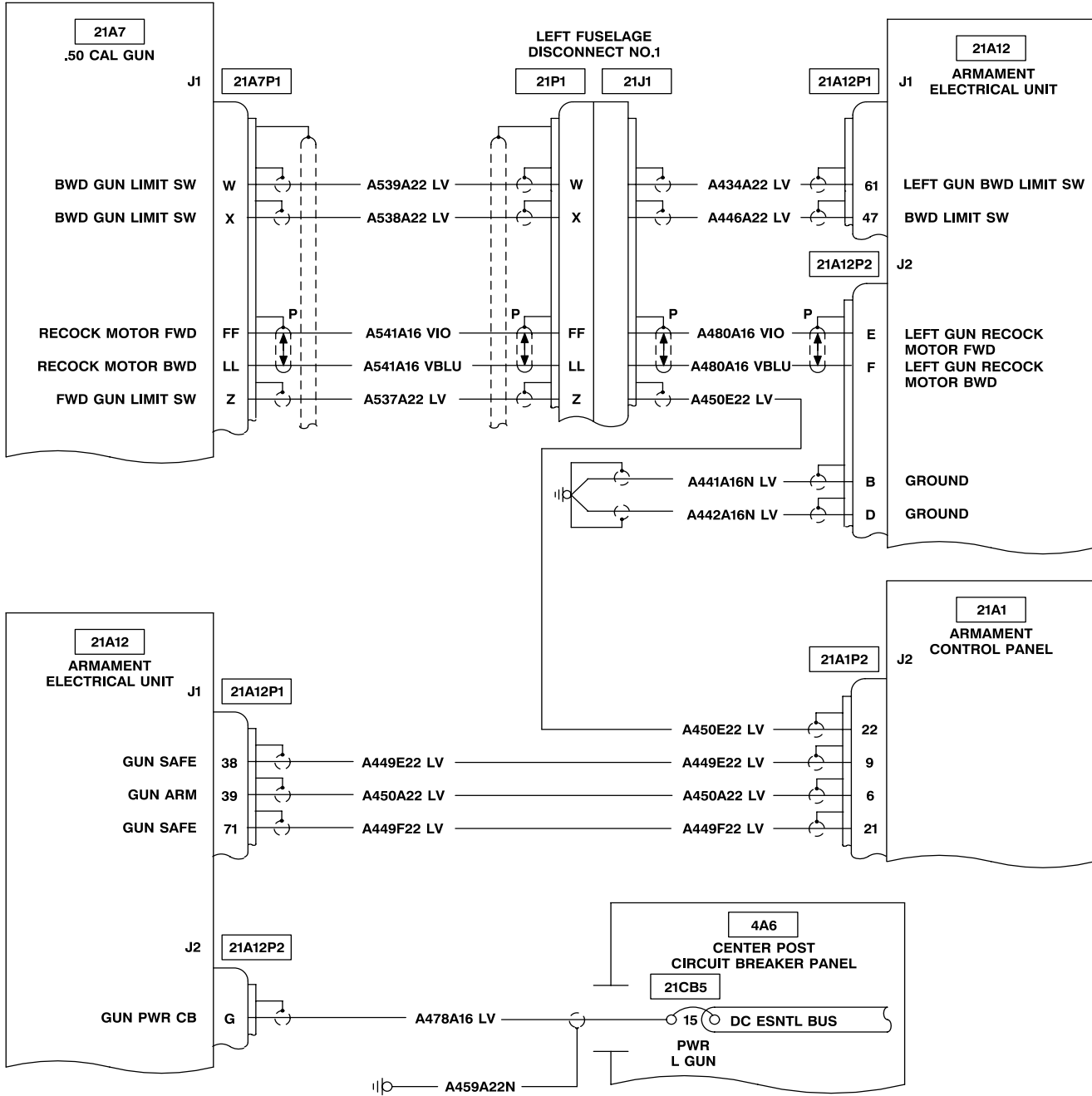


406475-542-91
J1493

4-3-4. GUN WILL NOT RESPOND TO GUN SWITCH RECOCK COMMAND (TASK 2-5-5/2-5-6) (CONT)

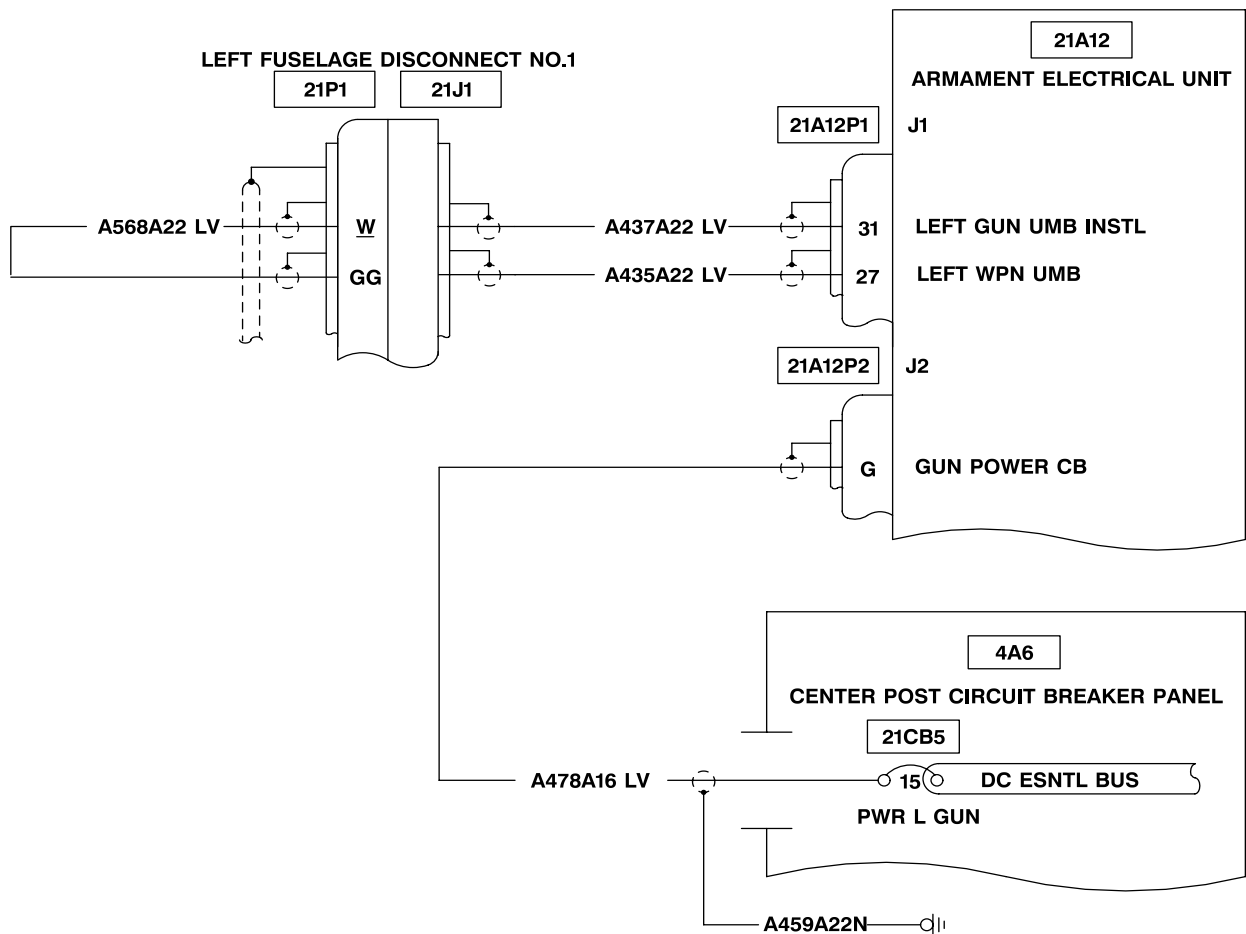
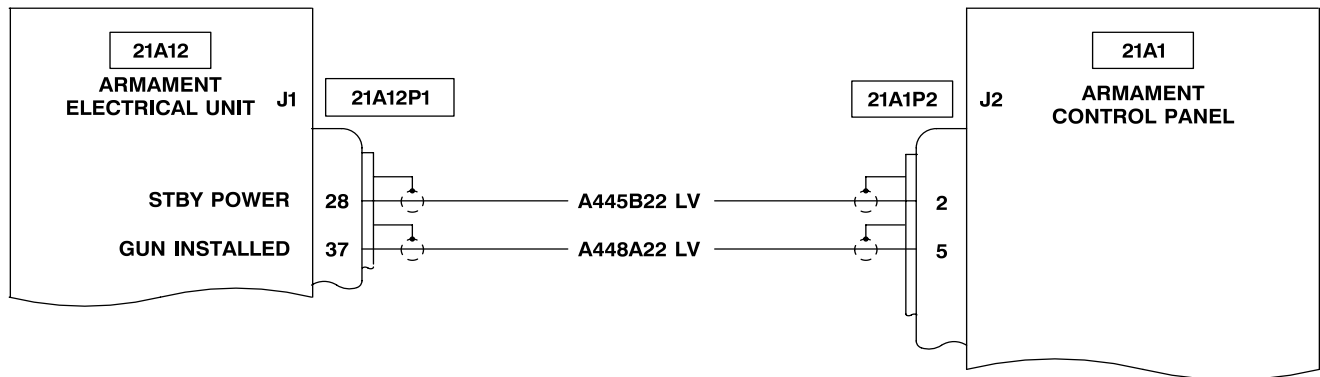
406475-542-92
J1493

4-3-4. GUN WILL NOT RESPOND TO GUN SWITCH RECOCK COMMAND (TASK 2-5-5/2-5-6) (CONT)



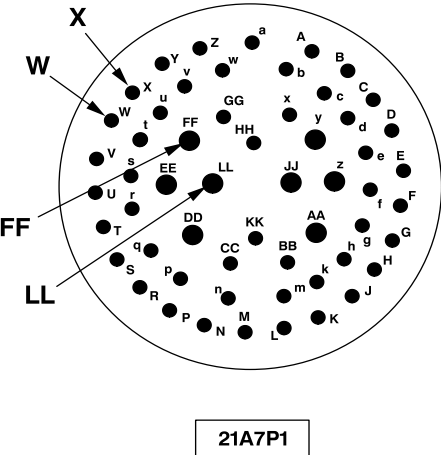
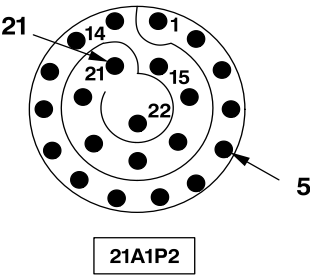
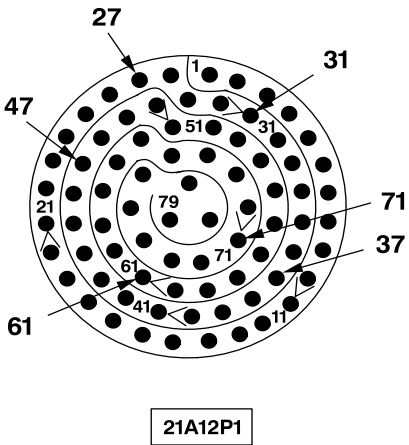
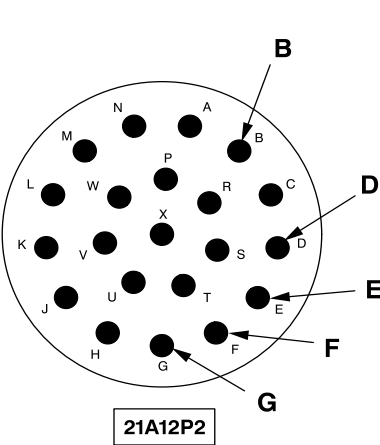
406475-542-93
J1493

4-3-4. GUN WILL NOT RESPOND TO GUN SWITCH RECOCK COMMAND (TASK 2-5-5/2-5-6) (CONT)



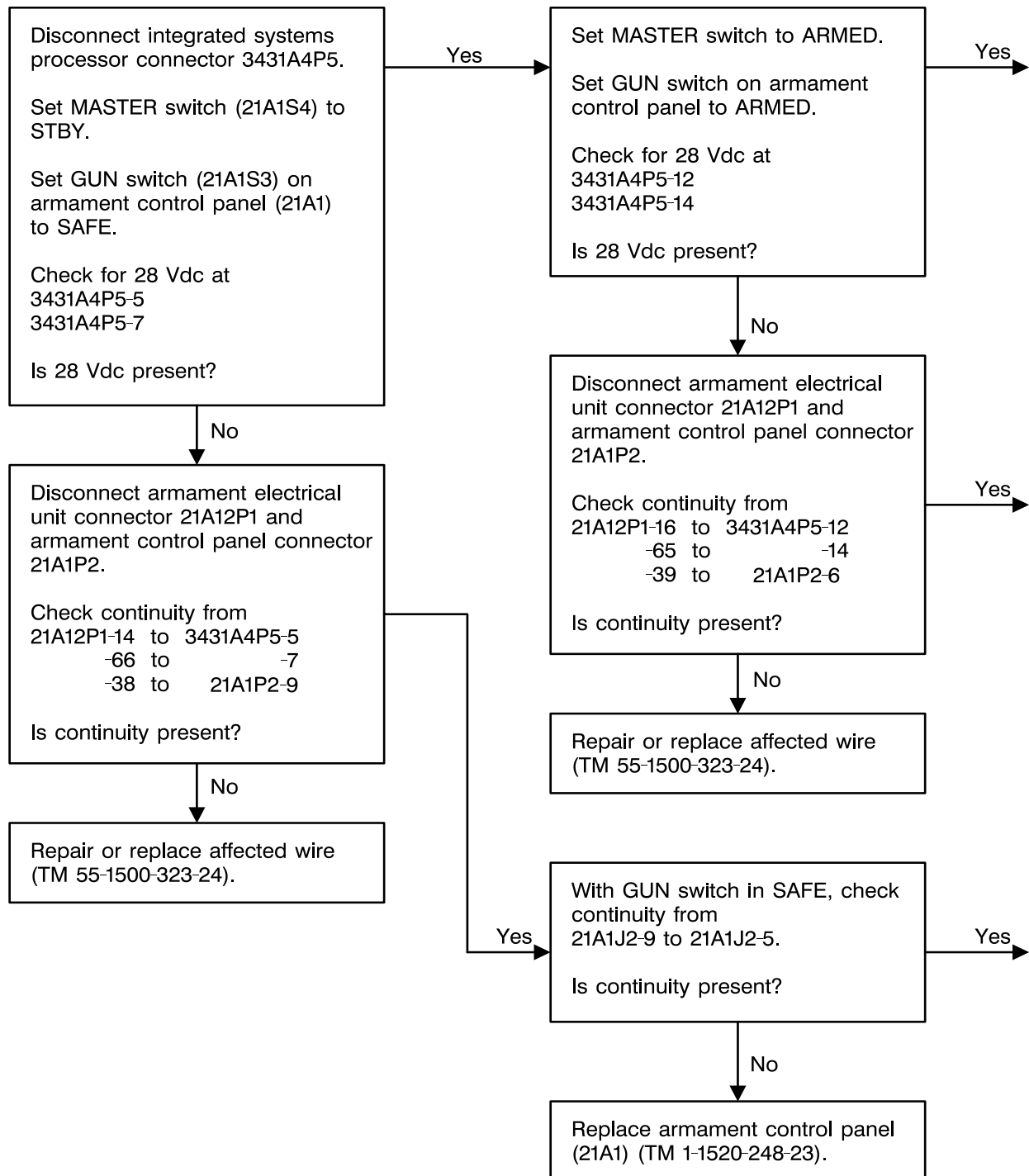
406475-542-94
J1493

4-3-4. GUN WILL NOT RESPOND TO GUN SWITCH RECOCK COMMAND (TASK 2-5-5/2-5-6) (CONT)



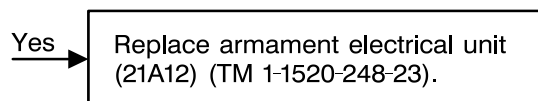
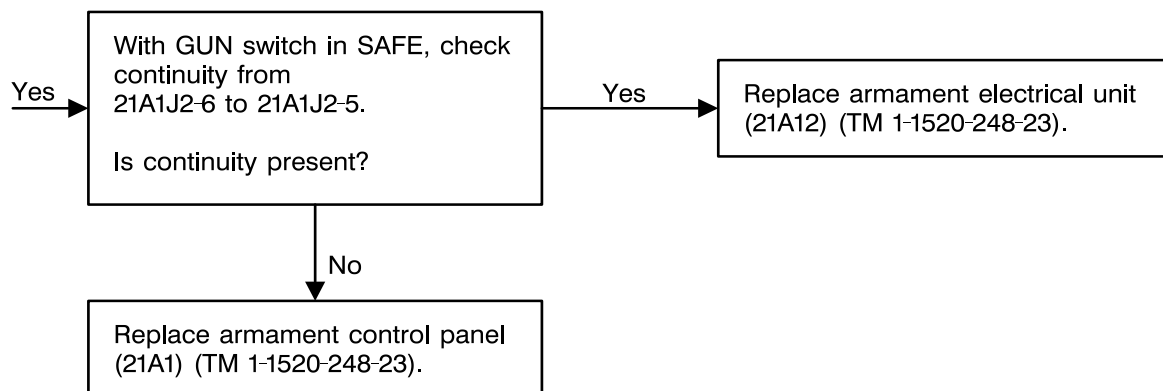
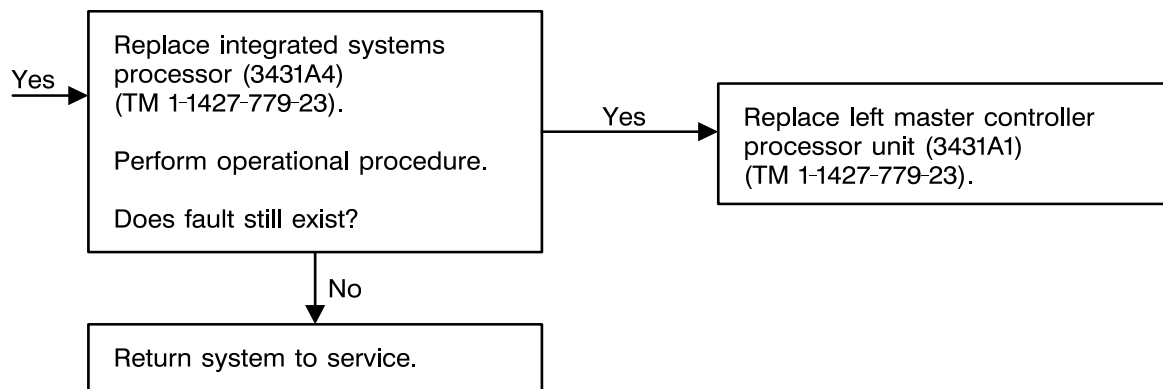
406475-542-95
J1493

4-3-5. **ARM/SAFE** INDICATION ON MFD DOES NOT RESPOND PROPERLY TO GUN POSITION (TASK 2-5-5) - OH-58D

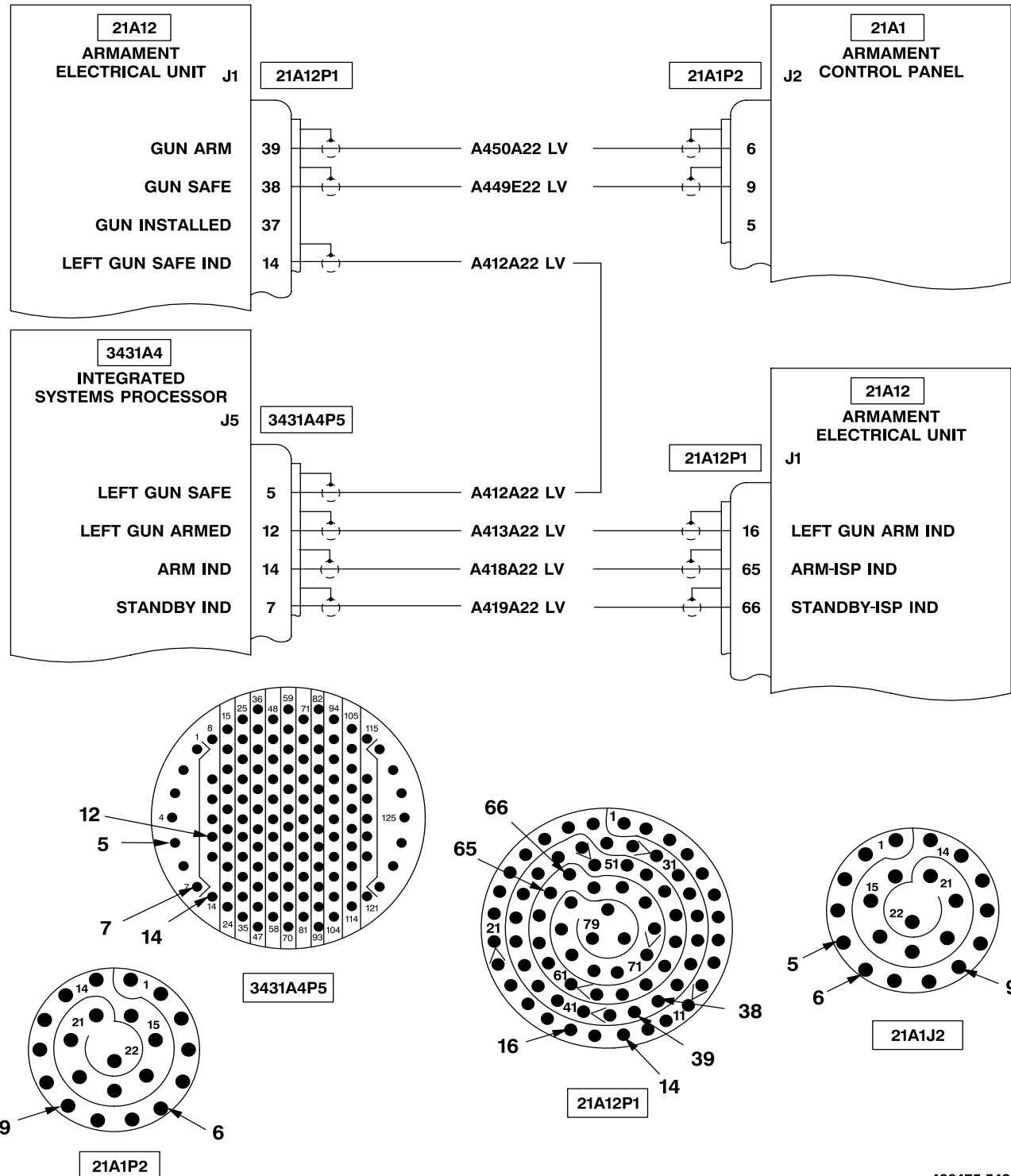


406475-542-96
J1493

4-3-5. ARM/SAFE INDICATION ON MFD DOES NOT RESPOND PROPERLY TO GUN POSITION
(TASK 2-5-5) - OH-58D (CONT)

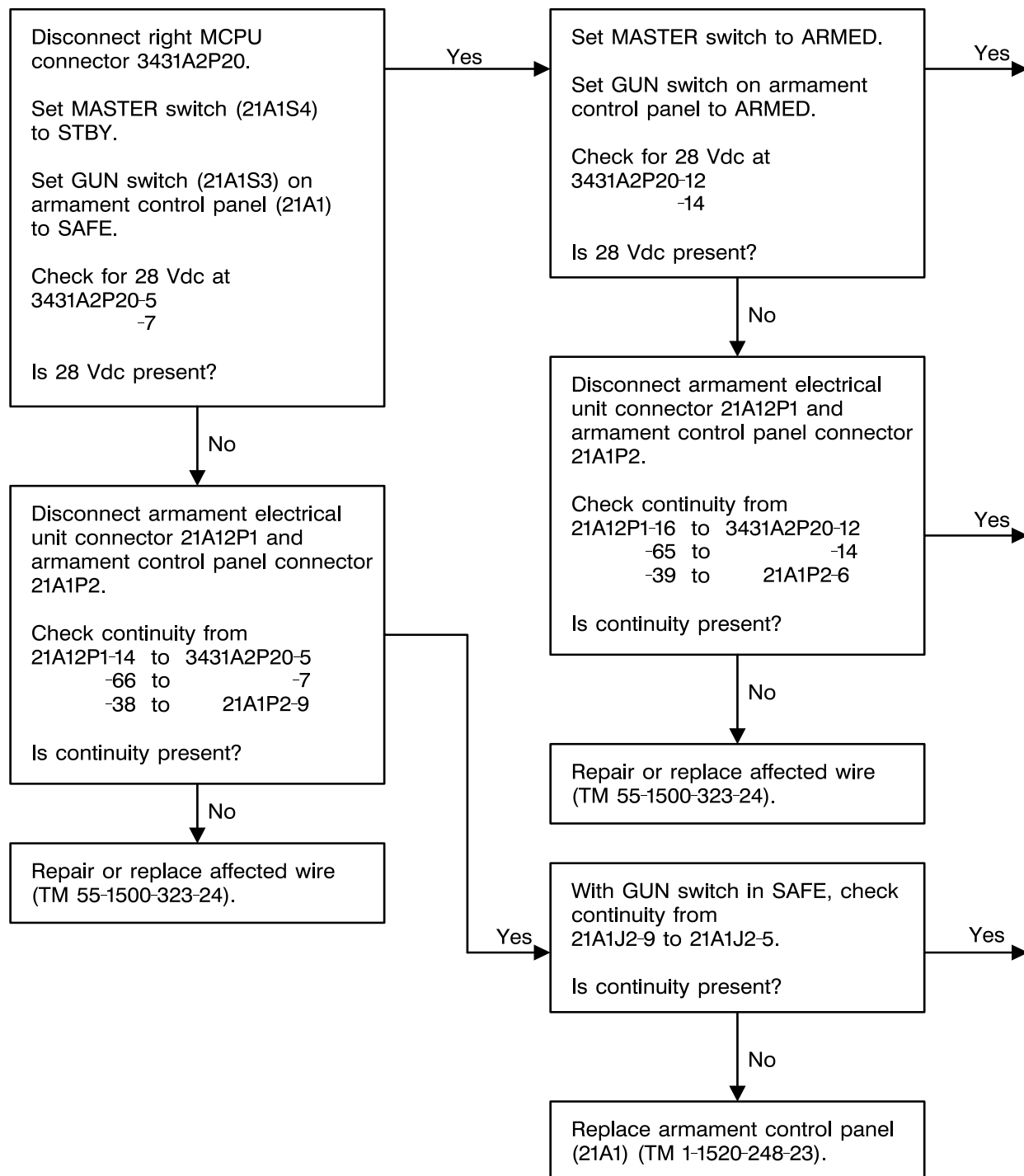


4-3-5. **ARM/SAFE** INDICATION ON MFD DOES NOT RESPOND PROPERLY TO GUN POSITION
(TASK 2-5-5) - OH-58D (CONT)



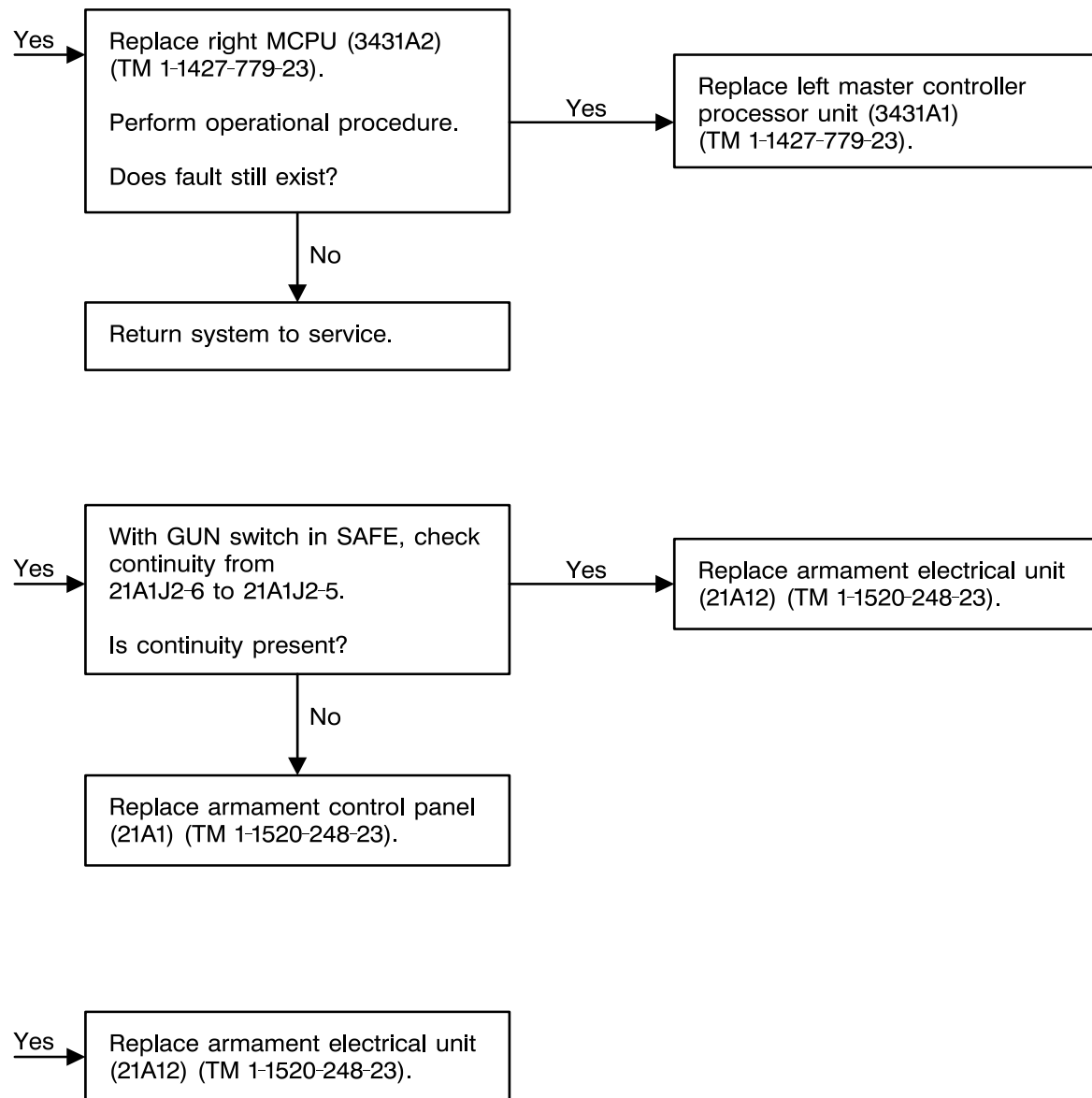
406475-542-98
J1493

4-3-6. **ARM/SAFE** INDICATION ON MFD DOES NOT RESPOND PROPERLY TO GUN POSITION (TASK 2-5-6) - OH-58D(R)

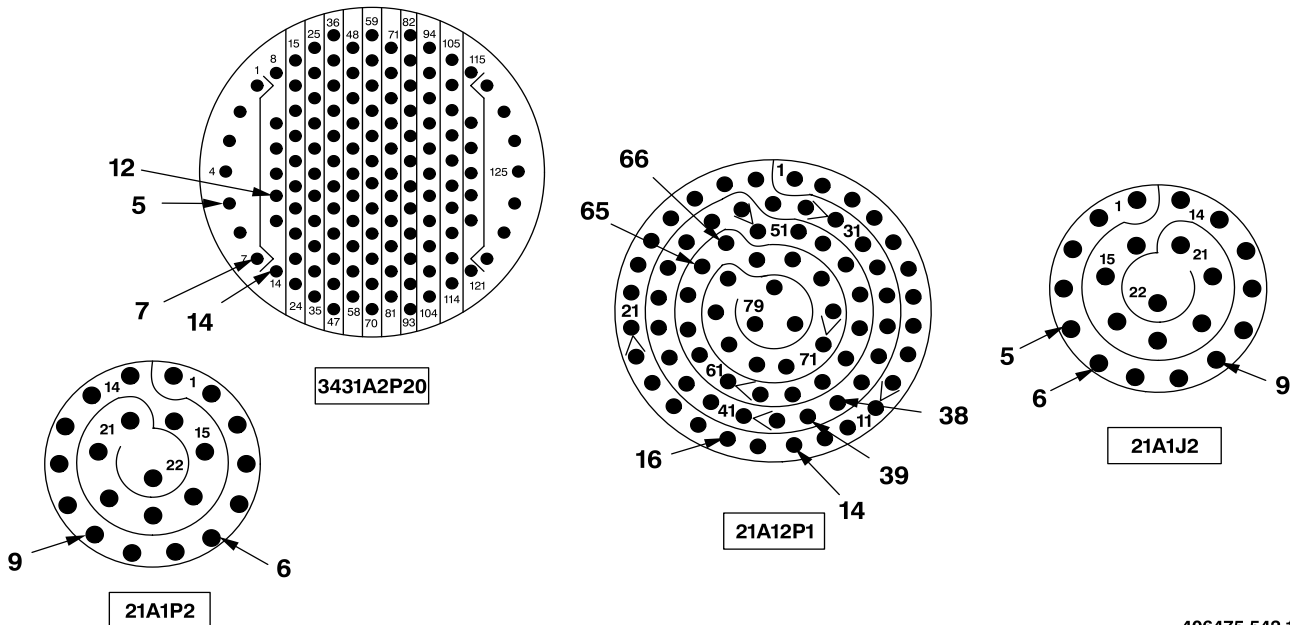
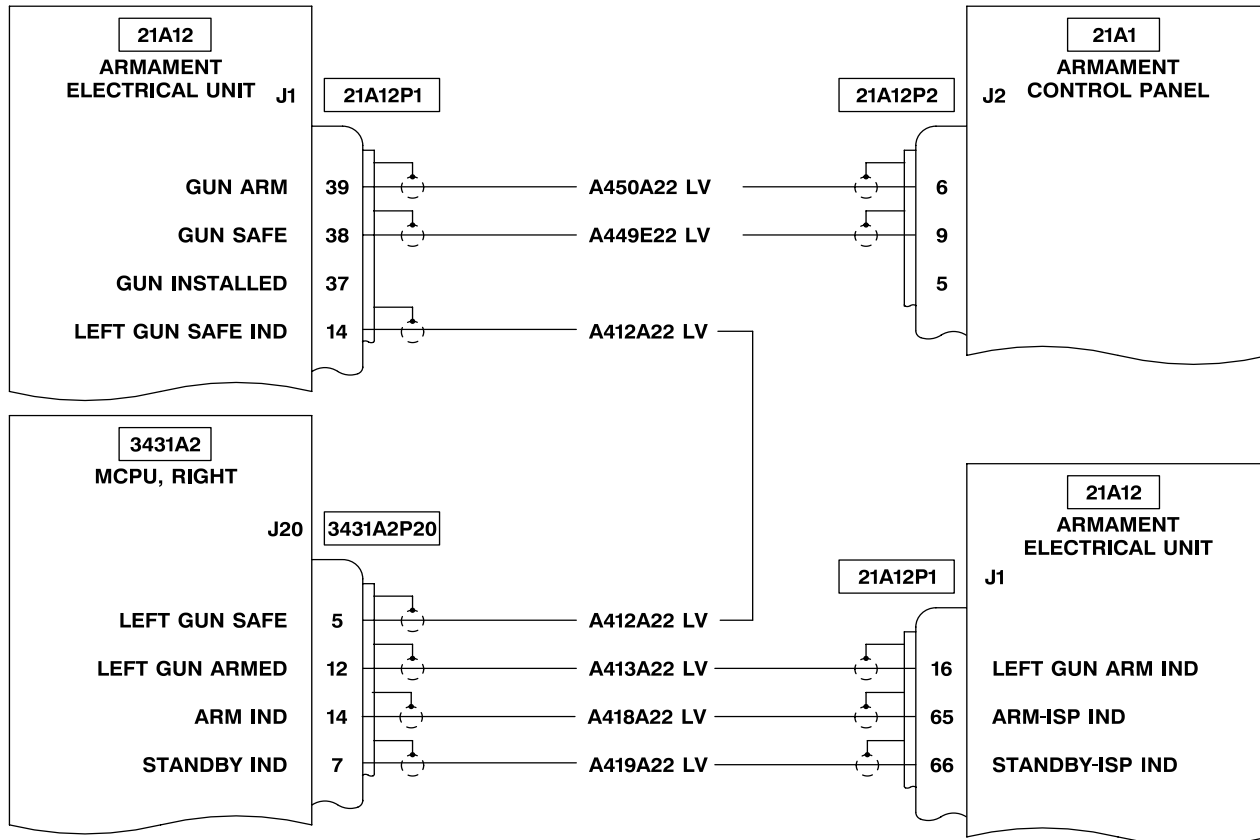


406475-542-99
J1493

4-3-6. ARM/SAFE INDICATION ON MFD DOES NOT RESPOND PROPERLY TO GUN POSITION
(TASK 2-5-6) - OH-58D(R) (CONT)

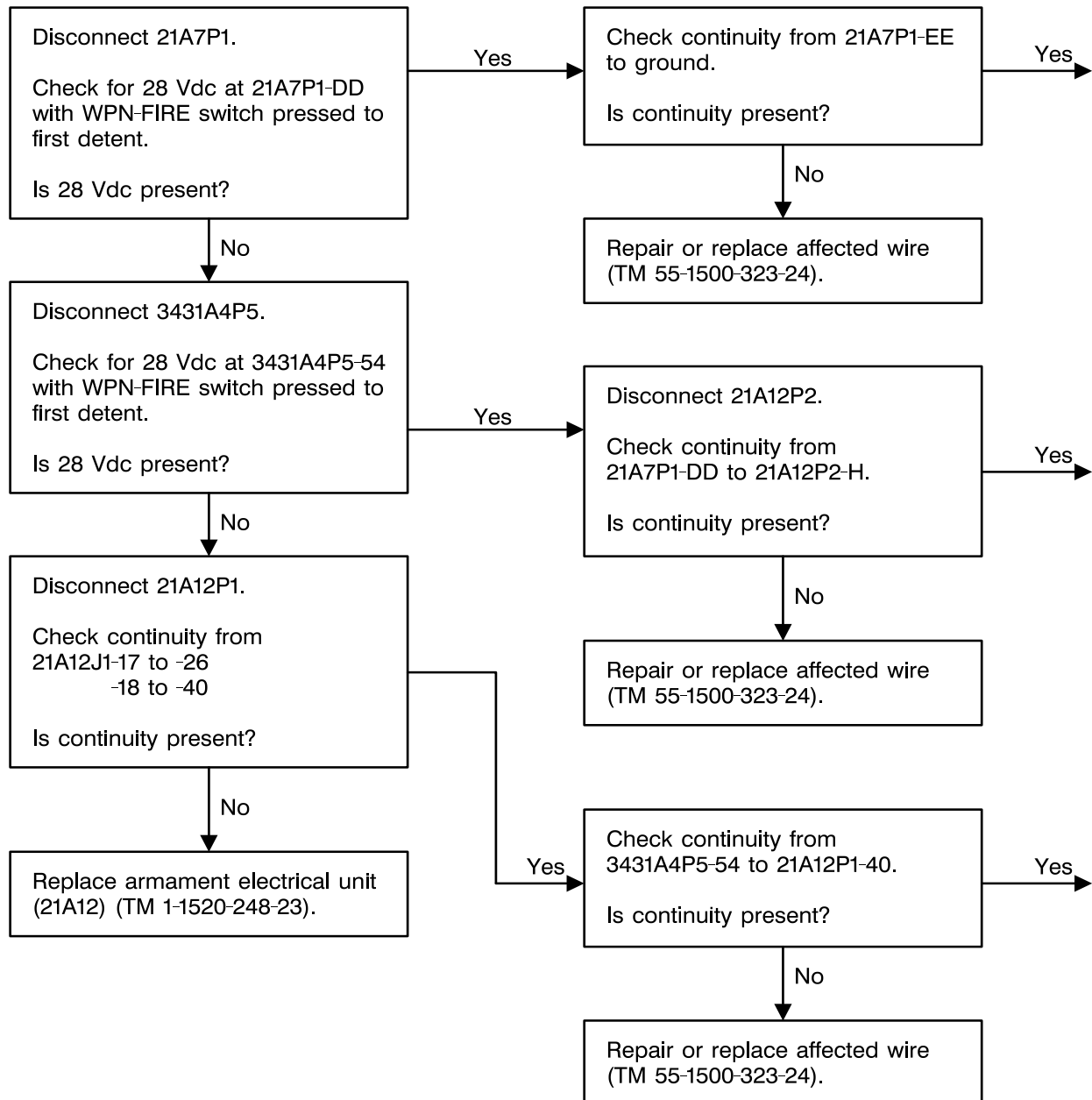
406475-542-100
J1493

4-3-6. **ARM/SAFE** INDICATION ON MFD DOES NOT RESPOND PROPERLY TO GUN POSITION
(TASK 2-5-6) - OH-58D(R) (CONT)



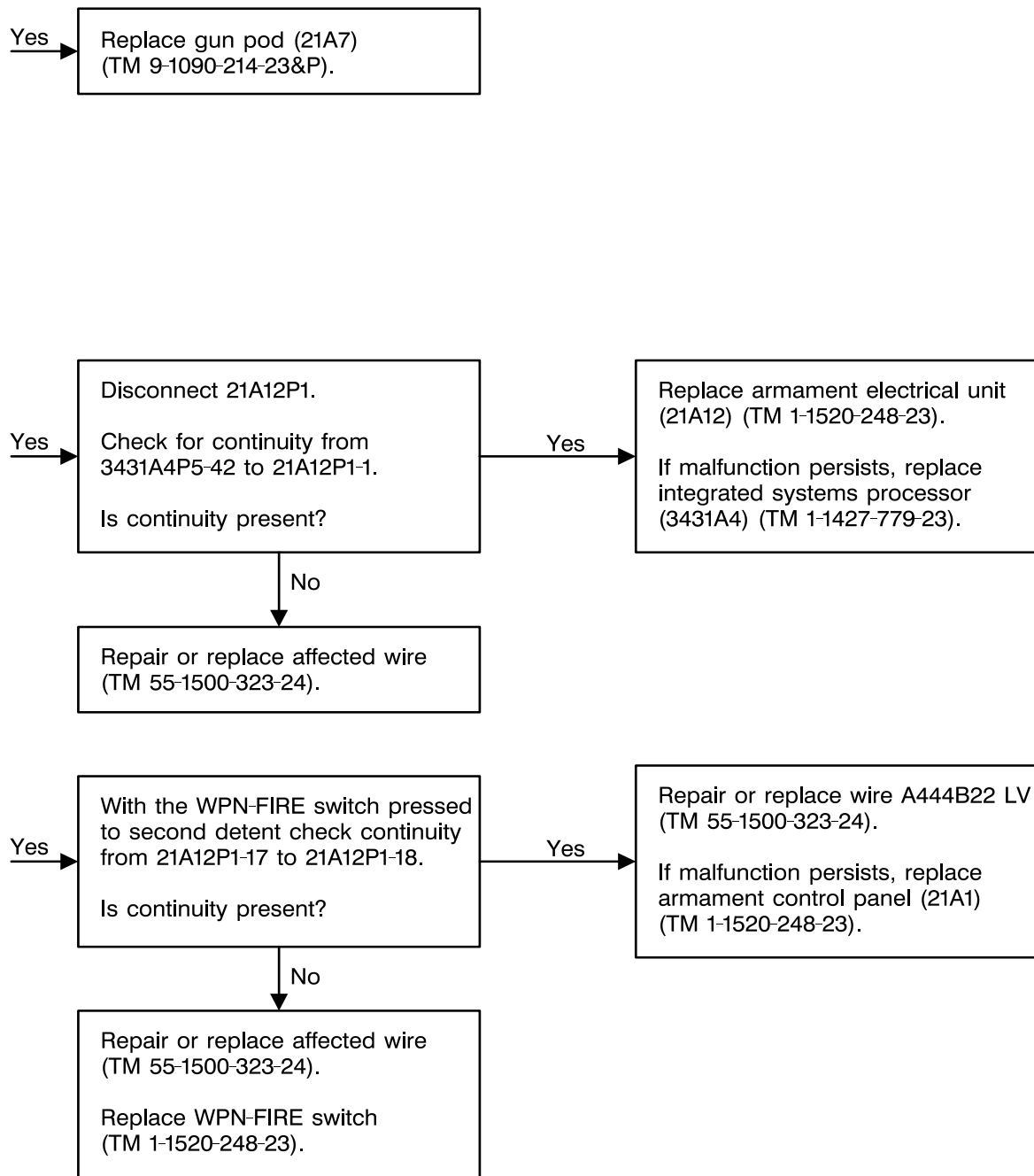
406475-542-101
J1493

4-3-7. GUN DOES NOT FIRE LIMITED BURST WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-5) - OH-58D

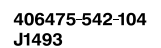


406475-542-102
J1493

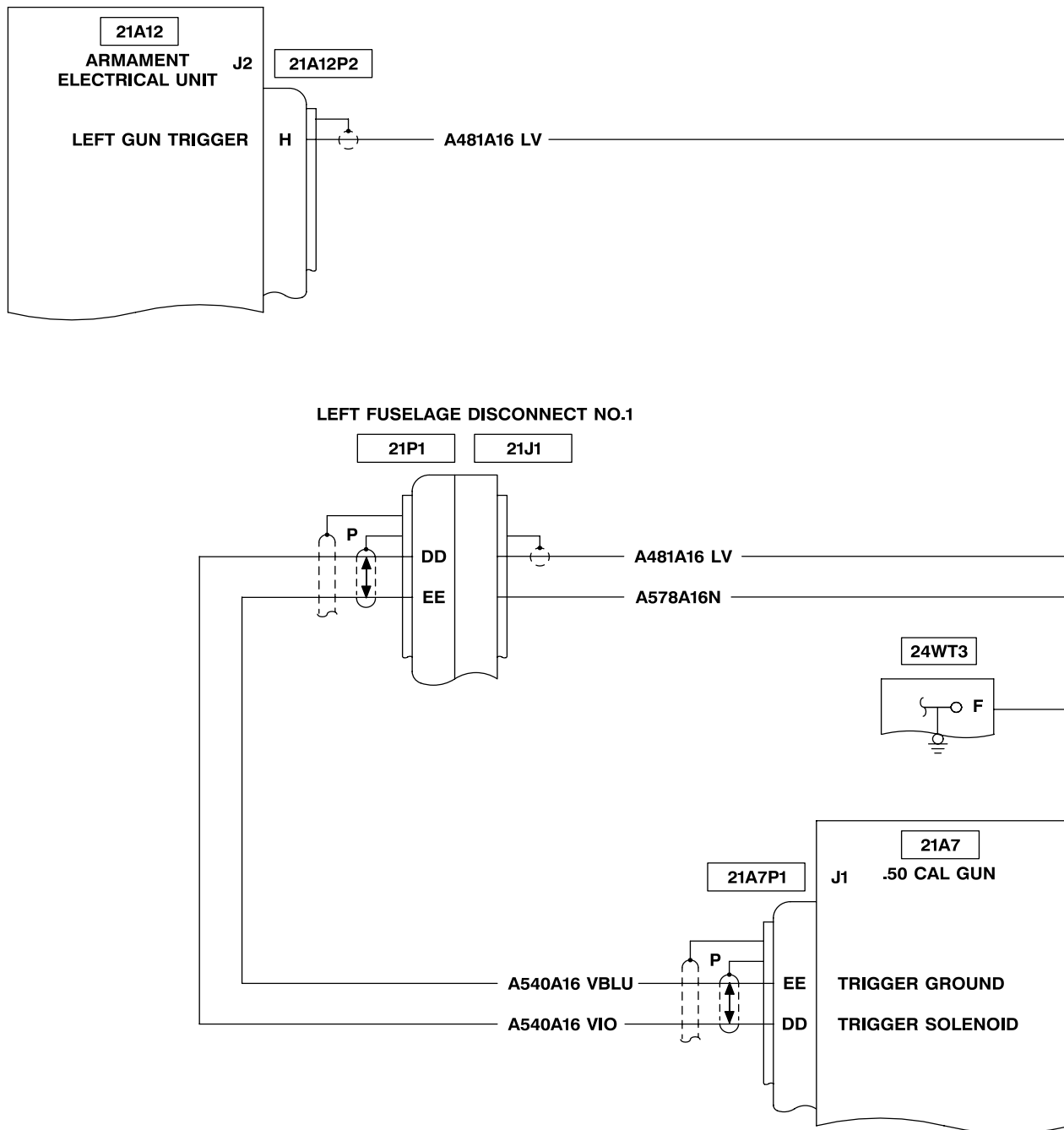
4-3-7. GUN DOES NOT FIRE LIMITED BURST WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-5) - OH-58D (CONT)



406475-542-103
J1493

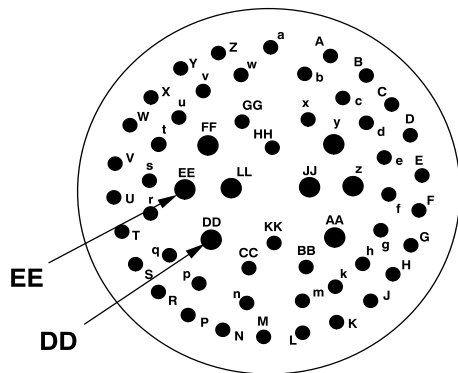


4-3-7. GUN DOES NOT FIRE LIMITED BURST WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-5) - OH-58D (CONT)

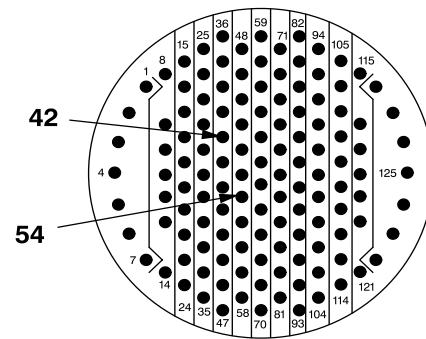


406475-542-105
J1493

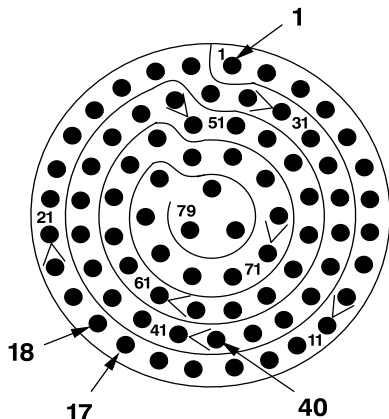
4-3-7. GUN DOES NOT FIRE LIMITED BURST WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-5) - OH-58D (CONT)



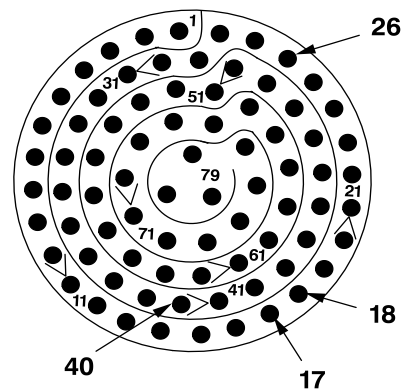
21A7P1



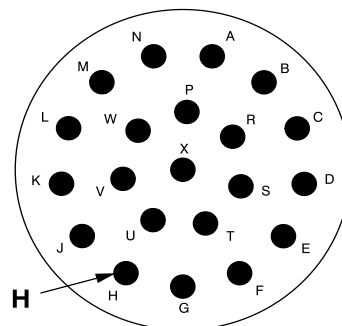
3431A4P5



21A12P1

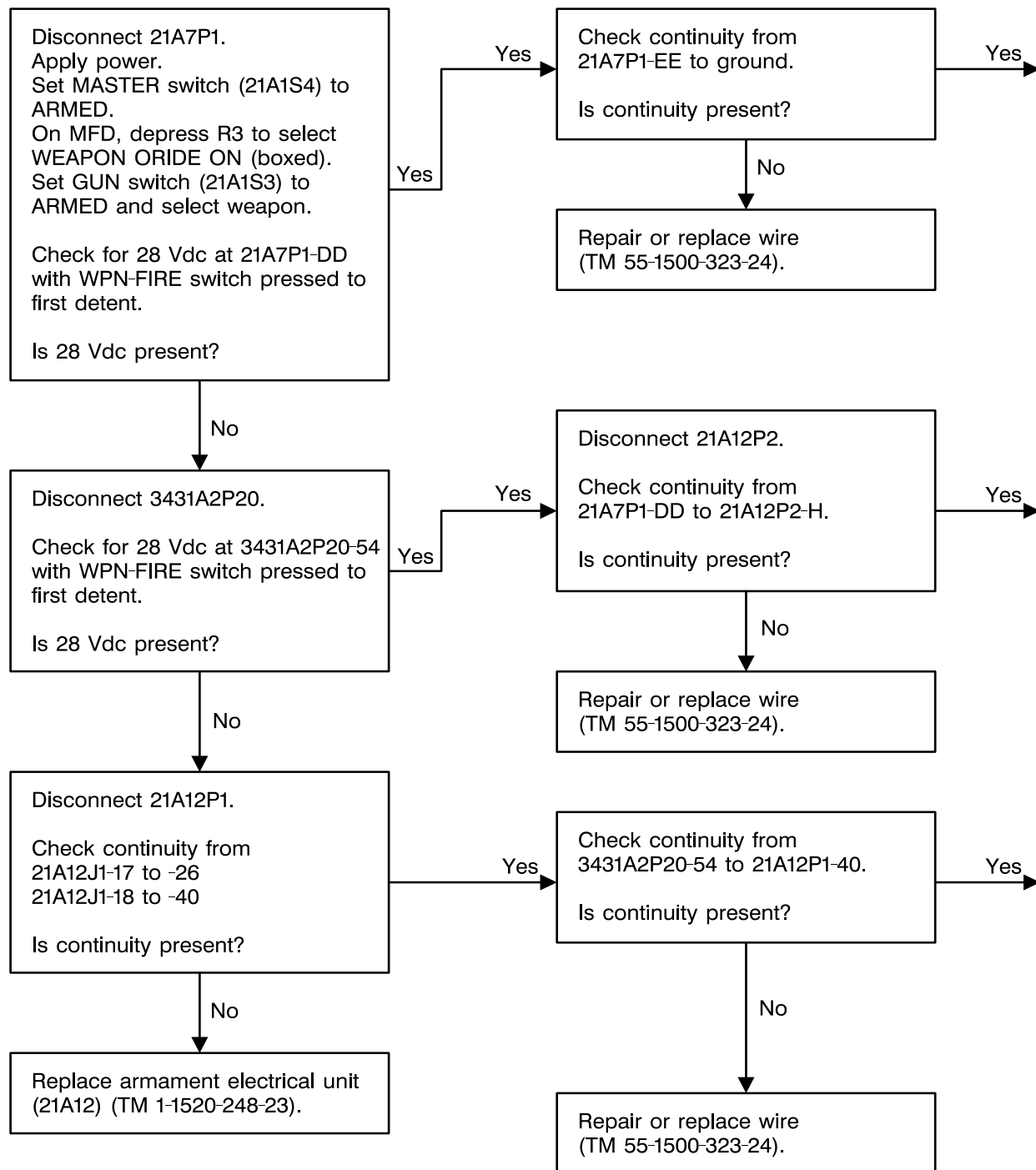


21A12J1



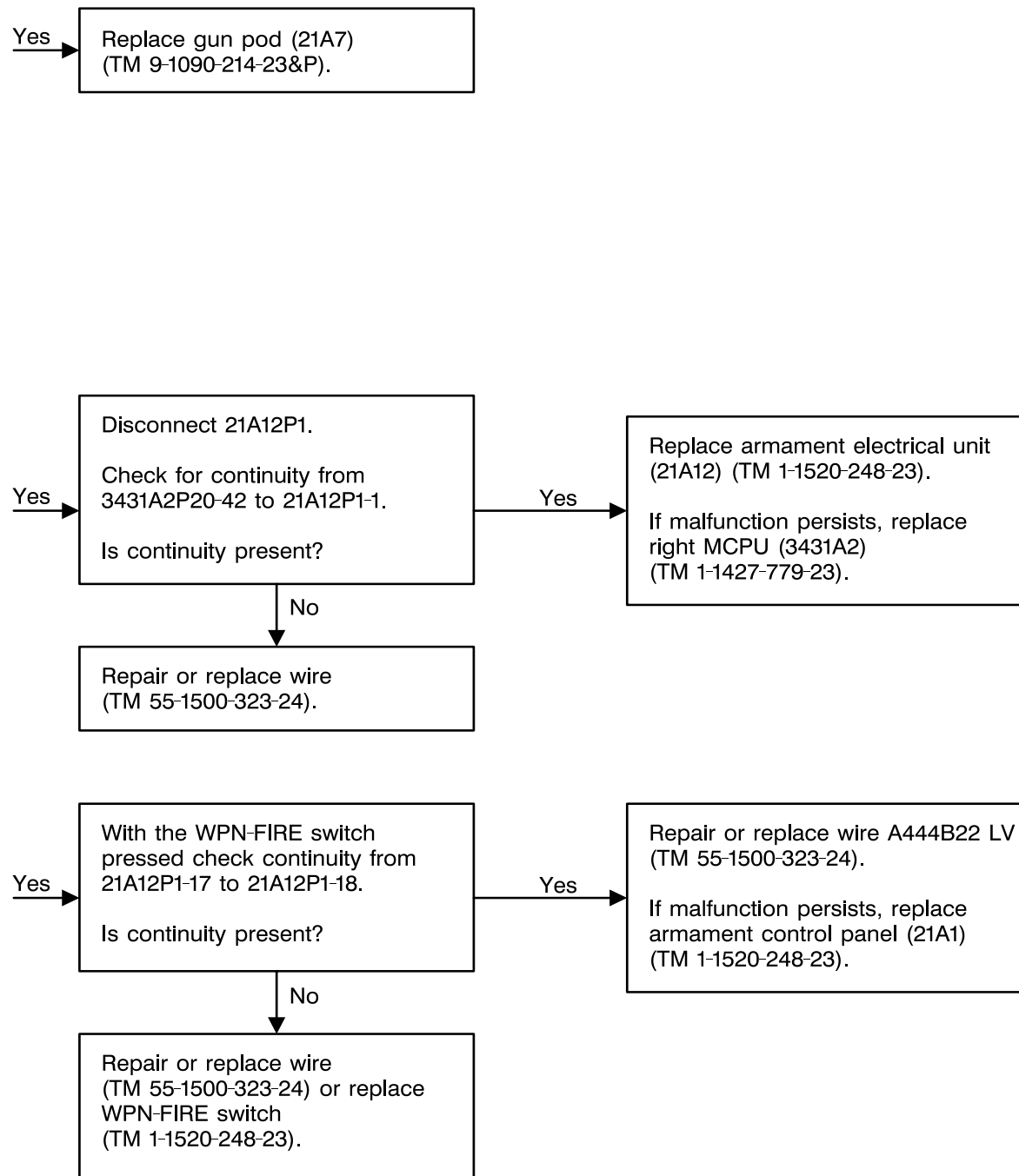
21A12P2

4-3-8. GUN DOES NOT FIRE LIMITED BURST WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-6) - OH-58D(R)

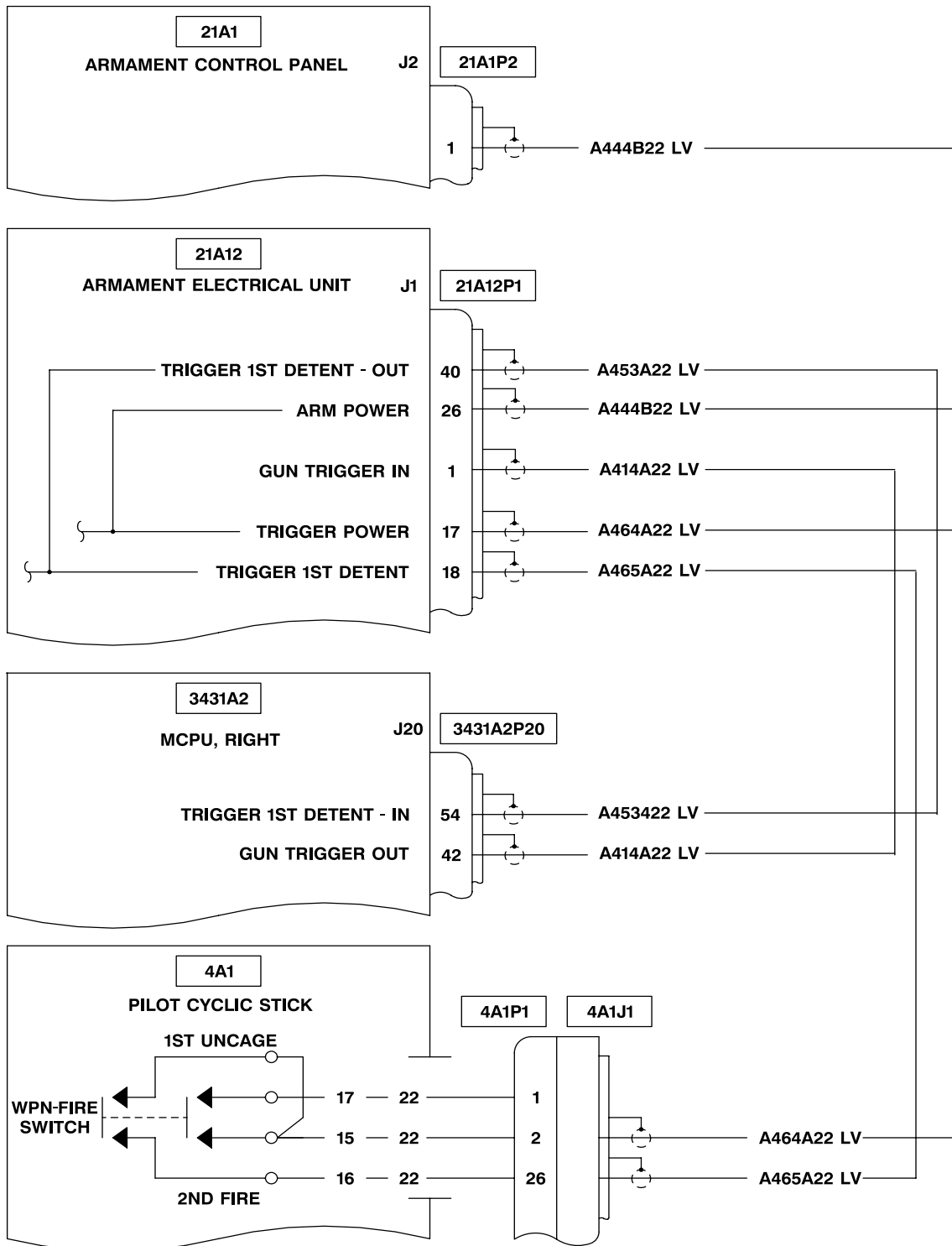


406475-542-107
J1493

4-3-8. GUN DOES NOT FIRE LIMITED BURST WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-6) - OH-58D(R) (CONT)

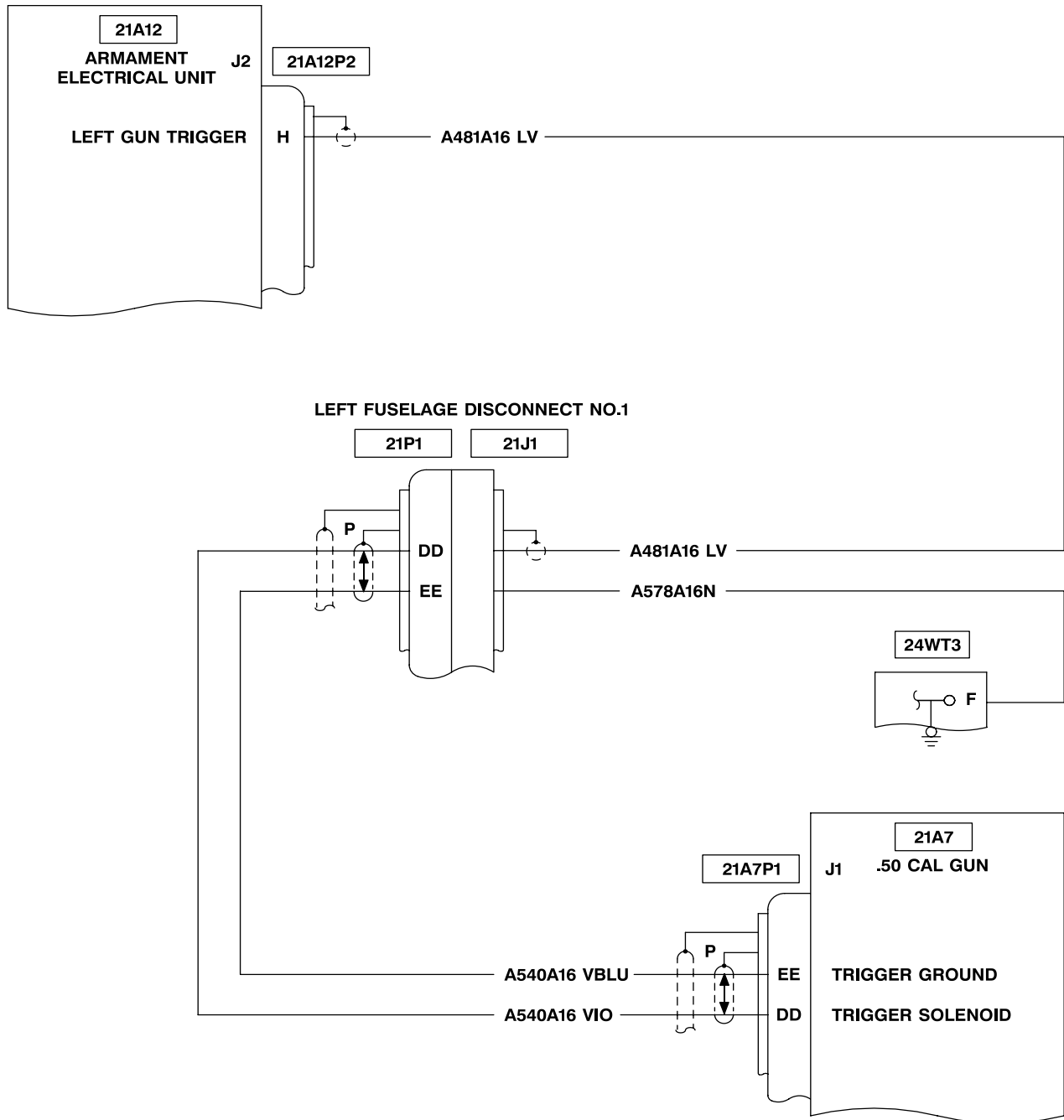
406475-542-108
J1493

4-3-8. GUN DOES NOT FIRE LIMITED BURST WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-6) - OH-58D(R) (CONT)



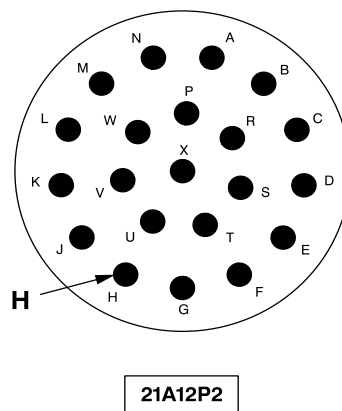
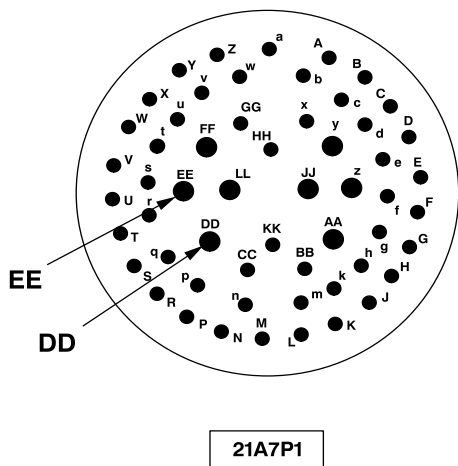
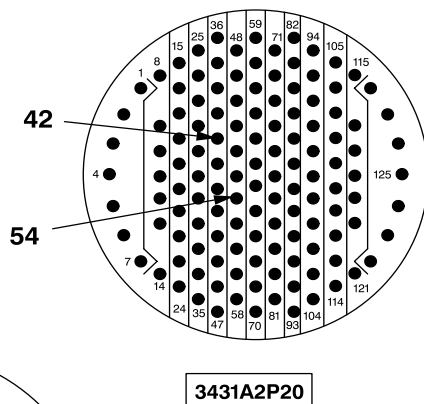
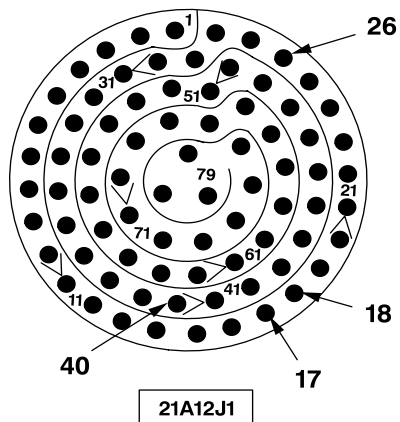
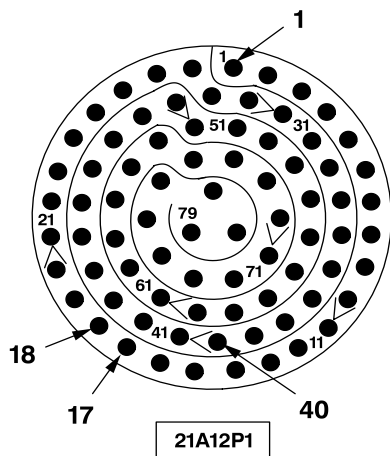
406475-542-109
J1493

4-3-8. GUN DOES NOT FIRE LIMITED BURST WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-6) - OH-58D(R) (CONT)



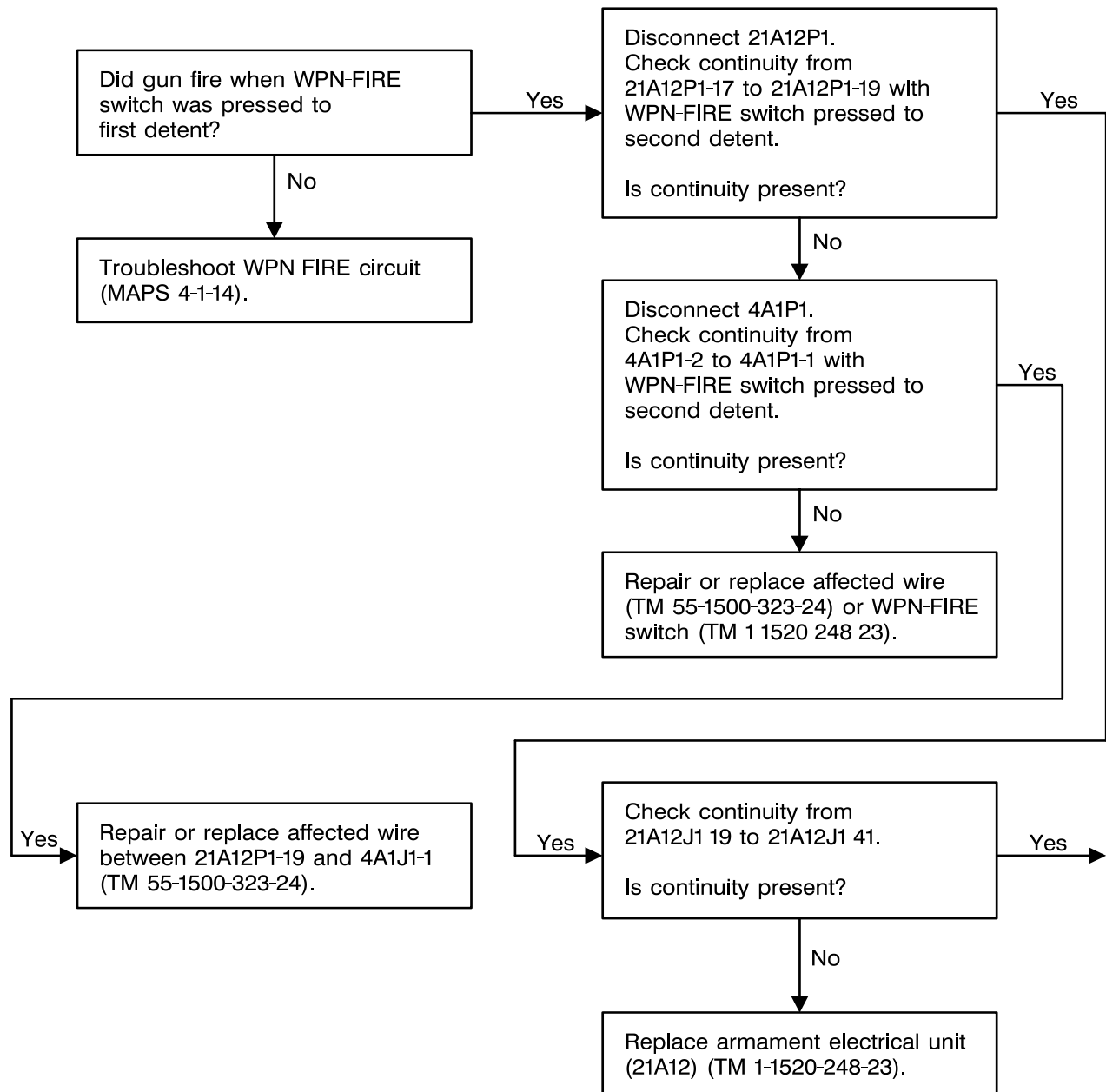
406475-542-110
J1493

4-3-8. GUN DOES NOT FIRE LIMITED BURST WHEN WPN-FIRE SWITCH IS PRESSED TO FIRST DETENT (TASK 2-5-6) OH-58D(R) (CONT)



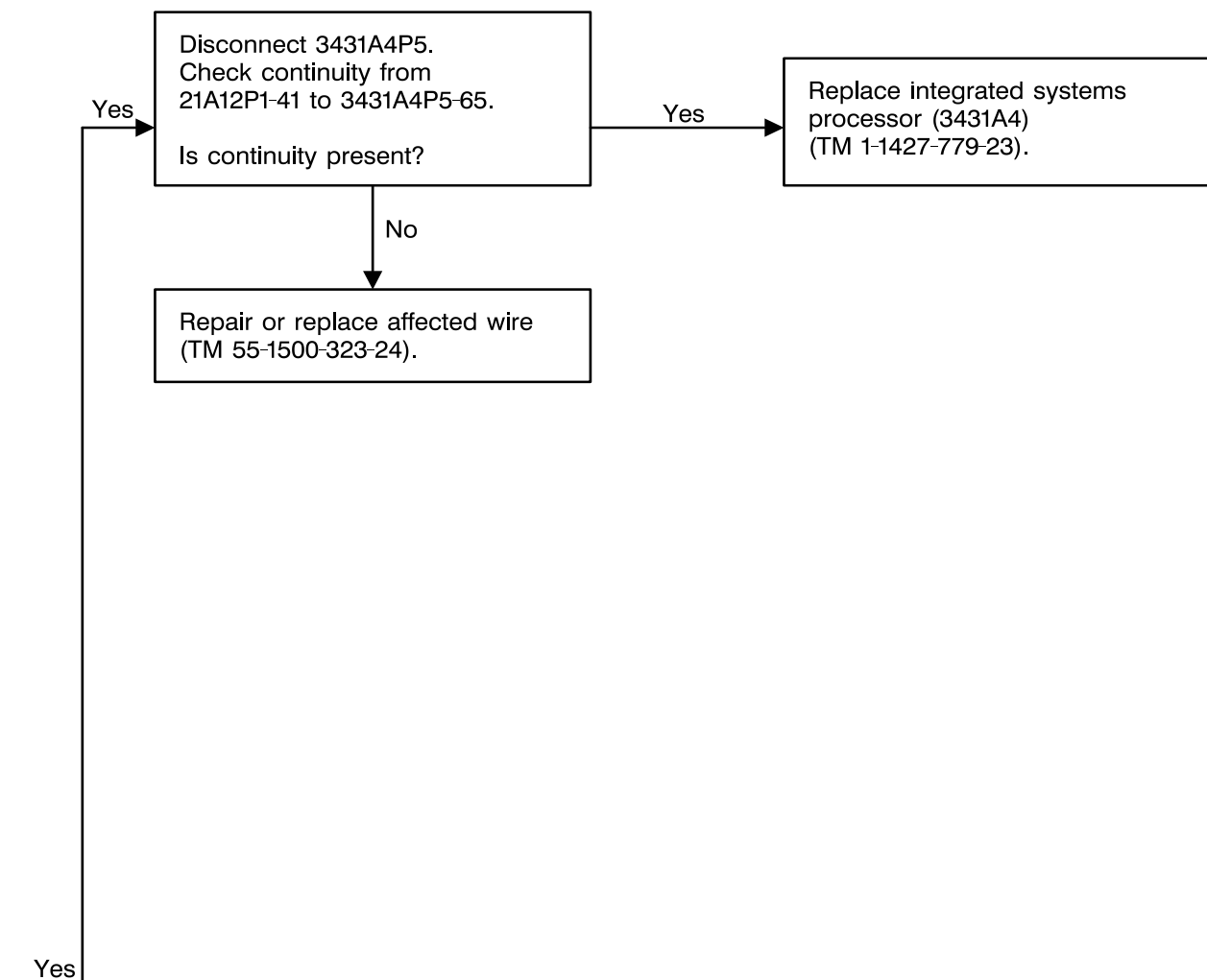
406475-542-111
J1493

4-3-9. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-5) - OH-58D



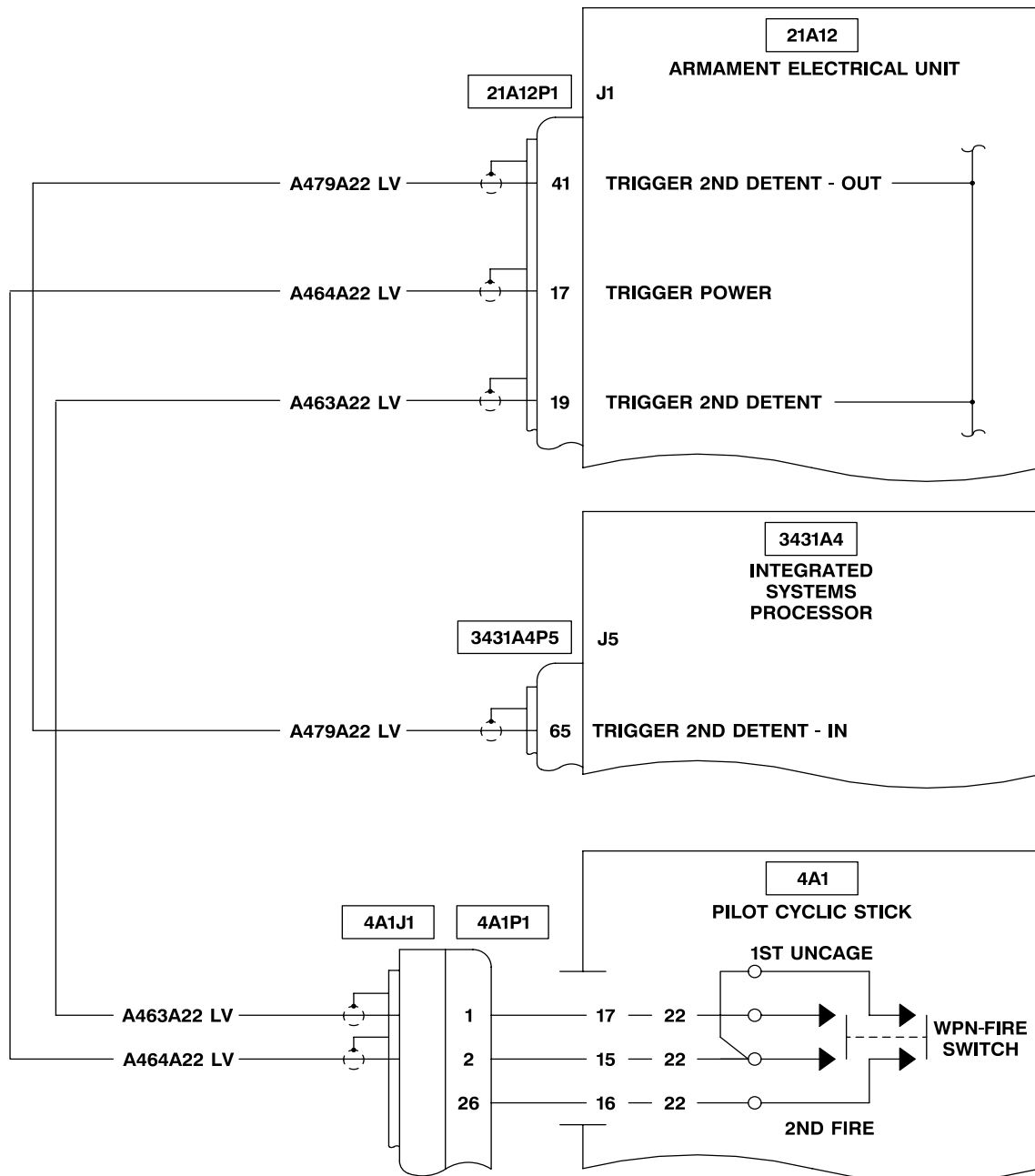
406475-542-112
J1493

4-3-9. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-5) - OH-58D (CONT)



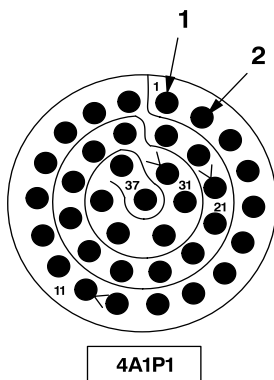
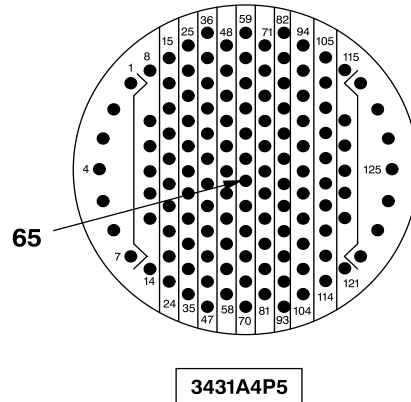
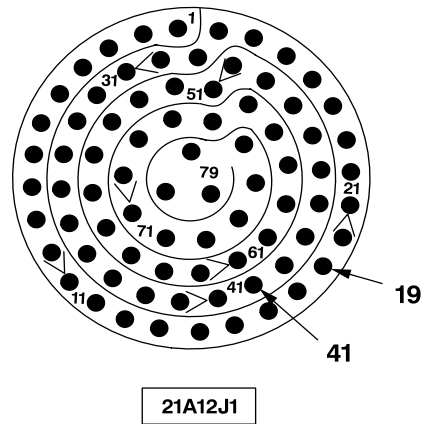
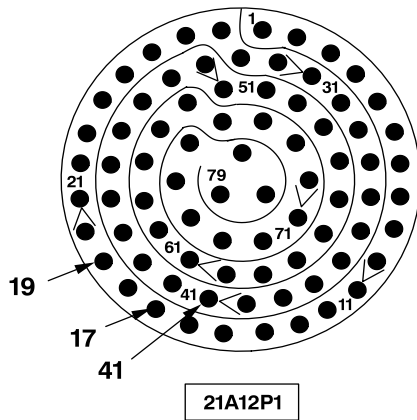
406475-542-113
J1493

4-3-9. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-5) - OH-58D (CONT)



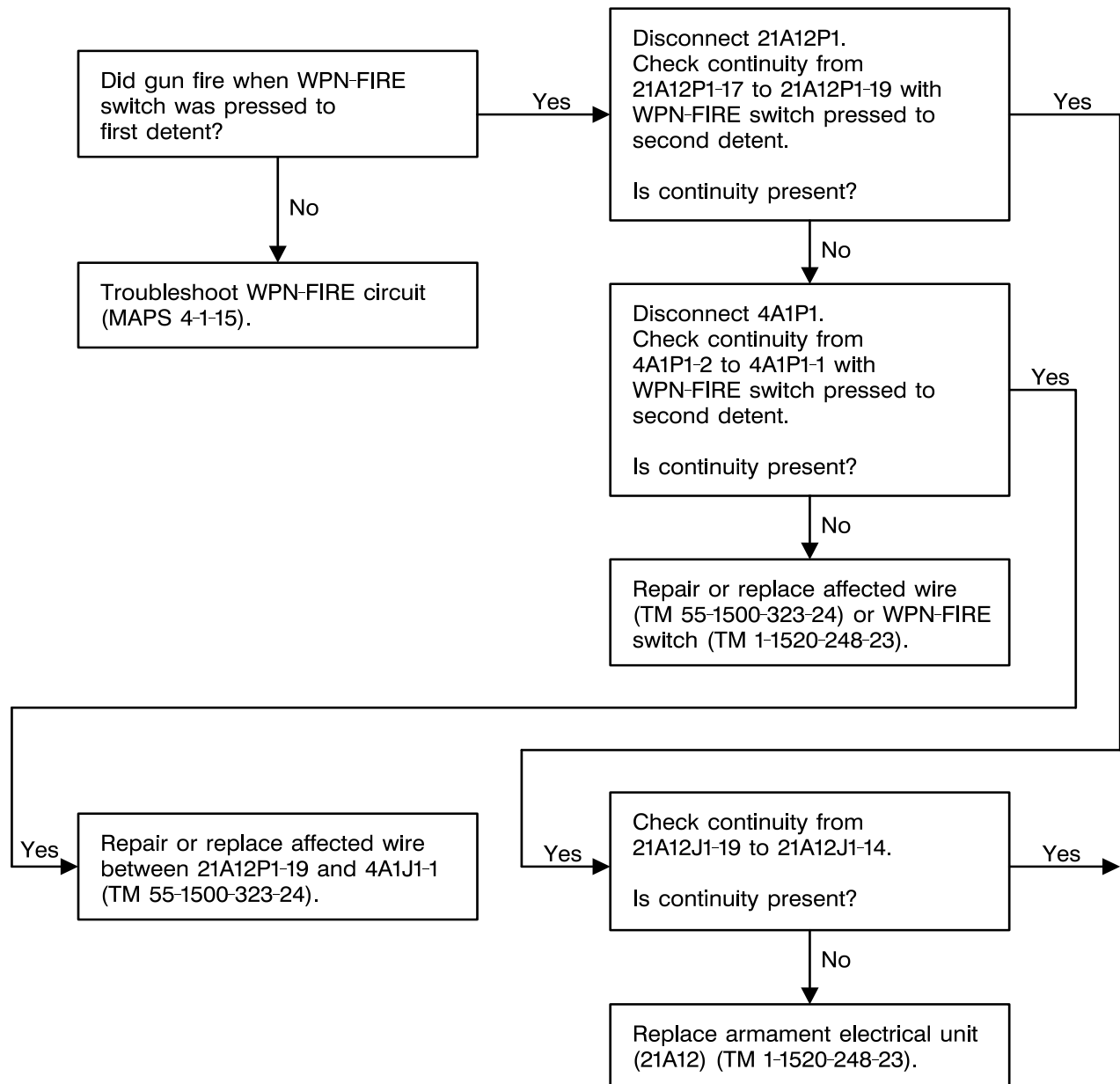
406475-542-114
J1493

4-3-9. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-5) - OH-58D (CONT)



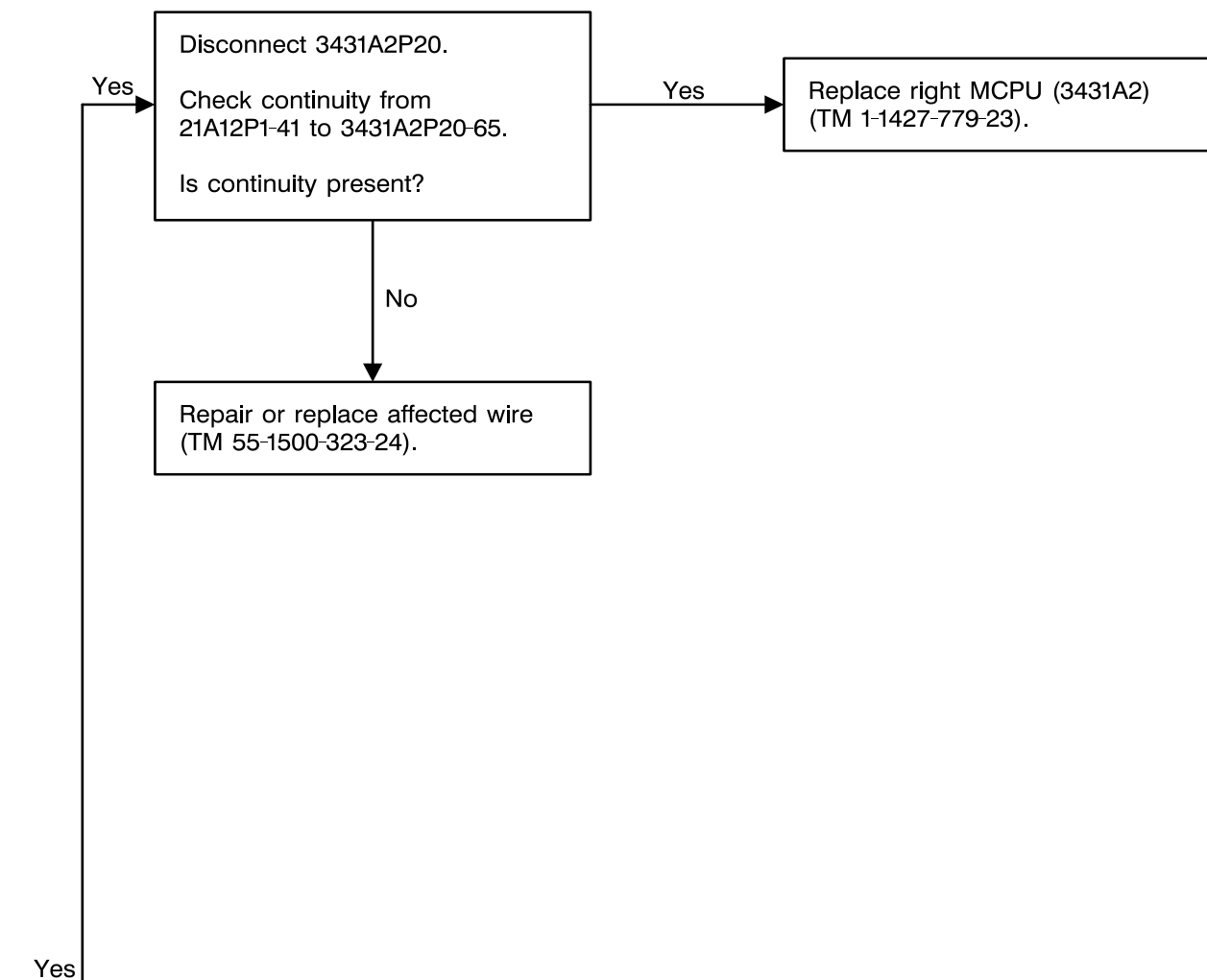
406475-542-115
J1493

4-3-10. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-6) - OH-58D(R)



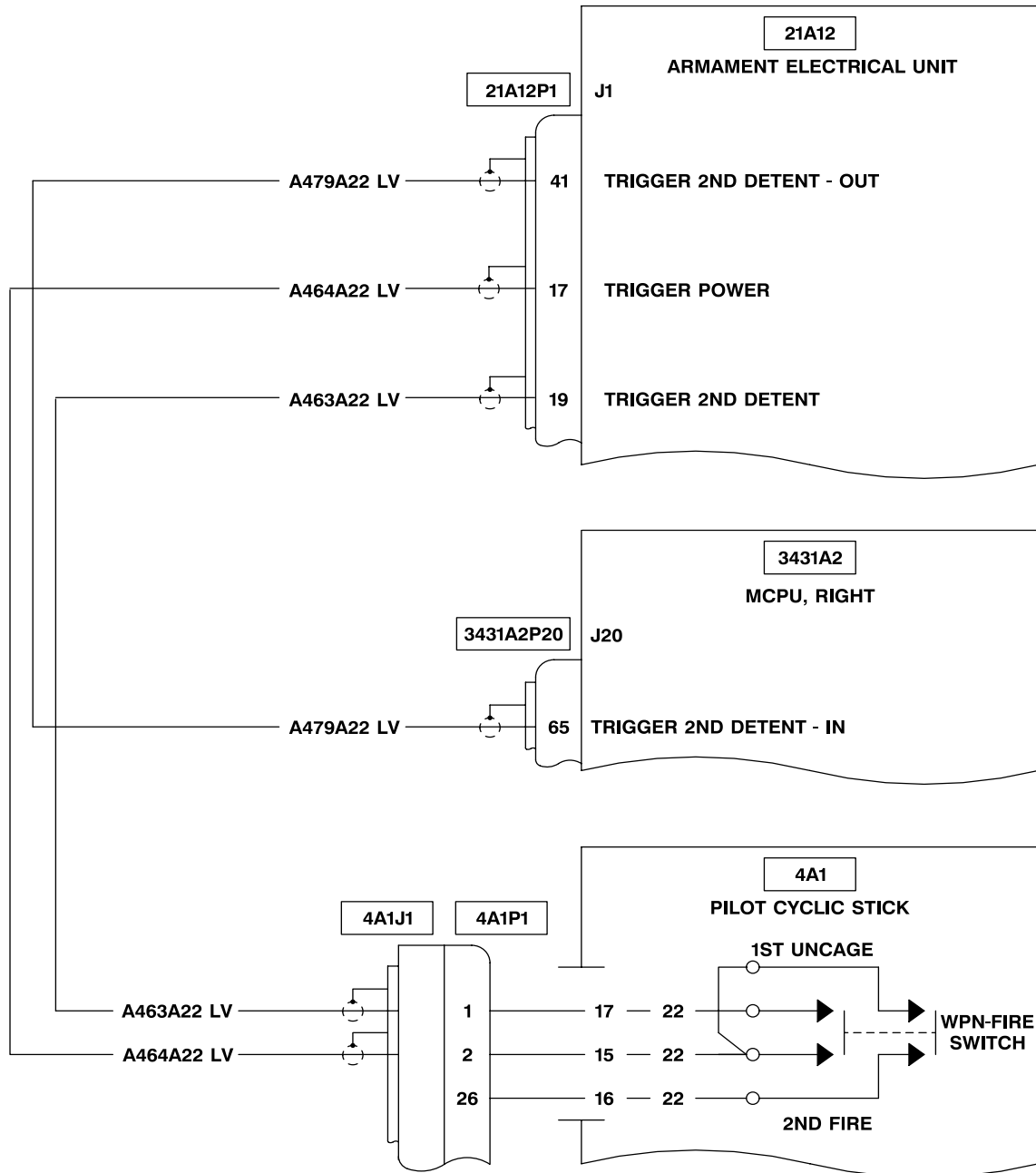
406475-542-116
J1493

4-3-10. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-6) - OH-58D(R) (CONT)



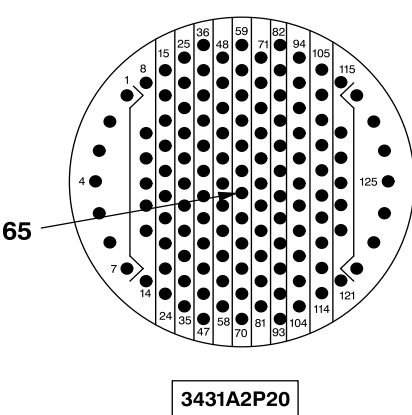
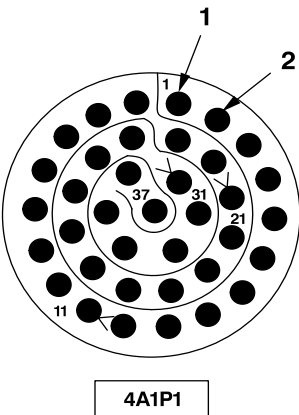
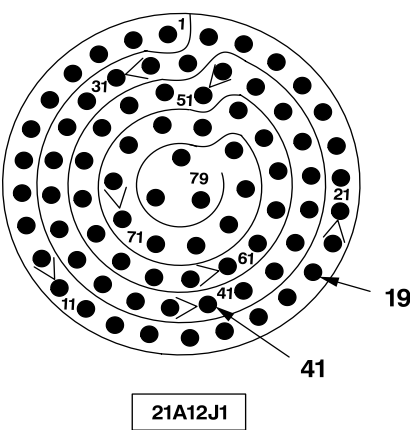
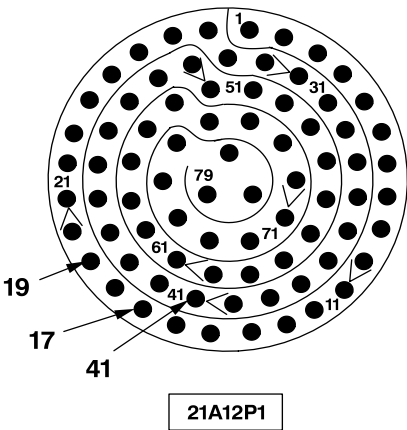
406475-542-117
J1493

4-3-10. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-6) - OH-58D(R) (CONT)

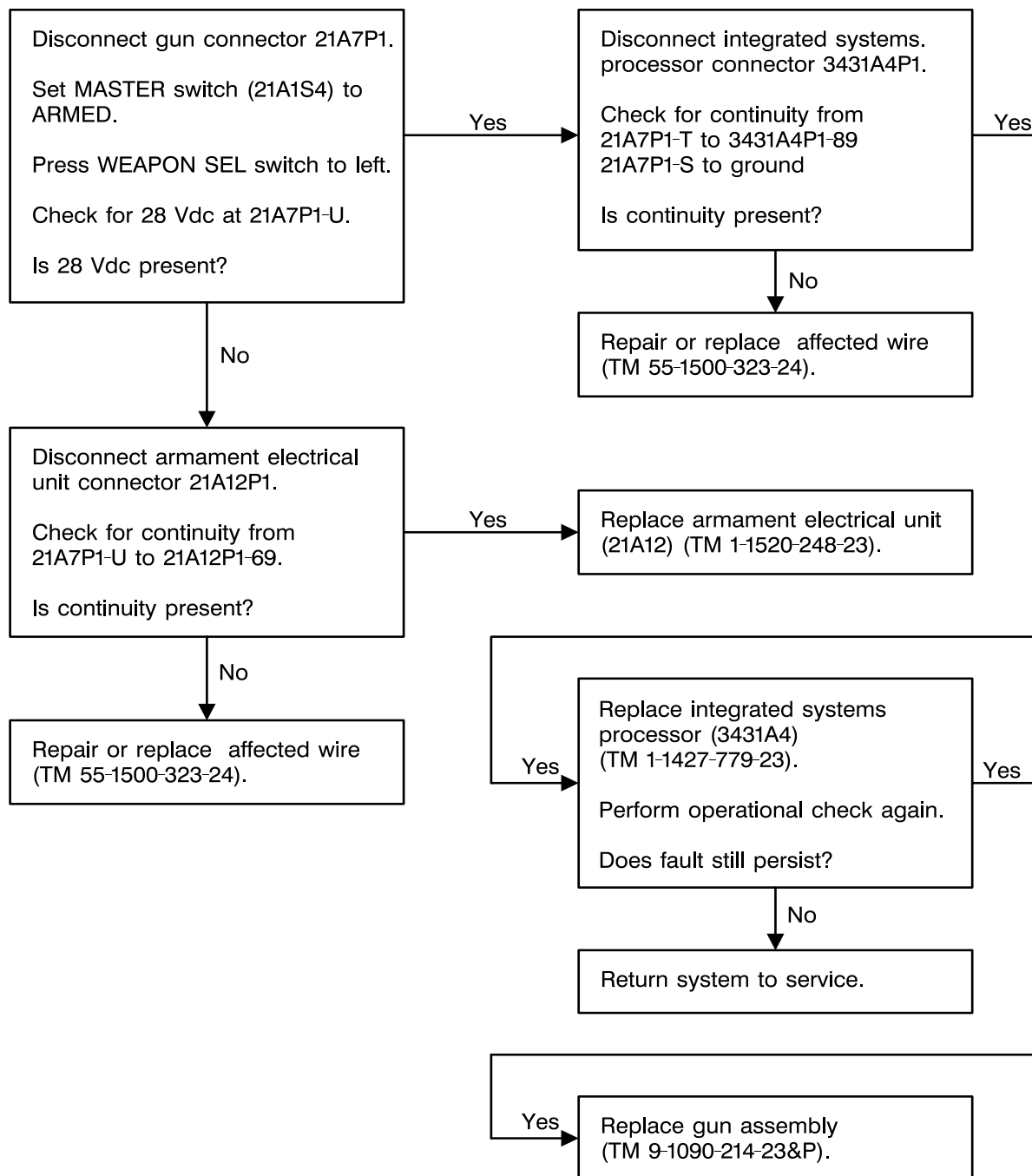


406475-542-118
J1493

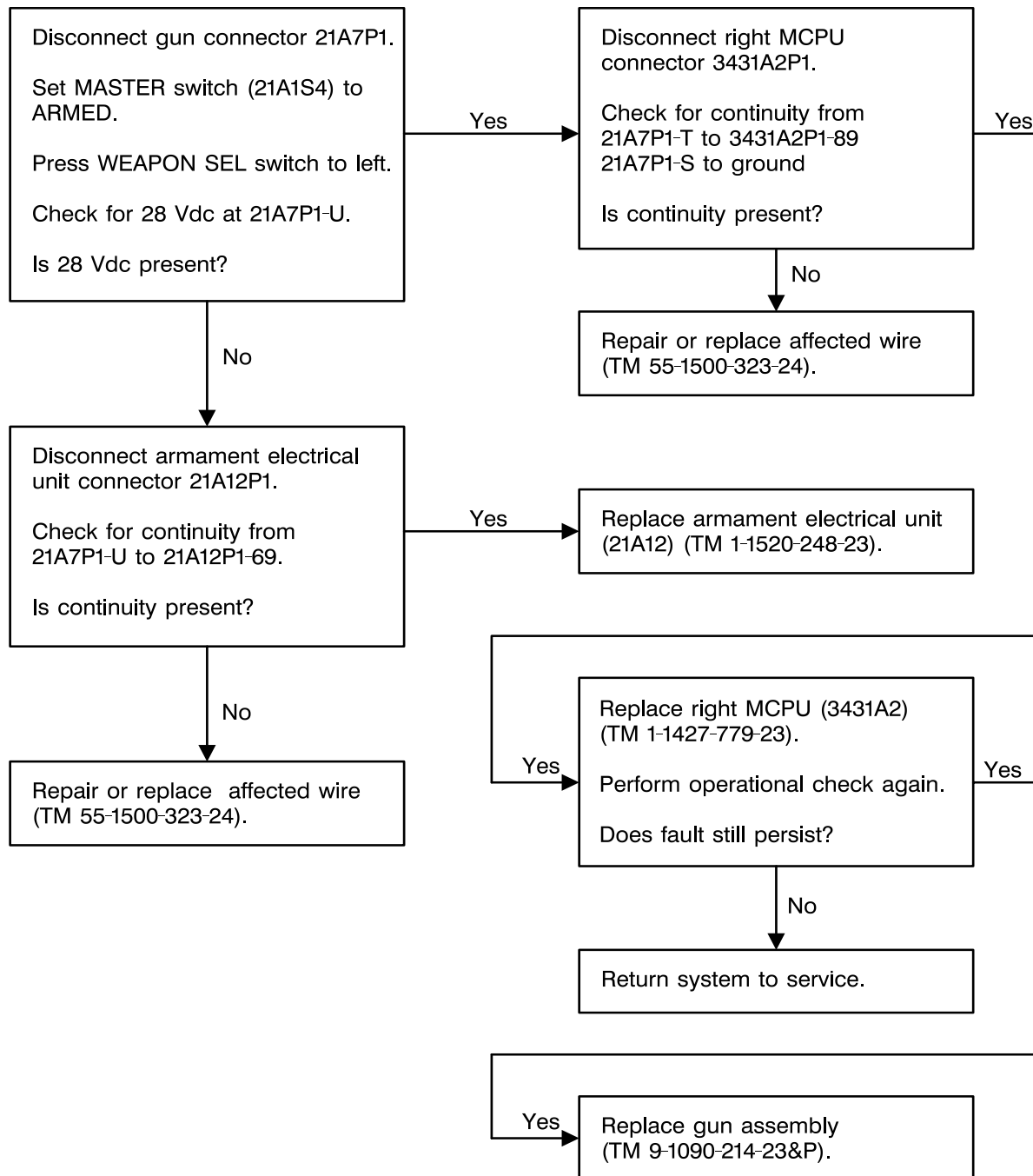
4-3-10. GUN DOES NOT FIRE WHEN WPN-FIRE SWITCH IS PRESSED TO SECOND DETENT (TASK 2-5-6) - OH-58D(R) (CONT)



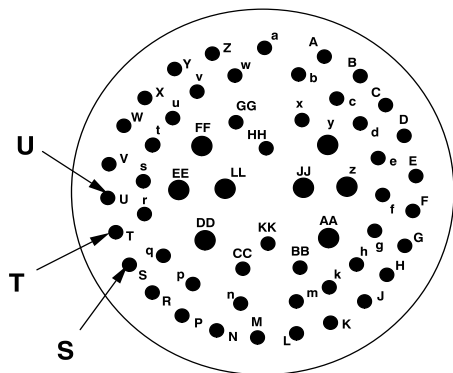
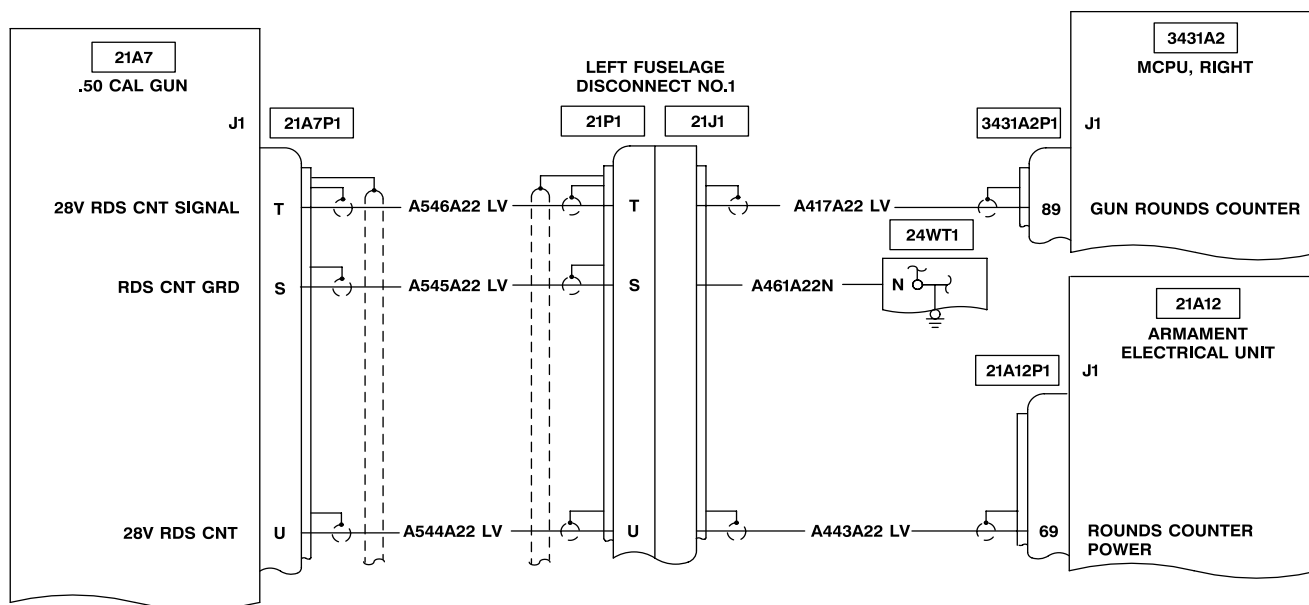
4-3-11. GUN ROUNDS COUNTER DOES NOT DECREMENT PROPERLY (TASK 2-5-5) - OH-58D

406475-542-120
J1493

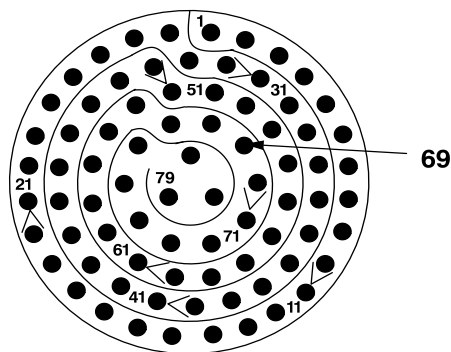
4-3-12. GUN ROUNDS COUNTER DOES NOT DECREMENT PROPERLY (TASK 2-5-6) - OH-58D(R)

406475-542-122
J1493

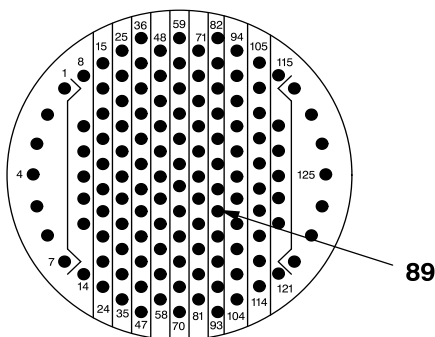
4-3-12. GUN ROUNDS COUNTER DOES NOT DECREMENT PROPERLY (TASK 2-5-6) - OH-58D(R)
(CONT)



21A7P1



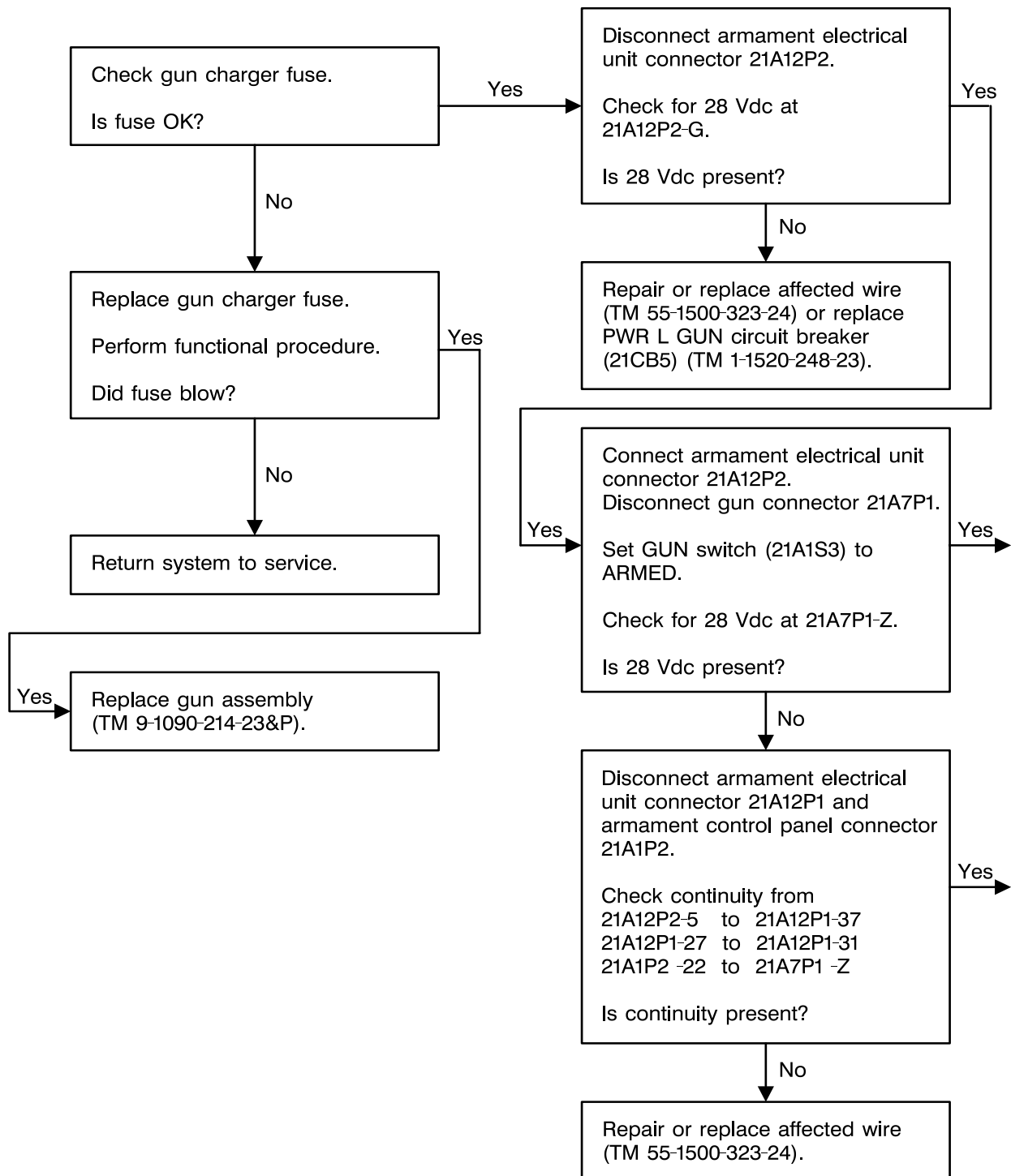
21A12P1



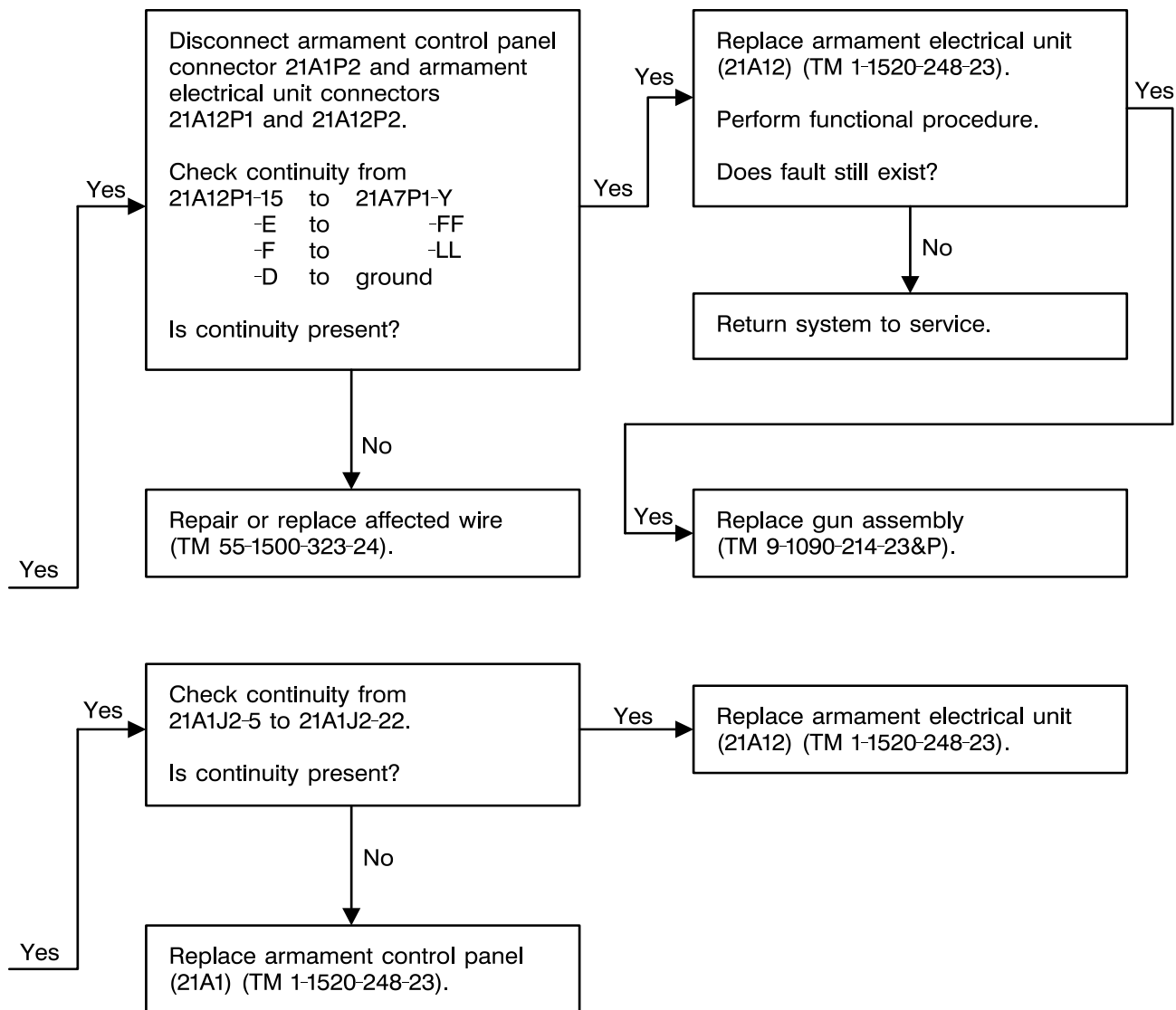
3431A2P1

406475-542-123
J1493

4-3-13. GUN CHARGER WILL NOT GO FORWARD FROM SAFE (TASK 2-5-5/2-5-6)

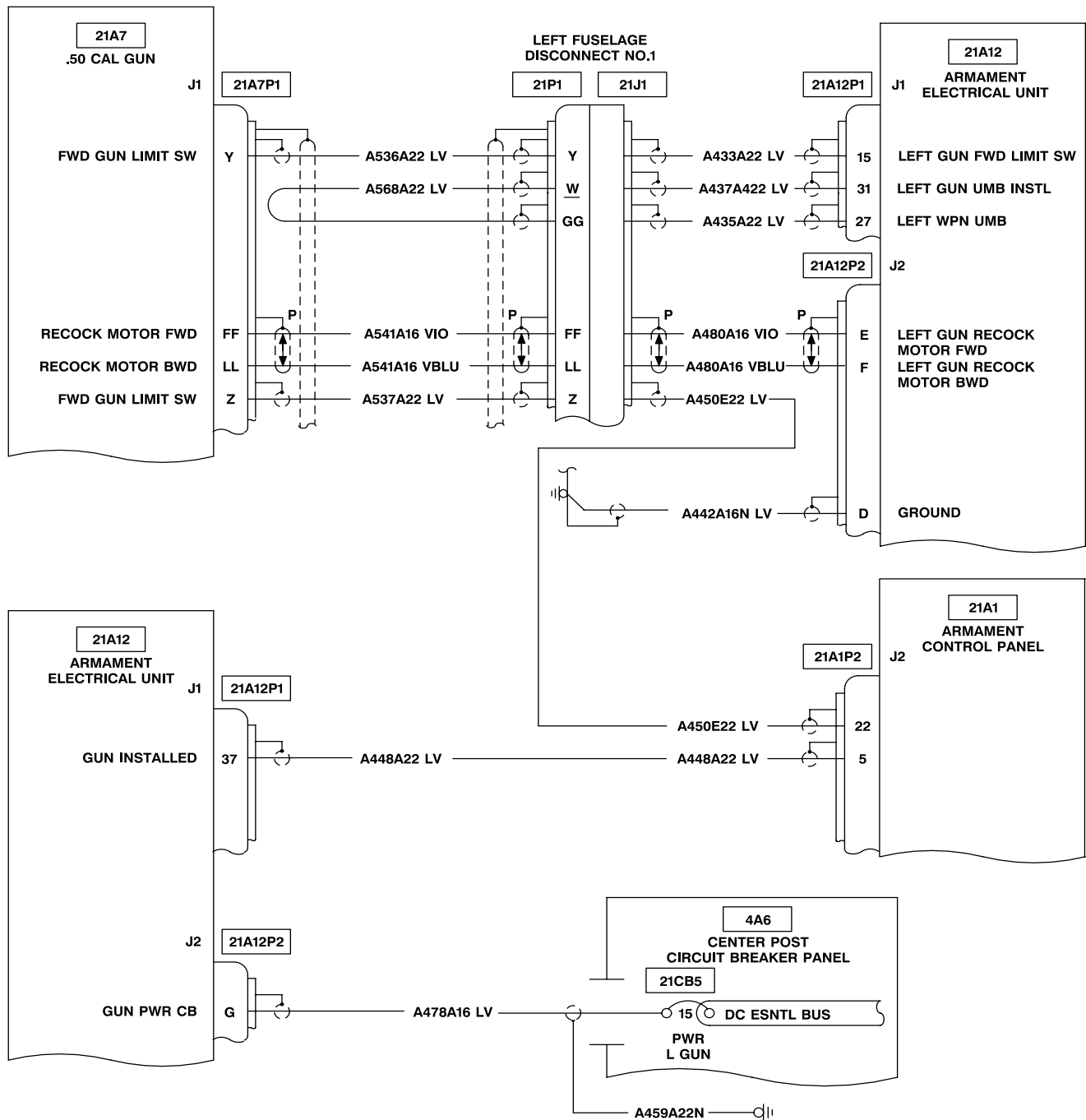
406475-542-124
J1493

4-3-13. GUN CHARGER WILL NOT GO FORWARD FROM SAFE (TASK 2-5-5/2-5-6) (CONT)

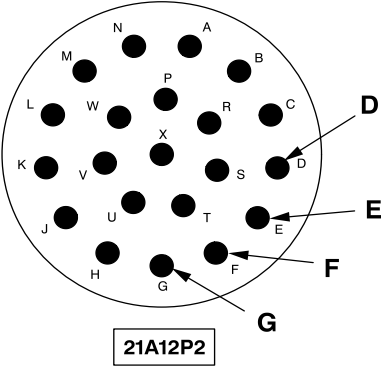
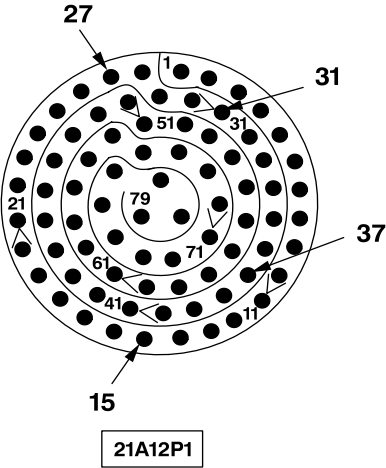
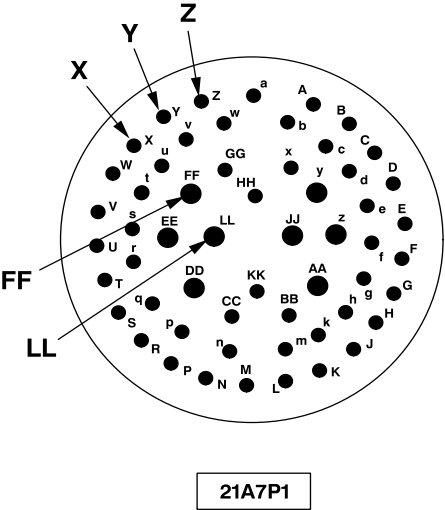
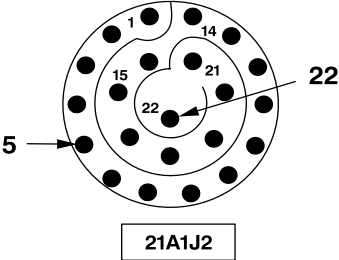
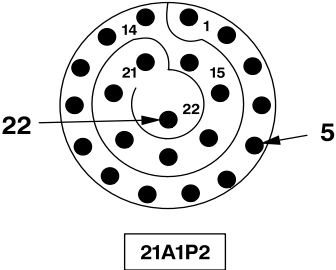


406475-542-125
J1493

4-3-13. GUN CHARGER WILL NOT GO FORWARD FROM SAFE (TASK 2-5-5/2-5-6) (CONT)

406475-542-126
J1493

4-3-13. GUN CHARGER WILL NOT GO FORWARD FROM SAFE (TASK 2-5-5/2-5-6) (CONT)



406475-542-127
J1493

Section IV. ROCKET FAULTS

4-6. MAPS DIAGRAMS INDEX

The MAPS diagrams index provides a numerical list of symptoms contained in this section.

Rocket system malfunctions (symptoms) are listed in column two (SYMPTOM). To locate troubleshooting procedures refer to column one (MAPS NUMBER) which indicates the MAPS diagram number to be utilized. The procedures in the troubleshooting logic tree shall be performed in sequence as specified unless otherwise noted within the logic tree.

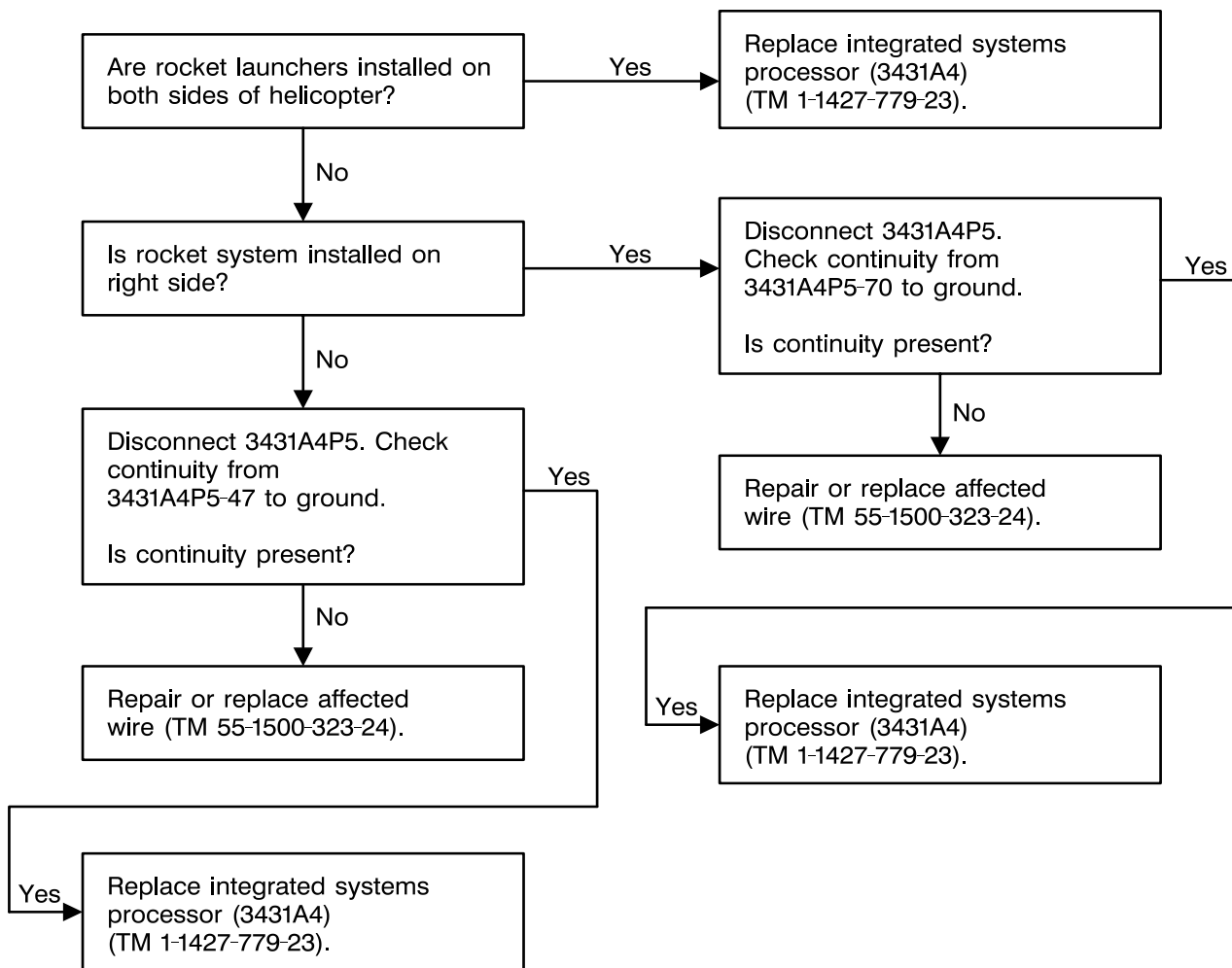
Correction of malfunctions must be verified by performing an operational check utilizing the procedures in TM 1-1520-248-T-1.

NOTE

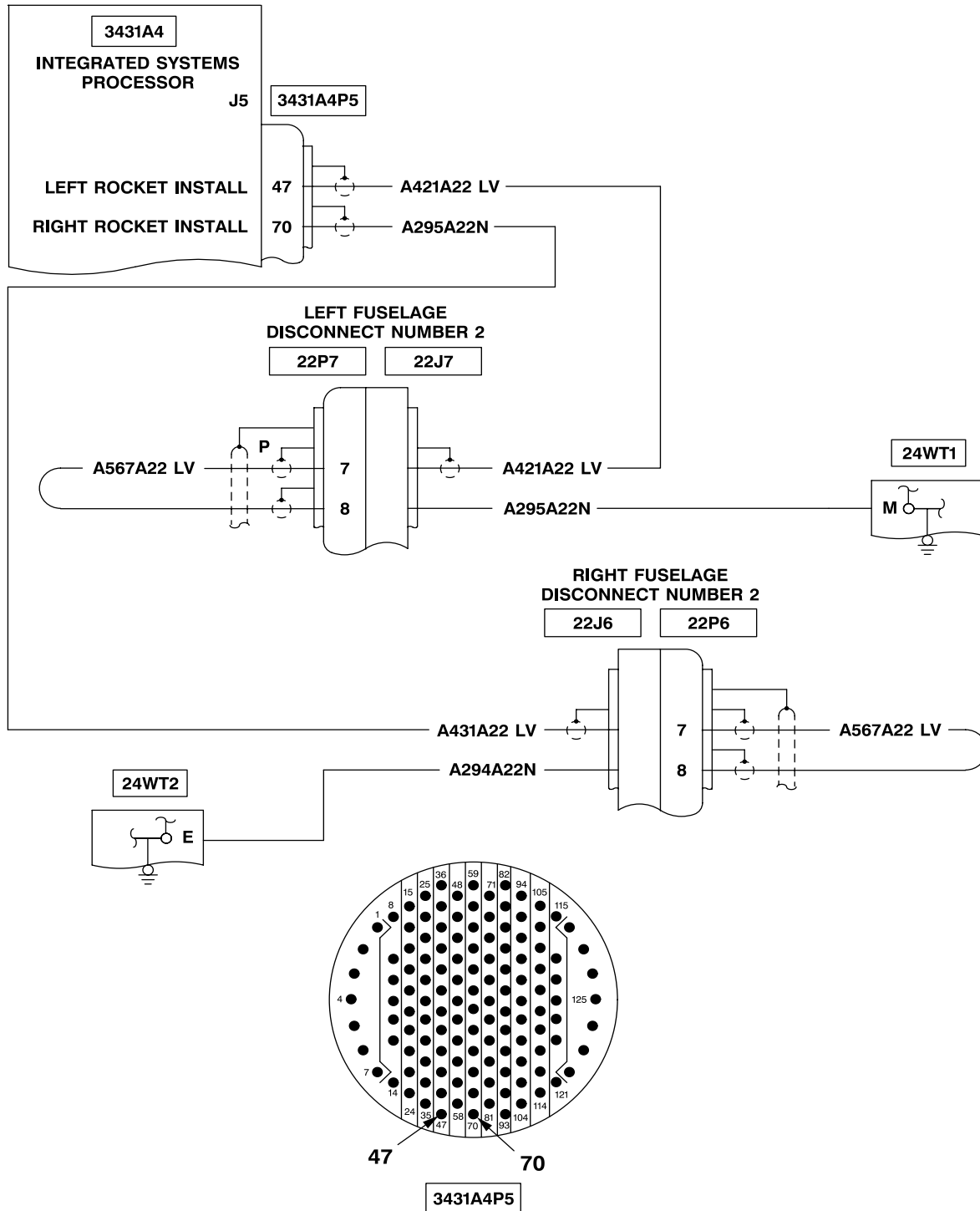
The task number(s) referenced in the symptom title is the related operational check for the affected system.

MAPS NUMBER	SYMPTOM	PAGE NUMBER
4-4-1	MFD does not indicate rocket system installed (Task 2-5-9) - OH-58D	4-130
4-4-2	MFD does not indicate rocket system installed (Task 2-5-10) - OH-58D(R)	4-132
4-4-3	Rockets show as installed, but do not operate (Task 2-5-9) - OH-58D	4-134
4-4-4	Rockets show as installed, but do not operate (Task 2-5-10) - OH-58D(R)	4-140
4-4-5	Rockets show SAFE when selected and armed (Task 2-5-9) - OH-58D	4-146
4-4-6	Rockets show SAFE when selected and armed (Task 2-5-10) - OH-58D(R)	4-152
4-4-7	Rocket squib does not fire when system is armed and selected and WPN-FIRE switch is pressed (Task 2-5-9) - OH-58D	4-158
4-4-8	Rocket squib does not fire when system is armed and selected and WPN-FIRE switch is pressed (Task 2-5-10) - OH-58D(R)	4-166
4-4-9	Rocket fuse time for manual setting does not agree with MFD (Task 2-5-9) - OH-58D	4-174
4-4-10	Rocket fuse time for manual setting does not agree with MFD (Task 2-5-10) - OH-58D(R)	4-179
4-4-11	All or a single rocket will not fuse (Task 2-5-9) - OH-58D	4-184
4-4-12	All or a single rocket will not fuse (Task 2-5-10) - OH-58D(R)	4-188
4-4-13	Rockets fire in pairs when SINGLE is selected (Task 2-5-9) - OH-58D	4-192
4-4-14	Rockets fire in pairs when SINGLE is selected (Task 2-5-10) - OH-58D(R)	4-193
4-4-15	Rockets fire in singles when RIPL SINGLES is selected (Task 2-5-9) - OH-58D	4-194
4-4-16	Rockets fire in singles when RIPL SINGLES is selected (Task 2-5-10) - OH-58D(R)	4-195
4-4-17	RKTS OFF displayed on MFD when rockets selected, armed, and able to be fired (Task 2-5-9) - OH-58D	4-196
4-4-18	RKTS OFF displayed on MFD when rockets selected, armed, and able to be fired (Task 2-5-10) - OH-58D(R)	4-197
4-4-19	SAFED displayed on MFD when rockets selected (Task 2-5-9) - OH-58D	4-198
4-4-20	SAFED displayed on MFD when rockets selected (Task 2-5-10) - OH-58D(R)	4-206
4-4-20	SAFED displayed on MFD when rockets selected (Task 2-5-10) - OH-58D(R) (cont)	4-213
4-4-21	Rockets fire in zones not selected to fire (Task 2-5-9) - OH-58D	4-214
4-4-22	Rockets fire in zones not selected to fire (Task 2-5-10) - OH-58D(R)	4-215
4-4-23	Rockets fire in both zones when SINGLE is selected (Task 2-5-9) - OH-58D	4-216
4-4-24	Rockets fire in both zones when SINGLE is selected (Task 2-5-10) - OH-58D(R)	4-217

4-4-1. MFD DOES NOT INDICATE ROCKET SYSTEM INSTALLED (TASK 2-5-9) - OH-58D

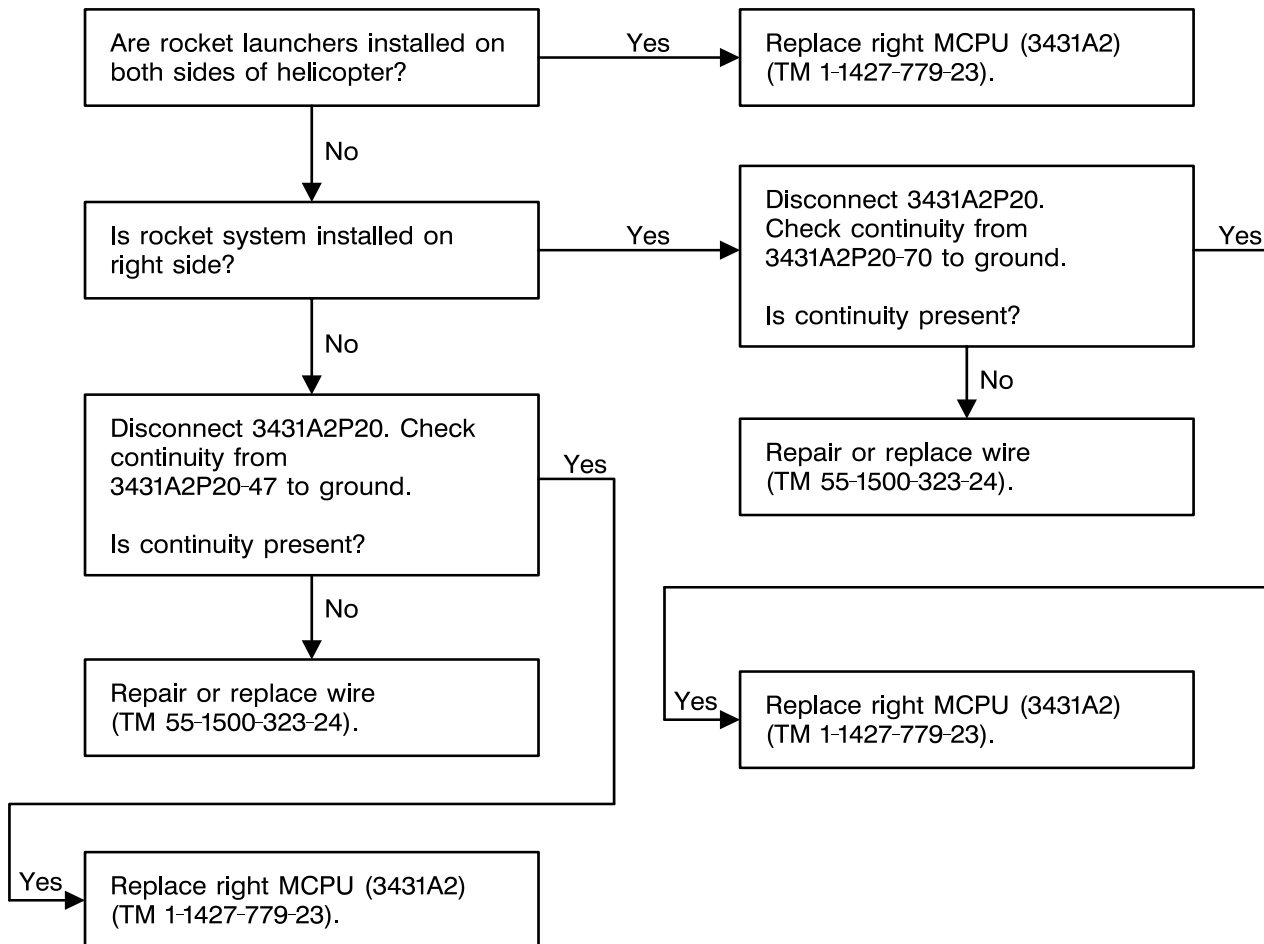


4-4-1. MFD DOES NOT INDICATE ROCKET SYSTEM INSTALLED (TASK 2-5-9) - OH-58D (CONT)

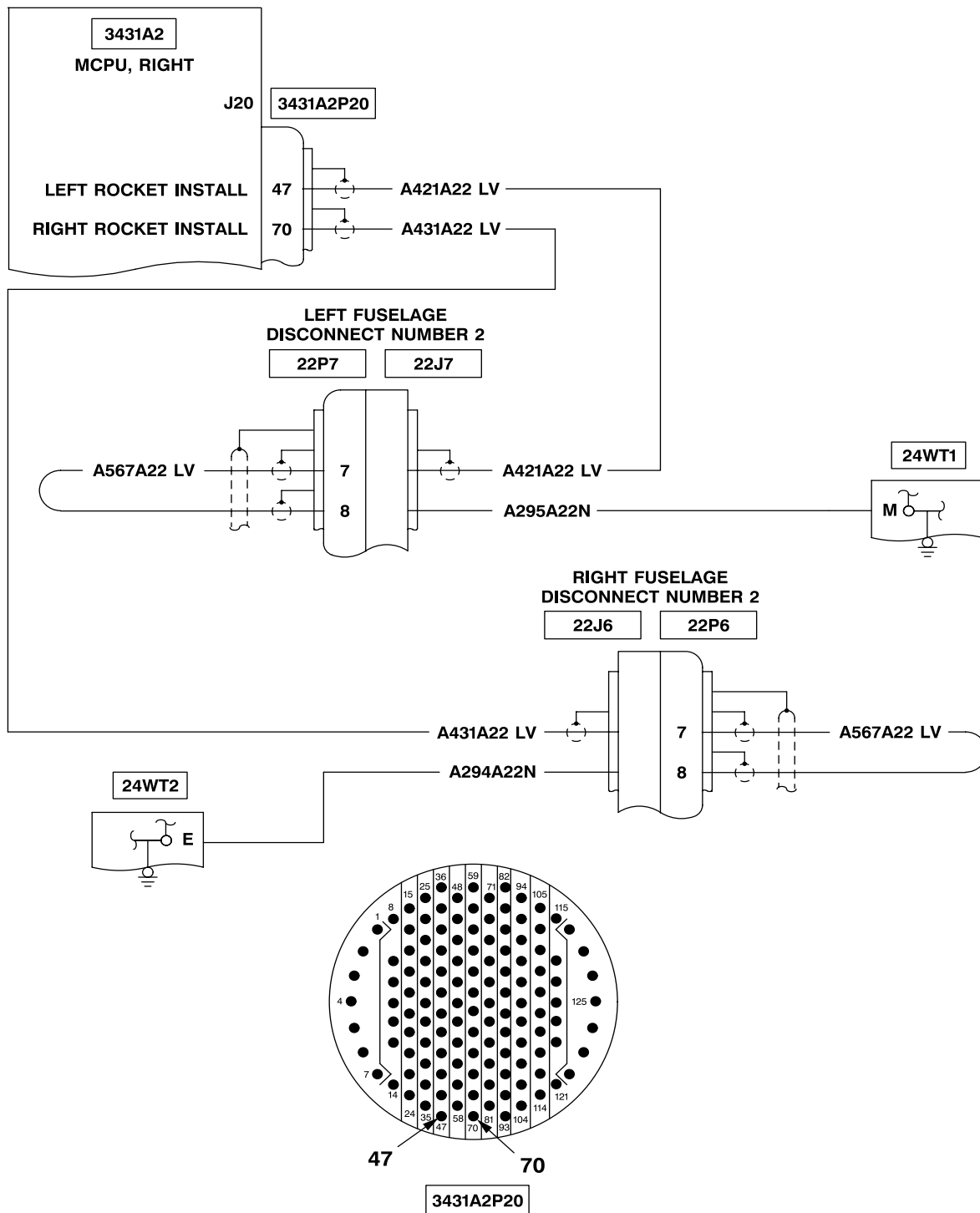


406475-542-129
J1493

4-4-2. MFD DOES NOT INDICATE ROCKET SYSTEM INSTALLED (TASK 2-5-10) - OH-58D(R)

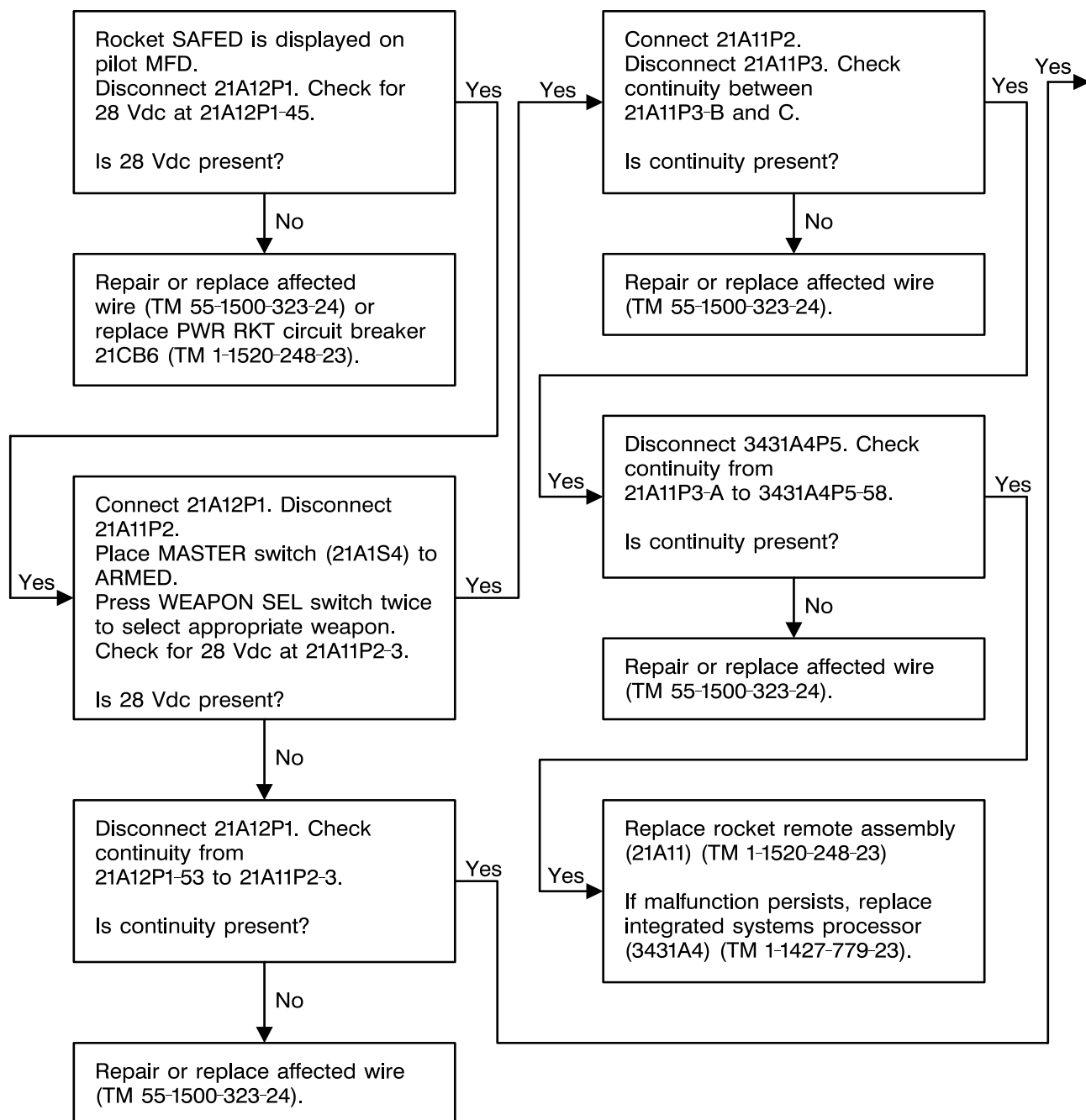


4-4-2. MFD DOES NOT INDICATE ROCKET SYSTEM INSTALLED (TASK 2-5-10) - OH-58D(R) (CONT)

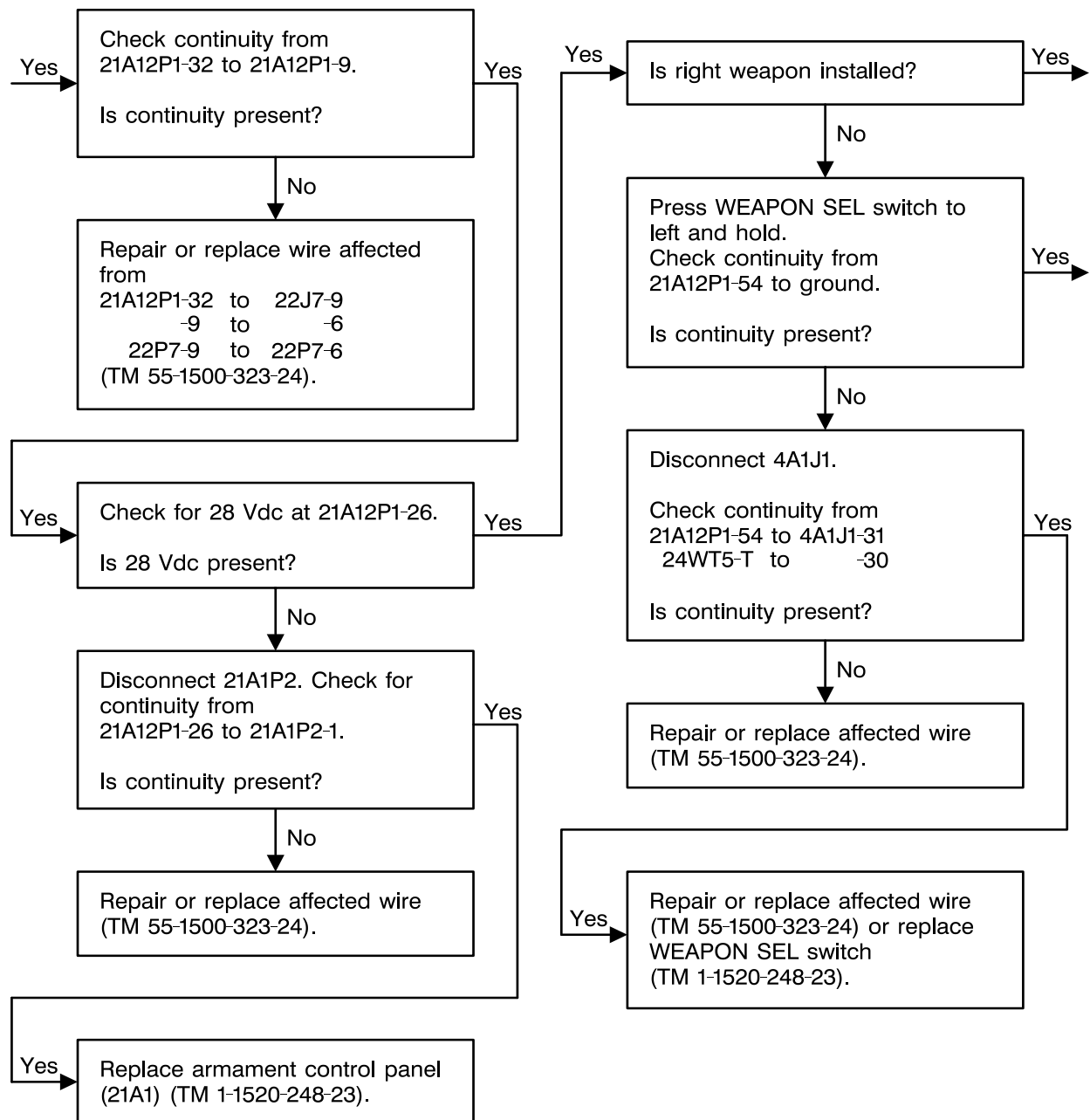


406475-542-131
J1493

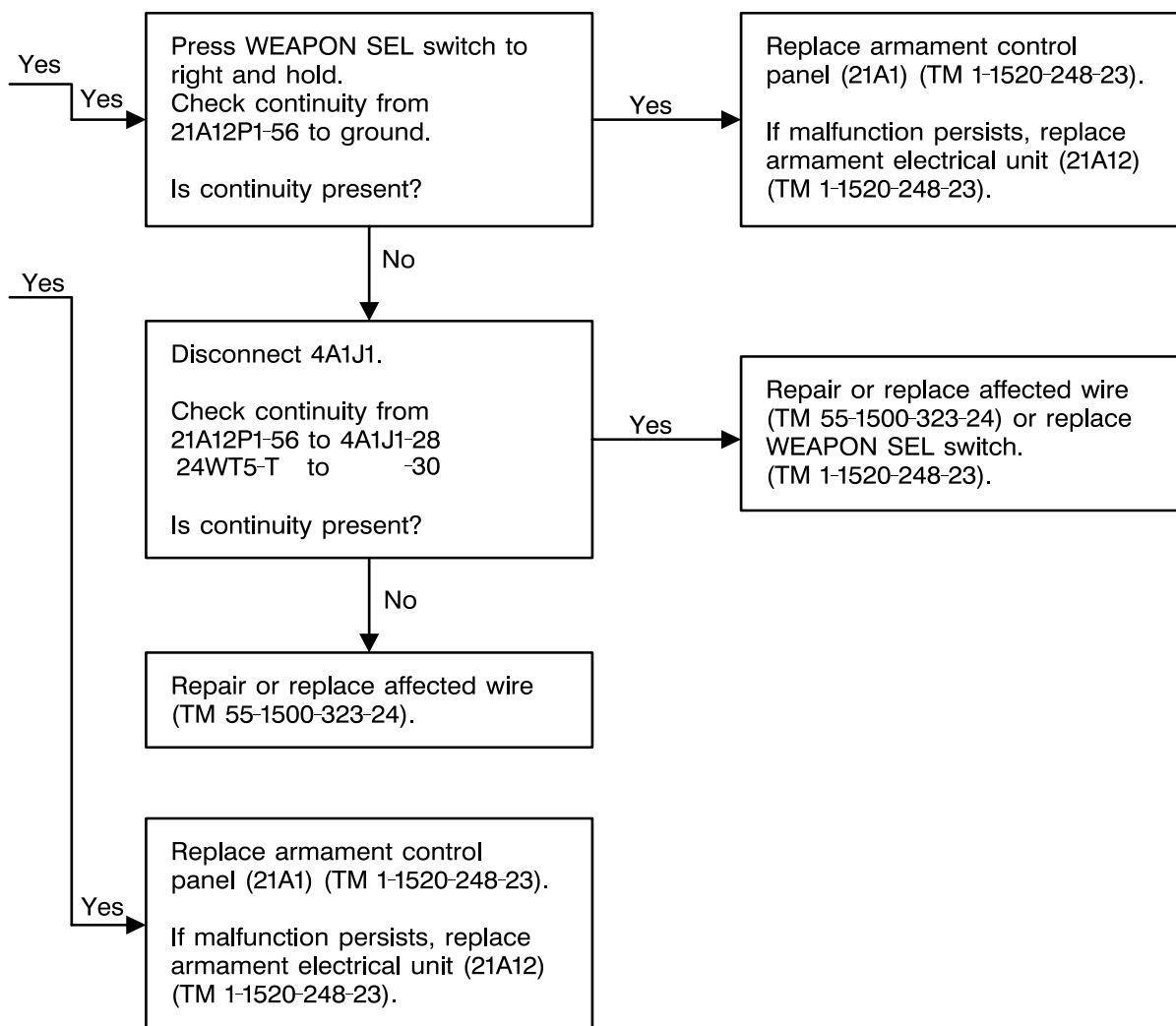
4-4-3. ROCKETS SHOW AS INSTALLED, BUT DO NOT OPERATE (TASK 2-5-9) - OH-58D

406475-542-132
J1493

4-4-3. ROCKETS SHOW AS INSTALLED, BUT DO NOT OPERATE (TASK 2-5-9) - OH-58D (CONT)

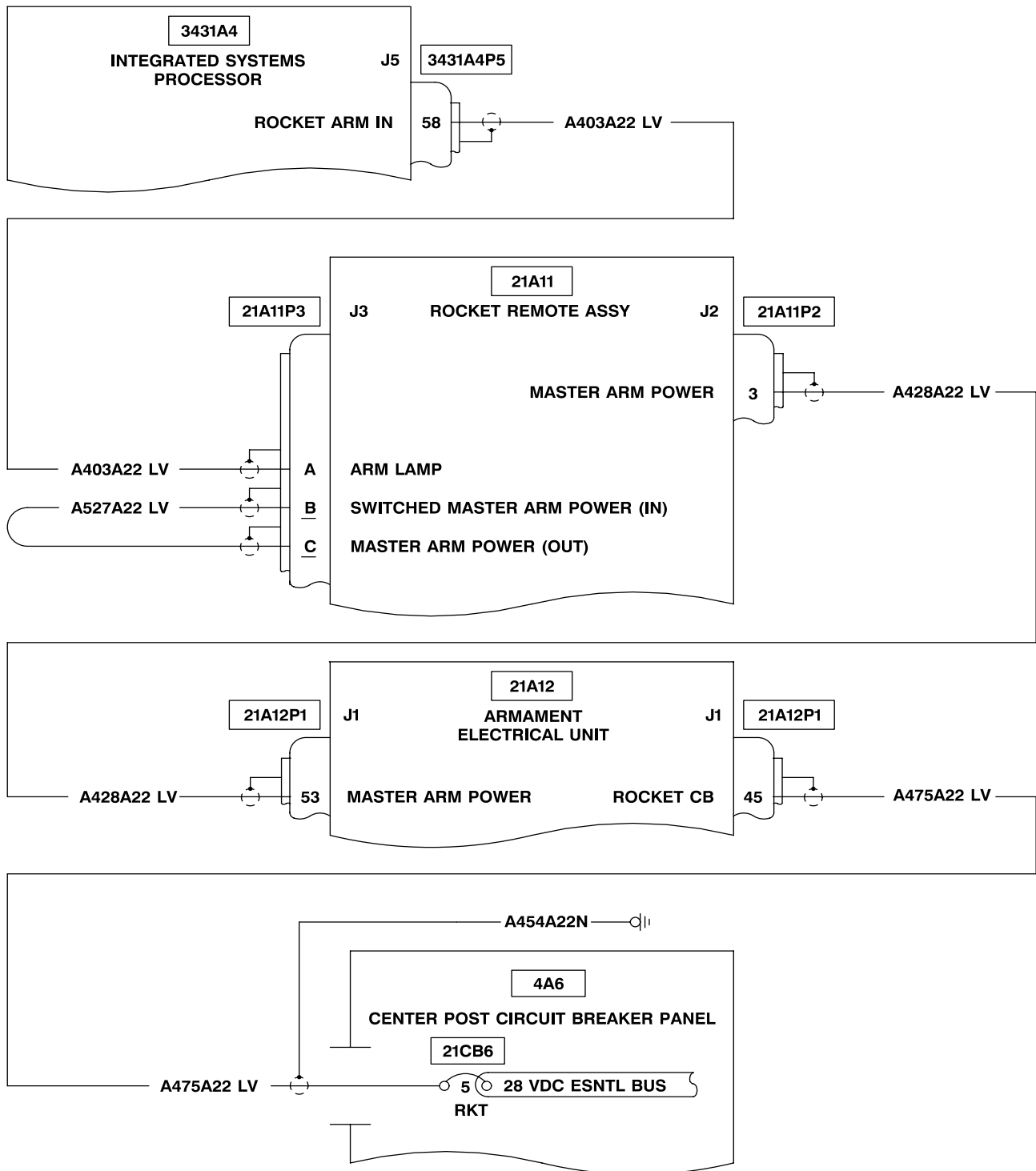
406475-542-133
J1493

4-4-3. ROCKETS SHOW AS INSTALLED, BUT DO NOT OPERATE (TASK 2-5-9) - OH-58D (CONT)



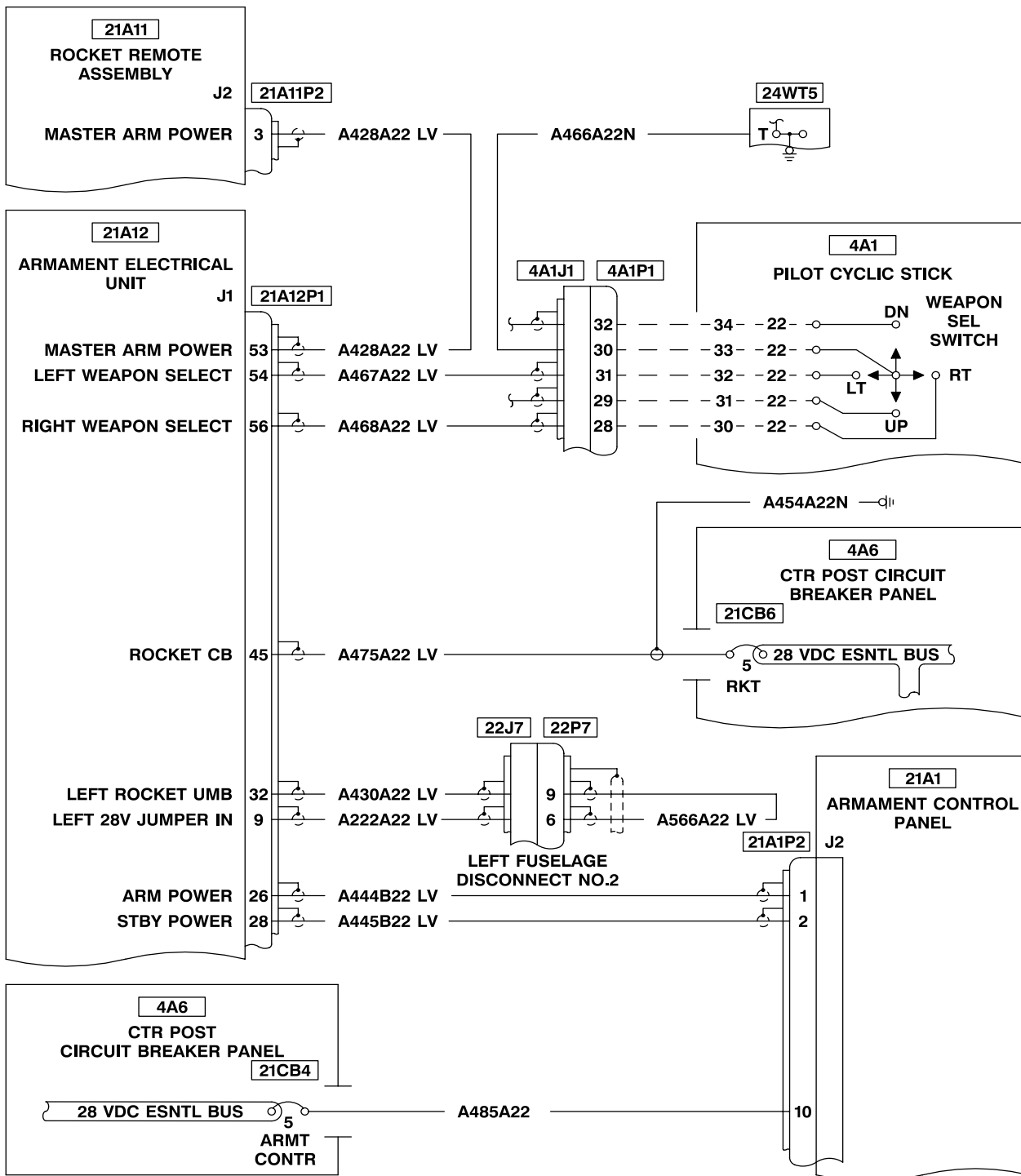
406475-542-134
J1493

4-4-3. ROCKETS SHOW AS INSTALLED, BUT DO NOT OPERATE (TASK 2-5-9) - OH-58D (CONT)



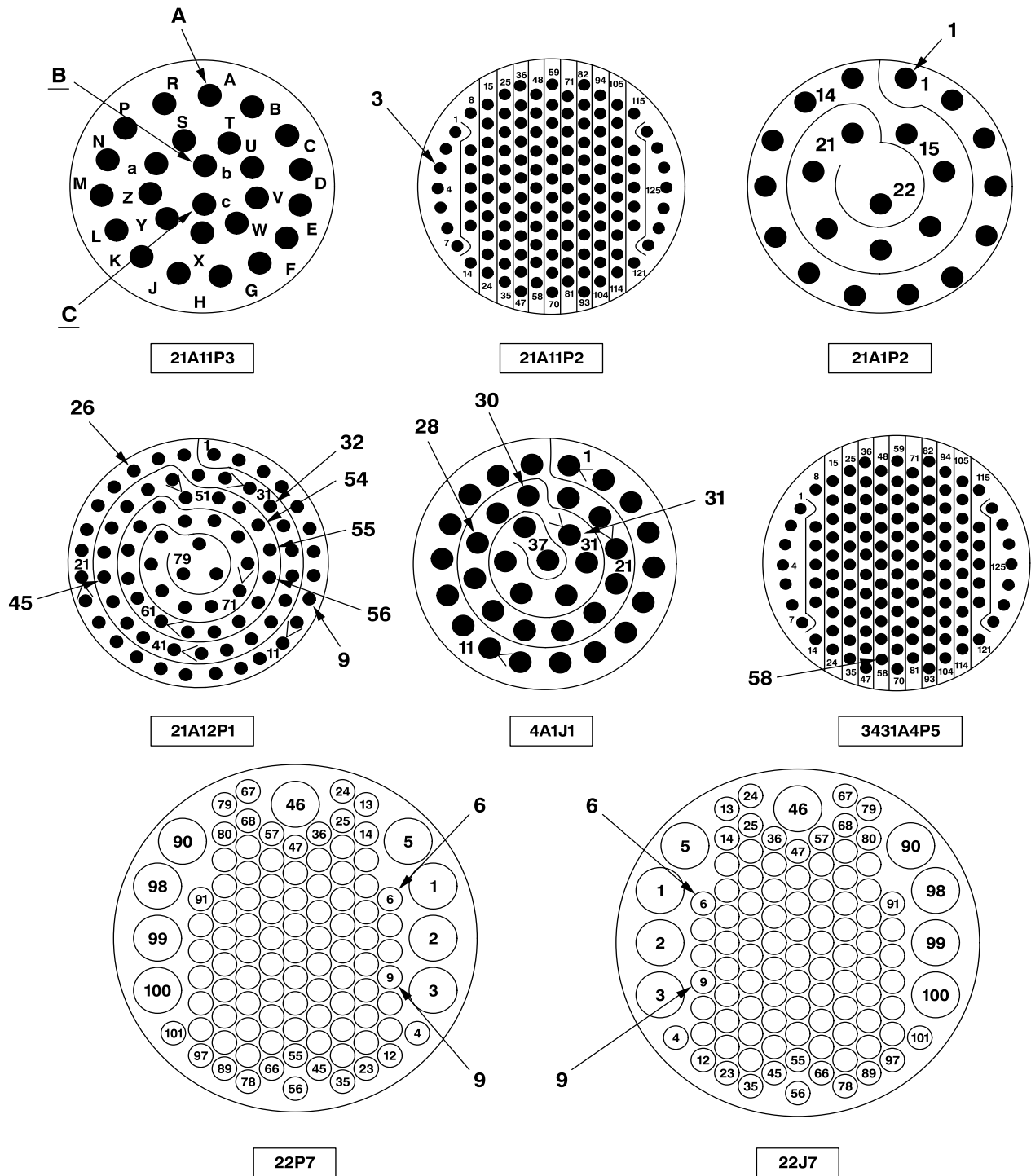
406475-542-135
J1493

4-4-3. ROCKETS SHOW AS INSTALLED, BUT DO NOT OPERATE (TASK 2-5-9) - OH-58D (CONT)



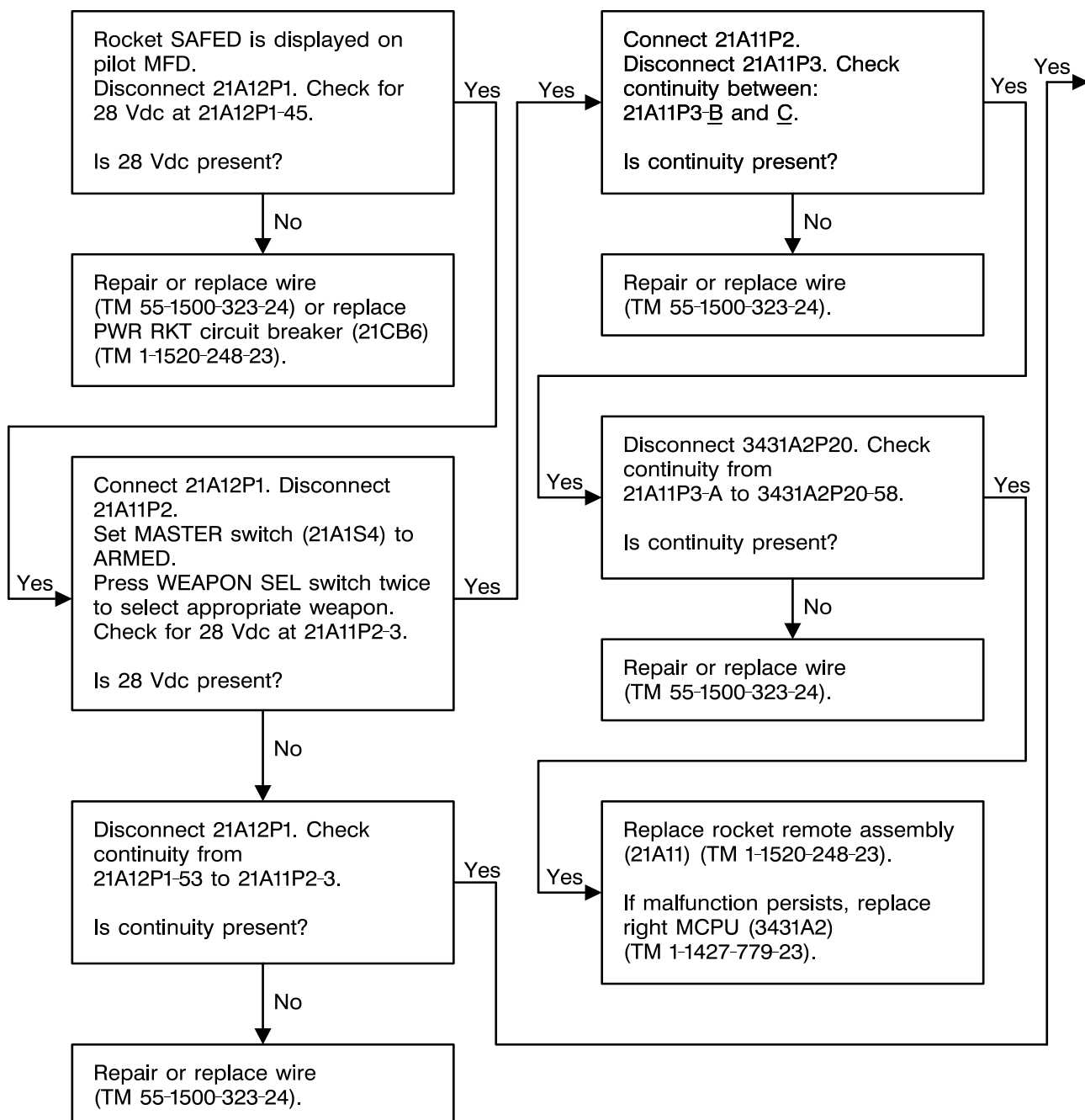
406475-542-136
J1493

4-4-3. ROCKETS SHOW AS INSTALLED, BUT DO NOT OPERATE (TASK 2-5-9) - OH-58D (CONT)



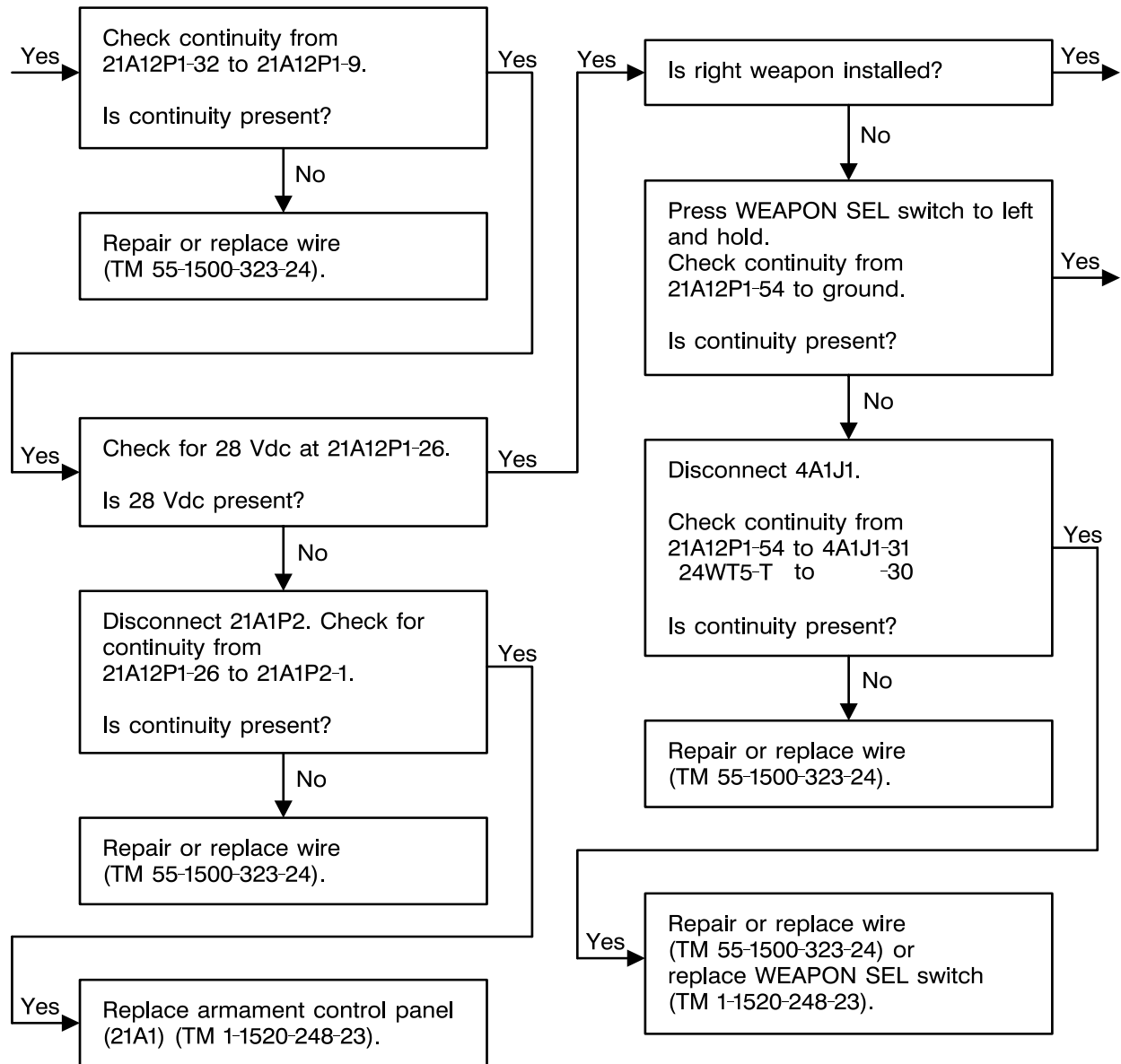
406475-542-137
J1493

4-4-4. ROCKETS SHOW AS INSTALLED, BUT DO NOT OPERATE (TASK 2-5-10) - OH-58D(R)



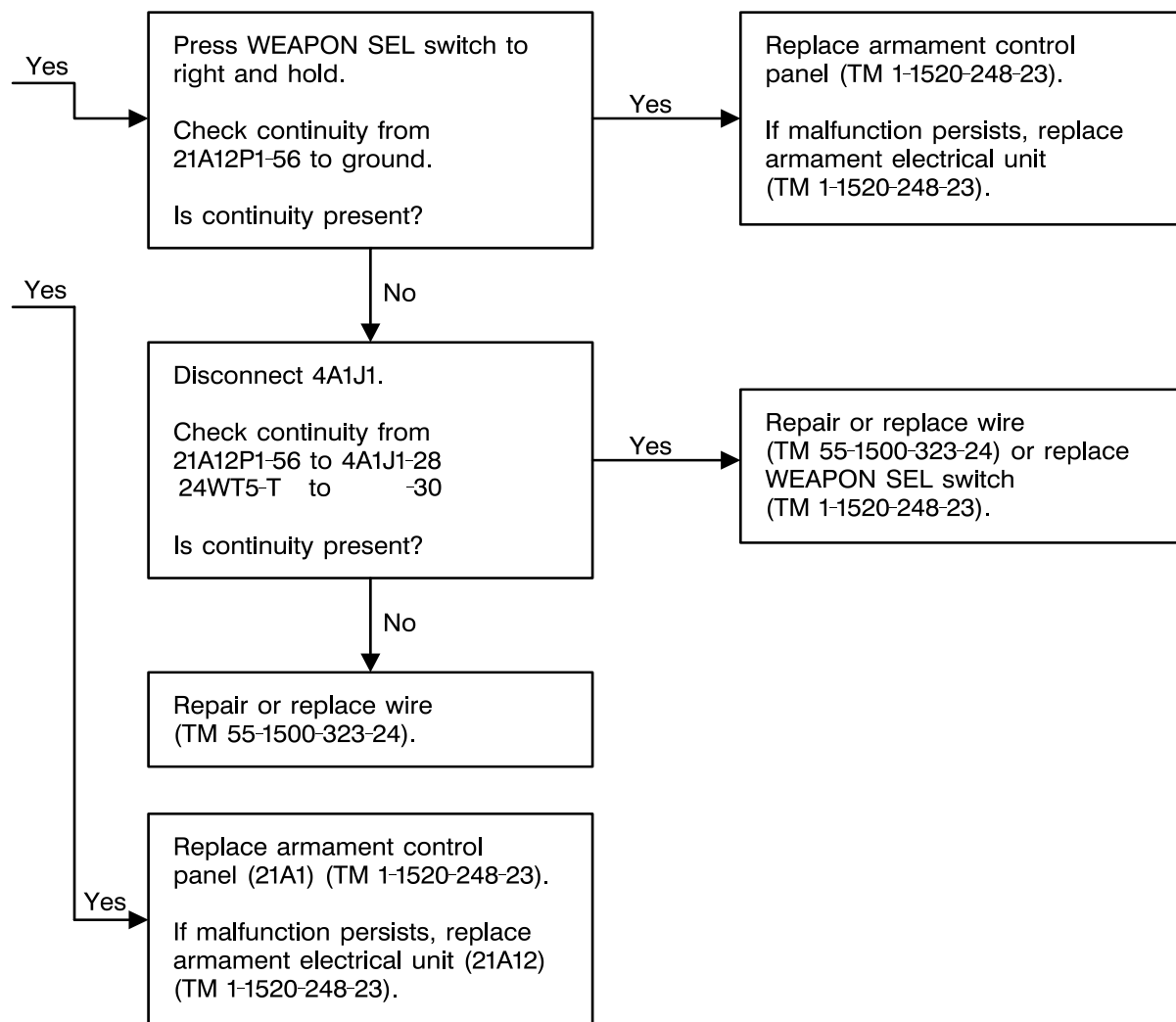
406475-542-138
J1493

4-4-4. ROCKETS SHOW AS INSTALLED, BUT DO NOT OPERATE (TASK 2-5-10) - OH-58D(R)
(CONT)

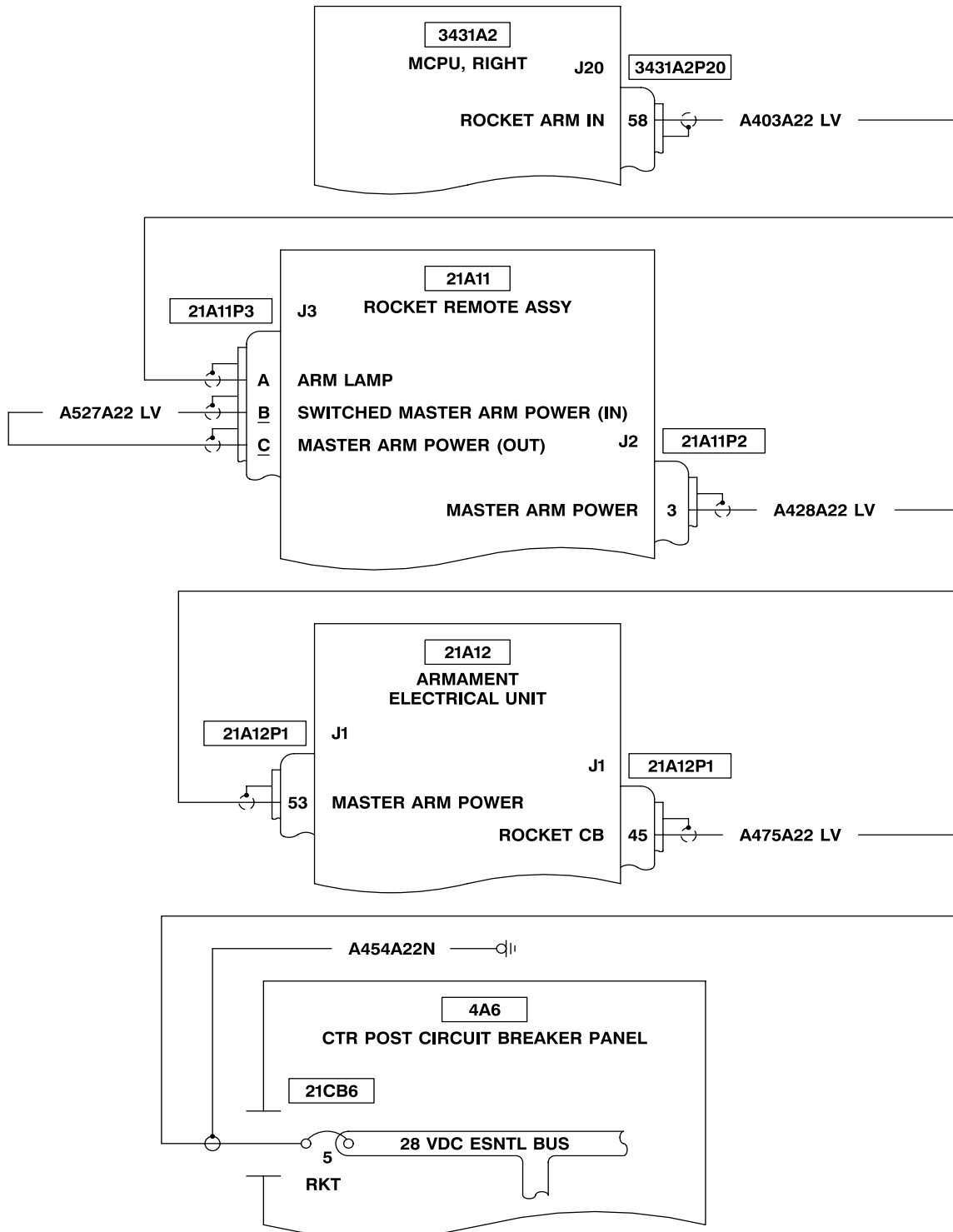


406475-542-139
J1493

4-4-4. ROCKETS SHOW AS INSTALLED, BUT DO NOT OPERATE (TASK 2-5-10) - OH-58D(R)
(CONT)

