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TASK 05-00-00-912-001

1. Airworthiness Limitation Precautions

A. General

(1) Critical Design Configuration Control Limitations (CDCCLs)

(a) All occurrences of CDCCLs found in this chapter of the AMM are identified by this note after each applicable CDCCL design feature:

1) NOTE: CDCCL - Refer to the task: Airworthiness Limitation Precautions (AMM 05-00-00/201), for important information on Critical Design Configuration Control Limitations (CDCCLs).

(b) Design features that are CDCCLs are defined and controlled by Special Federal Aviation Regulation (SFAR) 88, and can be found in Section 9 of the Maintenance Planning Data (MPD) document. CDCCLs are a means of identifying certain design configuration features intended to preclude a fuel tank ignition source for the operational life of the airplane. CDCCLs are mandatory and cannot be changed or deleted without the approval of the FAA office that is responsible for the airplane model Type Certificate, or applicable regulatory agency. A critical fuel tank ignition source prevention feature may exist in the fuel system and its related installation or in systems that, if a failure condition were to develop, could interact with the fuel system in such a way that an unsafe condition would develop without this limitation. Strict adherence to configuration, methods, techniques, and practices as prescribed is required to ensure the CDCCL is complied with. Any use of parts, methods, techniques or practices not contained in the applicable CDCCL must be approved by the FAA office that is responsible for the airplane model Type Certificate, or applicable regulatory agency.

(2) Airworthiness Limitation Instructions (ALIs)

(a) All occurrences of fuel tank system ALIs found in this chapter of the AMM are identified by this step after the General section in the applicable ALI inspection task:

1) ALI - Refer to the task: Airworthiness Limitation Precautions (AMM 05-00-00/201), for important information on airworthiness limitation instructions (ALIs).

(b) Inspection tasks that are ALIs are defined and controlled by Special Federal Aviation Regulation (SFAR) 88, and can be found in Section 9 of the Maintenance Planning Data (MPD) document. These ALIs identify inspection tasks related to fuel tank ignition source prevention which must be done to maintain the design level of safety for the operational life of the airplane. These ALIs are mandatory and cannot be changed or deleted without the approval of the FAA office that is responsible for the airplane model Type Certificate, or applicable regulatory agency. Strict adherence to methods, techniques and practices as prescribed is required to ensure the ALI is complied with. Any use of methods, techniques or practices not contained in these ALIs must be approved by the FAA office that is responsible for the airplane model Type Certificate, or applicable regulatory agency.

B. Access

(1) Location Zones

100	Lower Half of Fuselage
200	Upper Half of Fuselage
500	Left Wing
600	Right Wing

C. Critical Design Configuration Control Limitations (CDCCLs)

S 912-002

WARNING: OBEY THE MANUFACTURER'S PROCEDURES WHEN YOU DO ANY MAINTENANCE THAT MAY AFFECT A CDCCL. IF YOU DO NOT FOLLOW THE PROCEDURES, IT CAN INCREASE THE THE RISK OF A FUEL TANK IGNITION SOURCE.

(1) Make sure you follow the procedures for items identified as CDCCLs.

D. Airworthiness Limitation Instructions (ALIs)

S 912-003

WARNING: OBEY THE MANUFACTURER'S PROCEDURES WHEN YOU DO ANY MAINTENANCE THAT MAY AFFECT AN ALI. IF YOU DO NOT FOLLOW THE PROCEDURES, IT CAN INCREASE THE RISK OF A FUEL TANK IGNITION SOURCE.

(1) Make sure you follow the procedures for tasks identified as ALIs.

CONDITIONAL INSPECTIONS - DESCRIPTION AND OPERATION

1. General
   A. This section contains recommended checks and inspections which are dictated by special or unusual conditions. For powerplant inspections, refer to the powerplant conditional inspection AMM chapters. The conditional inspections are listed below:
      (1) Hard landing or high drag/side load landing (AMM 05-51-01)
      (2) Severe turbulence, buffeting or exceeding design speed (AMM 05-51-04)
      (3) Landing gear down overspeed (AMM 05-51-07)
      (4) Flap/slat down overspeed (AMM 05-51-08)
      (5) Overweight taxi condition (AMM 05-51-09)
      (6) Dragged engine nacelle/engine seizure/engine and strut damage condition (AMM 05-51-10)
      (7) High energy stop/heat damage (AMM 05-51-14)
      (8) Brake seizure (AMM 05-51-15)
      (9) Burst/flat spotted tires (AMM 05-51-16)
      (10) Wheel bearing failure/damage (AMM 05-51-17)
      (11) Bird strike (AMM 05-51-18)
      (12) Lightning strike (AMM 05-51-19)
      (13) Battery electrolyte contamination (AMM 05-51-20)
      (14) Mercury spillage (AMM 05-51-21)
      (15) Fire resistant hydraulic fluid reaction with titanium (AMM 05-51-22)
      (16) Excessive cabin pressure leakage (AMM 05-51-24)
      (17) Conditioned air pack outlet duct system failure (AMM 05-51-25).
      (18) Extreme dust (AMM 05-51-27)
      (19) Ice or snow (AMM 05-51-28)
      (20) Exceeding maximum nose landing gear towing angle or maximum towing load (AMM 05-51-29)
      (21) Elevator/rudder misrig or single hydraulic system check failure (AMM 05-51-30)
      (22) Volcanic ash (AMM 05-51-31)
      (23) Tail drag (AMM 05-51-32)
      (24) Overweight landing (AMM 05-51-35)

(25) Airframe vibration condition (AMM 05-51-38)
(26) Acid spillage (AMM 05-51-57)

HARD LANDING OR HIGH DRAG/SIDE LOAD LANDING CONDITION - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. Hard Landing
      (1) The hard landing procedure is for hard landings at any landing weight.
         (a) If the landing is also overweight, the Overweight Landing Conditional Inspection, plus the Hard Landing Conditional Inspection, must be done as defined in the respective procedures. If damage is found in the Phase I Conditional Inspection of either procedure, then both Hard Landing and Overweight Landing Conditional Inspection Phase II inspections must be done.

            NOTE: For a hard landing that is overweight, the peak recorded vertical acceleration can be significantly less than the G-level thresholds provided for landings at or below the design landing weight.

            NOTE: When both the Hard Landing Conditional Inspection, and the Overweight Landing Conditional Inspections, as defined above, must be done, it is not necessary to do duplicative tasks twice, such as: Landing gear, nacelle struts, fuselage, wing LE fairings, horizontal stab, cargo area, engine inspection, flight controls, etc.

      (2) If the pilot determines the airplane had a hard landing, a structural inspection is necessary.
         (a) For landing at or below the maximum design landing weight on airplanes with flight data recording systems capable of at least least eight (8) samples per second, the following can be used: An indication of a hard landing on the main landing gear is a peak recorded vertical acceleration that exceeds 1.8 G (incremental 0.8 G). This vertical accelerometer data must be measured by the flight data recorder accelerometer at a data sampling rate of at least eight (8) samples per second. This vertical acceleration G-level threshold is valid for a conventional landing with impact with no more than two (2) degrees of airplane roll, main landing gear touchdown first and normal rotation onto the nose gear. For a hard landing that is a hard nose landing or is accompanied by more than two (2) degrees of roll at the time of main landing gear impact, The recorded peak acceleration can be significantly less than 1.8 G, but a hard landing inspection may still be necessary.

(b) For landing at or below the maximum design landing weight on airplanes with flight data recording systems capable of at least least sixteen (16) samples per second, the following can be used: An indication of a hard landing on the main landing gear is a peak recorded vertical acceleration that exceeds 1.9 G (incremental 0.9 G). This vertical accelerometer data must be measured by the flight data recorder accelerometer at a data sampling rate of at least sixteen (16) samples per second. This vertical acceleration G-level threshold is valid for a conventional landing with impact with no more than two (2) degrees of airplane roll, main landing gear touchdown first and normal rotation onto the nose gear. For a hard landing that is a hard nose landing or is accompanied by more than two (2) degrees of roll at the time of main landing gear impact, The recorded peak acceleration can be significantly less than 1.9 G, but a hard landing inspection may still be necessary.

B. High Drag/Side Load Landing

(1) Landing with one or more of the conditions shown below:

(a) The airplane was in a skid sufficient to cause damage.

(b) The airplane moved on a soft surface (a surface not designed to hold the airplane's weight).

(c) Landing with two or more damaged (blown) tires.

C. Inspections

(1) The inspections are divided into two phases, Phase 1 and Phase 2. Phase 1 has 5 inspection groups (Main Landing Gear and Support Structure, Nose Landing Gear, Fuselage, Wing, and Nacelle) and Phase 2 has 6 (the same 5 inspection groups as Phase 1 plus a Flight Control Inspection).

(a) Do the Phase 1 Inspection before the next flight if one or more of the above defined conditions occurred.

(b) Do the Phase 2 Inspection before the next flight if damage is found in the Phase 1 Inspection.

NOTE: Only the inspection groups where you found damage in the Phase 1 Inspection are necessary to be examined in the Phase 2 Inspection. (Example: Damage to the nose landing gear and fuselage in Phase 1; only do the Nose Landing Gear and Fuselage Inspection in Phase 2). If you do part or all of the Phase 2 inspection, you must do the Flight Control Inspection in Phase 2.

D. Inspection, Repairs, and Replacements

(1) When this procedure tells you to "examine" a part, look for these conditions:

(a) Cracks

(b) Structure that pulled apart

(c) Loose paint (paint flakes)

(d) Twisted parts (distortion)

(e) Bent parts

(f) Wrinkles or buckles in structure

(g) Fastener holes that became larger or longer

(h) Loose fasteners
(i) Missing fasteners (fasteners that have pulled out or are gone)
(j) Delaminations (a component with one or more layers pulled apart)
(k) Parts that are not aligned correctly
(l) Interference (clearance that is not sufficient between two parts)
(m) Discoloration (heat damage)
(n) Nicks or gouges
(o) Other signs of damage

(2) Replace or repair the components that have one or more of the conditions given above.

TASK 05-51-01-212-027

2. Phase 1 Inspection

A. References

(1) AMM 51-10-00/601, Reduced Vertical Separation Minimum (RVSM)

B. All Hard Landings and High Drag/Side Load Landings

S 212-028

(1) Main Landing Gear and Support Structure Inspection

(a) Examine all tires and wheels.

(b) Look for signs of fluid leakage at the top and bottom of the outer cylinder.

NOTE: A small quantity of hydraulic fluid on the surface of the inner cylinder of the shock strut is satisfactory.

(c) Examine all structural components of the main landing gear and carefully examine the components that follow:
1) Shock strut
2) Trunnion link
3) Drag strut
4) Torsion links
5) Truck beam
6) Side strut
7) Downlock
8) Truck Position Mechanism (The mechanism that sets the angle of the truck beam for retraction and extension)
9) Strut doors and the mechanism that retracts and extends the doors.

(d) Examine the support structure of the main landing gear and carefully examine the components that follow:
1) Landing gear beam
2) Support fittings for the landing gear beam
a) Inboard
b) Outboard
3) Trunnion support fittings
a) Forward
b) Aft

4) Stabilizer links and fittings between the rear spar and landing gear beam.
   a) Inboard
   b) Outboard

S 212-029

(2) Nose Landing Gear Inspection
   (a) Examine all tires and wheels.
   (b) Look for signs of fluid leakage at the top and bottom of the outer cylinder.

   NOTE: A small quantity of hydraulic fluid on the surface at the inner cylinder of the shock strut is satisfactory.

   (c) Examine all structural components of the nose landing gear and carefully examine the components that follow:
      1) Shock strut
      2) Torsion links
      3) Drag strut
      4) Lock links
   (d) Examine the wheel well area and carefully examine the parts that follow:
      1) Web (The left and right side walls)
      2) Aft bulkhead
      3) Trunnion attachments
      4) Drag strut attachments

S 212-030

(3) Fuselage Inspection
   (a) 757-200 AIRPLANES;
   Examine the skin panels on the lower side of the aft fuselage (Examine carefully between body stations 1370 and 1470, below stringer 20).

   NOTE: Small buckles or wrinkles in the skin are satisfactory. Large buckles or wrinkles between fasteners are indications of damage.

   (b) Examine the lower fuselage structure (body sections 46 and 48) for signs that the fuselage hit the runway.
   (c) Look for fuel leaks, and other fluid leaks, in the areas that follow.
      1) The lower external surface of the fuselage in the area of the wing-to-body fairing.
      2) The forward wall of the wheel wells of the main landing gear.

S 212-048
(4) Reduced Vertical Separation Minimum (RVSM) Inspection
(a) Examine the area around the pitot static ports.
1) If skin damage is found, do this task: Examine the Skin Waviness at the Static Ports (AMM 51-10-00/601).

S 212-031
(5) Wing Inspection
(a) Examine the leading edge fairing at the wing-to-body joint.
(b) Examine the trailing edge flaps on the inboard side.
(c) Look for fuel leaks, and other fluid leaks, in the areas that follow:
1) The wing
2) The nacelles
3) The nacelle-struts.

S 212-032
(6) Engine Nacelle Inspection
(a) Examine the doors, panels, and the structure on the nacelle strut.
(b) Do the four steps that follow before the next 10 flights:

NOTE: If no damage is found in other parts of this inspection, while required, the Inspection of the Mid Spar Fuse Pins, and the Upper Link Fuse Pins can be deferred for up to 150 flights (cycles).

1) Identify these fuse pins on the engine nacelle strut and wing:
a) Upper link (forward pin)
b) Diagonal brace (aft pin)
2) Remove the through bolt and end caps of each fuse pin.
3) Clean the grease from the inner diameter of the fuse pin.
4) Look for distortion of the inner diameter of the fuse pin.
a) Use a straight edge or an equivalent device.

C. Cabin Inspections

S 212-043
(1) Do a visual inspection of all ceiling panels for dislodging and evi dence do to impact damage.

S 212-044
(2) Do a visual inspection of all ceiling overhead bins for evidence of looseness and impact damage.

S 212-045
(3) Do a detailed visual inspection of all ceiling panels equipped with video monitors.
(a) Inspect latches, stops, potting inserts and all fasteners.

S 212-046

(4) Continue the Cabin Inspection in the Phase II inspection if any cabin damage was found in the above Cabin Inspection including the ceiling panels, central overhead bins, or the video monitors. If no damage was found, no further cabin inspection is required and it is not necessary to continue the Cabin Inspection in Phase II.

TASK 05-51-01-212-033

3. Phase 2 Inspection

A. References

(1) AMM 05-51-10/201, Dragged Engine Nacelle/Engine Seizure/Engine and Strut Damage Condition
(2) AMM 07-11-01/201, Jacking Airplane
(3) AMM 12-15-01/301, Main Gear Shock Strut - Servicing
(4) AMM 12-15-02/301, Nose Gear Shock Strut - Servicing
(5) AMM 27-00-01/201, Flight Controls
(6) AMM 32-11-01/401, Main Landing Gear
(7) AMM 32-21-01/401, Nose Landing Gear
(8) AMM 32-32-00/501, Main Landing Gear Extension and Retraction
(9) AMM 32-34-00/501, Nose Landing Gear Extension and Retraction
(10) AMM 32-51-00/501, Nose Wheel Steering System

B. Airplane Inspection

S 022-034

(1) Main Landing Gear and Support Structure Inspection
(a) Make sure the shock strut pressures are normal and the hydraulic fluids are at the correct levels (AMM 12-15-01/301).
(b) Lift the airplane with jacks (AMM 07-11-01/201).

WARNING: MAKE SURE YOU SUFFICIENTLY HOLD THE LANDING GEAR AND THE SUPPORT STRUCTURE WHEN YOU REMOVE THE FUSE PINS. IF YOU DO NOT SUFFICIENTLY HOLD THESE COMPONENTS, YOU CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

WARNING: DO NOT REMOVE MORE THAN ONE FUSE PIN AT A TIME. INSTALL THE FUSE PIN IMMEDIATELY AFTER YOU EXAMINE IT. IF THE FUSE PIN HAS DAMAGE, REPLACE IT WITH A NEW FUSE PIN. IF YOU REMOVE MORE THAN ONE FUSE PIN AT A TIME THE LANDING GEAR MAY FALL AWAY FROM THE AIRPLANE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) Remove and examine the fuse pins from the main landing gear as follows (AMM 32-11-01/401):
1) The fuse pin (Fig. 201, sheet 2, item 1) that connects the drag strut to the trunnion link.
2) The fuse pin (Fig. 201, sheet 2, item 2) that connects the trunnion link to the forward trunnion bearing.
3) The upper two fuse pins (Fig. 201, sheet 2, item 3) on the forward trunnion fitting. If damage is found, remove and examine the lower two fuse pins.

CAUTION: INSTALL THE GROUND LOCK PIN BEFORE YOU REMOVE THE FUSE PIN.

4) The fuse pin (Fig. 201, sheet 3, item 4) that connects the upper downlock link to the downlock spindle.
5) The fuse pin (Fig. 201, sheet 4, item 5) that connects the reaction link to the forward trunnion fitting.
6) The forward two fuse pins (Fig. 201, sheet 5, item 6) on the aft trunnion fitting. If damage is found, remove and examine the aft two fuse pins.
7) The forward and aft fuse pins (Fig. 202, sheet 2, item 7) of the inboard stabilizing link.
8) The forward and aft fuse pins (Fig. 202, sheet 3, item 8) of the outboard stabilizing link.
9) The fuse pin (Fig. 202, sheet 4, item 9) that connects the landing gear beam to the support fitting on the wing rear spar.

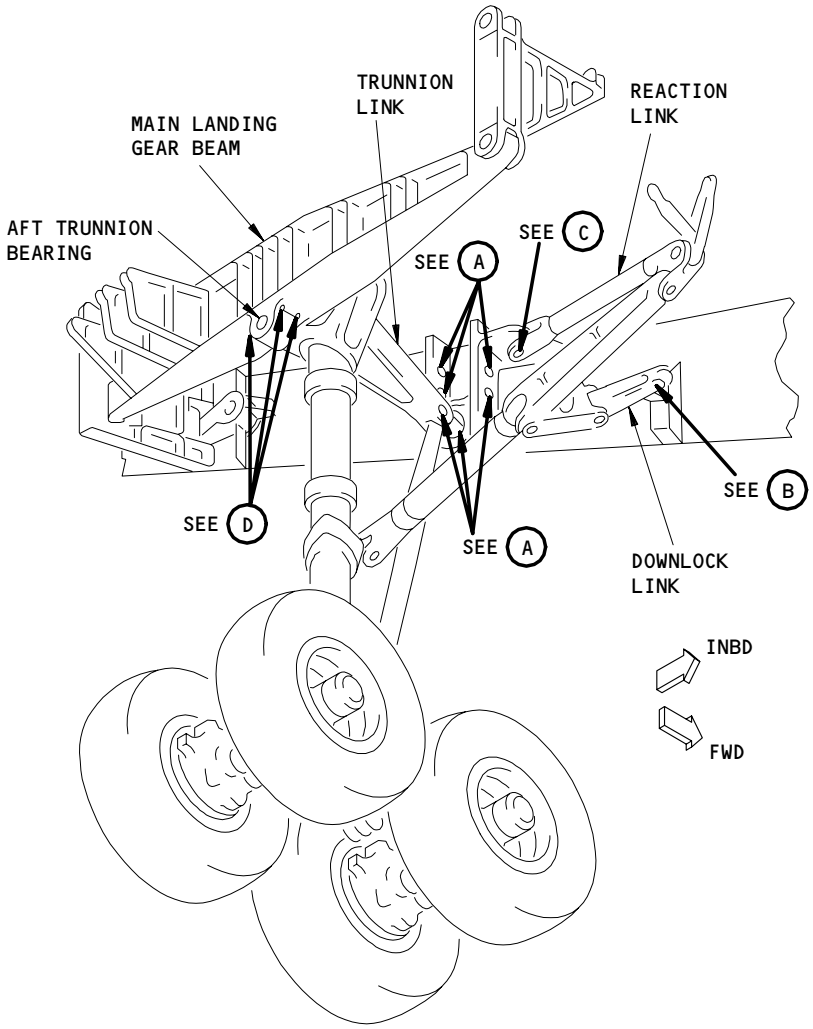
NOTE: You must sufficiently lift the outboard wing to easily remove the fuse pin. Make sure you safely hold the landing gear.

10) The pin (not a fuse pin)(Fig. 202, sheet 4, item 10) that connects the inboard end of the landing gear beam to the support fitting.

(d) If one or more of the fuse pins are damaged, do the steps that follow:
1) Examine the lugs and fittings of the fuse pins that are found to be damaged.
2) Examine the landing gear beam and look to see if it is twisted or bent.
3) Examine the drag struts.
4) Examine the side struts and downlocks (parts that hold the side strut in the correct position).
5) Examine all gear bolts and pins and their attachment lugs.

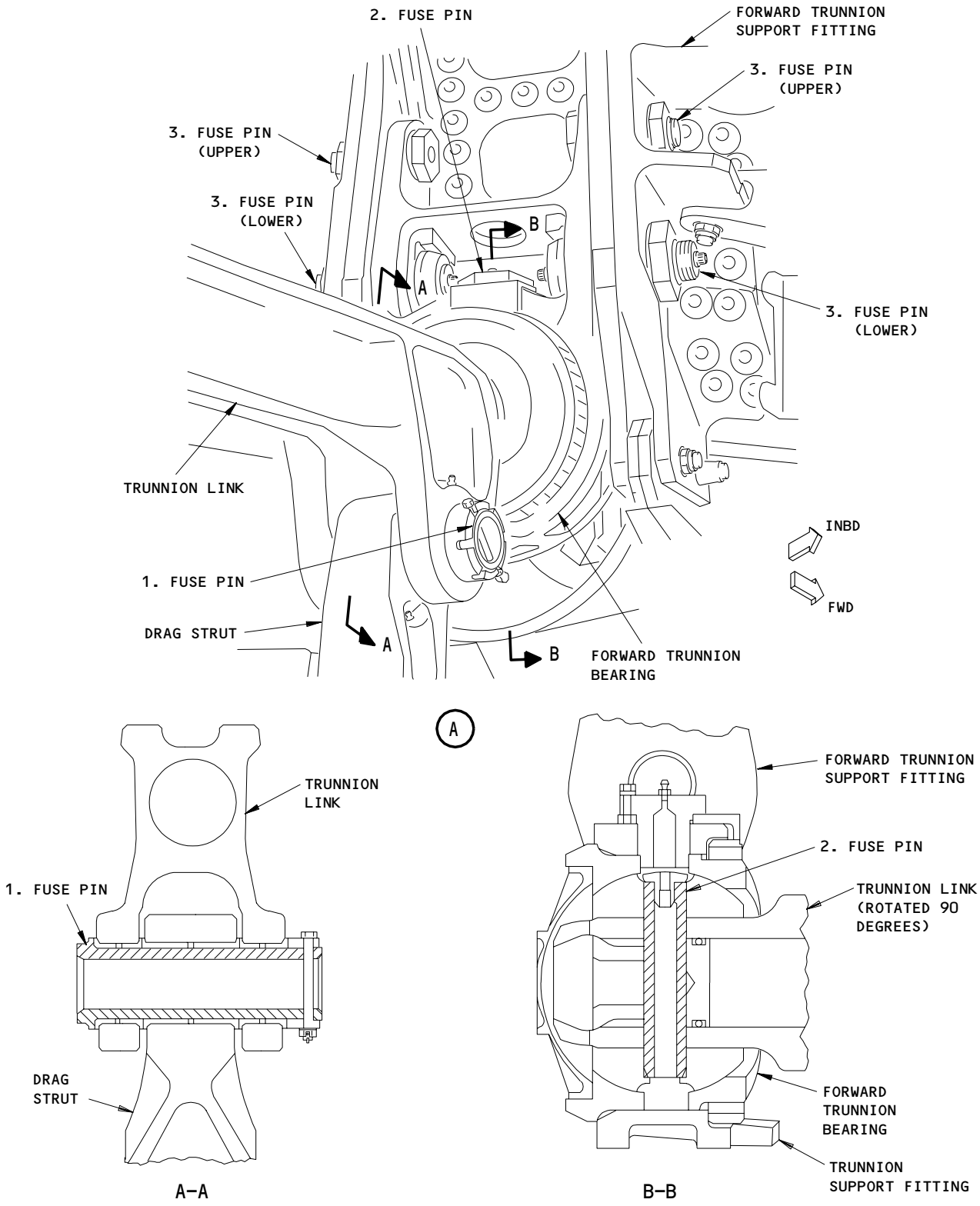
(e) If a tire burst (i.e., the tire came apart during a takeoff or landing) do the steps that follow.
1) Remove and examine the wheel structure
2) Remove and examine the brake assembly
3) Examine the axles.

(f) If one or more of the conditions that follow occurred; remove, disassemble, and examine all parts of the shock strut and axles. .
1) The shock strut pressures were sufficiently low to cause damage.
2) The hydraulic fluid levels were sufficiently low to cause damage.
3) You found damage to one or more of the parts during your inspection of the landing gear.

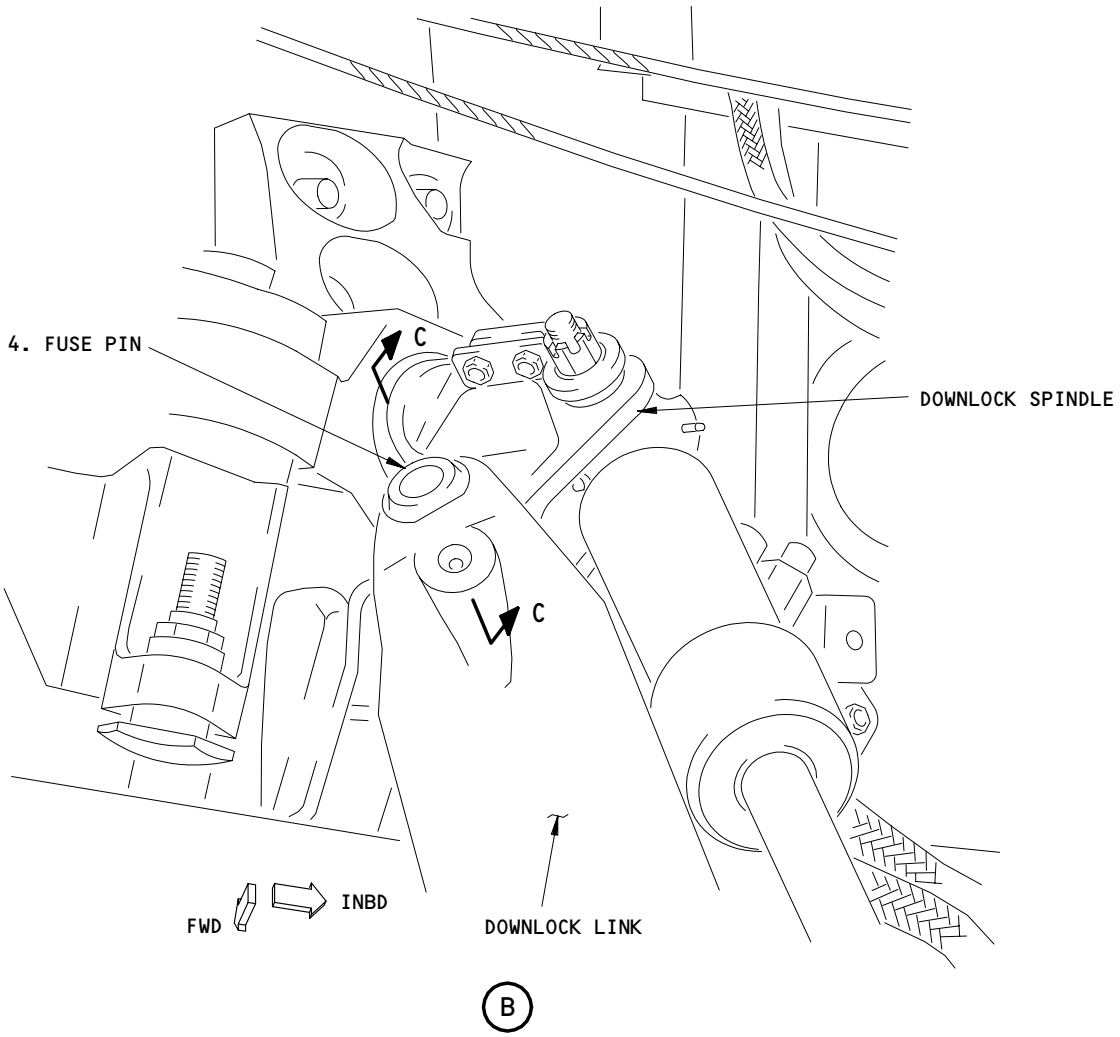


LANDING GEAR ON LEFT WING

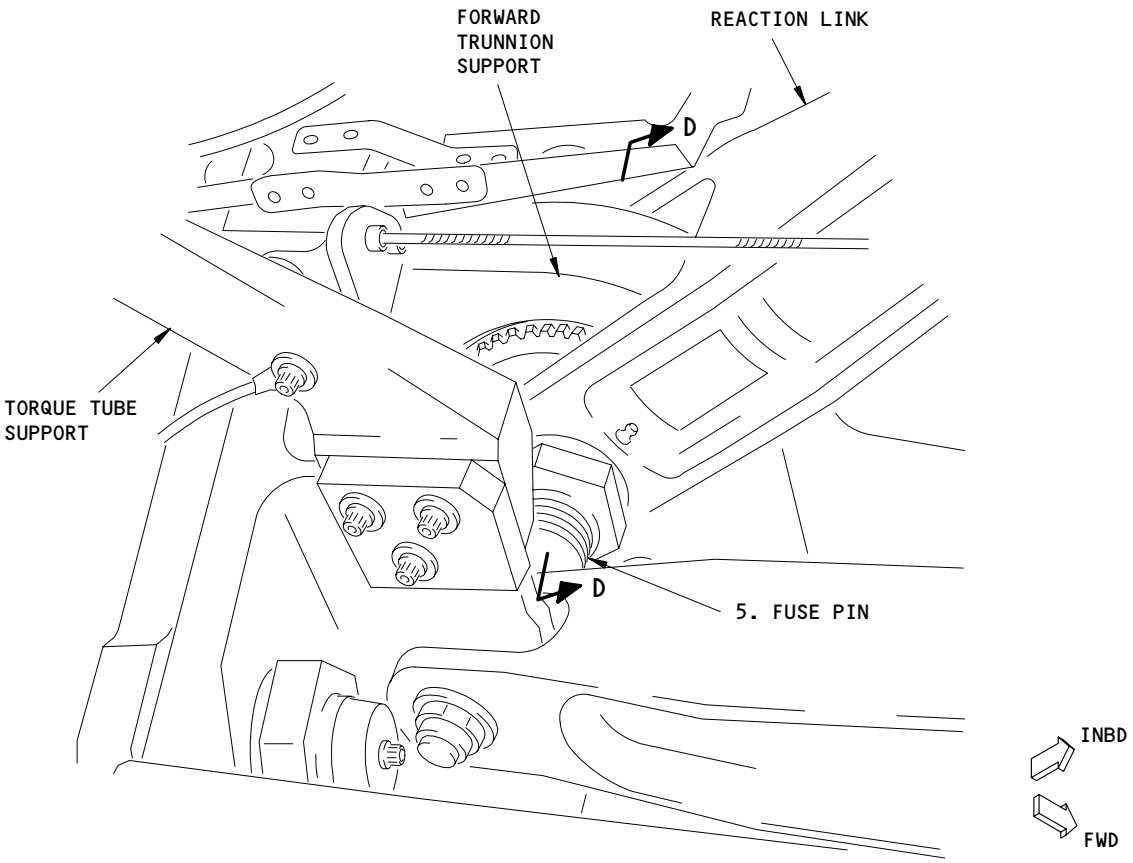
Main Landing Gear Fuse Pins
Figure 201 (Sheet 1)



Main Landing Gear Fuse Pins
Figure 201 (Sheet 2)



Main Landing Gear Fuse Pins
Figure 201 (Sheet 3)



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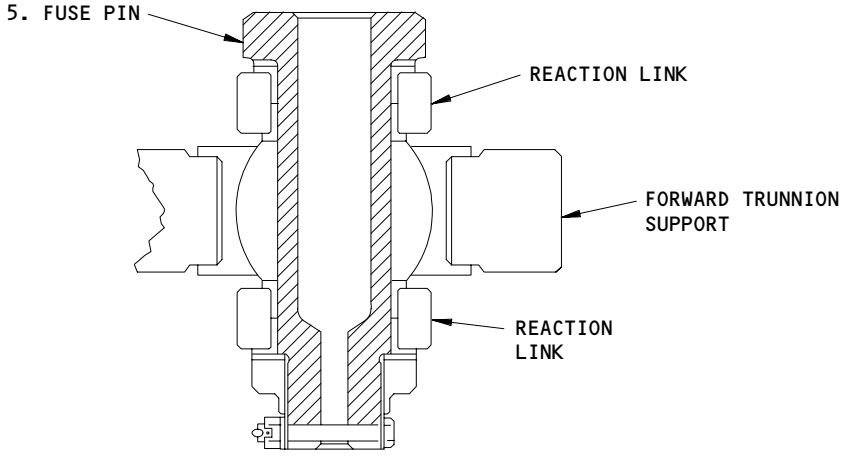
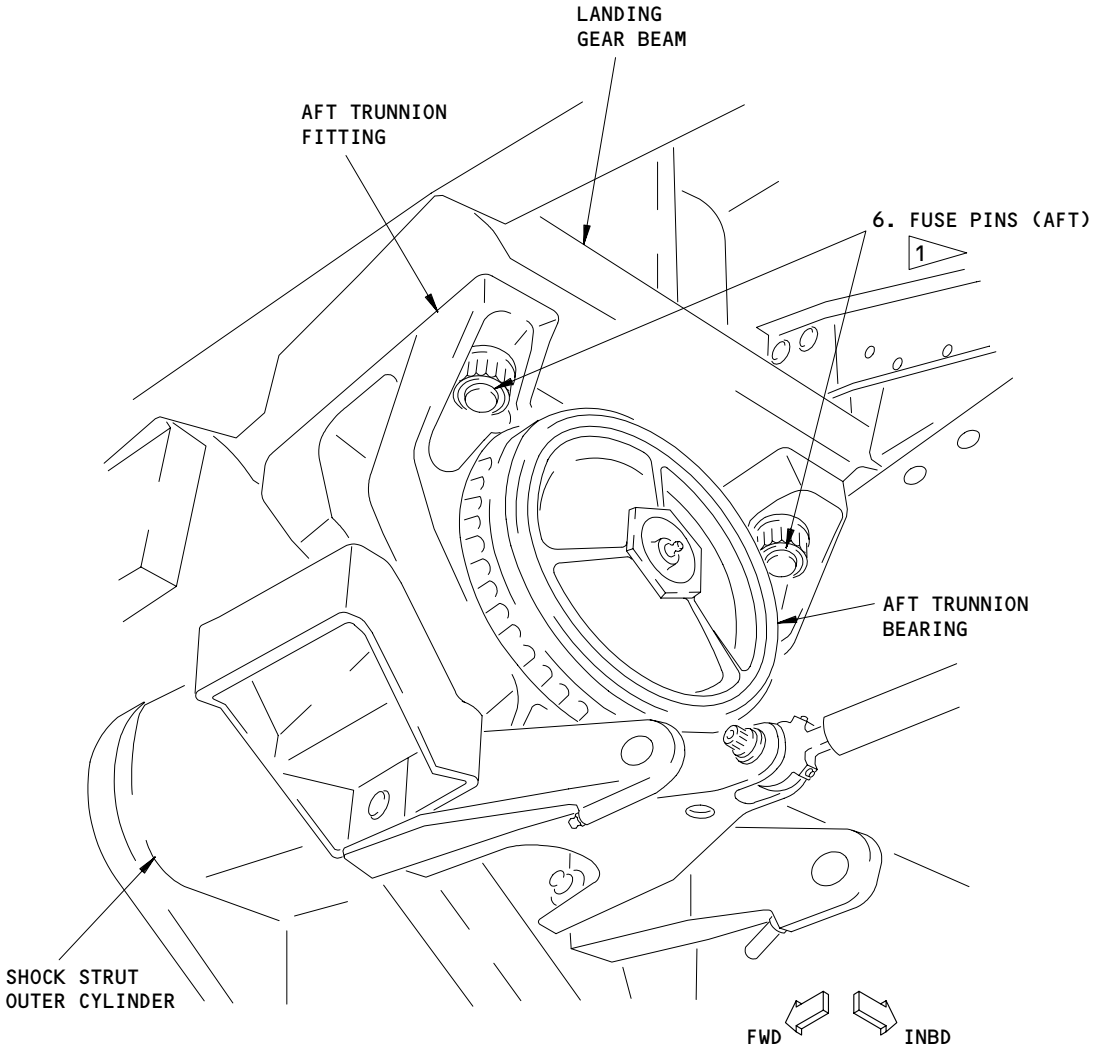


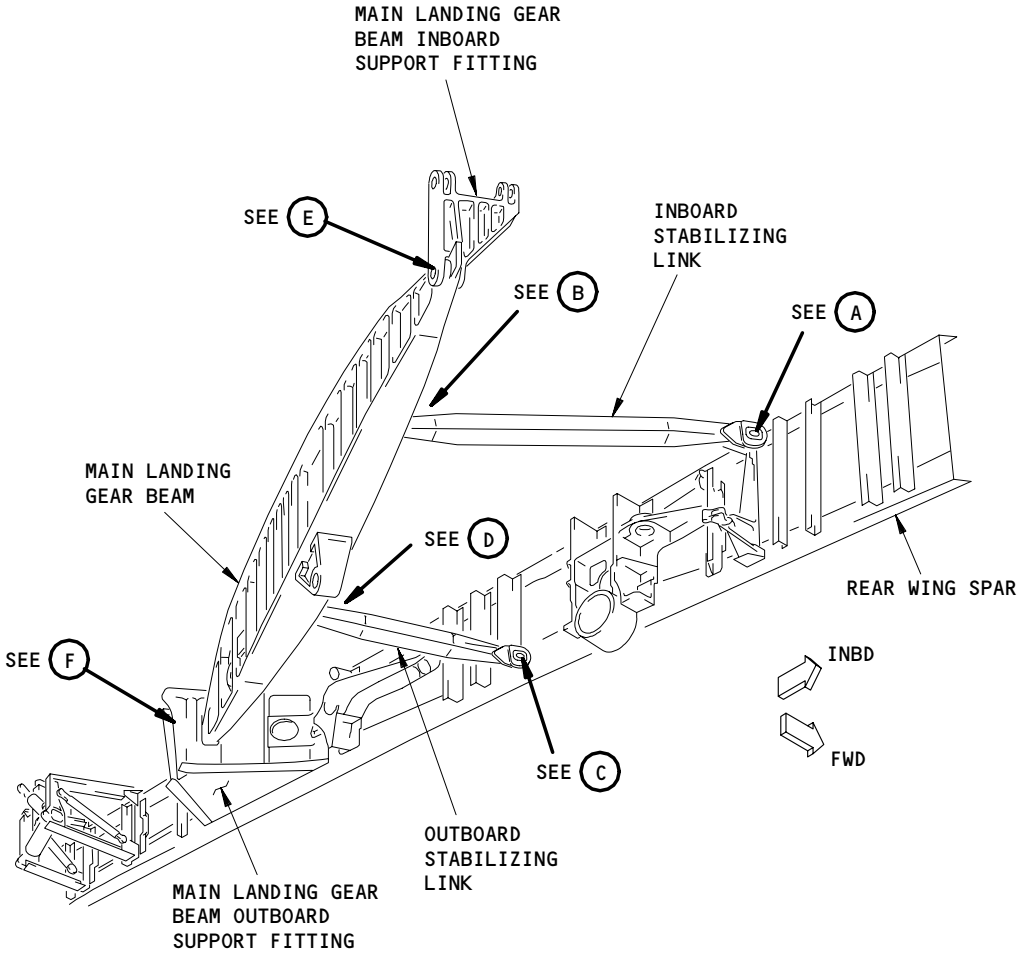
D–D

Main Landing Gear Fuse Pins
Figure 201 (Sheet 4)

