CHAPTER

51

STRUCTURES GENERAL

MD-80
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 51
STRUCTURES GENERAL

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51-EFFECTIVE PAGES

MD-80
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 51
STRUCTURES GENERAL

51-CONTENTS

GENERAL - DESCRIPTION AND OPERATION

1. General

A. The aircraft is an all metal semi-monocoque structure incorporating a fuselage, empenage or tail section, and a fully cantilevered sweptback wing.

2. Fuselage Structure

A. Description

(1) The fuselage structure consists of a nose section, center section, and aft (tail) section. The structure incorporates formed external sheets, stiffened with rolled or extruded hat-section longerons attached to z-section frames or machined channels. Materials used are selected to provide the greatest strength, endurance, and resistance to heat.

(2) Fuselage Nose Section - The fuselage nose section incorporates a formed external sheet, formed z-section frames, rolled or extruded hat-section longerons, and is spliced to the center section.

(3) Fuselage Center Section - The fuselage center section between the forward and aft pressure bulkheads, is divided into upper and lower segments by the flight and passenger compartment floors.

(a) Upper Segment - The upper segment flight and passenger compartment floors are supported on aluminum alloy floor beams, fabricated from aluminum sheets, reinforced with fiberglass laminate hat-section stiffeners and made into individual panels that are thermally insulated as required.

(b) Passenger Compartment - The passenger compartment floor panels incorporate two left and two right, slot-type seat tracks and floor installation fittings which are flush with the top surface of the floor, to prevent floor covering wear. Windows extend aft along each side of the fuselage, at approximately 19 inch (48.260mm) intervals, from the forward passenger and galley service doors to the engine pylons at the aft end of the fuselage.

(c) Flight Compartment - The flight compartment floor is made up of individual removable panels that are thermally insulated. Windows consist of three windshield panels, two sliding-clearview windows, and two fixed window panels.

(d) Lower Segment - The lower segment contains the nose wheelwell, forward accessory compartment, an electrical/ electronics compartment, the forward entrance stairway stowage compartment, three lower cargo compartments, main wheelwells aft of the wing rear spar, and an air conditioning and accessories compartment. Access to the electrical/ electronics compartment and forward cargo compartments is provided through a door in the flight compartment floor or through a plug-type door in the bottom of the fuselage.

(e) The fuselage in the area of the main gear wheelwell cut-outs is strengthened by the incorporation of a heavy composite member keel which extends aft from the wing front spar to just aft of the main landing gear.

(4) The fuselage aft section is connected to the center section by means of a splice. This section provides an enclosure for the air-conditioning unit (ACU) heat exchanger and cooling turbines, a fireproof enclosure for the auxiliary power unit (APU), and attaching points for the engine pylons and jettisonable tailcone. Access to the aft section is through an access door in the bottom forward section of the tailcone or through the ventral stairway bulkhead. A service walkway is installed on each side of the ventral stairway shroud. The left walkway extends over the primary flight controls and APU enclosure, and the right walkway extends far enough forward to service the ACU heat exchanger and cooling turbines.

3. Tail Section Structure

A. Description

(1) The tail section consists of a vertical stabilizer, horizontal stabilizer, two elevators, and a rudder. The vertical stabilizer is attached to the aft fuselage and the horizontal stabilizer is mounted at the top of the vertical stabilizer. The rudder and elevator surfaces are mounted on the vertical and horizontal stabilizers respectively. The vertical stabilizer is a fully cantilevered sweptback type, constructed as an integral part of the aft fuselage structure. The major portion of the vertical stabilizer leading edge is interchangeable with replacement of the leading edge splice doublers. Two sections of the leading edge are constructed of laminated fiberglass and contain the VOR antennas.

(2) The vertical stabilizer is constructed with two spars joined by chordwise ribs and covered with aluminum alloy skin pan-els stiffened with spanwise stringers. The spars are a flat webbed-type with extruded or formed stiffeners and caps. The leading edge is bolted to the front spar. A section of fairing above the horizontal stabilizer mechanism is quickly removable for access to the horizontal stabilizer mechanism.

(3) The horizontal stabilizer is of all-metal construction joined by chordwise ribs and covered by integrally stiffened machined panels between the spars. The spars are flat webbed-type having caps, extruded or formed stiffeners, and webs. Adequate access to parts requiring maintenance is provided.

(4) The elevators are of all-metal construction with ribs and skins having bonded doublers. The elevators are sealed to prevent entry of water and excessive circulation of air, and are provided with drain openings. Elevators are mounted on truss-type brackets which are attached to the horizontal stabilizer rear spar. Roller bearing hinges are incorporated and bearings may be replaced without removing the elevator. A control tab, a geared tab and an anti-float tab are located in the trailing edge.

WJE 405-411, 415-427, 429, 861-866, 868, 869, 871, 872, 875-881, 883, 884, 891

(5) On aircraft with an all-metal rudder, the structure consists of a single spar, ribs, and skin with bonded doublers. The rudder is sealed to prevent entry of water and excessive circulation of air, and is provided with drain openings. An all-metal control tab is incorporated in the trailing edge. On aircraft with an all composite rudder, the structure consists of a front spar, rear spar, supporting ribs, two major skin panels and various access panels including the leading edge. A composite control tab is incorporated in the trailing edge.

WJE 401-404, 412, 414, 873, 874, 886, 887, 892, 893

(6) The rudder is an all composite structure consisting of a front spar, rear spar, supporting ribs, two major skin panels, and various access panels including the leading edge. A composite control tab is incorporated in the trailing edge.

WJE ALL

4. Wing Structure

A. Description

(1) The wing is a sweptback, fully cantilevered, stressed all-metal skin, single-unit structure, mounted through the lower fuselage. The wing incorporates ailerons, spoilers, trailing edge flaps, slats, integral fuel tanks, and supporting structure for the main landing gears.

(2) The wing is constructed with two spanwise spars, spanwise panel stiffeners, and chordwise ribs and bulkheads. The wing spars are constructed of extruded spar caps with sheet spar webs and extruded spar web stiffeners. Near the wing tips the sheet metal web is eliminated by overlapping thetwo spar caps. The ribs between the spars utilize rolled and extruded stiffeners. The bulkheads that form the integral fuel tanks are attached and sealed at the spars and upper and lower wing skins. Stiffening elements are machined from extrusions. The skins, stringers, ribs, bulkheads, and spars form a cellular box capable of supporting the wing bending, shear, and torque loads. Flush riveting is used for all wing exterior surfaces.

(3) The wing contains three integral fuel tanks, one between the front and rear spars of each wing and one in the wing center section between the front and rear spars. All faying surfaces and corner fittings are precision-type fit, sealed and protected against corrosion to make an inherently fluid tight tank. The local wing structure in the tank area for-ward of the landing gear attach points is designed for loads exceeding those of the basic gear. This load design difference is incorporated to minimize the possibility of tank rupture in the event of gear failure or breakaway. Flow baffles installed in the main tanks prevent the rapid shift of fuel spanwise, and form a gravity supplied fuel reservoir in the inboard end of each main tank.

(4) Stressed access doors are incorporated as a part of each integral fuel tank structure to permit access to the system components within the tank. The tank components are located so as to minimize damage during maintenance.