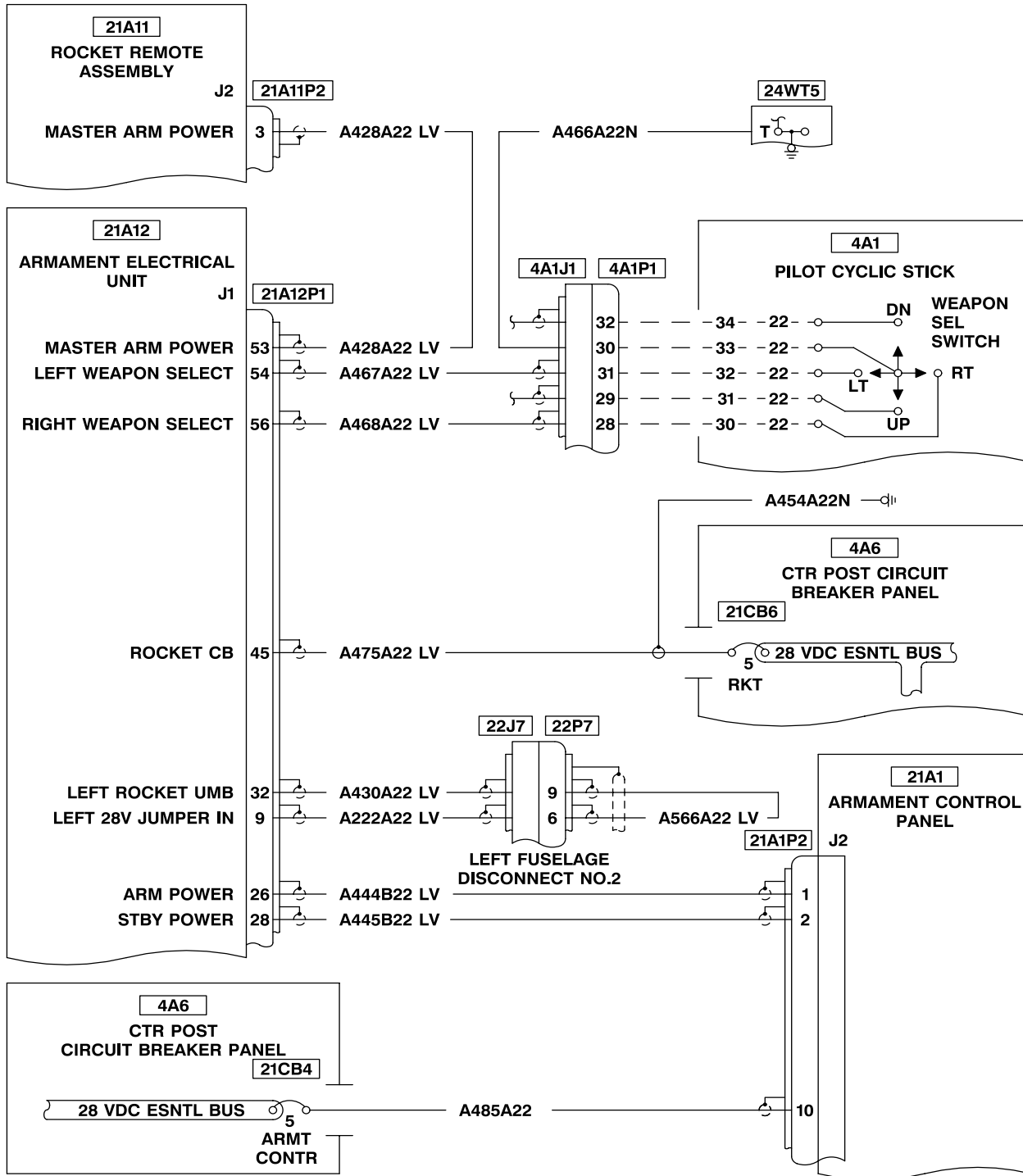


4-4-4. ROCKETS SHOW AS INSTALLED, BUT DO NOT OPERATE (TASK 2-5-10) - OH-58D(R) (CONT)



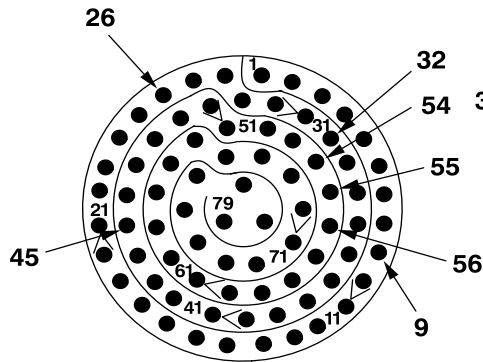
406475-542-141
J1493

4-4-4. ROCKETS SHOW AS INSTALLED, BUT DO NOT OPERATE (TASK 2-5-10) - OH-58D(R)
(CONT)

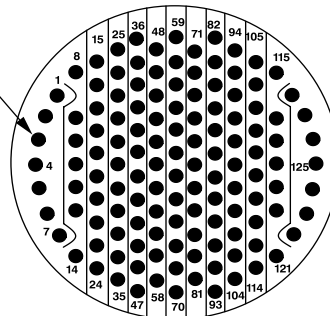


406475-542-142
J1493

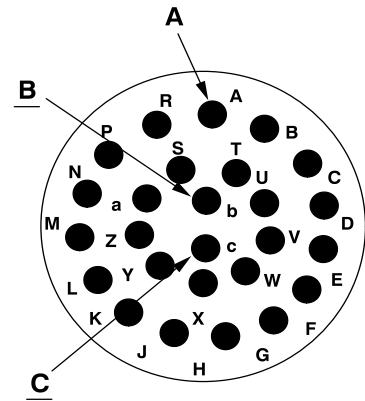
4-4-4. ROCKETS SHOW AS INSTALLED, BUT DO NOT OPERATE (TASK 2-5-10) - OH-58D(R)
(CONT)



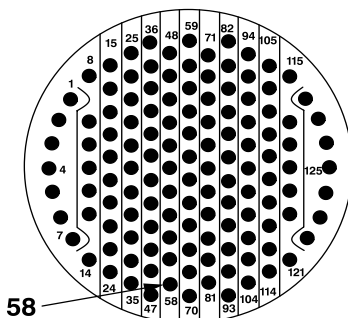
21A12P1



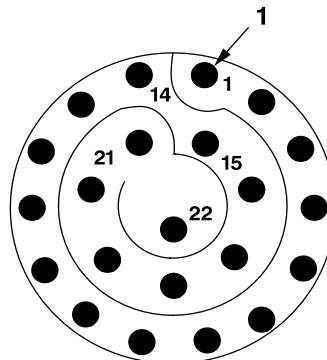
21A11P2



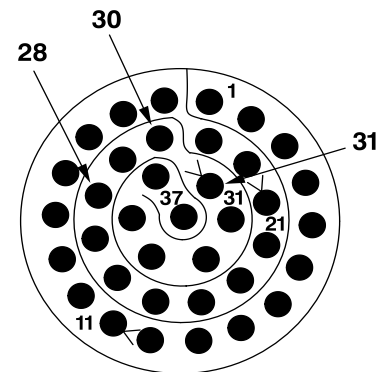
21A11P3



3431A2P20



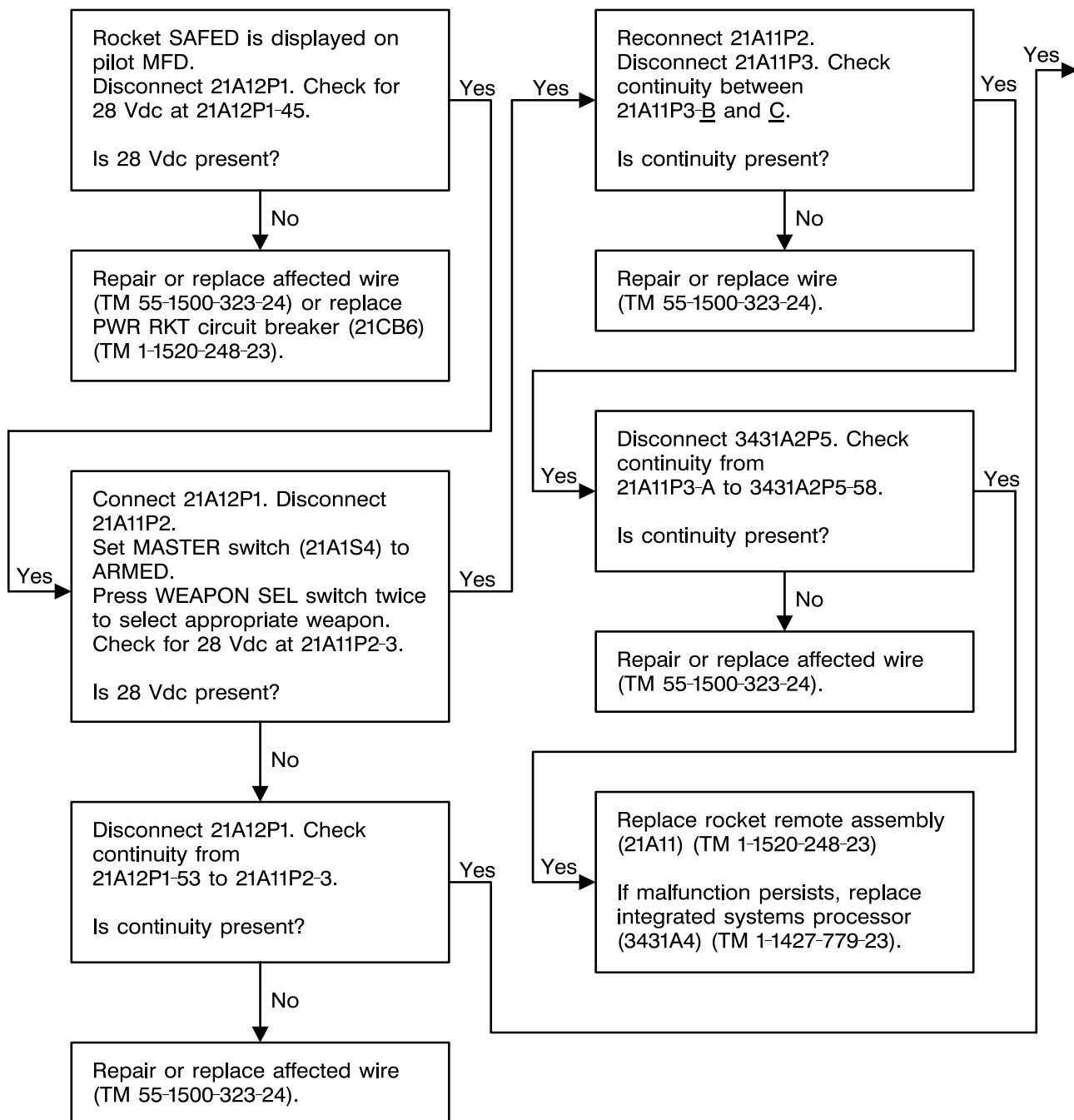
21A1P2



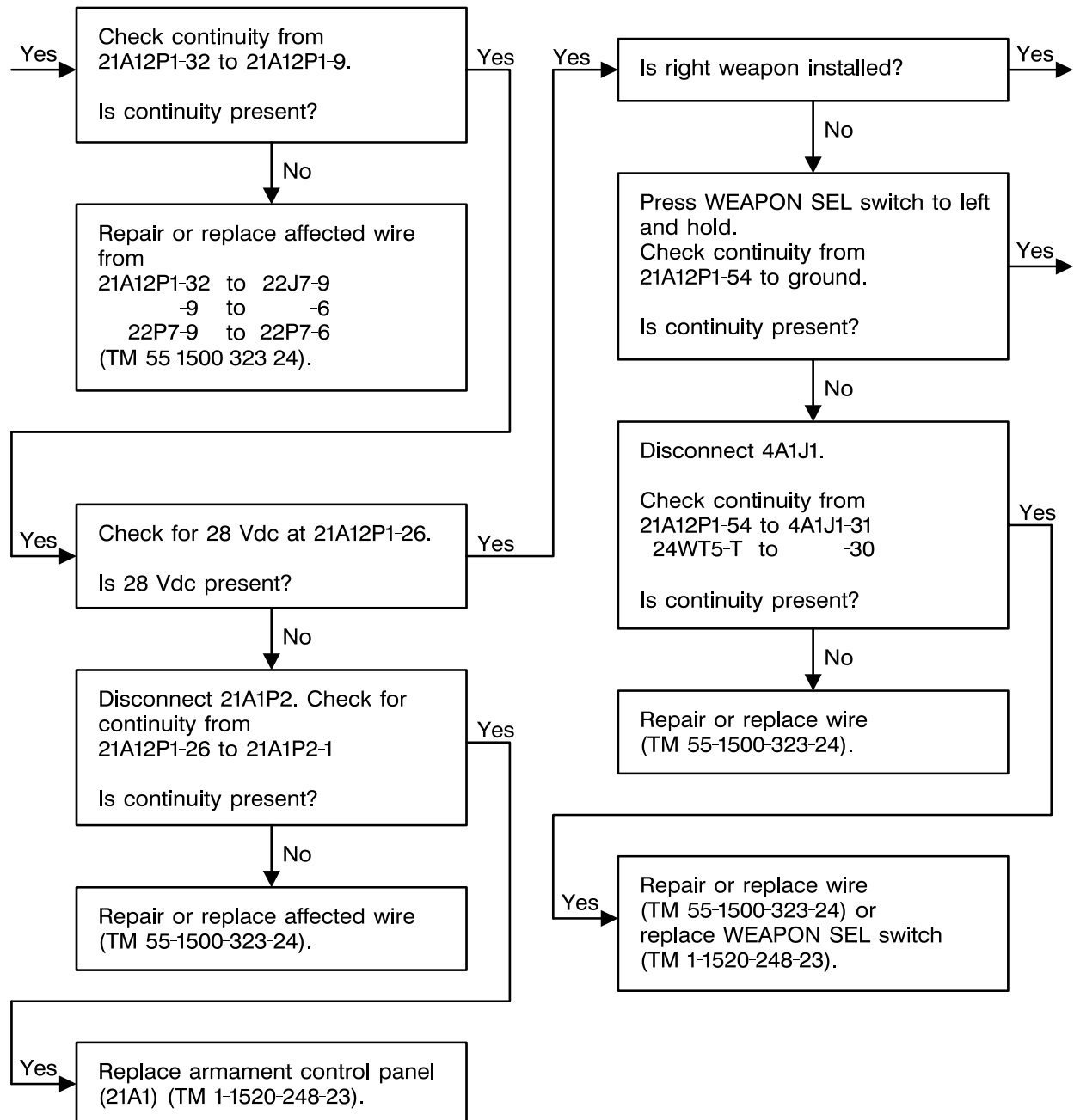
4A1J1

406475-542-143
J1493

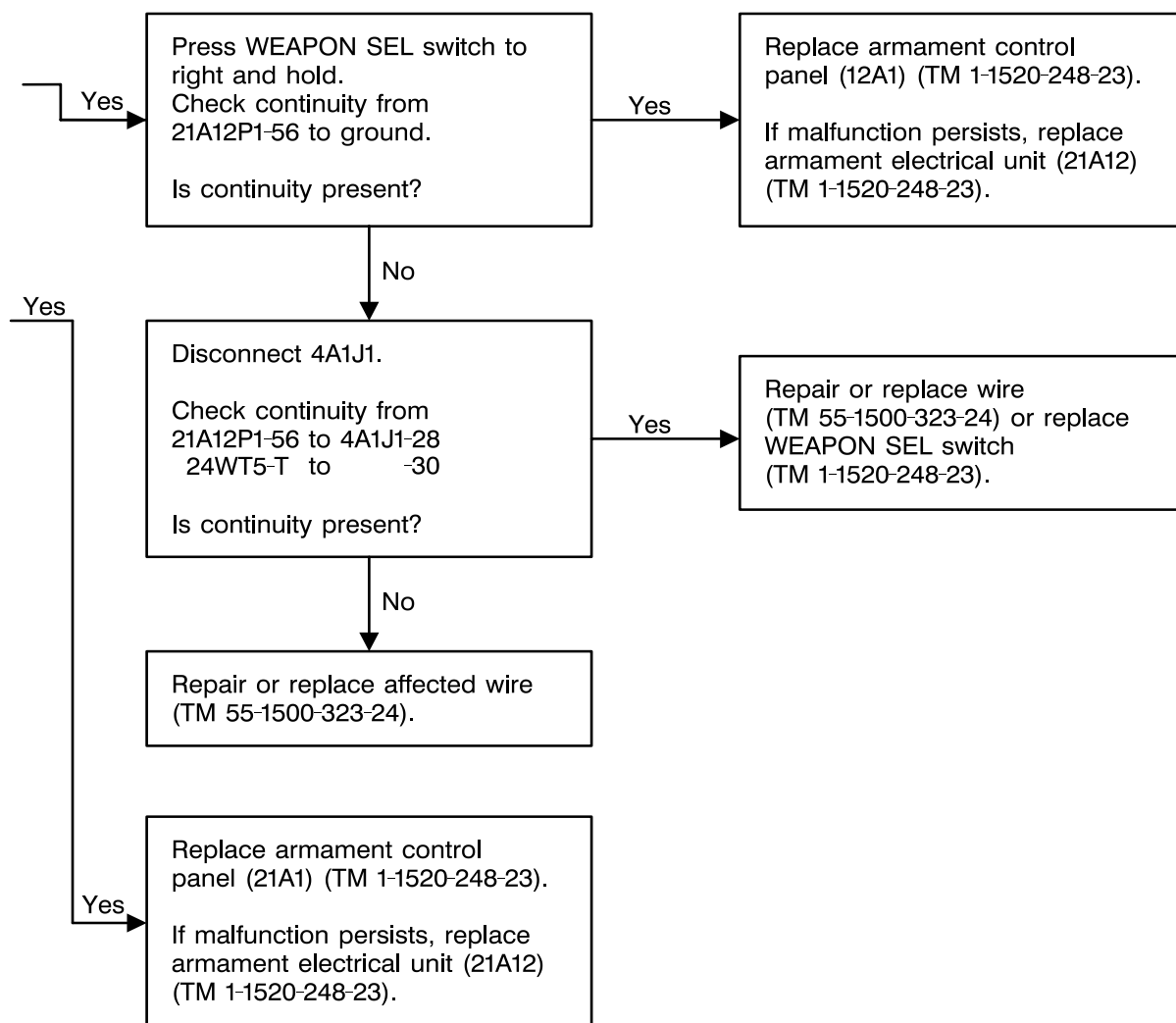
4-4-5. ROCKETS SHOW **SAFE** WHEN SELECTED AND ARMED (TASK 2-5-9) - OH-58D



406475-542-144
J1493

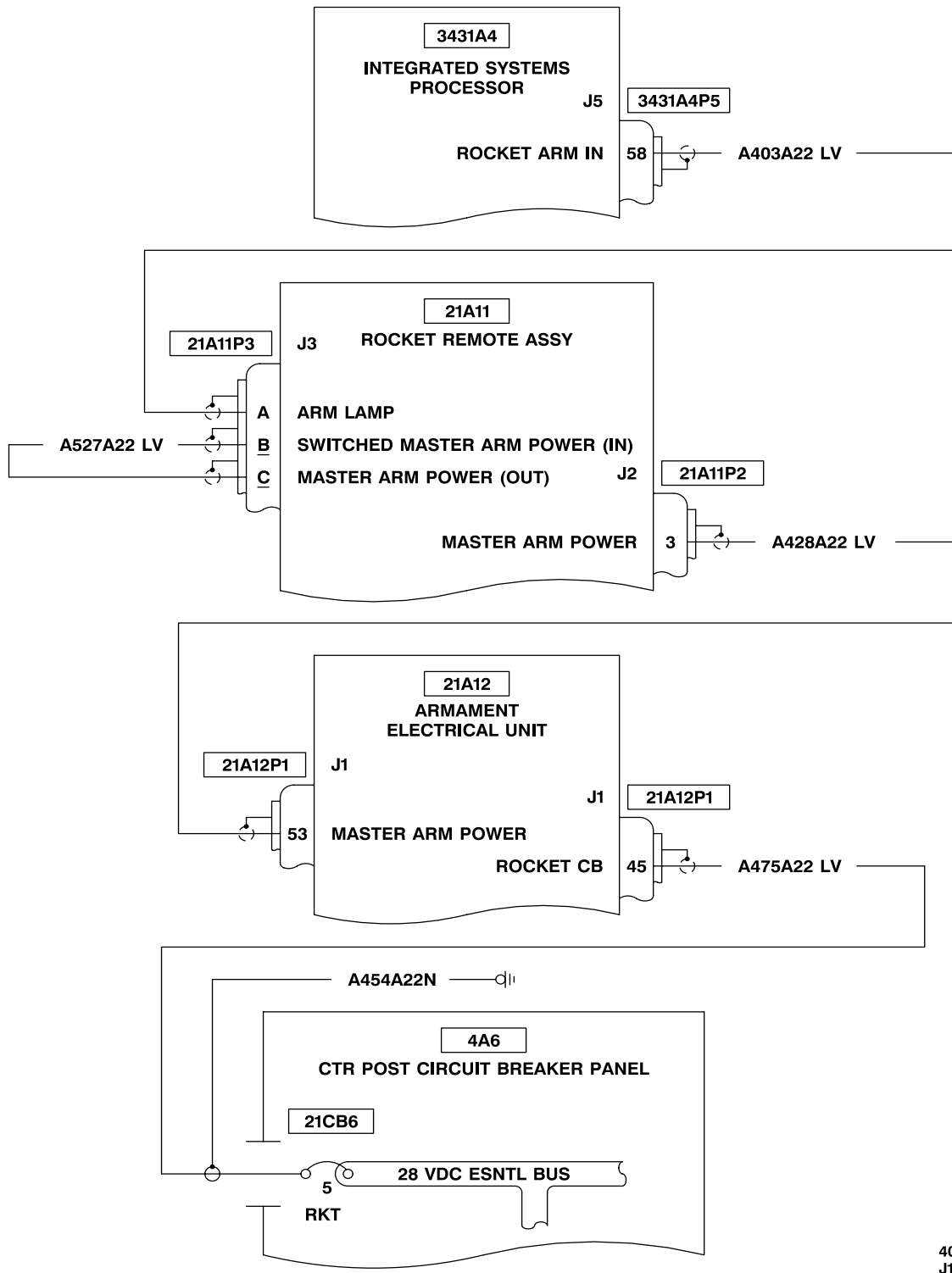
4-4-5. ROCKETS SHOW **SAFE** WHEN SELECTED AND ARMED (TASK 2-5-9) - OH-58D (CONT)406475-542-145
J1493

4-4-5. ROCKETS SHOW **SAFE** WHEN SELECTED AND ARMED (TASK 2-5-9) - OH-58D (CONT)



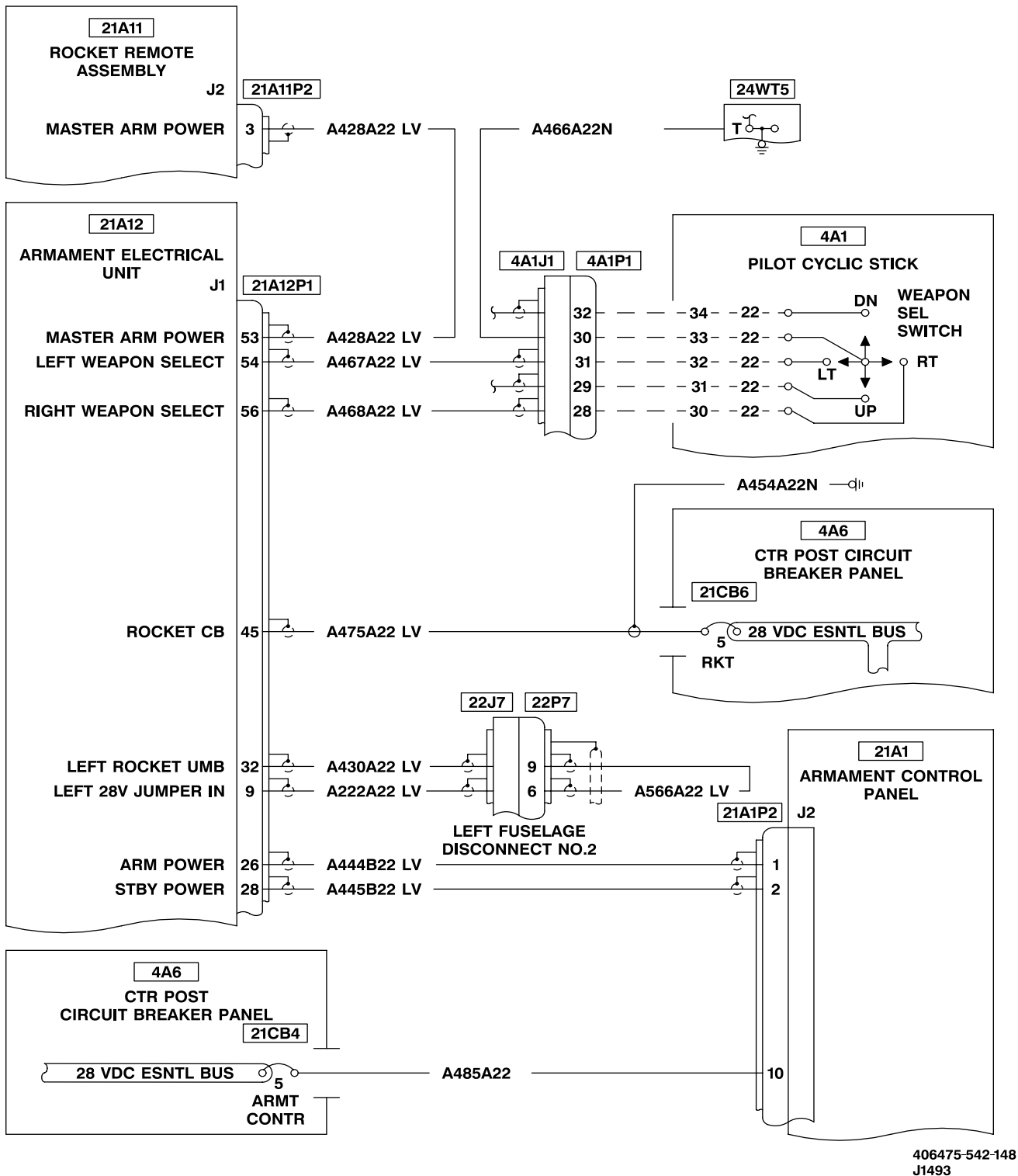
406475-542-146
J1493

4-4-5. ROCKETS SHOW **SAFE** WHEN SELECTED AND ARMED (TASK 2-5-9) - OH-58D (CONT)

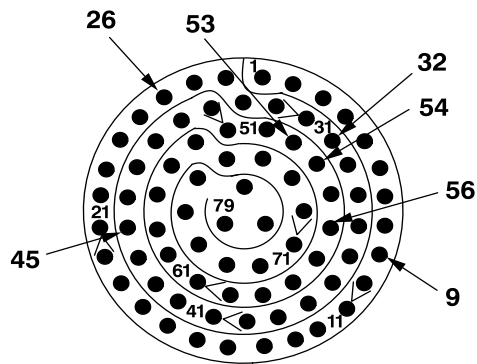


406475-542-147
J1493

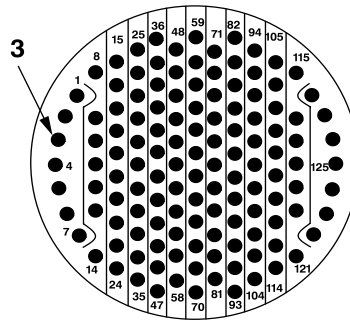
4-4-5. ROCKETS SHOW **SAFE** WHEN SELECTED AND ARMED (TASK 2-5-9) - OH-58D (CONT)



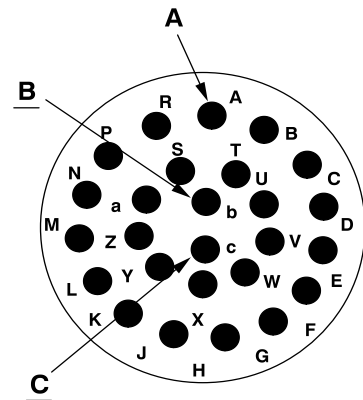
4-4-5. ROCKETS SHOW **SAFE** WHEN SELECTED AND ARMED (TASK 2-5-9) - OH-58D (CONT)



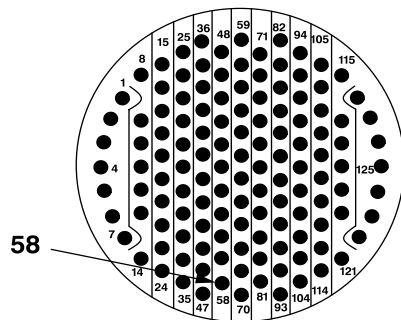
21A12P1



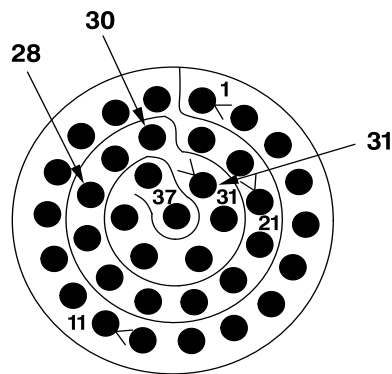
21A11P2



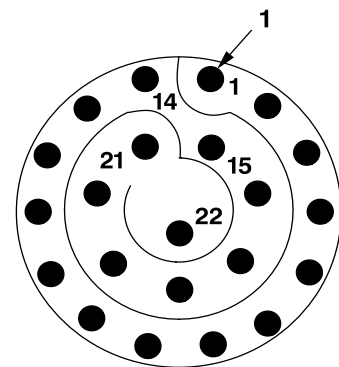
21A11P3



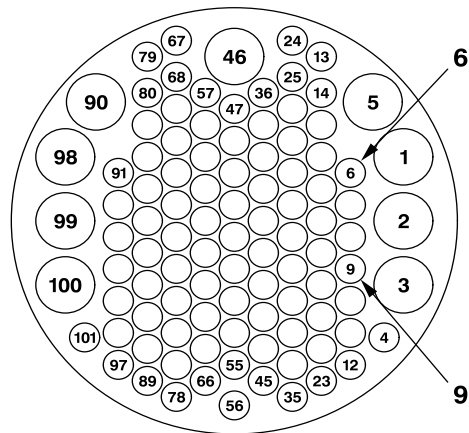
3431A4P5



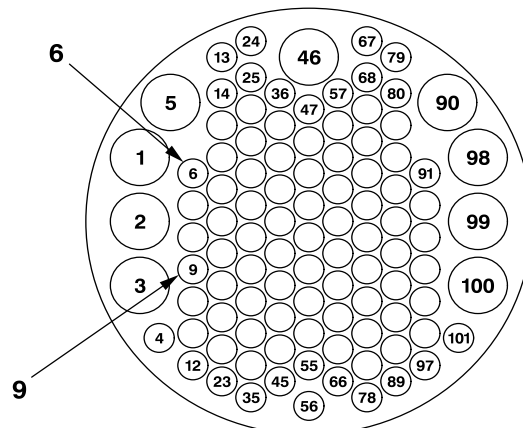
4A1J1



21A1P2



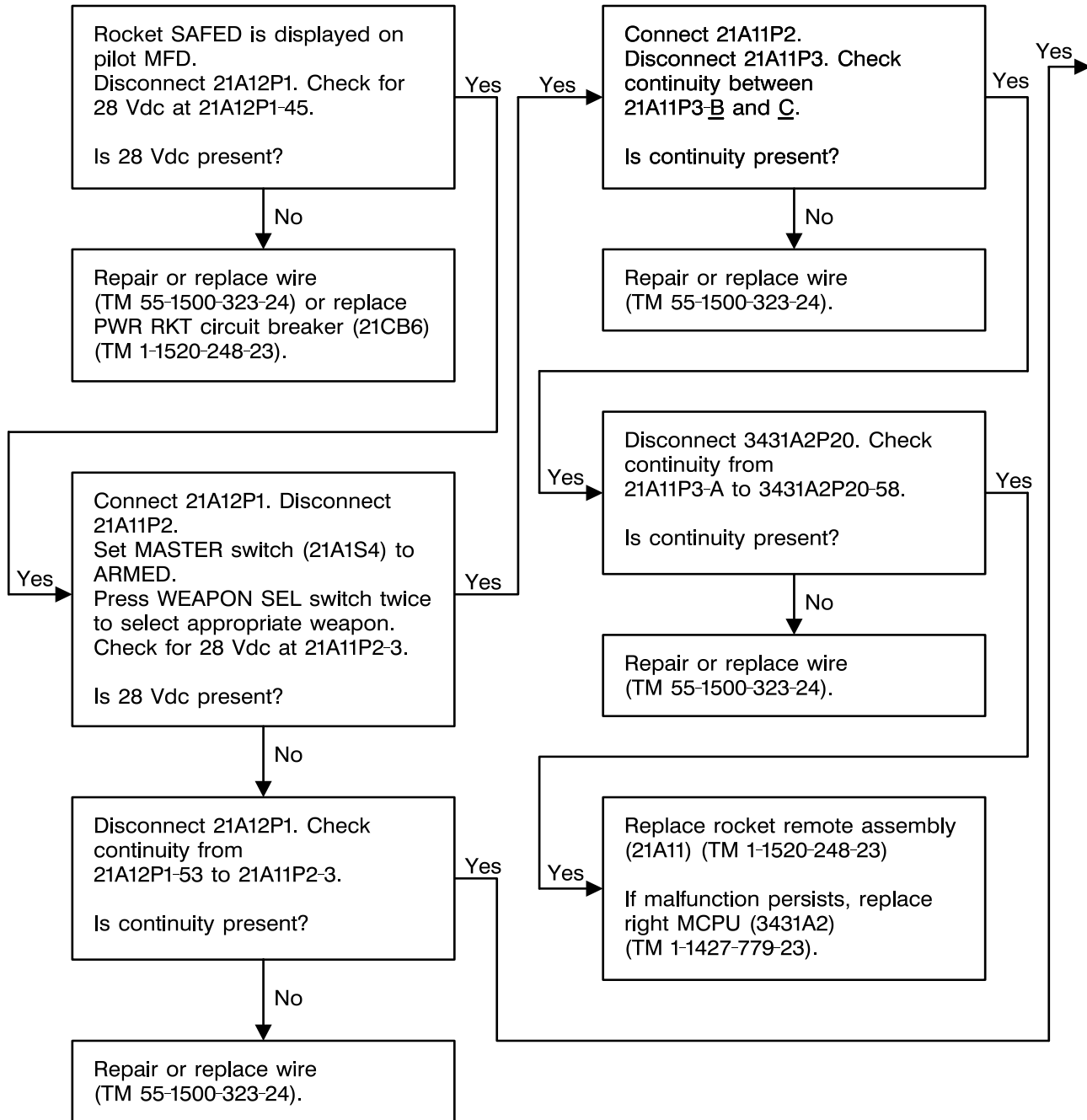
22P7



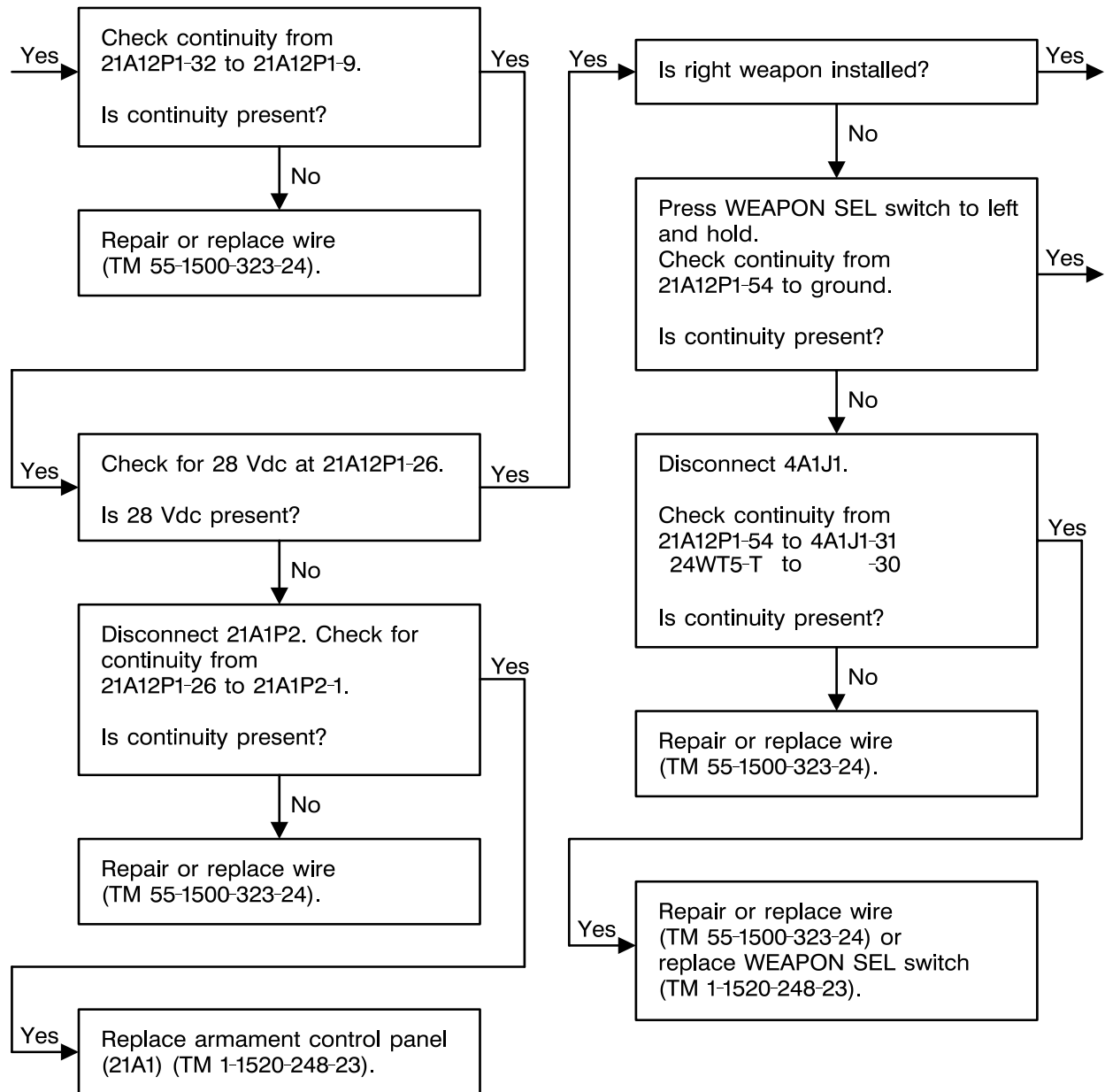
22J7

406475-542-149
J1493

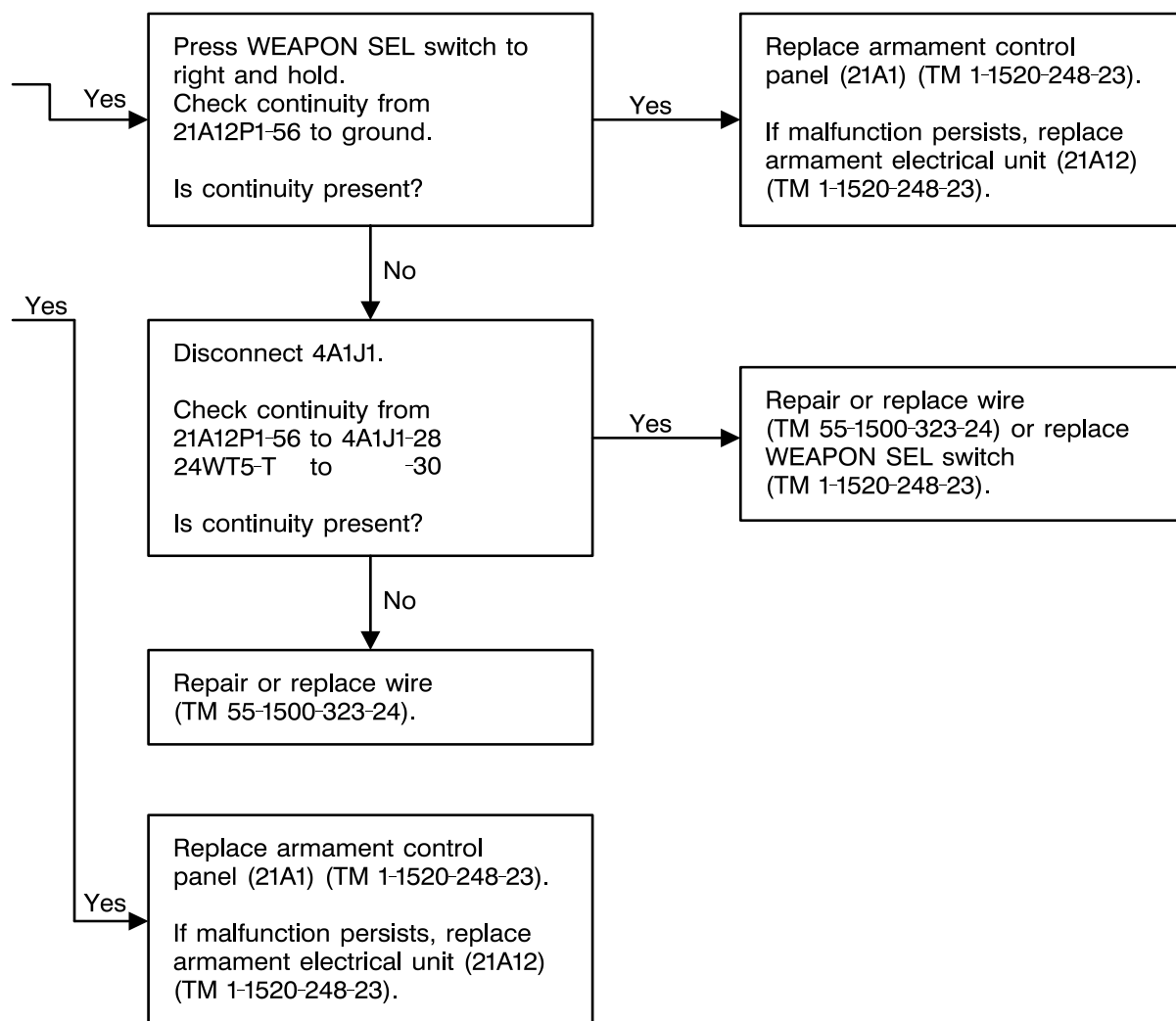
4-4-6. ROCKETS SHOW **SAFE** WHEN SELECTED AND ARMED (TASK 2-5-10) - OH-58D(R)



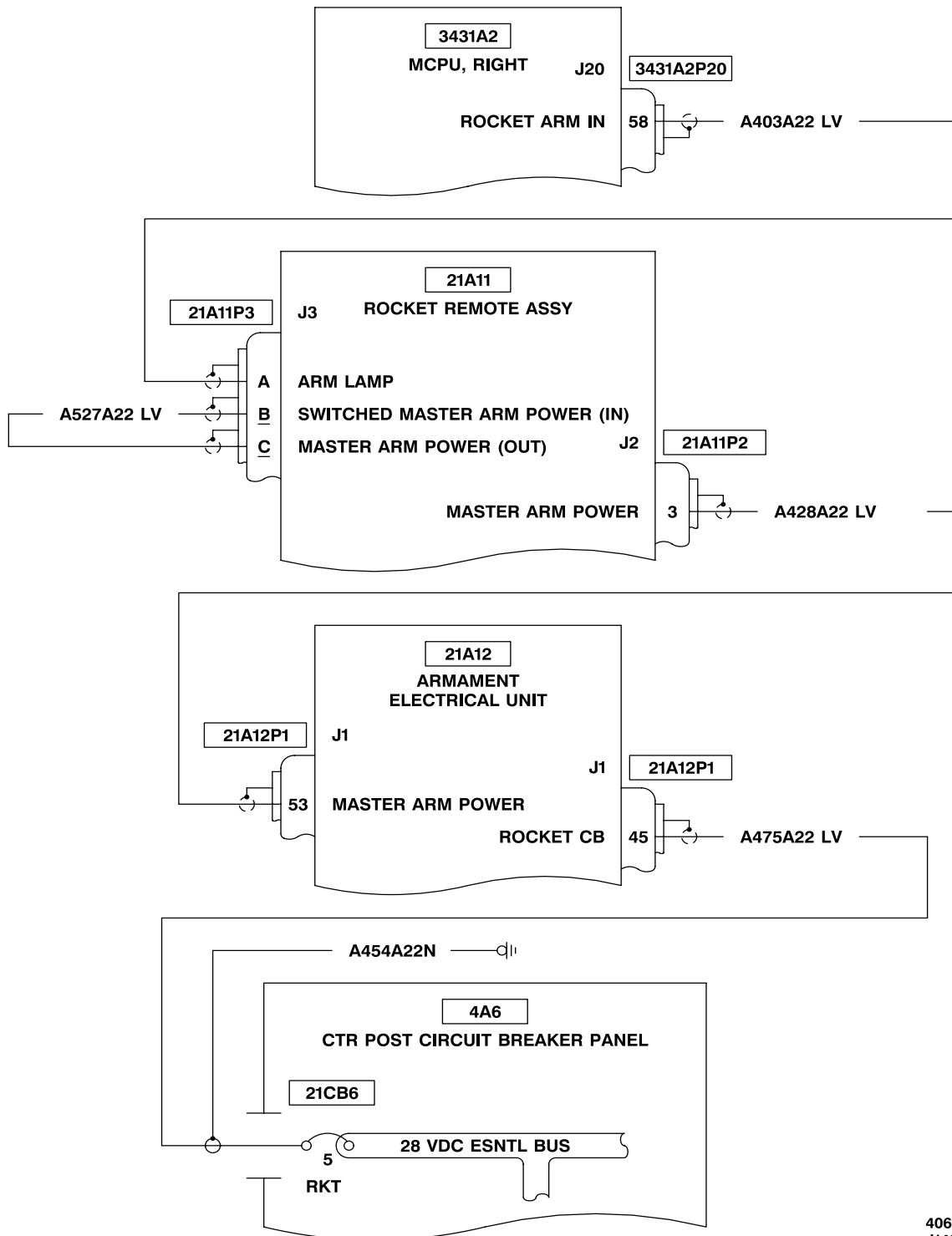
406475-542-150
J1493

4-4-6. ROCKETS SHOW **SAFE** WHEN SELECTED AND ARMED (TASK 2-5-10) - OH-58D(R) (CONT)406475-542-151
J1493

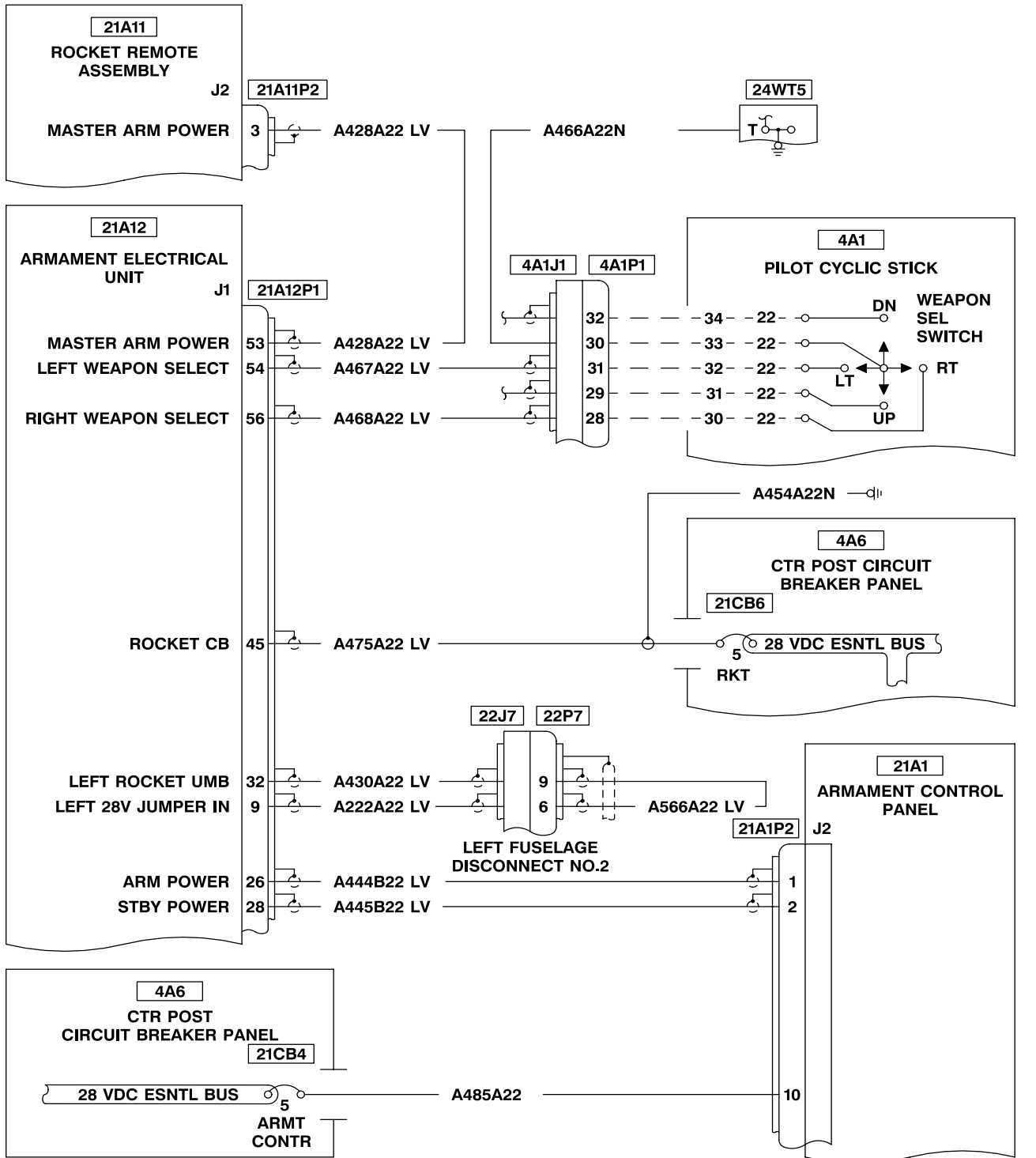
4-4-6. ROCKETS SHOW **SAFE** WHEN SELECTED AND ARMED (TASK 2-5-10) - OH-58D(R) (CONT)



406475-542-152
J1493

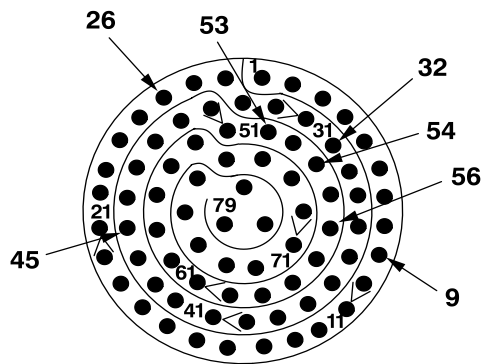
4-4-6. ROCKETS SHOW **SAFE** WHEN SELECTED AND ARMED (TASK 2-5-10) - OH-58D(R) (CONT)406475-542-153
J1493

4-4-6. ROCKETS SHOW **SAFE** WHEN SELECTED AND ARMED (TASK 2-5-10) - OH-58D(R) (CONT)

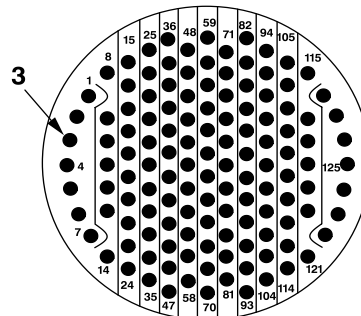


406475-542-154
J1493

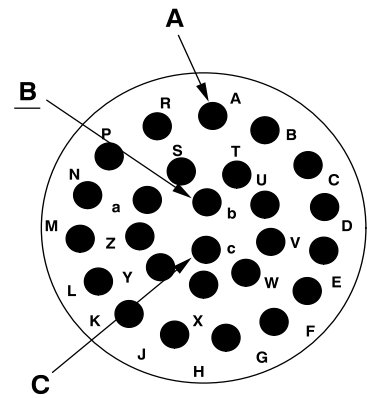
4-4-6. ROCKETS SHOW **SAFE** WHEN SELECTED AND ARMED (TASK 2-5-10) - OH-58D(R) (CONT)



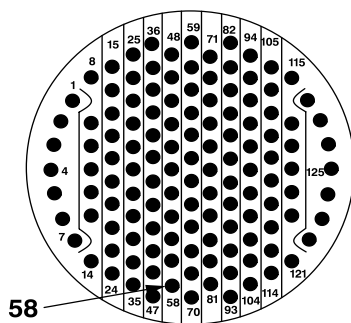
21A12P1



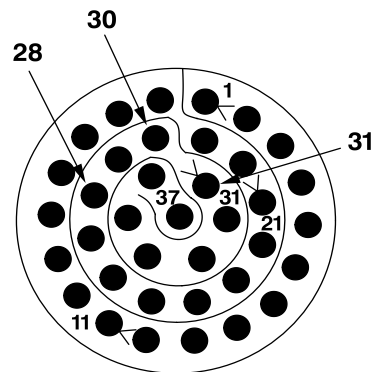
21A11P2



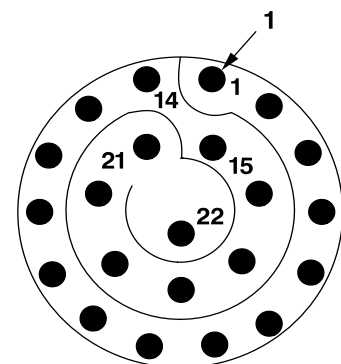
21A11P3



3431A2P20



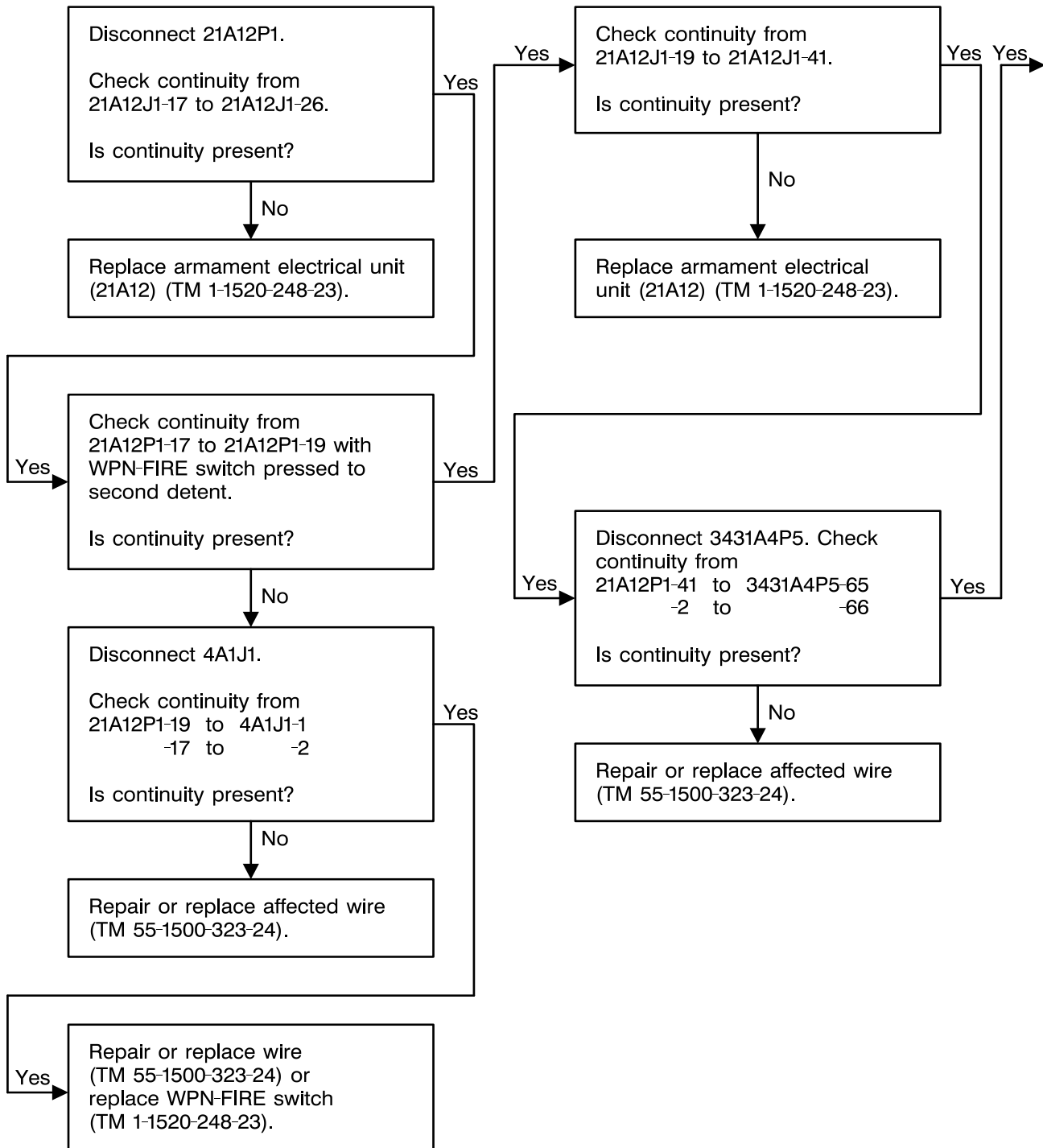
4A1J1



21A1P2

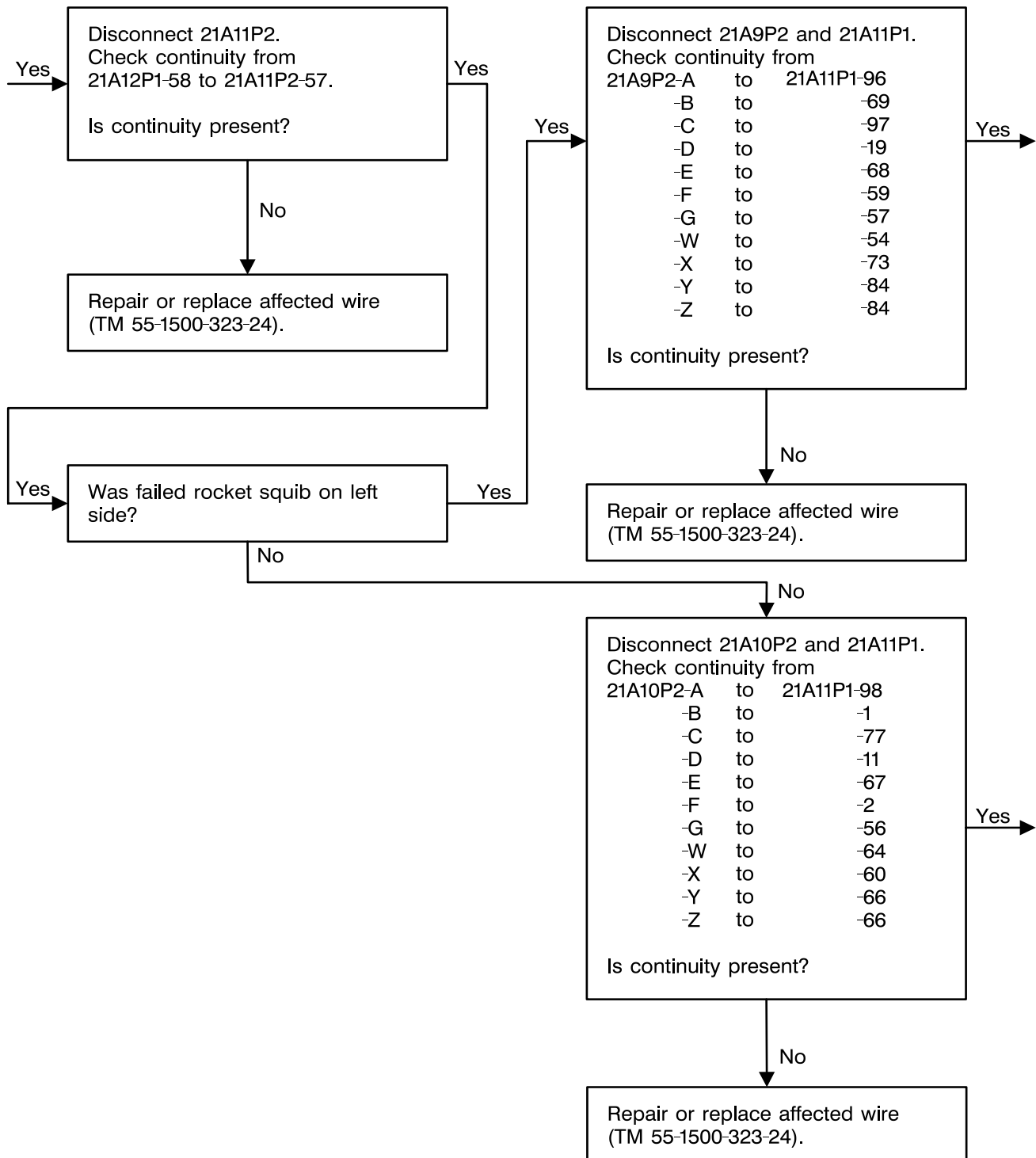
406475-542-155
J1493

4-4-7. ROCKET SQUIB DOES NOT FIRE WHEN SYSTEM IS ARMED AND SELECTED AND WPN-FIRE SWITCH IS PRESSED (TASK 2-5-9) - OH-58D



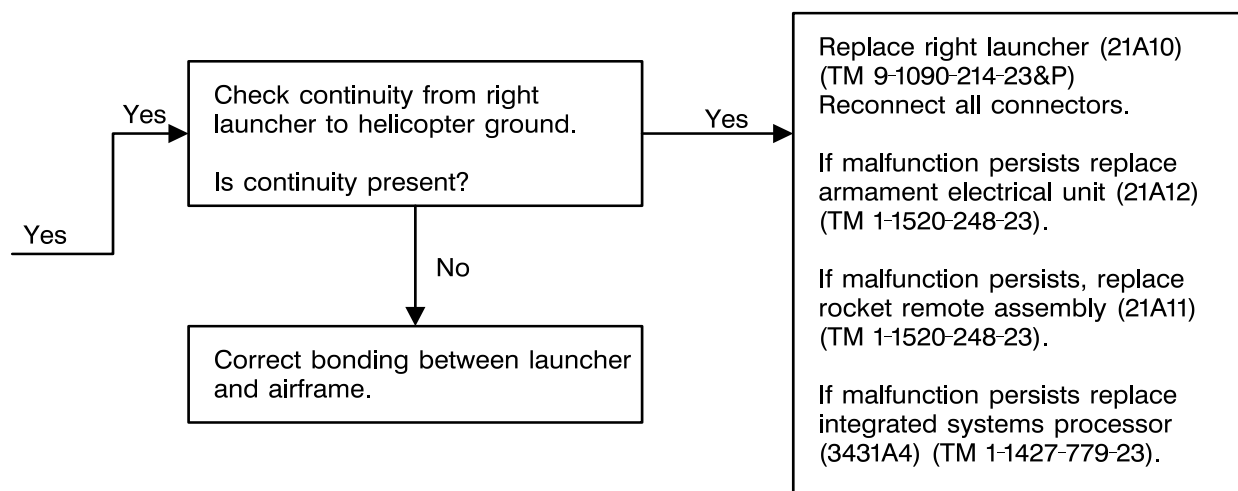
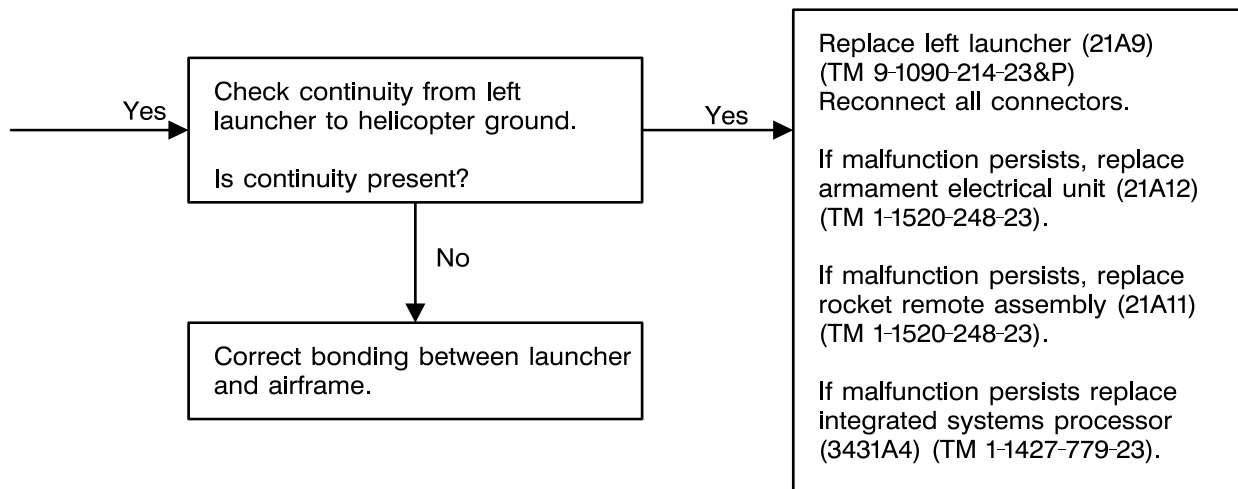
406475-542-156
J1493

4-4-7. ROCKET SQUIB DOES NOT FIRE WHEN SYSTEM IS ARMED AND SELECTED AND WPN-FIRE SWITCH IS PRESSED (TASK 2-5-9) - OH-58D (CONT)

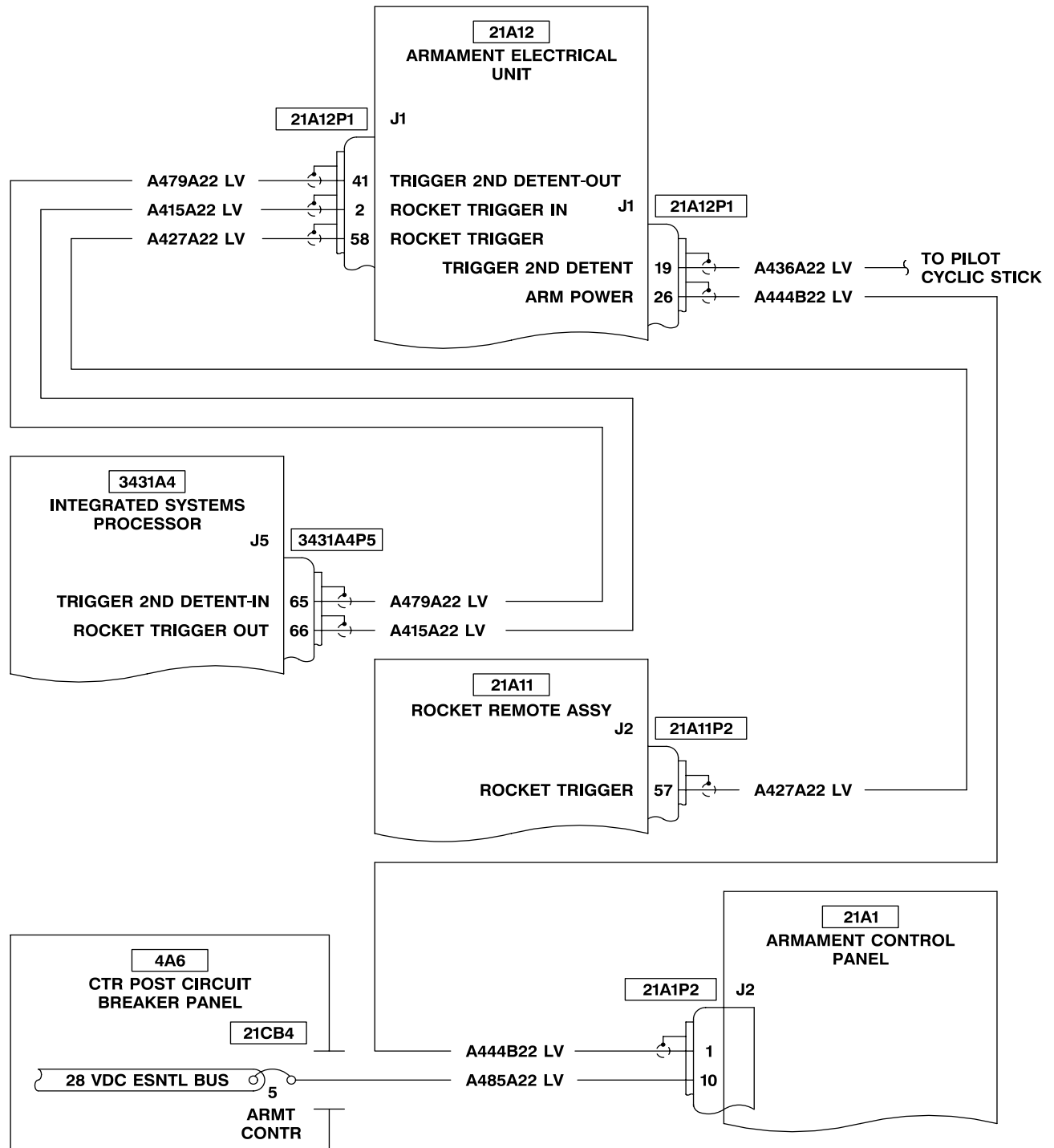


406475-542-157
J1493

4-4-7. ROCKET SQUIB DOES NOT FIRE WHEN SYSTEM IS ARMED AND SELECTED AND WPN-FIRE SWITCH IS PRESSED (TASK 2-5-9) - OH-58D (CONT)

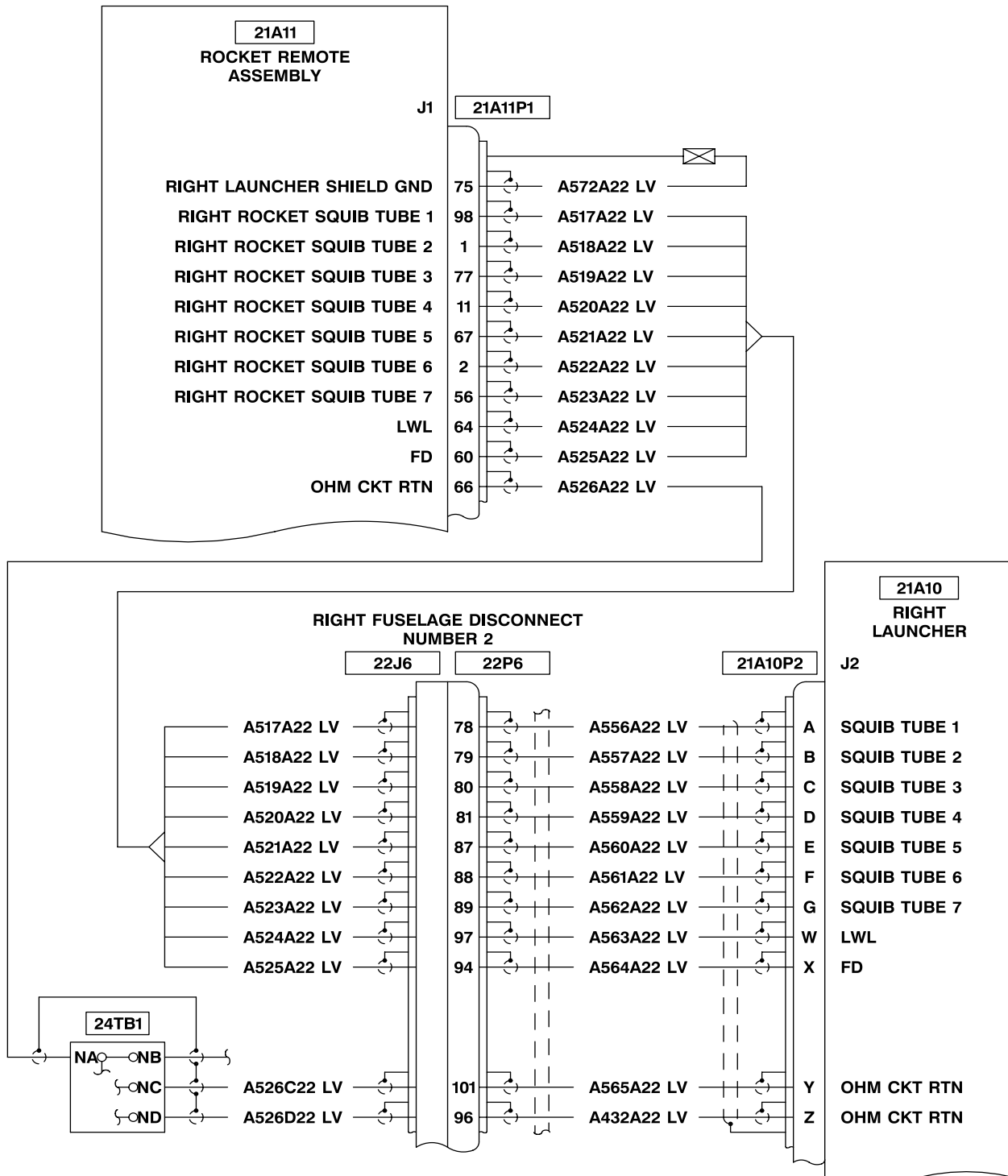


4-4-7. ROCKET SQUIB DOES NOT FIRE WHEN SYSTEM IS ARMED AND SELECTED AND WPN-FIRE SWITCH IS PRESSED (TASK 2-5-9) - OH-58D (CONT)



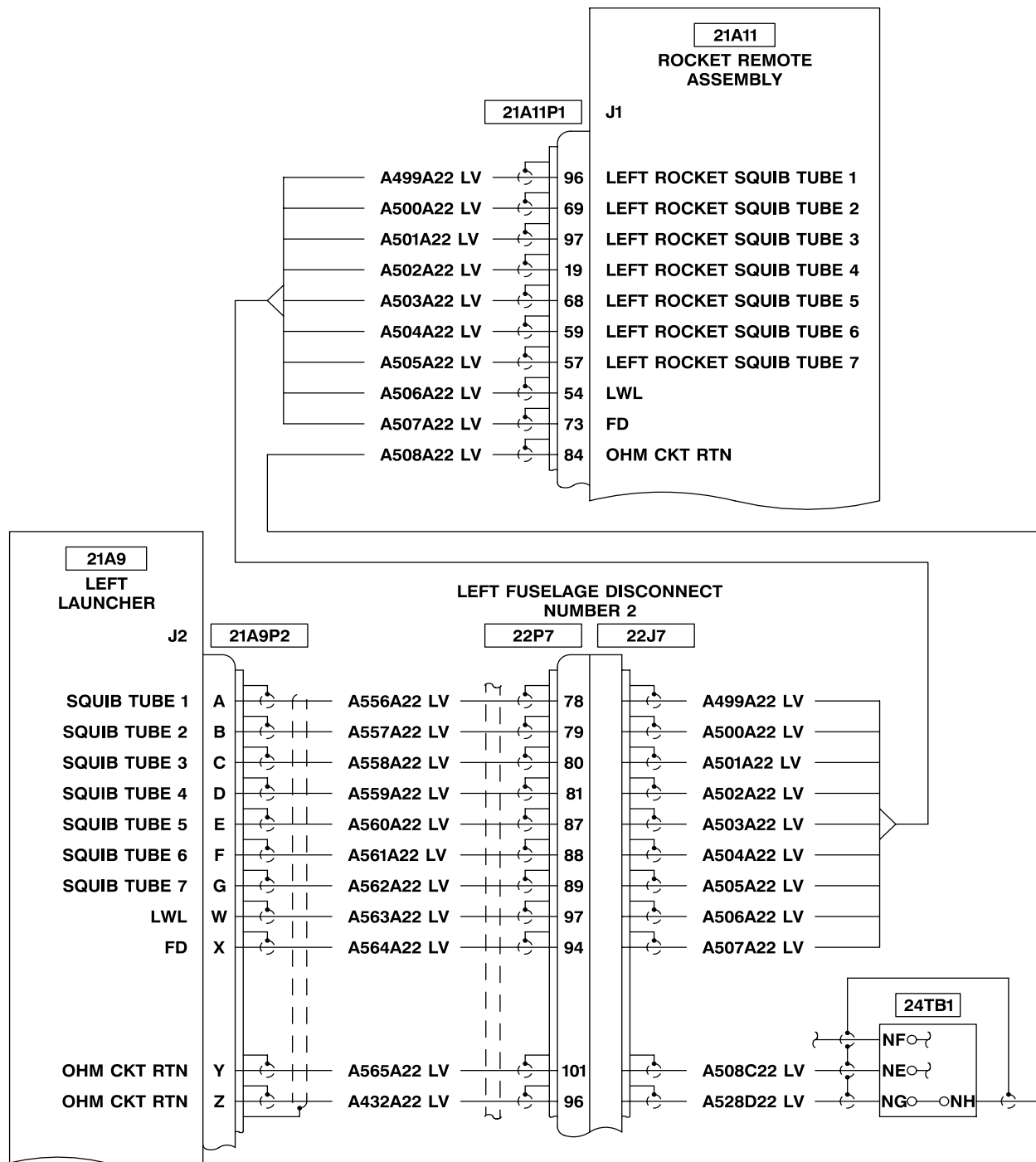
406475-542-159
J1493

4-4-7. ROCKET SQUIB DOES NOT FIRE WHEN SYSTEM IS ARMED AND SELECTED AND WPN-FIRE SWITCH IS PRESSED (TASK 2-5-9) - OH-58D (CONT)



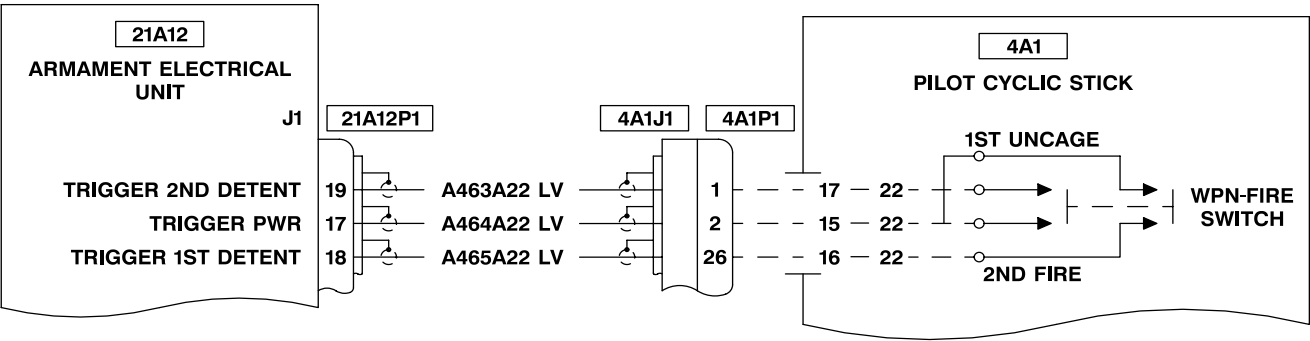
406475-542-160
J1493

4-4-7. ROCKET SQUIB DOES NOT FIRE WHEN SYSTEM IS ARMED AND SELECTED AND WPN-FIRE SWITCH IS PRESSED (TASK 2-5-9) - OH-58D (CONT)



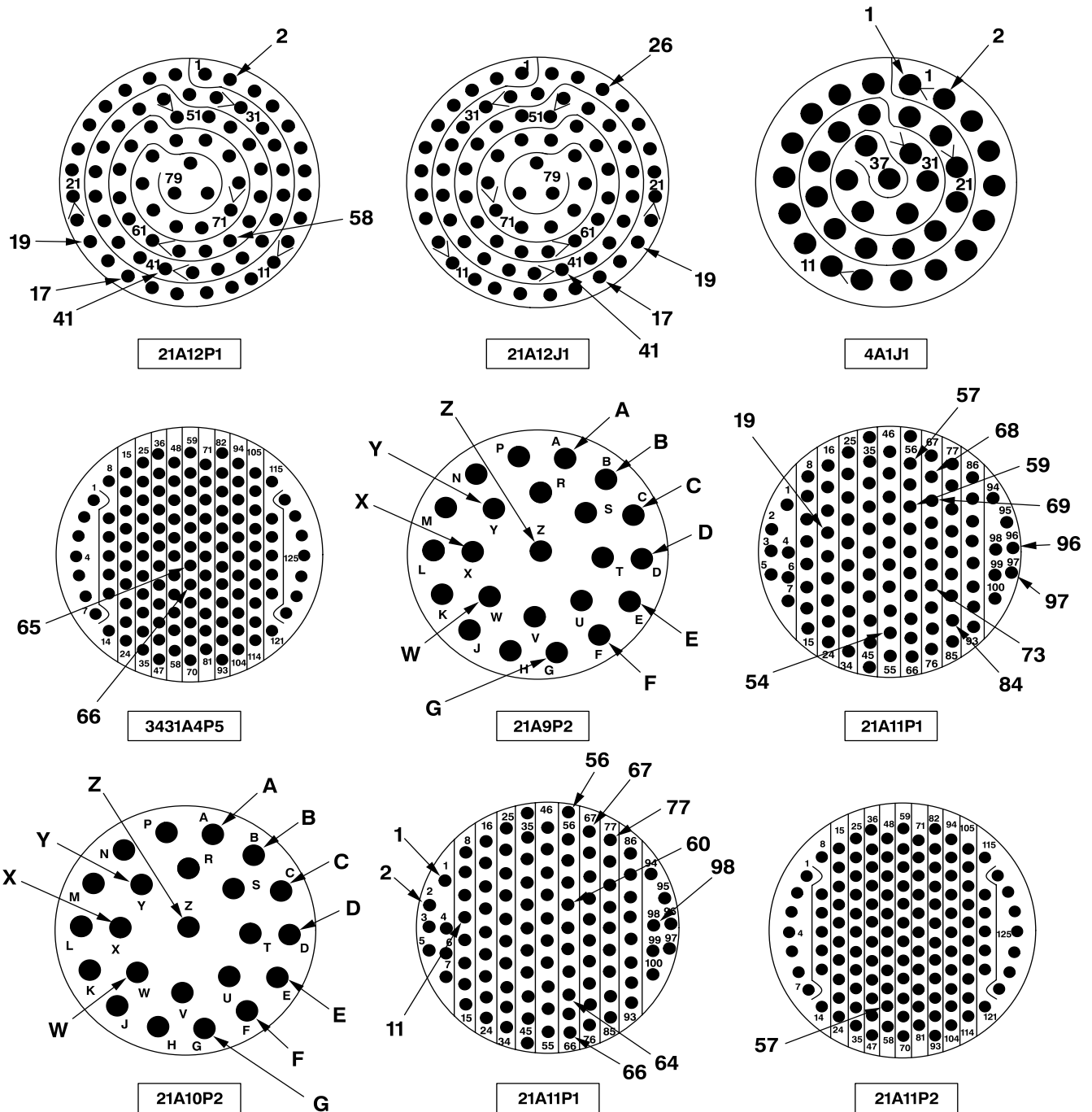
406475-542-161
J1493

4-4-7. ROCKET SQUIB DOES NOT FIRE WHEN SYSTEM IS ARMED AND SELECTED AND WPN-FIRE SWITCH IS PRESSED (TASK 2-5-9) - OH-58D (CONT)

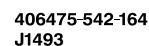


406475-542-162
J1493

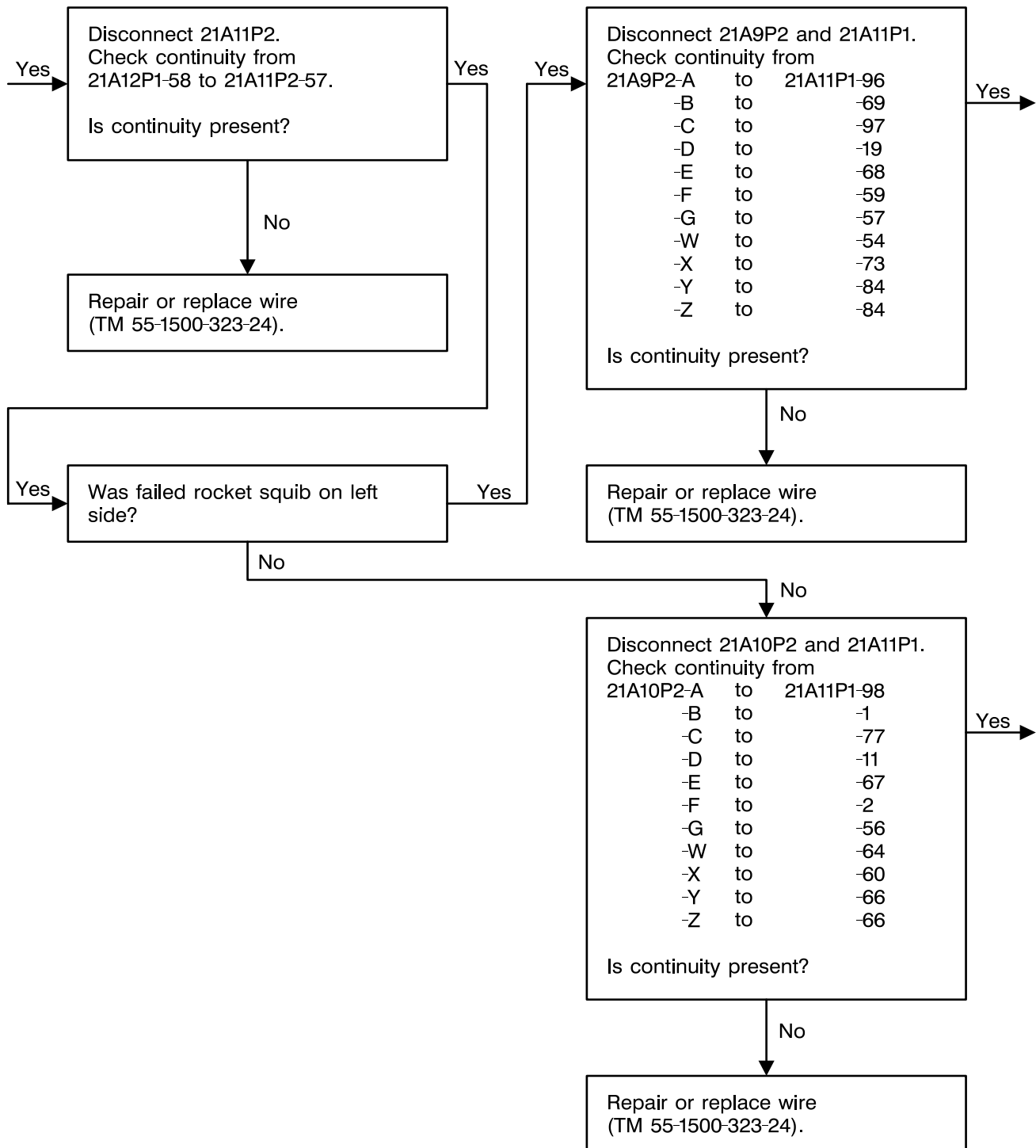
4-4-7. ROCKET SQUIB DOES NOT FIRE WHEN SYSTEM IS ARMED AND SELECTED AND WPN-FIRE SWITCH IS PRESSED (TASK 2-5-9) - OH-58D (CONT)



406475-542-163
J1493

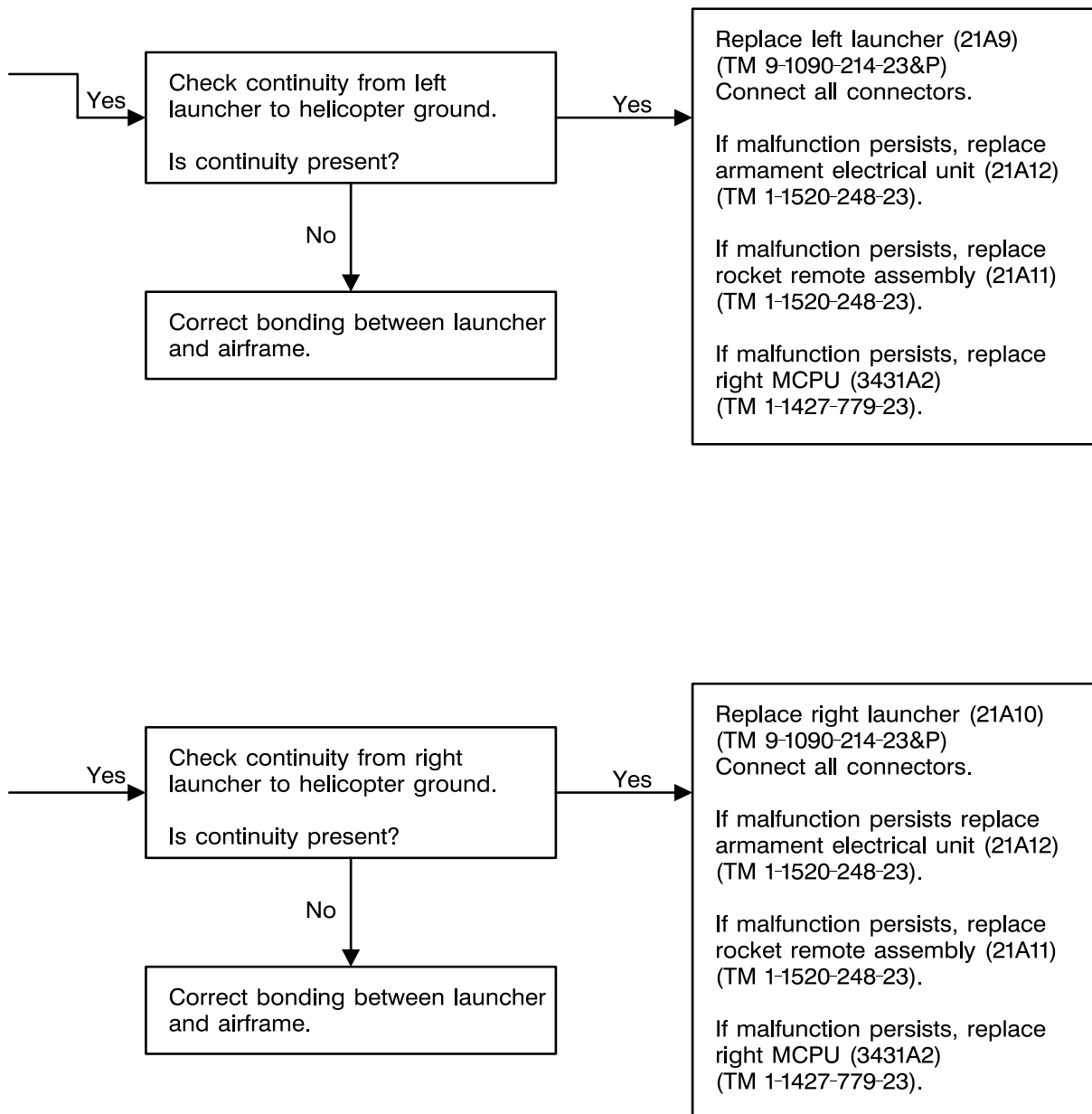


4-4-8. ROCKET SQUIB DOES NOT FIRE WHEN SYSTEM IS ARMED AND SELECTED AND WPN-FIRE SWITCH IS PRESSED (TASK 2-5-10) - OH-58D(R) (CONT)

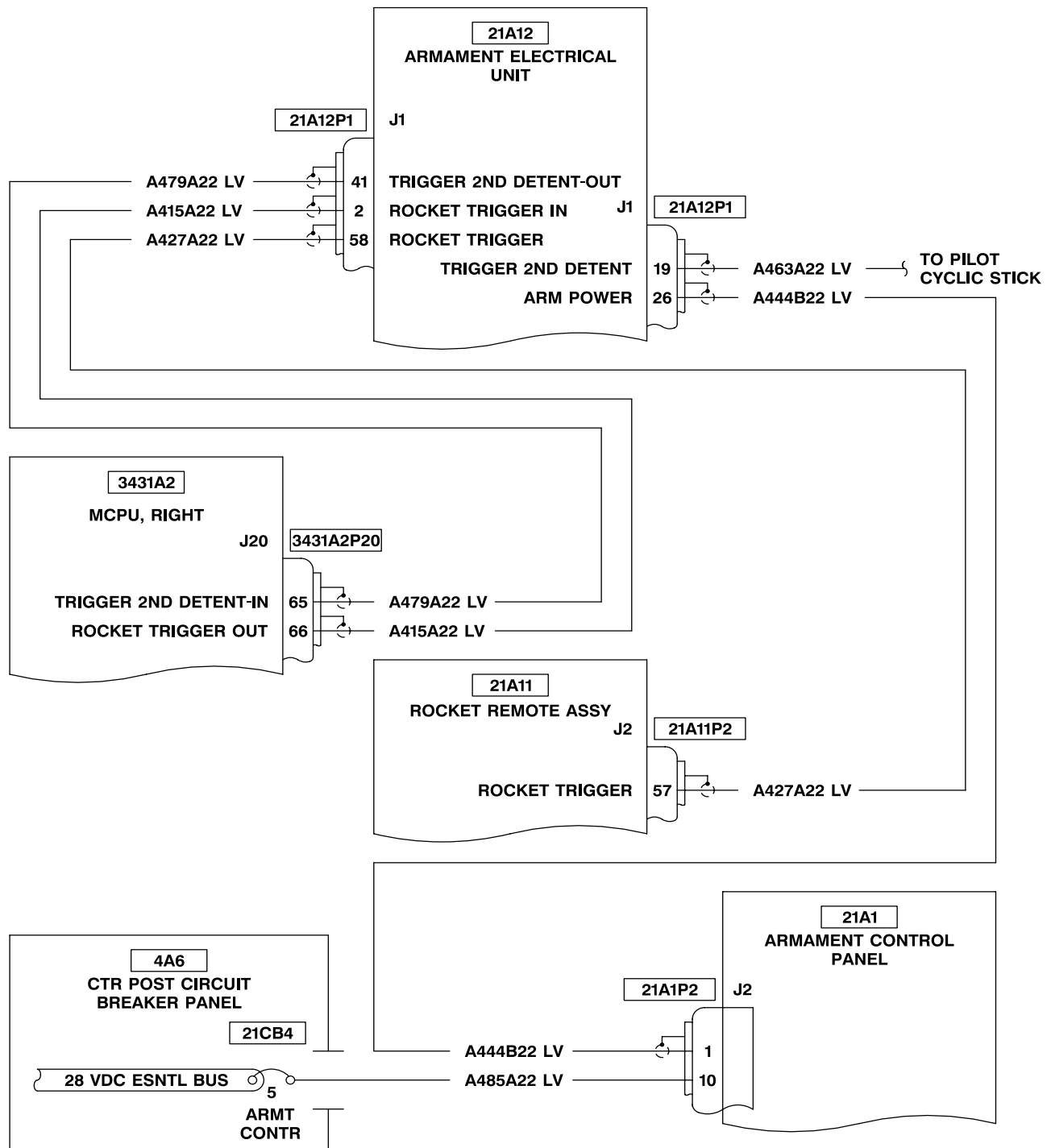


406475-542-165
J1493

4-4-8. ROCKET SQUIB DOES NOT FIRE WHEN SYSTEM IS ARMED AND SELECTED AND WPN-FIRE SWITCH IS PRESSED (TASK 2-5-10) - OH-58D(R) (CONT)

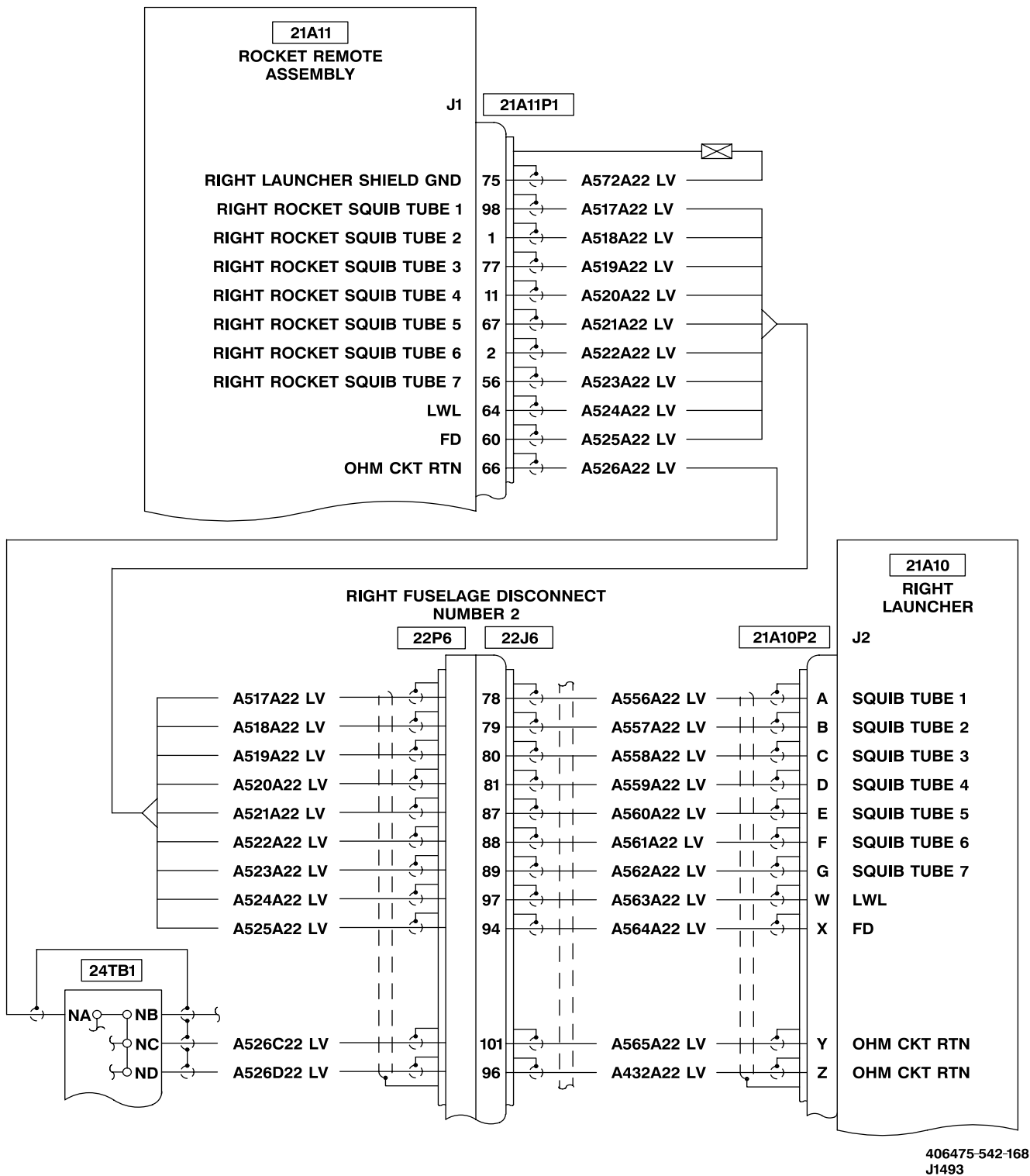
406475-542-166
J1493

4-4-8. ROCKET SQUIB DOES NOT FIRE WHEN SYSTEM IS ARMED AND SELECTED AND WPN-FIRE SWITCH IS PRESSED (TASK 2-5-10) - OH-58D(R) (CONT)

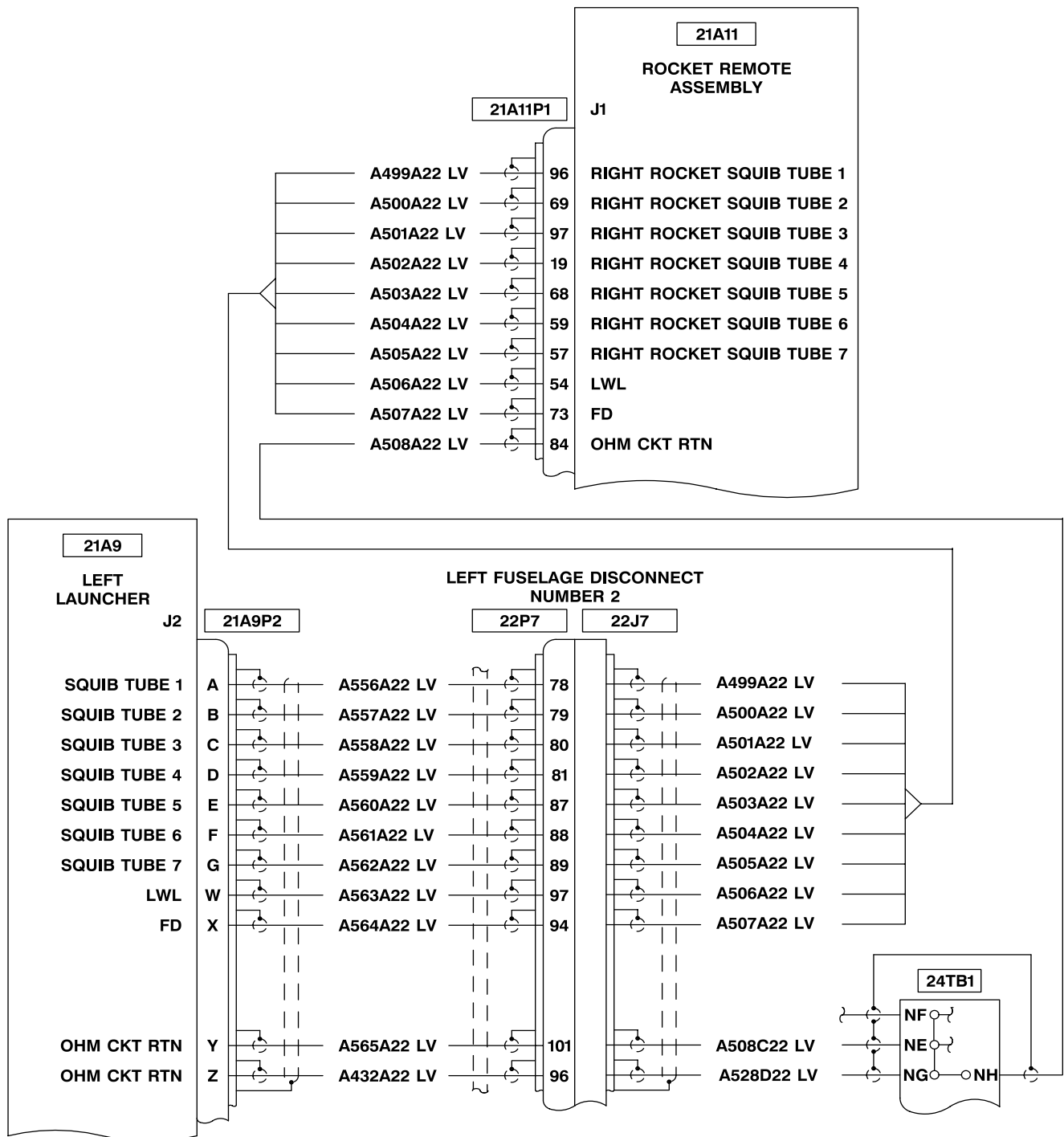


406475-542-167
J1493

4-4-8. ROCKET SQUIB DOES NOT FIRE WHEN SYSTEM IS ARMED AND SELECTED AND WPN-FIRE SWITCH IS PRESSED (TASK 2-5-10) - OH-58D(R) (CONT)

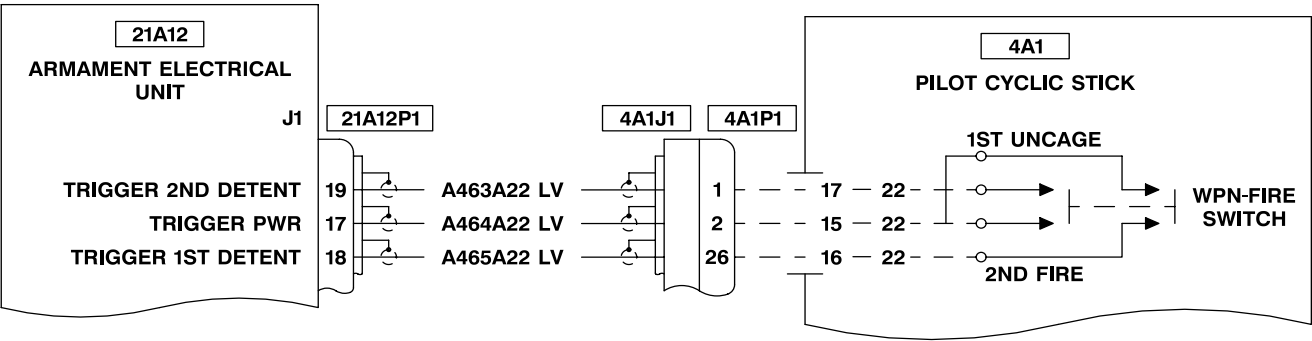


4-4-8. ROCKET SQUIB DOES NOT FIRE WHEN SYSTEM IS ARMED AND SELECTED AND WPN-FIRE SWITCH IS PRESSED (TASK 2-5-10) - OH-58D(R) (CONT)

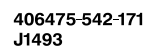


406475-542-169
J1493

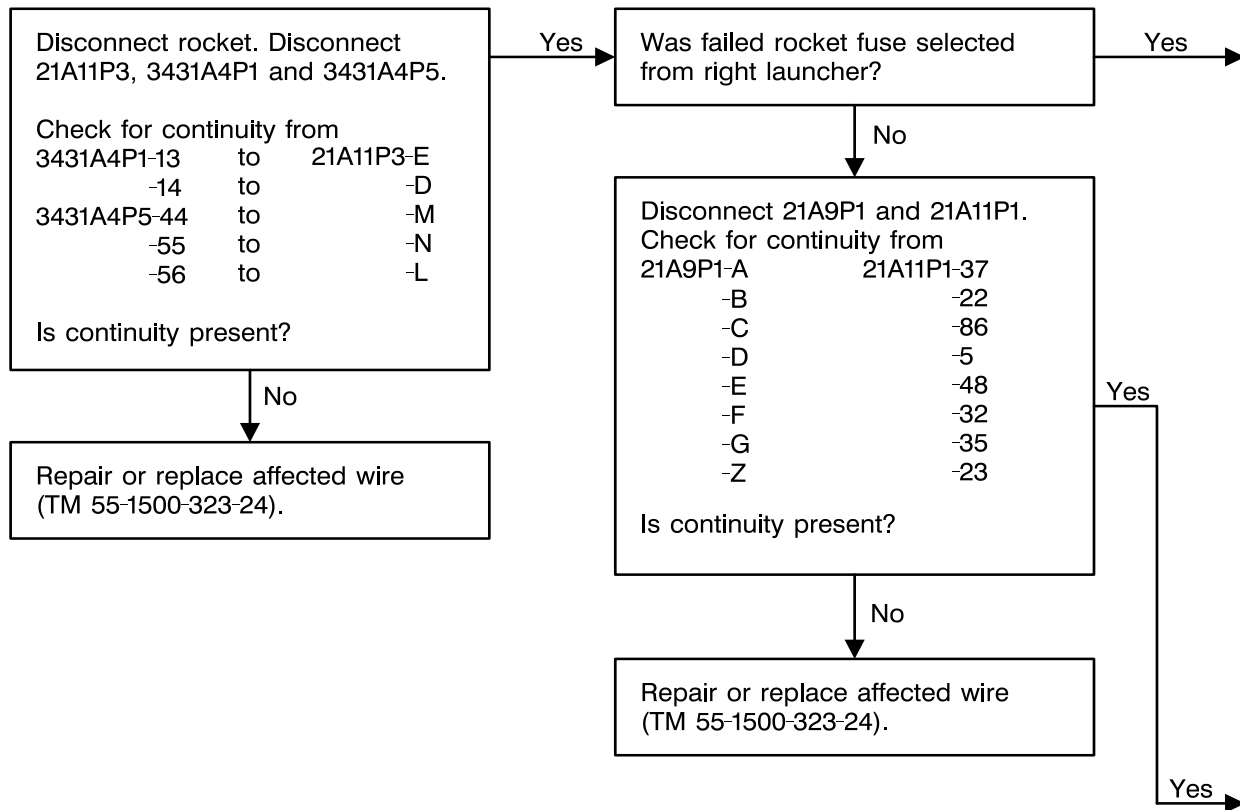
4-4-8. ROCKET SQUIB DOES NOT FIRE WHEN SYSTEM IS ARMED AND SELECTED AND WPN-FIRE SWITCH IS PRESSED (TASK 2-5-10) - OH-58D(R) (CONT)



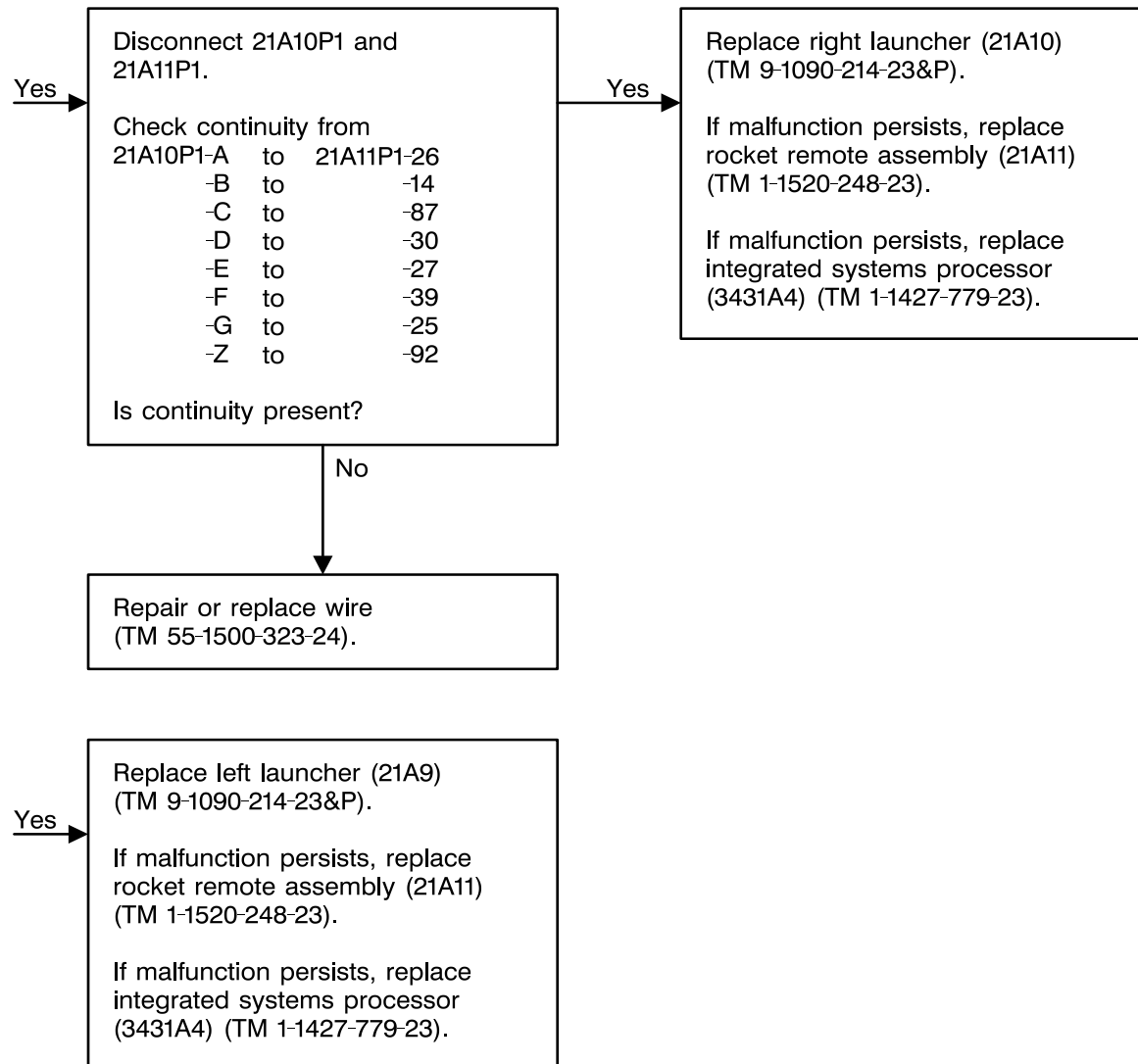
406475-542-170
J1493



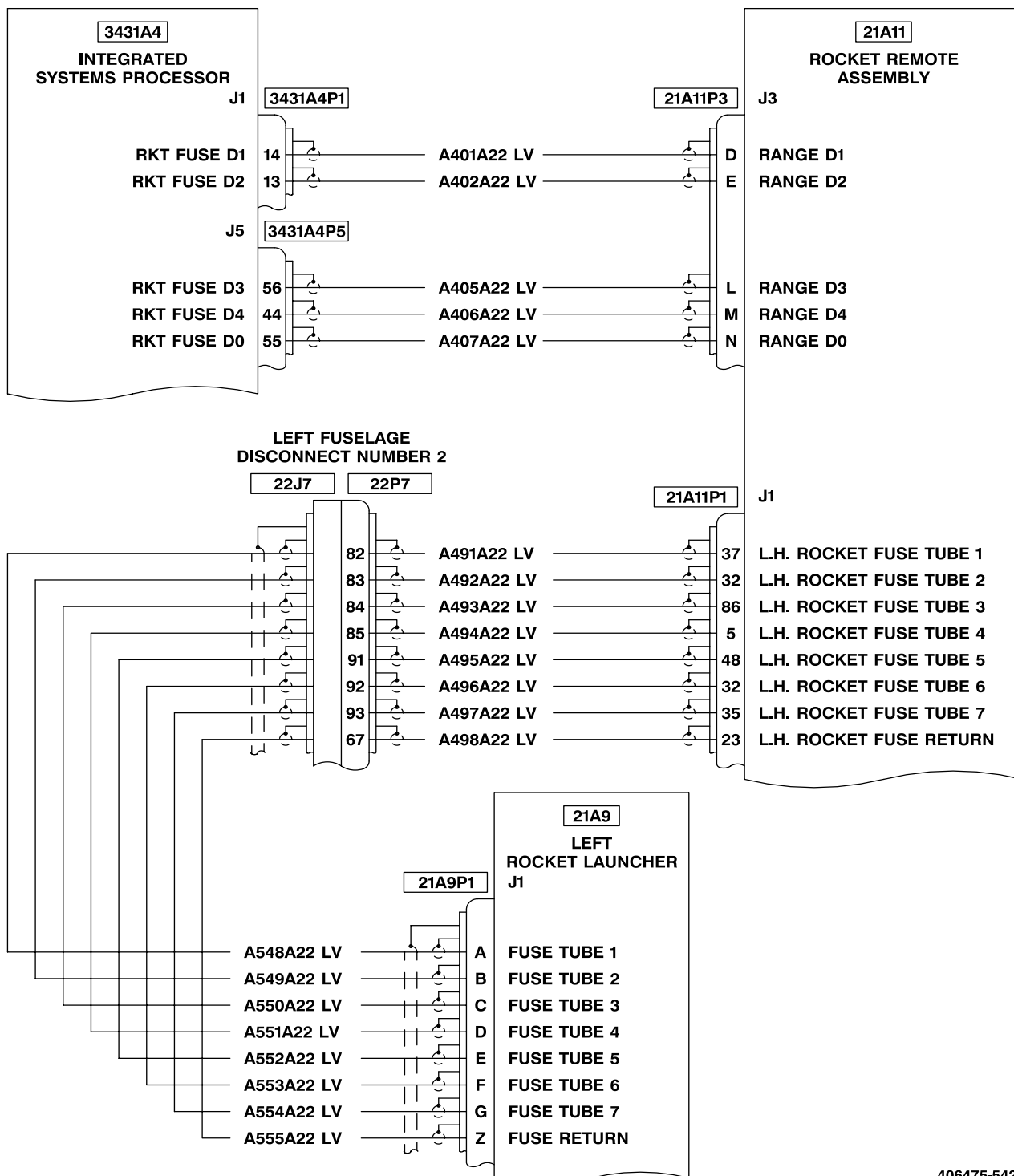
4-4-9. ROCKET FUSE TIME FOR MANUAL SETTING DOES NOT AGREE WITH MFD (TASK 2-5-9) - OH-58D



4-4-9. ROCKET FUSE TIME FOR MANUAL SETTING DOES NOT AGREE WITH MFD (TASK 2-5-9) - OH-58D (CONT)

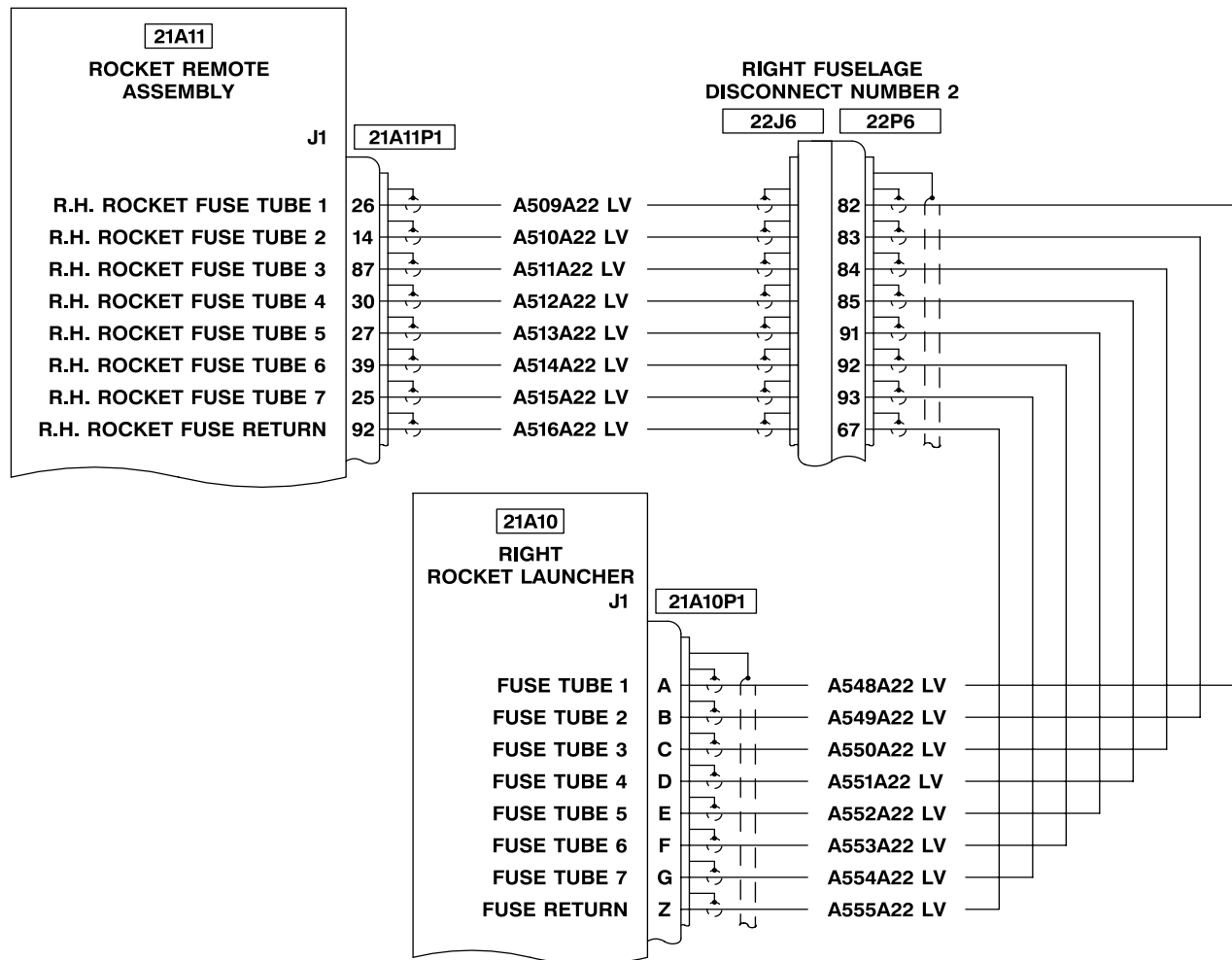

406475-542-173
J1493

4-4-9. ROCKET FUSE TIME FOR MANUAL SETTING DOES NOT AGREE WITH MFD (TASK 2-5-9) - OH-58D (CONT)



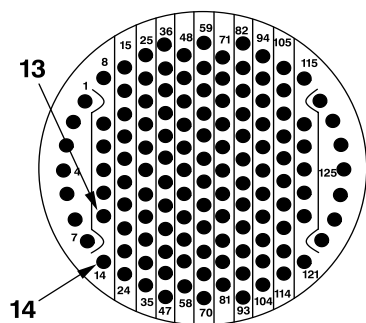
406475-542-174
J1493

4-4-9. ROCKET FUSE TIME FOR MANUAL SETTING DOES NOT AGREE WITH MFD (TASK 2-5-9) - OH-58D (CONT)

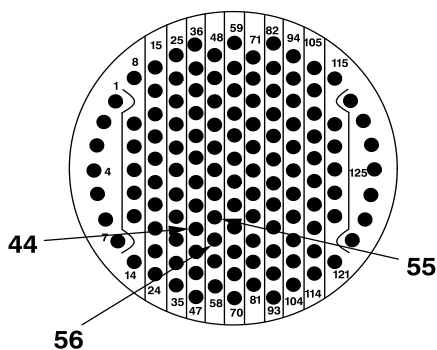


406475-542-175
J1493

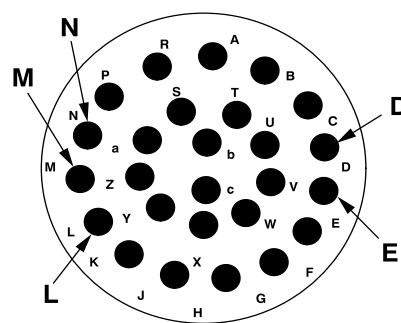
4-4-9. ROCKET FUSE TIME FOR MANUAL SETTING DOES NOT AGREE WITH MFD (TASK 2-5-9) - OH-58D (CONT)



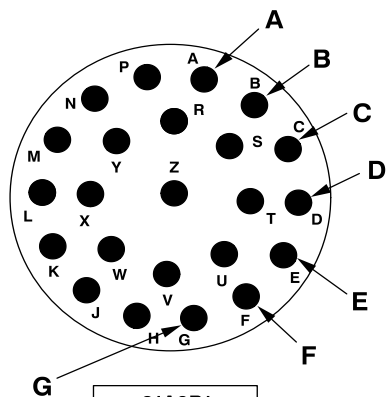
3431A4P1



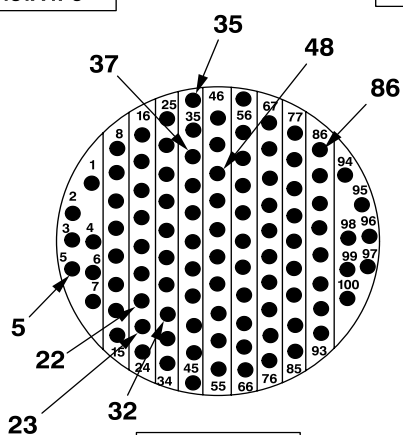
3431A4P5



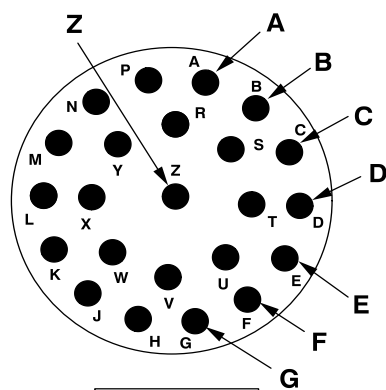
21A11P3



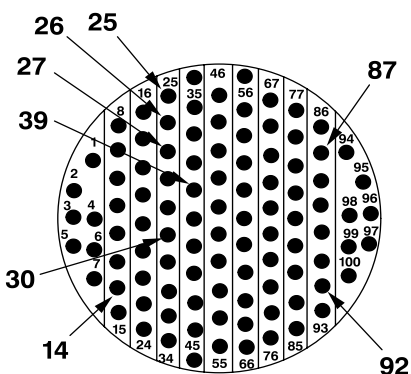
21A9P1



21A11P1

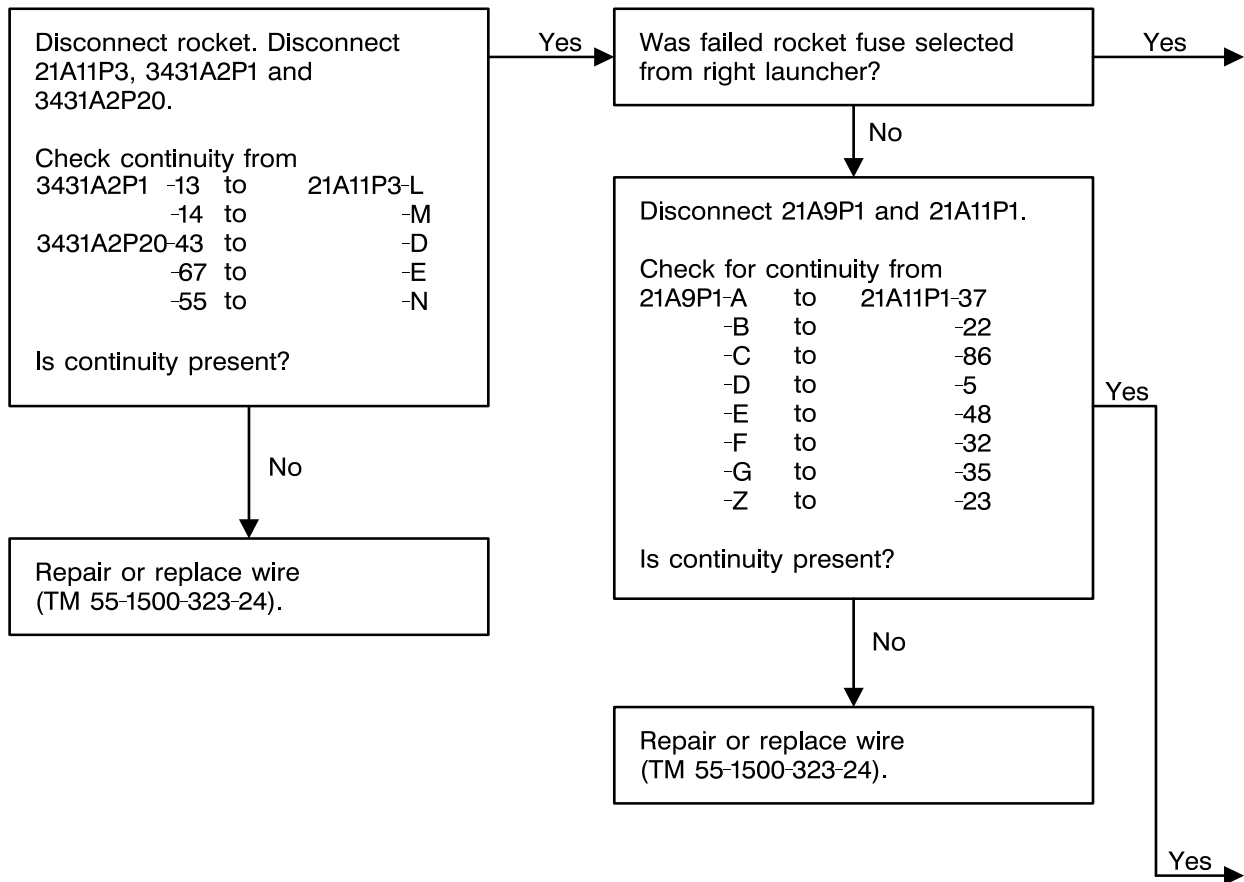


21A10P1



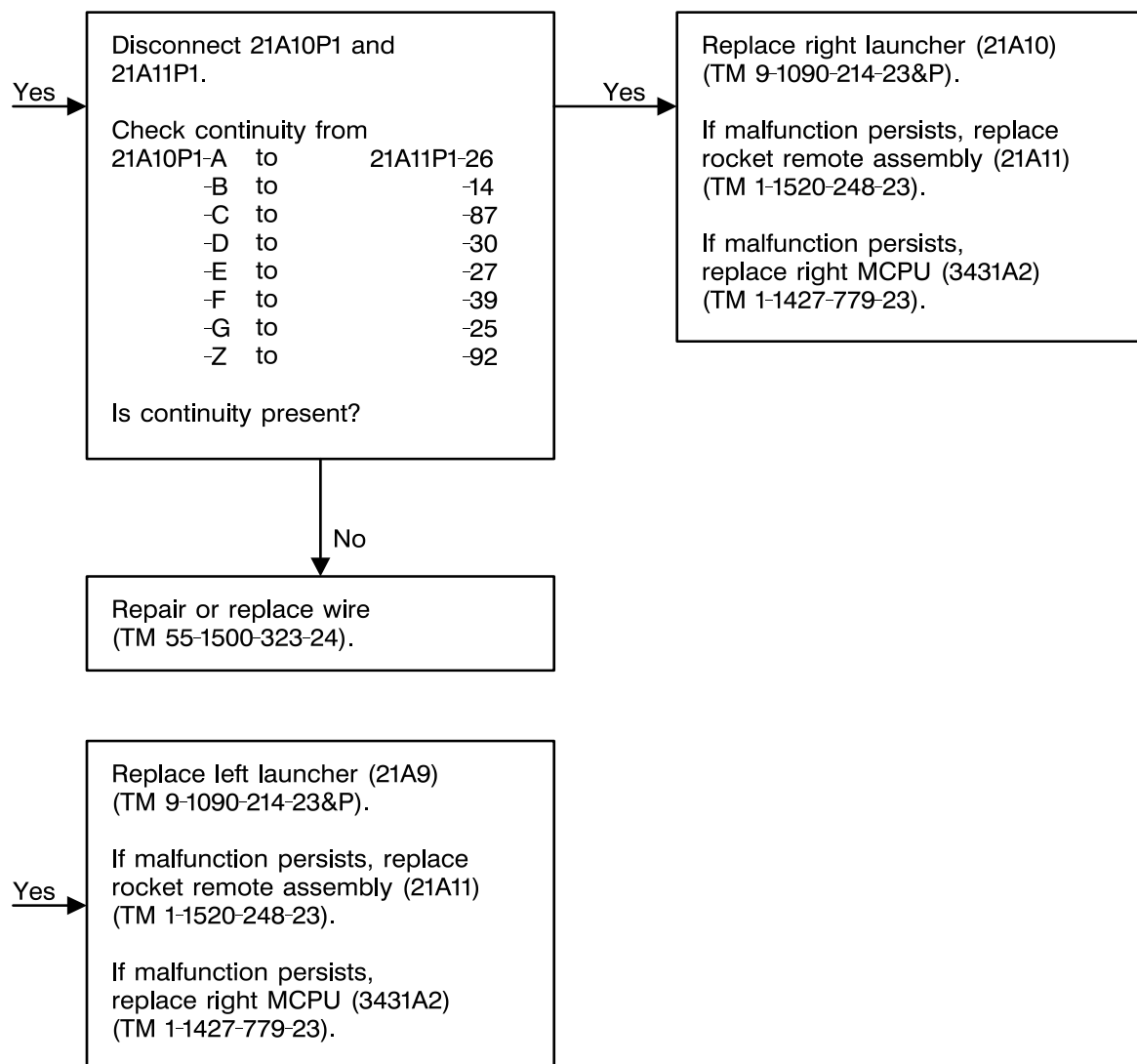
21A11P1

4-4-10. ROCKET FUSE TIME FOR MANUAL SETTING DOES NOT AGREE WITH MFD (TASK 2-5-10) - OH-58D(R)

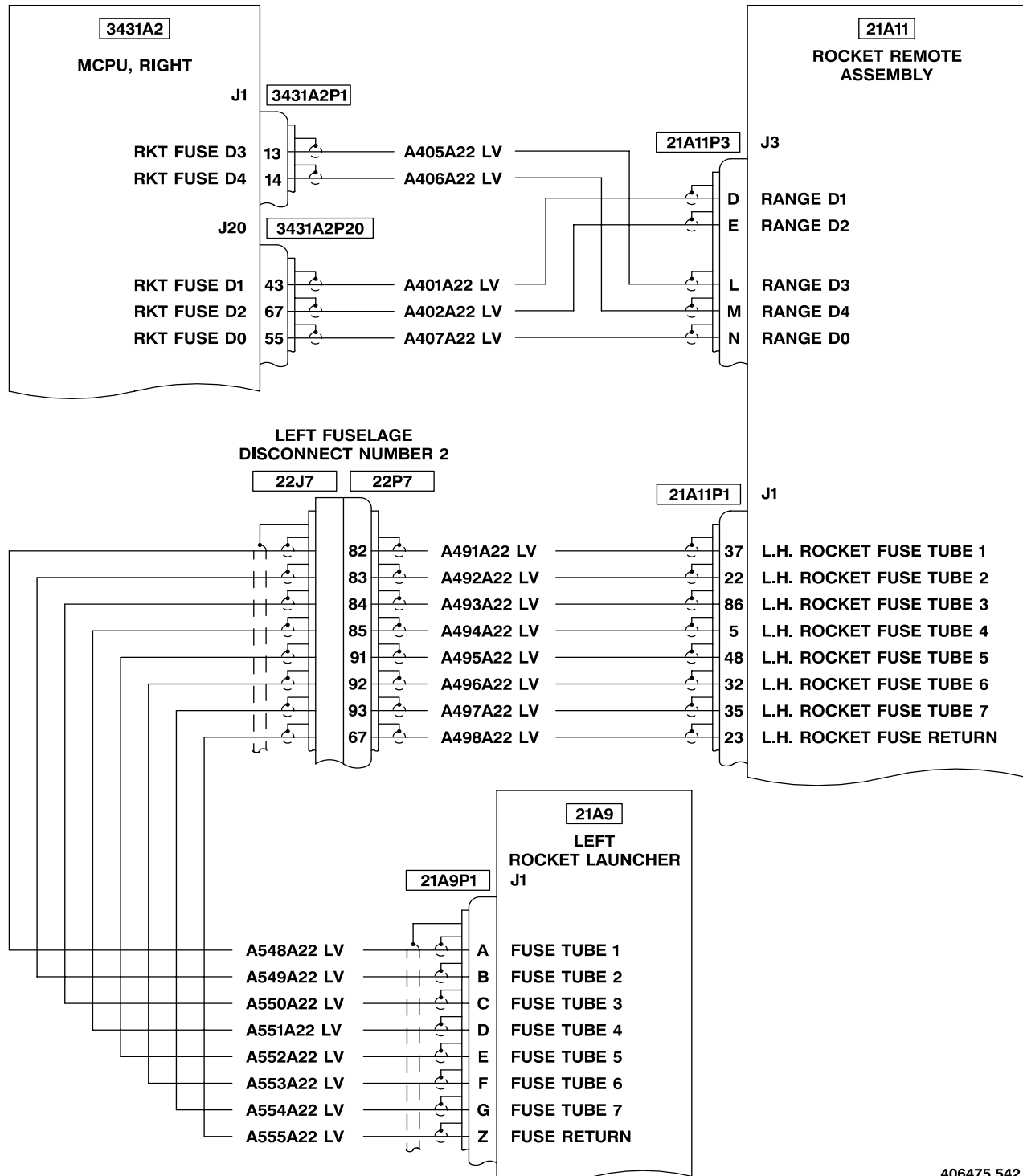


406475-542-177
J1493

4-4-10. ROCKET FUSE TIME FOR MANUAL SETTING DOES NOT AGREE WITH MFD (TASK 2-5-10)
- OH-58D(R) (CONT)

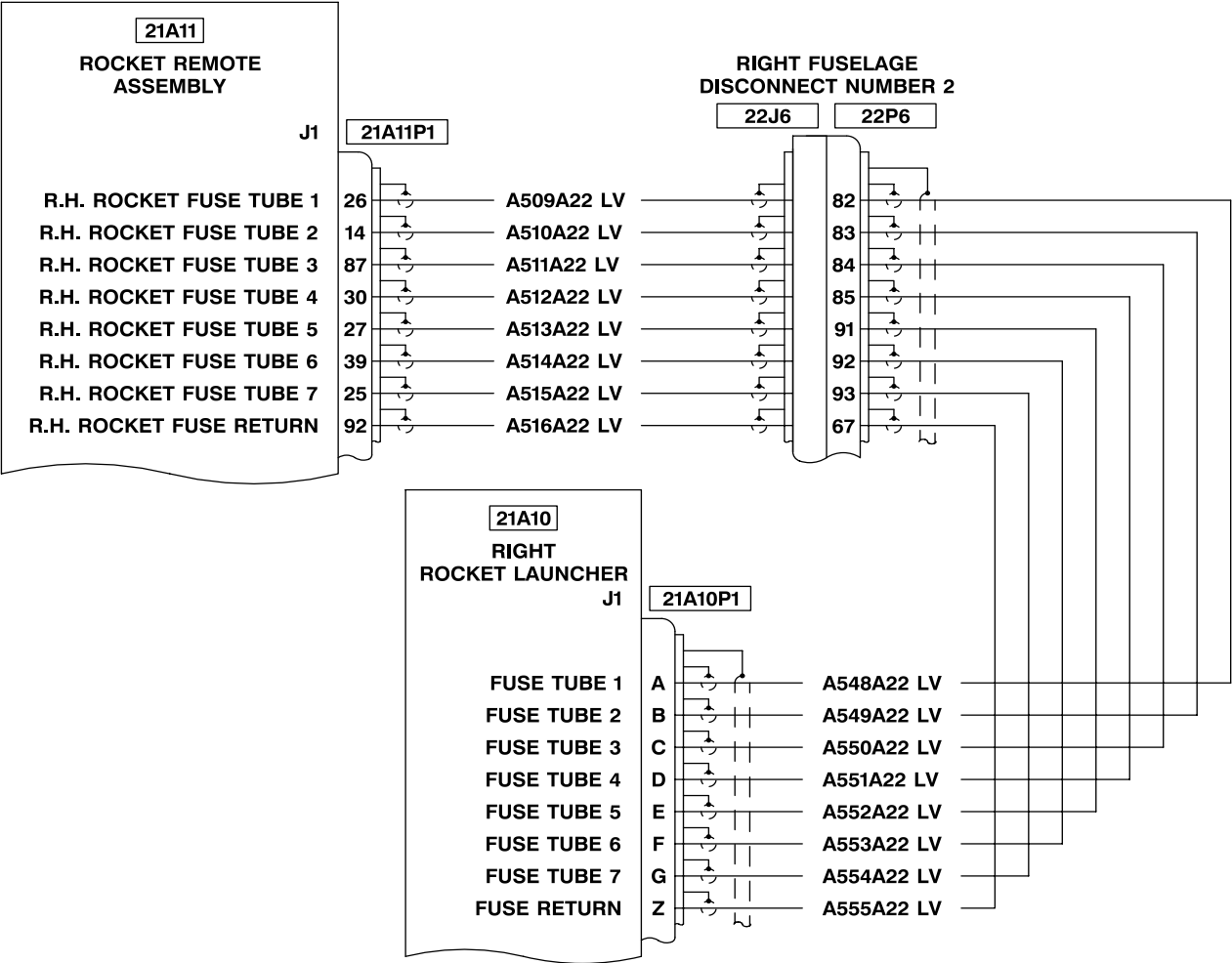


4-4-10. ROCKET FUSE TIME FOR MANUAL SETTING DOES NOT AGREE WITH MFD (TASK 2-5-10)
- OH-58D(R) (CONT)



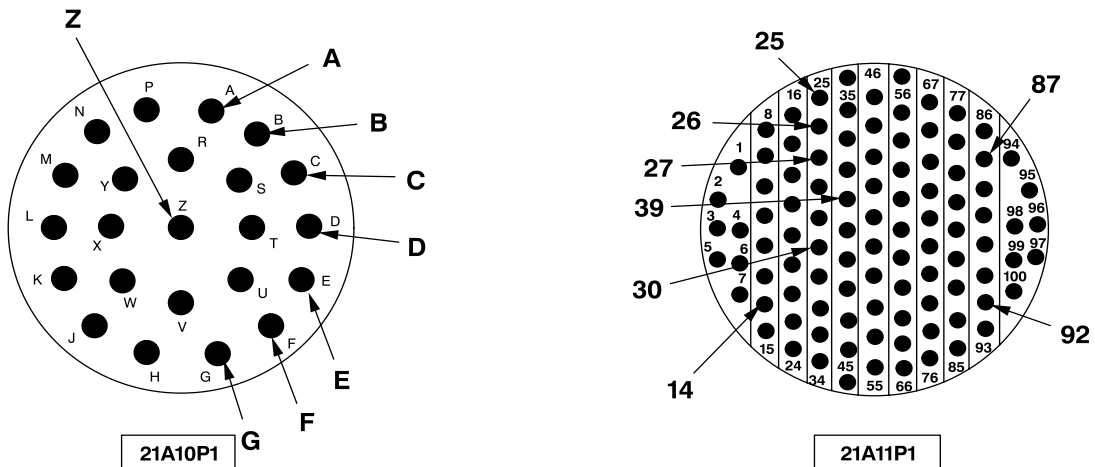
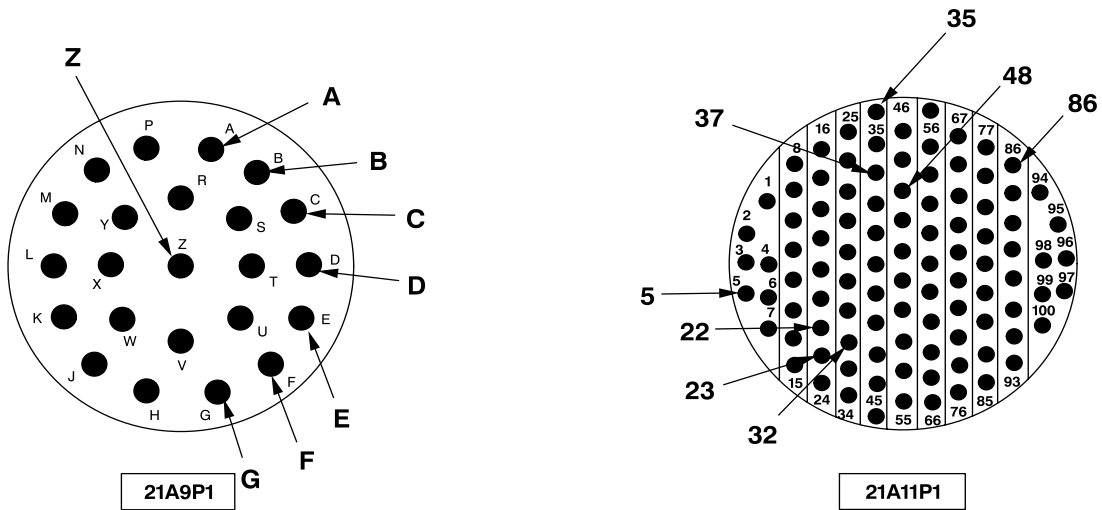
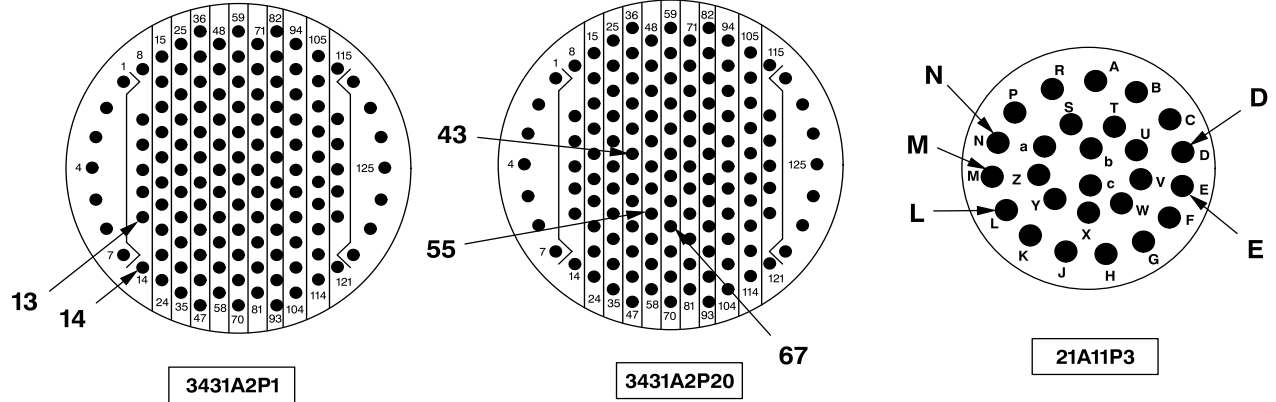
406475-542-179
J1493

4-4-10. ROCKET FUSE TIME FOR MANUAL SETTING DOES NOT AGREE WITH MFD (TASK 2-5-10)
- OH-58D(R) (CONT)



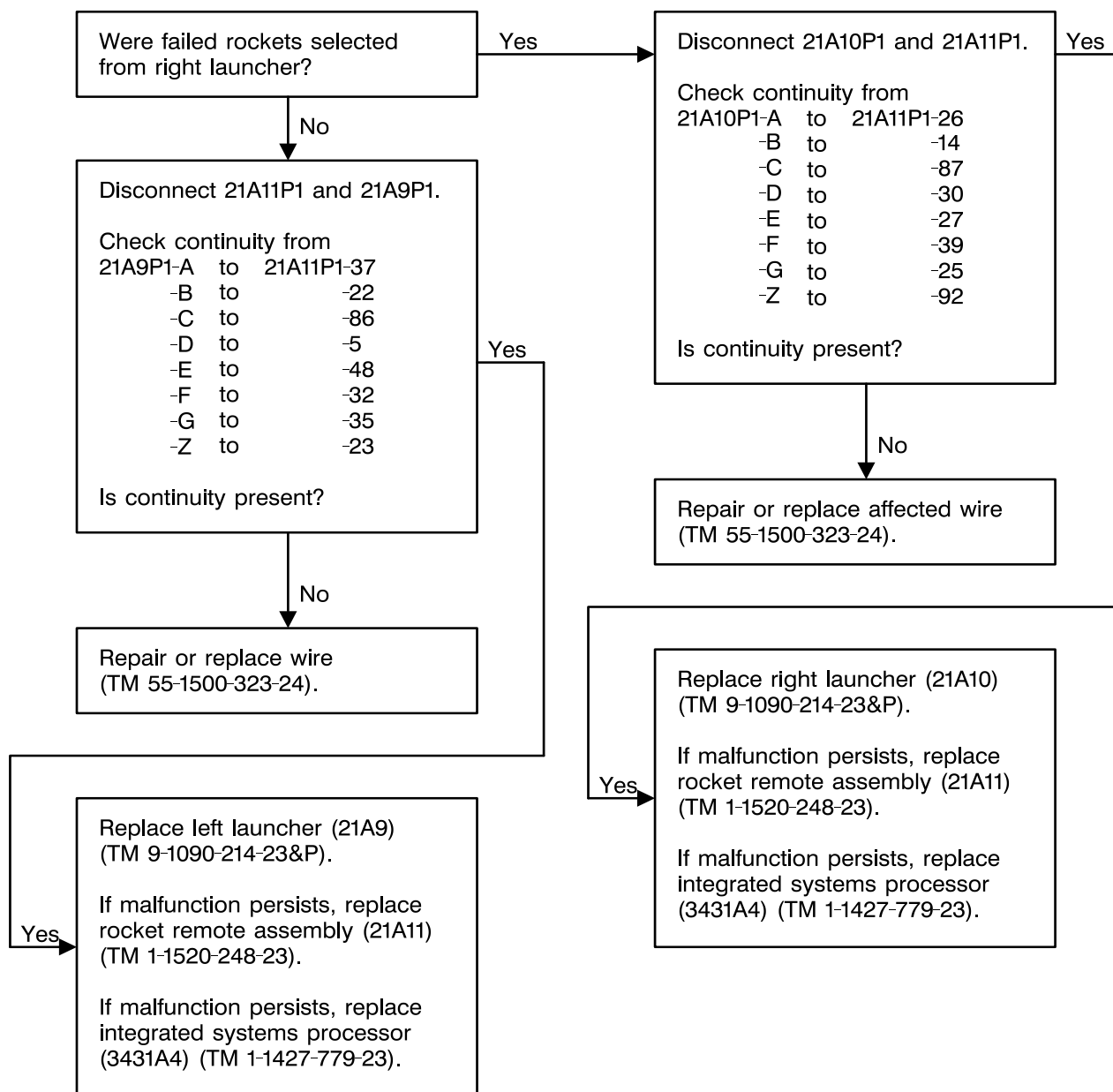
406475-542-180
J1493

4-4-10. ROCKET FUSE TIME FOR MANUAL SETTING DOES NOT AGREE WITH MFD (TASK 2-5-10)
- OH-58D(R) (CONT)

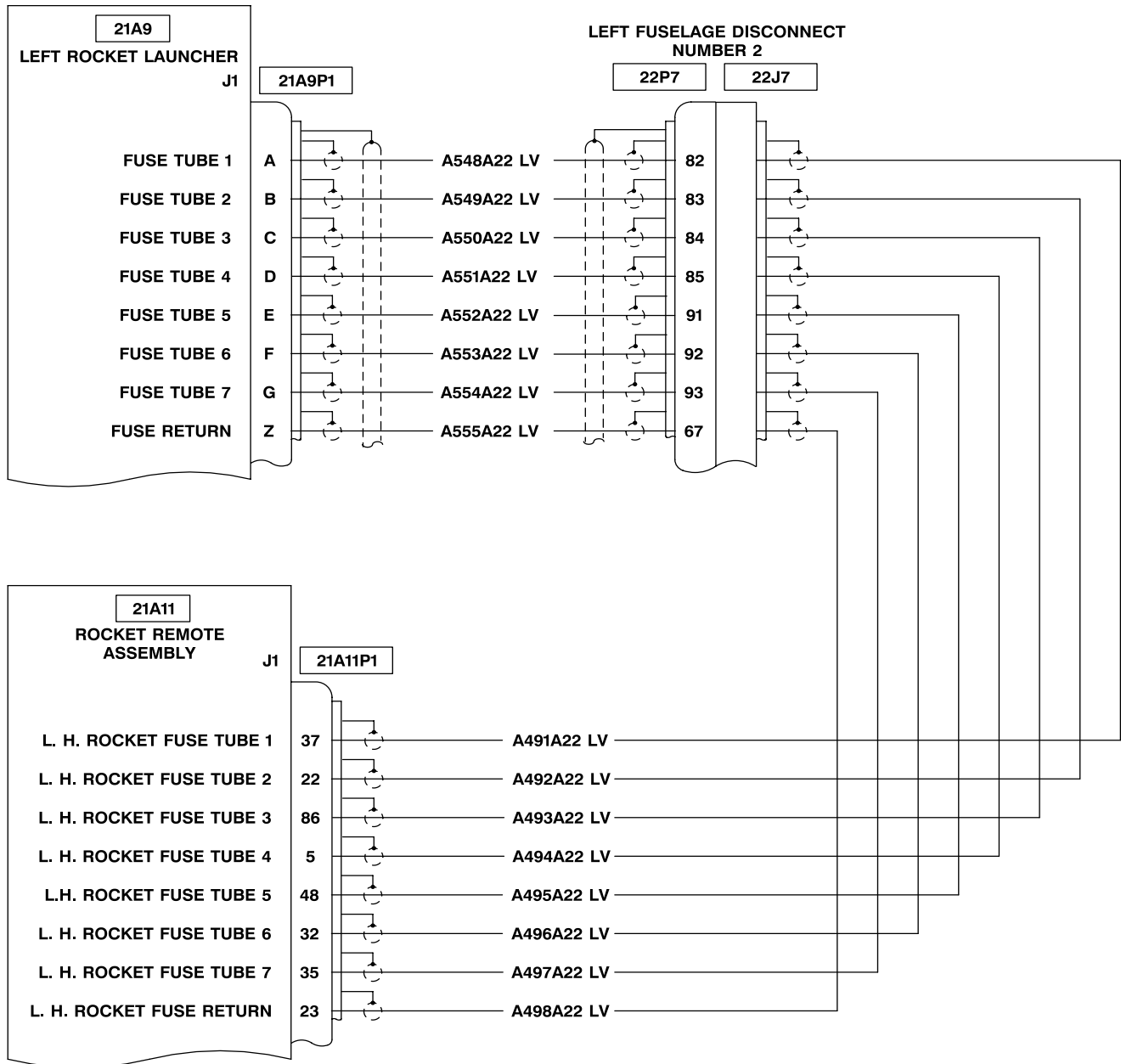


406475-542-181
J1493

4-4-11. ALL OR A SINGLE ROCKET WILL NOT FUSE (TASK 2-5-9) - OH-58D

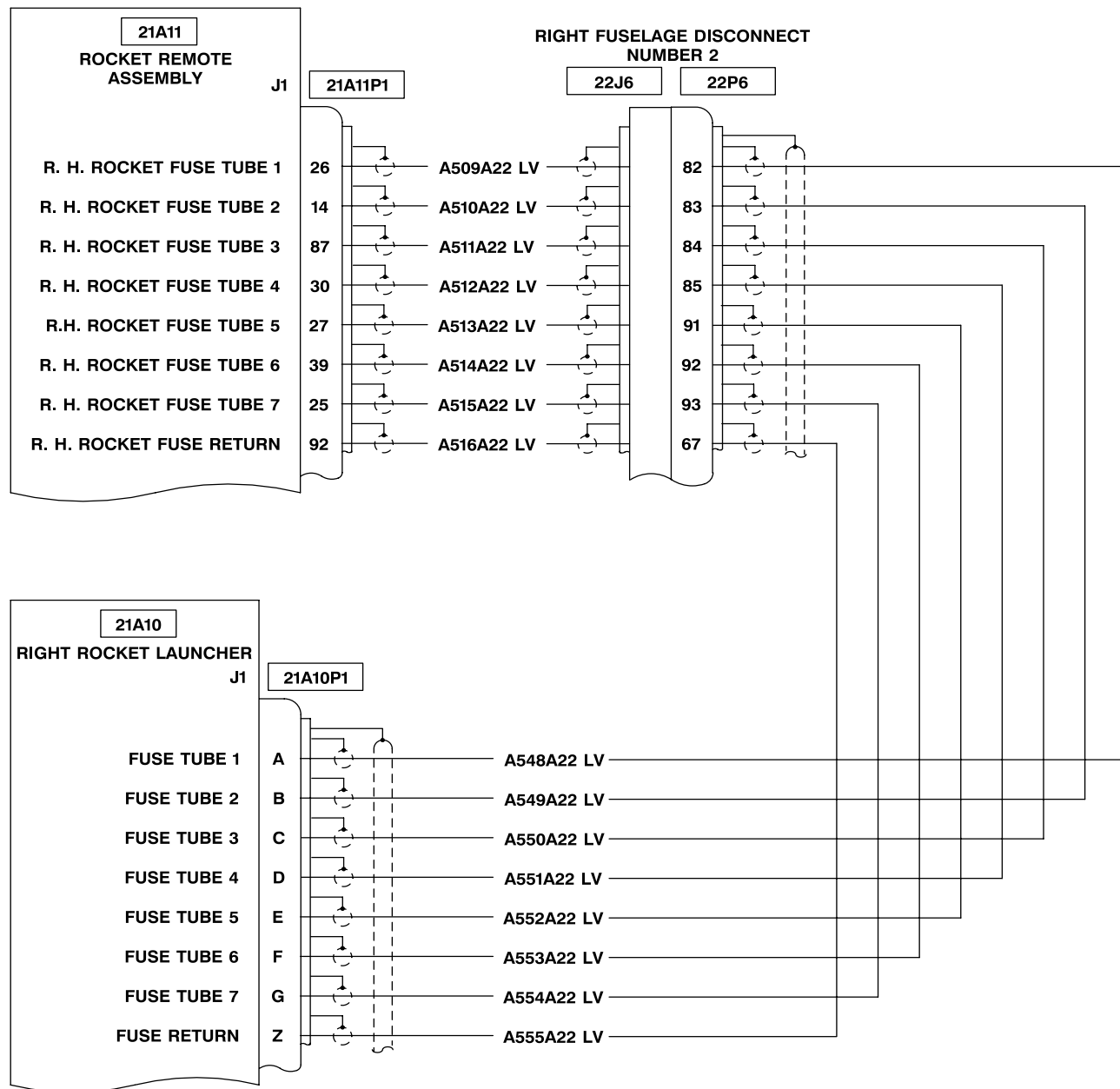


4-4-11. ALL OR A SINGLE ROCKET WILL NOT FUSE (TASK 2-5-9) - OH-58D (CONT)



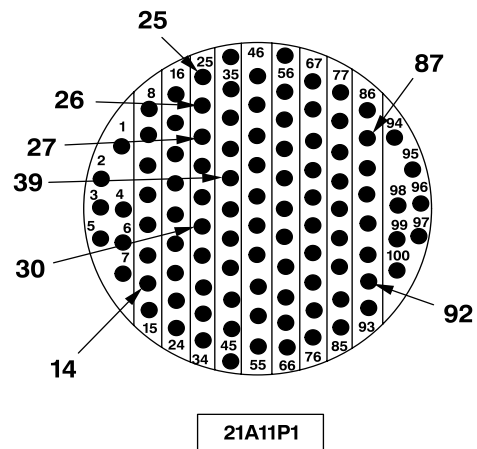
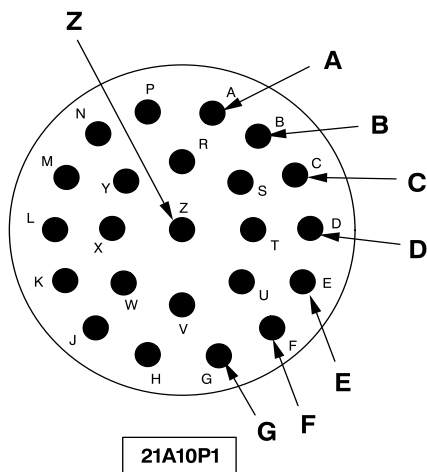
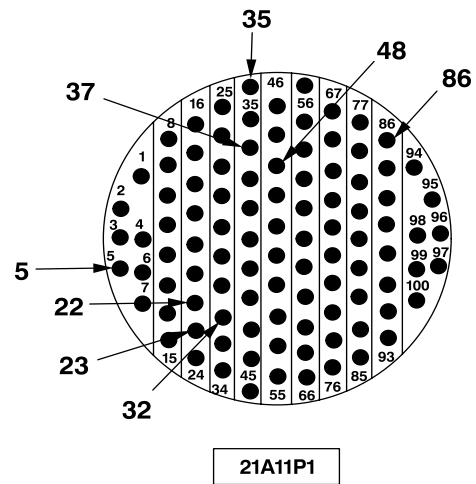
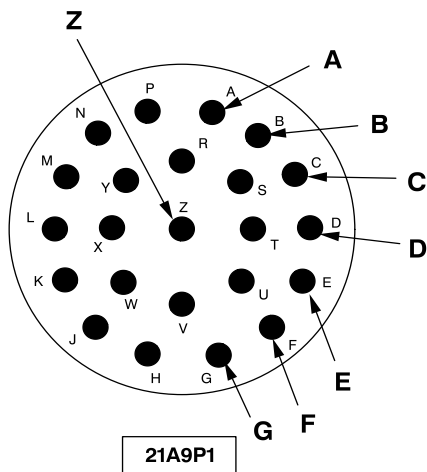
406475-542-183
J1493

4-4-11. ALL OR A SINGLE ROCKET WILL NOT FUSE (TASK 2-5-9) — OH-58D (CONT)



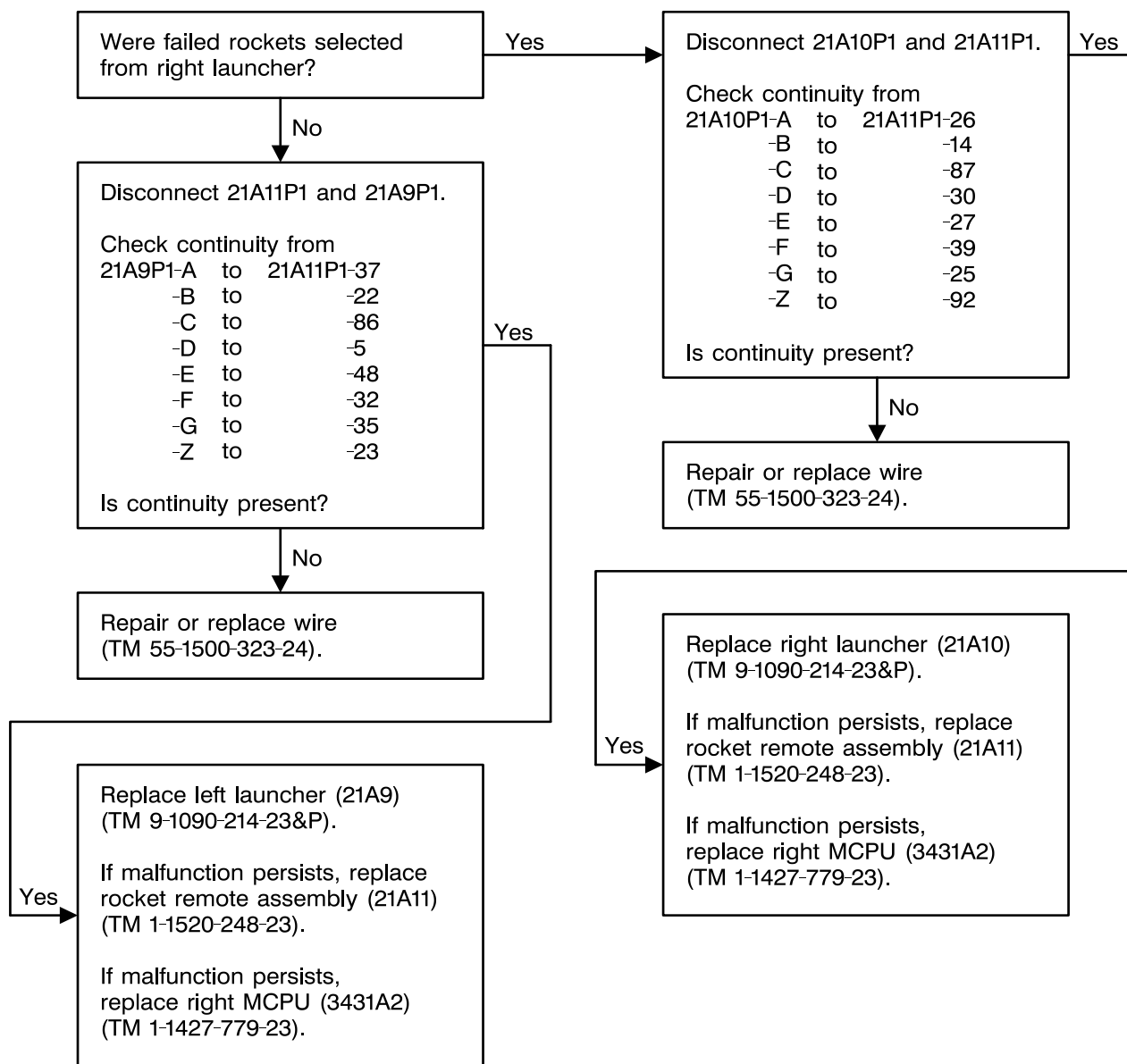
406475-542-184
J1493

4-4-11. ALL OR A SINGLE ROCKET WILL NOT FUSE (TASK 2-5-9) - OH-58D (CONT)

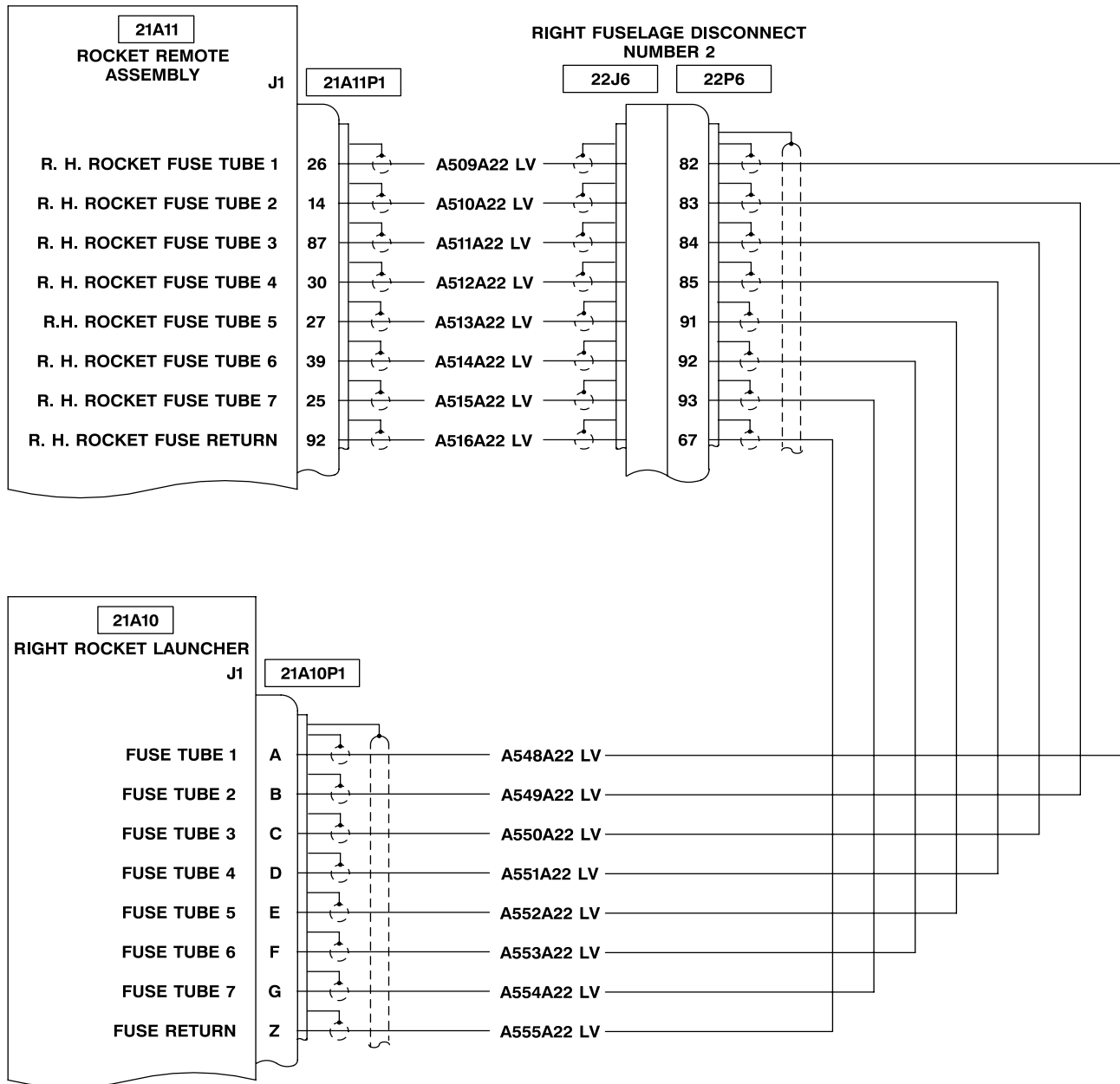


406475-542-185
J1493

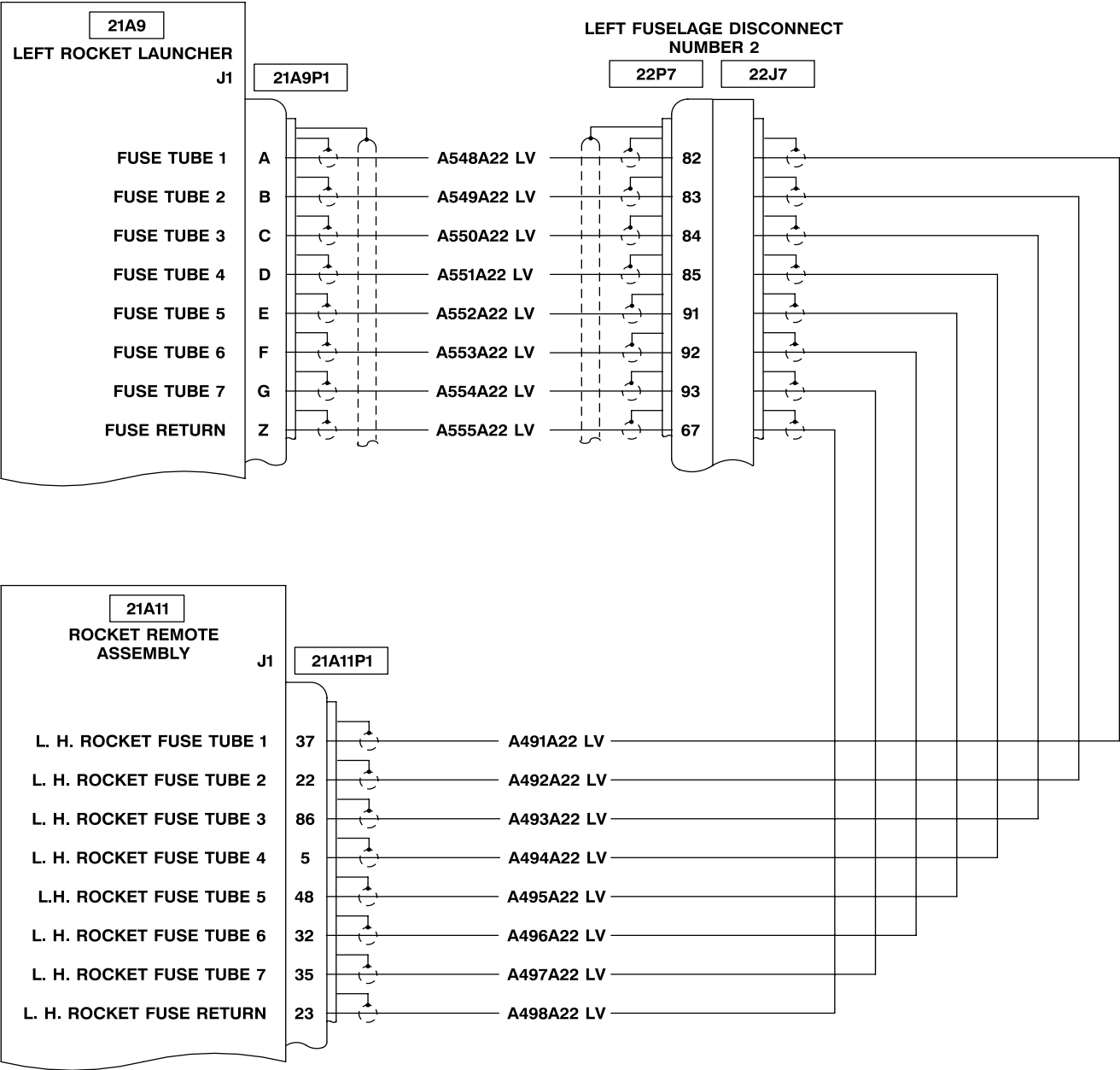
4-4-12. ALL OR A SINGLE ROCKET WILL NOT FUSE (TASK 2-5-10) - OH-58D(R)



4-4-12. ALL OR A SINGLE ROCKET WILL NOT FUSE (TASK 2-5-10) - OH-58D(R) (CONT)

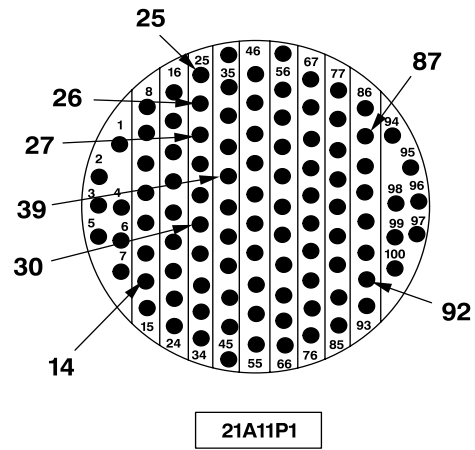
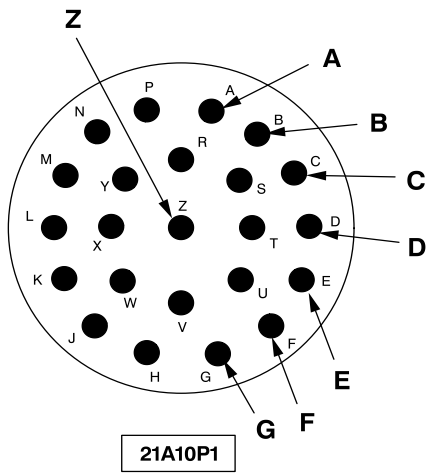
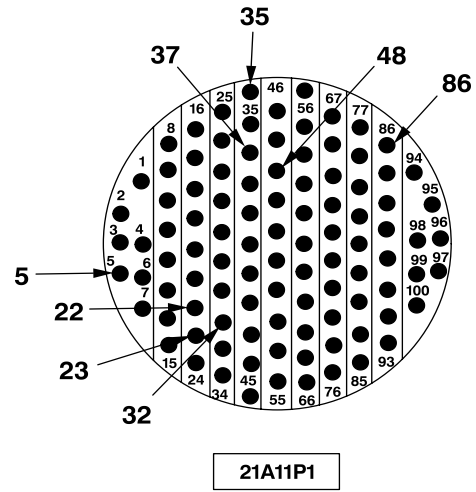
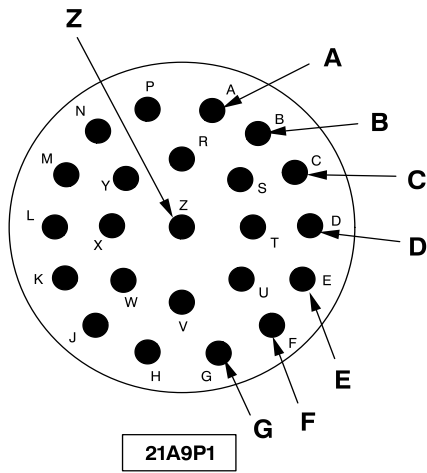
406475-542-187
J1493

4-4-12. ALL OR A SINGLE ROCKET WILL NOT FUSE (TASK 2-5-10) - OH-58D(R) (CONT)



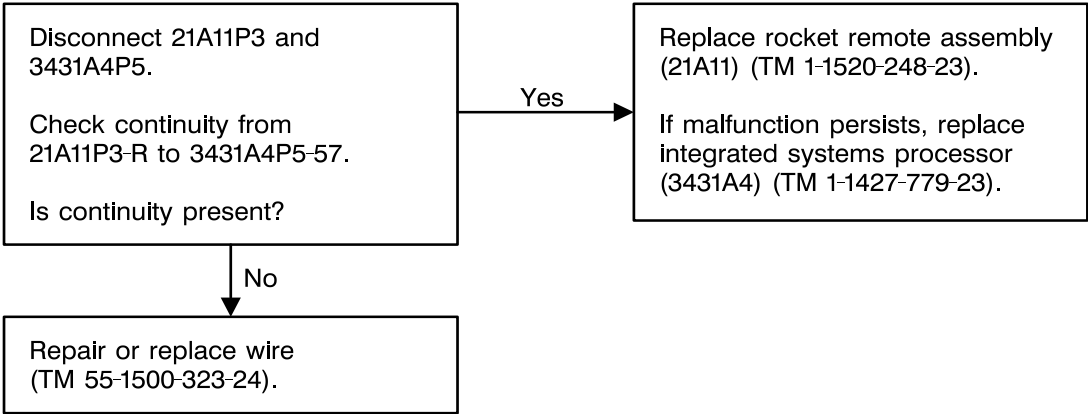
406475-542-188
J1493

4-4-12. ALL OR A SINGLE ROCKET WILL NOT FUSE (TASK 2-5-10) - OH-58D(R) (CONT)

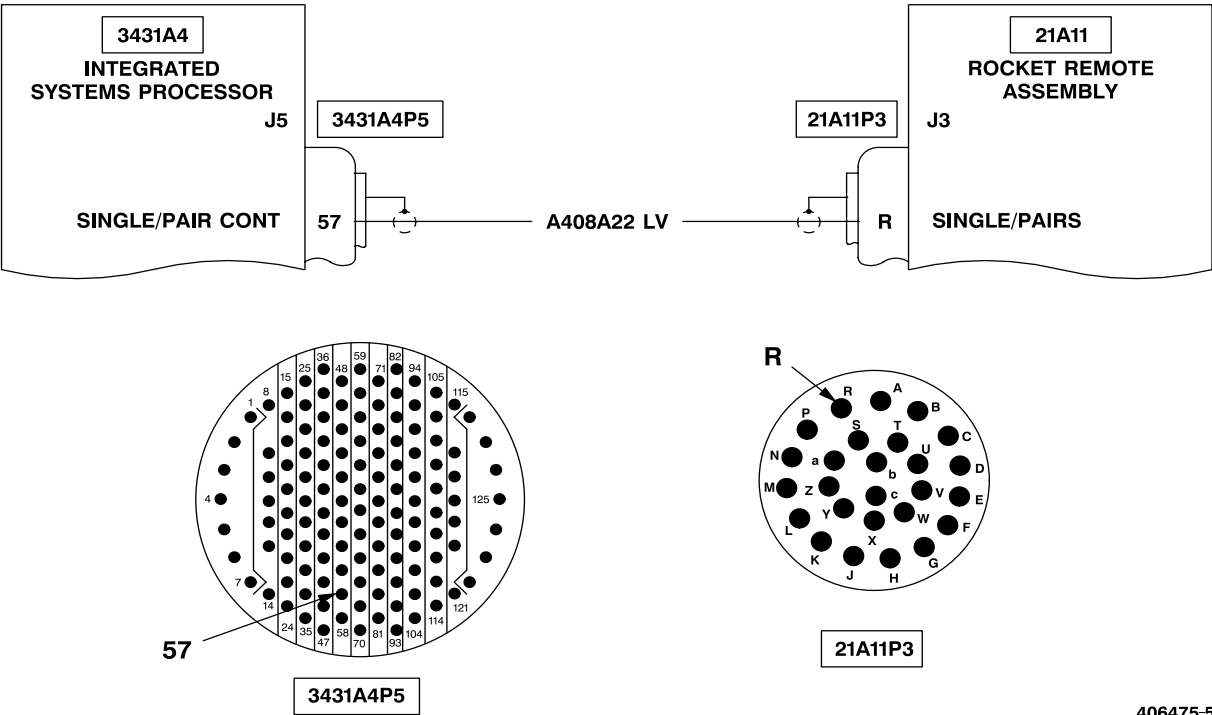


406475-542-189
J1493

4-4-13. ROCKETS FIRE IN PAIRS WHEN SINGLE IS SELECTED (TASK 2-5-9) - OH-58D

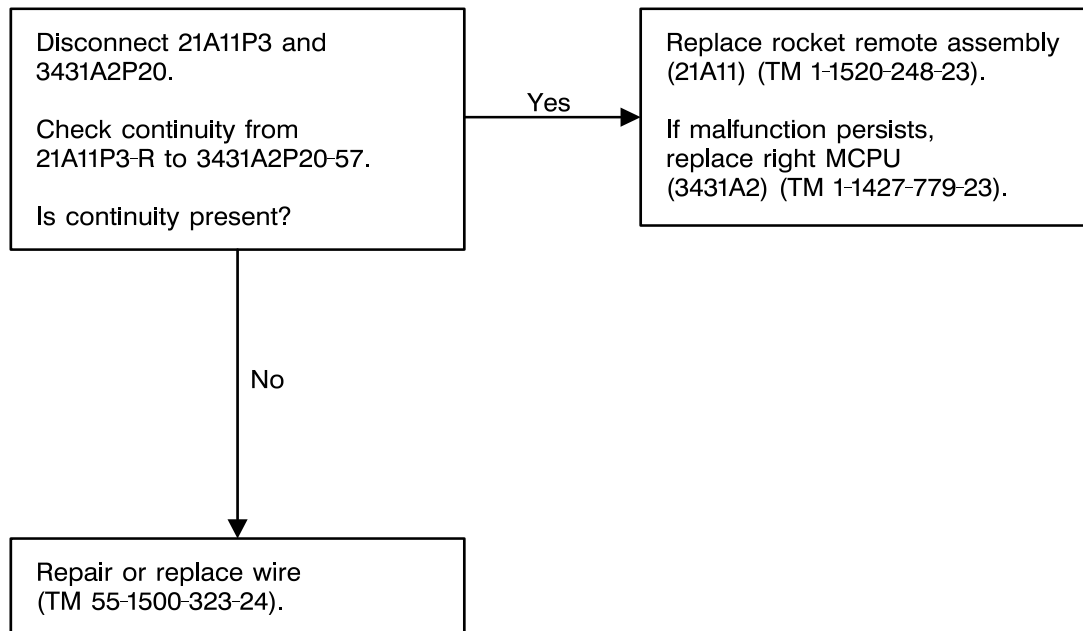


406475-542-190
J1493

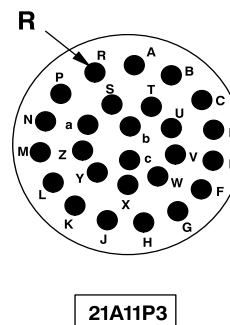
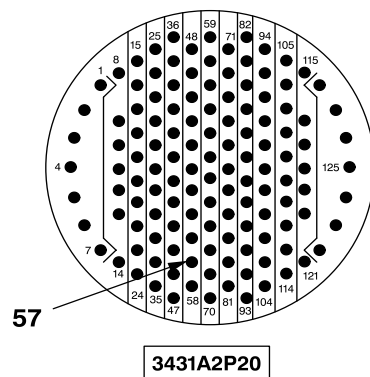
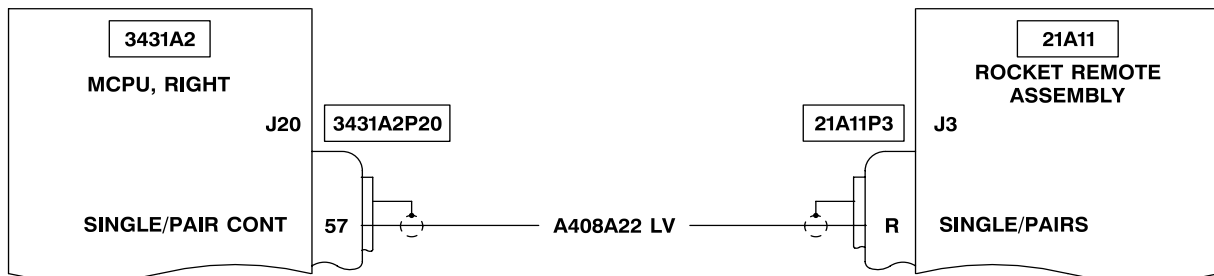