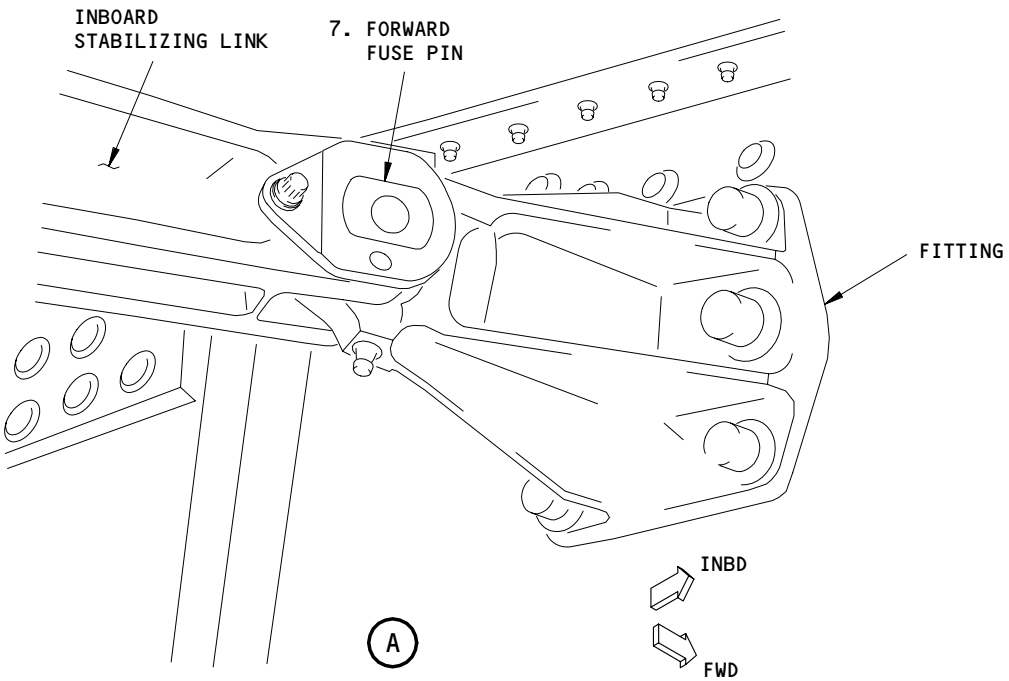


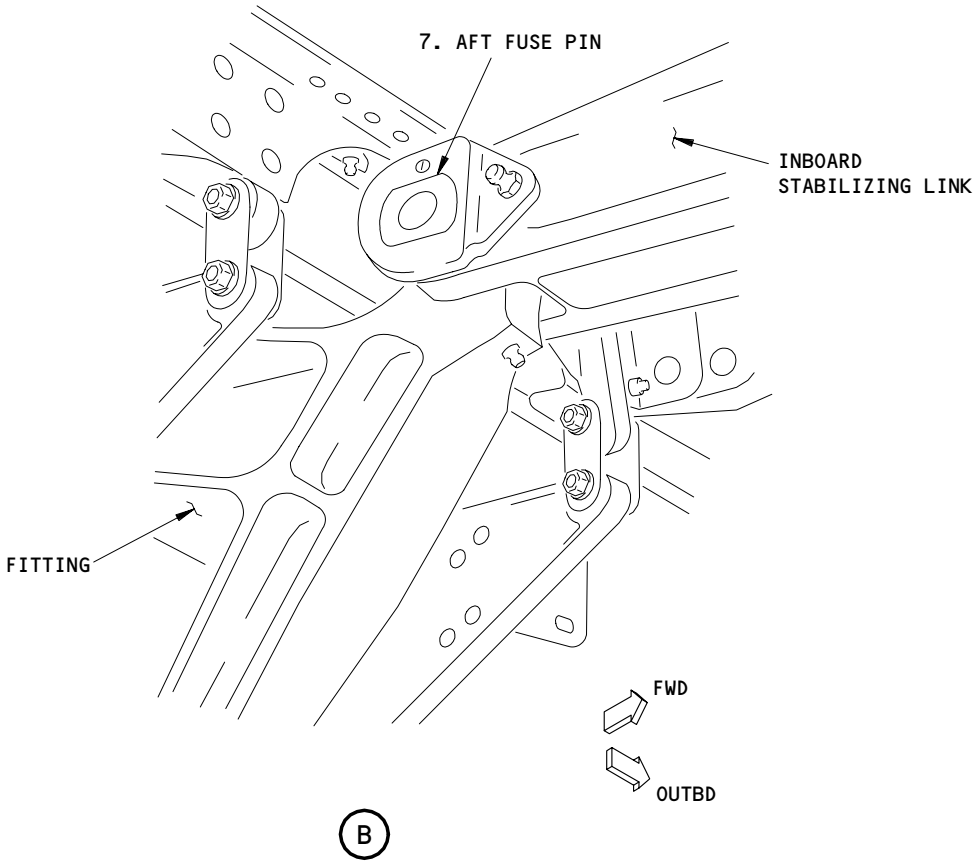
1 AFT SHOWN, FORWARD FUSE PINS ARE HIDDEN

Main Landing Gear Fuse Pins
Figure 201 (Sheet 5)

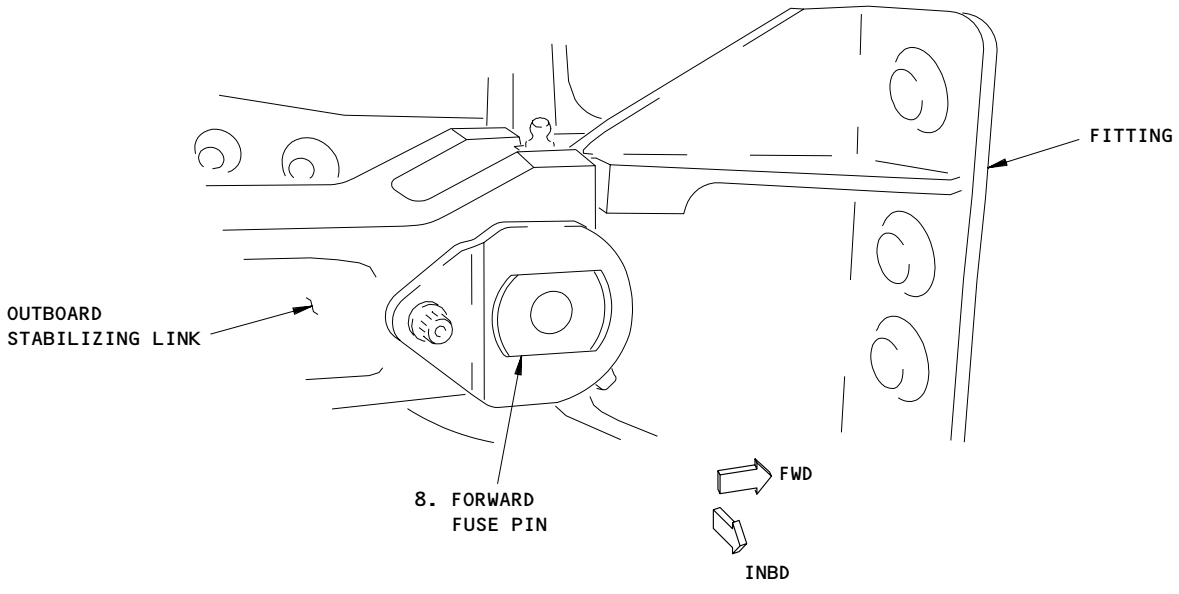


Main Landing Gear Beam End Fittings and Stabilizing Links
Figure 202 (Sheet 1)

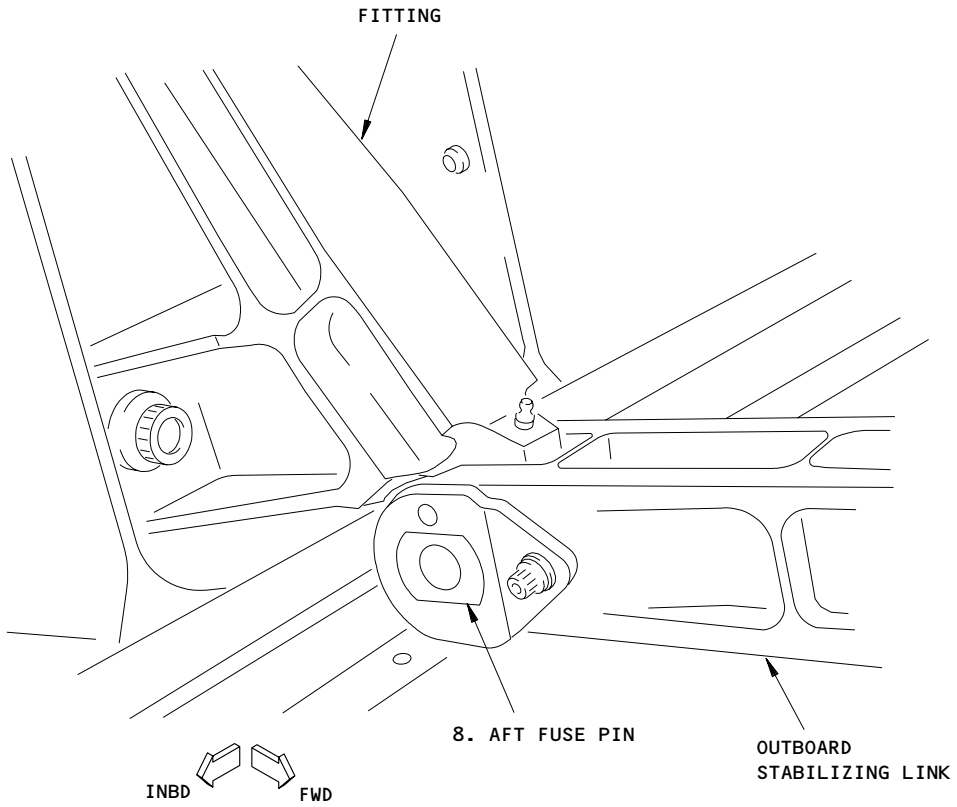




Main Landing Gear Beam End Fittings and Stabilizing Links
Figure 202 (Sheet 2)



C



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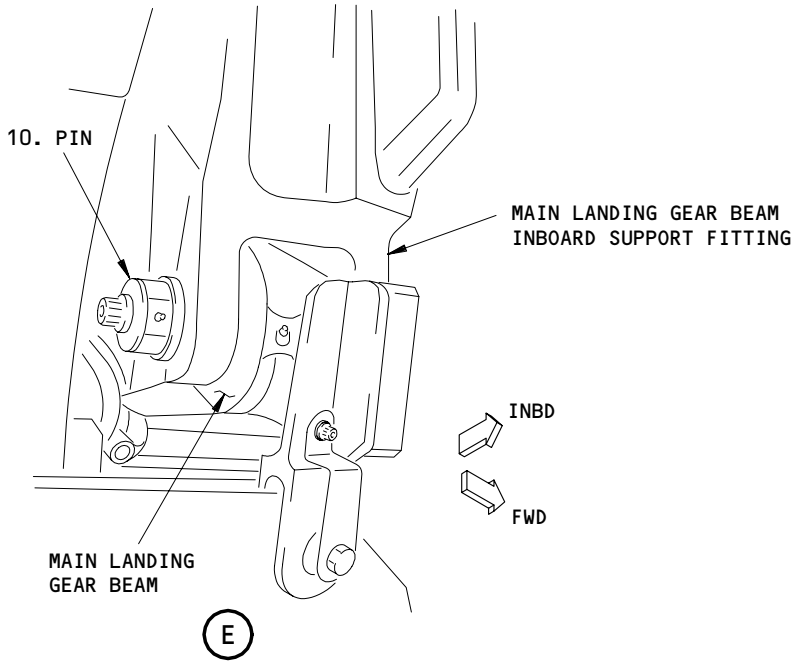
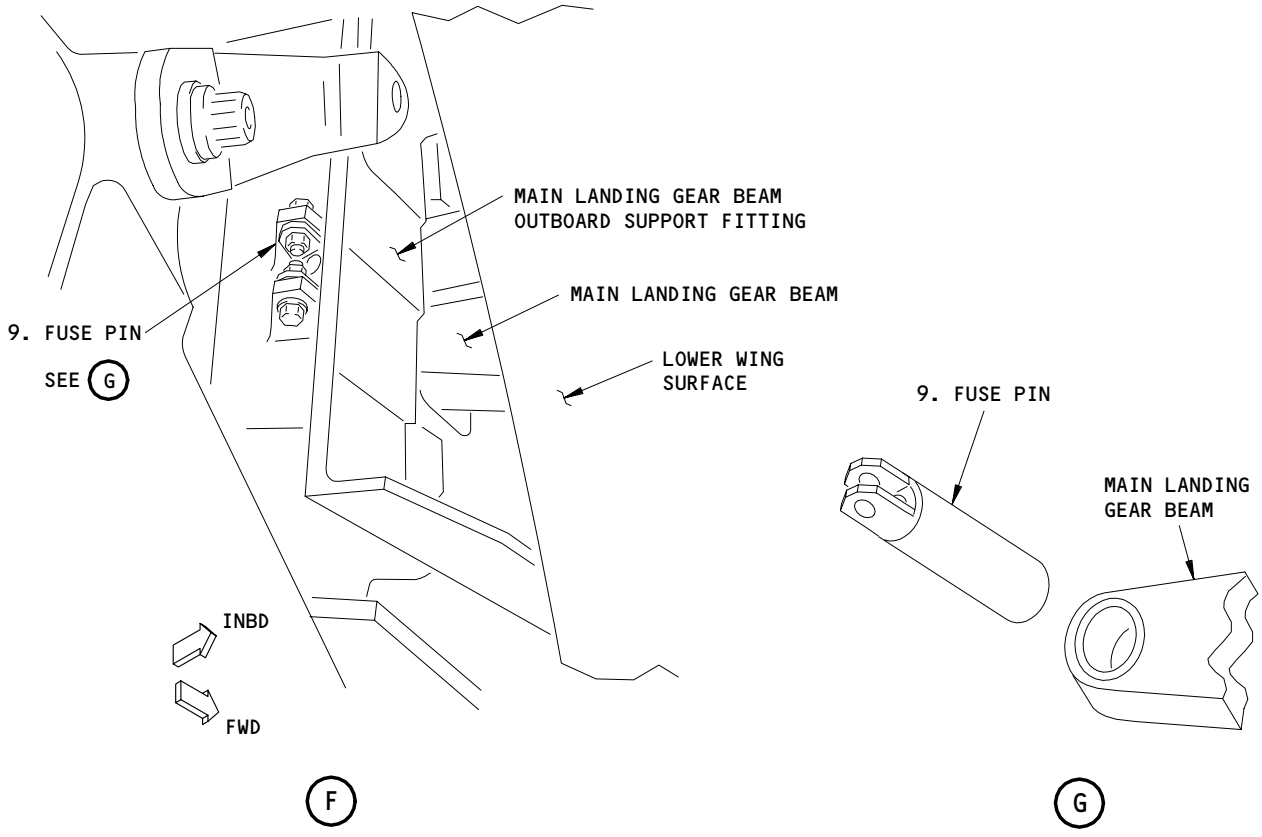
Main Landing Gear Beam End Fittings and Stabilizing Links
Figure 202 (Sheet 3)





Main Landing Gear Beam End Fittings and Stabilizing Links
Figure 202 (Sheet 4)

4) If a high drag or side load landing, and a hard landing occur at the same time, or the shock strut servicing was not correct, remove the main gear inner cylinders.
   a) Dimensionally check the barrel of the inner cylinder, truck beam, and axles for distortion or bending, and examine for cracking.
   b) Inspect the interior components of the shock strut for damage.

(g) Make sure the main landing gear retracts and extends correctly (AMM 32-32-00/501)

(h) Lower the airplane from the jacks (AMM 07-11-01/201).

S 212-035

(2) Nose Landing Gear Inspection

(a) Make sure the shock strut pressures are normal and the hydraulic fluids are at the correct level (AMM 12-15-02/301).

(b) Lift the nose of the airplane with jacks (AMM 07-11-01/201).

(c) Examine the upper and lower drag struts.

(d) Examine the forward and aft lock links (parts that hold the drag strut in the correct position).

(e) Examine all gear bolts, pins, and their attachment lugs.

(f) Remove the wheel and tire assembly and examine the axle.

(g) If one or more of the conditions that follow occurred; remove, disassemble, and examine all parts of the shock strut (AMM 32-21-01/401).
   1) The shock strut pressures were sufficiently low to cause damage.
   2) The hydraulic fluid levels were sufficiently low to cause damage.
   3) You found damage to one or more of the parts during your inspection of the nose landing gear.

(h) Make sure the steering system is adjusted and operates correctly (AMM 32-51-00/501).

(i) Make sure the nose landing gear retracts and extends correctly (AMM 32-34-00/501).

(j) Lower the nose of the airplane from the jacks (AMM 07-11-01/201).

S 212-036

(3) Fuselage Inspection

NOTE: If you find external damage to the fuselage, always examine the adjacent internal structure.

(a) Examine the lower fuselage structure. Examine carefully the area below the body floor beams, immediately aft of the wing center section. Also examine carefully the top of the fuselage in the areas near the wing front and rear spar.

(b) Examine the wing-to-fuselage joints, and wheel well bulkheads and sidewalls.

(c) Examine the external structure in the wheel well area of the nose landing gear.
(d) Examine the fuselage skin joints above the landing gear beam.
(e) If the lower fuselage (body sections 46 and 48) shows signs that it hit the runway, examine the areas thats follow:
1) APU firewall
2) APU drain
3) APU door
4) Drain mast
5) Lower fuselage skin, stringers, frames, and shear ties
6) Aft pressure bulkhead.

S 212-037
(4) Wing Inspection
(a) Examine the side-of-body ribs in the area of the rear spar.
(b) Look at the rear spar to make sure that it is not permanently bent or twisted (between the fuselage and the outboard fuel tank).

S 212-038
(5) Engine Nacelle Inspection
(a) Do the inspection procedure for the dragged engine nacelles (AMM 05-51-10/201).

S 722-039
(6) Flight Control Inspection
(a) Make sure the flight control cables are correctly adjusted (AMM 27-00-01/201).
(b) Make sure the flight controls move freely.

C. Cabin Inspections

S 212-047
(1) Continue the following inspection if any cabin damage was found in the Phase I Cabin Inspection including the ceiling panels, central overhead bins, or the video monitors. If no damage was found, no further cabin inspection is required and it is not necessary to continue this Cabin Inspection.
(a) If ceiling panels without video monitors are found dislodged or damaged: Check for proper latching and installation. Repair as necessary.
(b) If central overhead stowage bins are found with impact damage or are loose, or if ceiling panels equipped with video monitors are found with broken lateches: repair as necessary.
(c) Inspect all tie rods of affected zones for evidence of buckling or rupture. If any defect is found, replace as necessary.
(d) Examine lavatory tie rod attachments for damage consisting of breakage, cracks, and deformation. Inspect the tie rods for evidence of buckling or rupture.
(e) Examine lavatory tie rod attachments for damage consisting of breakage, cracks, and deformation. Inspect the tie rods for evidence of buckling or rupture.

(f) Examine the lavatory floor fittings for damage consisting of breakage, cracks, and deformation.
(g) Examine the lavatory floor fittings for damage consisting of breakage, cracks, and deformation.
(h) Examine galley tie rod attachments for damage consisting of breakage, cracks, and deformation. Inspect the tie rods for evidence of buckling or rupture.
(i) Examine the galley floor fittings for damage consisting of breakage, cracks, and deformation.
(j) Examine closet tie rod attachments for damage consisting of breakage, cracks, and deformation. Inspect the tie rods for evidence of buckling or rupture.
(k) Examine the closet floor fittings for damage consisting of breakage, cracks, and deformation.

D. Put the airplane back to it's usual condition.

S 422-041

(1) Install the components you removed if they are servicable, or install replacement parts.

SEVERE OR UNUSUAL TURBULENCE, STALL, BUFFETING, OR EXCEEDING DESIGN SPEED CONDITION - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. The structural examination in this subject is applicable after a severe or unusual turbulence or buffet condition. It also applies to stalls (after the initial buffet or stick shaker condition), or if the airplane speed is more than the design speed.
      (1) The data that follows applies to a severe or unusual turbulence condition.
         (a) The pilot must make a decision if a structural inspection is necessary.

            NOTE: If an inspection is necessary, perform the tasks entitled "Examine the Airplane Structure" and "Cabin Inspections" in this procedure.

            NOTE: Severe turbulence is identified as turbulence which causes large, abrupt changes in the altitude and/or attitude. The airplane could be out of control for short periods. It usually causes large variations in airspeed. Passengers and crew are moved violently against their seat belts and loose objects are moved around the airplane.

            1) The flight vertical load acceleration limits that follow are specified in the FAA Flight Manual, Section I. If these flight maneuvering vertical load acceleration limits are exceeded, refer to the Examine Airplane Structure procedure in this section.
               a) Flaps up . . . . . 2.5g to -1.0g
               b) Flaps down . . . . . 2.0g to 0.0g

                  NOTE: These flight maneuvering vertical load acceleration limits are not directly applicable to severe or unusual turbulence. Severe or unusual turbulence inspections may be required for conditions that do not exceed these limits.

   B. The data that follows applies to a stall or severe/unusual buffet condition:
      (1) If an unusual maneuver or a severe or unusual buffet condition occurs in flight, do the Examine Airplane Structure in this section. Also do this examination if an unusual vibration occurs in flight.
      (2) If a stall occurs after the initial buffet or stick shaker condition, a part of the structural examination is necessary. Do the examination in the Stall (After initial buffet or stick shaker) Examination procedure in this section.

C. The data that follows applies to airplane speeds greater than the design speeds:
(1) The maximum design speed of the airplane for usual flight operations is the Maximum Operating Speed. The Maximum Operating Speed is found in Section 1, LIMITATIONS of the airplane Flight Manual. The aural warning horn will operate at this speed condition.
(2) If the airplane speed is 20 knots or more than Vmo, or 0.02 mach or more above Mmo, do the "Examine Airplane Structure" procedure in this section.

TASK 05-51-04-212-019

2. Examine Airplane Structure

A. References
(1) 05-51-10/201, Dragged Engine Nacelle/Engine Seize and Strut Damage
(2) 27-11-00, Ailerons
(3) 27-21-00, Rudder
(4) 27-31-00, Elevators
(5) 27-51-00, Trailing Edge Flaps
(6) 27-61-00, Spoiler and Drag Devices
(7) 27-81-00, Lift Augmentation

B. Procedure

S 862-002

WARNING: DO THE DEACTIVATION PROCEDURE FOR THE FLAP/SLAT ACTUATION SYSTEMS. INJURY TO A PERSON OR DAMAGE TO EQUIPMENT CAN OCCUR IF THE FLAPS/SLATS MOVE. FLAP/SLAT ACTUATION SYSTEMS MUST NOT BE OPERATED DURING THIS INSPECTION. FAILURE TO OBEY CAN CAUSE INJURY TO PERSONS.

(1) Do the deactivation procedure for the trailing edge flap system (Ref 27-51-00).

S 862-003

(2) Do the deactivation procedure for the leading edge slat system (Ref 27-81-00).

S 212-004

(3) Do the examinations that follow:
(a) Examine the external surface of the lower keel beam below the wing for distortion, paint that has flaked, and for cracks. Also look for fasteners that have pulled out or are not there.
(b) Examine the fuselage area above the trailing edge part of the wing (aft of the wing rear spar) for distortion, paint that has flaked, and for cracks. Also look for fasteners that have pulled out or are not there.

(c) 757-200 AIRPLANES;
Examine the fuselage, section 46 lower lobe for distortion, paint that has flaked, and for cracks. Also look for fasteners that have pulled out or are not there.

NOTE: A light skin wrinkling/buckling of the lower aft body (between stations 1370 and 1470, below stringer 20L) is a usual condition when the airplane is on its landing gear. But, an apparent increase in the magnitude of these buckling patterns is cause for more internal inspections. This is shown by the formation of sharp creases that usually show between the fasteners.

(d) Examine the complete empennage, section 48 for distortion, paint that has flaked, and for cracks. Also look for fasteners that have pulled out or are not there.

(e) If any external damage is found, do the step that follows:
1) Examine all of the internal primary structure in the damaged areas. Look for distortion, paint that is flaked, for cracks, and for fasteners that have pulled out or are not there. Wrinkles in the keel beam vertical web are normal.

(f) Examine all of the internal structure of the fuselage, section 48 that you can get access to. Look at the structure from the rear pressure bulkhead to the aft end of the airplane. Look for distortions, paint that has flaked, and cracks. Also look for fasteners that have pulled out or are not there.
1) Look at areas that follow:
a) The aft fuselage bulkheads
b) The fin attach fittings
c) The horizontal stabilizer center section
d) The stabilizer hinge fittings
e) The stabilizer jackscrew-mechanism mount fittings and support structure
2) Look at the jackscrew and hinges for signs of binding.
3) Inspect the horizontal stabilizer-to-body rubstrips. Look for signs of movement of the structure against the rubstrips. Such movement shows distortion of the structure.

(g) Examine the external surfaces around the top and bottom wing-to-body attachment. This includes the wing to body fairing, and the rear spar web. Look for distortion, cracks, badly chafed areas, and fasteners that have pulled out or are not there.

(h) If external damage is seen, examine the body-to-wing joints, and the landing gear beam-to-body joints. Also examine the upper-wing skin splice for distortion, paint that has flaked, cracks, and for fasteners that have pulled out or are not there.

WARNING: DO NOT ENTER THE WING LEADING EDGE AND TRAILING EDGE AREAS BEFORE YOU INSTALL SAFETY LOCKS. THE LEADING EDGE SLAT AND TRAILING EDGE FLAP SAFETY LOCK PROCEDURES ARE FOUND IN AMM 27-81-00 AND AMM 27-51-00. THIS WILL PREVENT INJURY TO PERSONS FROM ACCIDENTAL FLAP/SLAT OPERATION.

(i) Examine the external surfaces of the wing at the skin splices. Look for misalignment and for rivets that have pulled out or are not there.
  1) Examine the external surface of the top of the wing trailing edge for buckles in the skin.
  2) If external damage is found, do the step that follows:
    a) Examine all of the internal primary structure, in the damaged area, that you can get to. Look for distortion, skin that has buckled, cracked, and paint that has flaked. Also look for fasteners that have pulled out or are not there.

(j) Examine the wing control surfaces and the attachments at the front and rear spars. Look for cracks and for rivets that are pulled out or are not there. Also look for signs of binding.
  1) If external damage is found, do the steps that follow:
    a) Examine the spars for distortion, buckling, cracks, and paint that has flaked. Also look for fasteners that have pulled out or are not there.
    b) Examine all of the internal primary structure in the damaged area you can get to. Look for distortion, buckling, cracks, and paint that has flaked. Also look for fasteners that have pulled out or are not there.

(k) Examine the landing gear doors and landing gear uplocks for damage.

S 212-011

(4) Examine the inspection and blowout doors on the lower surface of the wing and the engine pylons. Also examine all inspection and access doors on the lower side of the airplane body. Look for distortion, displacement, broken latches, skin cracks and delaminations. Also look for fasteners that have pulled out or are not there.

S 212-012

(5) Examine the wingtip fairings for distortion, cracks, and paint that has flaked. Also look for fasteners that have pulled out or are not there.

S 212-022

(6) Examine the horizontal stabilizer external surfaces for signs of buckling. Look at the skin splices for cracks and fasteners that have pulled out or are not there.
   (a) If external damage to the horizontal stabilizer is found, do the steps that follow:
      1) Examine the spars for distortion, buckling, cracks and paint that has flaked. Also look for fasteners that have pulled out or are not there.
      2) Examine the internal primary structure in the damaged area you can get to. Look for distortion, buckling, cracks and paint that has flaked. Also look for fasteners that have pulled out or are not there.
   (b) Examine the horizontal and vertical stabilizer rear spar webs. Look for distortion, buckling, cracks, and paint that has flaked. Also look for fasteners that have pulled out or are not there.
   (c) Examine the elevator external surfaces for cracks, fasteners that have pulled out or are not there.
   (d) Examine the elevator hinge bearings for signs of binding.
   (e) Examine the elevator actuator bearings for signs of binding.
   (f) If any external damage to the elevator is found, examine the front spar web. Look for distortion, cracks, paint that has flaked, and fasteners that have pulled out or are not there.
   (g) Examine the fin external surfaces for signs of buckling. Look at the skin splices for cracks, and fasteners that have pulled out or are not there.
   (h) If external damage to the fin is found, do the step that follows:
      1) Examine the internal primary structure in the damaged area you can get to. Look for distortion, buckling, cracks, and paint that has flaked. Also look for fasteners that have pulled out or are not there.

(i) Examine the rudder for signs of buckling. Look at the skin splices for cracks, and fasteners that have pulled out or are not there.
1) If external damage to the rudder is found, do the step that follows:
a) Examine the internal primary structure in the damaged area you can get to. Look for distortion, buckling, cracks, and paint that has flaked. Also look for fasteners that have pulled out or are not there.

S 722-005
(7) Make sure the flight controls move freely.
(a) If unusual conditions are found, check all of the flight control force specifications. Also, check the cable tensions. If necessary, refer to the applicable sections that follow:
1) 27-11-00, Ailerons
2) 27-21-00, Rudder
3) 27-31-00, Elevators
4) 27-51-00, Trailing Edge Flaps
5) 27-61-00, Spoilers and Drag Devices
6) 27-81-00, Lift Augmentation

S 212-006
(8) Examine the engine strut panels, doors, and lower surface of the nacelle cowling. Look for buckling, cracks, or fasteners that have pulled out or are not there. Also look for other unusual external conditions.
(a) If unusual conditions are found, do more engine strut and nacelle examinations. Look MM 05-51-10, Dragged Engine Nacelle/Engine Seizure/Engine Strut Damage Condition Maintenance Practices.

S 212-007
(9) Examine the wing, engine nacelles, fuselage external surfaces, and all landing gear wheel wells. Look for signs of fuel leaks or other types of fluid leaks.

S 222-008

(10) If flight load accelerations are more than flight manual limits, and the last examinations showed signs of much damage, check the airplane alignment. The Alignment Check Procedure is in the Structural Repair Manual.

S 712-009

(11) Check the loading and unloading operation of the containers/pallets.
  (a) Check the cargo restraint system in all of the cargo compartments.
    1) Visually check the side guides, seat tracks, pallet locks and rollers. Look for breaks, retaining lips that are not there, and rollers (where installed) that do not move freely.
  (b) If a malfunction is found, trouble shoot the cargo system. Use the applicable manufacturer's maintenance manual.

TASK 05-51-04-212-020

3. Stall (After initial buffet or stick shaker) Structural Examination

A. Procedure

S 212-014

(1) Examine all of the internal structure of the fuselage, section 48 that you can get access to. Look at the structure from the rear pressure bulkhead to the aft end. Look for distortions, paint that has flaked, and for cracks. Also look for fasteners that have pulled out or are not there.
  (a) Look at the areas that follow:
    1) The aft fuselage bulkheads
    2) The horizontal stabilizer center sections
    3) The stabilizer hinge fittings
    4) The stabilizer jackscrew-mechanism mount fittings and support structure.
  (b) Examine the horizontal stabilizer-to-body rubstrips. Look for signs of movement of the structure against the rubstrips. Such movement shows distortion of the structure.

S 212-015

(2) Examine the horizontal stabilizer external surfaces for signs of buckling. Look at the skin splices for cracks and fasteners that have pulled out or are not there.
  (a) If external damage to the horizontal stabilizer is found, do the steps that follow:
    1) Examine the spars for distortion, buckling, cracks, and paint that has flaked. Also look for fasteners that have pulled out or are not there.

2) Examine the internal primary structure in the damaged area you can get to. Look for distortion, buckling, cracks, and paint that has flaked. Also look for fasteners that have pulled out or are not there.

S 212-016

(3) Examine the elevator external surfaces for cracks, and fasteners that have pulled out or are not there.
(a) Examine the elevator hinge bearing for signs of binding.
(b) Examine the elevator actuator bearings for signs of binding.
(c) If any external damage to the elevator is found, examine the front spar web. Look for distortion, cracks, paint that has flaked, and fasteners that have pulled out or are not there.

S 722-017

(4) Make sure the flight controls move freely.
(a) If unusual conditions are found, check all of the flight control force specifications. Also check the cable tensions. If necessary, refer to the applicable Chapter 27 sections that follow:
1) 27-11-00, Ailerons
2) 27-21-00, Rudder
3) 27-31-00, Elevators
4) 27-51-00, Trailing Edge Flaps
5) 27-61-00, Spoilers and Drag Devices
6) 27-81-00, Lift Augmentation

S 212-018

(5) Examine the horizontal-stabilizer rear-spar webs. Look for distortion, buckling, cracks, and paint that has flaked. Also look for fasteners that have pulled out or are not there.

B. Cabin Inspections (after severe or unusual turbulence)

S 212-023

(1) Do a visual inspection of all ceiling panels for dislodging and evi dence of looseness do to impact damage.

S 212-025

(2) Do a detailed visual inspection of all ceiling panels equipped with video monitors.
   (a) Inspect latches, stops, potting inserts and all fasteners.
   (b) Inspect latches, stops, potting inserts and all fasteners.

S 212-026

(3) Continue the following inspection if any cabin damage was found in the above Cabin Inspection including the ceiling panels, central overhead bins, or the video monitors (if installed). If no damage was found, no further cabin inspection is required and it is not necessary to continue this Cabin Inspection.
   (a) If ceiling panels without video monitors are found dislodged or damaged: Check for proper latching and installation. Repair as necessary.
   (b) If central overhead stowage bins are found with impact damage or are loose, or if ceiling panels equipped with video monitors are found with broken lateches: repair as necessary.
   (c) Inspect all tie rods of affected zones for evidence of buckling or rupture. If any defect is found, replace as necessary.
   (d) Examine lavatory tie rod attachments for damage consisting of breakage, cracks, and deformation. Inspect the tie rods for evidence of buckling or rupture.
   (e) Examine the lavatory floor fittings for damage consisting of breakage, cracks, and deformation.
   (f) Examine galley tie rod attachments for damage consisting of breakage, cracks, and deformation. Inspect the tie rods for evidence of buckling or rupture.
   (g) Examine the galley floor fittings for damage consisting of breakage, cracks, and deformation.
   (h) Examine closet tie rod attachments for damage consisting of breakage, cracks, and deformation. Inspect the tie rods for evidence of buckling or rupture.
   (i) Examine the closet floor fittings for damage consisting of breakage, cracks, and deformation.

LANDING GEAR OPERATION ABOVE DESIGN SPEED CONDITION - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. The structural examination in this subject is applicable if the landing gear is operated at speeds more than the permitted maximum placard speed.

TASK 05-51-07-212-001

2. Landing Gear Operation Above Design Speed Condition
   A. References
      (1) 32-12-00/001, Main Gear Doors
      (2) 32-22-00/001, Nose Gear Doors
   B. Examine the Main Gear Door Areas

      S 212-002
      (1) Examine the doors, hinges, linkage and linkage support structure, and the fairing panels. Look for distortion, cracks, misalignment, displacement, and fastener hole elongation or tear-out. Also look for fasteners that have pulled out or are not there, and other evidence of distress (Ref 32-12-00).

      S 212-003
      (2) Examine the systems that are installed in the wheel wells for evidence of distress.
   C. Examine the Nose Gear Door Area

      S 212-004
      (1) Examine the doors, hinges, linkage and linkage support structure, and the fairing panels. Look for distortion cracks, misalignment, displacement, and fastener hole elongation or tear-out. Also look for fasteners that have pulled out or are not there, and other evidence of distress (Ref 32-22-00).

      S 212-005
      (2) Examine the systems that are installed in the wheel well for evidence of distress.

FLAP/SLAT DOWN OVERSPEED CONDITION - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. When the trailing edge flaps are lowered at speeds more than the placard speeds permit, the flap components and related structures must be examined for damage and conditions defined in this procedure.
   B. When the leading edge slats are lowered at speeds more than the flaps 1 placard speed for flap detents 1, 5, 15, and 20, or more than the flaps 25 placard speed for flap detents 25 and 30, the slat components you must examine them for damage and conditions defined in this procedure.
   C. This conditional inspection is divided into two phases:
      (1) Phase I inspection
      (2) Phase II inspection
   D. You must do the conditional inspection as follows:
      (1) If the overspeed was less than 15 knots, do the Phase I inspection within 100 flight hours of the overspeed indication.
         (a) If damage is found during the Phase I inspection, do the Phase II inspection before the next flight.
      (2) If the overspeed was 15 knots or more, do the Phase I and Phase II inspections before the next flight.
   E. When the conditional inspection tells you to examine a component, look for these conditions and repair or replace components, if it is necessary:
      (1) Cracks
      (2) Pulled apart structure
      (3) Loose paint (paint flakes)
      (4) Twisted parts (distortion)
      (5) Bent components
      (6) Loose fasteners
      (7) Fastener holes that became larger or longer
      (8) Fasteners that are damaged or missing
      (9) Delaminations
      (10) Fiber breakouts
      (11) Misalignment

(12) Interference
(13) Other signs of damage

TASK 05-51-08-212-001

2. Phase I Inspection

A. References
(1) AMM 27-51-00/201, Trailing Edge Flap System
(2) AMM 27-81-00/201, Leading Edge Slat System

B. Examine the Trailing Edge Flap Areas

S 862-007

(1) Extend the trailing edge flaps (AMM 27-51-00/201).

S 862-002

WARNING: DO THE DEACTIVATION PROCEDURE FOR THE FLAP ACTUATION SYSTEM. INJURY TO A PERSON OR DAMAGE TO EQUIPMENT CAN OCCUR IF THE FLAPS MOVE. THE FLAP ACTUATION SYSTEM MUST NOT BE OPERATED DURING THIS INSPECTION. FAILURE TO OBEY CAN CAUSE INJURY TO PERSONS.

(2) Do the deactivation procedure for the trailing edge flap system (AMM 27-51-00/201).

S 212-003

(3) Visually examine the trailing edge flap components and support structure as follows:
(a) Examine the external skin of all flaps for distortion.
(b) Look for fasteners that are damaged or missing.
(c) Examine the areas adjacent to the support structure for openings/distortion or split sealant.
1) Repair all of the sealant that have cracks.

NOTE: Splits in the sealant beads can cause corrosion in the internal structure.

WARNING: DO NOT LET OBJECTS GET IN THE HOUSING ASSEMBLY OF THE SLAT TRACK. THIS WILL HELP PREVENT A PUNCTURE OF THE HOUSING ASSEMBLY THAT COULD CAUSE A FUEL LEAK. THE FUEL LEAK COULD CAUSE A FIRE AND POSSIBLE DEATH OR INJURY TO PERSONNEL.

(d) Examine the area to make sure there are no objects in the slat track housing assembly.

C. Examine the Leading Edge Slat Areas

S 862-008

(1) Extend the leading edge slats (AMM 27-81-00/201).

S 862-009

WARNING: DO THE DEACTIVATION PROCEDURE FOR THE SLAT ACTUATION SYSTEM. INJURY TO A PERSON OR DAMAGE TO EQUIPMENT CAN OCCUR IF THE SLATS MOVE. THE SLAT ACTUATION SYSTEM MUST NOT BE OPERATED DURING THIS INSPECTION. FAILURE TO OBEY CAN CAUSE INJURY TO PERSONS.

(2) Do the deactivation procedure for the trailing edge flap system (AMM 27-81-00/201).

S 212-010

(3) Visually examine the leading edge slat components and support structure as follows:
(a) Examine the external skin of all slats for distortion.
(b) Look for fasteners that are damaged or missing.
(c) Examine the areas adjacent to the main tracks and auxiliary arms for openings, distortion or split sealant.
1) Repair all of the sealant that have cracks.

NOTE: Splits in the sealant beads can cause corrosion in the internal structure.

WARNING: DO NOT LET OBJECTS GET IN THE HOUSING ASSEMBLY OF THE SLAT TRACK. THIS WILL HELP PREVENT A PUNCTURE OF THE HOUSING ASSEMBLY THAT COULD CAUSE A FUEL LEAK. THE FUEL LEAK COULD CAUSE A FIRE AND POSSIBLE DEATH OR INJURY TO PERSONNEL.

(d) Examine the area to make sure there are no objects in the slat track housing assembly.

D. Put the Airplane Back to Its Usual Condition

S 862-011

(1) Do the activation procedure for the trailing edge flaps (AMM 27-51-00/201).

S 862-012
(2) Do the activation procedure for the leading edge slats (AMM 27-81-00/201).

S 862-013
(3) Retract the trailing edge flaps (AMM 27-51-00/201).

S 862-014
(4) Retract the leading edge slats (AMM 27-81-00/201).

TASK 05-51-08-212-015

3. Phase II Inspection

A. References
(1) AMM 27-51-00/201, Trailing Edge Flap System
(2) AMM 27-81-00/201, Leading Edge Slat System

B. Examine the Trailing Edge Flaps Areas

S 862-016
(1) Extend the trailing edge flaps (AMM 27-51-00/201).

S 862-035

WARNING: DO THE DEACTIVATION PROCEDURE FOR THE FLAP ACTUATION SYSTEM. INJURY TO A PERSON OR DAMAMGE TO EQUIPMENT CAN OCCUR IF THE FLAPS MOVE. THE FLAP ACTUATION SYSTEM MUST NOT BE OPERATED DURING THIS INSPECTION. FAILURE TO OBEY CAN CAUSE INJURY TO PERSONS.

(2) Do the deactivation procedure for the trailing edge flap system (AMM 27-51-00).

S 212-018
(3) Examine the flap carriages and tracks for cracks and distortion.

S 212-019
(4) Examine the joints for binding, cracks, distortion or hole elongation.