(5) The portion of the wing forward of the front spar contains the fixed leading edge and full span leading edge slats. The slats contain ducts for anti-icing distribution. The high lift devices of the wing include the leading edge slats of varying percent wing chord, and triple slotted flaps. Access doors are provided in the fixed leading edge section to permit service to installations forward of the front spar.

(6) Faired wing tips incorporate position and landing lights and are removable for repair or replacement. Electrical quick-disconnects are provided for position and landing light wiring.

(7) Ailerons are mounted on truss-type brackets attached to the wing rear spar. The aileron hinges incorporate roller-type bearings which are replaceable without removing the aileron. The aileron is all metal construction, with a spar, ribs, and skins with bonded doublers. The ailerons are sealed to reduce entry of water. Drain holes are located in the lower surface. All metal control and trim tabs are incorporated in the trailing edge of each aileron. The tabs aresealed to prevent entry of water, with drain holes drilled in the lower surfaces of the nose caps for moisture drainage. The mass balance required for flutter prevention is integrally installed and the tabs are interchangeable without the necessity of rebalancing the aileron. The trim tabs are located just outboard of the control tabs on each aileron.

(8) Hydraulically operated flaps are installed in the trailing edge portion of the wing, inboard of the ailerons. The out-board flap is supported on three external hinges on the wing and the inboard flap is supported on one track in the fuselage and on external hinge. Replaceable wear strips are provided wherever the flaps contact the wing, fuselage structure or seals. A clearance gap or structural section is provided between the flap and aileron surfaces to preclude interference between the flap and aileron under the most adverse conditions.

(9) The flaps are constructed of all metal internal framework consisting of spars, ribs and skins with bonded doublers, or equivalent. The aft section of the flaps is removable at the spars in six panels attached to the spar caps by screws. Any one panel may be removed for repair or replacement. The leading edge section is removable in sections for access, inspection, repair or replacement. The flap vanes are constructed of skins, ribs and metal honeycomb or the equivalent, and attached to the flap with adjustable fittings for gap control. The trailing edge is constructed of fiberglass approximately three inches wide, and replaceable by rein-stalling with blind rivets with the aft section in place. Adequate access doors are provided to permit replacement or repair of skins in the area of the landing gear. All lower flap skins in the area of the landing gear are designed to reduce the possibility of replacement due to landing damage.

(10) Three spoilers, two outboard flight and ground spoilers and one inboard ground only spoiler are installed in the upper trailing edge of each side of the wing immediately forward of the flaps. The outboard flight and ground spoilers and the inboard ground only spoiler on each side are actuated by separate hydraulic systems. The outboard spoilers are designed for lateral control in conjunction with the ailerons, and as speed brakes both in-flight and with inboard spoilers on the ground. The spoilers are sealed to prevent entry of water and the possibility of damage due to freezing.

(11) Main landing gear support fittings are installed in the trailing edge section of each inboard wing and attached to the wing rear spar and wing bulkhead.

AIRFRAME - CLEANING/PAINTING

1. General

WARNING: USE NORMAL SAFETY PRECAUTIONS WHEN USING FLAMMABLE MATERIALS DURING CLEANING AND PAINTING PROCEDURES.

A. Maintaining the aircraft exterior in a clean condition by washing with approved cleaning agents at regular intervals is the most effective and practical method for the prevention of corrosion. It is recommended that the chemical supplier's bulletins be closely followed for proper mixing of solutions, application methods, and safety precautions. The approved materials and procedures for cleaning the aircraft exterior are provided in Chapter 12. (PAGEBLOCK 12-22-01/701)

B. The approved materials and procedures for cleaning the aircraft interior are provided in Chapter 12. (PAGEBLOCK 12-22-02/701)

C. Procedures for corrosion treatment, paint stripping, masking, primer application (enamel and epoxy), exterior enamel application, and epoxy topcoat application are covered in the Structure Repair Manual, 51-10-3.

D. Deicing fluids may be used to remove ice and frost and as a preventative measure against ice and frost forming. Deicing fluids are not intended for use in removing snow deposits. Snow is best removed by mechanically sweeping or brushing it from aircraft surfaces. Aircraft snow and ice removal and deicing application are covered in Chapter 12. (PAGEBLOCK 12-30-01/301)

MISSING SCREWS - MAINTENANCE PRACTICES

1. General

A. This maintenance practice provides the guidelines to address missing screws in access panels.

CAUTION: THESE GUIDELINES ARE ONLY APPLICABLE TO SECONDARY STRUCTURE.

(1) Missing screws are not allowed on leading edges of access panels exposed to air stream. Missing screws are not allowed at electrical grounding/bonding locations.

(2) On any access panel, no two consecutive screws may be missing.

(3) Any access panel with 10 or less attachment screws, one (1) screw may be missing. Any access panel with more than 10 attachment screws may not exceed 10% of total number of attachment screws missing in that access panel.

(4) Screws from another access panel, other than from a leading edge, may be removed and installed at a missing screw location in another access panel provided guidelines above are not violated and screw is the proper grip length to be installed at that location.

(5) Check that all remaining screws are secure.

(6) Tinnerman washers may be installed under screw heads if hole condition warrants.

(7) Document number of missing screws and locations of each missing screw in aircraft log book. Maintenance control must be notified of any missing screws prior to an aircraft's return to service. Maintenance control will issue a tracking number and coordinate missing screw installation at next maintenance base RON.

(8) Maintenance control will also generate a DMI to check minimum breakaway torque (used nut values) of each nutplate per maintenance manual, where a screw was lost in service. This torque check must be accomplished within next "C" check interval.

(9) Any deviations from above guidelines must be coordinated through structural engineering to determine acceptability prior to flight.

AIRFRAME DRAINAGE - DESCRIPTION AND OPERATION

1. General

A. One of the prime causes of corrosion is entrapped moisture and contaminants resulting from condensation, precipitation, and spillage. A drainage system throughout the airframe structure minimizes the accumulation of any liquids.

2. Airframe Drainage

A. Dams and drain passages in the lower fuselage shell structure direct the flow of liquids to drain points. Drain holes and drain valves are provided in the unpressurized and pressurized areas of the aircraft lower fuselage structure. The drain holes remain open at all times to allow for constant drainage in the unpressurized areas of the fuselage. The drain valves are installed in pressurized areas of the fuselage and permit drainage only when the aircraft is unpressurized.

B. Drain valves are installed and utilized in pressurized areas of the aircraft passenger and galley service doorsills, and forward, center, and aft cargo compartment sump troughs.

Drain valves provided for drain holes in the lower fuselage shell consist of a bracket and support of aluminum alloy, and a silicone rubber seal.

C. Vents and drains are provided on the pylons for the removal of flammable vapors and liquids.

D. The control surfaces, wing leading and trailing edges, stabilizers, and main landing gear forward doorjambs, have drain holes in the lower surface to prevent entrapment of moisture.

AIRFRAME DRAINAGE - SERVICING

1. General

A. Servicing the airframe drainage system consists of removing any material that might block or restrict the drain valves and drain holes, verifying that the drain valves are open when the aircraft is unpressurized, and that the valves will close when the aircraft is pressurized.