406475-542-191
J1493

4-4-14. ROCKETS FIRE IN PAIRS WHEN SINGLE IS SELECTED (TASK 2-5-10) - OH-58D(R)

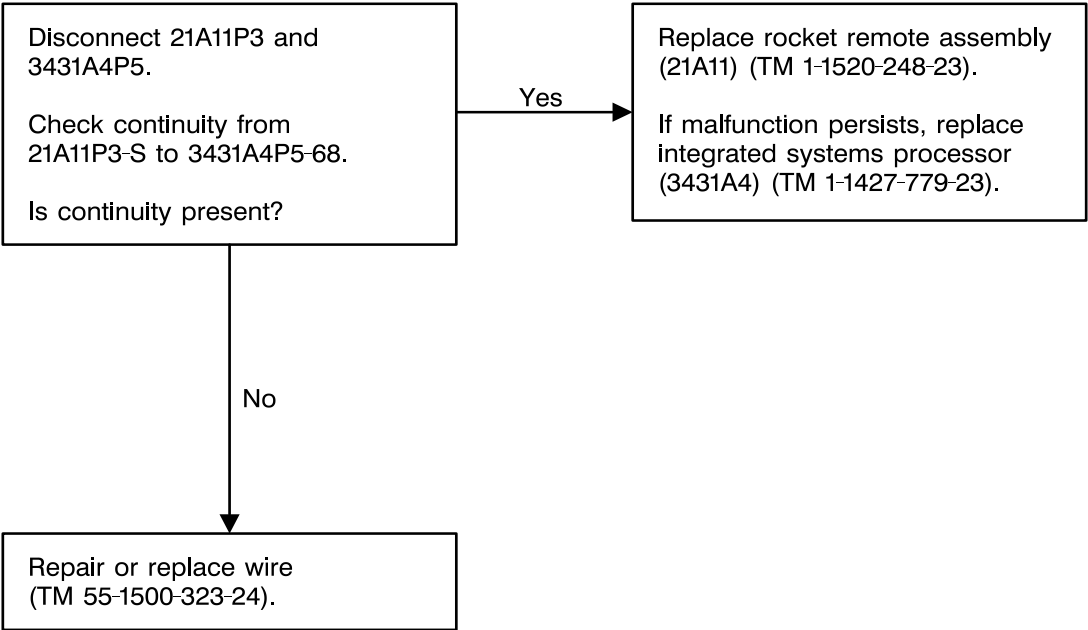


406475-542-192
J1493

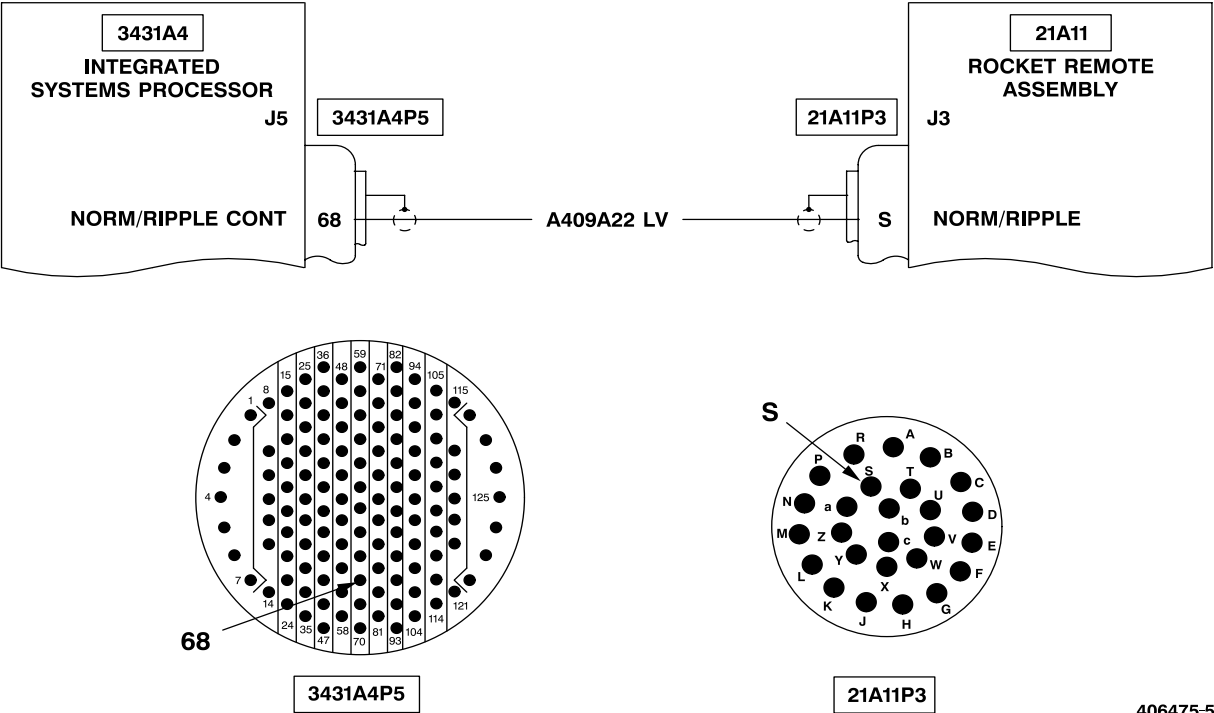


406475-542-193
J1493

4-4-15. ROCKETS FIRE IN SINGLES WHEN RIPL SINGLES IS SELECTED (TASK 2-5-9) - OH-58D

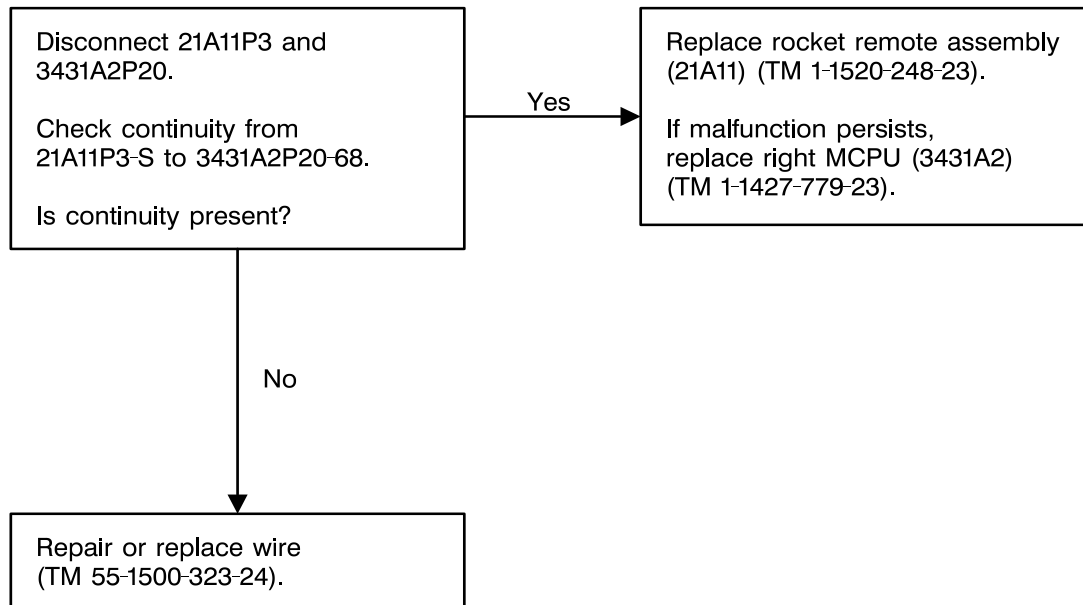


406475-542-194
J1493

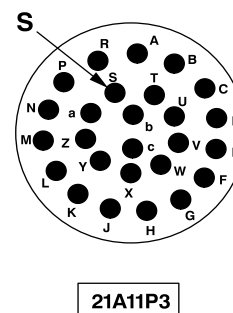
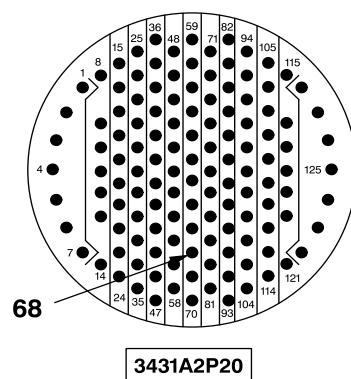
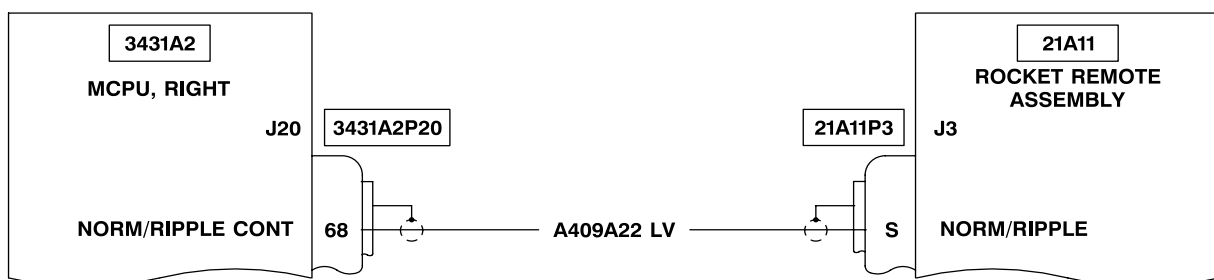


406475-542-195
J1493

4-4-16. ROCKETS FIRE IN SINGLES WHEN RIPL SINGLES IS SELECTED (TASK 2-5-10) - OH-58D(R)

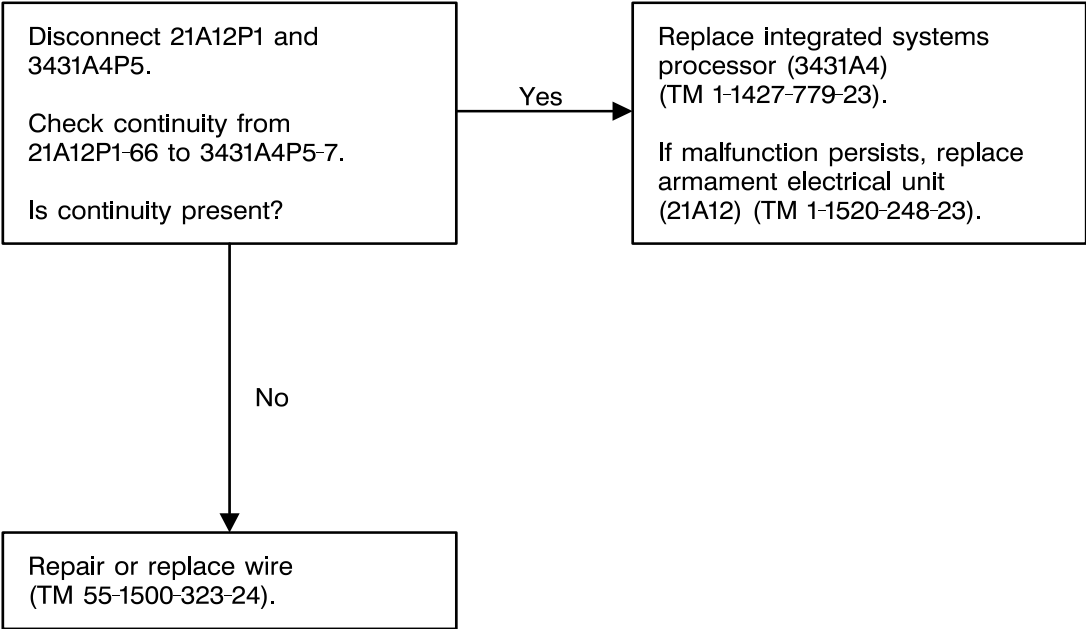


406475-542-196
J1493

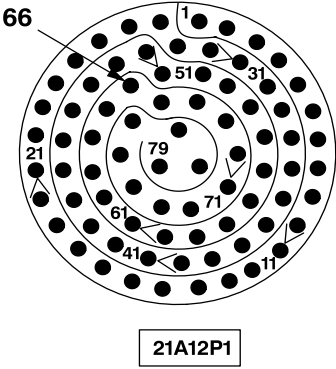
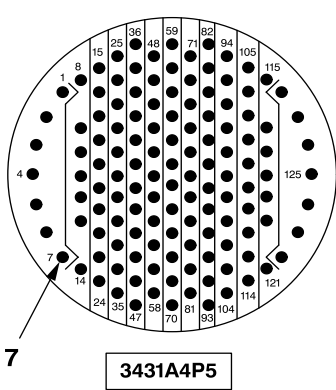
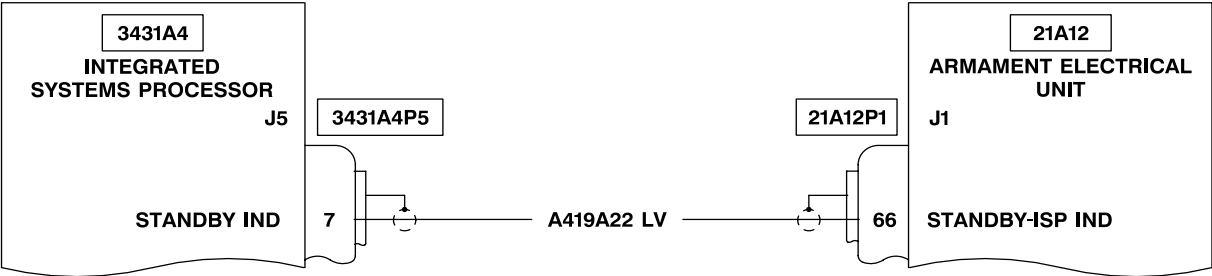


406475-542-197
J1493

4-4-17. **RKTS OFF** DISPLAYED ON MFD WHEN ROCKETS SELECTED, ARMED, AND ABLE TO BE FIRED (TASK 2-5-9) - OH-58D

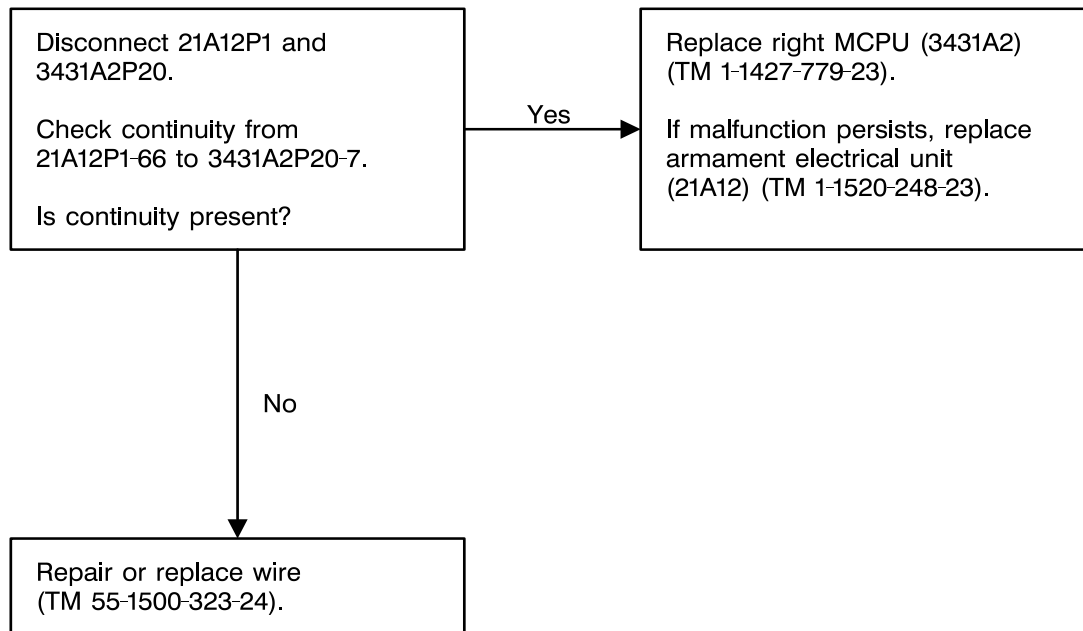


406475-542-198
J1493

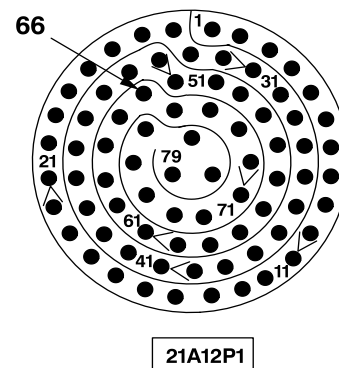
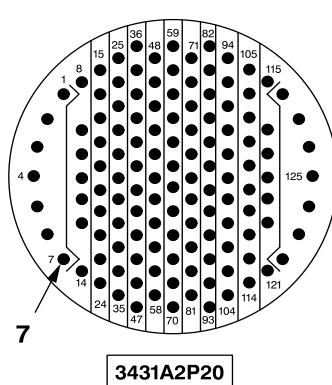
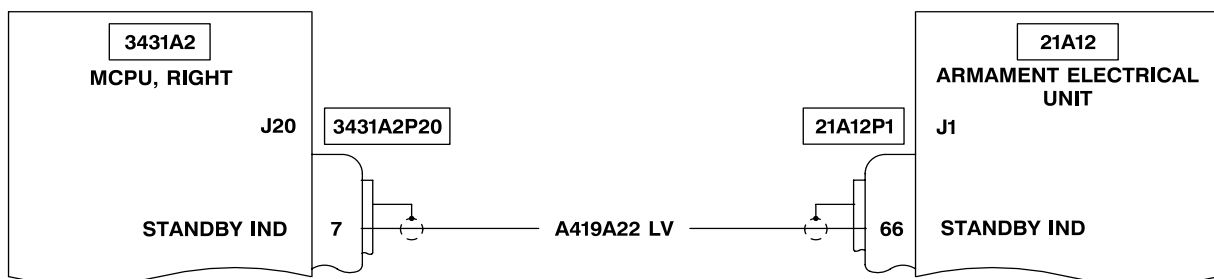


406475-542-199
J1493

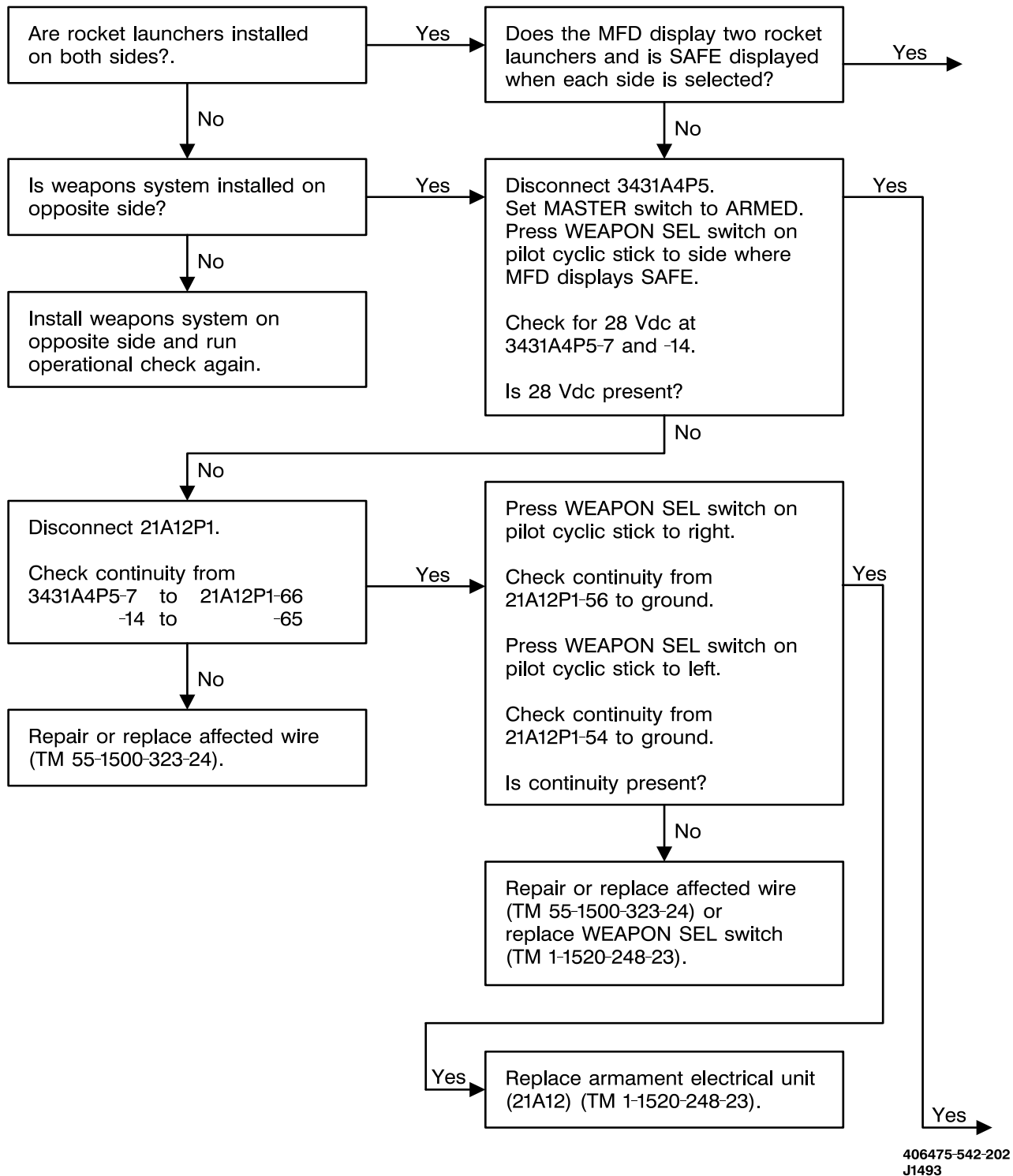
4-4-18. **RKTS OFF** DISPLAYED ON MFD WHEN ROCKETS SELECTED, ARMED, AND ABLE TO BE FIRED (TASK 2-5-10) - OH-58D(R)

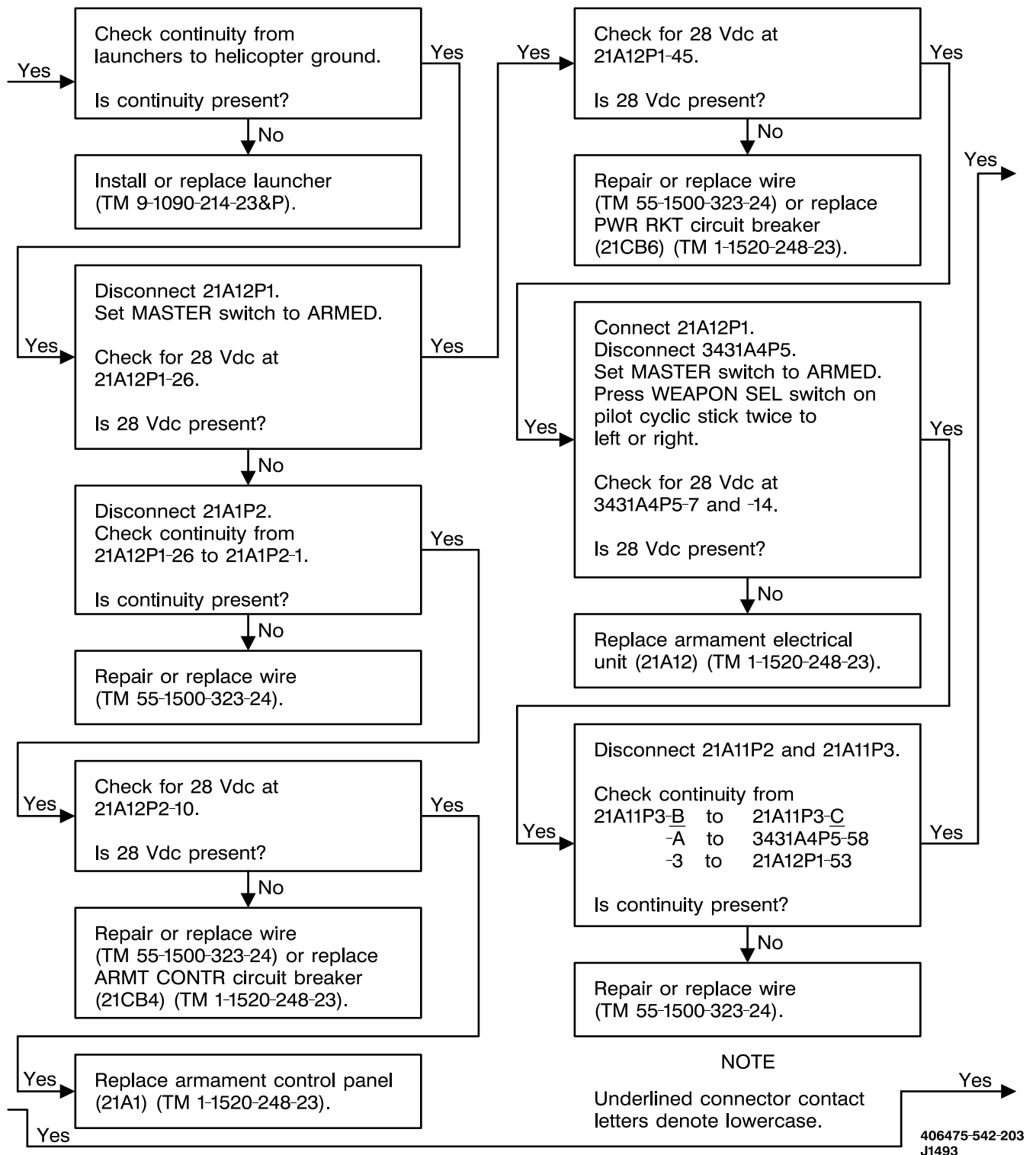


406475-542-200
J1493

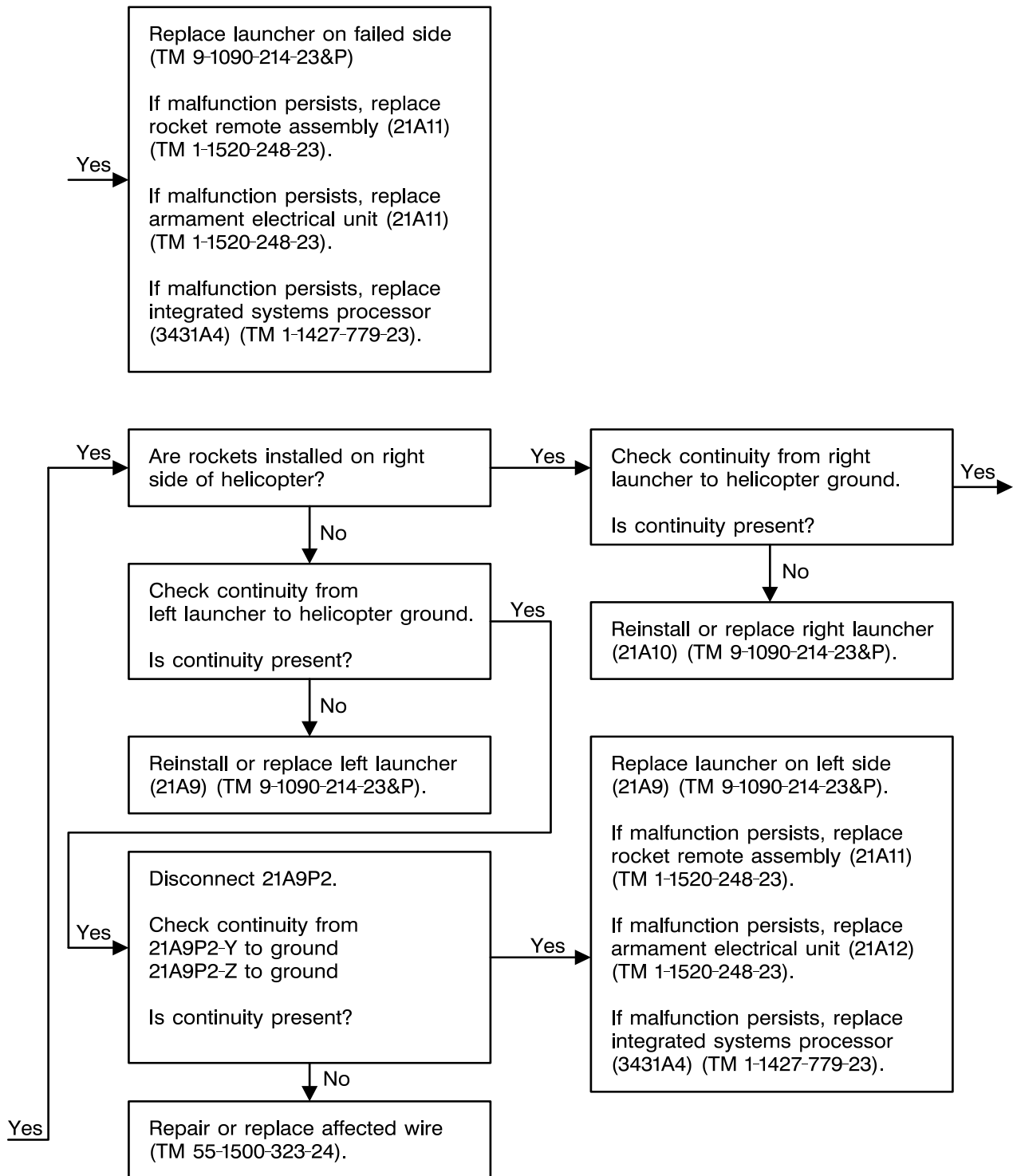


406475-542-201
J1493

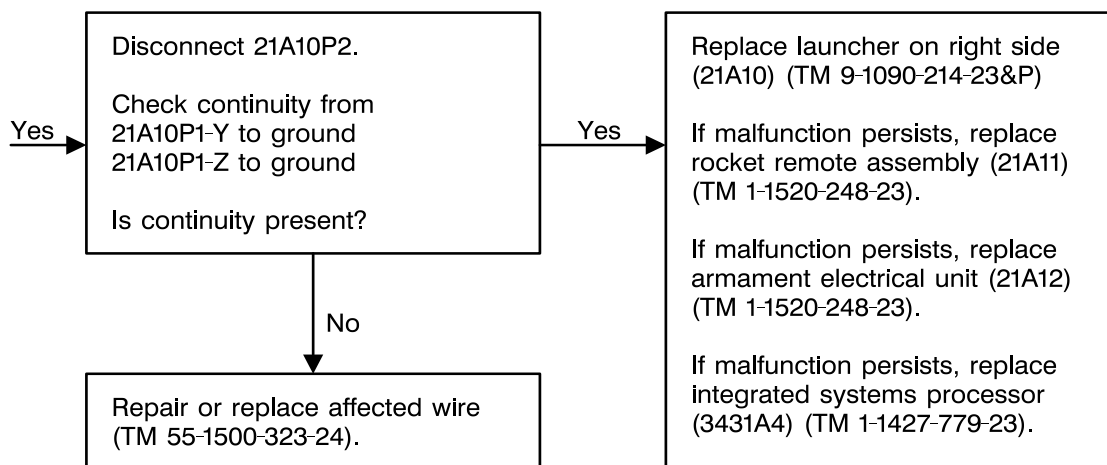
4-4-19. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-9) - OH-58D

4-4-19. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-9) - OH-58D (CONT)

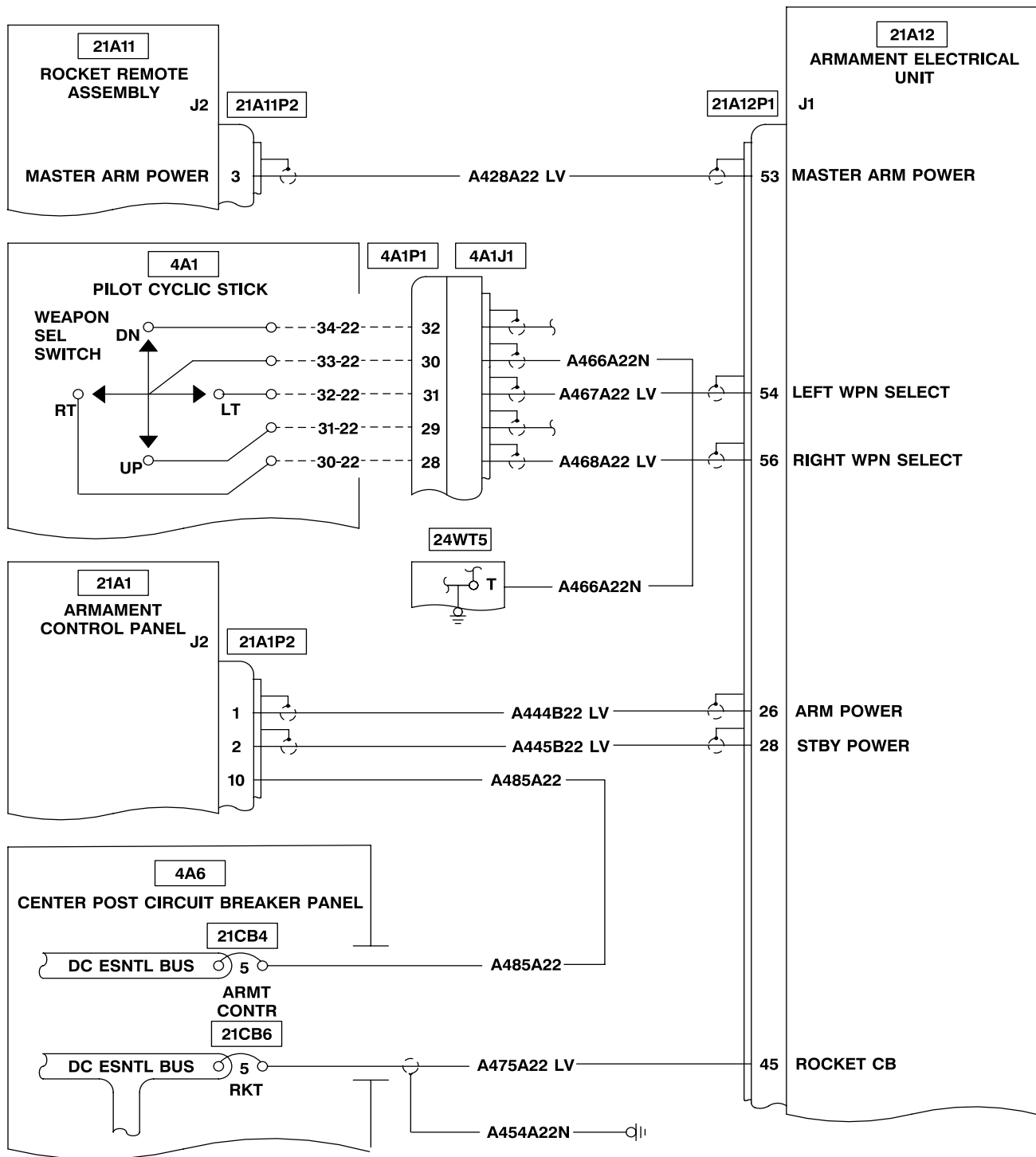
4-4-19. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-9) - OH-58D (CONT)



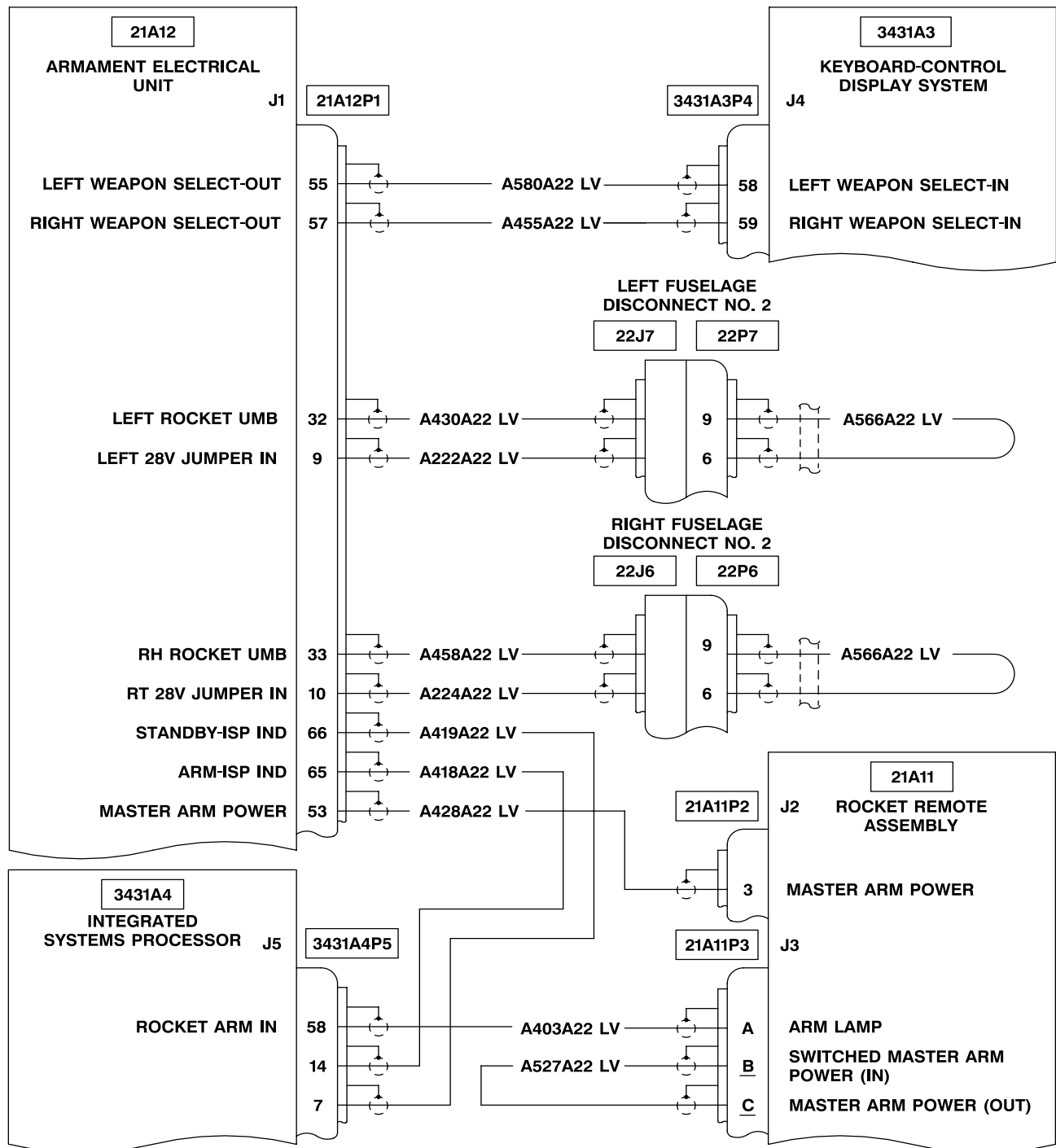
406475-542-204
J1493

4-4-19. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-9) - OH-58D (CONT)406475-542-205
J1493

4-4-19. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-9) - OH-58D (CONT)



406475-542-206
J1493

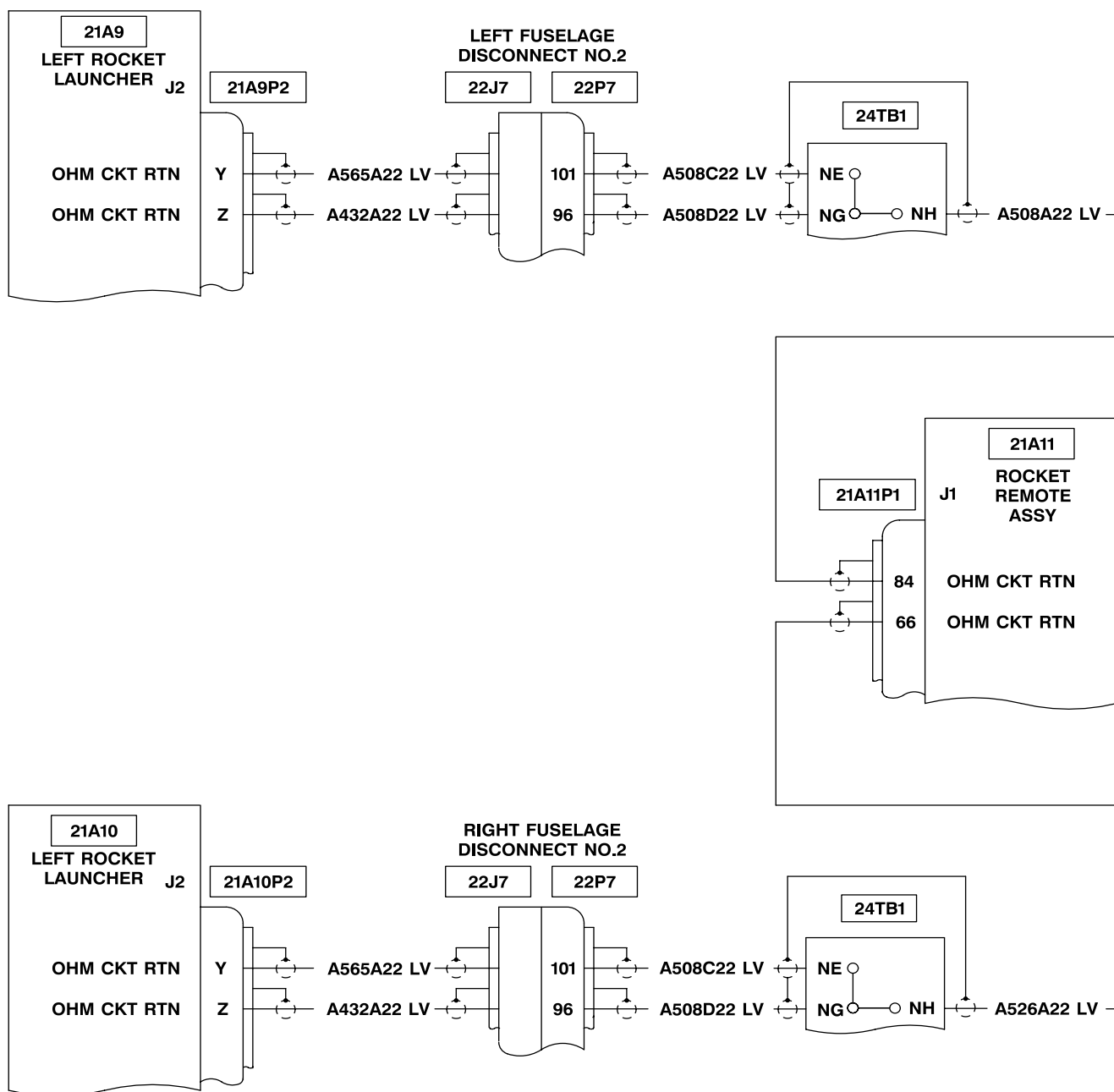
4-4-19. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-9) - OH-58D (CONT)


NOTE

Underlined connector contact letters denote lowercase.

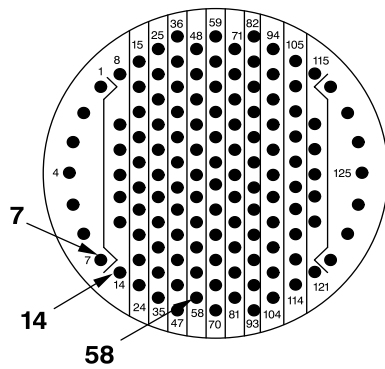
406475-542-207
J1493

4-4-19. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-9) - OH-58D (CONT)

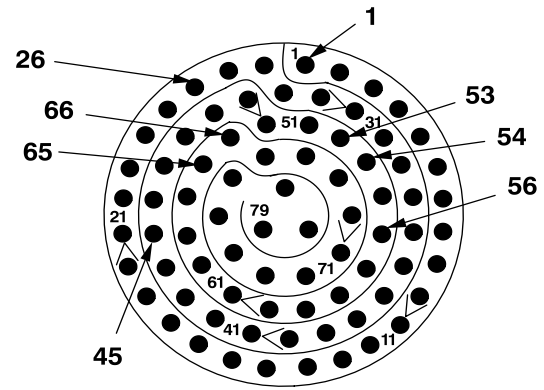


406475-542-208
J1493

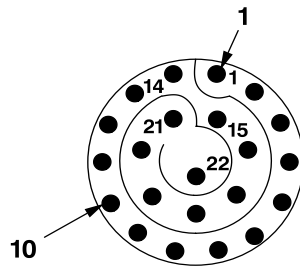
4-4-19. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-9) - OH-58D (CONT)



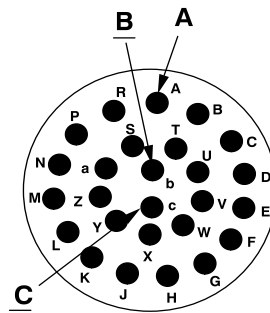
3431A4P5



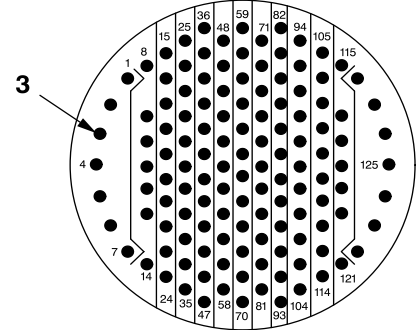
21A12P1



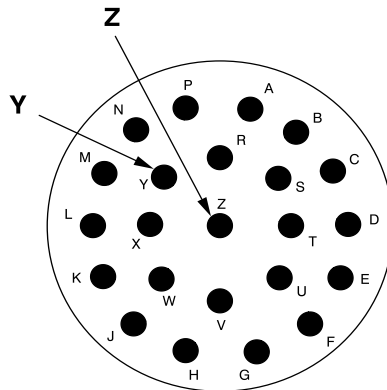
21A1P2



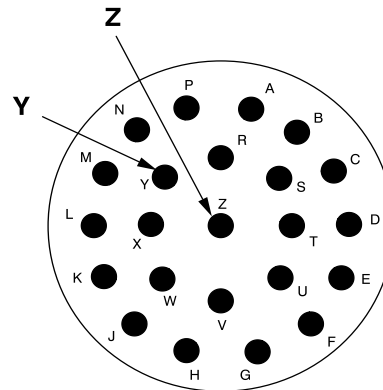
21A1P3



21A11P2

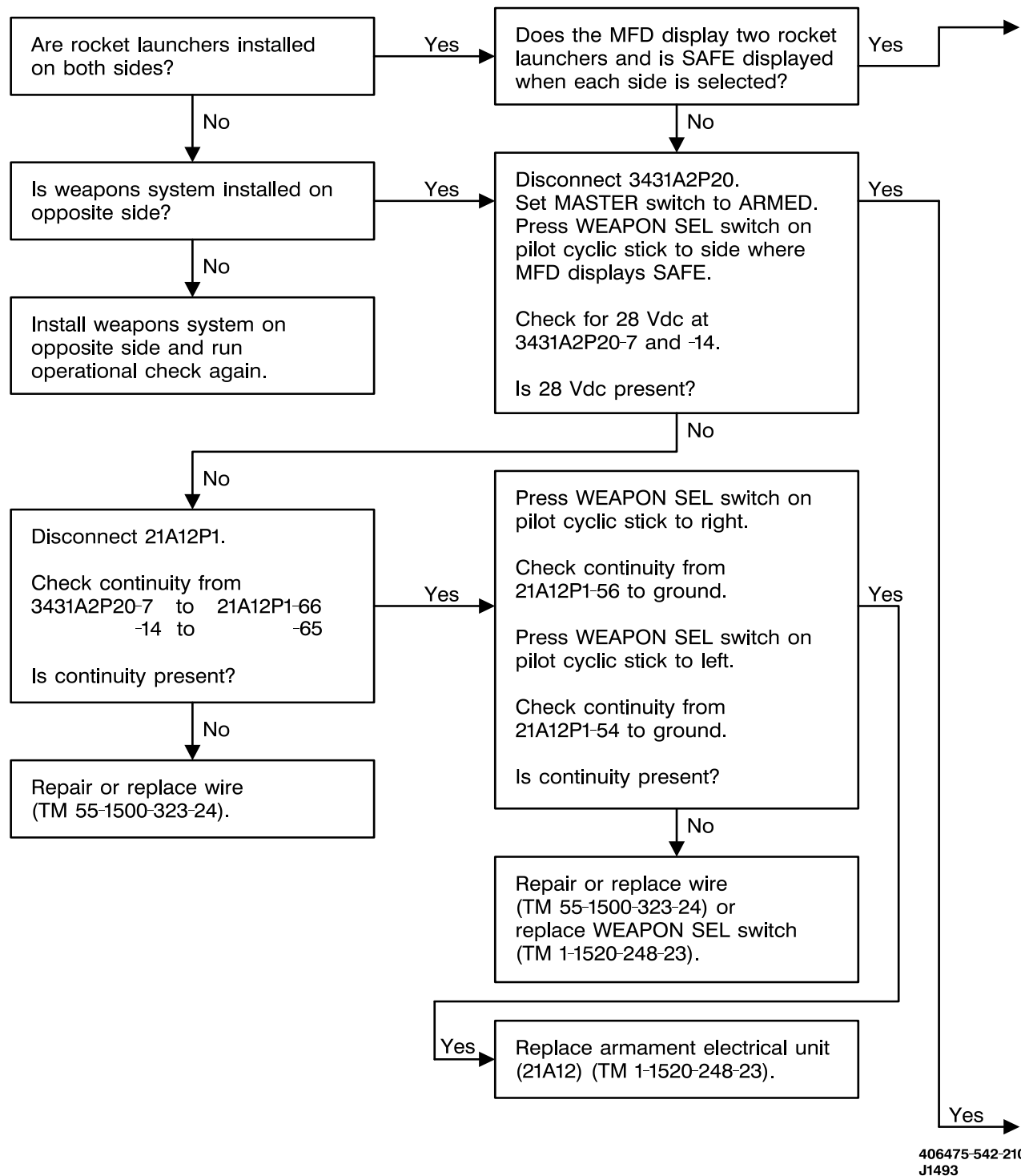


21A9P2

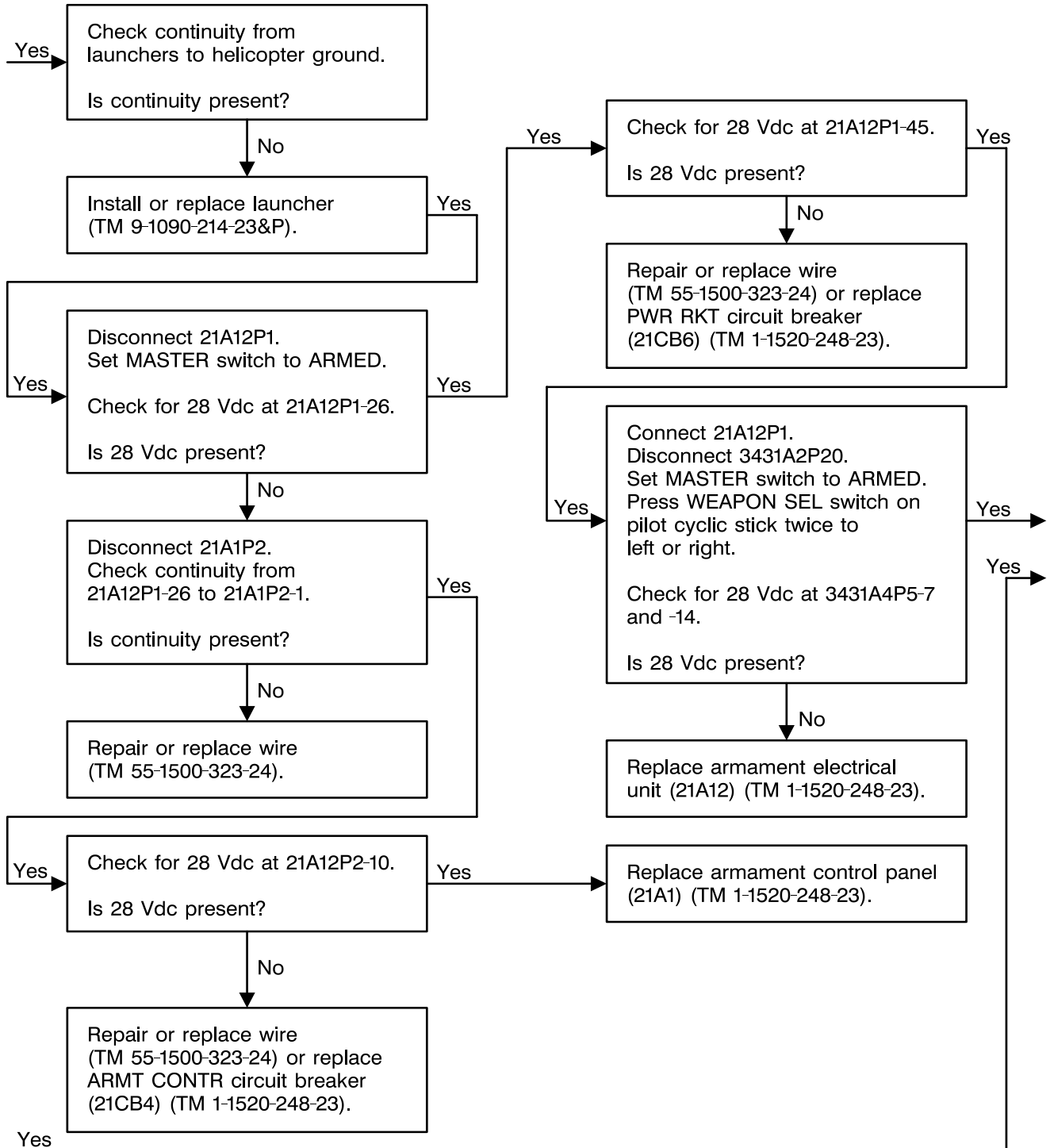


21A10P2

406475-542-209
J1493

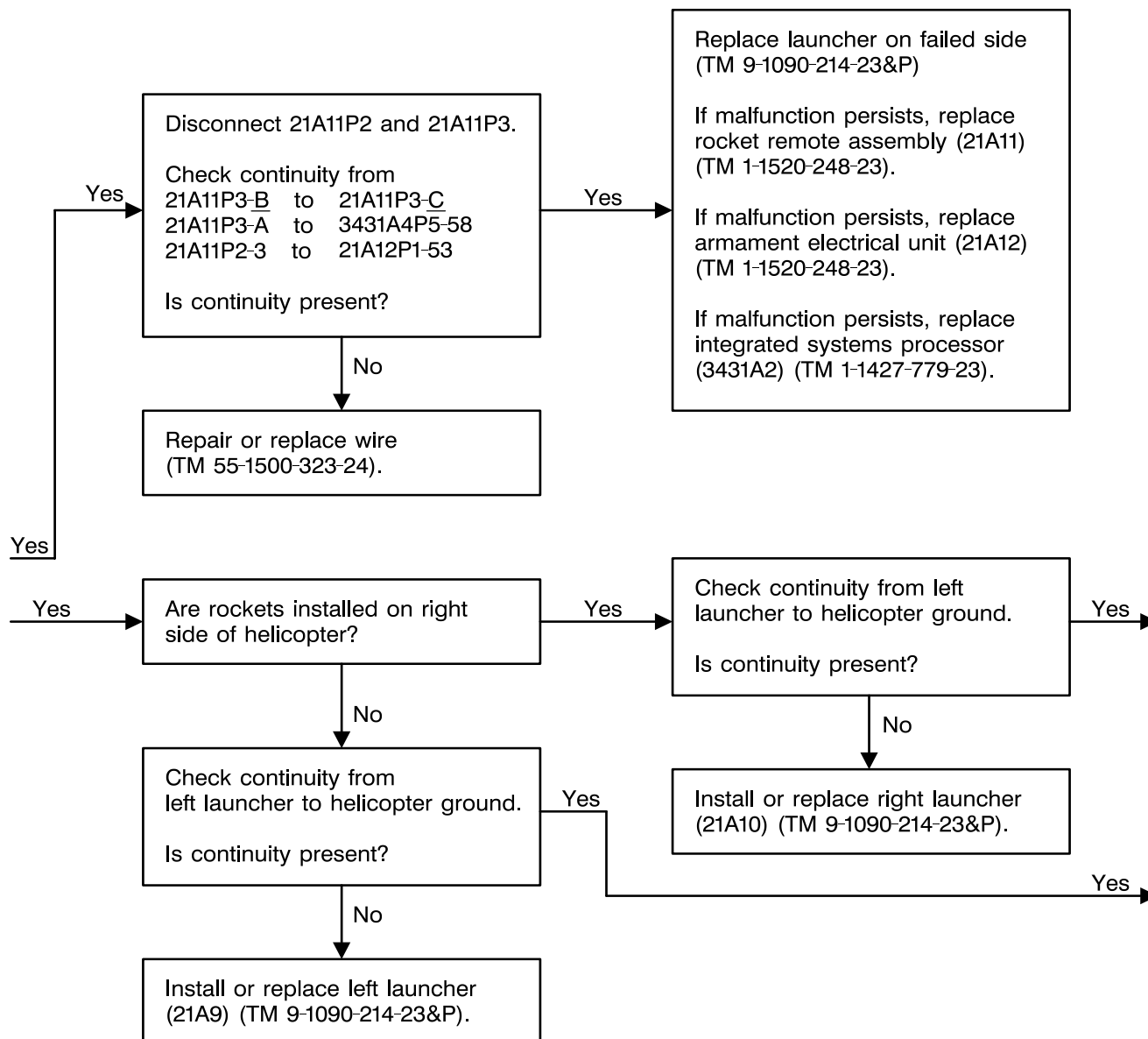
4-4-20. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-10) - OH-58D(R)

4-4-20. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-10) - OH-58D(R) (CONT)



406475-542-211
J1493

4-4-20. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-10) - OH-58D(R) (CONT)

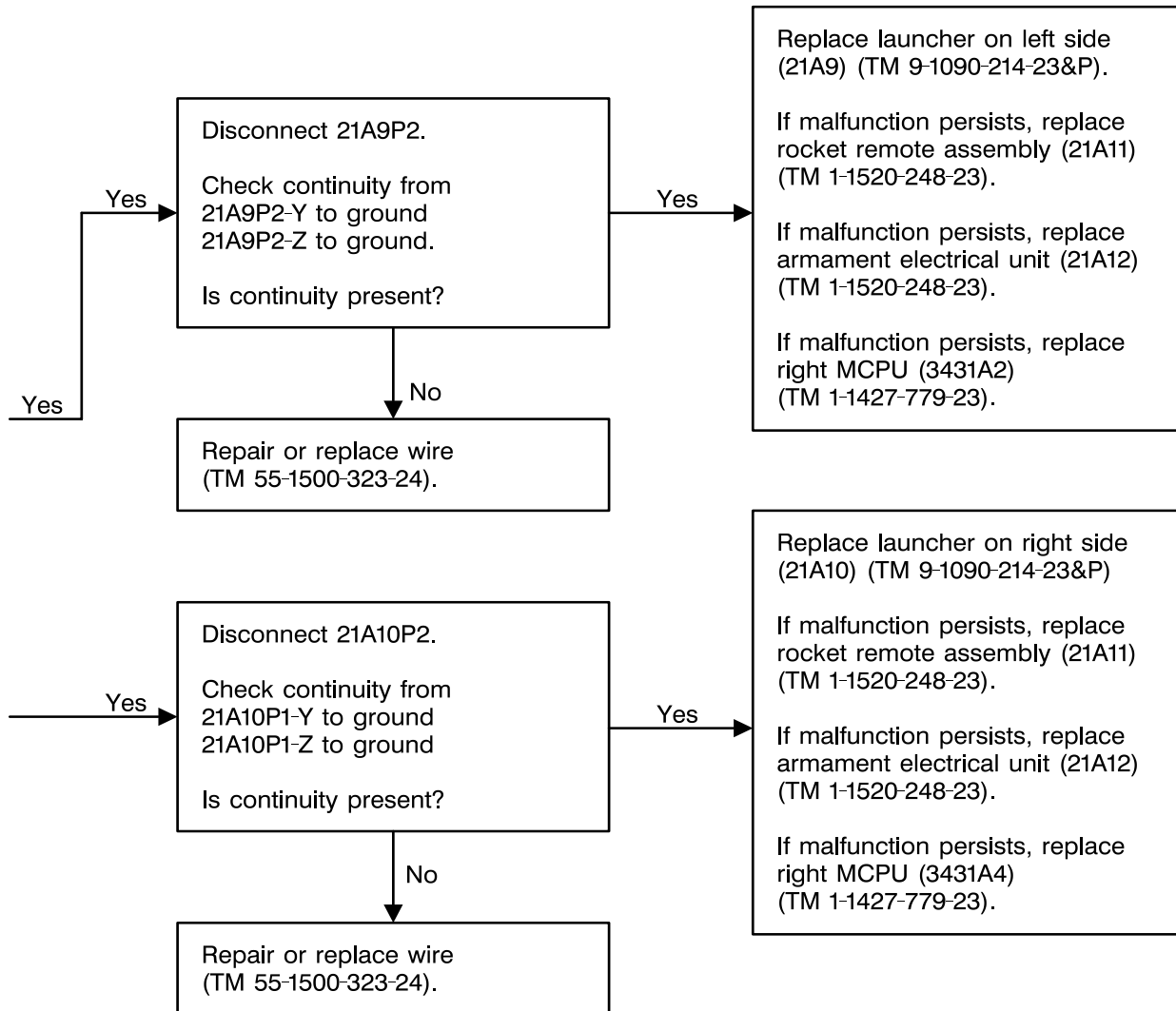


NOTE

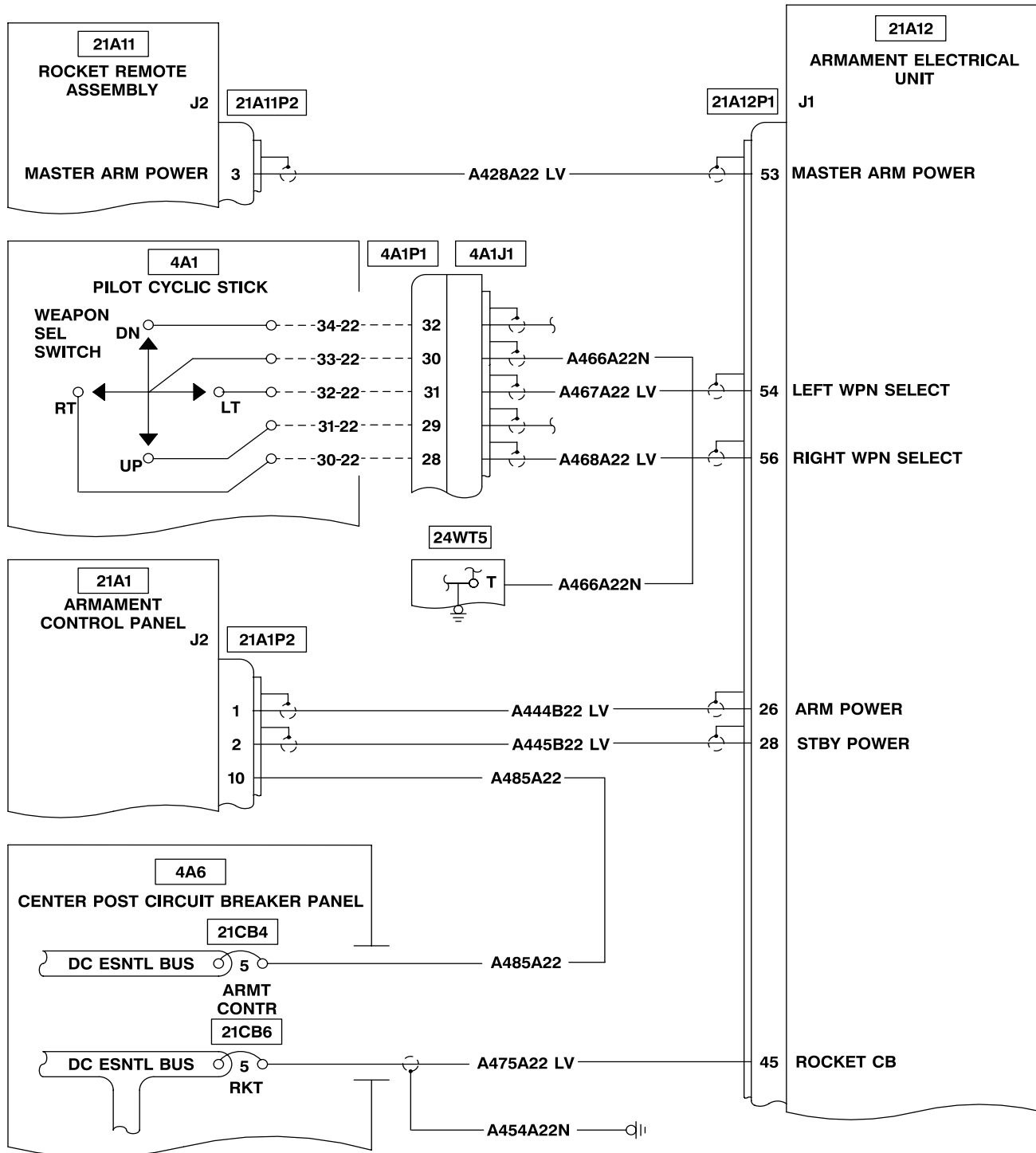
Underlined connector contact letters denote lowercase.

406475-542-212
J1493

4-4-20. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-10) - OH-58D(R)
(CONT)

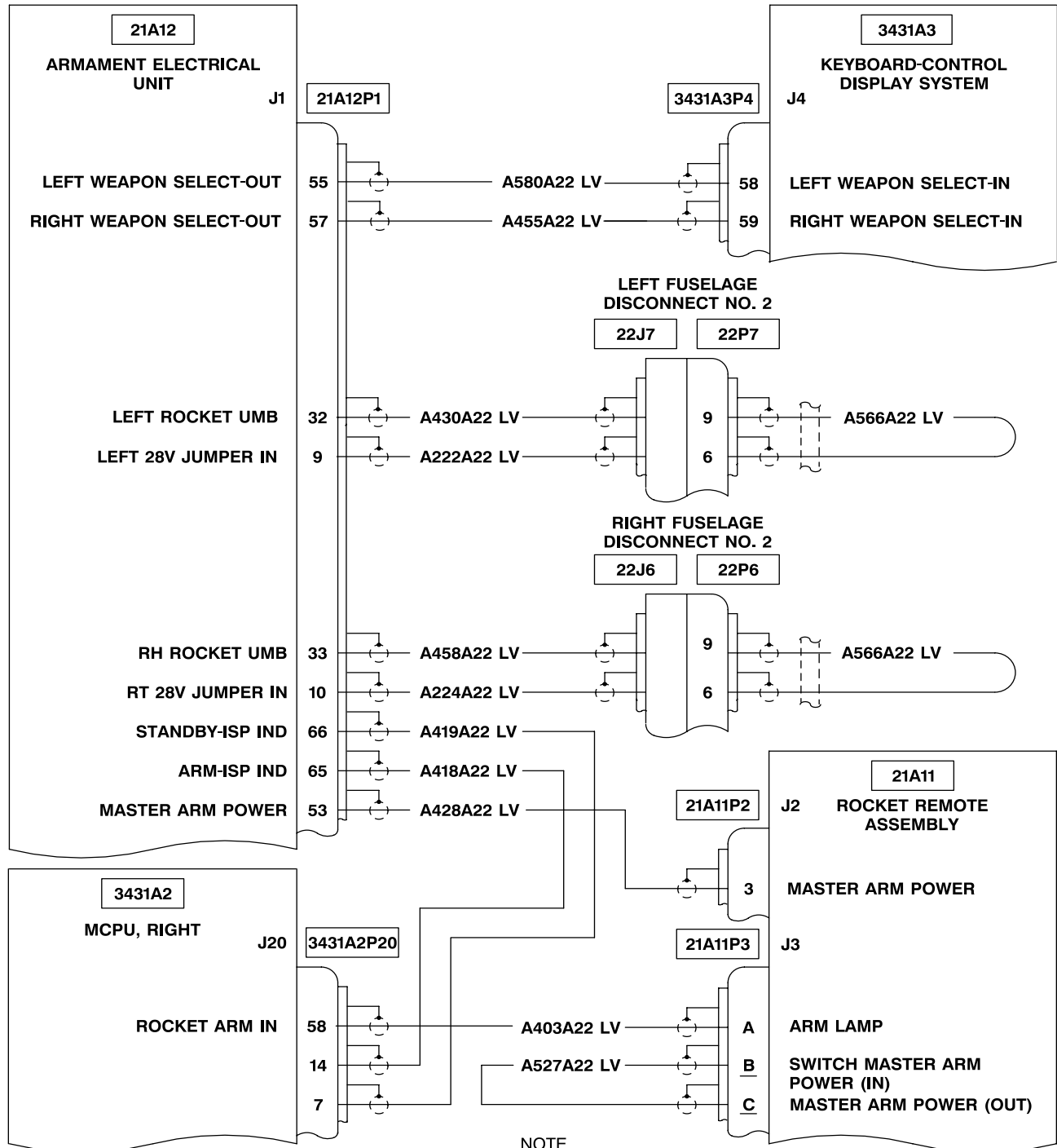

406475-542-213
J1493

4-4-20. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-10) - OH-58D(R)
(CONT)



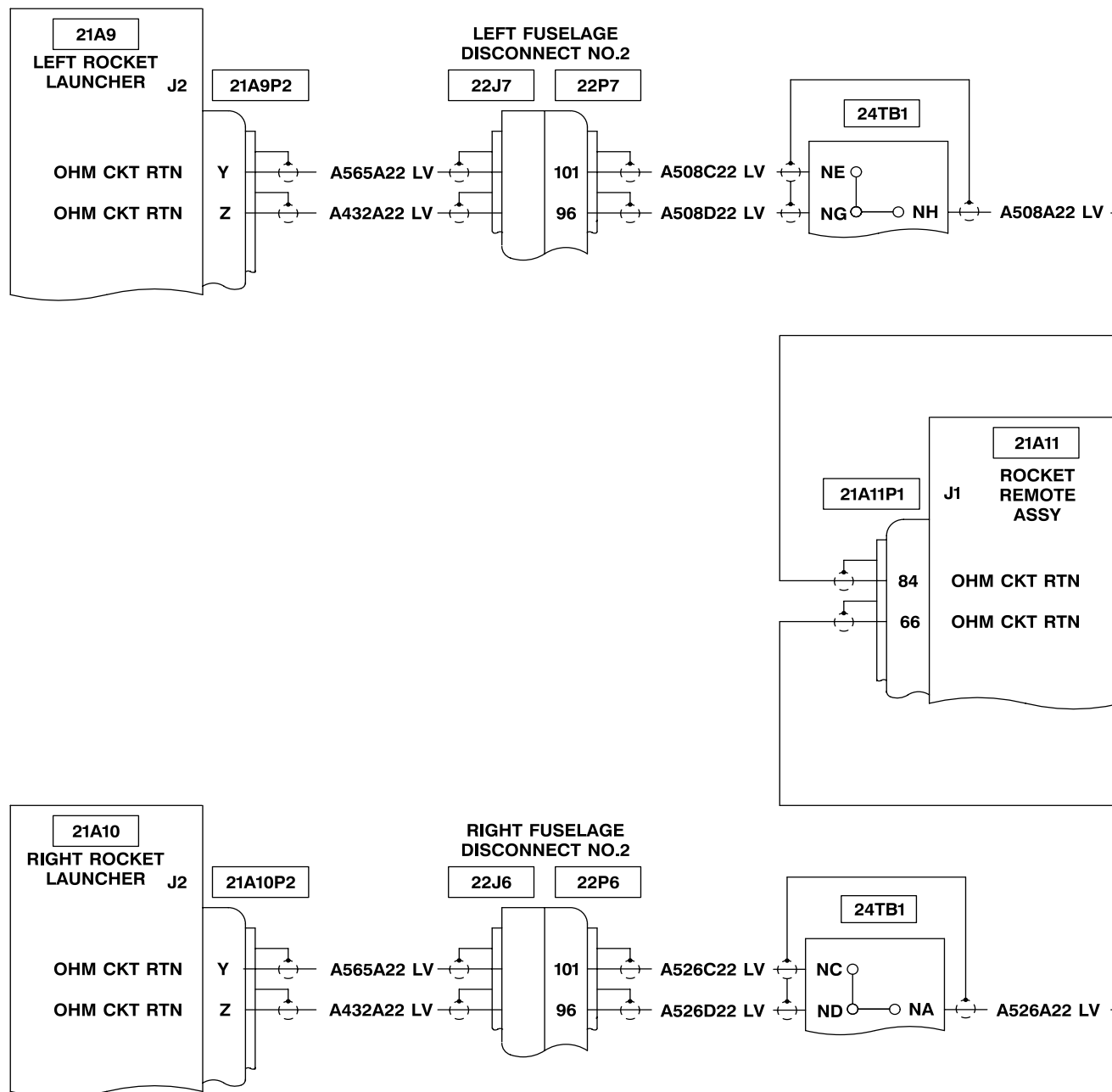
406475-542-214
J1493

4-4-20. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-10) - OH-58D(R)
(CONT)



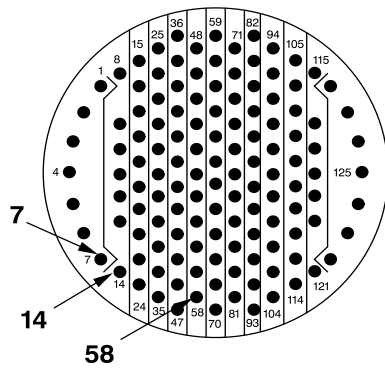
406475-542-215
J1493

4-4-20. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-10) - OH-58D(R)
(CONT)

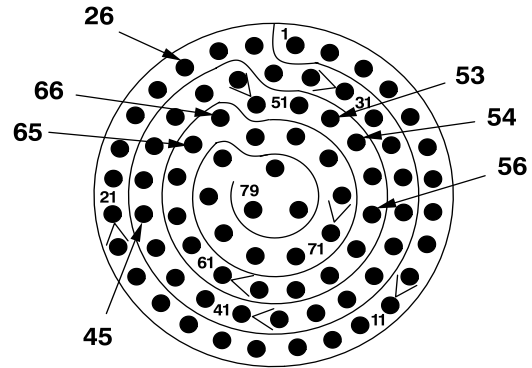


406475-542-216
J1493

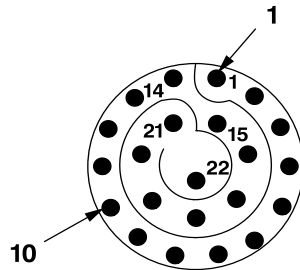
4-4-20. **SAFED** DISPLAYED ON MFD WHEN ROCKETS SELECTED (TASK 2-5-10) - OH-58D(R)
(CONT)



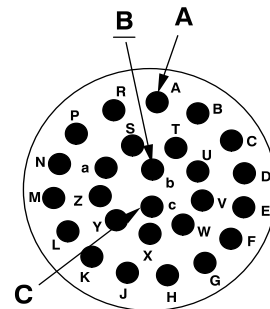
3431A2P20



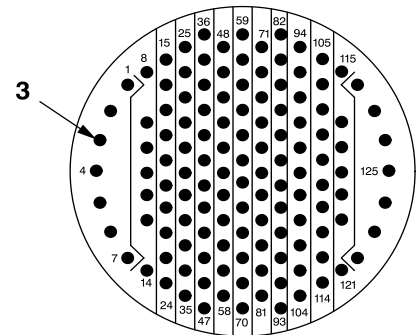
21A12P1



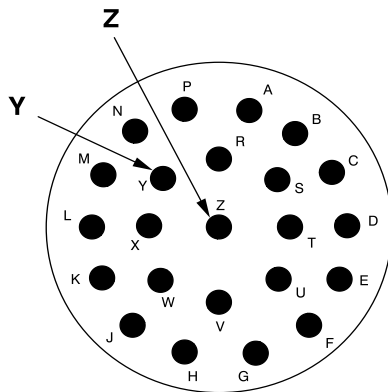
21A1P2



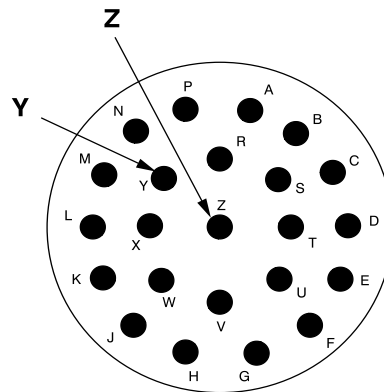
21A11P3



21A11P2



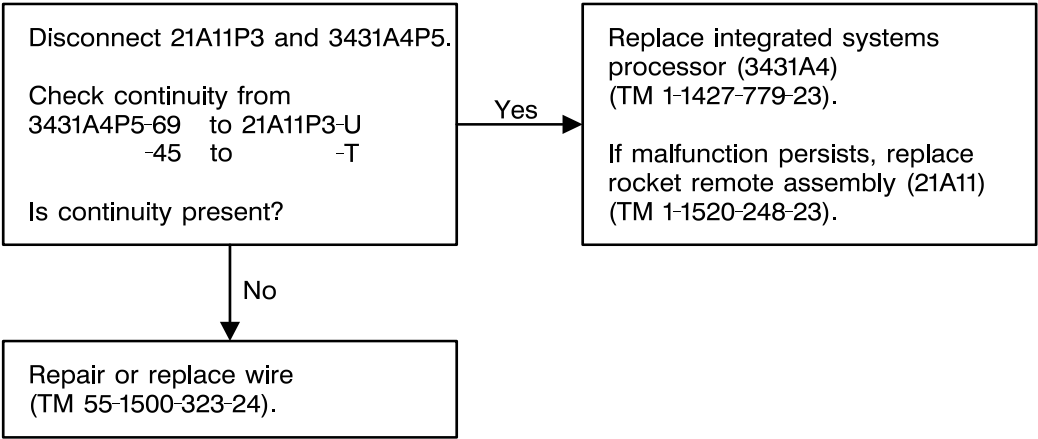
21A9P2



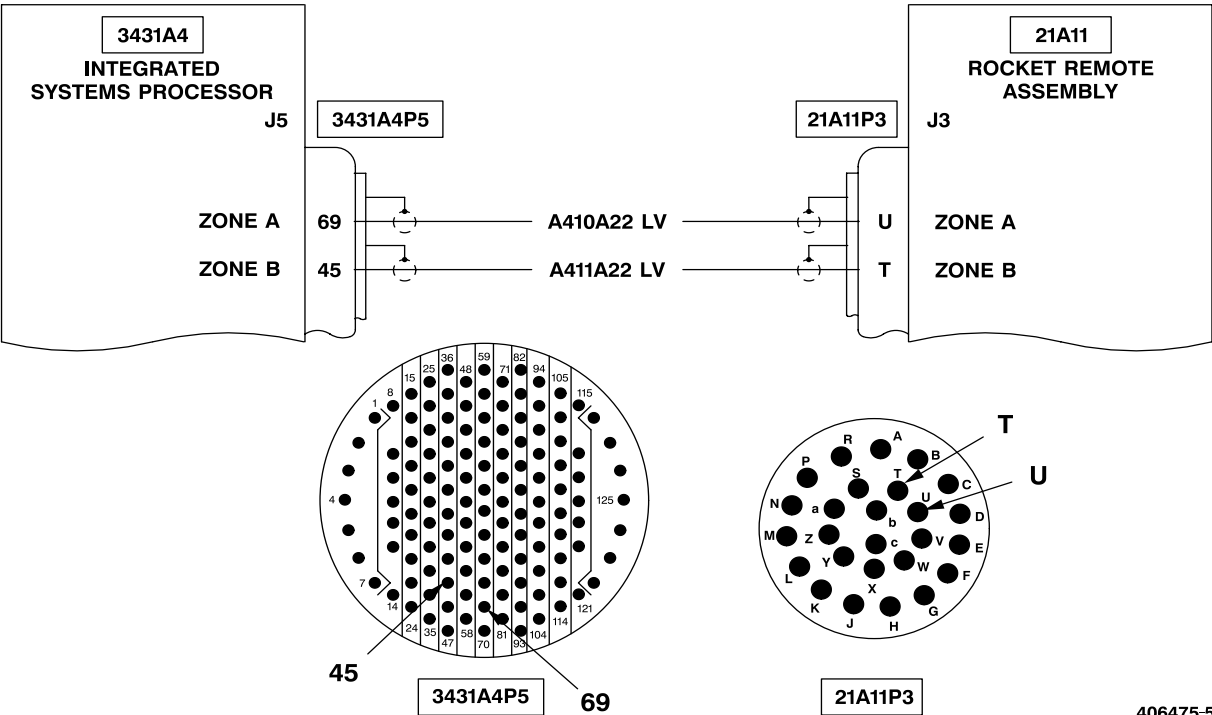
21A10P2

406475-542-217
J1493

4-4-21. ROCKETS FIRE IN ZONES NOT SELECTED TO FIRE (TASK 2-5-9) - OH-58D

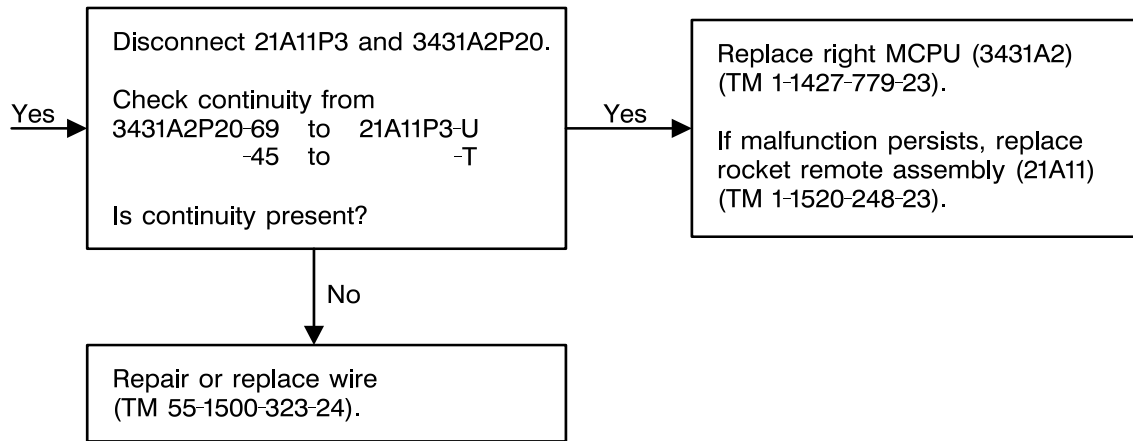
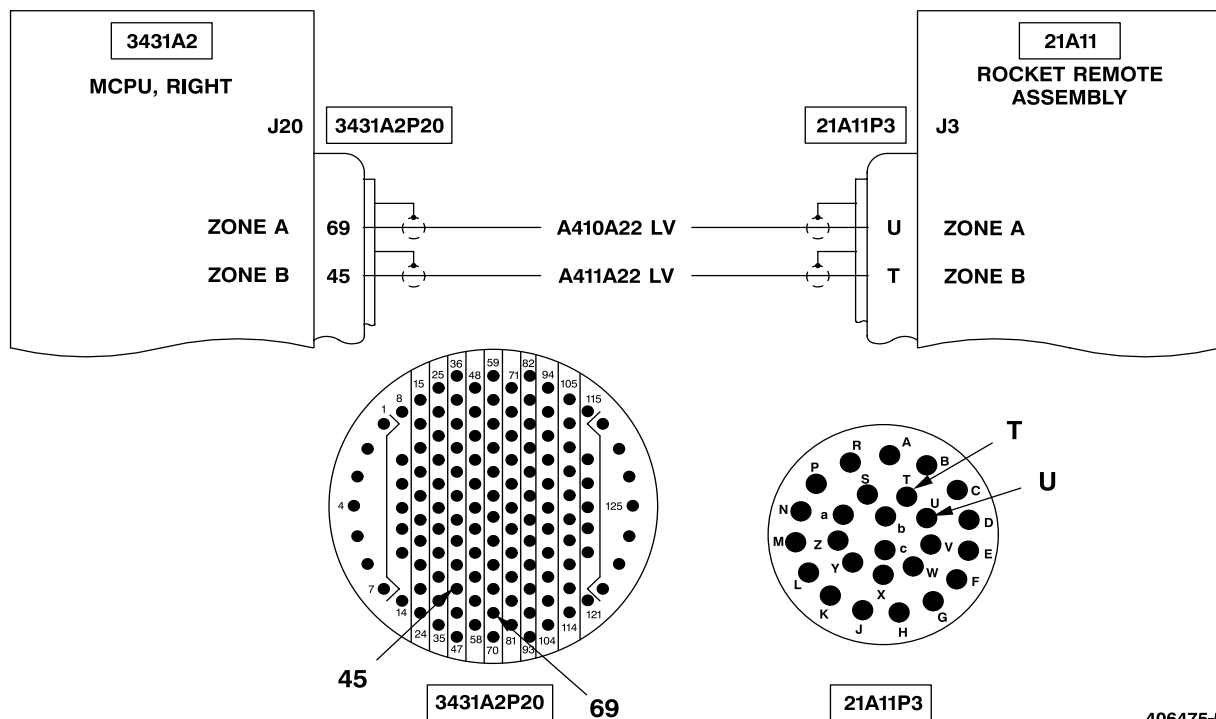


406475-542-218
J1493

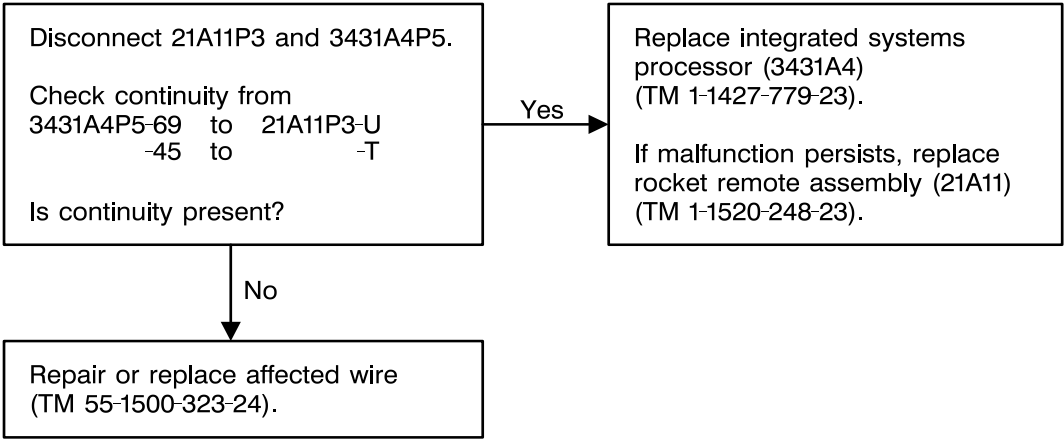


406475-542-219
J1493

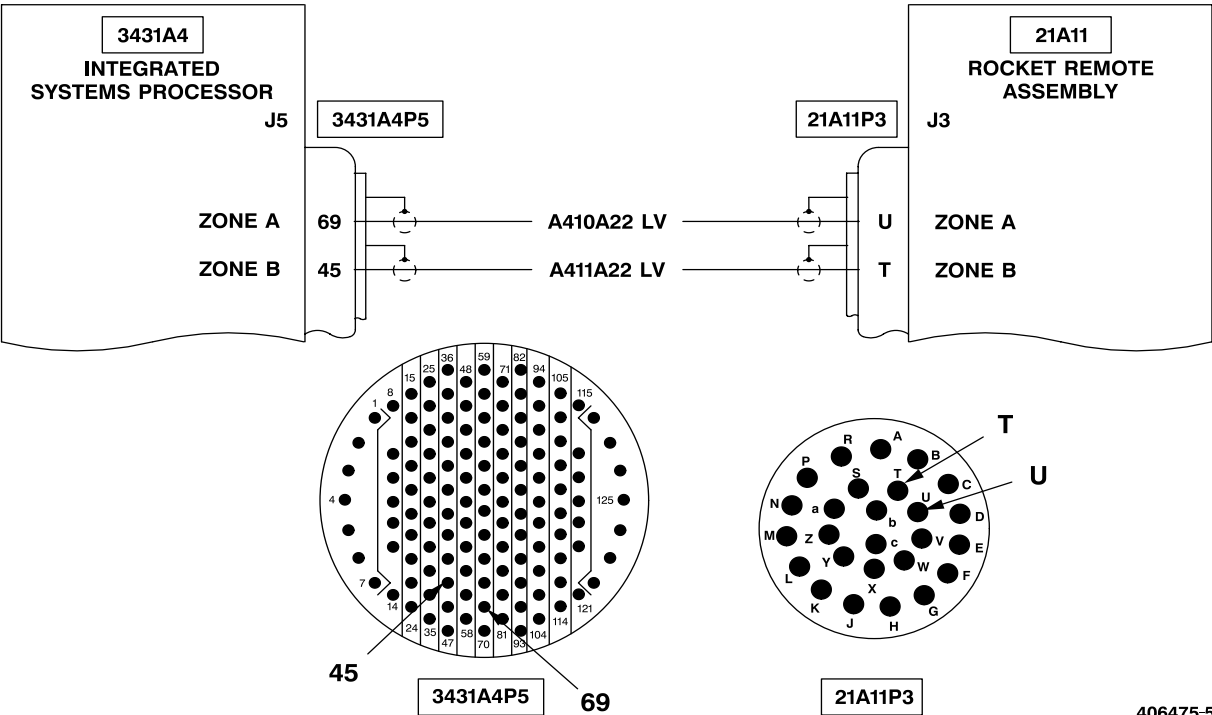
4-4-22. ROCKETS FIRE IN ZONES NOT SELECTED TO FIRE (TASK 2-5-10) - OH-58D(R)

406475-542-220
J1493406475-542-221
J1493

4-4-23. ROCKETS FIRE IN BOTH ZONES WHEN SINGLE IS SELECTED (TASK 2-5-9) - OH-58D

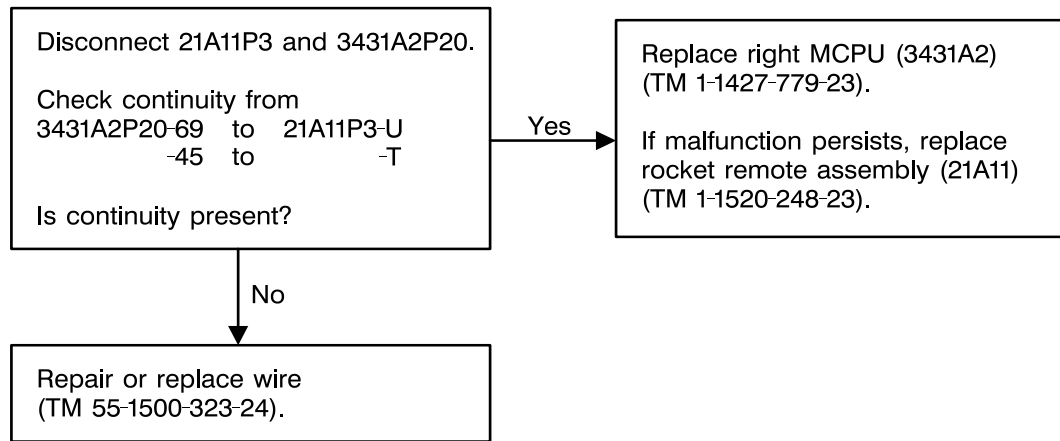


406475-542-222
J1493

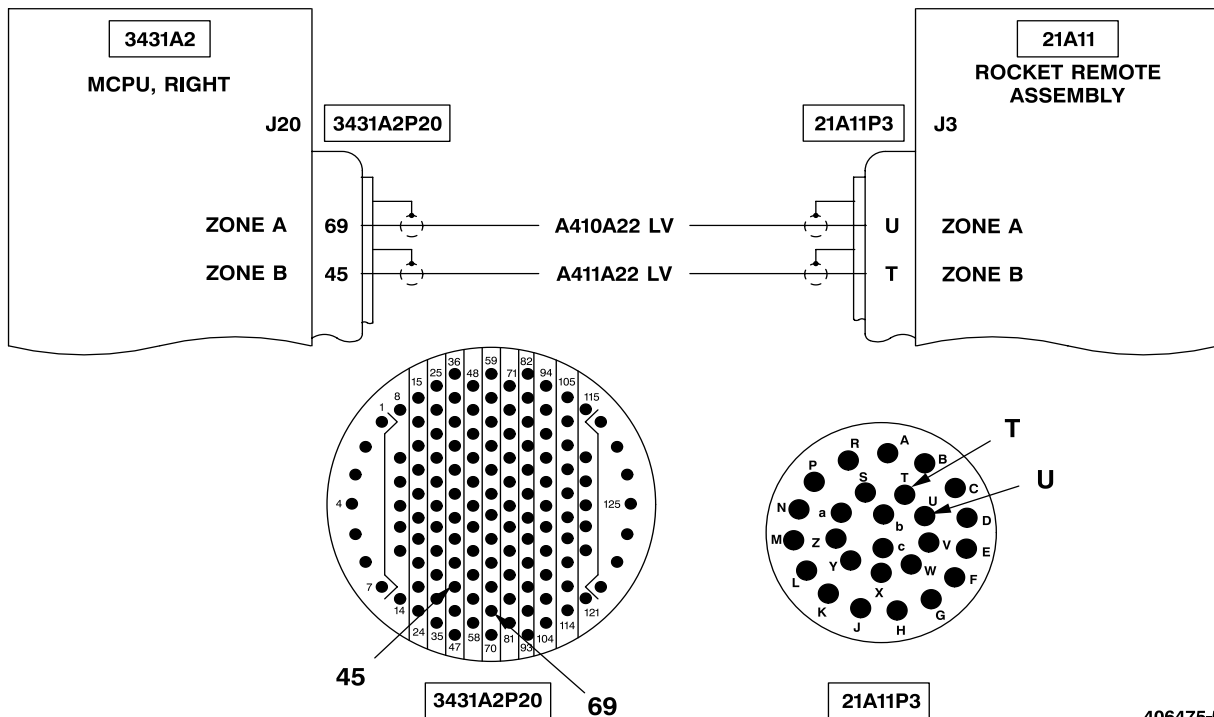


406475-542-223
J1493

4-4-24. ROCKETS FIRE IN BOTH ZONES WHEN SINGLE IS SELECTED (TASK 2-5-10) - OH-58D(R)



406475-542-224
J1493



406475-542-225
J1493

Section V. ATAS FAULTS

4-7. MAPS DIAGRAMS INDEX

The MAPS diagrams index provides a numerical list of symptoms contained in this section.

ATAS system malfunctions (symptoms) are listed in column two (SYMPTOM). To locate troubleshooting procedures refer to column one (MAPS NUMBER) which indicates the MAPS diagram number to be utilized. The procedures in the troubleshooting logic tree shall be performed in sequence as specified unless otherwise noted within the logic tree.

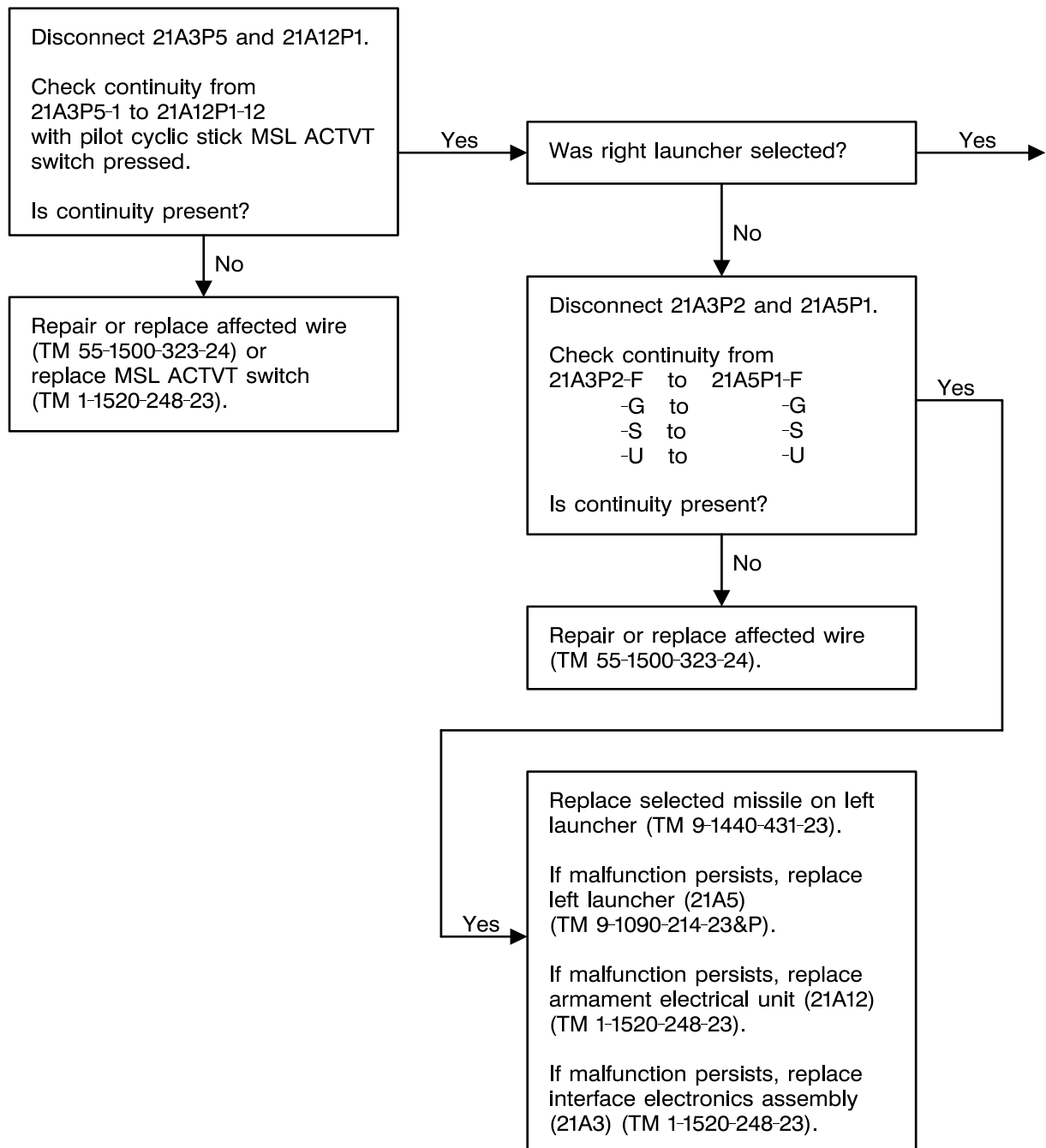
Correction of malfunctions must be verified by performing an operational check utilizing the procedures in TM 1-1520-248-T-1.

NOTE

The task number(s) referenced in the symptom title is the related operational check for the affected system.

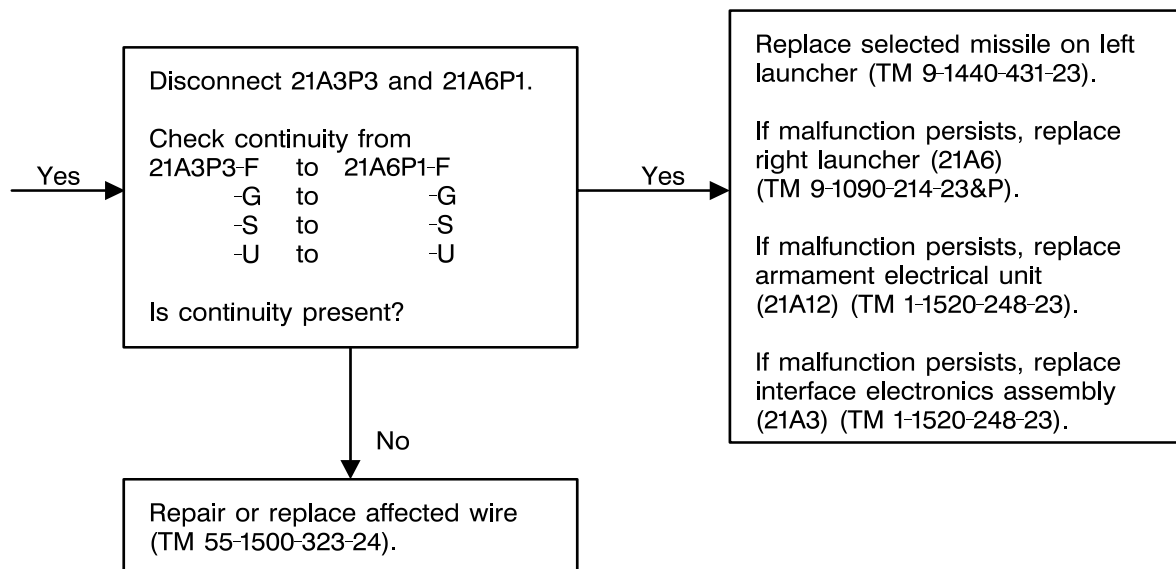
MAPS NUMBER	SYMPTOM	PAGE NUMBER
4-5-1	Missile does not activate (spin up/cool) due to signal failure (Task 2-5-3/2-5-4)	4-219
4-5-2	Missile fails to uncage due to signal failure (Task 2-5-3/2-5-4)	4-223
4-5-3	Missile fails to acquire (Task 2-5-3/2-5-4)	4-227
4-5-4	ATAS does not pass BIT on MFD (Task 2-5-3) - OH-58D	4-233
4-5-5	ATAS does not pass BIT on MFD (Task 2-5-4) - OH-58D(R)	4-234
4-5-6	Missile activates but does not show on MFD (Task 2-5-3) - OH-58D	4-235
4-5-7	Missile activates but does not show on MFD (Task 2-5-4) - OH-58D(R)	4-237
4-5-8	ATAS missile activates but does not display on PDU (Task 2-5-3/2-5-4)	4-239
4-5-9	ATAS tracking reticle on MFD does not correspond to target/seeker movement (Task 2-5-3) - OH-58D	4-240
4-5-10	ATAS tracking reticle on MFD does not correspond to target/seeker movement (Task 2-5-4) - OH-58D(R)	4-246
4-5-11	ATAS tracking reticle on PDU does not correspond to target/seeker movement (Task 2-5-3) - OH-58D	4-252
4-5-12	ATAS tracking reticle on PDU does not correspond to target/seeker movement (Task 2-5-4) - OH-58D(R)	4-257
4-5-13	System will not step to next missile (Task 2-5-3/2-5-4)	4-262
4-5-14	MFD does not indicate ATAS is installed (Task 2-5-3) - OH-58D	4-264
4-5-15	MFD does not indicate ATAS is installed (Task 2-5-4) - OH-58D(R)	4-266
4-5-16	PDU does not operate and MFD shows incorrect ATAS symbology (Task 2-5-3/2-5-4)	4-268
4-5-17	SAFE displayed on MFD when ATAS selected and armed (Task 2-5-3) - OH-58D	4-270
4-5-18	SAFE displayed on MFD when ATAS selected and armed (Task 2-5-4) - OH-58D(R)	4-272
4-5-19	No ATAS acquisition audio present when missile is activated (Task 2-5-3/2-5-4)	4-275

4-5-1. MISSILE DOES NOT ACTIVATE (SPIN UP/COOL) DUE TO SIGNAL FAILURE (TASK 2-5-3/2-5-4)



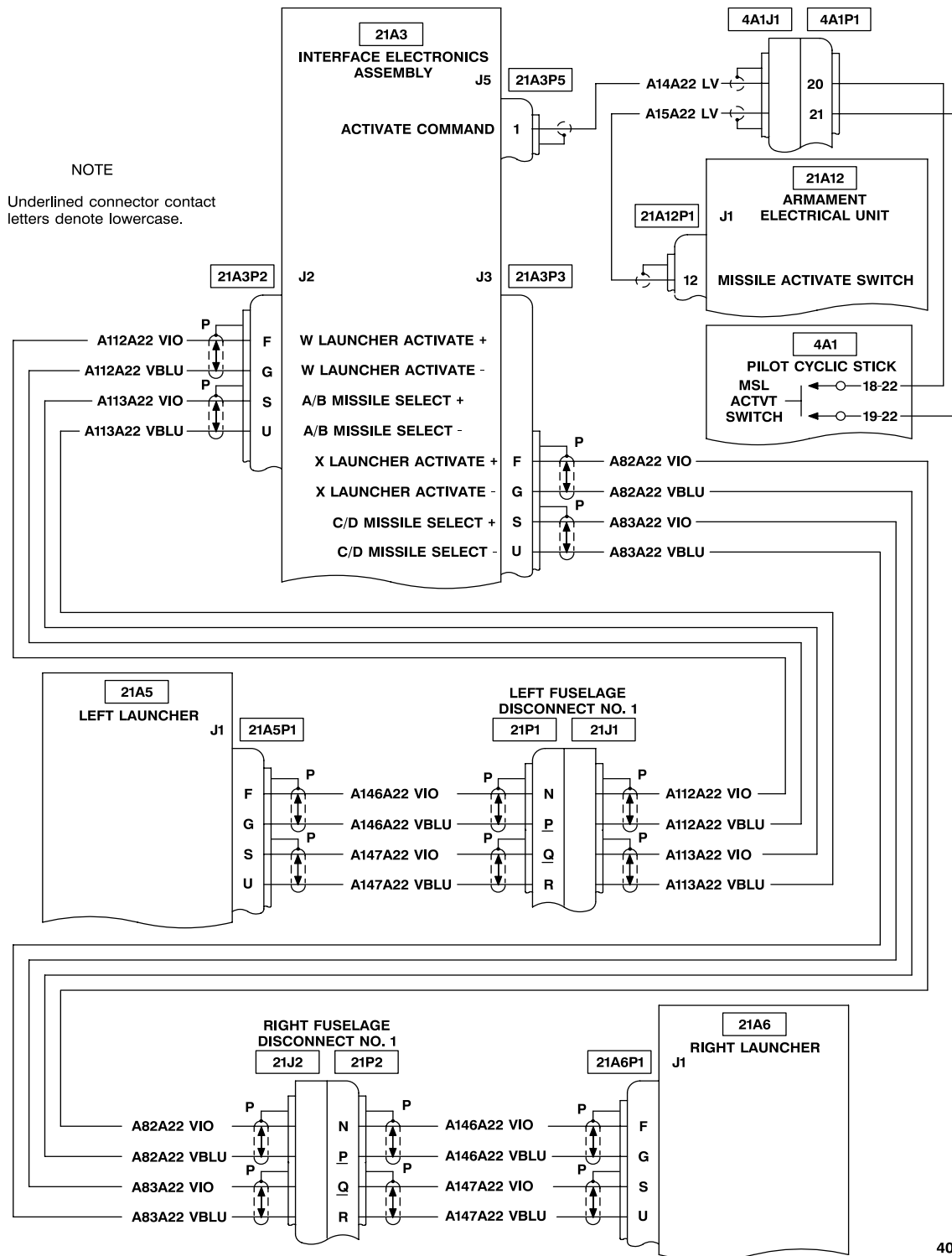
406475-542-226
J1493

4-5-1. MISSILE DOES NOT ACTIVATE (SPIN UP/COOL) DUE TO SIGNAL FAILURE (TASK 2-5-3/2-5-4) (CONT)

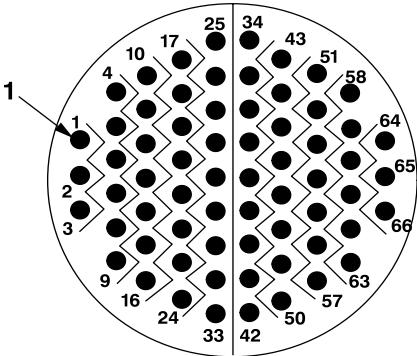


406475-542-227
J1493

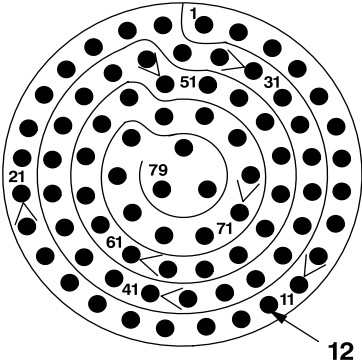
4-5-1. MISSILE DOES NOT ACTIVATE (SPIN UP/COOL) DUE TO SIGNAL FAILURE (TASK 2-5-3/2-5-4) (CONT)

406475-542-228
J1493

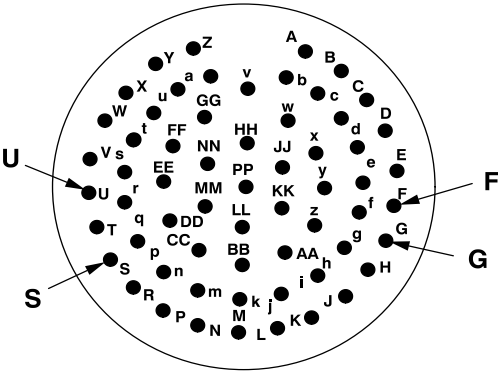
4-5-1. MISSILE DOES NOT ACTIVATE (SPIN UP/COOL) DUE TO SIGNAL FAILURE (TASK 2-5-3/2-5-4) (CONT)



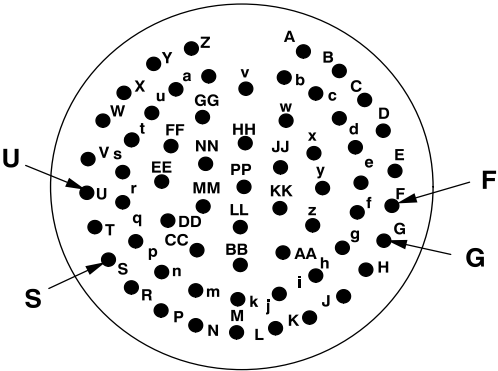
21A3P5



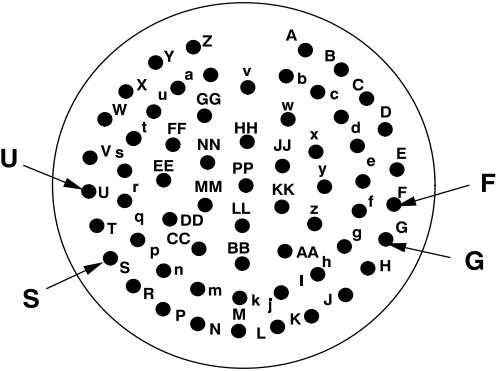
21A12P1



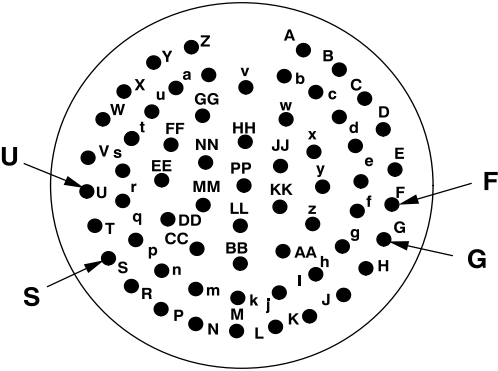
21A3P2



21A3P3



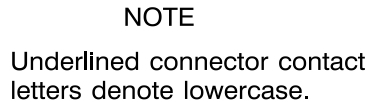
21A5P1



21A6P1

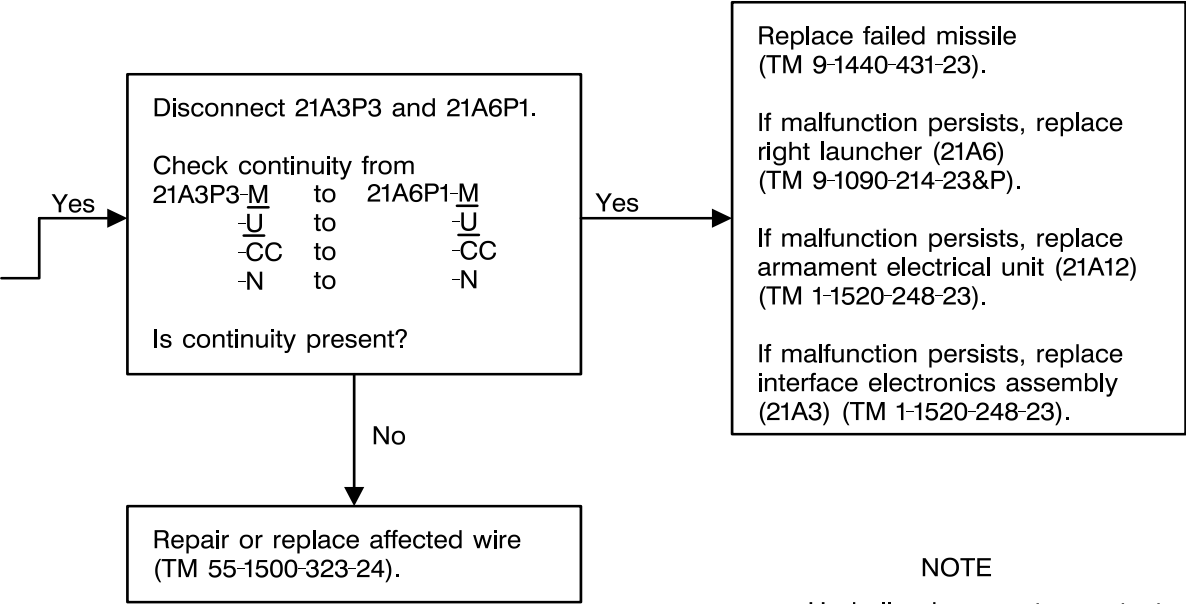
406475-542-229
J1493

4-5-2. MISSILE FAILS TO UNCAGE DUE TO SIGNAL FAILURE (TASK 2-5-3/2-5-4)



406475-542-230
J1493

4-5-2. MISSILE FAILS TO UNCAGE DUE TO SIGNAL FAILURE (TASK 2-5-3/2-5-4) (CONT)

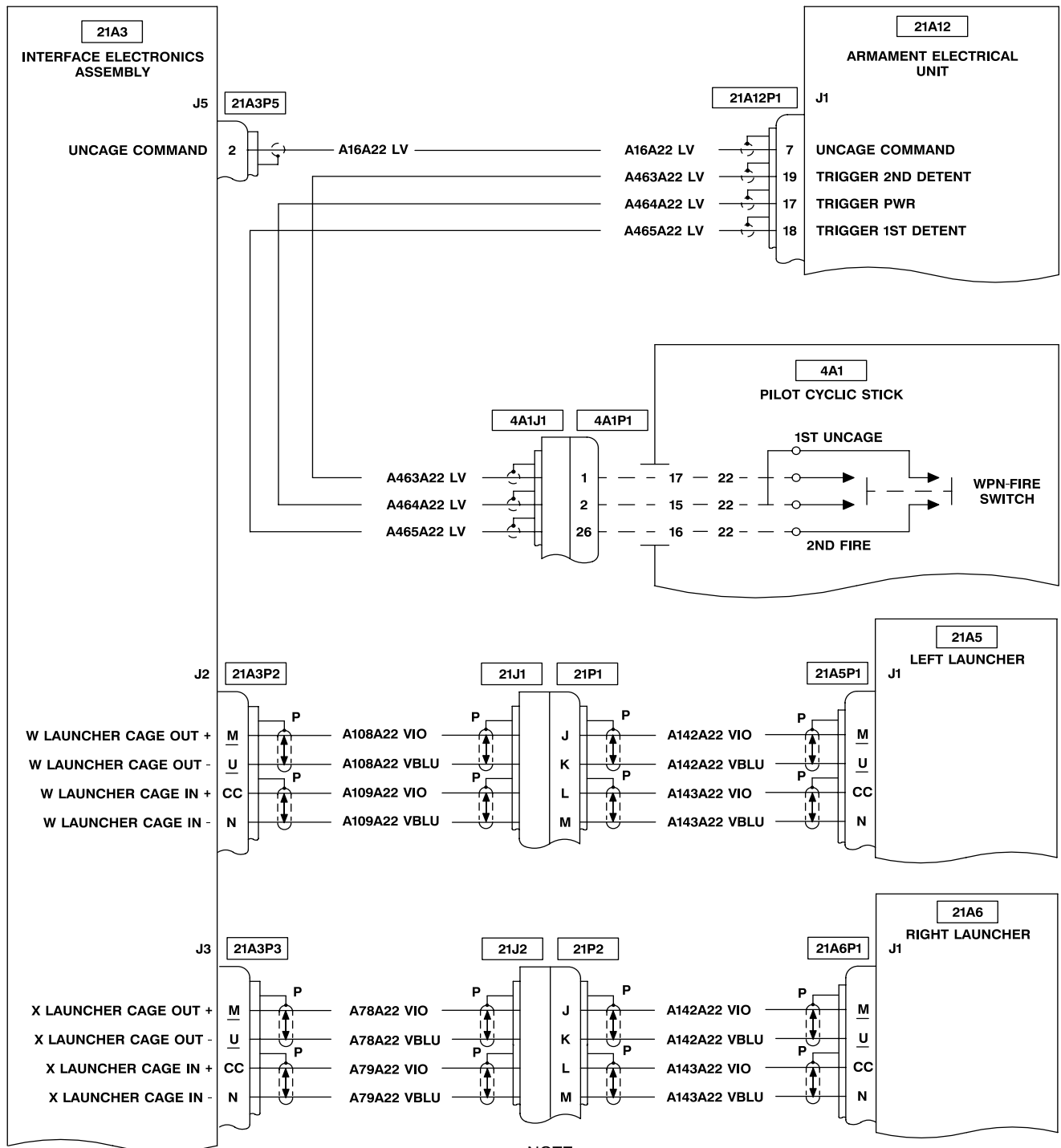


NOTE

Underlined connector contact letters denote lowercase.

406475-542-231
J1493

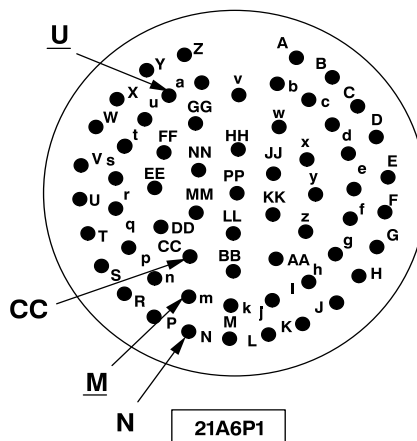
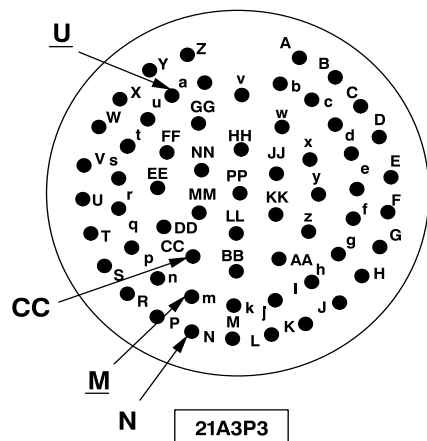
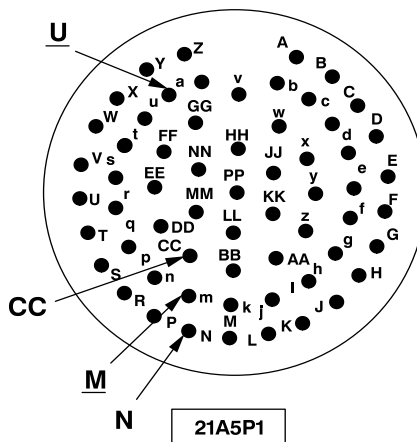
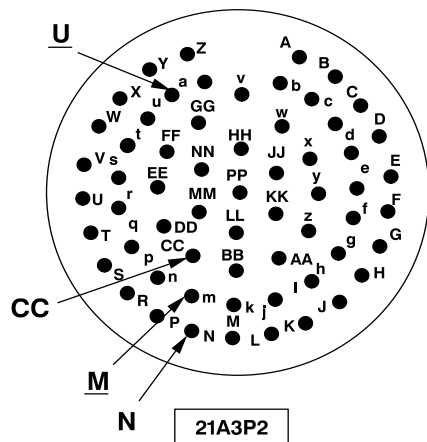
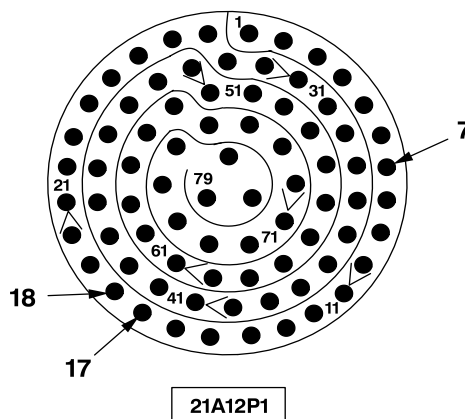
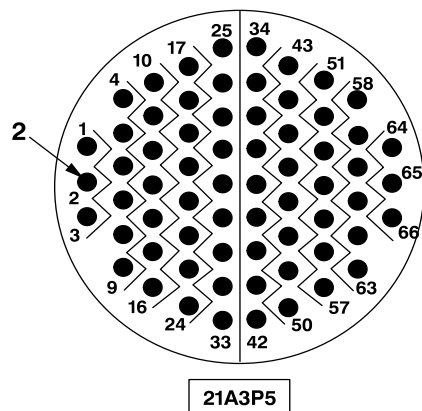
4-5-2. MISSILE FAILS TO UNCAGE DUE TO SIGNAL FAILURE (TASK 2-5-3/2-5-4) (CONT)



NOTE
Underline connector contact
letters denote lowercase.

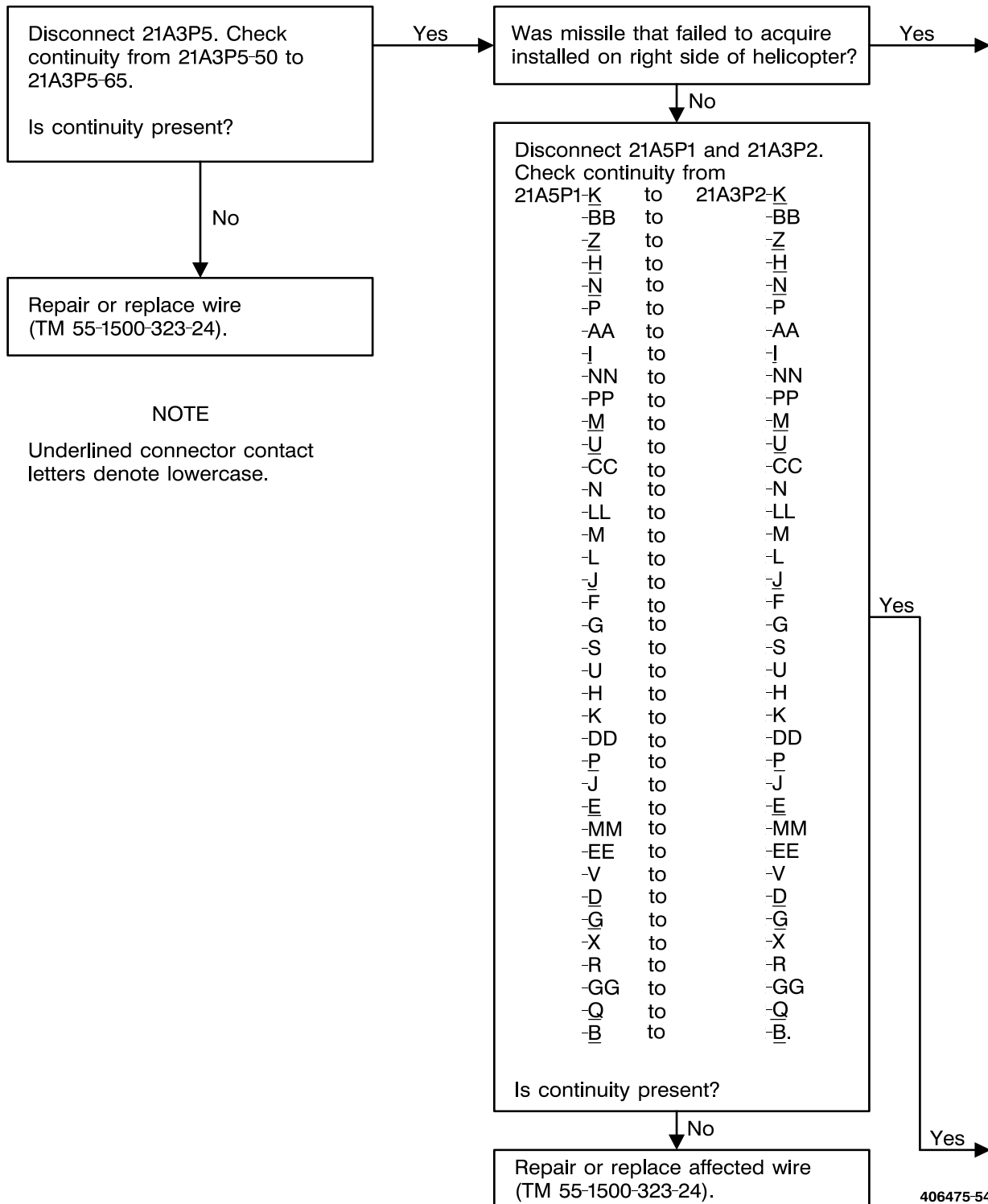
406475-542-232
J1493

4-5-2. MISSILE FAILS TO UNCAGE DUE TO SIGNAL FAILURE (TASK 2-5-3/2-5-4) (CONT)

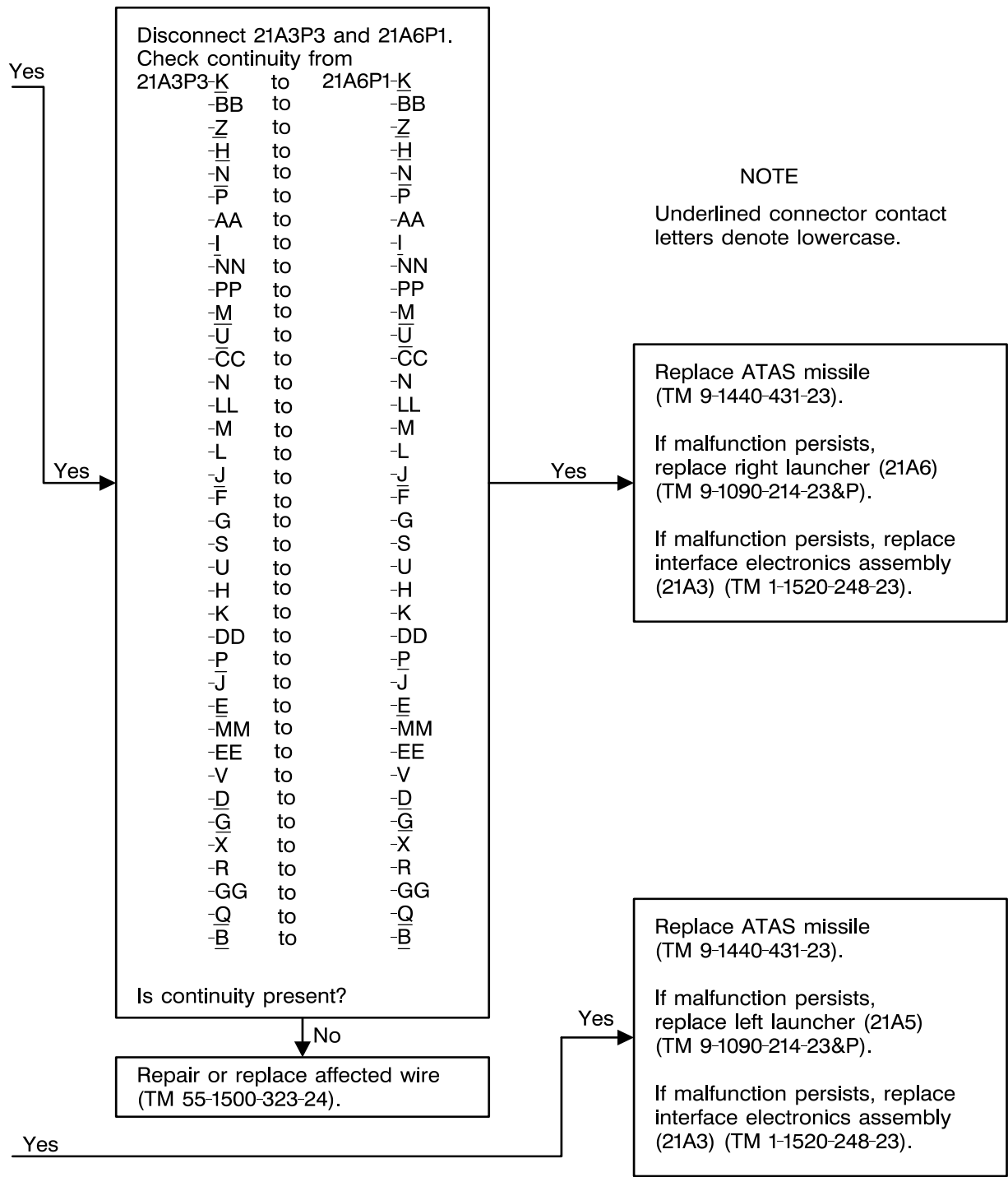


406475-542-233
J1493

4-5-3. MISSILE FAILS TO ACQUIRE (TASK 2-5-3/2-5-4)

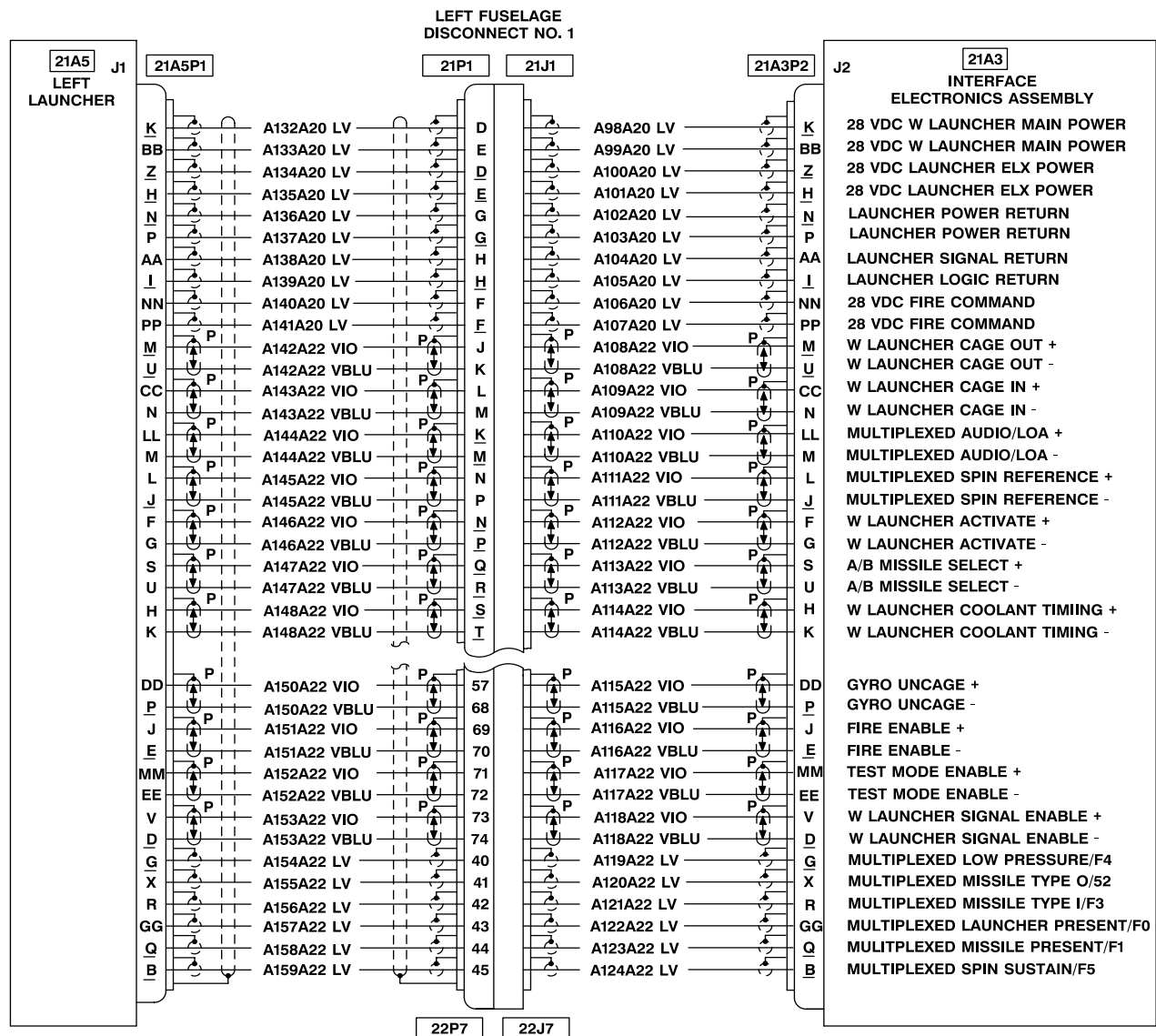


4-5-3. MISSILE FAILS TO ACQUIRE (TASK 2-5-3/2-5-4) (CONT)



406475-542-235
J1493

4-5-3. MISSILE FAILS TO ACQUIRE (TASK 2-5-3/2-5-4) (CONT)

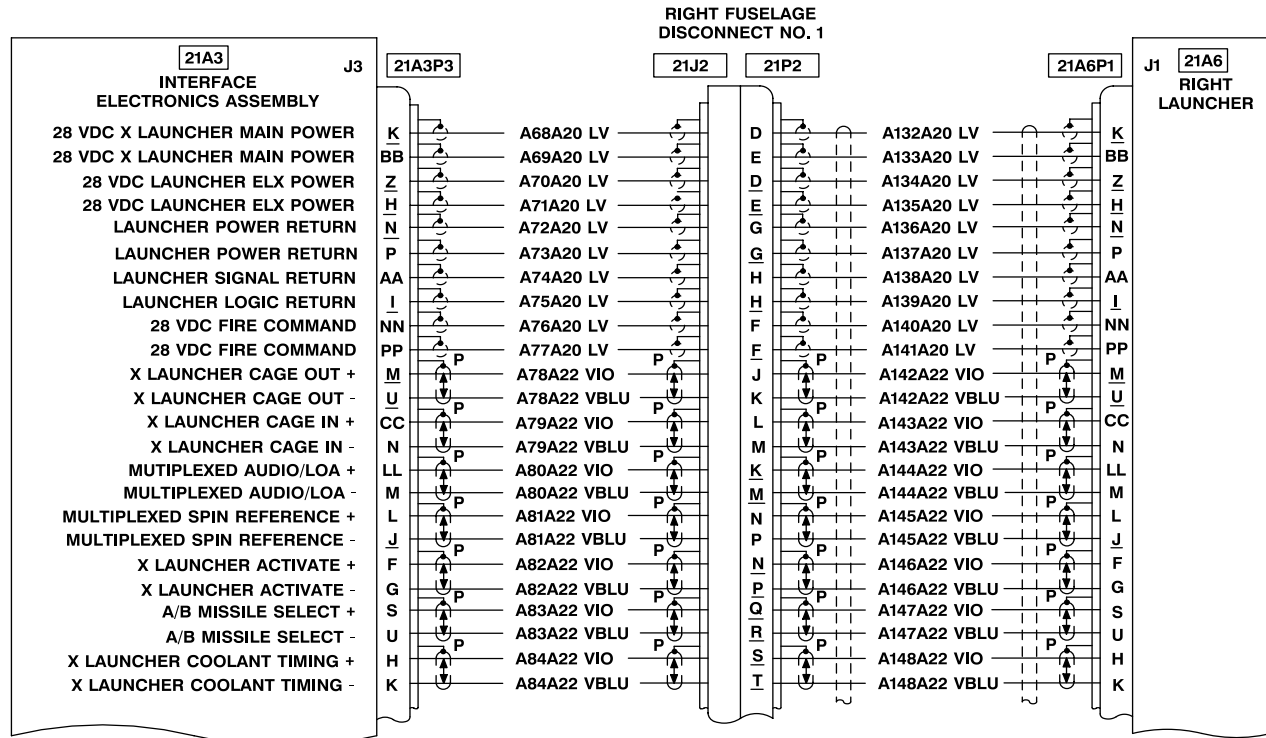


NOTE

Underlined connector contact
letters denote lowercase.

406475-542-236
J1493

4-5-3. MISSILE FAILS TO ACQUIRE (TASK 2-5-3/2-5-4) (CONT)

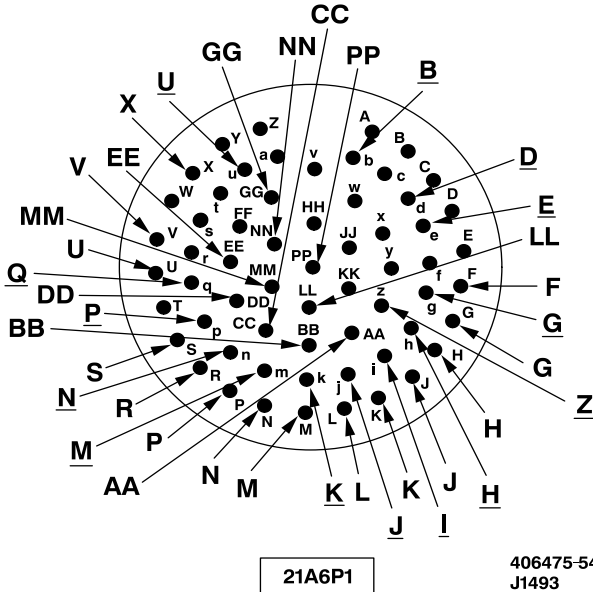
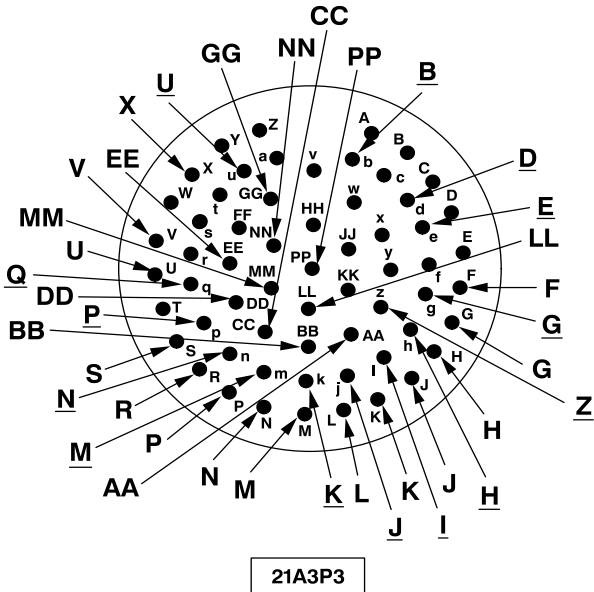
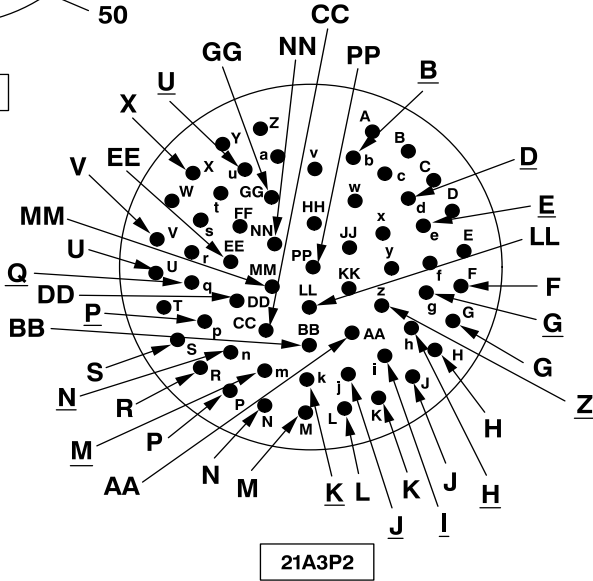
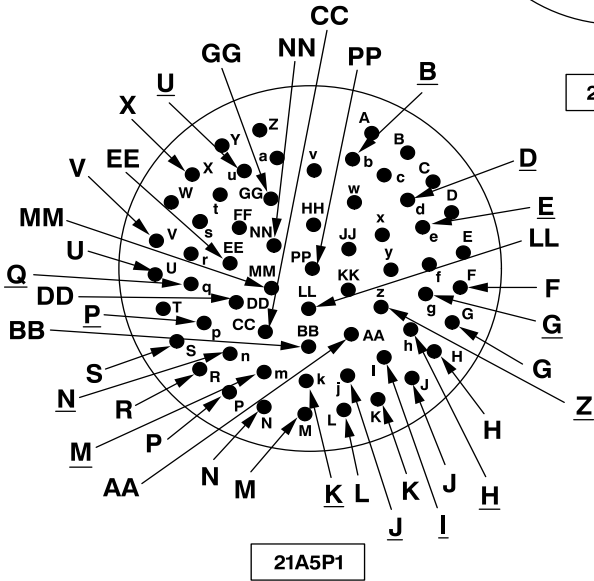
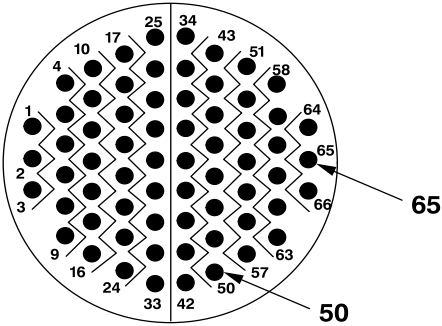


NOTE

Underlined connector contact letters denote lowercase.

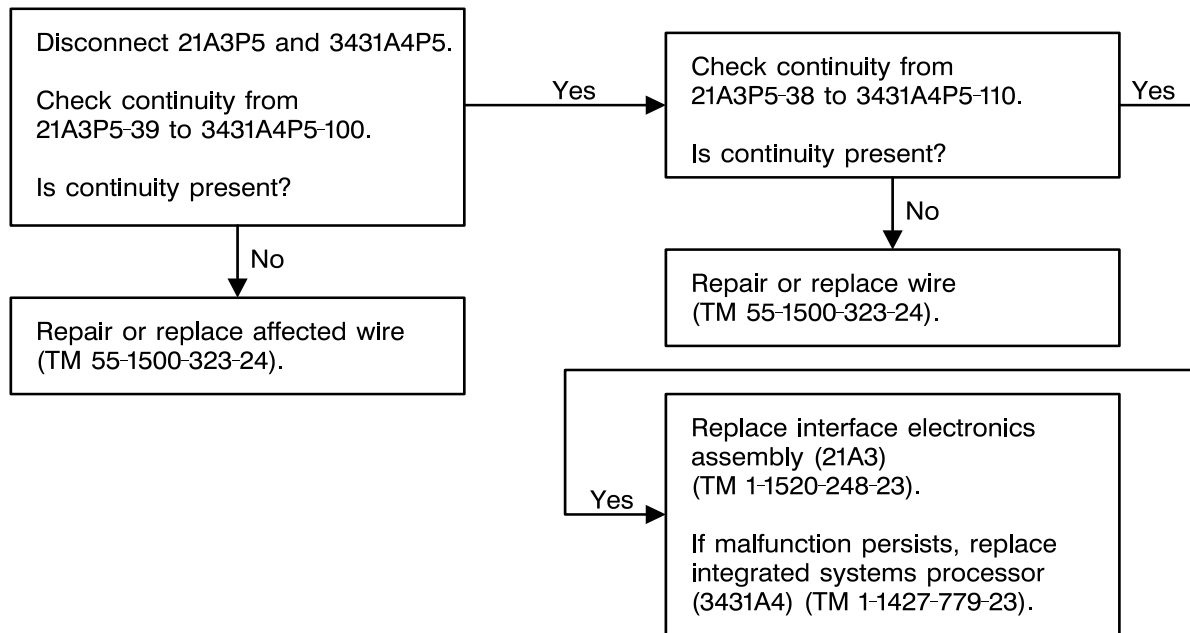
406475-542-238
J1493

4-5-3. MISSILE FAILS TO ACQUIRE (TASK 2-5-3/2-5-4) (CONT)

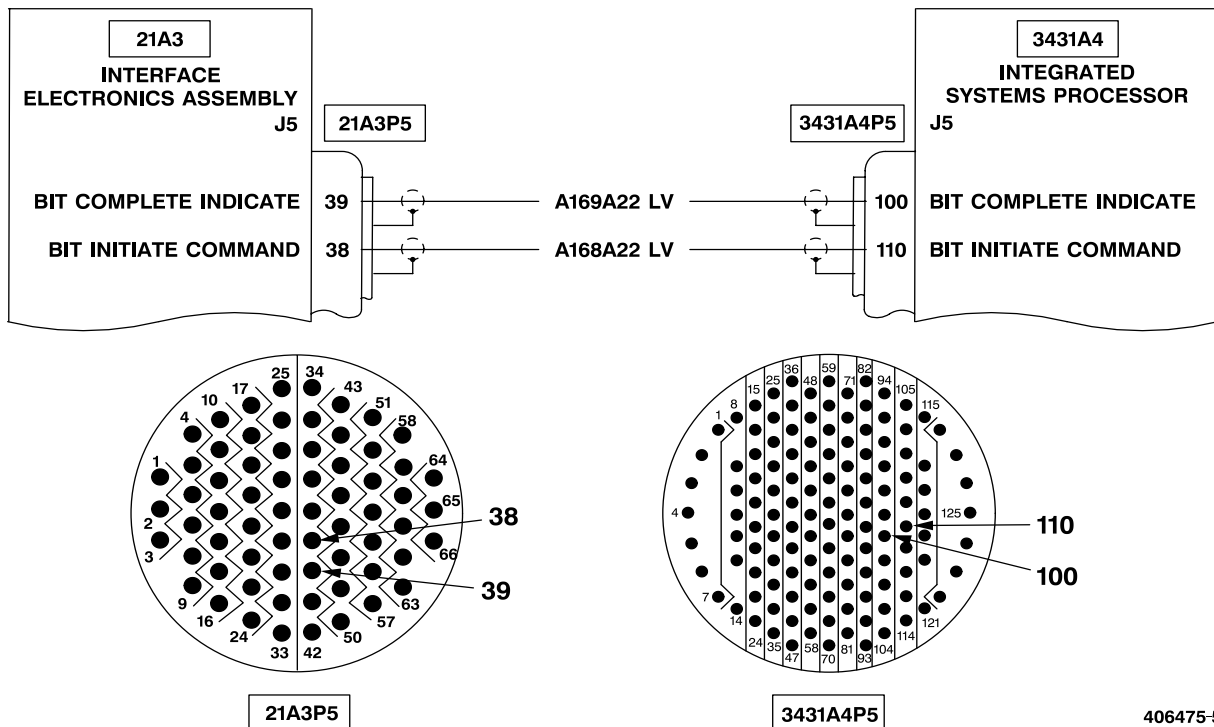


406475-542-239
J1493

4-5-4. ATAS DOES NOT PASS BIT ON MFD (TASK 2-5-3) - OH-58D

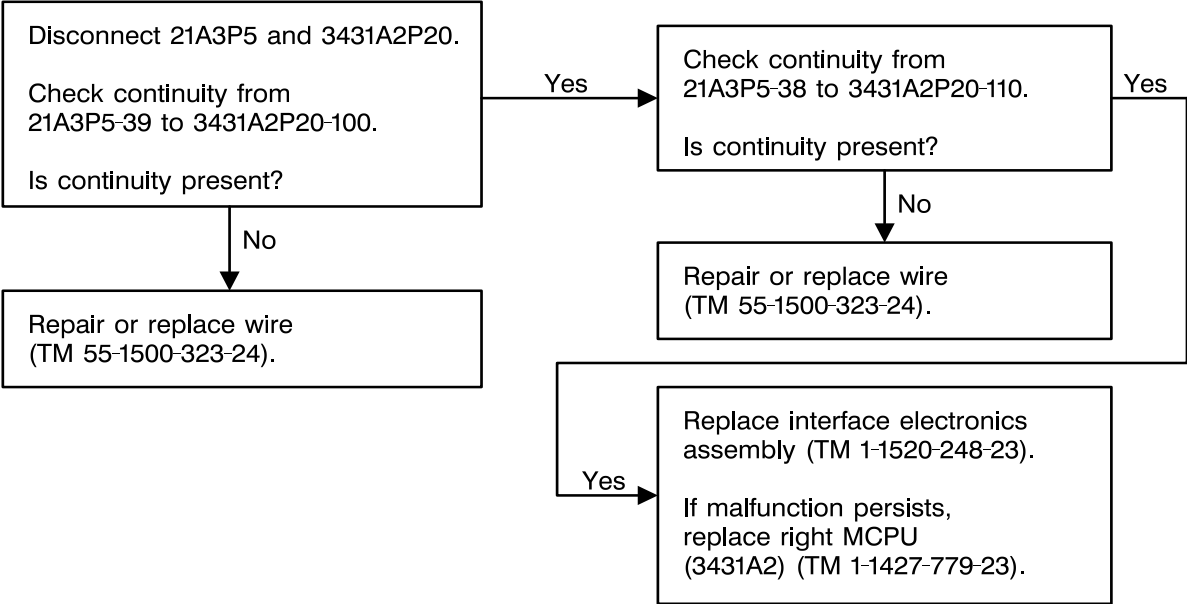


406475-542-240
J1493

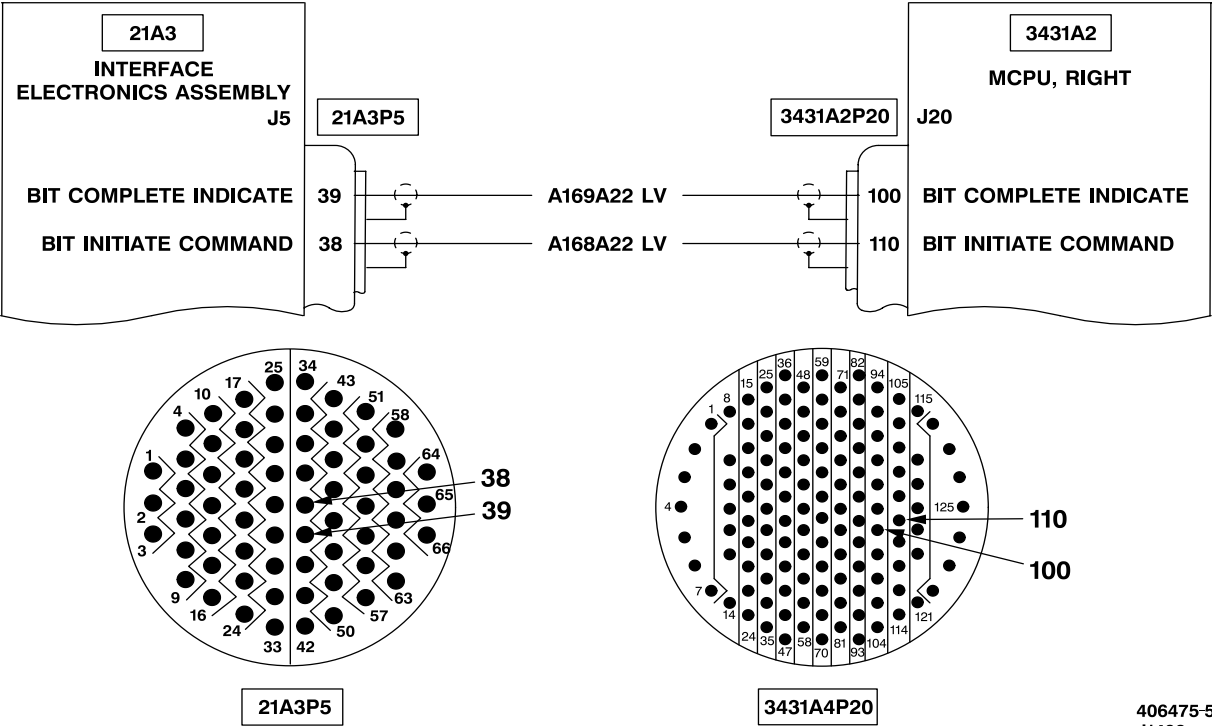


406475-542-241
J1493

4-5-5. ATAS DOES NOT PASS BIT ON MFD (TASK 2-5-4) - OH-58D(R)

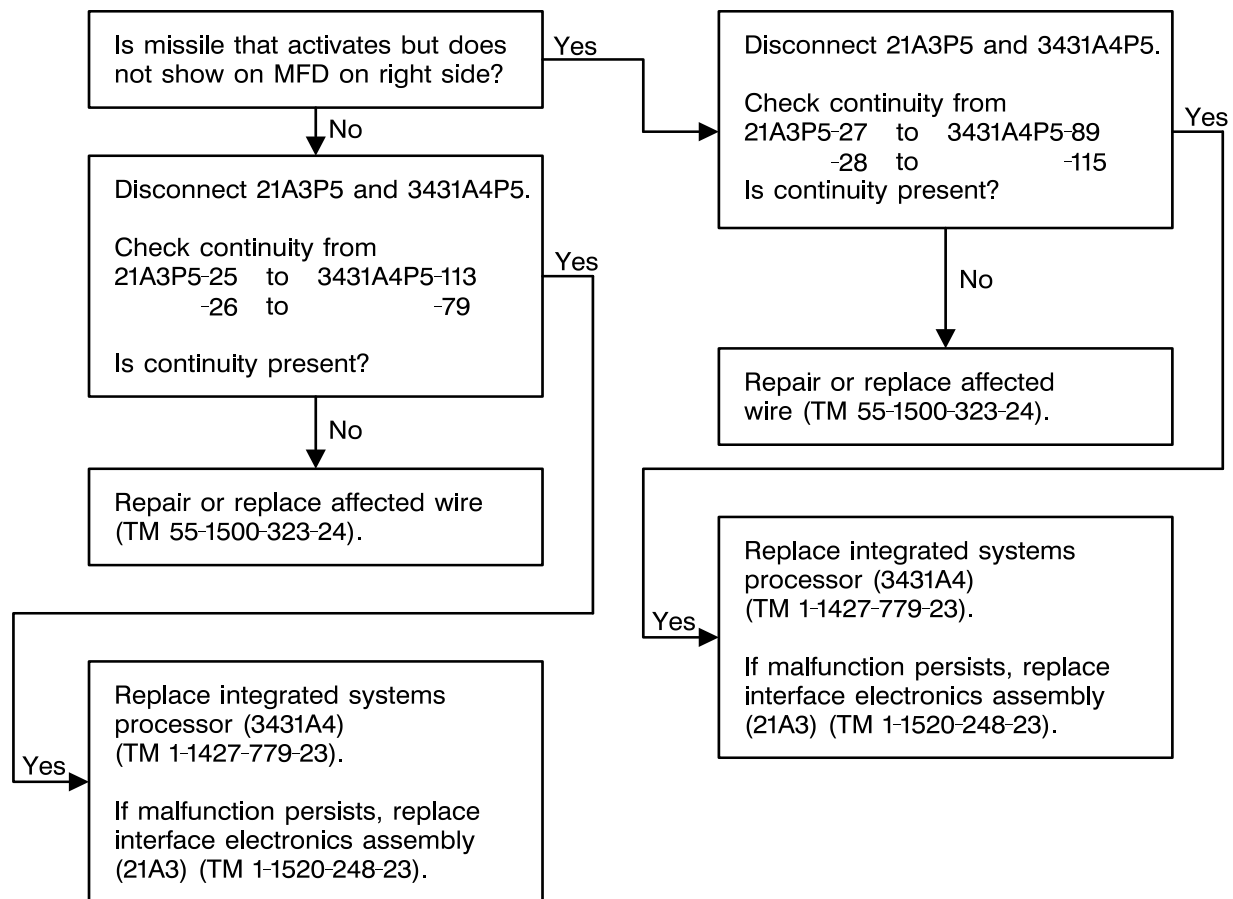


406475-542-242
J1493

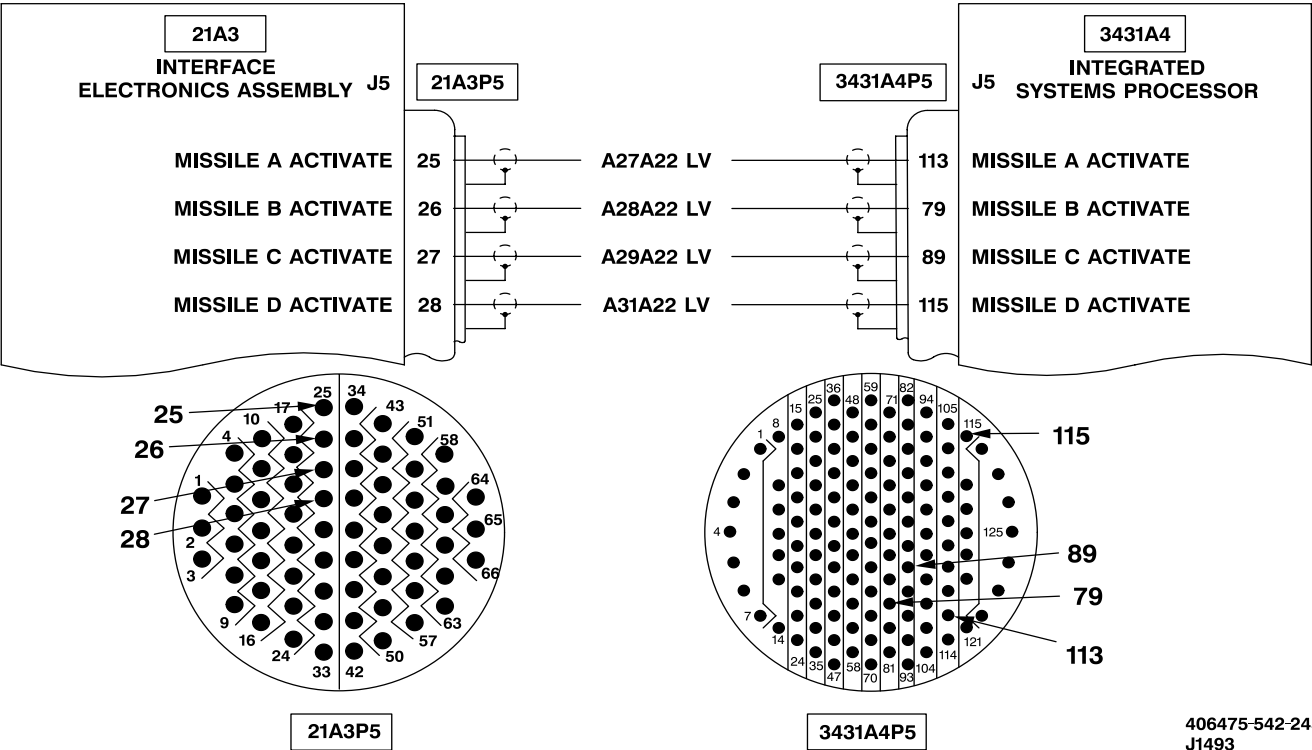


406475-542-243
J1493

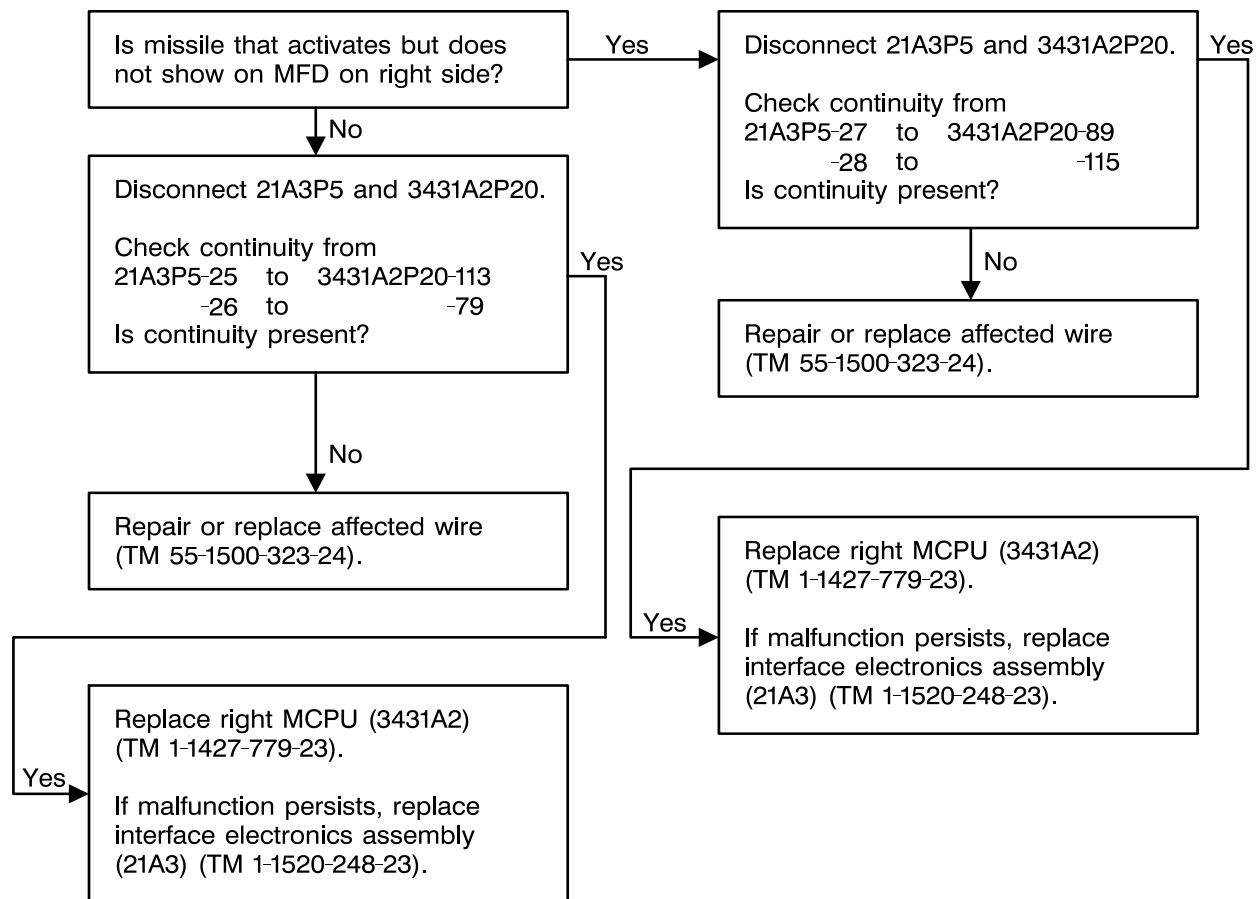
4-5-6. MISSILE ACTIVATES BUT DOES NOT SHOW ON MFD (TASK 2-5-3) - OH-58D

406475-542-244
J1493

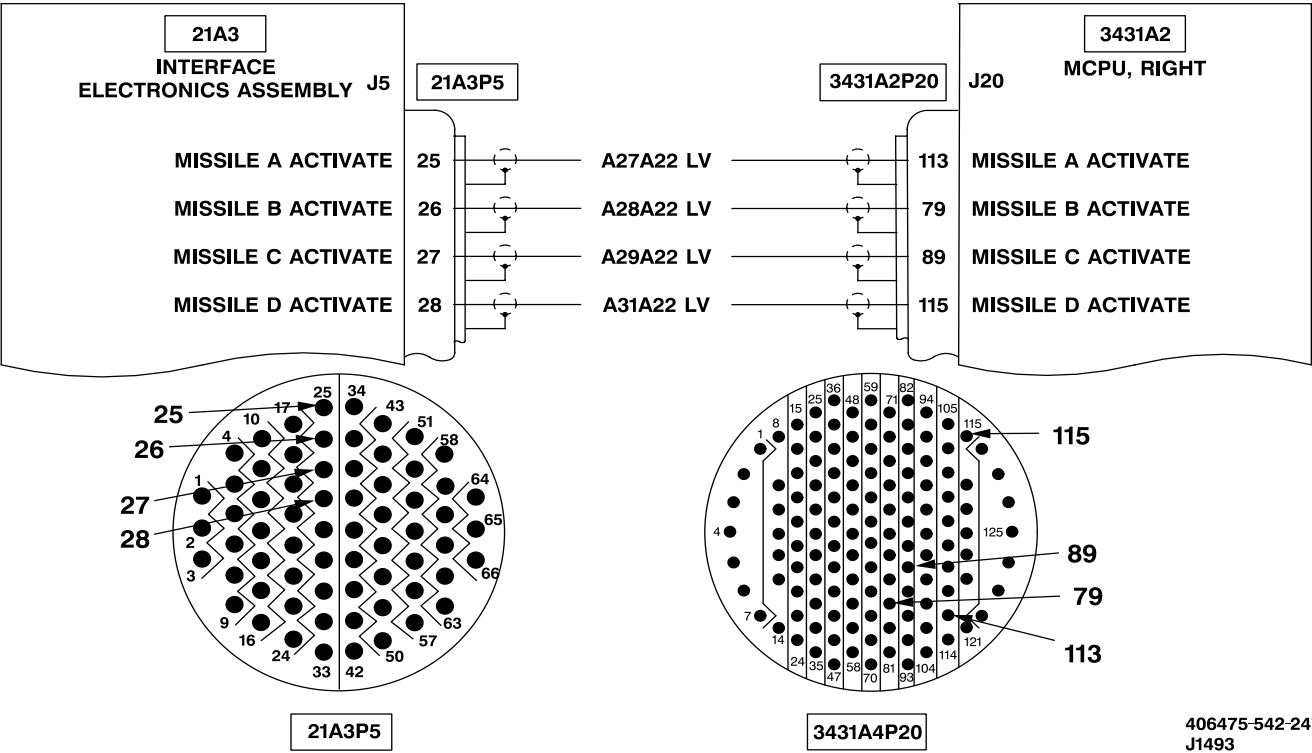
4-5-6. MISSILE ACTIVATES BUT DOES NOT SHOW ON MFD (TASK 2-5-3) - OH-58D (CONT)



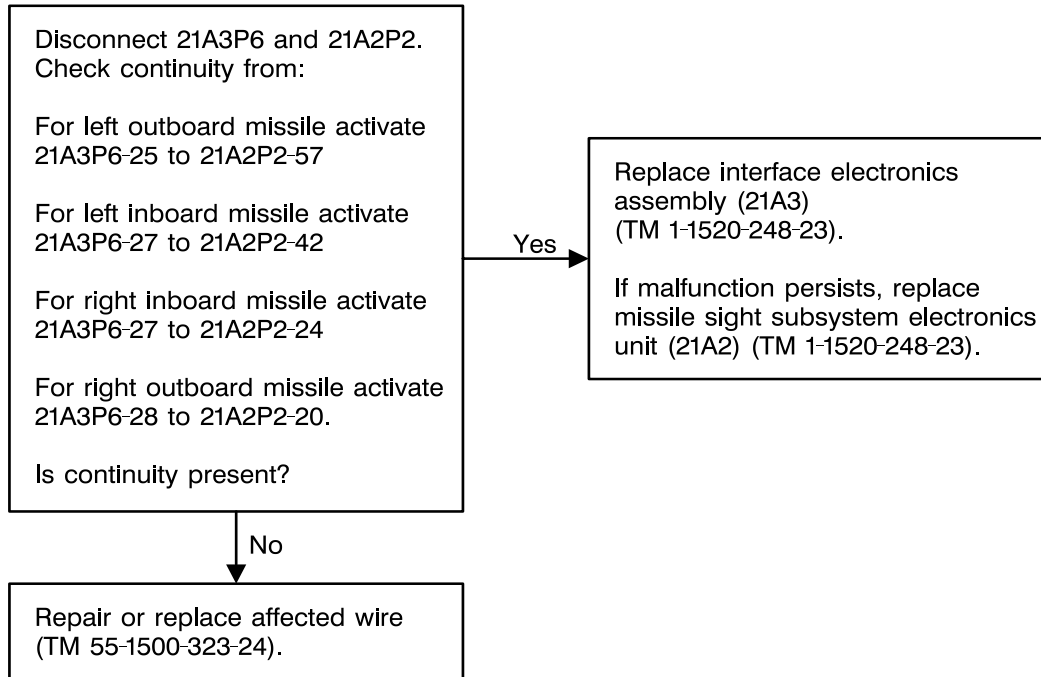
4-5-7. MISSILE ACTIVATES BUT DOES NOT SHOW ON MFD (TASK 2-5-4) - OH-58D(R)

406475-542-246
J1493

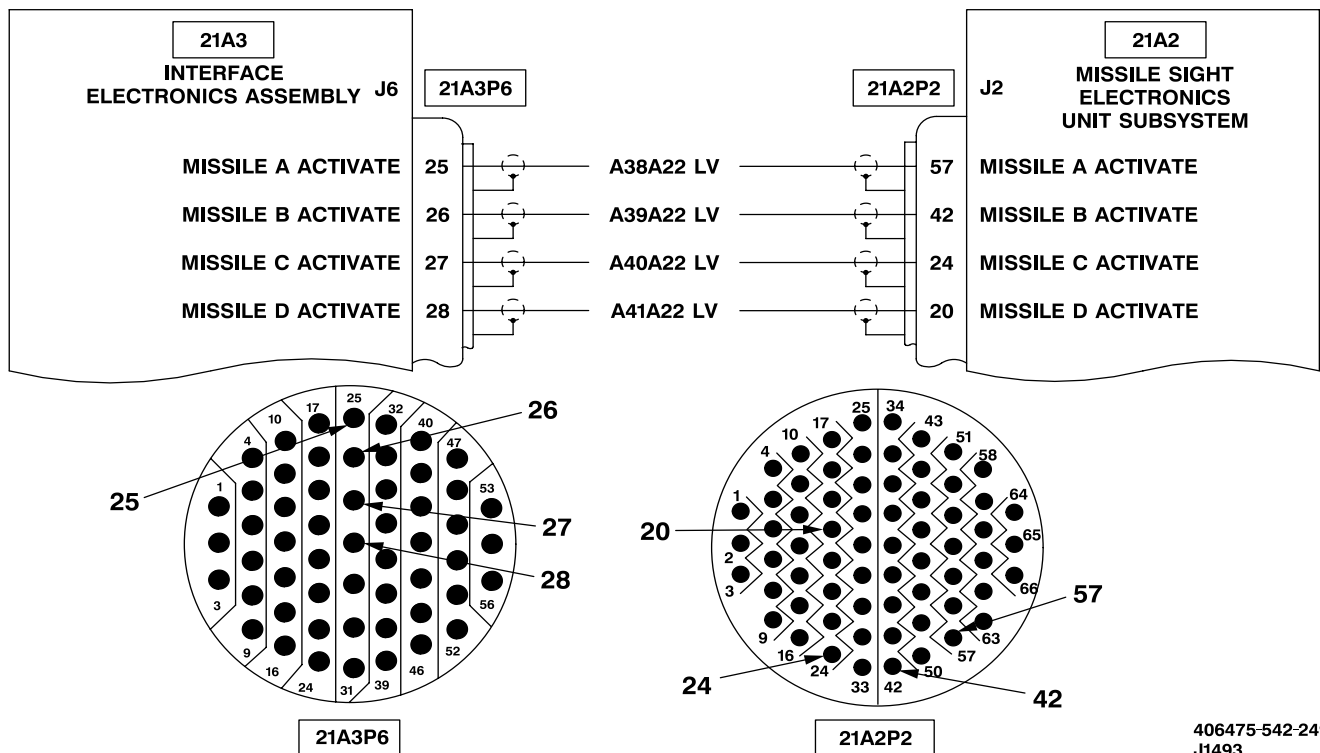
4-5-7. MISSILE ACTIVATES BUT DOES NOT SHOW ON MFD (TASK 2-5-4) - OH-58D(R) (CONT)



4-5-8. ATAS MISSILE ACTIVATES BUT DOES NOT DISPLAY ON PDU (TASK 2-5-3/2-5-4)

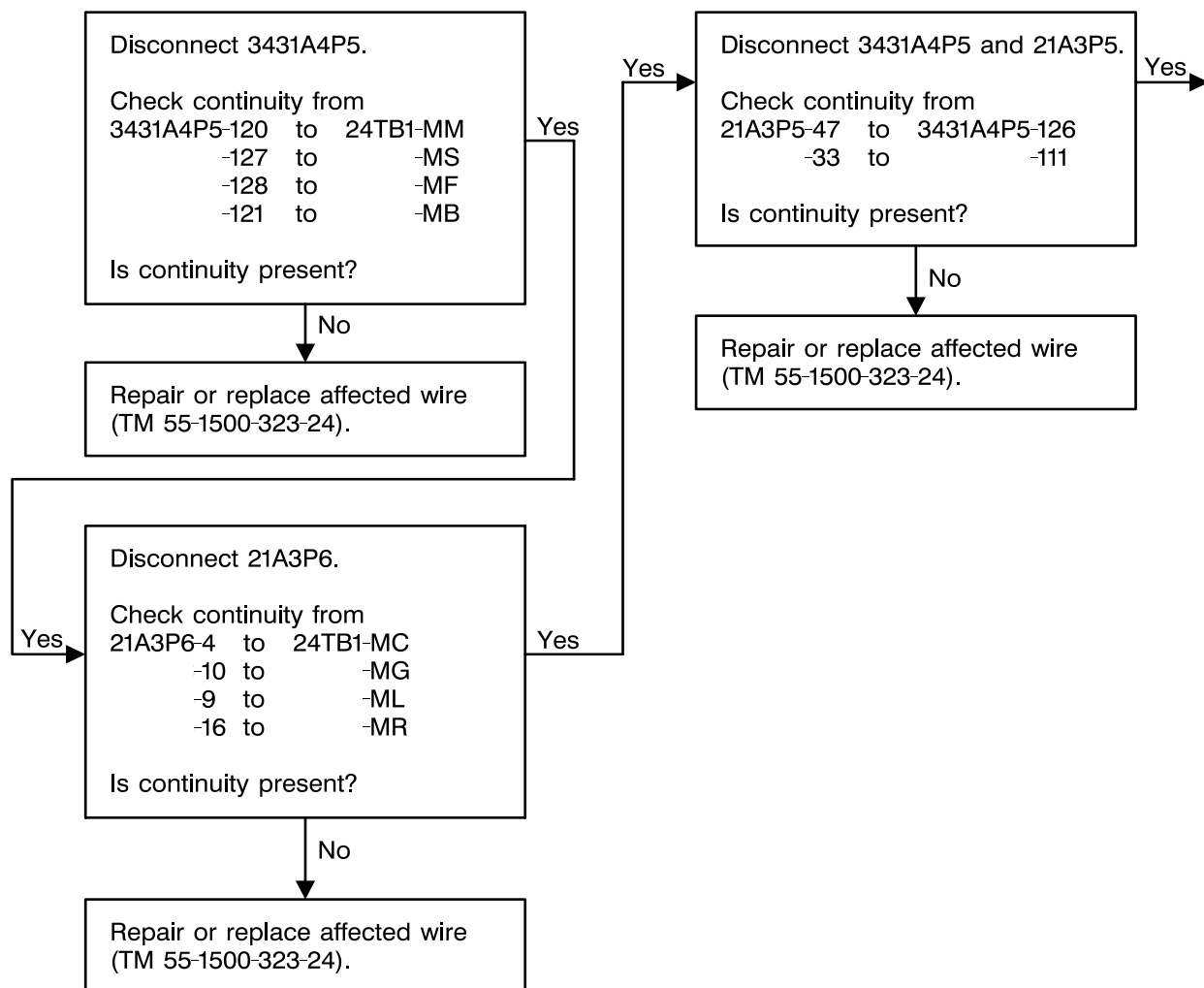


406475-542-248
J1493

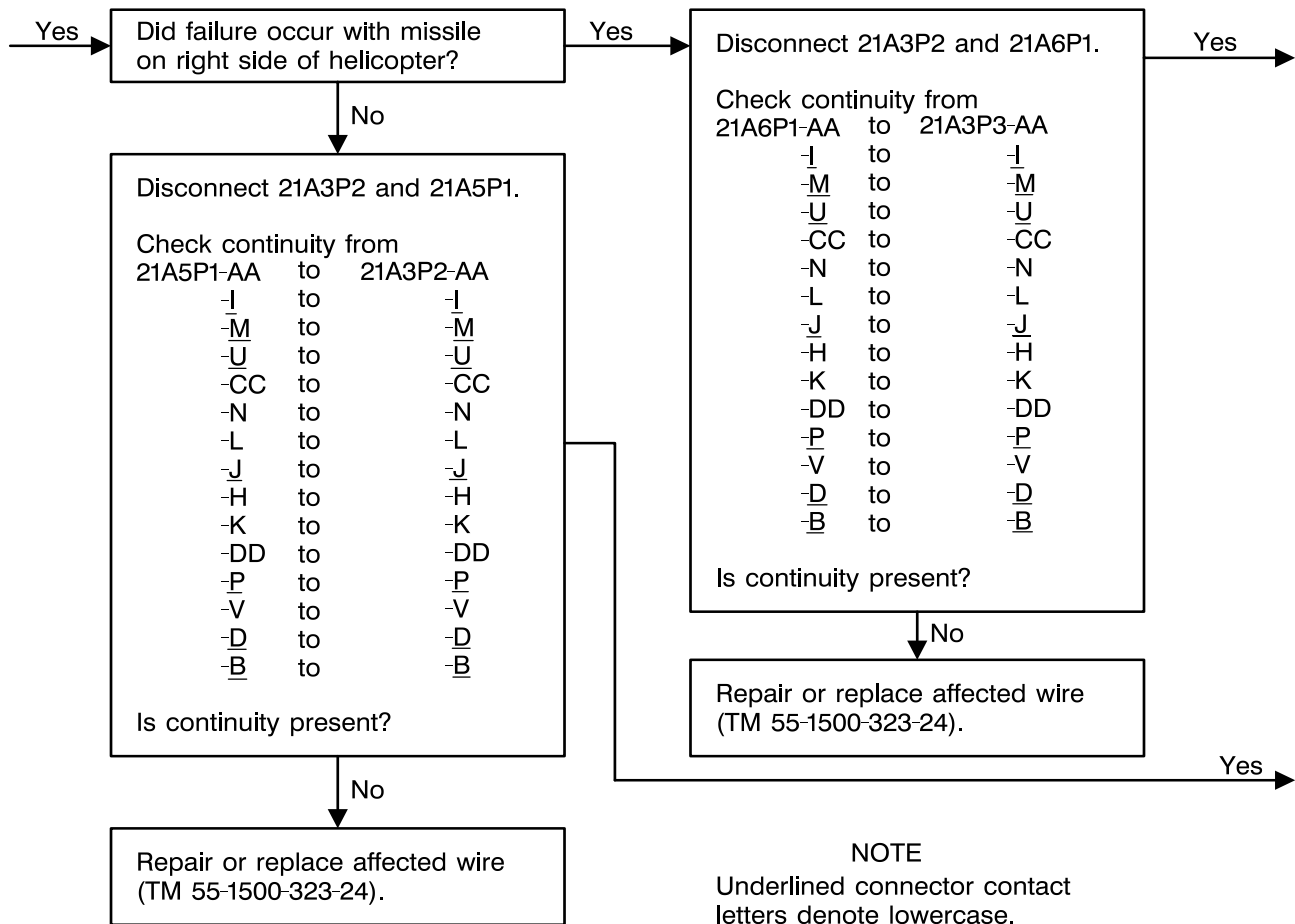


406475-542-249
J1493

4-5-9. ATAS TRACKING RETICLE ON MFD DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-3) - OH-58D



4-5-9. ATAS TRACKING RETICLE ON MFD DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-3) - OH-58D (CONT)



406475-542-251
J1493

4-5-9. ATAS TRACKING RETICLE ON MFD DOES NOT CORRESPOND TO TARGET/SEEKER
MOVEMENT (TASK 2-5-3) - OH-58D (CONT)

Yes →

Replace right failed missile
(TM 9-1440-431-23).