S 212-020
(5) Examine all flap track support fittings and wing spar and skin surfaces that are near the flap track support fitting.
(a) Look for cracks or distortion.
(b) Look for fasteners that are damaged or missing.

S 212-021
(6) Examine the actuators, drive mechanisms and related support structure.

S 022-022

(7) Remove all of the trailing edge flap support-track fuse pins and fuse bolts.
   (a) Remove the fuse pin (AMM 27-51-03-024-001).
   (b) Remove the fuse bolt (AMM 27-51-15-024-001).
   (c) Examine the fuse pin and fuse bolt for cracks or distortion.
      1) Examples of distortion are as follows:
         a) If the fuse pin or fuse bolt are outside their design limits.
         b) There is bending of the fuse pin or fuse bolt.
         c) There is crankshafting of the fuse pin.

S 212-033

WARNING: DO NOT LET OBJECTS GET IN THE HOUSING ASSEMBLY OF THE SLAT TRACK. THIS WILL HELP PREVENT A PUNCTURE OF THE HOUSING ASSEMBLY THAT COULD CAUSE A FUEL LEAK. THE FUEL LEAK COULD CAUSE A FIRE AND POSSIBLE DEATH OR INJURY TO PERSONNEL.

(8) Examine the area to make sure there are no objects in the slat track housing assembly.

C. Examine the Leading Edge Slat Areas

S 862-023

(1) Extend the leading edge slats (AMM 27-81-00/201).

S 862-024

WARNING: DO THE DEACTIVATION PROCEDURE FOR THE SLAT ACTUATION SYSTEM. INJURY TO A PERSON OR DAMAGE TO EQUIPMENT CAN OCCUR IF THE SLATS MOVE. THE SLAT ACTUATION SYSTEM MUST NOT BE OPERATED DURING THIS INSPECTION. FAILURE TO OBEY CAN CAUSE INJURY TO PERSONS.

(2) Do the deactivation procedure for the trailing edge slat system (AMM 27-81-00).

S 212-025

(3) Examine all slat main tracks, auxiliary arms, rack and pinion drive and the related attachment structure.
   (a) Look for cracks, distortion or hole elongation.

S 212-026

(4) Examine all slat track support rollers.
   (a) Examine their attachment bolts and wing inspar surfaces that are near the slat support roller fixed ribs.
   (b) Look for cracks, distortion or hole elongation.
   (c) Look for fasteners that are damaged or missing.

S 212-027
(5) Examine all drive mechanisms and related support structure.

S 212-034

WARNING: DO NOT LET OBJECTS GET IN THE HOUSING ASSEMBLY OF THE SLAT TRACK. THIS WILL HELP PREVENT A PUNCTURE OF THE HOUSING ASSEMBLY THAT COULD CAUSE A FUEL LEAK. THE FUEL LEAK COULD CAUSE A FIRE AND POSSIBLE DEATH OR INJURY TO PERSONNEL.

(6) Examine the area to make sure there are no objects in the slat track housing assembly.

D. Put the Airplane Back to Its Usual Condition

S 862-028
(1) Do the activation procedure for the trailing edge flaps (AMM 27-51-00/201).

S 862-029
(2) Do the activation procedure for the leading edge slats (AMM 27-81-00/201).

S 862-030
(3) Retract the trailing edge flaps (AMM 27-51-00/201).

S 862-031
(4) Retract the leading edge slats (AMM 27-81-00/201).

OVERWEIGHT TAXI CONDITION (CONDITIONAL INSPECTION) - MAINTENANCE PRACTICES

1. General
   A. Overweight Taxi is defined as taxiing at a weight that is more than the maximum-design-taxi weight (MTW).
      (1) Before flight, you must decrease airplane weight to that specified by the Airplane Flight Manual for takeoff.
   B. Inspection Criteria; An immediate structural inspection is necessary if you:
      (1) Taxi the airplane overweight by more than 1/2% of the maximum-taxi-weight (MTW).
      (2) Taxi the airplane overweight over the Maximum Design Taxi Weight (MTW) and have any of these conditions:
         (a) High speed ground turn
         (b) Sharp radius turn
         (c) Heavy braking
         (d) Taxi over rough pavement
         (e) Pivoting (sharp radius turning with brakes on)
      (3) If the criteria for the above paragraphs have not been met, no inspection is necessary.
         (a) But, you must decrease the airplane weight to that specified by the Airplane Flight Manual before takeoff.
   C. The Inspections
      (1) The inspection is divided into Phases 1 and Phase 2.
         (a) If the inspection for Phase 1 shows no signs of damage, the inspection is complete.
         (b) If the Phase 1 inspection shows signs of damage, the Phase 2 inspection must be done.
   D. Inspections, Repairs, and Replacements
      (1) When this procedure tells you to "examine" a part, look for these conditions:
         - cracks
         - structure that pulled apart
         - loose paint (paint flakes)
         - twisted parts (distortion)
         - bent parts
         - wrinkles or buckles in structure
         - fastener holes that became larger or longer
         - loose fasteners
         - missing fasteners (fasteners that have pulled out or are gone)
         - delaminations (a component with one or more layers pulled apart)
         - parts that are not aligned correctly
         - interference (clearance that is not sufficient between two parts)
         - discoloration (heat damage)
         - nicks or gouges
         - other signs of damage

      (2) Replace or repair the components that have one or more of the conditions given above.

TASK 05-51-09-212-001

2. Phase 1 Inspection

A. Airplane Inspection

S 212-002

(1) Do the inspection of the main and nose landing gear.

(a) Examine all tires and wheels.

(b) Examine the support structure.

(c) Look for signs of fluid leakage at the top and bottom of the outer cylinder of the shock strut.

NOTE: A small quantity of hydraulic fluid on the surface of the inner cylinder of the shock strut is satisfactory.

(d) Examine the main landing gear truck beams.

S 212-003

(2) Do the inspection of the landing gear, fuselage, and wing.

(a) Look for fuel leaks, and other fluid leaks, in the areas that follow:

1) All wheel well areas of the main and nose landing gear

2) The lower external surface of the fuselage in the area of the wing-to-body fairing

3) The wing

TASK 05-51-09-212-004

3. Phase 2 Inspection

A. References

(1) AMM 07-11-01/201, Jacking Airplane

(2) AMM 12-15-01/301, Main Gear Shock Strut

(3) AMM 12-15-02/301, Nose Gear Shock Strut

(4) AMM 32-11-01/401, Main Gear

(5) AMM 32-21-01/401, Nose Gear

(6) AMM 32-32-00/501, Main Landing Gear Extension and Retraction

(7) AMM 32-34-00/501, Nose Landing Gear Extension and Retraction

(8) AMM 32-51-00/501, Nose Wheel Steering System

(9) AMM 51-10-00/601, Reduced Vertical Separation Minimum (RVSM)

B. Airplane Inspection

S 212-005

(1) Do the inspection of the main landing gear and support structure.
  (a) Make sure the shock strut pressures are normal and the hydraulic fluids are at the correct levels (AMM 12-15-01/301).
  (b) Lift the airplane with jacks (Ref 07-11-01/201).
  (c) Examine the inner and outer cylinder lugs.
  (d) Examine all structural components of the main landing gear and carefully examine the components that follow:
    1) Shock strut
    2) Trunnion link
    3) Drag strut
    4) Torsion links
    5) Truck beam (near inner cylinder forks)
    6) Side strut
    7) Downlock
    8) Truck Position Actuator (the actuator that sets the angle of the truck beam for retraction and extension
    9) Strut doors and the mechanism that retracts and extends the doors.
  (e) Examine the support structure of the main landing gear and carefully examine the components that follow:
    1) Landing Gear Beam
    2) Support fittings for the landing gear beam
      - Inboard
      - Outboard

    3) Trunnion support fittings and attachments
      - Forward
      - Aft

    4) Stabilizer links and fittings between the rear spar and landing gear beam
      - Inboard
      - Outboard

    5) Body fitting for side strut attachment.
  (f) Examine all of the pin joints and fuse pin connections.
  (g) If you found tire damage in Phase 1, do the steps that follow.
    1) Remove and examine the sheel structure.
    2) Remove and examine the brake assembly.
    3) Examine the axles.
  (h) If one or more of the conditions that follow occurred; remove, disassemble, and examine all parts of the shock strut (AMM 32-11-01/401).
    1) The shock strut pressures were sufficiently low to cause damage.
    2) The hydraulic fluid levels were sufficiently low to cause damage.

3) You found damage to one or more of the parts during your inspection of the landing gear.

(i) Make sure the main landing gear retracts and extends correctly (AMM 32-32-00/501).

(j) Lower the airplane from the jacks (AMM 07-11-01/201).

S 212-008

(2) Do the inspection of the nose landing gear and support structure.

(a) Make sure the shock strut pressures are normal and the hydraulic fluids are at the correct levels (AMM 12-15-02/301).

(b) Lift the nose of the airplane with jacks (AMM 07-11-01/201).

(c) If you found tire damage in the Phase 1 inspection, do the steps that follow:

1) Remove and examine the wheel structure.

2) Examine the axle.

(d) Examine all structural components of the nose landing gear and carefully examine the components that follow:

1) the shock strut

2) the torsion links

3) the drag strut

4) the lock links.

(e) Examine the wheel well area and carefully examine the parts that follow:

1) the web (the left and right side walls)

2) the aft bulkhead

3) the trunnion attachments

4) the drag strut attachments.

(f) If one or more of the conditions that follow occurred; remove, disassemble, and examine all parts of the shock strut (AMM 32-21-01/401).

1) The shock strut pressures were sufficiently low to cause damage.

2) The hydraulic fluid levels were sufficiently low to cause damage.

3) You found damage to one or more of the parts during your inspection of the landing gear.

(g) Make sure the steering system is adjusted and operates correctly (AMM 32-51-00/501).

(h) Make sure the nose landing gear retracts and extends correctly (AMM 32-34-00/501).

(i) Lower the nose of the airplane from the jacks (AMM 07-11-01/201).

S 212-009

(3) Do the inspection of the fuselage.

NOTE: If you find external damage to the fuselage, always examine the adjacent internal structure.

(a) Examine the lower fuselage structure.
1) Examine carefully the area below the fuselage floor beams, immediately aft of the wing center section.
2) Also examine carefully the top of the fuselage in the areas near the wing front and rear spar.

(b) 757-200 AIRPLANES
Examine the skin panels on the lower side of the aft fuselage (Examine carefully between Body Stations 1370 and 1470, below stringer 20).

NOTE: Small buckles or wrinkles between fasteners are indications of damage. Large buckles or wrinkles between fasteners are also indications of damage.

(c) Examine the wing-to-fuselage joints, and wheel well bulkheads and sidewalls.

(d) Examine the fuselage skin joints above the landing gear beam.

S 212-012

(4) Reduced Vertical Separation Minimum (RVSM) Inspection
(a) Examine the area around the pitot static ports.

C. Put the airplane back to it's usual condition.

S 432-010

(1) Install the components you removed or install replacement components.

DRAGGED ENGINE NACELLE/ENGINE SEIZURE/ENGINE AND STRUT DAMAGE CONDITION - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. This section gives an examination procedure for the engine and strut after a dragged engine nacelle condition. It also includes examination after an engine seizure and other types of engine and strut damage. Other types of engine damage refers to conditions that cause abnormal engine vibration. These vibrations can be caused by loss of fan blades or other parts of the engine or cowling. Other types of strut damage refers to conditions that cause damage to the strut or cowling. The type of damage, such as dents or wrinkles is caused when they are touched by ground support equipment.

TASK 05-51-10-212-001

2. Dragged Engine Nacelle/Engine Seizure/Engine and Strut Damage Conditional Inspection
   A. References
      (1) 54-51-01/601, Nacelle Strut
      (2) 54-52-01/601, Nacelle Strut Fairing
      (3) 71-00-00/601, Power Plant
   B. Examine Struts and Nacelles

      S 212-002
      (1) Examine the areas that follow for buckling, cracks, and fasteners that have pulled out or are not there. Also look for unusual external conditions (Ref 54-52-01).
         (a) Strut panels
         (b) Strut doors
         (c) Lower surface of the nacelle cowlings.
         (d) If damage is found in the last steps, do the examinations that follow.

      S 012-003
      (2) Remove all strut panels and doors, and open the nacelle cowlings (Ref 54-52-01).

S 212-004
(3) Examine all engine mounts and strut-to-wing attachments, and their fittings, fitting pins and fuse pins. Look for cracks, signs of offset deformation, or peening of pins or bushings (Ref 54-51-01).

S 212-005
(4) Examine all other primary structure, which includes the wing support fittings. Look for distortion, cracks, paint that has flaked, and fasteners that have pulled loose or are missing.

S 212-006
(5) If engine seizure or internal damage is thought to have occured, examine the engine. If necessary remove the engine for inspection (Ref 71-00-00).

GALLEY SPILL - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. This procedure supplies one task. This task is to do an inspection and the cleanup of the areas of contamination after a liquid is spilled in the galley.
   B. If liquids are spilled inside the galley, you must remove all signs of liquid and fully dry the areas of contamination immediately.
   C. If the floor area of the galley area is not sealed correctly, liquid contamination can result in corrosion of the floor structure.

      NOTE: Moisture above the galley floor can go through small holes in the floor surface area and stay out of view. This could possibly cause unwanted damaged to the airplane structure or to equipment in the area below the galley floor.

TASK 05-51-13-202-001

2. Galley Spill Conditional Inspection
   A. General
      (1) This inspection procedure is to be done when liquid has been spilled in the galley area.

          NOTE: When a small amount of liquid is spilled, an inspection is not usually necessary.

      (2) In the galley areas, a water (liquid) barrier is installed to contain liquid when it is spilled. To protect the water barrier, vinyl mats cover the galley floor.
      (3) In the adjacent entry and service door thresholds, waste water drains are installed to remove liquids (gray water) from the floor. These drain holes must be kept free from blockages.
      (4) The integrity of the water barrier seal, in the forward galley areas, is most important because the location of the electronic equipment compartment is directly below the forward galley.
      (5) A leak from the forward galley which has a damaged water barrier, into the compartment below, could possibly cause serious damage to the electronic equipment. The result could be a possible hazard to the flight safety of the airplane.
      (6) In all areas where gray water contamination has to be removed and cleaned, you must use an approved disinfectant to kill all harmful micro-organisms.
      (7) The flight safety of the airplane, together with the safety of health and the prevention of bad smells, must be your first consideration when you do this task.

B. References
(1) AMM 20-30-07/201, Miscellaneous Materials
(2) AMM 20-30-02/201, Cleaners and Polishes
(3) AMM 25-00-00/701, Equipment/Furnishings
(4) AMM 25-27-01/401, Entry and Service Area Floor Covering
(5) AMM 25-31-00/001, Galleys
(6) AMM 51-31-00/001, Seals and Sealing
(7) AMM 53-00-00/401, Passenger Cabin Floors

C. Equipment
(1) Workstand

D. Consumable Materials
(1) Gown - Disposable
(2) Gloves - Disposable
(3) Shop Coat - Disposable
(4) Mask, face - Disposable
(5) Glasses - Safety
(6) Cloth, lint-free
(7) Cheesecloth

E. Access
(1) Location Zones

222	Forward Galley (1A)
222	Forward Galley (2B)
251	Aft Galley (4A)
252	Aft Galley (4B)
119	Electronic Compartment
822	Aft Cargo Compartment
822	Aft Cargo Compartment Door
822	Aft Cargo Compartment Equipment Bay

(2) Access Panels

119BL	Electronic Equipment Compartment Door
No.2	Aft Cargo Compartment Door

F. Procedure

S 162-002
(1) In the galley where the liquid was spilled, use a clean cloth or a sponge to remove all liquid from the floor of the galley area.

S 012-003
(2) In the galley area where the liquid was spilled, remove the floor area covering (AMM 25-27-211/401), to do an inspection of the waterseal.

NOTE: The waterseal of the galley area can be damaged if care is not taken when you remove the vinyl floor mats.

S 162-004
(3) Use approved cleaning agents and disinfectants when you clean areas where blue water contamination has occurred (AMM 20-30-02/201).

S 212-005
(4) Make sure the door threshold drain, adjacent to the galley area, is clear and free from blockages (AMM 38-31-00/201).

S 212-006
(5) Inspect the fillet seal at the base of the galley for signs of damage.

S 212-007
(6) Inspect the floor waterseal for signs of damage to materials and sealants.

S 012-008
(7) If you find signs of damage to seals and/or sealing, refer to the approved repairs (AMM 53-01-01/401).

S 012-009
(8) If the inspection is applicable to the forward galley, open the electronic equipment compartment door for access.

S 212-010
(9) If the inspection is applicable to the aft galley, open the aft cargo compartment door for access, and remove the access panel on the rear bulkhead of the aft cargo compartment.

S 212-011
(10) Use a strong light and do a close visual examination of the area below the floor of the galley.

S 362-012

(11) If you find signs of moisture below the galley area, in electronic equipment compartment or the aft cargo compartment equipment bay, do the steps that follow:

(a) Use a clean cloth or a sponge to absorb and remove all moisture from the area.

(b) Do an examination of all the waste-water drain tubes and related clamps for signs of a leak.

(c) Tighten all clamps and/or replace damaged drain tubes as necessary.

(d) Examine the floor beams, intercostals and structure for signs of moisture and/or corrosion.

(e) Do an inspection of installed equipment, in the applicable equipment compartment for signs of contamination.

1) If you find signs of moisture on equipment electrical cables, use a dry air supply to remove all moisture from the contaminated areas.

NOTE: Electrical cable looms can hold moisture between the separate wires. If possible, open the wires in a contaminated cable when you dry the cable.

2) Do a check of contaminated connectors for moisture ingress and dry as necessary.

NOTE: If you think a connector is contaminated with moisture, you must disconnect and fully examine the connector and the related equipment connector.

(f) If you find signs of moisture, use a clean cloth or a dry air supply to remove all moisture and fully dry the contaminated components.

S 412-013

(12) If you do not find signs of moisture and the water barrier is in a serviceable condition, do the close out procedure.

NOTE: The removal of the galley and repairs to the floor water barrier are only necessary when signs of damage and leaks in the galley floor are found.

S 012-014
(13) If your inspection shows damage to the water barrier of the galley floor area and/or shows the moisture travel to go below the galley floor, remove the applicable galley.
(a) If necessary, remove the galley floor (AMM 53-00-00/401).

S 162-015
(14) Fully clean the area and the floor panels and make sure you remove all the remaining sealant.

S 212-016
(15) If corrosion is found on the airframe, refer to the Structural Repair Manual (SRM).

S 412-017
(16) Install the galley floor (AMM 53-21-0/401).

S 422-018
(17) Install the water barrier in the galley.

S 412-019
(18) Install the galley (as applicable).

S 702-020
(19) If an equipment is found to have been contaminated with moisture, you must do an operational test of the equipment after all the moisture has been removed.

S 412-021
(20) Do the close out procedure as follows:

S 412-022
(21) Install the galley floor covering (AMM 25-27-01/401).

S 412-023
(22) If applicable, close the electronic equipment compartment door.

S 412-024
(23) If applicable, install the access panel on the rear bulkhead of the aft cargo compartment and close the aft cargo compartment door.

HIGH ENERGY STOP/HEAT DAMAGE CONDITION - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General

A. This section gives an examination procedure for landing gear cylinders, wheels, and brakes after a high energy stop condition. The extent of the examination depends on the level of absorbed kinetic energy.

NOTE: If an EICAS brake temperature monitor indication of 5 or more, or a BRAKE TEMP message occurs, the energy present will not always cause the wheel fuses to release. The condition is a high energy stop within the caution range.

NOTE: If fuse releases do occur, the condition is a high energy stop within the fuse plug melt range.

(1) The heat absorbed by the airplane brake is slowly, but not fully transmitted to the wheel, tire, and the in-axle components.
(2) The wheels have fuse plugs which are designed to melt and release the tire pressure.

NOTE: The fuse plugs melt at a specific design temperature.

(a) This is to stop ruptures of the tires and wheels when the wheel temperature gets to high.

B. The approximate energy absorbed by a brake unit can be found by the use of the brake energy chart (Fig. 201). Use of the chart will provide only an approximation of the energy absorbed during the stop. The factors that follow will also affect the energy absorbed:
(1) Residual energy from the previous stop
(2) The runway slope
(3) The wind conditions
(4) Thrust reverser use.

C. The approximate energy absorbed with the use of Fig. 201 is shown in the example that follows:
(1) Gross Weight - 194,000 pounds (88,000 kg)
(2) Brakes on Speed - 100 knots (no wind)
(3) Pressure Altitude - 2000 ft
(4) Outside Air Temperature - 86°F (30°C)

(5) Normal Landing Stop
(6) Auto Brake Setting Number 4
(7) No Reversers
(8) Taxi Distance - 1 mile
(9) Resultant Brake Energy - 11.2 million foot-pounds per brake for the landing plus 0.65 million foot-pounds for the taxi which equals 11.85 million foot-pounds per brake total.
(10) Resultant is in the COOLING RECOMMENDED range

D. ON GUI 115;
the Brake Temperature Monitoring System (Ref 32-46-00) shows a white BRAKE TEMP light or a reading of 3 to 6 on the EICAS CRT panel. It shows that caution is required to prevent too much energy on subsequent ground operations. It does not show that high energy is there.

E. A high energy condition can be a refused takeoff. It can also be any stop or sequence of stops that collects energy in the CAUTION range (Fig. 201). An indication that a high energy stop, or equivalent, has been made is the release of a wheel fuse plug. Energy levels are different between brakes after stops in the COOLING RECOMMENDED range. One or more brakes could have absorbed energy in the CAUTION range, and one or more wheel fuse plugs released.

TASK 05-51-14-212-001

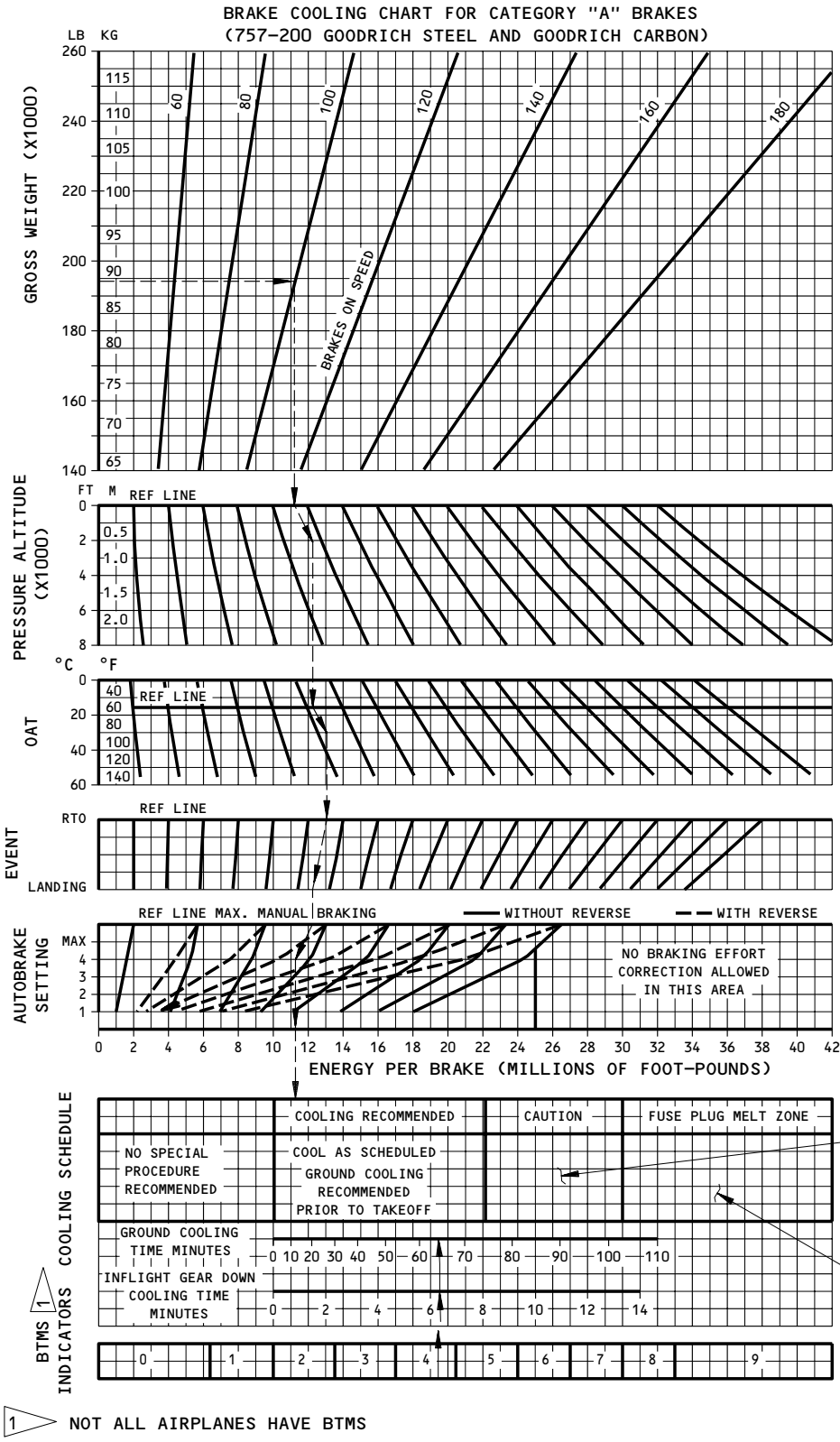
2. High Energy Stop

A. Equipment

WARNING: DO NOT GO NEAR THE MAIN LANDING GEAR FOR 1 HOUR AFTER THE AIRPLANE HAS MADE A HIGH ENERGY STOP. INJURY TO PERSONS CAN OCCUR.

WARNING: THE POWER CABLE OF THE BORESCOPE MUST BE IN GOOD CONDITION. IF THERE ARE ANY CIRCUMFERENTIAL CUTS, FRAYED AREAS, OR RUPTURES TO THE EXTERNAL RUBBER COVER OF THE CABLE, INJURY TO PERSONS CAN OCCUR.

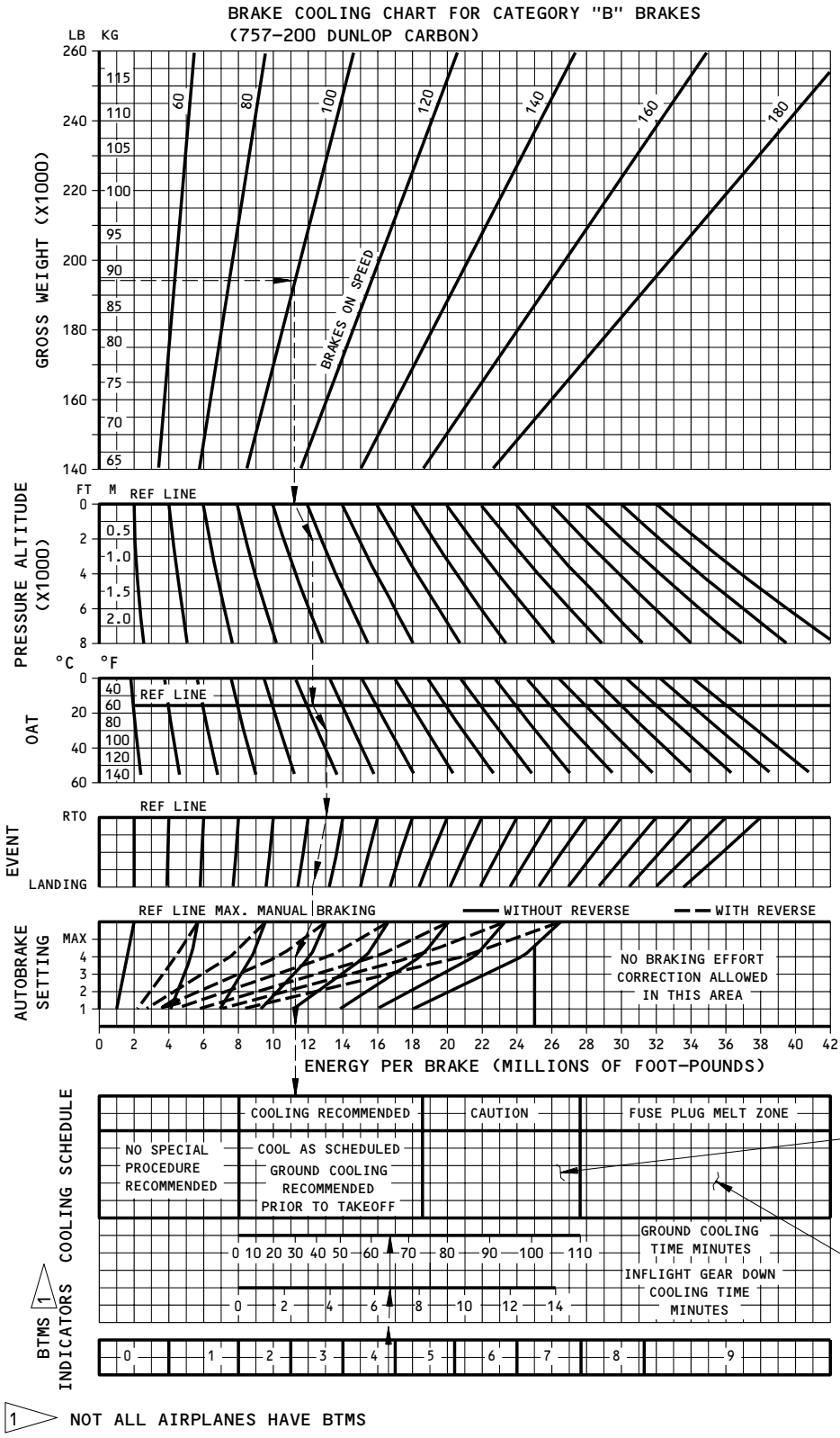
(1) Borescope - Fiber Optic Light Supply - Model BLS-97, American Cystoscope Makers Inc., Industrial Division, Pelham, New York
(2) Borescope - Fiber Optic Light Supply - Model BLS-98, American Cystoscope Makers Inc., Industrial Division, Pelham, New York
(3) Rigid Borescope - Model BF0-3920A, American Cystoscope Makers Inc., Industrial Division, Pelham, New York
(4) Flexible Borescope - Model BF1F-3127DD, Cystoscope Makers Inc., Industrial Division, Pelham, New York
(5) Fiber Light Carrier - Model F0-400-5A, Cystoscope Makers Inc., Industrial Division, Pelham, New York



Brake Energy
Figure 201 (Sheet 1)

EFFECTIVITY
ALL

K27446



GUIDANCE INFORMATION ONLY

OBSERVE MAXIMUM QUICK TURN-AROUND LIMITATION

NOTE: TO CORRECT FOR WIND ENTER CHART WITH BRAKES ON SPEED MINUS ONE-HALF THE HEADWIND OR PLUS 1.5 TIMES THE TAILWIND.

CHART SHOWS ENERGY PER BRAKE ADDED BY A SINGLE STOP WITH ALL BRAKES OPERATING. ENERGY IS ASSUMED TO BE EQUALLY DISTRIBUTED AMONG THE OPERATING BRAKES. TOTAL ENERGY PLUS ENERGY ADDED.

ADD .65 MILLION FOOT POUNDS (.88 MILLION NEWTON-METERS) PER BRAKE FOR EACH TAXI MILE.

FOR ONE BRAKE DEACTIVATED, INCREASE ENERGY PER BRAKE BY 15 PERCENT.

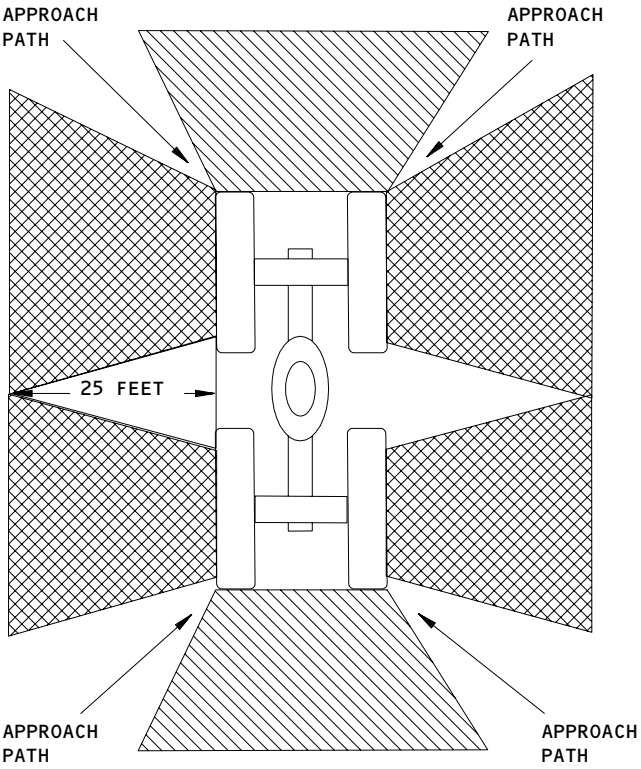
IF GROUND SPEED IS USED FOR BRAKES ON SPEED, IGNORE WIND, ALTITUDE, AND OAT EFFECTS.

NOTE: BRAKE TEMPERATURE MONITOR INDICATION ON EICAS MAY BE USED 10 TO 15 MINUTES AFTER AIRPLANE HAS COME TO A COMPLETE STOP, OR IN-FLIGHT WITH GEAR RETRACTED, TO DETERMINE RECOMMENDED COOLING SCHEDULE.

WHEEL FUSE PLUGS MAY MELT. DELAY TAKEOFF, AND INSPECT AFTER ONE HOUR. IF OVERHEAT OCCURS AFTER TAKEOFF, EXTEND GEAR SOON FOR AT LEAST 8 MINUTES.

CLEAR RUNWAY IMMEDIATELY, UNLESS REQUIRED, DO NOT SET PARKING BRAKE. DO NOT APPROACH GEAR OR ATTEMPT TAXI FOR ONE HOUR. TIRE, WHEEL, AND BRAKE REPLACEMENT MAY BE REQUIRED. IF OVERHEAT OCCURS AFTER TAKE-OFF, EXTEND GEAR SOON FOR AT LEAST 12 MINUTES.

Brake Energy
Figure 201 (Sheet 2)



TIRE HAZARD AREA
RIM HAZARD AREA

NOTE: DO NOT APPROACH MLG FOR INSPECTION OR INSTALLATION OF GEAR PINS UNTIL CLEARED

Hot Brake and Tire Danger Areas
Figure 201 (Sheet 3)

(6) Rigid Borescope - Model FIB 730, Richard Wolf Medical Instruments Corp., Rosemont, Illinois
(7) Rigid Borescope - Model FIB 740, Richard Wolf Medical Instruments Corp., Rosemont, Illinois
(8) Rigid Borescope - Model FIB 760, Richard Wolf Medical Instruments Corp., Rosemont, Illinois

B. References
(1) 32-41-10/401, Main Gear Wheel Brake - Removal/Installation
(2) 32-41-10/601, Main Gear Wheel Brake - Inspection/Check
(3) 32-42-06/401, Antiskid Transducer - Removal/Installation
(4) 32-45-03/601, Tires - Inspection/Check
(5) 32-45-04/601, Wheels - Inspection/Check

C. High Energy Stop Conditional Inspection - In CAUTION Range

S 582-046
(1) AIRPLANES WITH BTMS;
Do not dispatch the airplane if you meet the condition that follows:
(a) The BRAKE TEMP light is on and the BTMS readings on the Systems Display are between 5.0 and 7.8.
1) Do not dispatch the airplane until you meet at least one of these two conditions:
a) 68 minutes have passed since the airplane landed.
b) All of the BTMS readings on the System Display are below 3.5 and the BRAKE TEMP light is off.

S 582-002

WARNING: DO NOT GO NEAR THE MAIN LANDING GEAR FOR 1 HOUR AFTER THE AIRPLANE HAS MADE A HIGH ENERGY STOP. INJURY TO PERSONS CAN OCCUR.

(2) Move the airplane away from the runway in use.
(a) Do not use the brakes very much when the airplane is moved.
(b) Do not set the parking brake.

S 882-003
(3) Let the brakes, tires, and wheels cool so you can touch them.

S 212-004
(4) Examine the tires (Ref 32-45-03).

S 212-005
(5) Examine the wheels (Ref 32-45-04).

S 212-006

(6) Examine the brakes (Ref 32-41-10).

(a) Apply the brakes fully five or six times. Monitor the brake operation and look for hydraulic leaks during the last time the brakes were applied.

NOTE: Make sure the brakes work. Look at the movement of the brake indicator wear pins.

D. High Energy Stop Conditional Inspection - In FUSE PLUG MELT Range

S 582-007

(1) Move the airplane away from the runway in use immediately because the tires will possibly deflate.

(a) Do not set the parking brake.

(b) Do not let the airplane move. Do one of these steps:

1) keep the tow tug connected to the airplane.

2) Put the chocks on the nose landing gear tires.

WARNING: DO NOT GO NEAR THE MAIN LANDING GEAR FOR 1 HOUR AFTER THE AIRPLANE HAS MADE A HIGH ENERGY STOP. INJURY TO PERSONS CAN OCCUR.

(c) Tell the fire department persons that the types of fires that follow could occur:

1) Hydraulic fluid

2) Grease

3) Tires

WARNING: DO NOT SPRAY EXTINGUISHER OR COOLANT DIRECTLY ON THE INFLATED TIRE OR WHEEL. AN EXPLOSION CAN BE CAUSED AND INJURY TO PERSONS CAN OCCUR.

(d) After 1 hour, use water mist or fog on the wheel or tire to decrease the temperature. Or, wait 2 to 3 hours for the brakes, wheels and tires to cool so that they can be touched. If a chemical agent is used to extinguish a brake-area fire, thoroughly rinse extinguishing agent from the brakes and surrounding components once they have cooled. Use large amount of low-pressure, clean water to rinse.

NOTE: A different source of cooling can be an air conditioning cart or truck.

S 212-008

(2) Examine the tires on the axles where all tires and wheel assemblies are inflated (Ref 32-45-03).

S 212-010
(3) Examine the wheels on the axles where all tires and wheel assemblies are inflated (Ref 32-45-04).

S 212-009
(4) Examine the brakes on the axles where all tires and wheel assemblies are inflated (Ref 32-41-10).

S 022-011
(5) Remove the main gear tires and wheels on the axles where some of, or all of the tires and wheels are deflated. Do this also if the fuse plugs are melted. Do this step after the landing gear is cool and safe to go near (Ref 32-45-01).

S 212-012
(6) Examine the axles where some or all of the tires have deflated or fuse plugs melted. Look for heat damage.

S 022-013
(7) Remove the brakes (Ref 32-41-10).

S 022-014
(8) Remove the antiskid transducers (Ref 32-42-06).

S 212-015
(9) Examine the not painted outer diameters of the axles, axle bushings, and axle sleeves for heat damage. If heat damage is apparent, do the heat damage inspection procedure.

S 212-016
(10) Examine the paint (green primer or light gray enamel) on the outer surfaces of the axle for discoloration or blisters. This includes the surfaces you can see through the holes and slots in the sleeves.
   (a) Green paint will change to a light brown or black color.
   (b) Light gray paint will change to a yellow color.
   (c) If the paint has discolored or blistered, examine the cadmium (or cadmium/titanium) plating. Look for a white oxide material, and blistered or melted plating. If the plating shows signs of heat damage, replace the components.

      NOTE: Such damage can cause cadmium diffusion into the steel substrate and is not found by the etch procedure.

   (d) If the plating shows signs of heat damage, do the heat damage inspection procedure.
   (e) If the paint shows only a small discoloration, more heat damage inspections can wait. Do the last part of the inspection after the ariplane gets back to the primary base. Do not land more than three times before you do this inspection.

S 292-017

(11) Examine the paint (green primer or light gray enamel) on the inner surfaces (bore) of the axle with a borescope. Use the borescope to a minimum depth of 16 inches. Look for discoloration or blistering.
(a) Green paint will change to a light brown or black color.
(b) Light gray paint will change to a yellow color.
(c) If the plating shows signs of heat damage, do the heat damage inspection procedure.
(d) If the paint shows only a small discoloration, more heat damage inspections can wait. Do the last part of the inspection when the airplane gets back to the primary base. Do not land more than three times before you do this inspection.

TASK 05-51-14-212-018

3. Heat Damage Inspection

A. General

(1) This inspection is used to find if the high strength steel that showed signs of heat damage, had changed. It will look for a change in the temper or heat treat properties.

(2) This inspection will usually occur on the components of the landing gear axles. The signs of discolored or blistered paint or plating shows that a general intense heat has changed the temper of the axle. When this happens, the ammonium persulphate procedure should be applied to the damaged part of the axle. Do this procedure after the axles have been reworked. Axle rework procedures can be found in Chapter 32, Landing Gear.

