



767 MAINTENANCE PLANNING DATA

APPENDIX H. CRITICAL SYSTEMS LIST

The practice of performing maintenance on any critical multiple system may present opportunities for error. Maintenance of all multiple critical airplane systems at the same time or by the same individual or team presents the potential for similar errors being introduced onto multiple systems. This risk of error can be offset through staggered maintenance, varying maintenance personnel, developing specific processes for critical system maintenance and educating maintenance personnel about critical systems.

System maintenance requirements should be purposely designed to avoid working on critical redundant systems during a single maintenance visit. Additional processes or instructions such as checklists, cross checking work performed, using tooling provided by the airframe manufacturers and engine companies or additional functional tests should be developed for those occasions when such maintenance cannot be avoided during maintenance visits.

Boeing has long advocated that operators stagger scheduled maintenance on multiple critical systems such as engines. Boeing has emphasized such recommendations through Service Letter 767-SL-05-002-A. This service letter specifically discusses engines, however, other critical systems exist on the B767. The following B767 critical systems have scheduled maintenance requirements and are included in this appendix for consideration in the separation of tasks to address multiple system error potential:

- Air conditioning
- Electrical power
- Fire protection
- Fuel
- Hydraulics
- Ice and Rain
- Navigation
- Pneumatics
- Auxiliary power
- Engines

This list is intended as an aid to help raise awareness for scheduled maintenance on critical systems. This appendix lists all scheduled maintenance requirements for the above critical systems that specifically require the mechanic to physically break into multiple critical systems (e.g. borescopes or filter changes on both engines). This list is intended to raise airline awareness at the maintenance planning level for critical system maintenance involving multiple similar systems. It provides all scheduled maintenance requirements that are applicable to critical systems and are recommended in the B767 MPD document. This appendix may be used as a beginning baseline list for an airline to create it's own complete listing reflective of their specific maintenance processes.

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767 ENGINE STAGGER LIST

RB211-524G/H

MPD ITEM #	DESCRIPTION
D72-00-00-2A	Borescope check the Engine 1 combustion liner and fuel spray nozzle. Borescope check the Engine 2 combustion liner and fuel spray nozzle.
D72-00-00-2B	Borescope check the Engine 1 turbine nozzle guide vanes. Borescope check the Engine 2 turbine nozzle guide vanes.
D72-00-00-2C	Borescope check the Engine 1 HP Turbine blades. Borescope check the Engine 2 HP Turbine blades.
D73-11-02-4A	Replace the Engine 1 low pressure fuel filter element. Replace the Engine 2 low pressure fuel filter element.
D74-21-02-6A	Visually check the Engine 1 ignitor plugs for condition. Visually check the Engine 2 ignitor plugs for condition.
D79-21-05-6A	Check the following Engine 1 magnetic chip detectors. 1. MASTER 2. EXTERNAL GEARBOX 3. INTERNAL GEARBOX Check the following Engine 2 magnetic chip detectors. 1. MASTER 2. EXTERNAL GEARBOX 3. INTERNAL GEARBOX
D79-21-07-4A	Replace the Engine 1 lubrication pressure filter element. Replace the Engine 2 lubrication pressure filter element.
D79-21-08-4A	Replace the Engine 1 lubrication fine scavenge filter element with shop cleaned unit. Replace the Engine 2 lubrication fine scavenge filter element with shop cleaned unit.

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767 ENGINE STAGGER LIST	
GE 80A	
MPD ITEM #	DESCRIPTION
G72-00-00-6A	Borescope inspection of combustion inner and outer liner for axial and circumferential cracking, fragmentation or heat distress. Inspection of dome for burning or carbon build-up and general condition of fuel nozzle tips for carbon accumulation. (Left Engine) Borescope inspection of combustion inner and outer liner for axial and circumferential cracking, fragmentation or heat distress. Inspection of dome for burning or carbon build-up and general condition of fuel nozzle tips for carbon accumulation. (Right Engine)
G72-00-00-6B	Borescope inspection of stage 1 and 2 HPT blades for cracking and heat distress. (Left Engine) Borescope inspection of stage 1 and 2 HPT blades for cracking and heat distress. (Right Engine)
G73-11-02-2A	Replace Left Engine fuel filter element. Replace Right Engine fuel filter element.
G74-21-02-6A	Visually check Left Engine ignitor plugs for arcing flashover and tip deterioration. Visually check Right Engine ignitor plugs for arcing flashover and tip deterioration.
G79-21-04-4A	Replace Left Engine oil scavenge filter element. Replace Right Engine oil scavenge filter element.
G79-21-05-4A	Inspect Left Engine master magnetic chip detector magnetic probe for metallic deposits. Inspect Right Engine master magnetic chip detector magnetic probe for metallic deposits.
G79-21-07-4A	Replace the Left Engine lube filter element with a shop cleaned unit. Replace the Right Engine lube filter element with a shop cleaned unit.

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767 ENGINE STAGGER LIST

GE 80C2

MPD ITEM #	DESCRIPTION
H72-00-00-6A	Borescope inspection of combustion inner and outer liner for axial and circumferential cracking, fragmentation or heat distress. Inspection of dome for burning or carbon build-up and general condition of fuel nozzle tips for carbon accumulation. (Left Engine) Borescope inspection of combustion inner and outer liner for axial and circumferential cracking, fragmentation or heat distress. Inspection of dome for burning or carbon build-up and general condition of fuel nozzle tips for carbon accumulation. (Right Engine)
H72-00-00-6B	Borescope inspection of stage 1 and 2 HPT blades for cracking and heat distress. (Left Engine) Borescope inspection of stage 1 and 2 HPT blades for cracking and heat distress. (Right Engine)
H73-11-02-2A	Replace Left Engine fuel filter element. Replace Right Engine fuel filter element.
H79-21-04-4A	Replace Left Engine oil scavenge filter element. Replace Right Engine oil scavenge filter element.
H79-21-05-4A	Inspect Left Engine master magnetic chip detector magnetic probe for metallic deposits. Inspect Right Engine master magnetic chip detector magnetic probe for metallic deposits.
H79-21-07-4A	Replace the Left Engine lube filter element with a shop cleaned unit. Replace the Right Engine lube filter element with a shop cleaned unit.