If malfunction persists, replace
interface electronics assembly
(21A3) (TM 1-1520-248-23).

If malfunction persists, replace
failed right launcher (21A6)
(TM 9-1090-214-23&P).

If malfunction persists, replace
sight electronics unit (21A2)
(TM 1-1520-248-23).

Yes →

Replace left failed missile
(TM 9-1440-431-23).

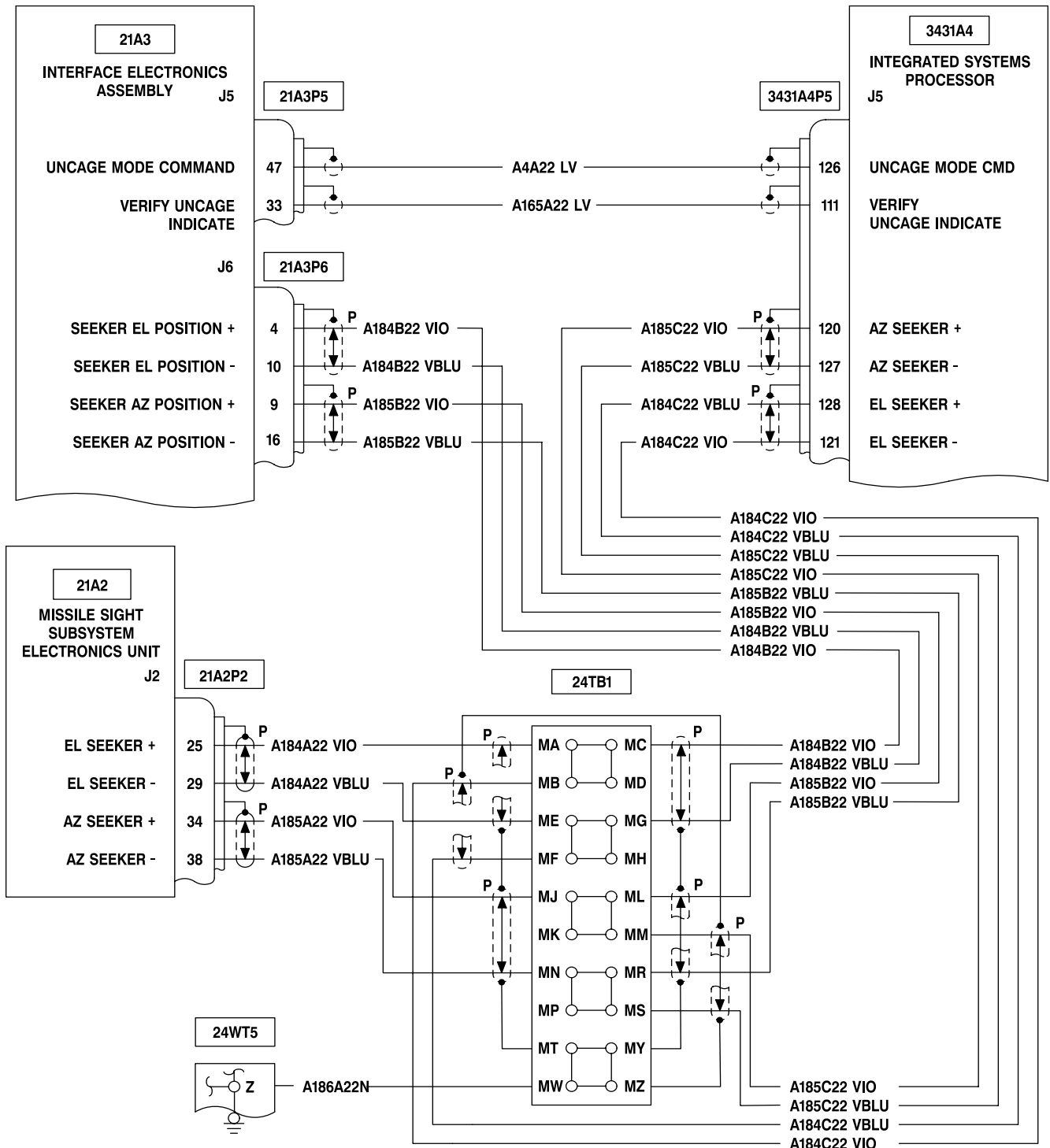
If malfunction persists, replace
interface electronics assembly
(21A3) (TM 1-1520-248-23).

If malfunction persists, replace
failed left launcher (21A5)
(TM 9-1090-214-23&P).

If malfunction persists, replace
sight electronics unit (21A2)
(TM 1-1520-248-23).

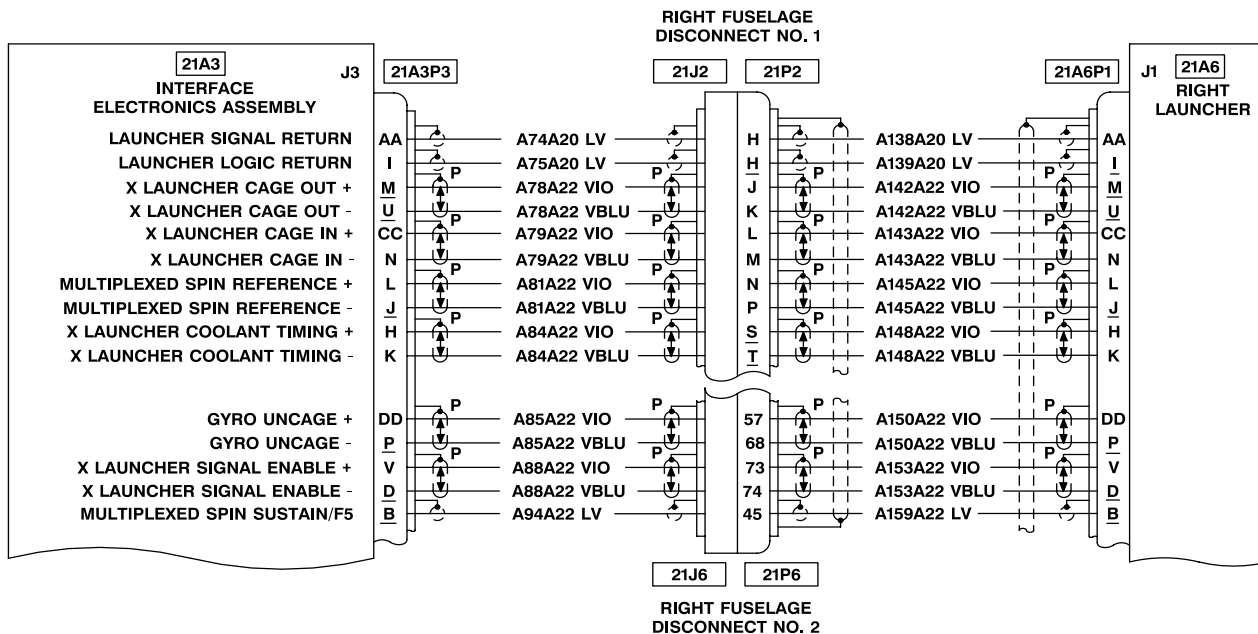
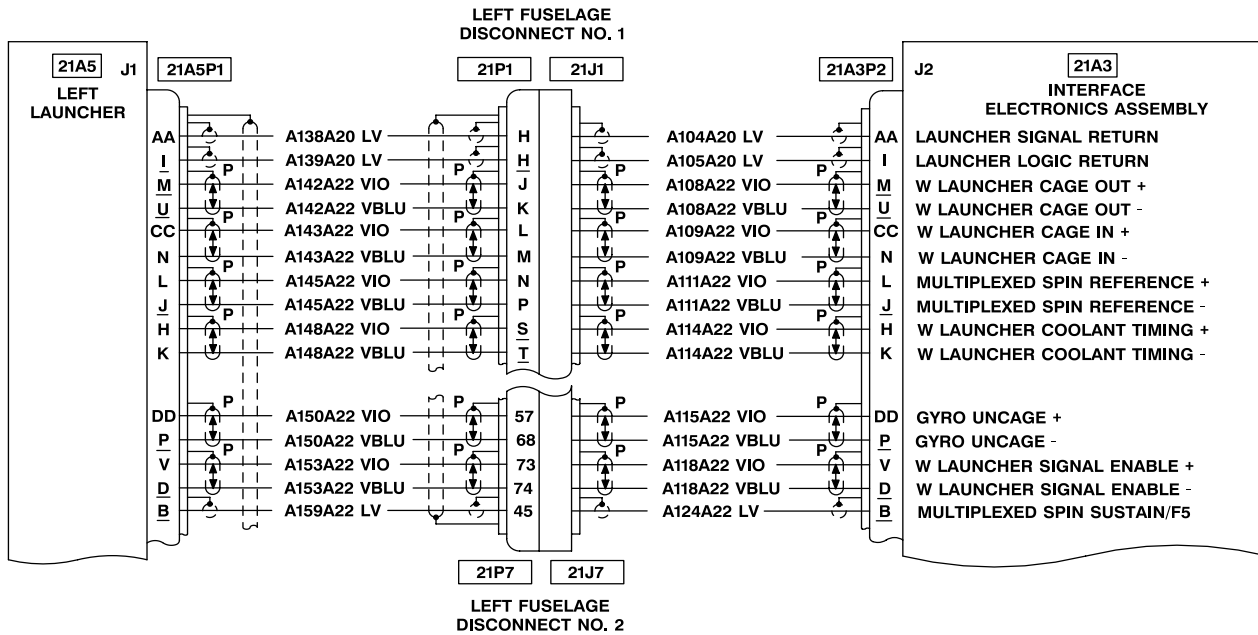
406475-542-252
J1493

4-5-9. ATAS TRACKING RETICLE ON MFD DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-3) - OH-58D (CONT)



406475-542-253
J1493

4-5-9. ATAS TRACKING RETICLE ON MFD DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-3) - OH-58D (CONT)

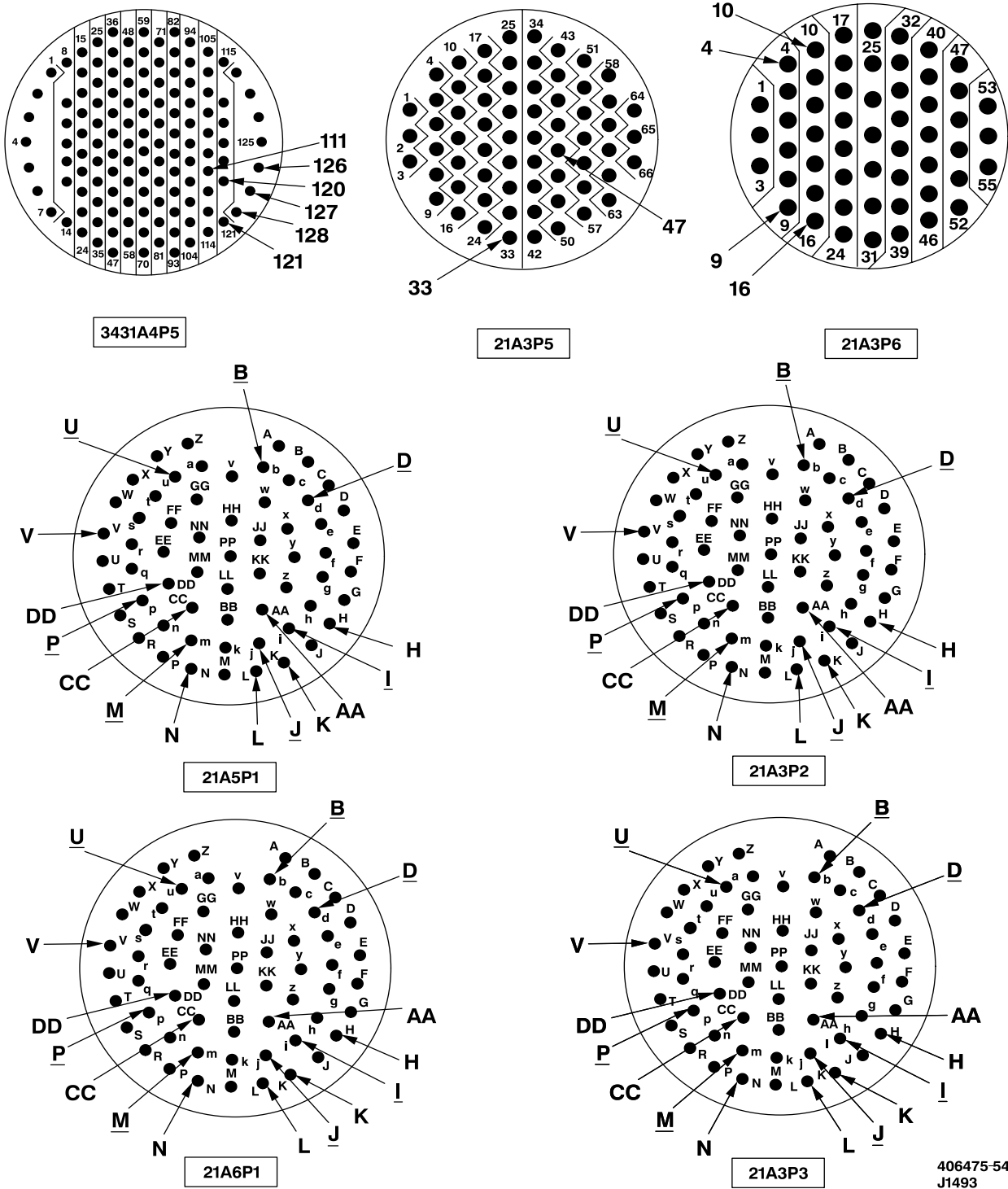


NOTE

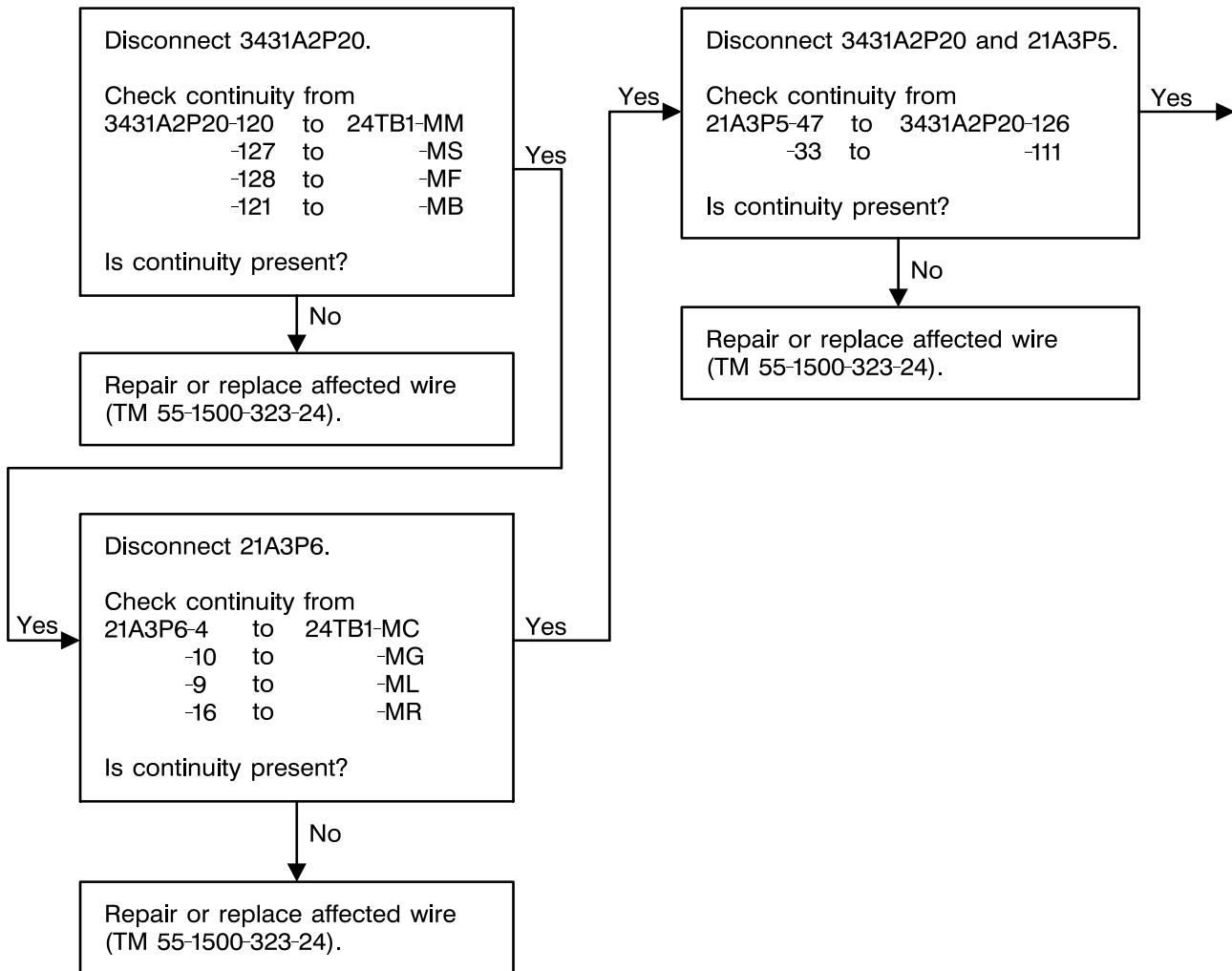
Underlined connector contact letters denote lowercase.

406475-542-254
J1493

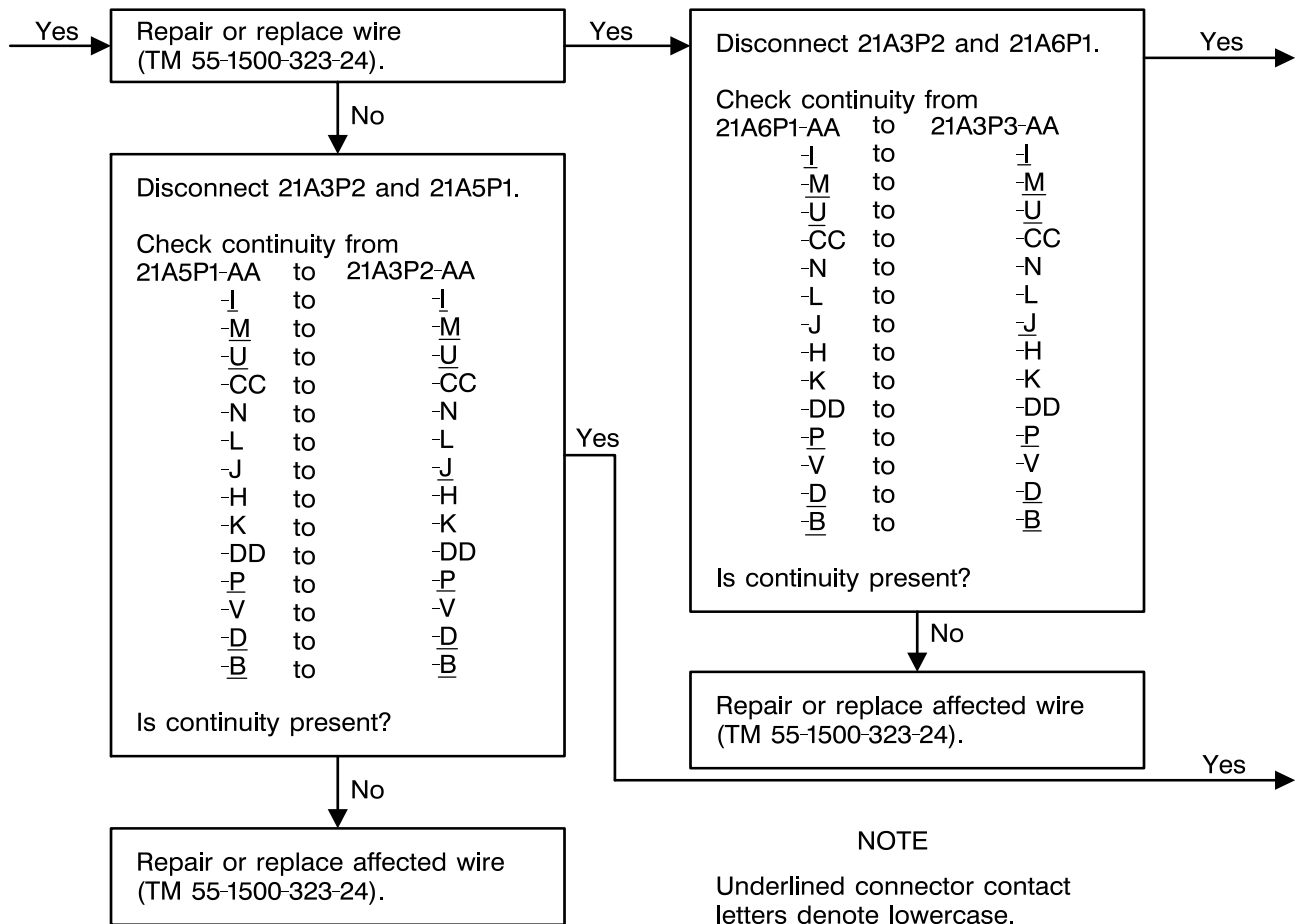
4-5-9. ATAS TRACKING RETICLE ON MFD DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-3) - OH-58D (CONT)



4-5-10. ATAS TRACKING RETICLE ON MFD DOES NOT CORRESPOND TO TARGET/SEEKER
MOVEMENT (TASK 2-5-4) - OH-58D(R)



4-5-10. ATAS TRACKING RETICLE ON MFD DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-4) - OH-58D(R) (CONT)



406475-542-257
J1493

4-5-10. ATAS TRACKING RETICLE ON MFD DOES NOT CORRESPOND TO TARGET/SEEKER
MOVEMENT (TASK 2-5-4) - OH-58D(R) (CONT)

Yes →

Replace right failed missile
(TM 9-1440-431-23).

If malfunction persists, replace
interface electronics assembly
(21A3) (TM 1-1520-248-23).

If malfunction persists, replace
failed right launcher (21A6)
(TM 9-1090-214-23&P).

If malfunction persists, replace
sight electronics unit (21A2)
(TM 1-1520-248-23).

Yes →

Replace left failed missile
(TM 9-1440-431-23).

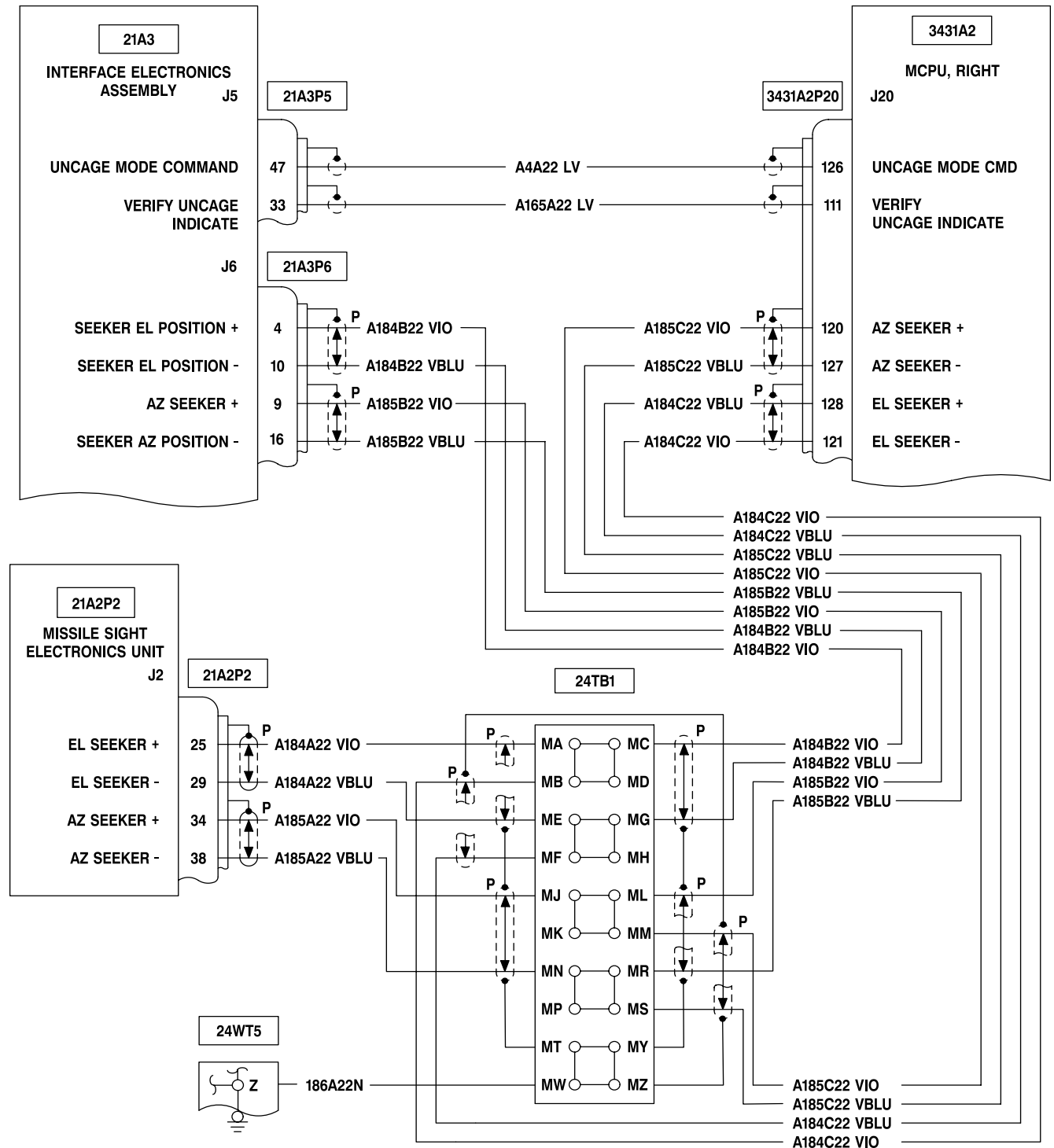
If malfunction persists, replace
interface electronics assembly
(21A3) (TM 1-1520-248-23).

If malfunction persists, replace
failed left launcher (21A5)
(TM 9-1090-214-23&P).

If malfunction persists, replace
sight electronics unit (21A2)
(TM 1-1520-248-23).

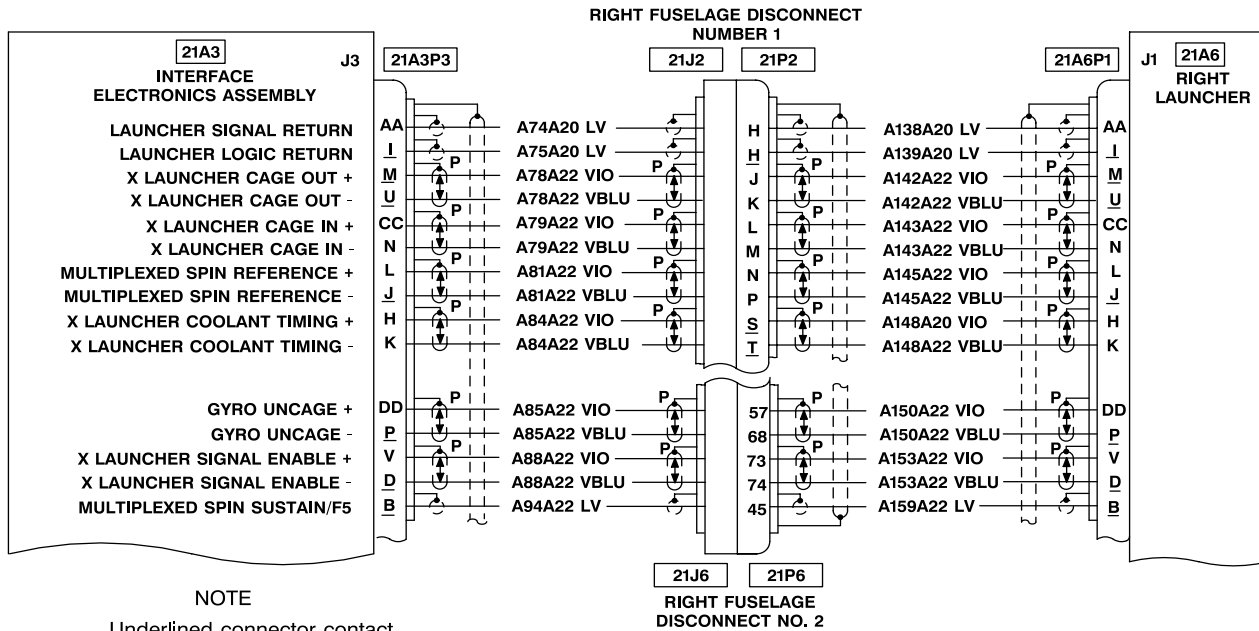
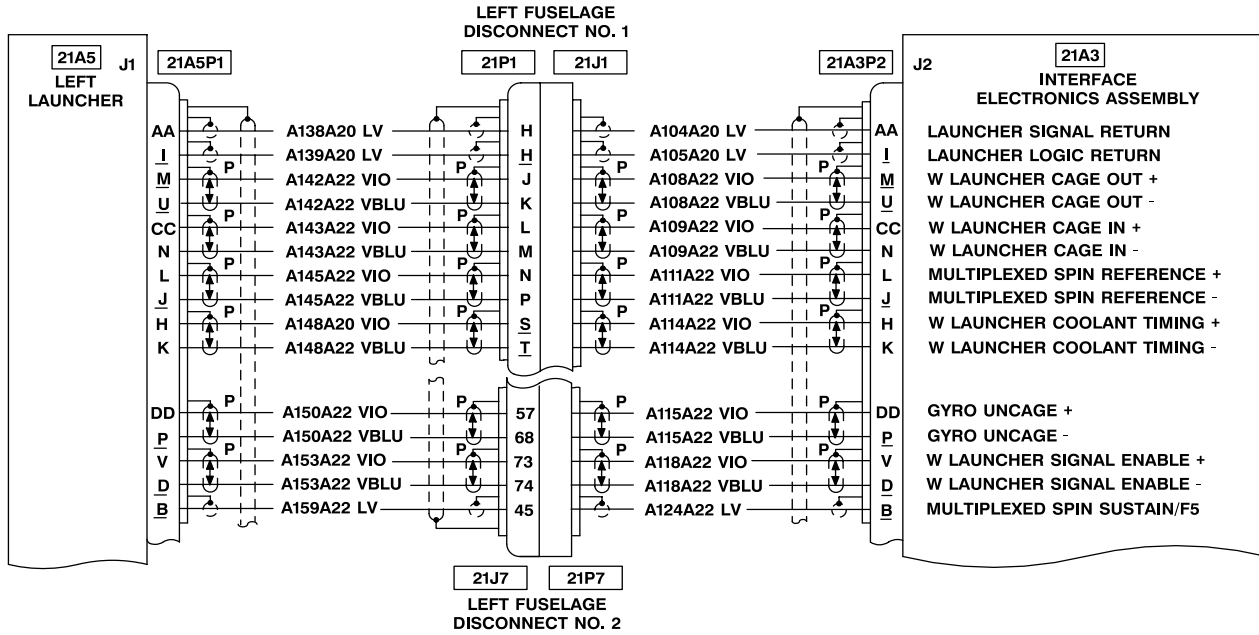
406475-542-258
J1493

4-5-10. ATAS TRACKING RETICLE ON MFD DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-4) - OH-58D(R) (CONT)



406475-542-259
J1493

4-5-10. ATAS TRACKING RETICLE ON MFD DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-4) - OH-58D(R) (CONT)

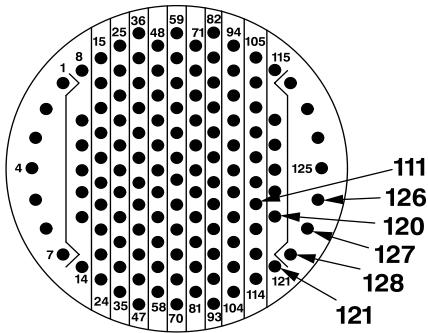


NOTE

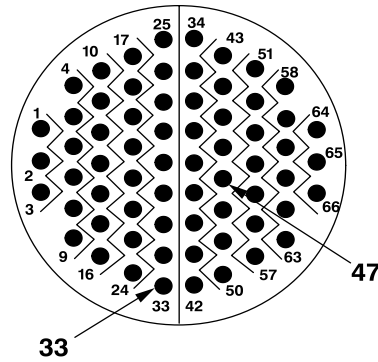
Underlined connector contact letters denote lowercase.

406475-542-260
J1493

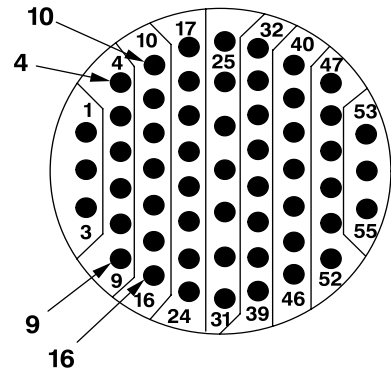
4-5-10. ATAS TRACKING RETICLE ON MFD DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-4) - OH-58D(R) (CONT)



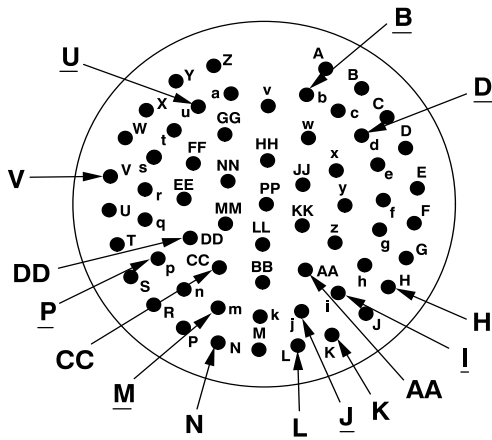
3431A2P20



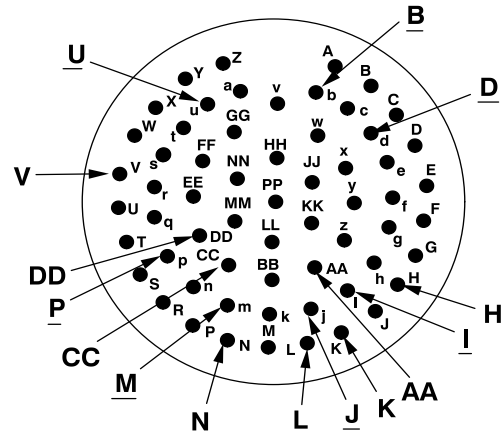
21A3P5



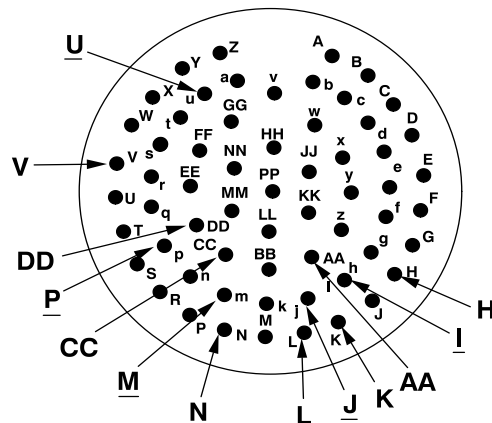
21A3P6



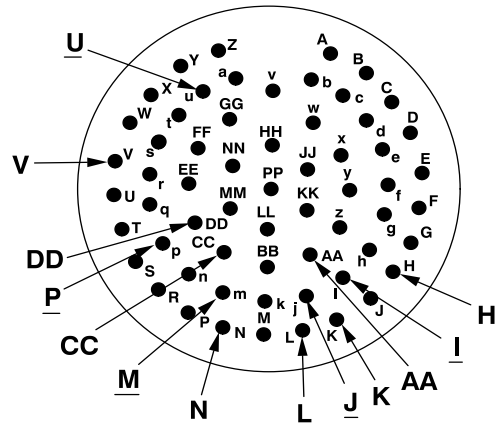
21A5P1



21A3P2



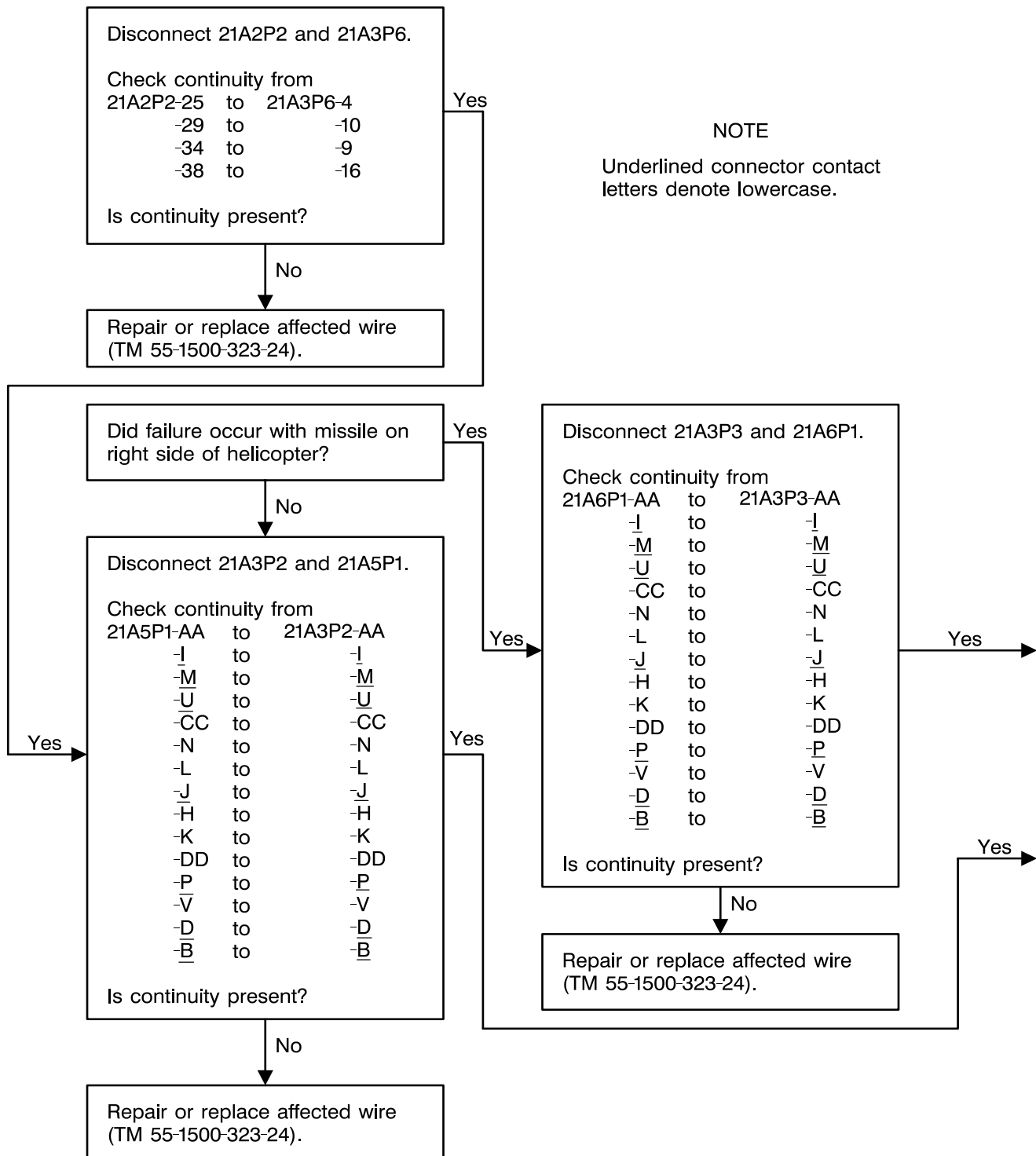
21A6P1



21A3P3

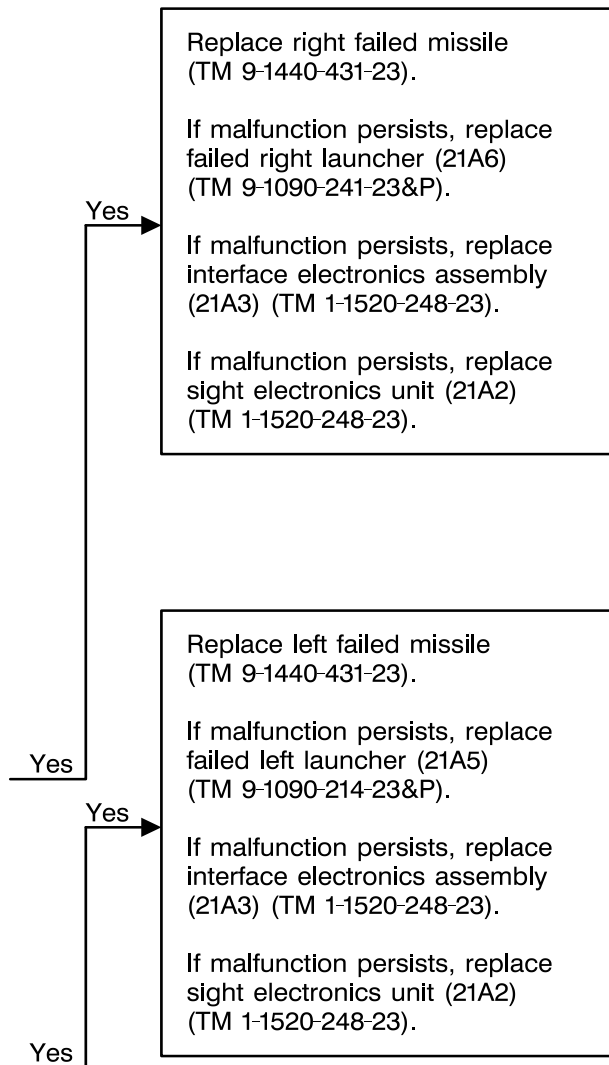
406475-542-261
J1493

4-5-11. ATAS TRACKING RETICLE ON PDU DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-3) - OH-58D



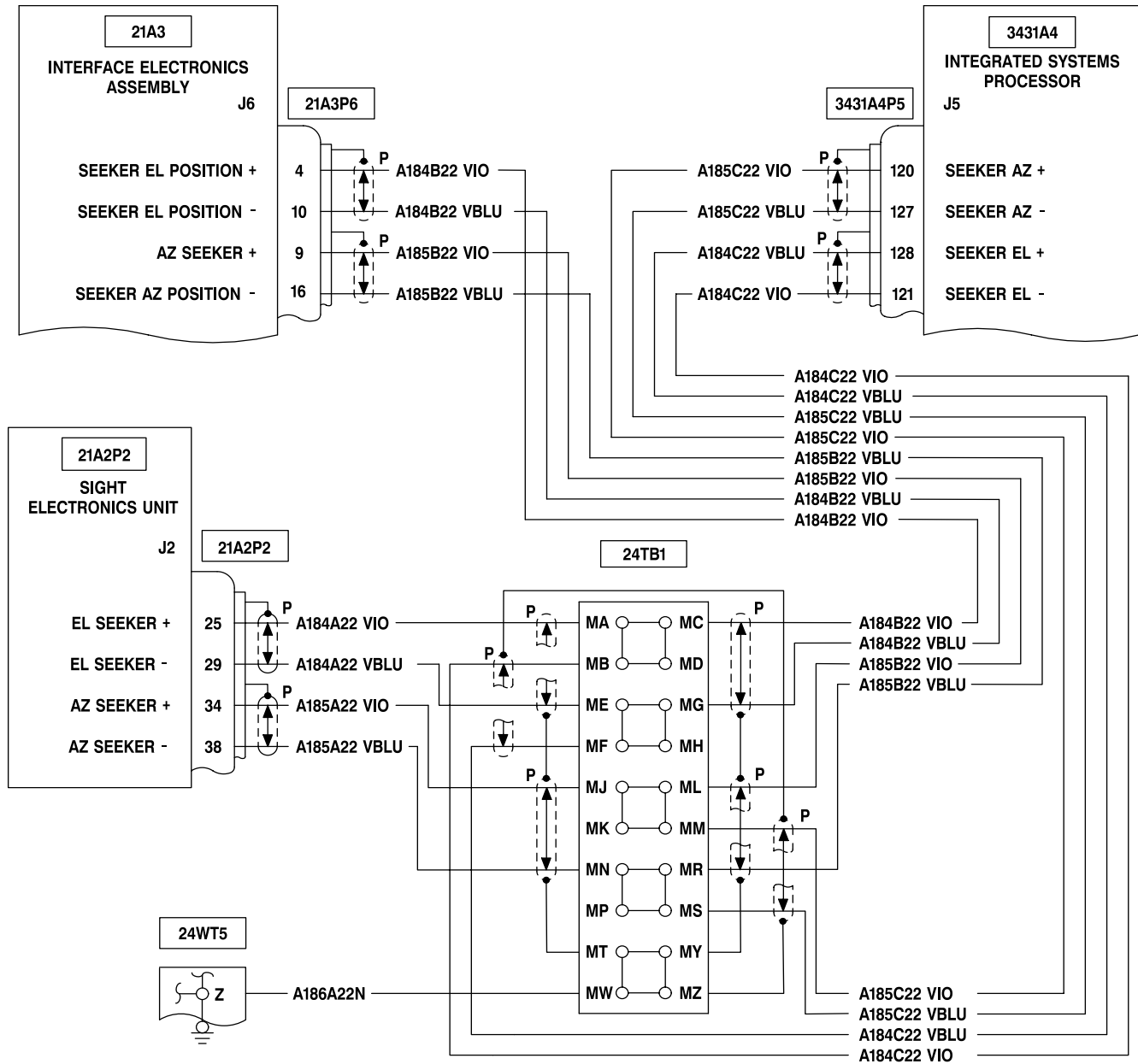
406475-542-262
J1493

4-5-11. ATAS TRACKING RETICLE ON PDU DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-3) - OH-58D (CONT)



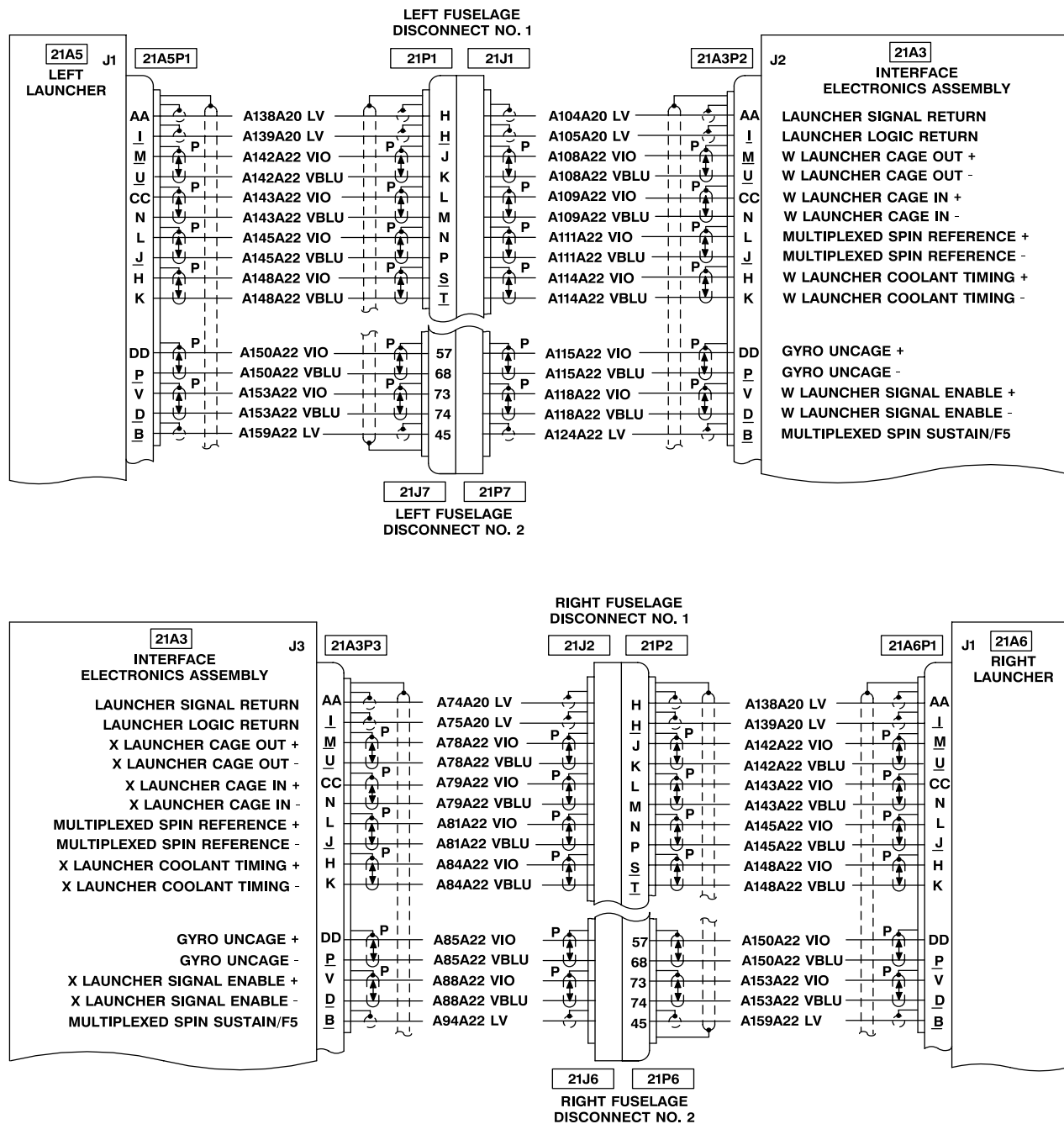
406475-542-263
J1493

4-5-11. ATAS TRACKING RETICLE ON PDU DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-3) - OH-58D (CONT)



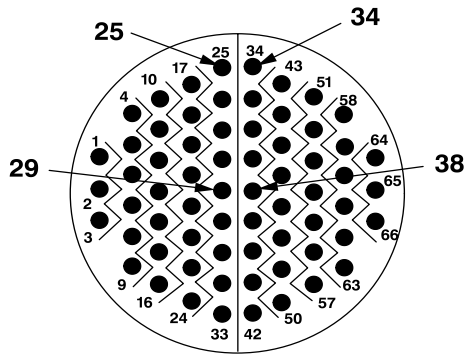
406475-542-264
J1493

4-5-11. ATAS TRACKING RETICLE ON PDU DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-3) - OH-58D (CONT)

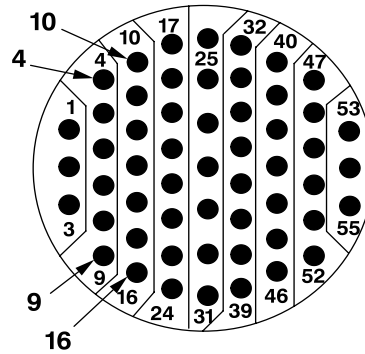


406475-542-265
J1493

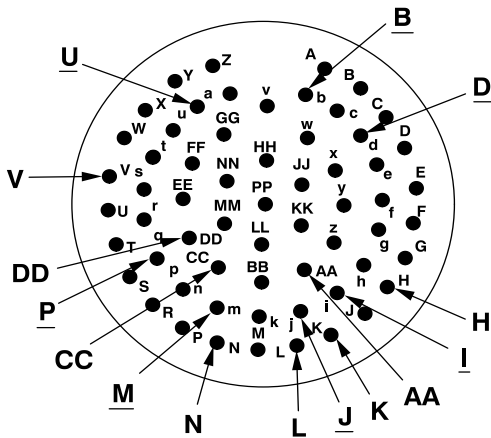
4-5-11. ATAS TRACKING RETICLE ON PDU DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-3) - OH-58D (CONT)



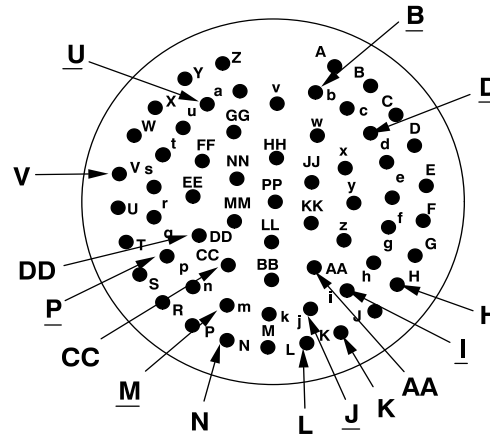
21A2P2



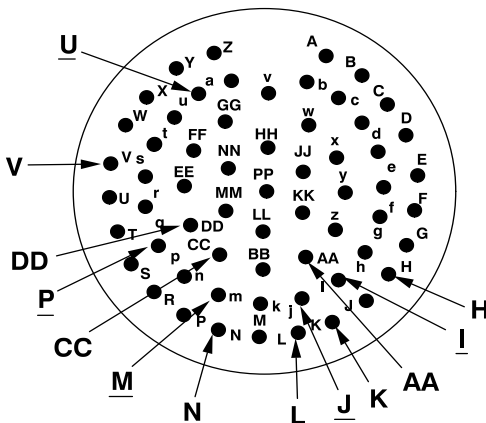
21A3P6



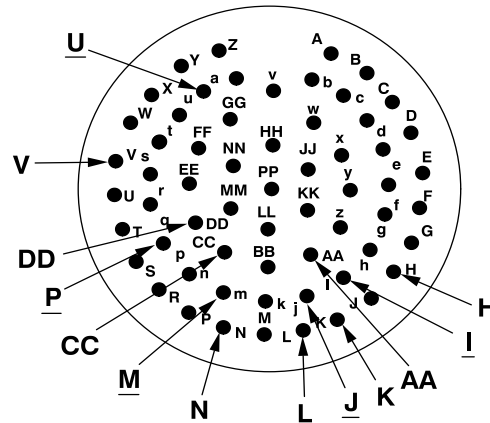
21A5P1



21A3P2



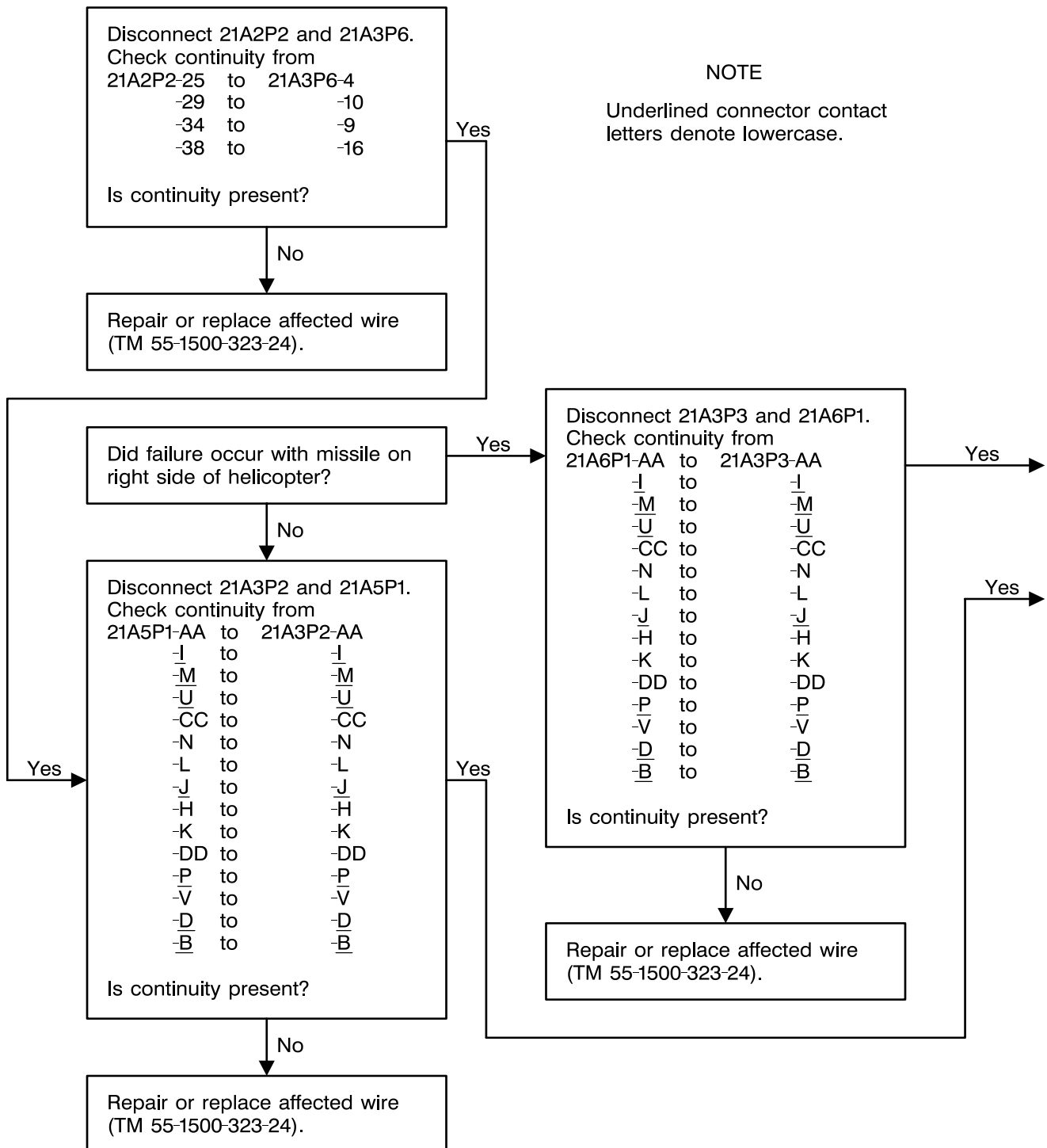
21A6P1



21A3P3

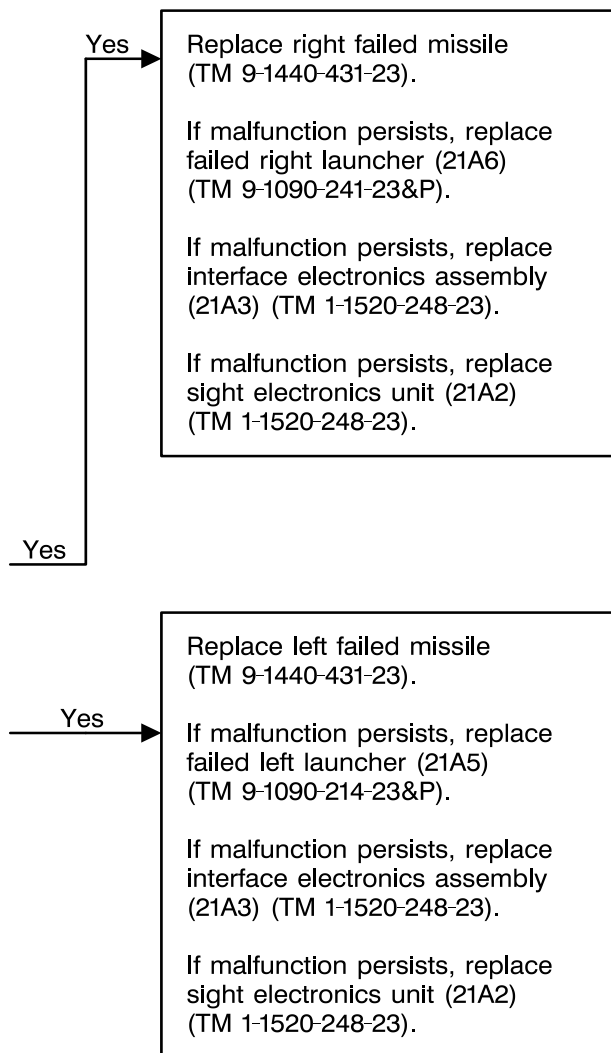
406475-542-266
J1493

4-5-12. ATAS TRACKING RETICLE ON PDU DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-4) - OH-58D(R)



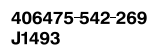
406475-542-267
J1493

4-5-12. ATAS TRACKING RETICLE ON PDU DOES NOT CORRESPOND TO TARGET/SEEKER
MOVEMENT (TASK 2-5-4) - OH-58D(R) (CONT)

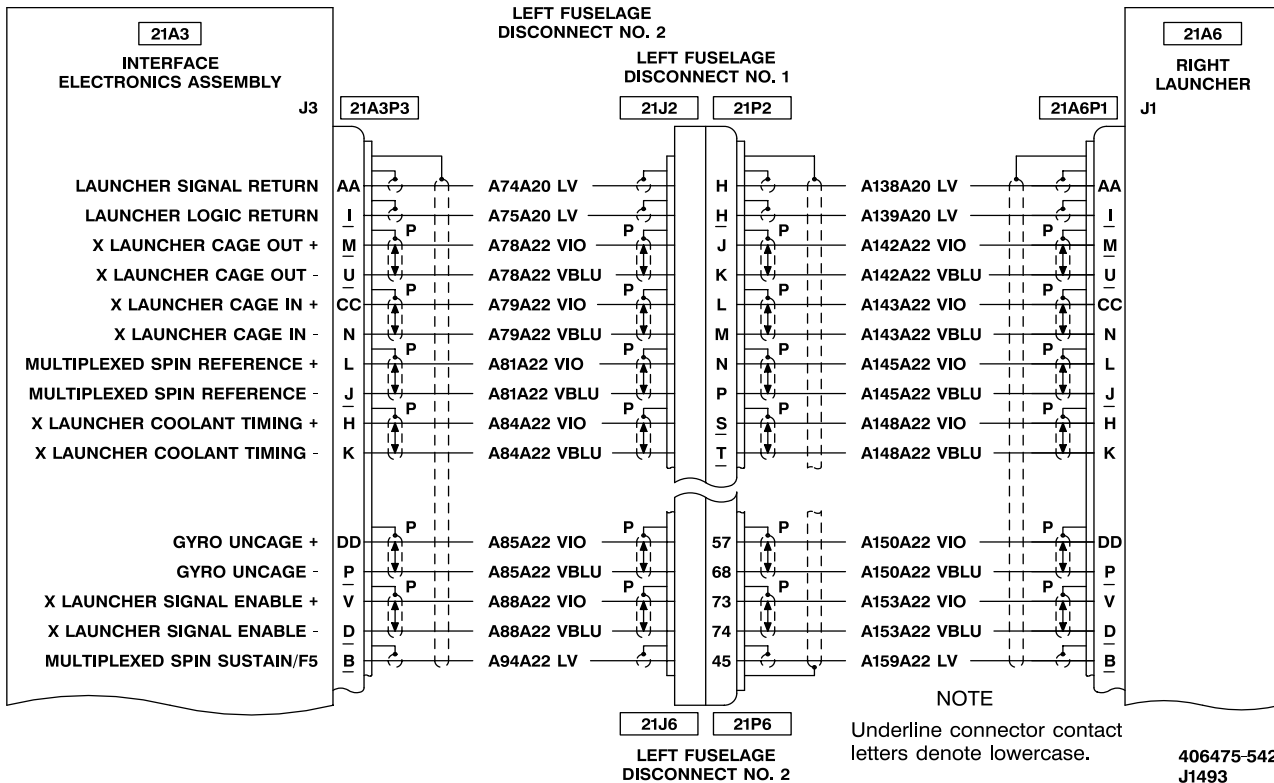
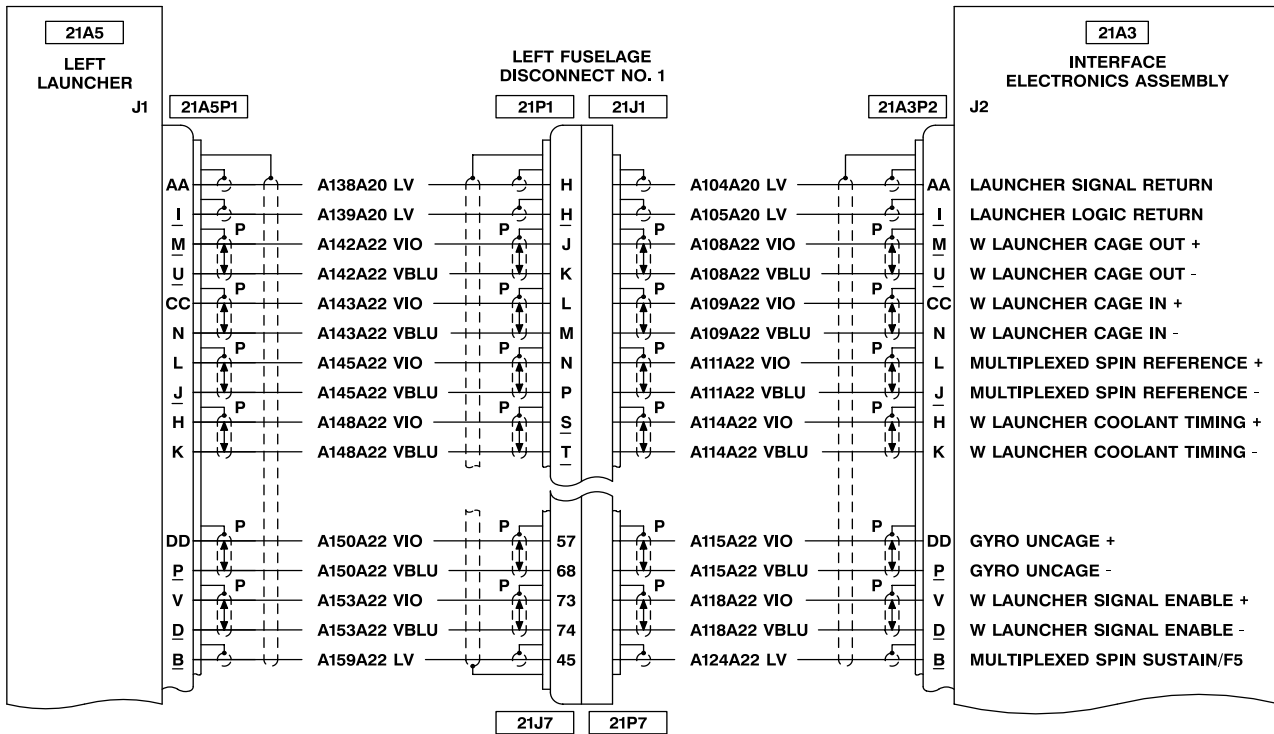


406475-542-268
J1493

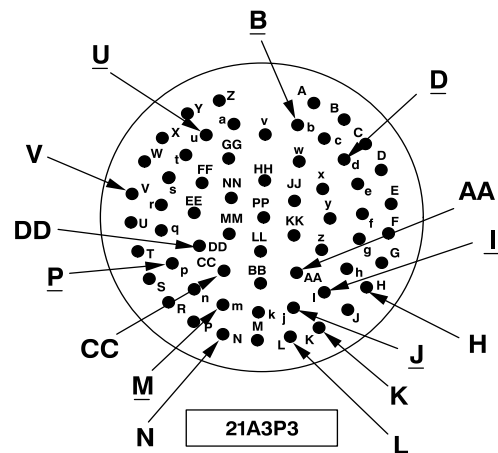
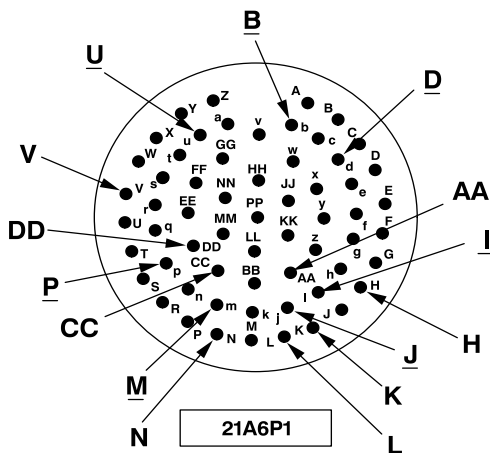
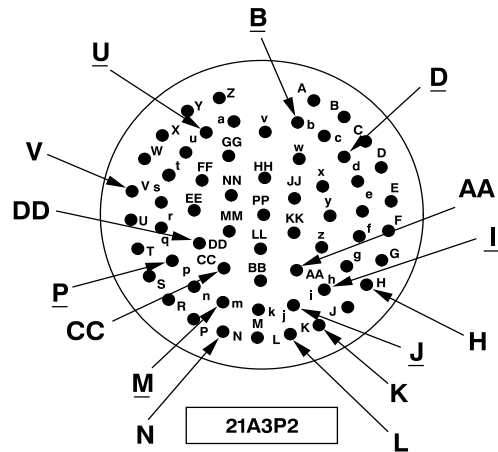
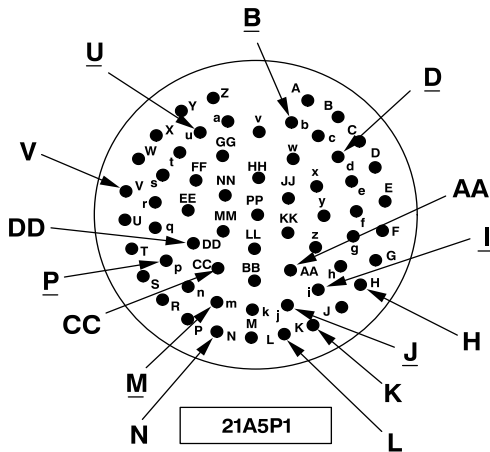
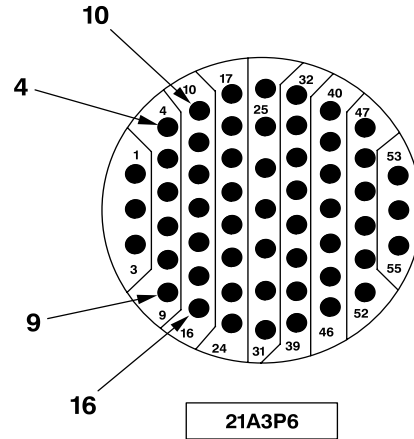
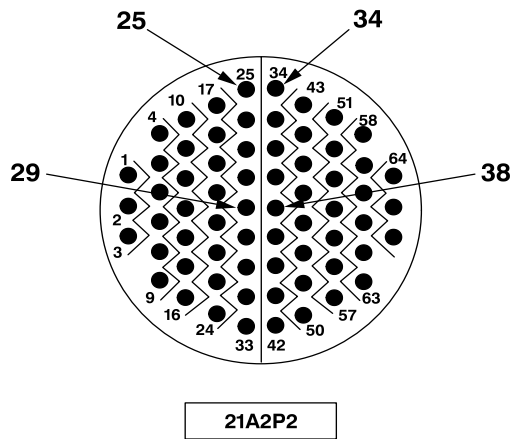
4-5-12. ATAS TRACKING RETICLE ON PDU DOES NOT CORRESPOND TO TARGET/SEEKER
MOVEMENT (TASK 2-5-4) - OH-58D(R) (CONT)



4-5-12. ATAS TRACKING RETICLE ON PDU DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-4) - OH-58D(R) (CONT)

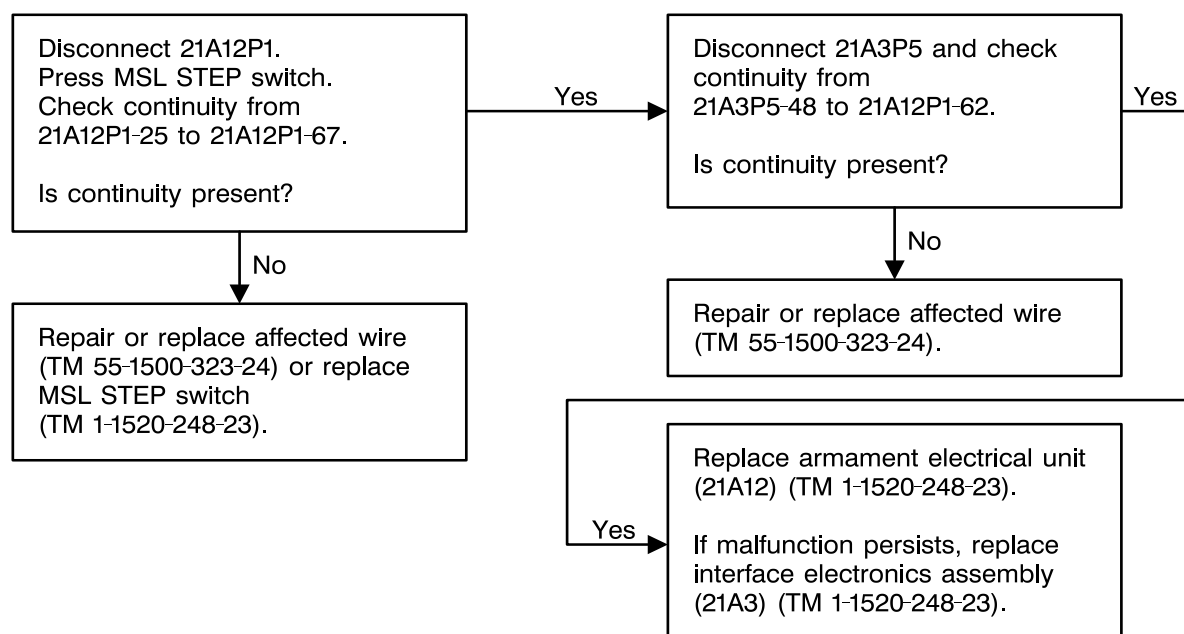


4-5-12. ATAS TRACKING RETICLE ON PDU DOES NOT CORRESPOND TO TARGET/SEEKER MOVEMENT (TASK 2-5-4) - OH-58D(R) (CONT)



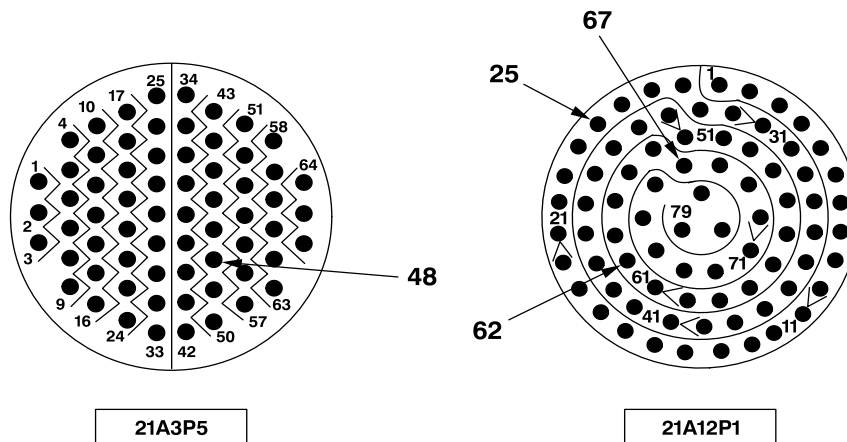
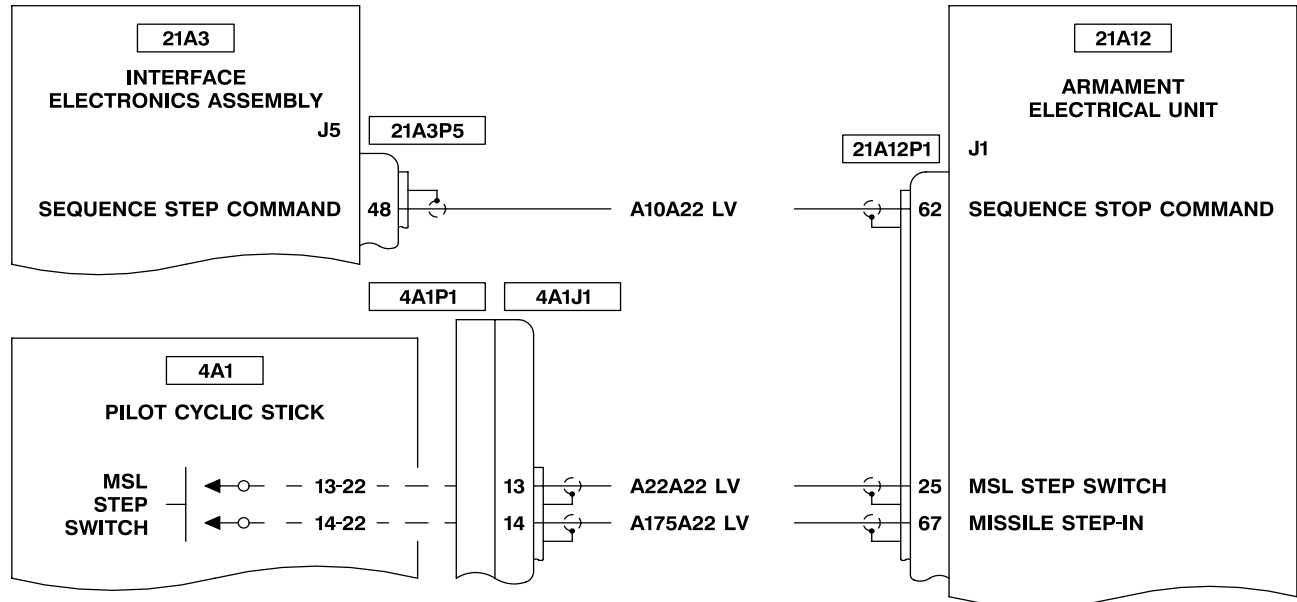
406475-542-271
J1493

4-5-13. SYSTEM WILL NOT STEP TO NEXT MISSILE (TASK 2-5-3/2-5-4)



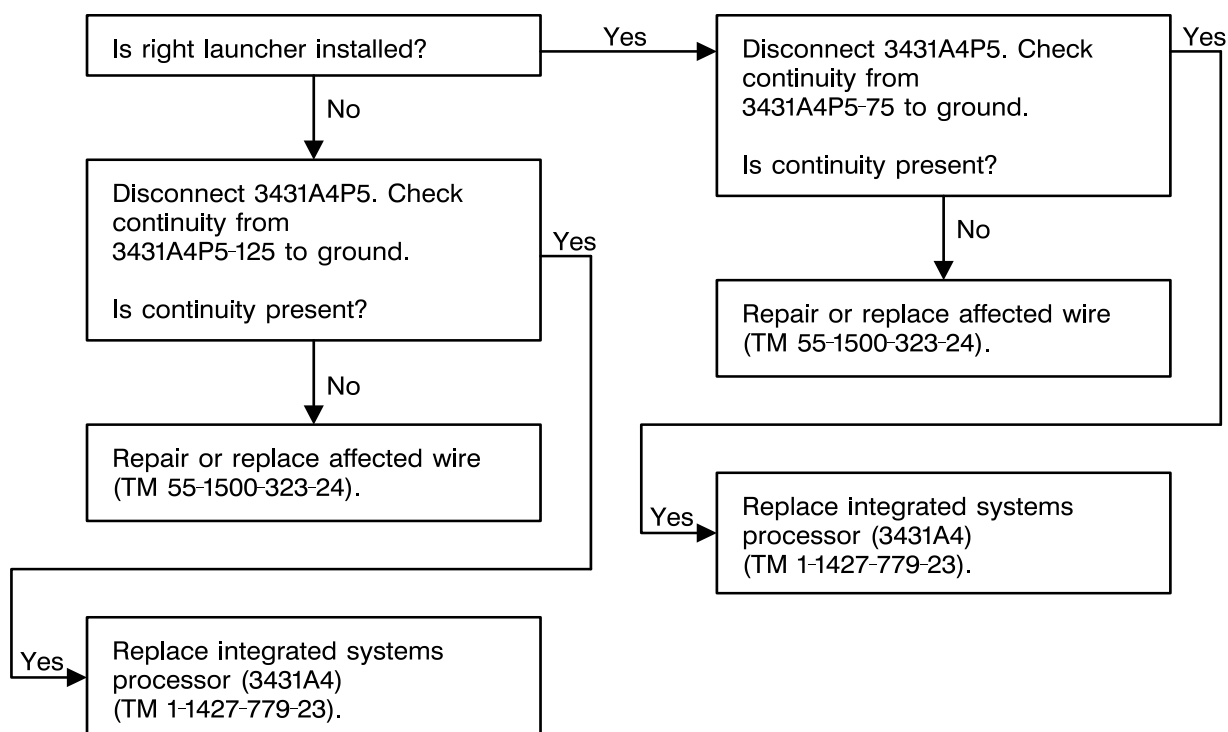
406475-542-272
J1493

4-5-13. SYSTEM WILL NOT STEP TO NEXT MISSILE (TASK 2-5-3/2-5-4) (CONT)



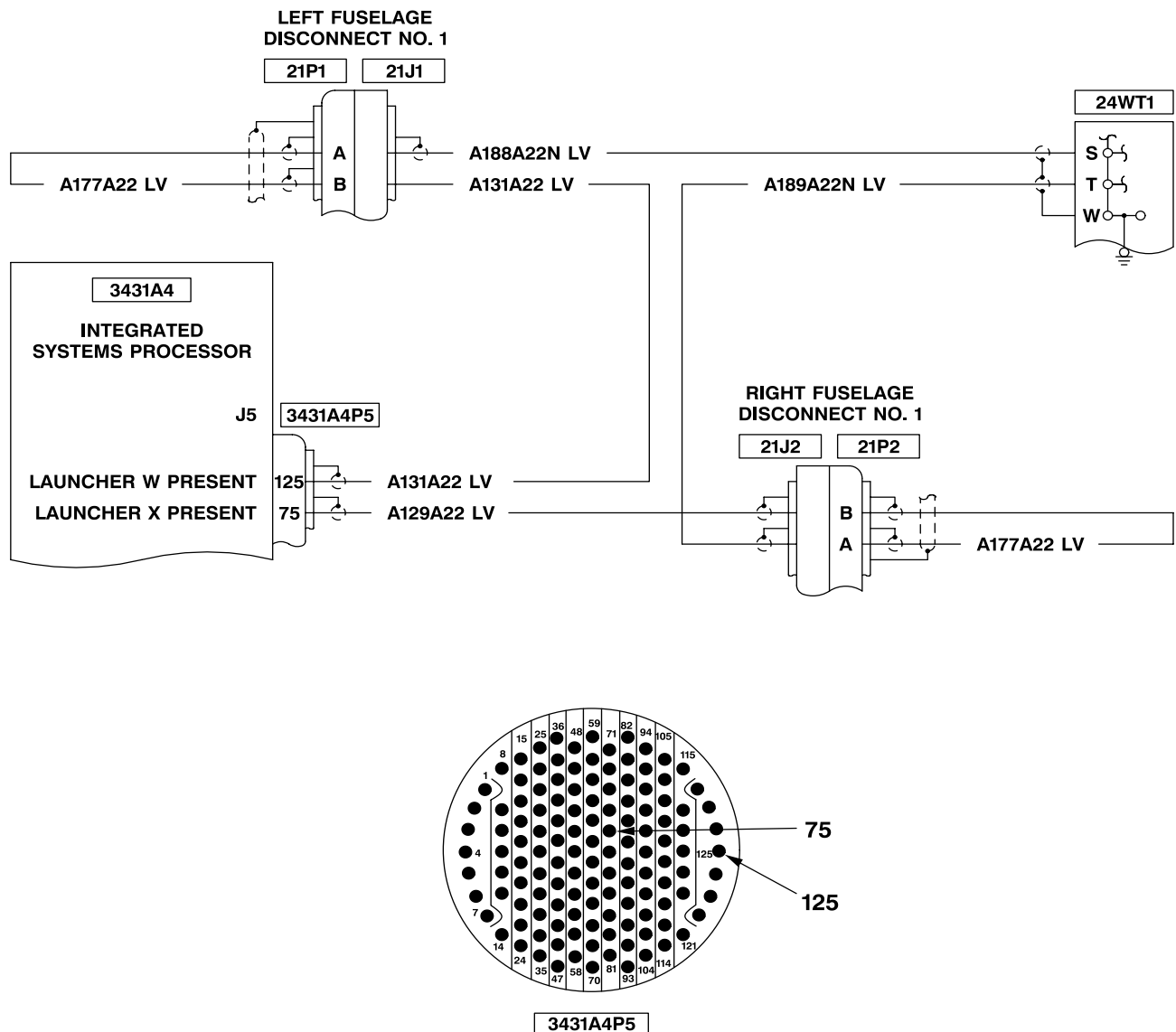
406475-542-273
J1493

4-5-14. MFD DOES NOT INDICATE ATAS IS INSTALLED (TASK 2-5-3) - OH-58D



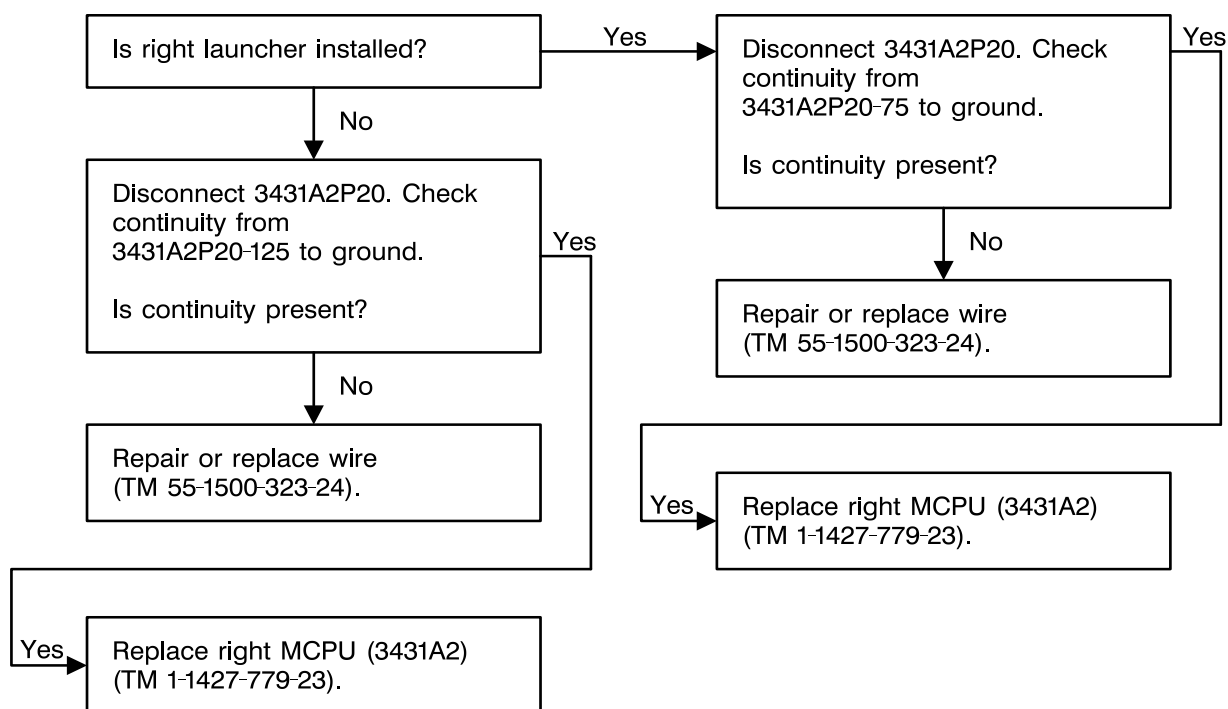
406475-542-274
J1493

4-5-14. MFD DOES NOT INDICATE ATAS IS INSTALLED (TASK 2-5-3) - OH-58D (CONT)

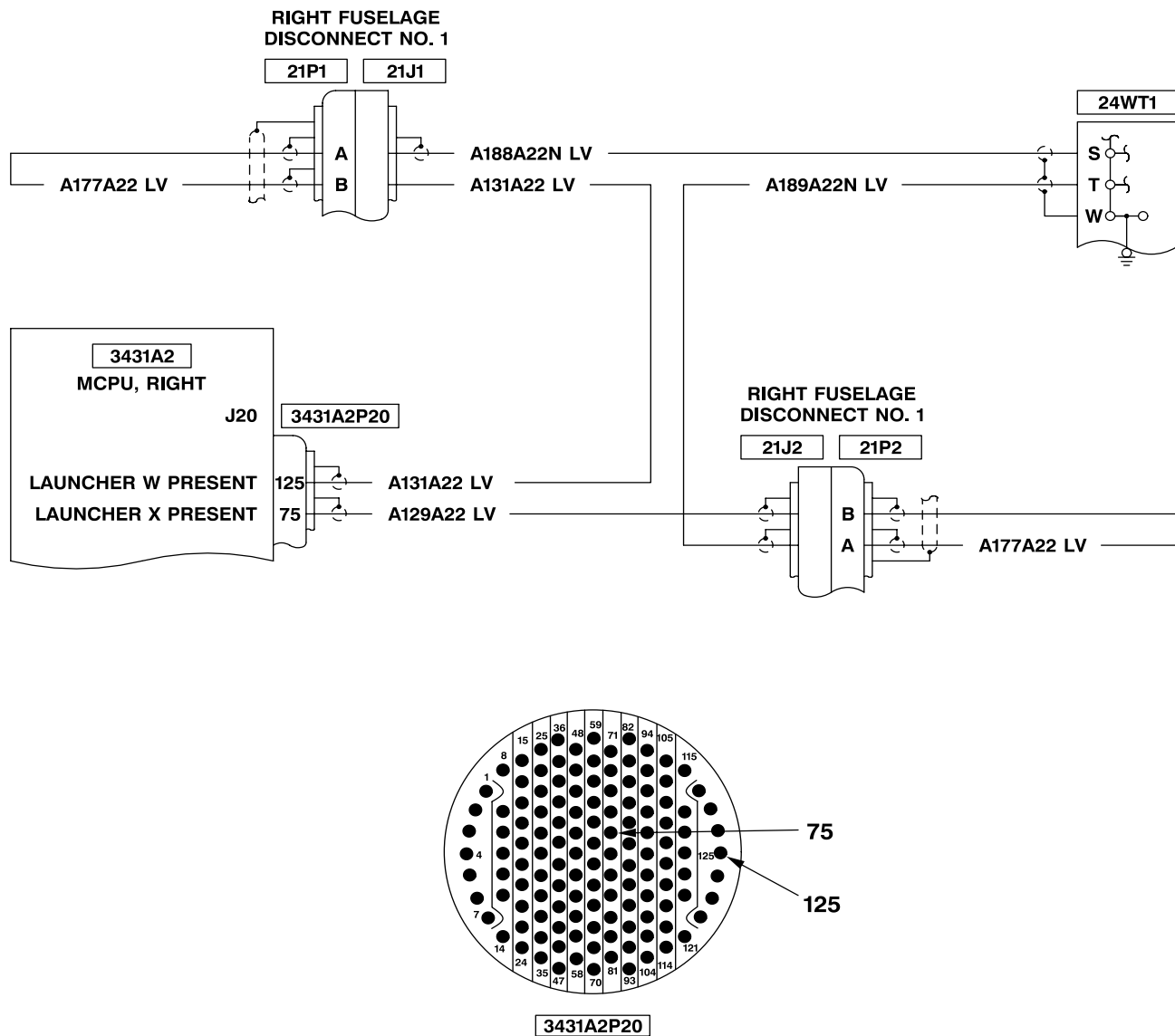


406475-542-275
J1493

4-5-15. MFD DOES NOT INDICATE ATAS IS INSTALLED (TASK 2-5-4) - OH-58D(R)

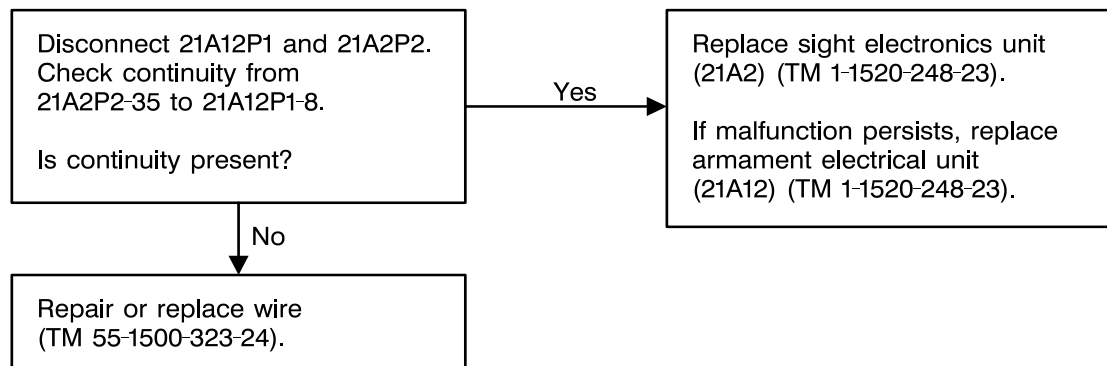


4-5-15. MFD DOES NOT INDICATE ATAS IS INSTALLED (TASK 2-5-4) - OH-58D(R) (CONT)



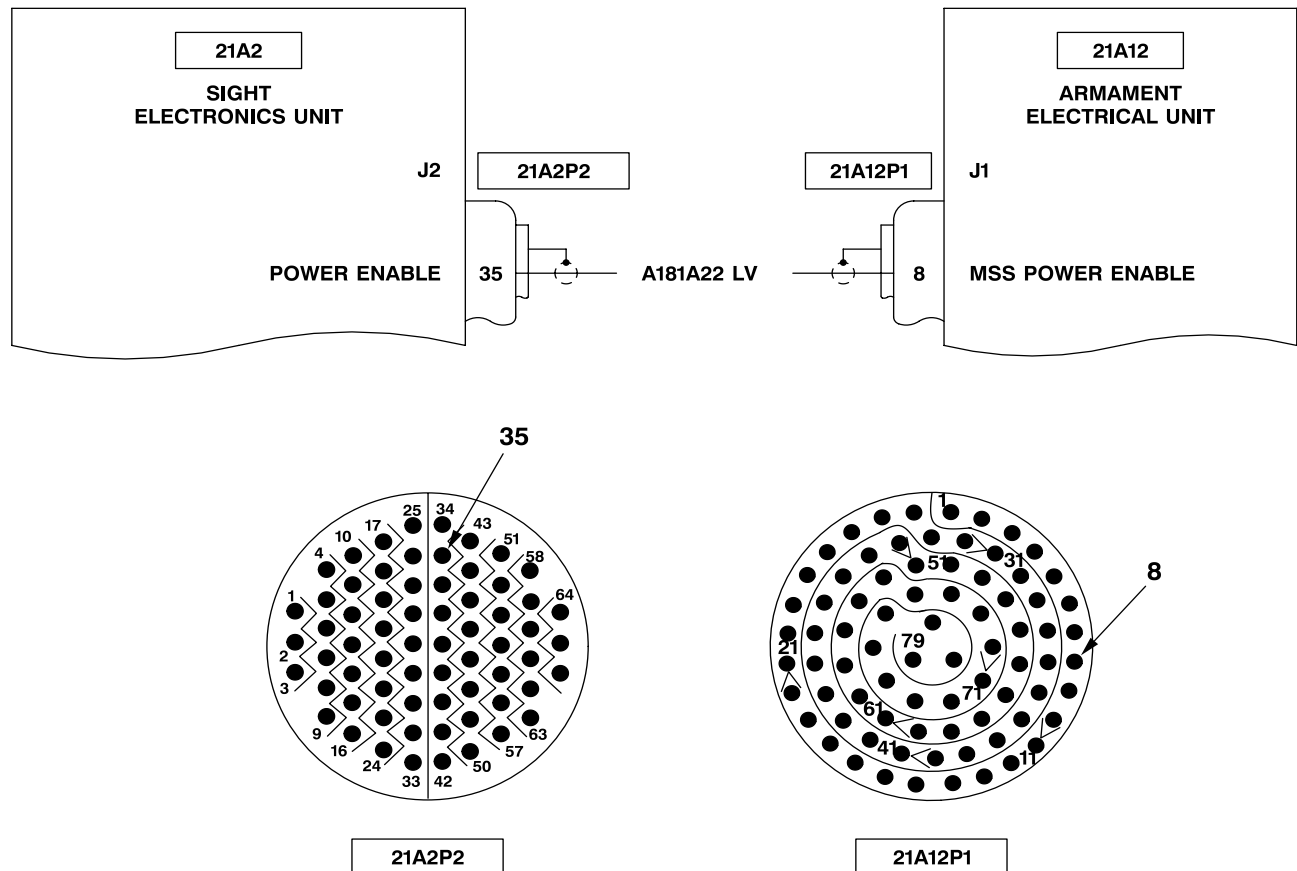
406475-542-277
J1493

4-5-16. PDU DOES NOT OPERATE AND MFD SHOWS INCORRECT ATAS SYMBOLOGY (TASK 2-5-3/2-5-4)

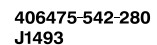


406475-542-278
J1493

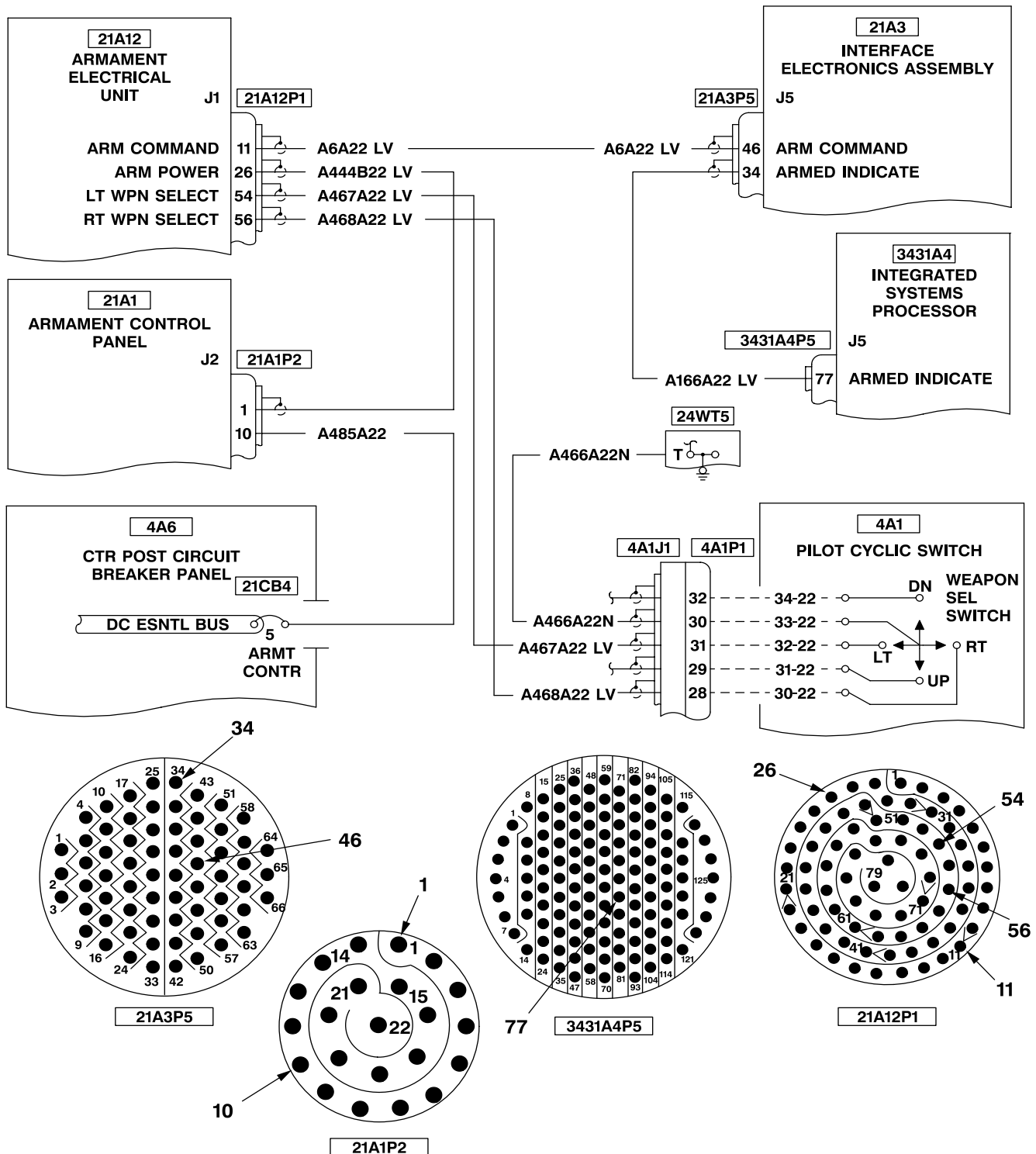
4-5-16. PDU DOES NOT OPERATE AND MFD SHOWS INCORRECT ATAS SYMBOLOGY (TASK 2-5-3/2-5-4) (CONT)



406475-542-279
J1493

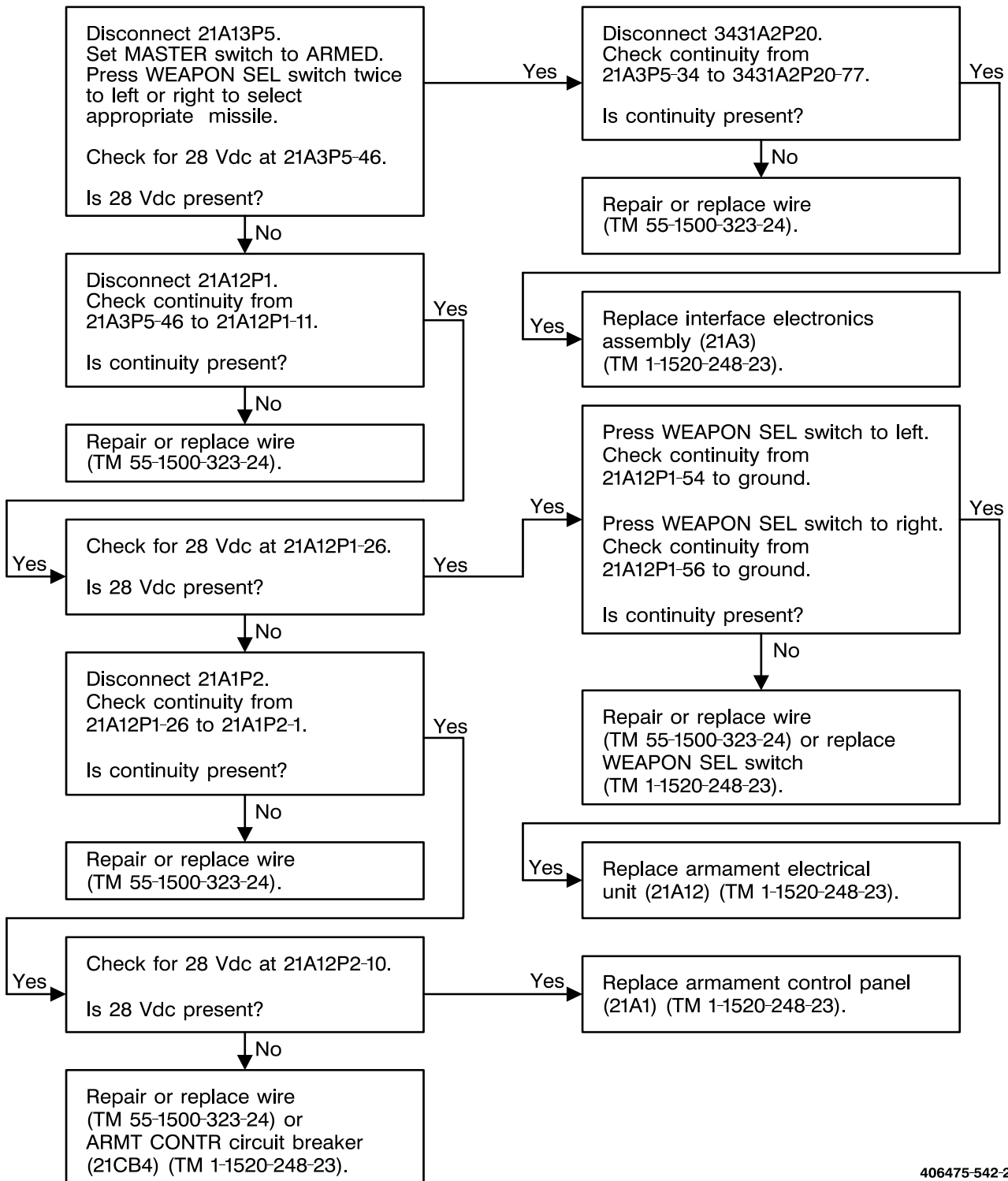


4-5-17. **SAFE** DISPLAYED ON MFD WHEN ATAS SELECTED AND ARMED (TASK 2-5-3) - OH-58D (CONT)



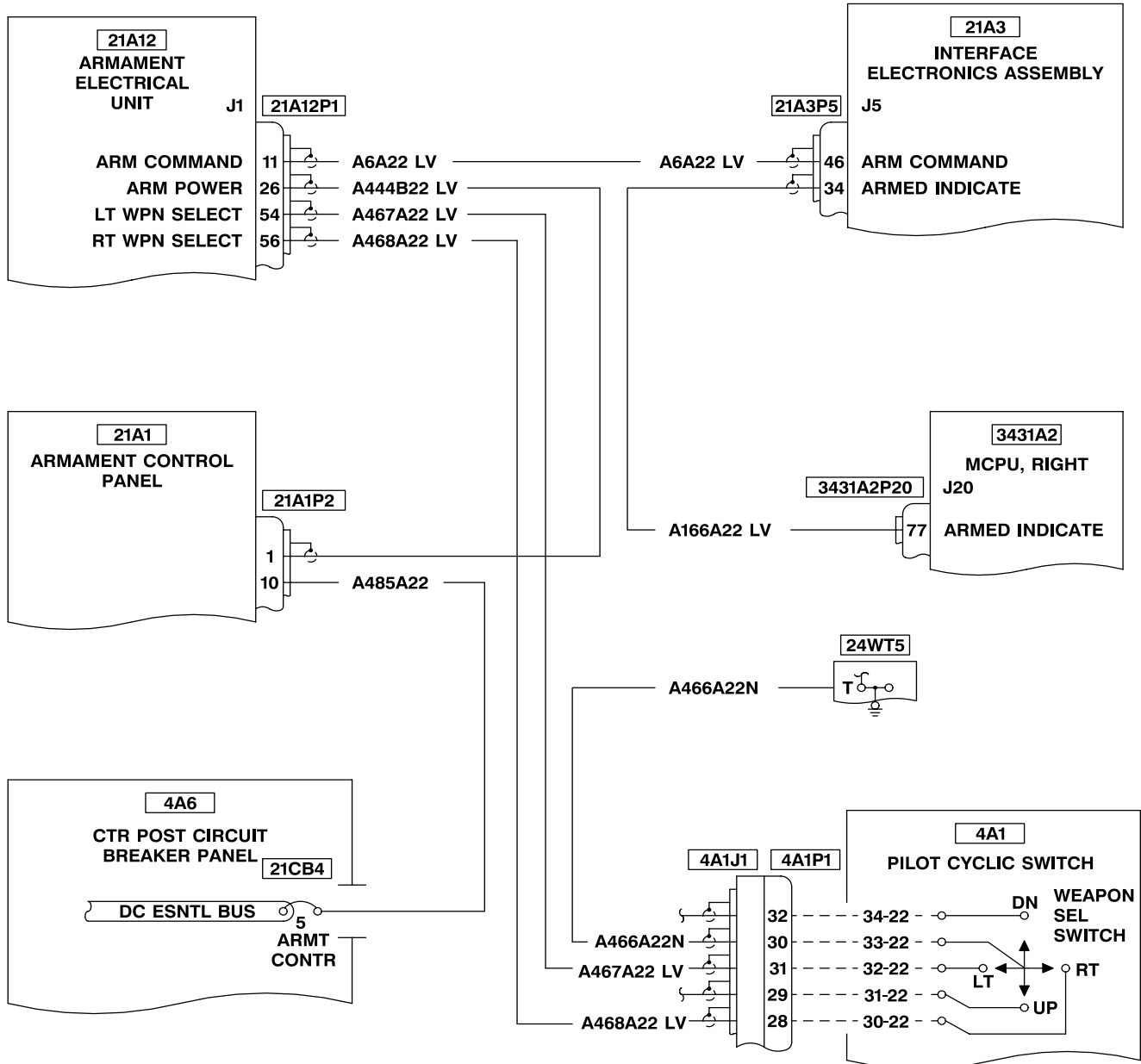
406475-542-281
 J1493

4-5-18. **SAFE** DISPLAYED ON MFD WHEN ATAS SELECTED AND ARMED (TASK 2-5-4) - OH-58D(R)



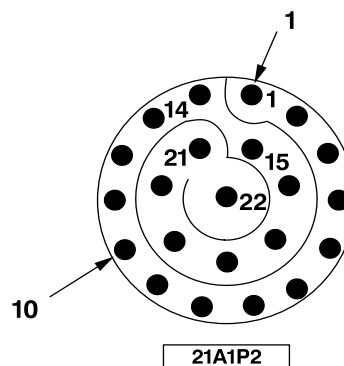
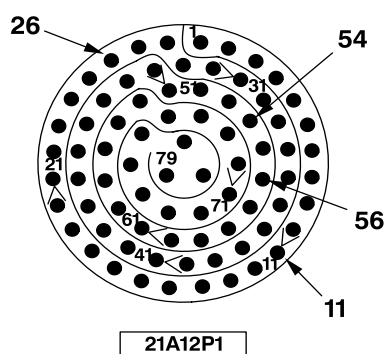
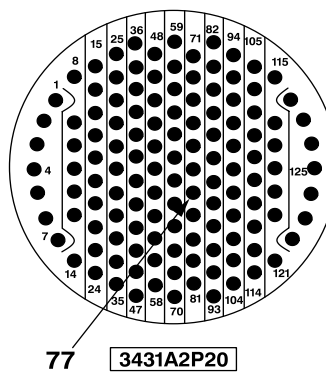
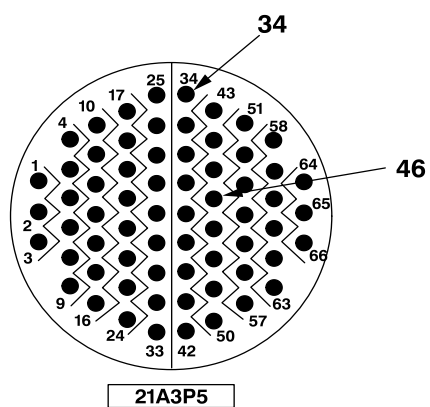
406475-542-282
J1493

4-5-18. **SAFE** DISPLAYED ON MFD WHEN ATAS SELECTED AND ARMED (TASK 2-5-4) - OH-58D(R)
(CONT)

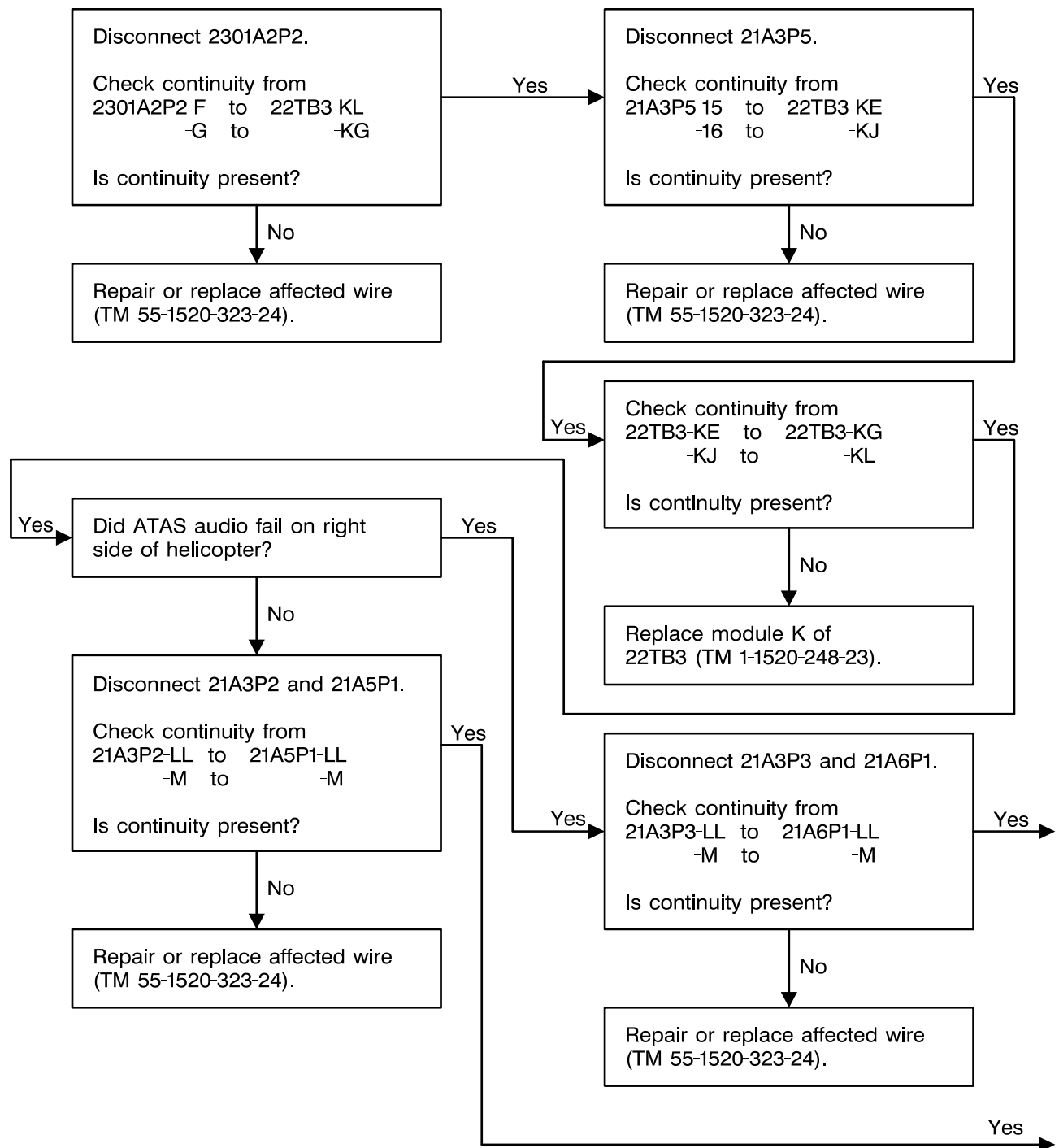


406475-542-283
J1493

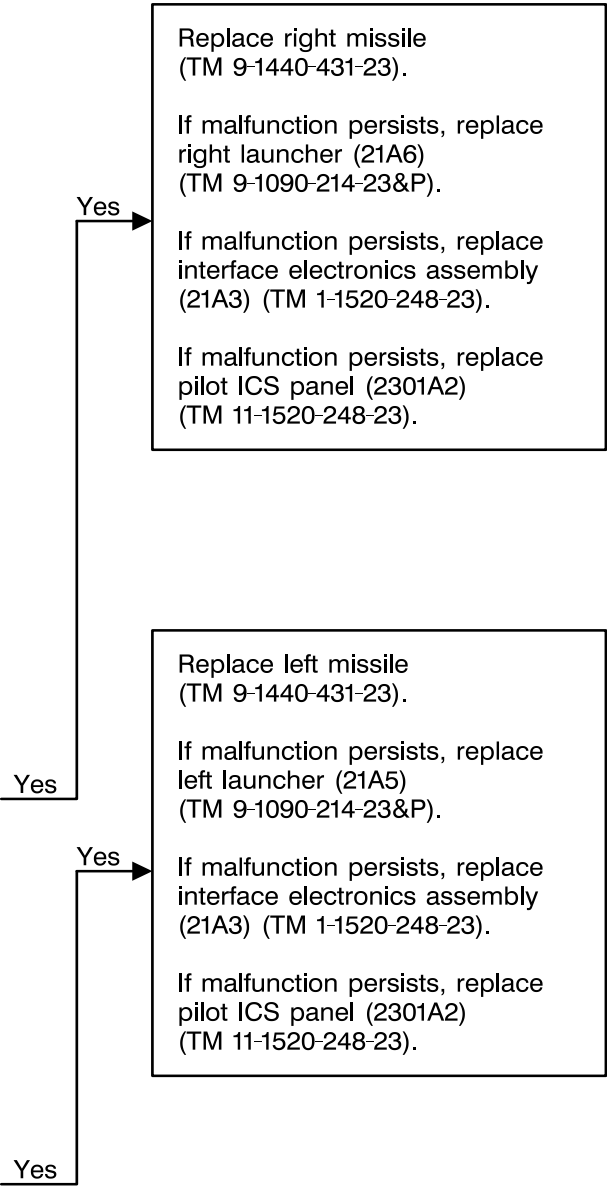
4-5-18. **SAFE** DISPLAYED ON MFD WHEN ATAS SELECTED AND ARMED (TASK 2-5-4) - OH-58D(R)
(CONT)



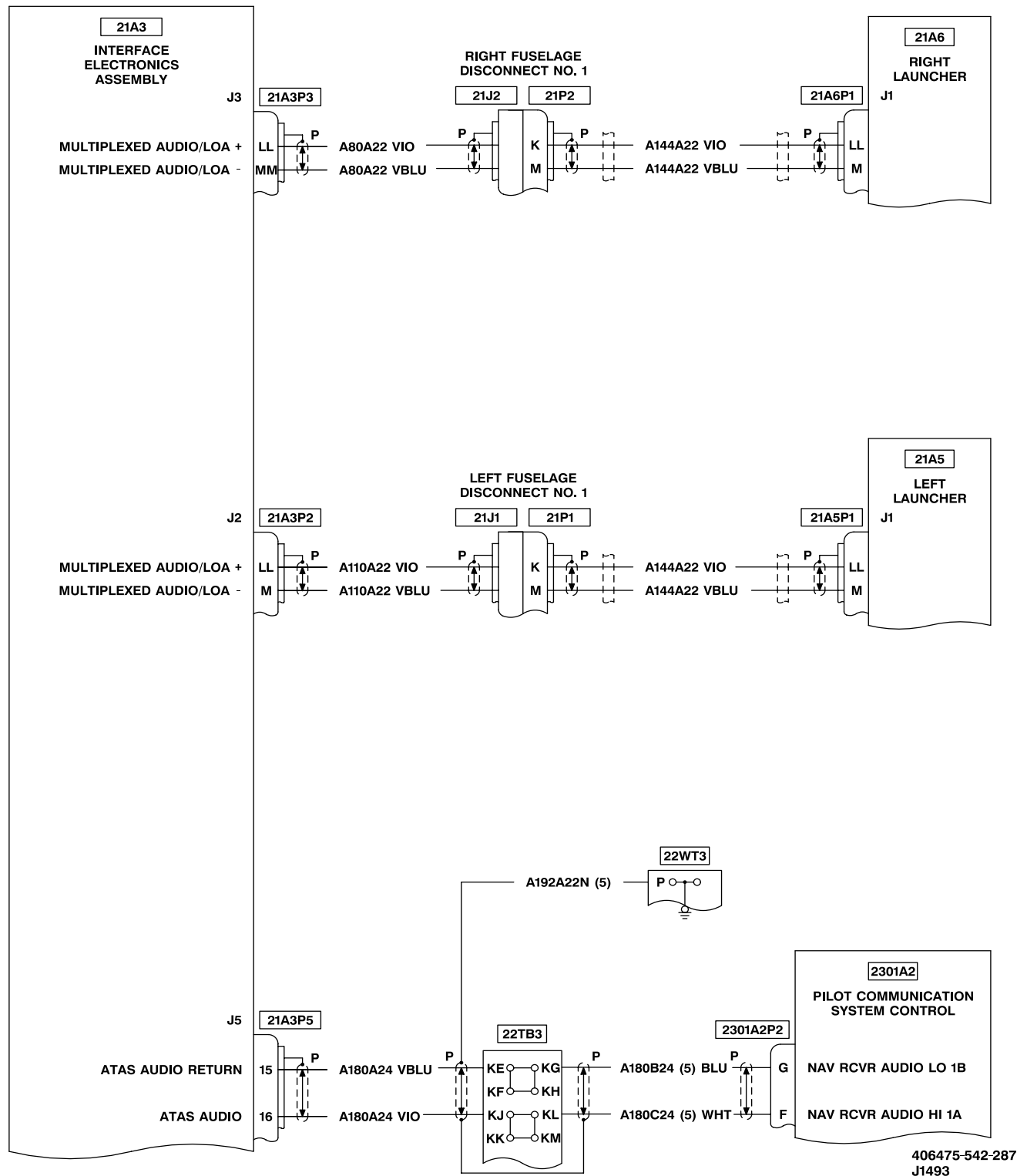
4-5-19. NO ATAS ACQUISITION AUDIO PRESENT WHEN MISSILE IS ACTIVATED (TASK 2-5-3/2-5-4)

406475-542-285
J1493

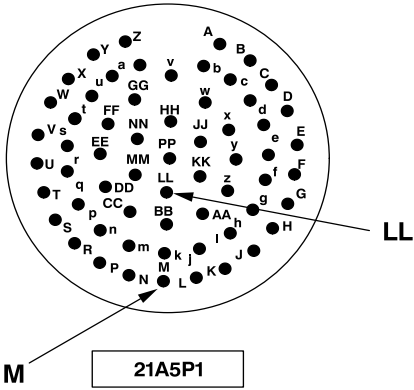
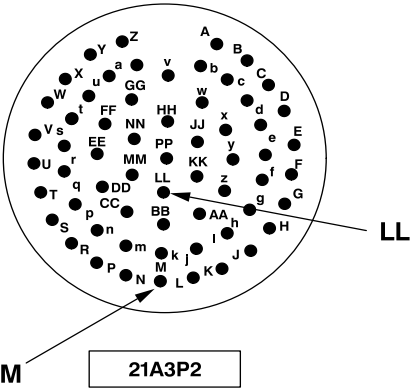
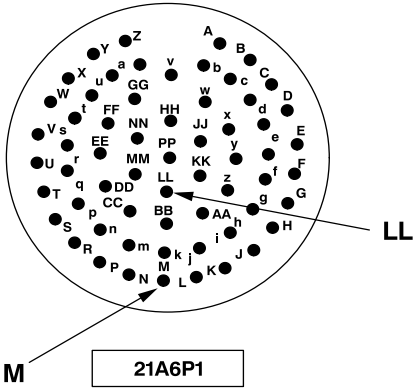
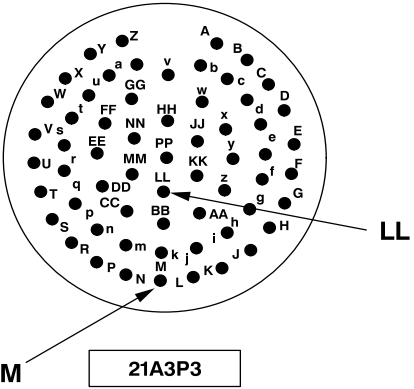
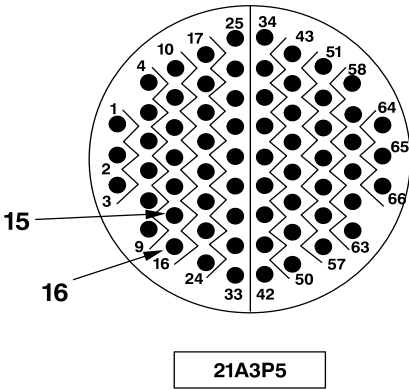
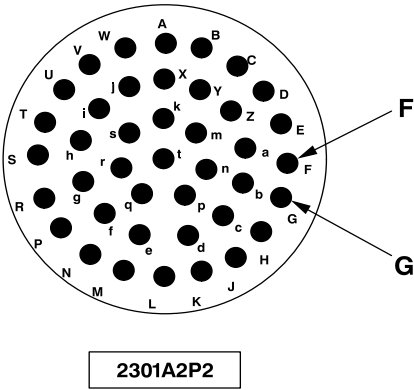
4-5-19. NO ATAS ACQUISITION AUDIO PRESENT WHEN MISSILE IS ACTIVATED (TASK 2-5-3/2-5-4)
(CONT)



4-5-19. NO ATAS ACQUISITION AUDIO PRESENT WHEN MISSILE IS ACTIVATED (TASK 2-5-3/2-5-4)
(CONT)



4-5-19. NO ATAS ACQUISITION AUDIO PRESENT WHEN MISSILE IS ACTIVATED (TASK 2-5-3/2-5-4)
(CONT)



Section VI. HELLFIRE FAULTS

4-8. MAPS DIAGRAMS INDEX

The MAPS diagrams index provides a numerical list of symptoms contained in this section.

HELLFIRE system malfunctions (symptoms) are listed in column two (SYMPTOM). To locate troubleshooting procedures refer to column one (MAPS NUMBER) which indicates the MAPS diagram number to be utilized. The procedures in the troubleshooting logic tree shall be performed in sequence as specified unless otherwise noted within the logic tree.

Correction of malfunctions must be verified by performing an operational check utilizing the procedures in TM 1-1520-248-T-1.

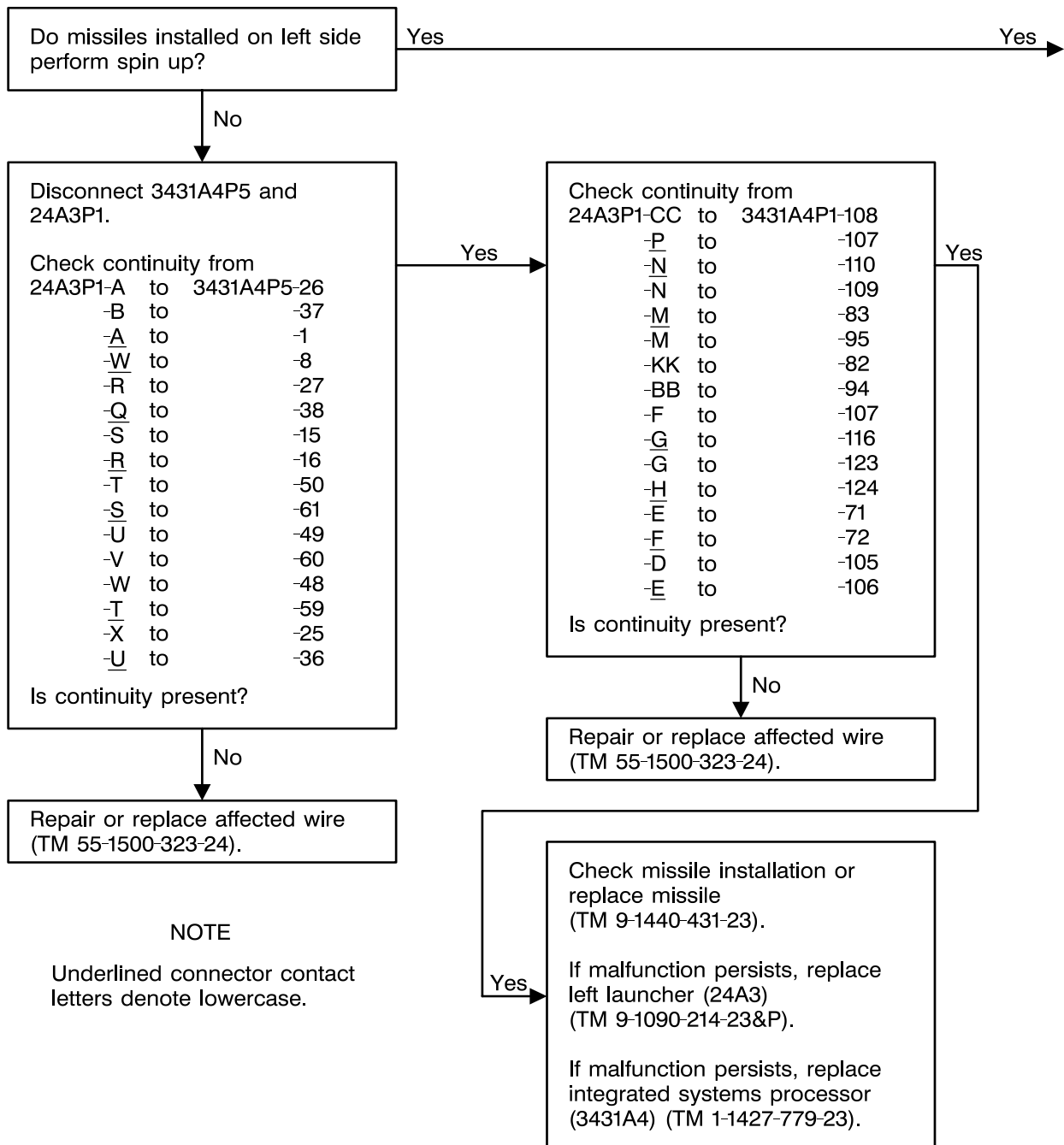
NOTE

The task number(s) referenced in the symptom title is the related operational check for the affected system.

MAPS NUMBER	SYMPTOM	PAGE NUMBER
4-6-1	HELLFIRE missile does not perform spin up (Task 2-5-7) - OH-58D	4-281
4-6-2	HELLFIRE missile does not perform spin up (Task 2-5-8) - OH-58D(R)	4-289
4-6-3	With HELLFIRE missile installed and ON, MFD does not display missile images and BIT cannot be initiated (Task 2-5-7) - OH-58D	4-297
4-6-4	With HELLFIRE missile installed and ON, MFD does not display missile images and BIT cannot be initiated (Task 2-5-8) - OH-58D(R)	4-298
4-6-5	HELLFIRE BIT legend not displayed on WEAPONS BIT/SET-UP PAGE and incorrect symbology is displayed on WEAPONS VSD PAGE (Task 2-5-7) - OH-58D	4-299
4-6-6	HELLFIRE BIT legend not displayed on WEAPONS BIT/SET-UP PAGE and incorrect symbology is displayed on WEAPONS VSD PAGE (Task 2-5-8) - OH-58D(R)	4-304
4-6-7	Missile does not perform proper box scan in LOBL (Task 2-5-7) - OH-58D	4-309
4-6-8	Missile does not perform proper box scan in LOBL (Task 2-5-8) - OH-58D(R)	4-314
4-6-9	System will not step to next missile (Task 2-5-7) - OH-58D	4-319
4-6-10	System will not step to next missile (Task 2-5-8) - OH-58D(R)	4-321
4-6-11	Improper HELLFIRE missile quantity shown on MFD (Task 2-5-7) - OH-58D	4-323
4-6-12	Improper HELLFIRE missile quantity shown on MFD (Task 2-5-8) - OH-58D(R)	4-326
4-6-13	UNL displayed on MFD when launchers are in LATCHED position (Task 2-5-7) - OH-58D	4-329
4-6-14	UNL displayed on MFD when launchers are in LATCHED position (Task 2-5-8) - OH-58D(R)	4-334
4-6-15	MFD does not indicate HELLFIRE missile system is installed (Task 2-5-7) - OH-58D	4-339
4-6-16	MFD does not indicate HELLFIRE missile system is installed (Task 2-5-8) - OH-58D(R)	4-342
4-6-17	MFD indicates HELLFIRE missile system is installed but system does not operate (Task 2-5-7) - OH-58D	4-345
4-6-18	MFD indicates HELLFIRE missile system is installed but system does not operate (Task 2-5-8) - OH-58D(R)	4-349
4-6-19	SAFE displayed on MFD when HELLFIRE missile armed and selected (Task 2-5-7) - OH-58D	4-353
4-6-20	SAFE displayed on MFD when HELLFIRE missile armed and selected (Task 2-5-8) - OH-58D(R)	4-356
4-6-21	SEL then MF displayed on MFD under HELLFIRE missile image (Task 2-5-7) - OH-58D	4-359
4-6-22	SEL then MF displayed on MFD under HELLFIRE missile image (Task 2-5-8) - OH-58D(R)	4-362
4-6-23	HELLFIRE system fails launcher BIT (Task 2-5-7) - OH-58D	4-366
4-6-24	HELLFIRE system fails launcher BIT (Task 2-5-8) - OH-58D(R)	4-376

MAPS NUMBER	SYMPTOM	PAGE NUMBER
4-6-25	HELLFIRE ARMED and RDY displayed on MFD, but cannot fire missile (Task 2-5-7) - OH-58D	4-386
4-6-26	HELLFIRE ARMED and RDY displayed on MFD, but cannot fire missile (Task 2-5-7) - OH-58D(R)	4-389

4-6-1. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-7) - OH-58D

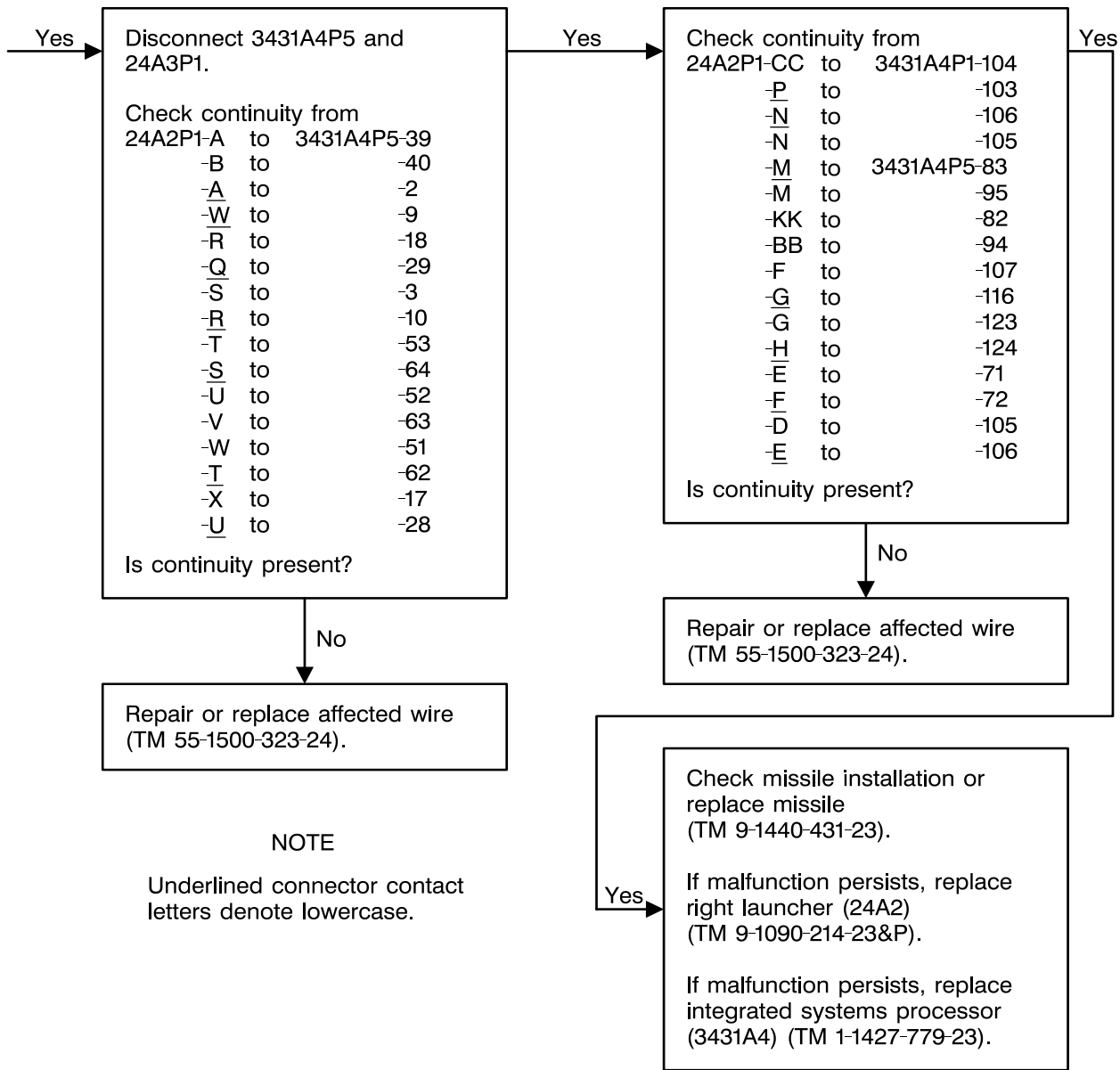


NOTE

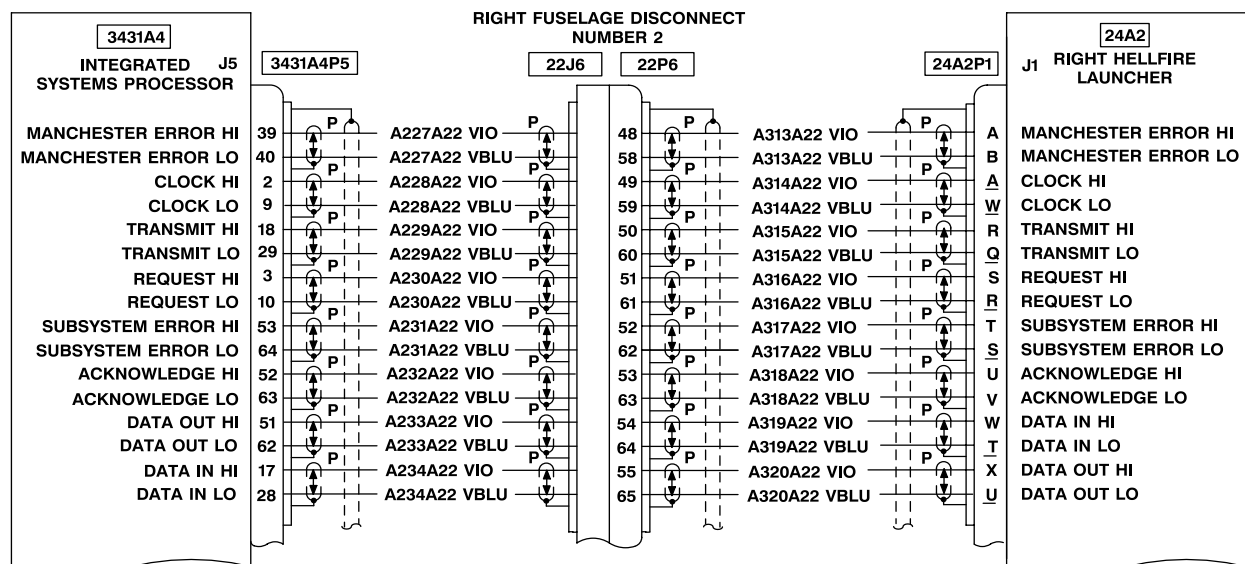
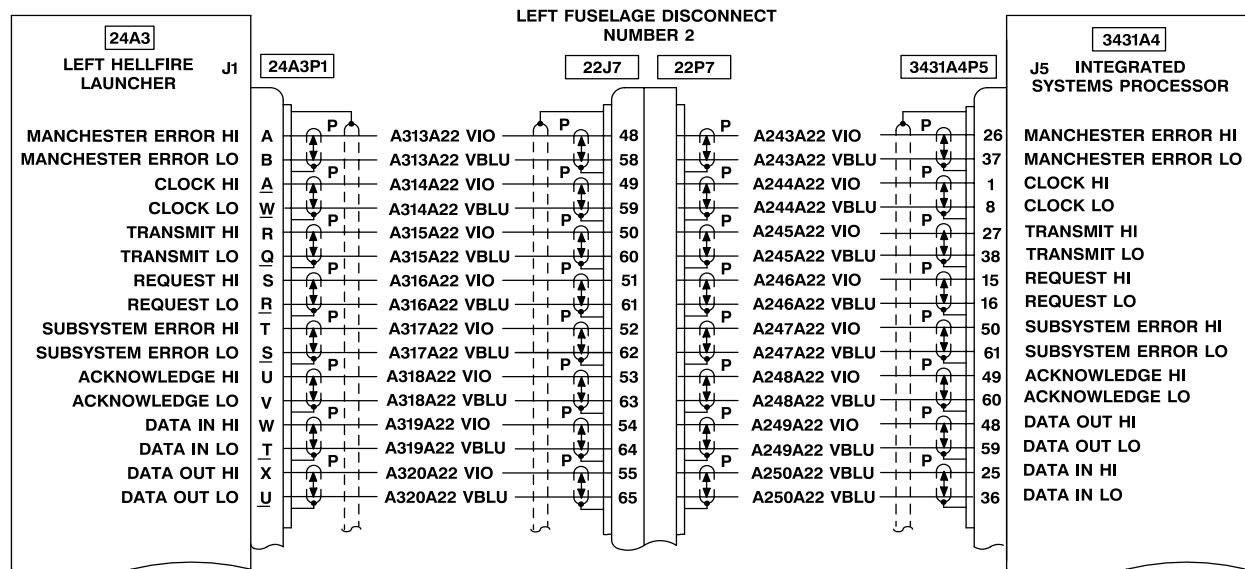
Underlined connector contact letters denote lowercase.

406475-542-289
J1493

4-6-1. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-7) - OH-58D (CONT)



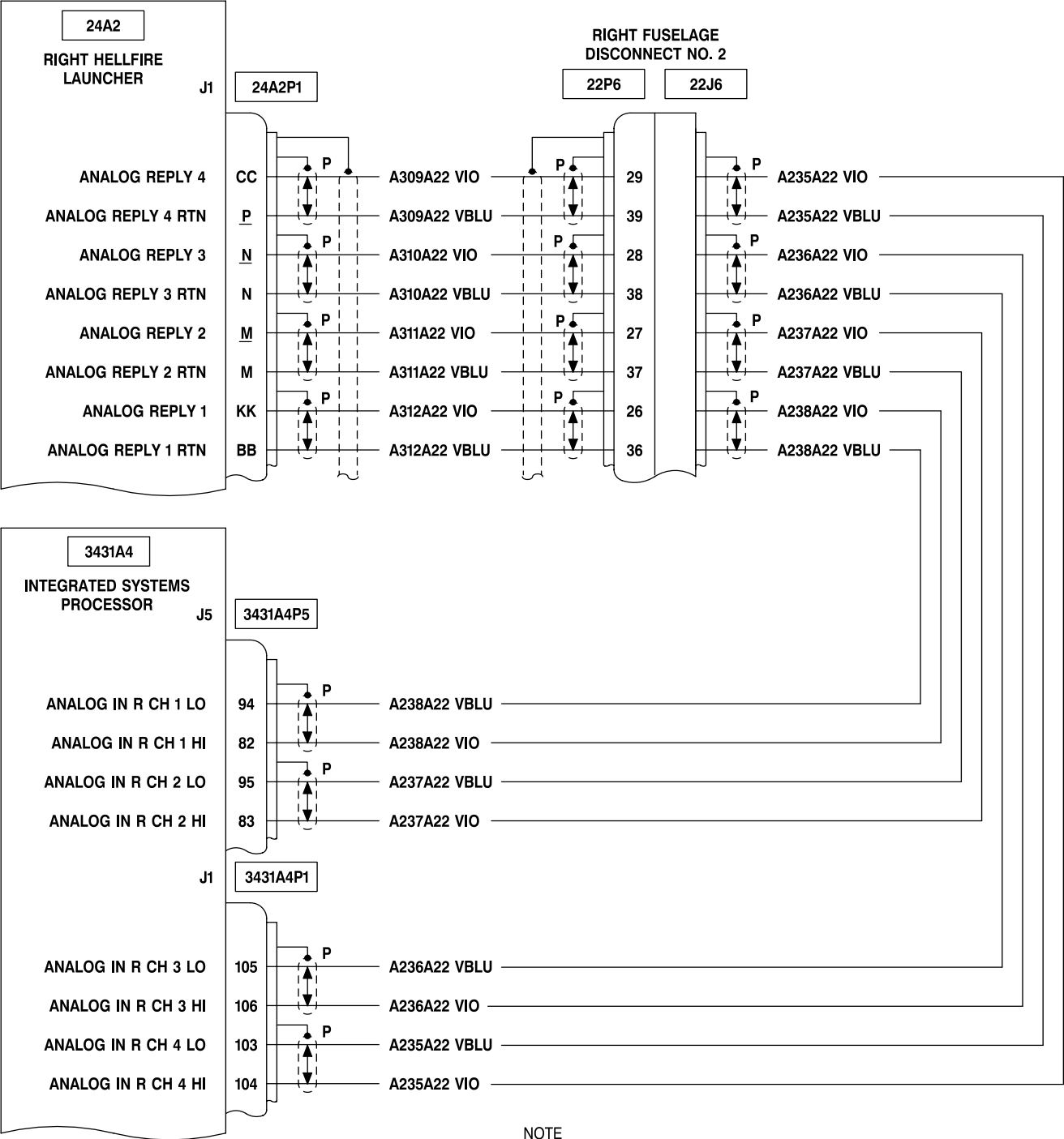
4-6-1. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-7) - OH-58D (CONT)



NOTE
Underlined connector contact
letters denote lowercase.

406475-542-291
J1493

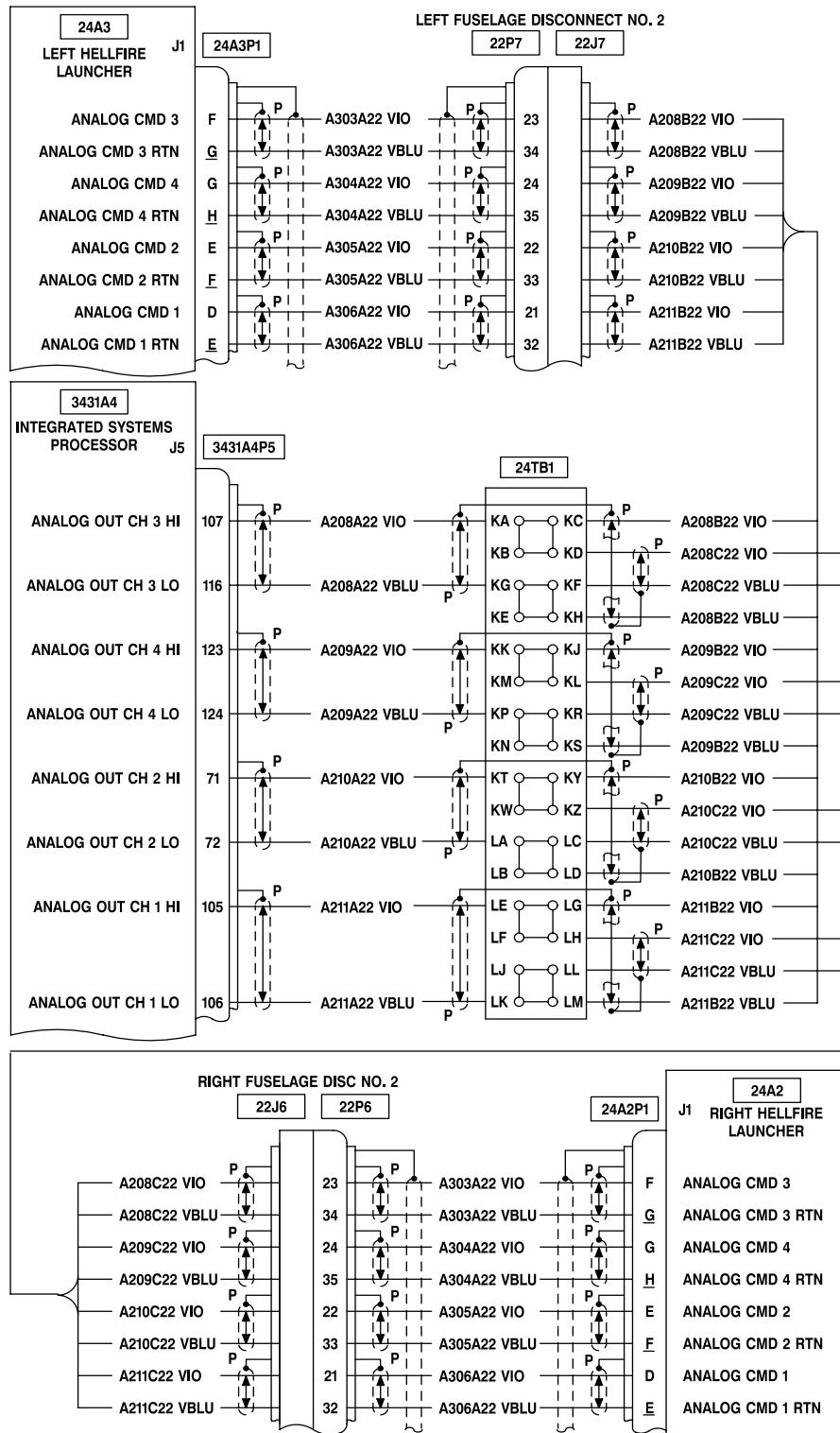
4-6-1. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-7) - OH-58D (CONT)



NOTE
Underlined connector contact
letters denote lowercase.

406475-542-292
J1493

4-6-1. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-7) - OH-58D (CONT)

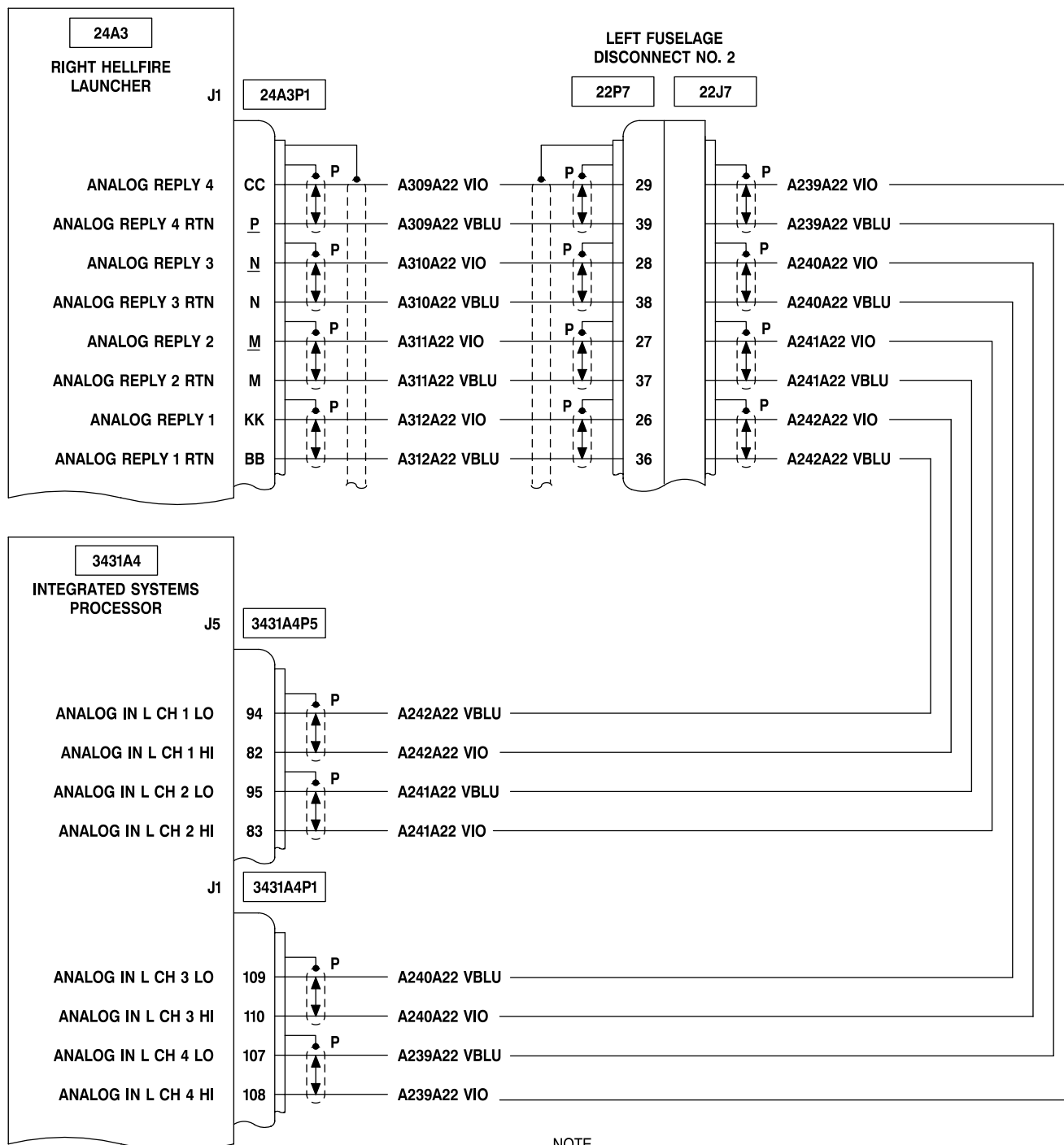


NOTE

Underlined connector contact letters denote lowercase.

406475-542-293
J1493

4-6-1. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-7) - OH-58D (CONT)

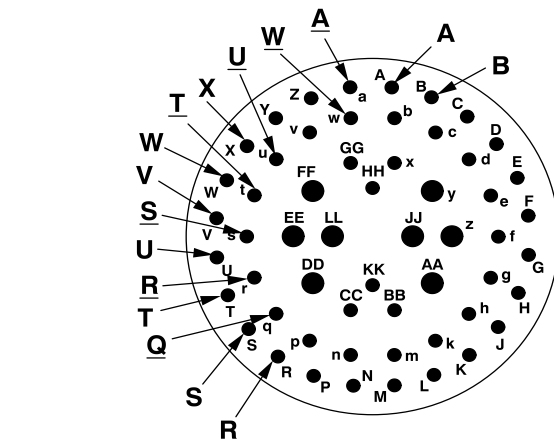


NOTE

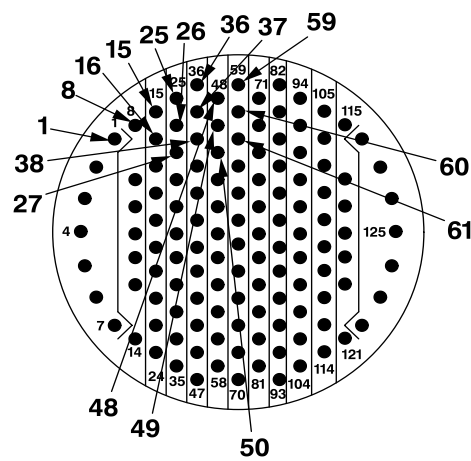
Underlined connector contact letters denote lowercase.

406475-542-294
J1493

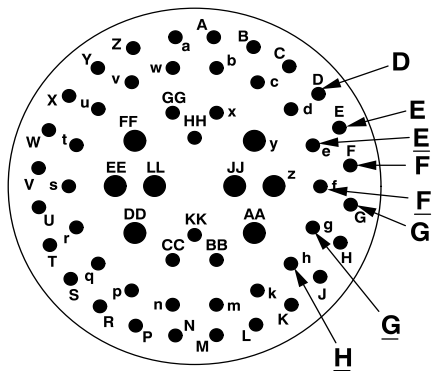
4-6-1. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-7) - OH-58D (CONT)



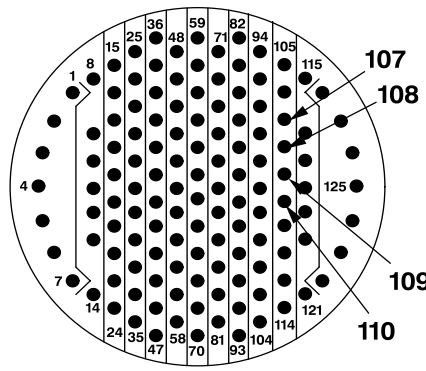
24A3P1



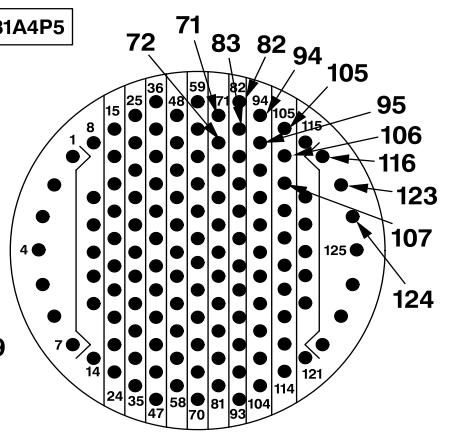
3431A4P5



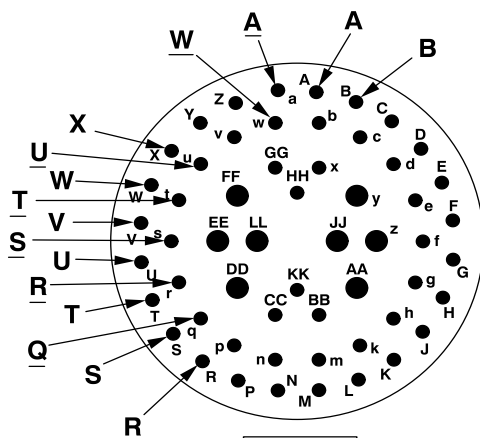
24A3P1



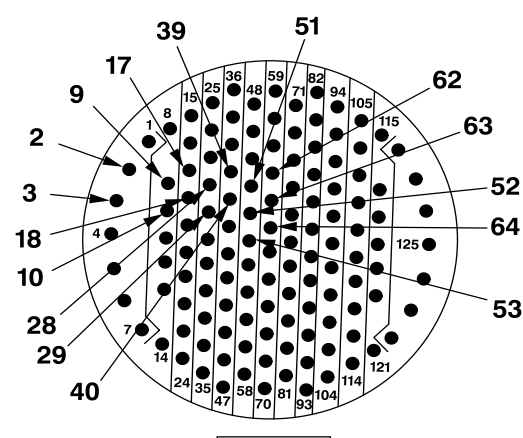
3431A4P1



3431A4P5



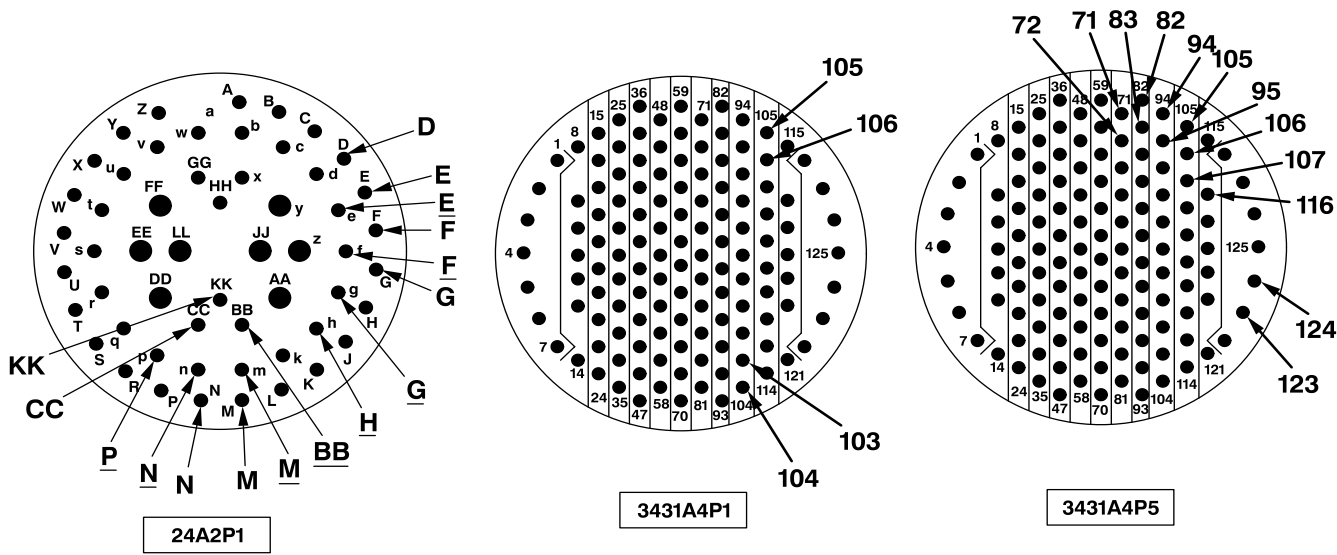
24A2P1



3431A3P5

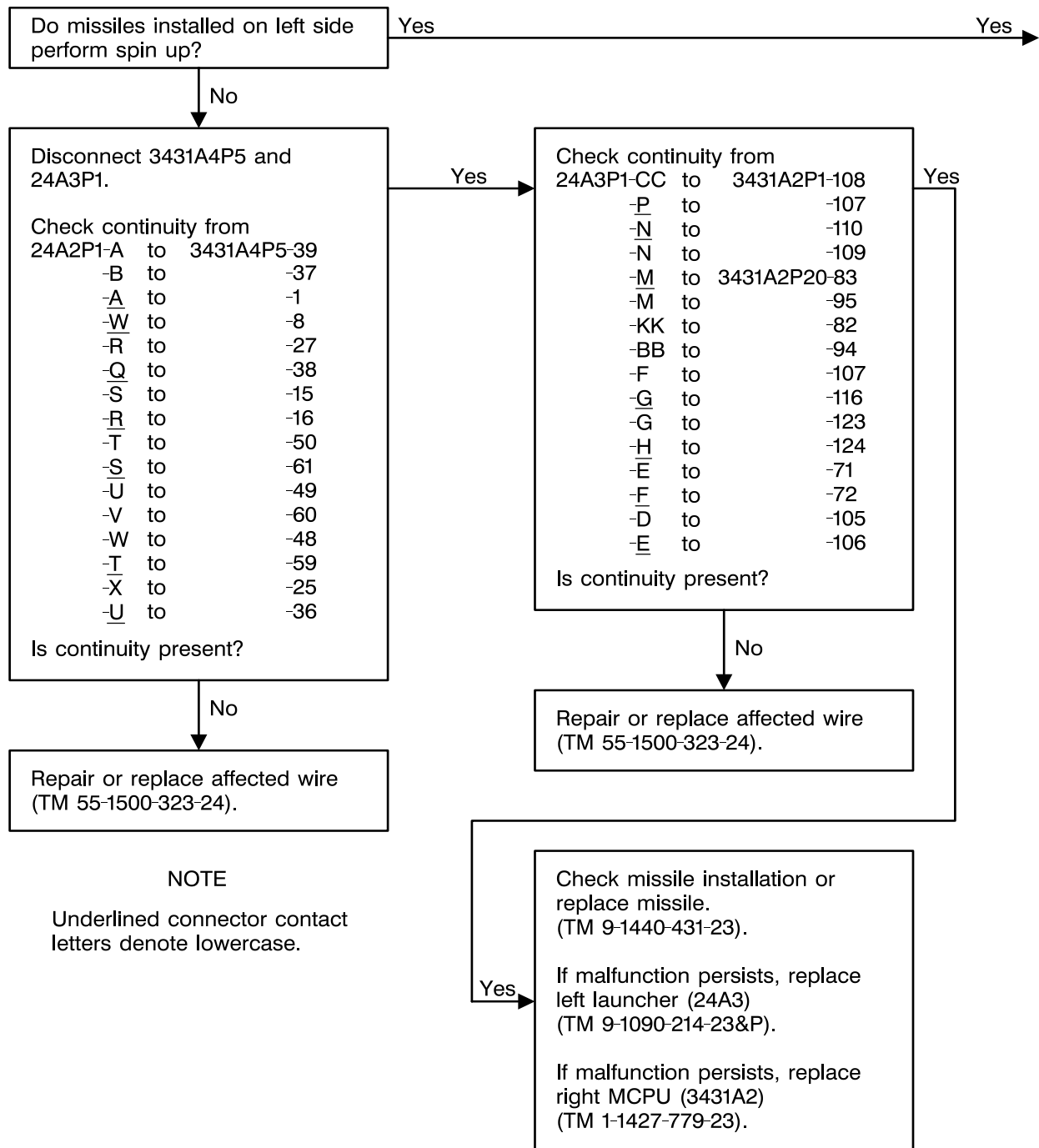
406475-542-295
J1493

4-6-1. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-7) - OH-58D (CONT)

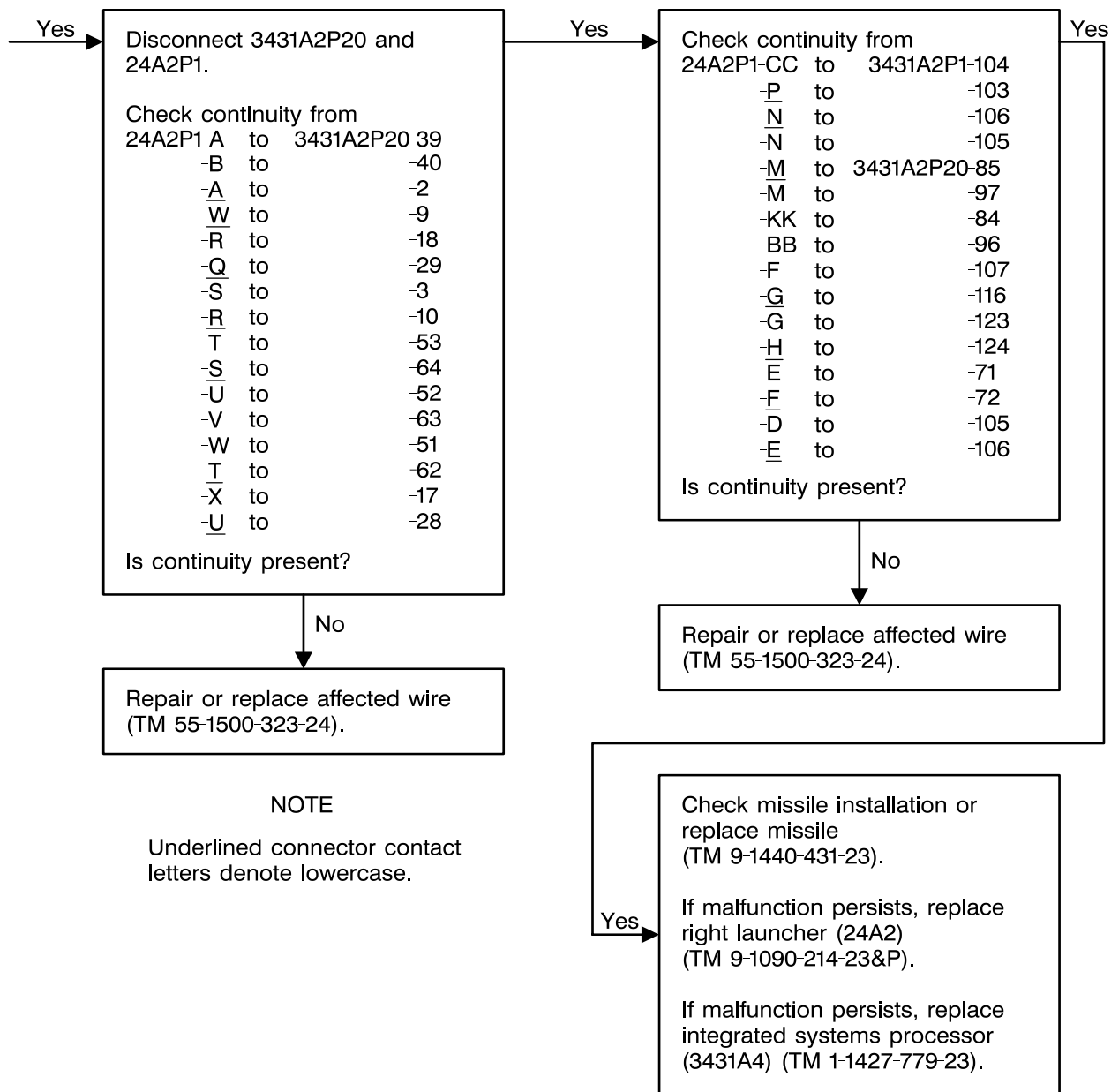


406475-542-296
J1493

4-6-2. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-8) - OH-58D(R)

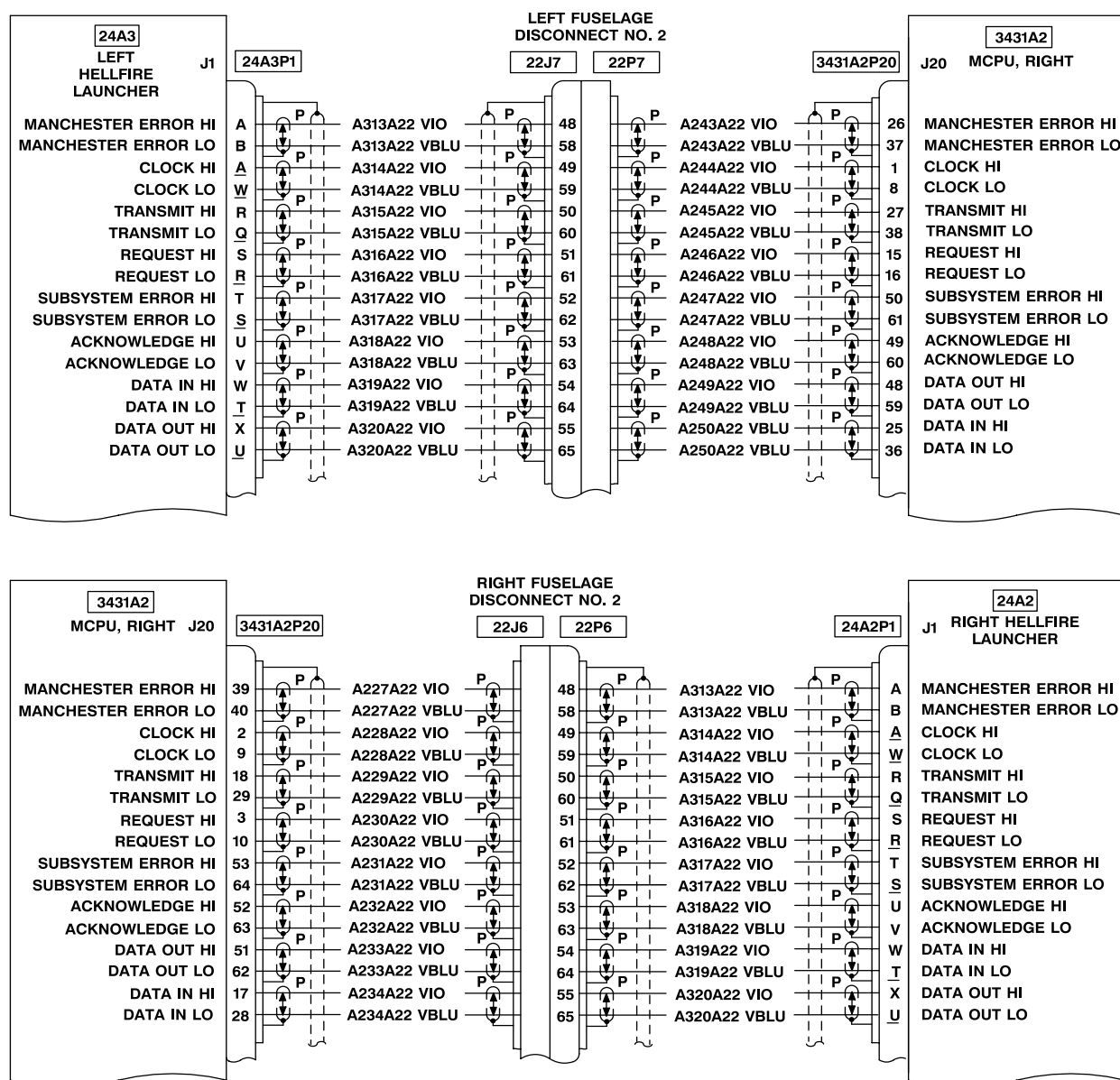
406475-542-297
J1493

4-6-2. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-8) - OH-58D(R) (CONT)



406475-542-298
J1493

4-6-2. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-8) - OH-58D(R) (CONT)

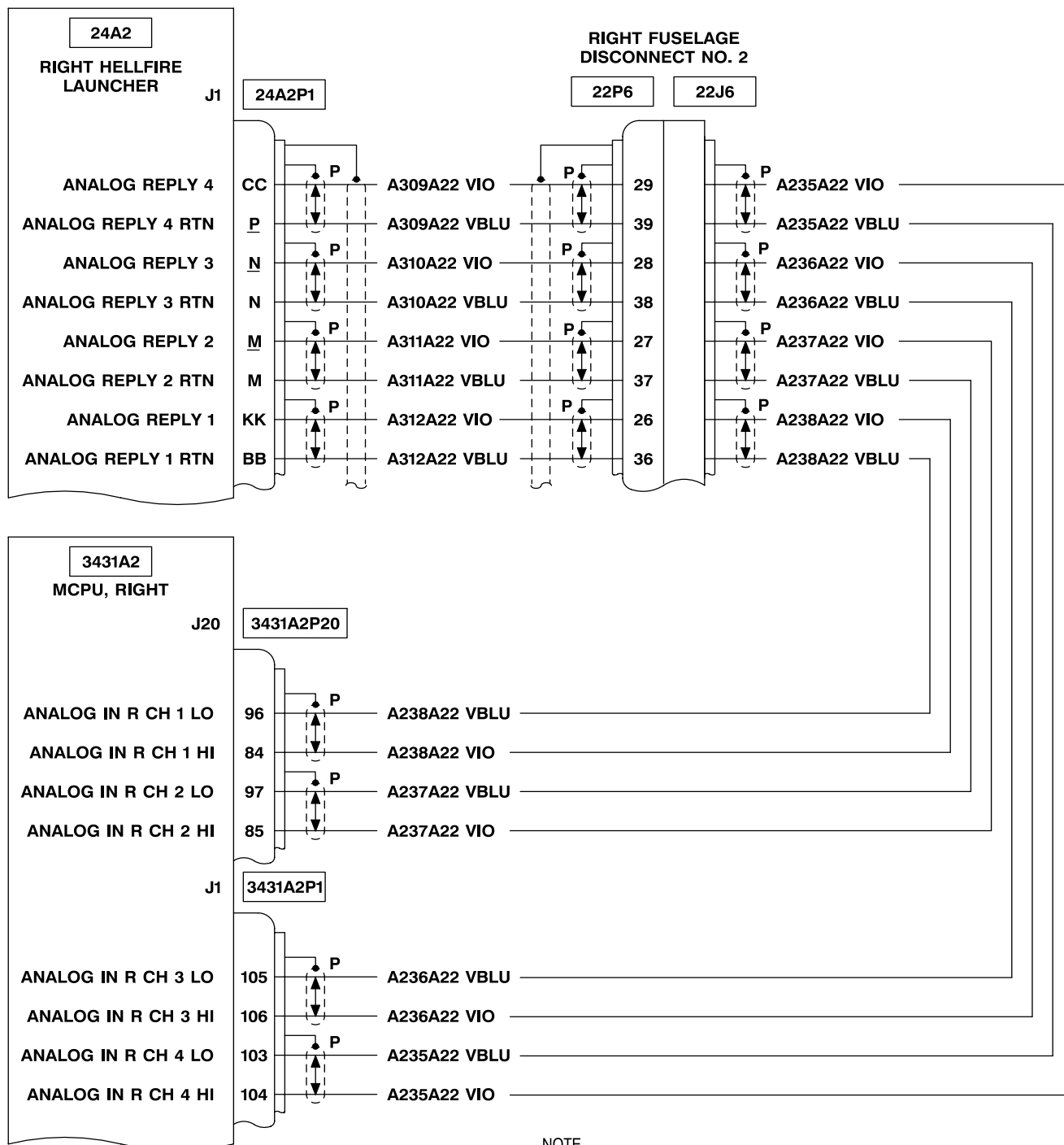


NOTE

Underlined connector contact letters denote lowercase.

406475-542-299
J1493

4-6-2. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-8) - OH-58D(R) (CONT)

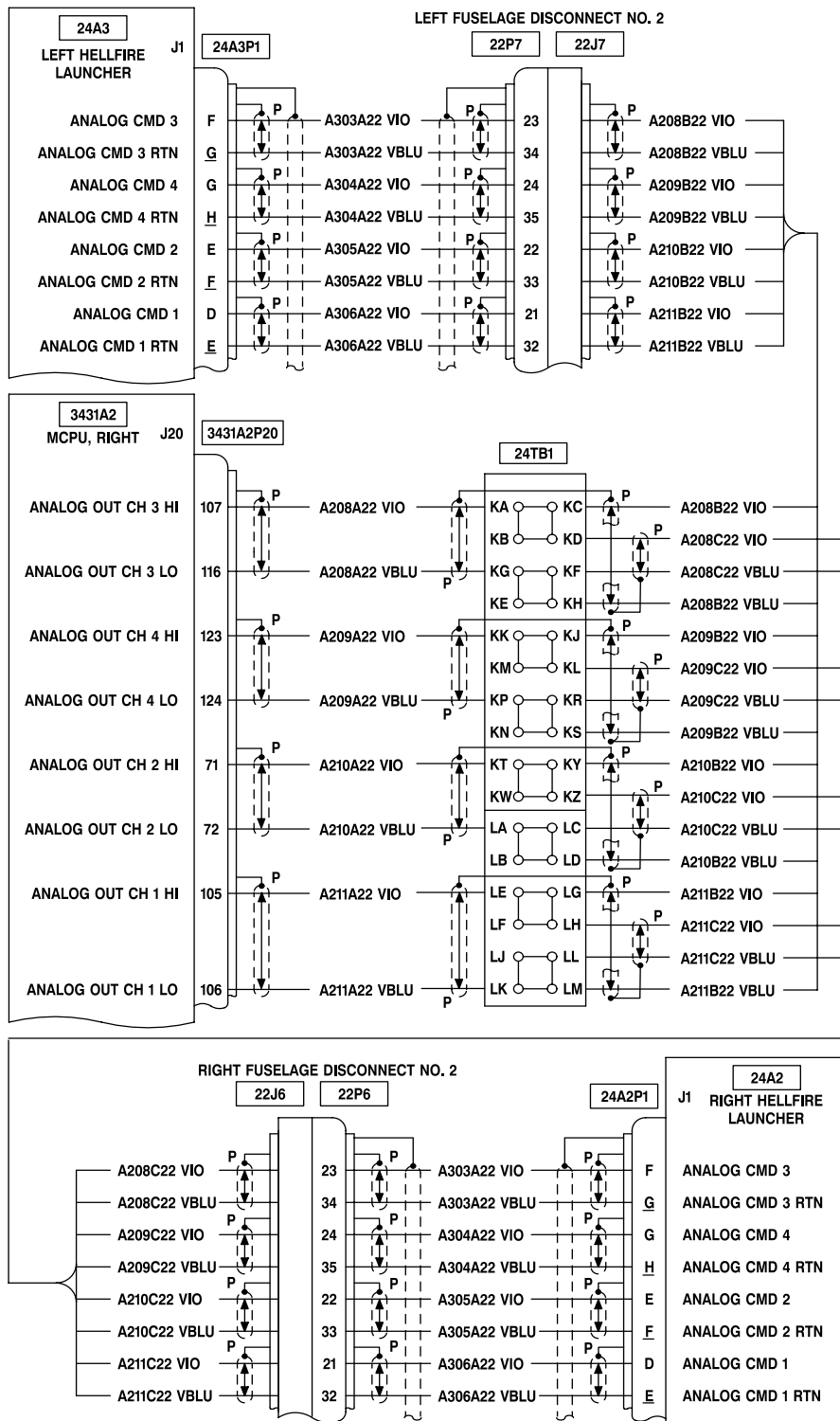


NOTE

Underlined connector contact letters denote lowercase.