B. Consumable Materials

(1) Air - Clean, dry, compressed
(2) Ammonium persulphate etch solution
(a) 100 grams of ammonium persulphate per 0.27 gallon of tap water
(3) Methyl or Isopropyl Alcohol - TT-1-735 (Ref 20-30-02)
(4) G00034 Cheesecloth
(5) Brushes
(6) B00183 Trichloroethylene Solvent - BMS 11-6, types I and II
(7) G00270 Masking tape
(8) B00168 Wet and Dry Abrasive Paper - Number 400 or finer

C. References

(1) 32-45-01, Main Gear Wheel Well and Tire - Removal/Installation

D. Ammonium Persulphate Solution Procedure

S 122-043

WARNING: DO NOT BREATHE THE VAPORS OF THE SOLVENTS OR ETCH SOLUTIONS. DO NOT GET THEM IN YOUR EYES, ON YOUR SKIN OR ON YOUR CLOTHES. INJURY TO PERSONS MAY OCCUR.

(1) Strip the cadmium surface with sandpaper applied by hand. Strip a minimum area of 0.5 inch through the area that is not to be tested.

S 112-034
(2) Clean the area to be etched, with solvent.

S 152-047
(3) Remove the cadmium plating.

S 282-035
(4) Apply the ammonium persulphate solution, with a cheesecloth, on the surface to be tested for 30 to 60 seconds.

S 162-042

WARNING: DO NOT LET THE ETCHANT SOLUTION TOUCH THE CADMIUM PLATED SURFACES. POISONOUS FUMES CAN OCCUR AND CAUSE INJURY TO PERSONS.

(5) Rinse the surface with hot or cold water immediately. Alcohol can also be used.

S 162-037
(6) Dry the surface with clean, dry compressed air immediately.

E. Examine etched area.

S 212-038
(1) Examine the parts with a bright light and without magnification. Look for signs of burning.
(a) If all of the etched area is the same shade of gray, there will be no change to the temper of the steel.
(b) The area that has been too hot will be light in color. Look for the light color in the center of a darker area.
(c) If the etched area is mottled, the condition of the heat treat is not sure. Replace the axle or do a high quality metallurgical test.

F. Put the airplane back to its usual condition.

S 122-039
(1) Remove the etch with abrasive paper.

NOTE: Do this step if the part is serviceable. If it is not serviceable, install replacement parts.

S 162-048
(2) Stylus the cadmium plate areas where the plating was removed (SOPM 20-42-10).

S 372-040
(3) Refinish the surface with the correct primer and paint.

S 422-041

(4) Install replacement tires and wheels (Ref 32-45-01).

BRAKE SEIZURE CONDITION (CONDITIONAL INSPECTION) - MAINTENANCE PRACTICES

TASK 05-51-15-212-001

1. Brake Seizure Conditional Inspection

A. References

(1) AMM 05-51-14/201, High Energy Stop/Heat Damage Condition
(2) AMM 32-41-10/401, Main Gear Wheel Brake
(3) AMM 32-41-10/601, Main Gear Wheel Brake
(4) AMM 32-45-03/601, Wheels
(5) AMM 32-45-04/601, Tires

B. Examine Main Landing Gear Wheels and Brakes

S 022-002

(1) Remove the wheel and tire assembly of the main landing gear (AMM 32-45-01/401).

NOTE: You must remove the wheel and tire assembly before you can remove the brake unit.

(a) Inspect the tires and wheels as follows:
1) Do this task: Wheels Inspection (Wheel removed from the airplane) (AMM 32-45-03/601).
2) Do this task: Tire Inspection (AMM 32-45-04/601).
3) Remove the seized brake unit do this task: Main landing gear brake removal (AMM 32-41-10/401)

NOTE: The brake assembly must be sent to the shop for disassembly and a detailed inspection.

S 212-004

(2) Examine the wheel bearing seal adjacent to the brake and replace the seal if it is damaged by heat (AMM 32-41-10/401).

S 212-005

(3) Examine the joint on the axles and on the adjacent areas of the truck beam. Look for a brown shade color that is caused by overheating (AMM 05-51-14/201).
(a) If the paint is a brown shade color, repair the damage as necessary.

S 212-006

(4) Examine the inflated tires and wheels for damage you can see.

BURST/FLAT SPOTTED TIRES - MAINTENANCE PRACTICES (CONDITIONAL-INSPECTION)

1. General
   A. The examinations that follow are for conditions where tires are burst or flat spotted. These conditions are because of a locked wheel slide condition (not a tire structural failure) and the cause is not apparent. The examinations must be made in the sequence given in this section.
   B. The examinations are divided into two phases. Phase I examinations are for condtions where only one tire is flat spotted or burst. Phase II examinations are for conditions where multiple tires are flat spotted or burst.
   C. The third section of the inspection is only required in the event of a tire burst inside of the wheel well. If the wheel well tire burst causes damage to the forward wheel well bulkhead then the aileron, spoiler and speed brake sections of this inspection need to be completed. If the wheel well tire burst causes damage to the rear wheel well bulkhead then the leading edge and trailing edge flap sections of this inspection need to be completed. If there is no obvious visual damage in the wheel well or if the visual inspection results are unclear then the entire wheel well inspection must be completed.

TASK 05-51-16-212-001

2. Burst/Flat Spotted Tires Conditional Inspection
   A. References
      (1) AMM 27-11-00/201, Control Wheel Travel Stop Test
      (2) AMM 27-11-00/501, Aileron Trim Response Test
      (3) AMM 27-11-00/501, Control Wheel Damper Test
      (4) AMM 27-11-00/601, Aileron Control Wheel Force Test
      (5) AMM 27-11-14/201, Aileron Feel, Centering, and Trim Mechanism
      (6) AMM 27-11-14/201, Aileron Travel Test
      (7) AMM 27-11-20/601, Aileron Power Control Actuator (PCA) Functional Test
      (8) AMM 27-51-00/201, Trailing Edge Flap System Test
      (9) AMM 27-51-00/201, Alternate Flap Control System Test
      (10) AMM 27-51-00/601, Trailing Edge Flap Drive System Inspection

(11) AMM 27-58-00/501, Flap Skew Detection System Functional Test
(12) AMM 27-61-00/501, Spoiler Control System Operational Test
(13) AMM 27-61-00/501, Spoiler Control System Adjustment
(14) AMM 27-62-00/401), Speedbrake Lever Friction Test
(15) AMM 27-62-00/501, Auto-Speedbrake System Operational Test
(16) AMM 27-81-00/201, Leading Edge Flap and Slat System Operation with Primary Control
(17) AMM 27-81-00/201, Leading Edge Flap and Slat System Operation with Alternate Control
(18) AMM 29-11-13/401, System C Return Filter Module
(19) AMM 29-11-15/401, System L and R Return Filter Module
(20) AMM 32-41-10/601, Main Gear Wheel Brakes
(21) AMM 32-42-00/501, Antiskid/Autobrake System
(22) AMM 32-44-00/501, Parking Brake System
(23) AMM 32-45-03/601, Wheels

B. Phase I Single Flat Spotted or Burst Tire Examinations

S 712-002
(1) Make sure the brake will operate correctly and is in a serviceable condition (AMM 32-41-10).

S 212-003
(2) Examine the wheel for cracks or loose wheel bearings (AMM 32-45-03).

S 712-004
(3) Make sure the brake will release correctly (AMM 32-42-00).

S 212-005
(4) Make sure the routing of the hydraulic lines and the wiring runs are correct.

S 712-006
(5) Do the transducer spin test to make sure that the correct brake will release when the transducer motion is stopped (AMM 32-42-00).

C. Phase II Multiple Flat Spotted or Burst Tire Examinations

S 712-007
(1) Make sure the brakes will operate correctly and are in a serviceable condition (AMM 32-41-00).

S 712-008
(2) Make sure the brakes will release correctly (AMM 32-42-00).

S 212-009
(3) Make sure that the hydraulic return filters are not blocked (AMM 29-11-13/401, and 29-11-15/401).

S 212-010
(4) Make sure the routing of the hydraulic lines and the wiring runs are correct.

S 712-011
(5) Do the transducer spin test to make sure that the correct brake will release when the transducer motion is stopped (AMM 32-42-00).

S 712-012
(6) Make sure the parking brake valve operates correctly. Also make sure that the valve is fully open when the parking brake is released (AMM 32-44-00).

S 742-013
(7) Do a BITE test for the Antiskid/Autobrake system. Make sure the system has continuity (AMM 32-42-00).

D. Wheel Well Tire Burst Examination

S 752-017
(1) Make sure that the aileron actuating and control systems operate correctly, do the following procedures:
(a) Aileron Feel, Centering, and Trim Mechanism (AMM 27-11-14/201)
(b) Control Wheel Damper Test (AMM 27-11-00/501)
(c) Aileron Control Wheel Force Test (AMM 27-11-00/601)
(d) Aileron Trim Response Test (AMM 27-11-00/501)
(e) Control Wheel Travel Stop Test (AMM 27-11-00/201)
(f) Aileron Travel Test (AMM 27-11-14/201)
(g) Aileron Power Control Actuator (PCA) Functional Test (AMM 27-11-20/601)

S 752-016
(2) Make sure that the leading edge and trailing edge flap actuating and control systems operate correctly, do the following procedures:
(a) Trailing Edge Flap System Test (AMM 27-51-00/201)
(b) Alternate Flap Control System Test (AMM 27-51-00/201)
(c) Trailing Edge Flap Drive System Inspection (AMM 27-51-00/601)
(d) Flap Skew Detection System Functional Test (AMM 27-58-00/501)
(e) Leading Edge Flap and Slat System Operation with Primary Control (AMM 27-81-00/201)
(f) Leading Edge Flap and Slat System Operation with Alternate Control (AMM 27-81-00/201)

S 752-018
(3) Make sure that the spoiler and speed brakes actuating and control systems operate correctly, do the following procedures:
(a) Spoiler Control System Operational Test (AMM 27-61-00/501)
(b) Spoiler Control System Adjustment (AMM 27-61-00/501)
(c) Auto-Speedbrake System Operational Test (AMM 27-62-00/501)
(d) Speedbrake Lever Friction Test (AMM 27-62-00/401)

WHEEL BEARING FAILURE/DAMAGE CONDITION (CONDITIONAL INSPECTION) - MAINTENANCE PRACTICES

1. General
   A. This section gives an inspection procedure for landing gear wheels, brakes, axle sleeves, and axles after a wheel bearing failure.
   B. The degradation of wheel bearing components can occur as follows:
      (1) Lubrication that is incorrect or not sufficient
      (2) A decrease of the preload
      (3) Unwanted material in the bearing
      (4) Other damage that occurs.
   C. When you operate with damaged bearings, it will cause too much heat in the adjacent parts. Some of these parts are:
      (1) The axles
      (2) The axle sleeves
      (3) The spacers
      (4) The wheel hubs.
   D. These parts can be scored if the bearing damage causes a seizure and causes rotation that is relative to the adjacent parts.
   E. Make an inspection of the wheel bearings carefully each tire change as shown in the wheel vendor's recommended procedures.

TASK 05-51-17-212-001

2. Wheel Bearing Failure
   A. General
      (1) The failure of a wheel bearing can be found by the symptoms or conditions that follow:
         (a) Contamination of the wheel bearing grease with unwanted material.
         (b) Metal particles or fragments in the area of the wheel and the brake
         (c) The hubcap is damaged or not there (main gear only)
         (d) A wheel that is canted more than the specifications permit
         (e) The wheel and tire assembly are not there.
   B. Standard Tools and Equipment

      WARNING: THE POWER CABLE OF THE BORESCOPE MUST BE IN A GOOD CONDITION. IF THERE ARE CIRCUMFERENTIAL CUTS, FRAYED AREAS, OR RUPTURES TO THE EXTERNAL RUBBER COVER OF THE CABLE, INJURY TO PERSONS CAN OCCUR.

      (1) Borescope - Fiber Optic Light Supply - Model BLS-97
          American Cystoscope Makers Inc.
          Industrial Division
          Pelham, New York

(2) Borescope - Fiber Optic Light Supply - Model BLS-98
American Cystoscope Makers Inc.
Industrial Division
Pelham, New York
(3) Rigid Borescope - Model BF0-3920A
American Cystoscope Makers Inc.
Industrial Division
Pelham, New York
(4) Flexible Borescope - Model BF1F-3127DD
Cystoscope Makers Inc.
Industrial Division
Pelham, New York
(5) Fiber Light Carrier - Model F0-400-5A
Cystoscope Makers Inc.
Industrial Division
Pelham, New York
(6) Rigid Borescope - Model FIB 730
Richard Wolf Medical Instruments Corp.
Rosemont, Illinois
(7) Rigid Borescope - Model FIB 740
Richard Wolf Medical Instruments Corp.
Rosemont, Illinois
(8) Rigid Borescope - Model FIB 760
Richard Wolf Medical Instruments Corp.
Rosemont, Illinois

C. References
(1) AMM 05-51-14/201, High Energy Stop/Heat Damage Inspection
(2) AMM 32-11-26/601, Main Gear Axle - Inspection/Check
(3) AMM 32-41-10/401, Main Gear Wheel Brake - Removal/Installation
(4) AMM 32-41-10/601, Main Gear Wheel Brake - Inspection/Check
(5) AMM 32-42-06/401, Antiskid Transducer - Removal/Installation
(6) AMM 32-45-03/601, Wheels - Inspection/Check
(7) AMM 32-45-04/601, Tires - Inspection/Check
(8) AMM 32-45-01/401, Main Gear Tire and Wheel - Removal/Installation
(9) AMM 32-45-02/401, Nose Gear Wheel - Removal/Installation
(10) AMM 51-21-11/701, Heat, Weather and Oil Resistant Inorganic Protective Coating - Cleaning/Painting

D. Procedure

S 212-002
(1) Do the wheel inspection (AMM 32-45-03/601).
(a) When a main wheel shows signs of a wheel bearing failure, or there are other problems, remove the wheel and tire assembly (AMM 32-45-01/401).

NOTE: The wheel and tire assembly, and the bearings must be sent to the shop for disassembly and a detailed inspection.

(b) When a nose wheel shows signs of a wheel bearing failure, or there are other problems, remove the wheel and tire assembly (AMM 32-45-02/401).

NOTE: The wheel and tire assembly, and the bearings must be sent to the shop for disassembly and a detailed inspection.

(c) Make sure the correct wheel bearing were installed in the wheels that were removed.

S 212-003

(2) Do the inspections of the brake assembly (main landing gear only) (AMM 32-41-10/601).
(a) Examine the parts that follow if the failure of a wheel bearing let the wheel touch the brake:
1) Rotors
2) Stators
3) Torque tube backing plate
4) Other parts of the brake assembly that can become damaged.
(b) When a brake assembly shows signs of damage or does not operate correctly, remove the brake assembly (AMM 32-41-10/401).

NOTE: The brake assembly must be sent to the shop for disassembly and a detailed inspection.

S 212-004

(3) Do the inspection of the main gear axle and axle sleeve (AMM 32-11-26/601).
(a) Remove the brake assembly (AMM 32-41-10/401).
(b) Visually examine the axle sleeve for scoring or discoloration caused by heat damage.

NOTE: Scoring will be shown when the wheel bearing turned on the axle sleeve.

1) If any scoring, discoloration or other damage is found, remove the axle sleeve.

(c) Examine the axle spacer for scoring on the end adjacent to the inner wheel bearing cone. Also look for other damage.
1) Repair or replace the spacer when it is necessary.
(d) Visually examine the axle nut and washer for signs of scoring or other damage.
1) Replace or repair the nut and washer when it is necessary.

S 012-005
(4) Remove the antiskid transducers (AMM 32-42-06/401).

S 212-006
(5) Examine the axle for heat damage as follows:

NOTE: This step is necessary only when the axle sleeve show signs of scoring, discoloration, or other damage, and the axle sleeve has been removed.

(a) Examine the heat resistant protective coating for signs of blistering and melting.

NOTE: A heat resistant protective coating is used on the axles, near the brake mounting flanges, and under the axle sleeves. The heat resistant protective coating is a greenish gray color. To apply the heat resistant protective coating Refer to AMM 51-21-11/701.

(b) Examine the light gray hydraulic fluid resistant paint on the axle for a brown shade color caused when it becomes to hot.
(c) Do a check for discoloration of the crome plating on the axle lands where the sleeve touches.
(d) Examine the green primer on the inner surfaces (bore) of the axle with a borescope.
1) Use the borescope to a minimum depth of 16 inches and look for discoloration or blistering.
2) The green primer will turn to a light brown or black color when it becomes too hot.

NOTE: If the paint shows only a small discoloration, you can do the heat damage inspection when the airplane goes back to the primary base. Do not make a landing more than three times before you do this inspection.

S 212-007

(6) If signs of heat damage are found in the above steps, do the Heat Damage Inspection (AMM 05-51-14/201).

S 352-008

(7) If the cadmium plate on the axle bore or the crome plate on the outer part of the axle shows signs of heat damage, replace or repair the damaged components.

NOTE: Heat damage to the cadmium plate can cause cadmium embrittlement of the steel substrate.

S 212-009

(8) Do an inspection of the Nose Gear Axle.
   (a) Visually examine the wheel bearing washer, axle nut, and inner wheel bearing spacer for scoring or other damage.
      1) Replace or repair the components when it is necessary.
   (b) Examine the axle for damage.
      1) Examine for scoring or discoloration of the crome plated bearing lands on the axle.
      2) Examine the light gray hydraulic fluid resistant paint on the axle for a brown shade caused when it becomes too hot.
      3) Examine the green primer on the inner surfaces (bore) of the axle with a borescope.
         a) Use the borescope to a minimum depth of 7 inches and look for discoloration or blistering
         b) The green primer will turn to a light brown or black color when it becomes too hot.

            NOTE: If the paint shows only a small discoloration, you can do the heat damage inspection when the airplane goes back to the primary base. Do not make a landing more than three times before you do this inspection.

S 212-010

(9) If signs of heat damage are found in the above steps, do the Heat Damage Inspection (AMM 05-51-14/201).

S 352-011

(10) Replace or repair the damaged components as follows:

(a) If the cadmium plate on the axle bore shows signs of heat damage.

NOTE: Heat damage to the cadmium plate can cause cadmium embrittlement of the steel substrate.

(b) If the crome plate on the outer part of the axle shows signs of heat damage.

E. Put the airplane back to its usual condition.

S 412-012

(1) Install all components that were removed.

BIRD/HAIL STRIKE CONDITION - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. The examinations that follow are for a bird/hail strike condition. Examine the external surfaces of the airplane structure in the general area of the bird/hail strike. If the initial examination shows structural damage, then the internal structure must be inspected. Also inspect the hydraulic, pneumatic, and other systems in the area of the bird/hail strike for damage. The procedures that follow are made for the airplane structure in general. But, the examinations can be confined to the general area of the bird/hail strike.

      NOTE: If the bird/hail struck the nose radome, the inside of the radome should be inspected even if no damage is found on the exterior of the nose radome. If the bird/hail did not strike the nose radome, then no radome inspections need to be performed.

   B. This inspection is provided by these two tasks:
      (1) Bird/Hail strike conditional inspection (in flight).
   C. For allowable hail damage, refer to the analysis and continued service of airplanes with on-ground hail damage (SRM 51-10-04).

   TASK 05-51-18-212-001

2. Bird/Hail Strike Conditional Inspection
   A. References
      (1) 12-25-04/201, Bird Strike Cleaning
      (2) 27-51-00/201, Trailing Edge Flap System
      (3) 27-81-00/201, Leading Edge Flap System
      (4) 71-11-00/601, Engine Cowling
      (5) FIM 71, Fault Code Diagrams
   B. Bird/Hail Strike Conditional Inspection

      S 862-002

      WARNING: DO THE DEACTIVATION PROCEDURE FOR THE FLAP/SLAT ACTUATION SYSTEMS. INJURY TO A PERSON OR DAMAGE TO EQUIPMENT CAN OCCUR IF THE FLAPS/SLATS MOVE. FLAP/SLAT ACTUATION SYSTEMS MUST NOT BE OPERATED DURING THIS INSPECTION. FAILURE TO OBEY CAN CAUSE INJURY TO PERSONS.

      (1) Do the deactivation procedure for the leading edge slat system (Ref 27-81-00).

      S 862-003
      (2) Do the deactivation procedure for the trailing edge flap system (Ref 27-51-00).

S 112-024

WARNING: PUT ON EQUIPMENT FOR PROTECTION BEFORE YOU TOUCH THE BIRD CARCASS, BLOOD, GUTS, AND AN RESIDUE. THIS CAN CONTAIN BACTERIA AND VIRUSES THAT CAN CAUSE ILLNESSES, AND INJURIES TO PERSONNEL.

WARNING: DO NOT LET THE BIRD CARCASS OR OTHER PIECES OF THE BIRD TOUCH YOUR SKIN. DISCARD THE BIRD PIECES IN A PLASTIC DISPOSAL BAG. THE BIRD PIECES CAN CONTAIN INFECTIOUS MATERIALS (BACTERIA AND VIRUSES). THEY CAN CAUSE ILLNESSES, AND INJURIES TO PERSONNEL.

(3) Before you touch any areas of the airplane that a bird hit, do this task: Bird Strike Cleaning (AMM 12-25-04/201).

S 212-004

(4) Do the examinations that follow:
   (a) Examine the wing, nacelle strut, and the horizontal and vertical stabilizer leading edge fairing. Look for displacement, distortion, fastener hole elongation or tearout, and paint that has flaked. Also look for skin cracks, and fasteners that have pulled out or are not there.
   (b) Examine the strut panels, doors, and structure for buckling, cracks, and fasteners that have pulled out or are not there.
   (c) Examine the wing leading and trailing edge structure, panels, and doors. Look for displacement, distortion, paint that has flaked, cracks, and fasteners that have pulled out or are not there. Also examine the two sides of the honeycomb panels for cracks, delamination, soft spots and core damage.
   (d) Examine the leading edge slat mechanism and track fairing links. Look for distortion, cracks, misalignment, or other signs of distress.
   (e) Examine the trailing edge flap mechanism and track fairing links. Look for distortion, cracks, misalignment, or other signs of distress.
   (f) Examine the control surfaces. Look for binding, too much play, misalignment, distortion, or displacement of skins. Also look for fasteners that have pulled out or are missing.
   (g) Examine the nose landing gear doors and linkage. Look for distortion, cracks, and other signs of distress.
   (h) Examine the main landing gear doors and linkage. Look for distortion, cracks, and other signs of distress.
   (i) Examine the pilots' windows for delamination, spalling, or cracks. Also examine the adjacent structure for distortion, cracks, and fasteners that have pulled out or are not there.
   (j) Examine the forward-body nose section "eyebrow" area above the windows and radome. Look for cracks, distortion, delamination, misalignment, and displacement of the skins. Also look for fasteners that have pulled out or are not there.

(k) Examine the internal and external areas of the radome. Look for honeycomb damage and for soft spots.

S 212-006

(5) Perform a general visual inspection of the external surfaces of the engine inlet cowl and engine cowling for foreign object damage.

NOTE: This procedure contains an inspection of the engines external surfaces only. All internal engine problems are included in the Fault Isolation Manual.

S 282-027

(6) If there is evidence of foreign object damage, perform the FOD Inspection (AMM 71-11-00/601).

NOTE: If the engine shows signs of a bird/hail strike on the nacelle, refer to the applicable bird strike fault isolation procedures (FIM 71 FAULT CODE INDEX).

TASK 05-51-18-212-012

3. Hail Strike on the Ground Conditional Inspection

A. References
(1) 27-51-00/201, Trailing Edge Flap System
(2) 27-81-00/201, Leading Edge Flap System

B. Access
(1) Location Zones

200	Upper Half of Fuselage
300	Empennage and Body Section 48
400	Power Plants and Nacelle Struts
500	Left Wing
600	Right Wing
700	Landing Gear and Landing Gear Doors
800	Doors

C. Procedure

S 042-021

WARNING: DO THE DEACTIVATION PROCEDURE FOR THE FLAP/SLAT ACTUATION SYSTEMS. INJURY TO A PERSON OR DAMAGE TO EQUIPMENT CAN OCCUR IF THE FLAPS/SLATS MOVE. FLAP/SLAT ACTUATION SYSTEMS MUST NOT BE OPERATED DURING THIS INSPECTION. FAILURE TO OBEY CAN CAUSE INJURY TO PERSONS.

(1) Do the deactivation procedure for the leading edge slat system (AMM 27-81-00/201).

S 042-016
(2) Do the deactivation procedure for the trailing edge flap system (AMM 27-51-00/201).

S 212-017
(3) Do the examinations that follow:

NOTE: When you examine the honeycomb panels, look at the two sides for cracks, delaminations, soft spots and core damage.

(a) The nose radome.
(b) The wings, for signs of hail damage to the areas that follow:
  1) All horizontal surfaces.
  2) Leading edges.
  3) Trailing edges.
  4) Panels.
(c) The flight control surfaces.
(d) The leading edge fairings on the horizontal stabilizer.
(e) The leading edge fairings on the vertical stabilizer.
(f) The external fuselage structure.
  1) If signs of hail damage to the external fuselage structure is found, refer to SRM 51-10-04 for the analysis and continued service of airplanes with on-ground hail damage.
  2) Refer to SRM 51-10-04 for the analysis and continued service of airplanes with on-ground hail damage.
(g) The flight compartment windows, for signs of hail damage as follows:
  1) Cracks.
  2) Displacement of the outer window.
  3) Other types of window damage.
(h) The forward fuselage section above the flight compartment windows and the radome.
(i) The wing tip fairings and navigation lights.
(j) The passenger and cargo dooors.
(k) The nacelle strut.
(l) The nose landing gear doors.
(m) The main landing gear doors.
(n) The passener compartment windows for signs of hail damage as follows:
  1) Cracks.
  2) Displacement of the outer window.
  3) Crazing.
  4) Other types of window damage.
(o) Examine the nose cowl and the engine for signs of foreign object damage.

S 222-020
(4) The allowable damage shown in the Structural Repair Manual is to be used to define the limits of damage within each component. (SRM 51-10-04).

S 442-018

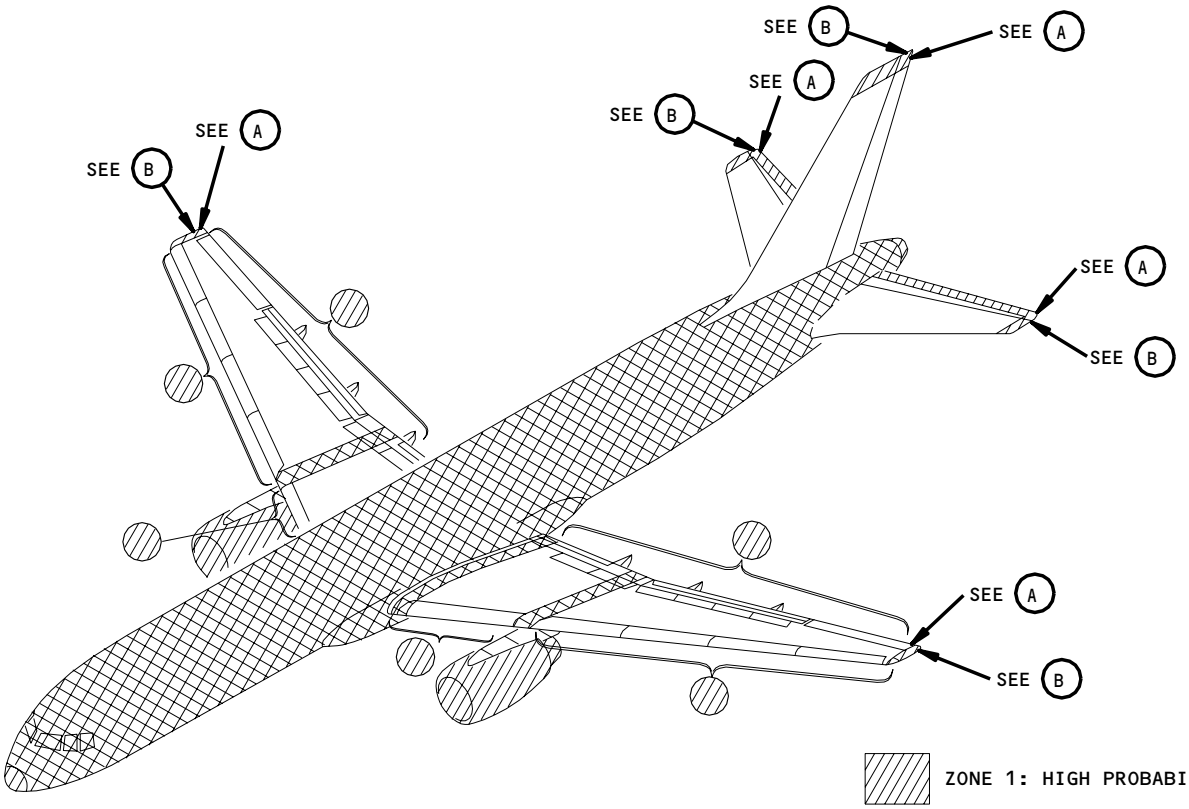
(5) Do the reactivation procedure for the leading edge slat system. (AMM 27-81-00/201).

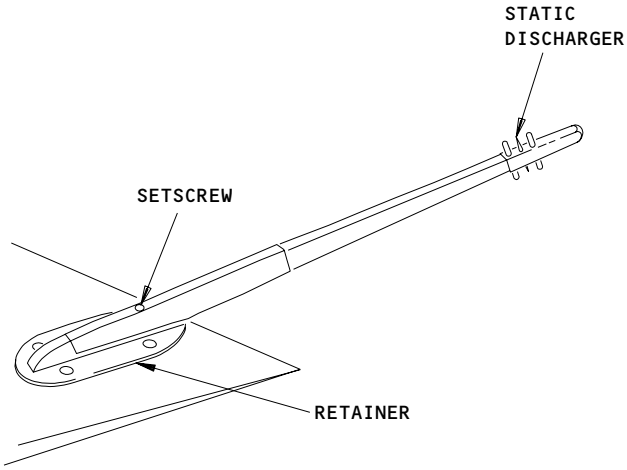
S 442-019

(6) Do the reactivation procedure for the trailing edge flap system (AMM 27-51-00/201).

LIGHTNING STRIKE CONDITION (CONDITIONAL INSPECTION) - MAINTENANCE PRACTICES

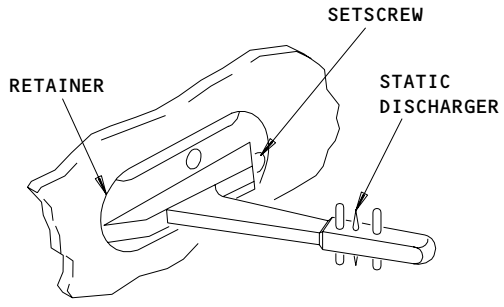
1. General
   A. This procedure has these three tasks:
      (1) Examine the External Surfaces for Lightning Strike
      (2) Examine the Internal Components for Lightning Strike
      (3) Inspection and Operational Check of the Radio and Navigation Systems
   B. The airplane has all the necessary and known lightning strike protection measures. Most of the external parts of the airplane are metal structure with sufficient thickness to be resistant to a lightning strike. This metal assembly is its basic protection. The thickness of the metal surface is sufficient to protect the internal spaces from a lightning strike. The metal skin also gives protection from the entrance of electromagnetic energy into the electrical wires of the aircraft. The metal skin does not prevent all electromagnetic energy from going into the electrical wiring; however, it does keep the energy to a satisfactory level. If lightning strikes the airplane, you must make a general inspection of the airplane to find the areas of the lightning strike entrance and exit points. When you look at the areas of entrance and exit, examine this structure carefully to find all of the damage that has occurred.
   C. Lightning strike entrance and exit points are usually found in Zone 1 (Fig. 201), but also can occur in zones 2 and 3.
   D. You can usually find signs of a lightning strike in Zone 1 (Fig. 201). However, lightning strikes can occur to any part of the airplane which includes the fuselage, wing skin trailing edge panels, wing-body fairing, antennas, vertical stabilizer, horizontal stabilizer, and along the wing trailing edge in Zone 2, (Fig. 201).
   E. In metal structures, lightning damage usually shows as pits, burn marks or small circular holes. These holes can be grouped in one location or divided around a large area. Burned or discolored skin also shows lightning strike damage.
   F. In composite (non-metallic) structures, solid laminate or honeycomb damage shows as discolored paint. It also shows as burned, punctured, or delaminated skin plies. Damage you can not see can also be there. This damage can extend around the area you can see. Signs of arcing and burning can also occur around the attachments to the supporting structure.
   G. Airplane components made of ferromagnetic material may become strongly magnetized when subjected to lightning currents. Large current flowing from the lightning strike in the airplane structure can cause this magnetization.





TRAILING EDGE SURFACE INSTALLATION
(EXAMPLE)

(A)



STABILIZER AND FIN CAP INSTALLATION
(EXAMPLE)

(B)

External Lightning Strike Areas
Figure 201

H. A lightning strike usually attaches to the airplane in Zone 1 (Fig. 201) and goes out a different Zone 1 area. Frequently a lightning strike can enter the nose radome and go out of the airplane at one of the horizontal stabilizer trailing edges. The external components most likely to be hit are listed below:
(1) Nose Radome
(2) Nacelles
(3) Wing Tips
(4) Horizontal Stabilizer Tips
(5) Elevators
(6) Vertical Fin Tips
(7) Ends of the Leading Edge Flaps
(8) Trailing Edge Flap Track Fairings
(9) Landing Gear
(10) Water Waste Masts
(11) Pitot Probes

I. Zone 2 (Fig. 201) is where an initial entry or exit point is not usual, but where a lightning channel may be pushed back from an initial entry or exit point. As an example, the nose radome may be the area of an initial entry point, but the lightning channel may be pushed back along the fuselage aft of the radome by the forward motion of the airplane.

J. Lightning strikes can cause problems to the electrical power systems and the external light wiring. The electrical system is designed to be resistant to lightning strikes. But, a strike of unusually high intensity can possibly damage the electrical system components below:
(1) Fuel Valves
(2) Generators
(3) Power Feeders
(4) Electrical Distribution Systems

NOTE: If inaccuracies in the standby compass are reported after a lightning strike then a check swing will be necessary (AMM 34-21-00).

K. Frequently, a lightning strike is referred to as a static discharge. This is incorrect and may cause you to think that the static dischargers found on the external surfaces of the airplane prevent lightning strikes. These static dischargers are for bleeding off static charge only; they have no lightning protection function. As the airplane flies through the air, it can pick up a static charge from the air (or dust/water particles in the air). This static charge can become large enough to bleed off the airplane on its own. If the charge does not bleed off on its own, it will usually result in noise on the VHF or HF radios. The static dischargers help to bleed the static charge off in a way that prevents radio noise.

L. The static dischargers are frequently hit by lightning. some personnel think static dischargers are for lightning protection. The dischargers have the capacity to carry only a few micro-Amps of currrent from the collected static energy. The approximate 200,000 Amps from a lightning strike will cause damage to the discharger or make it fully unserviceable.

TASK 05-51-19-212-001

2. Examine External Surfaces for Lightning Strike Damage

A. References

(1) AMM 23-11-00, HF Communications System
(2) AMM 23-12-00, VHF Communications System
(3) AMM 23-61-01, Static Dischargers
(4) AMM 28-11-00, Fuel Tanks
(5) AMM 28-11-03, Door - Access, Wing Surge Tanks
(6) AMM 27-11-00, Ailerons
(7) AMM 27-21-00, Rudder
(8) AMM 27-31-00, Elevators
(9) AMM 28-41-00, Fuel Quantity Indicating System
(10) AMM 34-23-00, Standby Magnetic Compass
(11) AMM 34-31-00, ILS Navigation System
(12) AMM 34-32-00, Marker Beacon System
(13) AMM 34-33-00, Radio Altimeter System
(14) AMM 34-43-00, Weather Radar System
(15) AMM 34-51-00, VOR System
(16) AMM 34-53-00, ATC System
(17) AMM 34-55-00, DME System
(18) AMM 34-57-00, Automatic Direction Finder (ADF)
(19) AMM 53-12-01, Nose Radome
(20) AMM 34-45-00 TCAS System
(21) AMM 34-59-00 ADS-B System
(22) SRM 51-70-14, Allowable Damage and Repair of Flame Sprayed Aluminum Coatings
(23) D634N301 Nondestructive Test Manual

B. Examine the Airplane External Surface

S 212-002

(1) Examine the Zone 1 (Figure 201) surface areas for signs of lightning strike damage.
(a) Do the examinations that follow:
1) Examine the external surfaces carefully to find the entrance and exit points of lightning strike.
2) Make sure to look in the areas where one surface stops and another surface starts.
3) Examine the internal and external surfaces of the nose radome for burns, punctures, and pin holes in the composite honeycomb sandwich structure.
4) Examine the metallic structure for holes or pits, burned or discolored skin and rivets.
5) Examine the external surfaces of the composite components for discolored paint, burned, punctured, or delaminated skin plies.

6) You need to use instrumental NDI methods or tap tests to find composite structure damage you cannot see.

NOTE: Damage you cannot see, such as delamination, can extend to the areas around the damaged area you can see. Delamination can be detected by instrumental NDI methods or by a tap test. For a tap test, use a solid metal disk and tap the area adjacent to the damaged area lightly. If there is delamination, you will hear a sound that is different than the sound of a solid bonded area. Refer to the Nondestructive Test Manual D634N301.

S 212-044

(2) Examine the Zone 2 (Figure 201) surface areas for signs of lightning strike damage.

(a) Do the examinations that follow:

1) Examine the external surfaces carefully to find the entrance and exit points of the lightning strike.
2) Make sure you look in the areas where one surface stops and the other surface starts.
3) Examine the pitot probes, static ports and their surrounding areas for damage.
   a) Look for burns, punctures, discolored paint and general skin distortion.
   b) If you find damage, refer to SRM 51-10-03.
4) Examine the metallic structure for holes, pits, burned or discolored skin and rivets.
5) Examine external surfaces of composite components for discolored paint, burned, punctured, or delaminated skin plies in the honeycomb sandwich structure.
6) You need to use instrumental NDI methods or tap tests to find composite structure damage you cannot see.

NOTE: Damage you cannot see, such as delamination, can extend to the area you can see. Delamination can be detected by instrumental NDI methods or by a tap test. For a tap test, use a solid metal disk and tap the area adjacent to the damaged area lightly. If there is delamination, you will hear a sound that is different than the sound of a solid bonded area. Refer to the Nondestructive Test Manual D634N301.

S 212-051

(3) If the entrance and exit points are not found during the examination of Zones 1 and 2 areas, examine Zone 3 (Fig. 201) surface areas for signs of lightning strike damage.

(a) Do the examinations that follow:

1) Examine the external surfaces carefully to find the entrance and exit points of the lightning strike.

2) Make sure you look in the areas where one surface ends and another surface starts.

3) Examine the metallic structure for holes, pits, burned or discolored skin and rivets.

4) Examine external surfaces of composite components for discolored paint, burned, punctured, or delaminated skin plies.

5) You need to use instrumental NDI methods or tap tests to find composite structure you cannot see.

NOTE: Damage you cannot see, such as delamination, can extend to the areas around the damaged area you can see. Delamination can be detected by instrumental NDI methods or by a tap test. For a tap test, use a solid metal disk and tap the area adjacent to the damaged area lightly. If there is delamination, you will hear a sound that is different than the sound of a solid bonded area. Refer to Nondestructive Test Manual D634N301.

S 212-052

(4) If you find lightning strike damage to aluminum coated composite panels, refer to SRM 51-70-14 for allowable damage, time limited repairs and permanent repair procedures.

S 332-006

CAUTION: MAKE SURE TO SEAL OR REPAIR ALL DAMAGE. FAILURE TO SEAL OR REPAIR DAMAGE CAN CAUSE MORE INTERNAL DAMAGE BECAUSE MOISTURE CAN GET IN AND FREEZE AT ALTITUDE.

(5) Repair or seal the damaged areas. See SRM 51-70-14.

S 212-056

(6) Examine all of the external lights.

(a) Look for these items:

1) broken light assemblies,

2) broken or cracked lenses,
3) other visible damage.

(b) If you find damaged lights, do the following:
1) Examine the following items:
a) The first three feet of wiring from the damaged light in the direction of the circuit breaker.
b) The wires to the circuit breaker.
2) Repair or replace damaged parts as necessary until the light functions properly.
3) If the circuit breaker did not trip, then no further inspections for the wiring of the damaged light are required.
4) If the circuit breaker did trip, then locate the source of the anomaly and repair as necessary.