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767 ENGINE STAGGER LIST

PW 4000

MPD ITEM #	DESCRIPTION
N72-00-00-D	Borescope check inspection of the Engine 1 HPT 2nd stage duct segments. Borescope check inspection of the Engine 2 HPT 2nd stage duct segments.
N72-00-00-E	Borescope check the Engine 1 High Pressure Turbine stage 1 blades to inspect for indication of airfoil concave-side 2nd stage duct bulging. Borescope check the Engine 2 High Pressure Turbine stage 1 blades to inspect for indication of airfoil concave-side 2nd stage duct bulging.
N72-00-00-6A	Borescope check the Engine 1 inner and outer combustion chamber assemblies and first stage turbine nozzle guild vane (clusters). Borescope check the Engine 2 inner and outer combustion chamber assemblies and first stage turbine nozzle guild vane (clusters).
N72-00-00-6B	Borescope check the Engine 1 stage and stage 2 HPT blades. Borescope check the Engine 2 stage and stage 2 HPT blades.
N72-00-00-6C	Borescope check the Engine 1 stage 3 LPT nozzle guile vanes. Borescope check the Engine 2 stage 3 LPT nozzle guile vanes.
N73-11-02-4A	Visually check the Engine 1 fuel pump filter element for metallic particles and replace the element with a serviceable element. Visually check the Engine 2 fuel pump filter element for metallic particles and replace the element with a serviceable element.
N73-34-01-4A	Check (off-aircraft) the Engine 1 fuel pump filter differential pressure switch setting. Check (off-aircraft) the Engine 2 fuel pump filter differential pressure switch setting.
N74-11-01-6A	Visually check Engine 1 ignitor plugs for arcing flashover and tip deterioration. Visually check Engine 2 ignitor plugs for arcing flashover and tip deterioration.
N79-21-05-4A	Replace the Engine 1 main oil filter element. Replace the Engine 2 main oil filter element.
N79-21-10-6A	Check the Engine 1 angle gearbox magnetic chip detector. Check the Engine 2 angle gearbox magnetic chip detector.
N79-21-10-6B	Check the Engine 1 number 1, 1.5 and 2 bearing magnetic chip detector. Check the Engine 2 number 1, 1.5 and 2 bearing magnetic chip detector.

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767 ENGINE STAGGER LIST

PW 4000

MPD ITEM #	DESCRIPTION
N79-21-10-6C	Check the Engine 1 number 3 bearing magnetic chip detector. Check the Engine 2 number 3 bearing magnetic chip detector.
N79-21-10-6D	Check the Engine 1 number 4 bearing magnetic chip detector. Check the Engine 2 number 4 bearing magnetic chip detector.
N79-21-10-6E	Check the Engine 1 main gearbox magnetic chip detector. Check the Engine 2 main gearbox magnetic chip detector.
N79-21-10-6F	Check the Engine 1 oil tank magnetic chip detector (if installed). Check the Engine 2 oil tank magnetic chip detector (if installed).

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767 ENGINE STAGGER LIST	
JT9D-7R4	
MPD ITEM #	DESCRIPTION
P72-00-00-6A	Borescope inspection for combustion liner distress and first stage turbine nozzle guide vane damage on Left Engine. Borescope inspection for combustion liner distress and first stage turbine nozzle guide vane damage on Right Engine.
P72-00-00-6B	Borescope inspection first stage (HP) turbine blades on Left Engine. Borescope inspection first stage (HP) turbine blades on Right Engine.
P72-61-03-2A	Replace the main oil filter element on the Left Engine. Replace the main oil filter element on the Right Engine.
P73-11-02-4A	Replace the fuel pump filter element on the Left Engine. Replace the fuel pump filter element on the Right Engine.
P73-21-02-4A	Clean (off-aircraft) the fuel control main filter on Left Engine. Clean (off-aircraft) the fuel control main filter on Right Engine.
P73-21-03-4A	Check (off-aircraft) the fuel control regulated pressure filter on Left Engine. Check (off-aircraft) the fuel control regulated pressure filter on Right Engine.
P74-21-02-6A	Removal and inspection ignitor plugs for condition on Left Engine. Removal and inspection ignitor plugs for condition on Right Engine.
P79-21-03-2A	Check the Left Engine angle gearbox magnetic drain plug (chip detector). Check the Right Engine angle gearbox magnetic drain plug (chip detector).
P79-21-03-2B	Check the Left Engine number 3 bearing scavenge magnetic drain plug (chip detector). Check the Right Engine number 3 bearing scavenge magnetic drain plug (chip detector).
P79-21-03-2C	Check the Left Engine number 4 bearing scavenge magnetic drain plug (chip detector). Check the Right Engine number 4 bearing scavenge magnetic drain plug (chip detector).
P79-21-03-2D	Check the Left Engine full flow master magnetic drain plug (chip detector). Check the Right Engine full flow master magnetic drain plug (chip detector).
P79-21-03-2E	Check the Left Engine scavenge pump inlet magnetic drain plug (chip detector).

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