B. Drain valves installed in passenger and service door doorsills are connected to overboard drain fittings by either metal tubes or flexible hose couplings.

C. Drain holes, open at all times for constant drainage are located in the lower fuselage structure of the unpressurized areas, pylons, landing gear doors, door jambs, access doors in unpressurized areas, leading edge lower surfaces of wings and horizontal stabilizer, lower skins of control surfaces, and lower surfaces of various fairings, such as wing-to-fuselage, wing-flap hinge, horizontal stabilizer, and tail cone hinge fairings. (Figure 301 or Figure 302)

D. Drain valves, positioned directly over drain holes in the pressurized areas of the aircraft lower fuselage are attached to the inner fuselage skin (shell structure) and found in the following locations: (Figure 301 or Figure 302)

Table 301

Approximate Fuselage Station Reference	Side of Centerline	Approximate Distance from Centerline (inches)
120	Left	3 1/2
140	Centerline	0
	Access Door	
161	Left	3 1/2
218	Left and Right	2
256	Left	2
294	Left	2
370	Right	2
427	Right	2
484	Left	2
541	Left	2
617	Right	2 1/2
655	Right	2 1/2
693	Right	1 3/4
731	Right	2 1/2
786	Right	2 1/2
788	Left and Right	2 1/2
1022	Left and Right	2 1/2
1098	Left and Right	2 1/2
1155	Right	2 1/2
1157	Left	2 1/2

Table 301 (Continued)

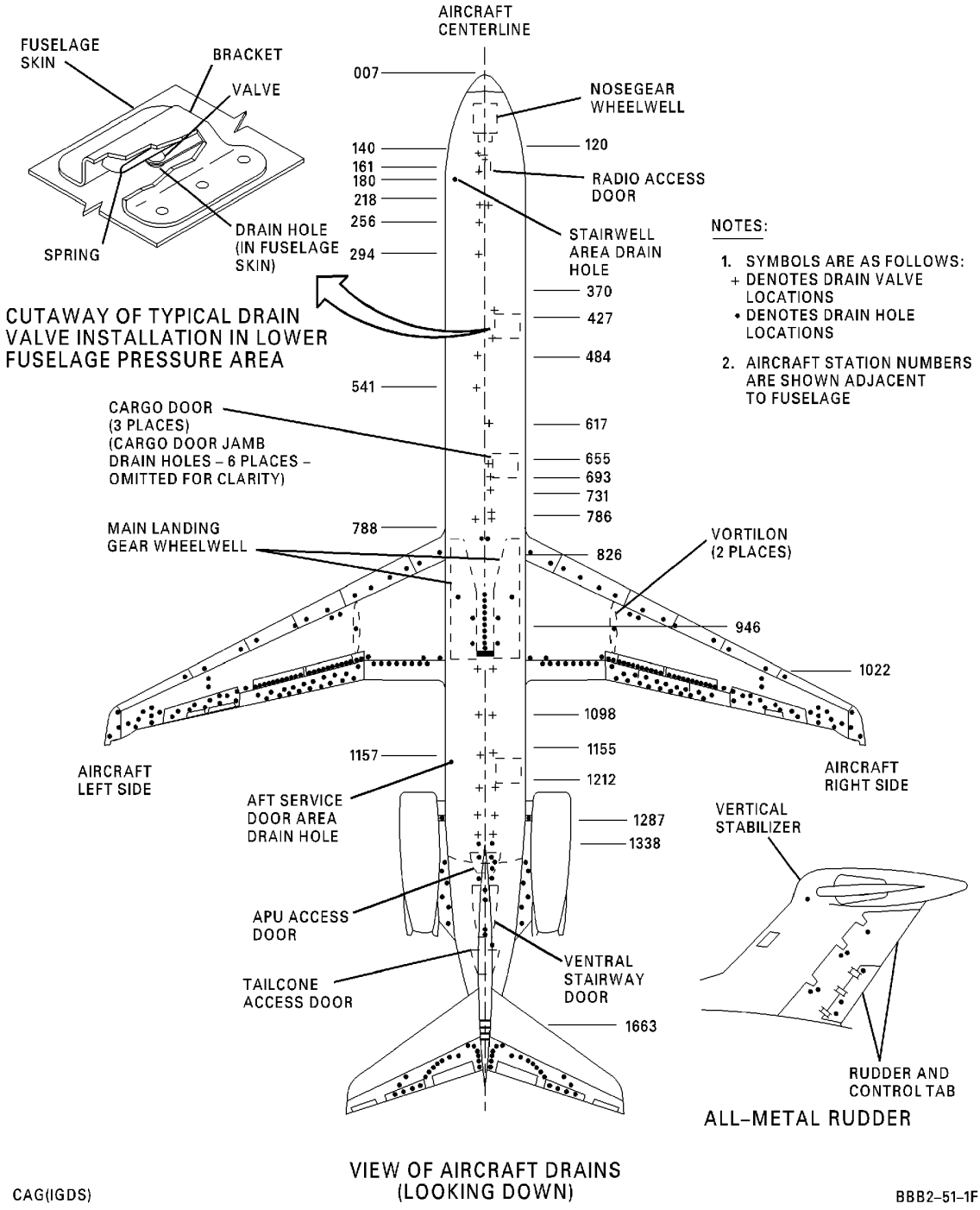
Approximate Fuselage Station Reference	Side of Centerline	Approximate Distance from Centerline (inches)
1212	Left and Right	1 1/2
1287	Left and Right	2 1/2
1338	Left and Right	2