406475-542-300
J1493

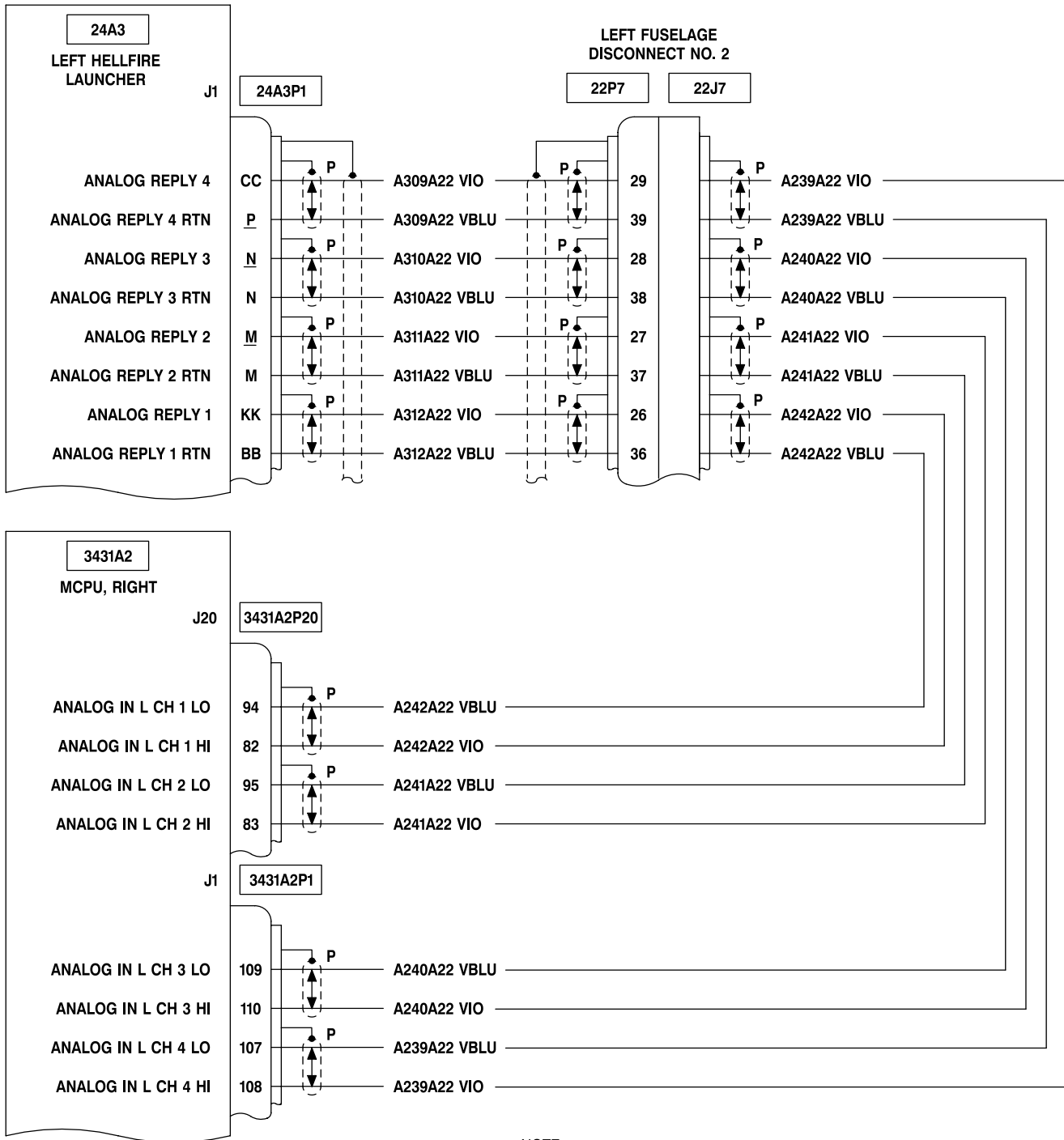
4-6-2. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-8) - OH-58D(R) (CONT)



NOTE
Underlined connector contact
letters denote lowercase.

406475-542-301
J1493

4-6-2. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-8) - OH-58D(R) (CONT)

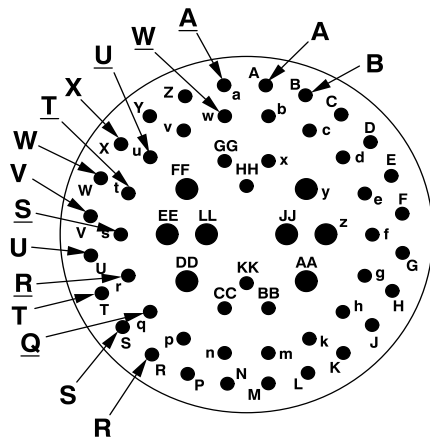


NOTE

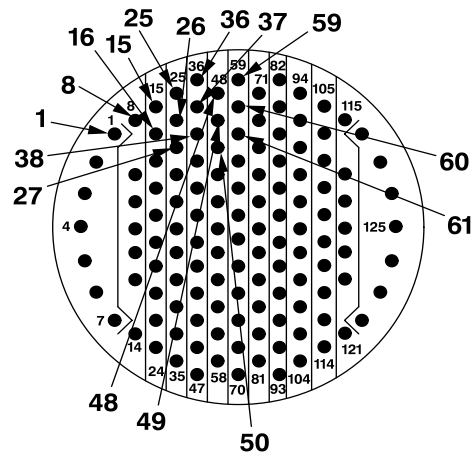
Underlined connector contact letters denote lowercase.

406475-542-302
J1493

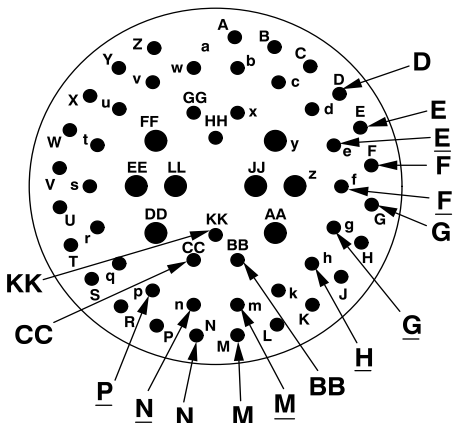
4-6-2. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-8) - OH-58D(R) (CONT)



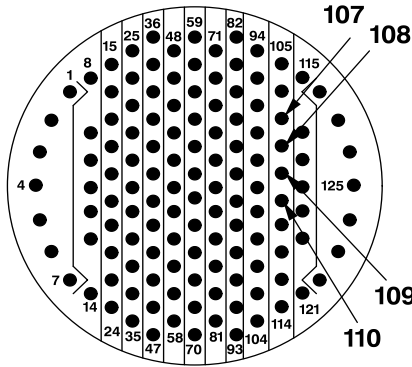
24A3P1



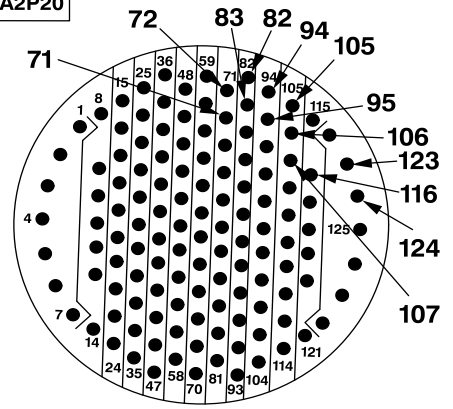
3431A2P20



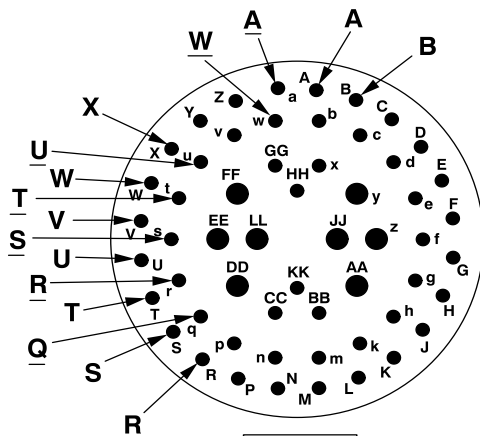
24A3P1



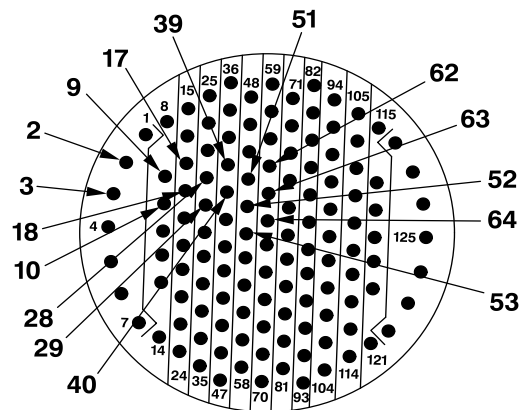
3431A2P1



3431A2P20



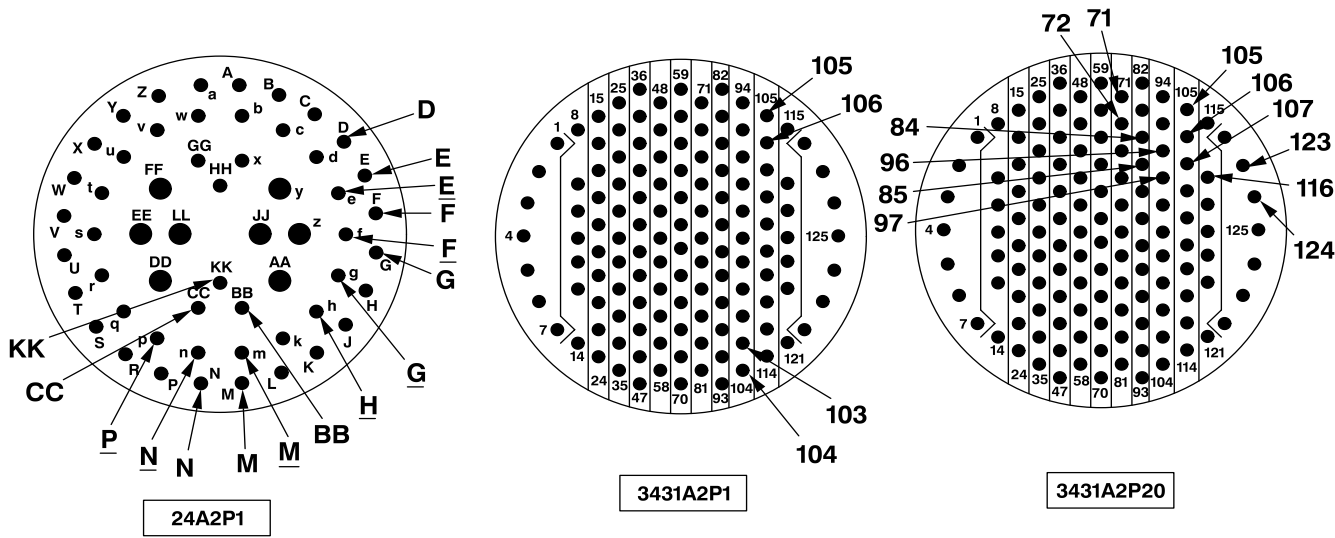
24A2P1



3431A2P20

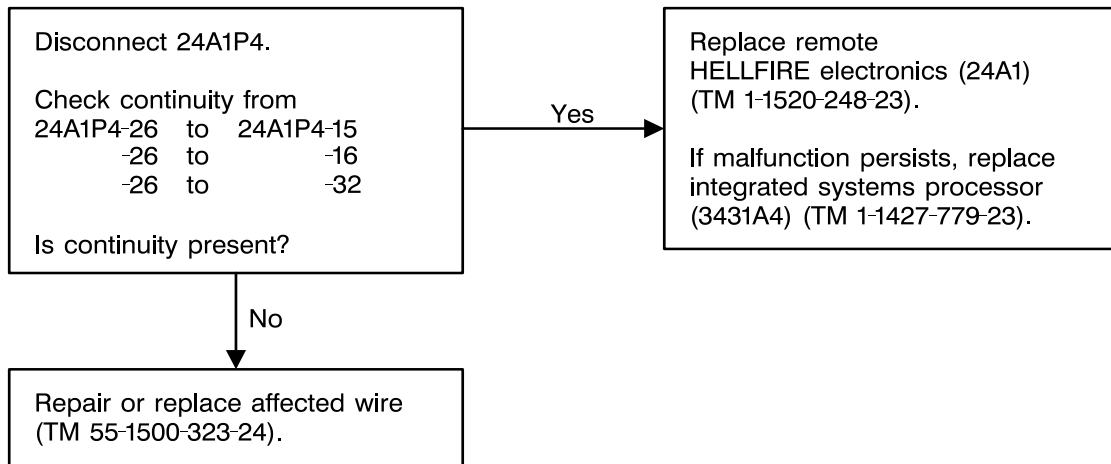
406475-542-303
J1493

4-6-2. HELLFIRE MISSILE DOES NOT PERFORM SPIN UP (TASK 2-5-8) - OH-58D(R) (CONT)

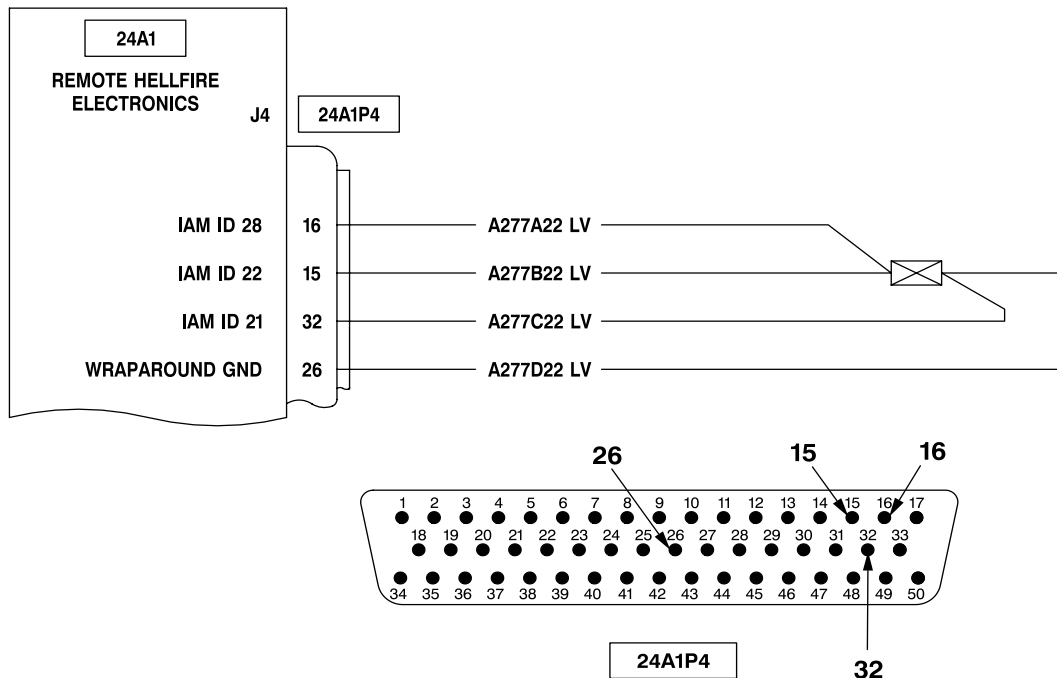


406475-542-304
J1493

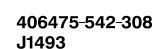
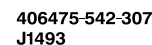
4-6-3. WITH HELLFIRE MISSILE INSTALLED AND ON, MFD DOES NOT DISPLAY MISSILE IMAGES AND BIT CANNOT BE INITIATED (TASK 2-5-7) - OH-58D



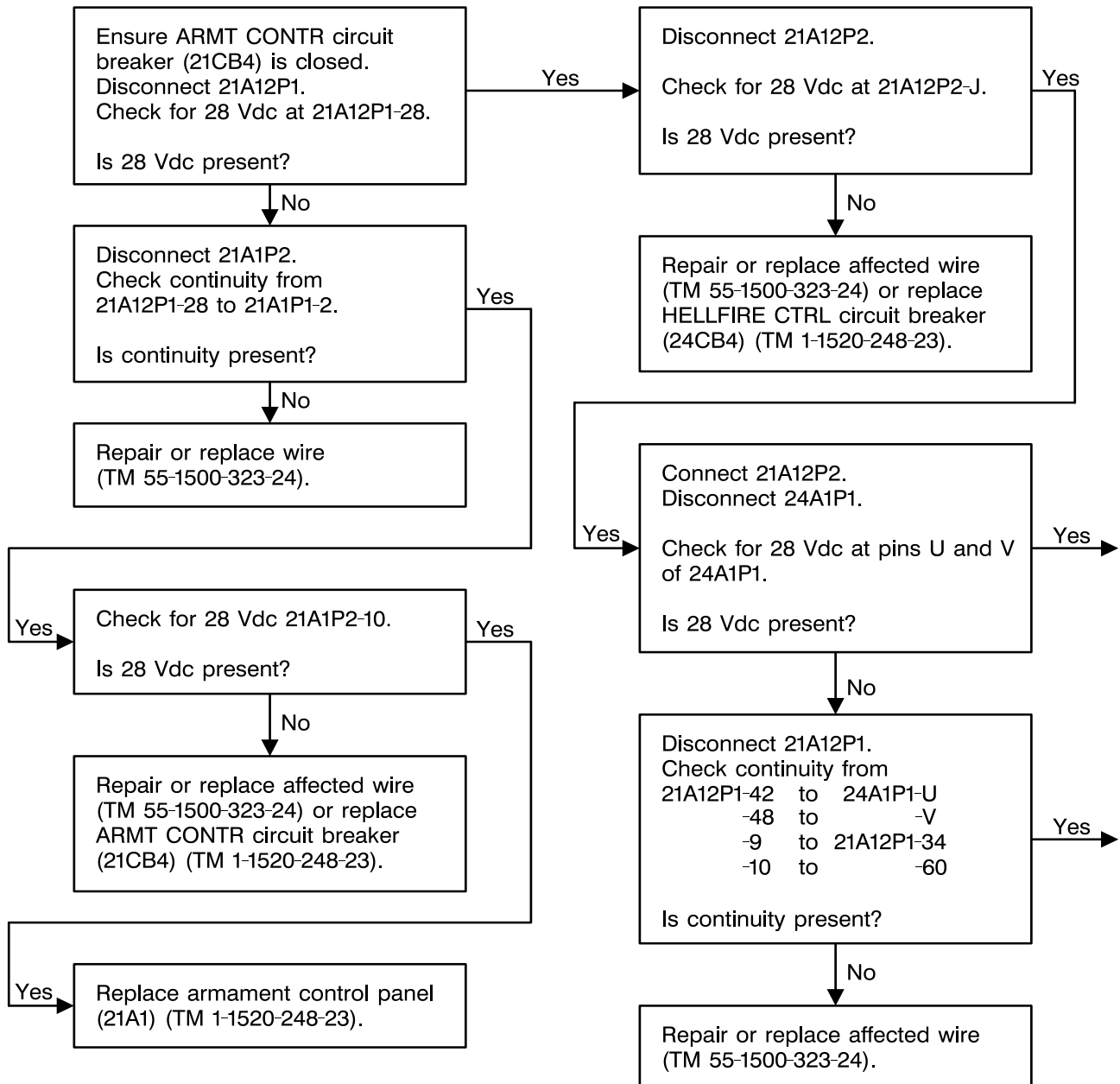
406475-542-305
J1493



406475-542-306
J1493



4-6-5. HELLFIRE BIT LEGEND NOT DISPLAYED ON WEAPONS BIT/SET-UP PAGE AND INCORRECT SYMBOLOGY IS DISPLAYED ON WEAPONS VSD PAGE (TASK 2-5-7) - OH-58D



406475-542-309
J1493

4-6-5. HELLFIRE BIT LEGEND NOT DISPLAYED ON WEAPONS BIT/SET-UP PAGE AND INCORRECT SYMBOLOGY IS DISPLAYED ON WEAPONS VSD PAGE (TASK 2-5-7) - OH-58D (CONT)

Yes

Replace remote HELLFIRE electronics (24A1) (TM 1-1520-248-23).

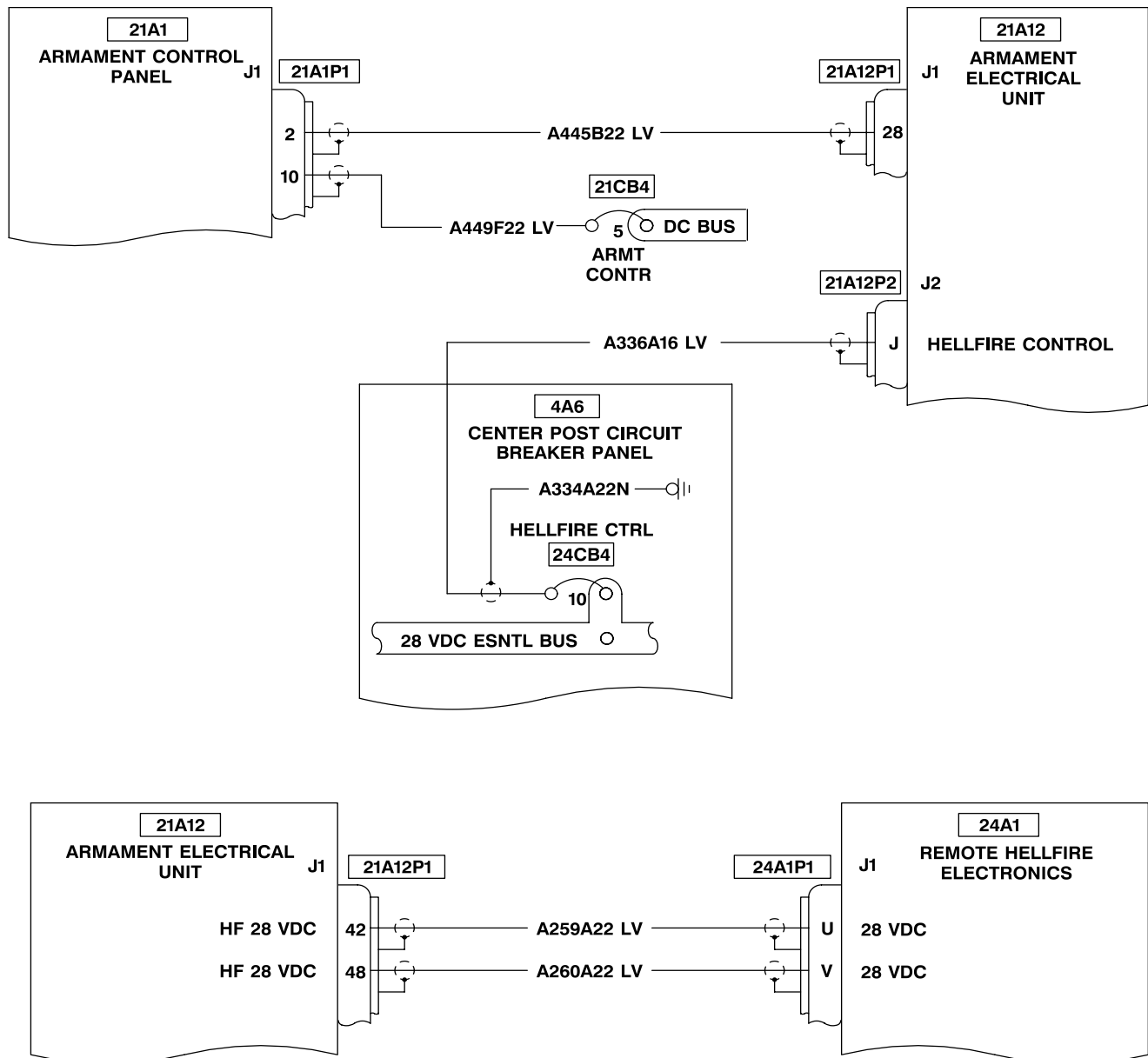
If malfunction persists, replace integrated systems processor (3431A4) (TM 1-1427-779-23).

If malfunction persists, replace armament electrical unit (TM 1-1520-248-23).

Yes

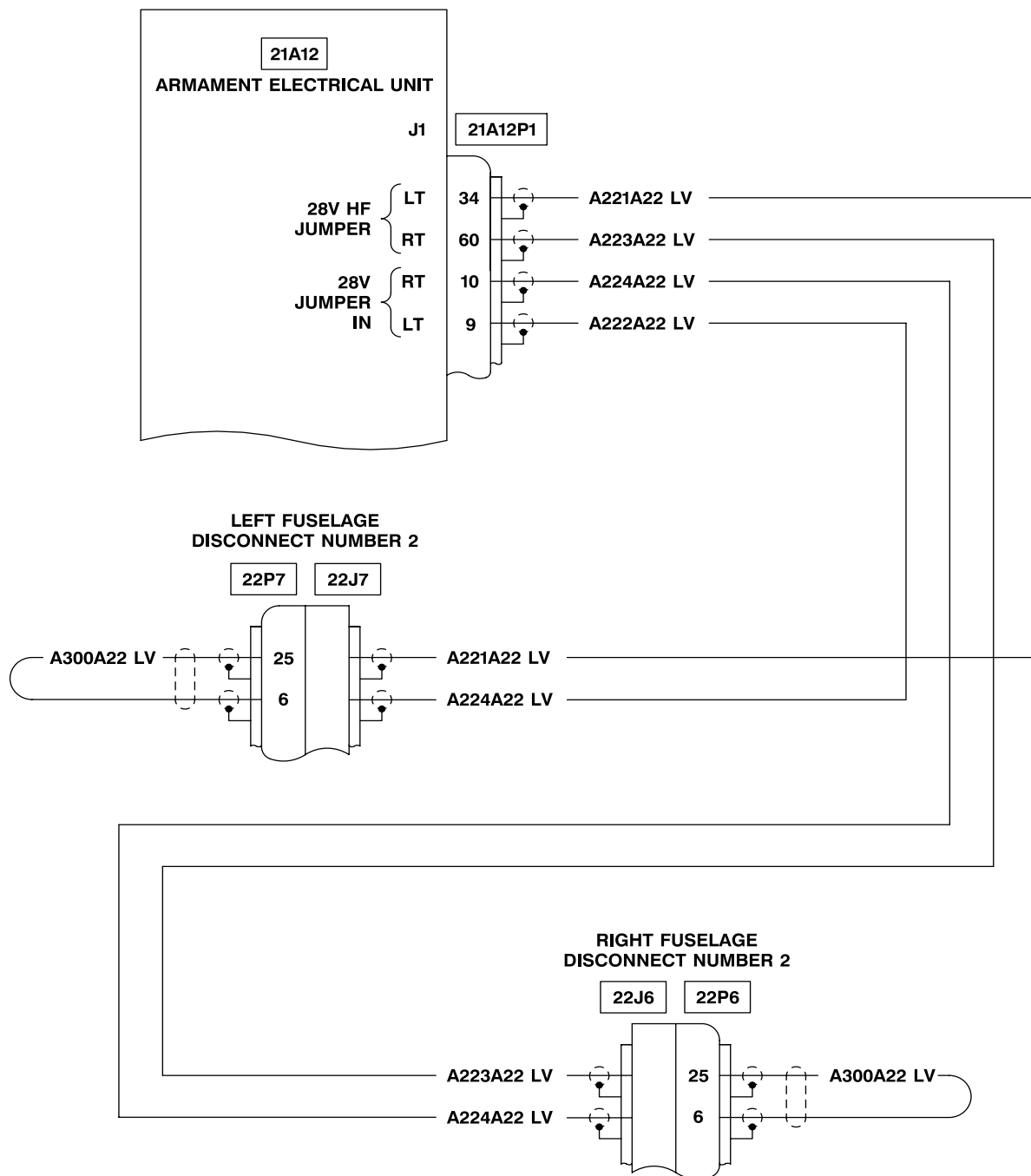
Replace armament electrical unit (21A12) (TM 1-1520-248-23).

4-6-5. HELLFIRE BIT LEGEND NOT DISPLAYED ON WEAPONS BIT/SET-UP PAGE AND INCORRECT SYMBOLOGY IS DISPLAYED ON WEAPONS VSD PAGE (TASK 2-5-7) - OH-58D (CONT)



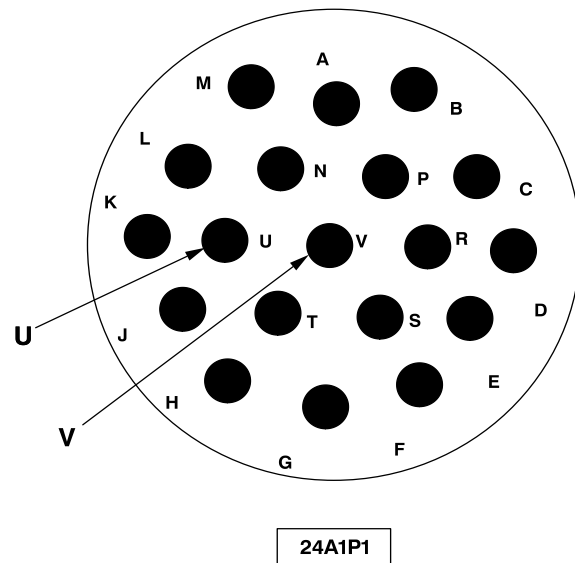
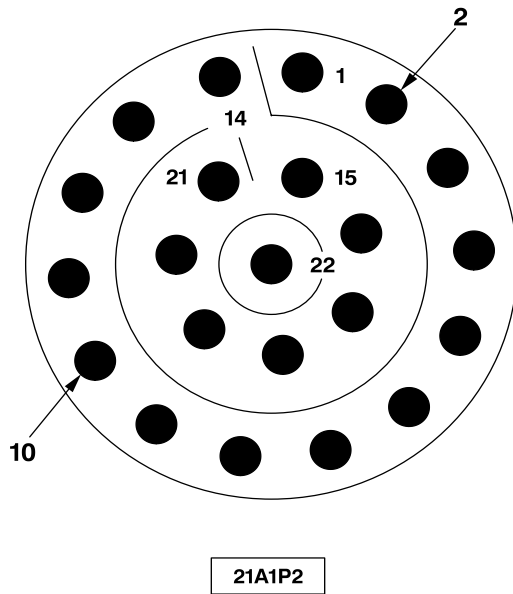
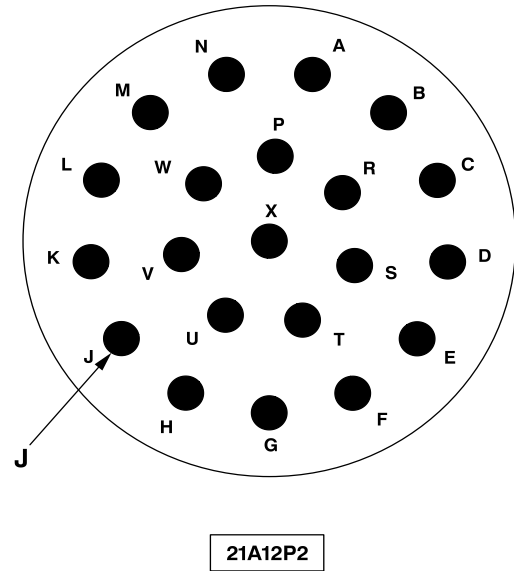
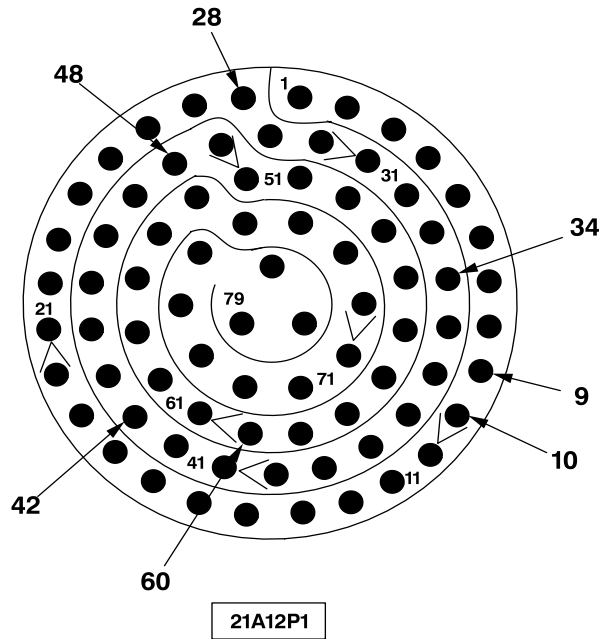
406475-542-311
J1493

4-6-5. HELLFIRE BIT LEGEND NOT DISPLAYED ON WEAPONS BIT/SET-UP PAGE AND INCORRECT SYMBOLOGY IS DISPLAYED ON WEAPONS VSD PAGE (TASK 2-5-7) - OH-58D (CONT)



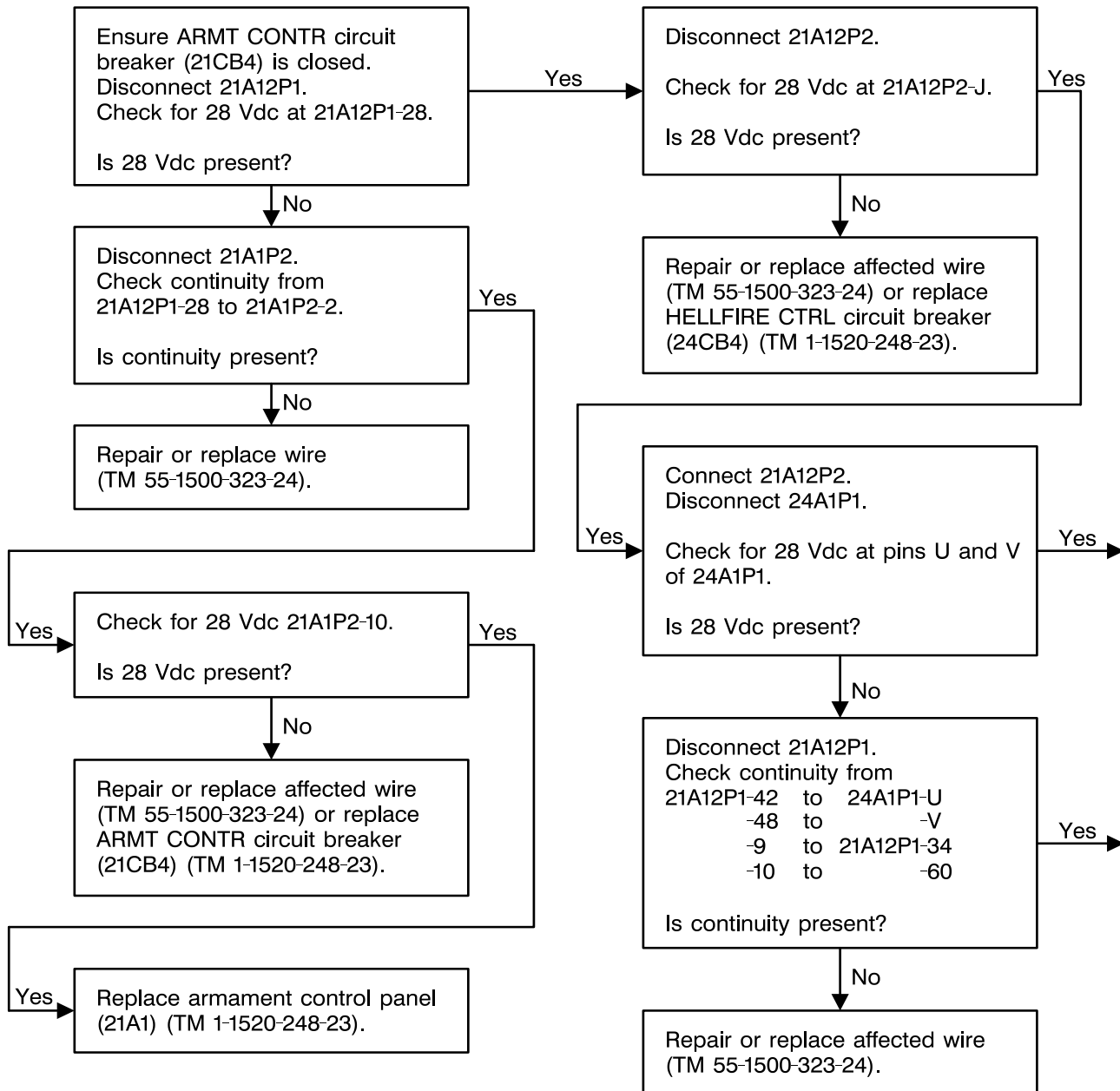
406475-542-312
J1493

4-6-5. HELLFIRE BIT LEGEND NOT DISPLAYED ON WEAPONS BIT/SET-UP PAGE AND INCORRECT SYMBOLOGY IS DISPLAYED ON WEAPONS VSD PAGE (TASK 2-5-7) - OH-58D (CONT)



406475-542-313
J1262

4-6-6. HELLFIRE BIT LEGEND NOT DISPLAYED ON WEAPONS BIT/SET-UP PAGE AND INCORRECT SYMBOLOGY IS DISPLAYED ON WEAPONS VSD PAGE (TASK 2-5-8) - OH-58D(R)



406475-542-314
J1493

4-6-6. HELLFIRE BIT LEGEND NOT DISPLAYED ON WEAPONS BIT/SET-UP PAGE AND INCORRECT SYMBOLOGY IS DISPLAYED ON WEAPONS VSD PAGE (TASK 2-5-8) - OH-58D(R) (CONT)

Yes

Replace remote HELLFIRE electronics (24A1) (TM 1-1520-248-23).

If malfunction persists, replace right MCPU (3431A2) (TM 1-1427-779-23).

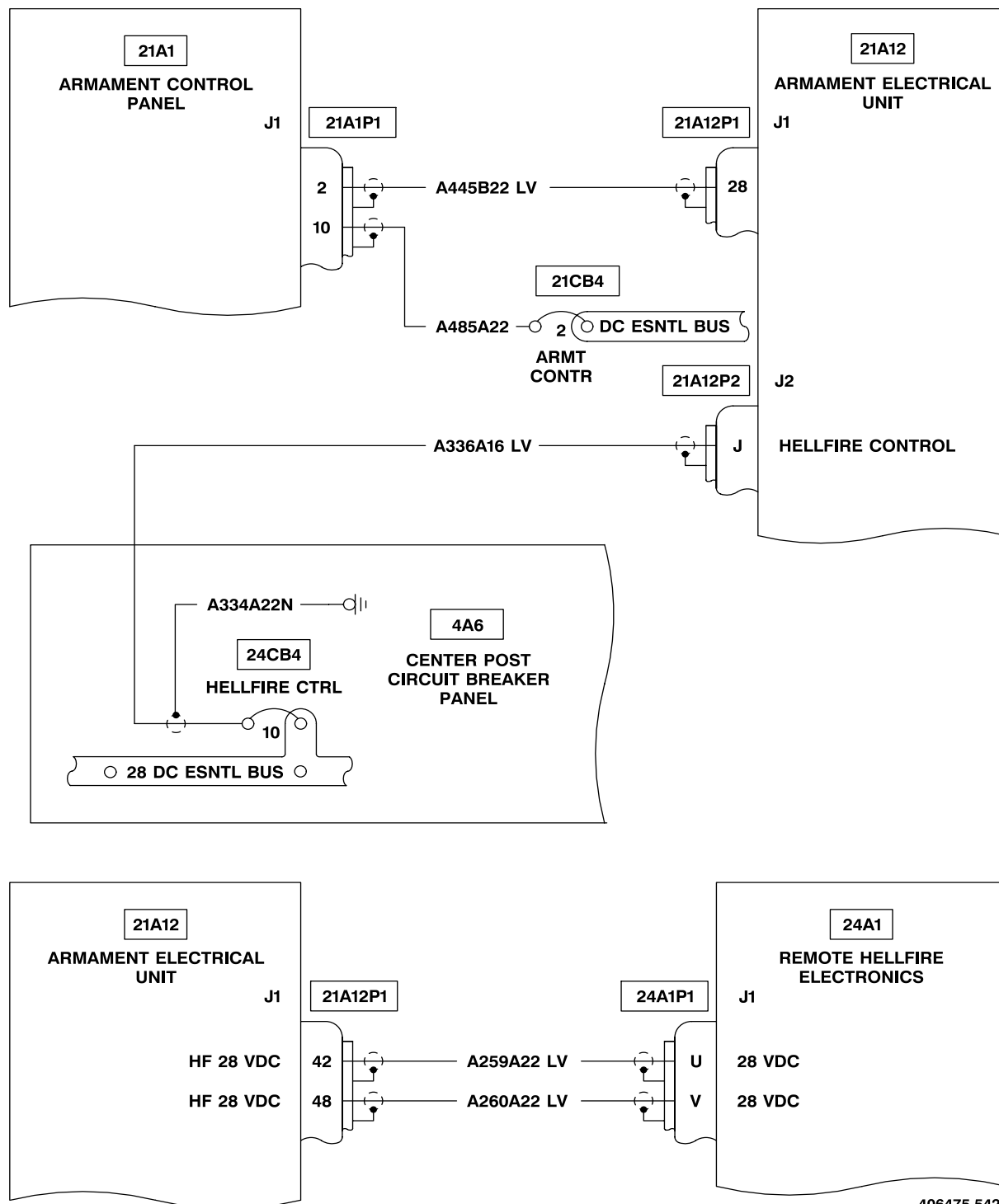
If malfunction persists, replace armament electrical unit (21A12) (TM 1-1520-248-23).

Yes

Replace armament electrical unit (21A12) (TM 1-1520-248-23).

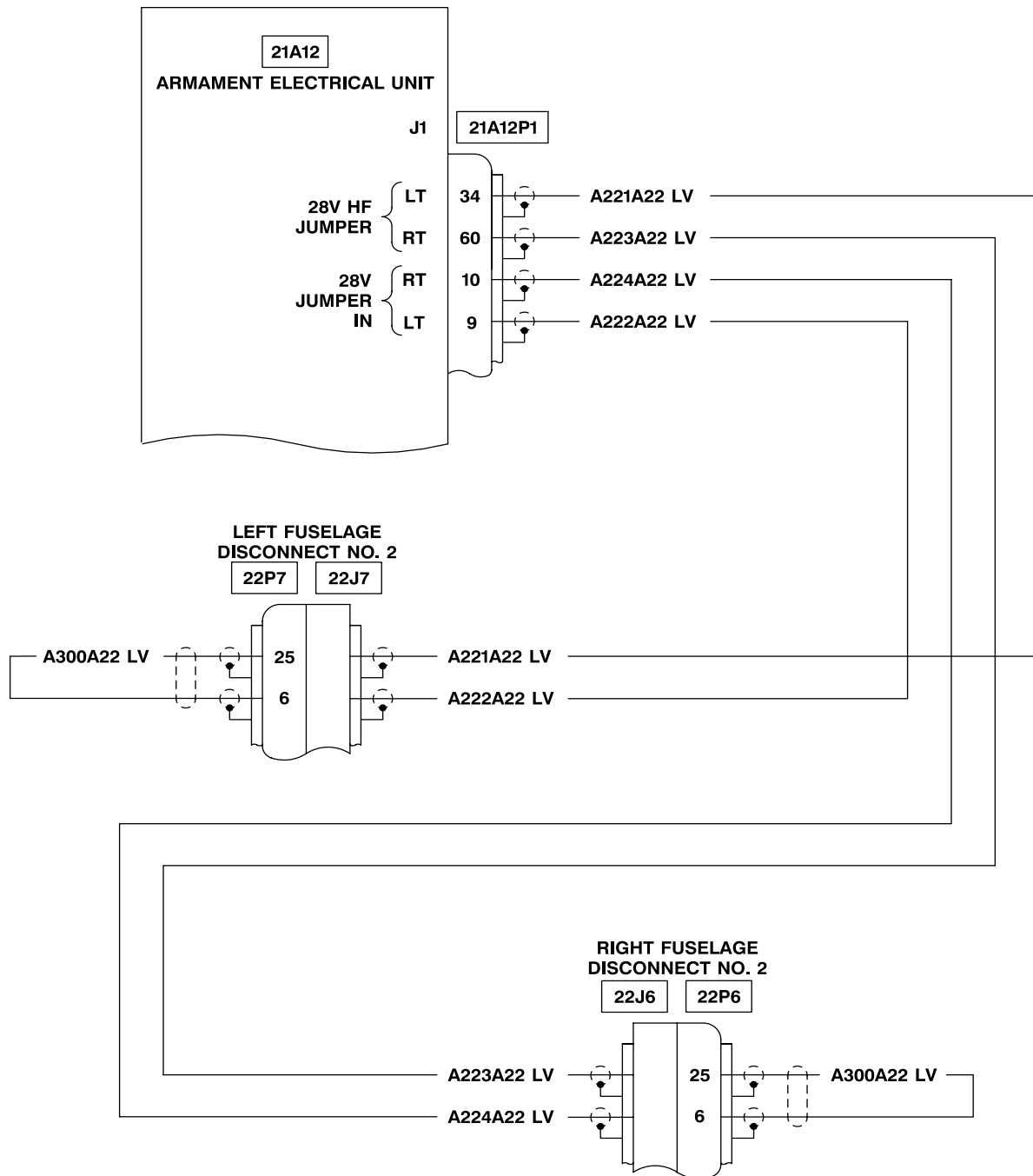
406475-542-315
J1493

4-6-6. HELLFIRE BIT LEGEND NOT DISPLAYED ON WEAPONS BIT/SET-UP PAGE AND INCORRECT SYMBOLOGY IS DISPLAYED ON WEAPONS VSD PAGE (TASK 2-5-8) - OH-58D(R) (CONT)



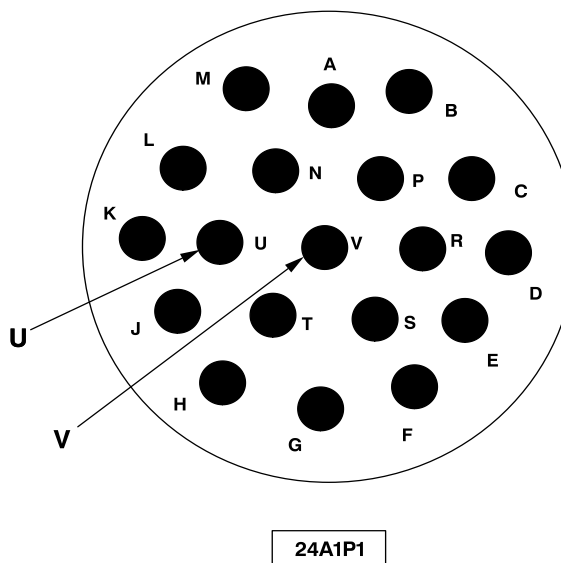
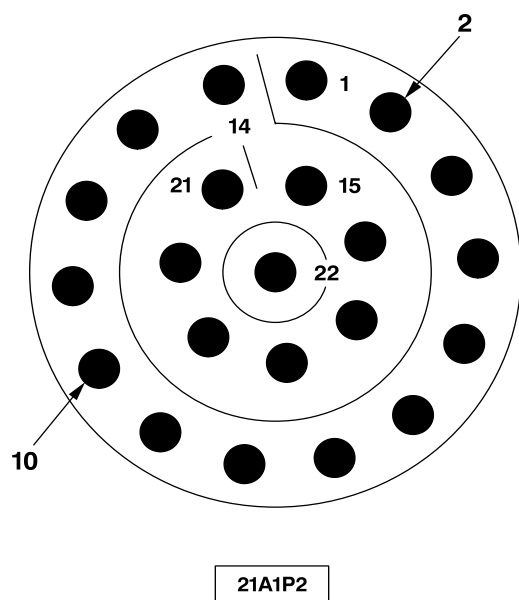
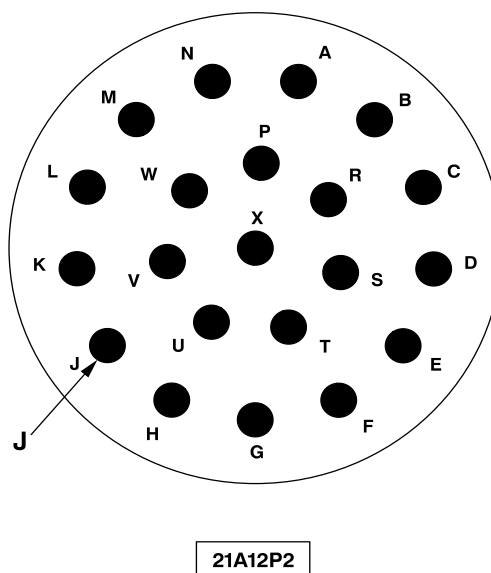
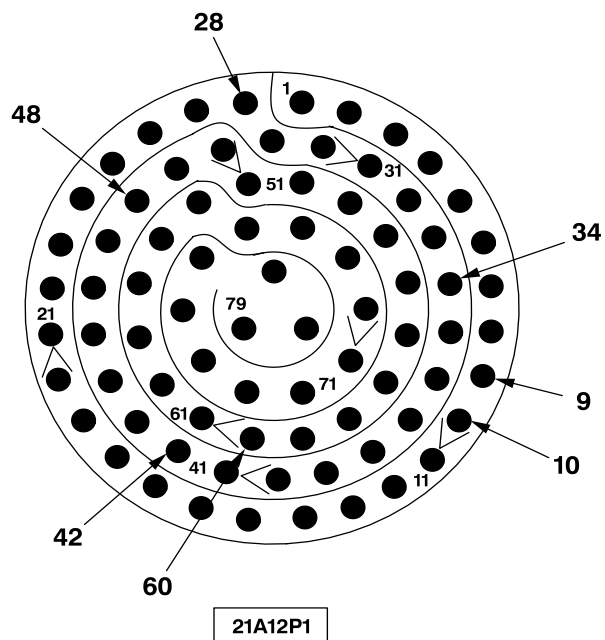
406475-542-316
J1493

4-6-6. HELLFIRE BIT LEGEND NOT DISPLAYED ON WEAPONS BIT/SET-UP PAGE AND INCORRECT SYMBOLOGY IS DISPLAYED ON WEAPONS VSD PAGE (TASK 2-5-8) - OH-58D(R) (CONT)



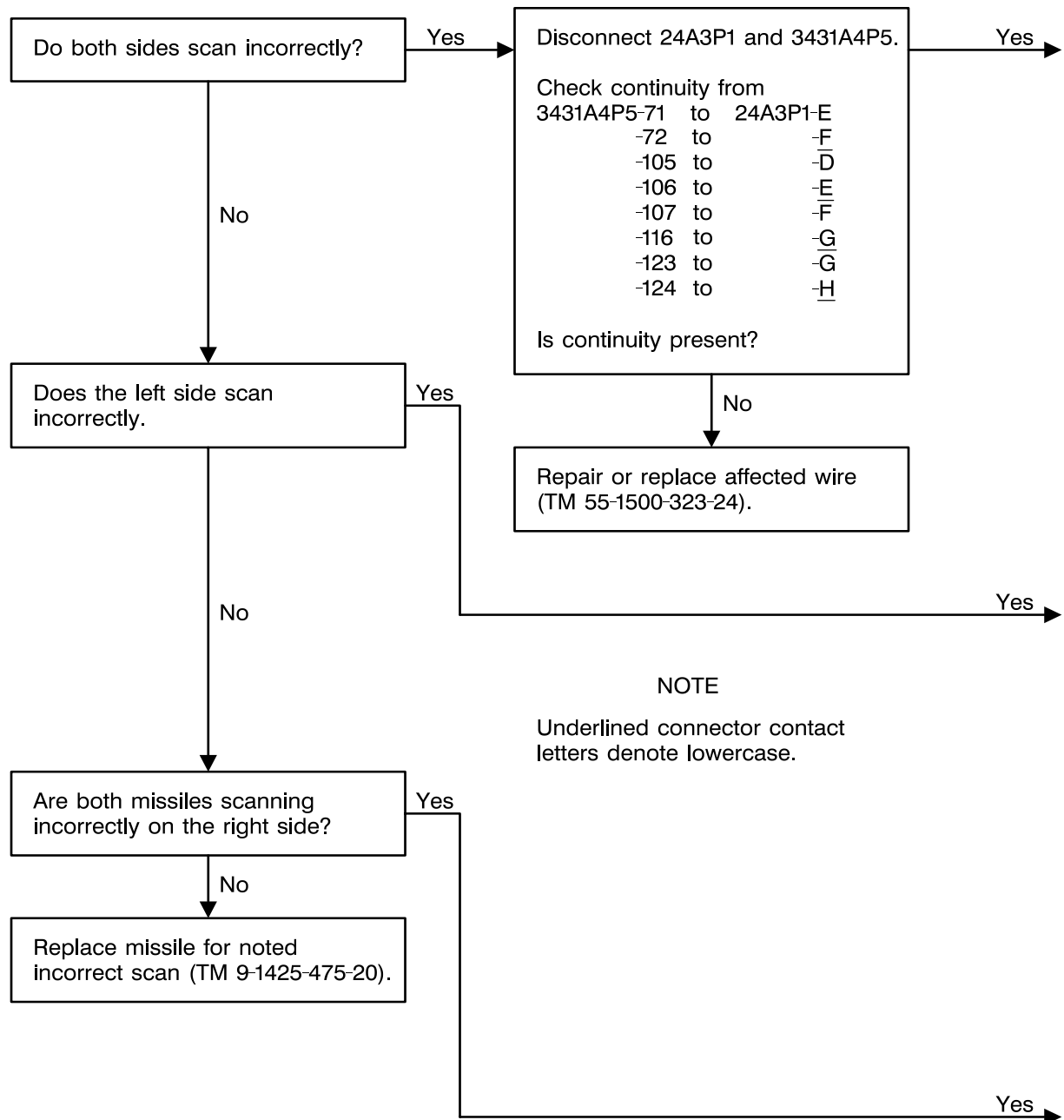
406475-542-317
J1493

4-6-6. HELLFIRE BIT LEGEND NOT DISPLAYED ON WEAPONS BIT/SET-UP PAGE AND INCORRECT SYMBOLOGY IS DISPLAYED ON WEAPONS VSD PAGE (TASK 2-5-8) - OH-58D(R) (CONT)

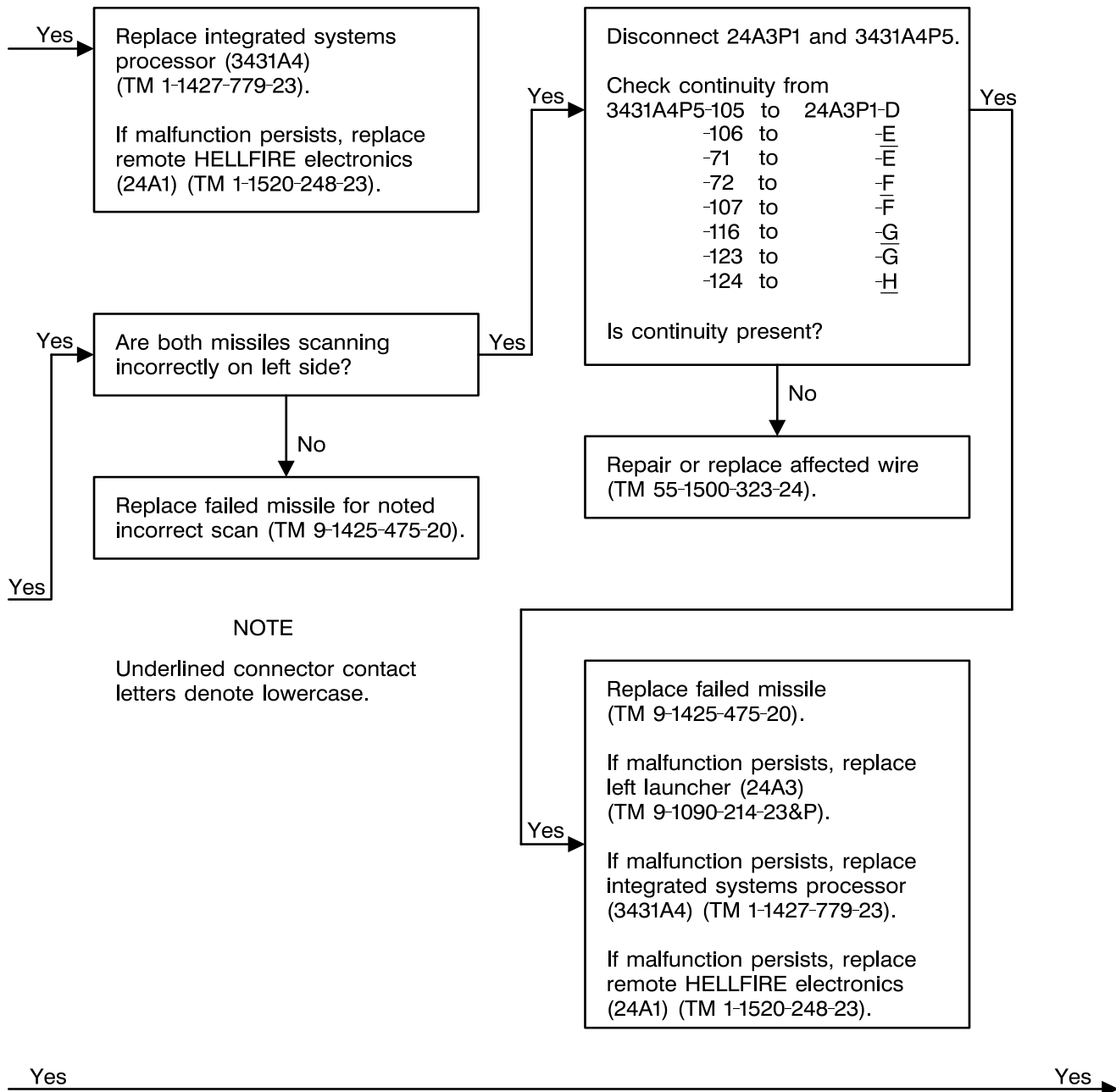


406475-542-318
J1493

4-6-7. MISSILE DOES NOT PERFORM PROPER BOX SCAN IN LOBL (TASK 2-5-7) - OH-58D

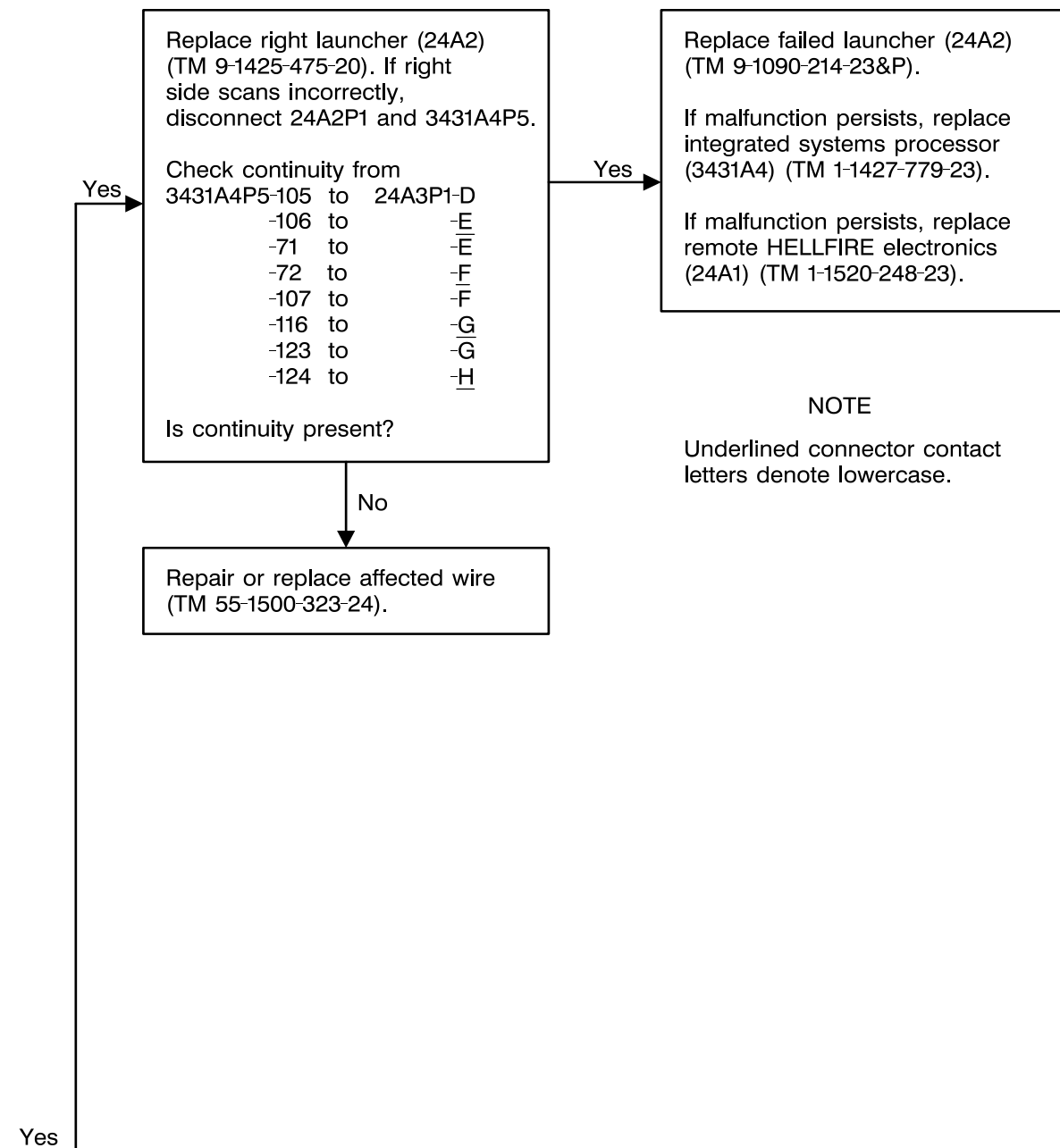
406475-542-319
J1493

4-6-7. MISSILE DOES NOT PERFORM PROPER BOX SCAN IN LOBL (TASK 2-5-7) - OH-58D (CONT)

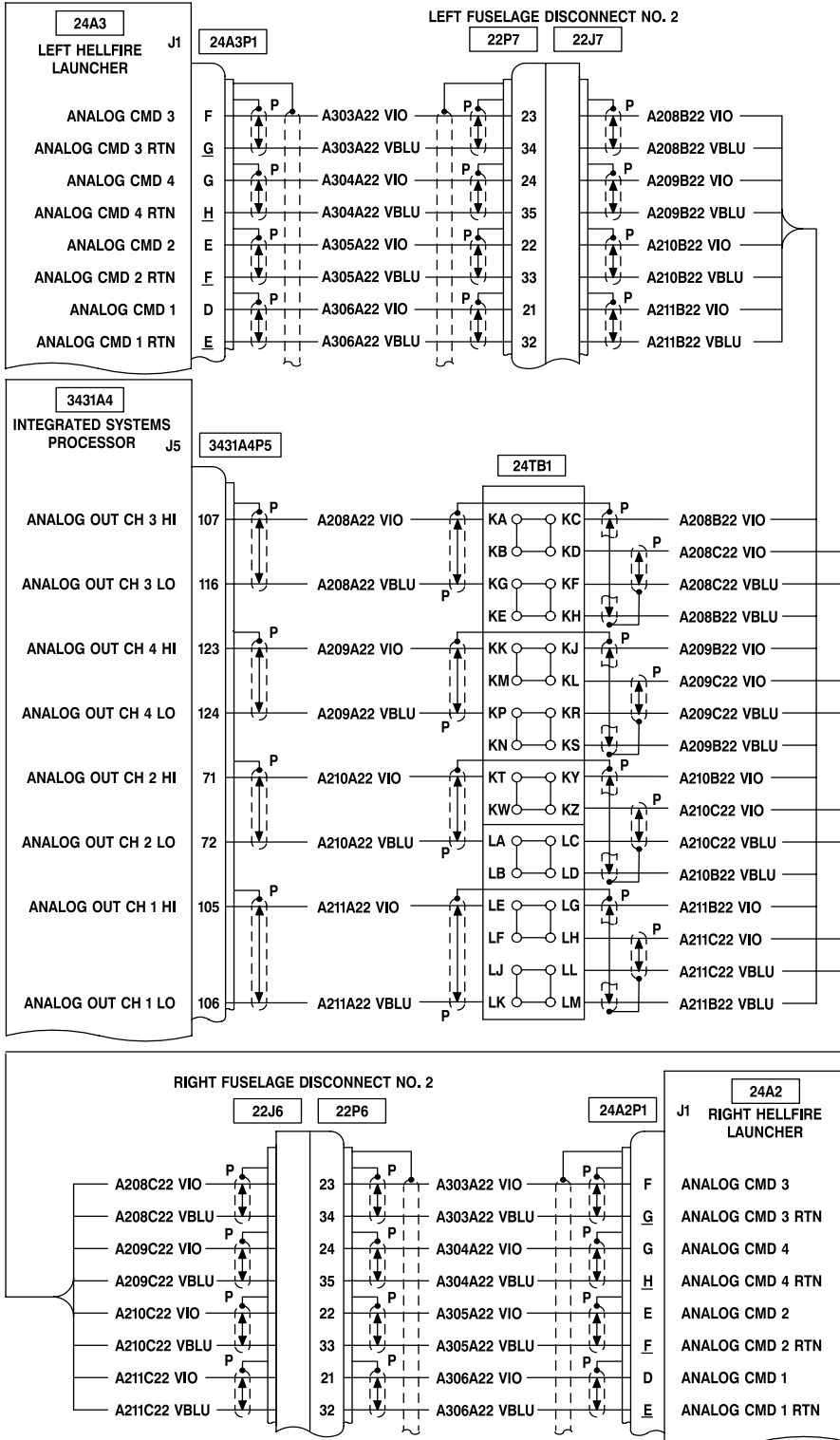


406475-542-320
J1493

4-6-7. MISSILE DOES NOT PERFORM PROPER BOX SCAN IN LOBL (TASK 2-5-7) - OH-58D (CONT)

406475-542-321
J1493

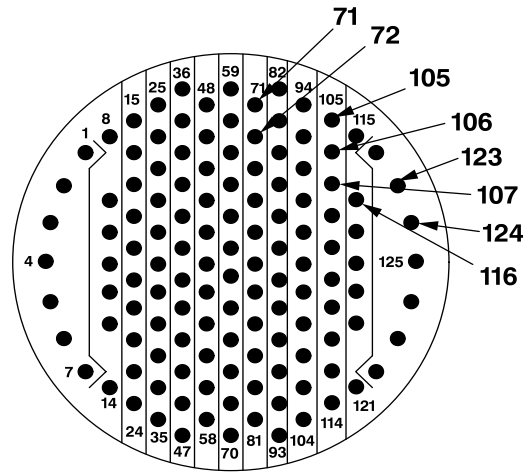
4-6-7. MISSILE DOES NOT PERFORM PROPER BOX SCAN IN LOBL (TASK 2-5-7) - OH-58D (CONT)



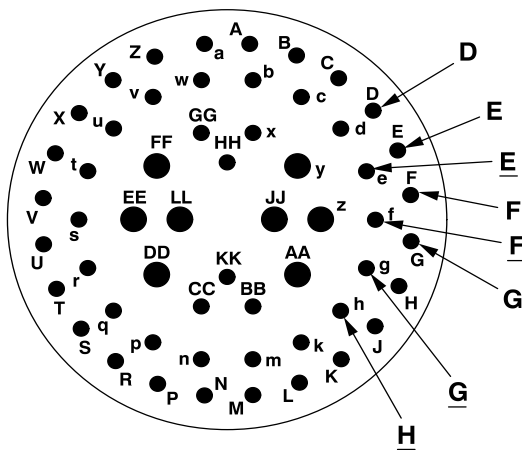
NOTE
Underlined connector contact
letters denote lowercase.

406475-542-322
J1493

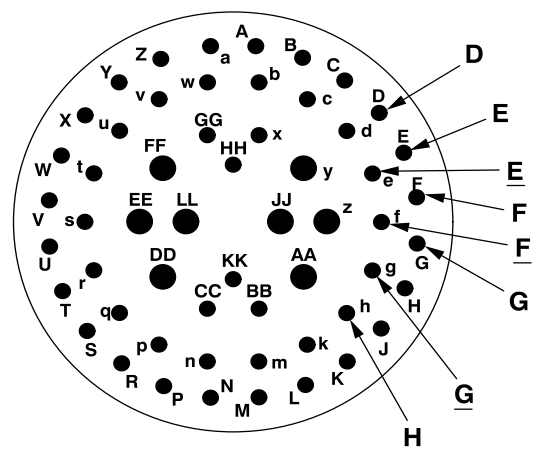
4-6-7. MISSILE DOES NOT PERFORM PROPER BOX SCAN IN LOBL (TASK 2-5-7) - OH-58D (CONT)



3431A4P5



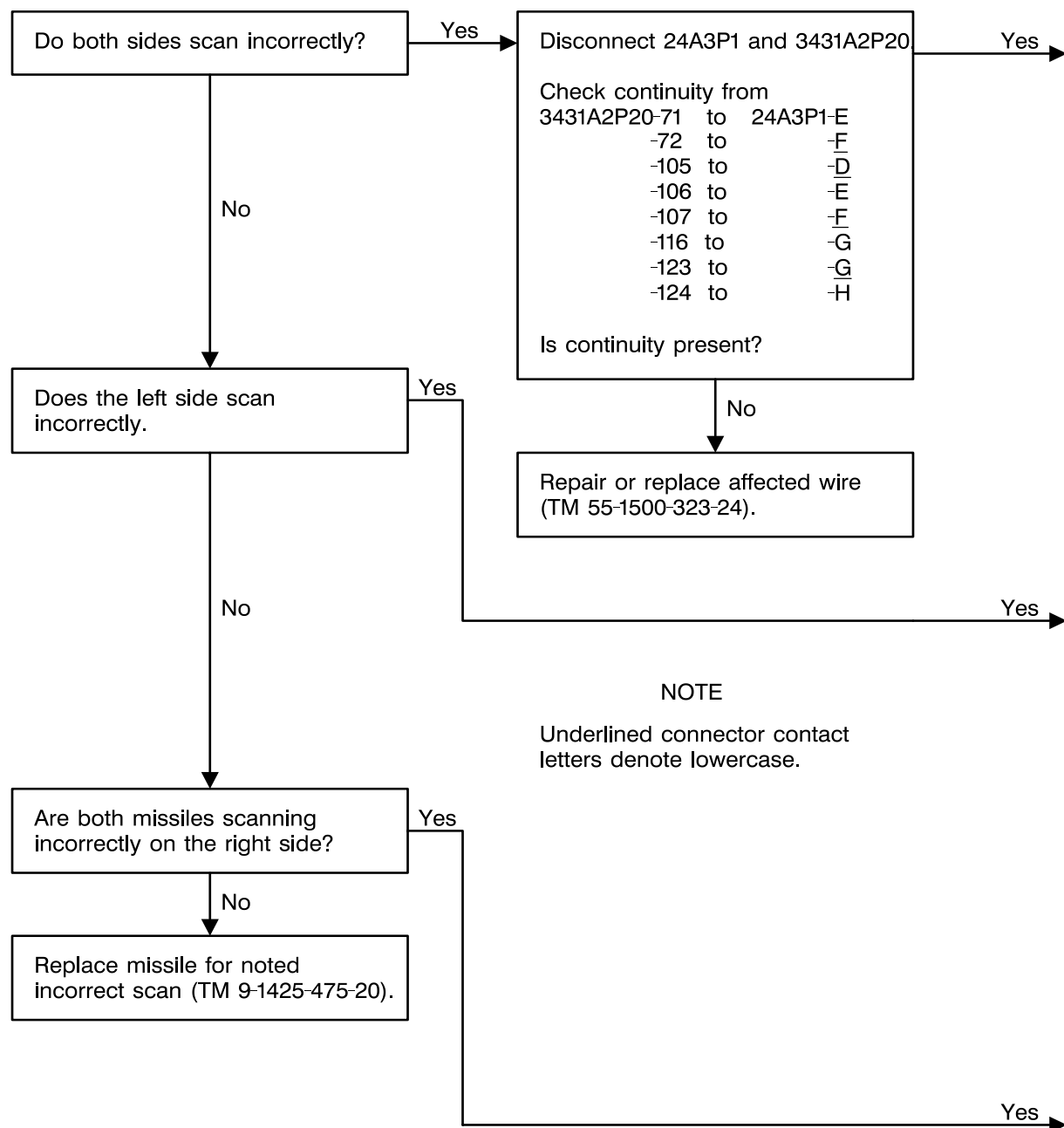
24A3P1



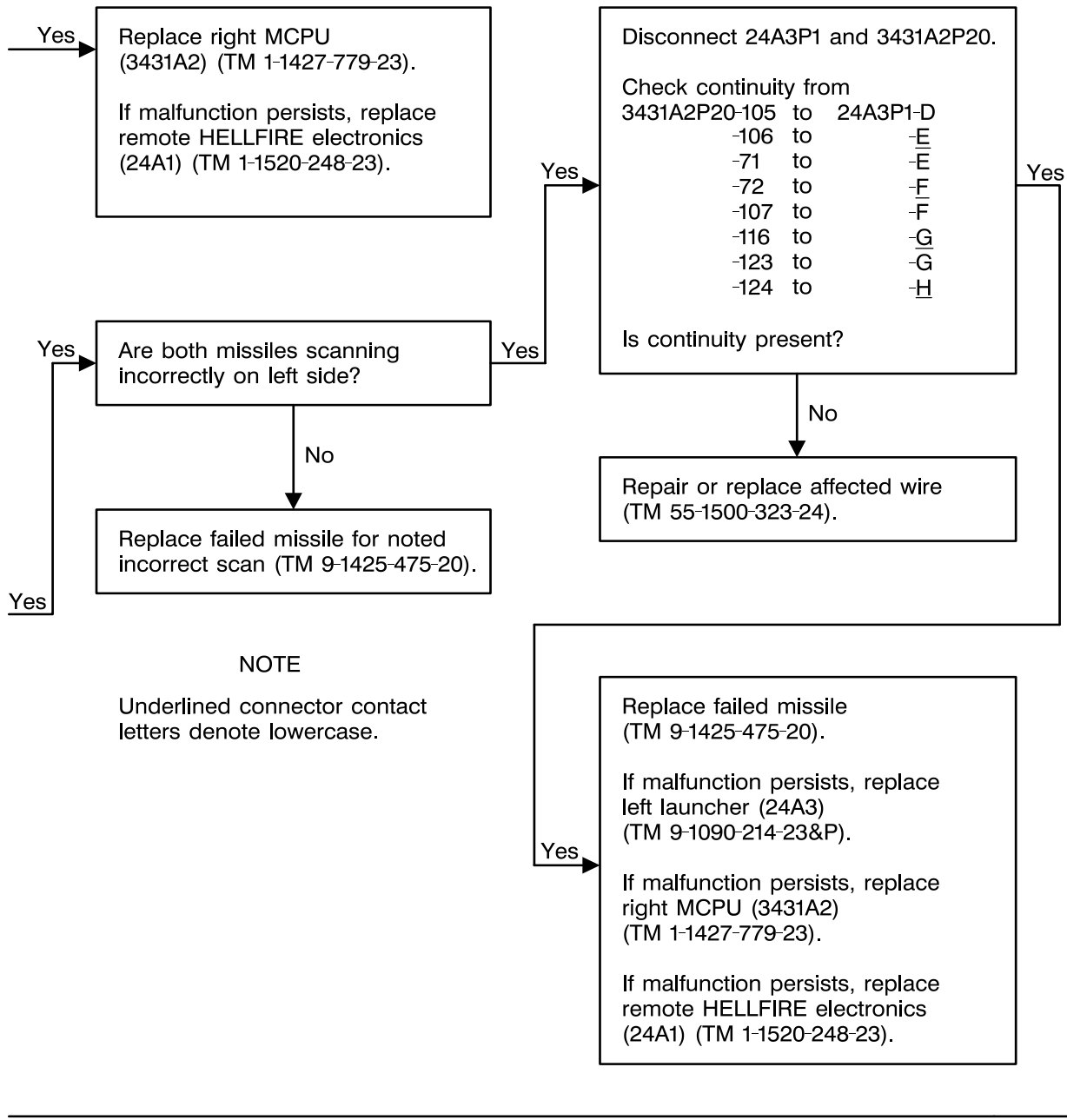
24A2P1

406475-542-323
J1493

4-6-8. MISSILE DOES NOT PERFORM PROPER BOX SCAN IN LOBL (TASK 2-5-8) - OH-58D(R)

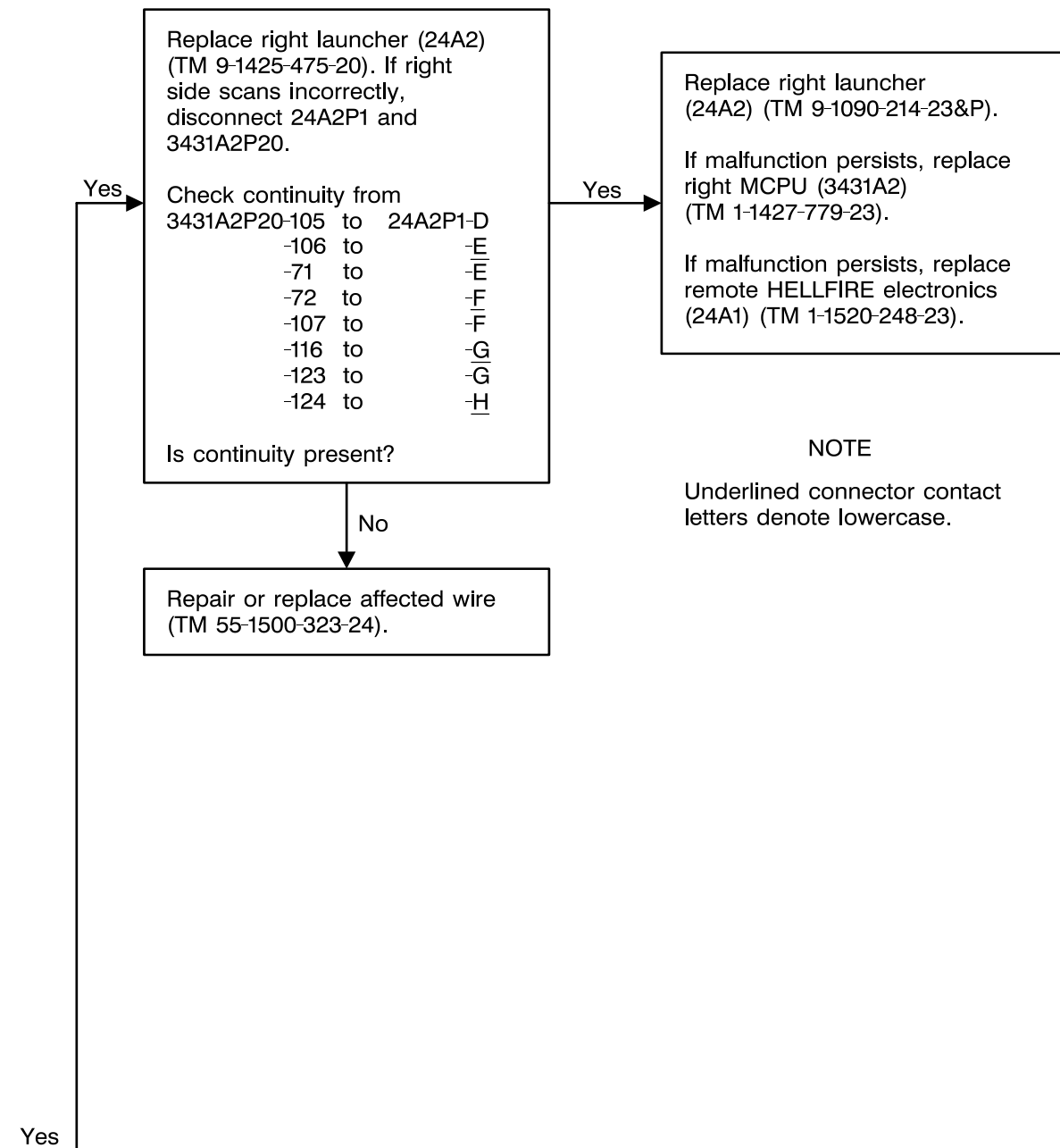
406475-542-324
J1493

4-6-8. MISSILE DOES NOT PERFORM PROPER BOX SCAN IN LOBL (TASK 2-5-8) - OH-58D(R) (CONT)

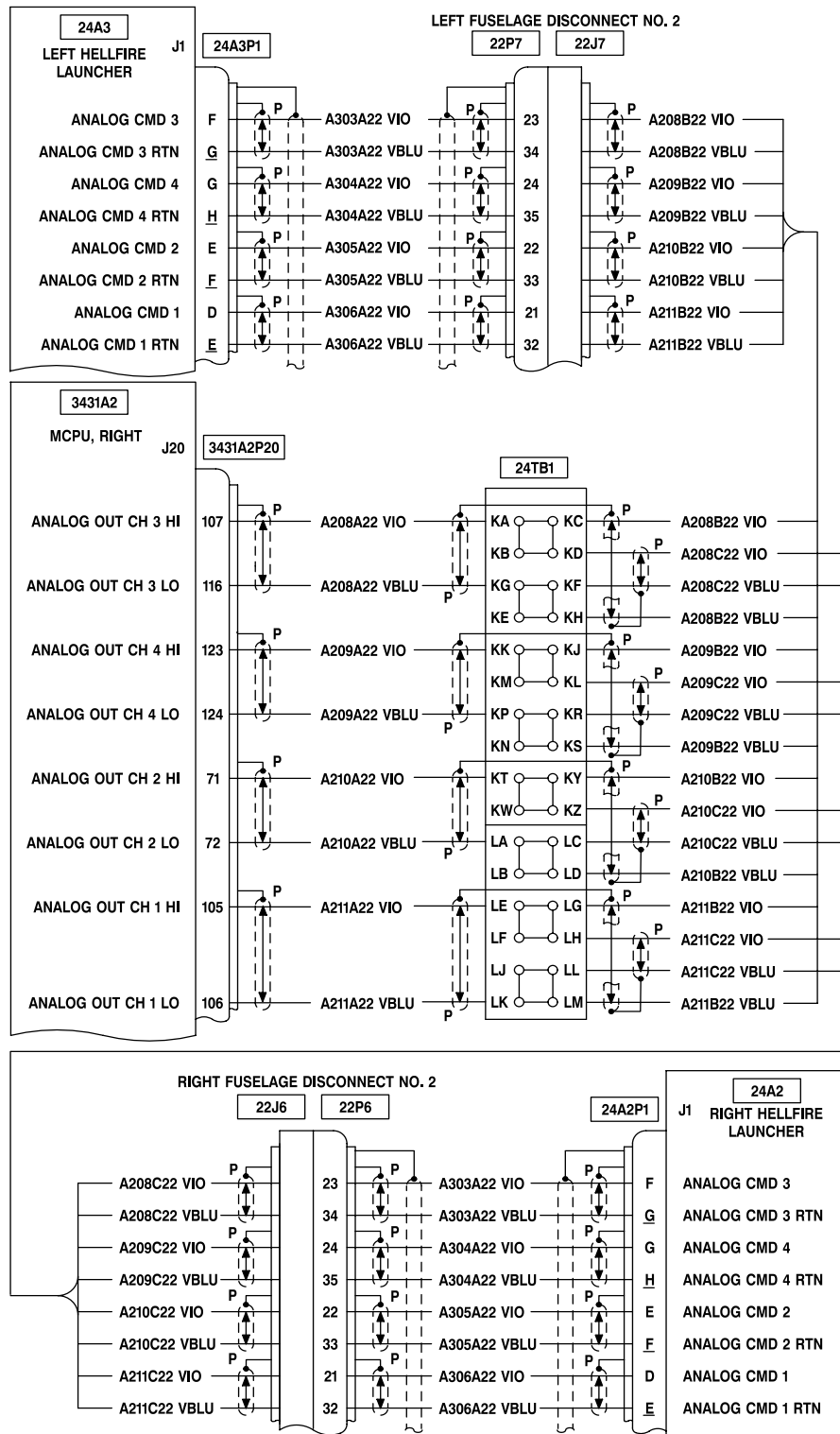


406475-542-325
J1493

4-6-8. MISSILE DOES NOT PERFORM PROPER BOX SCAN IN LOBL (TASK 2-5-8) - OH-58D(R) (CONT)

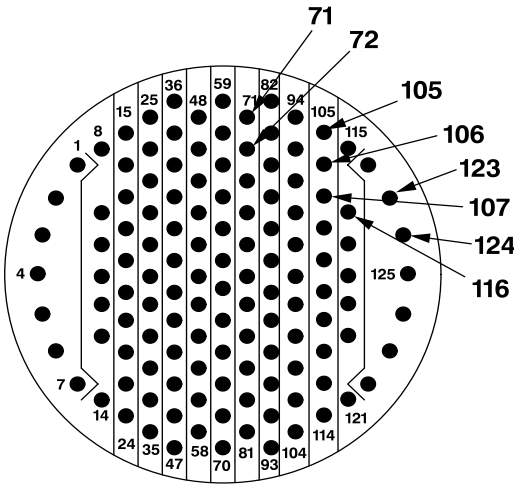


4-6-8. MISSILE DOES NOT PERFORM PROPER BOX SCAN IN LOBL (TASK 2-5-8) - OH-58D(R) (CONT)

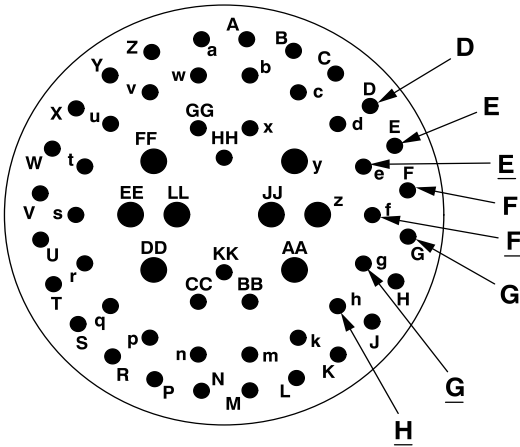


406475-542-327
J1493

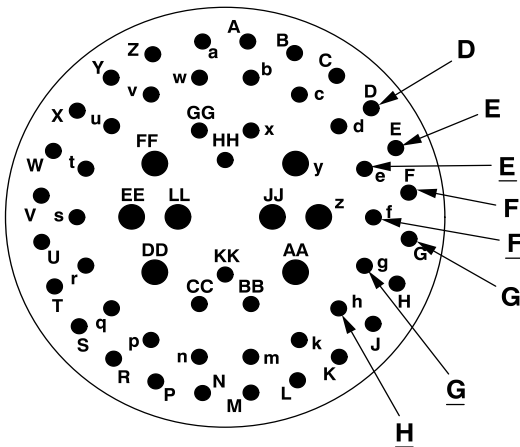
4-6-8. MISSILE DOES NOT PERFORM PROPER BOX SCAN IN LOBL (TASK 2-5-8) - OH-58D(R)
(CONT)



3431A2P20

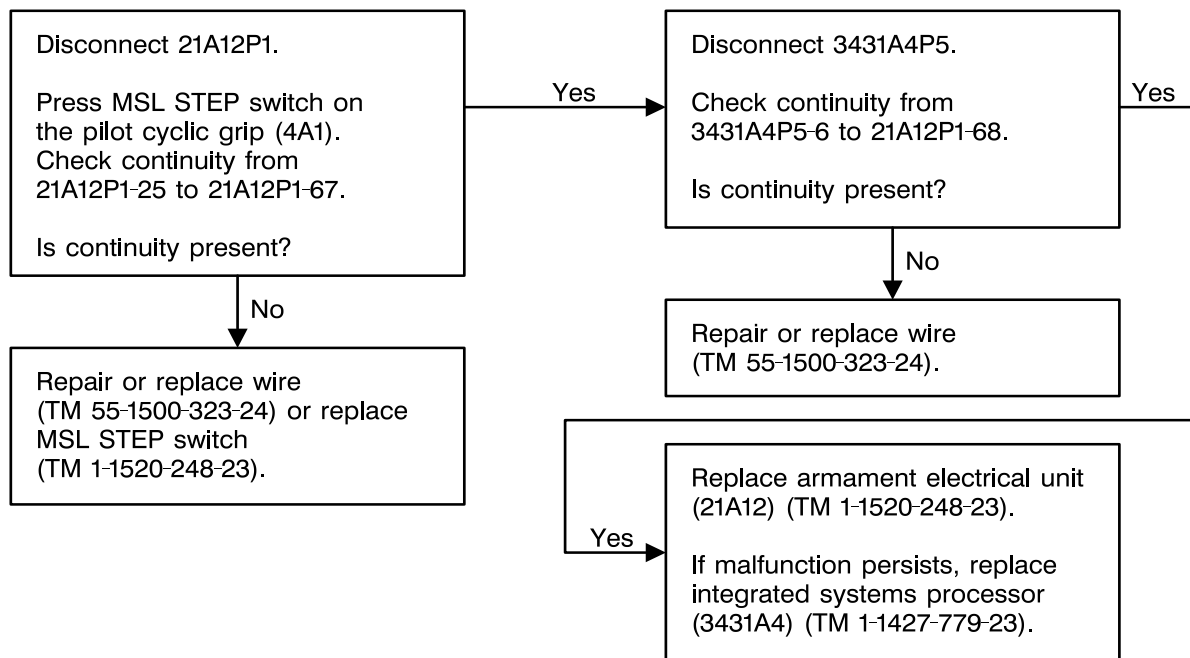


24A3P1

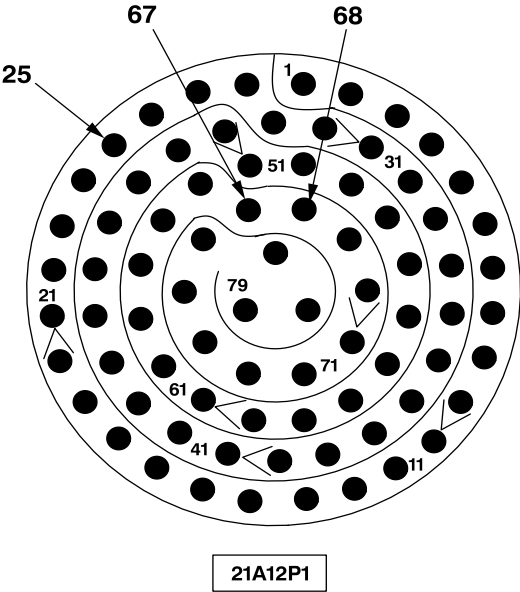
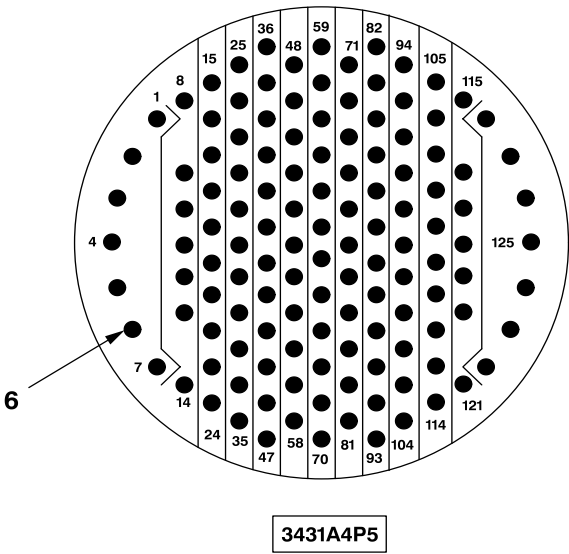
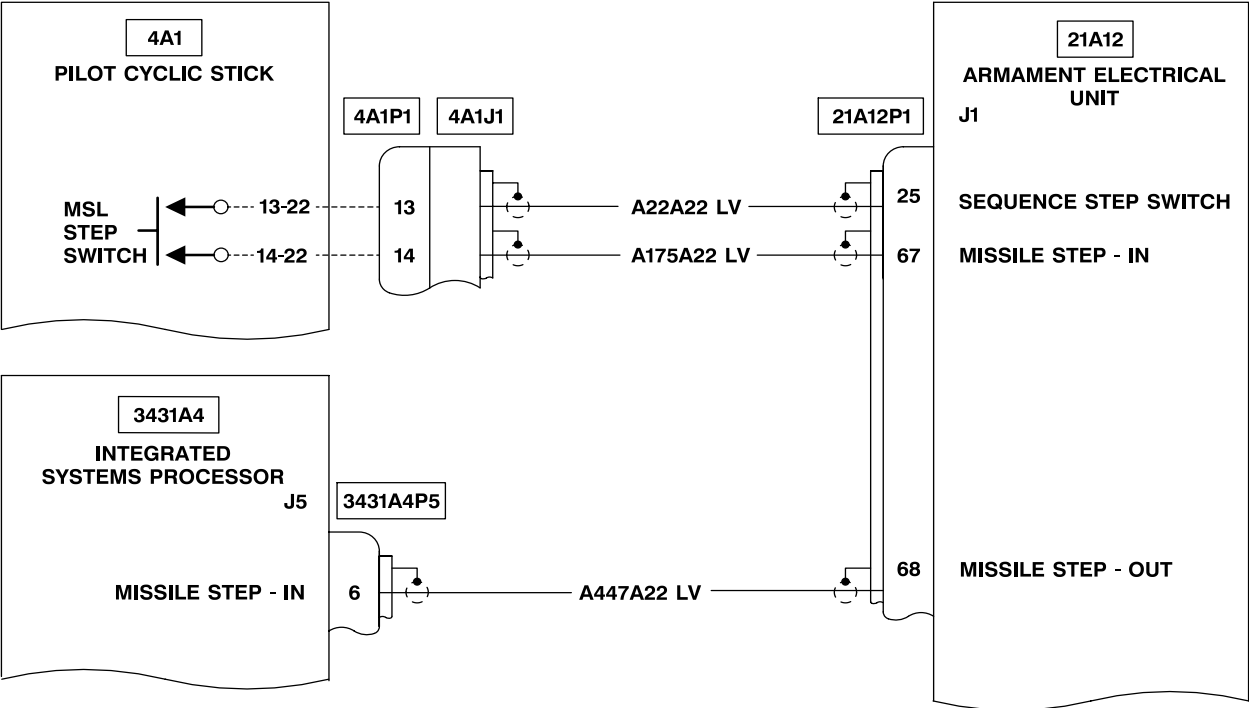


24A2P1

4-6-9. SYSTEM WILL NOT STEP TO NEXT MISSILE (TASK 2-5-7) - OH-58D

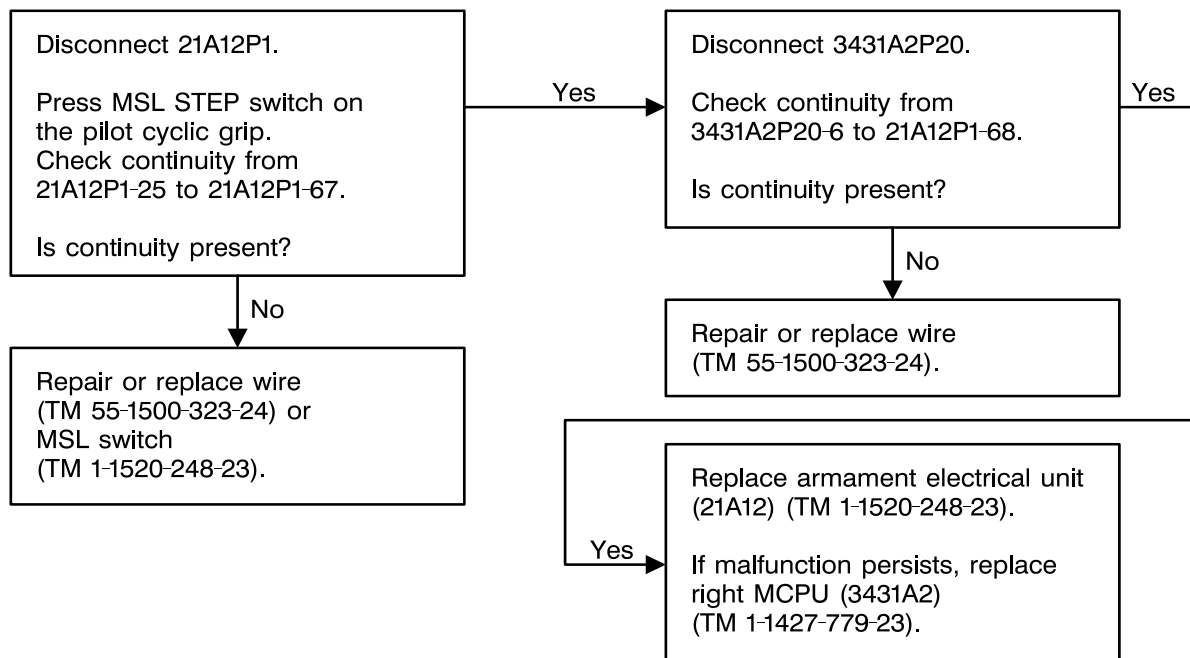
406475-542-329
J1493

4-6-9. SYSTEM WILL NOT STEP TO NEXT MISSILE (TASK 2-5-7) - OH-58D (CONT)

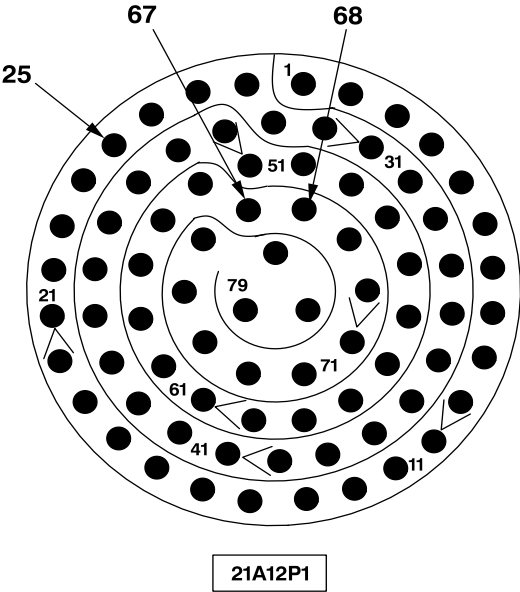
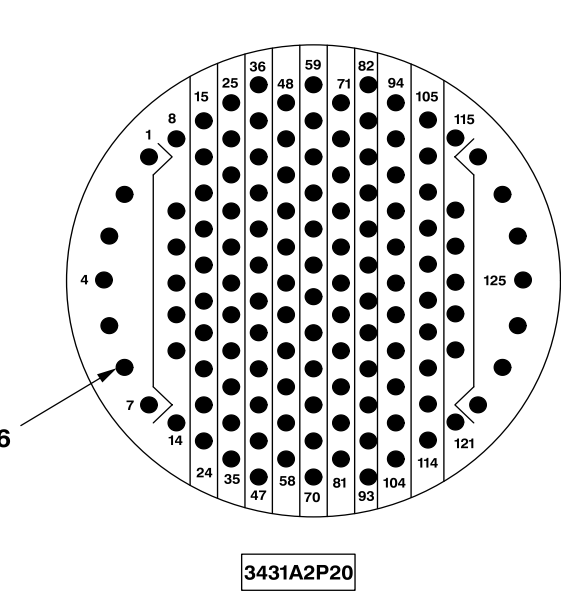
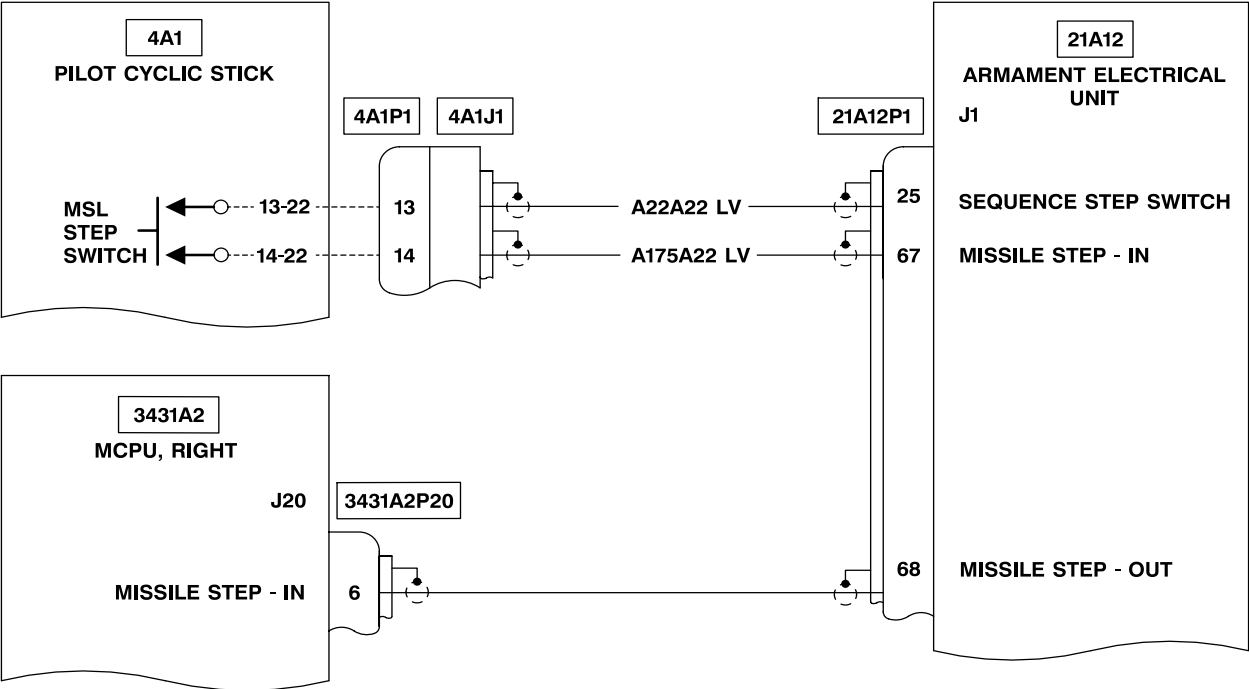


406475-542-330
J1493

4-6-10. SYSTEM WILL NOT STEP TO NEXT MISSILE (TASK 2-5-8) - OH-58D(R)

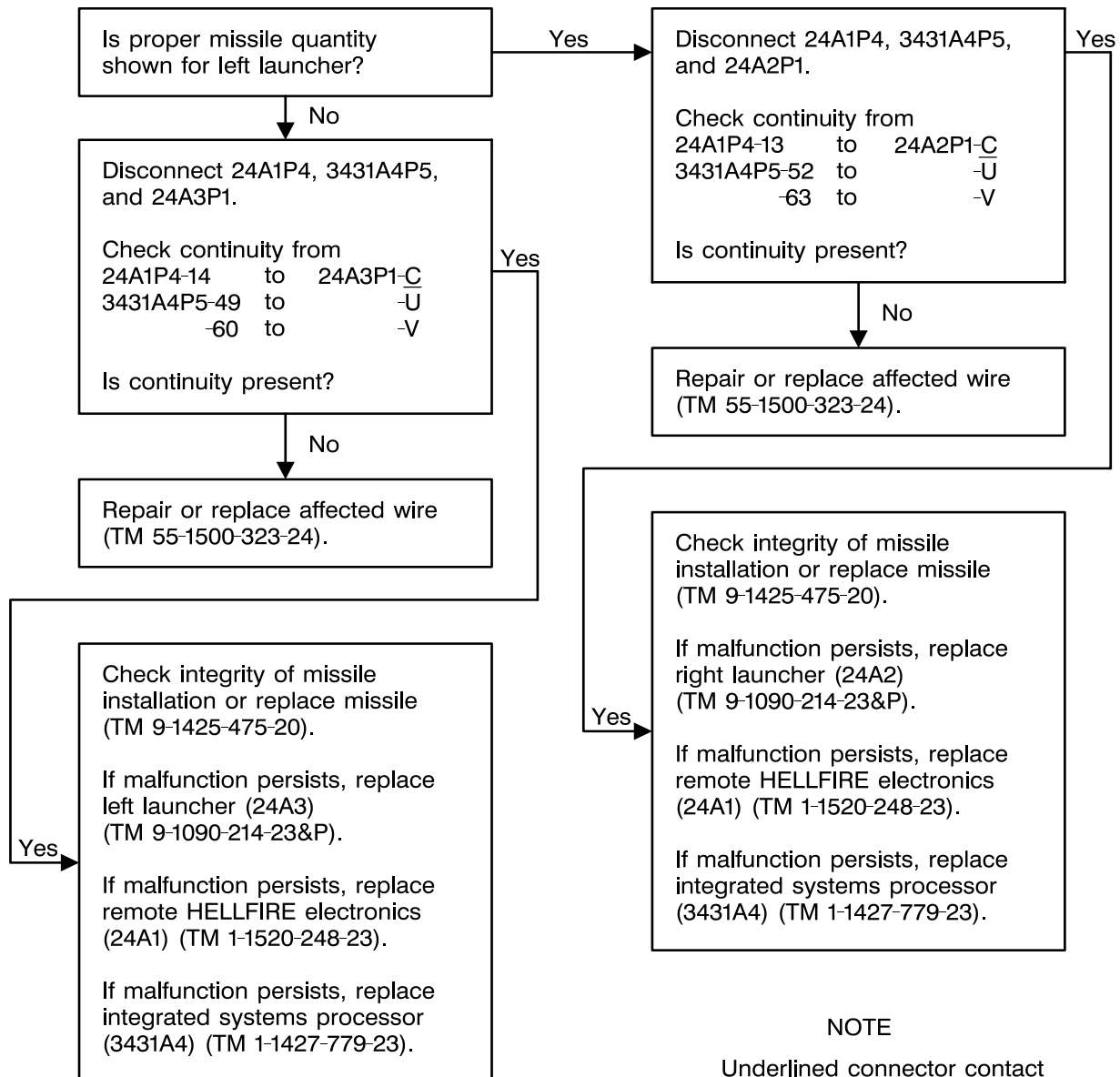
406475-542-331
J1493

4-6-10. SYSTEM WILL NOT STEP TO NEXT MISSILE (TASK 2-5-8) - OH-58D(R) (CONT)

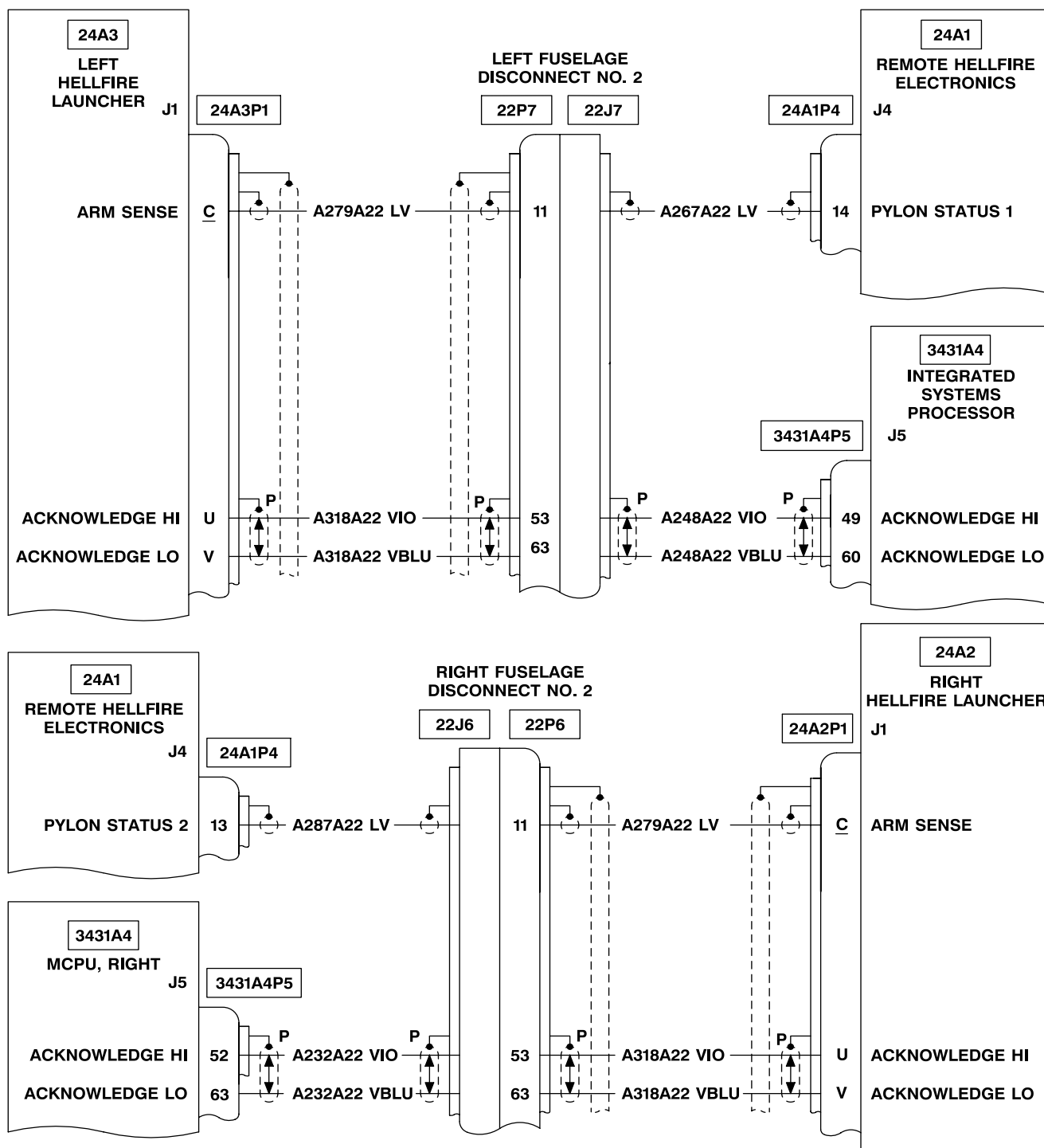


406475-542-332
J1493

4-6-11. IMPROPER HELLFIRE MISSILE QUANTITY SHOWN ON MFD (TASK 2-5-7) - OH-58D

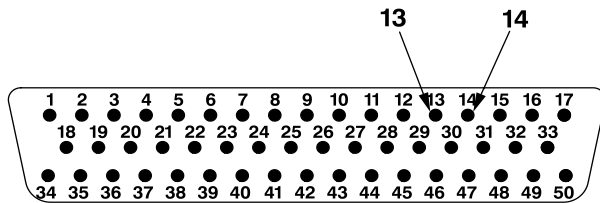
406475-542-333
J1493

4-6-11. IMPROPER HELLFIRE MISSILE QUANTITY SHOWN ON MFD (TASK 2-5-7) - OH-58D (CONT)

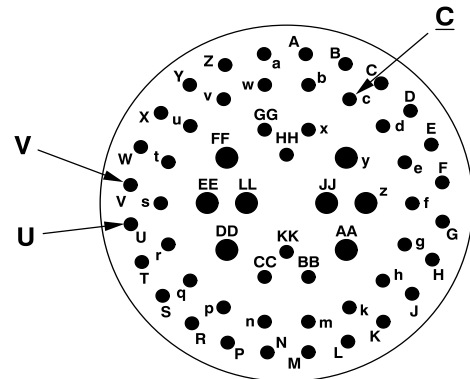


406475-542-334
J1493

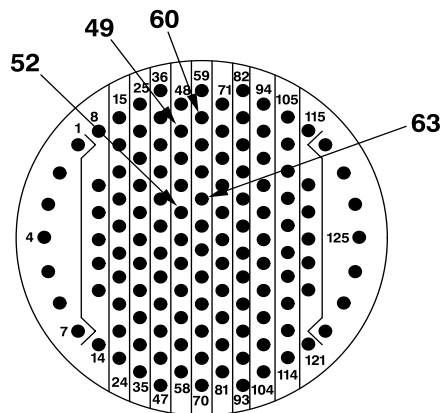
4-6-11. IMPROPER HELLFIRE MISSILE QUANTITY SHOWN ON MFD (TASK 2-5-7) - OH-58D (CONT)



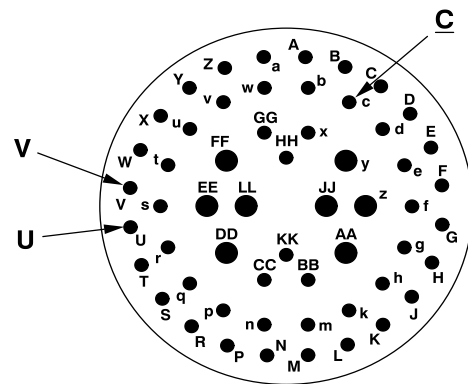
24A1P4



24A3P1



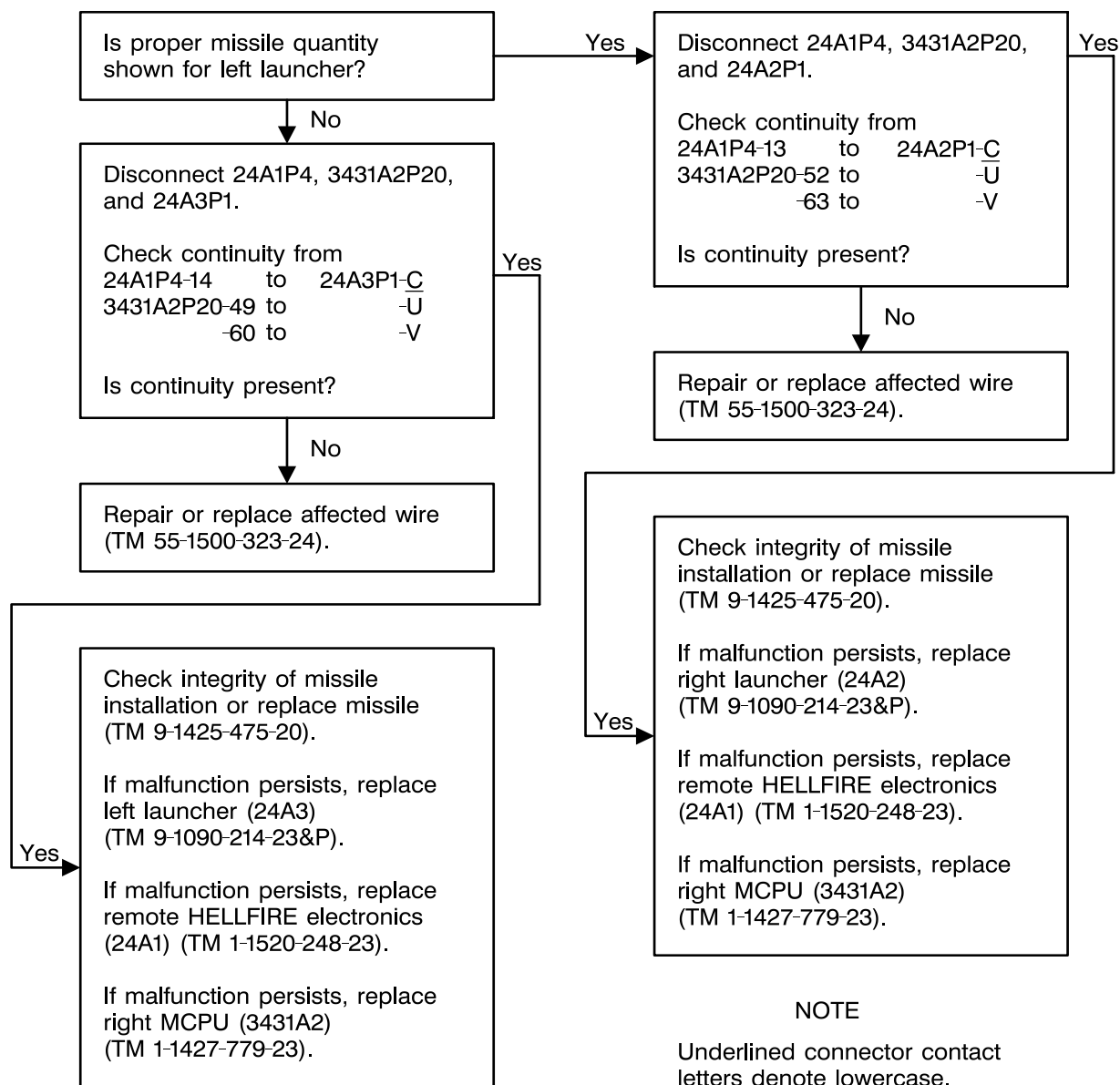
3431A4P5



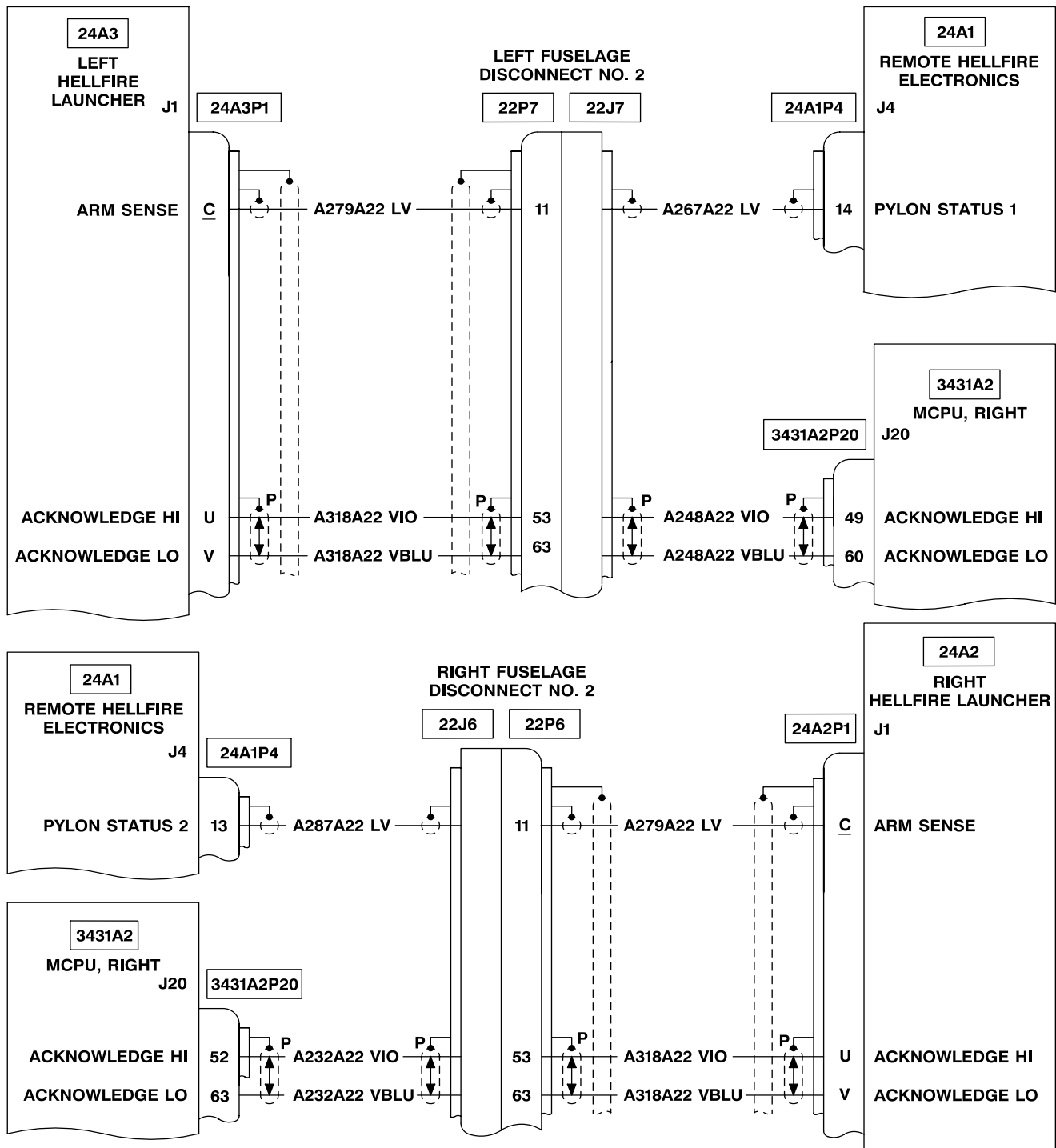
24A2P1

406475-542-335
J1493

4-6-12. IMPROPER HELLFIRE MISSILE QUANTITY SHOWN ON MFD (TASK 2-5-8) - OH-58D(R)

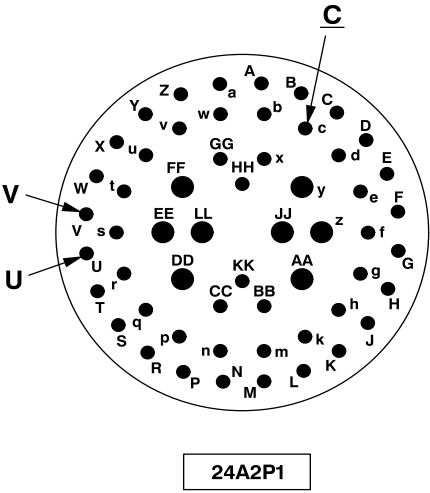
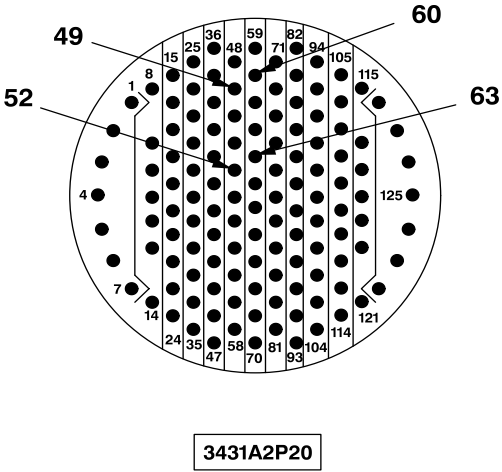
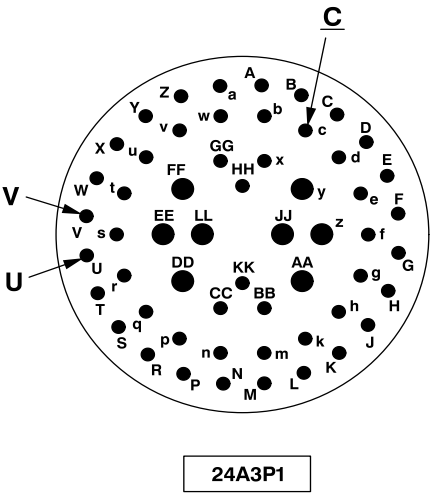
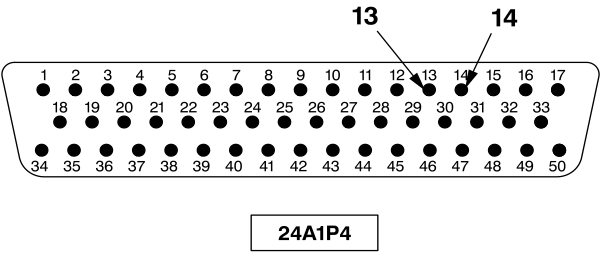


4-6-12. IMPROPER HELLFIRE MISSILE QUANTITY SHOWN ON MFD (TASK 2-5-8) - OH-58D(R)
(CONT)

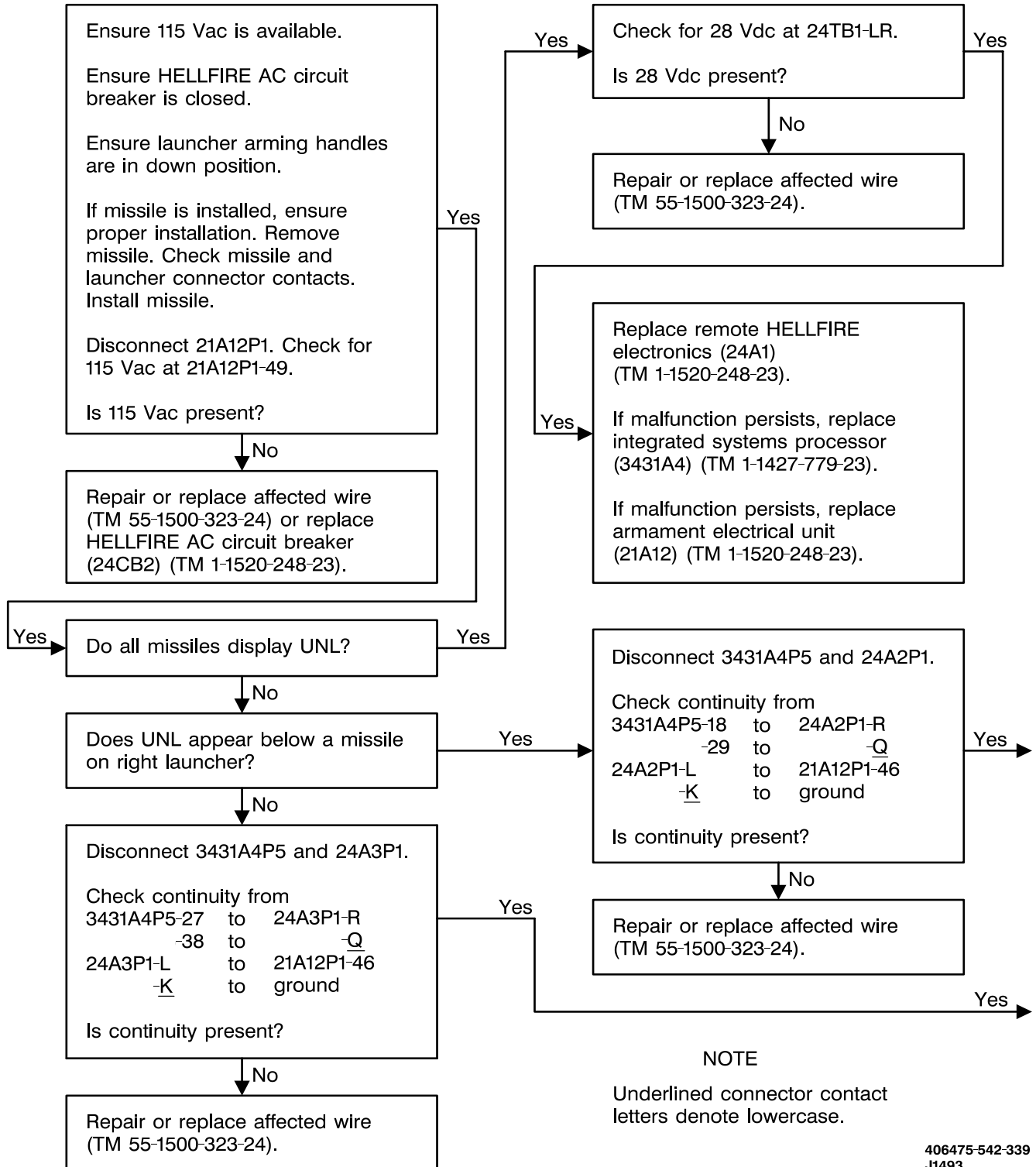


406475-542-337
J1493

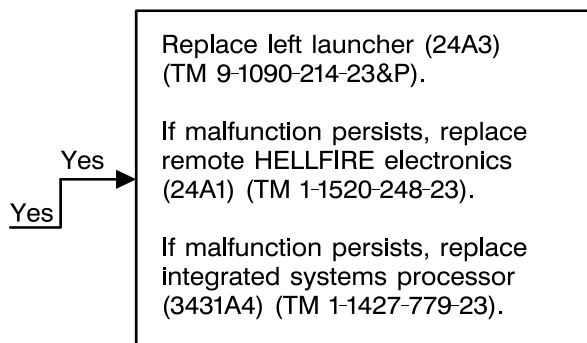
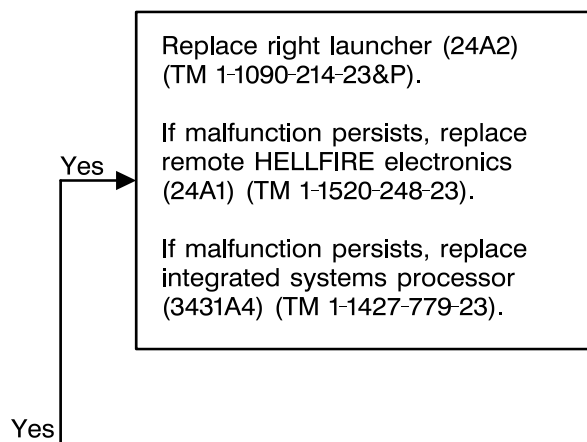
4-6-12. IMPROPER HELLFIRE MISSILE QUANTITY SHOWN ON MFD (TASK 2-5-8) - OH-58D(R)
(CONT)



4-6-13. UNL DISPLAYED ON MFD WHEN LAUNCHERS ARE IN LATCHED POSITION (TASK 2-5-7) - OH-58D

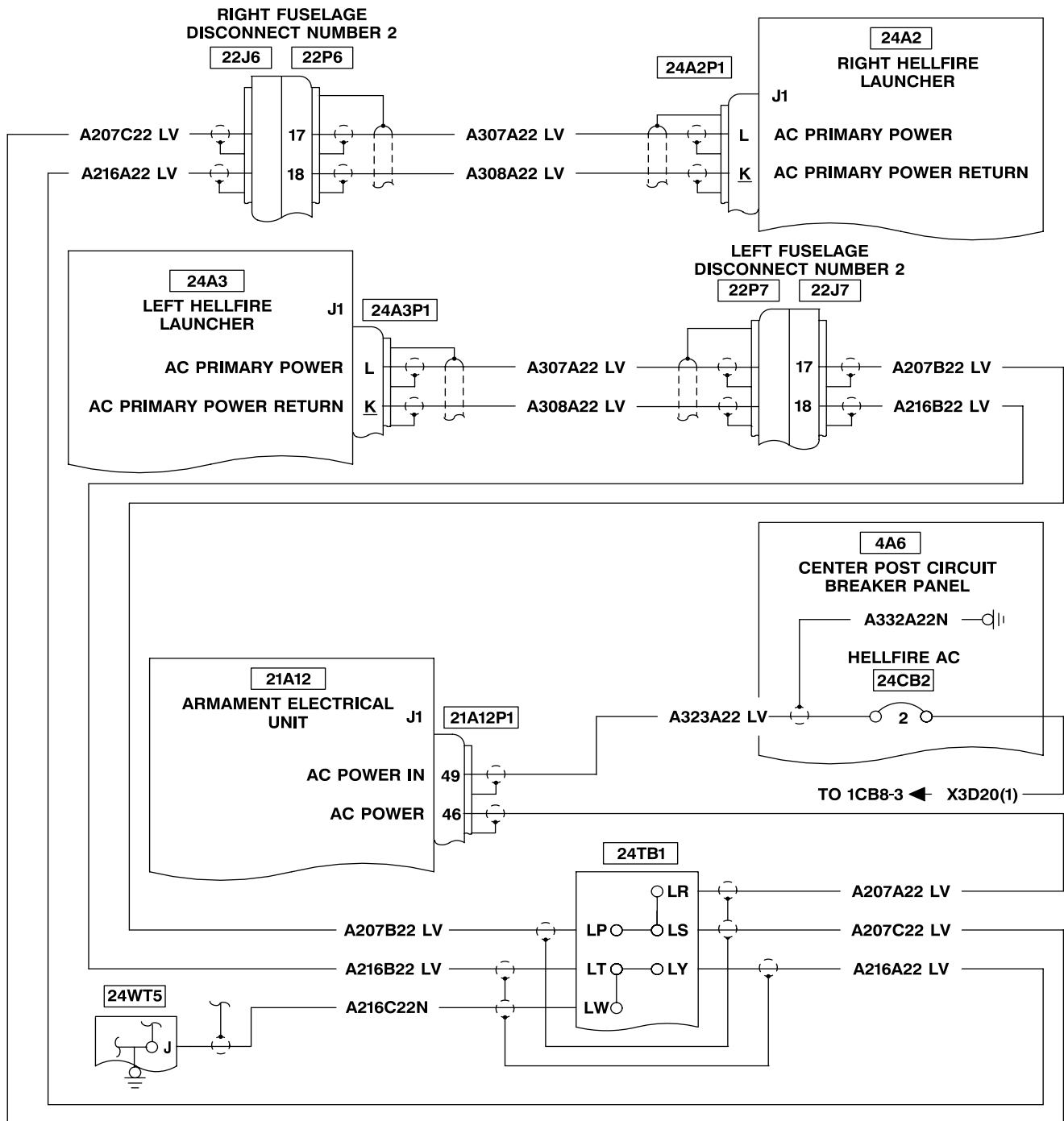


4-6-13. **UNL** DISPLAYED ON MFD WHEN LAUNCHERS ARE IN LATCHED POSITION (TASK 2-5-7) - OH-58D (CONT)



406475-542-340
J1493

4-6-13. **UNL** DISPLAYED ON MFD WHEN LAUNCHERS ARE IN LATCHED POSITION (TASK 2-5-7) - OH-58D (CONT)

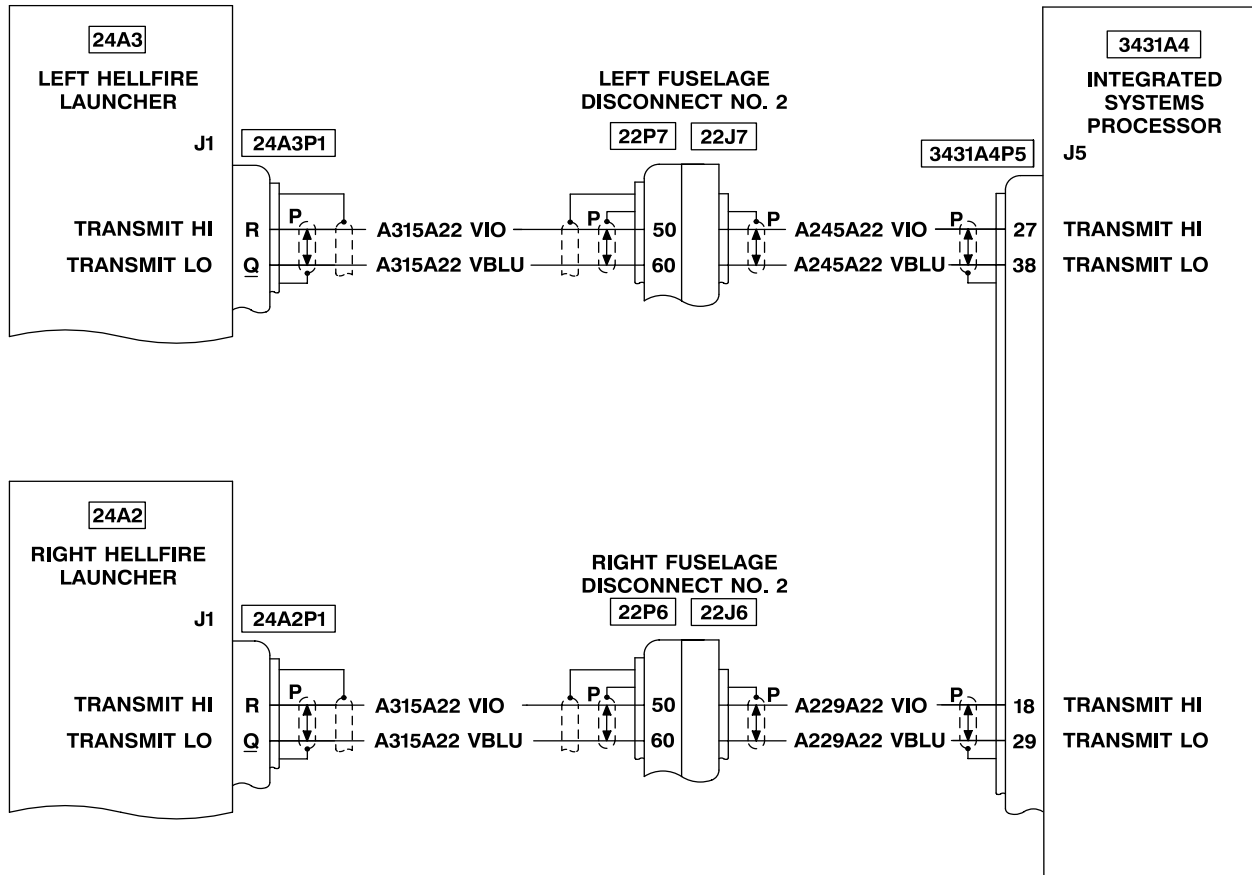


NOTE

Underline connector contact letters denote lowercase.

406475-542-341
 J1493

4-6-13. **UNL** DISPLAYED ON MFD WHEN LAUNCHERS ARE IN LATCHED POSITION (TASK 2-5-7) - OH-58D (CONT)



NOTE
Underlined connector contact
letters denote lower case.

406475-542-342
J1493

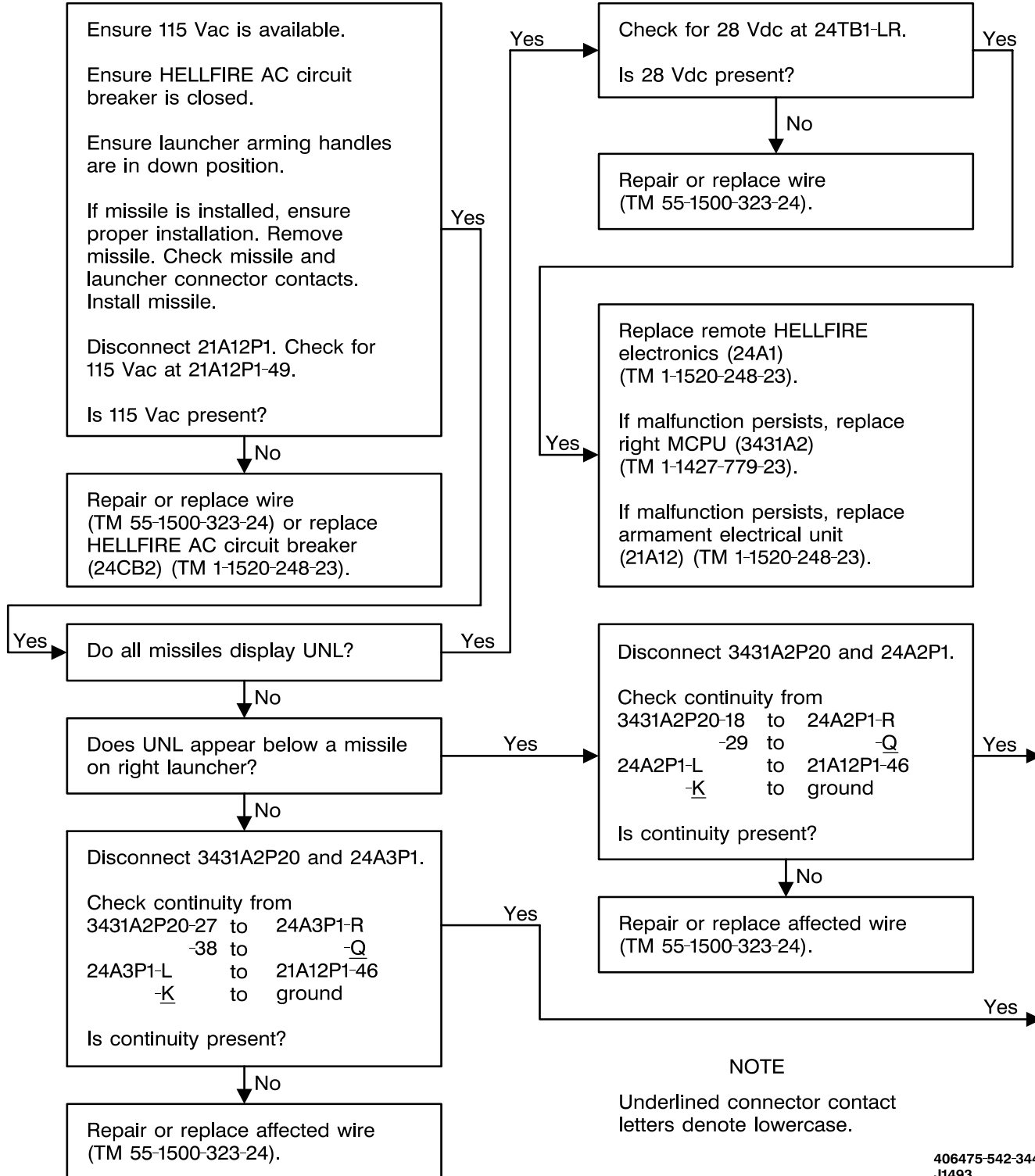
21A12P1

3431A4P5

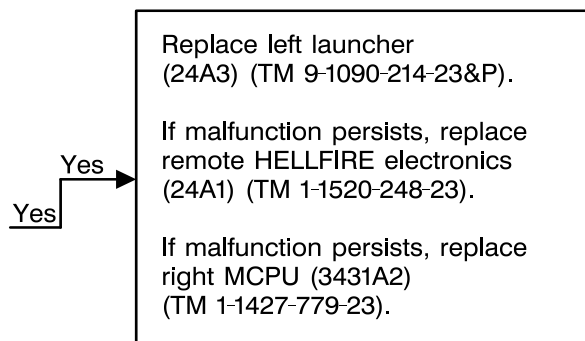
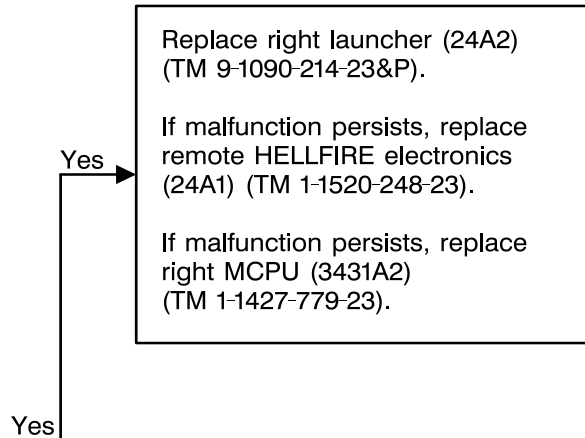
24A2P1

24A3P1

4-6-14. **UNL** DISPLAYED ON MFD WHEN LAUNCHERS ARE IN LATCHED POSITION (TASK 2-5-8) - OH-58D(R)

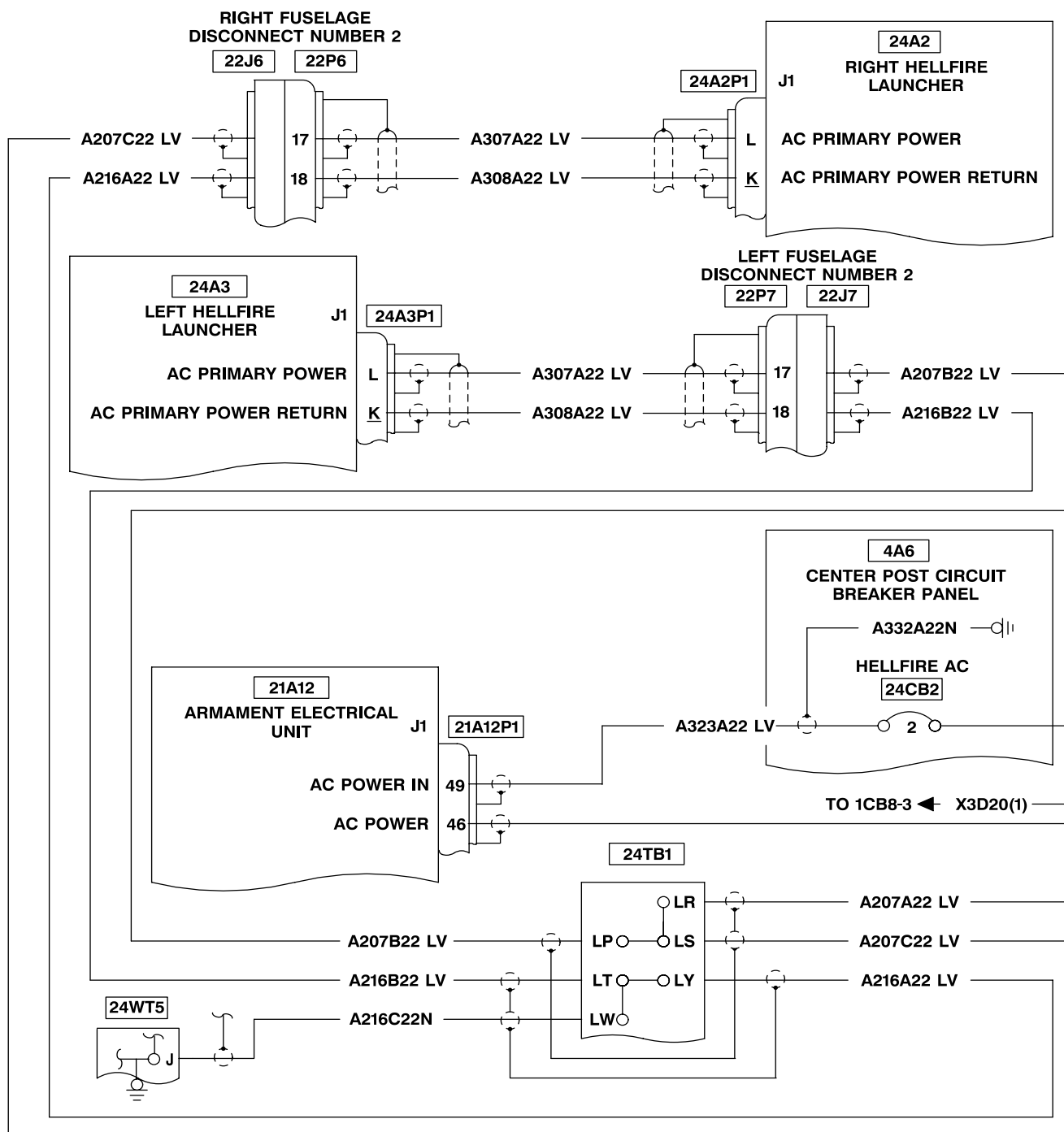


4-6-14. UNL DISPLAYED ON MFD WHEN LAUNCHERS ARE IN LATCHED POSITION (TASK 2-5-8) - OH-58D(R) (CONT)



406475-542-345
J1493

4-6-14. **UNL** DISPLAYED ON MFD WHEN LAUNCHERS ARE IN LATCHED POSITION (TASK 2-5-8) - OH-58D(R) (CONT)

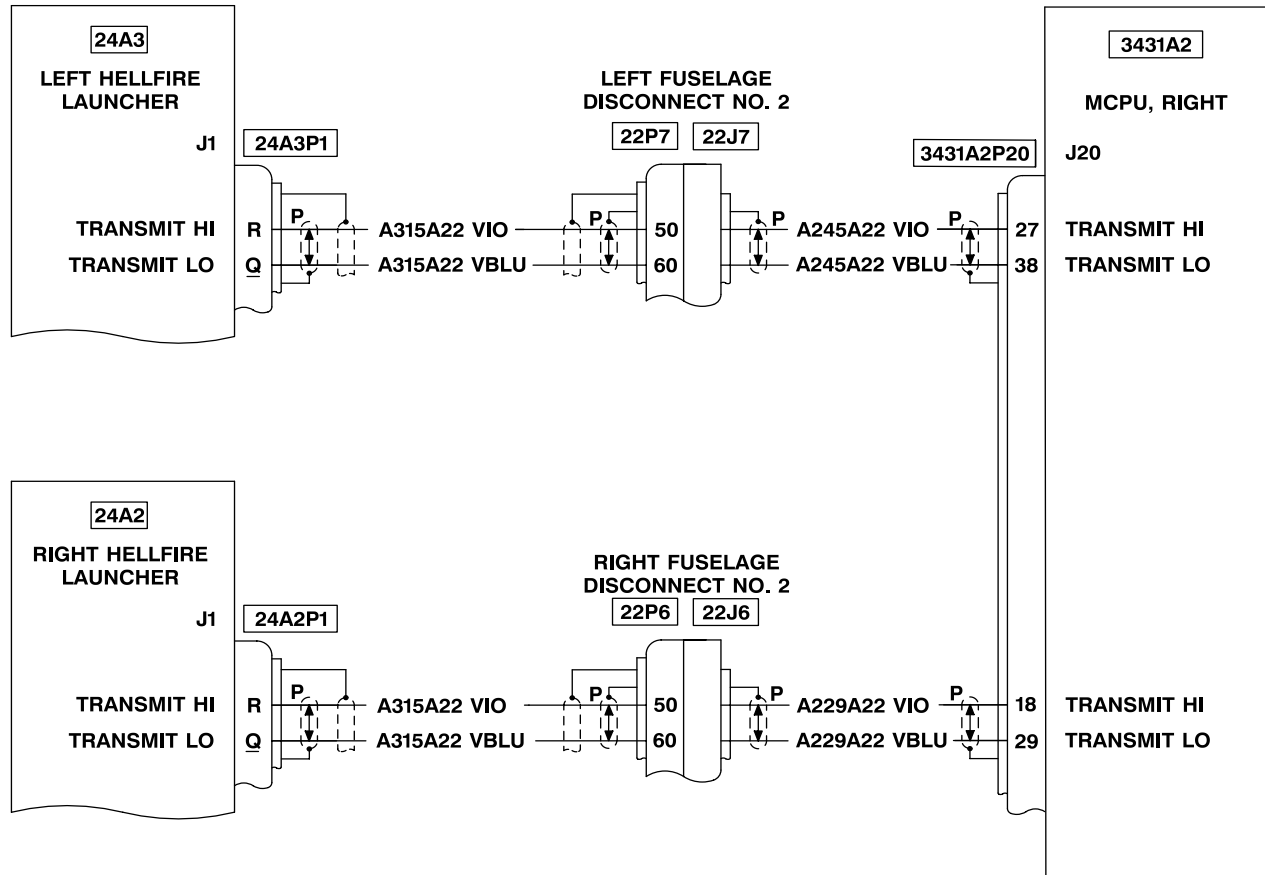


NOTE

Underlined connector contact letters denote lower case.

406475-542-346
 J1493

4-6-14. **UNL** DISPLAYED ON MFD WHEN LAUNCHERS ARE IN LATCHED POSITION (TASK 2-5-8) - OH-58D(R) (CONT)

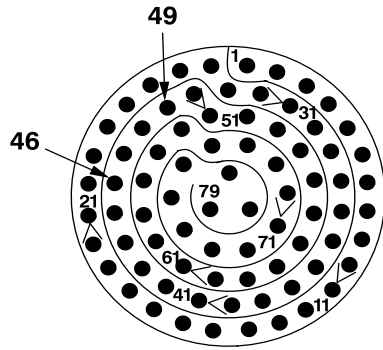


NOTE

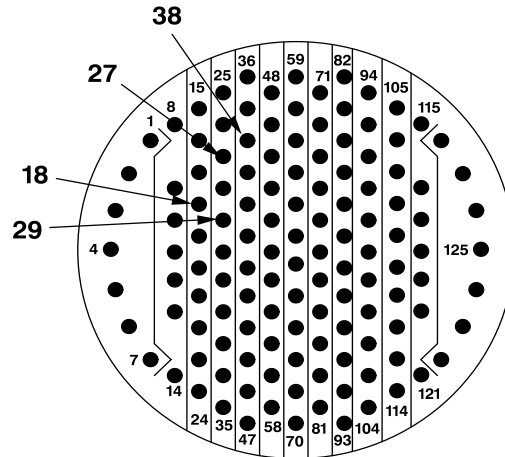
Underlined connector contact letters denote lower case.

406475-542-347
J1493

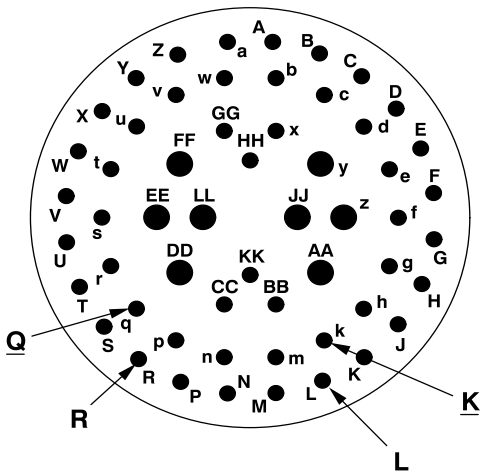
4-6-14. **UNL** DISPLAYED ON MFD WHEN LAUNCHERS ARE IN LATCHED POSITION (TASK 2-5-8) - OH-58D(R) (CONT)



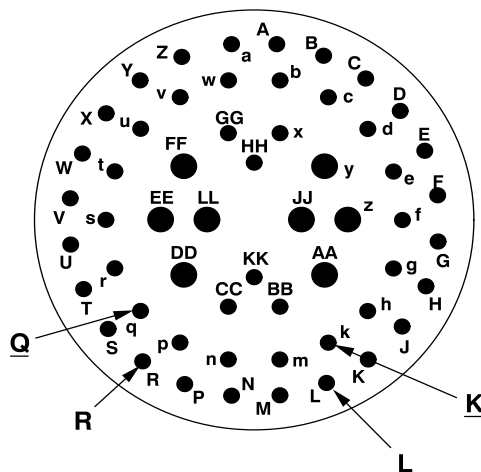
21A12P1



3431A2P20

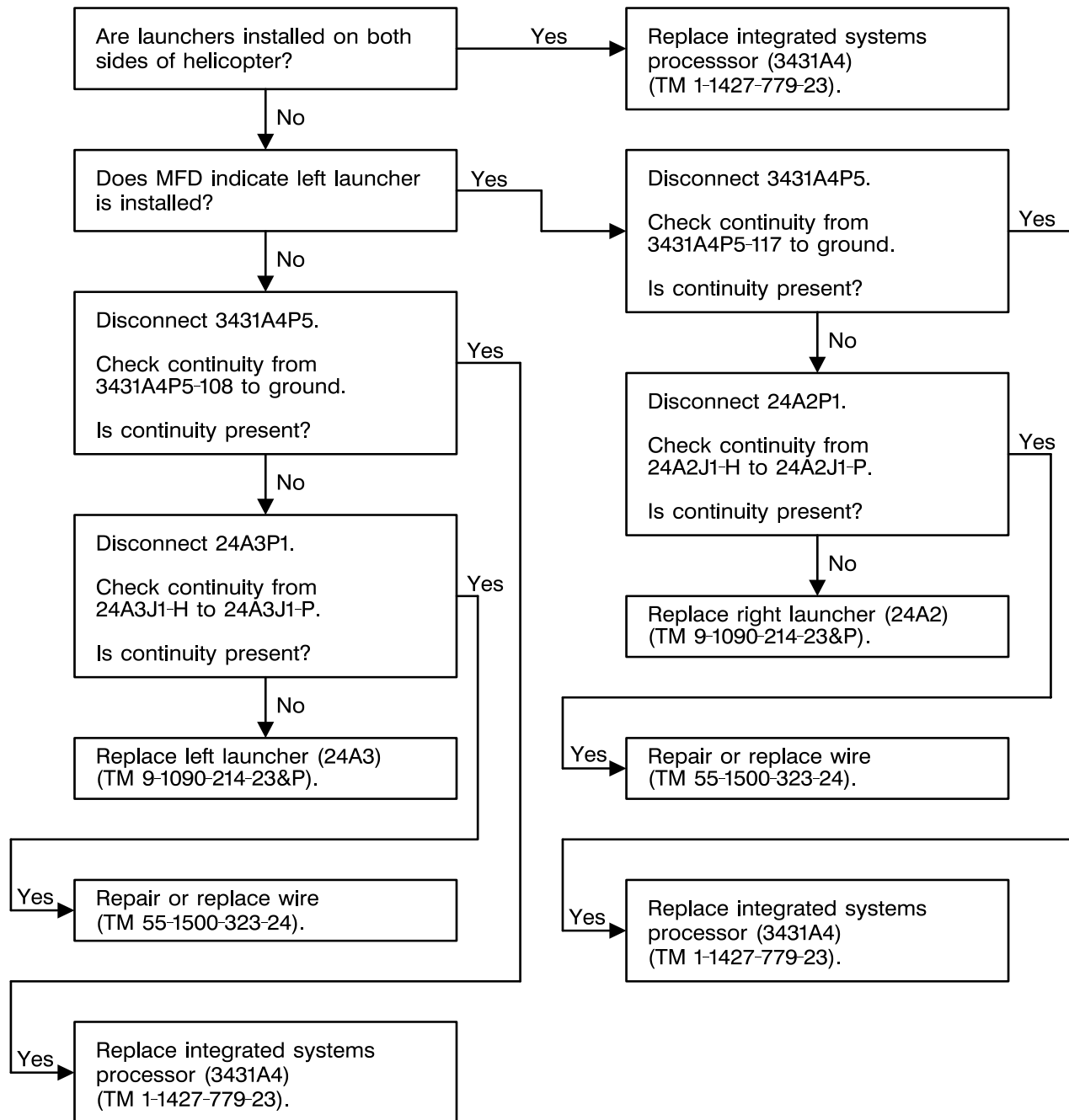


24A2P1

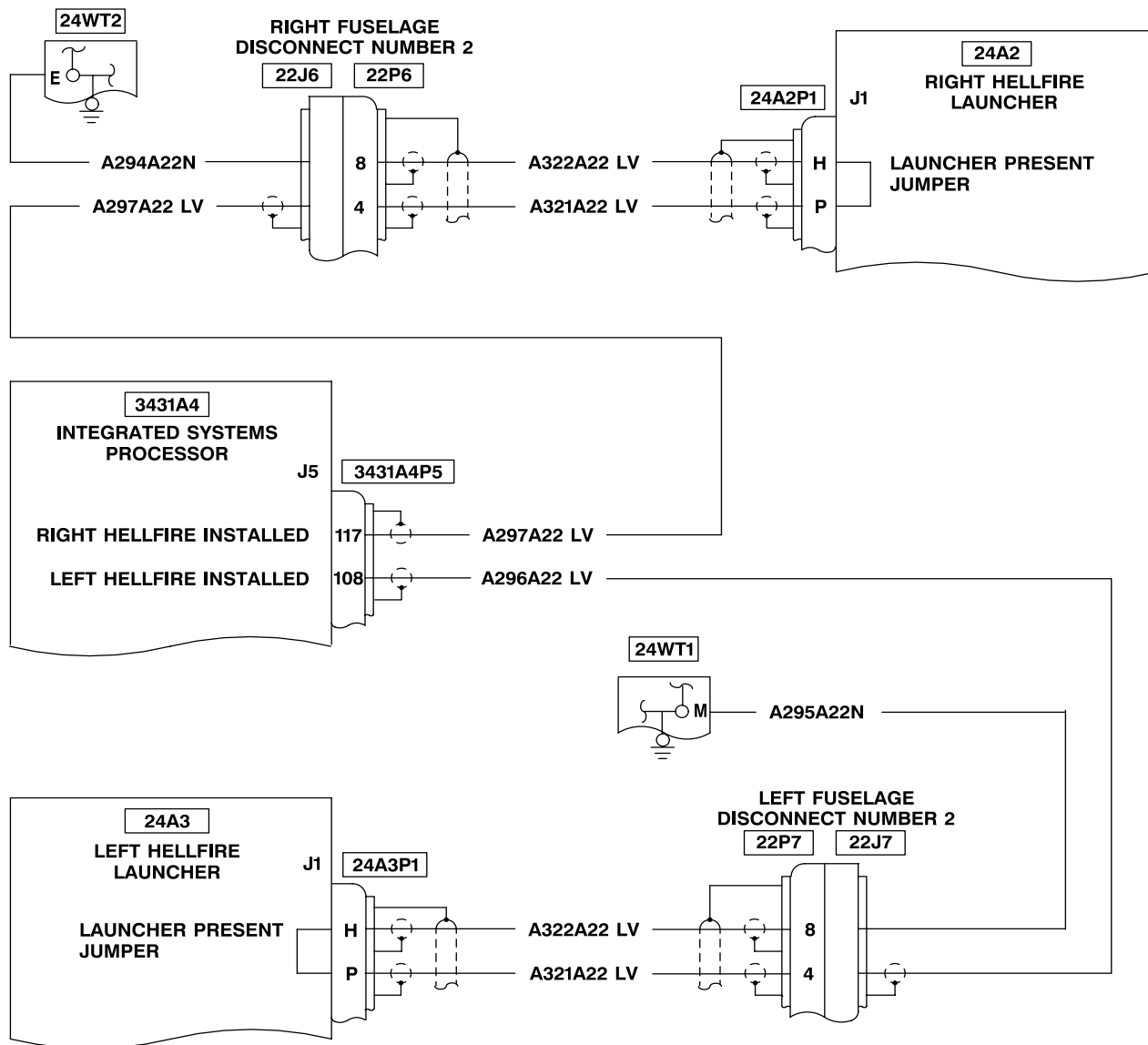


24A3P1

4-6-15. MFD DOES NOT INDICATE HELLFIRE MISSILE SYSTEM IS INSTALLED (TASK 2-5-7) - OH-58D

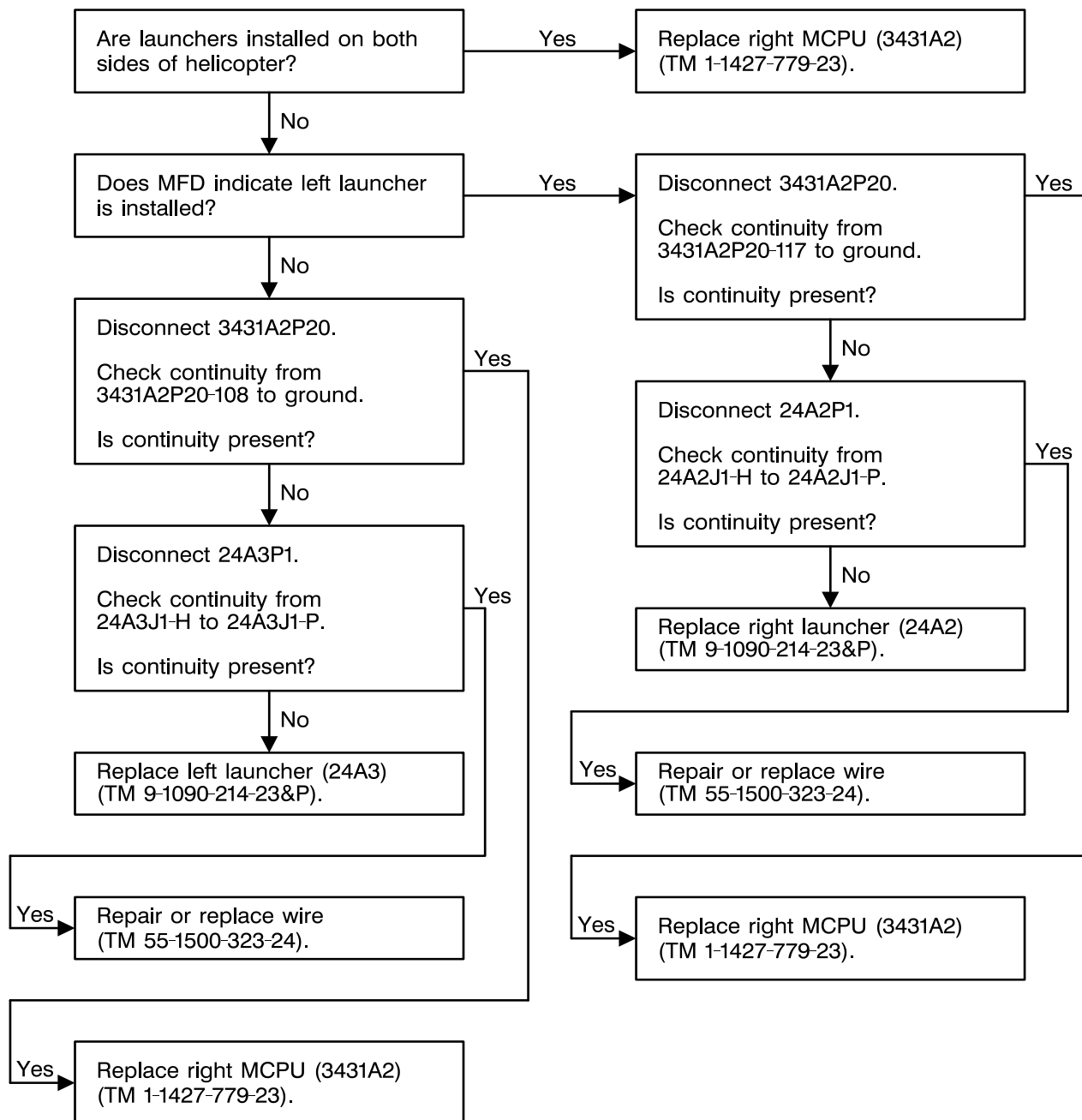
406475-542-349
J1493

4-6-15. MFD DOES NOT INDICATE HELLFIRE MISSILE SYSTEM IS INSTALLED (TASK 2-5-7) - OH-58D (CONT)



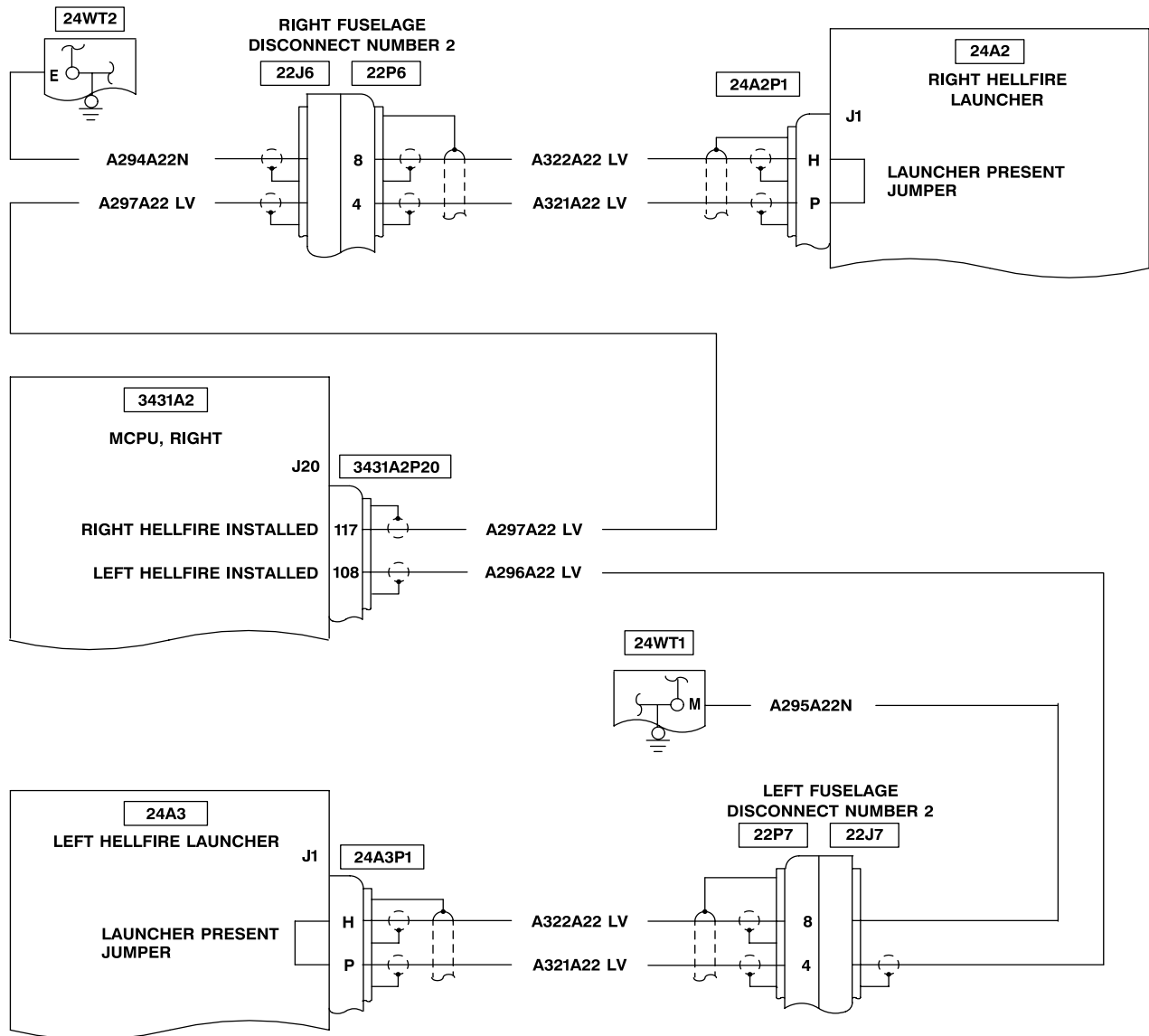
406475-542-350
J1493

4-6-16. MFD DOES NOT INDICATE HELLFIRE MISSILE SYSTEM IS INSTALLED (TASK 2-5-8) - OH-58D(R)



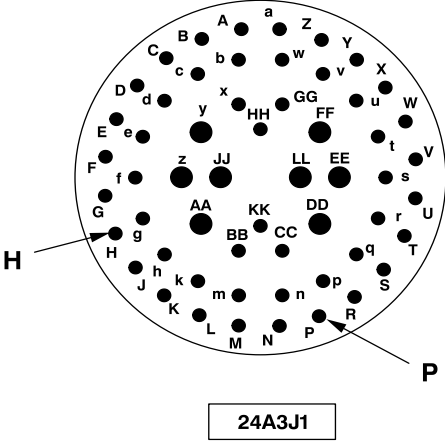
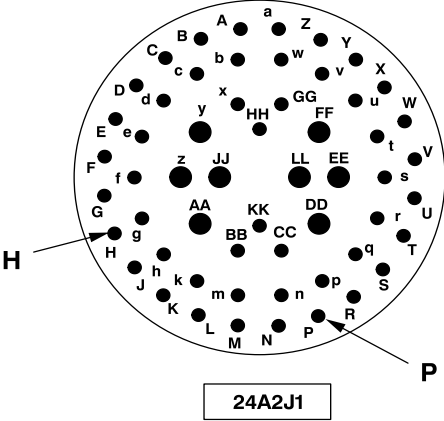
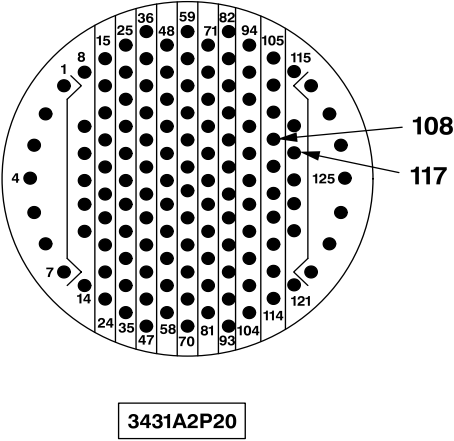
406475-542-352
J1493

4-6-16. MFD DOES NOT INDICATE HELLFIRE MISSILE SYSTEM IS INSTALLED (TASK 2-5-8) - OH-58D(R) (CONT)

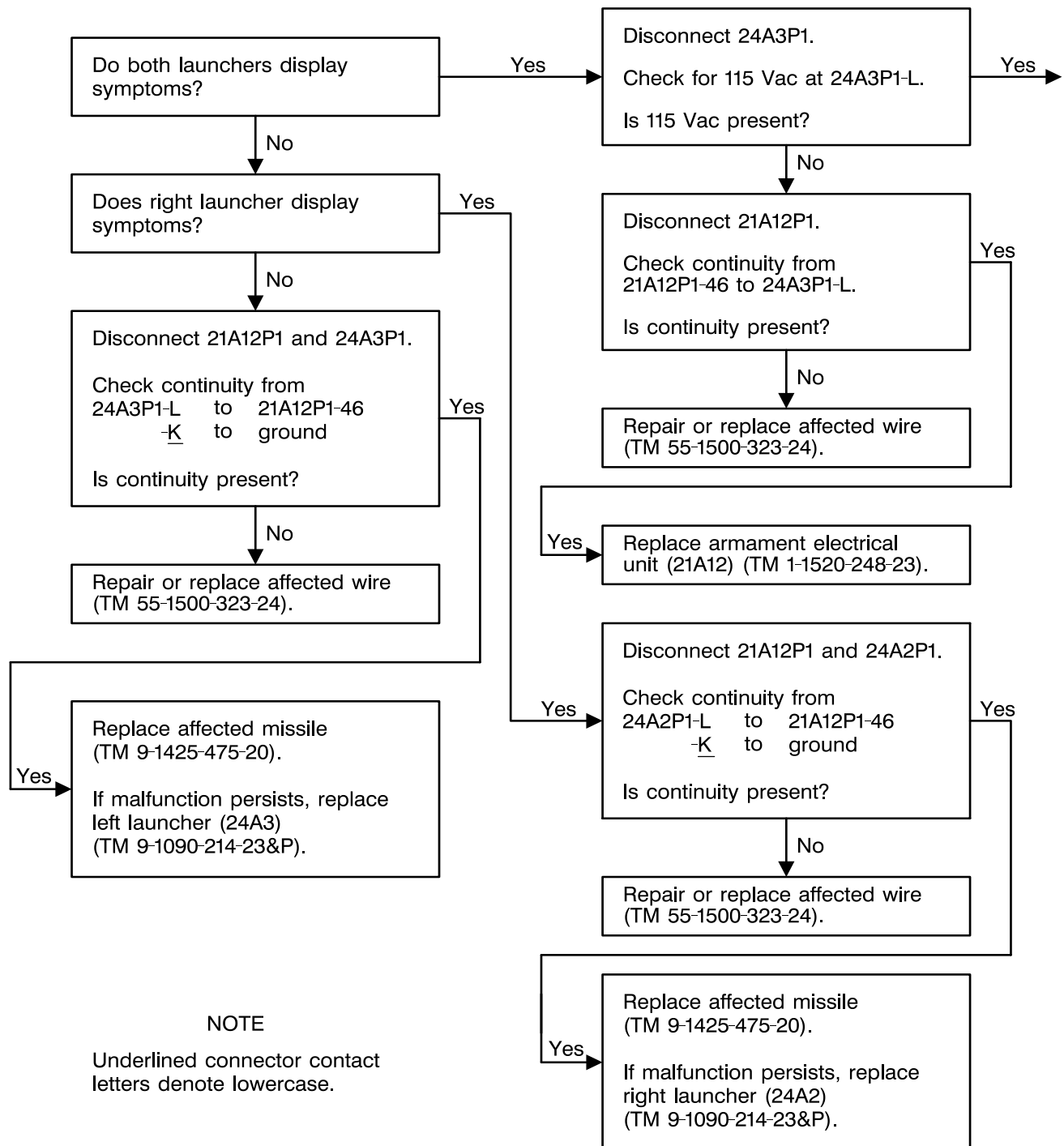


406475-542-353
J1493

4-6-16. MFD DOES NOT INDICATE HELLFIRE MISSILE SYSTEM IS INSTALLED (TASK 2-5-8) - OH-58D(R) (CONT)

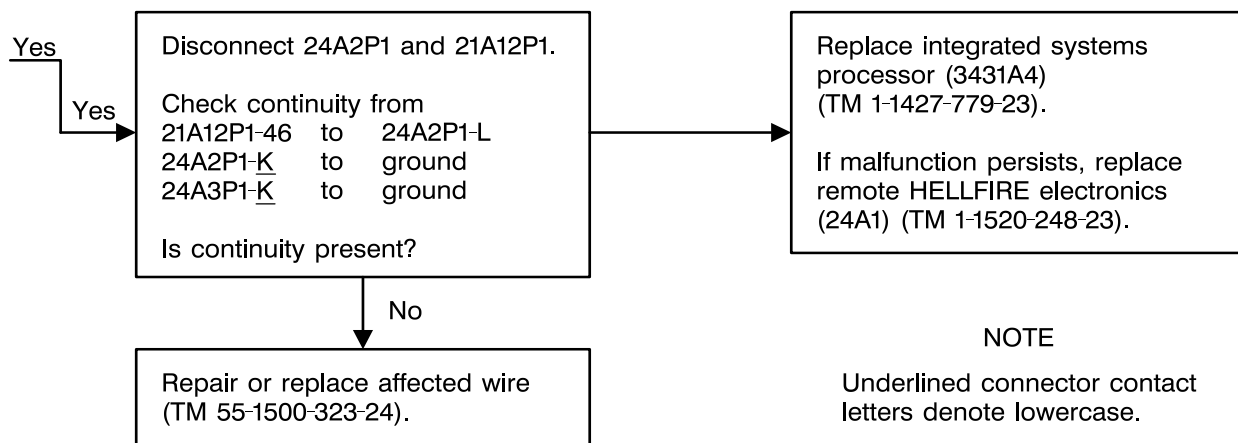


4-6-17. MFD INDICATES HELLFIRE MISSILE SYSTEM IS INSTALLED BUT SYSTEM DOES NOT OPERATE (TASK 2-5-7) - OH-58D



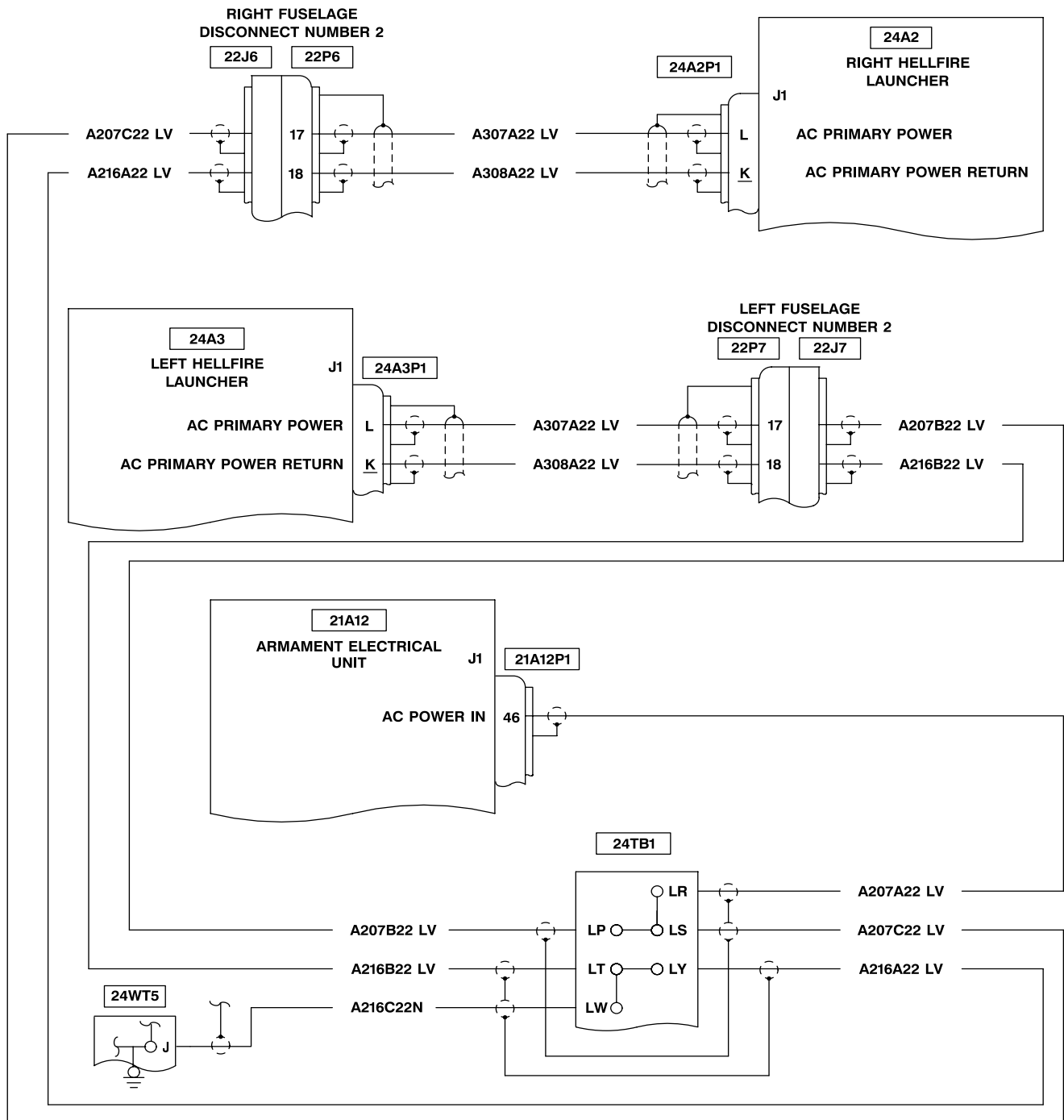
406475-542-355
J1493

4-6-17. MFD INDICATES HELLFIRE MISSILE SYSTEM IS INSTALLED BUT SYSTEM DOES NOT OPERATE (TASK 2-5-7) - OH-58D (CONT)



406475-542-356
J1493

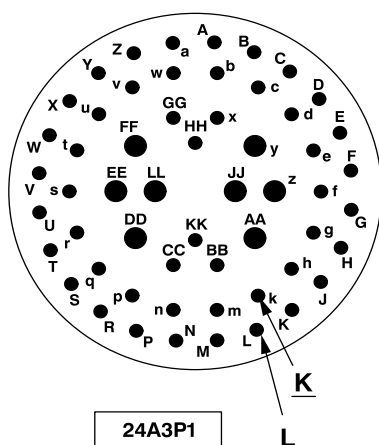
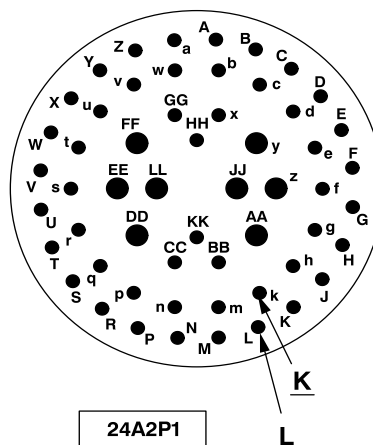
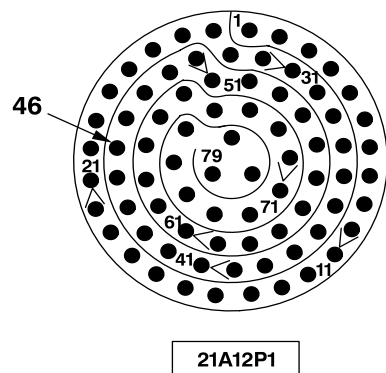
4-6-17. MFD INDICATES HELLFIRE MISSILE SYSTEM IS INSTALLED BUT SYSTEM DOES NOT OPERATE (TASK 2-5-7) - OH-58D (CONT)



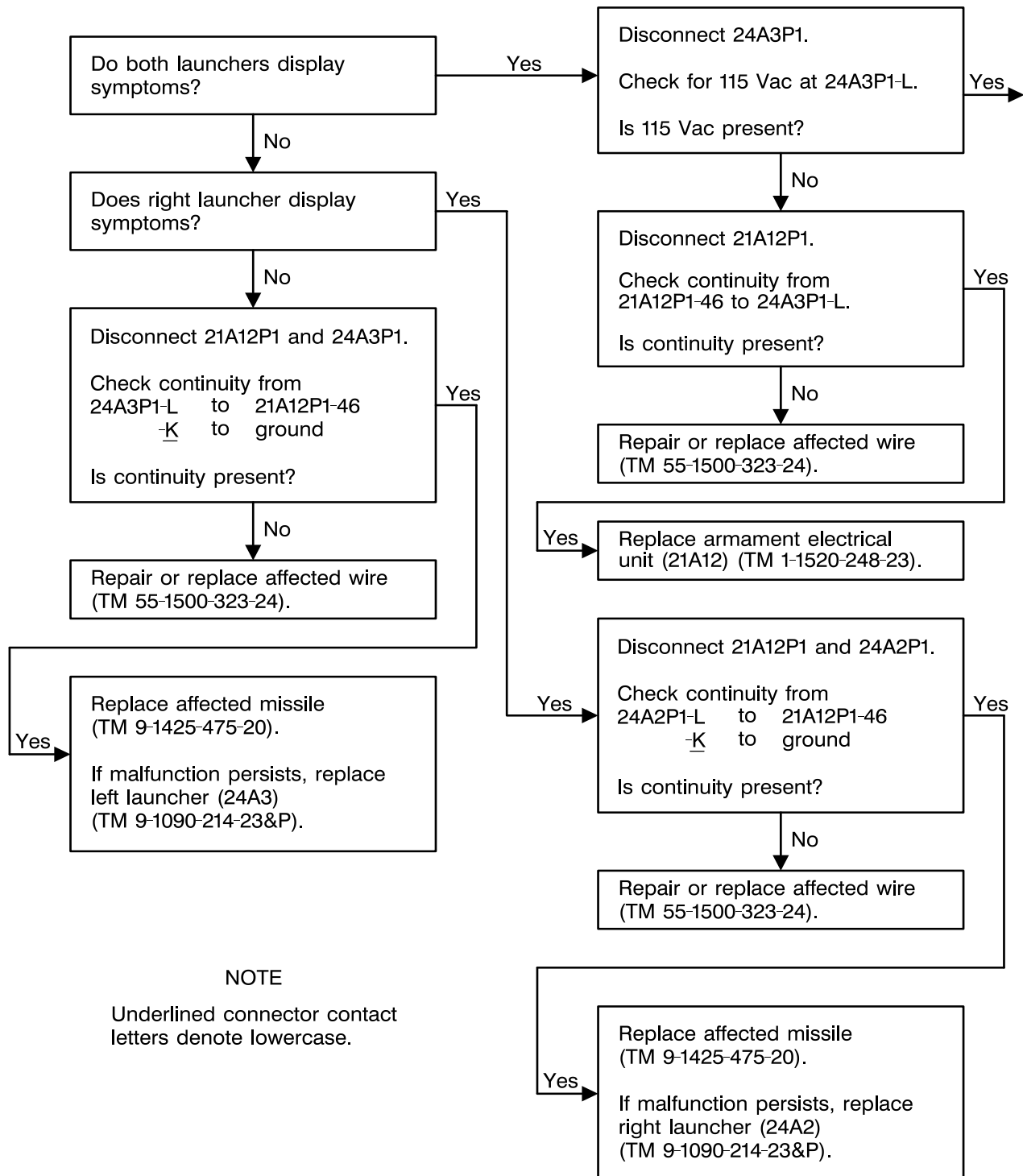
NOTE

Underlined connector contact letters denote lowercase.