S 212-053

(7) Examine the flight control surfaces for signs of lightning strike damage.
(a) Do the examinations that follow:
1) If the rudder shows signs of a lightning strike, examine the surface hinges, bearings, and bonding jumpers for signs of damage.
2) If the elevators show signs of a lightning strike, examine the surface hinges, bearings, and bonding jumpers for signs of damage.
3) If the ailerons show signs of a lightning strike, examine the surface hinges, bearings, and bonding jumpers for signs of damage.
4) If the speed brakes show signs of a lightning strike, examine the surface hinges, bearings, and bonding jumpers for signs of damage.
5) If the trailing edge flaps show signs of a lightning strike, examine the surface hinges, bearings, and bonding jumpers for signs of damage.
6) If the leading edge flaps/slats show signs of a lightning strike, examine the surface hinges, bearings, and bonding jumpers for signs of damage.
(b) Do the following operational tests, if the above examinations show signs of damage:
1) Do an operational test of the rudder if there are signs of lightning strike damage to the rudder or vertical stabilizer (AMM 27-21-00).
2) Do an operational test of the elevator if there are signs of lightning strike damage to the elevator or horizontal stabilizer (AMM 27-31-00).
3) Do an operational test of the ailerons if there are signs of lightning strike damage to the ailerons (AMM 27-11-00).
4) Do an operational test of the speed brakes if there are signs of lightning strike damage to the speed brake system (AMM 27-62-00).

5) Do an operational test of the trailing edge flaps if there are signs of lightning strike damage to the trailing edge flaps (AMM 27-51-00).
6) Do an operational test of the leading edge flap/slats if there are signs of lightning strike damage to the trailing edge flap/slats (AMM 27-81-00).

S 712-047

(8) If there are signs of lightning strike damage to the nose gear doors, do the steps that follow:
(a) Disengage the nose gear door locks (AMM 32-00-15).
(b) Manually move the forward nose gear doors to make sure the mechanism operates smoothly (32-15-00).
(c) Visually examine the nose gear door link mechanism for lightning strike damage.
(d) Examine the nose door hinges, bearings, and bonding jumpers for lightning strike damage.
(e) Examine the nose gear door structure for lightning strike damage.
(f) Make sure that the proximity switch electronic unit gives the correct gear door position indication (AMM 32-09-03).
(g) Make sure to engage the nose gear door lock when the examination is complete.

S 712-048

(9) If there are signs of lightning strike damage to main landing gear doors, do the steps that follow:
(a) Disengage the main gear door locks before manually moving the main gear doors (AMM 32-00-15).
(b) Manually close the main gear doors to make sure the link mechanism operates smoothly (AMM 32-00-15).
(c) Visually examine the main gear doors for lightning strike damage.
(d) Visually examine the main gear door linkage mechanism for lightning strike damage.
(e) Visually examine the main gear door hinges , bearings, and bonding jumpers for lightning strike damage.
(f) Make sure the proximity switch electronic unit gives the correct indication for the door position.
(g) Make sure to engage the main gear door lock when the landing gear door examination is completed.

S 212-054

(10) Examine the wingtip/winglet.

(a) If the wingtip/winglet shows lightning strike damage, do a visual inspection of the fuel vent surge tanks.

1) Open the access panel for the affected surge tank (AMM 28-11-03).

2) Do a visual inspection of the surge tank and the components in the tank (AMM-28-11-00).

a) If damage is found, repair or replace the damaged component.

3) Close the surge tank access panel (AMM 28-11-03).

S 212-033

(11) Examine the static dischargers.

(a) Visually examine all dischargers to make sure they are in place, not broken and installed correctly on their mounting retainers.

(b) Examine the dischargers for damage as shown by a burned or rougher coating and pits in the metal discharger retainers.

(c) Examine the dischargers for broken, bent, or blunt tungsten pins.

1) If bent pins are found, replace the discharger assembly.

2) If broken pins are found, replace the discharger assembly.

(d) Look for deterioration of the discharger coating or damage to the tip cup.

1) Deterioration to the leading edge of the discharger must not extend back more than 1/3 of the width of the discharger.

(e) Do a resistance test if you find a damaged static discharger (AMM 23-61-01).

S 212-043

(12) Examine the air data sensors for signs of lightning strike damage.

(a) Pitot Probes: Do an operational test of the pitot probes if there are signs of lightning strike damage to the pitot probes (AMM 34-12-00).

(b) Static Ports: Do an operational test of the pitot static system if there are signs of lightning strike damage near the static port (AMM 34-11-00).

(c) AOA Vanes: Do an operational test if there are signs of lightning strike damage to the AOA vanes (AMM 34-12-03/401).

(d) TAT Probe: Do an operational test of the TAT probes if there are signs of lightning strike damage to the probe (AMM 34-12-00).

S 212-038

(13) Examine the antennas (if installed) for these systems for damage:
(a) HF (If installed) (AMM 23-11-00).
(b) VHF (AMM 23-12-00)
(c) ILS (AMM 34-31-00)
(d) Marker Beacon (AMM 34-32-00)
(e) RA (AMM 34-33-00)
(f) VOR (AMM 34-51-00)
(g) ATC (AMM 34-53-00)
(h) DME (AMM 34-55-00)
(i) ADF (AMM 34-57-00)
(j) GPS (if installed) (AMM 34-58-00)
(k) Airborne Telephone (if installed)
(l) Nose Radome (AMM 53-12-01)
(m) WXR Antenna (34-43-00)
(n) TCAS (AMM 34-45-00)
(o) ADS-B (AMM 34-59-00)

S 212-039

(14) Examine the nose radome and the WXR antenna as follows (AMM 53-12-01) and (34-43-00):
(a) Examine the radome for pin holes, punctures, and paint that has chipped.
(b) Make sure the radome bonding straps are attached correctly to the airframe.
(c) Examine the lightning diverter strips, and repair or replace them if there is damage.
(d) If there is damage to the radome, examine the WXR antenna and waveguide for damage.

TASK 05-51-19-212-055

3. Examine Internal Components for Lightning Strike

A. References
(1) AMM 34-23-00, Standby Compass System
(2) FIM 28-41-00, Fuel Quantity BITE Procedure

B. Examine the Airplane Internal Components

S 212-015

(1) If a lightning strike has caused a system malfunction, do a full examination of the defective system with the use of the applicable maintenance manual section for that system.

S 732-016

(2) Do a check of the standby compass system only if the flight crew reported a very large compass deviation (AMM 34-23-00).

S 212-032

(3) Make sure that the fuel quantity system is accurate.
  (a) Do this procedure: Fuel quantity BITE Procedure (FIM 28-41-00).
    1) Repair any problems shown by the BITE test.

TASK 05-51-19-212-017

4. Operational Checks of Radio and Navigation Systems

A. General

(1) The level of the checks after a lightning strike to the airplane is determined by flight crew information and the airplane condition after the incident. For example, if all the NAV/COM systems are exercised by the flight crew in flight after the lightning strike and no anomalies are found, then checks to the exercised systems would not normally be required. For systems not exercised by the flight crew in flight or systems where anomalies were found, additional checks to that system may be required. In addition, even if a system were exercised in flight after the lightning strike and no anomalies were found, but subsequent inspections showed lightning damage near that system antenna, addition checks of that system may be required.

B. References

(1) AMM 20-10-32, Coaxial Cable
(2) AMM 22-10-00, Autopilot System
(3) AMM 22-21-00/, Autopilot Yaw Damper System
(4) AMM 22-22-00, Autopilot Automatic Stabilizer Trim System
(5) AMM 23-11-00, HF Communications System
(6) AMM 23-12-00, VHF Communications System
(7) AMM 34-31-00, ILS Navigation System
(8) AMM 34-32-00, Marker Beacon System
(9) AMM 34-33-00, Radio Altimeter System
(10) AMM 34-43-00, Weather Radar System
(11) AMM 34-51-00, VOR System
(12) AMM 34-53-00, ATC System
(13) AMM 34-55-00, DME System
(14) AMM 34-57-00, Automatic Direction Finder (ADF) System

(15) AMM 23-22-00, ACARS System
(16) AMM 34-58-00, GPS System
(17) AMM 34-45-00, TCAS System
(18) AMM 34-59-00, ADS-B system
(19) AMM 23-24-00, Emergency Locator Transmitter (ELT)

C. Radio and Navigation System Operational Checks

S 712-040

(1) Do an operational test for each of these systems (if installed) that you did not operate after the lightning strike, or the flight crew reported a problem after the lightning strike, or if there was damage found near the system antenna.
(a) HF Communications System (if installed) (AMM 23-11-00)
(b) VHF Communications System (AMM 23-11-00)
(c) ILS Navigation System (AMM 34-31-00)
(d) Marker Beacon System (AMM 34-32-00)
(e) Radio Altimeter System (AMM 34-33-00)
(f) Weather Radar System (AMM 34-43-00)
(g) VOR System (AMM 34-51-00)
(h) ATC System (AMM 34-53-00)
(i) DME System (AMM 34-55-00)
(j) Automatic Direction Finder (ADF) System (AMM 34-57-00)
(k) ACARS (if installed) (AMM 23-22-00)
(l) GPS System (if installed) (AMM 34-58-00)
(m) Airborne Telephone (if installed)
(n) Autopilot (AMM 22-34-01)
(o) Autopilot AFDS System (22-10-00)
(p) Autopilot Yaw Damper System (AMM 22-21-00)
(q) Autopilot Automatic Stabilizer Trim System (AMM 22-22-00)
(r) ADS-B System (AMM 34-59-00)

D. Coaxial Cable Check

S 212-031

(1) If one or more of the previous systems have problems with their operational checks, examine and do a test of the coaxial cables and connectors (AMM 20-10-32)

E. Return the Airplane to Service

S 842-042

(1) After all lightning damage has been repaired, components replaced if necessary, and tests completed if necessary, the airplane can be put back into service.

BATTERY ELECTROLYTE CONTAMINATION CONDITION - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. This procedure has these two tasks:
      (1) Lead Acid Battery Contamination
      (2) Alkaline Battery Contamination.
   B. The primary source of acid contamination is in the battery compartments.
   C. Battery electrolytes can overflow during battery charging, or leak when the battery is serviced.
   D. Contamination occurs at times and the acid must be made neutral before corrosion damage can occur.
   E. Electrolyte contamination, unless you make it neutral, can quickly corrode a metalic structure.
   F. Electrolyte can cause damage to materials such as fabrics, wood, leather, and other non-metalic materials.
      (1) Electrolyte contamination can cause discoloration on the surface it touches.

TASK 05-51-20-112-001

2. Lead Acid Battery Contamination
   A. Standard Tools and Equipment
      (1) Rubber or plastic gloves
      (2) GO2057 Goggles - Safety
      (3) Face shield
      (4) Aprons
      (5) Boots
      (6) Head gear
   B. Consumable Materials
      (1) BO0334 - Bicarbonate of Soda
      (2) BO0095 Chemical - Sodium Bicarbonate (O-S-576)
   C. Procedure

      S 942-002

      CAUTION: DO NOT GET BATTERY ELECTROLYTE (ACID) IN YOUR MOUTH, YOUR EYES, OR ON YOUR SKIN. DO NOT BREATH THE FUMES FROM THE BATTERY ELECTROLYTE. PUT ON PROTECTIVE SPLASH GOGGLES AND GLOVES WHEN YOU CLEAN UP THE BATTERY ELECTROLYTE CONTAMINATION. KEEP THE FUMES FROM SPARKS, FLAMES, AND TEMPERATURES ABOVE THE FLASHPOINT. BATTERY ELECTROLYTE IS A POISONOUS AND FLAMMABLE MATERIAL WHICH CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) You must do the safety steps that follow when lead acid contamination or leakage is found.
   (a) Do not let the acid leakage move to adjacent areas which will not be cleaned.
   (b) In the battery areas, protect the equipment below the batteries with plastic sheets.
   (c) Make sure the area is vented.
   (d) Use protective covers to prevent contamination of adjacent areas with acids or the solution to make the acid neutral.
   (e) You must always wear protective clothing when you clean up acid contamination.

S 112-003

(2) Do the steps that follow to clean-up the battery electrolyte contamination:
   (a) Soak up the excess fluids with a cloth.
   (b) Neutralize the contaminated area with a 20 percent sodium bicarbonate solution.

      NOTE: One pound of sodium bicarbonate mixed into one gallon of water will make the necessary solution.

   (c) Apply the solution with a cloth, mop, brush, or sponge.

      NOTE: Do not put the sodium bicarbonate solution into the battery.

      1) Make sure the solution goes into the contaminated faying surface joints.

         NOTE: A pressure application of the solution can be necessary to flush the faying surface joints and some access areas fully.

      2) Apply the solution until the bubbling of the acid/solution stops.

         NOTE: When the bubbling stops, the acid has become neutral.

         a) Let the solution stay on the surface for 5 minutes more after the bubbles stop.

   (d) Remove the solution with a mop or sponge.
      1) Discard the contaminated clean-up materials into a plastic container.

(e) Flush the area with large quantities of clean water.

NOTE: A pressure application of water to the solution can be necessary to flush the faying surface joints and some access areas fully.

1) Rub the surface with a soft brush.

(f) Do a test of the cleaned area with litmus paper.
(g) Make the area dry with clean cloths.
(h) Repair the area if it is necessary after it is fully dry.

TASK 05-51-20-112-004

3. Alkaline Battery Contamination

A. Standard Tools and Equipment
(1) Rubber or plastic gloves
(2) GO2057 Goggles - Safety
(3) Face shield
(4) Aprons
(5) Boots
(6) Head gear

B. Consumable Materials
(1) Acetic acid
(2) Household vinegar

C. Procedure

S 942-005

CAUTION: DO NOT GET BATTERY ELECTROLYTE (ACID) IN YOUR MOUTH, YOUR EYES, OR ON YOUR SKIN. DO NOT BREATH THE FUMES FROM THE BATTERY ELECTROLYTE. PUT ON PROTECTIVE SPLASH GOGGLES AND GLOVES WHEN YOU CLEAN UP THE BATTERY ELECTROLYTE CONTAMINATION. BATTERY ELECTROLYTE IS A POISONOUS AND CAUSTIC MATERIAL WHICH CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) You must do the safety steps that follow when alkaline contamination or leakage is found.
(a) Do not let the alkaline leakage move to adjacent areas which will not be cleaned.
(b) In the battery areas, protect the equipment below the batteries with plastic sheets.
(c) Make sure the area is vented.
(d) Use protective covers to prevent contamination of adjacent areas with alkaline, or the solution to make the alkaline neutral.
(e) You must always wear protective clothing when you clean-up alkaline contamination.

S 112-006

(2) Do the steps that follow to clean-up the battery alkaline electrolyte contamination:

(a) Soak up the excess fluids with a cloth.

(b) Neutralize the contaminated area with a 5 percent acetic acid solution.

NOTE: When acetic acid is not available, you can use household vinegar at its full strength.

(c) Apply the solution with a cloth, mop, brush, or sponge.

1) Make sure the solution goes into the contaminated faying surface joints.

NOTE: A pressure application of the solution can be necessary to flush the faying surface joints and some access areas fully.

2) Apply the solution until the chemical reaction stops.

NOTE: When the chemical reaction stops, the alkaline has become neutral.

a) Let the solution stay on the surface for 5 minutes more after the chemical reaction stops.

(d) Remove the solution with a mop or sponge.

1) Discard the contaminated clean-up materials into a plastic container.

(e) Flush the area with large quantities of clean water.

NOTE: A pressure application of water to the solution can be necessary to flush the faying surface joints and some access areas fully.

1) Rub the surface with a soft brush.

(f) Do a test of the cleaned area with litmus paper.

(g) Make the area dry with clean cloths.

(h) Repair the area if it is necessary after it is fully dry.

MERCURY SPILLAGE CONDITION - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. This section gives procedures to examine and clean the airplane after a mercury spill.
   B. When elemental mercury leaks on to an all metallic structure, severe structural strength degradation occurs. The rate of the diffusion of the mercury into a metal is related to the type of metal touched. The diffusion is also related to the type of finish protection the metal has. But, when the diffusion has started, it can not be stopped. Structural degradation is not always visually apparent until a load is applied to the structure.
   C. Make a record of the general quantity of the mercury spilled.
   D. Make a record of the location where the mercury was spilled.
   E. Isolate the mercury spill area to prevent contamination to other areas.
   F. The inspection/removal/repair must be made before subsequent flights.
   G. Structural repairs are necessary if there are signs of mercury contamination.
   H. Make sure that no free mercury is in the airplane. Use mercury sniffers and X-ray equipment (if available) to find free mercury.

TASK 05-51-21-212-001

2. Mercury Spillage Conditional Inspection
   A. Equipment
      (1) Medicine dropper
      (2) High capacity vacuum cleaner
      (3) Trap-type glass container
      (4) Mercury vacuum pump, Lab Safety Supply Co., P.O. Box 1368, Janesville, Wisconsin 53545
      (5) 10X hand lens
      (6) Sensing device (mercury sniffer) or equivalent
      (7) Portable X-ray equipment
   B. Consumable Materials
      (1) Corrosion preventive oil, or engine oil

(2) Cardboard
(3) Paper troughs
(4) Scotch tape
(5) Zinc oxide tape

C. References
(1) AMM 25-50-07/401, Insulation - Cargo Compartment
(2) AMM 53-01-01/401, Floor Panels

D. Mercury Spillage Inspection and Clean-up

S 142-002

WARNING: DO NOT GET MERCURY IN YOUR MOUTH, OR EYES, OR ON YOUR SKIN. DO NOT BREATH THE FUMES FROM THE MERCURY. PUT ON PROTECTIVE SPLASH GOGGLES AND GLOVES WHEN YOU CLEAN A MERCURY SPILL. MERCURY IS POISONOUS AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove all of the mercury you can see with cardboard and paper troughs. You can also use zink oxide tape, eye droppers, or a vacuum cleaner.
(a) Vacuum the area where the mercury spillage occurred.
1) Clean a small mercury spill with a trap-type glass container, or a high flow vacuum cleaner.

NOTE: Mercury fumes can cause contamination to a commercial vacuum cleaner.

2) Clean a large mercury spill with a mercury vacuum cleaner.

E. Lower Lobe (Major Zone 100) Mercury Spillage

S 022-003
(1) Remove the insulation blankets in the spill area and discard them. Also remove all of the insulation downstream of the spill to the nearest lateral fluid dams (AMM 25-50-07/401).

S 142-010
(2) Remove all of the mercury you can see with cardboard and paper troughs. You can also use zink oxide tape, eye droppers, or a vacuum cleaner.
(a) Vacuum the area where the mercury spill occured.
1) Clean a small mercury spill with a trap-type glass container, or a high flow vacuum cleaner.

NOTE: Mercury fumes can cause contamination to a commercial vacuum cleaner.

2) Clean a large mercury spill with a mercury vacuum cleaner.

S 212-004

(3) Use a 10X magnification hand lens and examine the structure visually. Look for bare metal (scratched or chipped paint).

(a) If you think mercury has penetrated into bare metal or structural joints, those areas must be X-rayed.

NOTE: Droplets of mercury show on X-ray negatives as small white spots. Corrosion and embrittlement show as tree-like forms that penetrate the structural component.

S 162-006

(4) Clean your hands, clothes, and tools with soap and hot water. Do this after the mercury spillage contamination has been removed and examination completed.

F. Main Deck (Major Zone 200) Mercury Spillage

S 212-007

(1) Examine the floor seals in the area of the spillage. (AMM 53-01-01/401).

(a) If floor seals are deteriorated, the floor panels must be removed and the structure examined.

S 212-008

(2) Make a visual examination of the seat track rails (and frame to floor beam components) if mercury spillage occurs near them. Use a 10X magnification hand lens to look for bare metal (scratched or chipped paint).

NOTE: A sensing device (mercury sniffer) is recommended to find mercury deposits you can not see. This is used when the mercury spillage is identified as large. X-ray equipment (when available) can also be used to find mercury.

(a) If you think mercury has penetrated into bare metal or structural joints, those areas must be X-rayed.

NOTE: Droplets of mercury show on X-ray negative as small white spots. Corrosion and embrittlement show as tree-like forms that penetrate the structural component.

S 162-009

(3) Clean your hands, clothes, and tools with soap and hot water. Do this after the mercury spillage contamination has been removed and the examinations are completed.

FIRE-RESISTANT HYDRAULIC FLUID REACTION WITH TITANIUM - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. This section gives procedures to examine bare, painted, or gold coated titanium parts. The examination is necessary when the titanium touches fire resistant hydraulic fluid that has temperatures above 270° F (132° C). At these temperatures, titanium becomes brittle.

TASK 05-51-22-212-001

2. Conditional Inspection of Titanium Parts in Fire-Resistant Hydraulic Fluid Contamination Areas
   A. Consumable Materials
      (1) B50085, Solvent - SkyKleen 1000.
      (2) B00062, Solvent - Acetone.
      (3) Scrapers, wood or plastic - commercially available.
   B. Examine the Titanium Parts

      NOTE: Titanium parts found in hydraulic fluid areas have a flat, black inorganic finish, or a gold coat for protection. Make sure that the black finish is not hydraulic fluid.

      S 212-004
      (1) Examine all of the titanium parts in the hydraulic fluid areas. Look for contamination, and metal or paint deterioration.

         NOTE: Titanium parts include ducts in the wheel well areas, engine fan case, and firewalls. Also included are the ducts in the aft fuselage between the pressure bulkhead and the APU firewall. Other titanium parts are some strut attach fittings and spar webs, landing gear beam, APU support structure, and stabilizer links.

         (a) Signs of hydraulic fluid contamination are a light glossy brown film, or a dull black carbonaceous residue. Also look for a bare surface on painted titanium ducts.

      S 142-002
      (2) Remove the hydraulic fluid residue. Use acetone or Skykleen 1000 and wooden or plastic scrapers.

      S 902-003
      (3) Replace all parts that show paint deterioration and/or metal that is etched.

EXCESSIVE CABIN PRESSURE LEAKAGE - MAINTENANCE PRACTICES

TASK 05-51-24-702-001

1. Excessive Cabin Pressure Leakage Test

NOTE: Any pressure over 4.5 psi differential needs to be coordinated with Boeing before the test is conducted.

A. General

(1) This procedure gives steps to do a leakage test to the airplane fuselage. This leakage test is used to make sure the fuselage pressurized areas are tight and there are no large leaks.

(2) When persons are in the airplane during this test, they must be in good physical condition.

(3) When a person feels pain during a pressure change, you must lower the pressure or make it stable immediately. Do this to make sure the person can make the pressure equal in their ears.

NOTE: Also, lower the pressure to remove the person from the airplane.

(4) This test uses the airplane equipment to pressurize the airplane and monitor the procedure.

NOTE: A method to calculate absolute pressure is as follows: Determine the field atmospheric pressure (in inches of mercury). Divide field atmospheric pressure by 2.036 and add the result to the gauge pressure or differential pressure inside the cabin to give the absolute pressure (PSIA). For example: If the field atmospheric pressure is 29.86 inHG and the cabin differential pressure is 4.0 psid, divide 29.86 by 2.036 which equals 14.67 psi. Add the cabin differential pressure (in psi) to the field pressure (4.0 psid + 14.67 psi = 18.67 psia) to obtain an absolute pressure of 18.67 psi.

(a) The primary source to pressurize the airplane is the APU. An external pneumatic service cart or the engine bleed air can also be used.

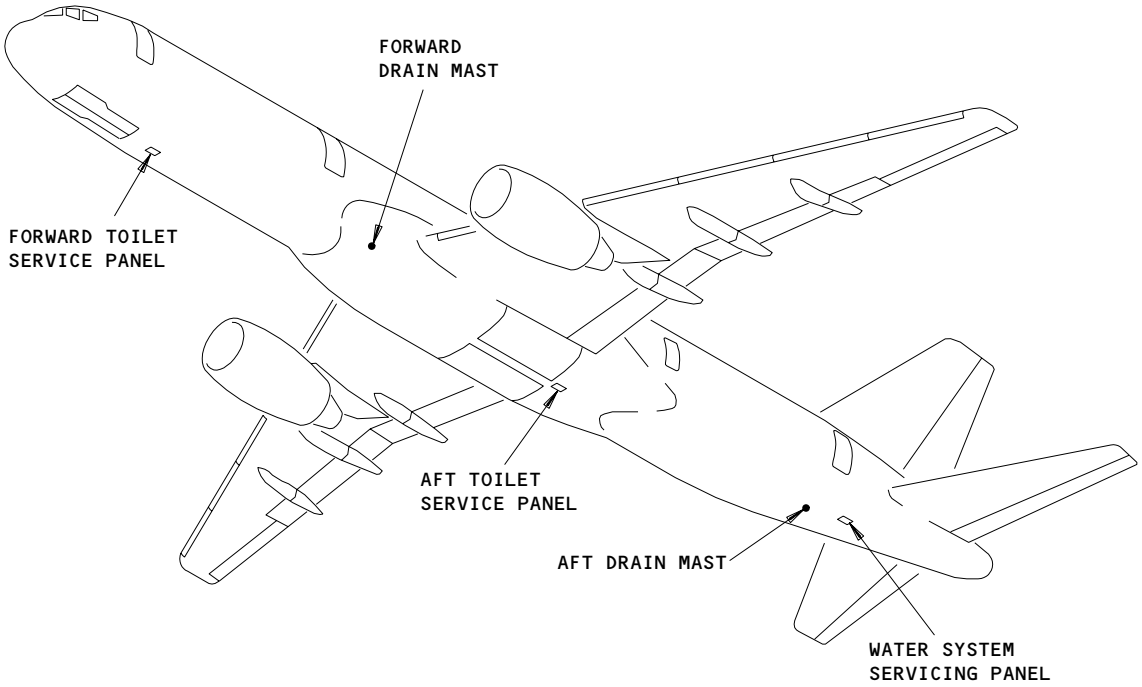
(b) The cabin differential pressure and the rates of pressurization and bleed-down are monitored in the control cabin. They are monitored on the differential pressure indicator, and the cabin rate indicator.

B. Equipment
   (1) Pneumatic Service Cart, capacity of 5.00 psig at 1000 SCFM flow, with a pressure gage, flowmeter.

       NOTE: Service cart is only necessary if the airplane APU is not used as pressure source.

   (2) Stop Watch

C. References
   (1) AMM 21-32-01/201, Positive Pressure Relief Valve
   (2) AMM 21-51-00/601, Cooling Pack System
   (3) AMM 24-22-00/201, Electrical Power - Control
   (4) AMM 34-11-00/501, Pitot-Static System



757-200
Excessive Cabin Pressure Leakage
Figure 201

(5) AMM 49-11-00/201, Auxiliary Power Unit (APU)

D. Prepare for the Test

S 862-002

(1) Supply electrical power (AMM 24-22-00/201).

S 862-003

(2) 757-200 AIRPLANES (See Fig. 201),
Make sure the items that follow, for the forward and aft toilet service panel, are closed:
(a) Toilet fill/shutoff valve
(b) Toilet drain fitting
(c) Toilet ground flush fitting.

S 862-060

(3) 757-200;
Open the circuit breaker C4086, on the P34 Panel:

NOTE: This will put the shut-off valve located on the top of each toilet tank to the closed position. With this valve closed, it will prevent toilet liquid flow-back during the test.

(a) 34A3(A), FILL CONT LAV

S 862-004

(4) 757-200 AIRPLANES;
Make sure the fill/overflow valve handle on the potable water he system service panel is CLOSED.

S 862-005

(5) Open all internal compartment doors.

S 862-006

(6) Make sure that all these circuit breakers on the panel, P11, are closed:
(a) 11B14, CABIN ALT/PRESS MNL OR CABIN ALTITUDE CONTROL MANUAL
(b) 11B15, CABIN ALT/PRESS SEL OR CABIN ALTITUDE CONTROL SELECT

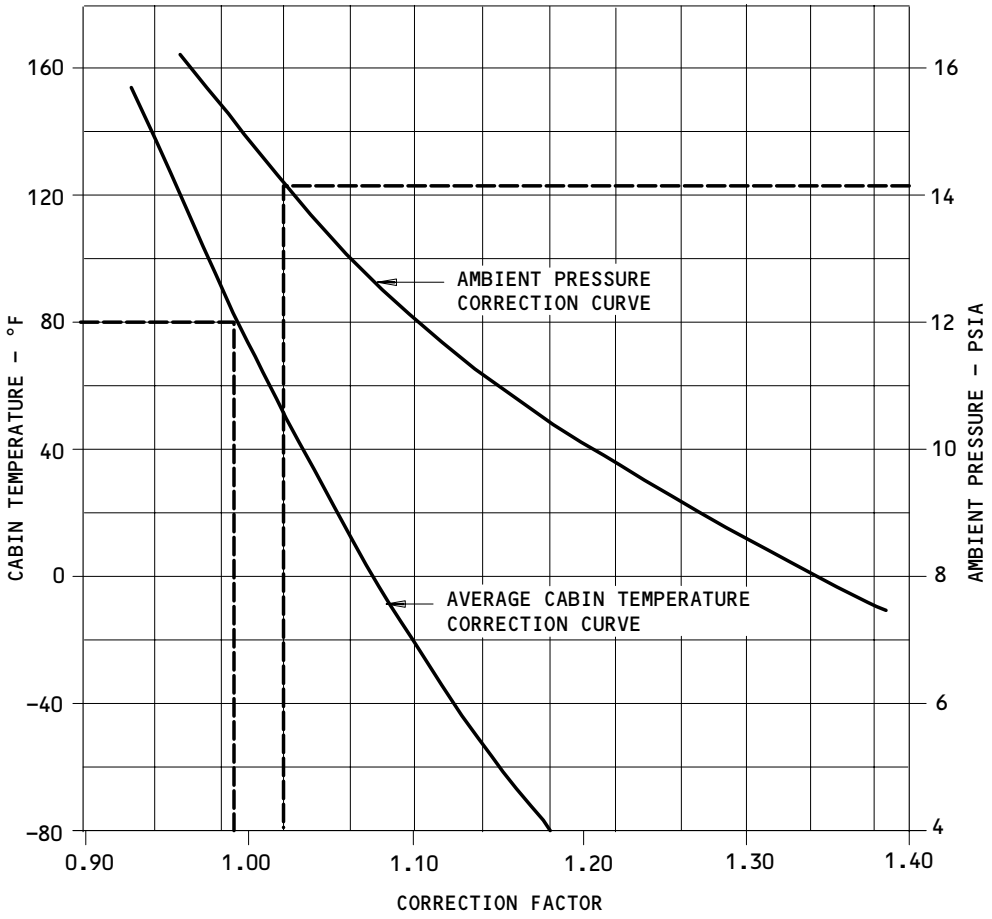
S 862-076

(7) Move the CABIN ALTITUDE CONTROL MODE SELECT switch on the pilot's overhead panel, P5, to MAN.

HOW TO USE CURVE:

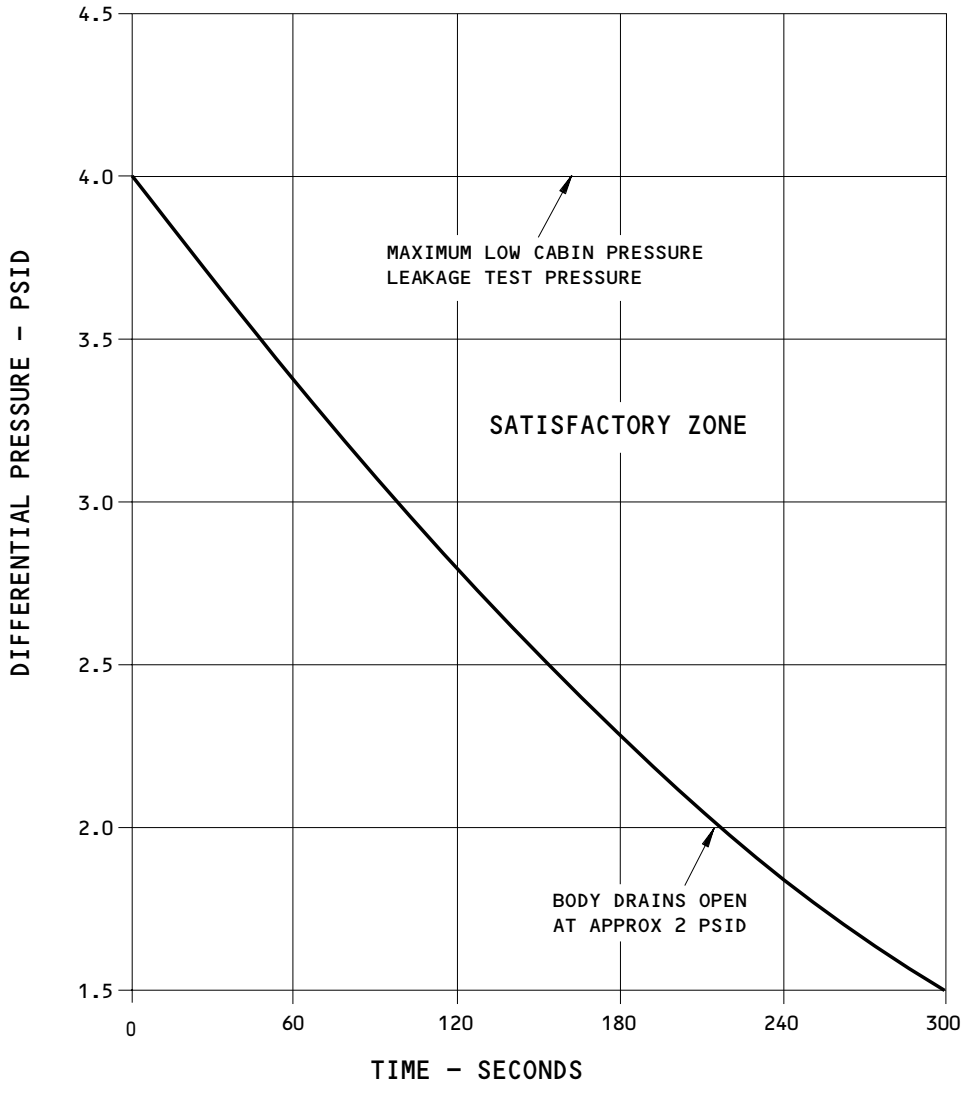
EXAMPLE: (A) ASSUME TEST RESULTS IN AVERAGE TEMPERATURE OF 80°F, AMBIENT PRESSURE OF 14.15 PSIA, AND TIME THREE MINUTES.

(B) FROM CURVES BELOW: TEMPERATURE CORRECTION FACTOR IS 0.99 AND PRESSURE CORRECTION FACTOR IS 1.02. THE PRODUCT OF THE TWO FACTORS IS 1.01. THUS, TIME CORRECTED TO AN AMBIENT PRESSURE OF 14.7 PSIA INITIAL CABIN TEMPERATURE OF 70°F AND 4.0 PSIG DIFFERENTIAL = 3 ÷ 1.01 = 2.97 MINUTES.



CORRECTION FACTOR TO BE APPLIED TO BLEED DOWN TIME WHEN AMBIENT PRESSURE DOES NOT EQUAL 14.7 PSIA AND/OR CABIN TEMPERATURE DOES NOT EQUAL 70°F.

Pressure Leakage Test Correction Factor
Figure 202



757-200

NOTE: 2.0 PSID IS THE RECOMMENDED MININUM TEST POINT.

Pressure Leakage Rate Check Chart
Figure 203 (Sheet 1)

M90856

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Pressure Leakage Rate Chart
Figure 203 (Sheet 2)

N47853

S 862-007

(8) Make sure the outflow valve position indicator on the pilot's overhead panel, P5, shows that the valve is fully open.

(a) If the outflow valve is not open, move the CABIN ALTITUDE CONTROL MANUAL switch on the panel, P5 to CLIMB. Put the switch in the center (between CLIMB and DESCEND) when the VALVE indicator shows that the outflow valve is fully open.

NOTE: The valve will be fully open in approximately 25 seconds.

S 022-077

(9) Remove the oxygen mask regulators from the oxygen system in the crew cabin (AMM 35-11-51/401).

NOTE: The removal of the oxygen equipment is not necessary if the absolute pressure is not more than 20 psi.

NOTE: A method to calculate absolute pressure is as follows: Determine the field atmospheric pressure (in inches of mercury). Divide field atmospheric pressure by 2.036 and add the result to the gauge pressure or differential pressure inside the cabin to give the absolute pressure (PSIA). For example: If the field atmospheric pressure is 29.86 inHG and the cabin differential pressure is 4.0 psid, divide 29.86 by 2.036 which equals 14.67 psi. Add the cabin differential pressure (in psi) to the field pressure (4.0 psid + 14.67 psi = 18.67 psia) to obtain an absolute pressure of 18.67 psi.

S 792-008

CAUTION: MAKE SURE THAT ALL OF THE PITOT STATIC SYSTEM IS THERE AND IT HAS BEEN LEAK TESTED. ALSO, REMOVE EQUIPMENT THAT IS CONNECTED TO THE PITOT STATIC SYSTEM BEFORE YOU START THE FUSELAGE LEAKAGE TEST. DAMAGE TO EQUIPMENT CAN OCCUR IF THE PITOT STATIC SYSTEM IS NOT COMPLETE AND PRESSURE TIGHT.

(10) Make sure that all of the pitot static system is there and it is leak tested (AMM 34-11-00/501).

S 862-010

WARNING: OBEY THE CODES FOR COMPRESSION AND DECOMPRESSION WHEN YOU USE PERSONS IN A PRESSURIZED AREA. ALSO, FOLLOW THE STANDARDS OF SAFETY FOR COMPRESSED AIR WORK. PRESSURE CHANGES THAT CAUSE PAIN MUST NOT BE DONE. IF YOU DO NOT OBEY THE PRECAUTIONS, INJURY TO PERSONS CAN OCCUR.

(11) Make sure there are only necessary persons to do the test in the airplane.

S 862-011

(12) Close and latch all doors and hatches which must hold pressure.

S 212-071

CAUTION: MAKE SURE THAT YOU REMOVE POWER TO RECIRCULATION FANS IF THE ABSOLUTE PRESSURE (AMBIENT PRESSURE + DIFFERENTIAL PRESSURE) WILL EXCEED 15.7 PSIA. PRESSURE GREATER THAN 15.7 PSIA CAN CAUSE THE FANS TO WORK TOO HARD AND OVERHEAT. THIS CAN CAUSE DAMAGE TO THE FANS.

CAUTION: DISABLING THE WARNING HORN REDUCES THE FAILURE INDICATION OF THE FORWARD ELECTRICAL EQUIPMENT COOLING FAN TO THE "EQPT OVHT" LIGHT AND "EQPT OVHT" MESSAGE. ENSURE THE NOTE PROVIDED IN SECTION THAT CONCERNS POTENTIAL OVERHEAT FO THE FORWARD ELECTRICAL EQUIPMENT COOLING SUPPLY FANS IS ADHERED TO. PRESSURIZED CABIN IF THE PRESSURE WILL EXCEED 15.7 PSIA. PRESSURE GREATER THAN 15.7 PSIA CAN CAUSE THE FAN TO WORK TOO HARD AND OVERHEAT. THIS CAN CAUSE DAMAGE TO THE FAN.

CAUTION: TO PROTECT LRU DAMAGE, LIMIT THE TIME THE LEFT RECIRCULATION FAN IS OFF TO 30 MINUTES AND TURN WEATHER RADAR OFF. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN CAUSE DAMAGE TO ELECTIRCAL EQUIPMENT.

(13) Make sure the following circuit breakers are open to prevent the ground warning horn from sounding when the recirculation fans are turned off.

(a) 11C20 Equip Cooling Smoke Det Cont - Overboard Exhaust Valve (if installed) (AMM 21-58-05/401) .
(b) 11N13, EQUIP COOLING LOW FLOW DET.
(c) 6D6, EQUIP COOL GND WARN AND TEST.

S 212-074

(14) Set the left recirculation fan switch to off.

S 212-075
(15) Set the right recirculation fan switch to off.

E. Procedure

S 792-012
(1) Do the Leakage Test.
(a) Start the APU, and use it as a pressure source (Ref 49-11-00).

NOTE: If it is necessary, a pneumatic service cart can be used.

(b) Turn the L and the R Pack Control Selectors on the panel, P5, to AUTO.
1) Operate the zone selectors in AUTO at approximately 75°F (12 o'clock position) (AMM 21-51-00/601).
(c) After the air conditioning system has become stable, move the MANUAL Cabin Altitude Control switch on the panel, P5, to DESCEND.
1) This will close the outflow valve.

WARNING: DO NOT INCREASE PRESSURE MORE THAN 1000 FEET A MINUTE (0.5 PSI A MINUTE). IF YOU INCREASE THE PRESSURE MORE THAN 1000 FEET A MINUTE (0.5 PSI A MINUTE), INJURY TO PERSONS OR DAMAGE TO THE AIRPLANE STRUCTURE CAN OCCUR.

(d) Slowly increase the cabin pressure at a rate of approximately 300 feet a minute (The pressure increase will show on the cabin rate indicator of the panel, P5). Increase the cabin pressure until the cabin differential pressure indicator on the panel, P5, shows a differential pressure of 4.0 psi.

NOTE: The rate of cabin pressurization can be more than 300 feet a minute, if the last WARNING is obeyed.

To determine the field atmospheric pressure (in inches of mercury). Divide field atmospheric pressure by 2.036, and add the result to the gauge pressure or differential pressure inside the cabin to give the absolute pressure (psia).

The increase in pressure can cause the lav or galley smoke detectors to sound an alarm when there is no smoke.

Equipment cooling fans work harder at cabin pressures more than 15.7 psia. Limit the operation of fans at high cabin pressure to less than 30 minutes.