2. Equipment and Materials

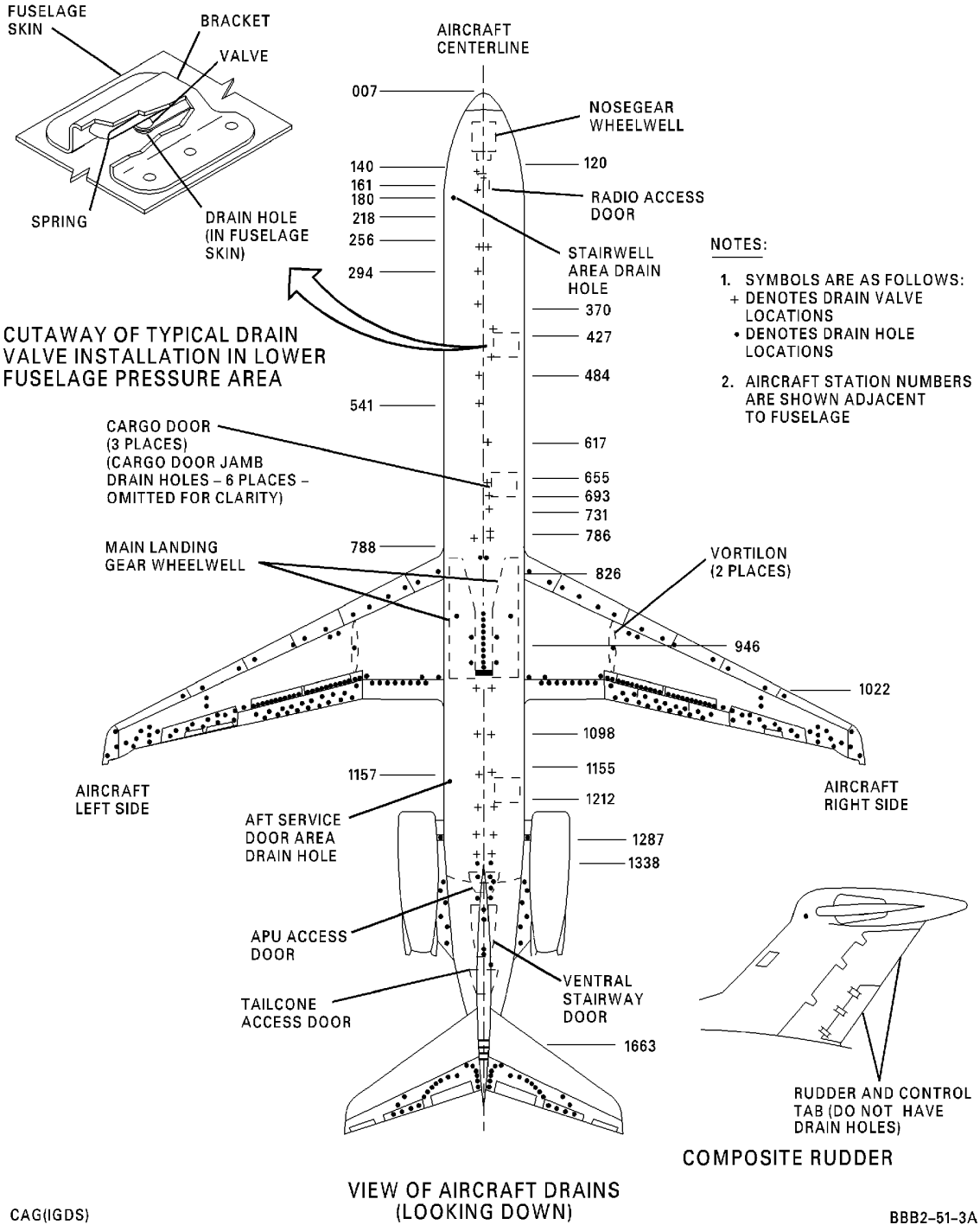
NOTE: Equivalent substitutes may be used instead of the following listed items:

Table 302

Name and Number	Manufacturer
Wire, .030 inch diameter, soft	



Airframe Drain Hole Locations (All-Metal Rudder)
Figure 301/51-10-00-990-801



Airframe Drain Hole Locations (Composite Rudder)
Figure 302/51-10-00-990-802

3. **Servicing - Airframe Drainage**

A. Drain Holes

CAUTION: TO AVOID DAMAGE TO AIRCRAFT SKIN OR DRAIN VALVE SEALS, DO NOT INSERT SCREWDRIVER OR OTHER SHARP INSTRUMENTS INTO DRAIN HOLES.

CAUTION: IF THE TWO DRAIN HOLES LOCATED JUST AFT OF THE PRESSURE BULKHEAD BECOME BLOCKED OR RESTRICTED, ACCUMULATED FLUID CAN ENTER THE APU INLET DUCT RESULTING IN CONTAMINATION OF THE AIR-CONDITIONING AND PNEUMATIC SYSTEMS, AND FUSELAGE CABIN AREA.

(1) Check drain holes to ensure passages are unrestricted.

(2) Check drain holes located in keel area of main landing gear wheelwells.

(3) If drain hole is blocked or otherwise restricted, insert soft .030 inch diameter wire in hole and work around perimeter of drain hole until material blocking drain is passed through hole.

(4) If possible, gain access to the interior side of the drain hole and pour a small amount of water onto the immediate area of the drain hole.

(5) Check the exterior side of the drain hole. Make sure the water flows freely from the drain hole.

B. Drain Valves

(1) With aircraft unpressurized, check valves for drainage by pouring water through valves. Valves must remain open.

(2) Visually check the drain hole from the exterior side of the aircraft. Make sure the water flows from the drain hole.

(3) The inspection that follows is optional:

(a) From the exterior of the aircraft, put the soft, eraser end of a pencil in the drain hole to lift the valve.

1) Release of water from the hole is indicative of water entrapment and presence of foreign matter in the drain area.

CAUTION: TO AVOID DAMAGE TO AIRCRAFT SKIN OR DRAIN VALVE SEALS, DO NOT INSERT SCREWDRIVER OR OTHER SHARP INSTRUMENTS INTO DRAIN HOLES.

CAUTION: BE CAREFUL NOT TO DAMAGE VALVE SEAT WHEN WORKING WIRE INSIDE VALVE BODY.

(4) If valve drainage appears clogged, insert soft .030 inch diameter wire through valve body into tube, work around perimeter of drain hole until material blocking drain is passed through hole.

(5) Remove soft wire from drain and flush tube thoroughly with water.

NOTE: Dirt or other extraneous matter in drain valves may cause valves to leak. Such leakage can be detected by air leaking through drain holes when aircraft is pressurized.

(6) Pressurize the aircraft.

(7) With the aircraft pressurized, inspect each drain valve for air pressure leaks.

(8) If an air pressure leak is found, bend one end of a piece of soft .030 inch diameter wire and insert the bent end into the drain hole. Work the wire around the perimeter of the drain hole until any material blocking the drain valve is removed from the hole.

(9) After the material is removed, check the drain valve again. Make sure that no leaks are found.

(10) Depressurize the aircraft.

C. Forward Service Door Sump Drain

(1) Open the forward service door.

(2) Visually inspect the sump drain hole in the door jamb and the drain hole on the external surface of the aircraft for debris.

(3) In the forward service door jamb, pour a small amount of water into the drain hole

(4) Check the exterior drain hole. Make sure the water flows freely from the drain hole.

CAUTION: DO NOT PUT SCREWDRIVERS OR OTHER SHARP TOOLS INTO THE DRAIN HOLES. THIS WILL PREVENT DAMAGE TO THE AIRCRAFT SKIN OR THE DRAIN VALVE SILICONE RUBBER SEALS.

CAUTION: BE CAREFUL NOT TO DAMAGE VALVE SEAT WHEN WORKING WIRE INSIDE VALVE BODY.

(5) If water fails to flow freely from the drain hole, use a bent, soft, .030 inch diameter wire to remove any debris found in the sump drain.

(6) If necessary, use water to flush debris from sump drain.

(7) After debris is removed, pour water into the sump drain again and make sure the water flows freely.

CAUTION: MOISTURE LEAKING FROM FORWARD PASSENGER AND SERVICE DOOR DRAINS MAY FREEZE AND BE INGESTED INTO THE ENGINES.

(8) The forward service door sump drain must be checked periodically.

D. Forward Passenger Door Jamb Sump Drain

(1) Open the forward passenger door.

(2) Visually inspect the sump drain hole in the door jamb and the drain hole on the external surface of the aircraft for debris.

(3) In the forward passenger door jamb, pour a small amount of water in to the drain hole.

(4) Check the exterior drain hole. Make sure the water flows freely from the drain hole.