406475-542-357
J1493



4-6-18. MFD INDICATES HELLFIRE MISSILE SYSTEM IS INSTALLED BUT SYSTEM DOES NOT OPERATE (TASK 2-5-8) - OH-58D(R)

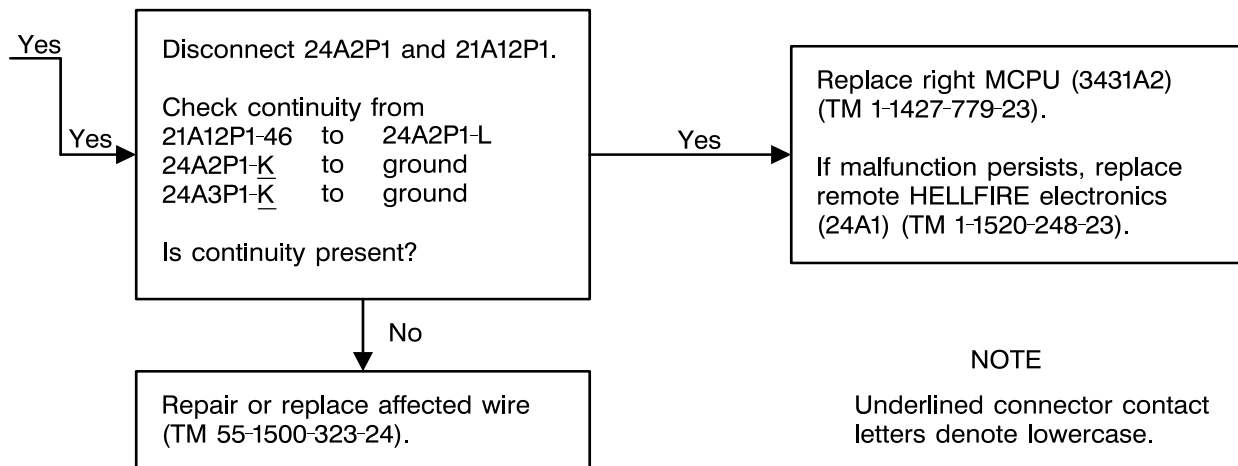


NOTE

Underlined connector contact letters denote lowercase.

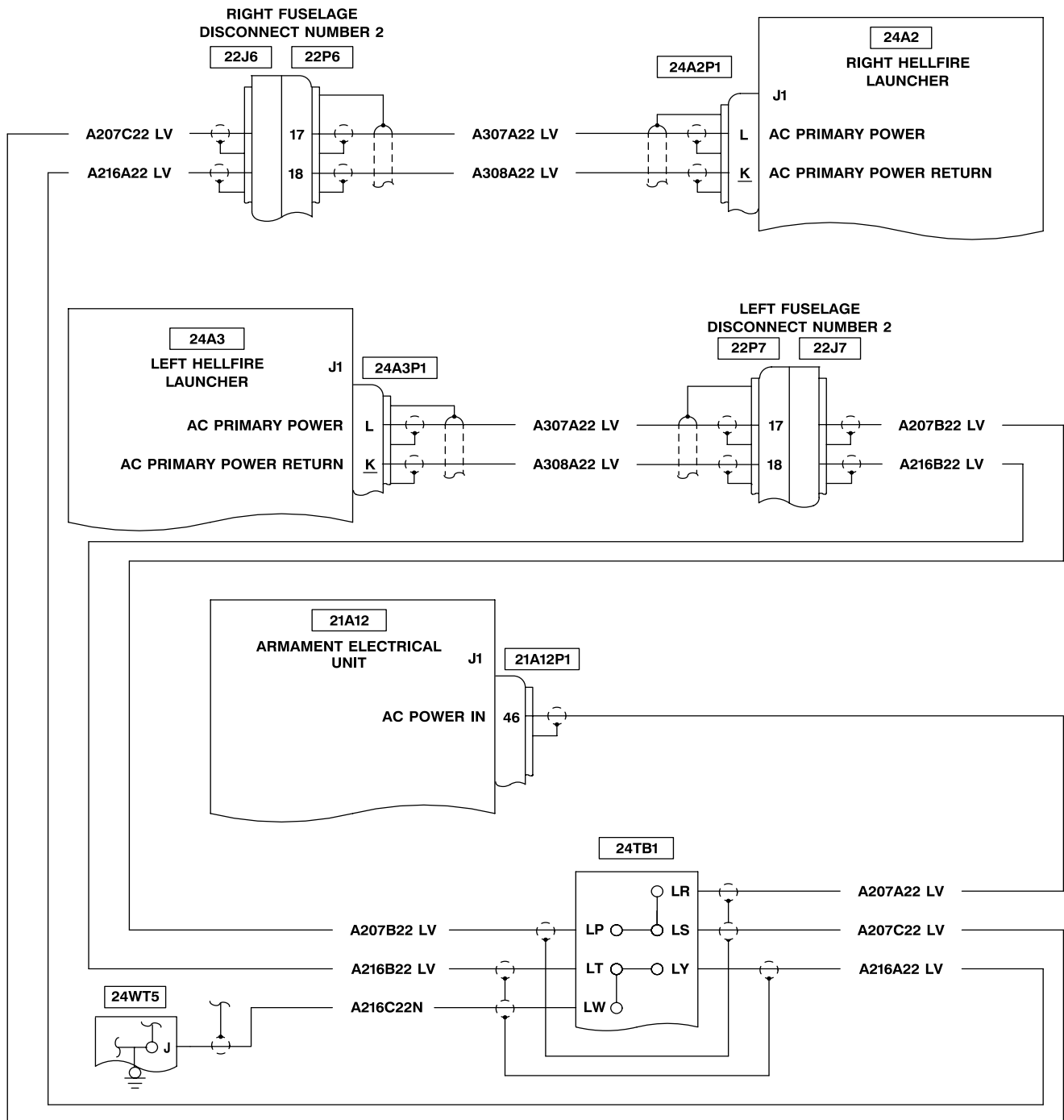
406475-542-359
J1493

4-6-18. MFD INDICATES HELLFIRE MISSILE SYSTEM IS INSTALLED BUT SYSTEM DOES NOT OPERATE (TASK 2-5-8) - OH-58D(R) (CONT)



406475-542-360
J1493

4-6-18. MFD INDICATES HELLFIRE MISSILE SYSTEM IS INSTALLED BUT SYSTEM DOES NOT OPERATE (TASK 2-5-8) - OH-58D(R) (CONT)

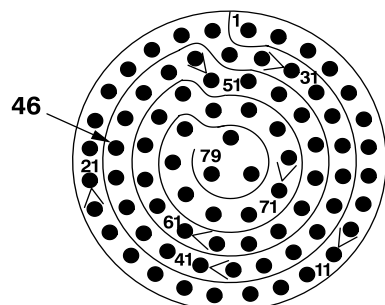


NOTE

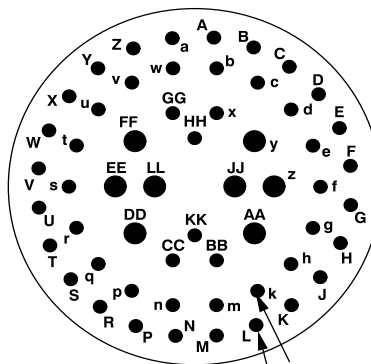
Underlined connector contact letters denote lowercase.

406475-542-361
J1493

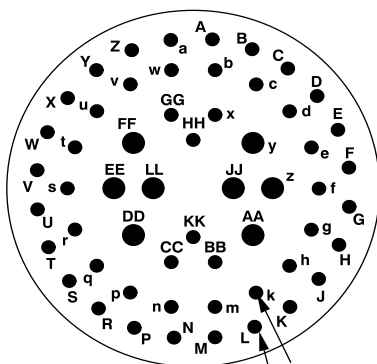
4-6-18. MFD INDICATES HELLFIRE MISSILE SYSTEM IS INSTALLED BUT SYSTEM DOES NOT OPERATE (TASK 2-5-8) - OH-58D(R) (CONT)



21A12P1

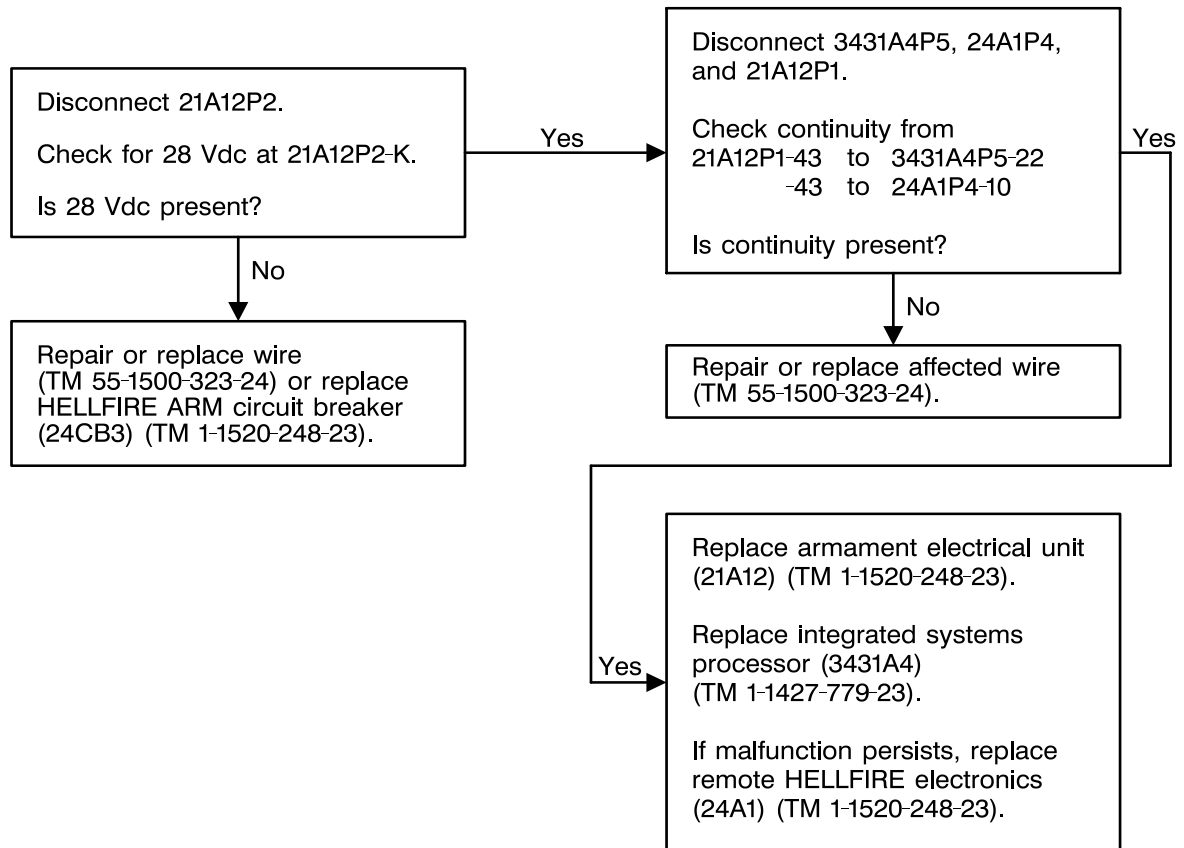


24A2P1



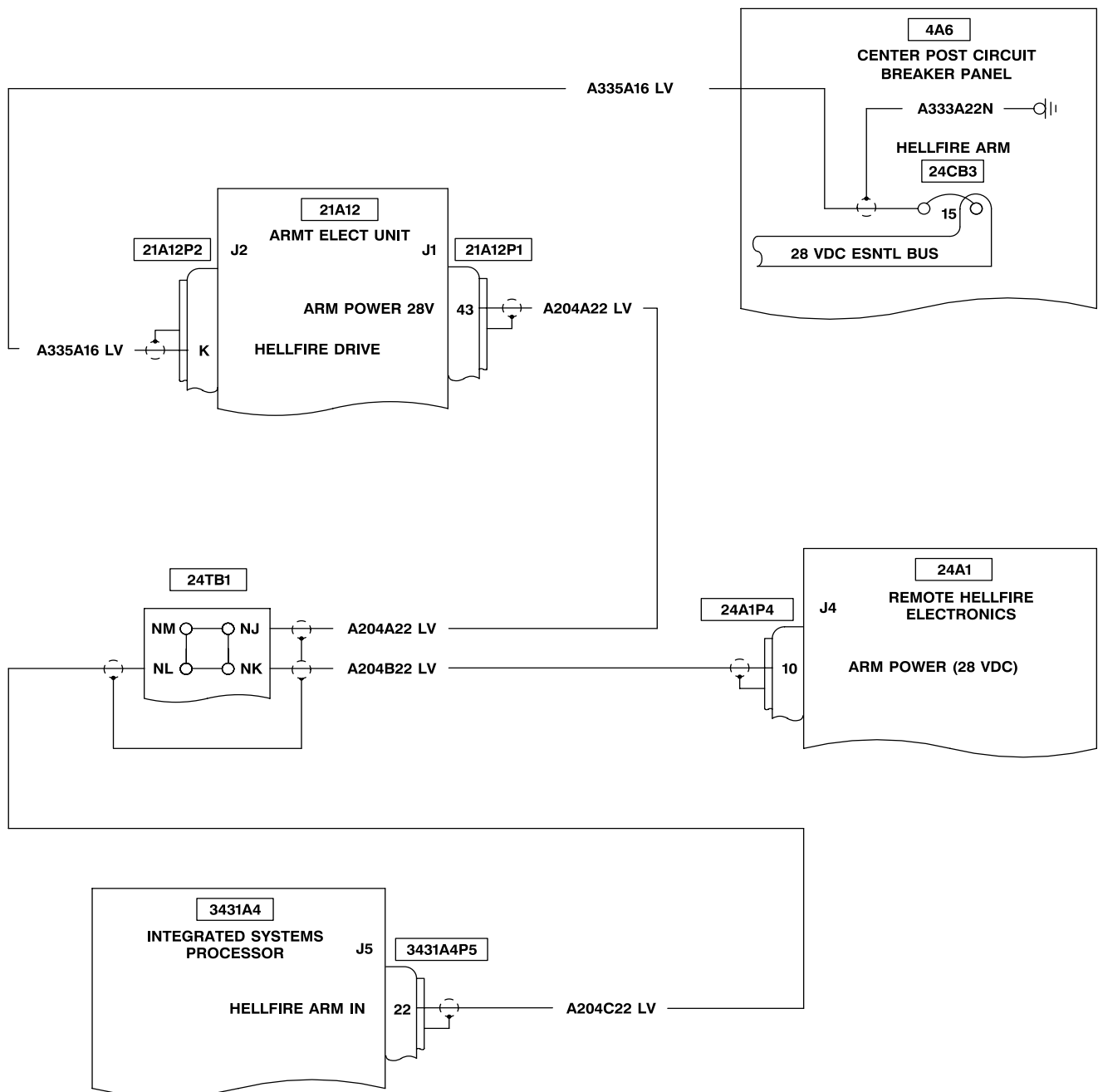
24A3P1

4-6-19. **SAFE** DISPLAYED ON MFD WHEN HELLFIRE MISSILE ARMED AND SELECTED (TASK 2-5-7) - OH-58D



406475-542-363
J1493

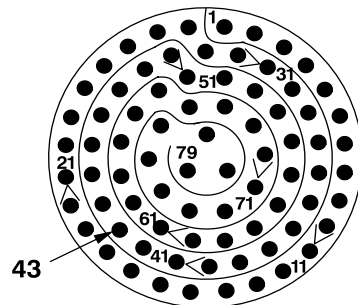
4-6-19. **SAFE** DISPLAYED ON MFD WHEN HELLFIRE MISSILE ARMED AND SELECTED (TASK 2-5-7) - OH-58D (CONT)



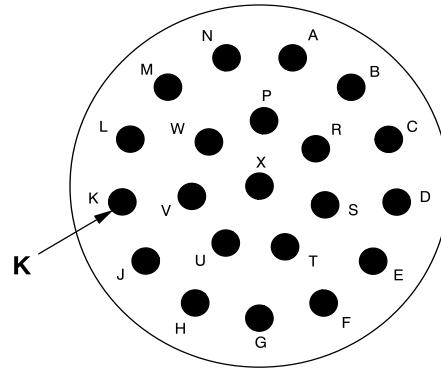
NOTE
Underlined connector contact letters denote lowercase.

406475-542-364
J1493

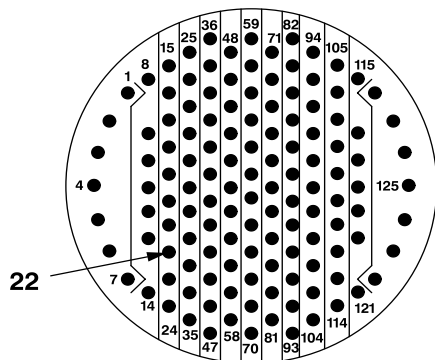
4-6-19. **SAFE** DISPLAYED ON MFD WHEN HELLFIRE MISSILE ARMED AND SELECTED (TASK 2-5-7) - OH-58D (CONT)



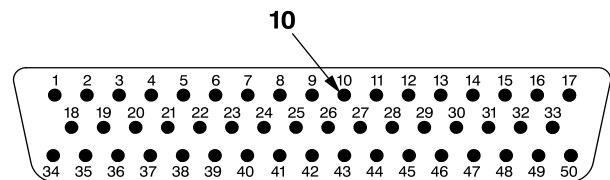
21A12P1



21A12P2



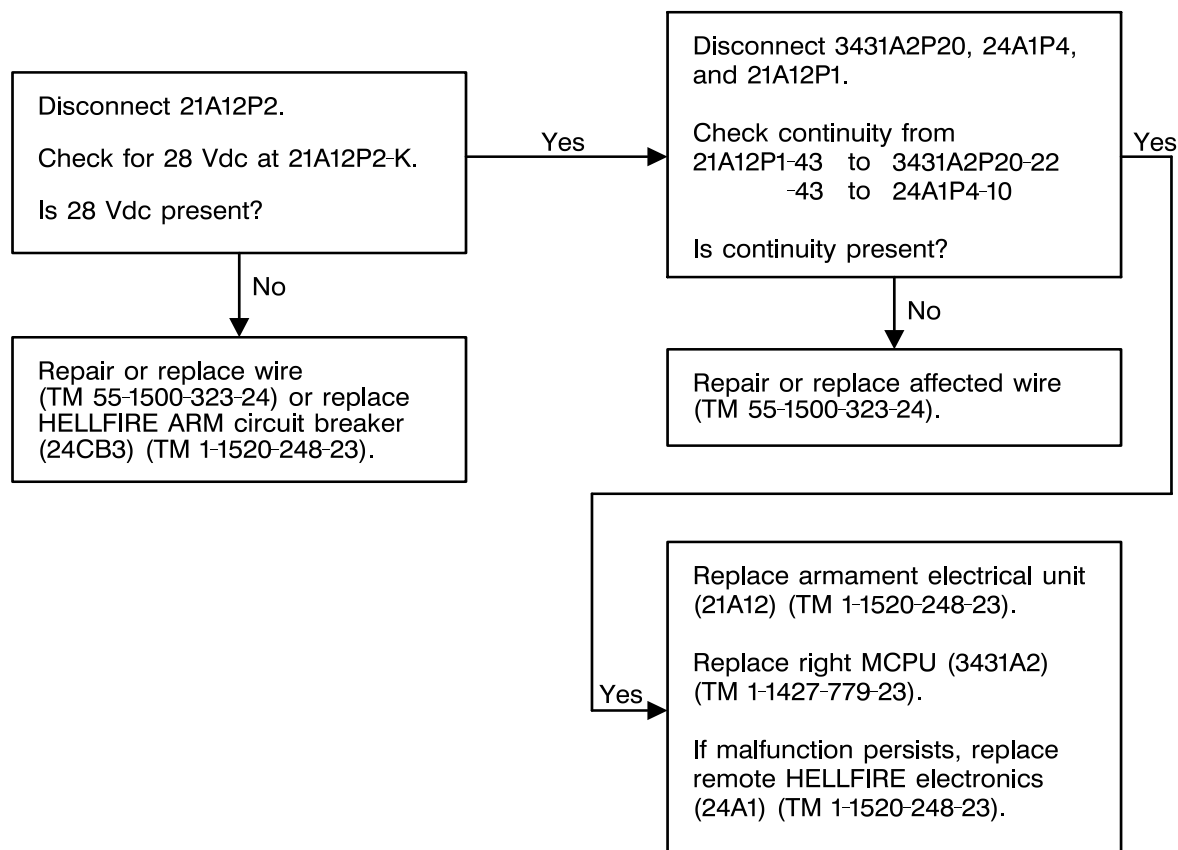
3431A4P5



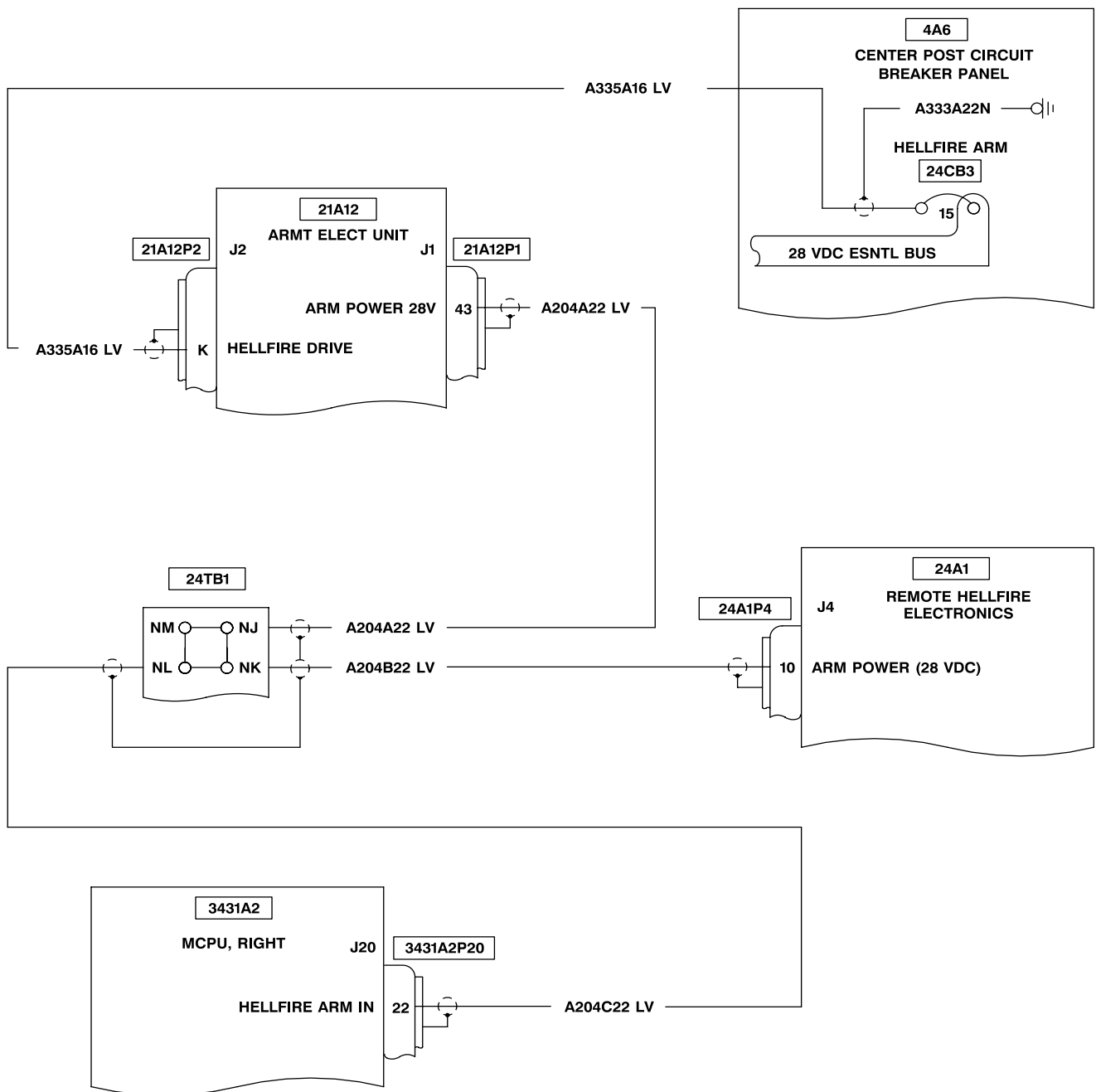
24A1P4

406475-542-365
J1493

4-6-20. **SAFE** DISPLAYED ON MFD WHEN HELLFIRE MISSILE ARMED AND SELECTED (TASK 2-5-8) - OH-58D(R)

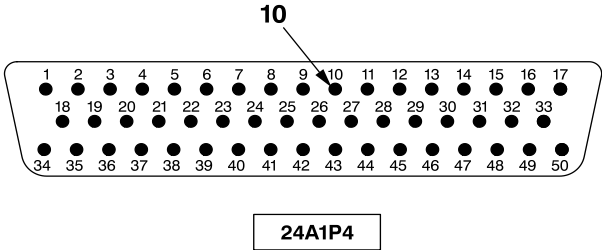
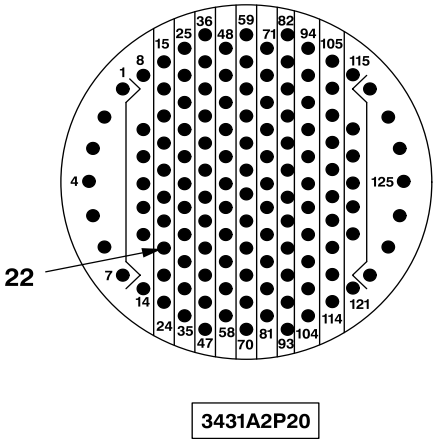
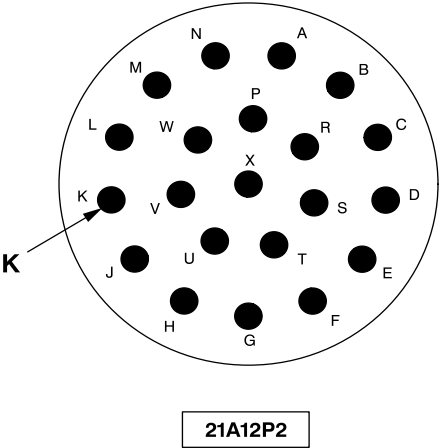
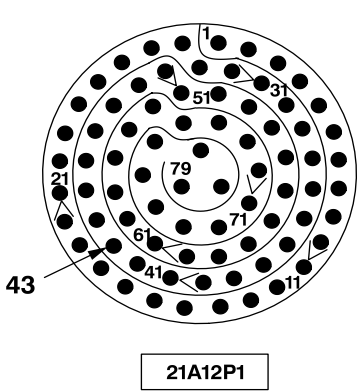


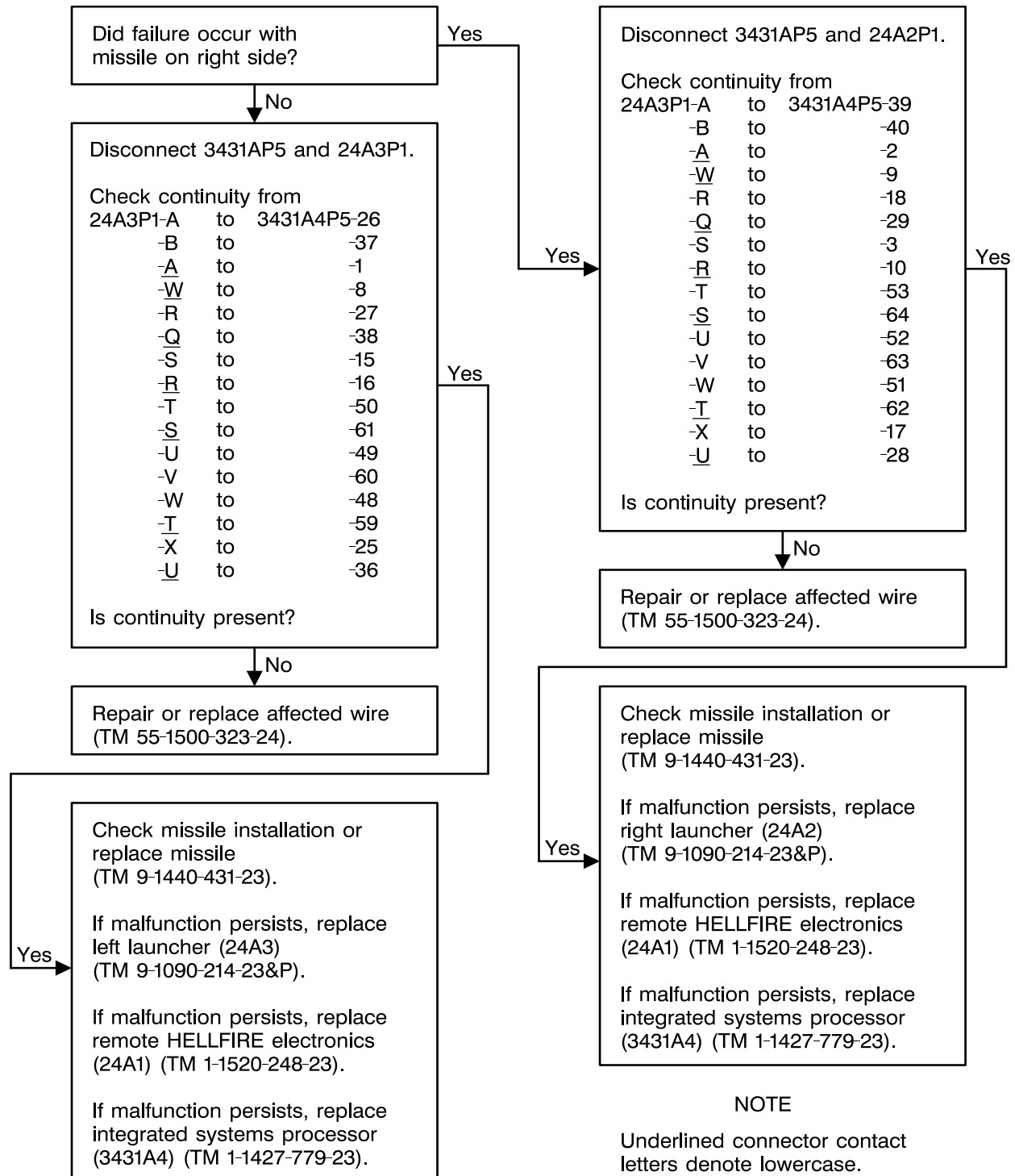
4-6-20. **SAFE** DISPLAYED ON MFD WHEN HELLFIRE MISSILE ARMED AND SELECTED (TASK 2-5-8) - OH-58D(R) (CONT)



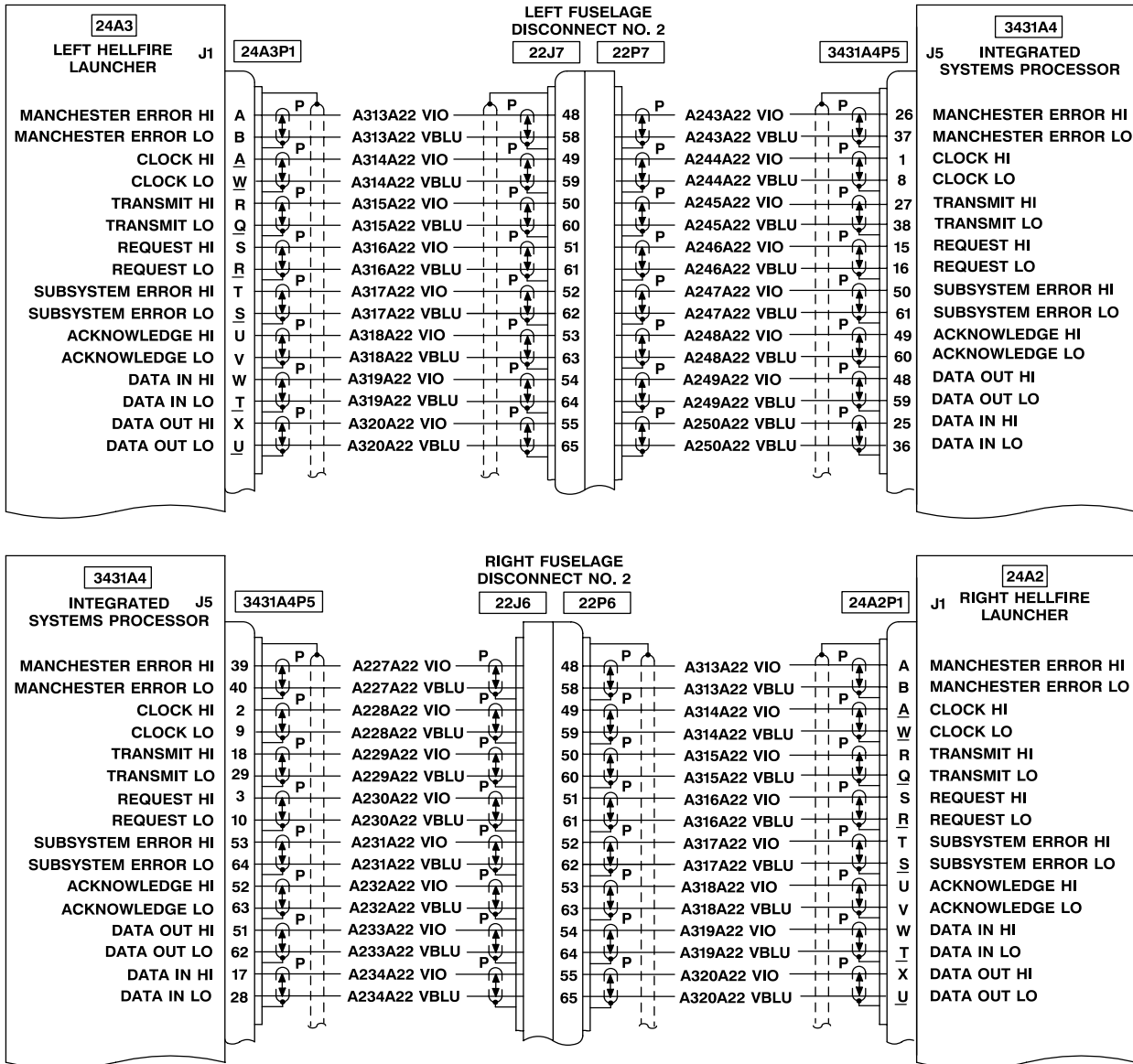
406475-542-367
J1493

4-6-20. **SAFE** DISPLAYED ON MFD WHEN HELLFIRE MISSILE ARMED AND SELECTED (TASK 2-5-8) - OH-58D(R) (CONT)



4-6-21. **SEL** THEN **MF** DISPLAYED ON MFD UNDER HELLFIRE MISSILE IMAGE (TASK 2-5-7) - OH-58D406475-542-369
J1493

4-6-21. **SEL** THEN **MF** DISPLAYED ON MFD UNDER HELLFIRE MISSILE IMAGE (TASK 2-5-7) - OH-58D (CONT)

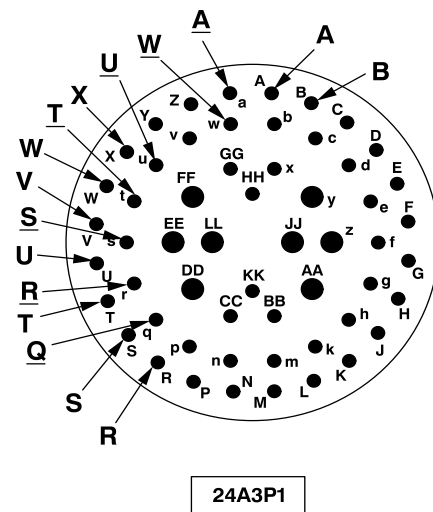
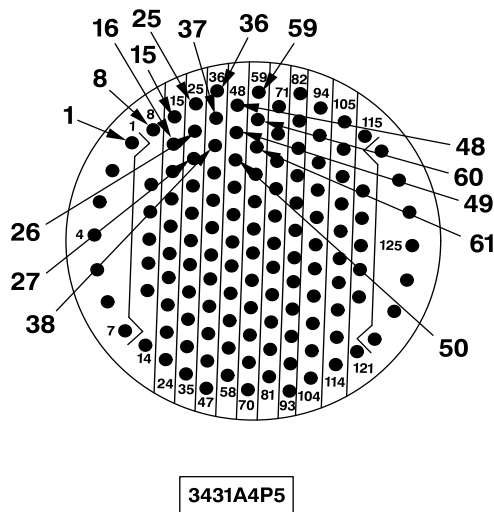
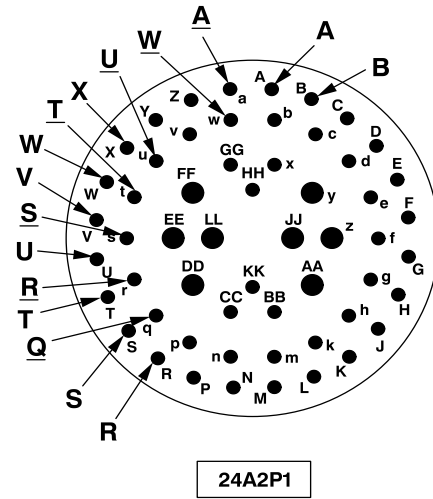
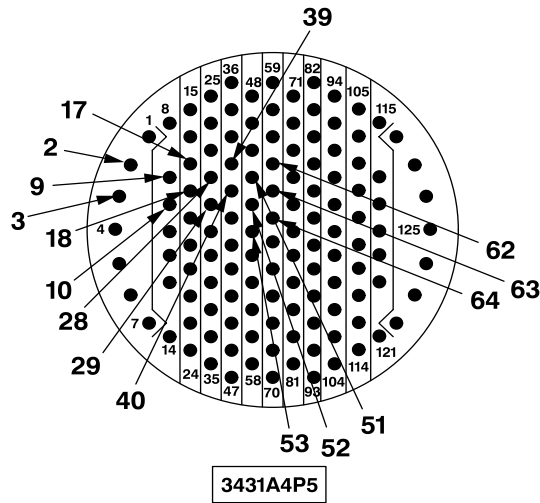


NOTE

Underlined connector contact letters denote lowercase.

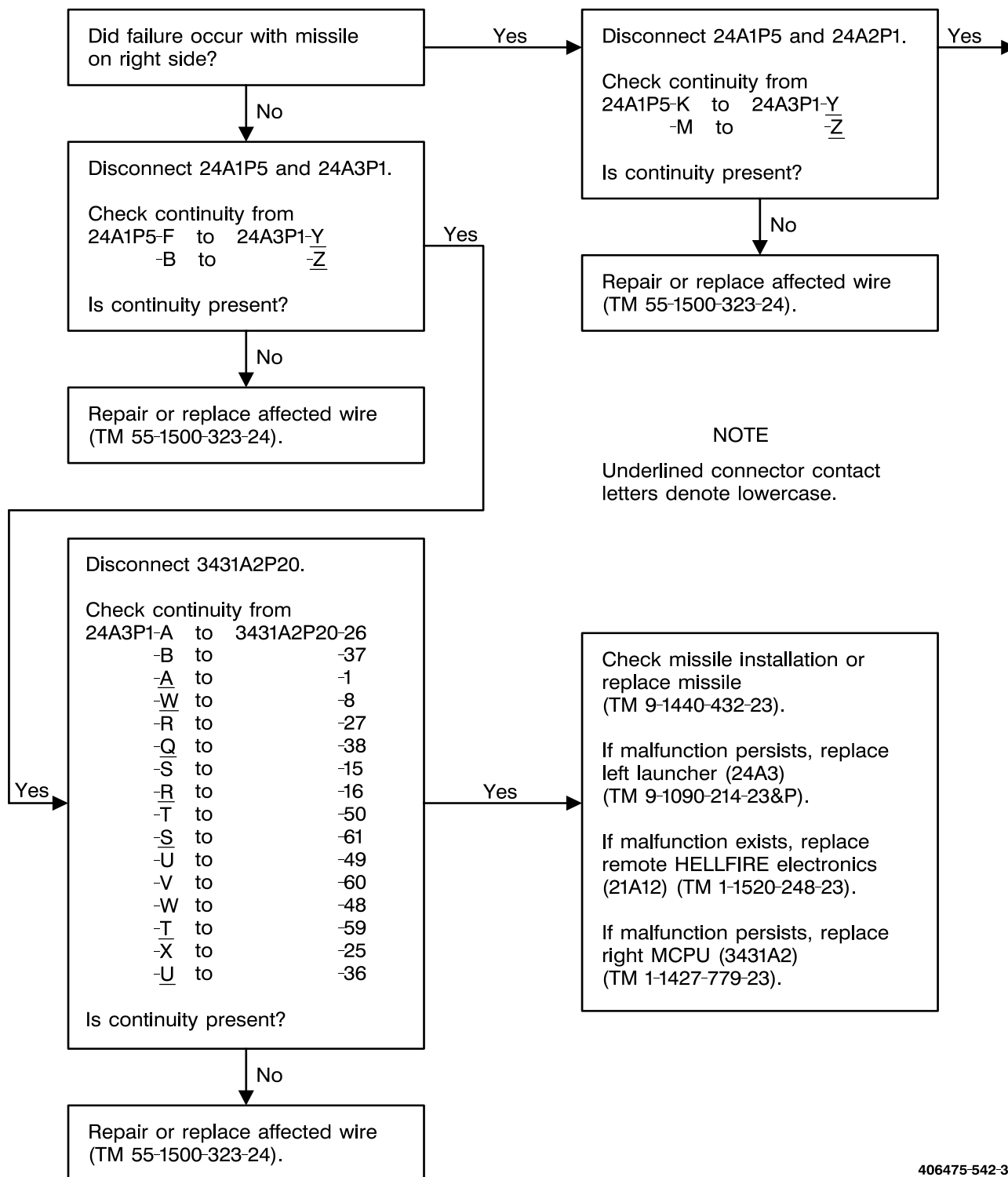
406475-542-370
J1493

4-6-21. **SEL** THEN **MF** DISPLAYED ON MFD UNDER HELLFIRE MISSILE IMAGE (TASK 2-5-7) - OH-58D (CONT)



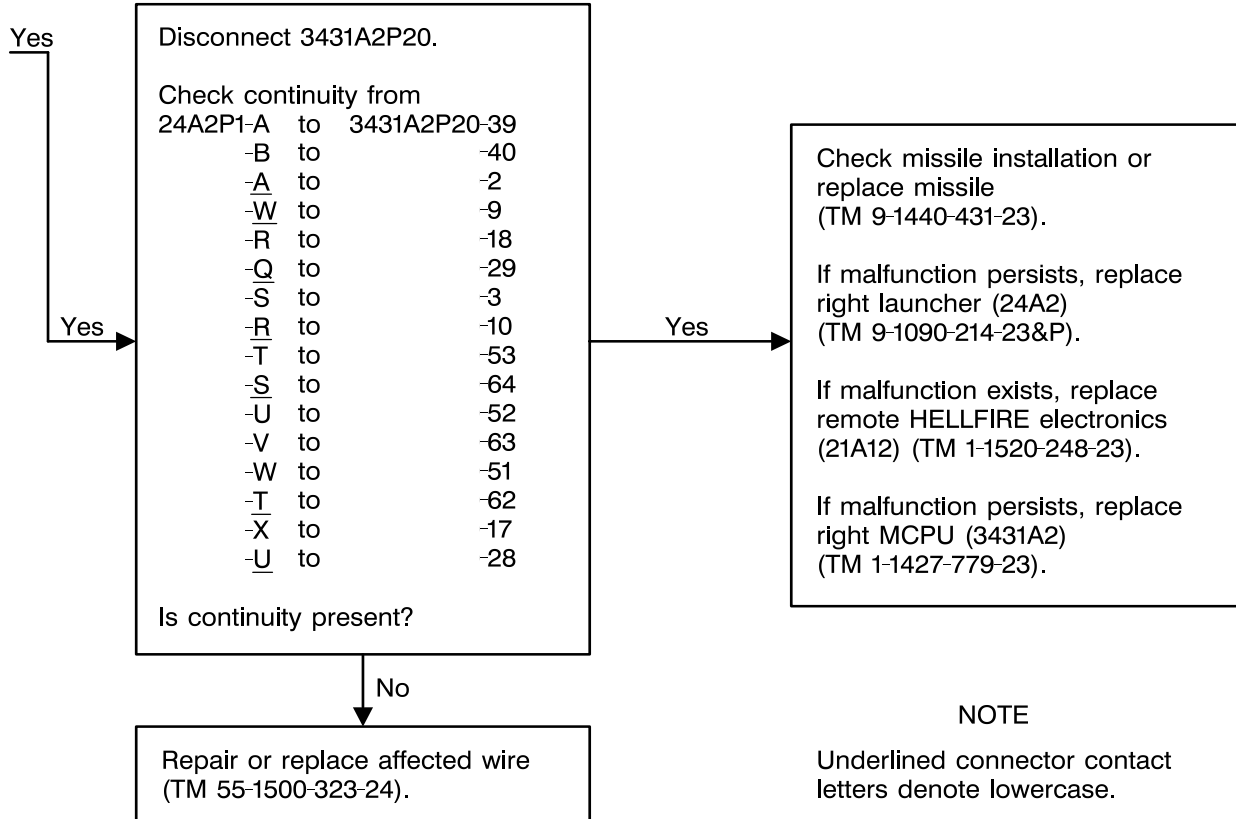
406475-542-371
J1493

4-6-22. SEL THEN MF DISPLAYED ON MFD UNDER HELLFIRE MISSILE IMAGE (TASK 2-5-8) - OH-58D(R)



406475-542-372
J1493

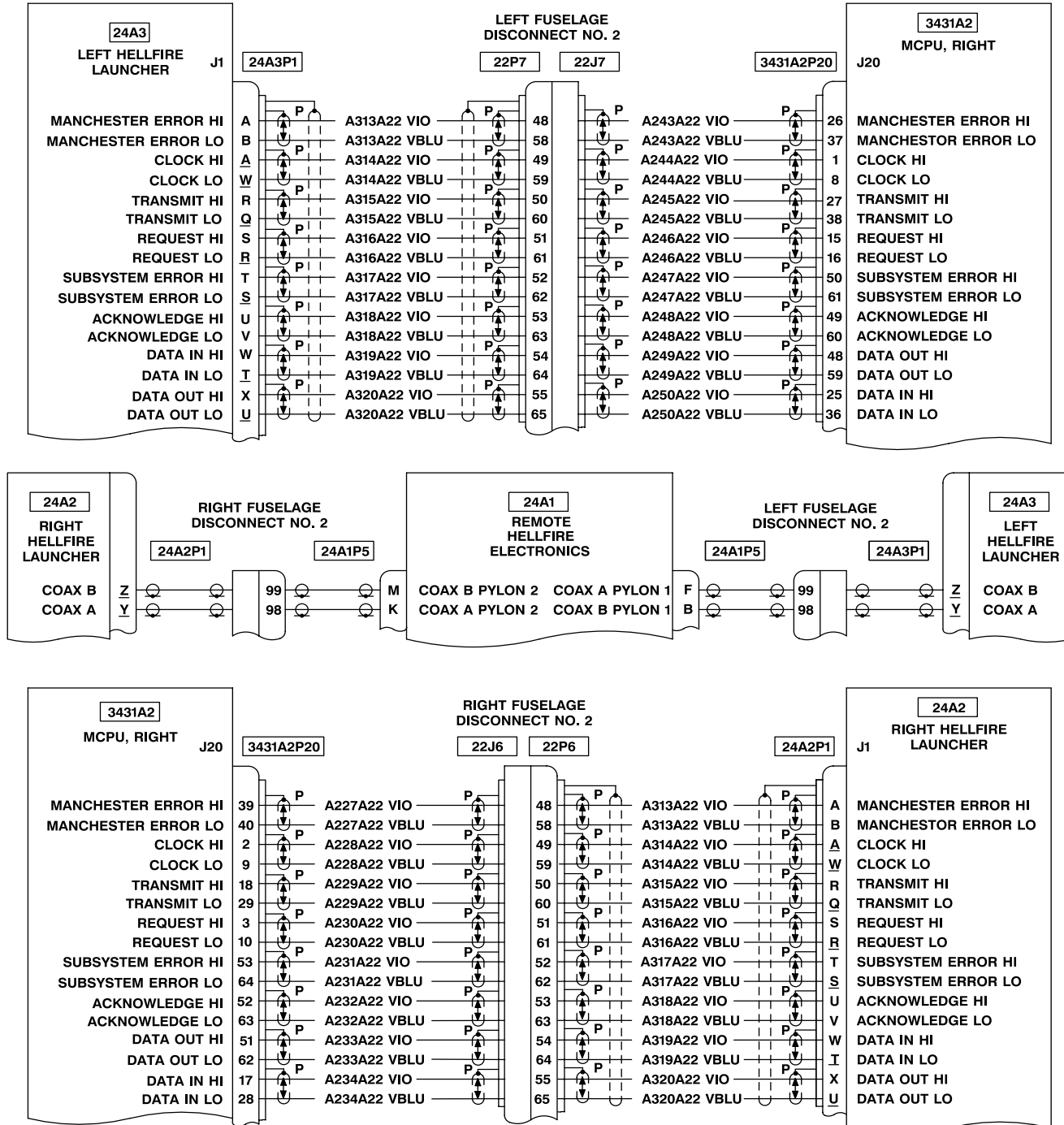
4-6-22. **SEL** THEN **MF** DISPLAYED ON MFD UNDER HELLFIRE MISSILE IMAGE (TASK 2-5-8) - OH-58D(R) (CONT)



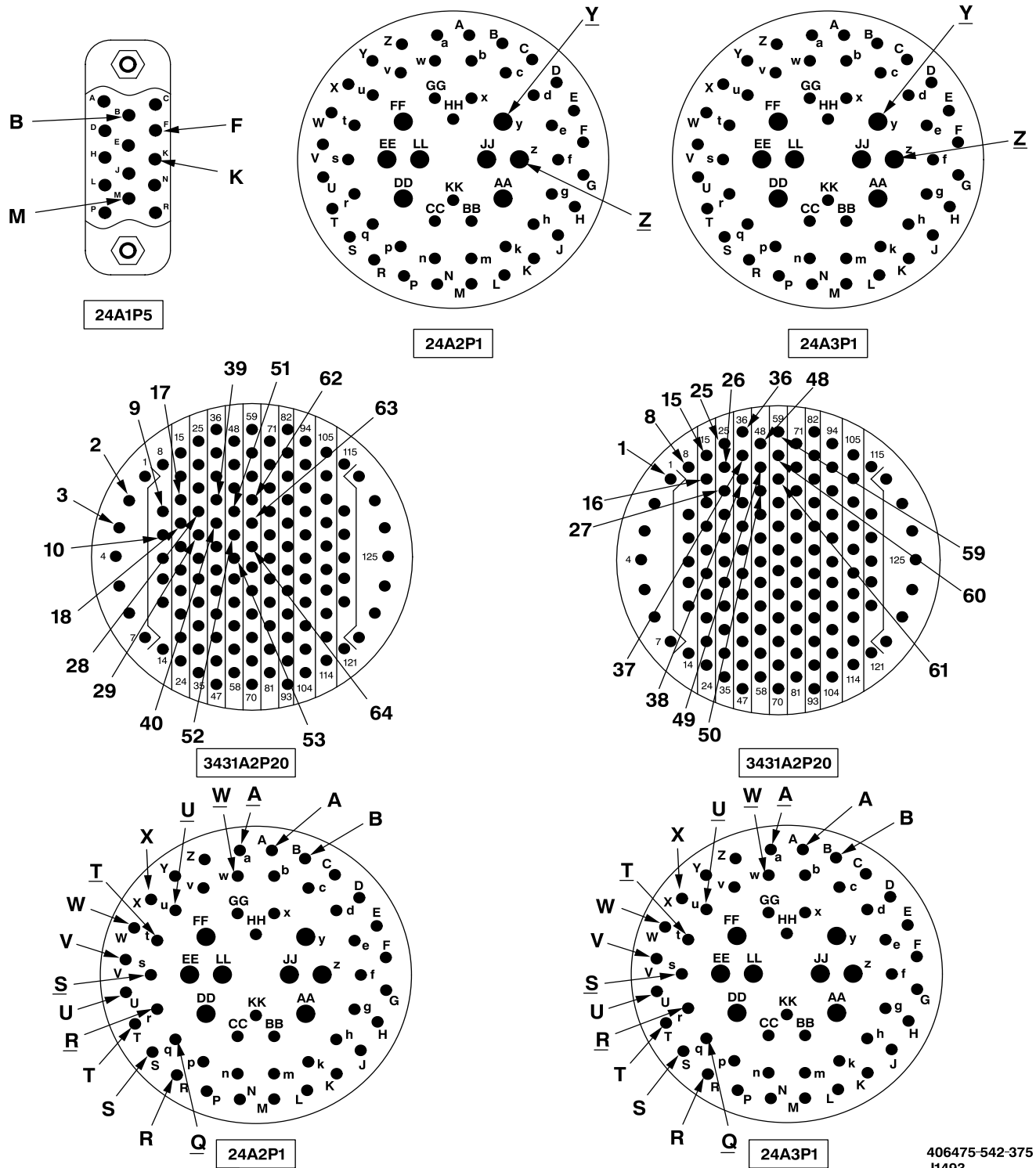
NOTE

Underlined connector contact letters denote lowercase.

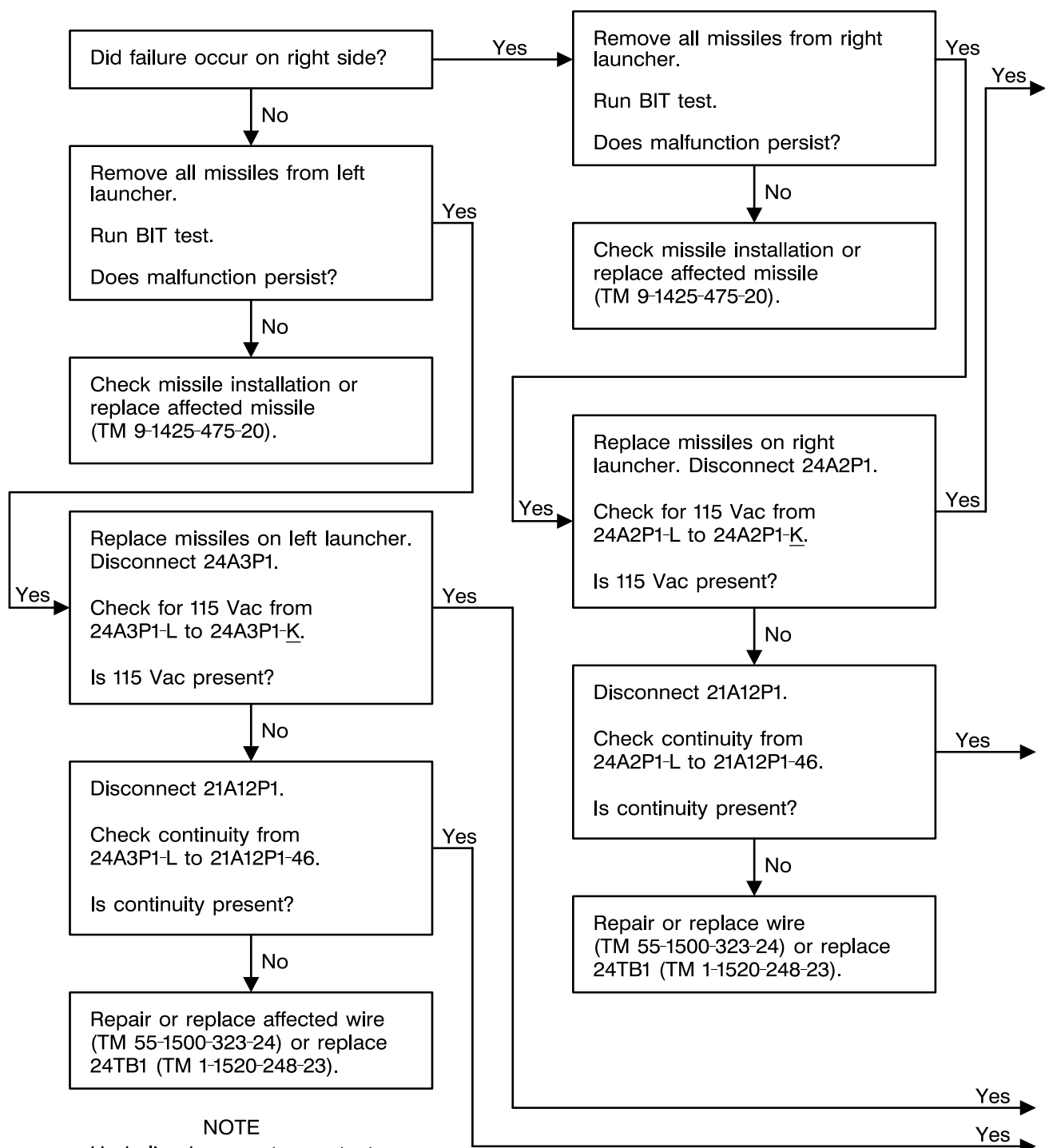
406475-542-373
J1493

4-6-22. **SEL** THEN **MF** DISPLAYED ON MFD UNDER HELLFIRE MISSILE IMAGE (TASK 2-5-8) - OH-58D(R) (CONT)406475-542-374
J1493

4-6-22. **SEL** THEN **MF** DISPLAYED ON MFD UNDER HELLFIRE MISSILE IMAGE (TASK 2-5-8) - OH-58D(R) (CONT)



4-6-23. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-7) - OH-58D

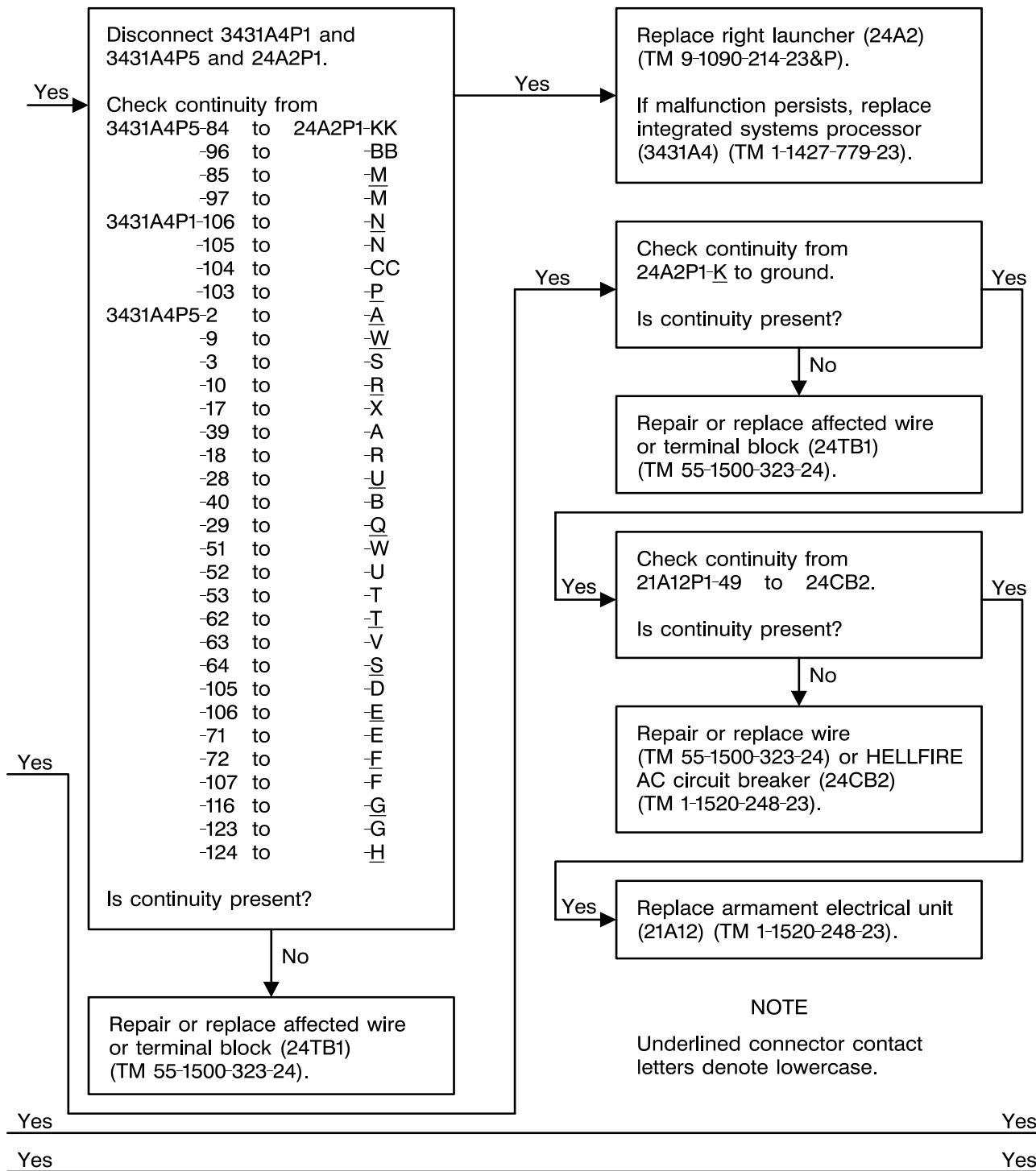


NOTE

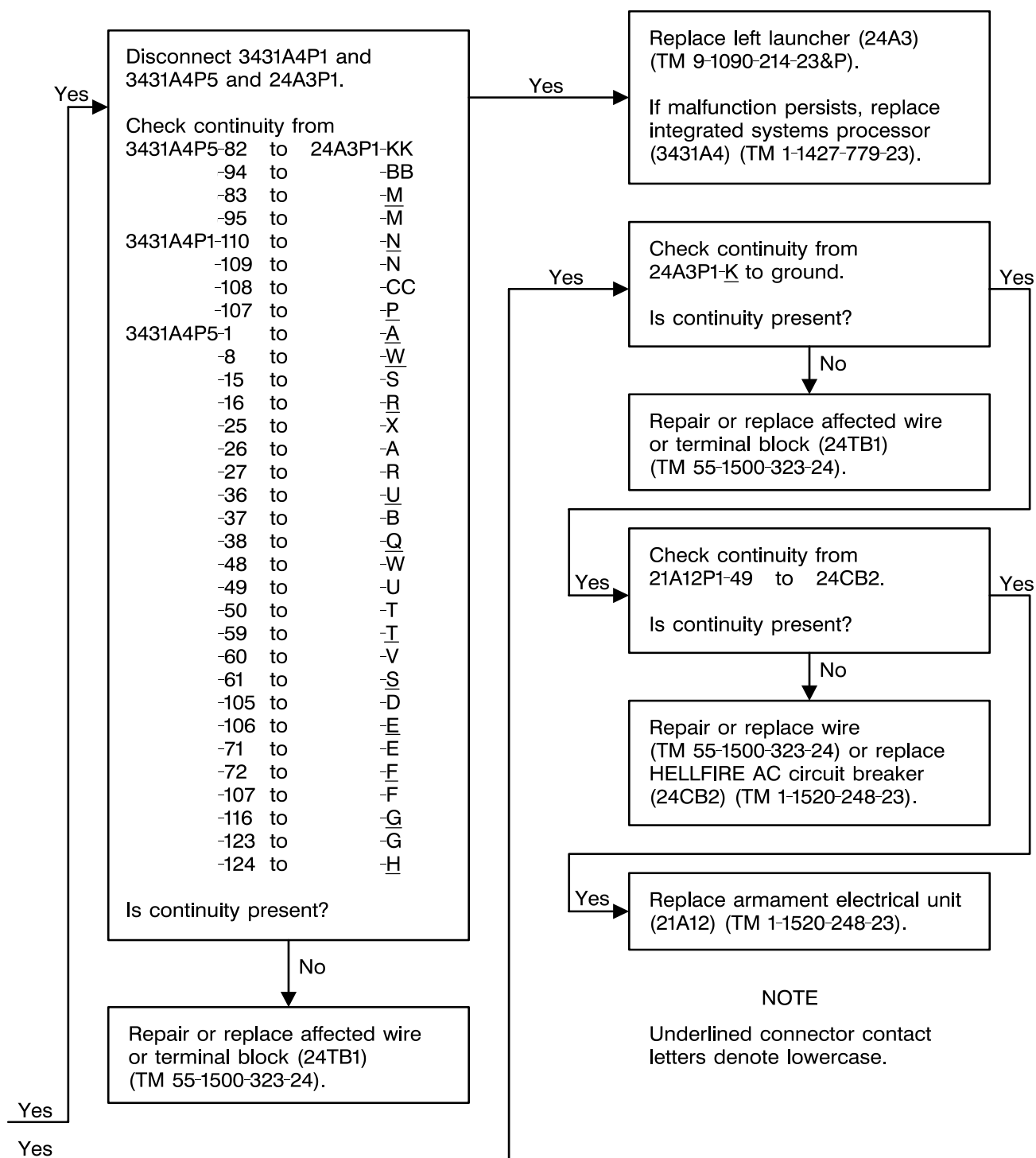
Underlined connector contact letters denote lowercase.

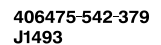
406475-542-376
J1493

4-6-23. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-7) - OH-58D (CONT)

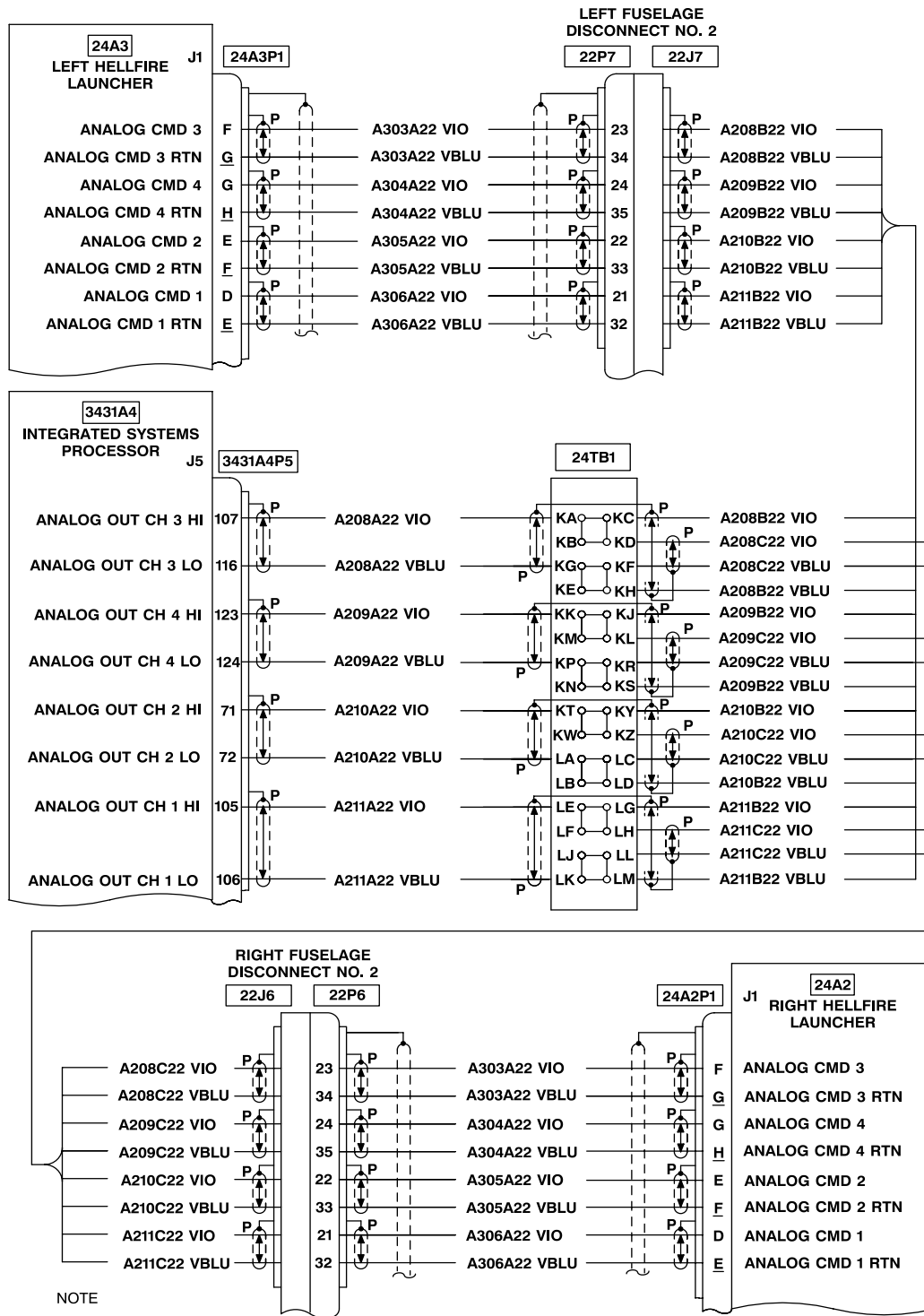
406475-542-377
J1493

4-6-23. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-7) - OH-58D (CONT)

406475-542-378
J1493

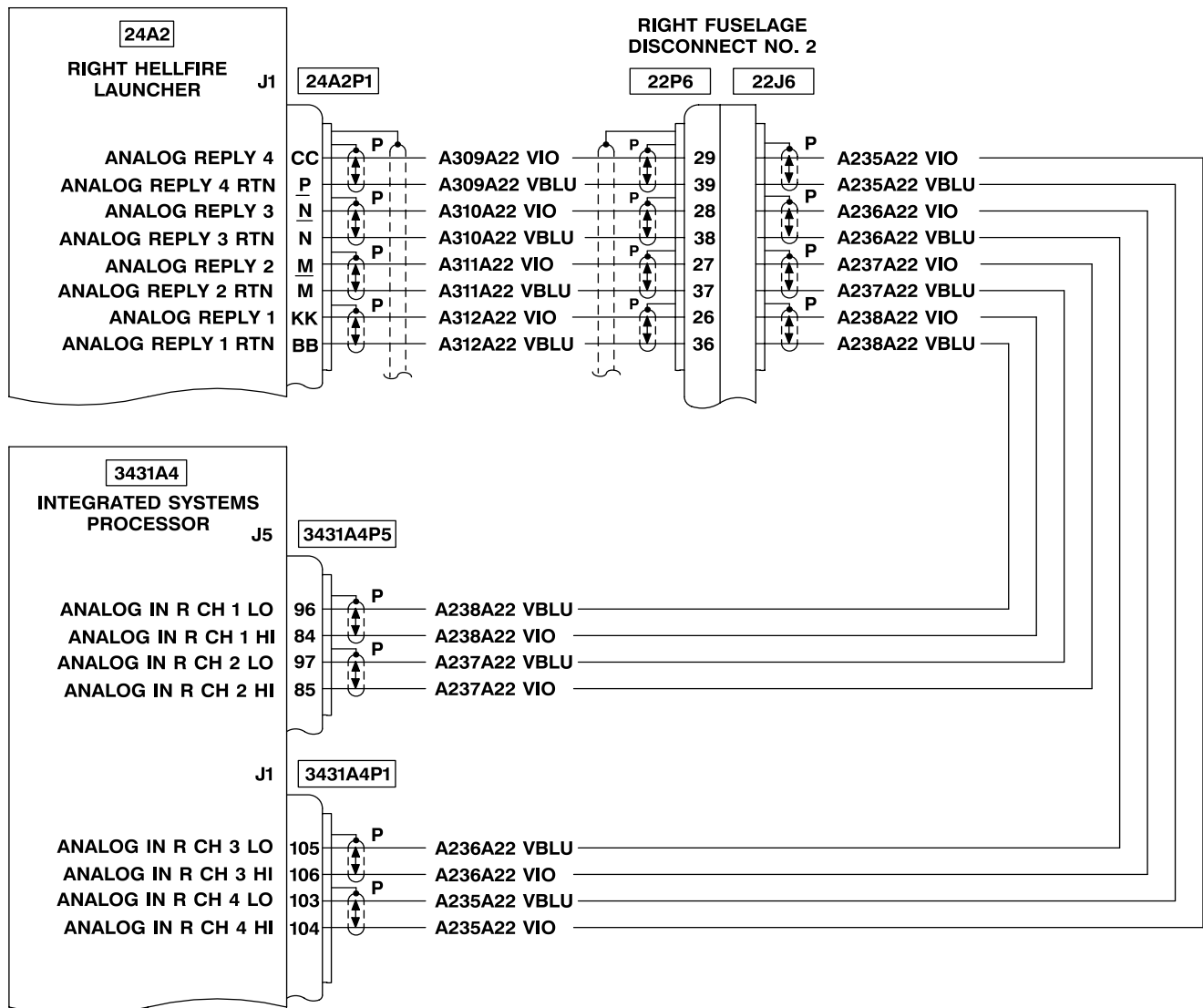


4-6-23. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-7) - OH-58D (CONT)



406475-542-380
J1493

4-6-23. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-7) - OH-58D (CONT)

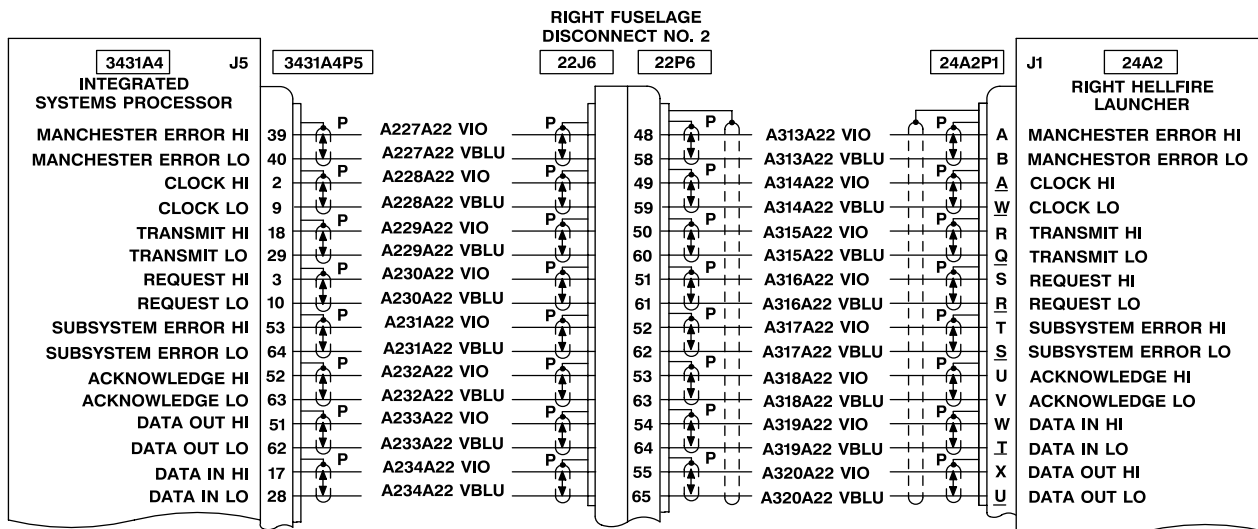
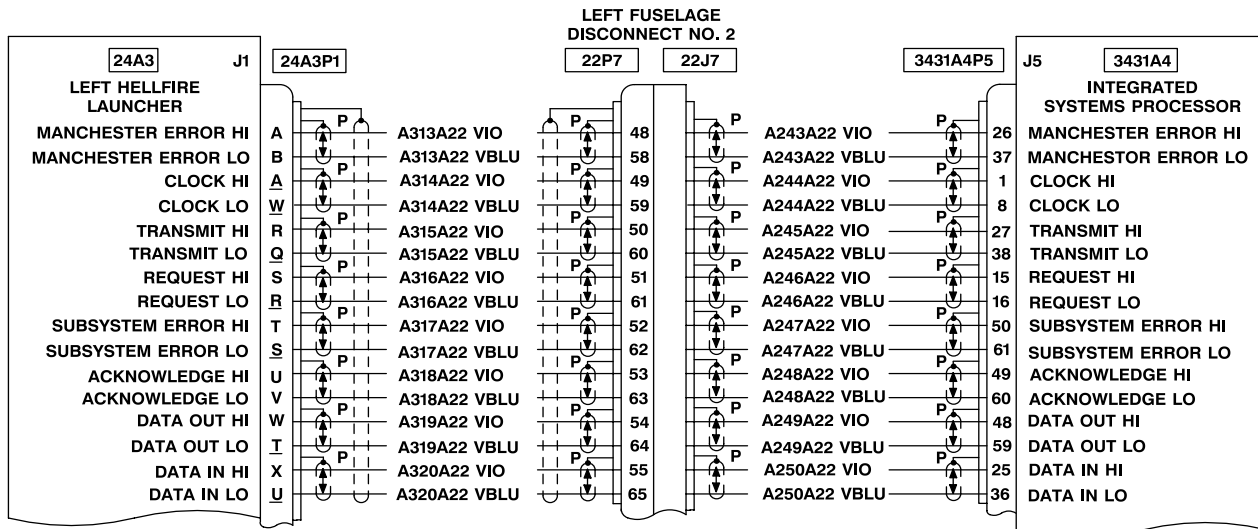


NOTE

Underlined connector contact letters denote lowercase.

406475-542-381
J1493

4-6-23. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-7) - OH-58D (CONT)

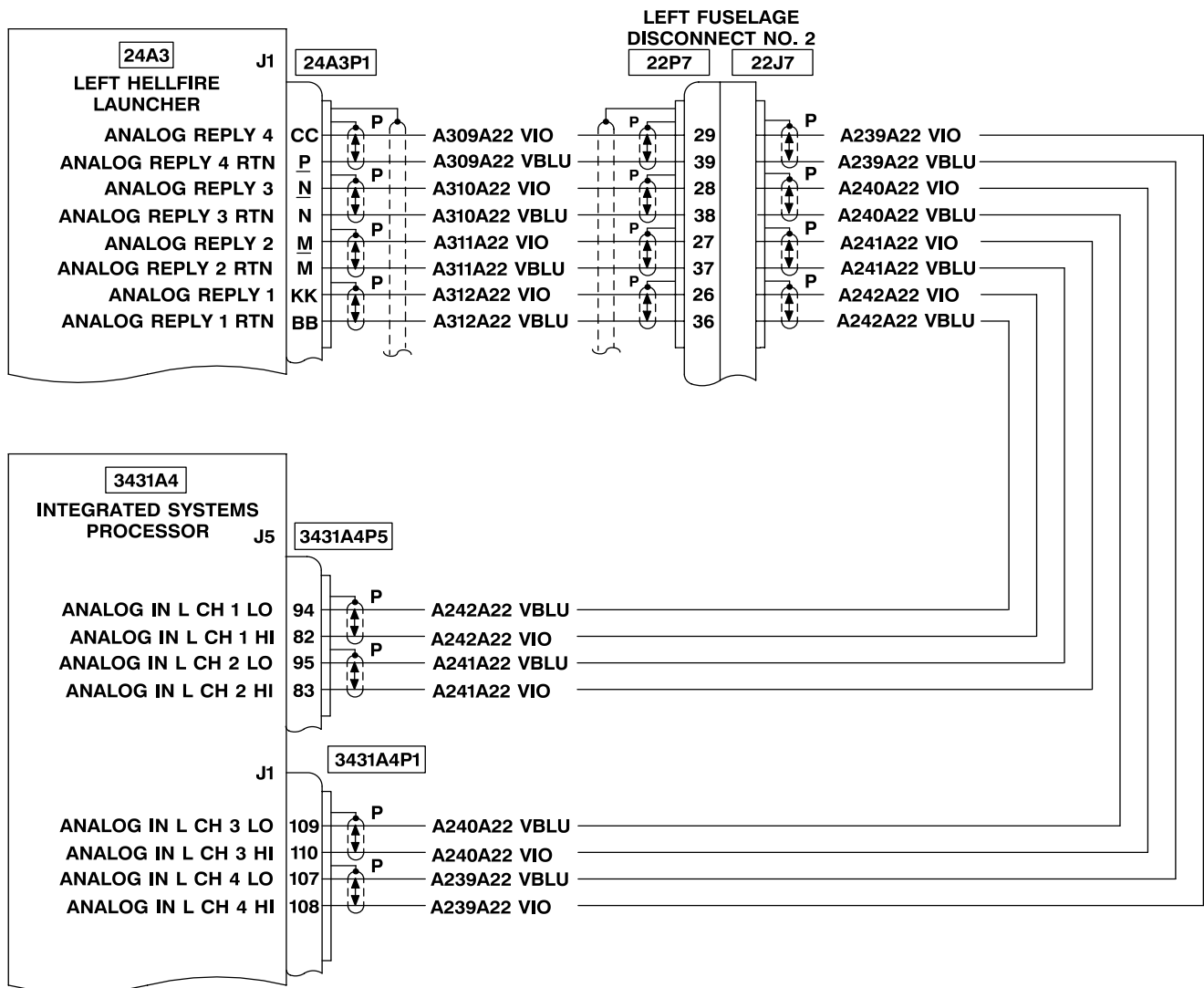


NOTE

Underlined connector contact letters denote lowercase.

406475-542-382
J1493

4-6-23. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-7) - OH-58D (CONT)

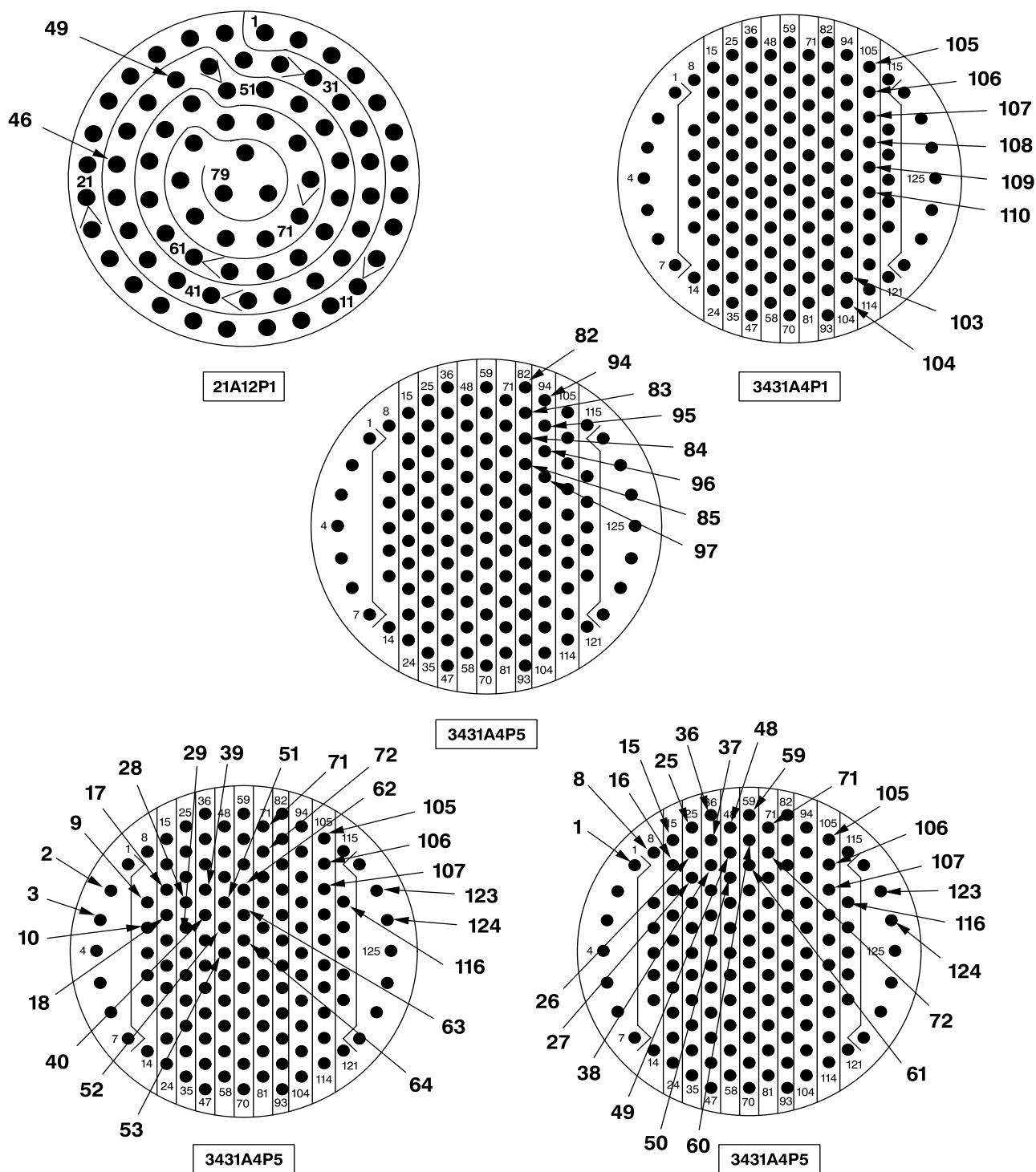


NOTE

Underlined connector contact letters denote lowercase.

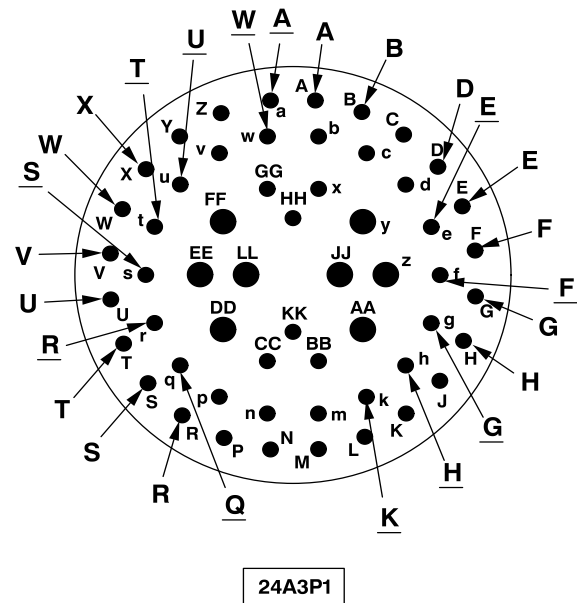
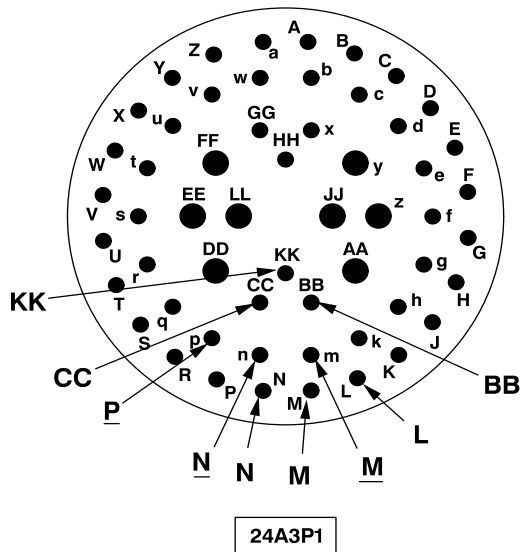
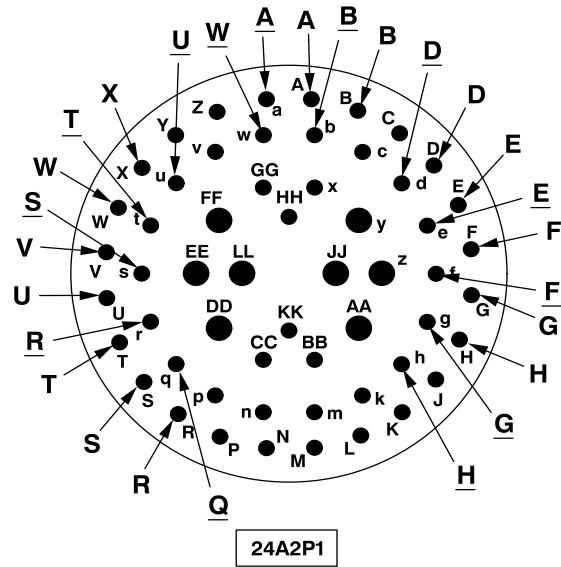
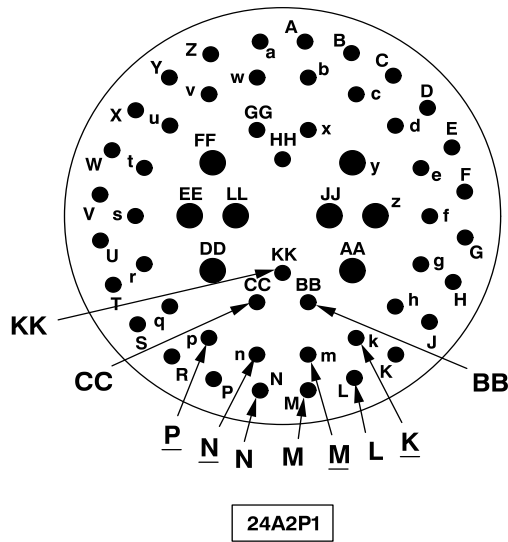
406475-542-383
J1493

4-6-23. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-7) - OH-58D (CONT)

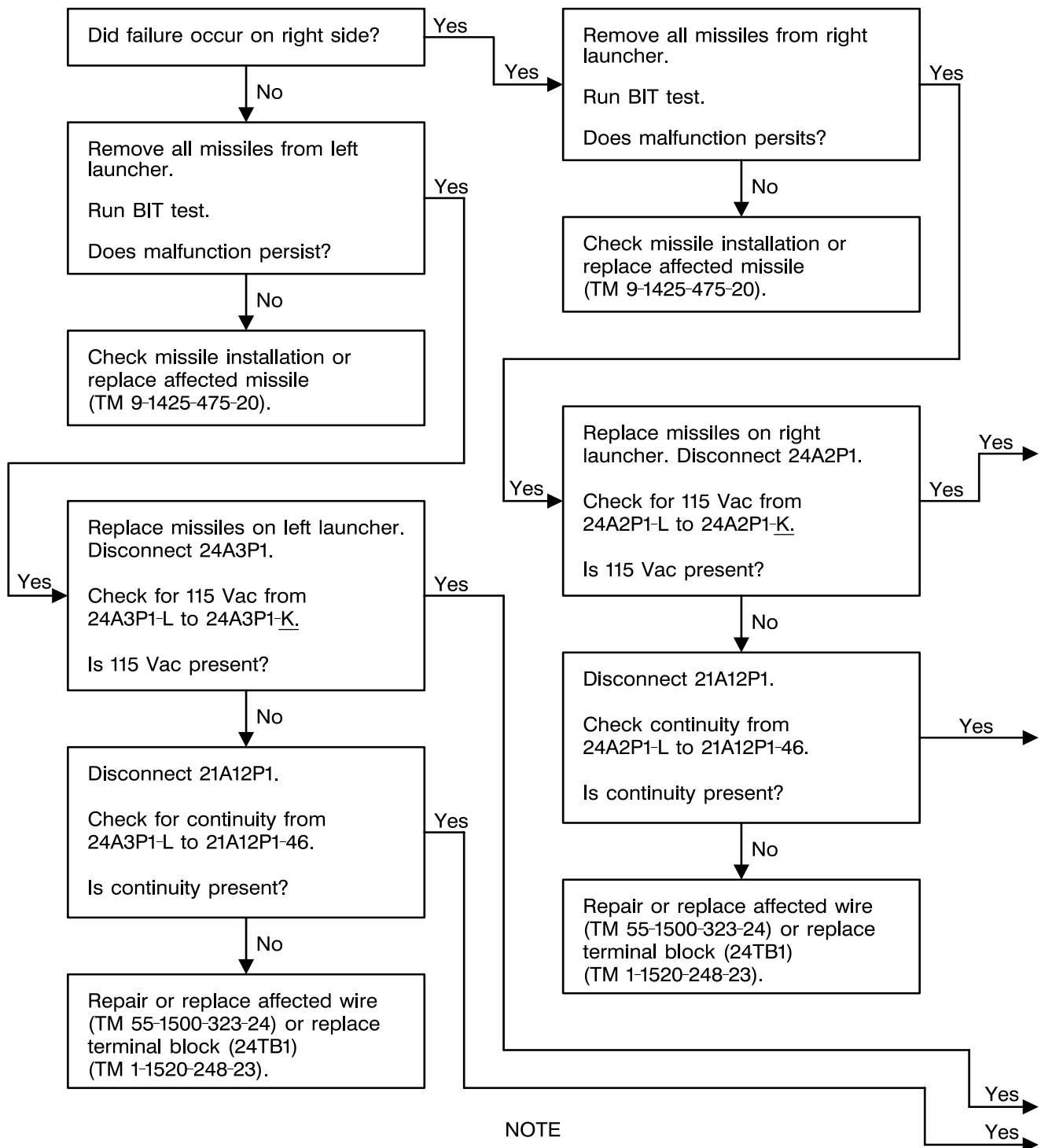


406475-542-384-1
J1493

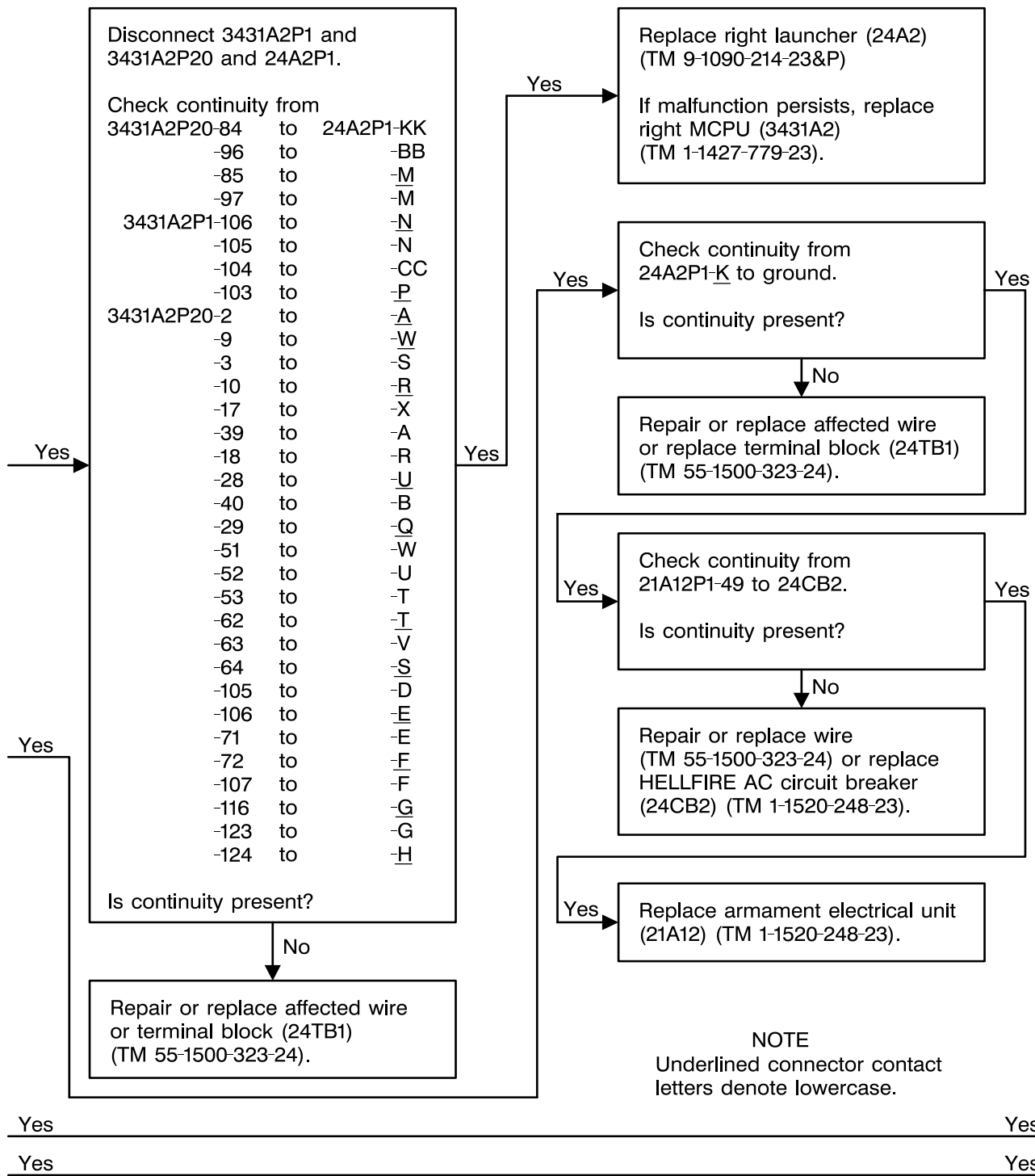
4-6-23. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-7) — OH-58D (CONT)

406475-542-384-2
J1493

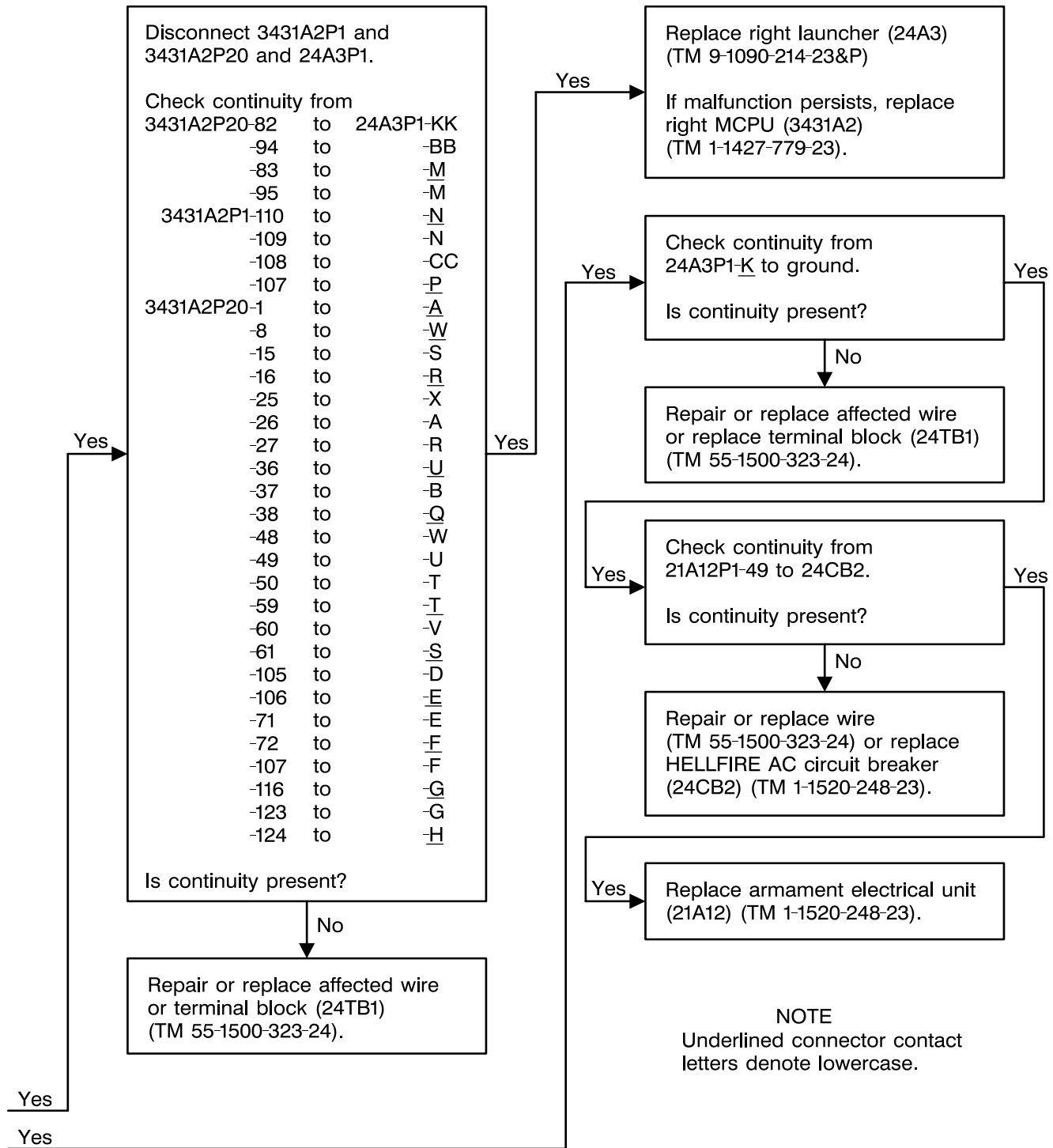
4-6-24. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-8) - OH-58D(R)



4-6-24. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-8) - OH-58D(R) (CONT)

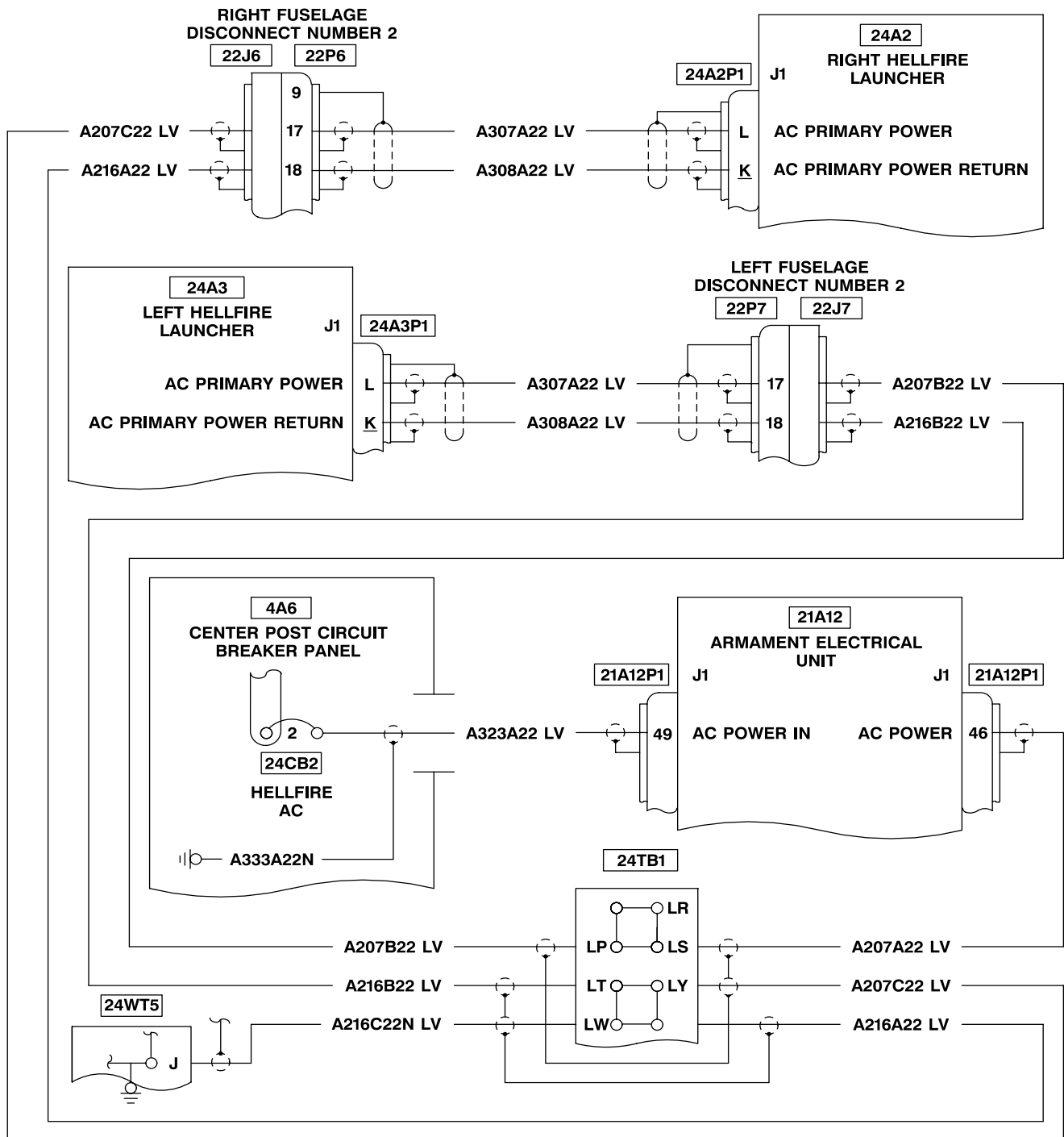
406475-542-386
J1493

4-6-24. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-8) - OH-58D(R) (CONT)



406475-542-387
J1493

4-6-24. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-8) - OH-58D(R) (CONT)

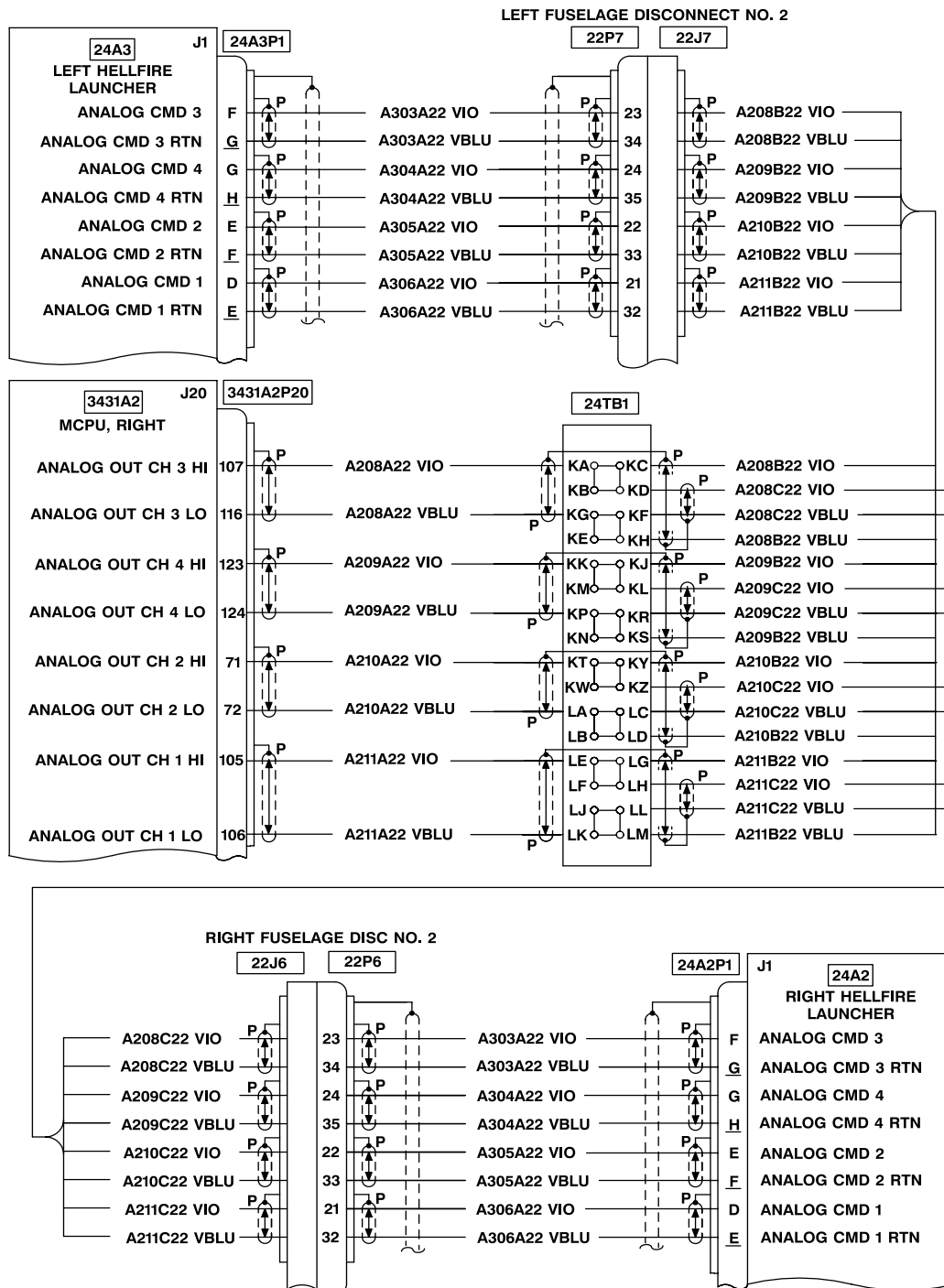


NOTE

Underlined connector contact letters denote lowercase.

406475-542-388
J1493

4-6-24. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-8) - OH-58D(R) (CONT)

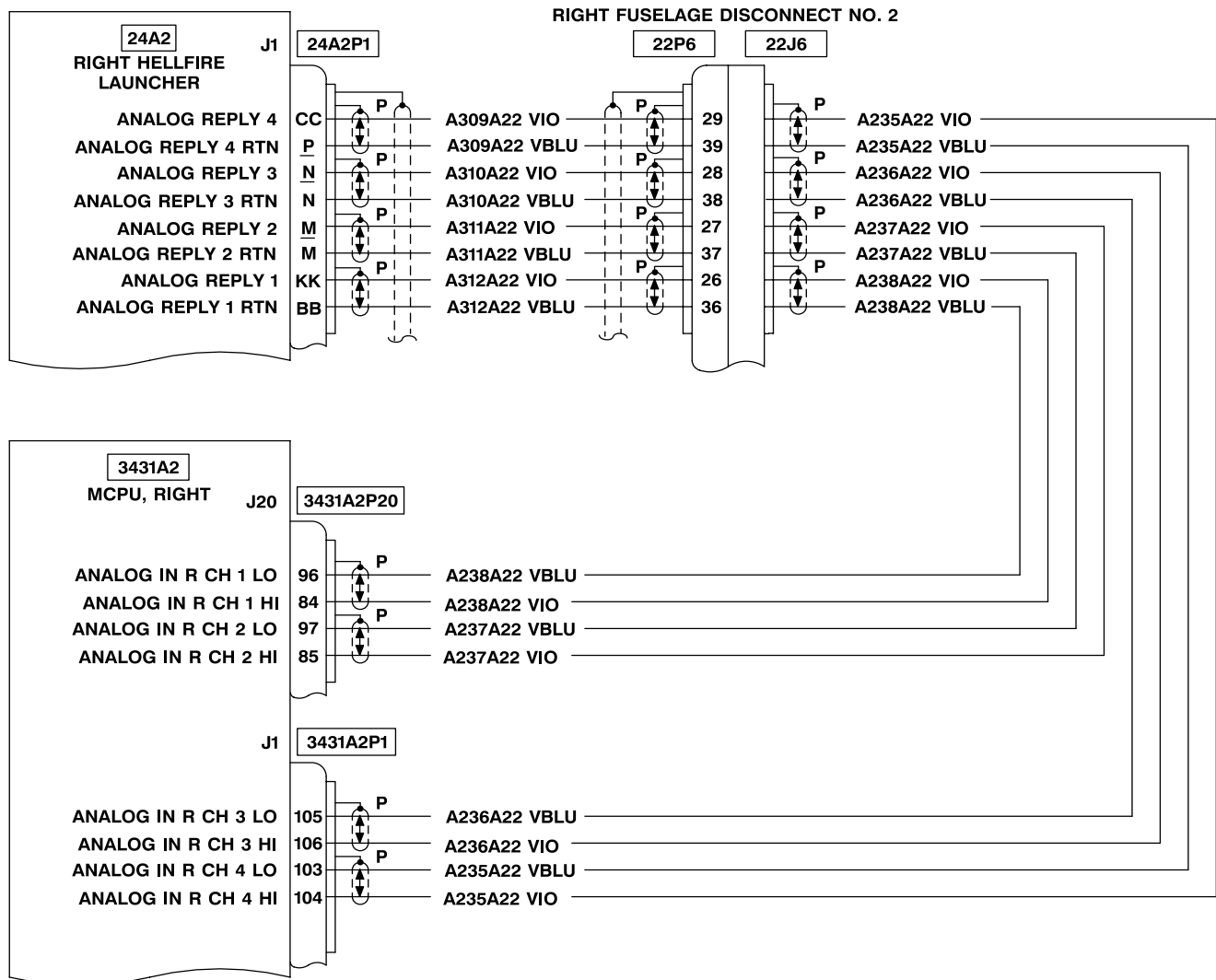


NOTE

Underlined connector contact letters denote lowercase.

406475-542-389
J1493

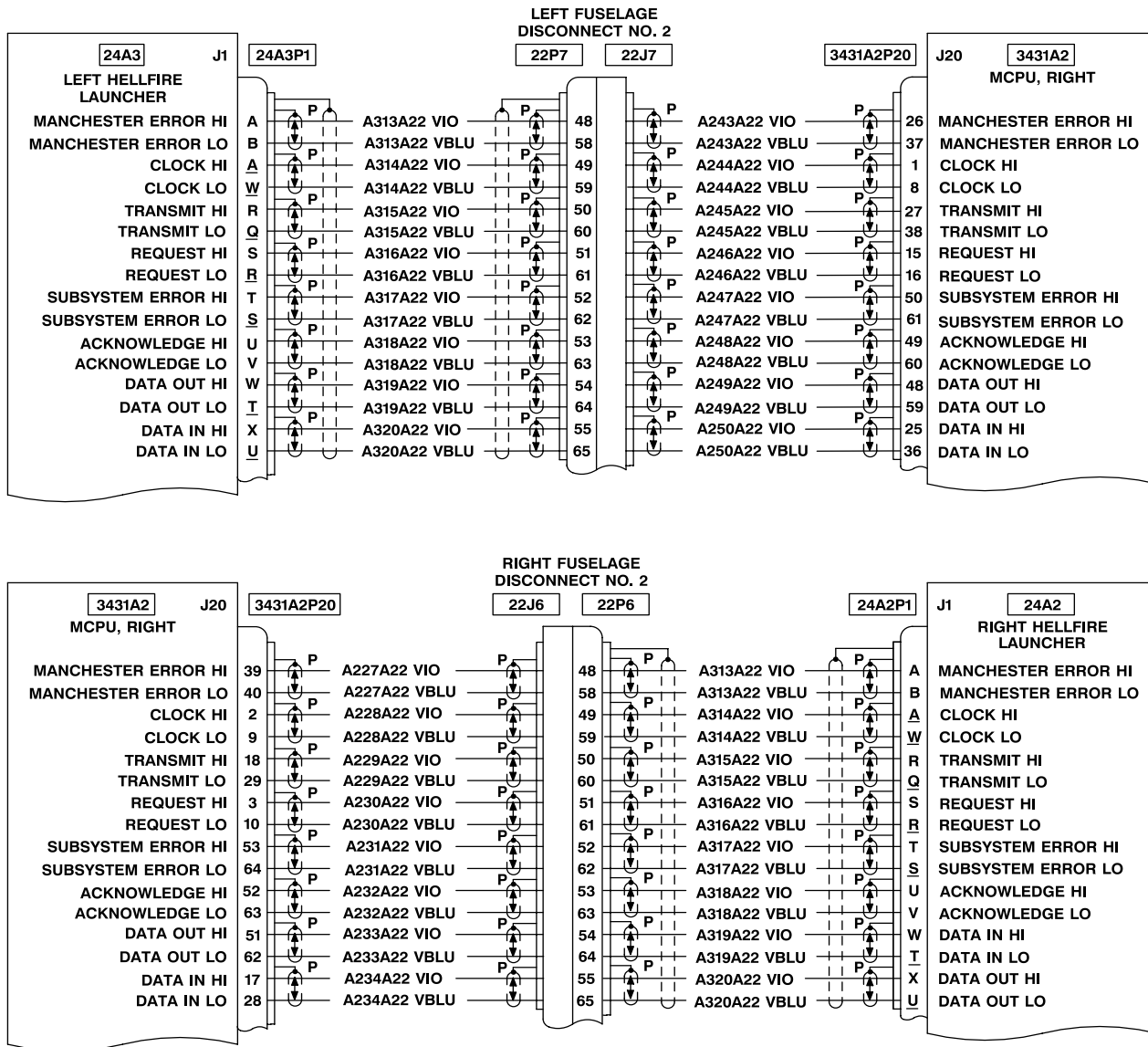
4-6-24. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-8) - OH-58D(R) (CONT)



NOTE
Underlined connector contact
letters denote lowercase.

406475-542-390
J1493

4-6-24. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-8) - OH-58D(R) (CONT)

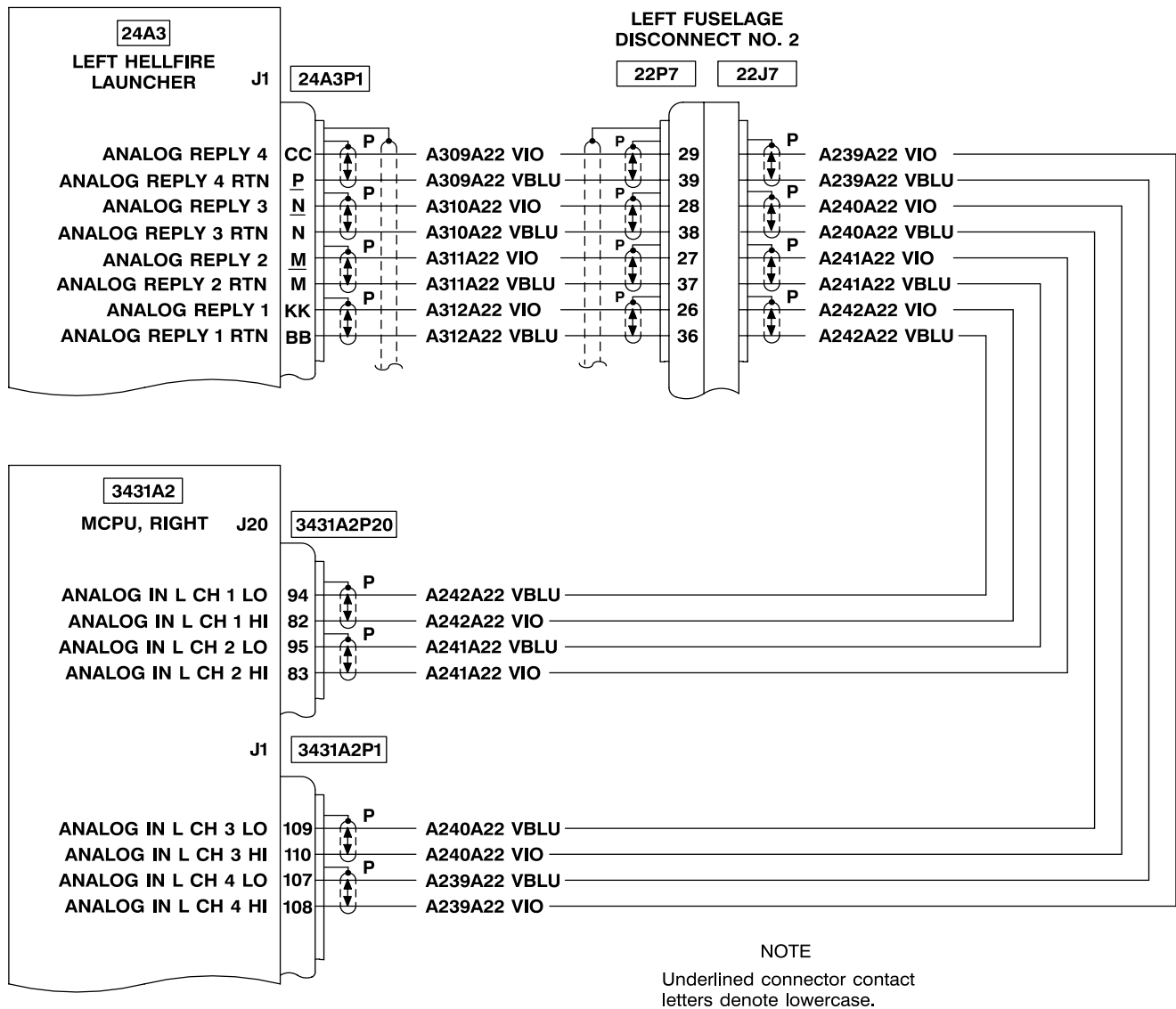


NOTE

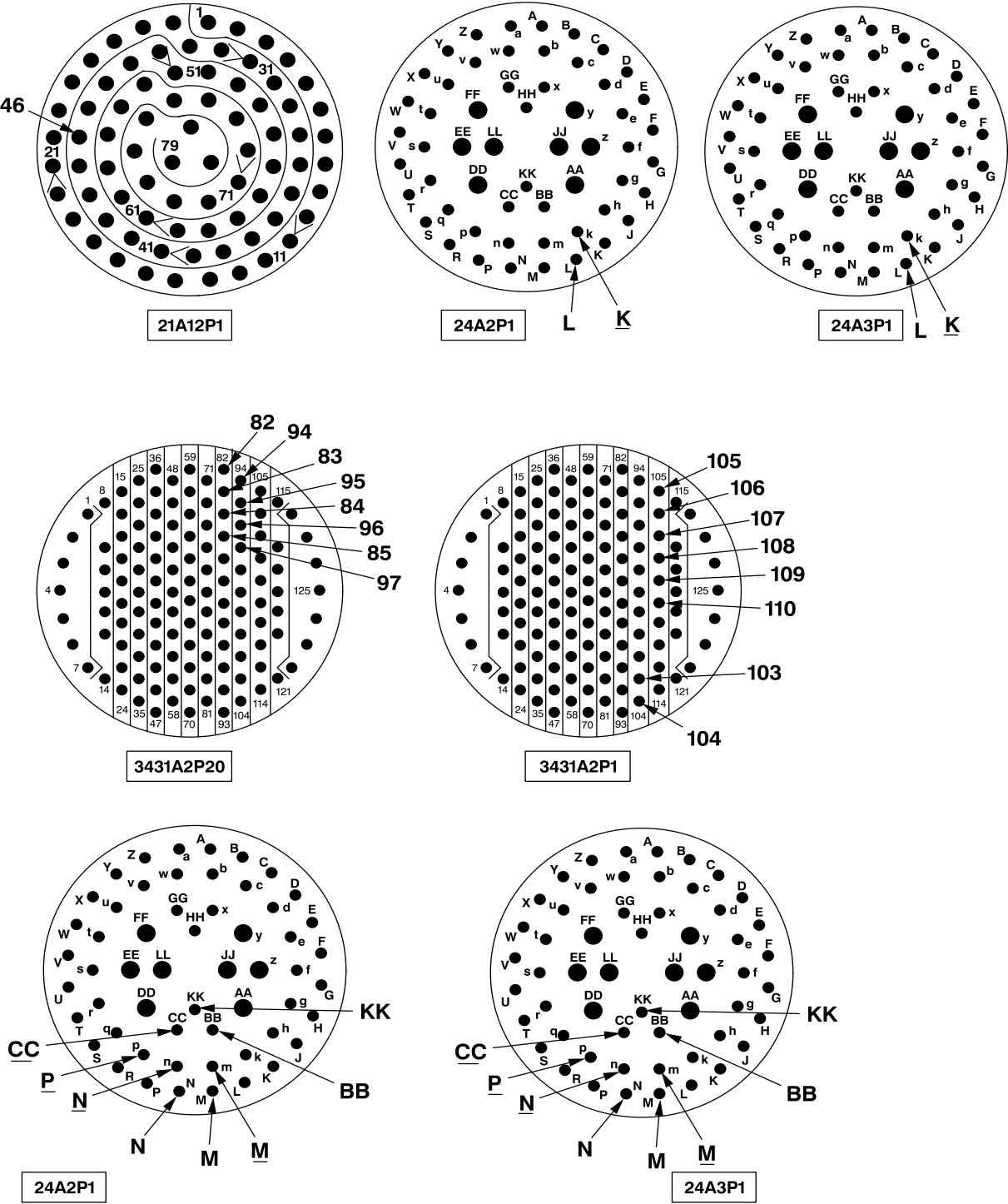
Underlined connector contact
letters denote lowercase.

406475-542-391
J1493

4-6-24. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-8) - OH-58D(R) (CONT)

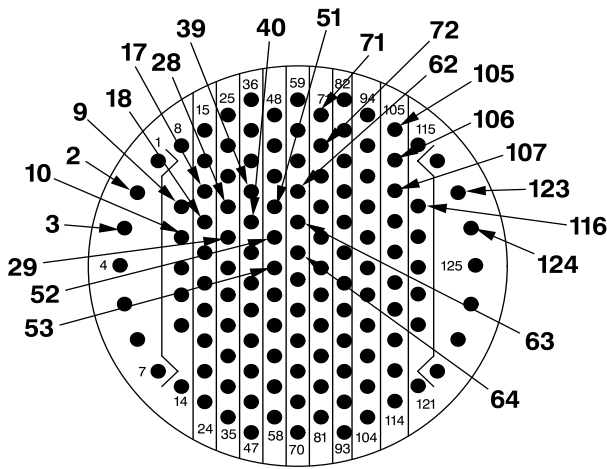
406475-542-392
J1493

4-6-24. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-8) - OH-58D(R) (CONT)

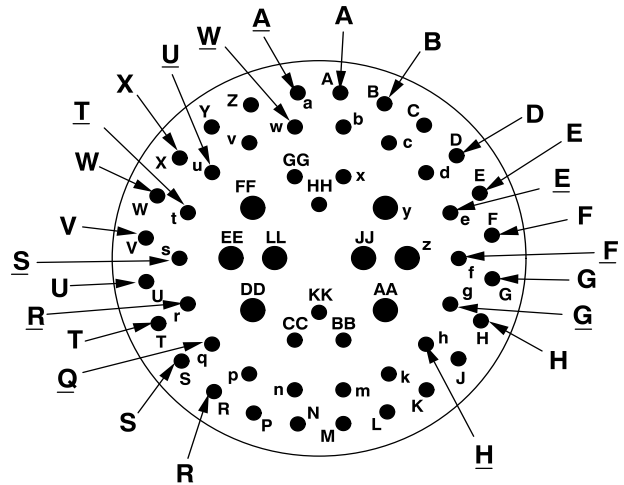


406475-542-393
J1493

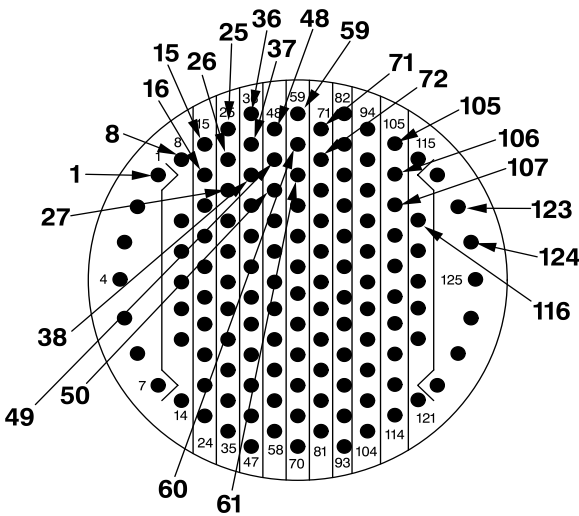
4-6-24. HELLFIRE SYSTEM FAILS LAUNCHER BIT (TASK 2-5-8) - OH-58D(R) (CONT)



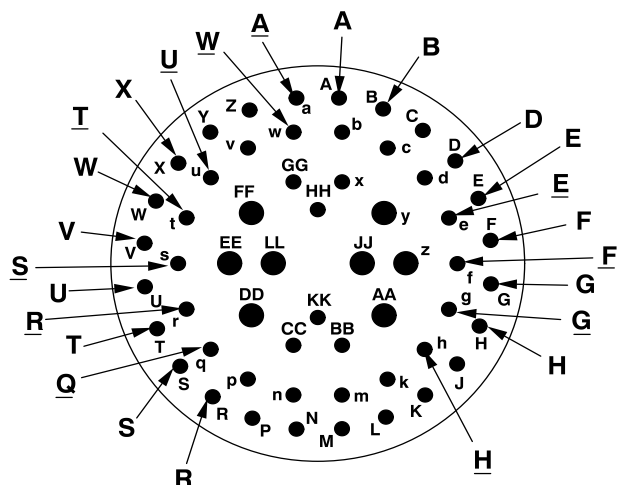
3431A2P20



24A2P1



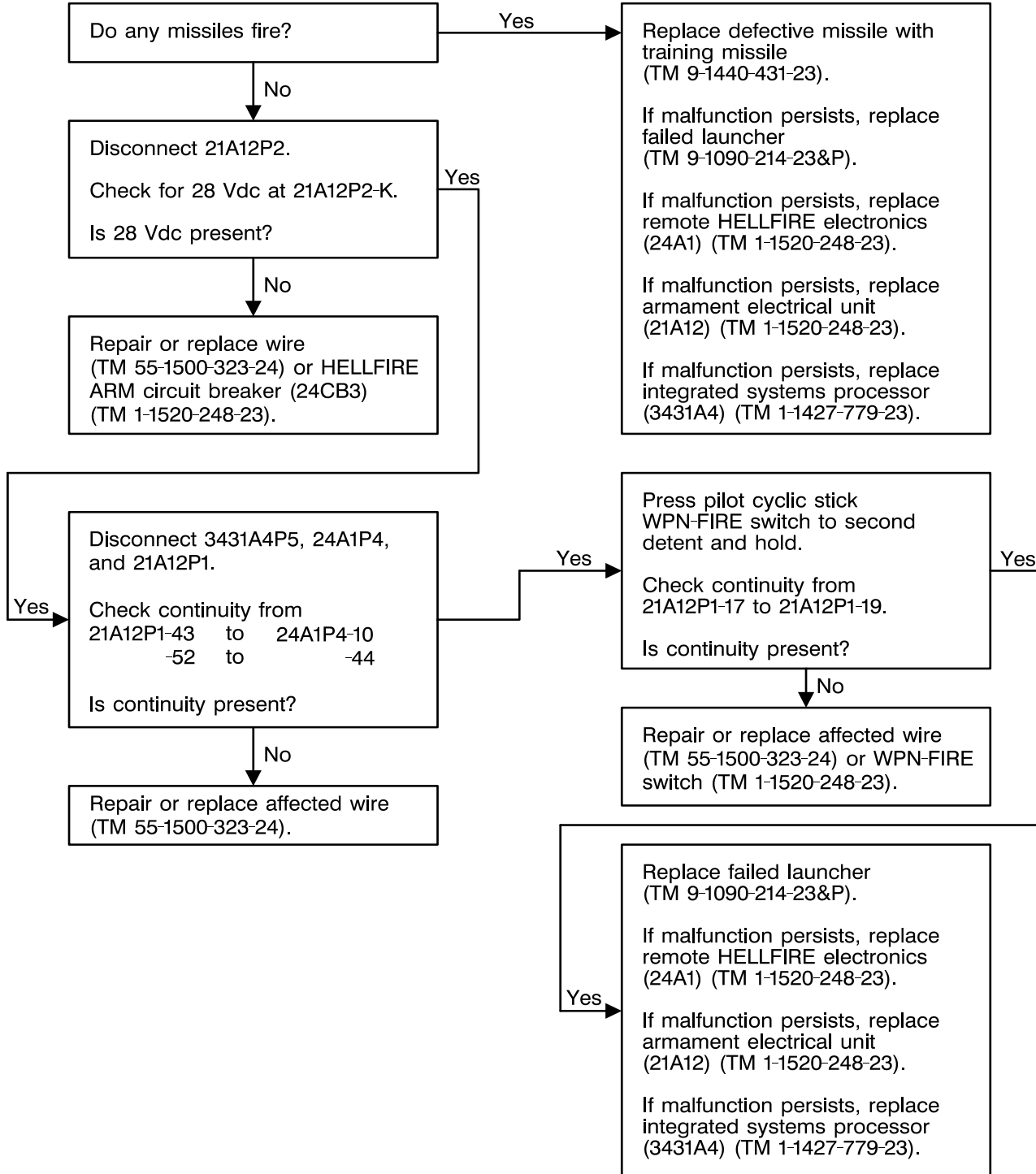
3431A2P20



24A3P1

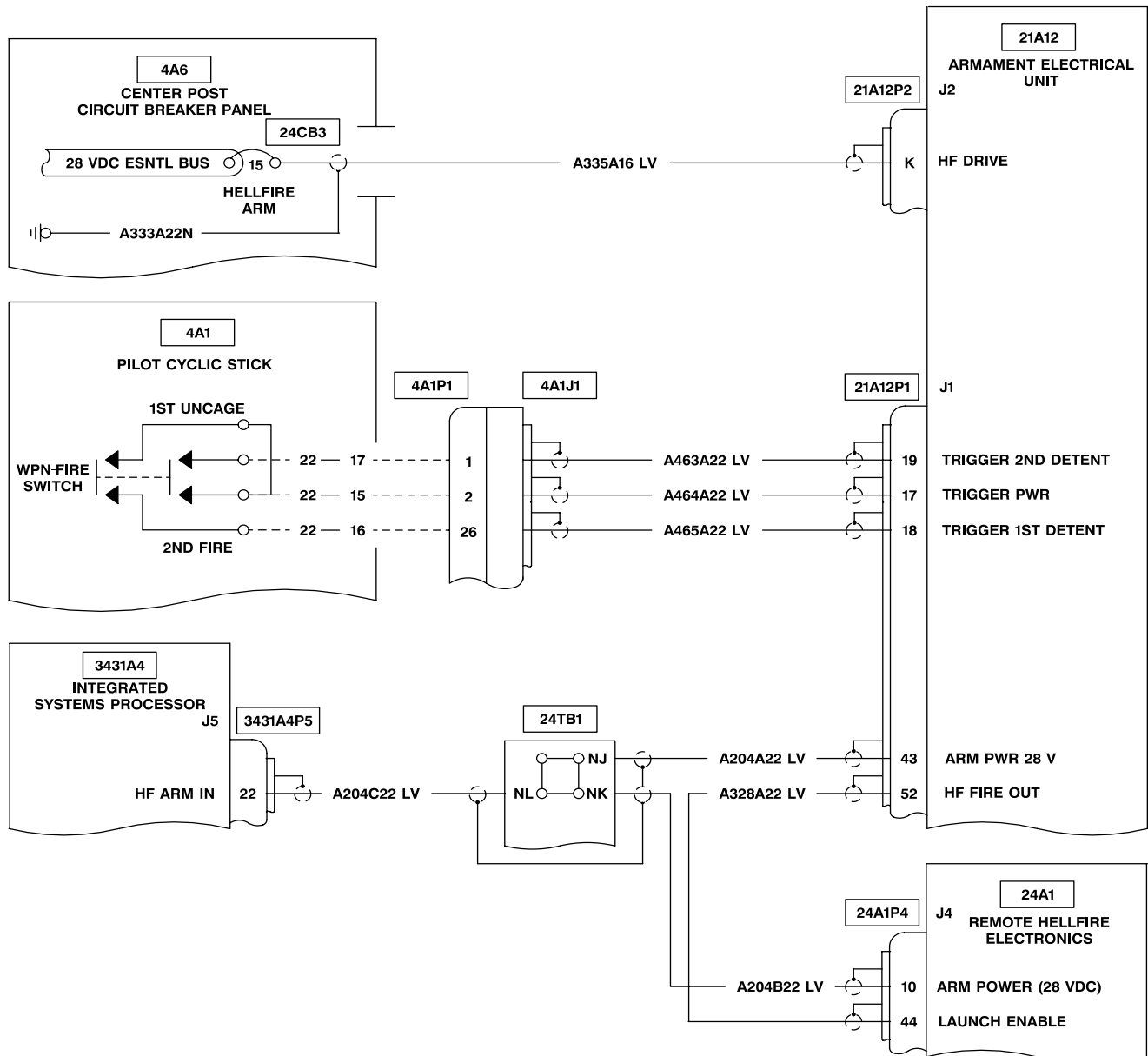
406475-542-394
J1493

4-6-25. **HELLFIRE ARMED AND RDY DISPLAYED ON MFD, BUT CANNOT FIRE MISSILE (TASK 2-5-7) - OH-58D**



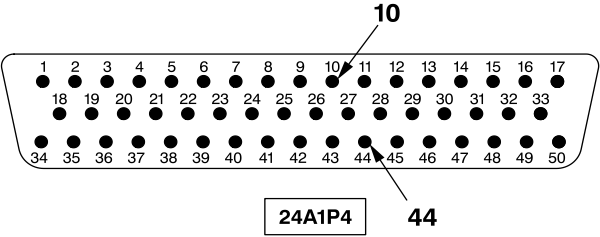
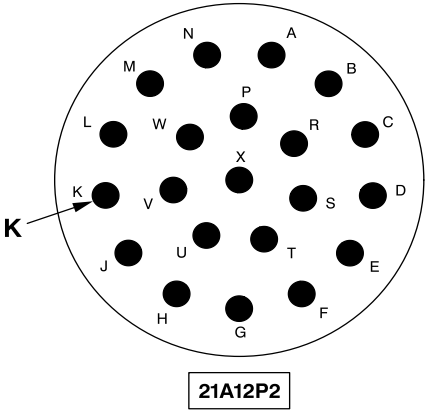
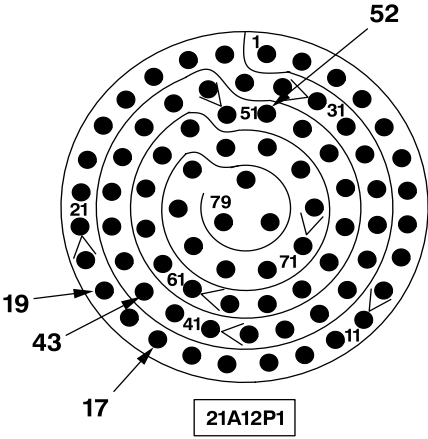
406475-542-395
J1493

4-6-25. **HELLFIRE ARMED AND RDY DISPLAYED ON MFD, BUT CANNOT FIRE MISSILE (TASK 2-5-7) - OH-58D (CONT)**

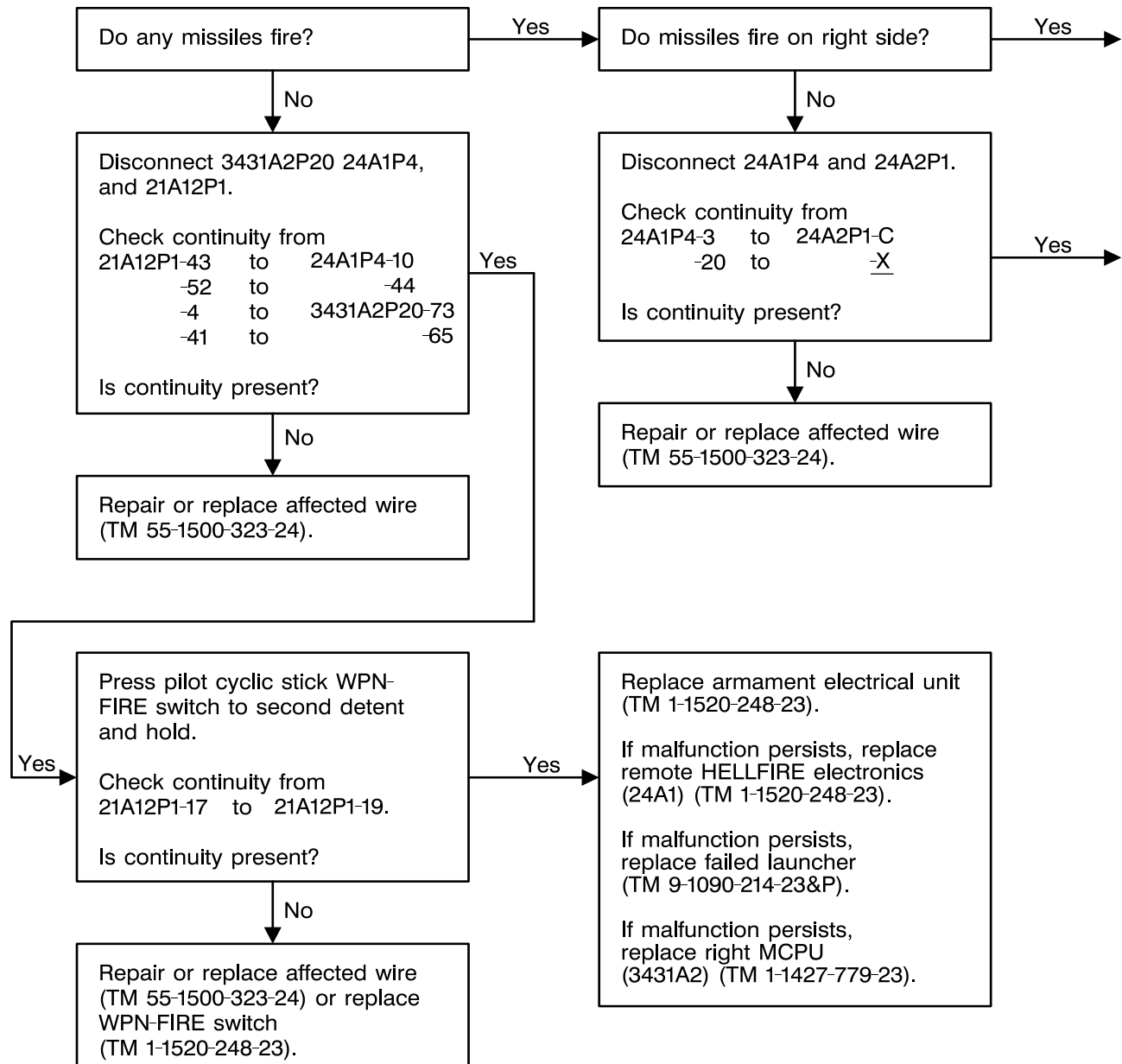


406475-542-396
J1493

4-6-25. HELLFIRE ARMED AND RDY DISPLAYED ON MFD, BUT CANNOT FIRE MISSILE (TASK 2-5-7) - OH-58D (CONT)



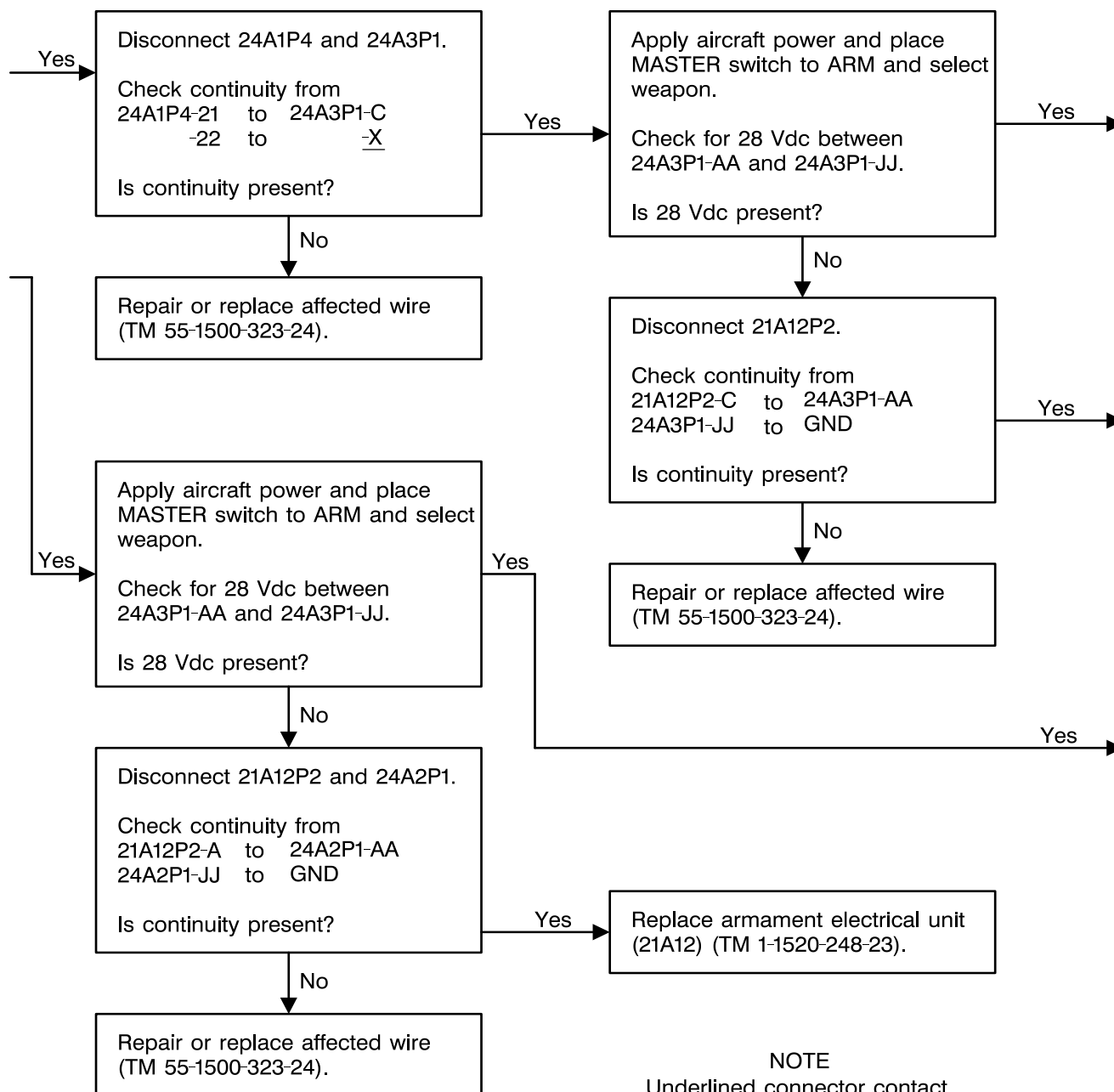
4-6-26. **HELLFIRE ARMED AND RDY DISPLAYED ON MFD, BUT CANNOT FIRE MISSILE (TASK 2-5-7) - OH-58D(R)**



NOTE

Underlined connector contact letters denote lowercase.

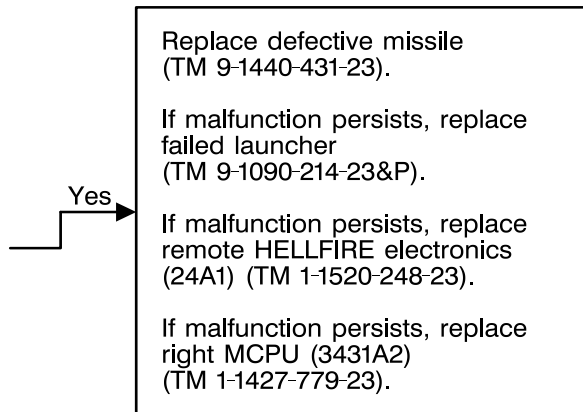
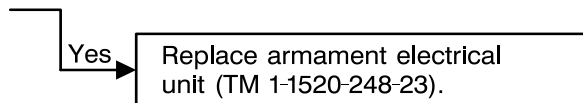
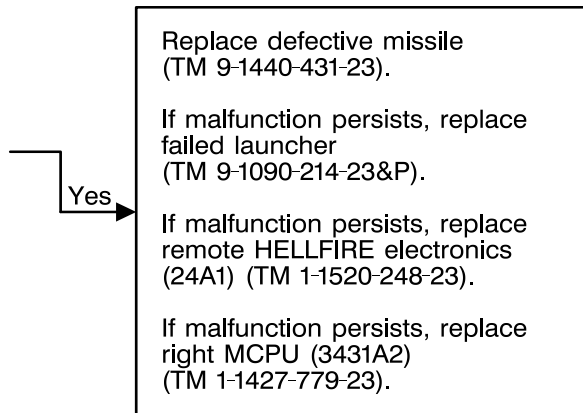
4-6-26. **HELLFIRE ARMED AND RDY** DISPLAYED ON MFD, BUT CANNOT FIRE MISSILE (TASK 2-5-7) - OH-58D(R) (CONT)



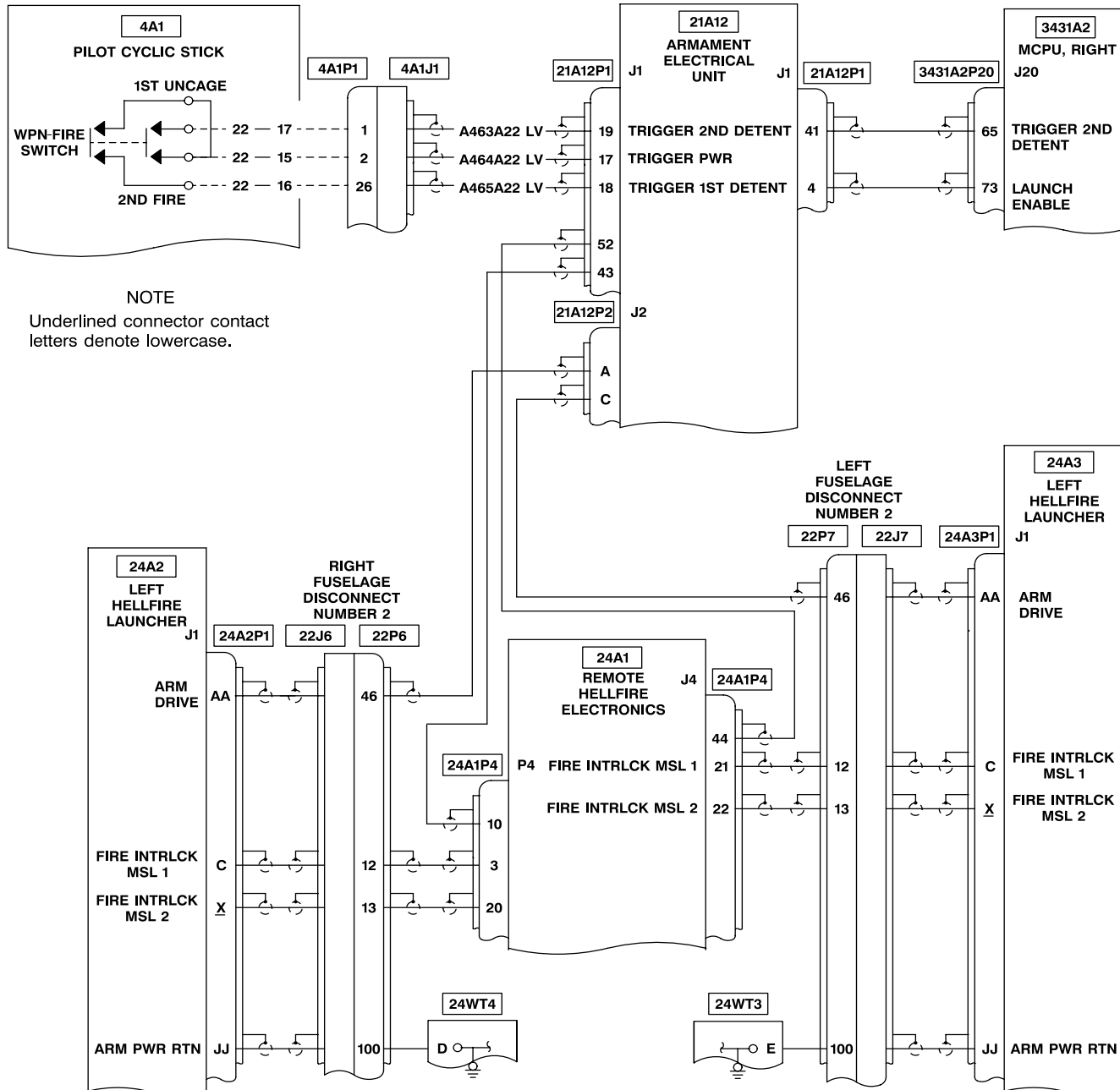
NOTE
Underlined connector contact
letters denote lowercase.

406475-542-399
J1493

4-6-26. HELLFIRE ARMED AND RDY DISPLAYED ON MFD, BUT CANNOT FIRE MISSILE (TASK 2-5-7) - OH-58D(R) (CONT)

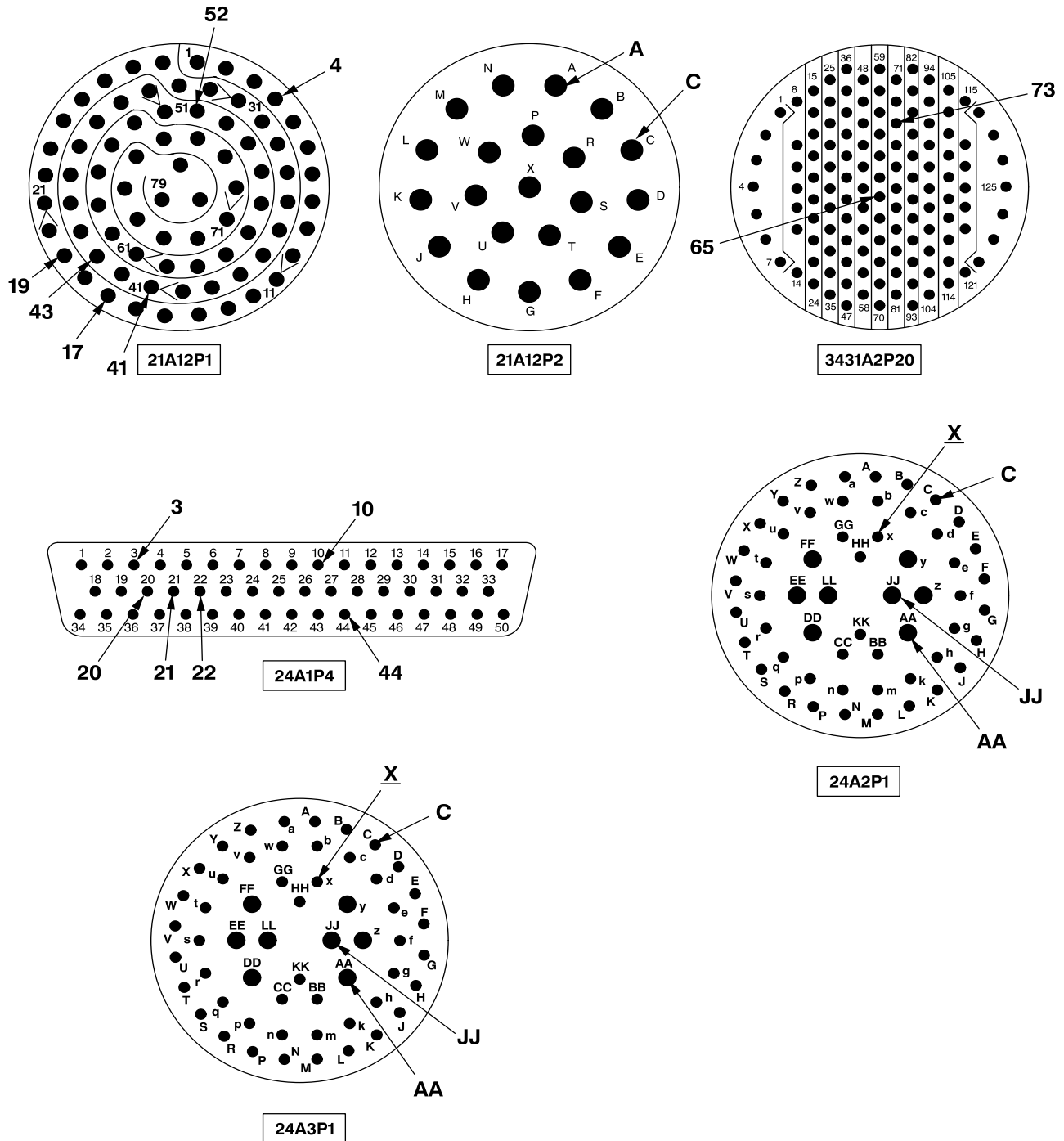


4-6-26. **HELLFIRE ARMED AND RDY DISPLAYED ON MFD, BUT CANNOT FIRE MISSILE (TASK 2-5-7) - OH-58D(R) (CONT)**



406475-542-401
J1493

4-6-26. **HELLFIRE ARMED AND RDY DISPLAYED ON MFD, BUT CANNOT FIRE MISSILE (TASK 2-5-7) - OH-58D(R) (CONT)**



406475-542-402
J1493

Section VII. MISSILE SIGHT SYSTEM (MSS) FAULTS

4-9. MAPS DIAGRAMS INDEX

The MAPS diagrams index provides a numerical list of symptoms contained in this section.

Missile Sight System (MSS) malfunctions (symptoms) are listed in column two (SYMPTOM). To locate troubleshooting procedures refer to column one (MAPS NUMBER) which indicates the MAPS diagram number to be utilized. The procedures in the troubleshooting logic tree shall be performed in sequence as specified unless otherwise noted within the logic tree.

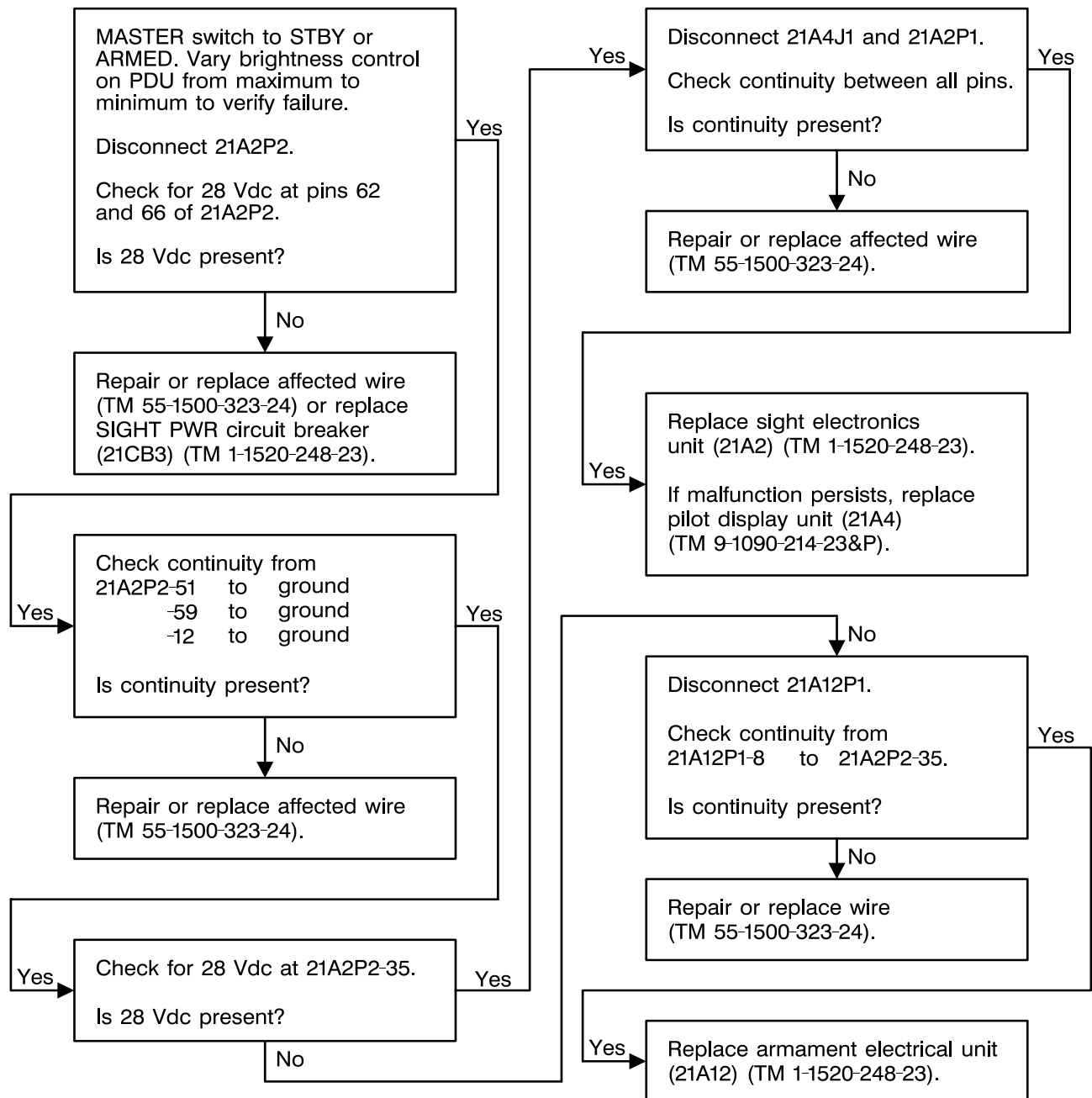
Correction of malfunctions must be verified by performing an operational check utilizing the procedures in TM 1-1520-248-T-1.

NOTE

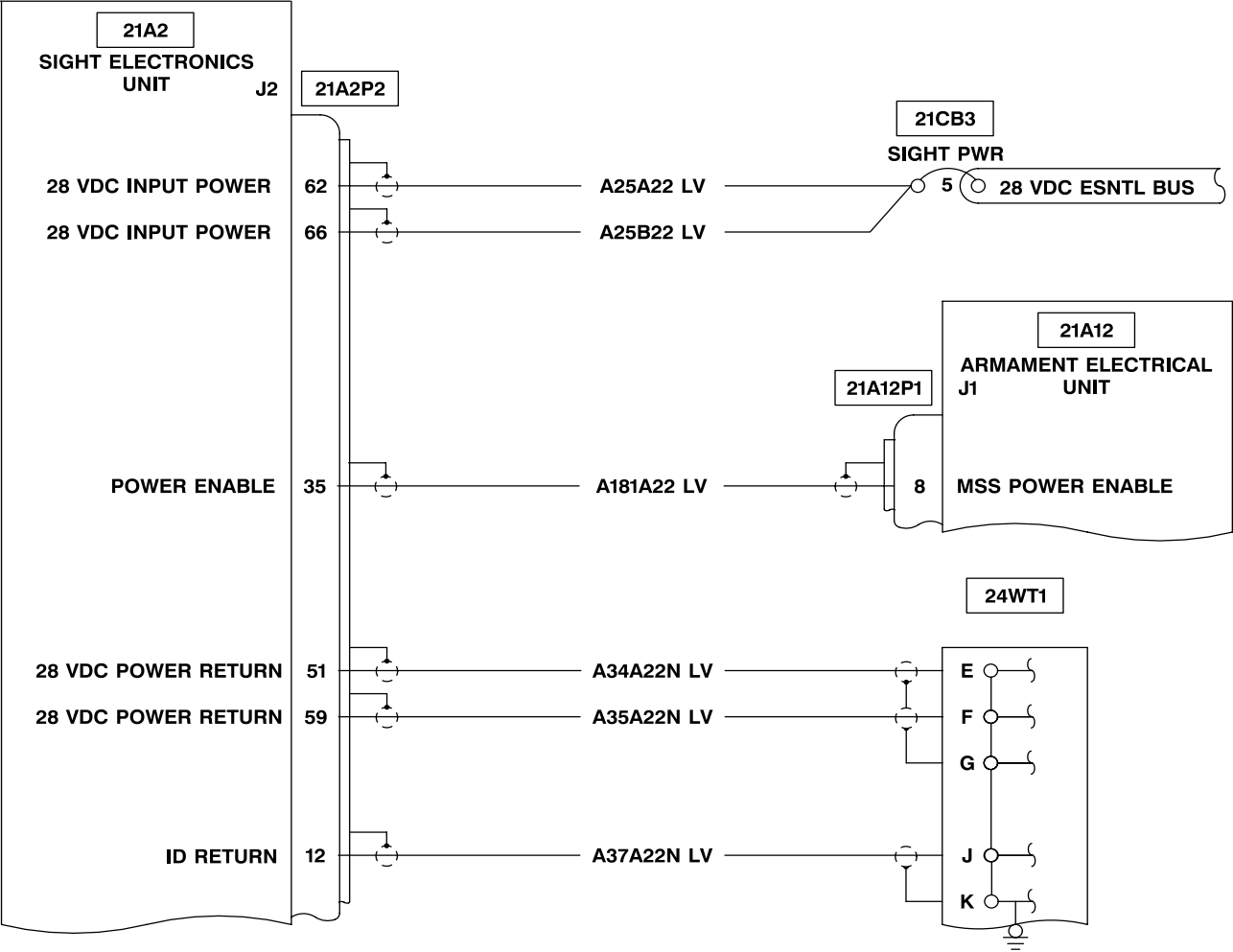
The task number(s) referenced in the symptom title is the related operational check for the affected system.