If a fan overheats and stops during high cabin pressure operation, the equipment cooling OVHT light will illuminate. If this occurs, select ALTERNATE to restore the equipment cooling air flow. After a cool-down period, the internal thermostats in the overheat fan will automatically reset. The fan will become operational again.

(e) Operate the outflow valve toward closed with the cabin altitude manual control.

NOTE: You must keep a differential pressure of approximately 2 psi to 3 psi applied to the E/E overboard valve. This is to make sure the E/E overboard valve stays fully closed during the test.

You can use the leakage data you get with the overboard exhaust valve closed. But, you can use it only if the overboard exhaust valve was fully closed during the full test. The E/E overboard valve can be closed with a wood or plastic rod similar to that found on a broom handle.

(f) Turn the L and the R pack control selectors on the panel, P5, (for the operation of the air conditioning pack) to OFF.
1) Start the stop watch.
(g) Shutdown the APU if it was used (Ref 49-11-00).
(h) Stop the pneumatic service cart if it was used.
(i) In less than 300 seconds after the air conditioning pack is turned off, make a record of the data. Make five to ten data sets of each of the items that follow:

NOTE: Make sure the E/E overboard valve stayed closed. If the E/E overboard valve did not stay fully closed during the leakage test, the pressure/time data will not be correct. The E/E overboard valve can be closed with a wood or plastic rod similar to that found on a broom handle.

1) The time on the stop watch
2) The cabin differential pressure
3) The cabin temperature
4) The external ambient temperature and pressure.

(j) If the test is to be run again, do a 20 minute cool-down time.
1) Do this with the equipment cooling fan operating at zero differential pressure.

NOTE: This will make sure the fans will not overheat.

(k) Do a check of the areas that follow for excessive leakage.

NOTE: Do this while the airplane is pressurized with a differential pressure between 3 psi and 4 psi.

1) Make sure the binge drains found on the bottom centerline of the airplane are completely closed.

NOTE: The bilge drain valve closes at approximately 2.0 psid.

2) Do a check of all door and hatch seals for leakage.
3) Do a check of the flight deck windows for leakage.
4) Do a check of the cabin pressure outflow valve seal for leakage.
5) Do a check of the cabin safety relief valves for leakage.
6) Do a check of the cabin pressure negative relief valve (2 each) seals for leakage.
7) Do a check or the water service panel seals for leakage.
8) Do a check of all air conditioning and APU duct seals at the pressure bulkhead penetrations for leakage.

NOTE: These are found in the A/C bay and the aft pressure dome.

9) Do a check of the structure in the forward and aft wheel wells for leakage.
10) Do a check of the control cable seals in the pressure bulkhead penetrations for too much leakage.

(l) Do a check of the areas which are difficult to get to.

NOTE: These areas can also show leaks.

1) Look at the structure that is hidden by the wing-to-body fairing and the APU bulkhead.

NOTE: You should look at these areas for potential structure and seal leaks.

(m) Do the Leakage Rate Analysis
1) Get the correction factor from Figure 202 to correct the time data. Do this if the test was done at field altitudes that are much higher than at the sea level.
2) Make a graph from the points that follow:
a) The differential pressure data on the vertical axis of Figure 203
b) The time on the horizontal axis of Figure 203.
3) Make a straight line through the two axis points on Figure 203.
4) If the lines on the graph are in the Satisfactory Zone on Figure 203, the pressure leakage rate is satisfactory.

F. Put the Airplane Back to Its Usual Condition.

S 862-013

WARNING: DO NOT DECREASE THE PRESSURE MORE THAN 1000 FEET A MINUTE (0.5 PSI A MINUTE) . IF YOU DECREASE THE PRESSURE MORE THAN 1000 FEET A MINUTE (0.5 PSI A MINUTE), INJURY TO PERSONS OR DAMAGE TO THE AIRPLANE STRUCTURE CAN OCCUR.

(1) To release the pressure differential, put the MANUAL cabin altitude control switch to CLIMB. This will move the outflow valve to the open position. Monitor the valve position indicator on the panel, P5, to make sure the valve is fully open.

NOTE: The CABIN pressure rate-of change must not be more than 500 feet a minute. This will be shown on the cabin RATE indicator of the panel, P5.

For the test, this rate can be increased if the last WARNING is obeyed.

S 942-015
(2) If it is necessary, remove the equipment used to apply the differential pressure.

S 982-057
(3) If the equipment cooling fans were selected from NORMAL to ALTERNATE, the switches must be returned to the NORMAL position.

S 822-078
(4) Move the CABIN ALTITUDE CONTROL MODE SELECT switch on the pilot's overhead panel, P5, to AUTO 1 or AUTO 2.

S 422-079
(5) If the crew oxygen mask regulator was removed, then install and test oe the mask demand regulator (AMM 35-11-51/401).

S 862-059
(6) Put all switches and circuit breakers back to their normal position.

S 862-016
(7) Remove the electrical power if it is not necessary (AMM 24-22-00/201).

CONDITIONED AIR PACK OUTLET DUCT SYSTEM FAILURE - MAINTENANCE PRACTICES

1. General
   A. This procedure contains the task to examine the cabin air supply check valve after an upstream duct failure.
      (1) The cabin air supply check valve can be damaged when there is an upstream duct failure of the pack outlet.
      (2) When there is a duct failure, the applicable cabin air supply check valve must be removed and inspected.
      (3) There is one cabin air supply check valve found downstream of each air cooling pack, near the forward bulkhead of the ECS bay.

TASK 05-51-25-212-001

2. Cabin Air Supply Check Valve Conditional Inspection
   A. References
      (1) AMM 21-51-15/401, Cabin Air Supply Check Valve
      (2) AMM 21-51-15/601, Cabin Air Supply Check Valve
   B. Access
      (1) Location Zones
          135/136 Environmental control systems (ECS) bay
      (2) Access Panels
          193HL/194ER Environmental control system access doors
   C. Procedure

      S 022-002
      (1) Remove the cabin air supply check valve for inspection (AMM 21-51-15/401).

      S 212-003
      (2) Do a visual inspection of the cabin air supply check valve (AMM 21-51-15/601).

      NOTE: If there is damage to the valve, the valve must be replaced.

      (a) Look for:
          - missing parts
          - cracks
          - corrosion
          - flapper deformation
          - restricted flapper movement.

      S 422-004
      (3) Install the cabin air supply check valve (AMM 21-51-15/401).

      S 842-005
      (4) Put the airplane back to its usual condition.

EXTREME DUST CONDITION - MAINTENANCE PRACTICES

1. General
   A. This section gives procedures to examine the dust sensitive areas on the airplane when there are extreme dust conditions.

TASK 05-51-27-212-001

2. Extreme Dust Conditional Inspection
   A. Procedure

S 212-002

(1) Make sure the areas that follow are clean:
   (a) Stabilizer trim and flap screw mechanisms.
   (b) Static ports and pitot tubes.
   (c) Landing gear shock strut inner cylinders and all gear actuator pushrods. This includes the main gear uplock actuator pushrods.
   (d) Engine inlet and indicator probes.

ICE OR SNOW CONDITION - MAINTENANCE PRACTICES
(CONDITIONAL INSPECTION)

1. General
   A. This section gives procedures to examine the airplane surface before a flight when there are ice or snow conditions.

TASK 05-51-28-212-001

2. Ice or Snow Conditional Inspection
   A. References
      (1) 12-33-01/301, Cold Weather Maintenance
   B. Procedure

S 212-002

(1) When there are ice or snow conditions, examine the areas that follow before the airplane flight.
   (a) Look at the fuselage, wings, control surfaces, movable seals and hinge points for ice or snow.
   (b) Look at the engine inlet cowl for ice and snow. Also make sure the first stage compressor turns freely.

S 662-003

(2) If there is ice or snow, do the cold weather maintenance service (Ref 12-33-01).

EXCEEDING MAXIMUM NOSE LANDING GEAR TOWING ANGLE OR MAXIMUM TOWING LOAD (CONDITIONAL INSPECTION) - MAINTENANCE PRACTICES

1. General
   A. The following procedure is required for an accidental turn of the nose landing gear greater than the maximum steering angle with torsion links attached, steering from the flight deck with the towbar installed and the steering system activated, or towing more than the maximum towing loads.

      NOTE: Exceeding maximum steering angle with torsion links attached is also known as an oversteer.

   B. This inspection procedure is divided into two phases (Phase I and Phase II).
      (1) If the inspection during Phase I does not shown that damage has occurred, no more inspections are necessary.
      (2) If the Phase I inspection shows that damage has occurred, the Phase II inspection must be done.
      (3) The Phase I inspection must be completed prior to the Phase II inspection.
   C. When the conditional inspection tells you to "examine" a component, look for these conditions (replace or repair components, if it is necessary).
      (1) Cracks
      (2) Pulled apart structure
      (3) Loose paint (paint flakes)
      (4) Twisted parts (distortion)
      (5) Bent components
      (6) Fasteners holes that become larger or longer
      (7) Loose fasteners
      (8) Fasteners that have pulled out or are gone
      (9) Delaminations
      (10) Misalignment
      (11) Interference
      (12) Hydraulic fluid leakage
      (13) Other signs of damage

   TASK 05-51-29-202-002

2. Phase I Inspection
   A. References
      (1) AMM 09-11-00/201, Tow the Airplane
      (2) AMM 32-00-20/201, Landing Gear Control Cables -
      (3) AMM 32-45-03/601, Wheels Fast Check (Wheel Installed on the Airplane)
      (4) AMM 32-45-03/601, Wheels Inspection (Wheel Removed from the Airplane)
      (5) AMM 32-45-04/601, Tires Inspection

B. Access
(1) Location Zone
700 Landing Gear and Landing Gear Doors

C. Nose Landing Gear Area, Exceeding Maximum Steering Angle

NOTE: Refer to Towing, AMM 09-11-00/201.

S 202-001
(1) Examine the nose landing gear areas that follow:
(a) The tires, do this task: Tires Inspection (AMM 32-45-04/601).
(b) The wheels, do this task: Wheels Fast Check (Wheel Installed on the Airplane) (AMM 32-45-03/601).
1) If the examination finds any wheels damaged, do this task: Wheels Inspection (Wheel Removed from the Airplane) (AMM 32-45-03/601).
(c) If damage occurred during towbarless towing, do these steps:
1) Make sure that the axle is not bent or deformed.
2) Examine the axle threads for damage.
(d) Make sure all of the fasteners are installed in the correct positions on the nose landing gear and the nose wheel well.
(e) Examine the steering cable control system for signs of cable overload, do this task: Landing Gear Control Cables - Location and Part Data (AMM 32-00-05/201).
1) Verify the cable pulley brackets are not deformed.
2) Verify the proper cable rigging.
(f) Examine the nose gear steering actuator rods for signs of necking, hydraulic leakage, or contact with the steering collar.
1) Verify the actuator rods are not bent or deformed.
(g) Examine the actuator rod end attachments to the steering collar for signs of deformation and excessive freeplay.
(h) If damage occurred during towbarless towing examine the these pins for signs of crank shafting, cracks or other problems:
1) Torsion Link Pin, upper

2) Torsion Link Pin, lower
3) Torsion Link QD Plungers
4) Steering Collar Pins

(i) Examine the actuator trunnion attachments to the steering plates for signs of deformation and excessive freeplay.
(j) Examine the upper and lower ends of the shock strut of the nose gear for fluid leakage.
(k) Examine the outer cylinder of the nose landing gear.
(l) Examine the nose landing gear trunnions for signs of damage.
(m) Examine the nose landing gear inner cylinder at tow fitting attach points.
(n) Examine the nose gear torque links for signs of deformation and excessive freeplay.
(o) Examine the nose landing gear inner cylinder torque link attach lugs.
(p) Examine the nose landing gear trunnion attachment areas for signs of damage.
(q) Examine the doors, hinges and retraction mechanism of the nose landing gear for signs of damage.
(r) Examine the tow fitting and inner cylinder attachment for signs of damage.
(s) Operationally check the steering system by commanding slow tiller inputs in both directions.
1) Verify no system binding occurs and there is no leakage from steering actuator rod seals.
2) Examine the nose landing gear steering angle, AMM 32-51-00/501.

TASK 05-51-29-202-003

3. Phase II Inspection

A. References
(1) AMM 12-15-02/301, Nose Landing Gear Shock Strut Servicing
(2) AMM 32-21-09/601, Nose Landing Gear Torsion Link Connection
(3) AMM 32-34-00/501, Nose Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks)
(4) AMM 32-51-00/501, Nose Landing Gear Steering System - Functional Test
(5) AMM 32-51-11/401, Nose Landing Gear Steering Actuator Removal

B. Access
(1) Location Zone
700 Landing Gear and Landing Gear Doors

C. Nose Landing Gear Operational Check

S 712-004
(1) Retract and then extend the nose landing gear with the normal system to make sure it operates correctly.
(a) Do this task: Nose Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks) (AMM 32-34-00/501).

D. Nose Landing Gear Inspections

S 202-005

(1) Examine the nose landing gear areas that follow:
  (a) Nose Landing Gear Torsional Freeplay Inspection, do this task: Nose Landing Gear Torsion Link Connection (AMM 32-21-09/601).
  (b) Examine the shock strut of the nose landing gear to make sure the pressure is satisfactory.
    1) Do this task: Nose Landing Gear Shock Strut Servicing (AMM 12-15-02/301).
  (c) Remove the inner cylinder if:
    1) There is visible damage to any of the following structural components:
      a) Nose landing gear inner cylinder.
      b) Nose landing gear outer cylinder
      c) Drag strut
    2) There are signs of a shock strut fluid leak.
    3) It is known the maximum towing load has been exceeded.
  (d) If you remove the inner cylinder, examine the inner cylinder as follows:
    1) Perform a visual examination looking for distortion and cracks.
    2) Do a dimensional inspection.
    3) Do an NDT inspection, if appropriate.
  (e) Make sure there are no loose fasteners in the web of the nose wheel well near the trunnion support fittings.
  (f) Do a check of the rigging of the steering mechanism.
    1) Do this task: Nose Landing Gear Steering System - Functional Test (AMM 32-51-00/501).
  (g) Do a check of the steering system:
    1) Do this task: Nose Landing Gear Steering System - Functional Test (AMM 32-51-00/501).
    2) Remove and examine the actuators, do this task: Nose Landing Gear Steering Actuator Removal (AMM 32-51-11/401).
    3) Examine the attach pins.
    4) Examine the steering plate.

ELEVATOR/RUDDER MISRIG OR SINGLE HYDRAULIC SYSTEM CHECK FAILURE - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. When the elevator or rudder control systems do not pass the single hydraulic system check, an inspection must be done. Also, an inspection must be done if they are not adjusted correctly. The inspection for damage must be done to the elevator and rudder components and their related support structures. Before you make these inspections, the elevator and rudder control systems must be deactivated to prevent accidental movement.

TASK 05-51-30-212-001

2. Elevator/Rudder Misrig or Single Hydraulic System Check Failure, Conditional Inspection
   A. References
      (1) 27-21-00/501, Rudder and Rudder Trim Control System
      (2) 27-31-00/501, Elevator Control System
      (3) 29-11-00/201, Pressurize/Depressurize Main Hydraulic System
   B. Prepare for the Inspection

      S 862-002
      (1) Remove the pressure from the left, center, and right hydraulic systems (Ref 29-11-00).

      S 862-003
      (2) Put the L, C, and R FLT CONTROL SHUTOFF switches on sidewall panel, P61 to OFF.

      S 862-004
      (3) Open these circuit breakers on the overhead circuit breaker panel, P11 and attach DO-NOT-CLOSE tags.
         (a) 11H17, FLIGHT CONT SHUTOFF TAIL LEFT
         (b) 11H18, FLIGHT CONT SHUTOFF TAIL CENTER
         (c) 11H28, FLIGHT CONT SHUTOFF TAIL RIGHT

C. Procedure

S 212-005
(1) Inspect the elevator and/or rudder components and their related support structure.
  (a) Examine the components that follow for damage you can see:
    1) The PCA reaction links
    2) The trunnions
    3) The side links
    4) The side link support brackets
    5) The control rods
    6) The pogo rods
    7) The cranks
    8) The crank support brackets.
  (b) Examine the control surface mast and hinge fittings, and adjacent structure for damage you can see.
  (c) Examine the two hinge ribs adjacent to the PCAs for damage you can see.
  (d) Examine the area of the left or right horizontal stabilizer and/or fin rear spar, as applicable. Look between the two hinge ribs adjacent to the PCAs for damage you can see.

S 342-006
(2) Repair or replace areas that have bent, damaged, or cracked components.

S 822-007
(3) Adjust the elevator control system if it was found out of adjustment (Ref 27-31-00).

S 822-008
(4) Adjust the rudder control system if it was found out of adjustment (Ref 27-21-00).

D. Put the Airplane Back to Its Initial Condition

S 862-009
(1) Remove the DO-NOT-CLOSE tags and close these circuit breakers on the overhead panel, P11:
  (a) 11H17, FLT CONT SHUTOFF TAIL LEFT
  (b) 11H18, FLT CONT SHUTOFF TAIL CENTER
  (c) 11H28, FLT CONT SHUTOFF TAIL RIGHT

S 862-010
(2) Put the L, C, and R FLT CONTROL SHUTOFF switches in the ON position. The switches are found on the sidewall panel, P61.

S 862-011
(3) Pressurize the left, center, and right hydraulic systems (Ref 29-11-00).

VOLCANIC ASH CONDITION (CONDITIONAL INSPECTION) - MAINTENANCE PRACTICES

TASK 05-51-31-212-001

1. Volcanic Ash Conditional Inspection

A. General

(1) Flight crew reports of electrostatic discharge across the windshields are indications of a volcanic ash condition. Other indications are a bright glow in the engine inlets along with subsequent engine shutdown. Also, a possible limited view through the windshields and windows can occur.

(2) Volcanic ash is a highly abrasive material that is usually found to be noncorrosive. But, because volcanic ash is very abrasive, finished surfaces open to volcanic ash can result in a corrosive condition.

(3) The texture is almost the same as talcum powder. The dimensions of most ash particles are less than 5 microns with small amounts that are more than 50 microns. Volcanic ash is very abrasive so be careful when you wash the airplane. You can cause damage to the airplane if you rub the surface too hard.

(4) Volcanic ash will stay on bare lubricated surfaces. It can go into many conventional seals, go into the engine gas path, or go into the air condition system. It is possible for the ash to go into other openings on the airplane. Bare lubricated surfaces that are known to be contaminated with volcanic ash must be cleaned and lubricated again. Do this as soon as possible to prevent unusual wear to the parts that move. Some of these parts are the inner cylinders of the landing gear shock strut, and hydraulic actuator rods. Also there are stabilizer trim and flap screw mechanisms. You must monitor parts that turn or slide for signs of ash related damage. This procedure must be done as a follow-on program if initial damage was not found.

(5) Volcanic ash incidents that have occured to engines have shown that the ash will change conditions. As the ash goes through the combustor, it will change to between a plastic flow and molten condition. In this condition, it will have very high adhesive qualities and properties. The ash will bond to the nozzle guide vanes of the high pressure turbine. It will also bond to the rotor blades of the high pressure turbine. When the ash bonds to these components, it causes a decrease in the turbine flow area. It also causes a decrease of nozzle guide vane and turbine blade cooling air.

(6) Do this conditional inspection if one or more of the conditions that follow occur:

(a) An airplane's flight path went through a cloud of volcanic ash.

(b) An airplane is covered with volcanic ash during ground operations (towing, taxiing, parking, etc.) during volcanic ash fallout conditions.

(c) An airplane does a landing or takeoff during volcanic ash fallout conditions.

(7) Volcanic ash can cause discomfort to persons during fallout conditions. Precautions must be followed when you do work in a volcanic ash environment. This will prevent the entry of volcanic ash into the eyes and respiratory system.

B. References

(1) AMM 12-11-03/301, Fuel Sump - Draining
(2) AMM 12-14-01/301, Potable Water System - Draining
(3) AMM 21-25-01/401, Cabin Recirculation Air Fan
(4) AMM 21-25-02/401, Recirculation Air Filter
(5) AMM 21-25-03/401, Recirculation Air Check Valve
(6) AMM 21-31-03/201, Cabin Pressure Outflow Valve
(7) AMM 21-31-04/401, Cabin Pressure Outflow Valve Actuator
(8) AMM 21-32-01/201, Positive Pressure Relief Valve
(9) AMM 21-32-02/201, Vacuum Pressure Relief Valve
(10) AMM 21-51-01/201, Flow Control and Shutoff Valve
(11) AMM 21-51-02/401, Heat Exchangers
(12) AMM 21-51-02/601, Heat Exchangers
(13) AMM 21-51-03/401, Air Cycle Machine (ACM)
(14) AMM 21-51-04/401, Water Extractor
(15) AMM 21-51-11/201, Pack Low Limit Control Valve
(16) AMM 21-51-12/401, Pack Temperature Control Valve
(17) AMM 21-51-15/401, Cabin Air Supply Check Valve
(18) AMM 21-51-15/601, Cabin Air Supply Check Valve
(19) AMM 21-51-21/401, Secondary Water Extractor
(20) AMM 21-53-01/401, Ram Air Inlet Door
(21) AMM 21-53-02/401, Ram Air Exhaust Door
(22) AMM 21-53-03/401, Ram Air Inlet Door Actuator
(23) AMM 21-53-04/401, Ram Air Exhaust Door Actuator
(24) AMM 21-58-05/401, Overboard Exhaust Valve
(25) AMM 21-58-19/201, Equipment Cooling Smoke Sensor
(26) AMM 21-61-05/401, Trim Air Supply Check Valve
(27) AMM 21-61-06/401, Trim Air Pressure Regulating Valve
(28) AMM 21-61-07/401, Trim Air Modulating Valve
(29) AMM 24-11-01/401, Integrated Drive Generator
(30) AMM 26-16-01/201, Cargo Smoke Detectors
(31) AMM 26-16-02/401, Smoke Detector Blowers
(32) AMM 26-20-00/001, Extinguishing
(33) AMM 27-00-00, Flight Controls
(34) AMM 28-11-03/401, Surge Tank Access Door
(35) AMM 29-11-23/401, Reservoir Sampling Valve
(36) AMM 29-11-16/401, Reservoir Pressurization Module

(37) AMM 30-11-02/401, Wing Thermal Anti-Ice Valve
(38) AMM 30-21-03/401, Engine Inlet Thermal Anti-Ice Valve
(39) AMM 34-11-01/401, Pitot-Static Probes
(40) AMM 34-11-03/401, Static Probe Port
(41) AMM 34-12-02/401, Total Air Temperature Probe
(42) AMM 34-12-03/401, Angle-of-Attack Sensor
(43) AMM 36-11-04/401, Isolation Valve
(44) AMM 36-11-06/401, Air Supply Intermediate Pressure Check Valve
(45) AMM 36-11-07/401, High Pressure Shutoff Valve
(46) AMM 36-11-09/201, Air Supply Pressure Regulating and Shutoff Valve
(47) AMM 36-11-10/401, APU Shutoff Valve
(48) AMM 36-11-11/401, APU Air Supply Check Valve
(49) AMM 36-11-15/601, Air Supply Precooler
(50) AMM 36-11-16/401, Fan Air Modulating Valve
(51) AMM 36-21-00/501, Air Supply Pressure Indicating Systems
(52) AMM 38-14-01/401, Water Quantity Transmitter
(53) AMM 38-15-01/401, Compressor - Potable Water Tank
(54) AMM 38-15-02/401, Air Filter
(55) AMM 49-15-03/601, Air Intake Plenum (APU)
(56) AMM 49-15-05/401, APU Air Intake Door
(57) AMM 49-15-06/401, APU Air Intake Door Actuator
(58) AMM 49-21-00/601, APU Engine (Borescope)
(59) AMM 49-27-03/201, Oil Pressure and Scavenge Filter Elements
(60) AMM 49-27-04/201, Magnetic Chip Detectors and Drain Plug
(61) AMM 49-31-04/401, Fuel Filter Element
(62) AMM 49-31-08/201, Fuel Divider Filter Element
(63) AMM 49-53-01/401, Surge Valve
(64) AMM 49-81-01/201, APU Exhaust Duct
(65) AMM 72-00-00/601, Engine - General

C. Airplane Leading Edge External Surfaces

S 212-112

WARNING: DO NOT BREATHE VOLCANIC ASH. DO NOT GET VOLCANIC ASH IN YOUR EYES. PUT ON PROTECTIVE CLOTHES, EYE GOGGLES, AND A RESPIRATOR MASK THAT IS SUFFICIENT TO REMOVE VOLCANIC ASH PARTICLES. VOLCANIC ASH CAN CAUSE EYE IRRITATION AND INJURIES TO PERSONNEL.

(1) Examine the airplane. Look for abrasions in the areas that follow:
  (a) Front of the fuselage (this includes the weather radome).
  (b) Engine nacelles
  (c) Vertical Stabilizer
  (d) Wing
    1) Examine the leading edge of the wing for dents. Also refer to the Structural Repair Manual to make sure the skin is at the correct thickness.
  (e) Windshield and Windows
    1) Look for abrasion damage that will limit vision.

D. Engines

S 212-003
(1) Examine the engines to find if the volcanic ash ingestion caused damage (AMM 72-00-00).

E. Probes and Sensors

S 212-004
(1) Examine the Pitot-Static Probes to see if volcanic ash has collected on the probes or has caused blockage (AMM 34-11-01).

S 212-005
(2) Examine the Angle-of-Attack Sensors to see if volcanic ash has collected or has caused blockage (AMM 34-12-03).

S 212-006
(3) Examine the Flush Static Probe Ports to see if volcanic ash has collected or caused blockage (AMM 34-11-03).

S 212-007
(4) Examine the Total Air Temperature Probe(s) to see if volcanic ash has collected or caused blockage (AMM 34-12-02).

F. Air Condition System Examination

S 212-009
(1) Examine the Ram Air Inlet Doors. If volcanic ash is found, clean the doors, bearings, and movable joints, as necessary (AMM 21-53-01).

S 212-011
(2) Examine, if installed, the ram air exhaust doors. If volcanic ash is found, clean the doors, bearings, and movable joints as necessary (AMM 21-53-02).

S 212-012
(3) Examine the equipment cooling Overboard Exhaust Valve for signs of volcanic ash on the external surface. If ash is found on the external surface of the valve, remove the ash (AMM 21-58-05).

S 212-013
(4) If the valve that follows was open during a volcanic ash fallout, clean the total Equipment Cooling System (AMM 21-58-00).
(a) Equipment Cooling Overboard Exhaust Valve.

S 162-014
(5) Clean the primary and secondary heat exchangers as necessary (AMM 21-51-02).

S 022-015
(6) Remove the primary Water Extractor for examination (AMM 21-51-04).

S 162-016
(7) If volcanic ash is found in the water extractor, clean the Primary Water Extractor as necessary.

S 022-017
(8) Remove the Secondary Water Extractor for examination (AMM 21-51-21).

S 162-018
(9) If volcanic ash is found in the water extractor, clean the Secondary Water Extractor as necessary.

S 022-019
(10) Remove the pack Flow Control and Shutoff Valves for examination (AMM 21-51-01).

S 212-020
(11) Examine the pack Flow Control and Shutoff Valves for signs of volcanic ash (AMM 21-51-01).

S 022-021
(12) Remove the pack Heat Exchangers for examination (AMM 21-51-02).

S 212-022
(13) Examine the pack Heat Exchangers for signs of volcanic ash (AMM 21-51-02).

S 022-023
(14) Remove the Equipment Cooling Air Filters for examination (AMM 21-58-07).

S 022-025
(15) Remove the Recirculating Air Fans for examination (AMM 21-25-01/401)

S 022-026
(16) Examine the Recirculating Air Fans for signs of volcanic ash (AMM 21-25-01/401).

S 212-027
(17) Examine the Recirculation Air Filters for volcanic ash (AMM 21-25-02/401).

S 022-028
(18) Remove the Cabin Pressure Outflow Valve for examination (AMM 21-31-03).

S 212-029
(19) Examine the Cabin Pressure Outflow Valve for volcanic ash (AMM 21-31-03).

S 022-030
(20) Remove the actuator for the Cabin Pressure Outflow Valve for examination (AMM 21-31-04).

S 212-031
(21) Examine the actuator for the Cabin Pressure Outflow Valve for volcanic ash (AMM 21-31-04).

S 022-032
(22) Remove the Cabin Air Supply Check Valves for examination (AMM 21-51-15).

S 212-033
(23) Examine the Cabin Air Supply Check Valves for volcanic ash (AMM 21-51-15).

S 212-034
(24) Examine the Overboard Exhaust Valve for volcanic ash. If the valve was closed, remove the volcanic ash from the external surface (AMM 21-58-05).

S 022-035
(25) If the Overboard Exhaust Valve was open, remove the valve (AMM 21-58-05).

S 022-036
(26) Remove the Recirculation Air Check Valve for examination (AMM 21-25-03).

S 212-037
(27) Examine the Recirculation Air Check Valve for volcanic ash (AMM 21-25-03).

S 022-038
(28) Remove the Positive Pressure Relief Valve for examination (AMM 21-32-01).

S 212-039
(29) Examine the Positive Pressure Relief Valve for volcanic ash (AMM 21-32-01).

S 022-040
(30) Remove the Vacuum Pressure Relief Valve for examination (AMM 21-32-02).

S 212-041
(31) Examine the Vacuum Pressure Relief Valve for volcanic ash (AMM 21-32-02).

S 022-042
(32) Remove the Pack Low Limit Control Valves for examination (AMM 21-51-11).

S 212-043
(33) Examine the Pack Low Limit Control Valves for volcanic ash (AMM 21-51-11).

S 022-044
(34) Remove the Pack Temperature Control Valves for examination (AMM 21-51-12).

S 212-045
(35) Examine the Pack Temperature Control Valves for volcanic ash (AMM 21-51-12).

S 022-046
(36) Remove the Trim Air Supply Check Valves for examination. This step is optional to the airline if it is found necessary to clean the total Equipment Cooling System. But, this step could prevent a possible shorter component service life (AMM 21-61-05).

S 022-047
(37) Remove the Trim Air Pressure Regulating Valve for examination. This step is optional to the airline if it is found necessary to clean the total Equipment Cooling system. But, this step could prevent a possible shorter component service life (AMM 21-61-06).

S 022-048
(38) Remove the Trim Air Modulating Valves for examination. This step is optional to the airline if it is found necessary to clean the total Equipment Cooling System. But, this step could prevent a possible shorter component service life (AMM 21-61-07).

S 022-049
(39) Remove the Air Cycle Machine (ACM) for examination. This step is optional to the airline if it is found necessary to clean the total Equipment Cooling System. But, this step could prevent a possible shorter component service life (AMM 21-51-03).

S 212-050
(40) Examine the Ram Air Inlet Door Actuators for volcanic ash (AMM 21-53-03).

S 212-051
(41) Examine, if installed, the Ram Air Exhaust Door Actuators for volcanic ash (AMM 21-53-04).

G. Pneumatic System Examination

S 212-052
(1) Examine the Air Supply Precoolers. If signs of volcanic ash are found, remove the precooler (AMM 36-11-15).

S 212-053
(2) Examine the High Pressure Shutoff Valve. If signs of volcanic ash are found, remove the shutoff valve (AMM 36-11-07).

S 212-054
(3) Examine the Air Supply Intermediate Pressure Shutoff Valve. If signs of volcanic ash are found, remove the shutoff valve (AMM 36-11-06).

S 212-055
(4) Examine the Fan Air Modulating Valve. If signs of volcanic ash are found, remove the modulating valve (AMM 36-11-16).

NOTE: Look in the outlet side of the components in the last four steps (Air Supply Precoolers, High Pressure Shutoff Valve, Air Supply Immediate Pressure Shutoff Valve, and the Fan Air Modulating Valve). If there is no volcanic ash found, the procedure to examine the Pneumatic System is complete. The remaining pneumatic system steps are not necessary.

S 212-056
(5) Remove the Air Supply Pressure Regulating and Shutoff Valve to be examined (AMM 36-11-09).

S 212-057
(6) Examine the Air Supply Pressure Regulating and Shutoff Valve for volcanic ash (AMM 36-11-09).

S 022-058
(7) Remove the Isolation Valve to be examined (AMM 36-11-04).

S 212-059
(8) Examine the Isolation Valve for volcanic ash (AMM 36-11-04).

S 022-060
(9) Remove the APU Air Supply Check Valve to be examined (AMM 36-11-11).

S 212-061
(10) Examine the APU Air Supply Check Valve for volcanic ash (AMM 36-11-11).

S 022-062
(11) Remove the APU Shutoff Valve to be examined (AMM 36-11-10).

S 212-063
(12) Examine the APU Shutoff Valve for volcanic ash (AMM 36-11-10).

S 212-064
(13) Examine the ground air connectors for volcanic ash.

S 712-065
(14) Make sure the duct pressure transducers operate (AMM 36-21-00).

H. Examine the External Light Lenses

S 212-066
(1) Examine the external light lenses for abrasions. If the lenses are frosted or damaged, they must be replaced when it is possible.

I. Examine the Fuel System

S 682-067
(1) Get fuel samples from each fuel tank sump and examine them for signs of volcanic ash (AMM 12-11-03).

S 682-068
(2) Get fuel samples from each surge tank sump (if there is fuel in the surge tank). Examine the fuel samples for signs of volcanic ash (AMM 12-11-03).

S 212-069
(3) Examine the surge tank internally for signs of volcanic ash (AMM 28-11-03).

J. Examine the Oxygen System

NOTE: Do these steps only if there are signs of volcanic ash contamination in the flight deck and main deck cabin.

S 212-070
(1) Examine the oxygen system as follows:
(a) Examine the diluter demand regulators for the crew oxygen masks, for volcanic ash.
(b) Examine the oxygen masks of the portable oxygen cylinders for volcanic ash.
(c) Examine the passenger and crew oxygen masks for volcanic ash.

K. Examine the Auxiliary Power Unit (APU)

S 212-071
(1) Examine the air intake plenum for signs of volcanic ash (AMM 49-15-03).

S 212-072
(2) Examine the exhaust duct for signs of volcanic ash (AMM 49-81-01).

NOTE: Look at the air intake plenum and the exhaust duct. If there are no signs of volcanic ash, the procedure to examine the Auxiliary Power Unit (APU) is complete. The remaining APU steps are not necessary.

S 292-073
(3) Make an inspection of the APU compressor and turbine sections with a borescope (AMM 49-21-00).

S 022-074
(4) Remove the oil sump magnetic chip detector to be examined (AMM 49-27-04).

S 212-075
(5) Examine the magnetic chip detector of the oil sump (AMM 49-27-04).

S 212-076
(6) Examine the oil pressure and scavenge filter elements (AMM 49-27-03).

S 212-077
(7) Examine the fuel filter elements (AMM 49-31-04).

S 212-078
(8) Examine the Fuel Divider Filter element (AMM 49-31-08).

S 022-079
(9) Remove the Surge Bleed Air Valve to be examined (AMM 49-53-01).

S 212-080
(10) Examine the surge bleed air valve and ducts for signs of volcanic volcanic ash (AMM 49-53-01).

S 022-081
(11) Remove the APU Air Intake Door to examine the Air Intake Door Actuator (AMM 49-15-05).

S 212-082
(12) Examine the APU Air Intake Door Actuator for signs of volcanic ash (AMM 49-15-06).

L. Examine the Potable Water System

S 022-083
(1) Remove the air filter to be examined (AMM 38-15-02/401).

S 212-084
(2) Examine the air filter for signs of volcanic ash (AMM 38-15-02/401).

NOTE: Look at the air filters. If there are no signs of volcanic ash, the procedure to examine the Potable Water System is complete. The remaining Potable Water system steps are not necessary.

S 022-085
(3) Remove the compressor to be examined (AMM 38-15-01/401).

S 212-086
(4) Examine the compressor for signs of volcanic ash (AMM 38-15-01/401).

S 682-087
(5) Get a water sample from the water tank and examine it for signs of volcanic ash contamination (AMM 12-14-01/301).

S 022-088
(6) Remove the Water Quantity Tramsmitter to be examined (AMM 38-14-01/401).

S 212-089
(7) Examine the Water Quantity Transmitter for signs of volcanic ash contamination (AMM 38-14-01/401).

M. Examine the Smoke Detectors and Blowers

S 212-090
(1) Examine the smoke detector of the cargo compartment for signs of volcanic ash. If there are signs of ash, replace the cargo compartment smoke detector (AMM 26-16-01).

S 212-091
(2) Examine the cargo compartment smoke detector blowers for signs of volcanic ash contamination. If there are signs of volcanic ash, replace the blowers (AMM 26-16-02/401).

S 212-092
(3) Examine the Equipment Cooling Smoke Detector for signs of volcanic ash contamination. If there are signs of volcanic ash, replace the smoke detector (AMM 21-58-19).

N. Examine the Fire Extinguisher Bottle Nozzles

S 212-093

(1) Examine the fire extinguisher bottle nozzles in the areas that follow for volcanic ash contamination (AMM 26-20-00):
   (a) The Engines
   (b) The Auxiliary Power Unit (APU)
   (c) The Cargo Compartment.

O. Examine All Engine Accessories

S 212-094

(1) Examine all engine accessories (this includes the integrated drive generator and oil cooler) for volcanic ash contamination (AMM 72-00-00).

P. Examine the Landing Gear

S 212-095

(1) Examine the landing gear for signs of volcanic ash contamination. Do the steps that follow:
   (a) Examine the bare inner cylinders of the main and nose landing gear shock struts.
   (b) Examine the bare piston rods of all hydraulic actuators.
   (c) Examine all of the attachment points of the landing gear components.
   (d) Examine all landing gear:
      1) Door hinges
      2) Lock mechanisms
      3) Ground door release cables and pulleys
      4) Ground door release handle bearings.
   (e) Examine all cables and pulleys.
   (f) Examine the brake metering valves.
   (g) Examine the steering mechanism components of the nose landing gear.
   (h) Examine the proximity switches (sensors).
   (i) Examine the main and nose landing gear:
      1) Alternate extension system
      2) Electrical actuators and related drive mechanisms.

Q. Examine the Hydraulic Systems

S 682-096

(1) Use the Reservoir Sampling Valve and get a sample of the hydraulic fluid from the Left, Right, and Center hydraulic reservoirs. Examine the samples for signs of volcanic ash contamination (AMM 29-11-23).

S 022-097

(2) Remove the pressurization modules of the hydraulic reservoirs for examination (AMM 29-11-16).

S 212-098
(3) Examine the pressurization module components that follow for volcanic ash contamination:
(a) The air filters
(b) The module check valves
(c) The module bleed valves.

R. Examine the Flight Controls

S 212-099
(1) Examine the flight controls for signs of volcanic ash contamination. Do the steps that follow (AMM 27-00-00):
(a) Examine the actuator bare piston rods of the components that follow:
1) The ailerons
2) The elevators
3) The rudder
4) The spoilers.
(b) Examine all control cables.
(c) Examine the stabilizer jack screws.
(d) Examine all hinge surfaces of the flight controls.
(e) Examine the tracks and flap mechanisms of the trailing edge flaps.
(f) Examine the track fairings and linkages of the trailing edge flap.
(g) Examine the leading edge slats and mechanisms.

S. Examine the Wing and Engine Nacelle Thermal Anti-Ice Systems

S 022-100
(1) Remove the Thermal Anti-Ice Valve of the wing to be examined (AMM 30-11-02).

S 212-101
(2) Examine the Thermal Anti-Ice Valves of the wing for volcanic ash contamination (AMM 30-11-02).

S 022-102
(3) Remove the Thermal Anti-Ice Valves of the engine inlet to be examined (AMM 30-21-03).

S 212-103
(4) Examine the Thermal Anti-Ice Valves of the engine inlet for signs of volcanic ash contamination (AMM 30-21-03).

T. Examine the Airplane Internally

S 212-104
(1) Examine the airplane internal areas that follow for signs of volcanic ash contamination:
(a) The main deck cabin.
(b) The closets
(c) The passenger seats

(d) The powered crew seats
(e) The flight instruments
(f) The electrical/electronic control panels
(g) The lavatories
(h) The lavatory components
(i) The galleys
(j) The galley components
(k) The floor coverings.

S 212-105
(2) Examine the refrigeration/chiller units (if installed) for volcanic ash contamination.

S 212-106
(3) Examine the baggage/cargo systems for volcanic ash contamination.

S 212-107
(4) Examine the main electrical/electronic bay and compartments for volcanic ash contamination.

U. Put the Airplane Back To Its Initial Condition

S 942-108
(1) Put the airplane back to its initial condition after all necessary volcanic ash conditional inspections are completed.