CAUTION: DO NOT PUT SCREWDRIVERS OR OTHER SHARP TOOLS INTO THE DRAIN HOLES. THIS WILL PREVENT DAMAGE TO THE AIRCRAFT SKIN OR THE DRAIN VALVE SILICONE RUBBER SEALS.

CAUTION: BE CAREFUL NOT TO DAMAGE VALVE SEAT WHEN WORKING WIRE INSIDE VALVE BODY.

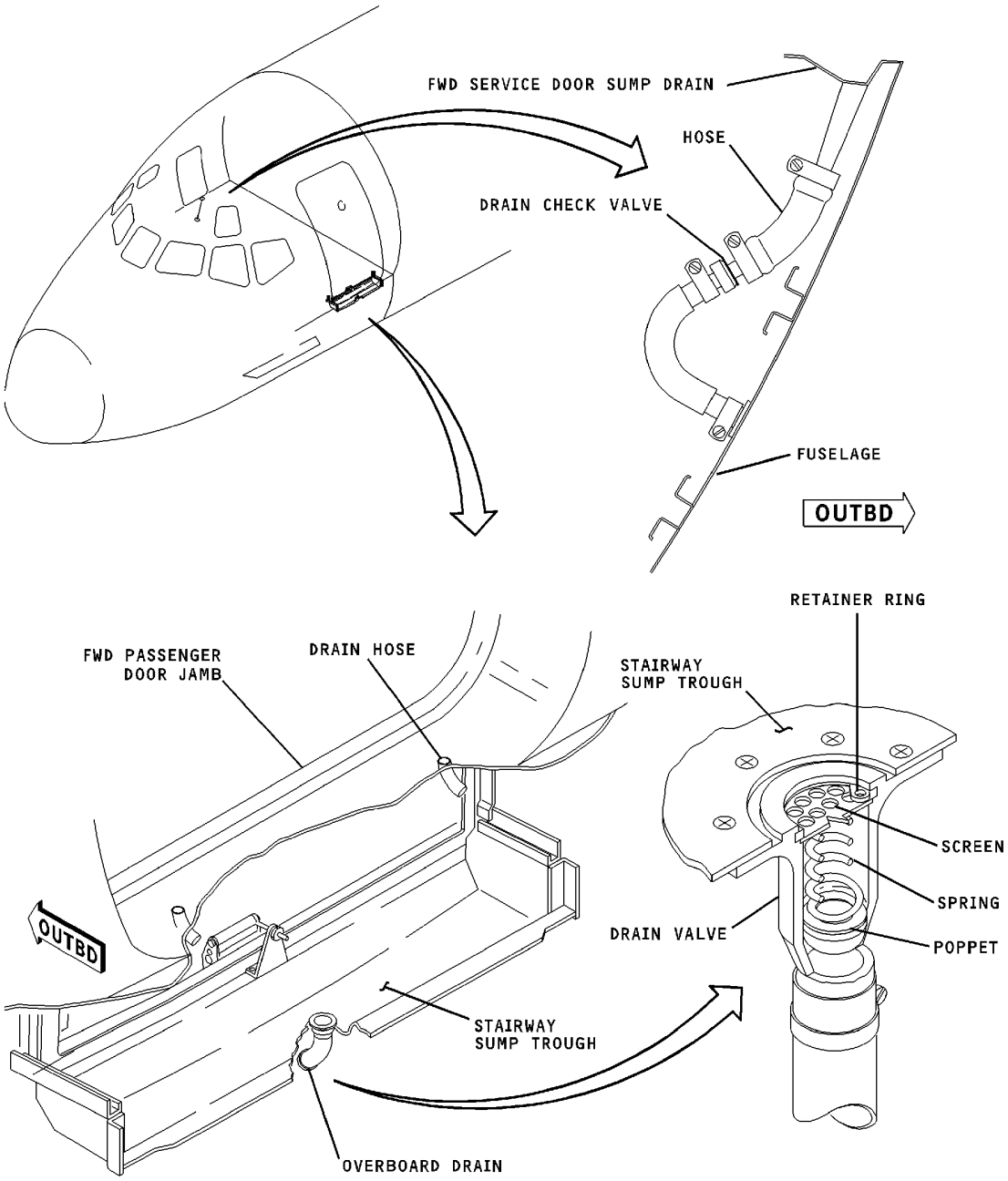
(5) If water fails to flow freely from the drain hole, use a bent, soft, .030 inch diameter wire to remove any debris found in the sump drain.

(6) If necessary, use water to flush debris from sump drain.

(7) After debris is removed, pour water into the sump drain again and make sure the water flows freely.

CAUTION: MOISTURE LEAKING FROM FORWARD PASSENGER AND SERVICE DOOR DRAINS MAY FREEZE AND BE INGESTED INTO THE ENGINES.

(8) The forward passenger door jamb sump drain should be checked periodically.



Airframe Drain Hole Locations
Figure 303/51-10-00-990-804

AFT CARGO COMPARTMENT BILGE DRAIN VALVES - INSPECTION/CHECK

1. General

A. This procedure contains MSG-3 task card data.

TASK 51-10-00-211-801

2. Detailed Inspection of the Bilge Drain Valves

A. Do a Detailed Inspection of the Bilge Drain Valves

SUBTASK 51-10-00-010-001

(1) Remove floor panels as required to check aft cargo compartment bilge drain valves.

SUBTASK 51-10-00-211-001

(2) Do a detailed inspection of the drain valves for obstructions and clean drain valve area.

(3) With aircraft unpressurized, check valves for drainage by pouring water through the valves.

(a) Valves must remain open.

CAUTION: DO NOT PUT SCREWDRIVERS OR OTHER SHARP TOOLS INTO THE DRAIN HOLES. THIS WILL PREVENT DAMAGE TO THE AIRCRAFT SKIN OR THE DRAIN VALVE SILICONE RUBBER SEALS.

CAUTION: BE CAREFUL NOT TO DAMAGE VALVE SEAT WHEN WORKING WIRE INSIDE VALVE BODY.