MAPS NUMBER	SYMPTOM	PAGE NUMBER
4-7-1	Pilot display unit (PDU) fails to power up (Task 2-5-1/2-5-2)	4-395
4-7-2	Pilot display unit (PDU) displays vertical dashed line (Task 2-5-1/2-5-2)	4-399
4-7-3	MSS fails BIT (Task 2-5-1/2-5-2)	4-401
4-7-4	With ATAS AUTO CAGE selected, activating missile causes first missile to activate and then deactivate, and second missile to activate then deactivate	4-403
4-7-5	PDU does not display GUN reticle with gun installed and selected (PDU displays ATAS) (Task 2-5-1/2-5-2)	4-406
4-7-6	MSS fails to perform BIT (Task 2-5-1/2-5-2)	4-408
4-7-7	If BIT is initiated, PDU displays TEST for approximately 15 seconds, then PDU displays FAIL IEU (Task 2-5-1/2-5-2)	4-409

4-7-1. PILOT DISPLAY UNIT (PDU) FAILS TO POWER UP (TASK 2-5-1/2-5-2)

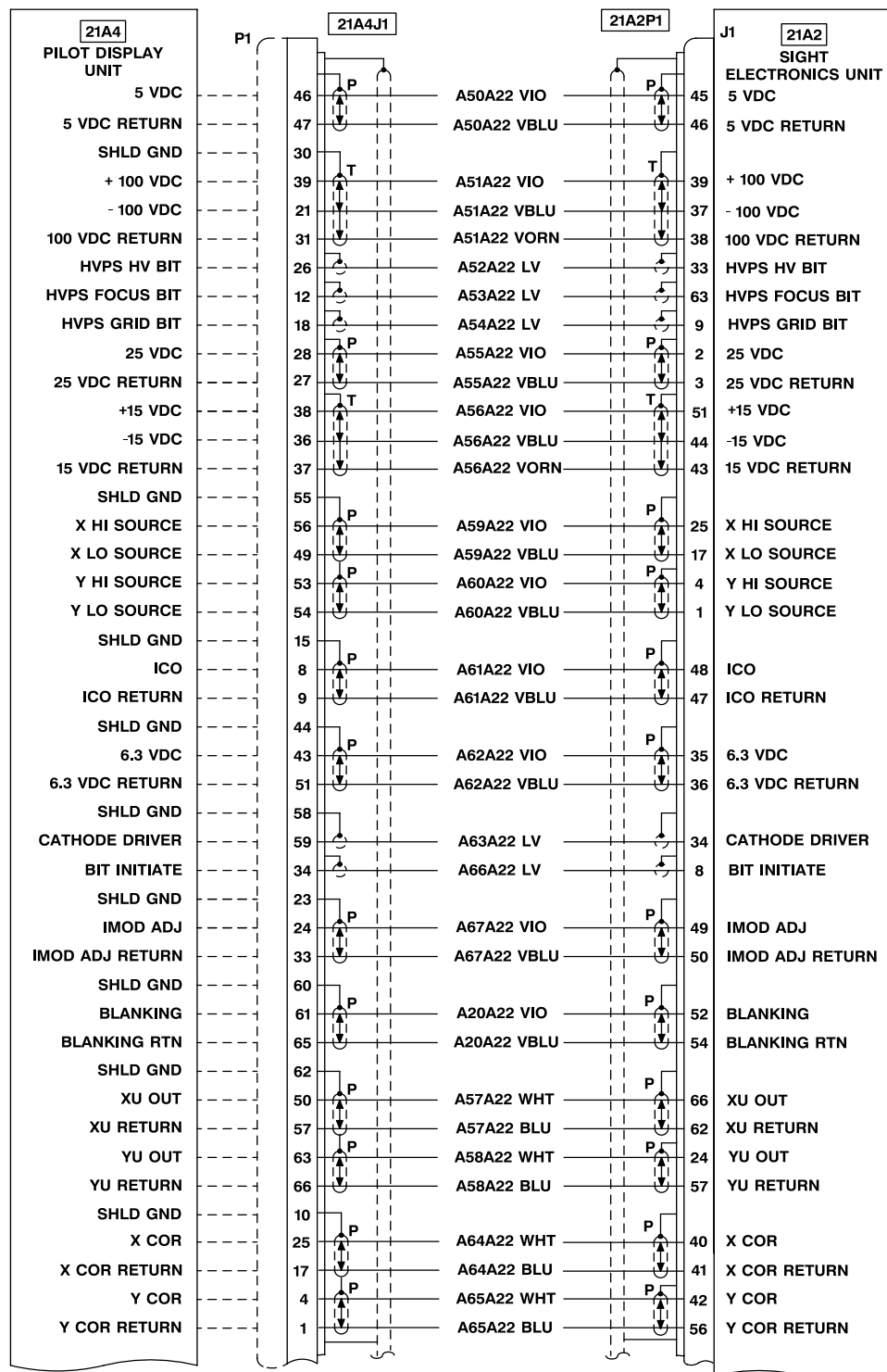
406475-542-403
J1493

4-7-1. PILOT DISPLAY UNIT (PDU) FAILS TO POWER UP (TASK 2-5-1/2-5-2) (CONT)

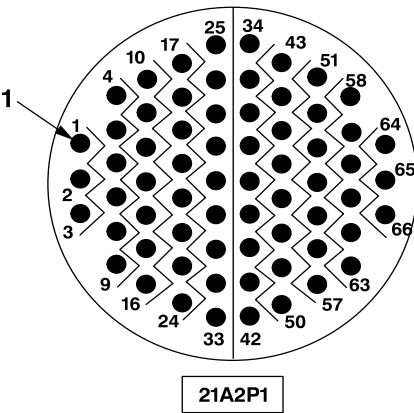
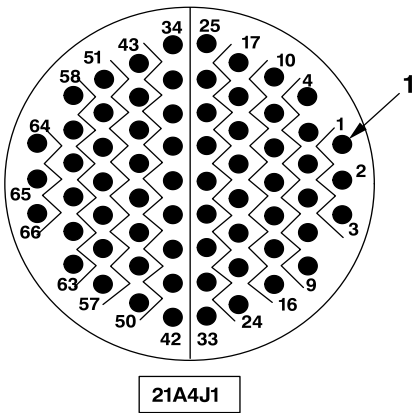
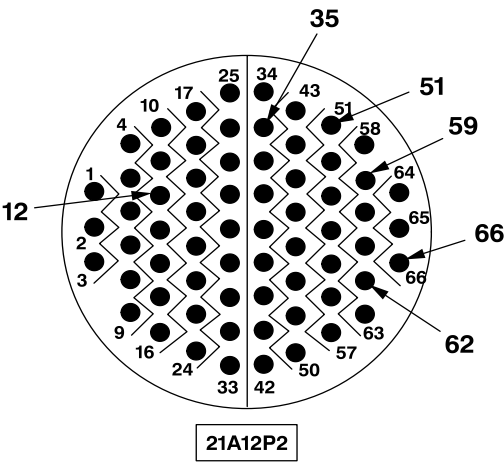
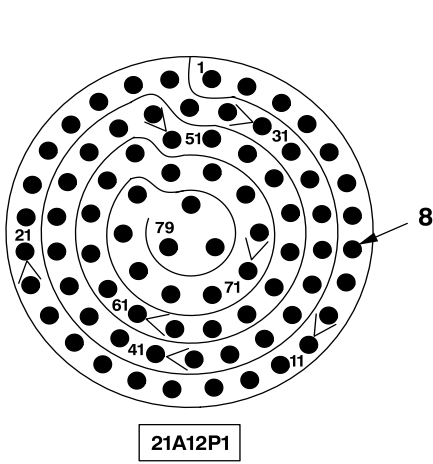


406475-542-404
J1493

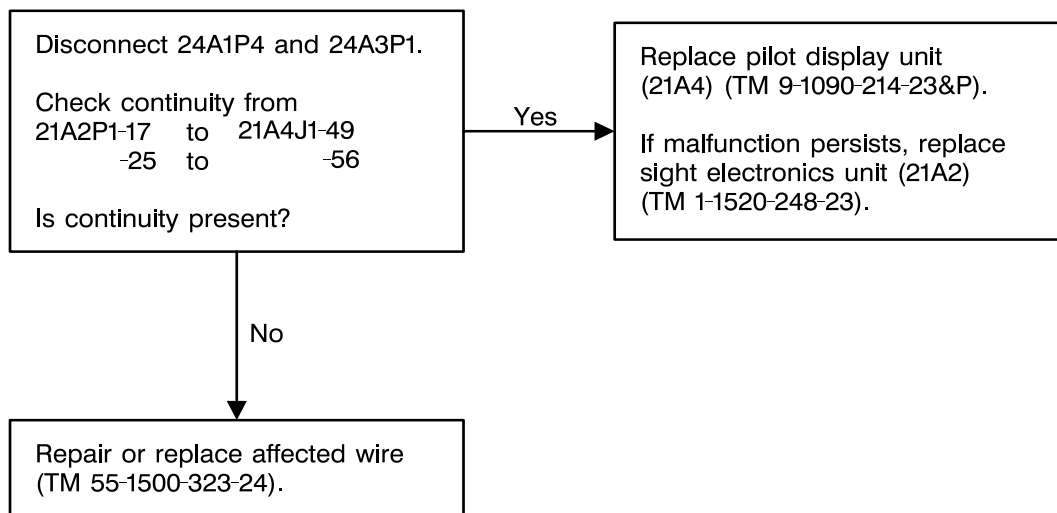
4-7-1. PILOT DISPLAY UNIT (PDU) FAILS TO POWER UP (TASK 2-5-1/2-5-2) (CONT)

406475-542-405
J1493

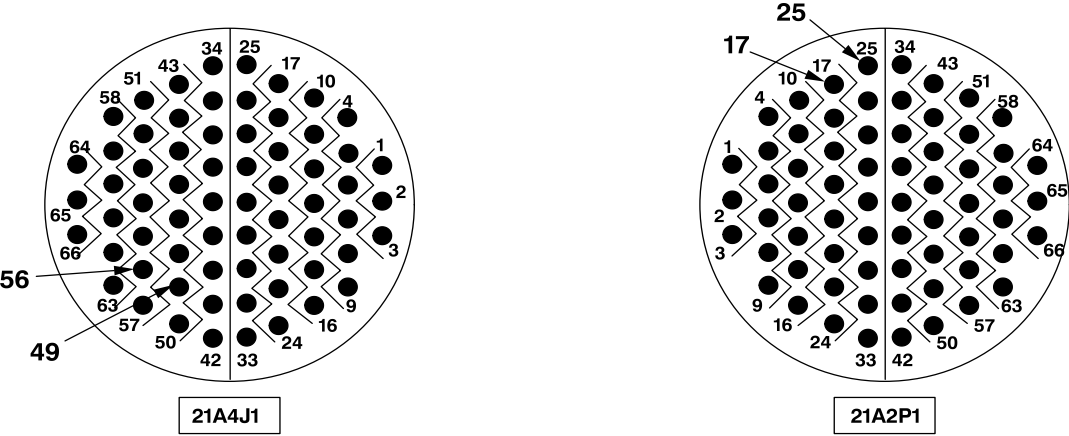
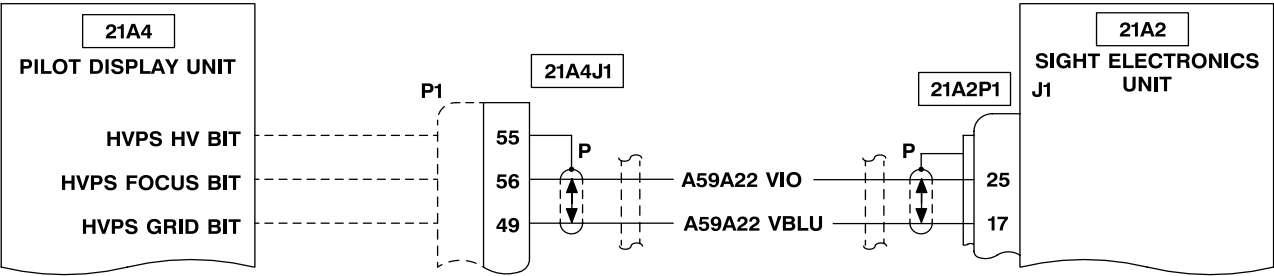
4-7-1. PILOT DISPLAY UNIT (PDU) FAILS TO POWER UP (TASK 2-5-1/2-5-2) (CONT)



4-7-2. PILOT DISPLAY UNIT (PDU) DISPLAYS VERTICAL DASHED LINE (TASK 2-5-1/2-5-2)

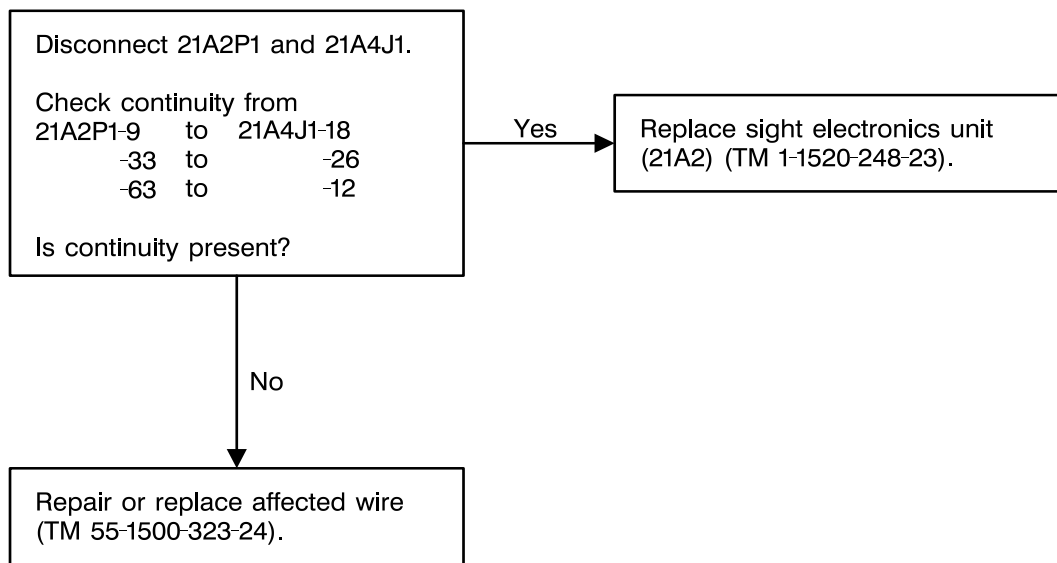
406475-542-407
J1493

4-7-2. PILOT DISPLAY UNIT (PDU) DISPLAYS VERTICAL DASHED LINE (TASK 2-5-1/2-5-2) (CONT)

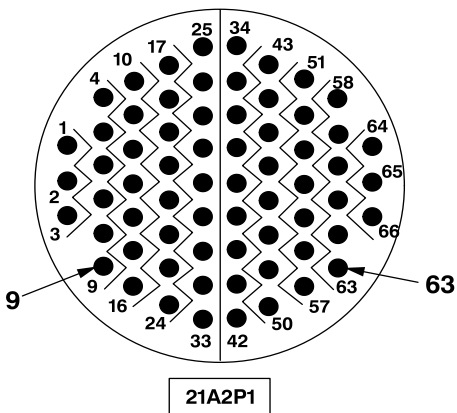
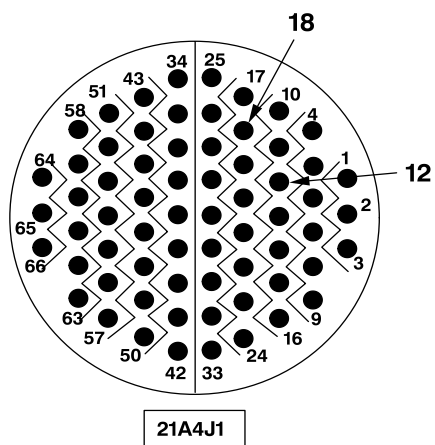
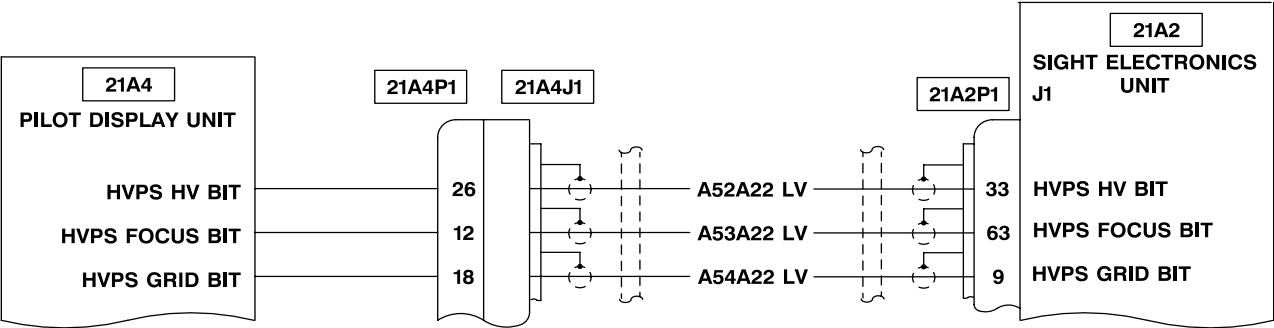


406475-542-408
J1493

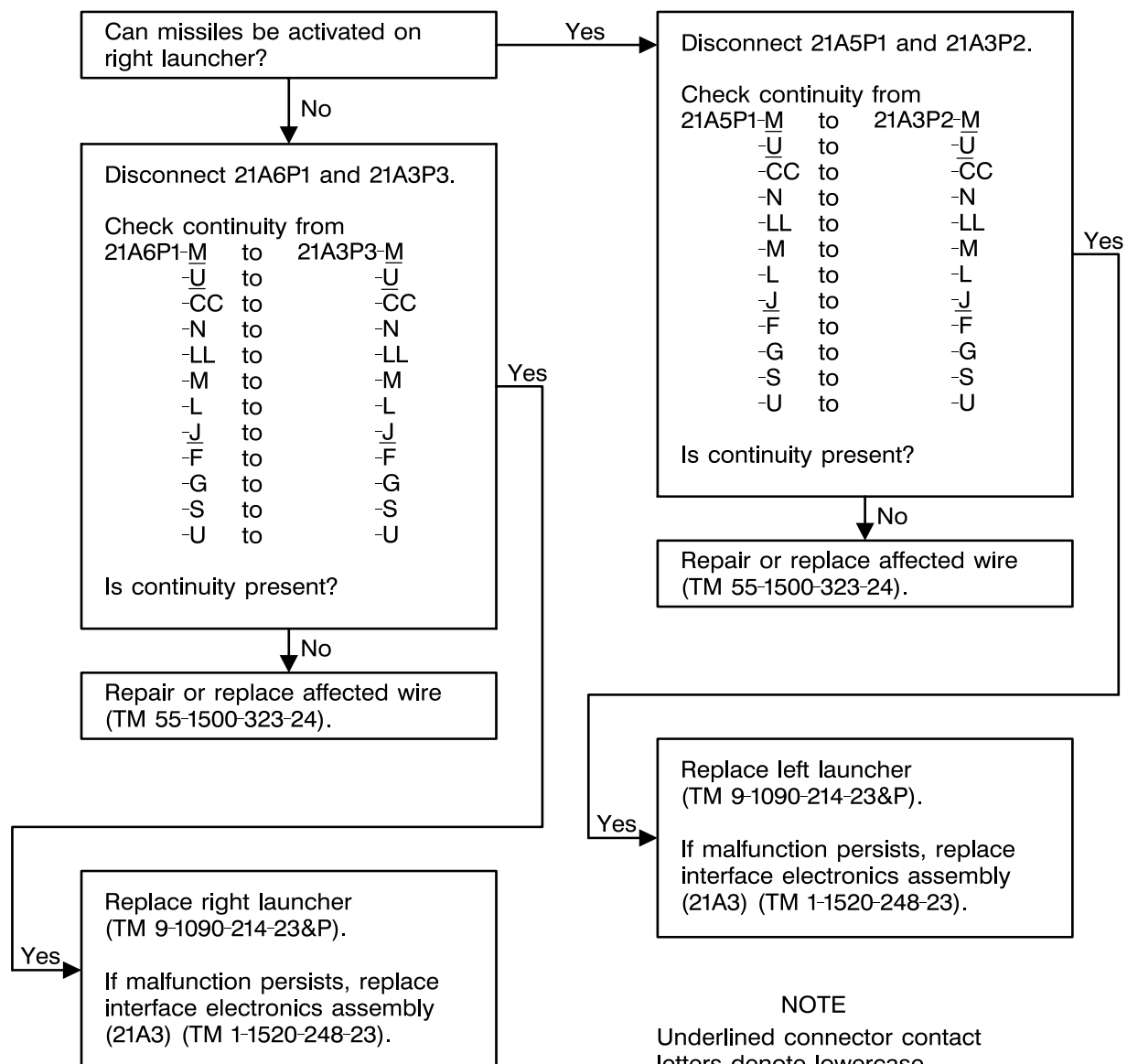
4-7-3. MSS FAILS BIT (TASK 2-5-1/2-5-2)

406475-542-409
J1493

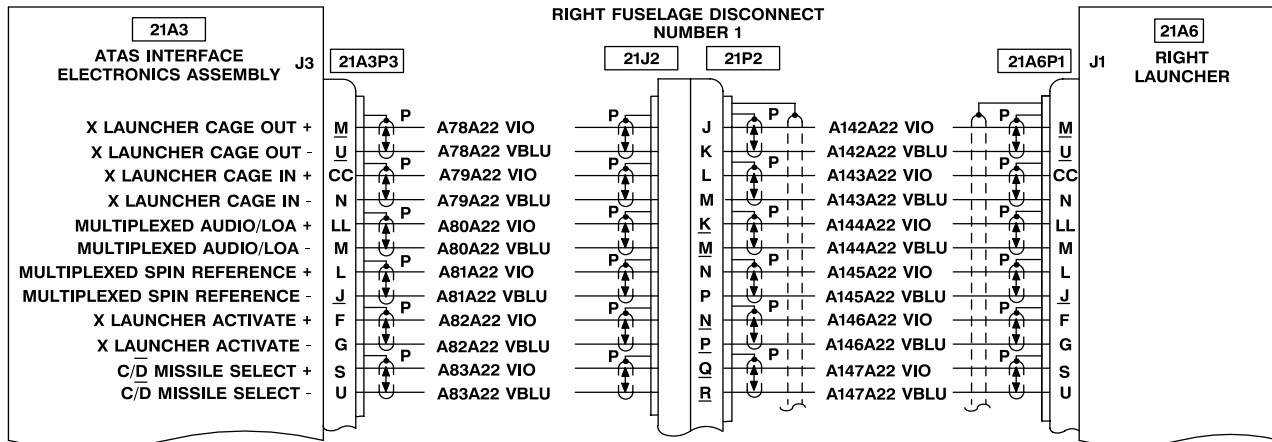
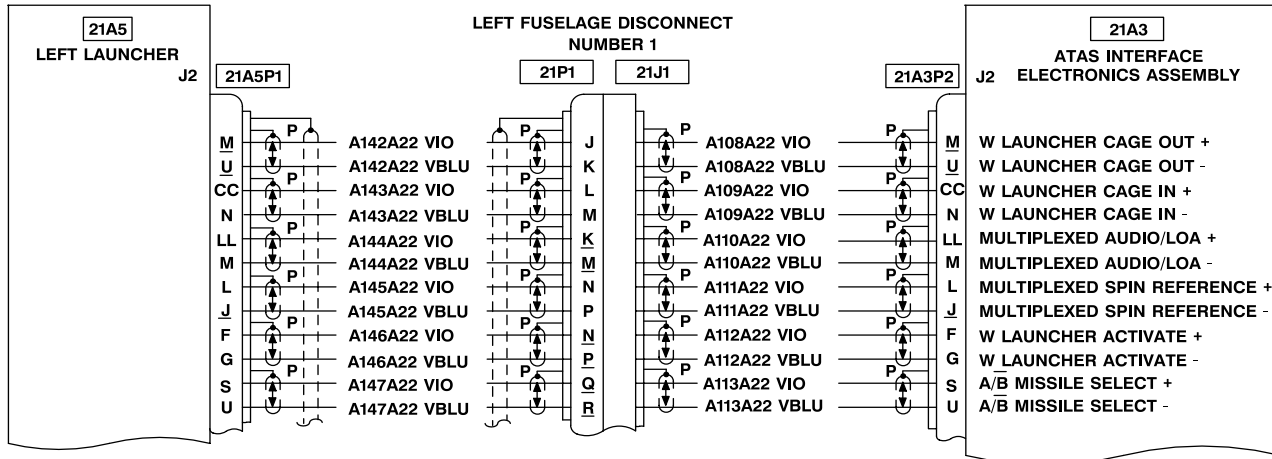
4-7-3. MSS FAILS BIT (TASK 2-5-1/2-5-2) (CONT)



4-7-4. WITH ATAS AUTO CAGE SELECTED, ACTIVATING MISSILE CAUSES FIRST MISSILE TO ACTIVATE AND THEN DEACTIVATE, AND SECOND MISSILE TO ACTIVATE THEN DEACTIVATE. MISSILE IMAGES REMAIN, BUT CANNOT BE REACTIVATED (TASK 2-5-1/2-5-2)



4-7-4. WITH ATAS AUTO CAGE SELECTED, ACTIVATING MISSILE CAUSES FIRST MISSILE TO ACTIVATE AND THEN DEACTIVATE, AND SECOND MISSILE TO ACTIVATE THEN DEACTIVATE. MISSILE IMAGES REMAIN, BUT CANNOT BE REACTIVATED (TASK 2-5-1/2-5-2) (CONT)

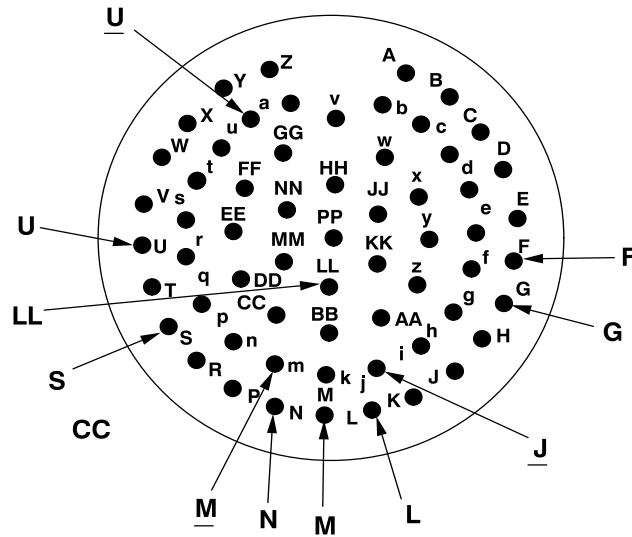


NOTE

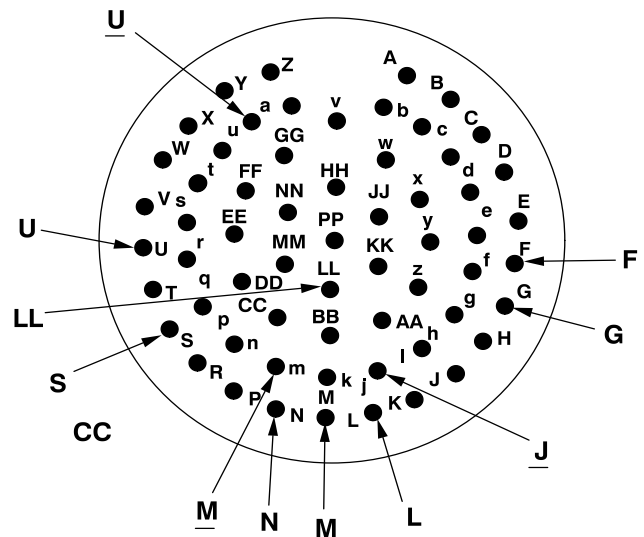
Underlined connector contact letters denote lowercase.

406475-542-412
J1493

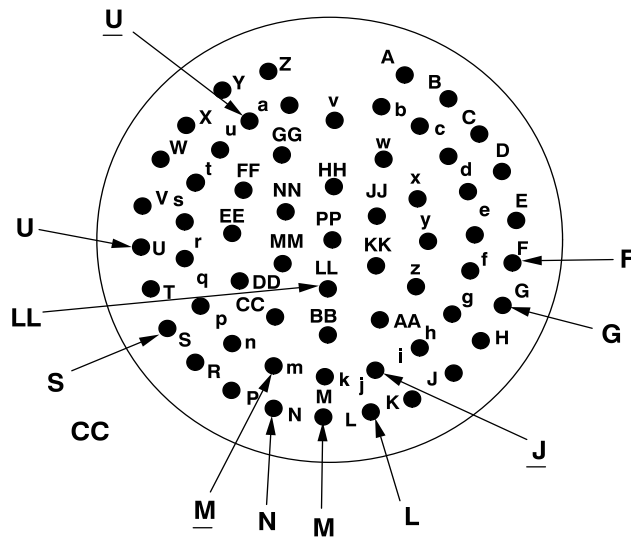
4-7-4. WITH ATAS AUTO CAGE SELECTED, ACTIVATING MISSILE CAUSES FIRST MISSILE TO ACTIVATE AND THEN DEACTIVATE, AND SECOND MISSILE TO ACTIVATE THEN DEACTIVATE. MISSILE IMAGES REMAIN, BUT CANNOT BE REACTIVATED (TASK 2-5-1/2-5-2) (CONT)



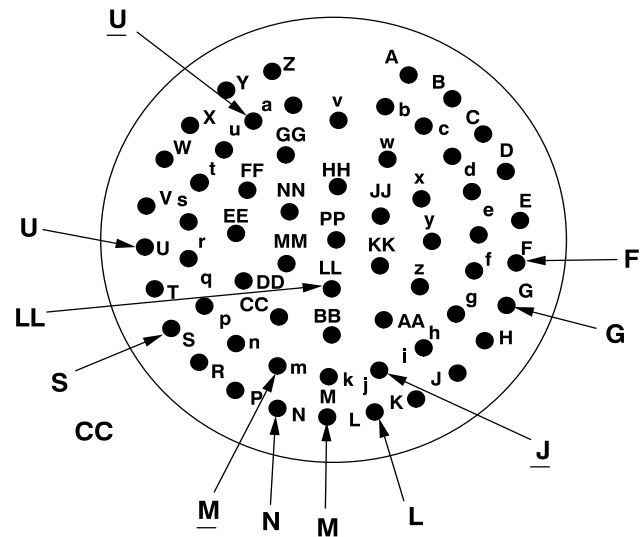
21A6P1



21A3P3



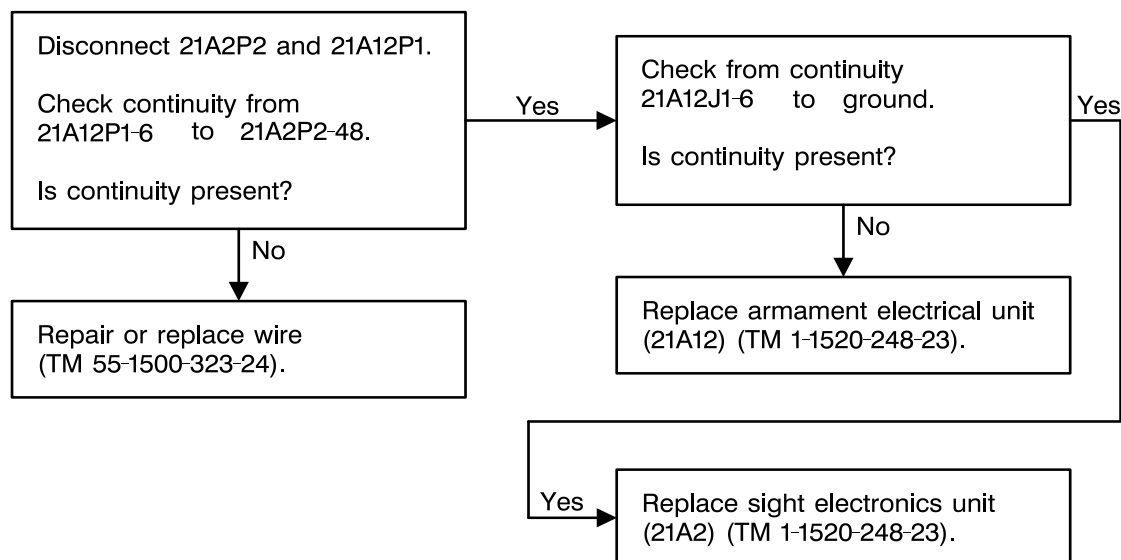
21A5P1



21A3P2

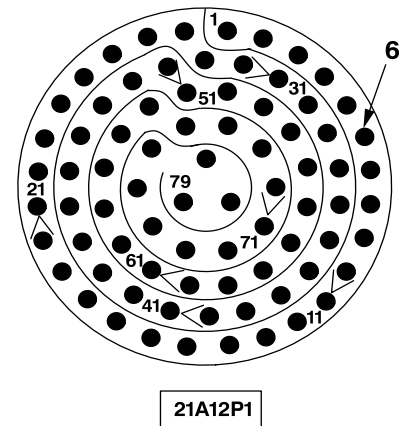
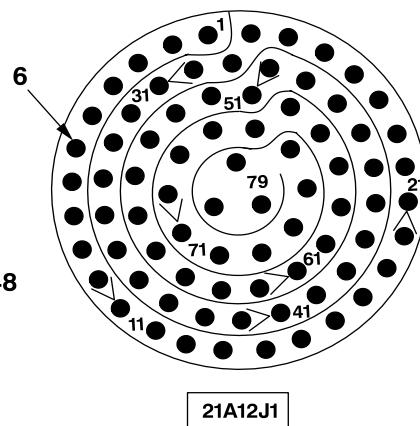
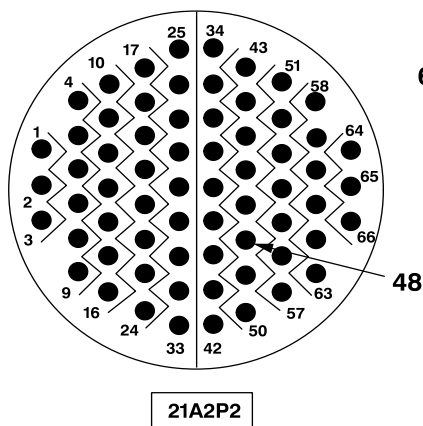
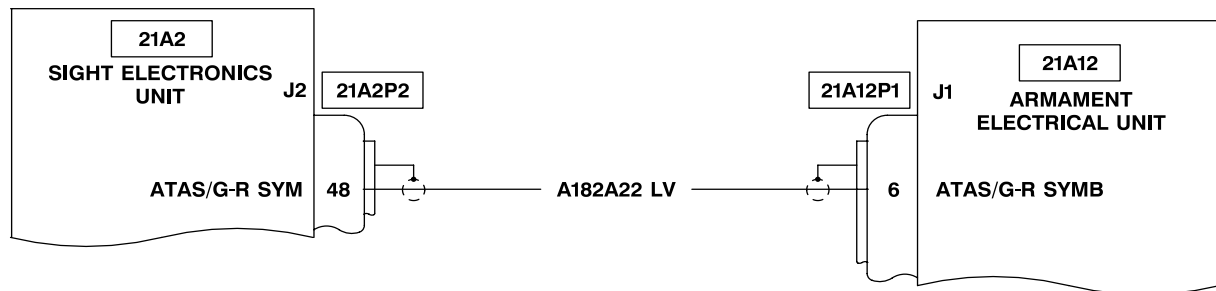
406475-542-413
J1493

4-7-5. PDU DOES NOT DISPLAY GUN RETICLE WITH GUN INSTALLED AND SELECTED (PDU DISPLAYS ATAS) (TASK 2-5-1/2-5-2)



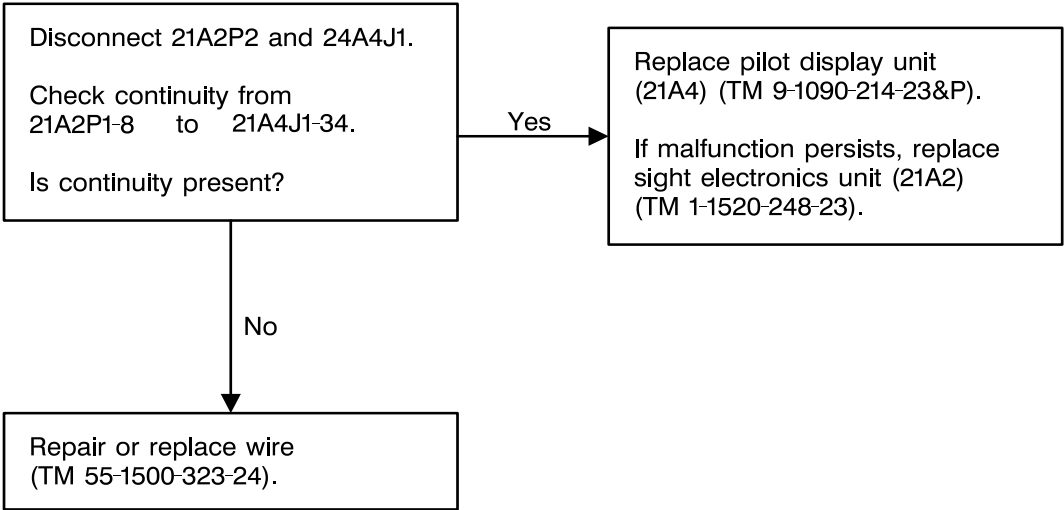
406475-542-414
J1493

4-7-5. PDU DOES NOT DISPLAY GUN RETICLE WITH GUN INSTALLED AND SELECTED (PDU DISPLAYS ATAS) (TASK 2-5-1/2-5-2) (CONT)

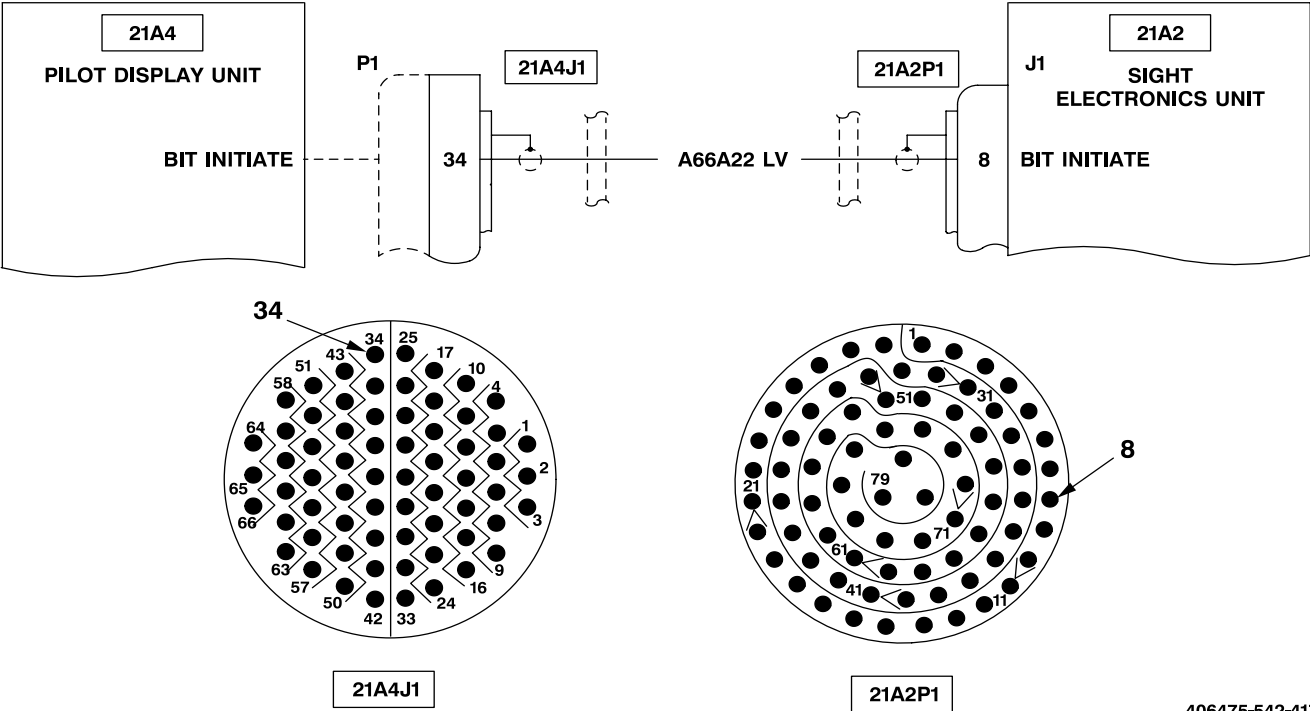


406475-542-415
J1493

4-7-6. MSS FAILS TO PERFORM BIT (TASK 2-5-1/2-5-2)

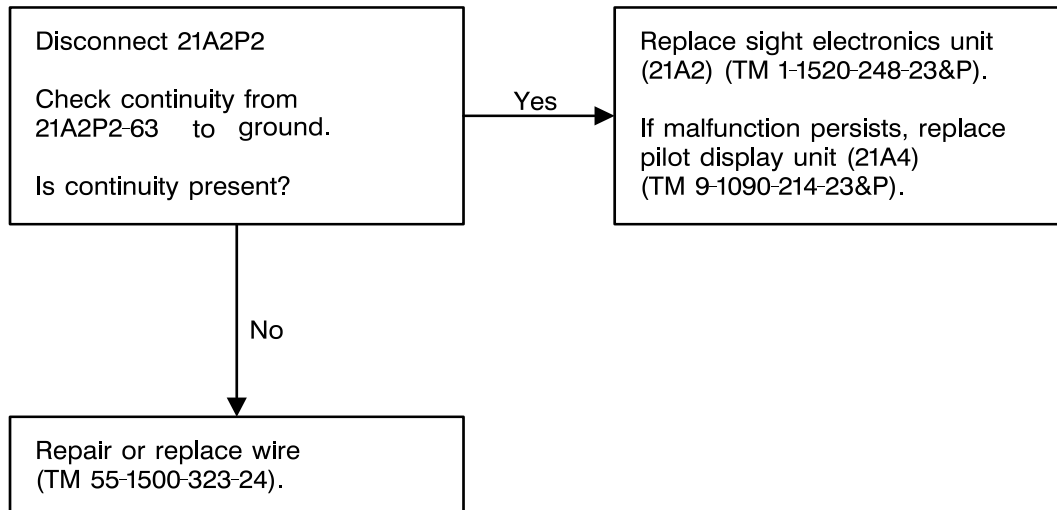


406475-542-416
J1493

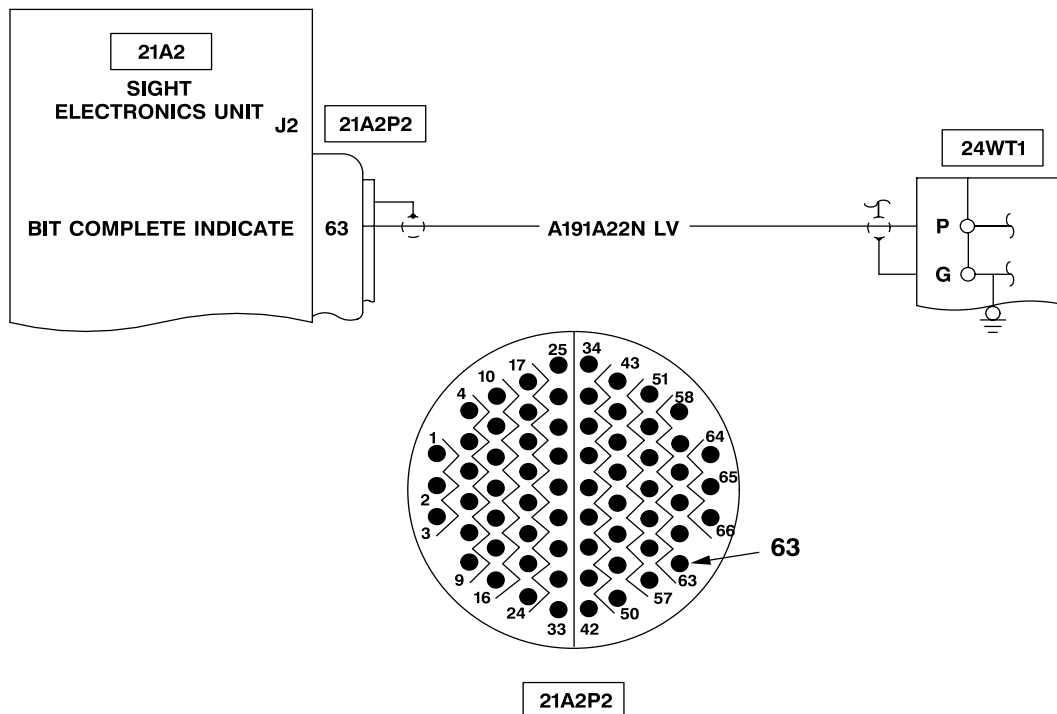


406475-542-417
J1493

4-7-7. IF BIT IS INITIATED, PDU DISPLAYS **TEST** FOR APPROXIMATELY 15 SECONDS, THEN PDU DISPLAYS **FAIL IEU** (TASK 2-5-1/2-5-2)



406475-542-418
J1493



406475-542-419
J1493

Section VIII. MSS/CDS FAULTS

4-10. MAPS DIAGRAMS INDEX

The MAPS diagrams index provides a numerical list of symptoms contained in this section.

MSS/CDS systems malfunctions (symptoms) are listed in column two (SYMPTOM). To locate troubleshooting procedures refer to column one (MAPS NUMBER) which indicates the MAPS diagram number to be utilized. The procedures in the troubleshooting logic tree shall be performed in sequence as specified unless otherwise noted within the logic tree.

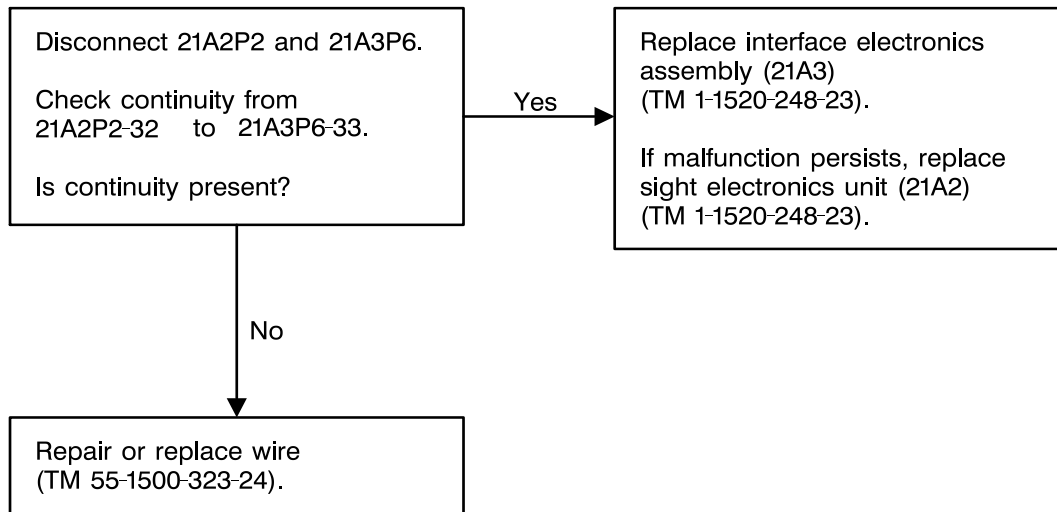
Correction of malfunctions must be verified by performing an operational check utilizing the procedures in TM 1-1520-248-T-1.

NOTE

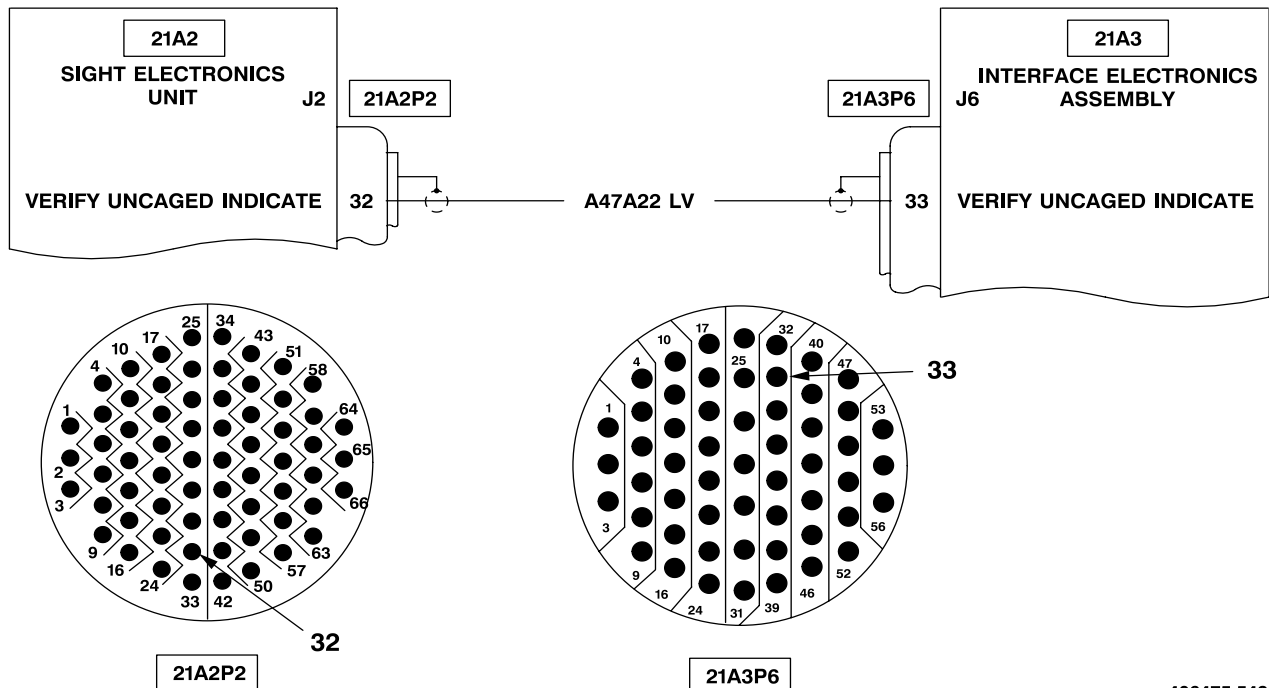
The task number(s) referenced in the symptom title is the related operational check for the affected system.

MAPS NUMBER	SYMPTOM	PAGE NUMBER
4-8-1	ATAS tracking reticle does not appear on PDU when in MANUAL with missile armed, selected, and WPN-FIRE switch pressed to the first detent (Task 2-5-3/2-5-4)	4-411
4-8-2	HELLFIRE missile will not fire (Task 2-5-7) - OH-58D	4-412
4-8-3	HELLFIRE missile will not fire (Task 2-5-8) - OH-58D(R)	4-415
4-8-4	PDU displays GUN reticle with ATAS installed (Task 2-5-3/2-5-4)	4-418
4-8-5	RHE NO GO displayed on MUX BUS STATUS page (Task 2-5-1) - OH-58D	4-421
4-8-6	RHE NO GO displayed on MUX BUS STATUS page (Task 2-5-2) - OH-58D(R)	4-423
4-8-7	When MASTER switch set to ARMED position, ARMED indicator does not come on (Task 2-5-1/2-5-2)	4-428

4-8-1. ATAS TRACKING RETICLE DOES NOT APPEAR ON PDU WHEN IN MANUAL WITH MISSILE ARMED, SELECTED, AND WPN-FIRE SWITCH PRESSED TO THE FIRST DETENT (TASK 2-5-3/2-5-4)

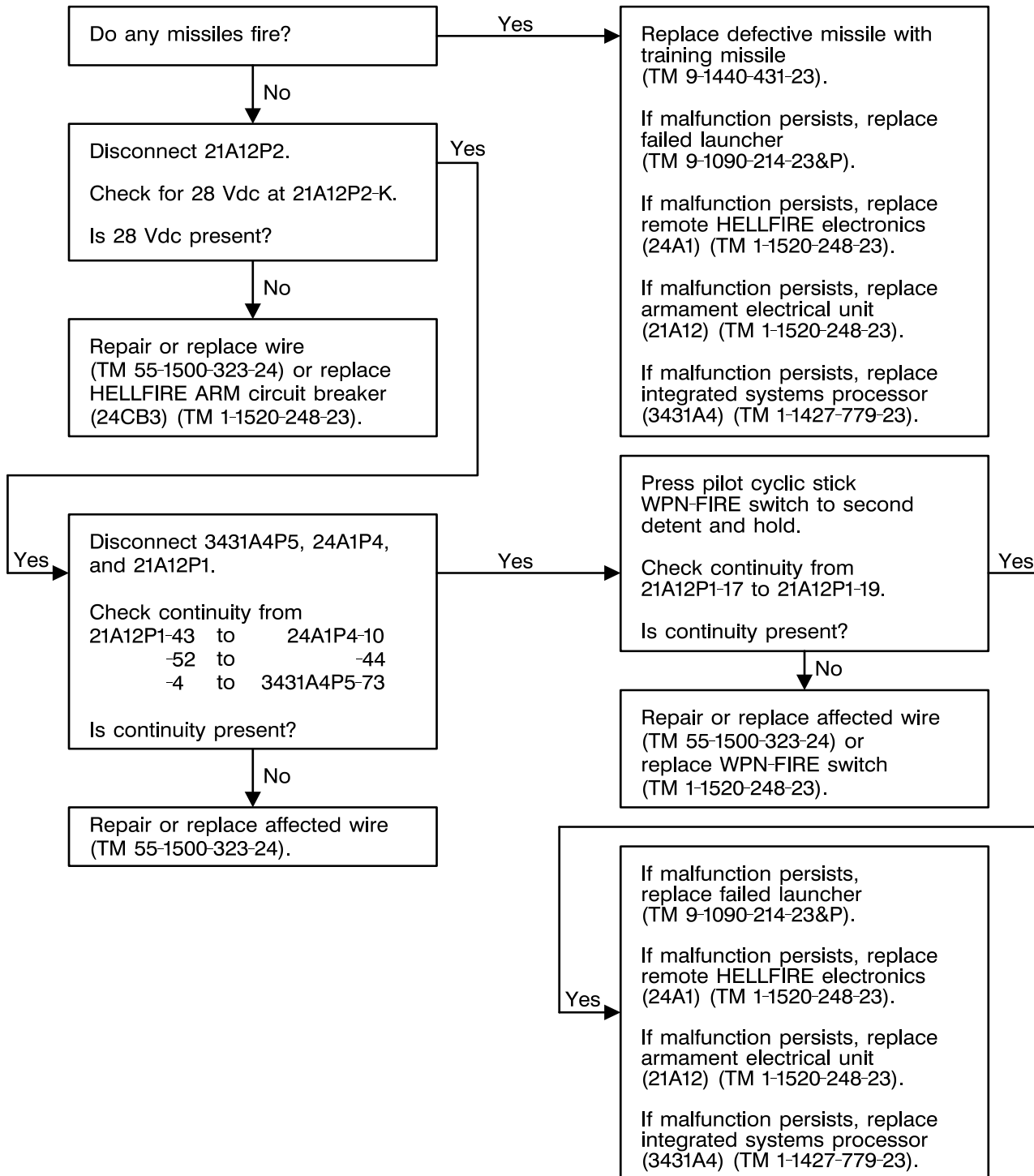


406475-542-420
J1493



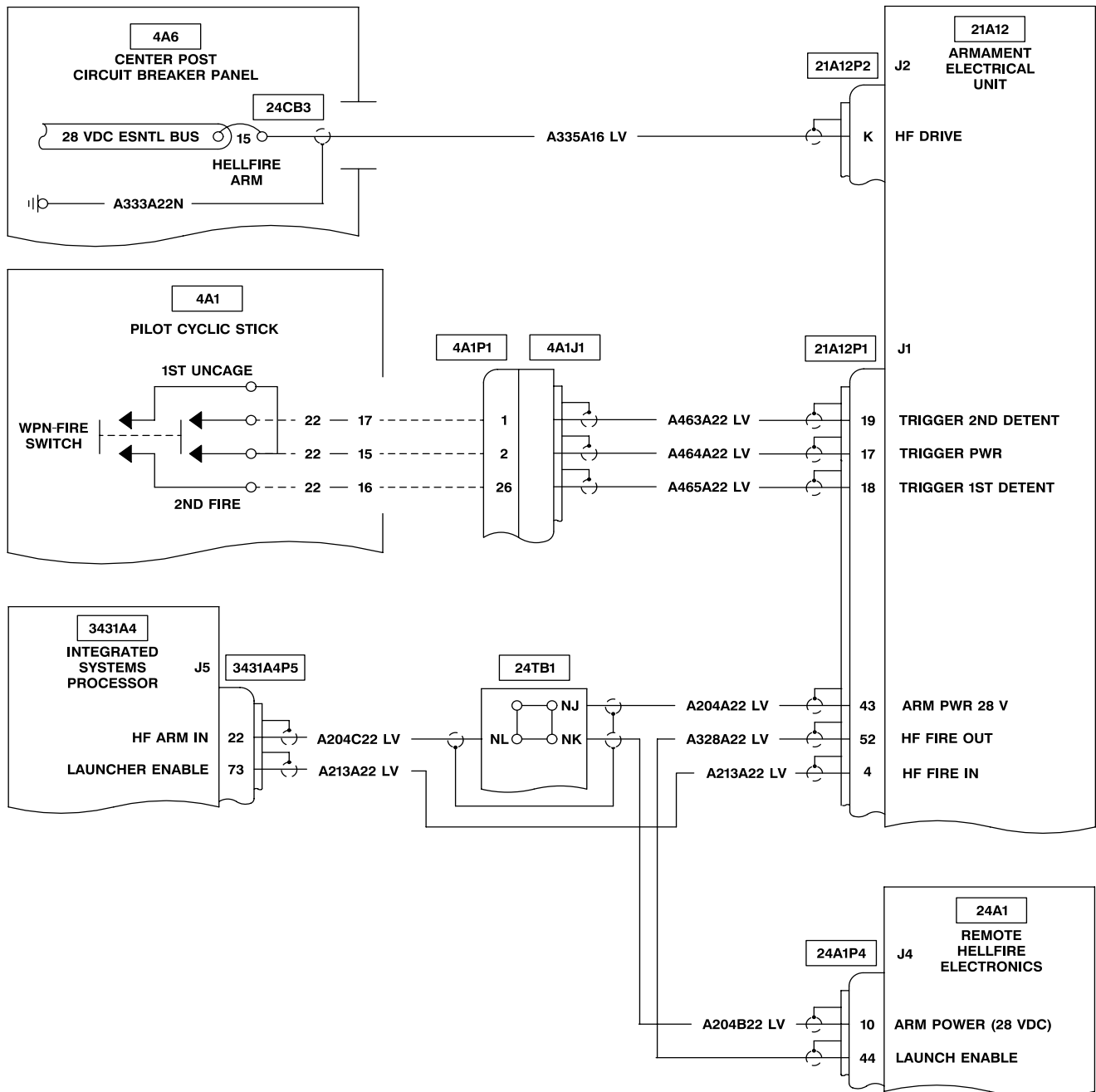
406475-542-421
J1493

4-8-2. HELLFIRE MISSILE WILL NOT FIRE (TASK 2-5-7) - OH-58D



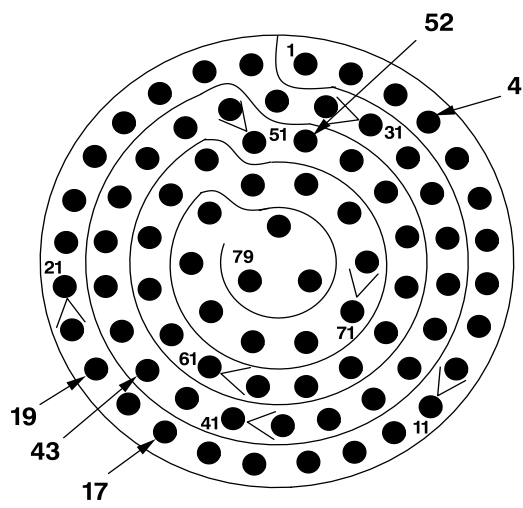
406475-542-422
J1493

4-8-2. HELLFIRE MISSILE WILL NOT FIRE (TASK 2-5-7) - OH-58D (CONT)

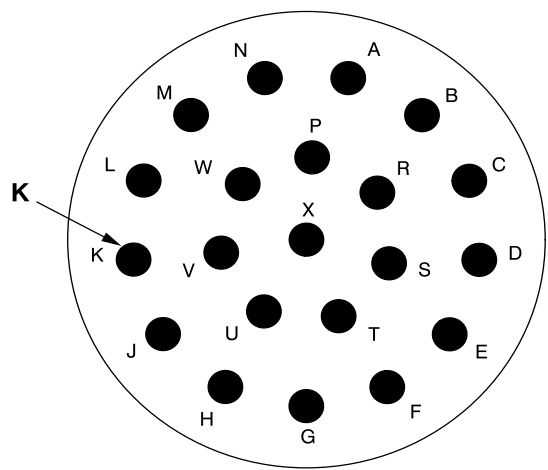


406475-542-423
J1493

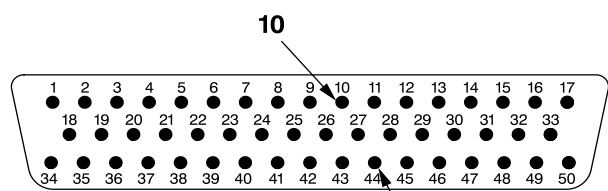
4-8-2. HELLFIRE MISSILE WILL NOT FIRE (TASK 2-5-7) - OH-58D (CONT)



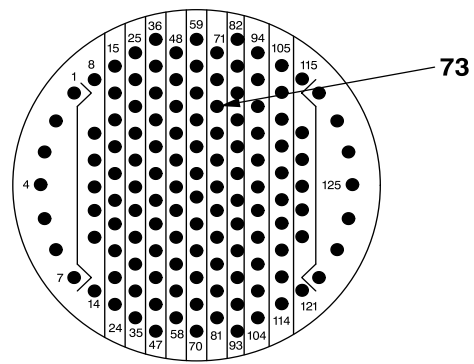
21A12P1



21A12P2



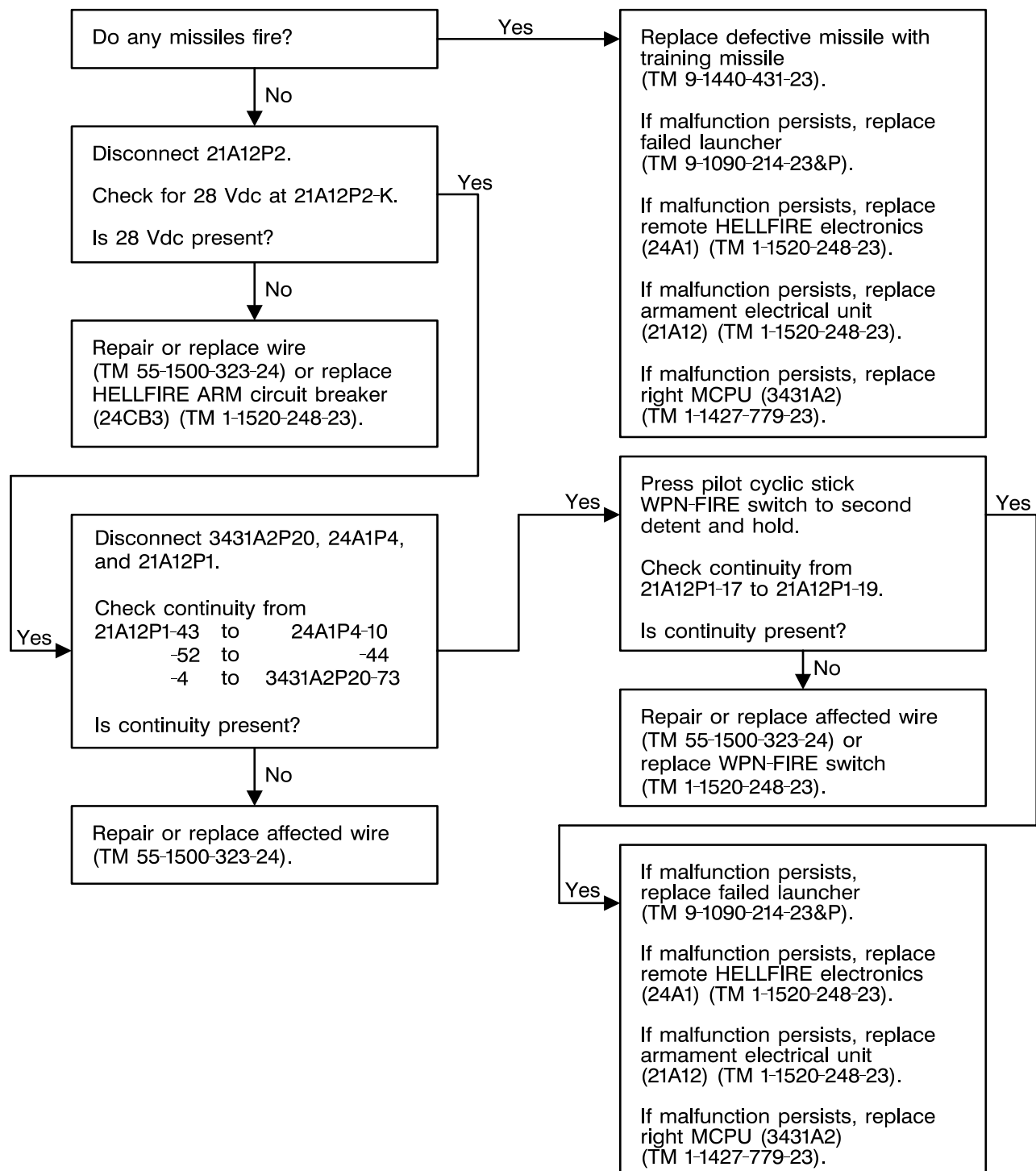
24A1P4



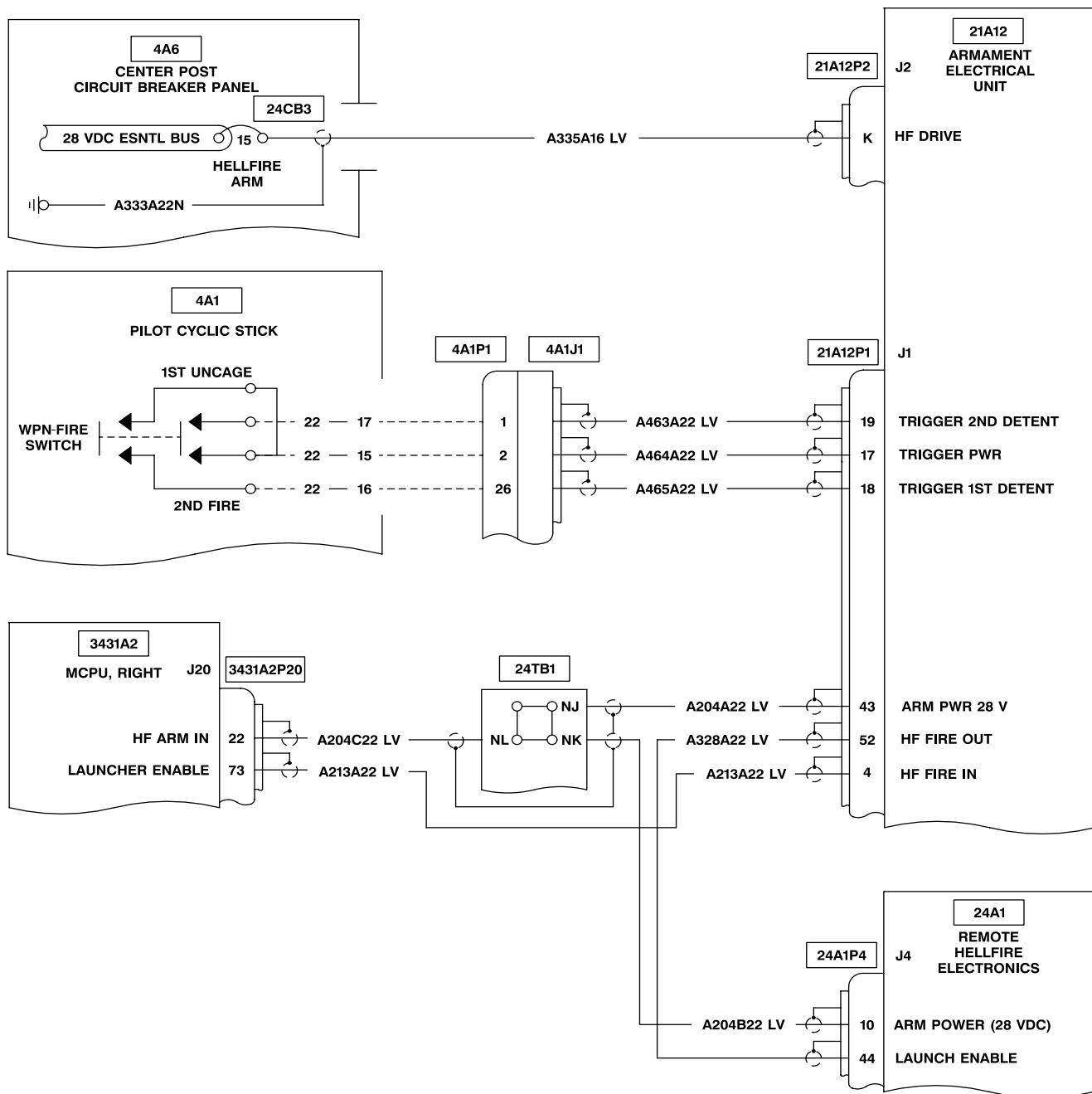
3431A4P5

406475-542-424
J1493

4-8-3. HELLFIRE MISSILE WILL NOT FIRE (TASK 2-5-8) - OH-58D(R)

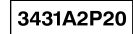
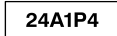
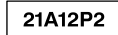
406475-542-425
J1493

4-8-3. HELLFIRE MISSILE WILL NOT FIRE (TASK 2-5-8) - OH-58D(R) (CONT)



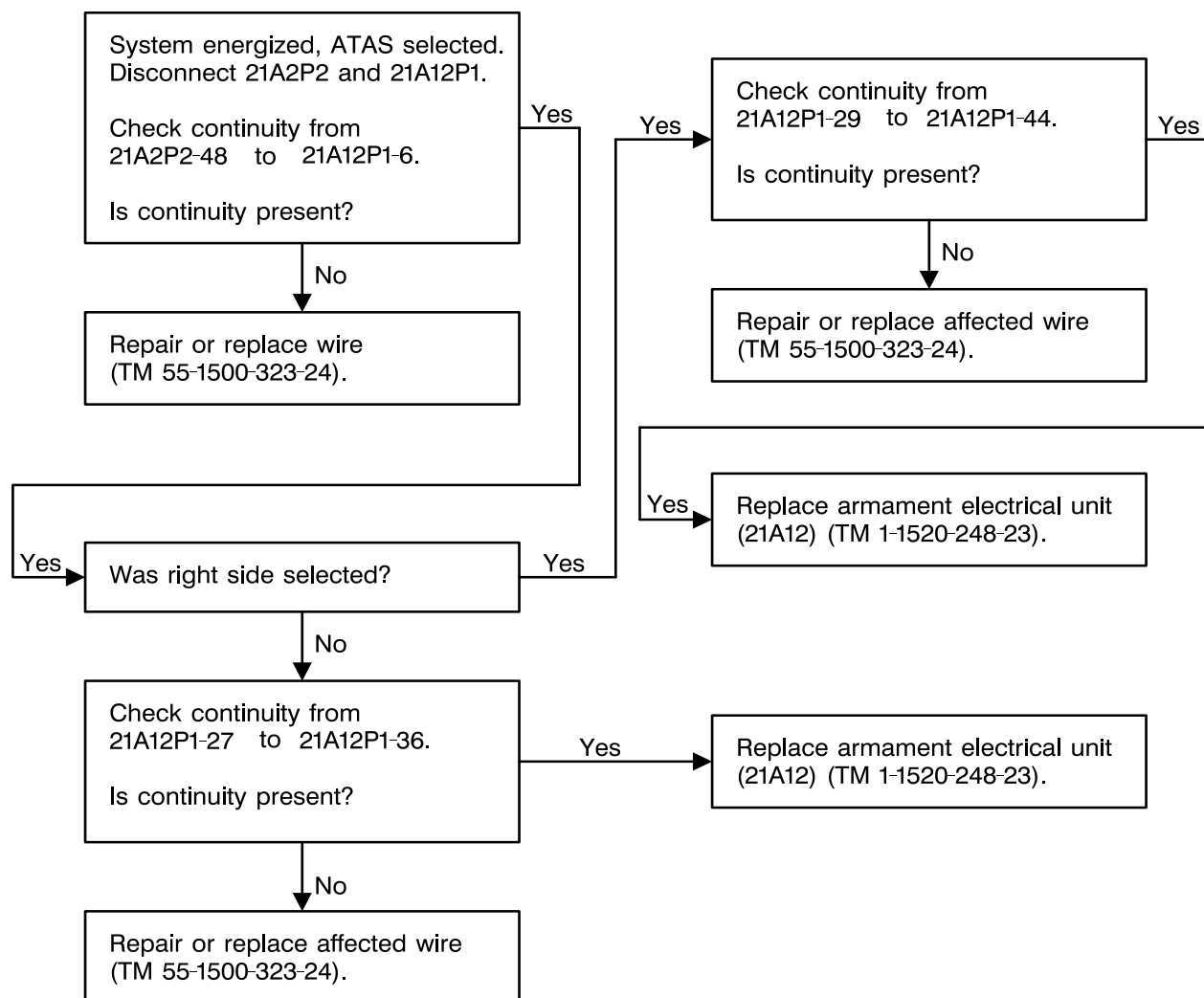
406475-542-426
J1493

4-8-3. HELLFIRE MISSILE WILL NOT FIRE (TASK 2-5-8) - OH-58D(R) (CONT)

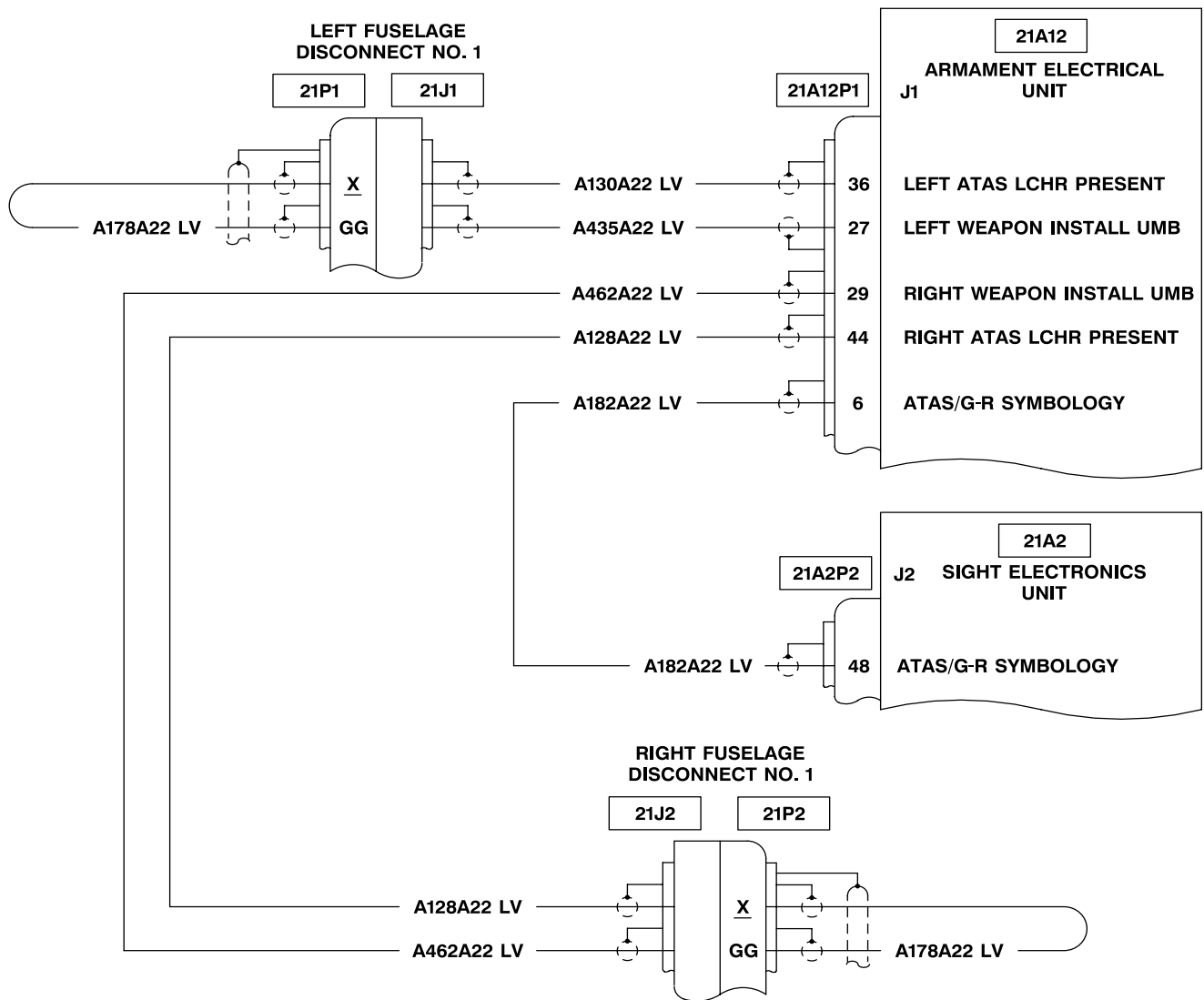


406475-542-427
J1493

4-8-4. PDU DISPLAYS GUN RETICLE WITH ATAS INSTALLED (TASK 2-5-3/2-5-4)

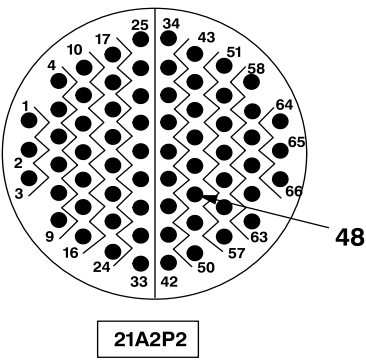
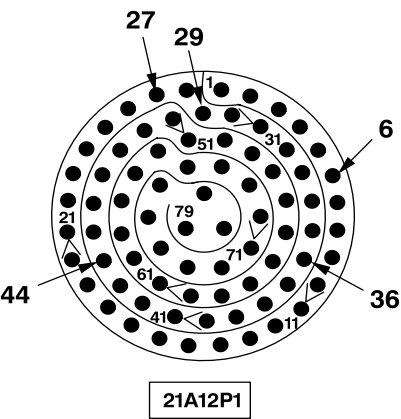
406475-542-428
J1493

4-8-4. PDU DISPLAYS GUN RETICLE WITH ATAS INSTALLED (TASK 2-5-3/2-5-4) (CONT)



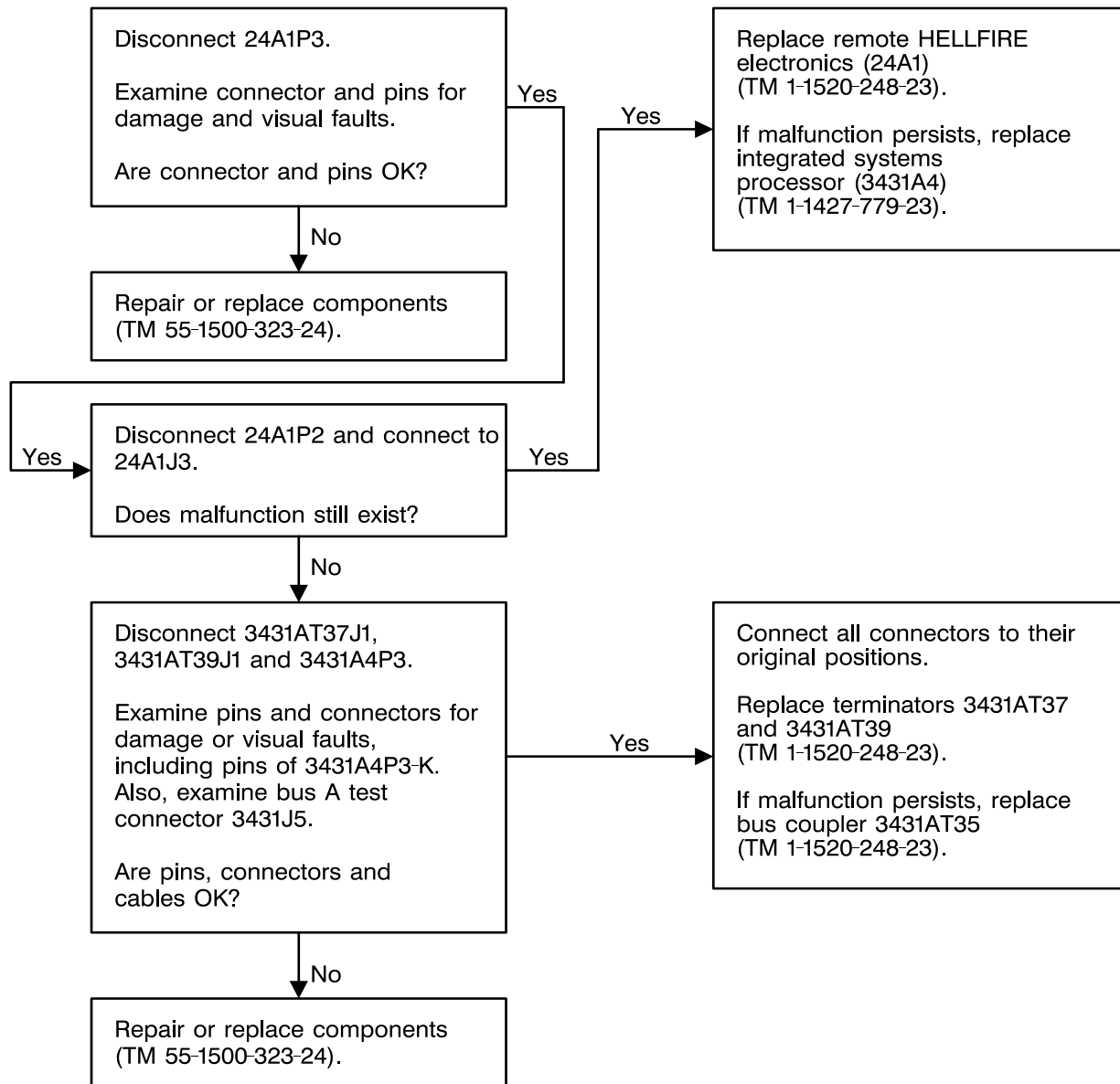
406475-542-429
J1493

4-8-4. PDU DISPLAYS GUN RETICLE WITH ATAS INSTALLED (TASK 2-5-3/2-5-4) (CONT)

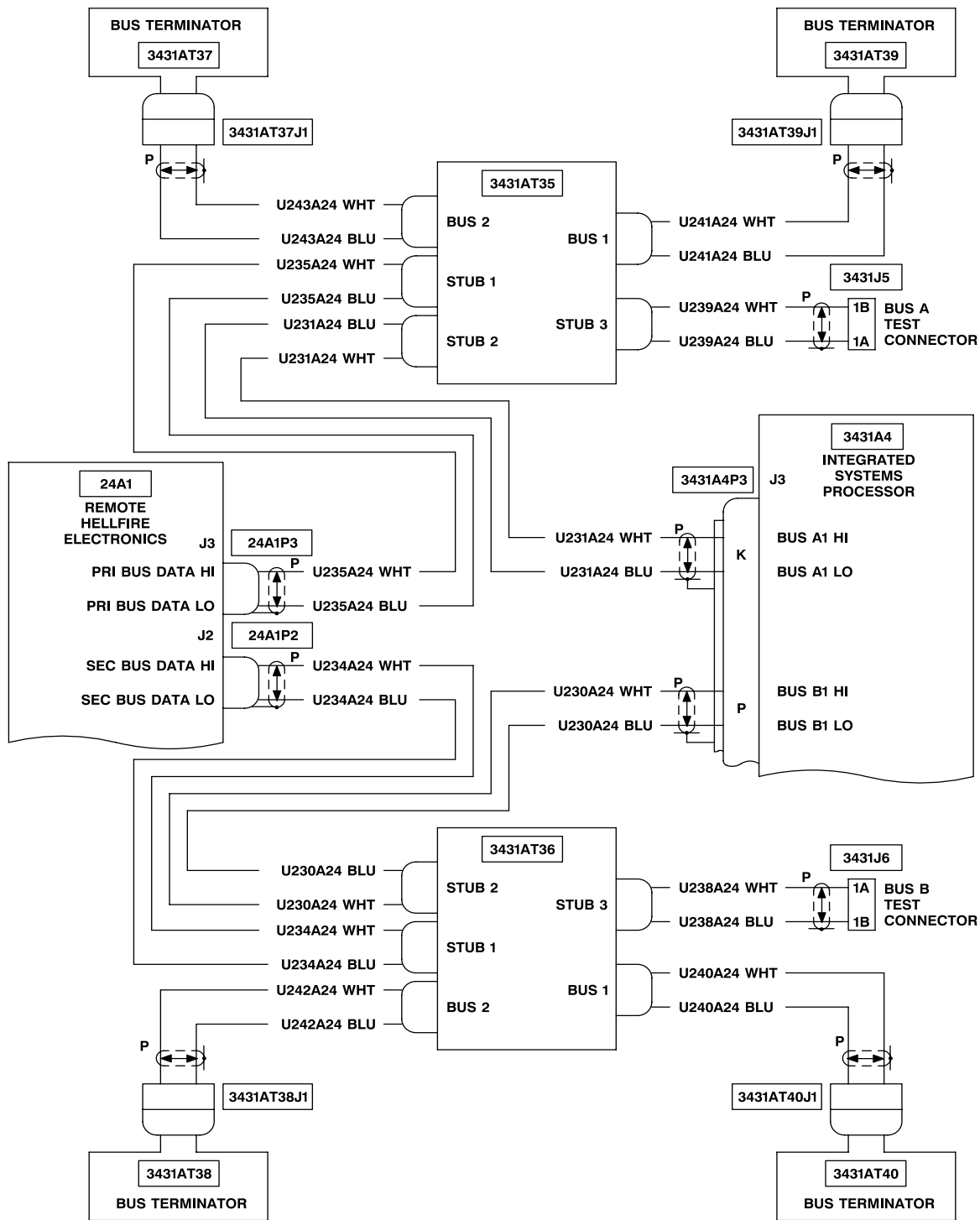


406475-542-430
J1493

4-8-5. RHE NO GO DISPLAYED ON MUX BUS STATUS PAGE (TASK 2-5-1) - OH-58D

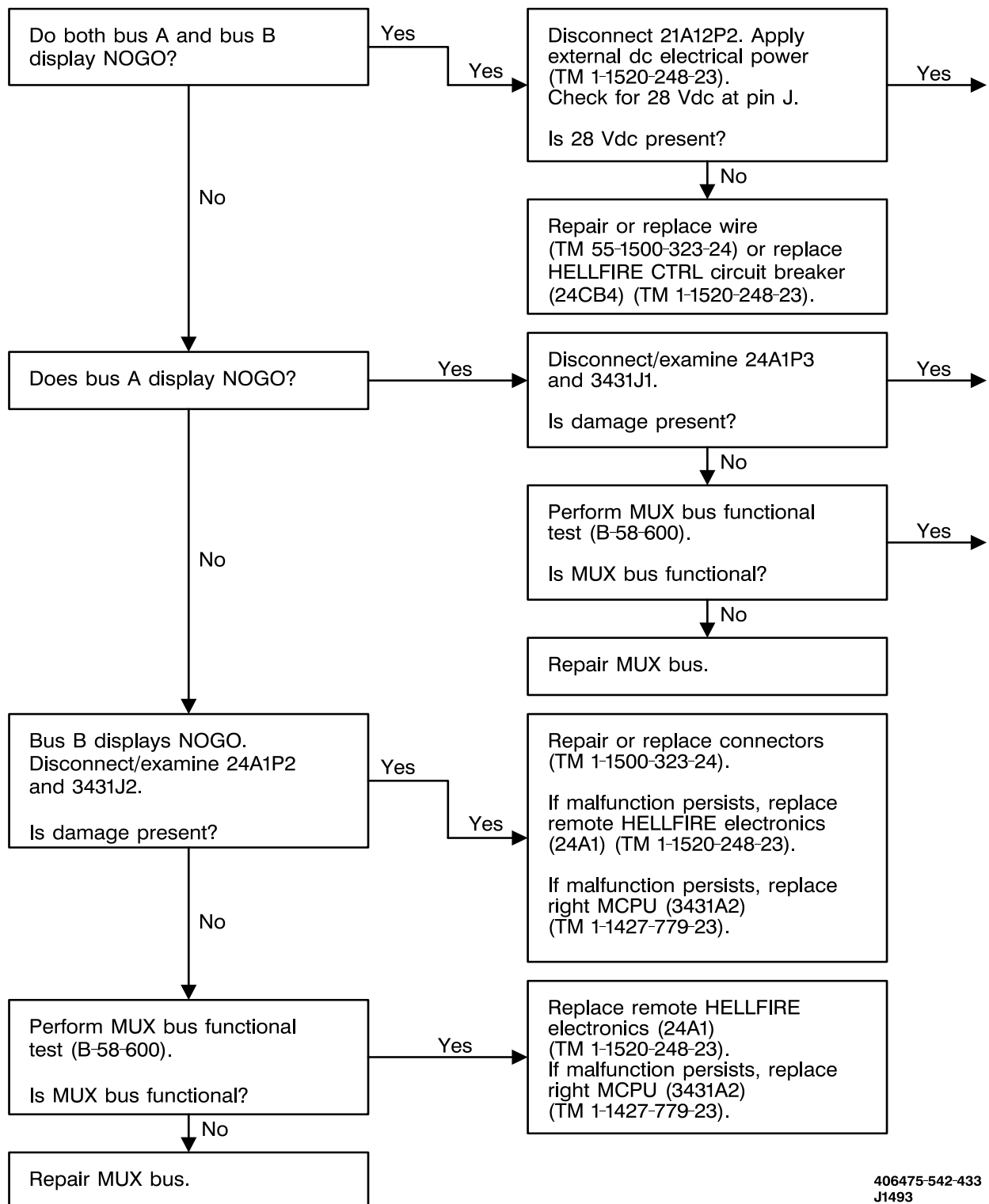
406475-542-431
J1493

4-8-5. RHE NO GO DISPLAYED ON MUX BUS STATUS PAGE (TASK 2-5-1) - OH-58D (CONT)

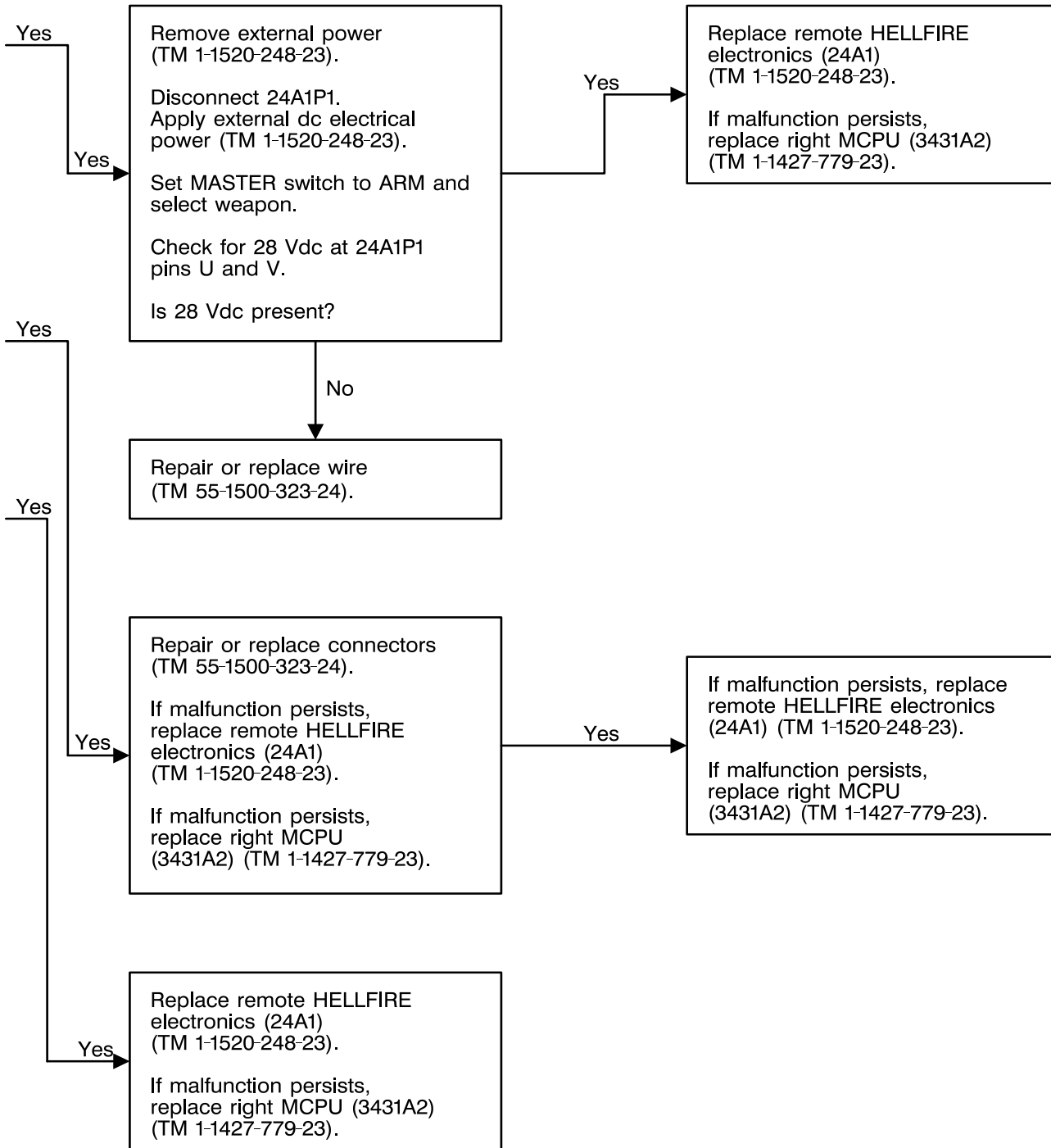


406475-542-432
J1493

4-8-6. RHE NO GO DISPLAYED ON MUX BUS STATUS PAGE (TASK 2-5-2) - OH-58D(R)

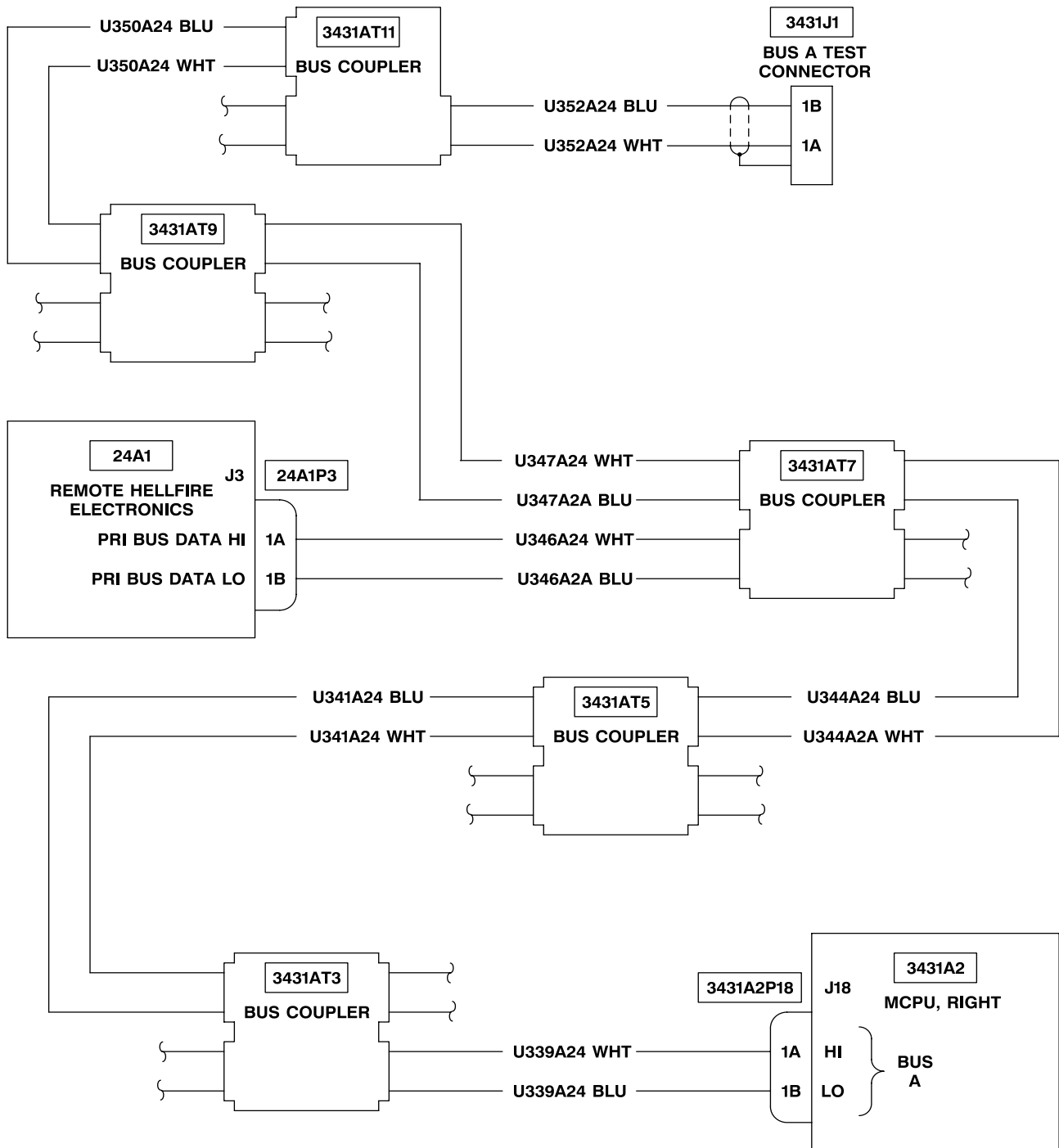


4-8-6. RHE NO GO DISPLAYED ON MUX BUS STATUS PAGE (TASK 2-5-2) - OH-58D(R) (CONT)



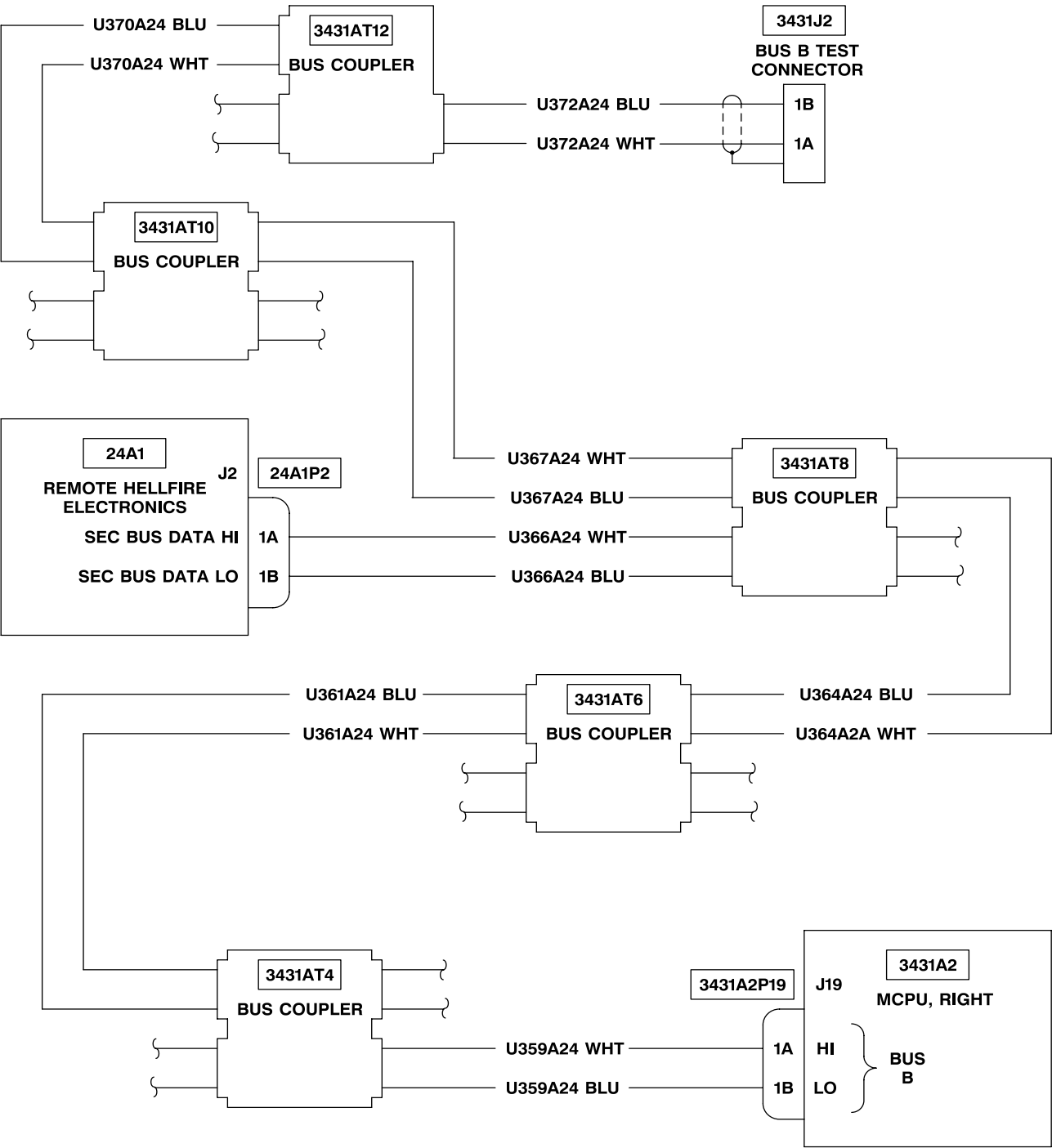
406475-542-434
J1493

4-8-6. RHE NO GO DISPLAYED ON MUX BUS STATUS PAGE (TASK 2-5-2) - OH-58D(R) (CONT)



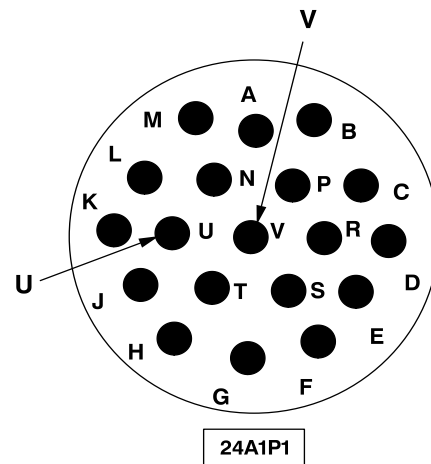
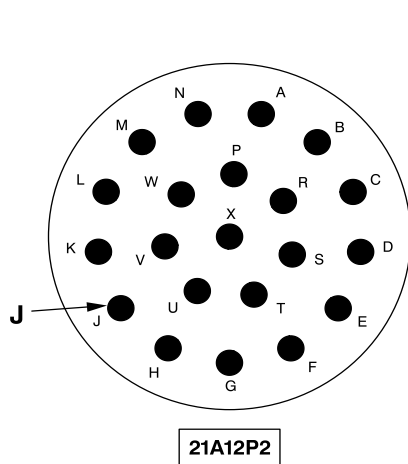
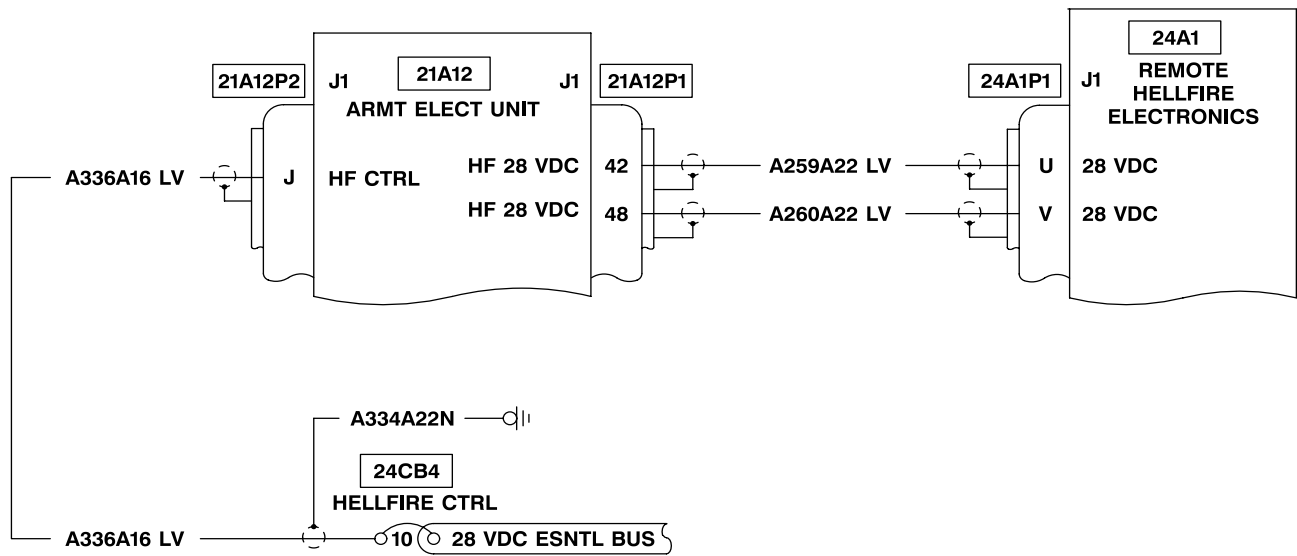
406475-542-435
J1493

4-8-6. RHE NO GO DISPLAYED ON MUX BUS STATUS PAGE (TASK 2-5-2) - OH-58D(R) (CONT)

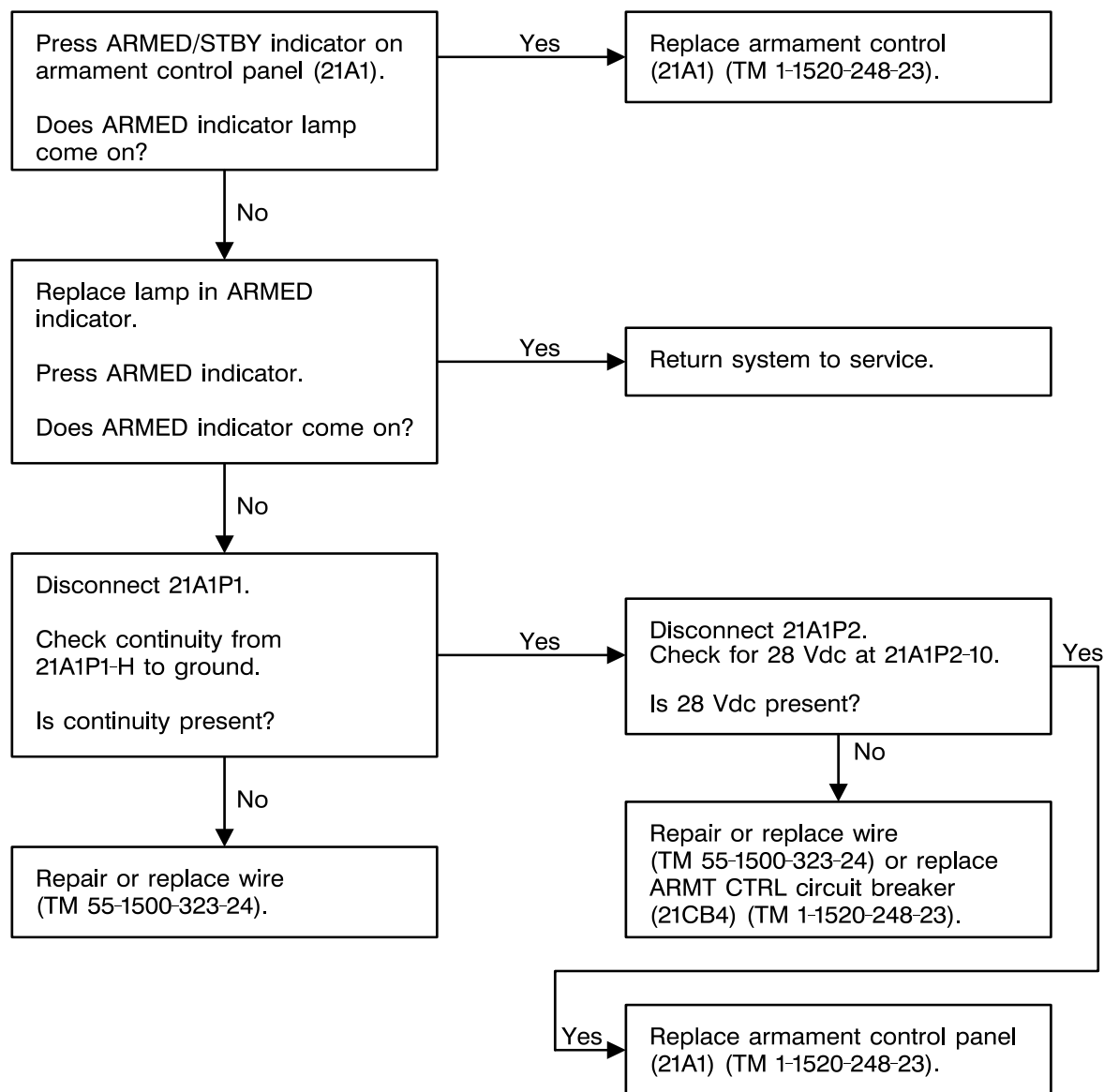


406475-542-436
J1493

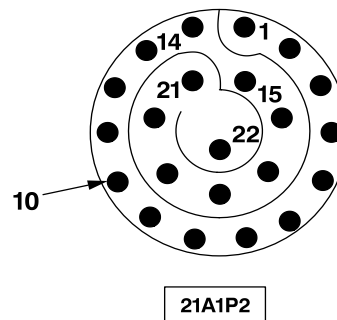
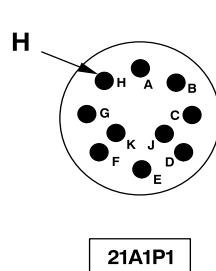
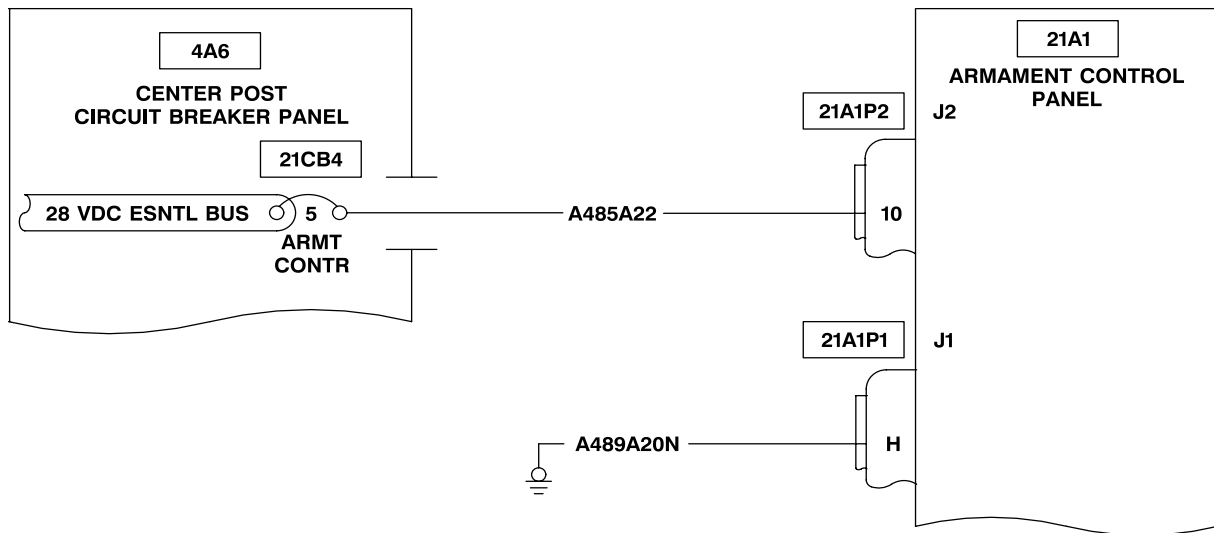
4-8-6. RHE NO GO DISPLAYED ON MUX BUS STATUS PAGE (TASK 2-5-2) - OH-58D(R) (CONT)



406475-542-437
J1493

4-8-7. WHEN MASTER SWITCH SET TO ARMED POSITION, ARMED INDICATOR DOES NOT COME ON (TASK 2-5-1/2-5-2)406475-542-438
J1493

4-8-7. WHEN MASTER SWITCH SET TO ARMED POSITION, ARMED INDICATOR DOES NOT COME ON (TASK 2-5-1/2-5-2) (CONT)



406475-542-439
J1493

Section IX. MSS GROWTH OPTION FAULTS

4-11. MAPS DIAGRAMS INDEX

The MAPS diagrams index provides a numerical list of symptoms contained in this section.

MSS growth option malfunctions (symptoms) are listed in column two (SYMPTOM). To locate troubleshooting procedures refer to column one (MAPS NUMBER) which indicates the MAPS

diagram number to be utilized. The procedures in the troubleshooting logic tree shall be performed in sequence as specified unless otherwise noted within the logic tree.

Correction of malfunctions must be verified by performing an operational check utilizing the procedures in TM 9-1240-778-23.

MAPS NUMBER	SYMPTOM	PAGE NUMBER
4-9-1	Tracker fail	4-431
4-9-2	MMS laser fail	4-432
4-9-3	TB fail	4-433
4-9-4	Thermal Imaging System (TIS) fail	4-434
4-9-5	Turret fail	4-435

4-9-1. TRACKER FAIL

Refer to (TM 9-1240-778-23) for
troubleshooting procedures.

406475-542-440
J1493

4-9-2. MMS LASER FAIL

Refer to (TM 9-1240-778-23) for
troubleshooting procedures.

406475-542-441
J1493

4-9-3. TB FAIL

Refer to (TM 9-1240-778-23) for
troubleshooting procedures.

406475-542-442
J1493

4-9-4. THERMAL IMAGING SYSTEM (TIS) FAIL

Refer to (TM 9-1240-778-23) for
troubleshooting procedures.

406475-542-443
J1493

4-9-5. TURRET FAIL

Refer to (TM 9-1240-778-23) for
troubleshooting procedures.

406475-542-443
J1493

Section X. MISCELLANEOUS FAULTS

4-12. MAPS DIAGRAMS INDEX

The MAPS diagrams index provides a numerical list of symptoms contained in this section.

Correction of malfunctions must be verified by performing an operational check utilizing the procedures in TM 1-1520-248-T-1.

NOTE

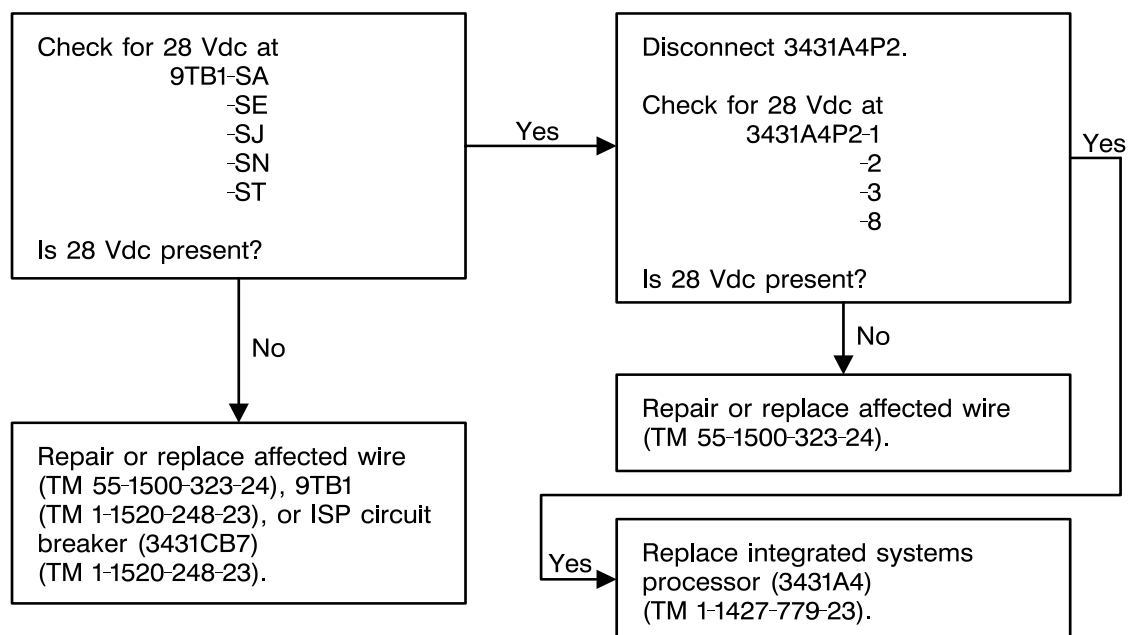
Miscellaneous systems malfunctions (symptoms) are listed in column two (SYMPTOM). To locate troubleshooting procedures refer to column one (MAPS NUMBER) which indicates the MAPS diagram number to be utilized. The procedures in the troubleshooting logic tree shall be performed in sequence as specified unless otherwise noted within the logic tree.

The task number(s) referenced in the symptom title is the related operational check for the affected system.

MAPS NUMBER	SYMPTOM	PAGE NUMBER
4-10-1	ISP FAIL caution message displayed on pilot and CPG MFD (Task 2-5-1) - OH-58D	4-438
4-10-2	RIGHT MCPU FAIL caution message displayed on pilot and CPG MFD (Task 2-5-2) - OH-58D(R)	4-440
4-10-3	LEFT and/or RIGHT COOLANT LOW advisory message not displayed on MFD when left and/or right launcher Argon bottle pressure is low (Task 2-5-3) - OH-58D	4-441
4-10-4	LEFT and/or RIGHT COOLANT LOW advisory message not displayed on MFD when left and/or right launcher Argon bottle pressure is low (Task 2-5-4) - OH-58D(R)	4-442
4-10-5	LOW is not indicated on PDU when Argon bottle pressure is low (Task 2-5-1/2-5-2)	4-443
4-10-6	HELLFIRE SAFE/ARM switch on launcher electrically inoperative (Task 2-5-7) - OH-58D	4-444
4-10-7	HELLFIRE SAFE/ARM switch on launcher electrically inoperative (Task 2-5-8) - OH-58D(R)	4-447
4-10-8	CPG cannot code MMS laser for HELLFIRE designation (Task 2-5-7/2-5-8)	4-450
4-10-9	ARMT CONTR circuit breaker trips with MASTER switch in ARM <u>and</u> STBY position (Task 2-5-1) - OH-58D	4-451
4-10-10	ARMT CONTR circuit breaker trips with MASTER switch in ARM <u>and</u> STBY position (Task 2-5-2) - OH-58D(R)	4-457
4-10-11	ARMT CONTR circuit breaker trips with MASTER switch in ARM <u>or</u> STBY position (Task 2-5-1) - OH-58D	4-463
4-10-12	ARMT CONTR circuit breaker trips with MASTER switch in ARM <u>or</u> STBY position (Task 2-5-2) - OH-58D(R)	4-466
4-10-13	Weapon will not arm (Task 2-5-1) - OH-58D	4-469
4-10-14	Weapon will not arm (Task 2-5-2) - OH-58D(R)	4-472
4-10-15	Weapon will not fire (Task 2-5-1) - OH-58D	4-475
4-10-16	Weapon will not fire (Task 2-5-2) - OH-58D(R)	4-477
4-10-17	Cannot select installed weapon (Task 2-5-1/2-5-2)	4-479
4-10-18	Cannot access WEAPONS PAGE on CPG MFD (Task 2-5-1/2-5-2)	4-480
4-10-19	Cannot access WEAPONS PAGE on pilot MFD (Task 2-5-1/2-5-2)	4-482
4-10-20	Cannot access any WEAPONS VSD or SPARSE VSD page (Task 2-5-1/2-5-2)	4-484
4-10-21	Weapon fires on the ground (without weapon override selected on) (Task 2-5-1/2-5-2)	4-486
4-10-22	Weapons fire with MASTER switch in STBY position (Task 2-5-1/2-5-2)	4-488
4-10-23	All weapons fire with WPN-FIRE switch pressed to first detent (Task 2-5-1) - OH-58D	4-490
4-10-24	All weapons fire with WPN-FIRE switch pressed to first detent (Task 2-5-2) - OH-58D(R)	4-492

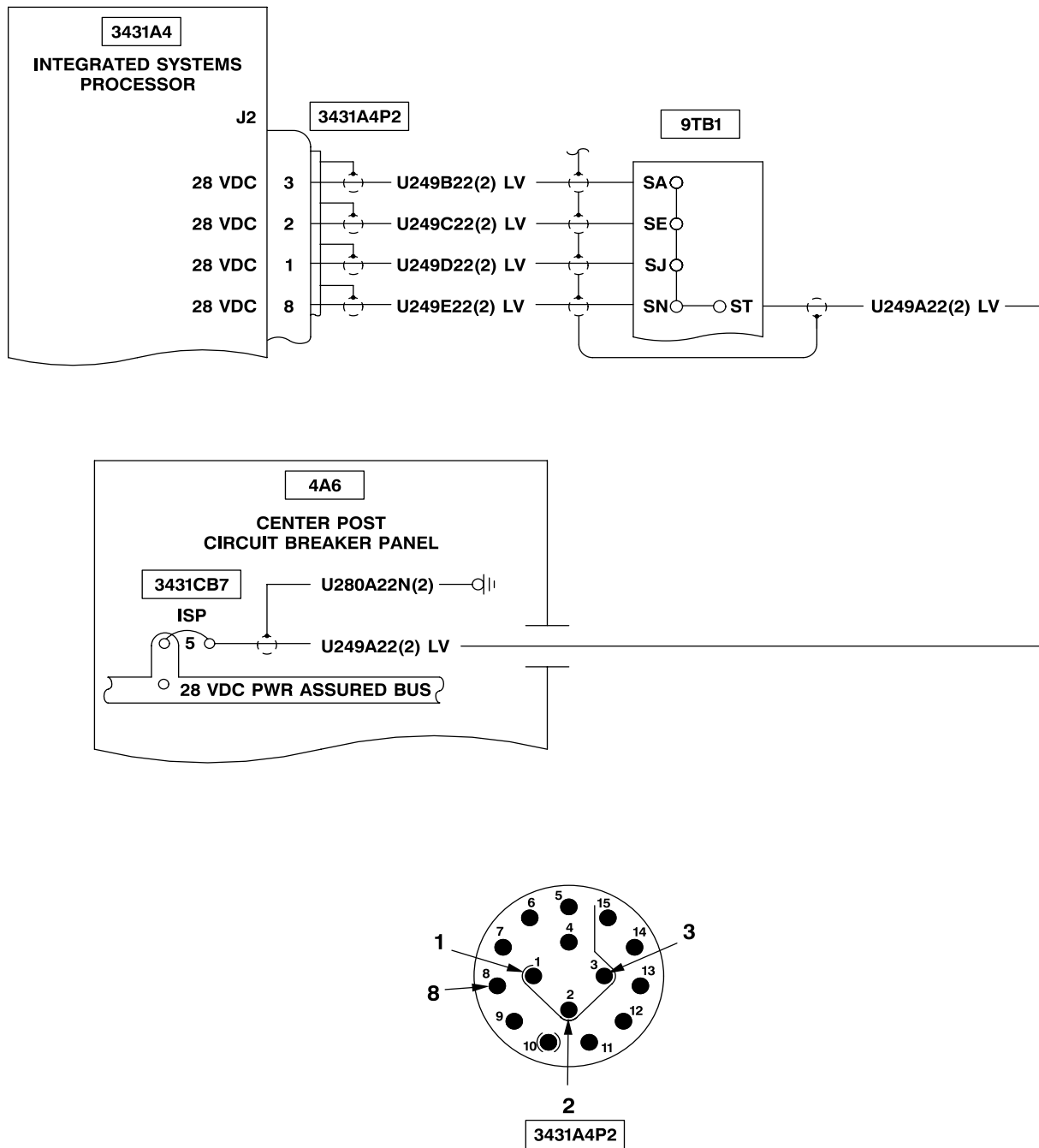
MAPS NUMBER	SYMPTOM	PAGE NUMBER
4-10-25	MFD does not respond to weapons with ISP NO GO displayed on MUX BUS STATUS page (Task 2-5-1) - OH-58D	4-494
4-10-26	MFD does not respond to weapons with R MCPU NO GO displayed on MUX BUS STATUS page (Task 2-5-2) - OH-58D(R)	4-497
4-10-27	Cannot access WEAPONS BIT/SET-UP PAGE on CPG MFD (Task 2-5-1/2-5-2)	4-501
4-10-28	PWR SIGHT circuit breaker trips (Task 2-5-1/2-5-2)	4-503

4-10-1. **ISP FAIL** CAUTION MESSAGE DISPLAYED ON PILOT AND CPG MFD (TASK 2-5-1) - OH-58D



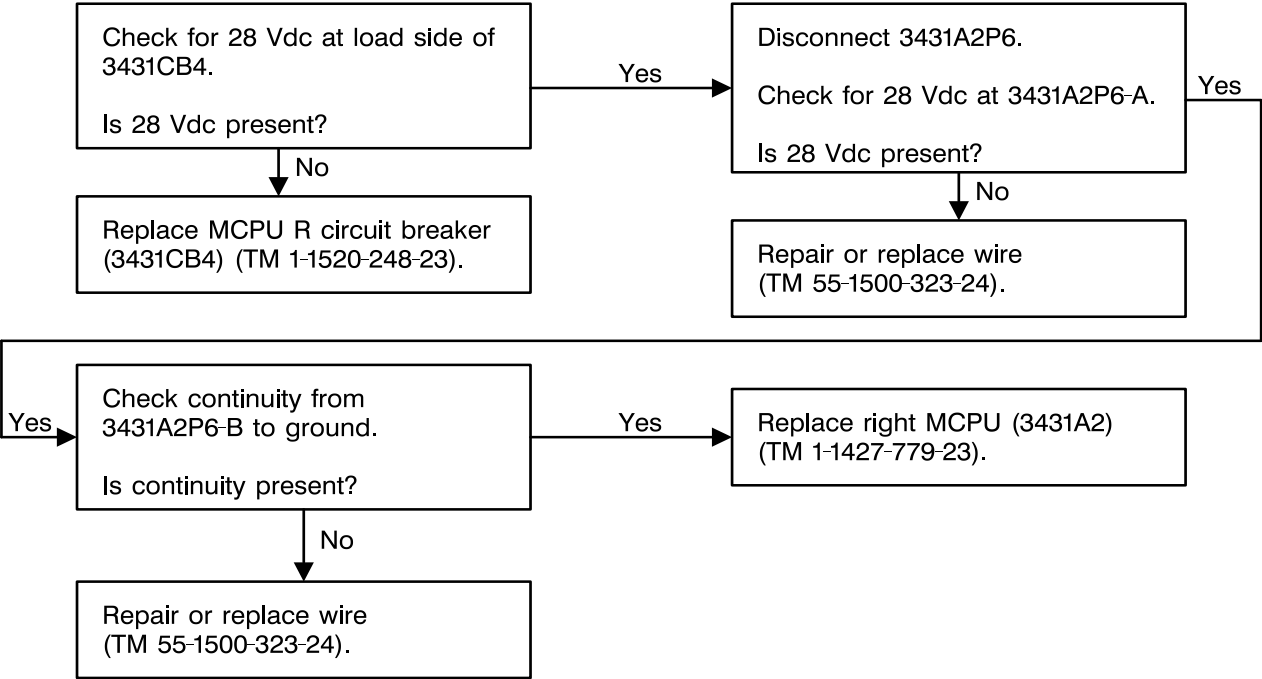
406475-542-445
J1493

4-10-1. **ISP FAIL** CAUTION MESSAGE DISPLAYED ON PILOT AND CPG MFD (TASK 2-5-1) - OH-58D (CONT)

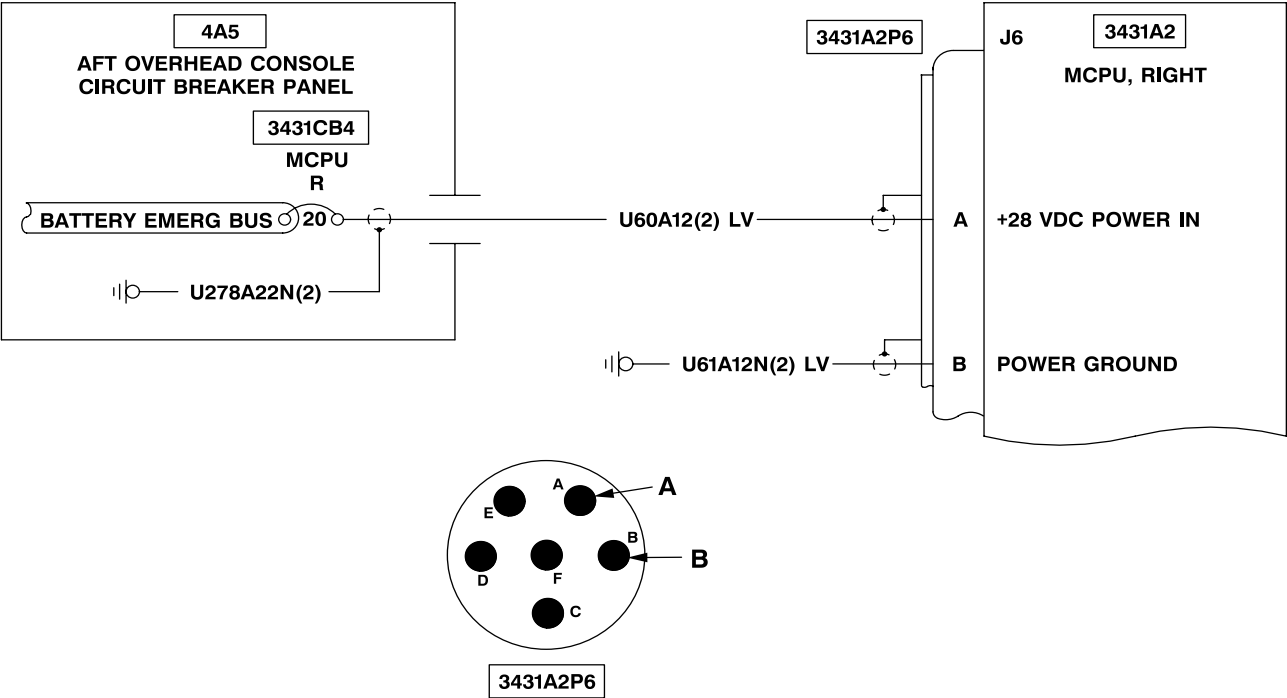


406475-542-446
J1493

4-10-2. **RIGHT MCPU FAIL** CAUTION MESSAGE DISPLAYED ON PILOT AND CPG MFD (TASK 2-5-2)
- OH-58D(R)

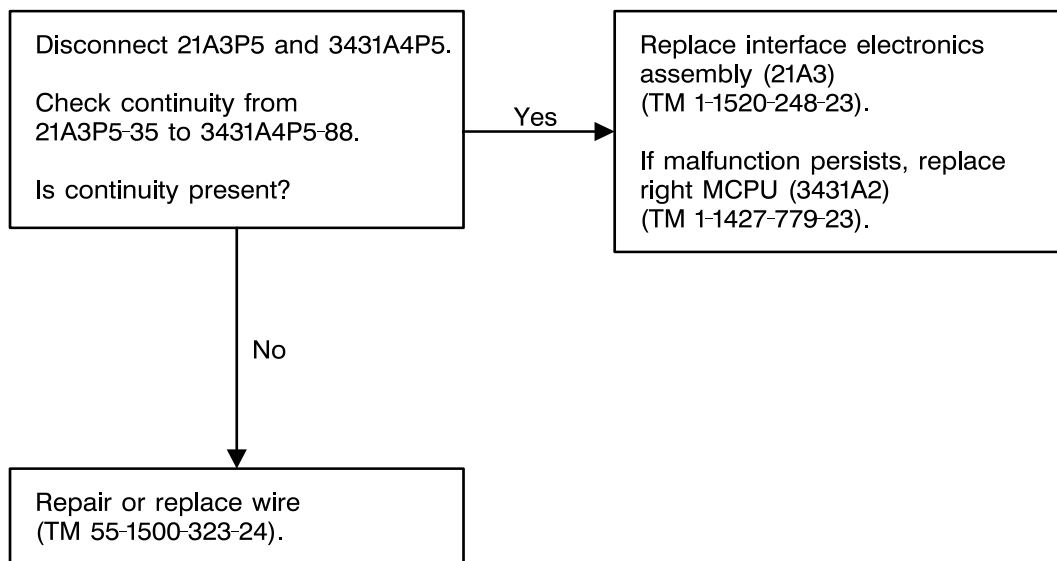


406475-542-447
J1493

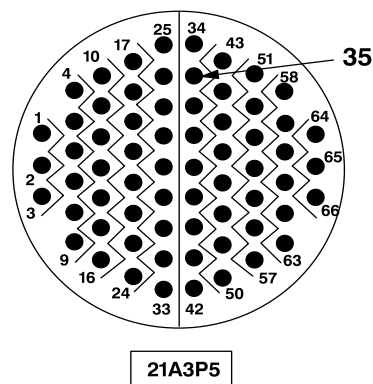
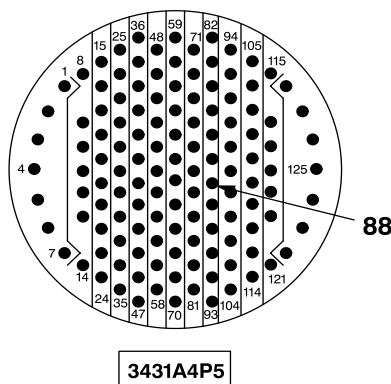


406475-542-448
J1493

4-10-3. **LEFT AND/OR RIGHT COOLANT LOW** ADVISORY MESSAGE NOT DISPLAYED ON MFD WHEN LEFT AND/OR RIGHT LAUNCHER ARGON BOTTLE PRESSURE IS LOW (TASK 2-5-3) - OH-58D

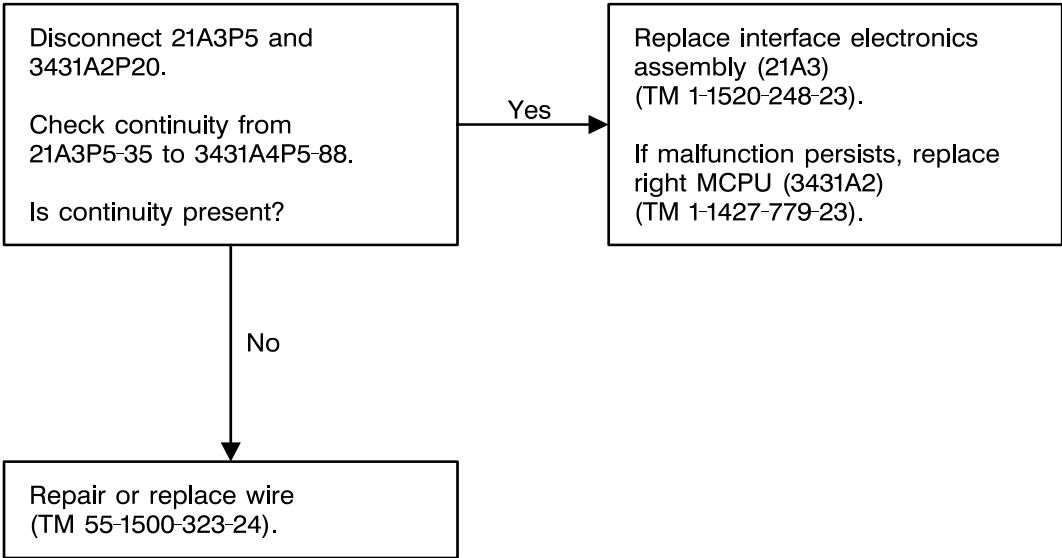


406475-542-449
J1493

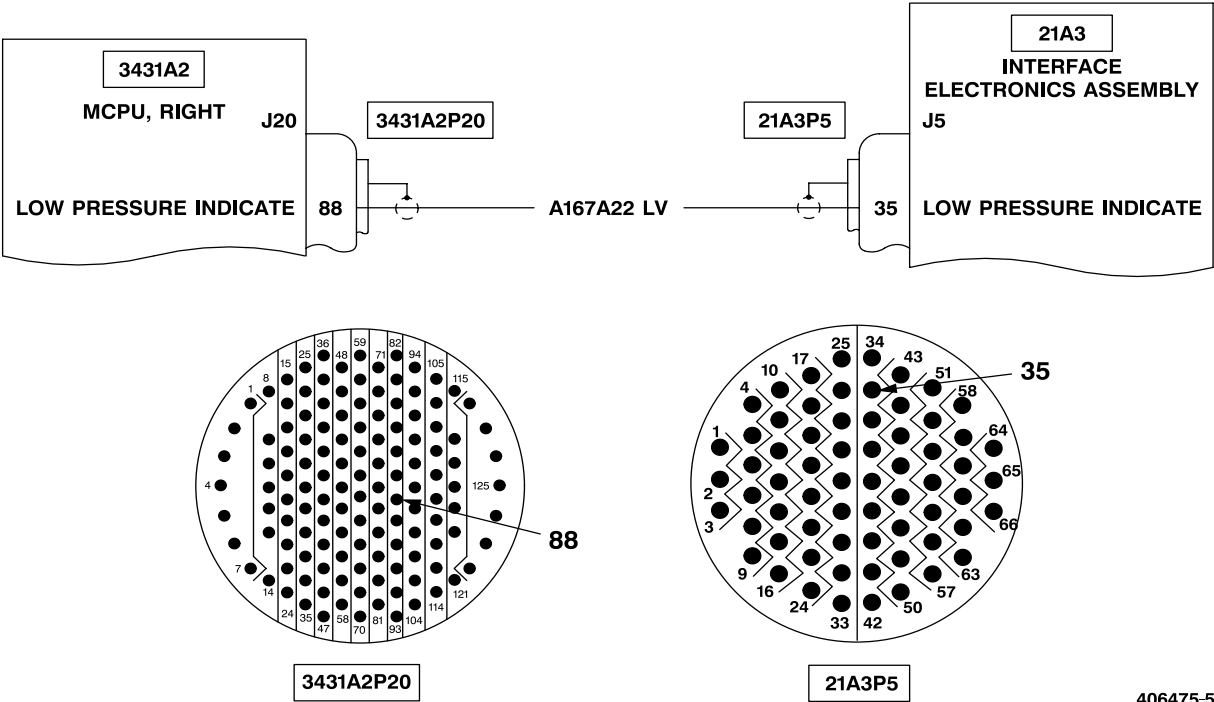


406475-542-450
J1493

4-10-4. **LEFT AND/OR RIGHT COOLANT LOW ADVISORY MESSAGE NOT DISPLAYED ON MFD WHEN LEFT AND/OR RIGHT LAUNCHER ARGON BOTTLE PRESSURE IS LOW (TASK 2-5-4) - OH-58D(R)**

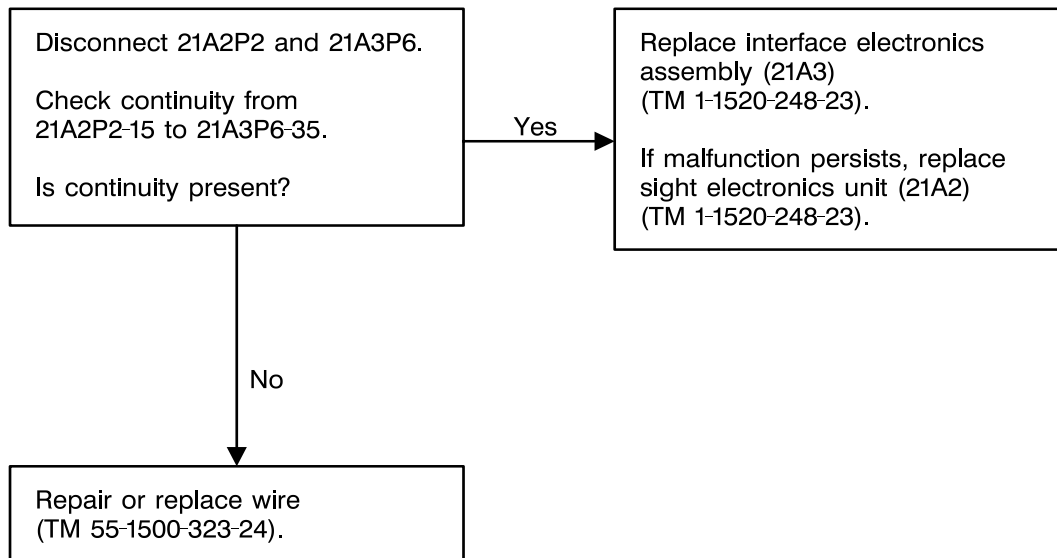


406475-542-451
J1493

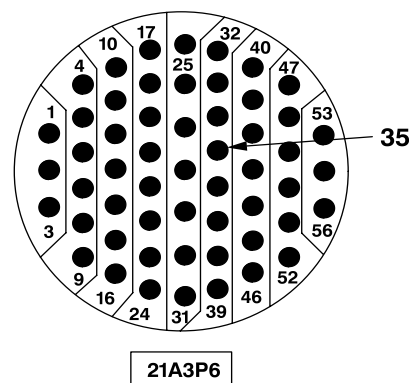
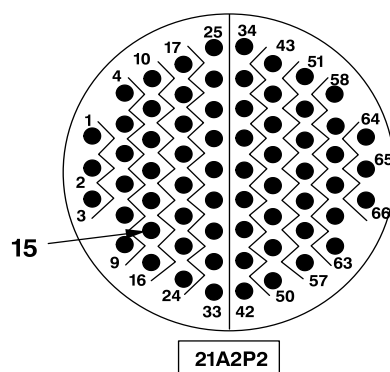
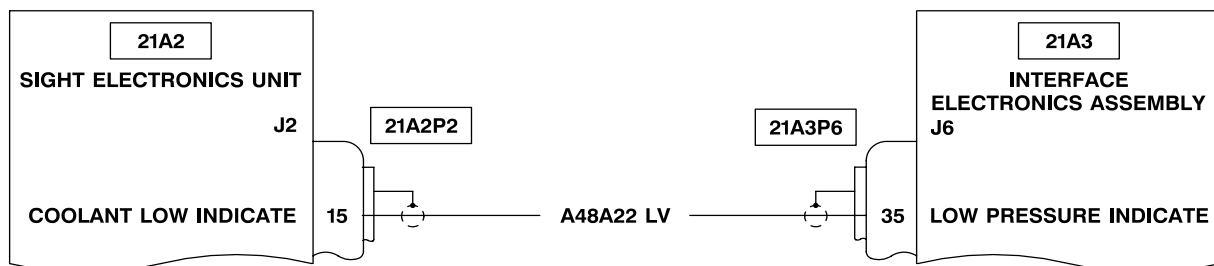


406475-542-452
J1493

4-10-5. **LOW** IS NOT INDICATED ON PDU WHEN ARGON BOTTLE PRESSURE IS LOW (TASK 2-5-1/2-5-2)

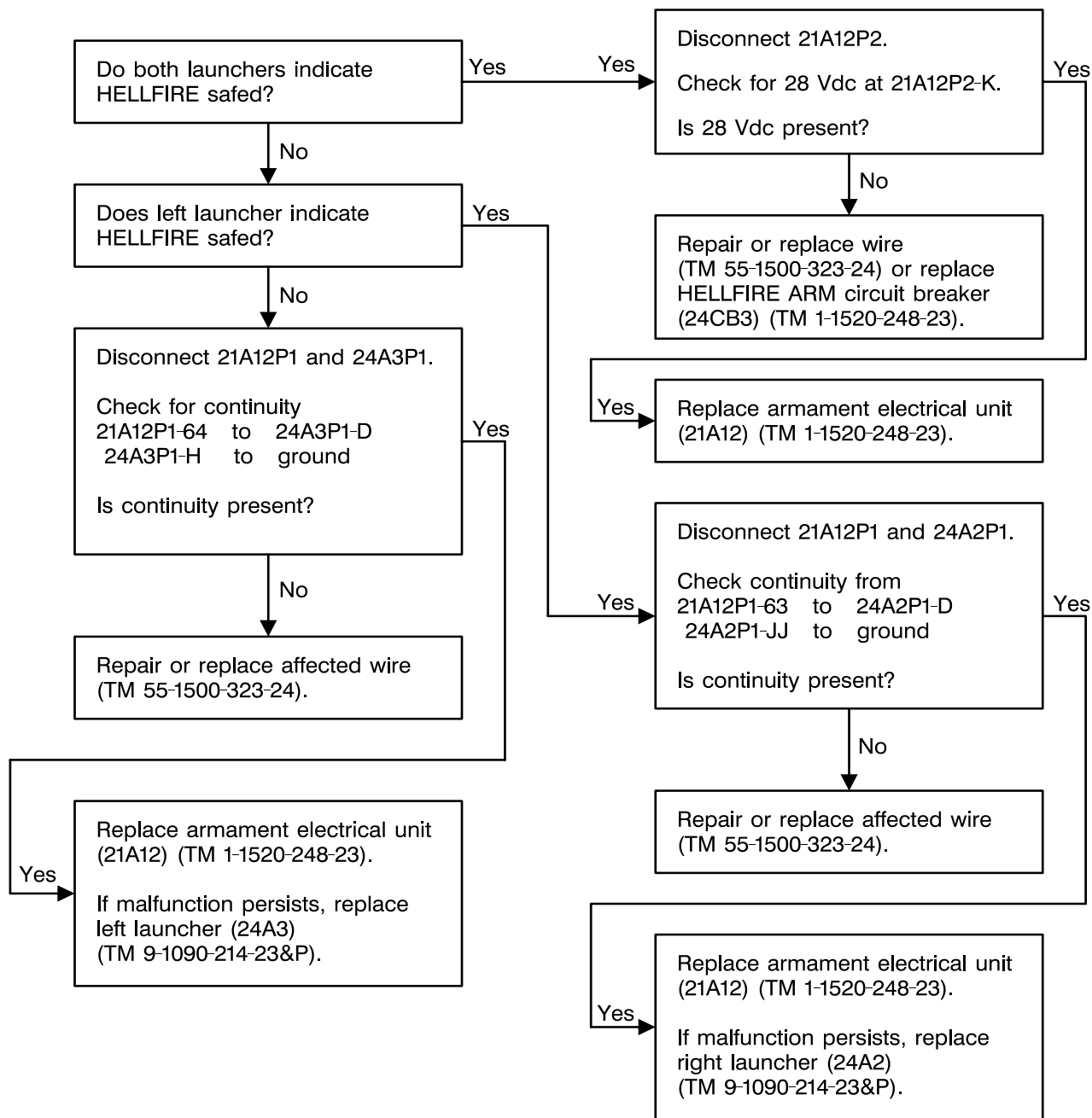


406475-542-453
J1493



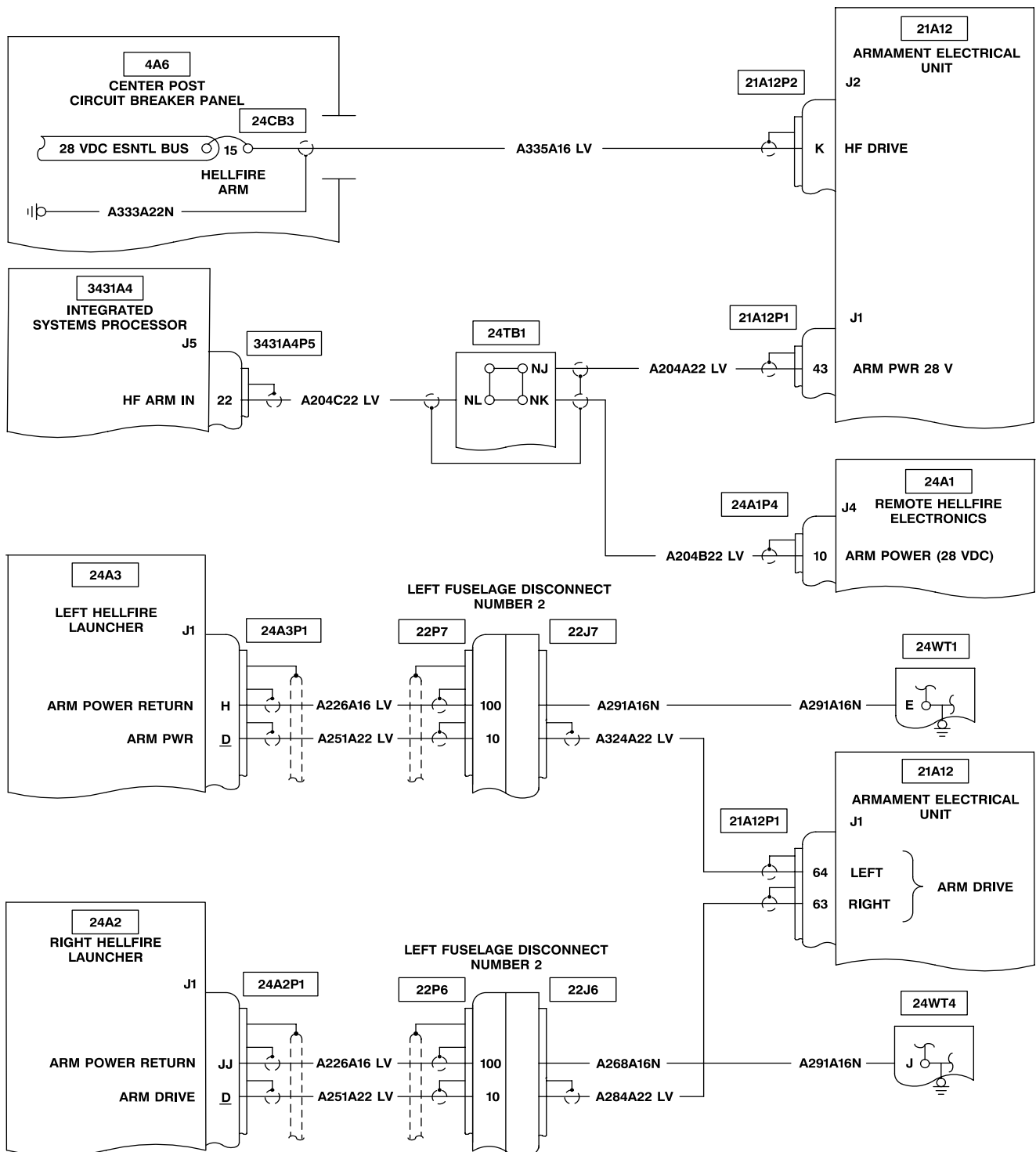
406475-542-454
J1493

4-10-6. HELLFIRE SAFE/ARM SWITCH ON LAUNCHER ELECTRICALLY INOPERATIVE (TASK 2-5-7)
- OH-58D



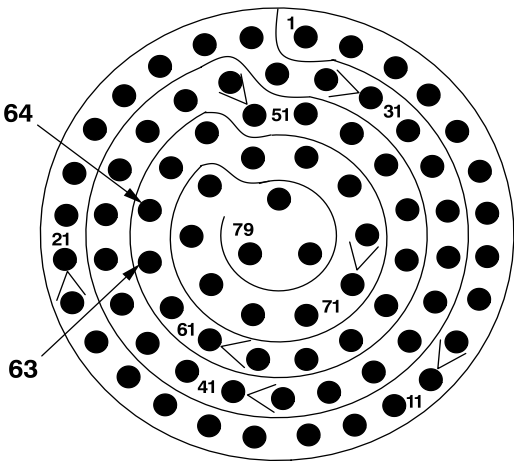
406475-542-455
J1493

4-10-6. HELLFIRE SAFE/ARM SWITCH ON LAUNCHER ELECTRICALLY INOPERATIVE (TASK 2-5-7)
- OH-58D (CONT)

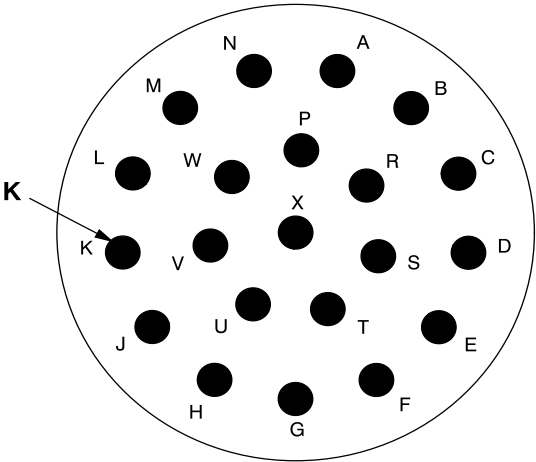


406475-542-456
J1493

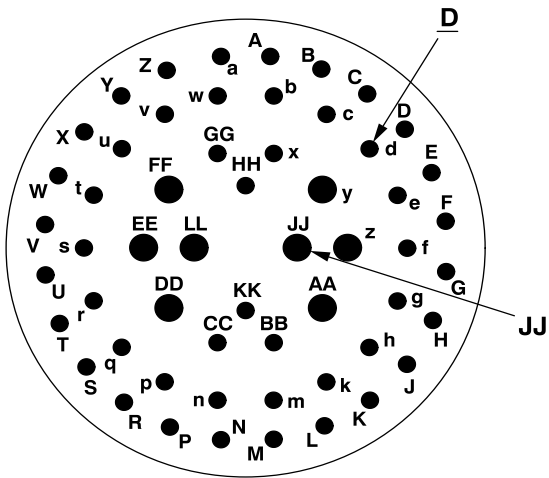
4-10-6. HELLFIRE SAFE/ARM SWITCH ON LAUNCHER ELECTRICALLY INOPERATIVE (TASK 2-5-7)
- OH-58D (CONT)



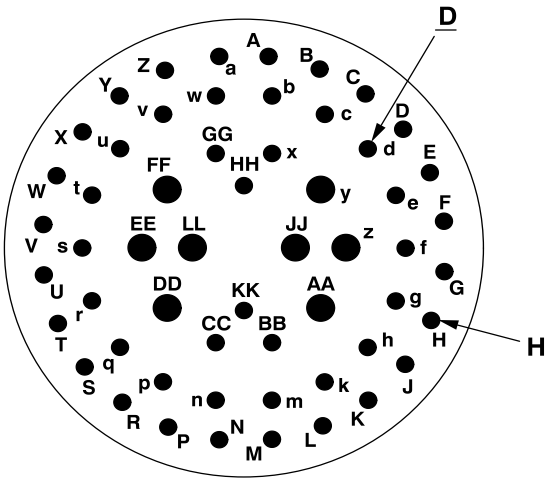
21A12P1



21A12P2



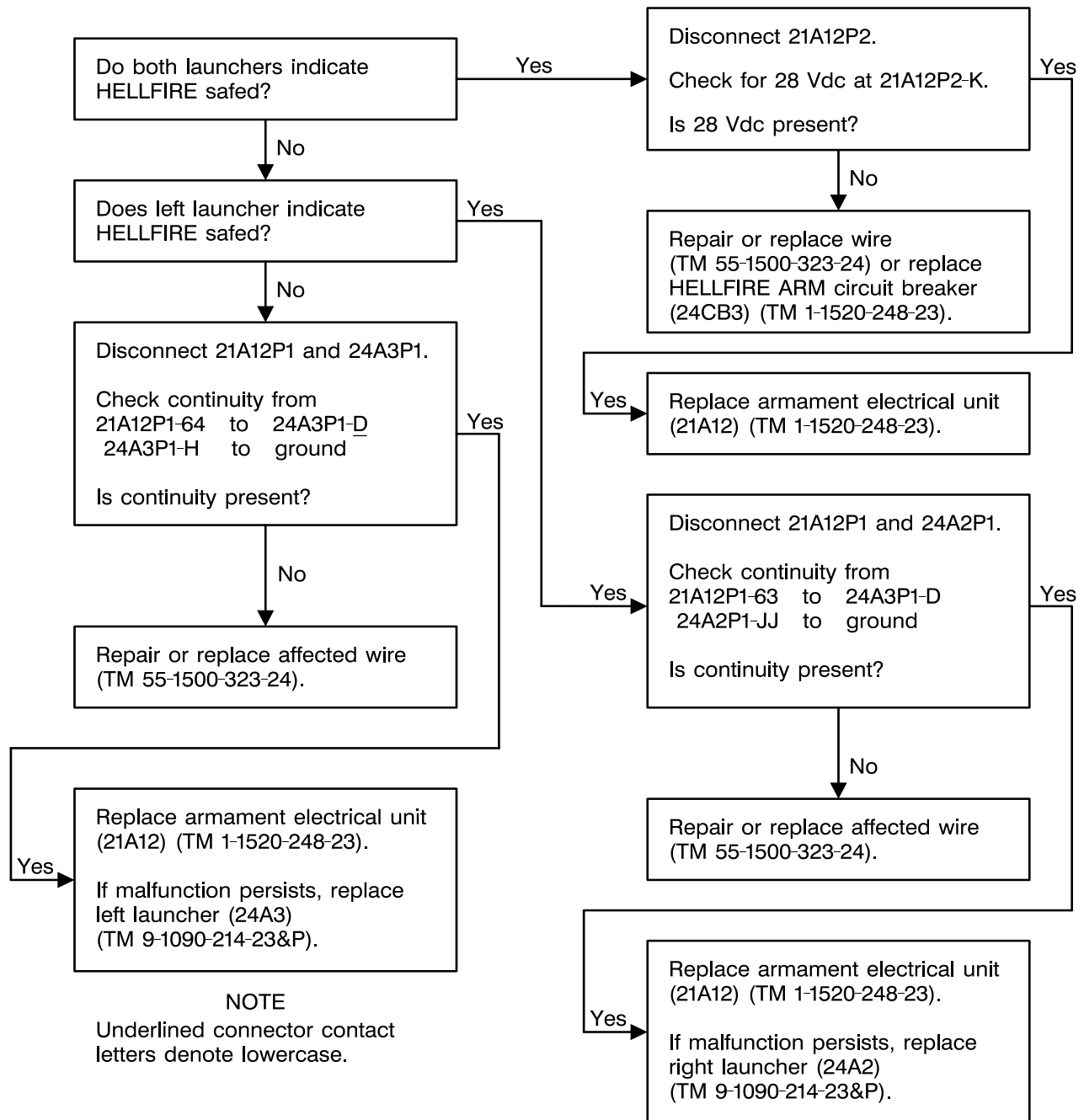
24A2P1



24A3P1

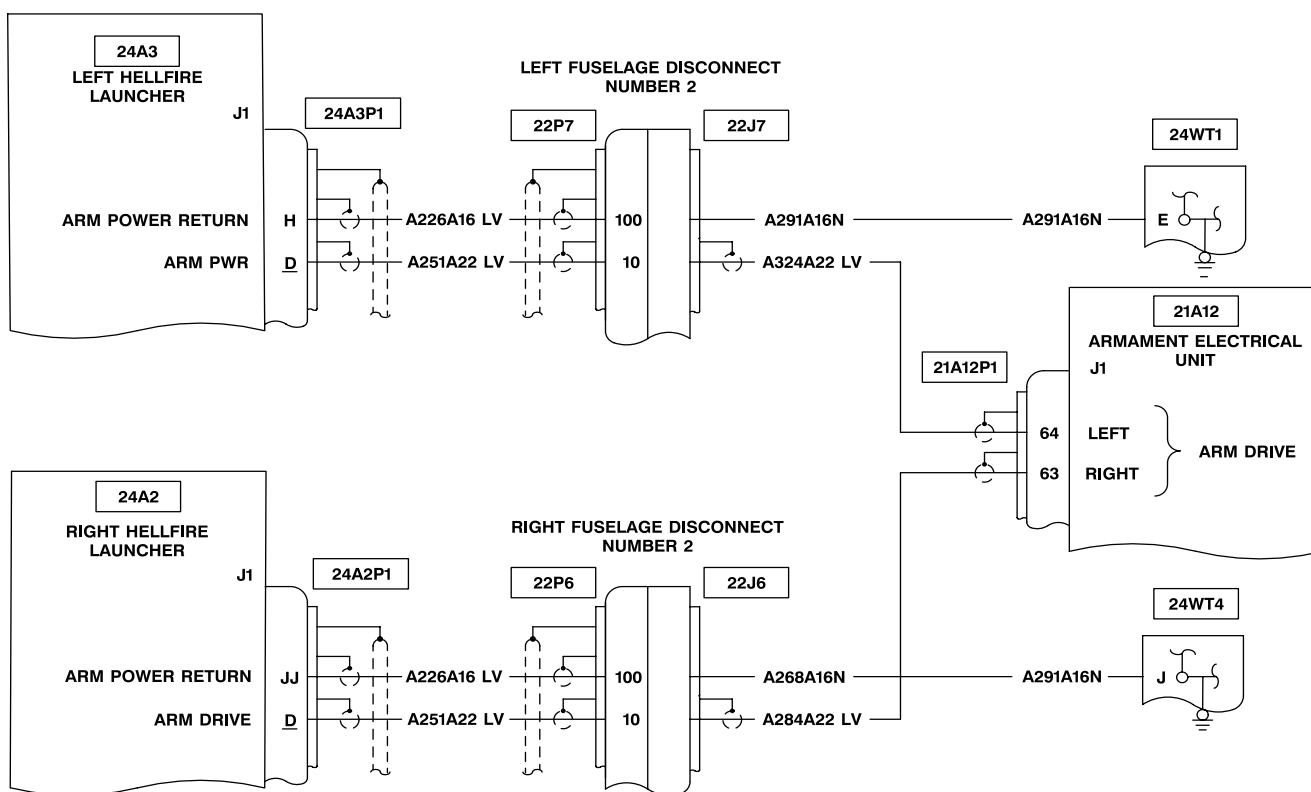
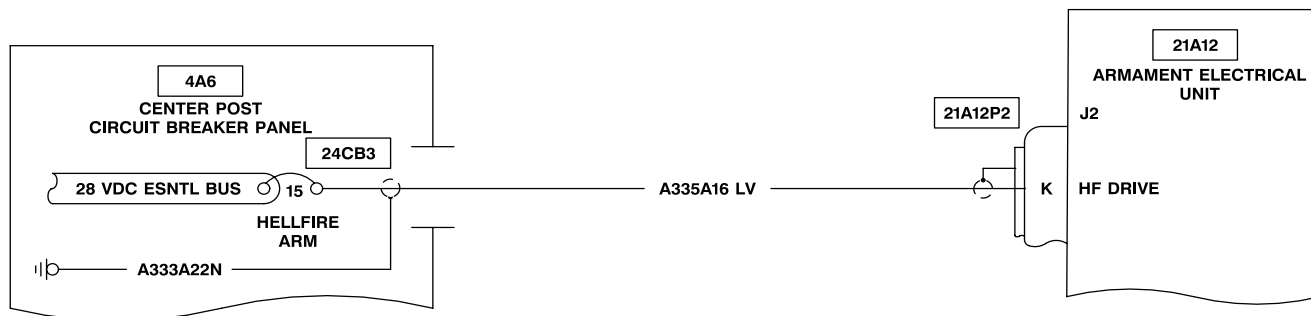
406475-542-457
J1493

4-10-7. HELLFIRE SAFE/ARM SWITCH ON LAUNCHER ELECTRICALLY INOPERATIVE (TASK 2-5-8) - OH-58D(R)



406475-542-458
J1493

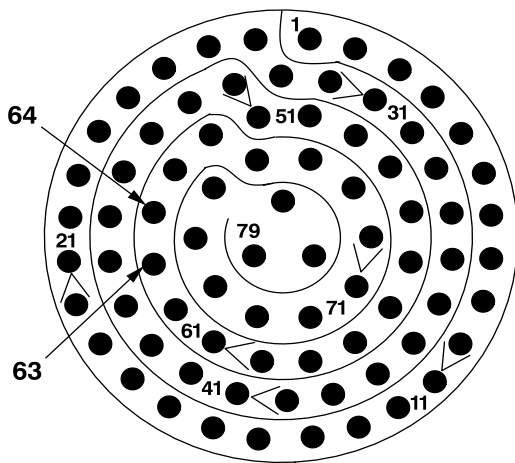
4-10-7. HELLFIRE SAFE/ARM SWITCH ON LAUNCHER ELECTRICALLY INOPERATIVE (TASK 2-5-8)
- OH-58D(R) (CONT)



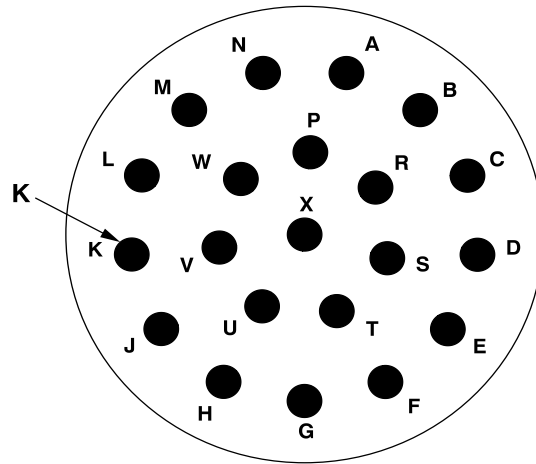
NOTE
Underlined connector contact
letters denote lowercase.

406475-542-459
J1493

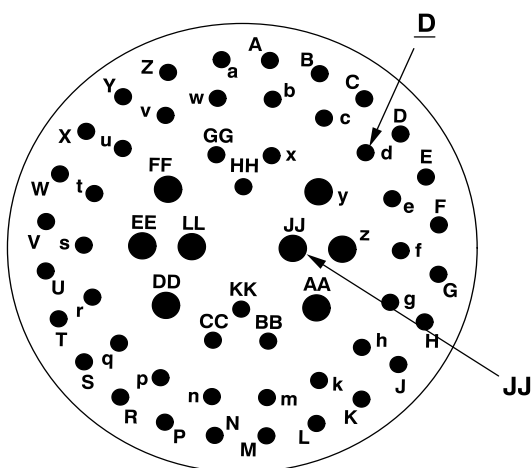
4-10-7. HELLFIRE SAFE/ARM SWITCH ON LAUNCHER ELECTRICALLY INOPERATIVE (TASK 2-5-8)
- OH-58D(R) (CONT)



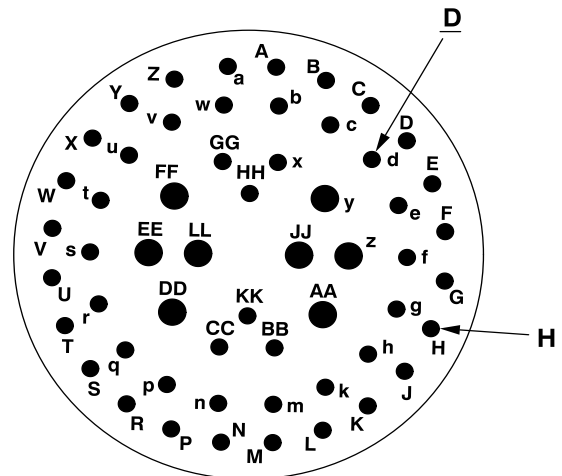
21A12P1



21A12P2



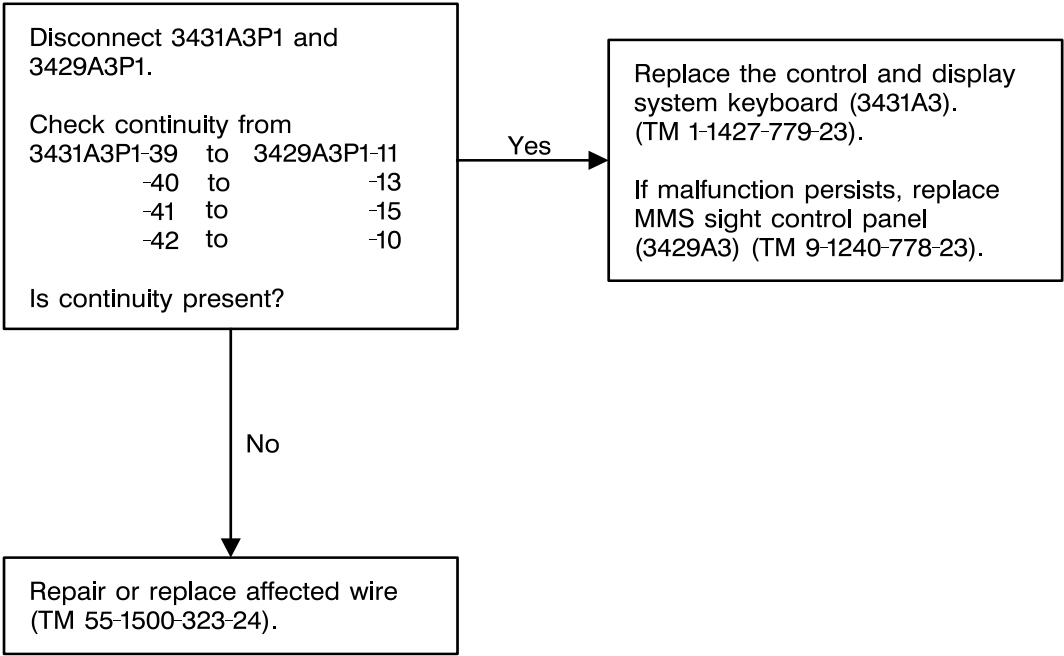
24A2P1



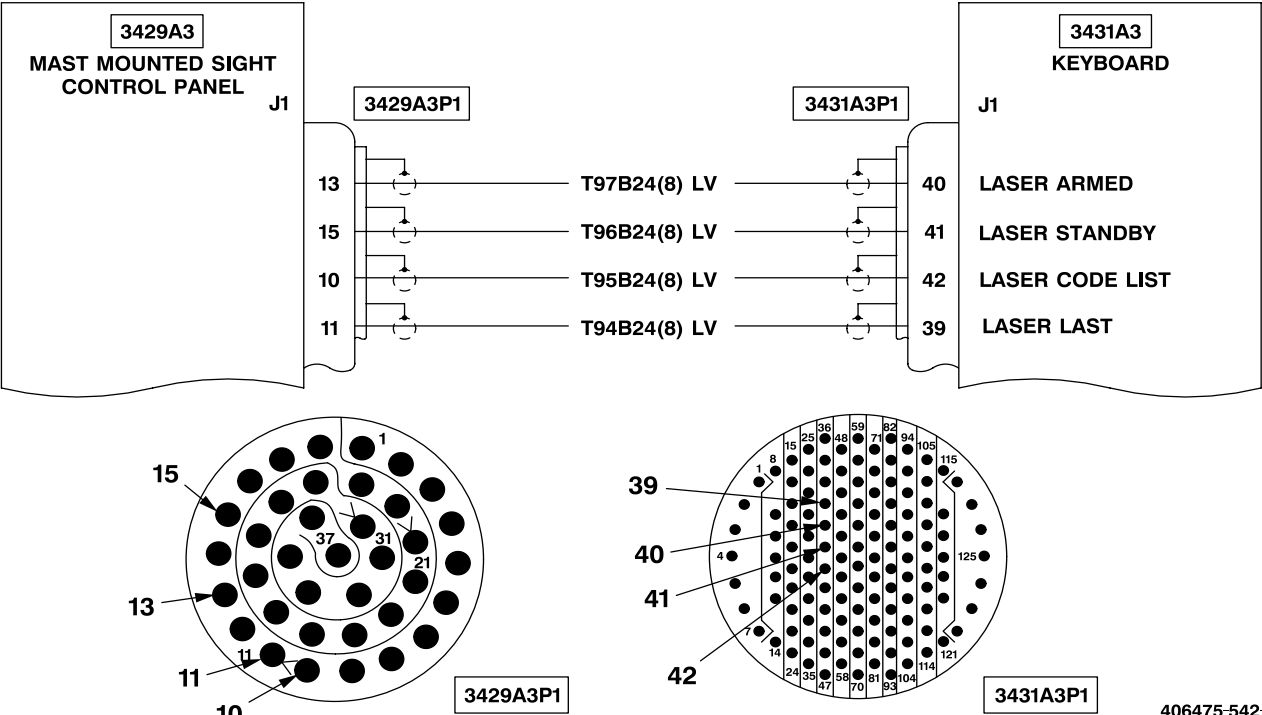
24A3P1

406475-542-460
J1493

4-10-8. CPG CANNOT CODE MMS LASER FOR HELLFIRE DESIGNATION (TASK 2-5-7/2-5-8)

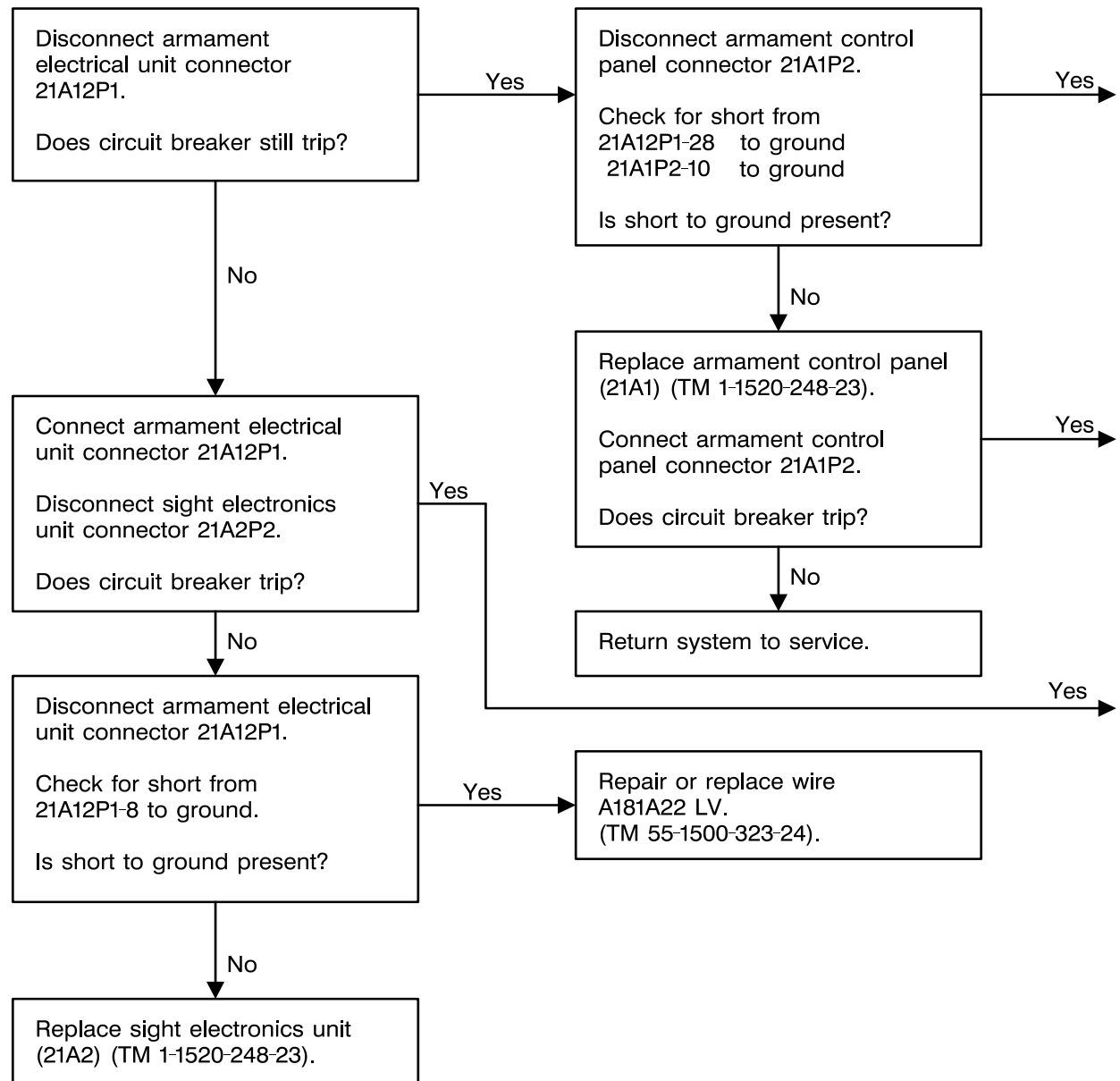


406475-542-461
J1493



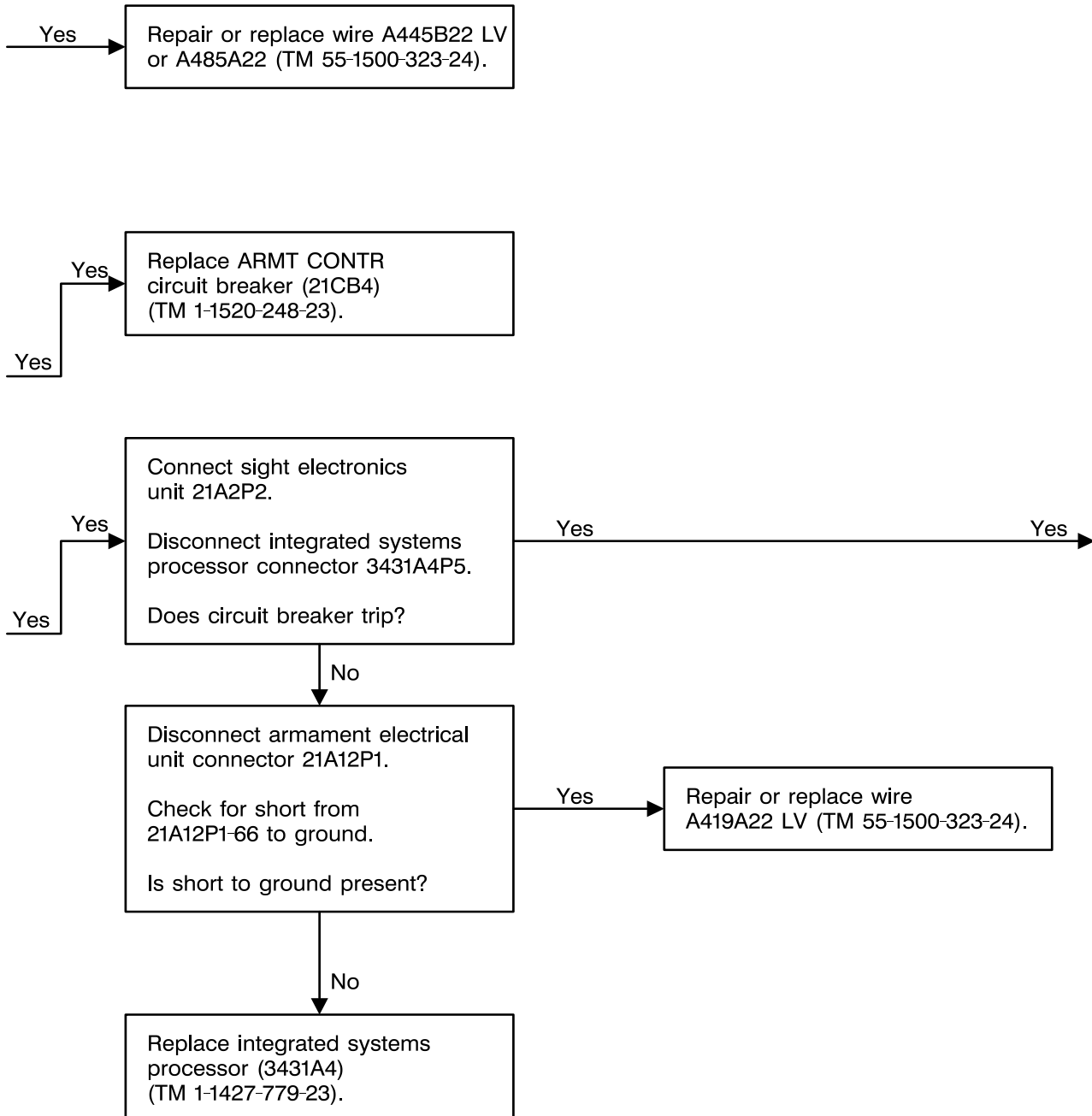
406475-542-462
J1493

4-10-9. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM AND STBY POSITION (TASK 2-5-1) - OH-58D



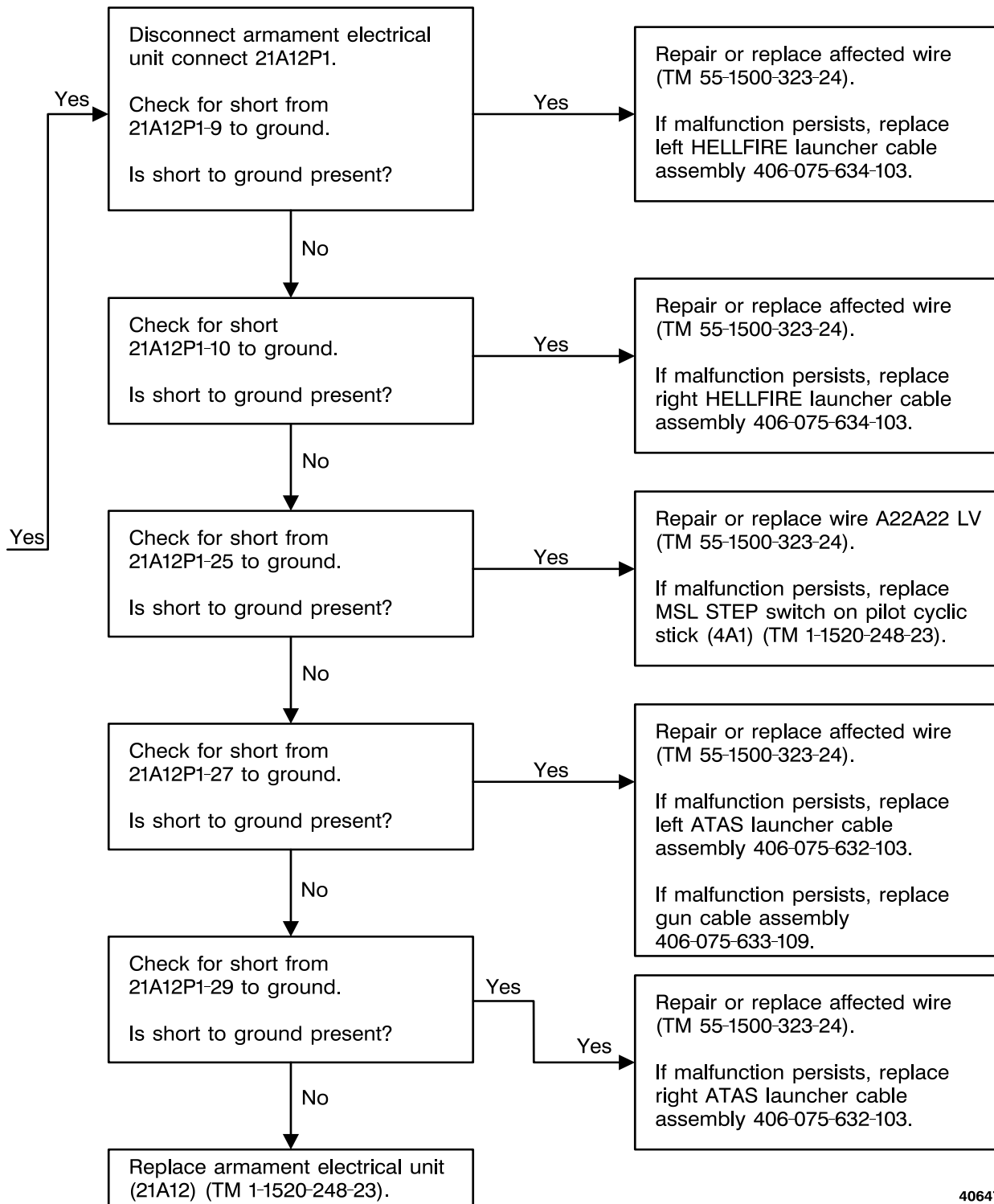
406475-542-463
J1493

4-10-9. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM AND STBY POSITION (TASK 2-5-1) - OH-58D (CONT)



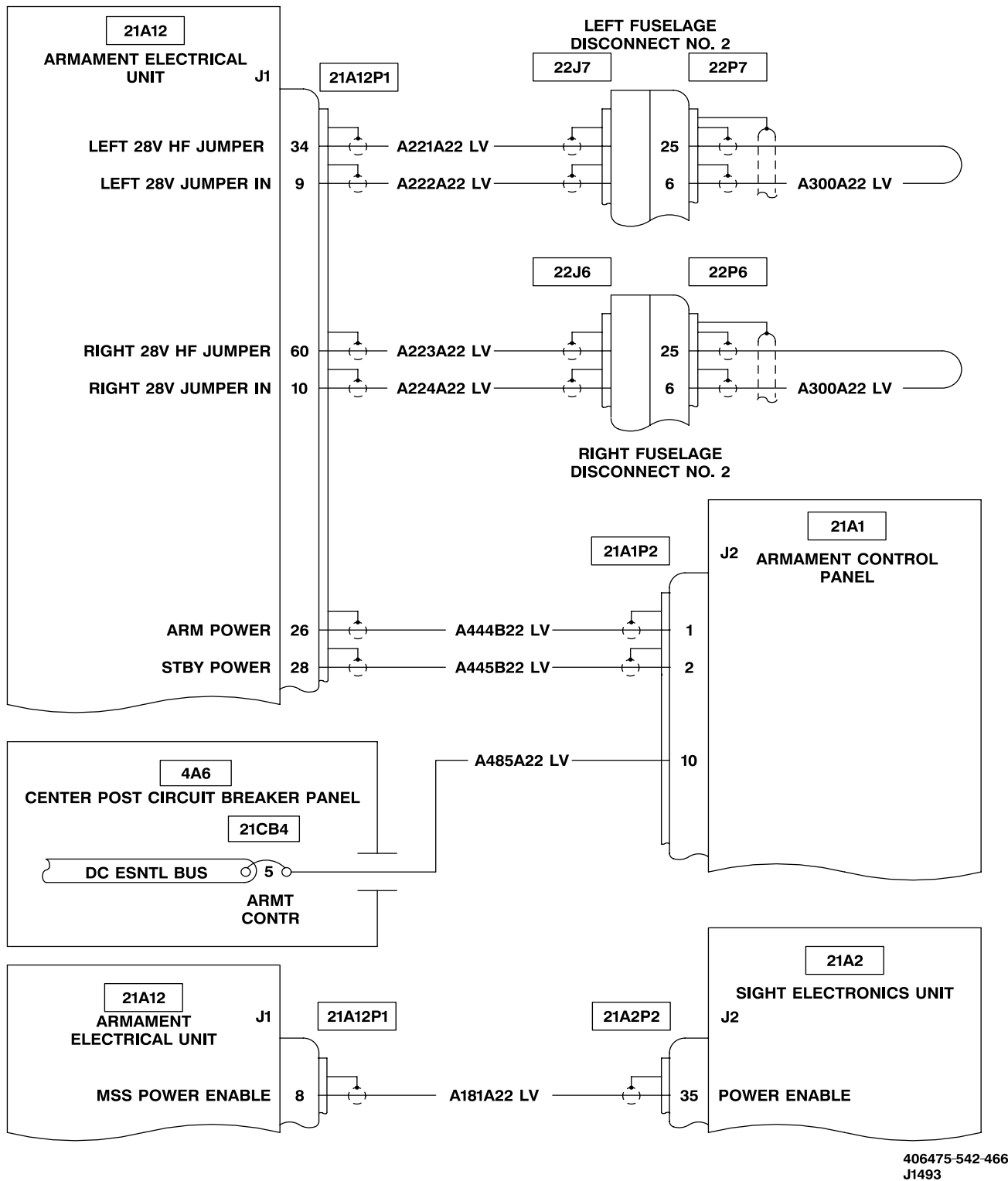
406475-542-464
J1493

4-10-9. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM AND STBY POSITION (TASK 2-5-1) - OH-58D (CONT)

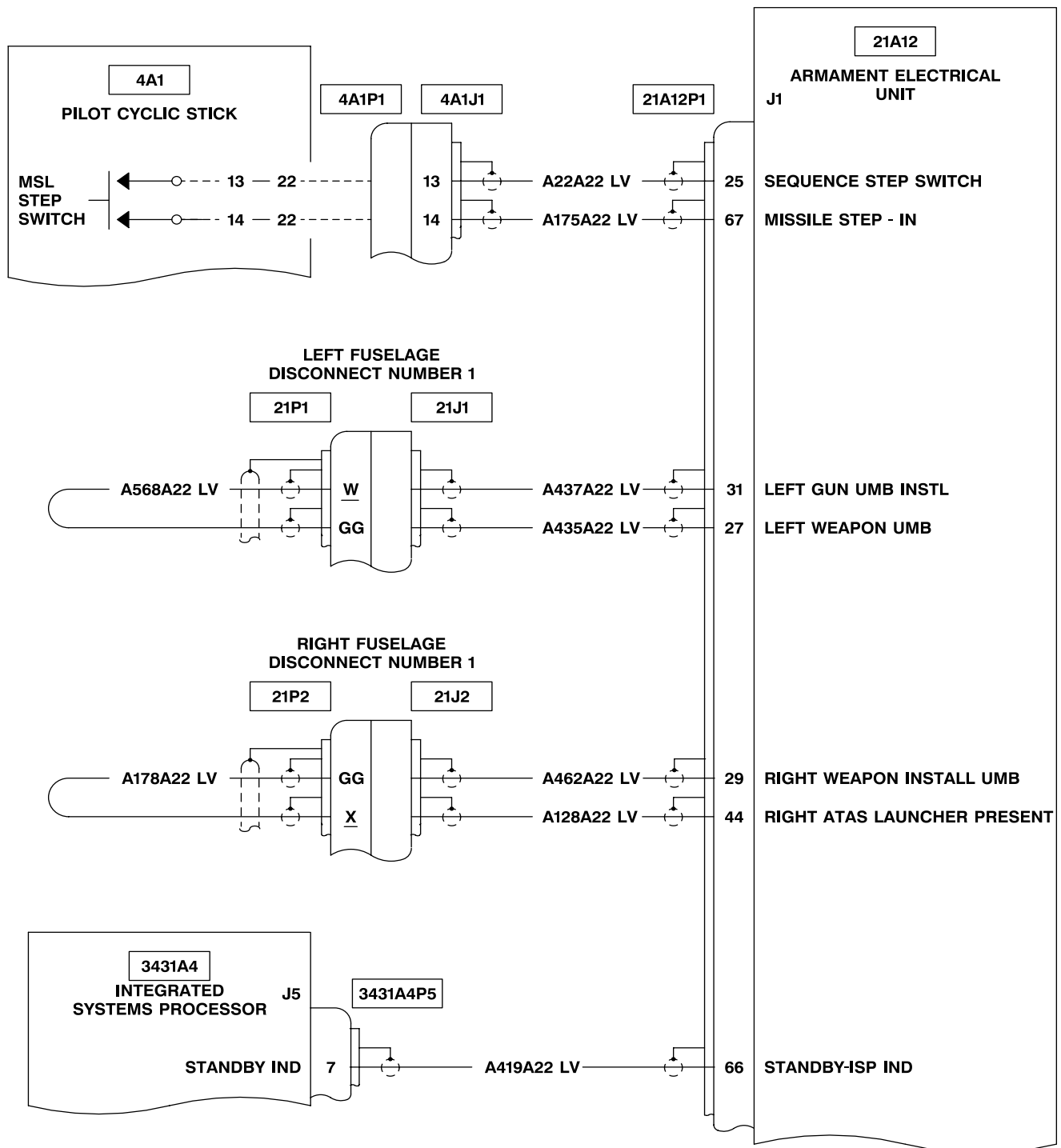


406475-542-465
J1493

4-10-9. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM AND STBY POSITION (TASK 2-5-1) - OH-58D (CONT)

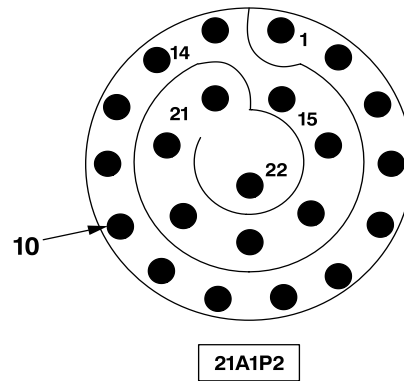
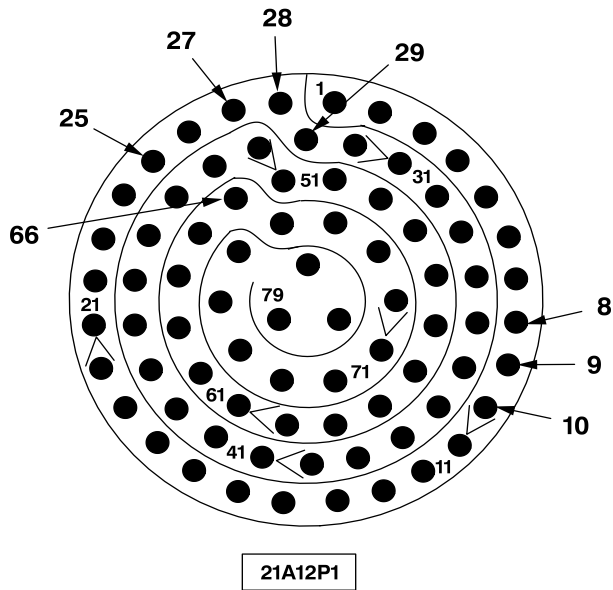


4-10-9. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM AND STBY POSITION (TASK 2-5-1) - OH-58D (CONT)