TAIL STRIKE/SKID CONDITIONAL INSPECTION

1. General
   A. This inspection procedure must be done if an airplane tail strike (tail dragged or touched the runway) occured when the airplane landed or during takeoff.
   B. This procedure has the following task(s):
      (1) Tail Strike Inspection

TASK 05-51-32-212-011

2. Tail Strike Inspection
   A. References
      (1) AMM 27-41-00/501, Horizontal Stabilizer Trim Control System
      (2) AMM 27-48-00/501, Stabilizer Trim Position Indicating System
      (3) AMM 27-48-03/401, Stabilizer Position Module-Remove
      (4) AMM 27-48-03/401, Stabilizer Position Module-Installation
   B. Access
      (1) Location Zones
          163 Area Below Bulk Cargo Compartment, Left
          300 Empennage and Body Section 48
          311 Area Aft of Bulkhead, Left
          312 Area Aft of Bulkhead, Right

   C. Tail Strike Inspection Procedure

      S 212-015
      (1) Inspect the external skin surface of the lower aft fuselage.
          (a) Look from station 1620 (approximate aft cargo bay aft bulkhead) to the APU compartment (Fig. 201).
              1) Look for signs of
                 a) scrapes
                 b) holes
                 c) cracked skin
                 d) burns
                 e) buckled skin

2) Look for loose or missing fasteners.
3) Look for paint that is flaked.

(b) Look at the following areas for broken, bent (distorted), missing parts or other damage:
1) The APU firewall.
2) The APU drain.
3) The doors of the APU compartment.
4) The drain mast at station 1670.

(c) Inspect the upper fuselage structure aft of the wing rear spar for buckled structure, cracks and paint that has flaked.

(d) Inspect for fasteners that are loose or missing.

S 212-016

(2) Inspect the lower web of the rear pressure bulkhead (Fig. 202).

S 212-017

(3) When you find external damage, inspect the fuselage internally in the are of the tail strike:
(a) Inspect for bent or cracked stringers, frames, or clips.
(b) Inspect for buckled or wrinkled webs.
(c) Inspect for loose or missing fasteners and paint that has flaked.
(d) Inspect the lower area of the aft pressure bulkhead for damage.

S 212-018

(4) 757-200 AIRPLANES;
On the 757-200 airplanes with a Tail Scrape Damage Limiter (TSDL) installed, in addition to the above procedure, also inspect the TSDL assembly.
(a) Inspect the shoe fairing assemblies for wear or misalignment.
(b) Check if the fasteners that attach the shoe to the fuselage are loose or missing.
(c) Carefully inspect the lower segment of the frame at station 1743.85 (Fig. 203).
(d) Inspect for bent or cracked stringers, shear ties or clips.

(e) Inspect for buckled or wrinkled webs, paint that has flaked and fasteners that are loose or missing.
(f) If there is damage found, use the applicable Structural Repair Manual and do the repairs.

S 212-027
(5) If damage is found in the above paragraphs, use the applicable Structural Repair Manual and do the repairs.

D. Stabilizer Position Indication System Procedure

S 212-019
(1) Inspect the stabilizer position indication system components do this task: Horizontal Stabilizer Position Module and Travel Limiter Adjustment (AMM 27-41-00/501).

NOTE: These components are in the stabilizer jackscrew compartment.

(a) Inspect for broken cables.
(b) Inspect for cables that are out of the pulley groove.
(c) Inspect the position transmitter modules for damage.
(d) When there is no internal damage to the fuselage structure, do the operational test for the stabilizer position indication system.
1) Do this task: Horizontal Stabilizer Trim Control System Test (AMM 27-41-00/501).
(e) When there is internal damage to the fuselage structure, do the system test for the stabilizer position indication system.
(f) Do this task: Stabilizer Trim Position Indicating System (AMM 27-48-00/501).

S 212-020
(2) If the stabilizer position indication system components are damaged,
(a) Do this task: Stabilizer Position Module - Removal (AMM 27-48-03/401).
(b) Do this task: Stabilizer Position Module - Installation (AMM 27-48-03/401).

E. Structural Damage Procedure

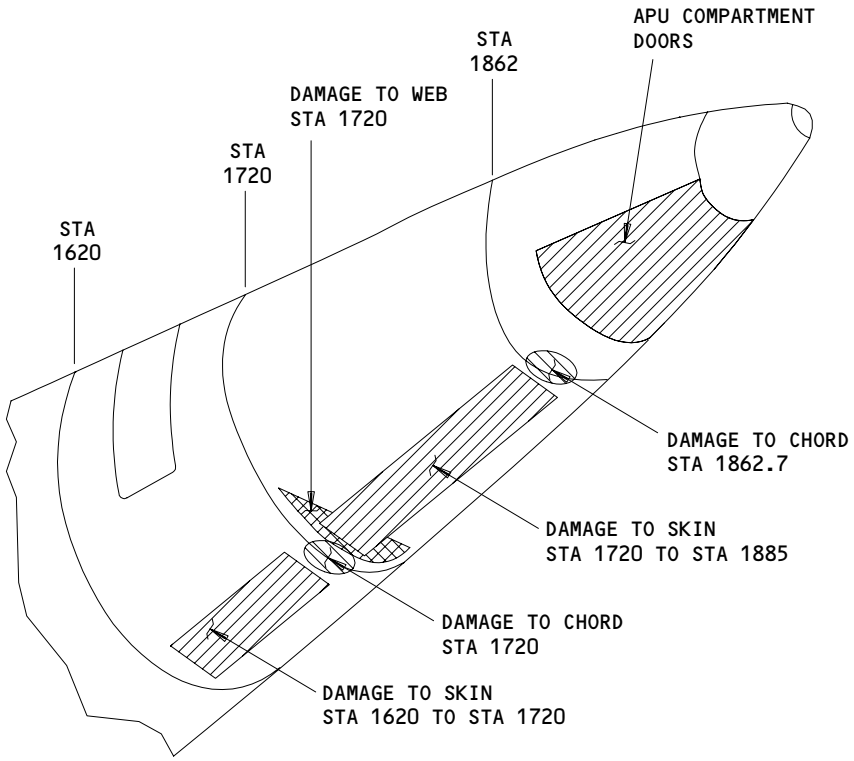
S 212-028

(1) When you find internal or external structural damage, refer to the Structural Repair Manaul (SRM) for the repair.

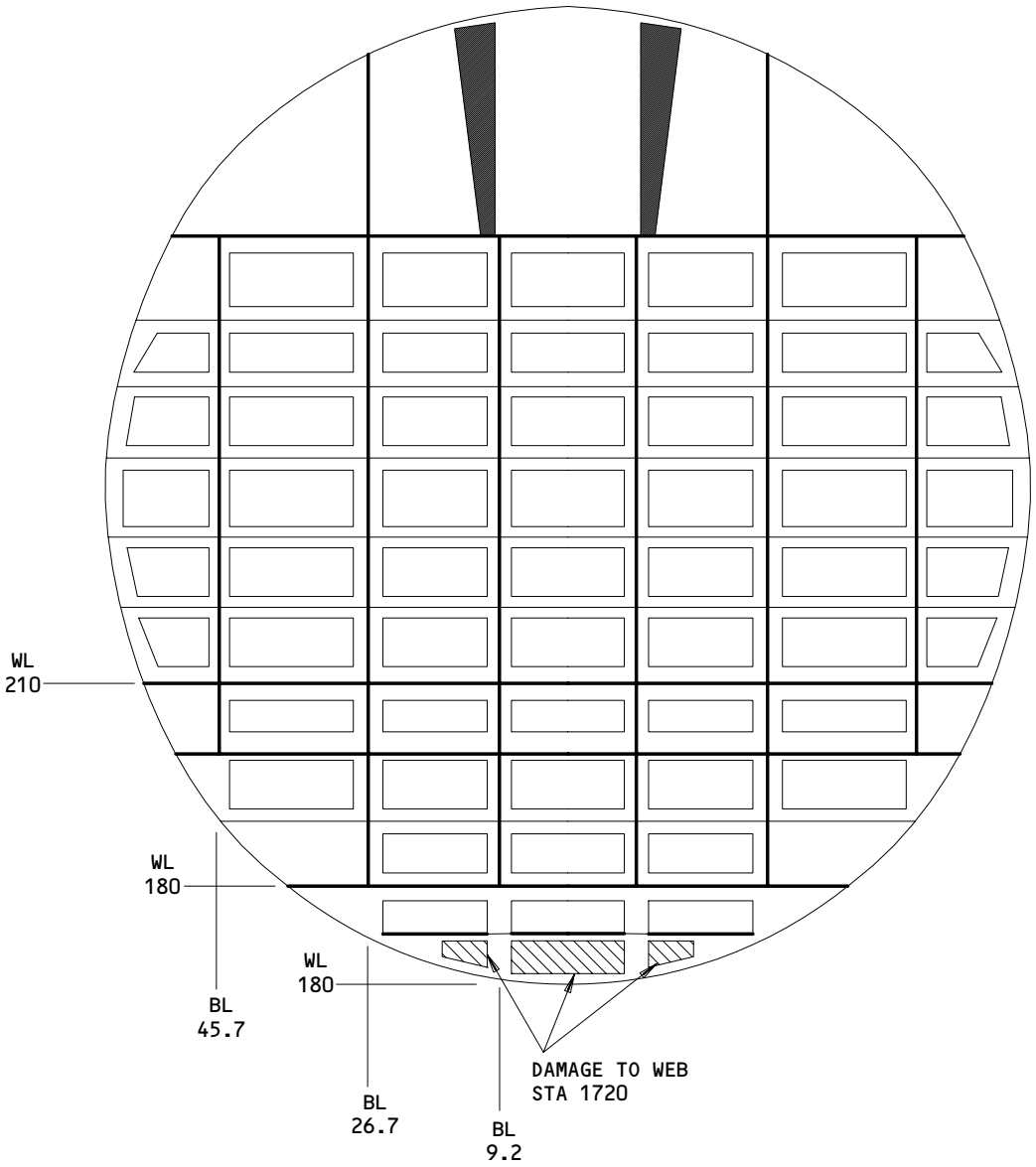
F. Put The Airplane Back To Its Usual Condition

S 412-021

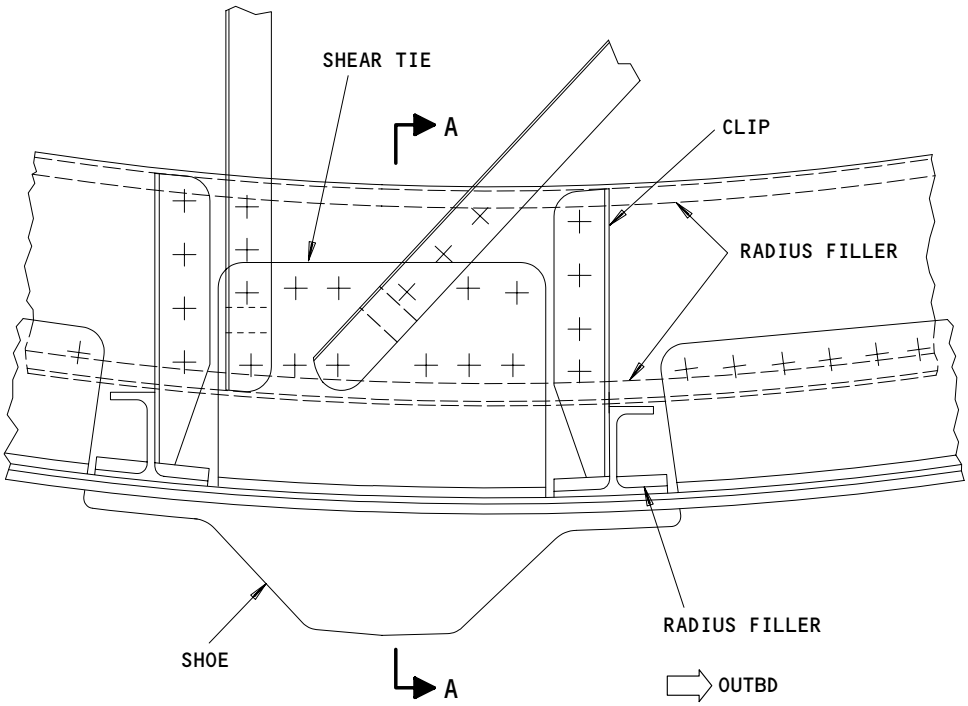
(1) Install all of the components you removed if they are servicable, or install replacement parts.



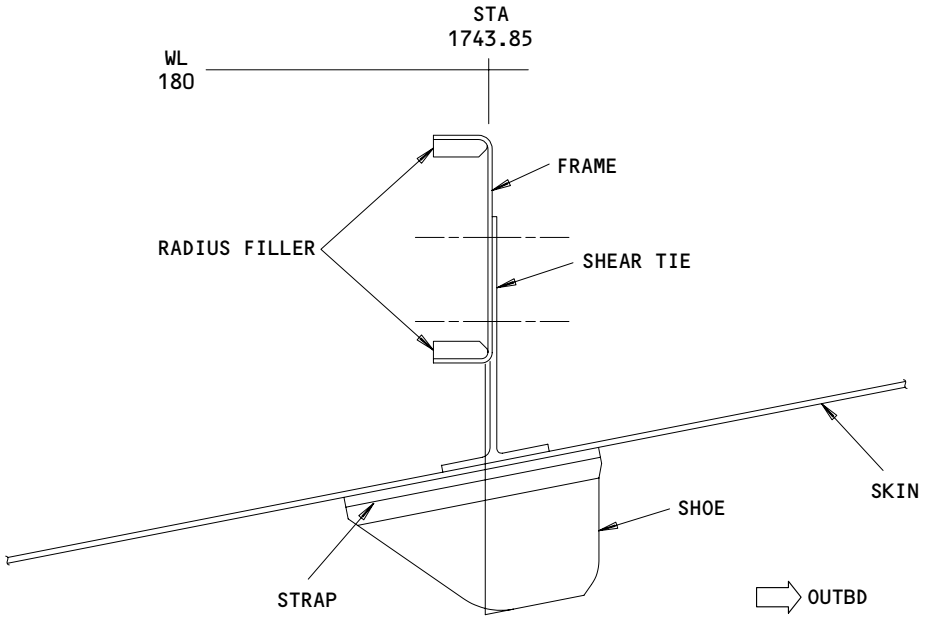
Lower Fuselage Inspection
Figure 201



STA 1720 – Rear Pressure Bulkhead Inspection
Figure 202



VIEW IN THE FORWARD DIRECTION



A–A

STA 1743.85 – Frame Inspection
Figure 203

OVERWEIGHT LANDING - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. Overweight Landing
      (1) When the airplane lands at a weight that is above the maximum-landing weight (MLW) as specified in the Airplane Flight Manual (AFM), it is an overweight landing.
         (a) When an overweight landing occurs, an airplane inspection is necessary as defined in this procedure.
         (b) If the landing was also a hard landing, the Hard Landing Conditional Maintenance Practices Inspection, plus the Overweight Landing Conditional Inspection must be done as defined in the respective procedures. If damage is found in the Phase I Conditional Inspection of either procedure, as defined above, then both the Overweight and Hard Landing Phase II inspections must be done.

            NOTE: The pilot must make the decision if the airplane landing was a hard landing. An overweight landing that was not accompanied by a hard landing does not require a Hard Landing Inspection.

   B. The Inspection (Phase I and Phase II)
      (1) The Phase I inspection is divided as follows:
         (a) Phase I - Option A Inspection:
            1) Applicable when the airplane landing was overweight.
         (b) Phase I - Option B Inspection:
            1) Applicable after completing the Option A Inspection, when the airplane landing was overweight and also a hard landing.
      (2) If the inspection during Phase I does not show that damage has occured, more examination is not necessary.
         (a) If the Option A Inspection in Phase I, shows that damage has occurred, you must do the Phase II inspection.

(b) If the Option B Inspection in Phase I, shows damage has occurred, you must do the Phase II inspection.

(3) When the conditional inspection tells you to "examine" a component, look for these conditions (replace or repair the components, if necessary):
(a) Cracks
(b) Structure that pulled apart
(c) Loose paint (paint flakes)
(d) Twisted parts (distortion)
(e) Bent parts
(f) Wrinkles or buckles in structure
(g) Fastener holes that became larger or longer
(h) Loose fasteners
(i) Missing fasteners (fasteners that have pulled out or are gone)
(j) Delaminations (a component with one or more layers pulled apart)
(k) Parts that are not aligned correctly
(l) Interference (clearance that is not sufficient between two parts)
(m) Discoloration (heat damage)
(n) Nicks or gouges
(o) Other signs of damage

(4) Replace or repair the components that have one or more of the conditions given above.

TASK 05-51-35-212-031

2. Phase 1 Inspection

A. References
(1) AMM 05-51-01/201, Hard Landing or High Drag Side Load Landing Condition
(2) AMM 51-10-00/601, Reduced Vertical Separation Minimum (RVSM)

B. Option A Inspection - Examine the airplane structure for an Overweight Landing

S 212-032

(1) Main Landing Gear and Support Structure Inspection
(a) Examine all tires and wheels.

(b) Look for signs of fluid leakage at the top and bottom of the outer cylinder.

NOTE: A small quantity of hydraulic fluid on the surface of the inner cylinder of the shock strut is satisfactory.

(c) Examine all structural components of the main landing gear and carefully examine the components that follow:
1) Shock strut
2) Trunnion link
3) Drag strut
4) Torsion links
5) Truck beam
6) Side strut
7) Downlock
8) Truck Position Mechanism (The mechanism that sets the angle of the truck beam for retraction and extension)
9) Strut doors and the mechanism that retracts and extends the doors.

(d) Examine the support structure of the main landing gear and carefully examine the components that follow:
1) Landing gear beam
2) Support fittings for the landing gear beam
   a) Inboard
   b) Outboard
3) Trunnion support fittings
   a) Forward
   b) Aft
4) Stabilizer links and fittings between the rear spar and landing gear beam.
   a) Inboard
   b) Outboard

S 212-033

(2) Nose Landing Gear Inspection

(a) Examine all tires and wheels.

(b) Look for signs of fluid leakage at the top and bottom of the outer cylinder.

NOTE: A small quantity of hydraulic fluid on the surface of the inner cylinder of the shock strut is satisfactory.

(c) Examine all structural components of the nose landing gear and carefully examine the components that follow:
1) Shock strut
2) Torsion links
3) Drag strut
4) Lock links

(d) Examine the wheel well area and carefully examine the parts that follow:
1) Web (The left and right side walls)

2) Aft bulkhead
3) Trunnion attachments
4) Drag strut attachments

S 212-034
(3) Fuselage Inspection
(a) 757-200 AIRPLANES;
Examine the skin panels on the lower side of the aft fuselage (Examine carefully between body stations 1370 and 1470, below stringer 20).

NOTE: Small buckles or wrinkles between fasteners are indications of damage. Large buckles or wrinkles between fasteners are also indications of damage.

(b) Examine the lower fuselage structure (body sections 46 and 48 for signs that the fuselage hit the runway.
(c) Look for fuel leaks, and other fluid leaks, in the areas that follow:
1) The lower external surface of the fuselage in the area of the wing-to-body fairing
2) The forward wall of the wheel wells of the main landing gear.

S 212-045
(4) Reduced Vertical Separation Minimum (RVSM) Inspection
(a) Examine the area around the pitot static ports.
1) If skin damage is found, do this task: Examine the Skin Waviness at the Static Ports (AMM 51-10-00/601).

S 212-035
(5) Wing Inspection
(a) Examine the leading edge fairing at the wing-to-body joint.
(b) Examine the trailing edge flaps on the inboard side.
(c) Look for fuel leaks, and other fluid leaks, in the areas that follow:
1) The wing
2) The nacelles
3) The nacelle-struts.

S 212-036
(6) Engine Nacelle Inspection
(a) Examine the doors, panels, and the structure on the nacelle strut.

C. Option B Inspection - Examine the airplane structure for an Overweight Landing that was also a Hard Landing

S 212-046

(1) Do the Hard Landing Conditional Inspection examination, (AMM 05-51-01/201) as defined in the procedure. If damage is found in the Phase I Conditional Inspection of either procedure (Overweight and Hard Landing) then both Hard Landing and Overweight Landing Conditional Inspection Phase II inspections must be done.

NOTE: When both the Hard Landing Conditional Inspection, and the Overweight Landing Conditional Inspections, as defined above, must be done, it is not necessary to do duplicative tasks twice, such as: Landing gear, nacelle struts, fuselage, wing LE fairings, horizontal stab, cargo area, engine inspection, flight controls, etc.

TASK 05-51-35-212-037

3. Phase 2 Inspection

A. References

(1) AMM 05-51-10/201, Dragged Engine Nacelle/Engine Seizure/Engine and Strut Damage Condition
(2) AMM 07-11-01/201, Jacking Airplane
(3) AMM 12-15-01/301, Main Gear Shock Strut - Servicing
(4) AMM 12-15-02/301, Nose Gear Shock Strut - Servicing
(5) AMM 27-00-01/201, Flight Controls
(6) AMM 32-11-01/401, Main Gear
(7) AMM 32-21-01/401, Nose Gear
(8) AMM 32-32-00/501, Main Landing Gear Extension and Retraction
(9) AMM 32-34-00/501, Nose Landing Gear Extension and Retraction
(10) AMM 32-51-00/501, Nose Wheel Steering System

B. Airplane Inspection

S 022-038

(1) Main Landing Gear and Support Structure Inspection
(a) Make sure the shock strut pressures are normal and the hydraulic fluids are at the correct levels (AMM 12-15-01/301).
(b) Lift the airplane with jacks (AMM 07-11-01/201).

WARNING: MAKE SURE YOU SUFFICIENTLY HOLD THE LANDING GEAR AND THE SUPPORT STRUCTURE WHEN YOU REMOVE THE FUSE PINS. IF YOU DO NOT SUFFICIENTLY HOLD THESE COMPONENTS, YOU CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

WARNING: DO NOT REMOVE MORE THAN ONE FUSE PIN AT A TIME. INSTALL THE FUSE PIN IMMEDIATELY AFTER YOU EXAMINE IT. IF THE FUSE PIN HAS DAMAGE, REPLACE IT WITH A NEW FUSE PIN. IF YOU REMOVE MORE THAN ONE FUSE PIN AT A TIME THE LANDING GEAR MAY FALL AWAY FROM THE AIRPLANE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) Remove and examine the fuse pins from the main landing gear as follows (AMM 32-11-01/401):

1) The fuse pin (Fig. 201, sheet 2, item 1) that connects the drag strut to the trunnion link.
2) The fuse pin (Fig. 201, sheet 2, item 2) that connects the trunnion link to the forward trunnion bearing.
3) The upper two fuse pins (Fig. 201, sheet 2, item 3) on the forward trunnion fitting. If damage is found, remove and examine the lower two fuse pins.

CAUTION: INSTALL THE GROUND LOCK PIN BEFORE YOU REMOVE THE FUSE PIN.

4) The fuse pin (Fig. 201, sheet 3, item 4) that connects the upper downlock link to the downlock spindle.
5) The fuse pin (Fig. 201, sheet 4, item 5) that connects the reaction link to the forward trunnion fitting.
6) The forward two fuse pins (Fig. 201, sheet 5, item 6) on the aft trunnion fitting. IF damage is found, remove and examine the aft two fuse pins.
7) The forward and aft fuse pins (Fig. 202, sheet 2, item 7) of the inboard stabilizing link.
8) The forward and aft fuse pins (Fig. 202, sheet 3, item 8) of the outboard stabilizing link.
9) The fuse pin (Fig. 202, sheet 4, item 9) that connects the landing gear beam to the support fitting on the wing rear spar.

NOTE: You must sufficiently lift the outboard wing to easily remove the fuse pin. Make sure you safely hold the landing gear.

10) The pin (not a fuse pin)(Fig. 202, sheet 4, item 10) that connects the inboard end of the landing gear beam to the support fitting.

(d) If one or more of the fuse pins are damaged, do the steps that follow:
1) Examine the lugs and fittings of the fuse pins that are found to be damaged.
2) Examine the landing gear beam and look to see if it is twisted or bent.
3) Examine the drag struts.
4) Examine the side struts and downlocks (parts that hold the side strut in the correct position).
5) Examine all gear bolts and pins and their attachment lugs.

(e) If a tire burst (i.e., the tire came apart during a takeoff or landing) do the steps that follow:
1) Remove and examine the wheel structure
2) Remove and examine the brake assembly
3) Examine the axles.

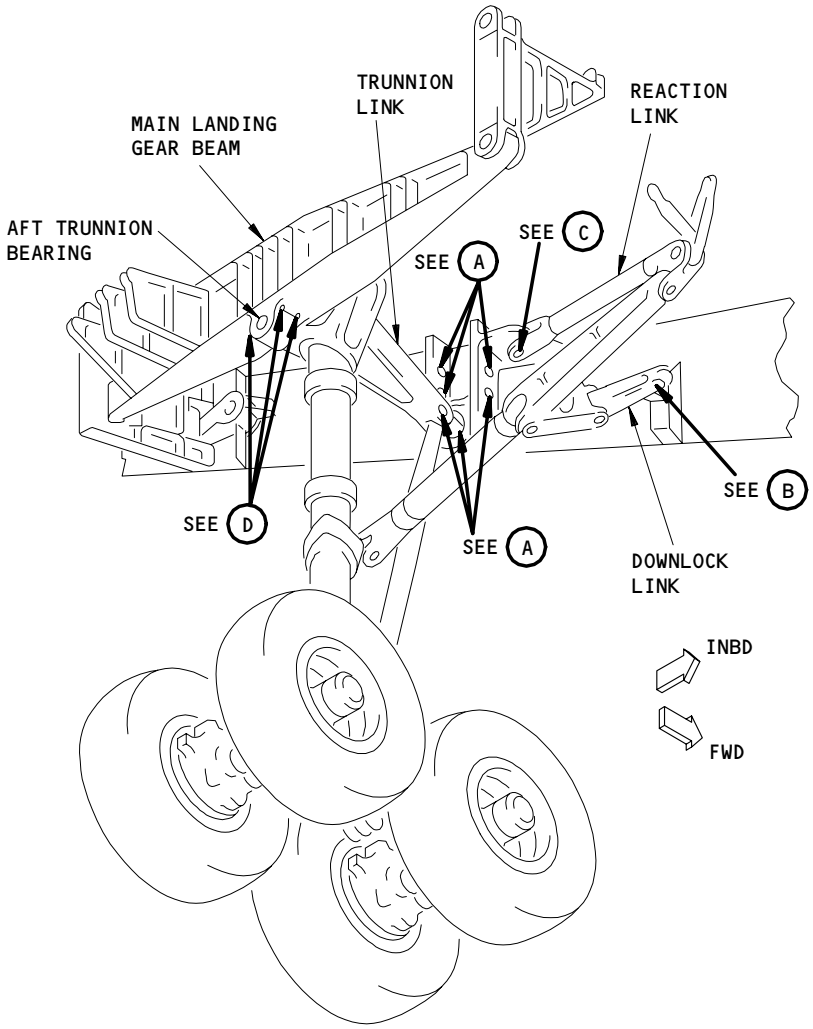
(f) If one or more of the conditions that follow occurred; remove, disassemble, and examine all parts of the shock strut (AMM 32-11-01/401).
1) The shock strut pressures were sufficiently low to cause damage.
2) The hydraulic fluid levels were sufficiently low to cause damage.
3) You found damage to one or more of the parts during your inspection of the landing gear.

(g) Make sure the main landing gear retracts and extends correctly (AMM 32-32-00/501).

(h) Lower the airplane from the jacks (AMM 07-11-01/201).

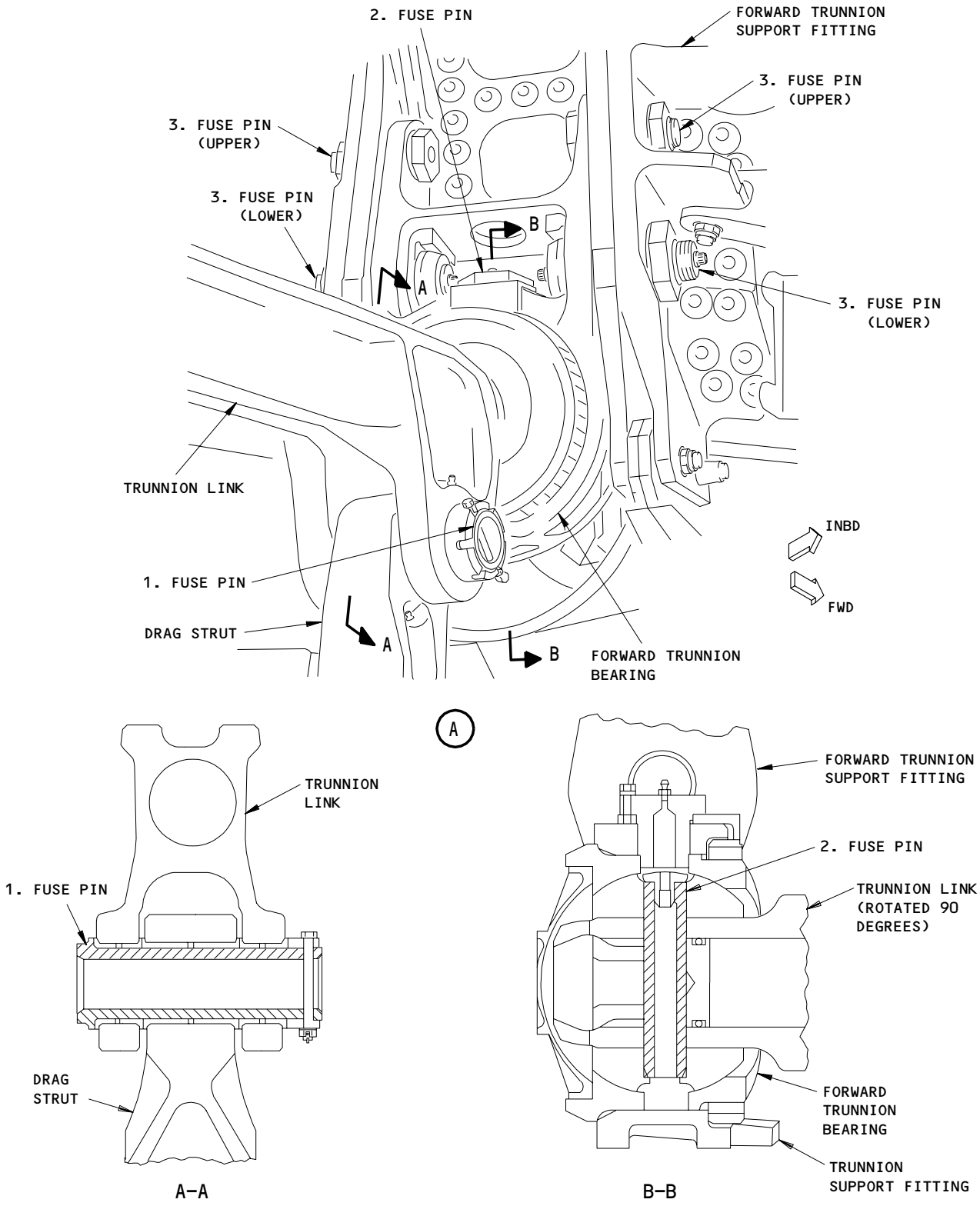
S 212-039

(2) Nose Landing Gear Inspection
(a) Make sure the shock strut pressures are normal and the hydraulic fluids are at the correct levels (AMM 12-15-02/301).
(b) Lift the nose of the airplane with jacks (AMM 07-11-01/201).
(c) Examine the upper and lower drag struts.
(d) Examine the forward and aft lock links (parts that hold the drag strut in the correct position).
(e) Examine all gear bolts, pins, and their attachment lugs.
(f) Remove the wheel and tire assembly and examine the axle.
(g) If one or more of the conditions that follow occurred; remove, disassemble, and examine all parts of the shock strut (AMM 32-21-01/401).
1) If the shock strut pressures were sufficiently low to cause damage.
2) The hydraulic fluid levels were sufficiently low to cause damage.
3) You found damage to one or more of the parts during your inspection of the nose landing gear.
(h) Make sure the steering system is adjusted and operates correctly (AMM 32-51-00/501).
(i) Make sure the nose landing gear retracts and extends correctly (AMM 32-34-00/501).

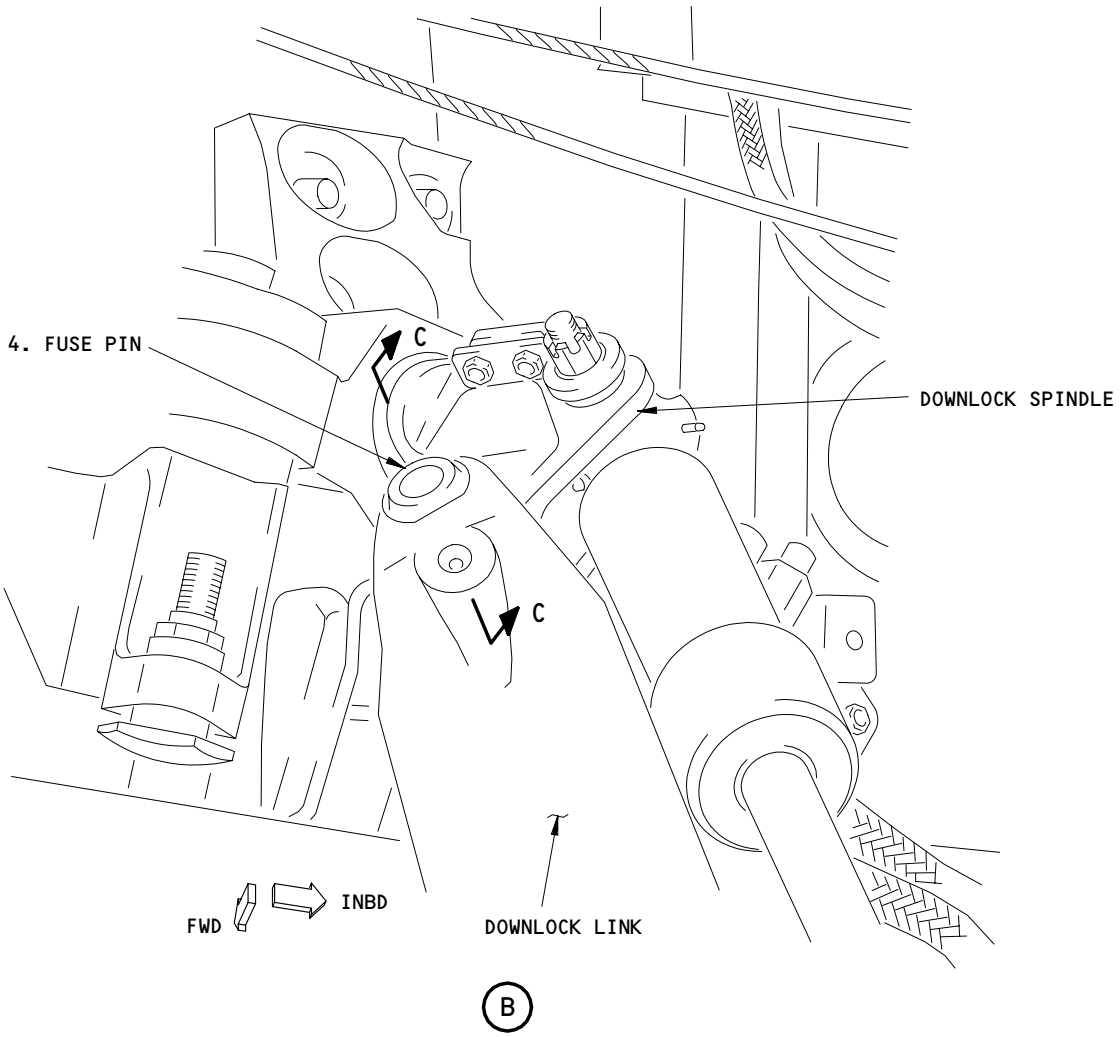


LANDING GEAR ON LEFT WING

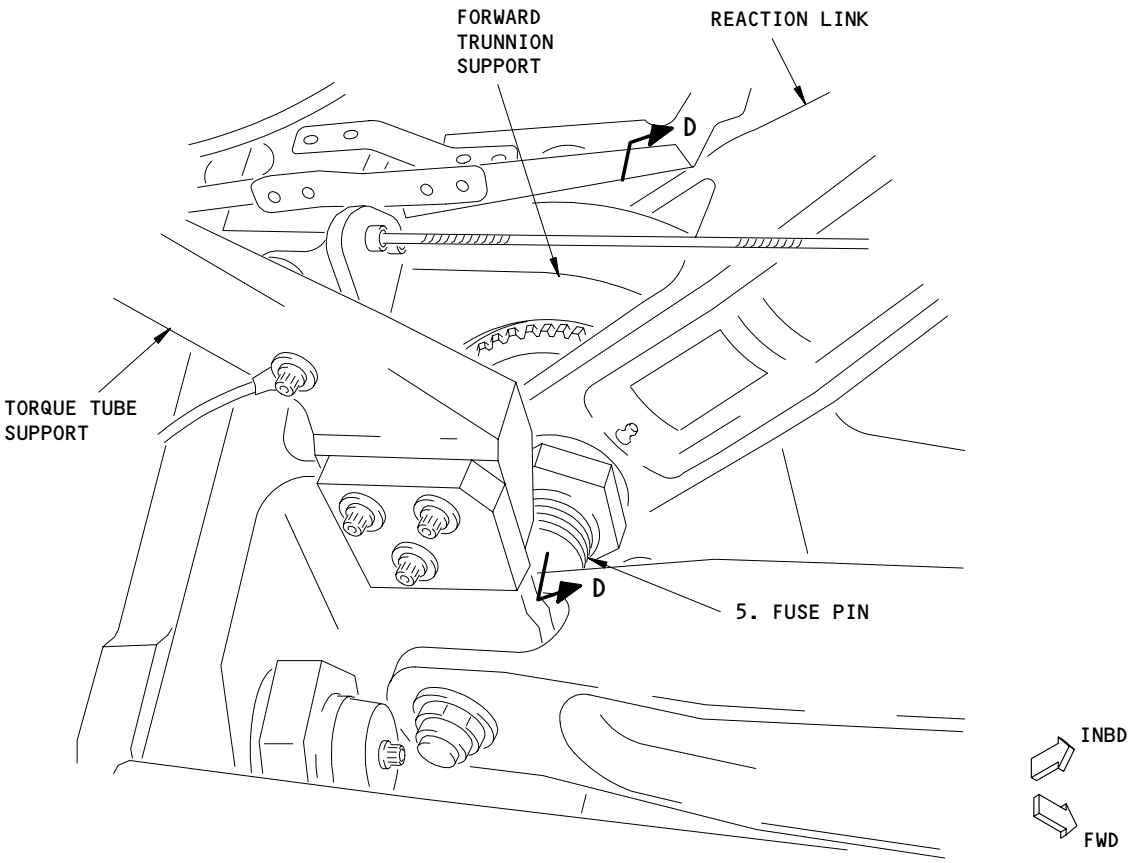
Main Landing Gear Fuse Pins
Figure 201 (Sheet 1)



Main Landing Gear Fuse Pins
Figure 201 (Sheet 2)



Main Landing Gear Fuse Pins
Figure 201 (Sheet 3)