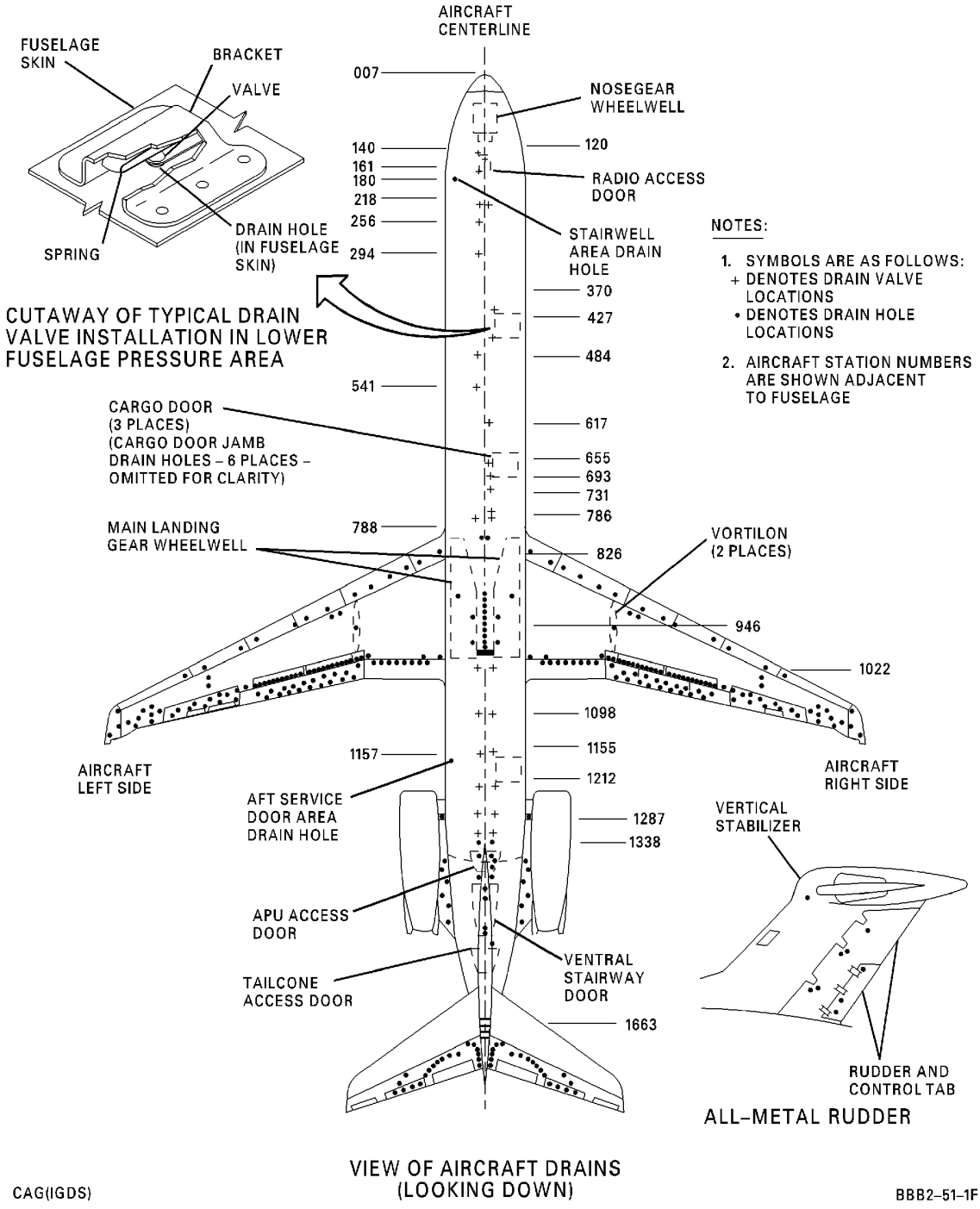
(4) If valve drainage appears clogged, clean area around drain valve and insert soft .030 inch diameter wire through valve body until material blocking drain is passed through overboard.

SUBTASK 51-10-00-410-001

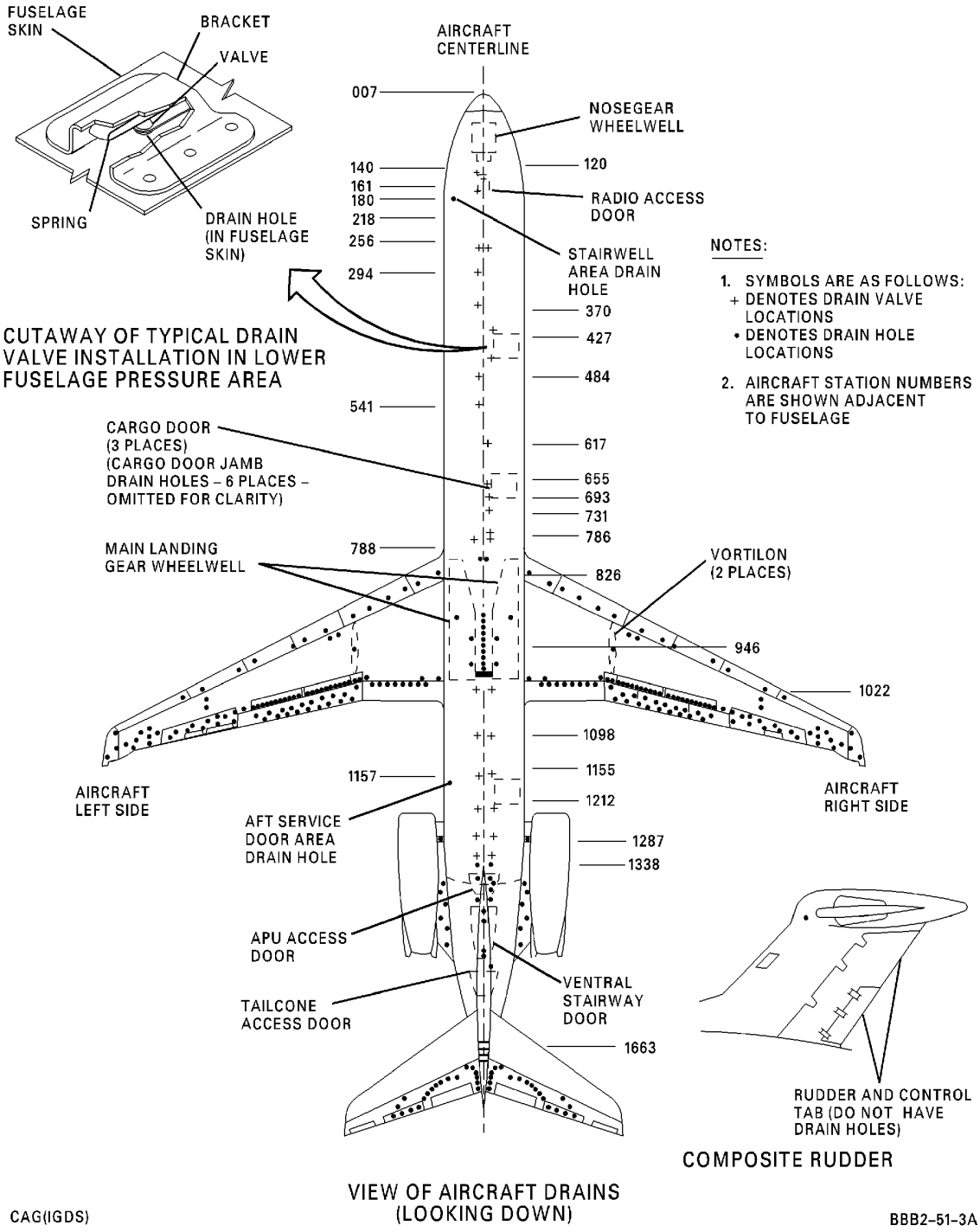
(5) Install floor panels removed.

(6) Remove all the tools and equipment from the work area. Make sure the area is clean.

——— END OF TASK ———



Airframe Drain Hole Locations (All-Metal Rudder)
Figure 601/51-10-00-990-805



Airframe Drain Hole Locations (Composite Rudder)
Figure 602/51-10-00-990-806

SLANT PRESSURE PANEL DRAIN VALVE - MAINTENANCE PRACTICES

1. General

NOTE: This section is only applicable to aircraft with SB DC9-53-179 incorporated.