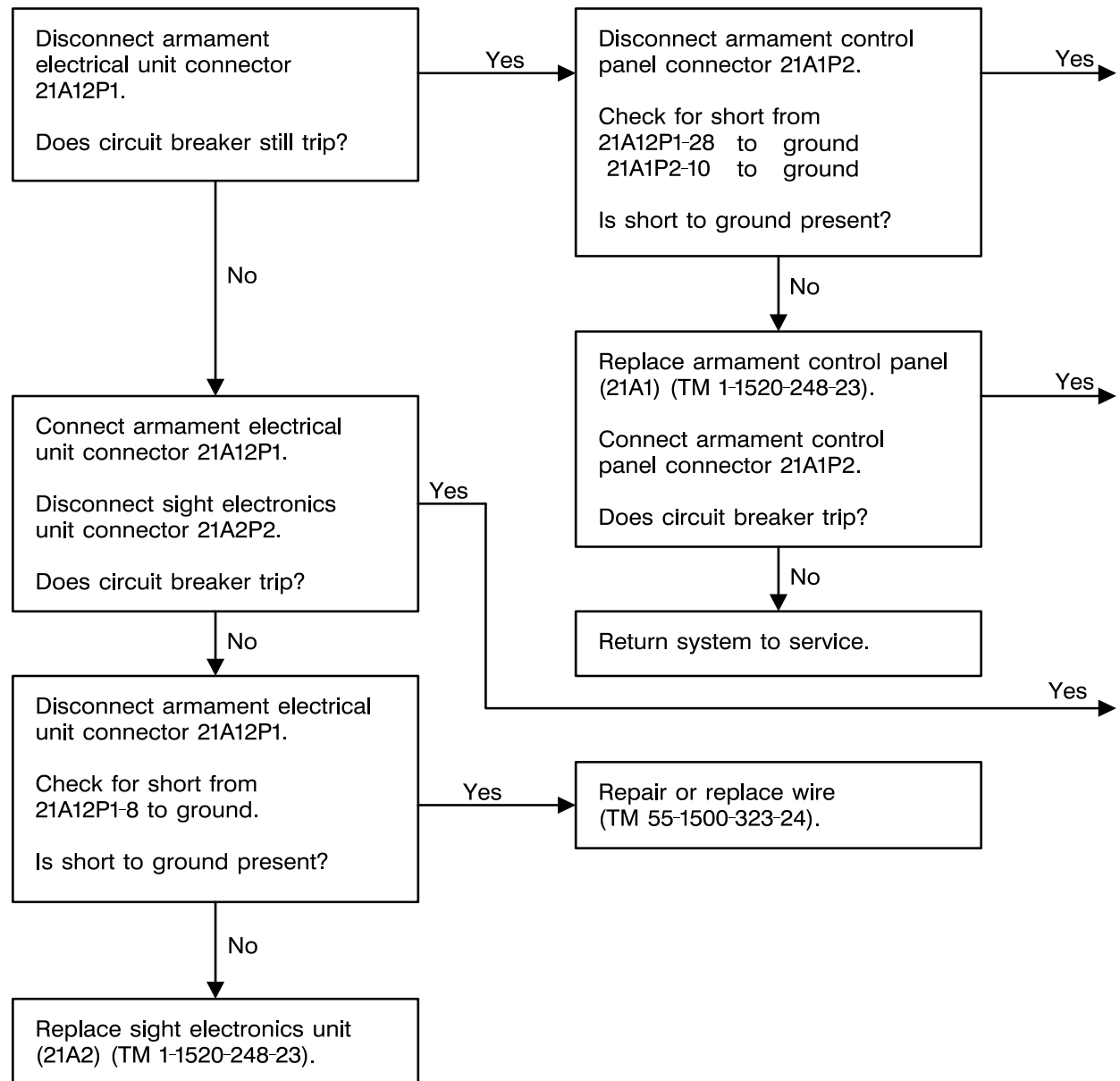
406475-542-467
J1493

4-10-9. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM AND STBY POSITION (TASK 2-5-1) - OH-58D (CONT)



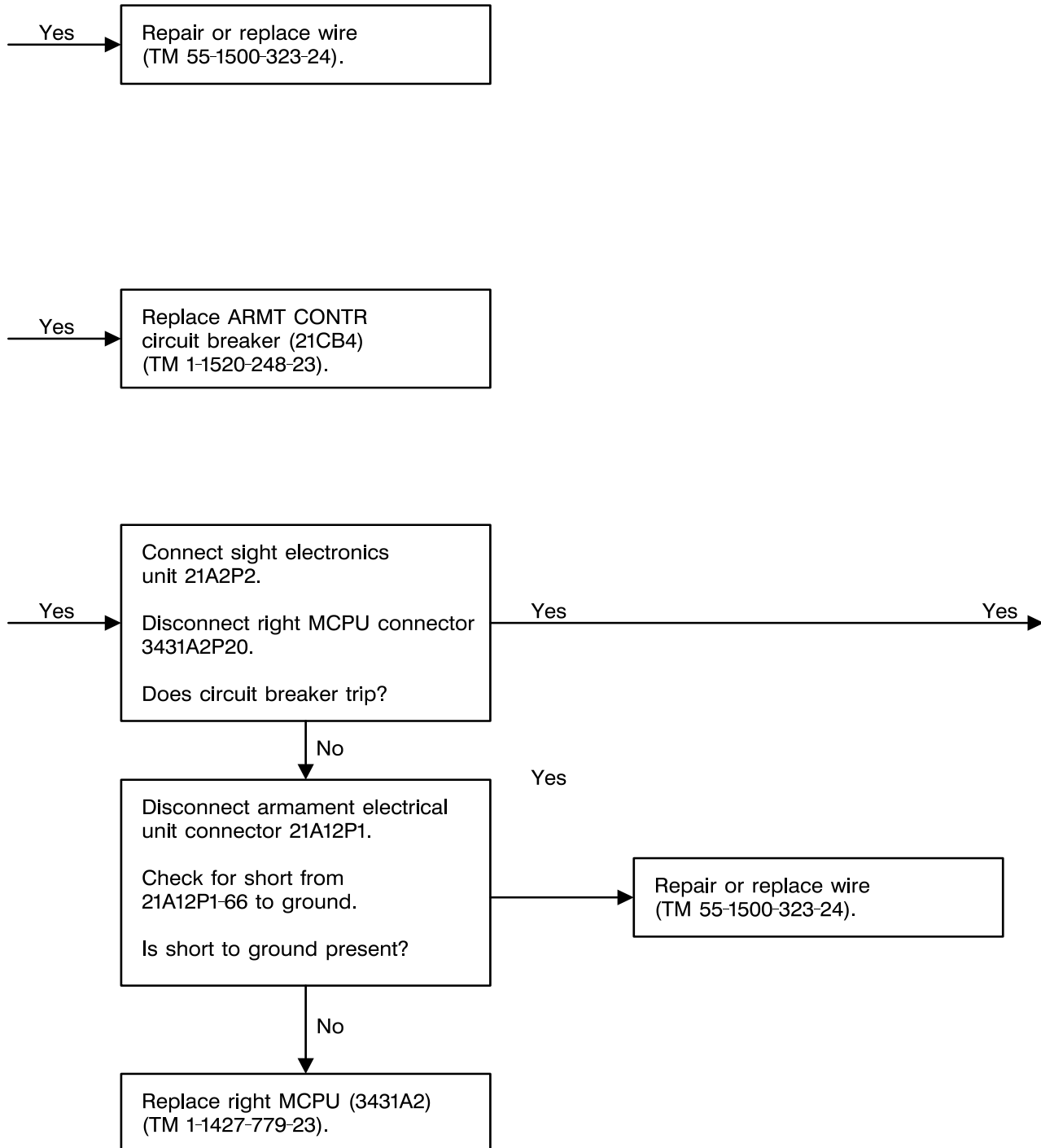
406475-542-468
J1493

4-10-10. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM AND STBY POSITION (TASK 2-5-2) - OH-58D(R)



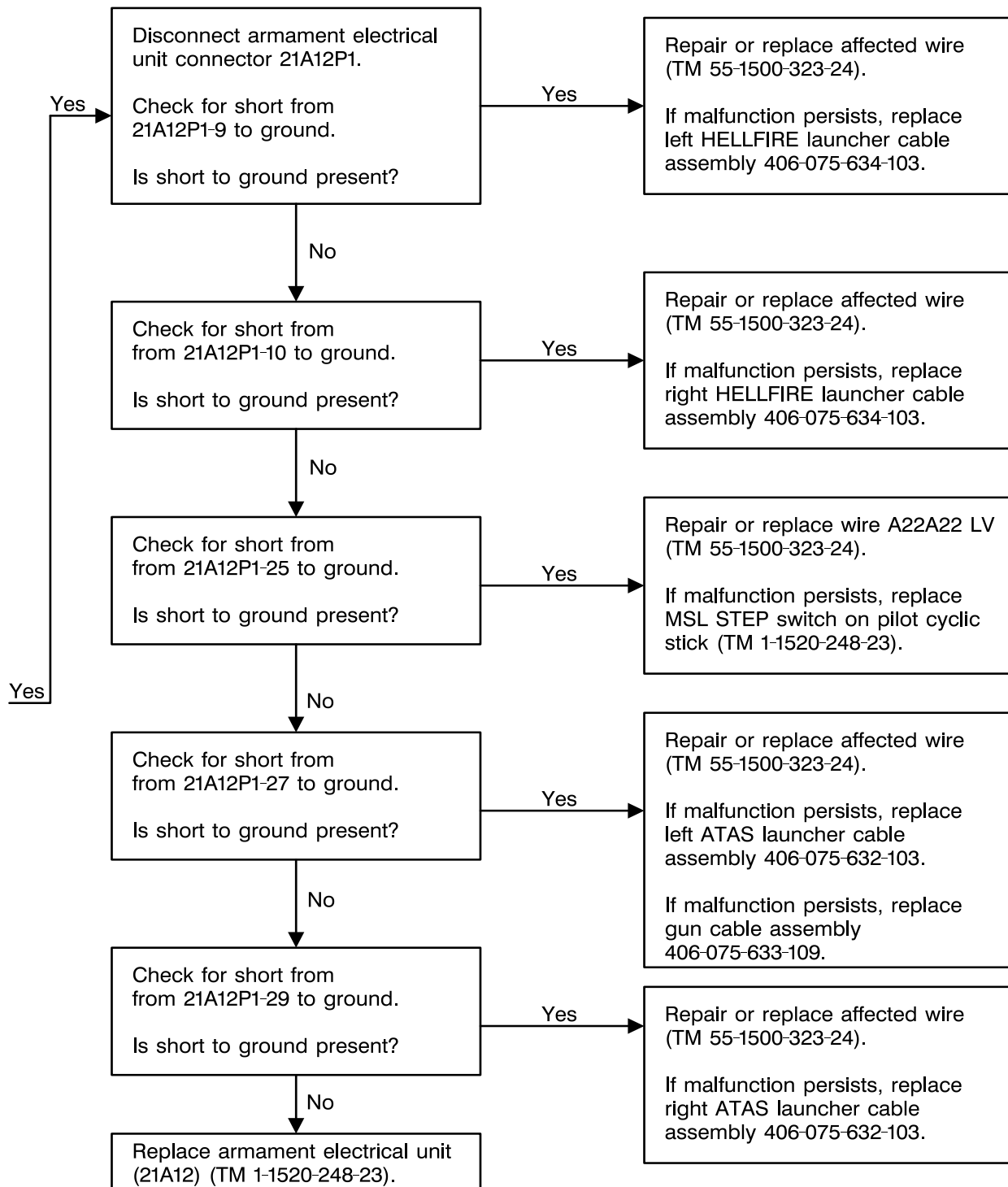
406475-542-469
J1493

4-10-10. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM AND STBY POSITION (TASK 2-5-2) - OH-58D(R) (CONT)



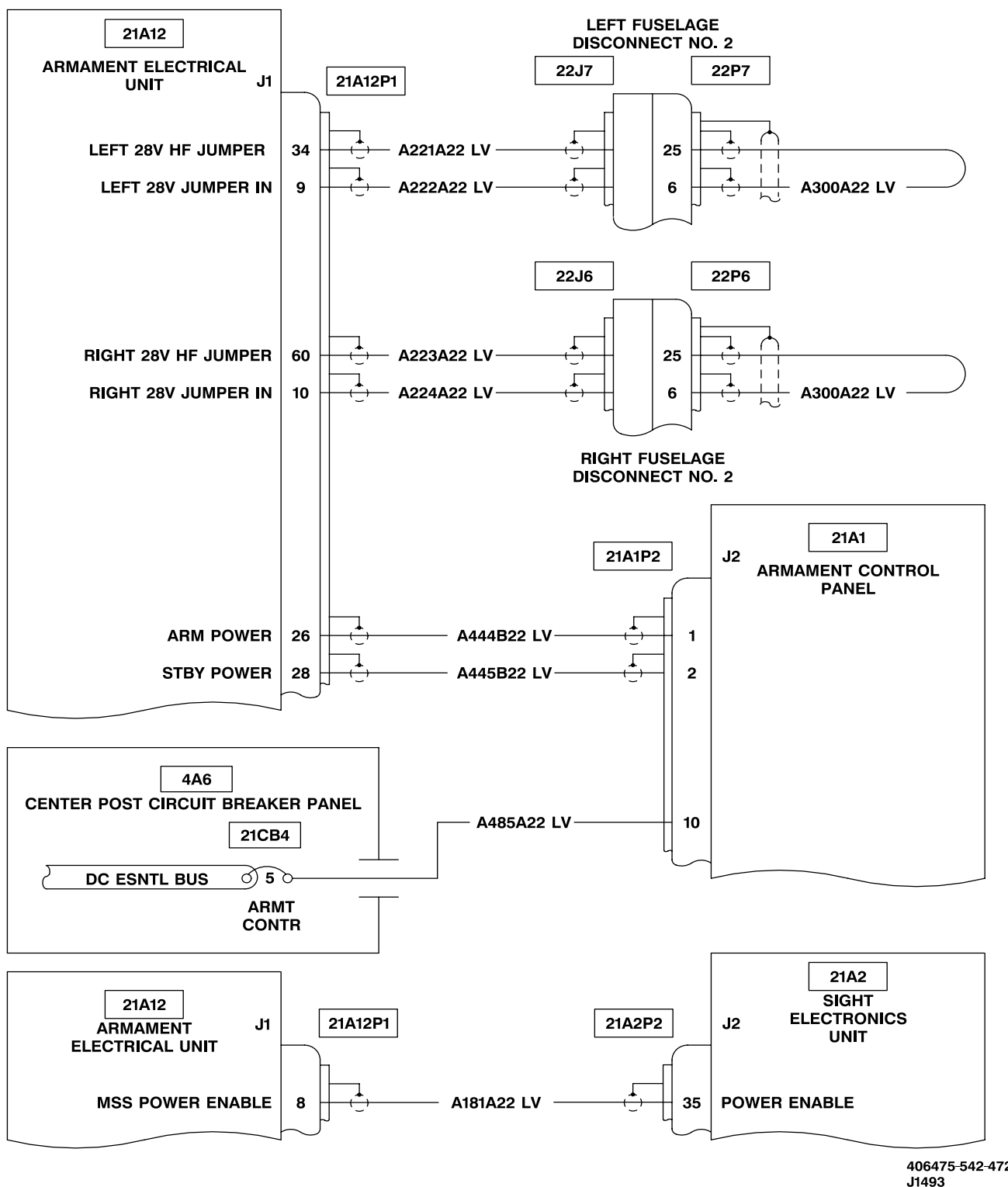
406475-542-470
J1493

4-10-10. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM AND STBY POSITION (TASK 2-5-2) - OH-58D(R) (CONT)

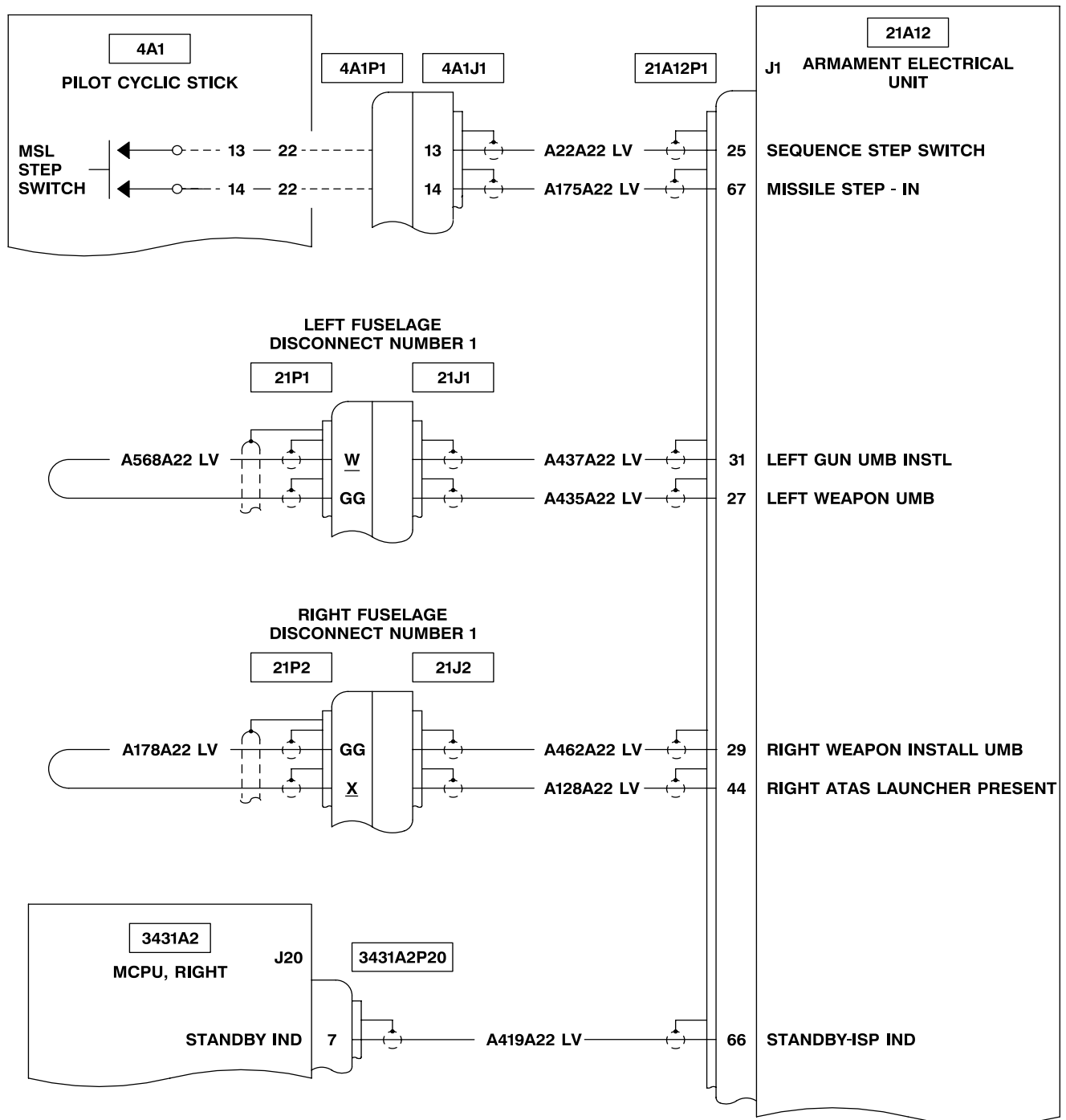


406475-542-471
J1493

4-10-10. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM AND STBY POSITION (TASK 2-5-2) - OH-58D(R) (CONT)

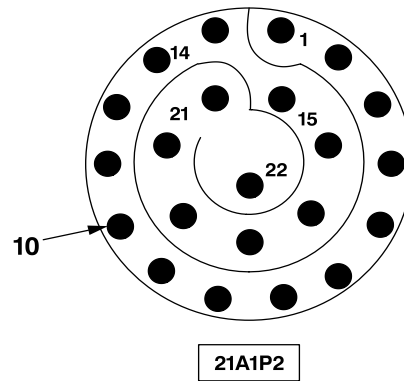
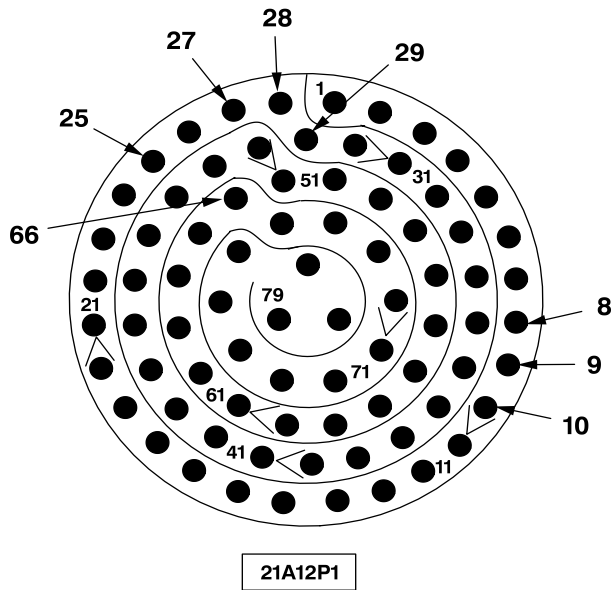


4-10-10. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM AND STBY POSITION (TASK 2-5-2) - OH-58D(R) (CONT)



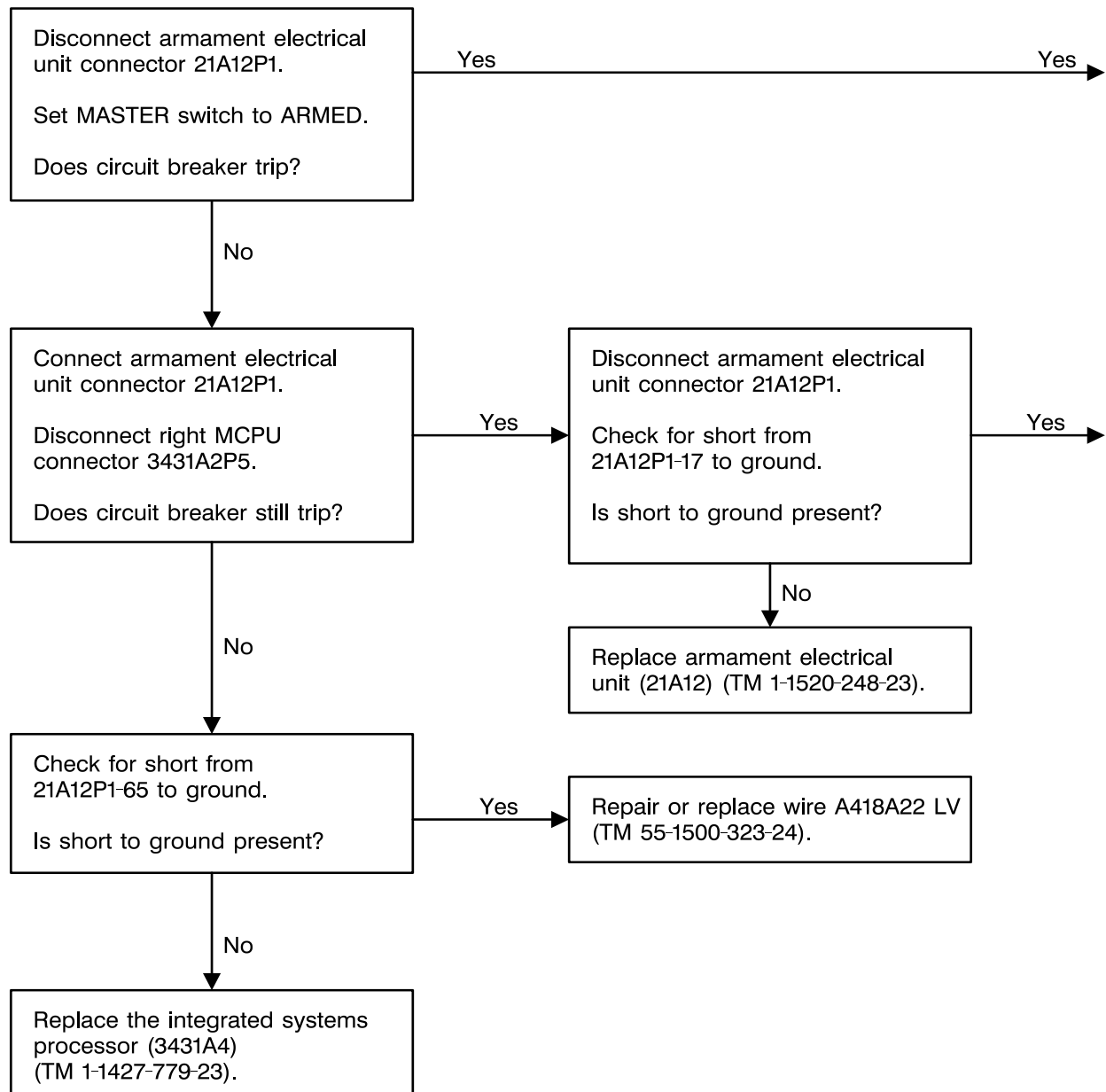
406475-542-473
J1493

4-10-10. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM AND STBY POSITION (TASK 2-5-2) - OH-58D(R) (CONT)



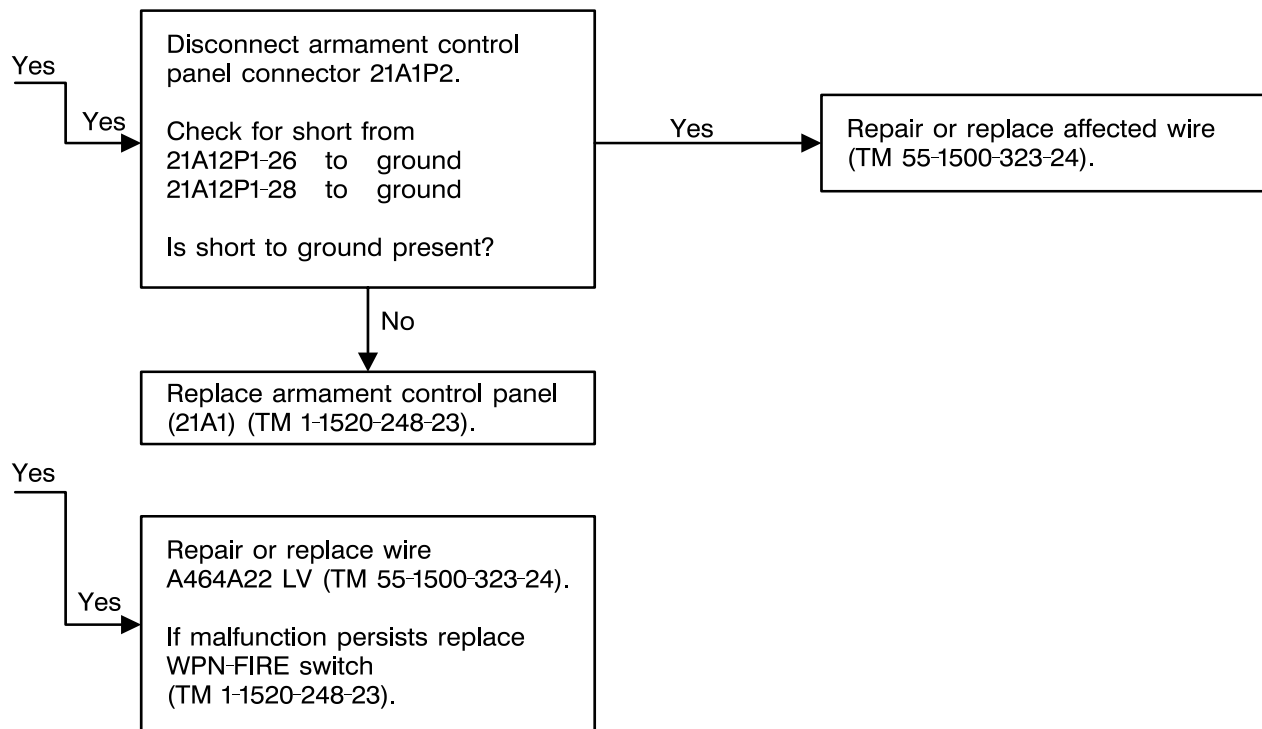
406475-542-474
J1493

4-10-11. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM OR STBY POSITION (TASK 2-5-1) - OH-58D

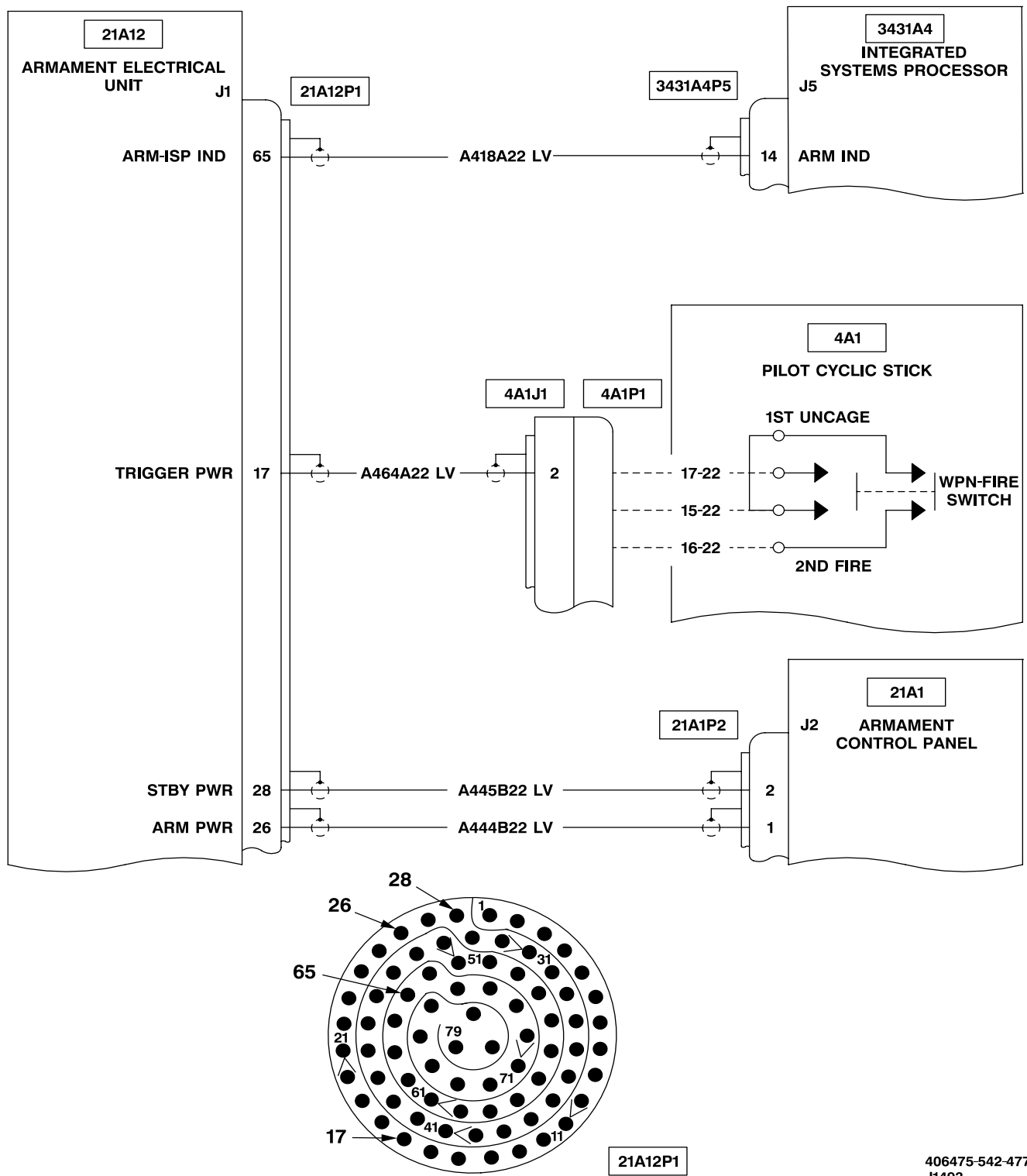


406475-542-475
J1493

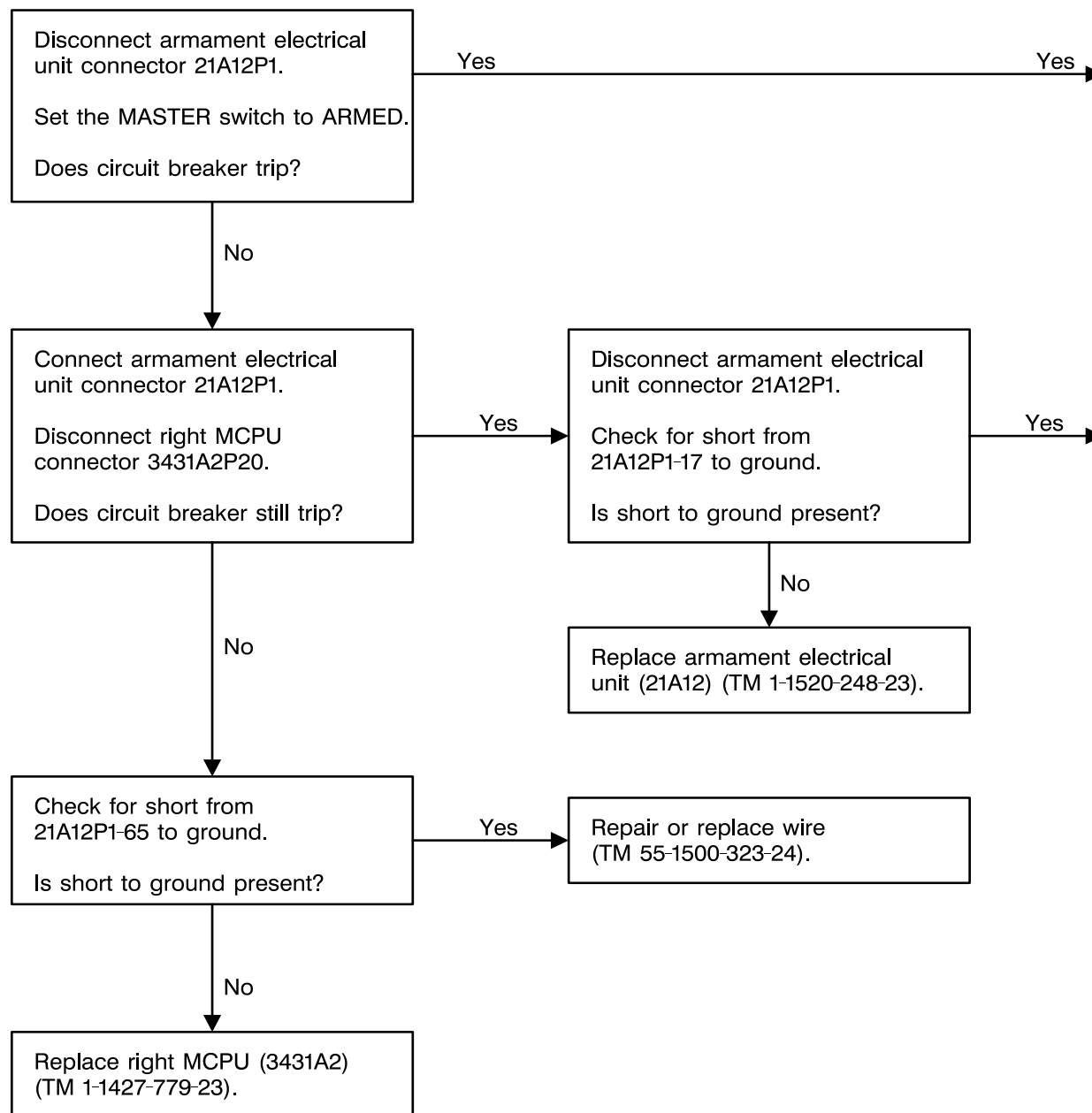
4-10-11. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM OR STBY POSITION (TASK 2-5-1) - OH-58D (CONT)



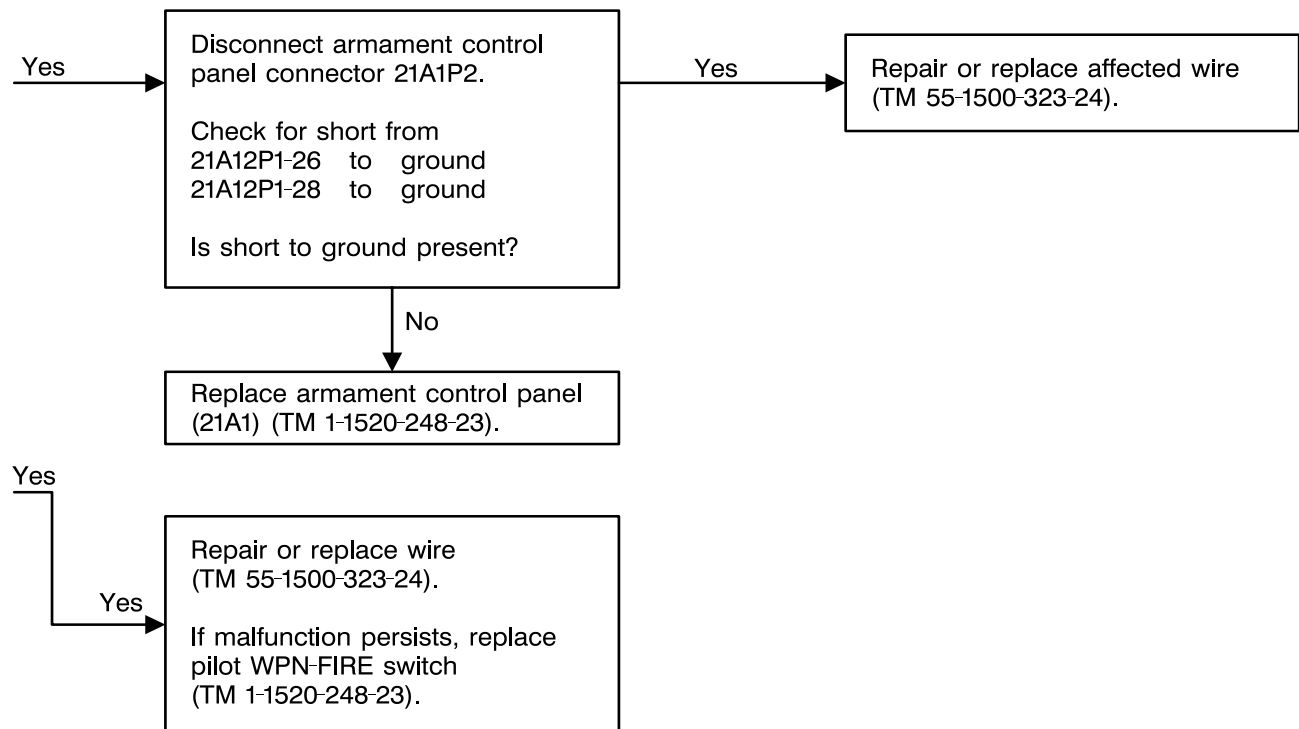
4-10-11. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM OR STBY POSITION (TASK 2-5-1) - OH-58D (CONT)



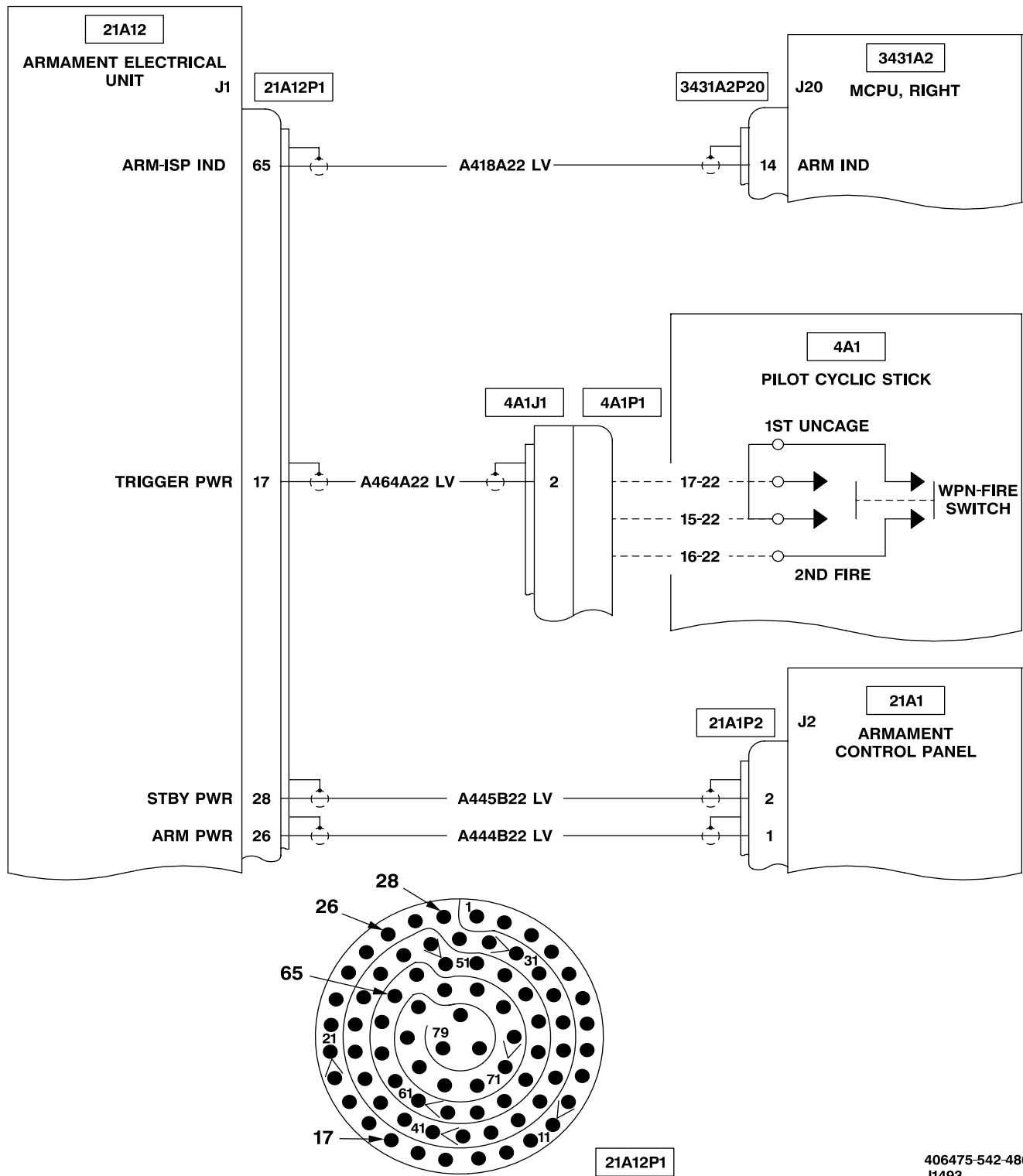
4-10-12. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM OR STBY POSITION (TASK 2-5-2) - OH-58D(R)

406475-542-478
J1493

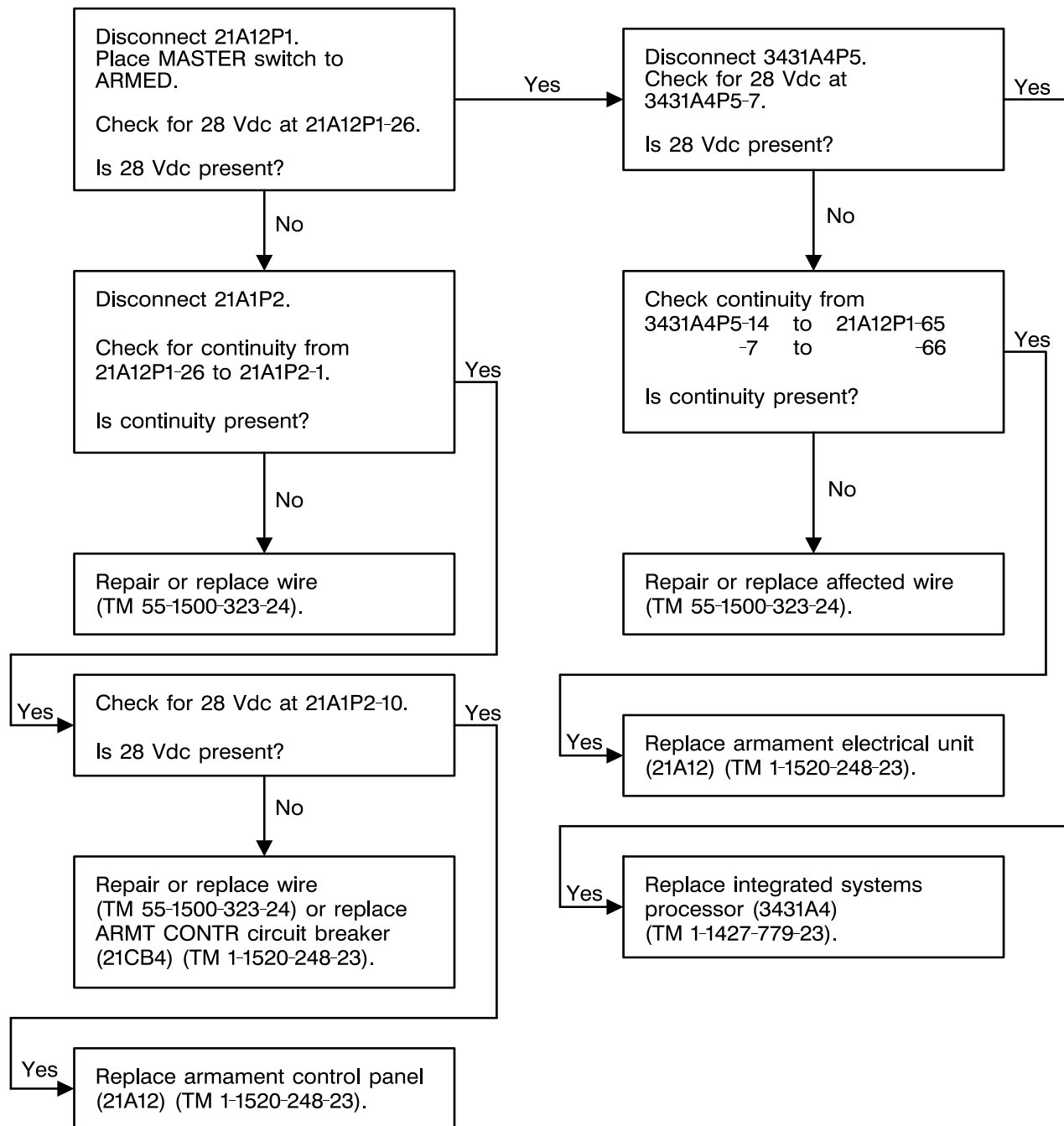
4-10-12. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM OR STBY POSITION (TASK 2-5-2) - OH-58D(R) (CONT)

406475-542-479
J1493

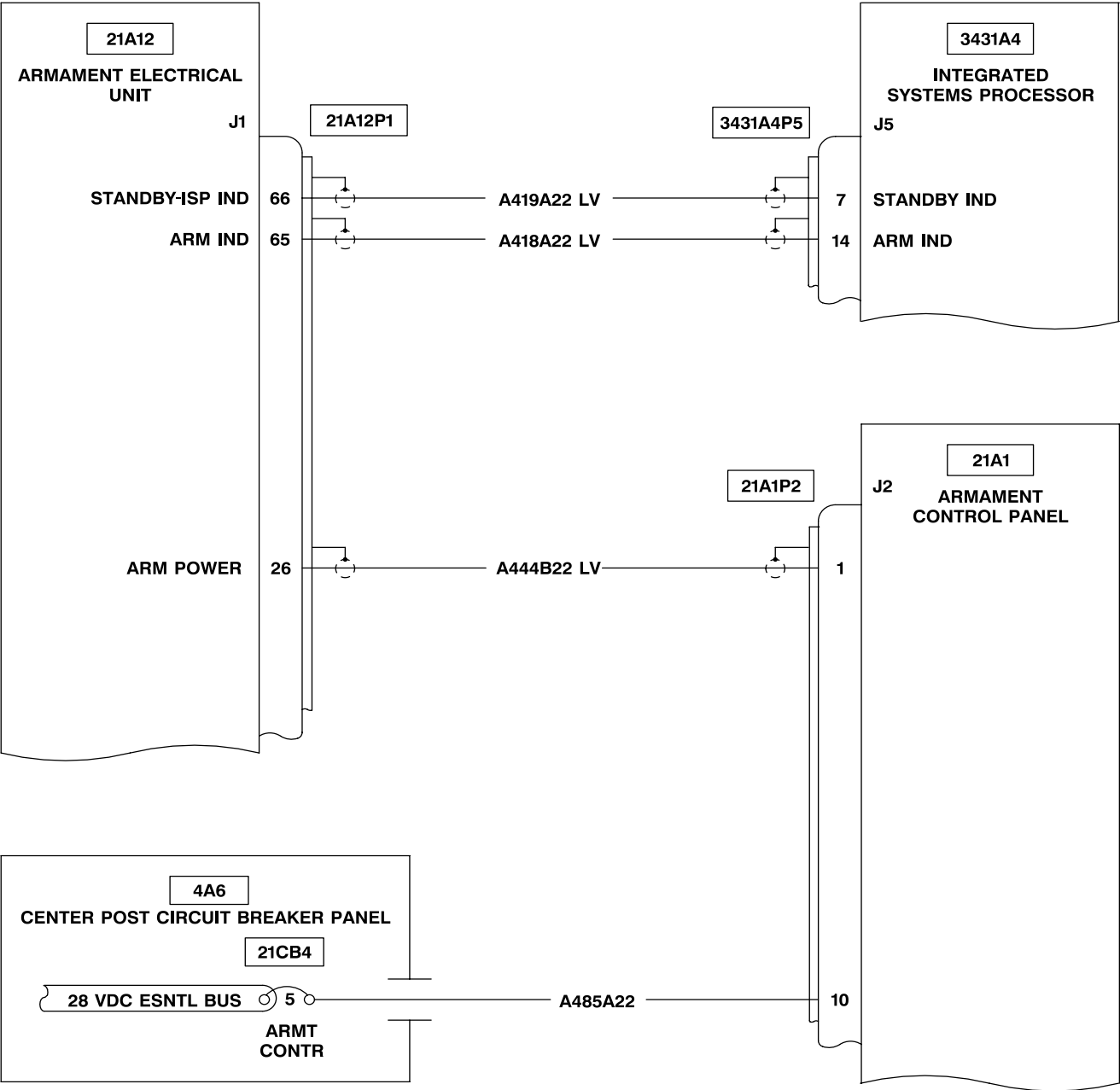
4-10-12. ARMT CONTR CIRCUIT BREAKER TRIPS WITH MASTER SWITCH IN ARM OR STBY POSITION (TASK 2-5-2) - OH-58D(R) (CONT)



4-10-13. WEAPON WILL NOT ARM (TASK 2-5-1) - OH-58D

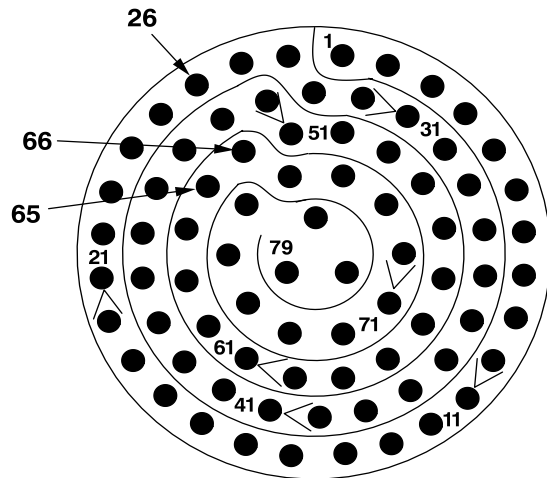
406475-542-481
J1493

4-10-13. WEAPON WILL NOT ARM (TASK 2-5-1) - OH-58D (CONT)

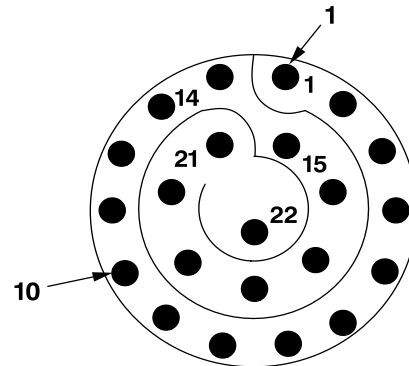


406475-542-482
J1493

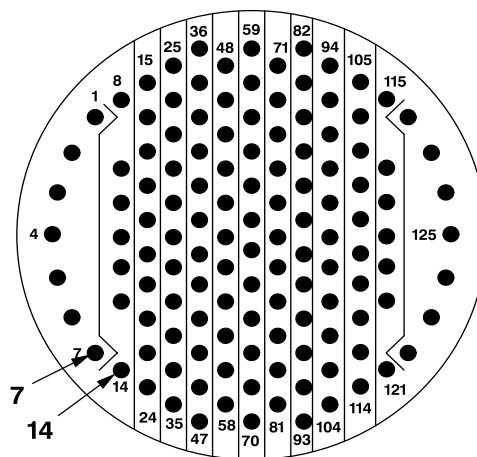
4-10-13. WEAPON WILL NOT ARM (TASK 2-5-1) - OH-58D (CONT)



21A12P1



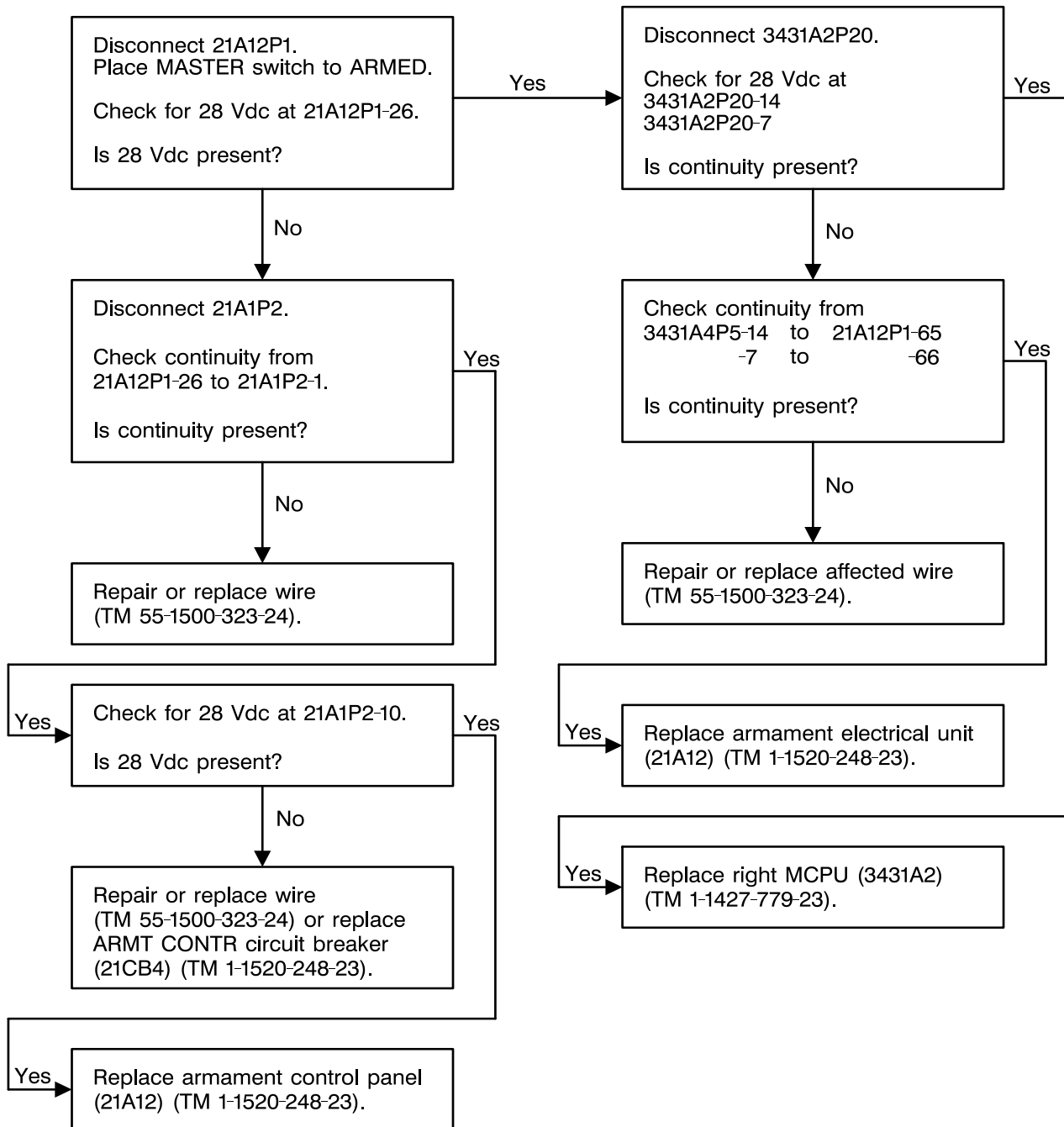
21A1P2



3431A4P5

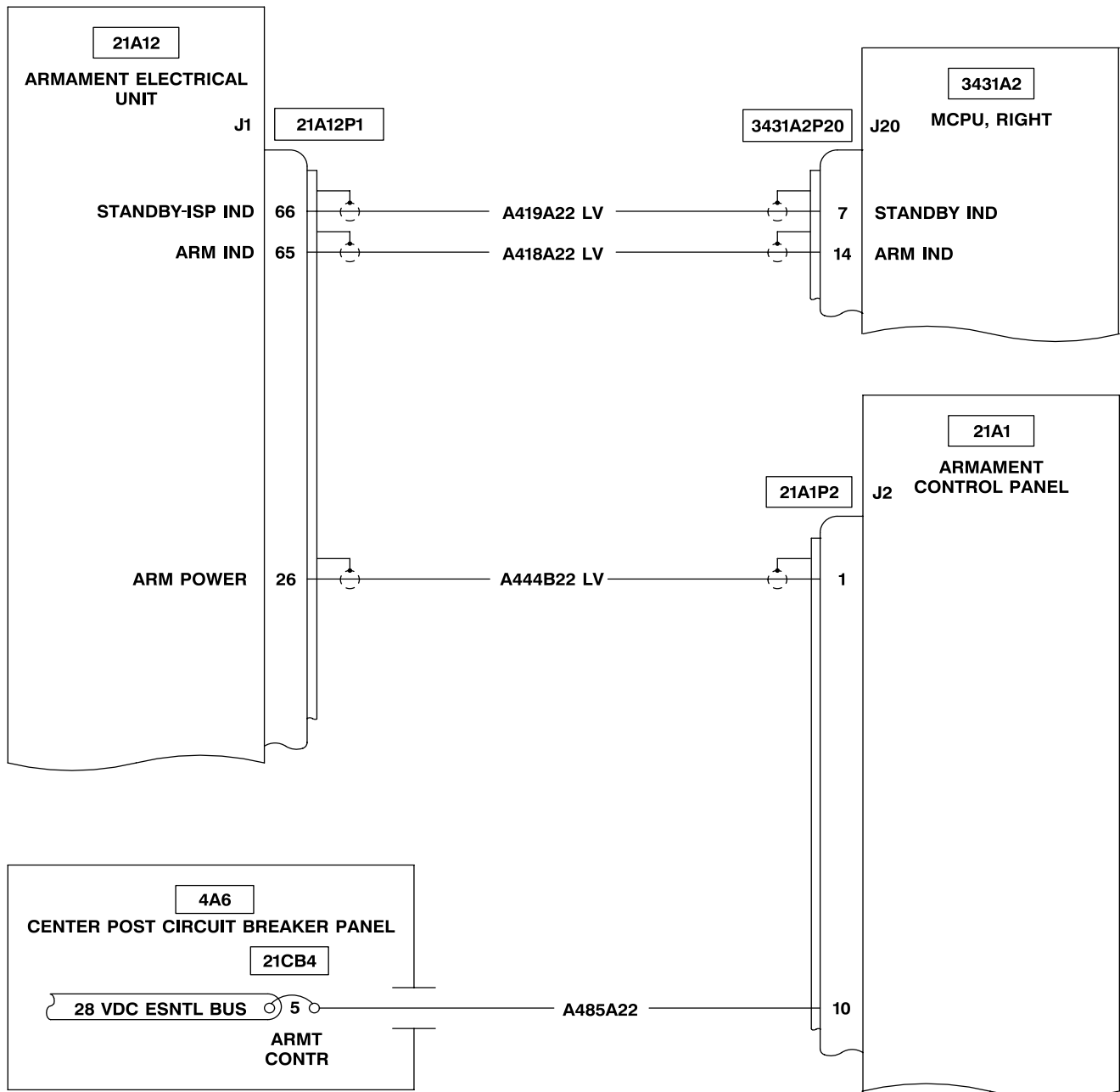
406475-542-483
J1493

4-10-14. WEAPON WILL NOT ARM (TASK 2-5-2) - OH-58D(R)



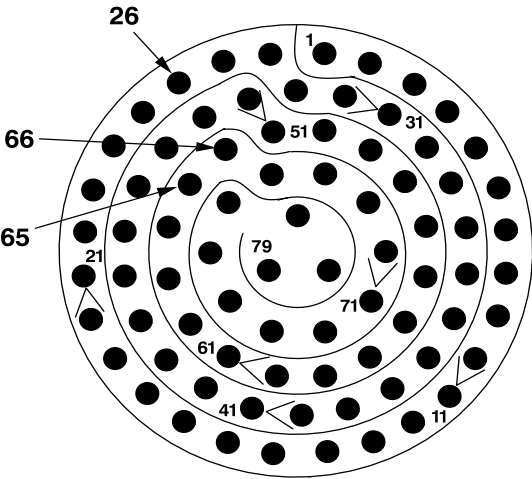
406475-542-484
J1493

4-10-14. WEAPON WILL NOT ARM (TASK 2-5-2) - OH-58D(R) (CONT)

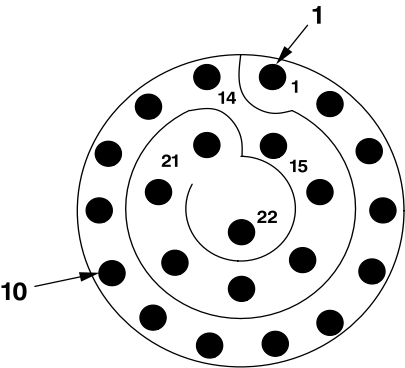


406475-542-485
J1493

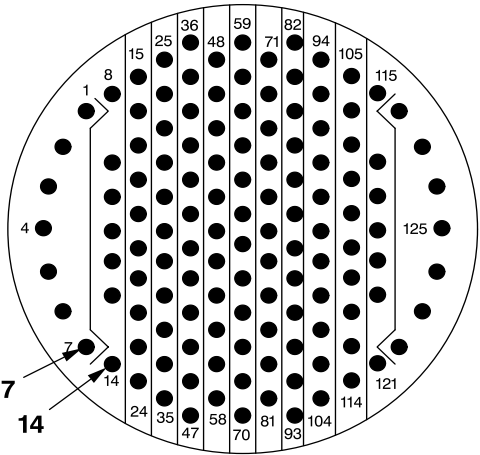
4-10-14. WEAPON WILL NOT ARM (TASK 2-5-2) - OH-58D(R) (CONT)



21A12P1

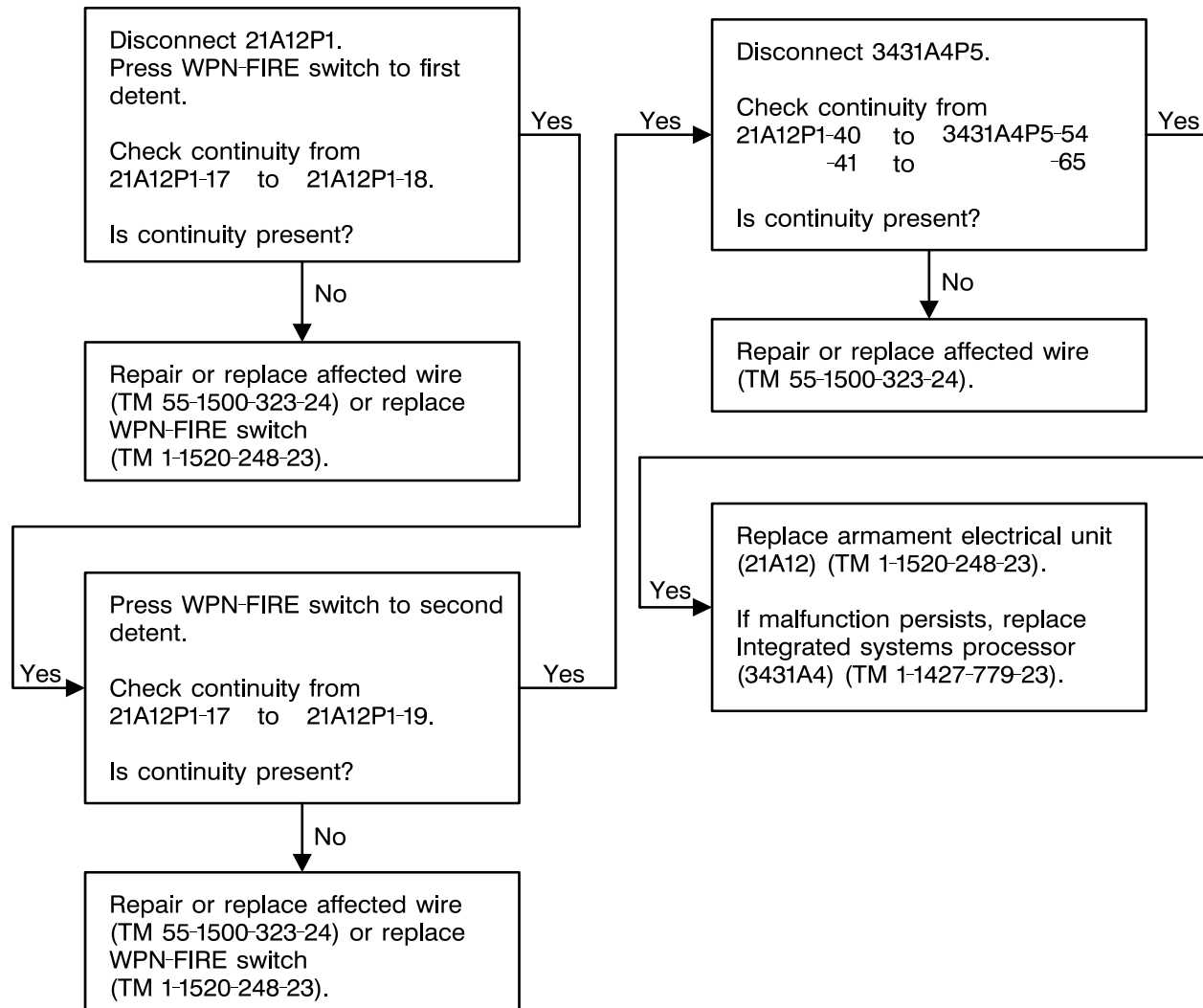


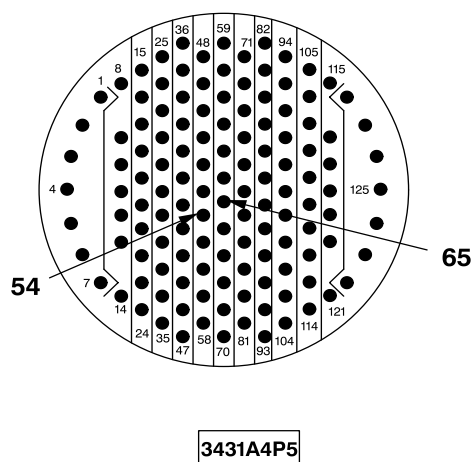
21A1P2



3431A2P20

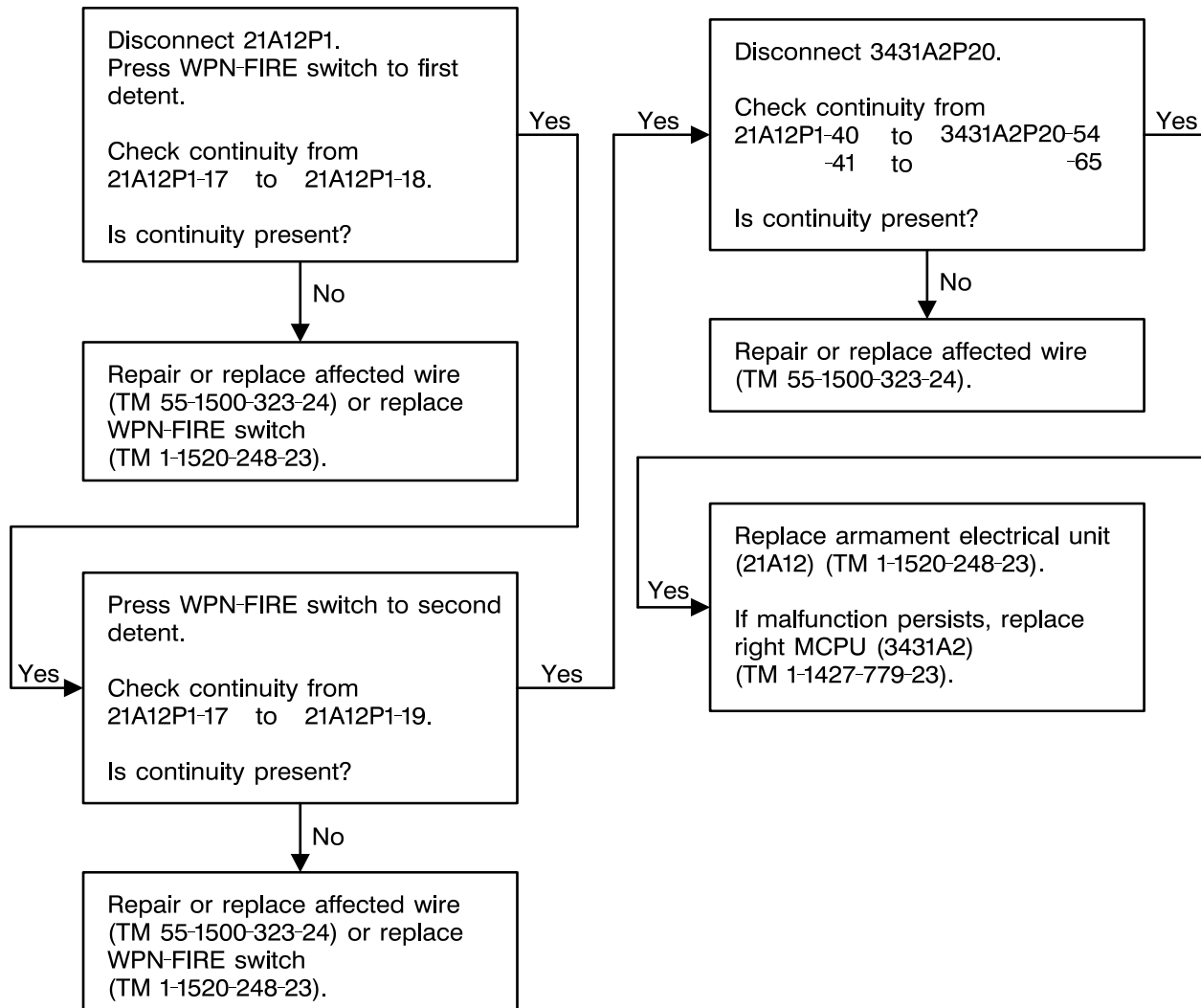
4-10-15. WEAPON WILL NOT FIRE (TASK 2-5-1) - OH-58D

406475-542-488
J1493

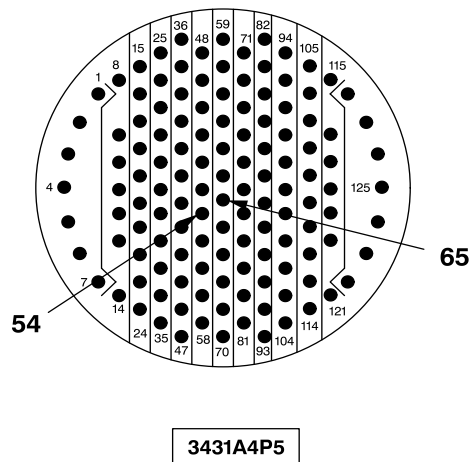
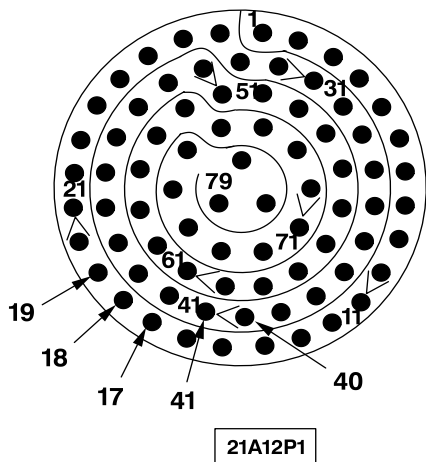
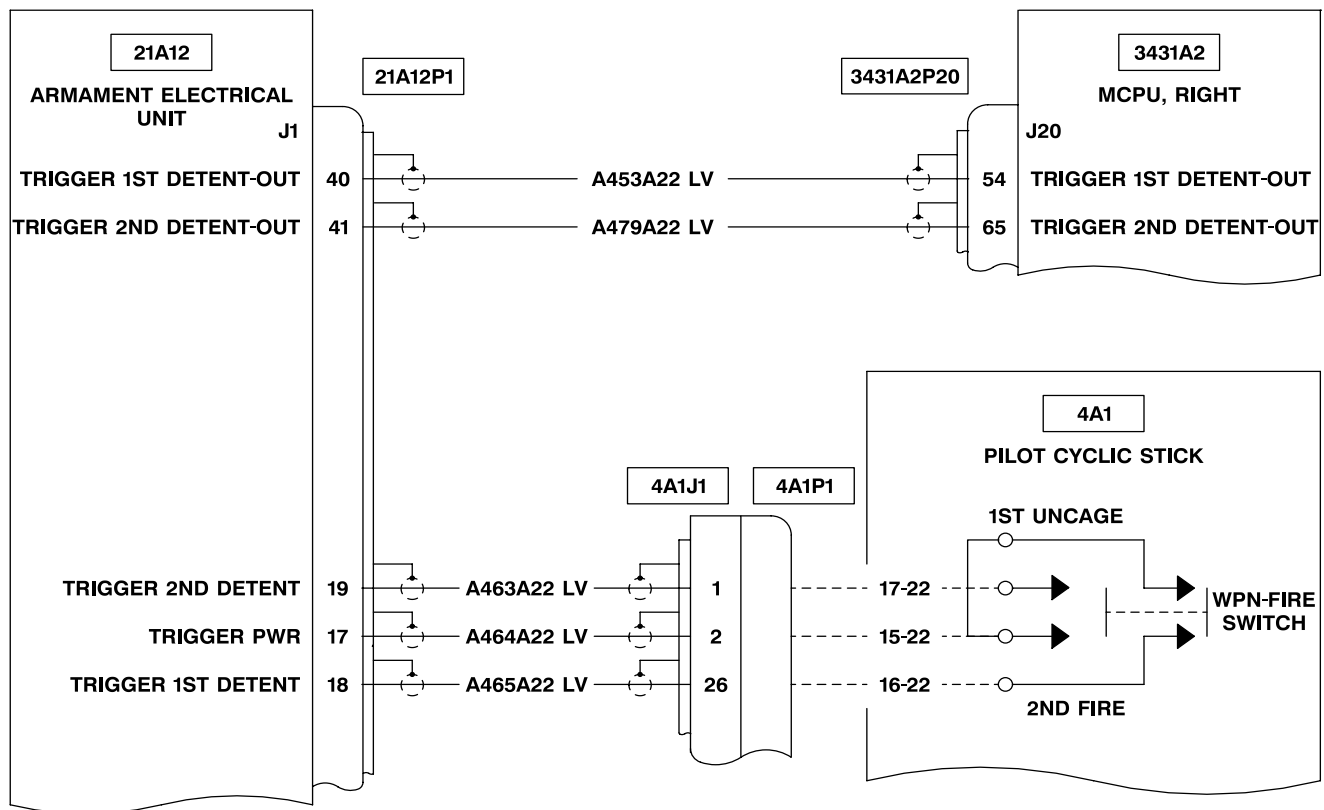


Change 2

4-10-16. WEAPON WILL NOT FIRE (TASK 2-5-2) - OH-58D(R)

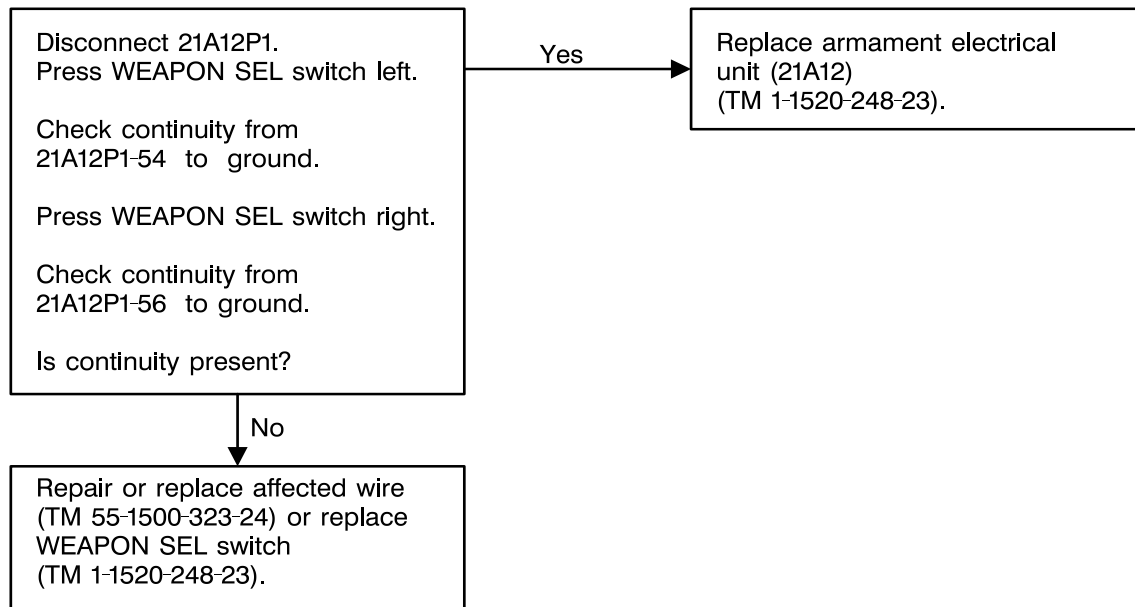
406475-542-489
J1493

4-10-16. WEAPON WILL NOT FIRE (TASK 2-5-2) - OH-58D(R) (CONT)

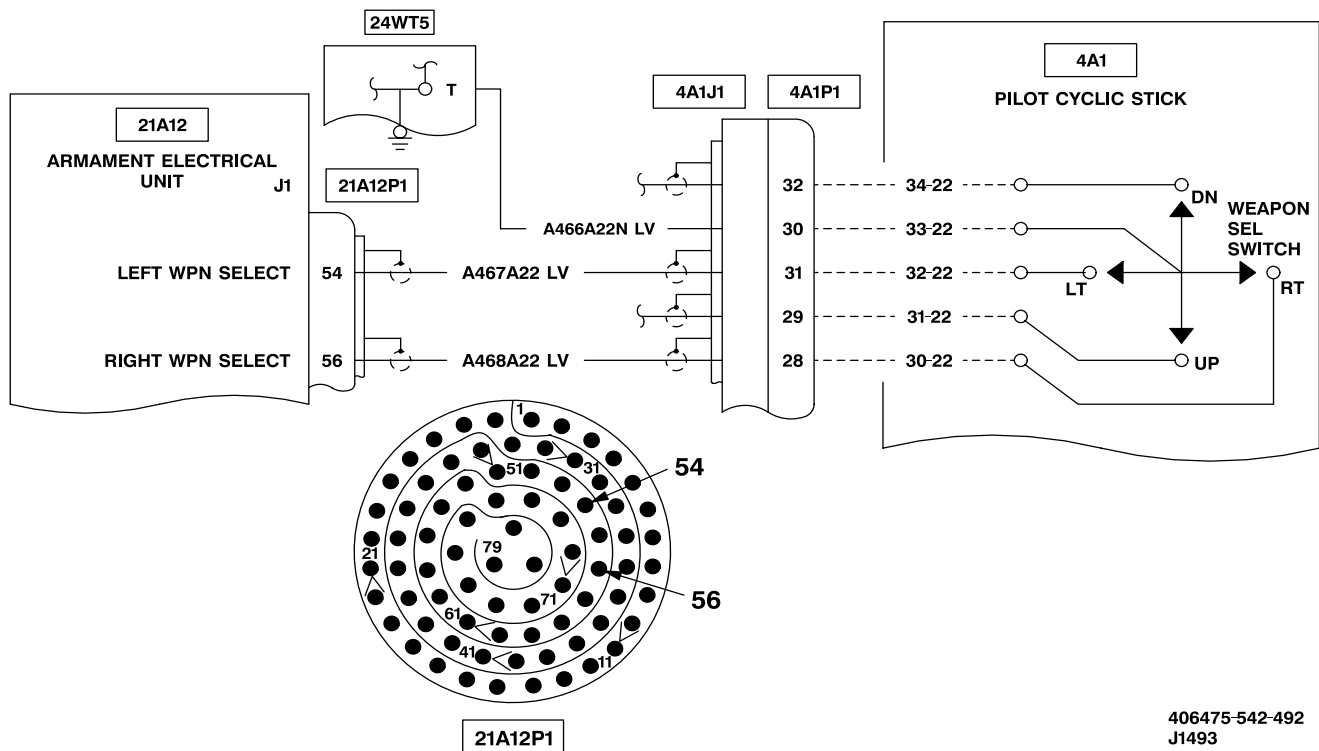


406475-542-490
J1493

4-10-17. CANNOT SELECT INSTALLED WEAPON (TASK 2-5-1/2-5-2)

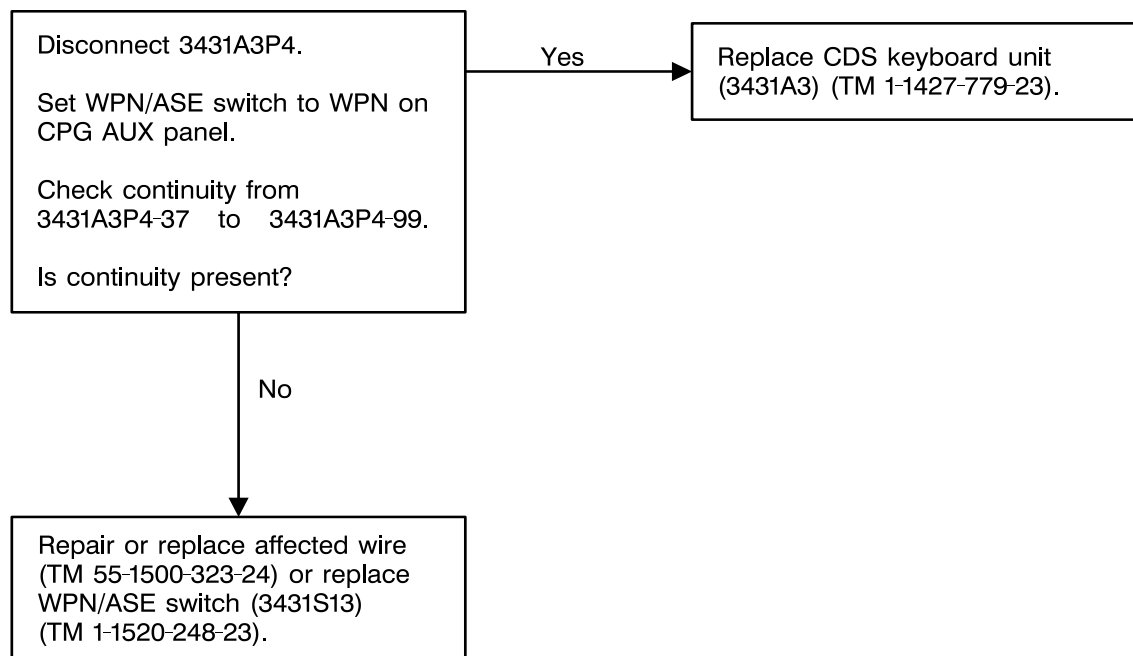


406475-542-491
J1493



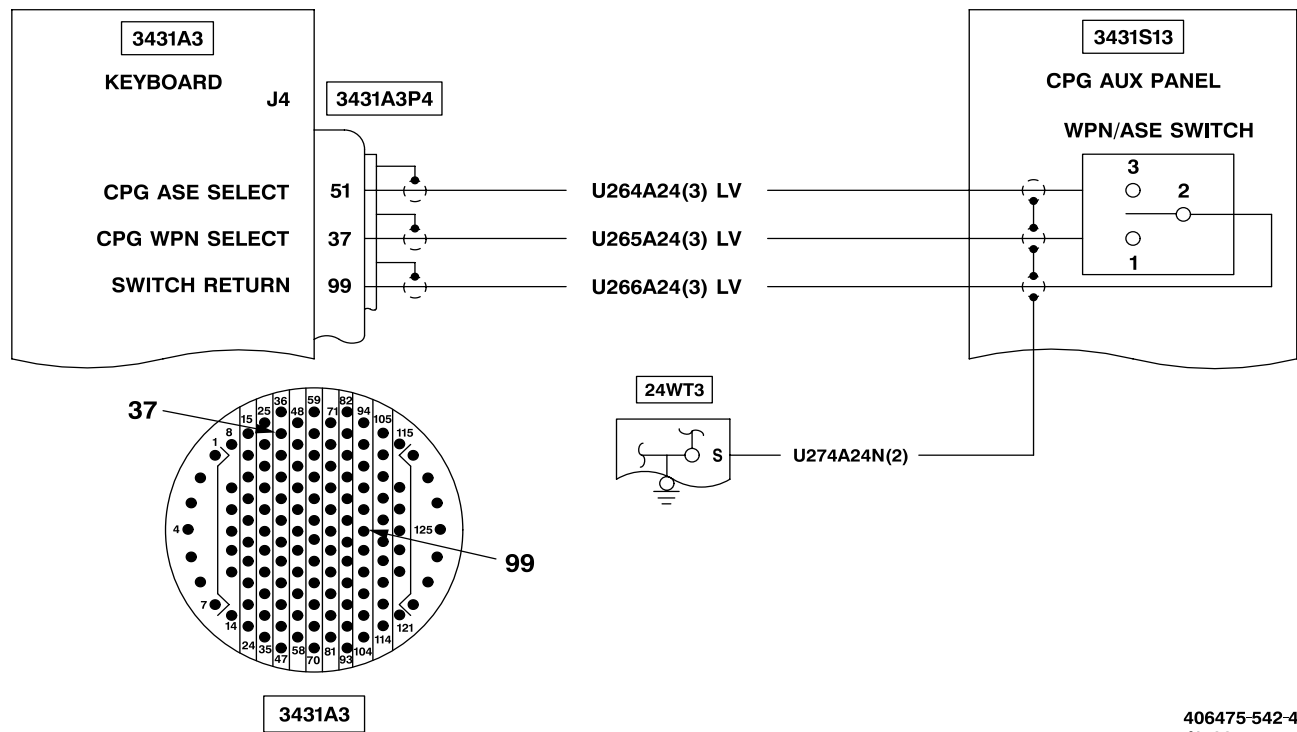
406475-542-492
J1493

4-10-18. CANNOT ACCESS WEAPONS PAGE ON CPG MFD (TASK 2-5-1/2-5-2)



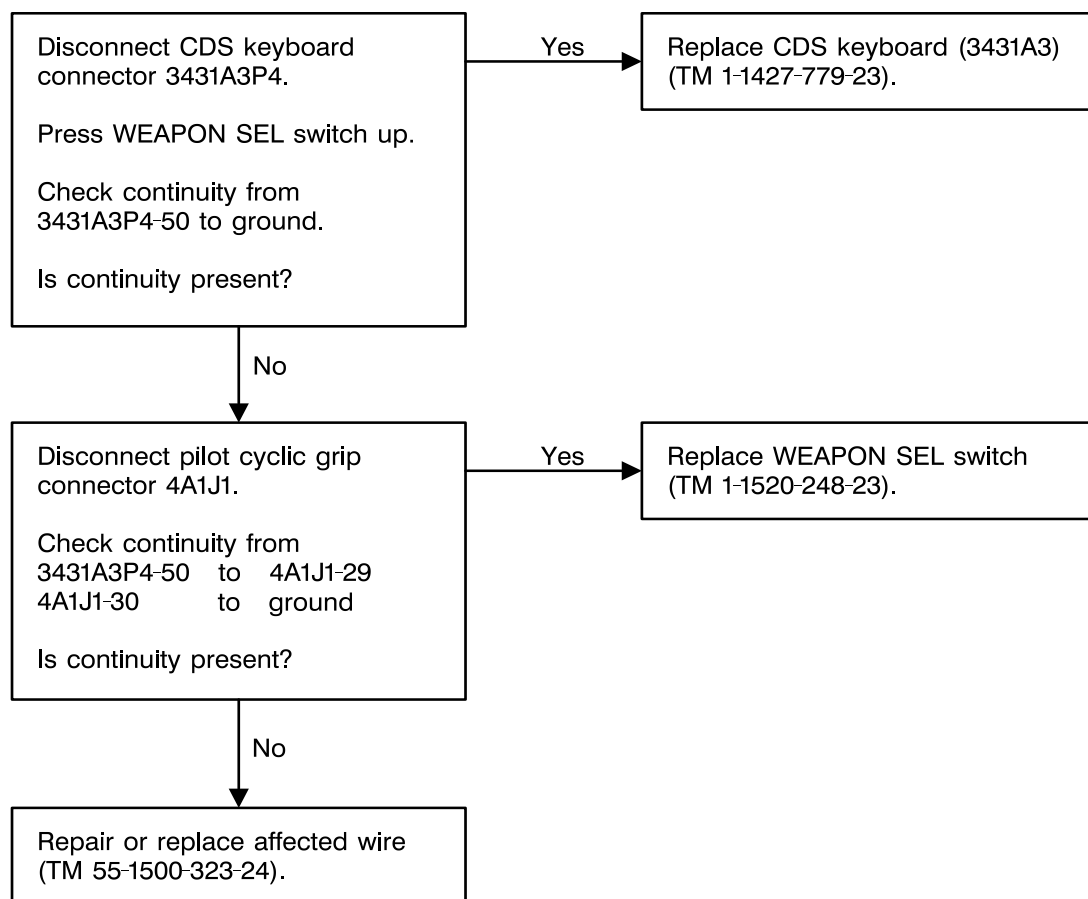
406475-542-493
J1493

4-10-18. CANNOT ACCESS WEAPONS PAGE ON CPG MFD (TASK 2-5-1/2-5-2) (CONT)



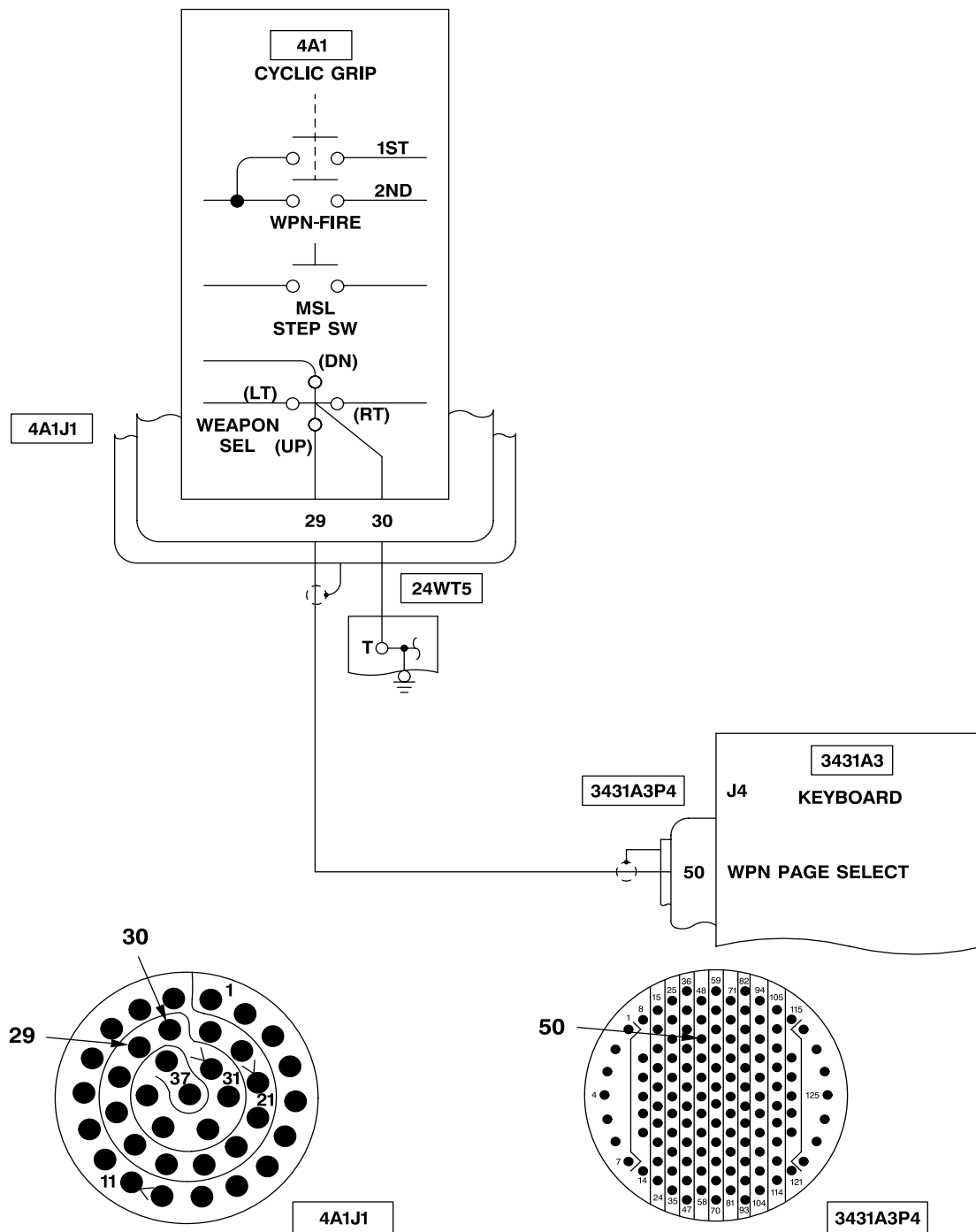
406475-542-494
J1493

4-10-19. CANNOT ACCESS WEAPONS PAGE ON PILOT MFD (TASK 2-5-1/2-5-2)



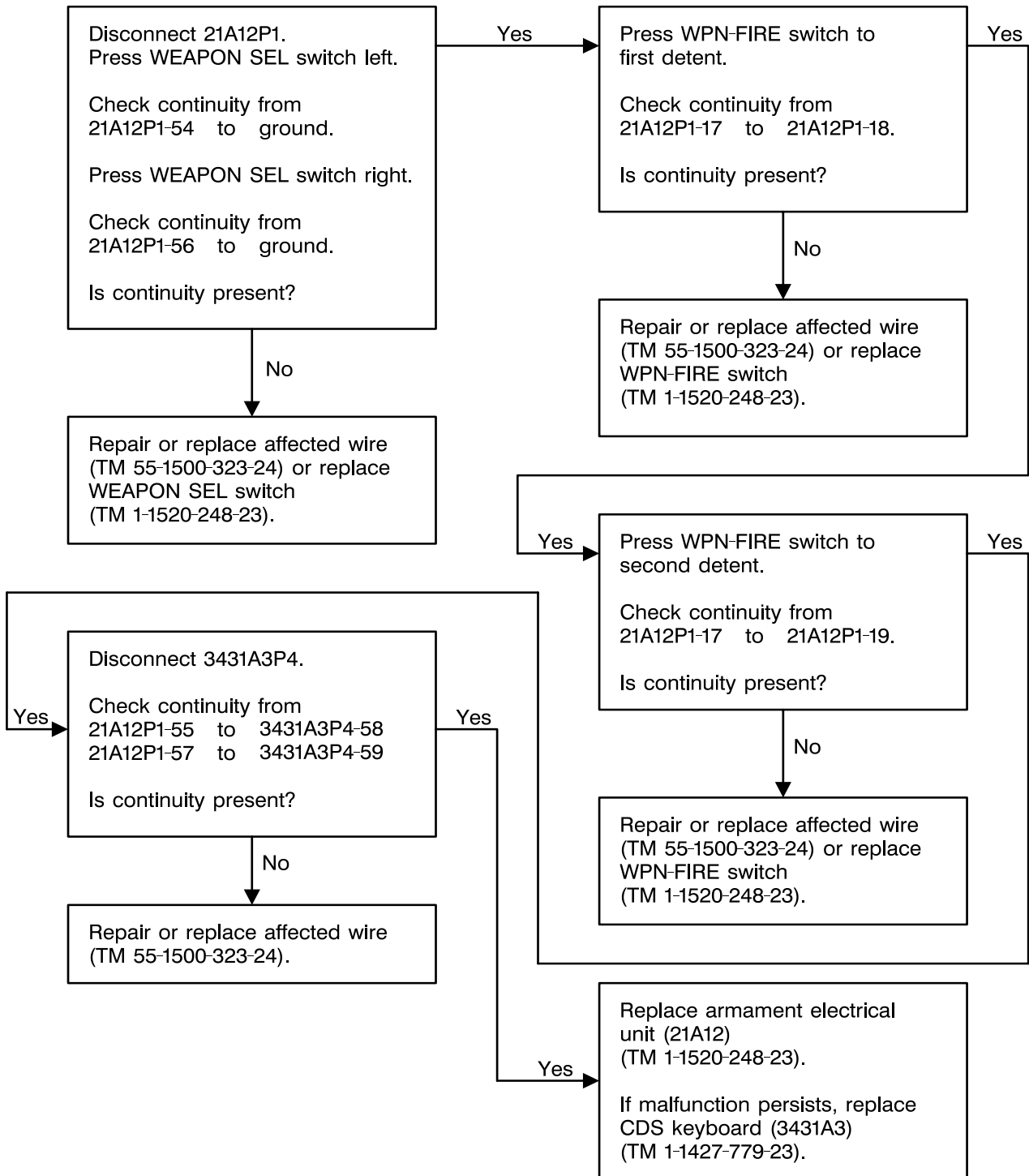
406475-542-495
J1493

4-10-19. CANNOT ACCESS WEAPONS PAGE ON PILOT MFD (TASK 2-5-1/2-5-2) (CONT)

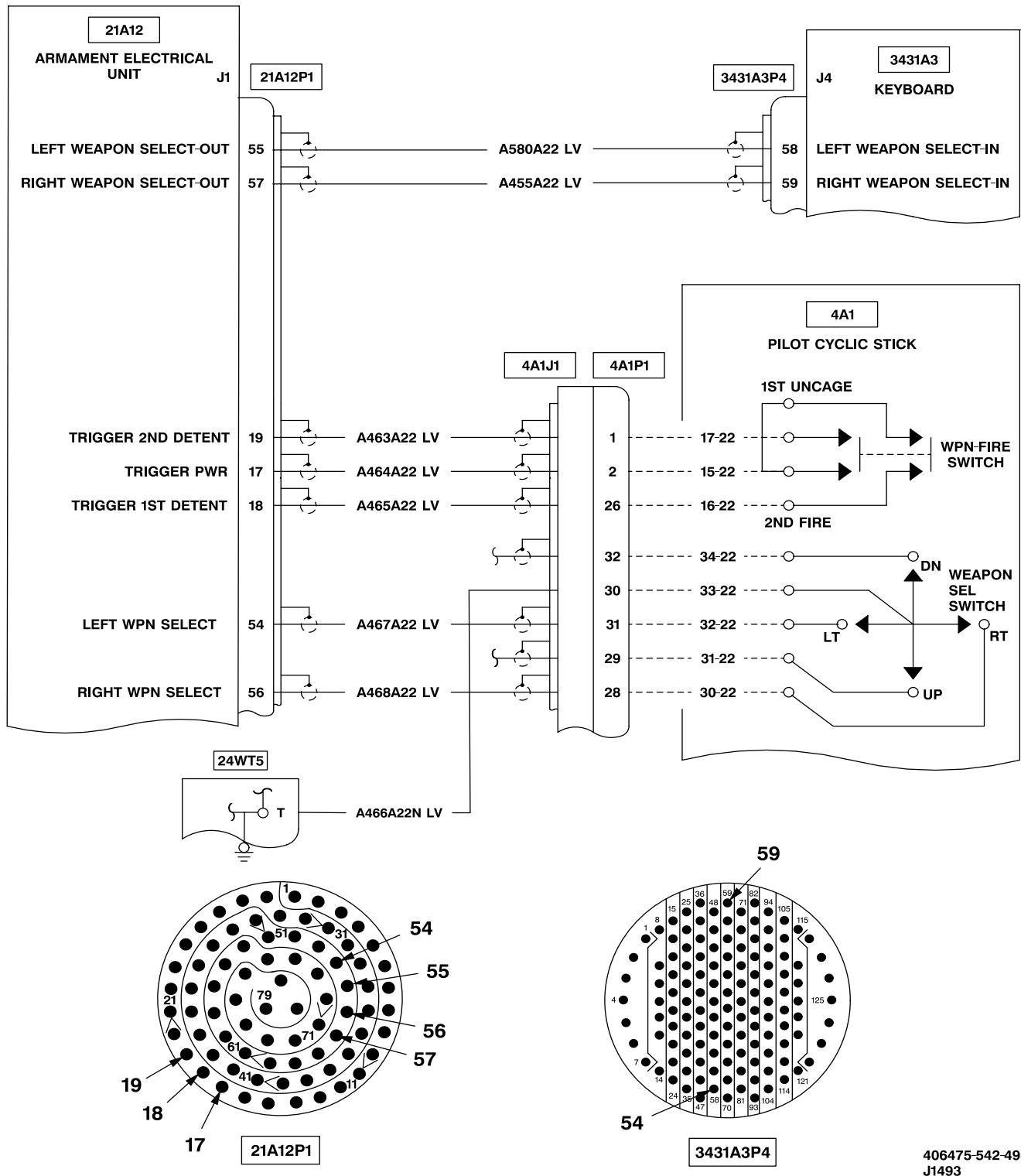


406475-542-496
J1493

4-10-20. CANNOT ACCESS ANY WEAPONS VSD OR SPARSE VSD PAGE (TASK 2-5-1/2-5-2)

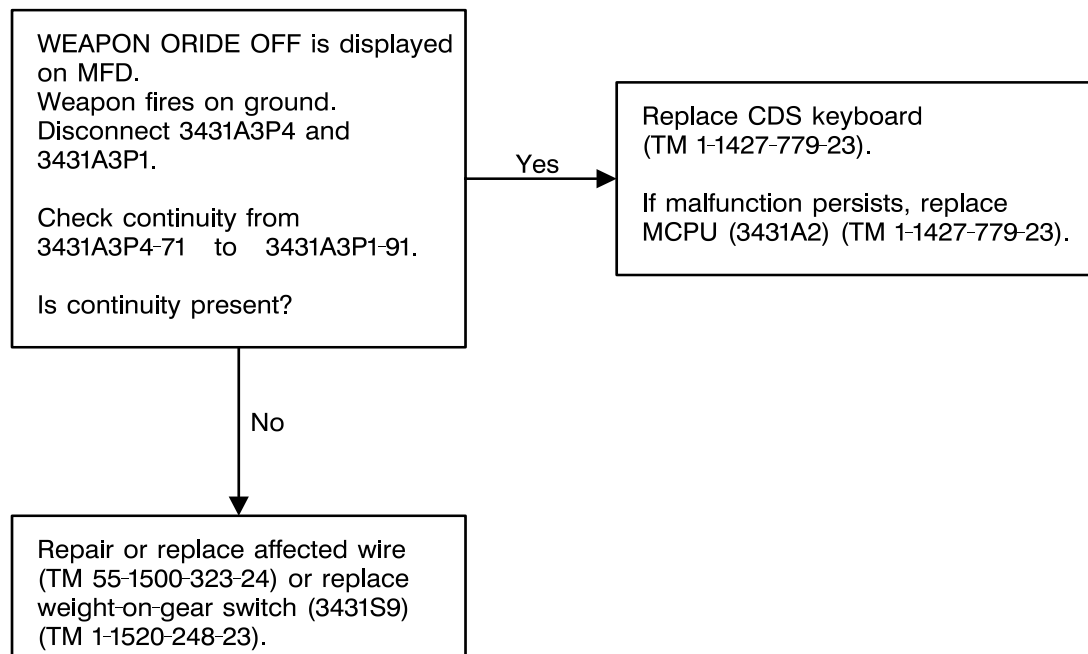
406475-542-497
J1493

4-10-20. CANNOT ACCESS ANY WEAPONS VSD OR SPARSE VSD PAGE (TASK 2-5-1/2-5-2)
(CONT)



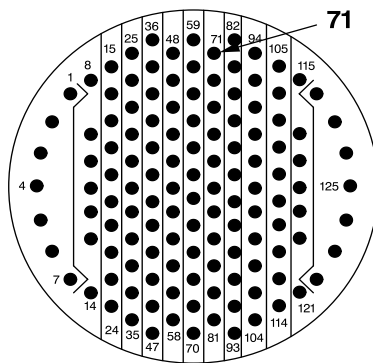
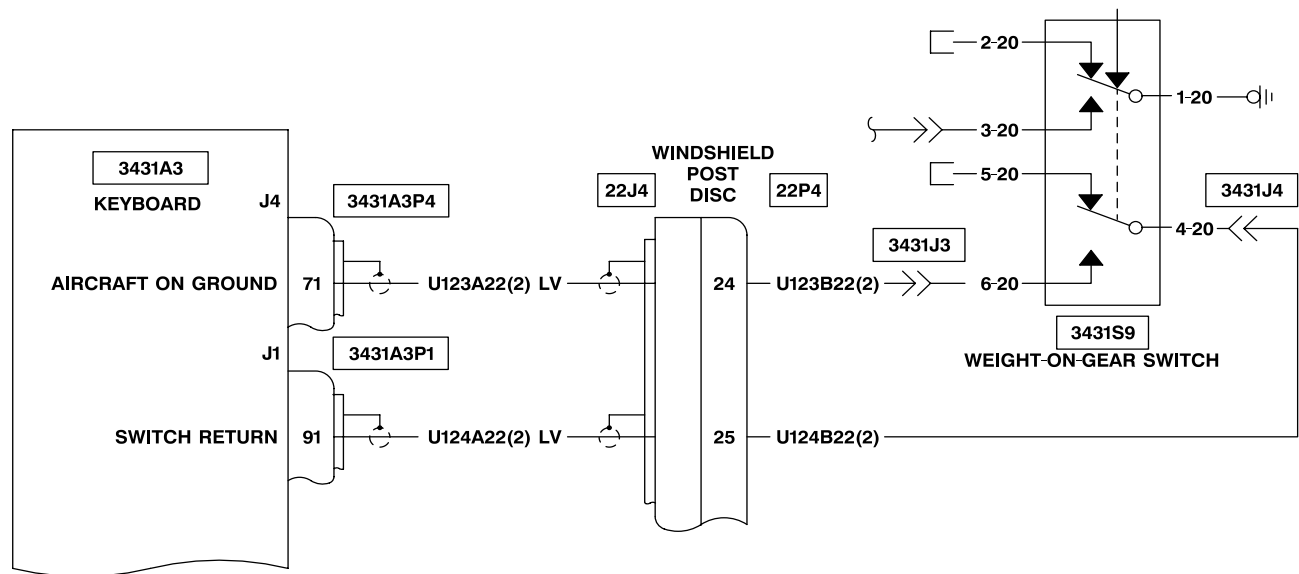
406475-542-498
J1493

4-10-21. WEAPON FIRES ON THE GROUND (WITHOUT WEAPON OVERRIDE SELECTED ON) (TASK 2-5-1/2-5-2)

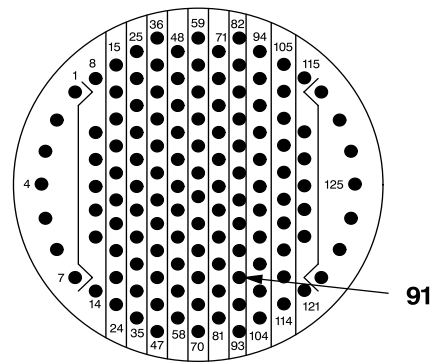


406475-542-499
J1493

4-10-21. WEAPON FIRES ON THE GROUND (WITHOUT WEAPON OVERRIDE SELECTED ON) (TASK 2-5-1/2-5-2) (CONT)



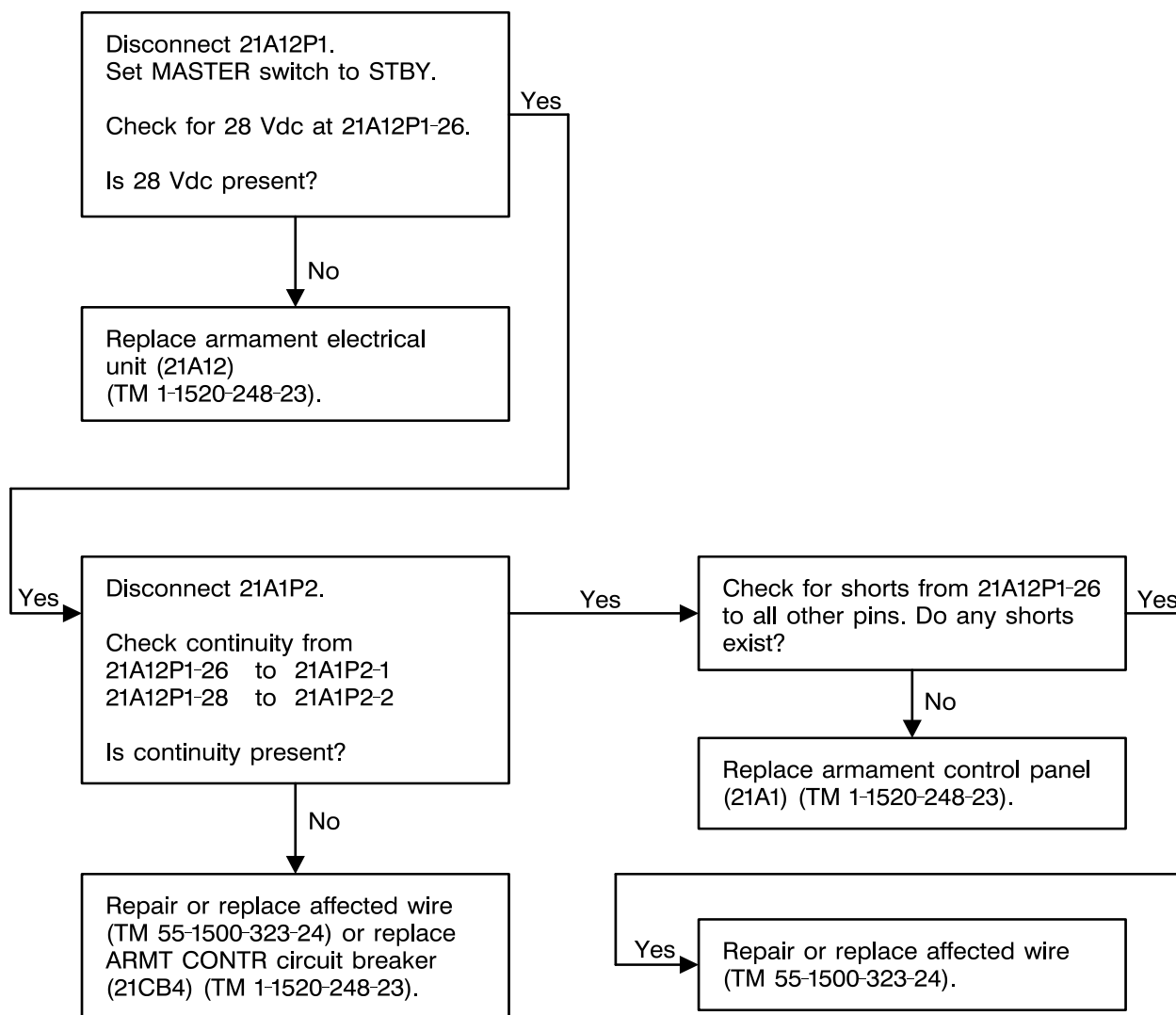
3431A3P4



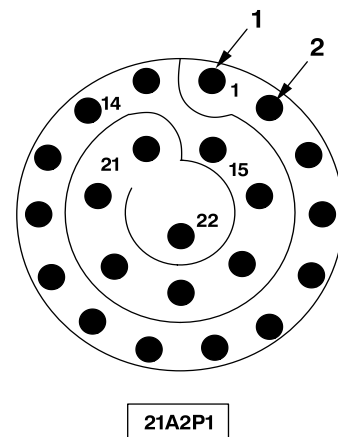
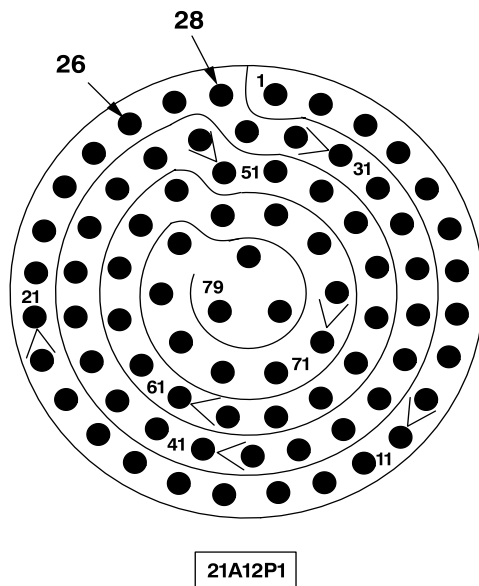
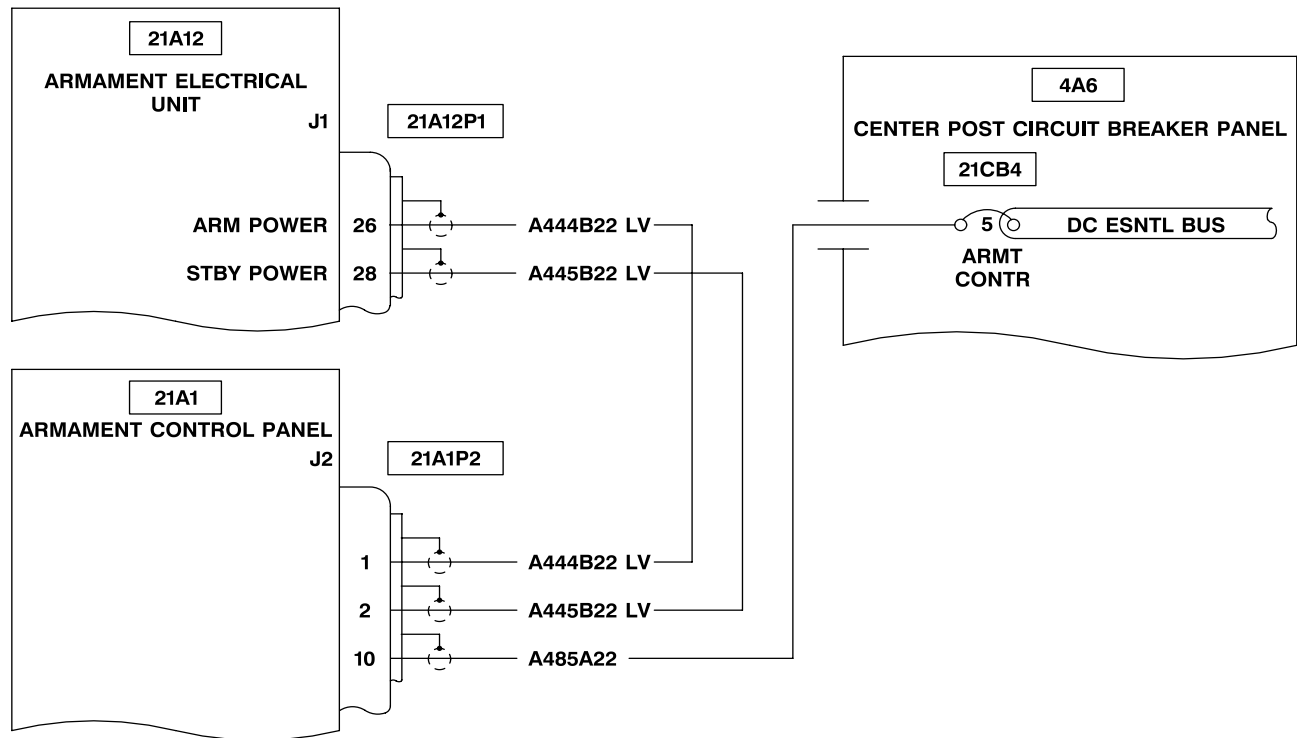
3431A3P1

406475-542-500
J1493

4-10-22. WEAPONS FIRE WITH MASTER SWITCH IN STBY POSITION (TASK 2-5-1/2-5-2)

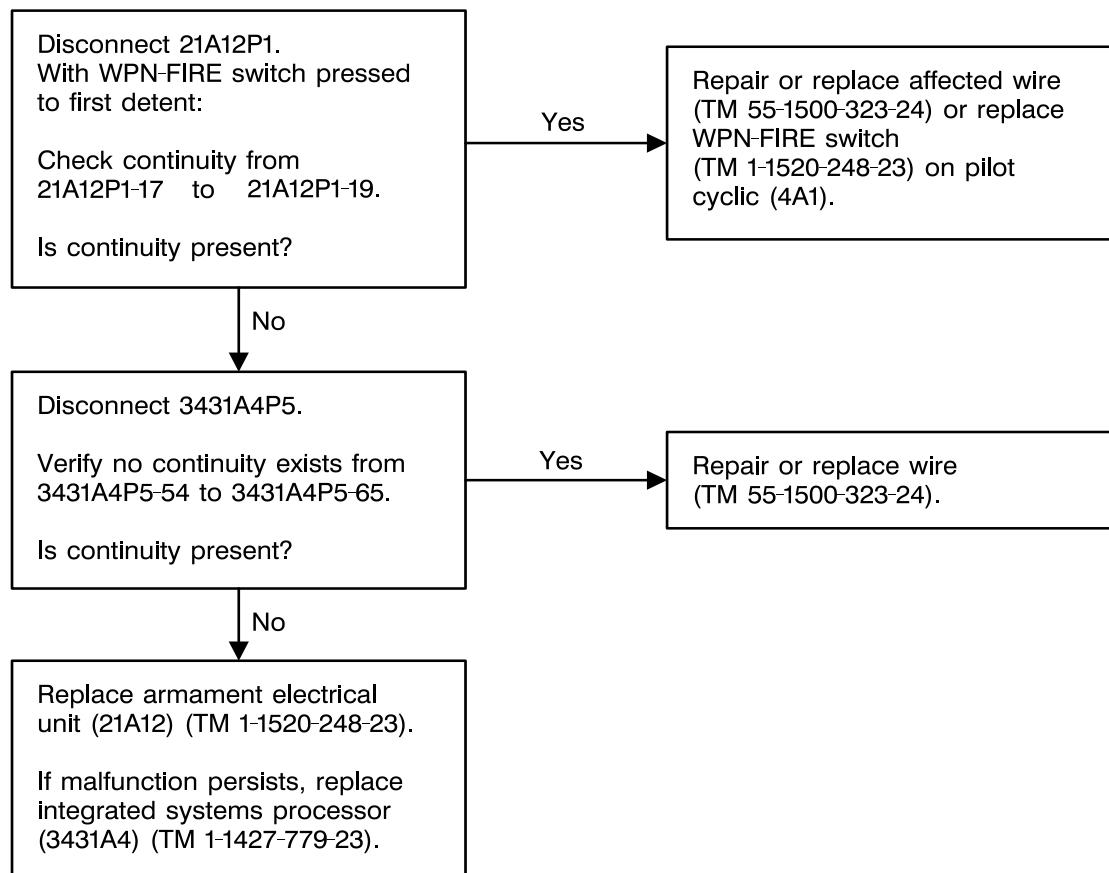
406475-542-501
J1493

4-10-22. WEAPONS FIRE WITH MASTER SWITCH IN STBY POSITION (TASK 2-5-1/2-5-2) (CONT)



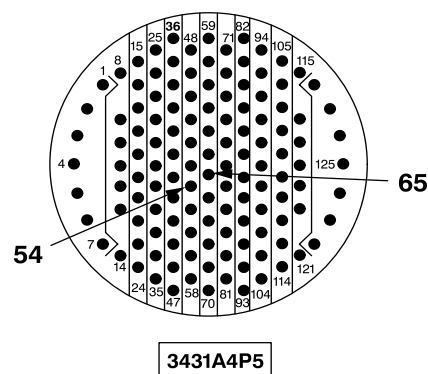
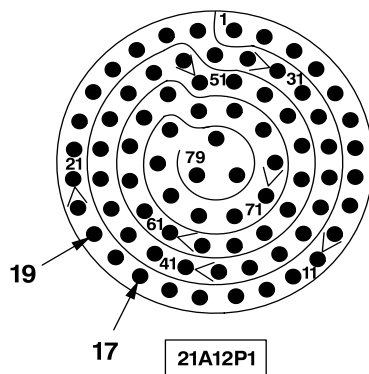
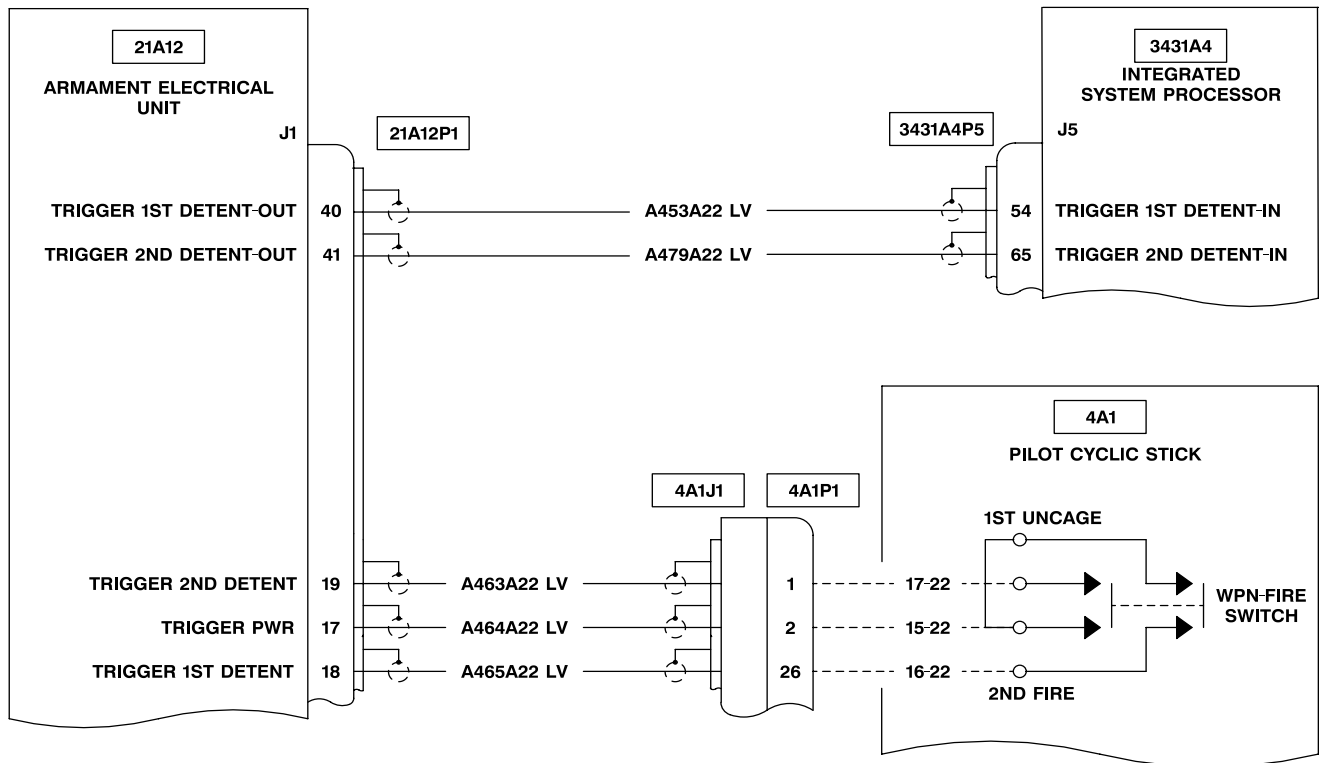
406475-542-502
J1493

4-10-23. ALL WEAPONS FIRE WITH WPN-FIRE SWITCH PRESSED TO FIRST DETENT (TASK 2-5-1)
- OH-58D



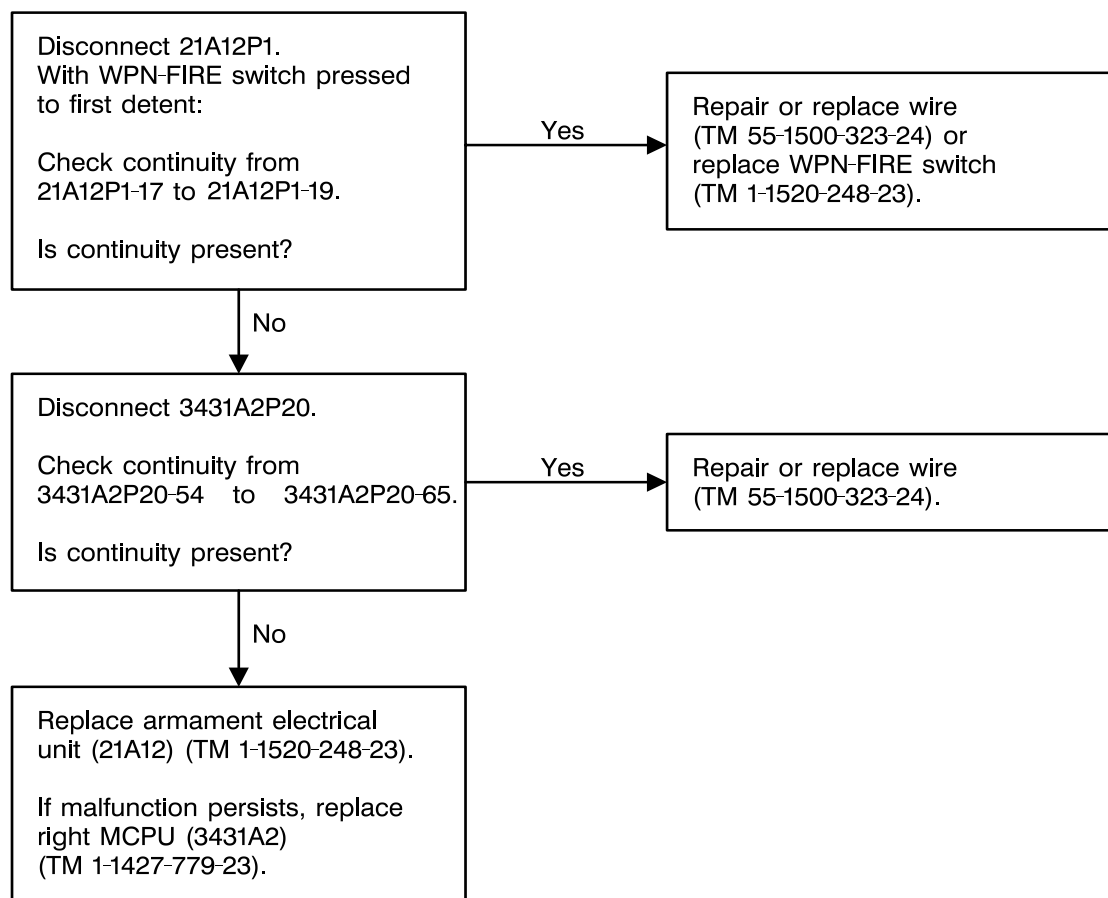
406475-542-503
J1493

4-10-23. ALL WEAPONS FIRE WITH WPN-FIRE SWITCH PRESSED TO FIRST DETENT (TASK 2-5-1)
- OH-58D (CONT)



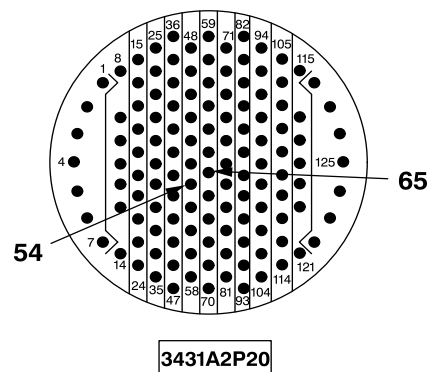
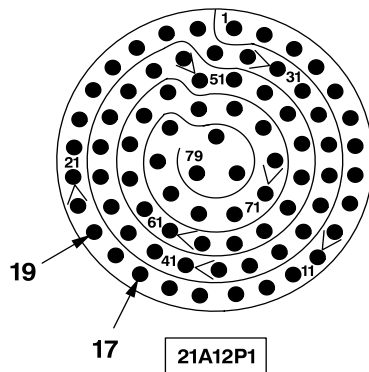
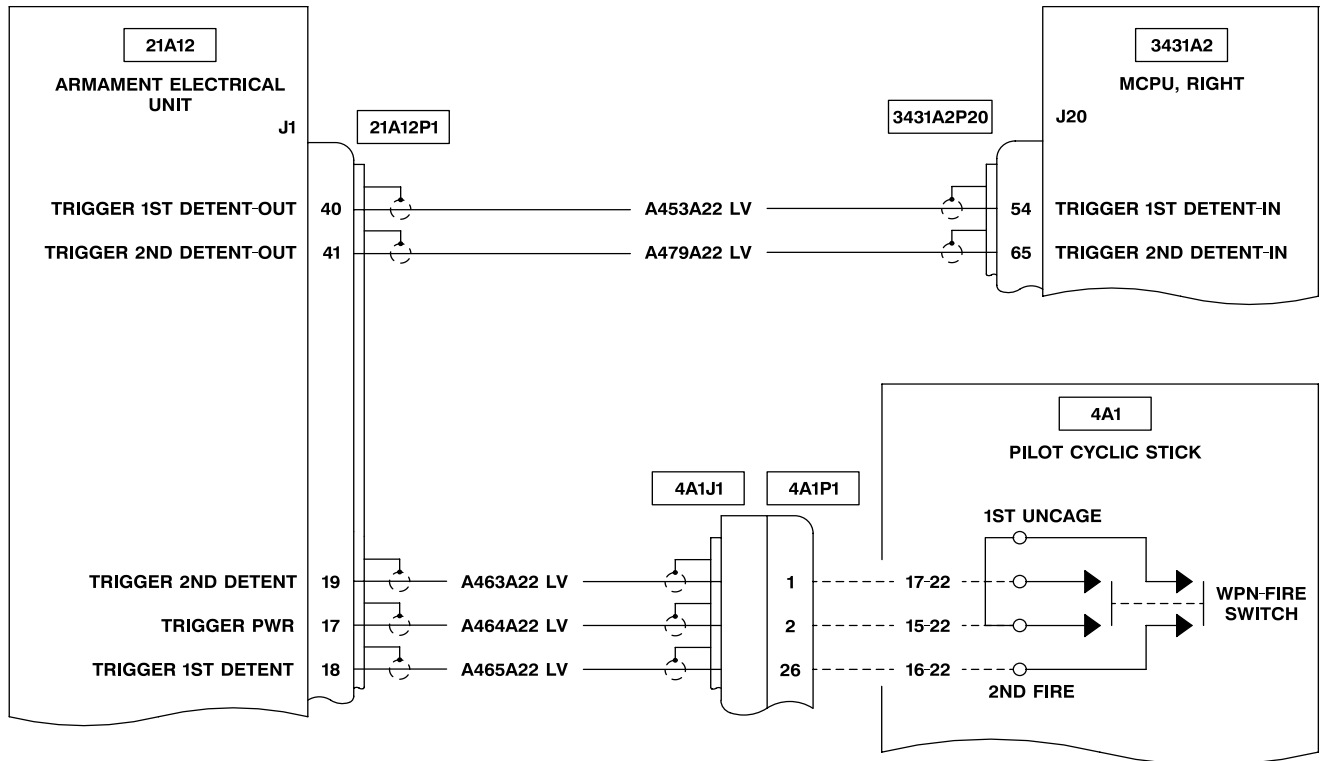
406475-542-504
J1493

4-10-24. ALL WEAPONS FIRE WITH WPN-FIRE SWITCH PRESSED TO FIRST DETENT (TASK 2-5-2)
- OH-58D(R)



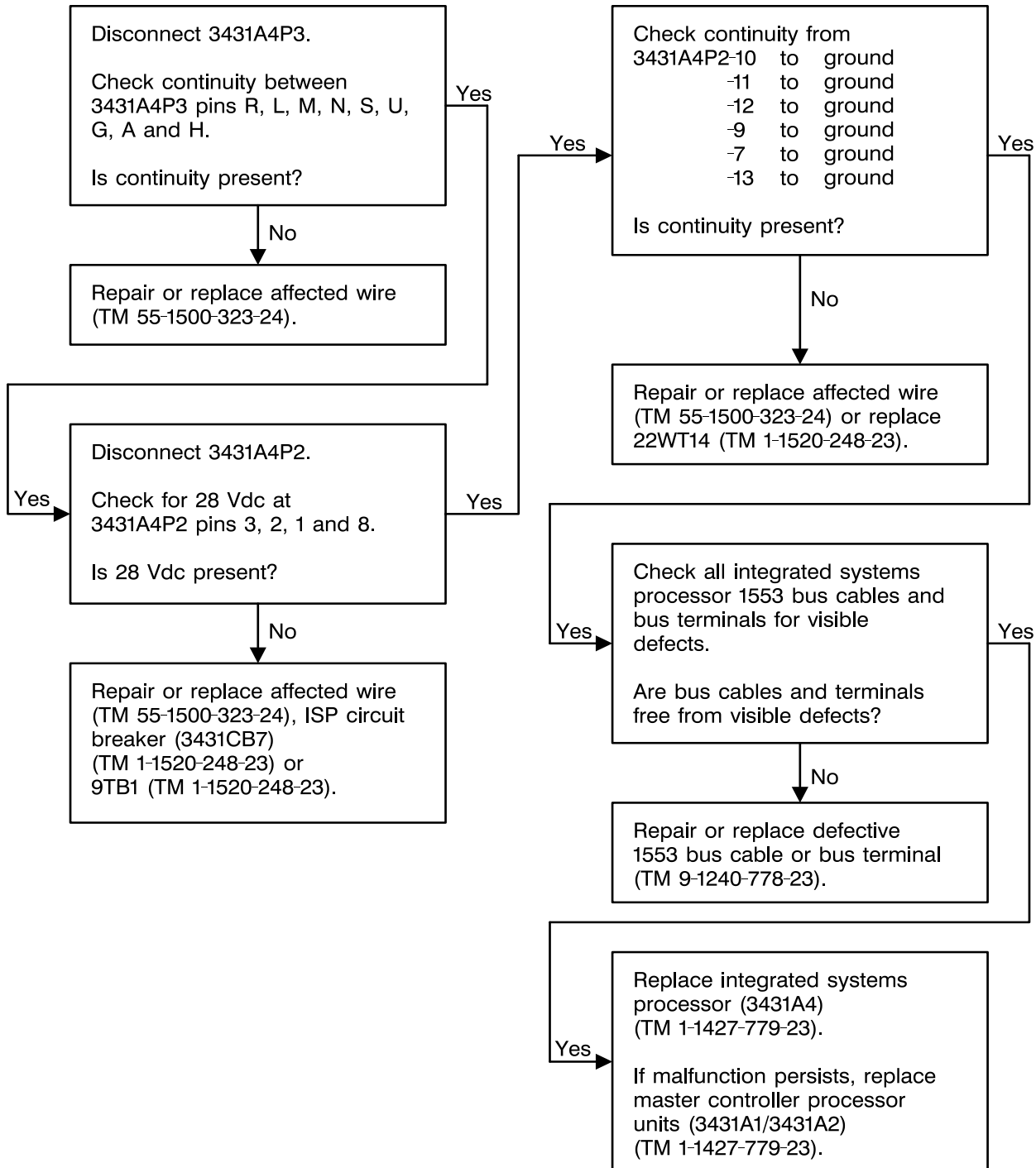
406475-542-505
J1493

4-10-24. ALL WEAPONS FIRE WITH WPN-FIRE SWITCH PRESSED TO FIRST DETENT (TASK 2-5-2)
- OH-58D(R) (CONT)



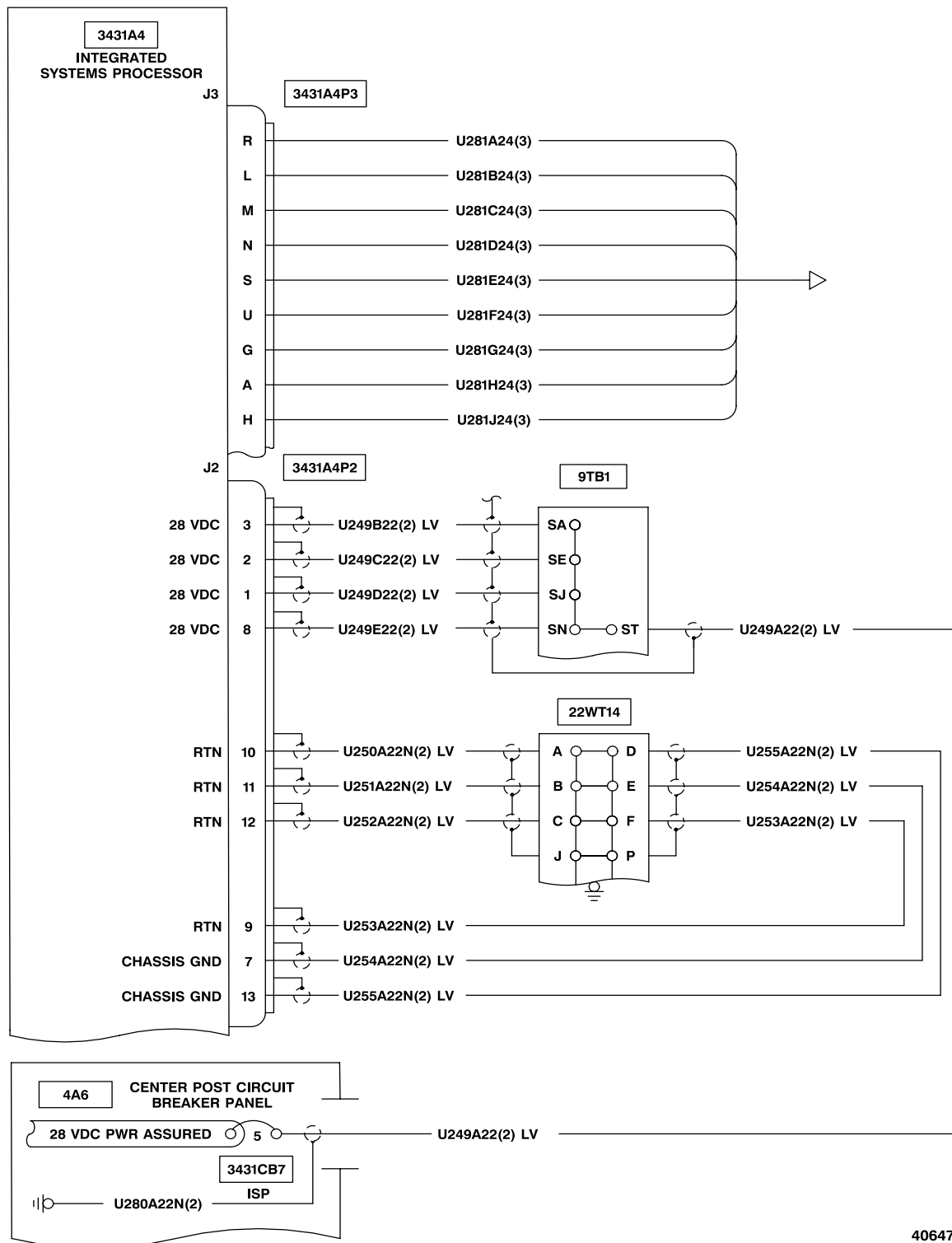
406475-542-506
J1493

4-10-25. MFD DOES NOT RESPOND TO WEAPONS WITH **ISP NO GO** DISPLAYED ON MUX BUS STATUS PAGE (TASK 2-5-1) - OH-58D



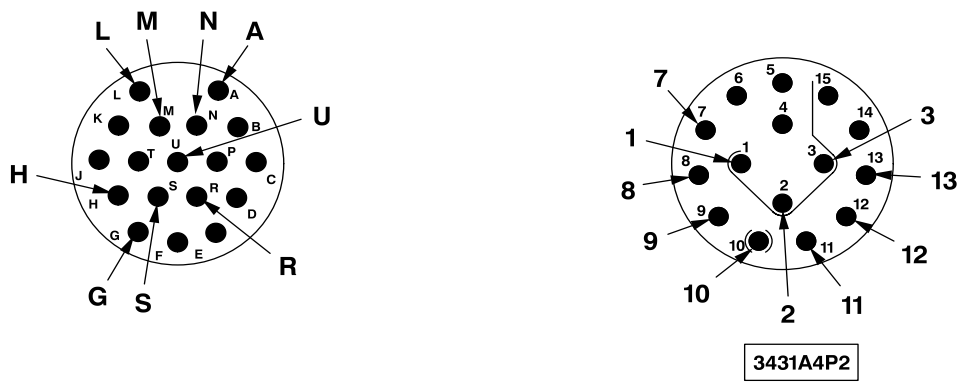
406475-542-507
J1493

4-10-25. MFD DOES NOT RESPOND TO WEAPONS WITH **ISP NO GO** DISPLAYED ON MUX BUS STATUS PAGE (TASK 2-5-1) - OH-58D (CONT)



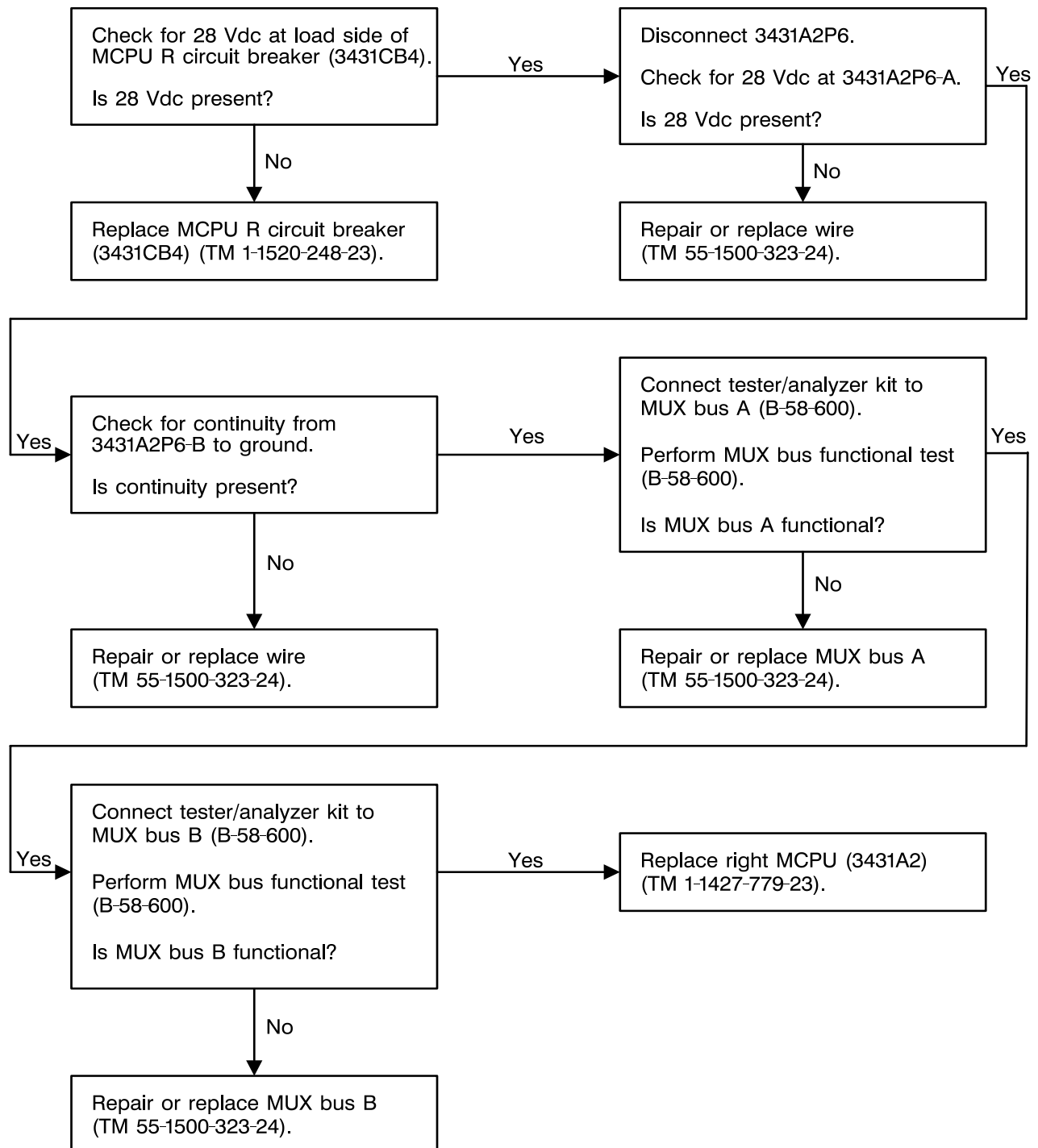
406475-542-508
J1493

4-10-25. MFD DOES NOT RESPOND TO WEAPONS WITH **ISP NO GO** DISPLAYED ON MUX BUS STATUS PAGE (TASK 2-5-1) - OH-58D (CONT)



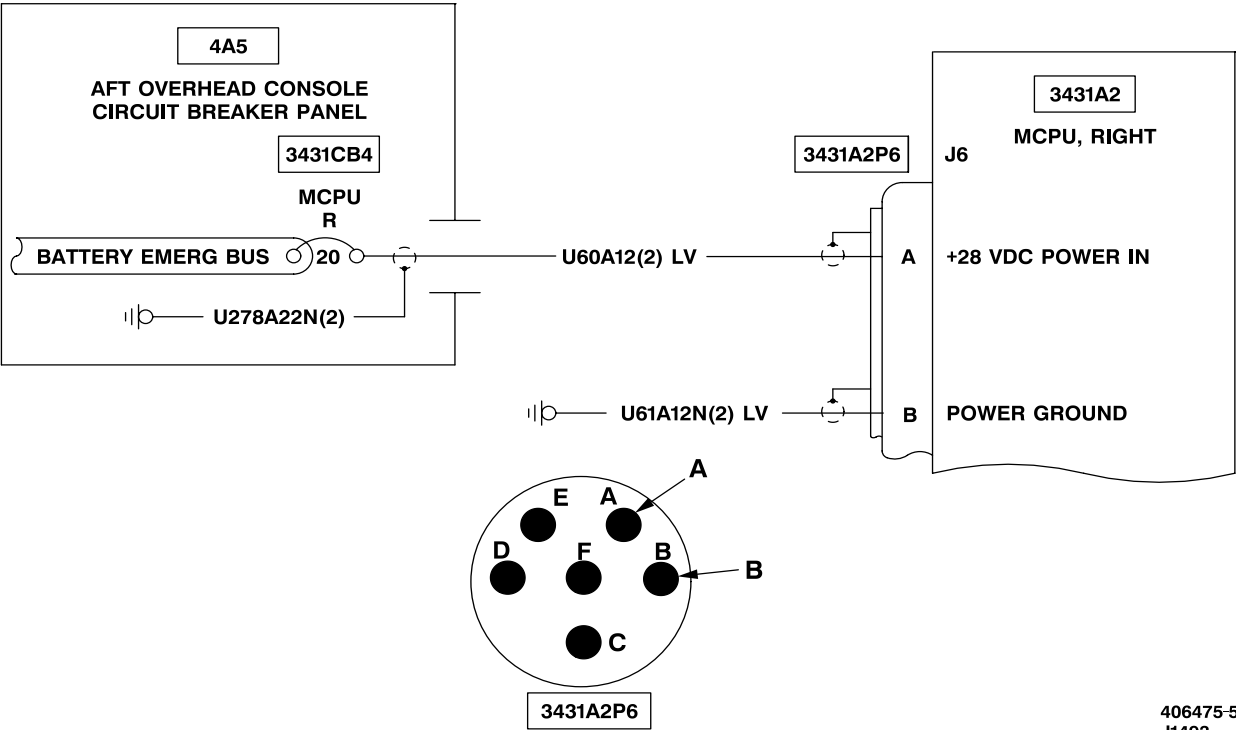
406475-542-509
J1493

4-10-26. MFD DOES NOT RESPOND TO WEAPONS WITH **R MCPU NO GO** DISPLAYED ON MUX BUS STATUS PAGE (TASK 2-5-2) - OH-58D(R)



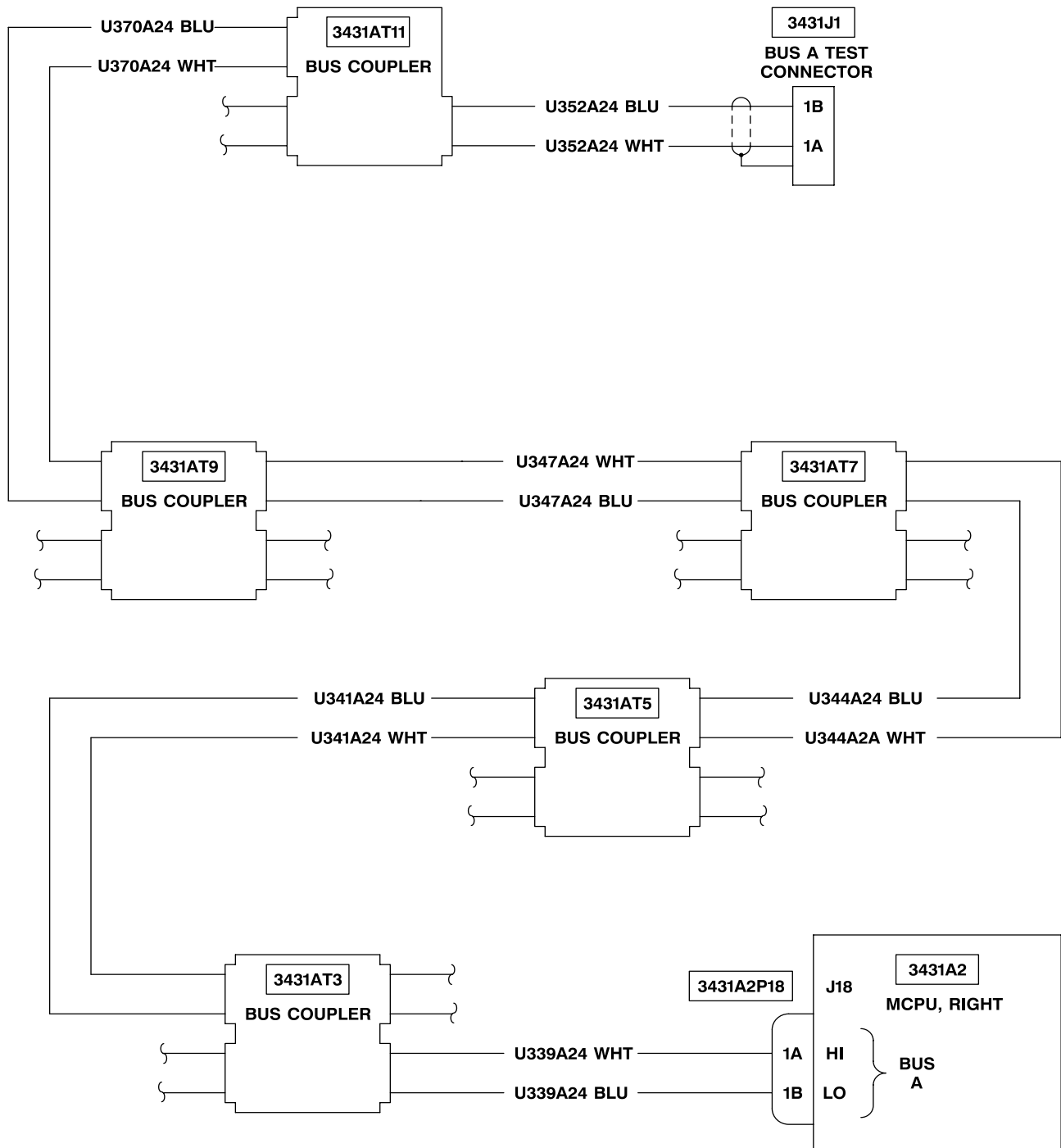
406475-542-510
J1493

4-10-26. MFD DOES NOT RESPOND TO WEAPONS WITH R MCPU NO GO DISPLAYED ON MUX
BUS STATUS PAGE (TASK 2-5-2) - OH-58D(R) (CONT)



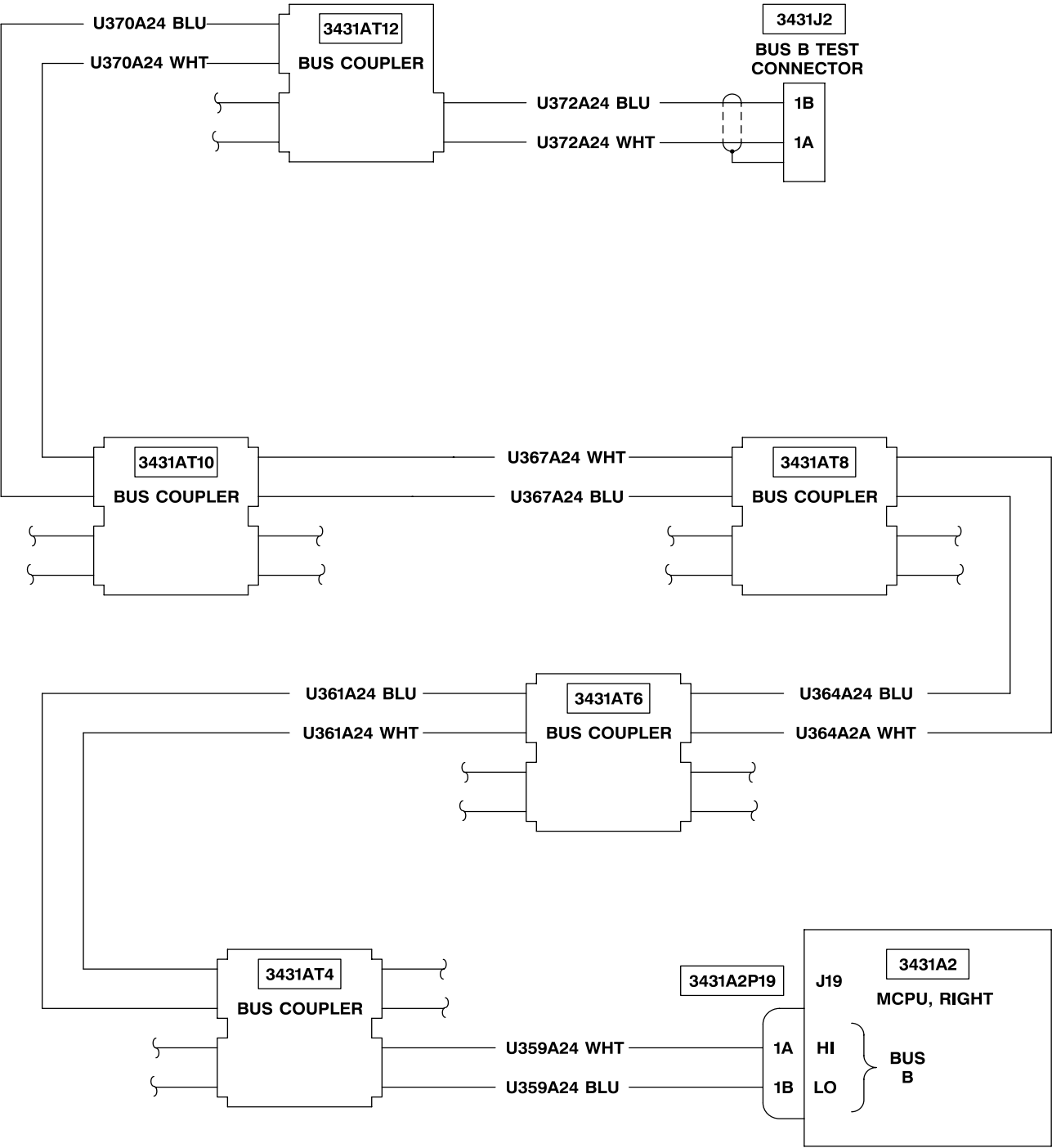
406475-542-511
J1493

4-10-26. MFD DOES NOT RESPOND TO WEAPONS WITH **R MCPU NO GO** DISPLAYED ON MUX
BUS STATUS PAGE (TASK 2-5-2) - OH-58D(R) (CONT)



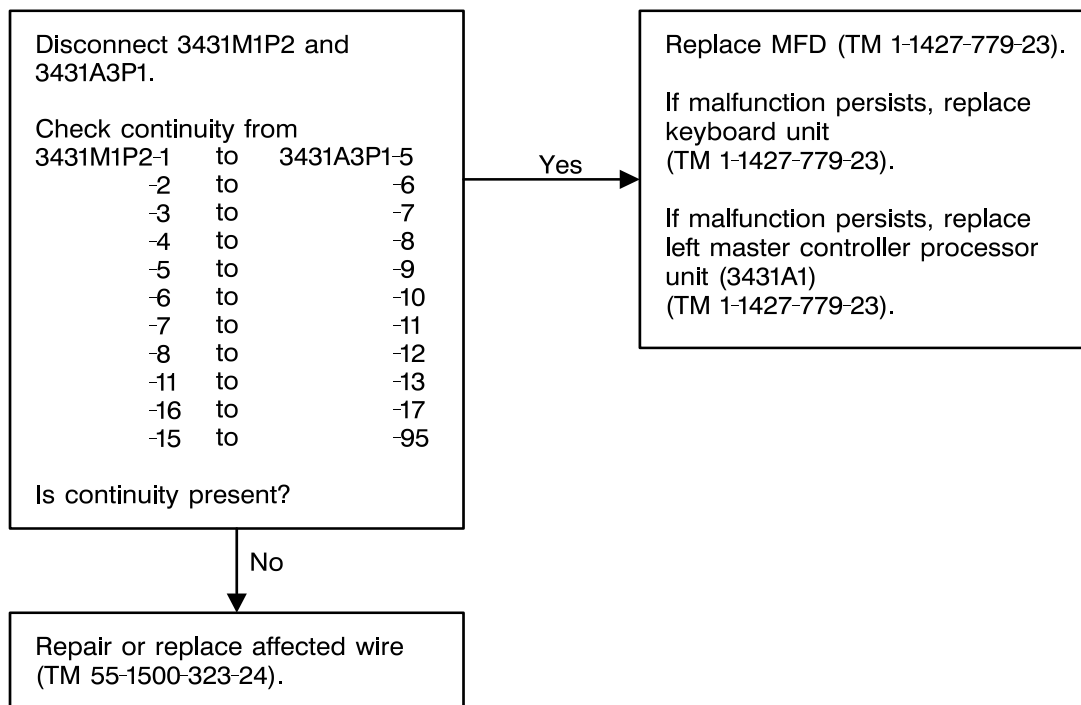
406475-542-512
J1493

4-10-26. MFD DOES NOT RESPOND TO WEAPONS WITH R MCPU NO GO DISPLAYED ON MUX
BUS STATUS PAGE (TASK 2-5-2) - OH-58D(R) (CONT)

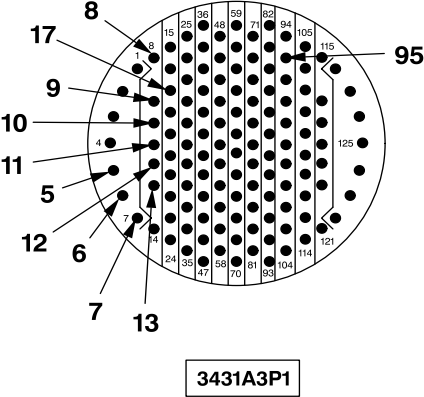
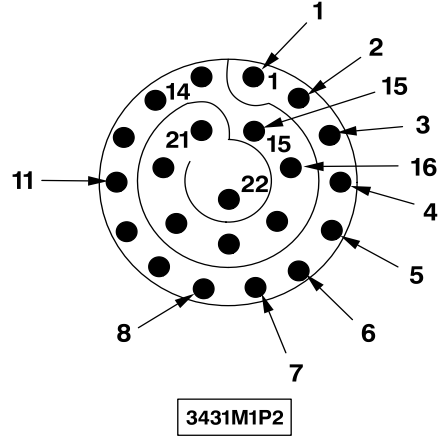
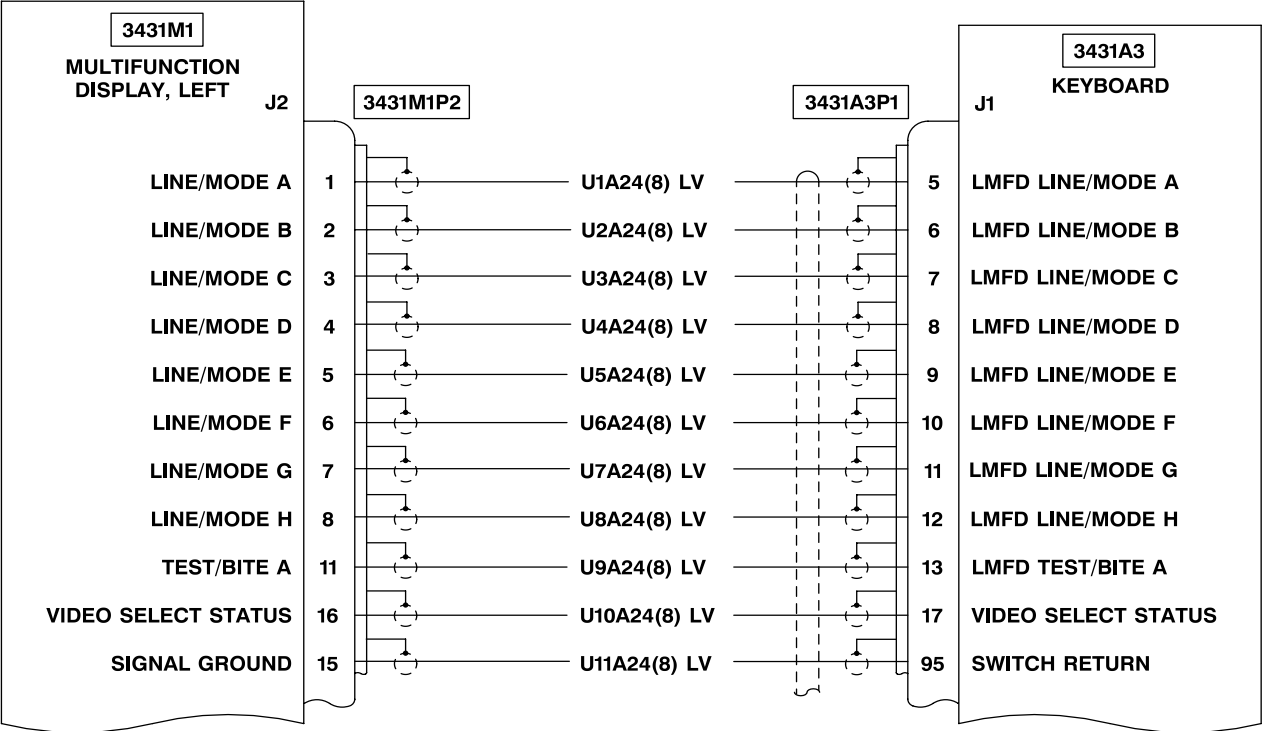


406475-542-513
J1493

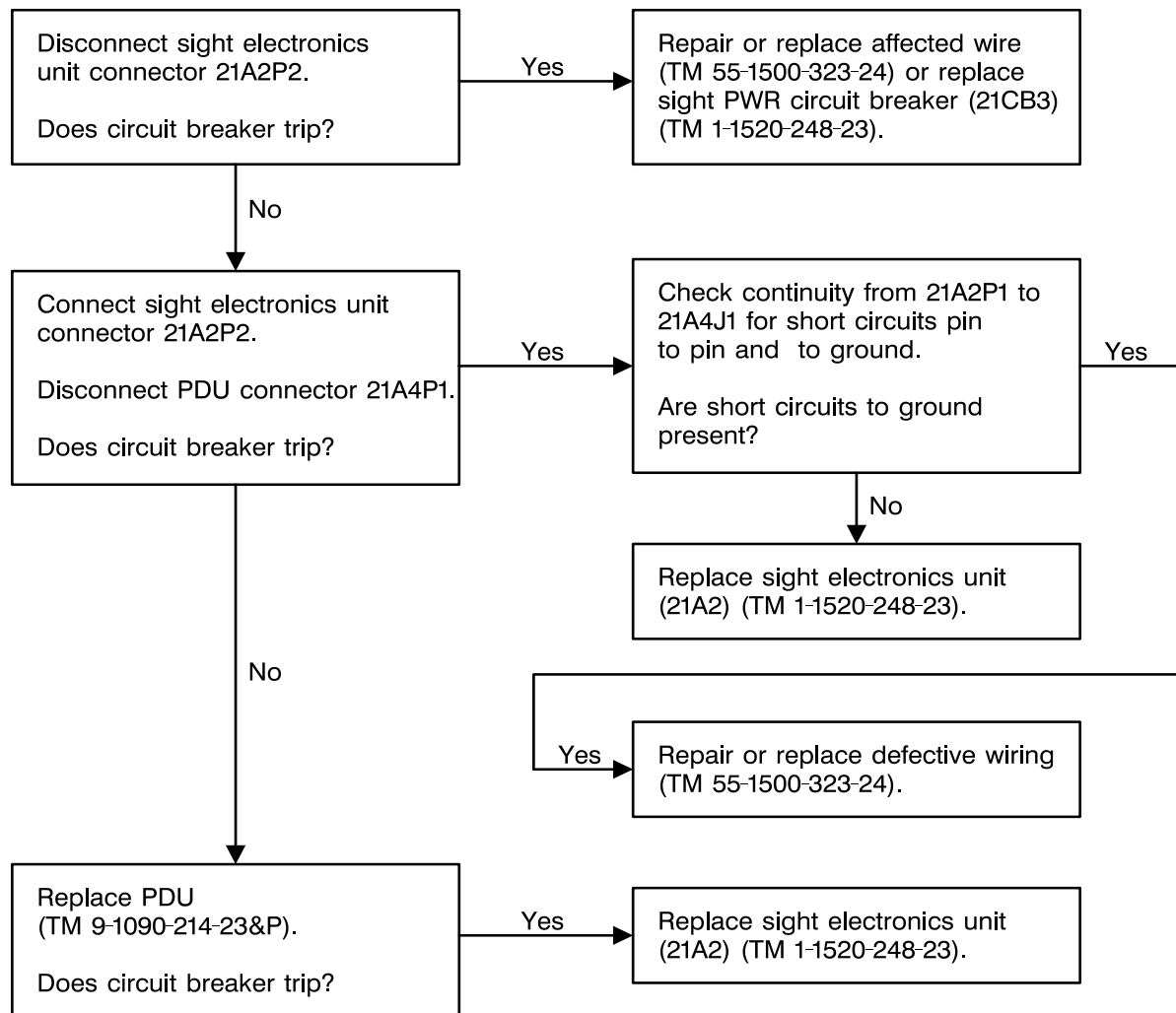
4-10-27. CANNOT ACCESS WEAPONS BIT/SET-UP PAGE ON CPG MFD (TASK 2-5-1/2-5-2)

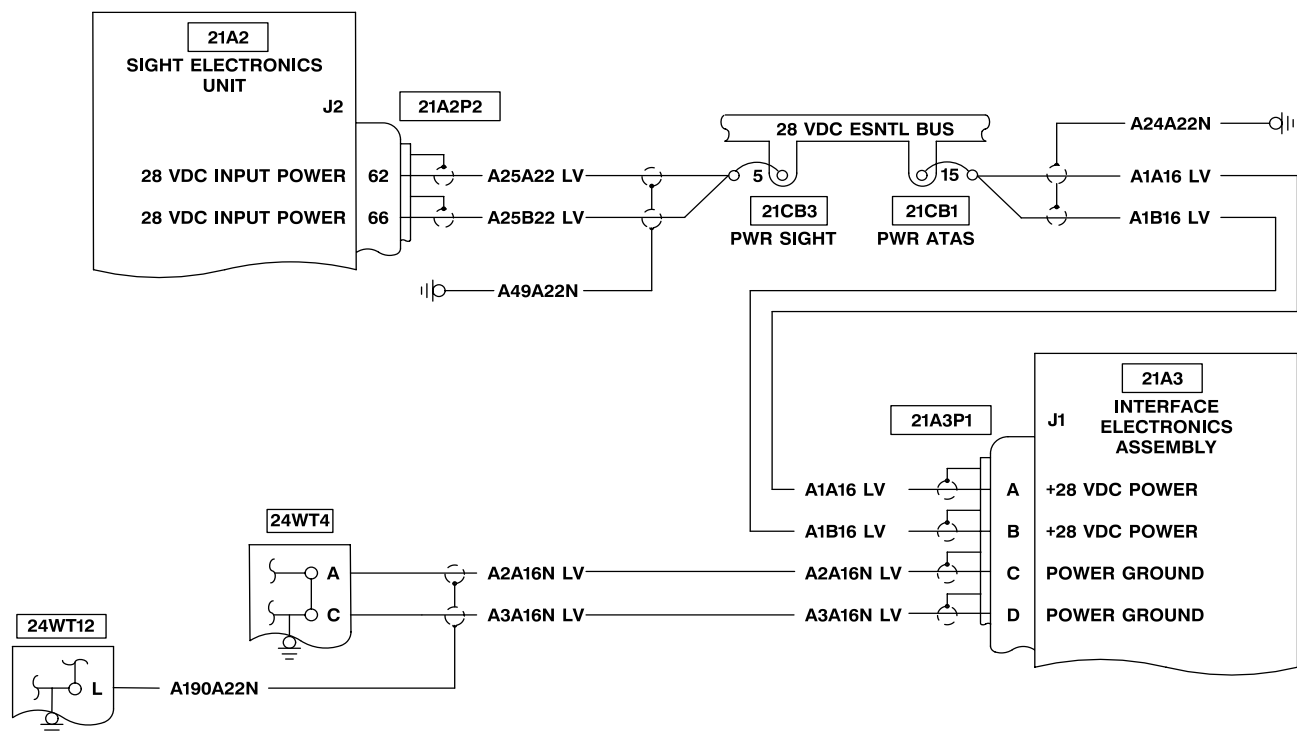
406475-542-514
J1493

4-10-27. CANNOT ACCESS WEAPONS BIT/SET-UP PAGE ON CPG MFD (TASK 2-5-1/2-5-2) (CONT)

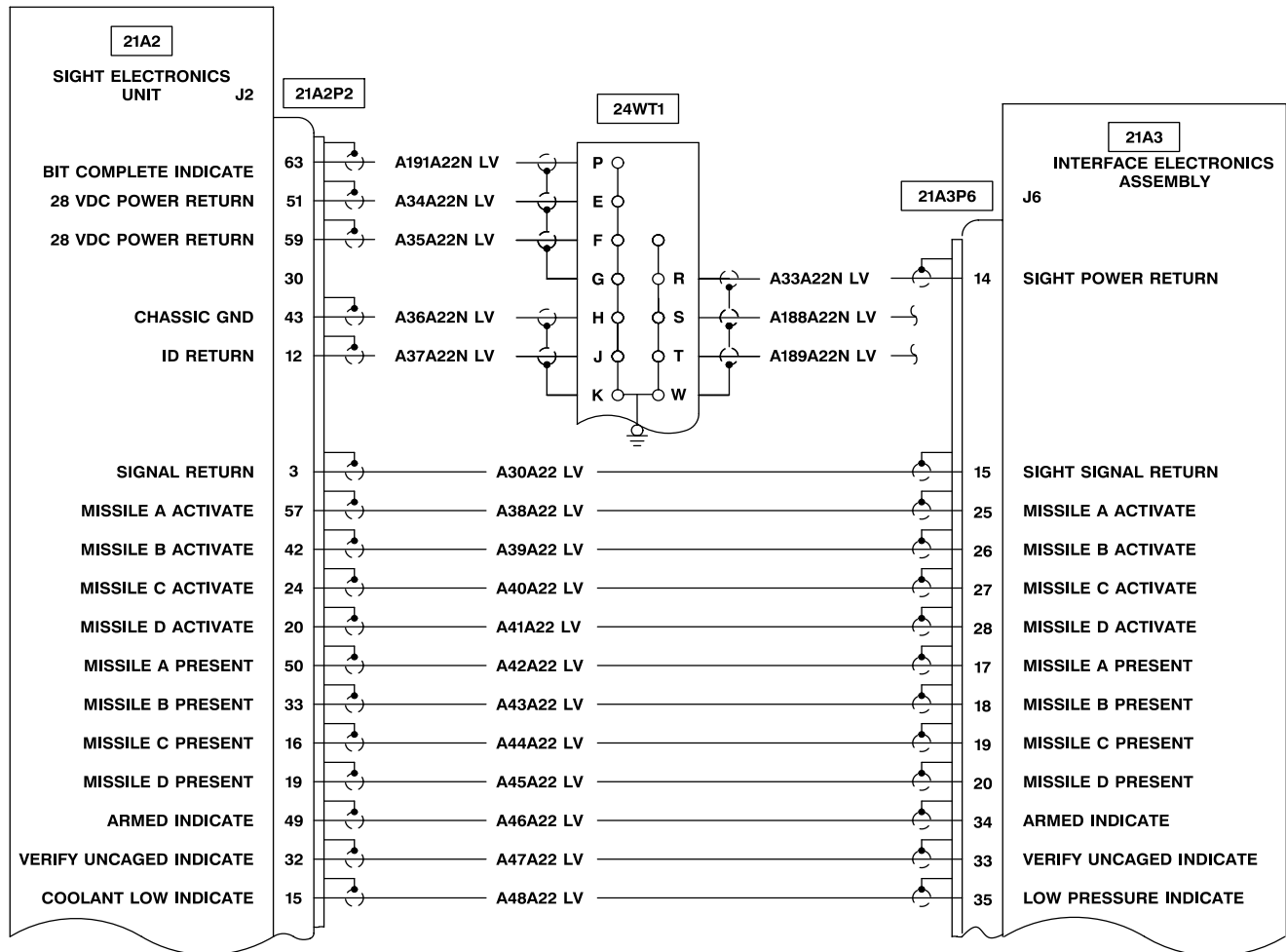


4-10-28. PWR SIGHT CIRCUIT BREAKER TRIPS (TASK 2-5-1/2-5-2)

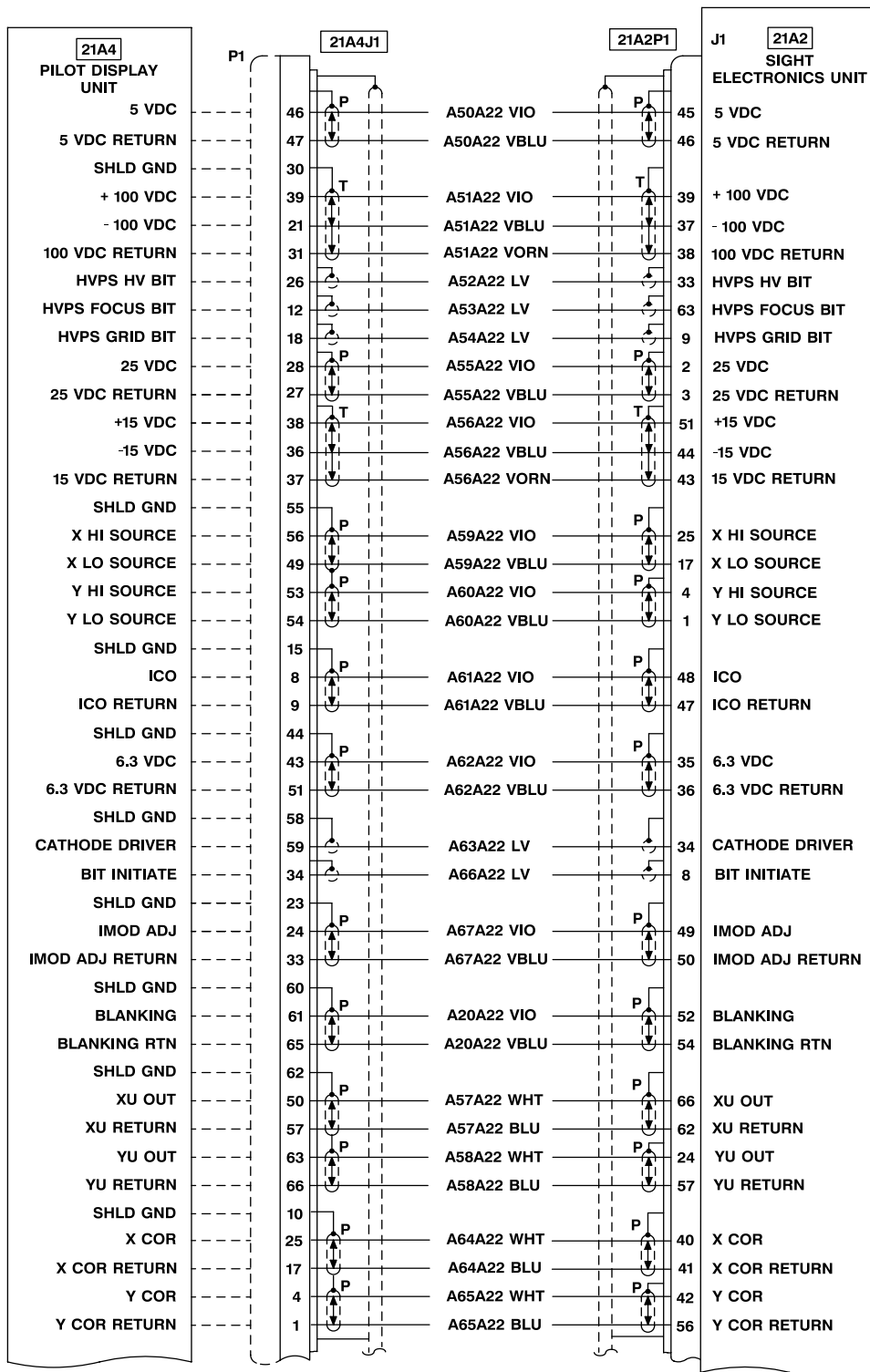
406475-542-516
J1493



4-10-28. PWR SIGHT CIRCUIT BREAKER TRIPS (TASK 2-5-1/2-5-2) (CONT)

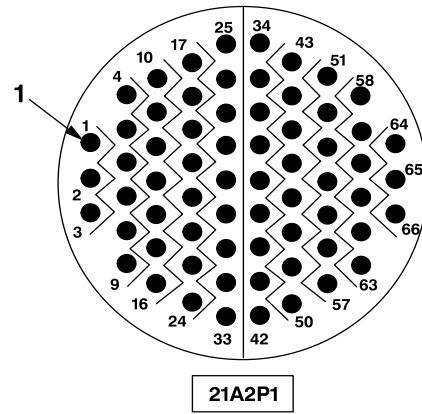
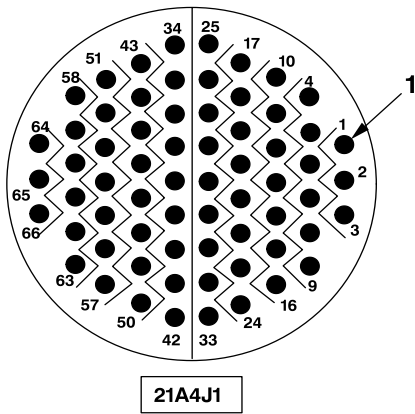
406475-542-518
J1493

4-10-28. PWR SIGHT CIRCUIT BREAKER TRIPS (TASK 2-5-1/2-5-2) (CONT)



406475-542-519
J1493

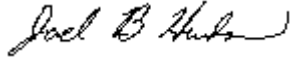
4-10-28. PWR SIGHT CIRCUIT BREAKER TRIPS (TASK 2-5-1/2-5-2) (CONT)



406475-542-520
J1493

**By Order of the Secretary of the
Army:**

Official:



JOEL B. HUDSON
*Administrative Assistant to the
Secretary of the Army*

9933603

ERIC K. SHINSEKI
*General, United States Army
Chief of Staff*

Distribution:

To be distributed in accordance with Initial Distribution Number (IDN) 313854, requirements for TM 1-1520-248-T-2.