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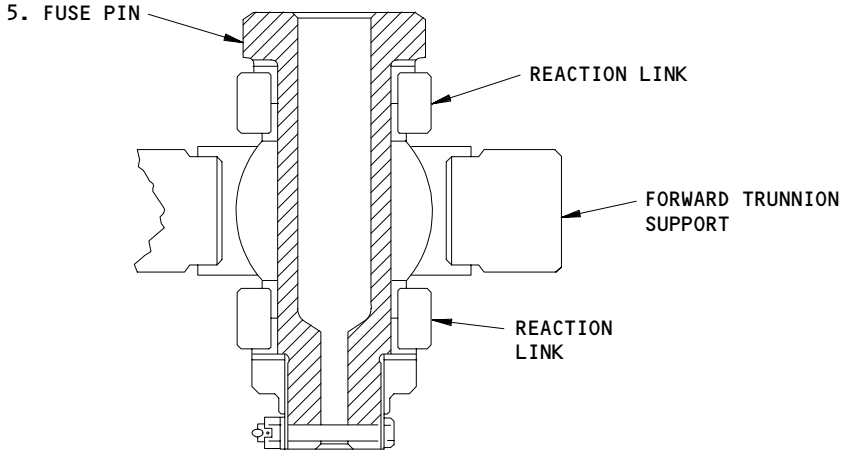
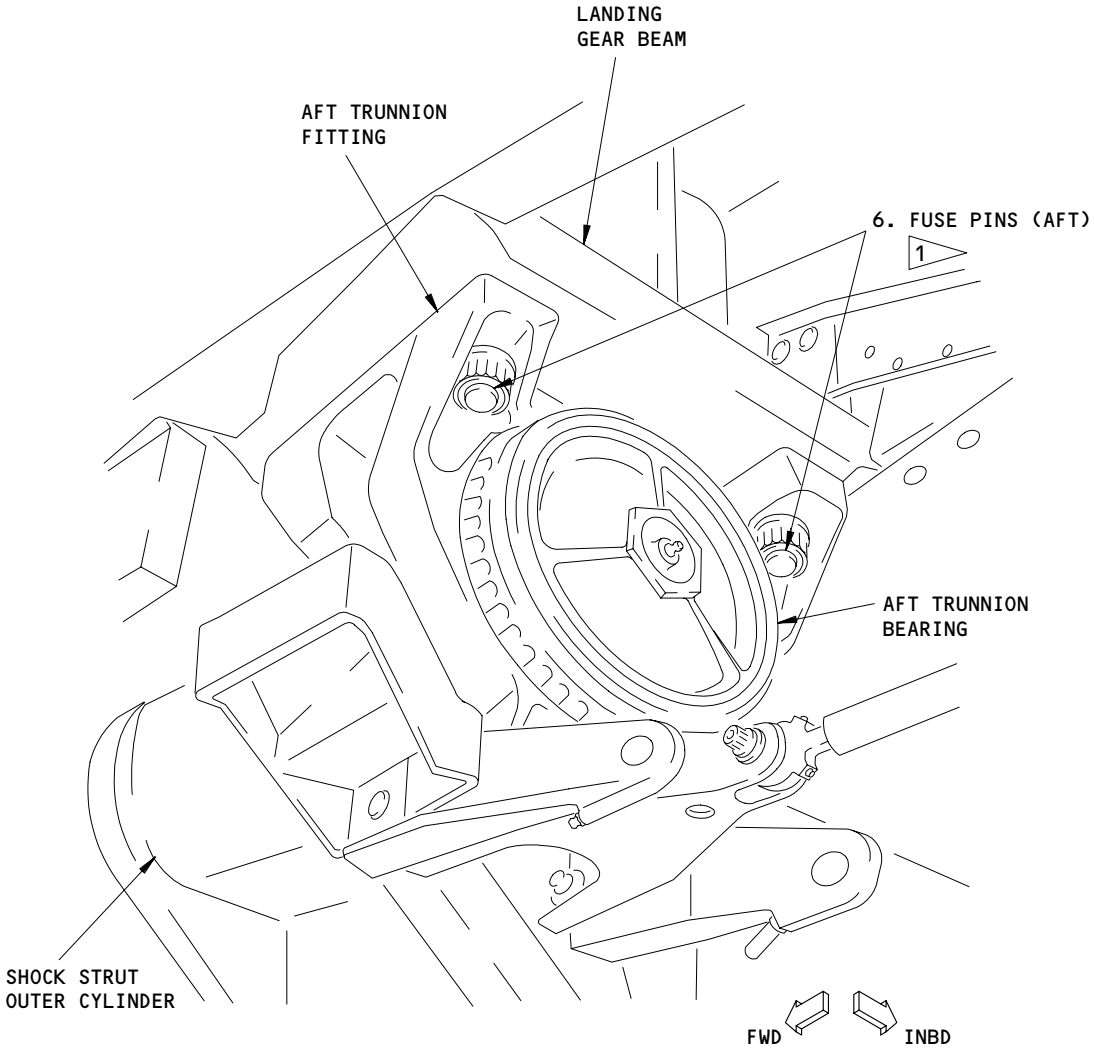


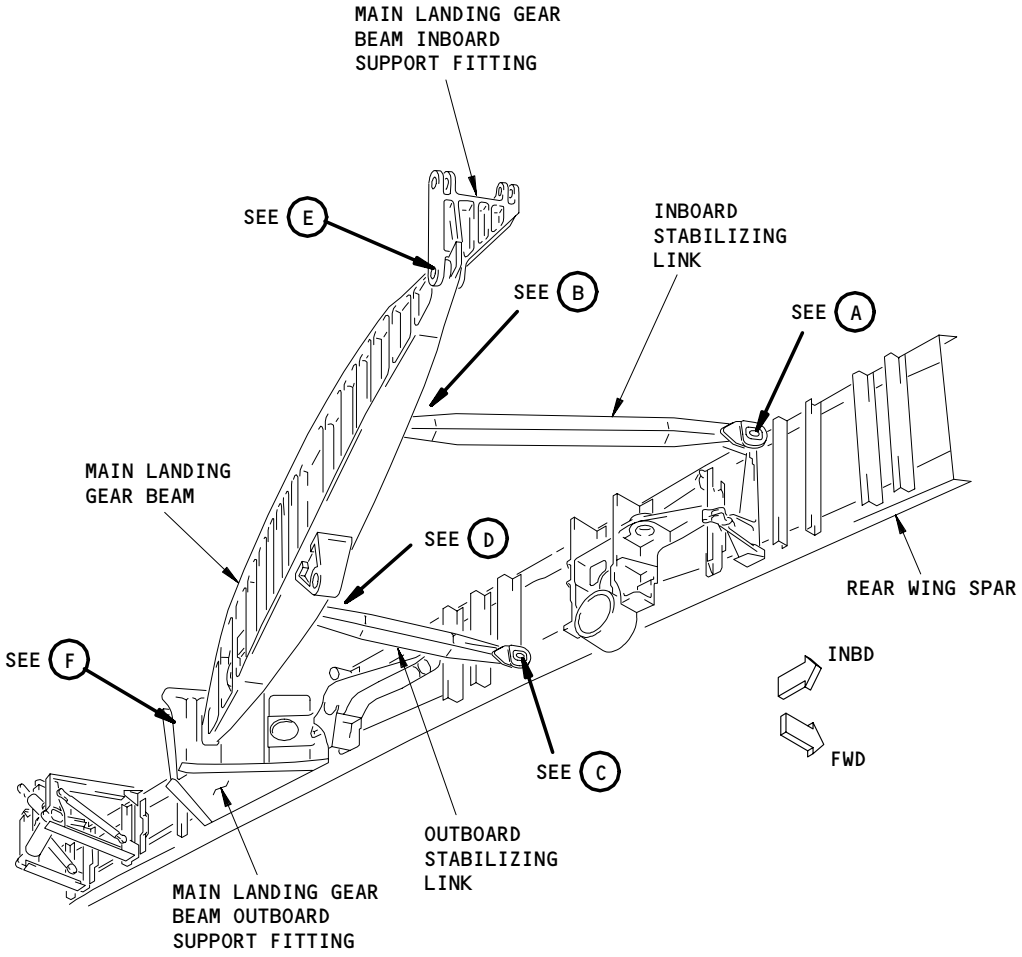
D–D

Main Landing Gear Fuse Pins
Figure 201 (Sheet 4)

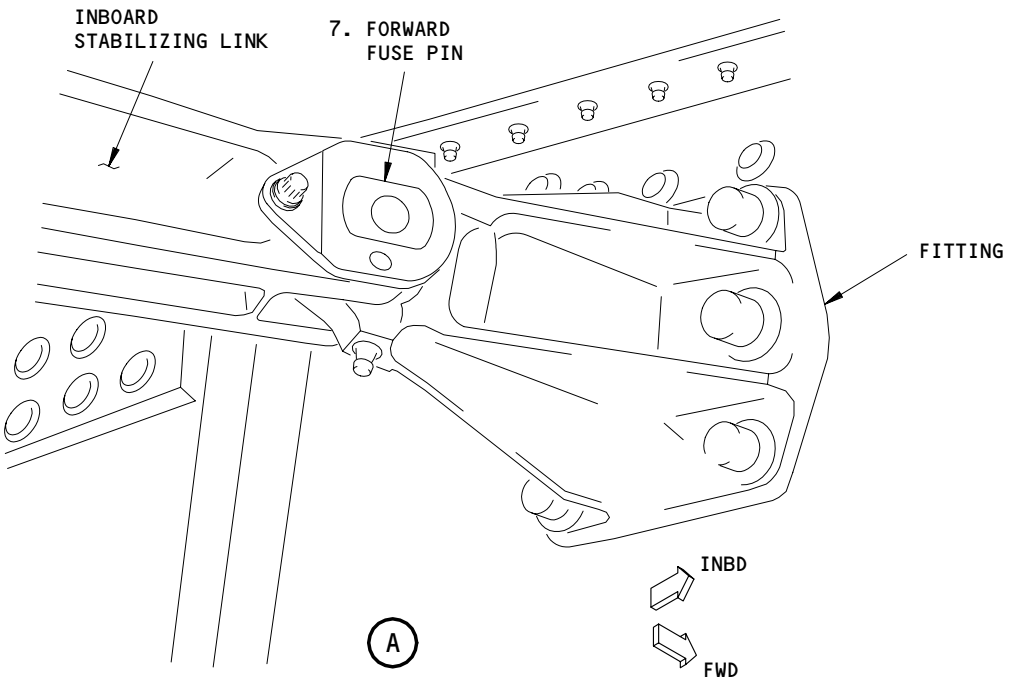


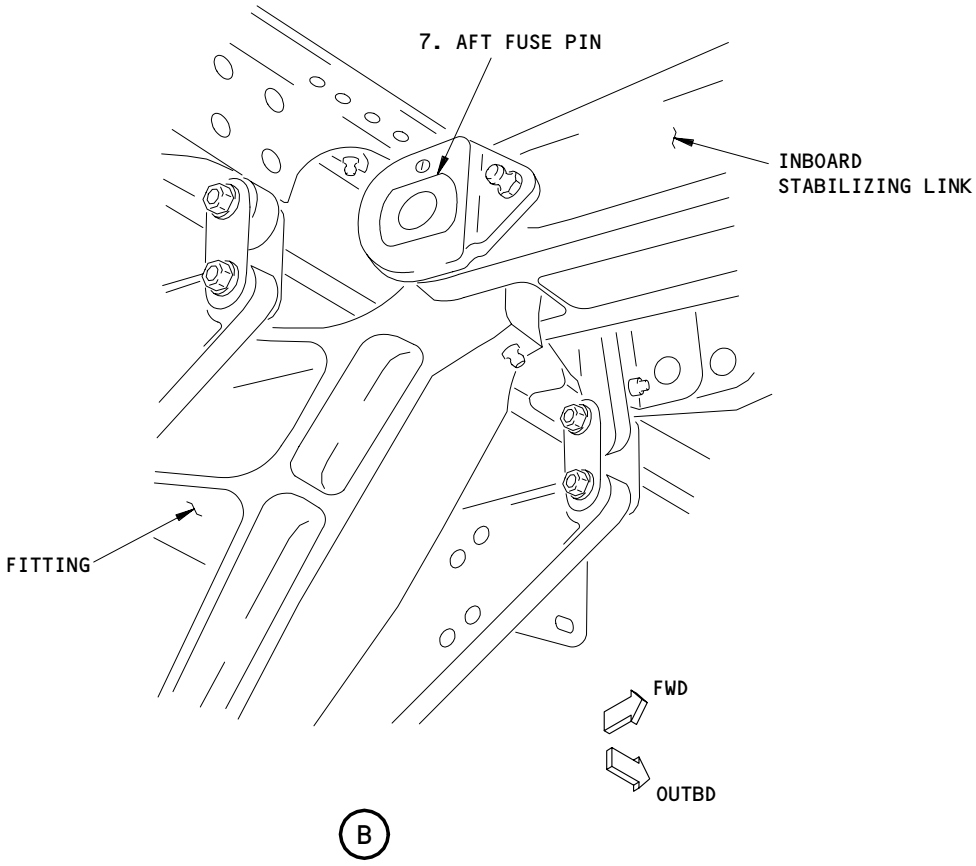
1 AFT SHOWN, FORWARD FUSE PINS ARE HIDDEN

Main Landing Gear Fuse Pins
Figure 201 (Sheet 5)

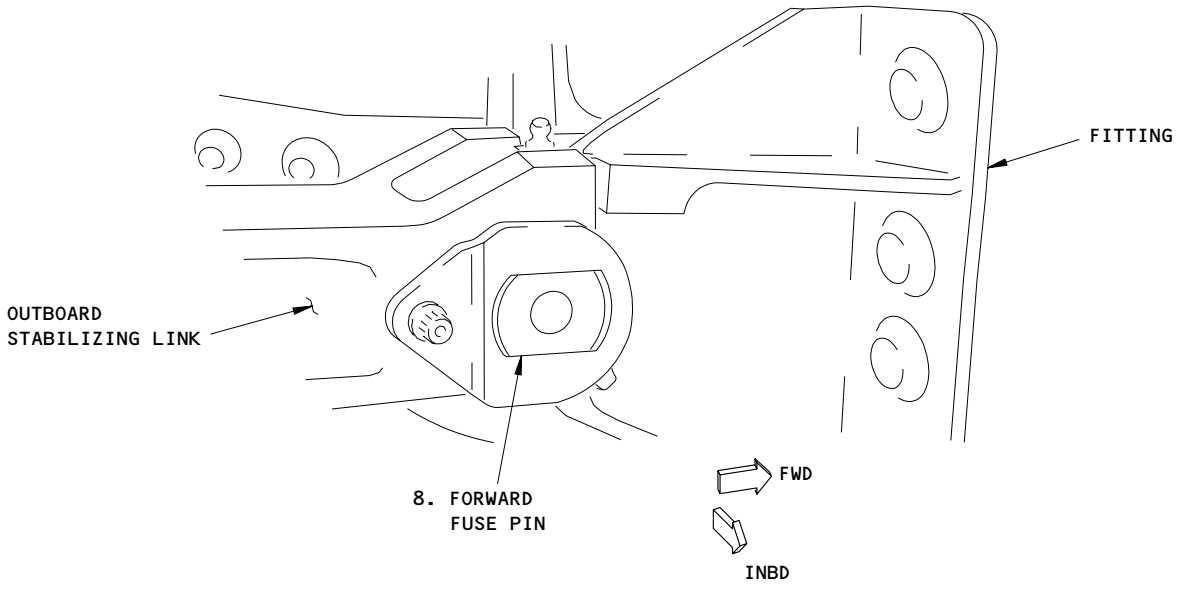


Main Landing Gear Beam End Fittings and Stabilizing Links
Figure 202 (Sheet 1)





Main Landing Gear Beam End Fittings and Stabilizing Links
Figure 202 (Sheet 2)



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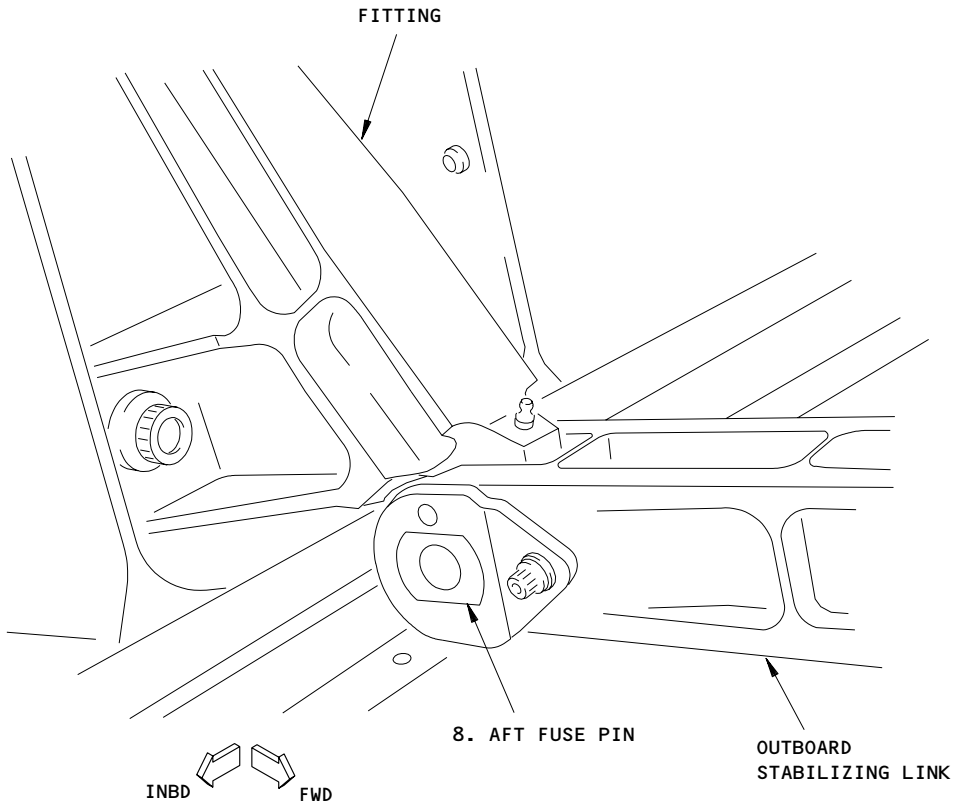

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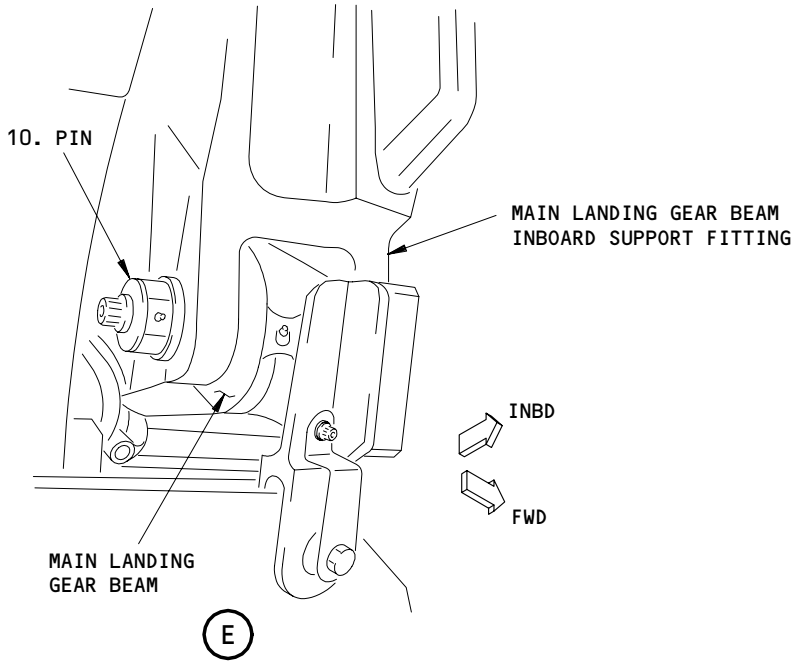
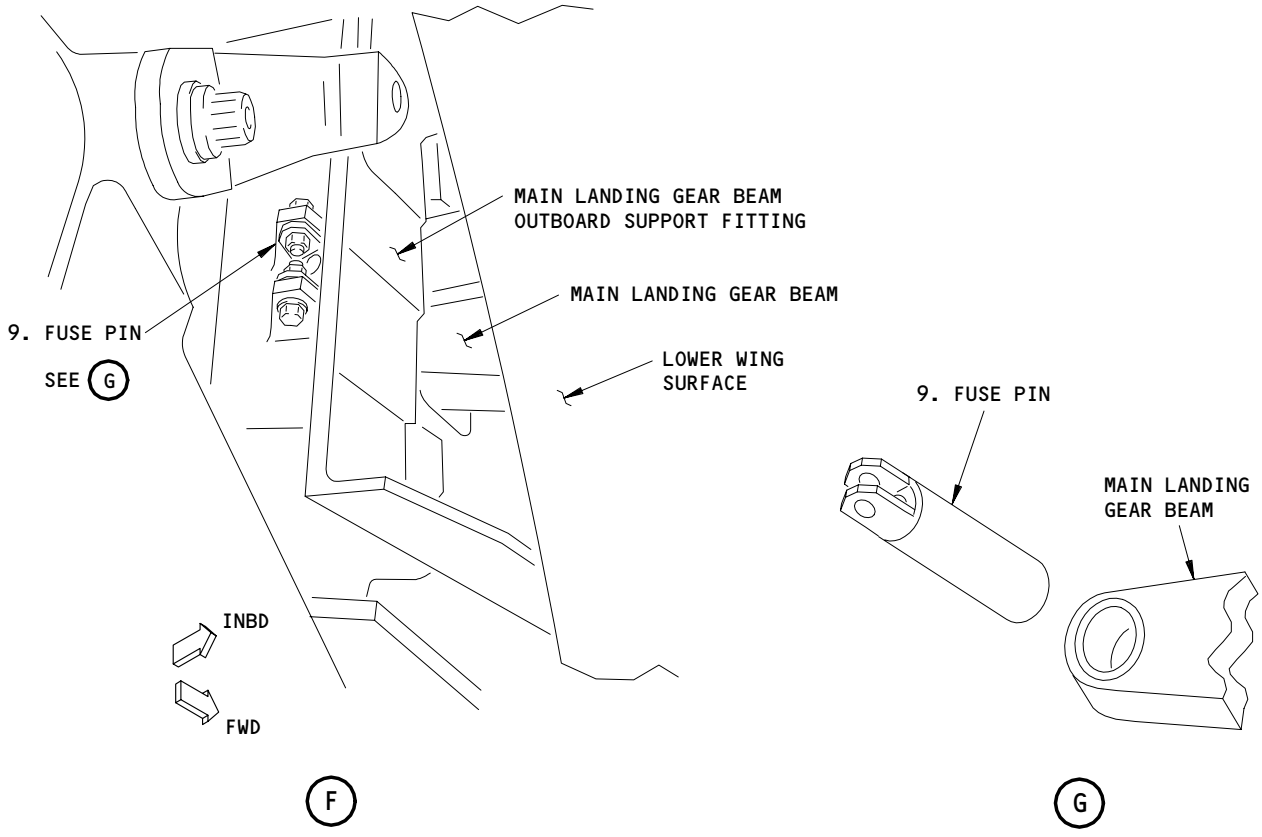
Main Landing Gear Beam End Fittings and Stabilizing Links
Figure 202 (Sheet 3)





Main Landing Gear Beam End Fittings and Stabilizing Links
Figure 202 (Sheet 4)

(j) Lower the nose of the airplane from the jacks (AMM 07-11-01/201).

S 212-040

(3) Fuselage Inspection

NOTE: If you find external damage to the fuselage, always examine the adjacent internal structure.

(a) Examine the lower fuselage structure. Examine carefully the area below the body floor beams, immediately aft of the wing center section. Also examine carefully the top of the fuselage in the areas near the wing front and rear spar.
(b) Examine the wing-to-fuselage joints, and wheel well bulkheads and sidewalls.
(c) Examine the external structure in the wheel well area of the nose landing gear.
(d) Examine the fuselage skin joints above the landing gear beam.
(e) If the lower fuselage (body sections 46 and 48) shows signs that it hit the runway, examine the areas that follow:
1) APU firewall
2) APU drain
3) APU door
4) Drain mast
5) Lower fuselage skin, stringers, frames, and shear ties
6) Aft pressure bulkhead.

S 212-041

(4) Wing Inspection
(a) Examine the side-of-body ribs in the area of the rear spar.
(b) Look at the rear spar to make sure that it is not permanently bent or twisted (between the fuselage and the outboard fuel tank).

S 212-042

(5) Engine Nacelle Inspection
(a) Do the inspection procedure for the dragged engine nacelles (AMM 05-51-10/201).

S 722-043

(6) Flight Control Inspection
(a) Make sure the flight control cables are correctly adjusted (AMM 27-00-01/201)
(b) Make sure the flight controls move freely.

AIRFRAME VIBRATION CONDITION - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. One task is supplied in this procedure. The task is airframe vibration conditional inspection.
   B. In the past, operators have experienced airframe vibration and have not been able to identify the cause of the vibration. This procedure supplies a list of checks and symptoms of airframe vibration.
   C. The items listed below have been identified as causes for airframe vibration:
      (1) Missing Access Door, Fairing, or Seals
      (2) Overboard Exhaust Valve
      (3) Damage to or Foreign Object in A/C Ducts
      (4) Ram Air Inlet
      (5) PRSOV
      (6) MLG Door Rig
      (7) NLG Door Seal
      (8) NLG Door Rig
      (9) NLG Wheel and Tire
      (10) NLG Wheel Spin Brake
      (11) NLG Door Control Rod Fracture
      (12) Radar Antenna
      (13) Nose Radome Seal
      (14) Lower Lobe Cargo Door
      (15) APU Air Intake Door
      (16) Elevator System Components
      (17) Rudder System Components
      (18) Wing/Flight Control Surfaces
      (19) Fuel Flow Governor (Rolls Royce Engines)

   TASK 05-51-38-202-001

2. Airframe Vibration Conditional Inspection
   A. Procedure

      S 812-002

      (1) Use the table that follows to do an airframe vibration conditional inspection.

ITEM	CHECKS AND SYMPTOMS	INSPECTIONS/TESTS/MAINTENANCE

ITEM	CHECKS AND SYMPTOMS	INSPECTIONS/TESTS/MAINTENANCE
1	Missing Access Door, Fairing or Seals: High Frequency vibration heard and/or felt either specific location or transmitted to a broad area of the airframe.	1. Check for security of installation of all access doors, latches and fairing. 2. Check for conditions of all seals.
2	Overboard Exhaust Valve: Intermittent Low Frequency vibration and low audible pulsing in Flight Deck during climb out, typically during flap retraction at speeds of 160 to 180 knots. Vibration frequency is approximately 30 Hz.	1. Replace Outboard Exhaust Valve (OEV). AMM 21-58-05/401.
3	Damage to or Foreign Object in A/C Ducts: Vibration heard or felt in mid cabin during various stages of flight.	1. Inspect and replace damaged duct sections.
4	Ram Air Inlet: High frequency vibration felt and heard in passenger cabin.	1. Verify effect of ram air door position by switching the pack temperature control to standby cold and standby warm. 2. Rig per AMM 21–53–00.
5	PRSOV: Vibration felt on flight deck floor. Cabin altitude fluctuated during climb. Left duct pressure was low.	1. Check duct pressure. 2. Change PRSOV as required.
6	MLG Door Rig: Low frequency audible vibration.	1. Check rig of main gear doors per AMM 32-12-00/501.

ITEM	CHECKS AND SYMPTOMS	INSPECTIONS/TESTS/MAINTENANCE
7	NLG Door Seal: Tactile vibration felt at flight deck floor near rudder pedals. Vibration may be felt at forward panel areas.	1. Visually inspect to confirm seal is intact.
8	NLG Door Rig: High frquency vibration in flight deck floor near rudder pedals.	1. Check rig of nose gear doors per AMM 32-22-00/501.
9	NLG Wheel and Tire: High frquency vibration felt in the flight deck floor after takeoff during period from rotation to retraction. Vibration does not occur on extension. Or, if unusual vibration is felt during taxi.	1. Replace nose gear wheel and tire assemblies per AMM 32-45-02/401.
10	NLG Wheel Spin Brake: Audible high frequency vibration felt in the flight deck floor near completion of the NLG retraction cycle. Vibration does not occur on extension.	1. Ensure serviceable spin brake is installed per AMM 32-45-05/201.
11	NLG Door Control Rod Fracture: Loud noise associated with the gear door retraction followed by vibration.	1. Visual Inspection of P/N 141N0935-() NLG Door Control Rod.
12	Radar Antenna: Vibration and rumbling noise coming from forward portion of airplane.	1. Inspect for security of assembly/installation.

ITEM	CHECKS AND SYMPTOMS	INSPECTIONS/TESTS/MAINTENANCE
13	Nose Radome Seal: Constant audible rumble/squeal coming from flight deck floor.	1. Ensure correct installation of radome and seal per AMM 53-12-01.
14	Lower Lobe Cargo Door: High frequency tone heard in passenger cabin. flight deck floor.	1. Perform FIM 52-11-00, Fig 103.
15	APU Air Intake Door: Low (or High?) frequency vibration associated with APU start sequence.	1. No action required. Vibration is associated with the APU intake door opening.
16	Elevator System Components: High or low frequency vertical vibration felt strongest in aft galley and flight deck. May be felt in passenger cabin. Vibration may increase or decrease depending on airspeed and/or airloads on elevator. Control column vibration may exist. Vibration events may or may not occur of every flight.	1. Check elevator surface freeplay per AMM 27-02-00/601, dated 01-Jan-2001 or later. 2. Check elevator hinge wear limits per AMM 27-31-01/601. 3. Check PCA/Elevator wear limits per AMM 27-31-05/601. 4. Check PCA Input Linkage wear limits per AMM 27-31-05/601. 5. Check attaching fasteners (bolts, bushings, etc) for security of installation, including correct torque.
17	Rudder System Components: Lateral vibration felt strongest in aft galley. May also be felt in flight deck and passenger cabin.	1. Check rudder freeplay per AMM 27-02-00/601. 2. Check attaching fasteners (bolts, bushings, etc) for security of installation, including correct torque.
18	Wing/Flight Control Surfaces: Vibration felt mainly in passenger cabin, strongest near over-wing section.	1. Inspect for security of installation and signs of physical damage, including slat trailing edge wedges, upper/lower trailing edge panels, etc.

ITEM	CHECKS AND SYMPTOMS	INSPECTIONS/TESTS/MAINTENANCE
19	Fuel Flow Governor (Rolls Royce Engines): Lateral, low frequency (5–6Hz) vibration. Felt strongest in Flight Deck. Sensitive to Engine RPM (N1)	1. Change the applicable FFG if identification is possible. Change both if determination cannot be made. Advise Boeing of event since vibration related to the FFG is considered rare.

INTERIOR ICE - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. This procedure is to inspect the interior of the airplane for ice after continuous operation in cold weather, and remove ice if it is found.
   B. In the usual operation of the airplane, air comes through the airplane structure. During flight, the water vapor in the air can condense and freeze in the airplane. When you continuously operate the airplane in cold weather, ground temperatures below the freezing point will not let the ice melt. You must do the applicable tasks to find and remove the ice. Too much ice will lower the performance of the airplane below the permitted values.

TASK 05-51-53-002-001

2. Interior Ice Removal (Fig. 201)

A. General

(1) Removal of the ice build-up will not impact the airplane's center of gravity.

B. Access

(1) Location Zones

100 Lower Half of Fuselage
200 Upper Half of Fuselage

C. Upper Lobe Ice Inspection

S 212-002

(1) Inspect the upper lobe for ice:

(a) Get access to the main deck overhead above WL 300 in the front, middle and aft stations.

1) To get access on passenger airplanes, remove some of the main deck ceiling panels.

(b) Remove or lift the insulation blankets to check the airplane skin, stringers, and frames for ice.

(c) If ice is not found, do the Lower Lobe Ice Inspection.

(d) If ice is found, do the Overall Airplane Ice Removal.

D. Lower Lobe Ice Inspection

NOTE: Do this procedure to find if ice has collected in the lower lobes (below WL 208).

S 212-003

(1) Inspect the lower lobe for ice:

(a) Remove the floor panels over the aisles in the main deck at approximately STA 925.

(b) Look for ice between the longitudinal floor beams over the wing box and wheel well.

(c) Remove the sidewall liners in the aft lower cargo compartment at approximately STA 1400.

(d) Look for ice in the bilge area.

(e) If ice is found, do the Overall Airplane Ice Removal.

(f) If no ice is found, no further action is necessary.

E. Overall Airplane Ice Removal

NOTE: Do this procedure to remove ice from the interior airplane structure.

S 662-004

(1) Remove ice from the interior of the airplane:
  (a) Move the airplane to a hangar where the air temperature is above 32°F (0°C).
  (b) Open all the doors on the main deck to let the air flow freely.
  (c) Remove all the main deck seats and floor panels to get access to the ice.
  (d) Remove the insulation blankets from the sidewall and below the floor in the forward and aft lower lobe cargo compartment where it is possible.

    NOTE: This will let the water flow freely to the structural drains and will make sure the blankets do not get wet.

  (e) Remove the insulation blankets in the nose wheel well area (forward of the EE bay).

  WARNING: DO NOT PUT HOT AIR DIRECTLY ON HALON OR OXYGEN BOTTLES. IF YOU PUT HOT AIR ON THE HALON OR OXYGEN BOTTLES, THE BOTTLES CAN EXPLODE.

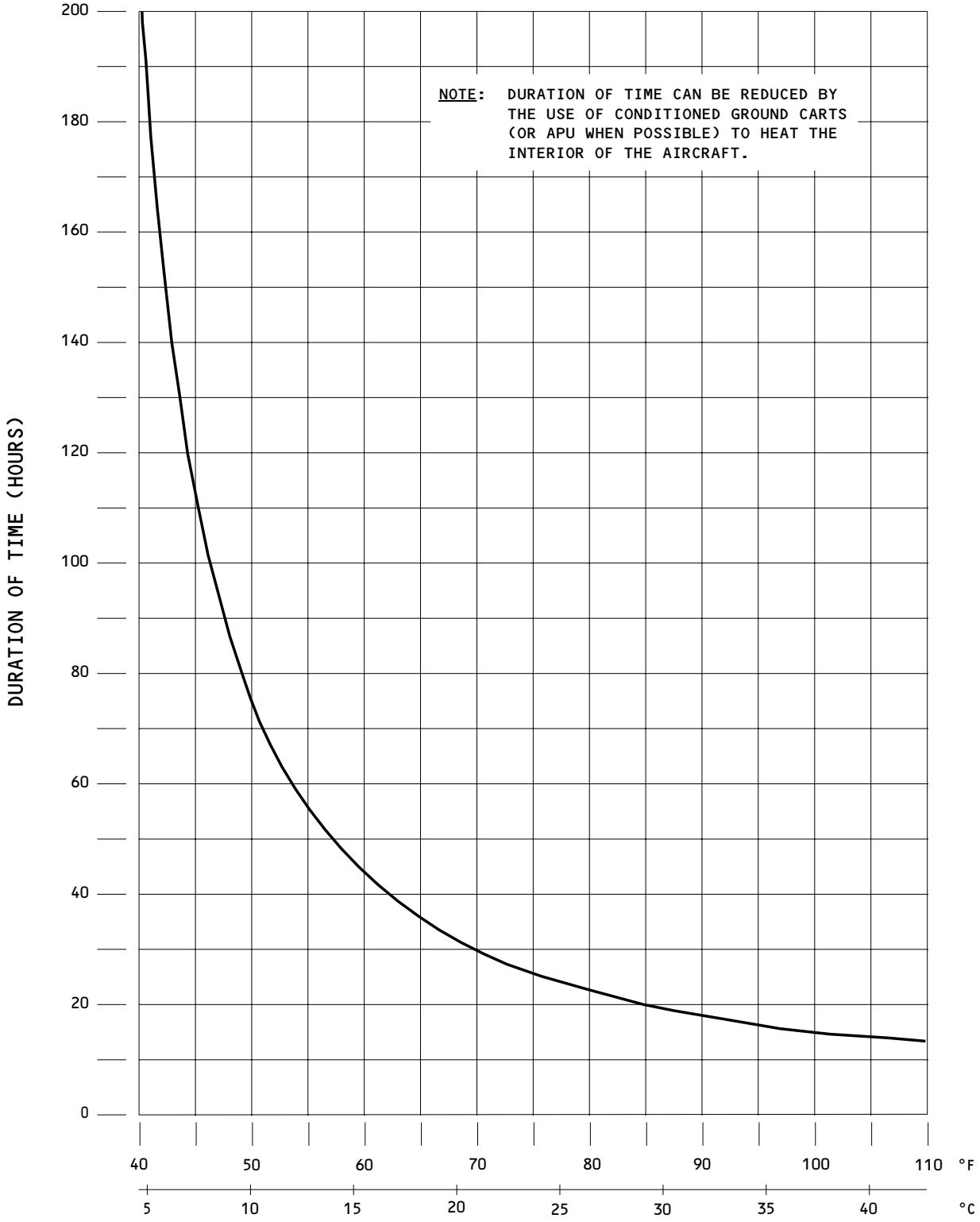
  CAUTION: THE TEMPERATURE OF THE HOT AIR MUST NOT BE ABOVE 150°F (70°C). HOT AIR CAN CAUSE DAMAGE TO AIRPLANE SYSTEMS.

  (f) Use a conditioned ground cart to blow hot air on the open airplane structure in the lower lobes and main deck (if it is applicable) to melt the ice that has collected.
  (g) Make sure the airplane's structural drains in the bilge are open to let the water drain.
  (h) Use (Fig. 201) to find the time needed to melt the ice.

    NOTE: You can use a conditioned ground cart to heat the inside of the airplane. This will shorten the time needed to melt the ice.

  (i) After the water drains, put the airplane back to its usual condition.
  (j) Remove all wet insulation blankets.

(k) Make sure all insulation blankets are dry before they are installed.
(l) After the water drains, put the airplane back to its usual condition.



Time Required to Melt Interior Ice
Figure 201

SMOKE OR FUMES IN THE CABIN - MAINTENANCE PRACTICES

1. General
   A. This procedure has an inspection to find the cause of smoke or fumes in the cabin during operation.

TASK 05-51-56-202-001

2. Smoke or Fumes Cabin Conditional Inspection
   A. References
      (1) FIM 21-00-21/101, Smoke or Fumes Removal from the Air Conditioning System
   B. Examine the Cabin

S 282-002

      (1) If there are smoke or fumes in the cabin during airplane operation, do this task: Smoke or Fumes Removal from the Air Conditioning System, FIM 21-00-01/101.

ACID SPILLAGE CONDITION - MAINTENANCE PRACTICE

(CONDITIONAL INSPECTION)

1. General
   A. This procedure has one task.
      (1) A conditional inspection for acid spillage.
   B. This task has an inspection and clean up procedures for areas where acid hastouched the airplane. Acid spills, unless netralized, can rapidly corrode metallic structure.
   C. The primary source of acid spillage is in the battery compartments where acid electrolytes may overflow during charging or spill during battery servicing.
   D. Acid-based corrosion removal compounds and airplane cleaners are used quite extensively during routine maintenance and repair. Spills do occur at atimes and thorough neutralizing and/or rinsing is necessary to preclude corrosion damage.
   E. Containers of acid concentrates or acid based chemicals may be part of a cargo and may be broken during loading or unloading. Spillage from usually larger in scale than spills previously mentioned. It is, therefore, advisable that the acid spillage be neutralized as soon as possible. such sources are
   F. Operators should also be cognizant of the fact that acids may deteriorate nonmetallic materials such as fabrics, wood, leather, etc.

   TASK 05-51-57-002-001
2. Corrosion Removal After Acid Spills
   A. Standard Tools and Equipment
      (1) Rubber or plastic gloves
      (2) G02057 Goggles - Safety
      (3) Face Shield
      (4) Aprons
      (5) Boots
      (6) Head gear
   B. Consumable Materials
      (1) B00334 - Bicarbonate of Soda
      (2) B00095 Chemical - Sodium Bicarbonate (O-S-576)
      (3) G00009 Compound - Corrosion Inhibiting, BMS 3-23, Type II 1. Examination
   C. Procedure

S 912-002

WARNING: ACIDS ACCIDENTLY SPILLED ON SKIN, CLOTHING OR OTHER MATERIAL SHOULD BE FLOODED IMMEDIATELY WITH CLEAN WATER. IF EYES ARE INVOLVED FLOOD WITH COPIOUS QUANTITY OF CLEAN WATER AND CONSULT A PHYSICIAN IMMEDIATELY.

(1) Take these precautions when you work with an acid spill condition:
   (a) Adequate protective clothing (rubber or plastic gloves, goggles, face shields, aprons, boots, head gear, etc.) should be worn when handling or working in acid contaminated areas.
   (b) Wash hands after using acid neutralizing treatment solution and/or materials before eating or smoking.
   (c) Waste materials, solvents, chemical solutions, wiping rags, masking materials,etc., shall be collected and disposed of safely.

S 942-003

(2) Do these steps to isolate the contaminated area:
   (a) Do not allow acid spills to spread from areas of contamination.
   (b) Using plastic sheets is advised for protection of equipment beneath battery areas. If equipment is operating venting requirements should be maintained.
   (c) Consider protecting uncontaminated areas by taping down protective material such as plastic sheets.

S 112-004

(3) Do these steps to clean the area of an acid spillage
   (a) If equipment is adjacent to the treatment area use plastic sheets to cover the equipment to prevent inadvertent splashing of acids or treatment fluids.
   (b) Wipe up excess fluids with cloth and discard cloth into plastic container fordisposition.
   (c) Neutralize the treatment area with a 20% sodium bicarbonate solution applied with a brush or cloth swab. Particular attention should be given to faying surface joints. Pressure application may be required to flush the joint thoroughly.

      NOTE: One pound of sodium bicarbonate in 1 gallon of water will give the necessary solution.

(d) Apply the solution with a cloth, mop, brush, or sponge.
1) Make sure the solution goes into the contaminated faying surface joints.

NOTE: A pressure application of the solution can be necessary to flush the faying surface joints and some access areas fully.

(e) Apply the solution until bubbles cease in the acid/solution.

NOTE: When the bubbles cease, the acid has become neutral.

(f) Then allow the solution to remain on the surface for an additional 5 minutes after the bubbles stop.
(g) Remove the solution with mop or sponge.
(h) Flush the area with large quantities of clean water.
1) Rub the surface with a soft brush.
(i) Do a test of the cleaned area with litmus paper.

NOTE: The litmus paper should read between 7 and 8 when the area is fully cleaned.

(j) Wipe dry with clean cloths.
(k) After thoroughly dry, repair or replace damaged finishes if it is necessary. Refer to CPM 20-50-00 and CPM 20-60-00 for protective finish systems.
(l) Apply water displacing corrosion preventive compound BMS 3-23, over entire area.

NOTE: For details of application of BMS 3-23 refer to CPM 20-60-00.