A. Removal/Installation procedures for the slant pressure panel drain valves are provided in this section.

B. Check procedures are also provided to leak check the slant pressure panel drain valve.

C. The slant pressure panel drain valve is located on the rear spar midway between the slant pressure panel and the main landing gear door jamb inside the wheelwell.

D. Maintenance procedures are identical for the left and right slant pressure panel drain valves.

E. Access to the pressure panel drain valves is through the left and right main landing gear inboard doors.

2. Equipment and Materials

NOTE: Equivalent substitutes may be used instead of the following listed items:

NOTE: It is possible that some materials in the Equipment and Materials List cannot be used for some or all of their necessary applications. Before you use the materials, make sure the types, quantities, and applications of the materials necessary are legally permitted in your location. All persons must obey all applicable federal, state, local, and provincial laws and regulations when it is necessary to work with these materials.

Name and Number	Manufacturer
Inconel Lockwire 0.051 in NASM20995N51, DPM 684	Not Specified
Corrosion Resistant Steel Lockwire 0.047 in NASM20995C47, DPM 5865	Not Speicified
Syringe	Commercially available

3. Removal/Installation Slant Pressure Panel Drain Valve

A. Remove Drain Valve (Figure 201 or Figure 202)

(1) Gain access to slant pressure panel drain valve by opening main landing gear door and install ground lock pin and doorkeeper. (PAGEBLOCK 32-00-00/201)

(2) Loosen upper and lower hose clamps.

(3) Remove drain valve.

B. Install Drain Valve

(1) Connect upper and lower drain hose to drain valve.

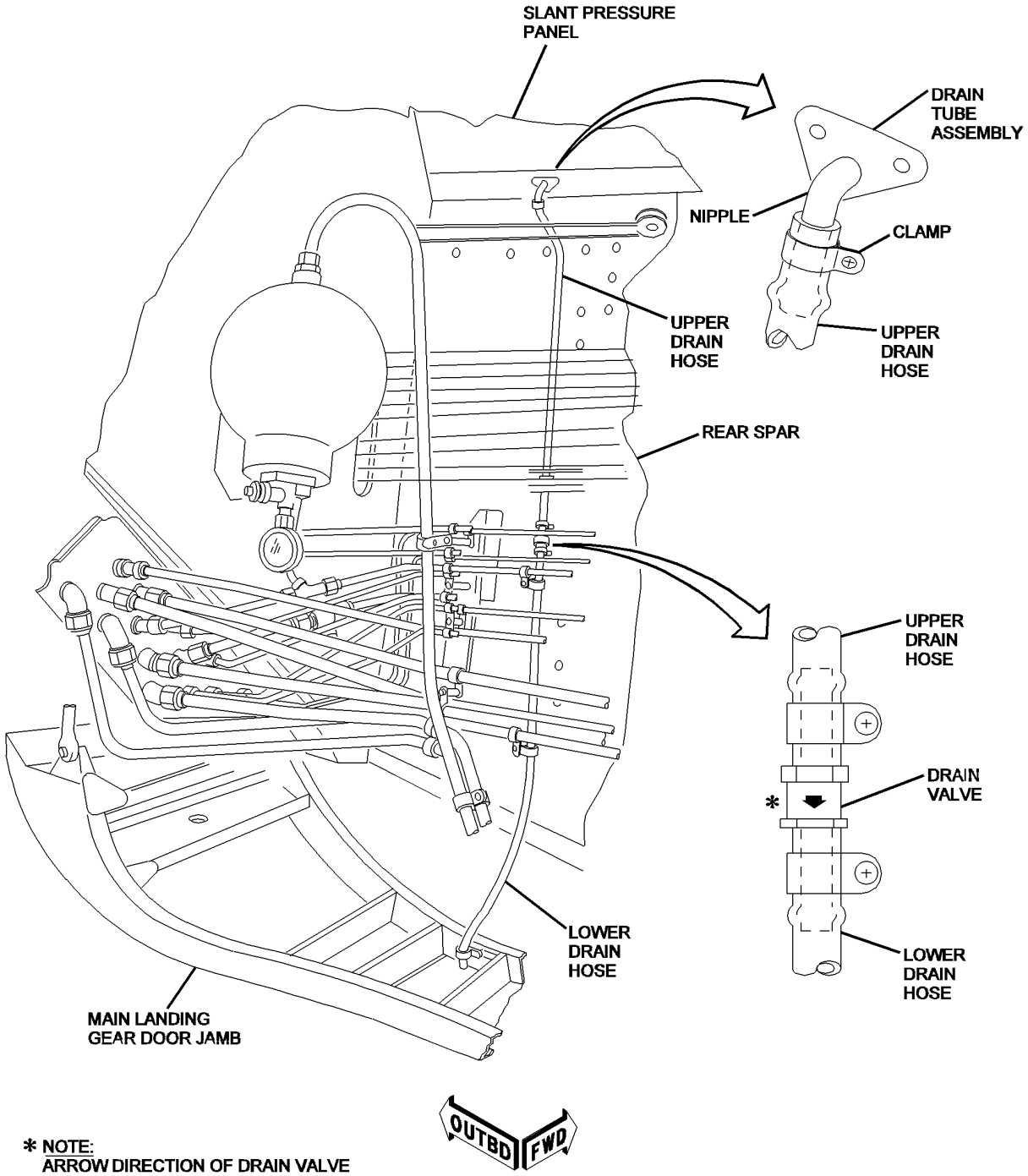
NOTE: Make certain that direction of arrow on drain valve is pointing down.

(2) Tighten upper and lower hose clamps.

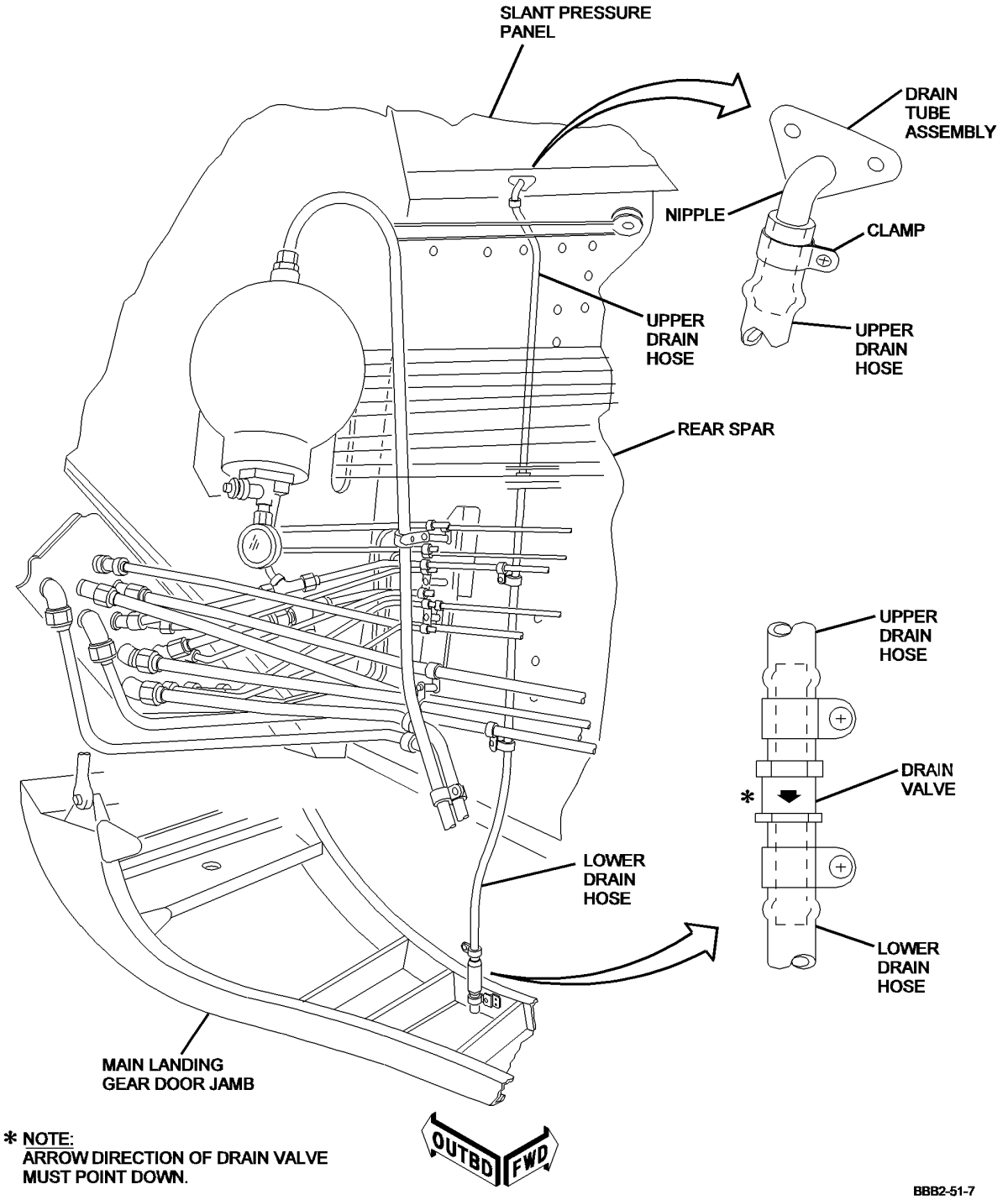
(3) Check valve for drainage. (Paragraph 4.)

(4) Remove all tools and foreign objects from work area.

(5) Remove ground lock pin and doorkeeper and close main landing gear door.



Slant Pressure Panel Drain Valve - Maintenance Practices
Figure 201/51-10-01-990-801



Slant Pressure Panel Drain Valve - Maintenance Practices
Figure 202/51-10-01-990-803

4. Check Left and Right Slant Pressure Panel Drain Valve Installations

NOTE: Some drain system installations may vary in drain tube routing configurations. Maintenance procedures, however, are the same.

NOTE: Check procedures for the left and right drain valve installations are the same.

A. Gain Access

(1) Open the main landing gear doors and make the doors and landing gear safe for maintenance. (GENERAL - MAINTENANCE PRACTICES, PAGEBLOCK 32-00-00/201)

(2) Locate slant pressure panel drain tube located in each wheelwell. (Figure 201 or Figure 202)

B. Check Drain Valve Installation - Static

(1) Inspect the drain hoses and clamps for general condition. (Figure 201 or Figure 202)

(2) Remove the hose clamp at the drain tube assembly nipple and disconnect the upper end of the upper drain hose.

(3) Pour a small quantity of water into the open end of the upper drain hose. A syringe or a funnel may be required

(4) Check that water flows through the drain valve and out the lower drain hose.

(5) If no water drains from the lower drain hose, replace the valve or hoses as required to ensure free flow drainage of the slant pressure panel drain system. Alternatively, clean the hose(s) and/or the drain valve and reinstall. A serviceable hose and valve are acceptable for installation.

(6) Using shop air, blow air through the drain tube assembly nipple to remove foreign objects or obstructions from the drain path. Bend the end of a 6 inch piece of lockwire and loop the end into an oval. Put the bent end into the drain tube nipple to remove any foreign objects or obstructions. (LOCKWIRE SAFETYING - MAINTENANCE PRACTICES, PAGEBLOCK 20-10-18/201)

NOTE: The minimum drain path diameter, by design, is 0.250 in. (6.35 mm). The approximate drain path length is 4 in. (101.6 mm).

(7) Connect the upper drain hose and install the hose clamp.

C. Check Drain Valve Installation - Pressurized

(1) Start the left or right air conditioning system. (GENERAL - DESCRIPTION AND OPERATION, PAGEBLOCK 21-00-00/001)

(2) Manually pressurize the aircraft to 5 psid (34.5 kPa) as follows:

CAUTION: UNDER NO CIRCUMSTANCES PRESSURIZE AIRCRAFT WITH FORWARD STAIRWELL DOOR OPEN AND PASSENGER DOOR CLOSED. FAILURE TO COMPLY WILL RESULT IN COLLAPSE OF STAIRWELL SHROUD.

(a) Close all aircraft doors and windows.

(b) Retract and close the forward airstairs.

(c) Put the system in manual mode.

NOTE: Do not pressurize the cabin above a rate of 700 fpm (213 mpm).

(d) Slowly pressurize the cabin to 5 psid (34.5 kPa) as indicated on the cabin differential pressure indicator by closing the cabin pressure outflow valve.

(3) With the aircraft pressurized, check the drain valve for air pressure leaks by inspecting the lower end of the lower drain hose for air pressure leak. (Figure 201 or Figure 202)

(4) Inspect the upper drain hose, connections, and the drain valve body for air pressure leaks.

(5) Depressurize the aircraft by slowly opening the cabin pressure outflow valve.

(6) Shut down the air conditioning system.

(7) If an air pressure leak is found, clean or remove and replace the drain valve and/or drain hoses as required.

(8) Repeat the pressurized inspection/check if parts are replaced or cleaned and reinstalled.

D. Close Up

(1) Remove all tools and foreign objects from work area.

(2) Remove ground lock pins and doorkeepers, and close main landing gear doors as required. (GENERAL - MAINTENANCE PRACTICES, PAGEBLOCK 32-00-00/201)

SLANT PRESSURE PANEL DRAIN VALVE - ADJUSTMENT/TEST

1. General

A. This procedure contains MSG-3 task card data.

TASK 51-10-01-710-801

2. Operational Check of the Slant Pressure Panel Drain Valve

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) Some drain system installations may vary in drain tube routing configurations. Maintenance procedures, however, are the same.

NOTE: The operational check for the left and right drain valve is the same.

B. References

Reference	Title
32-00-00 P/B 201	GENERAL - MAINTENANCE PRACTICES

C. Prepare for the Operational Check of the Slant Pressure Panel Drain Valve

SUBTASK 51-10-01-010-001

(1) Open the main landing gear doors and make the doors and landing gear safe for maintenance. (GENERAL - MAINTENANCE PRACTICES, PAGEBLOCK 32-00-00/201)

(2) Locate slant pressure panel drain tube located in each wheelwell. (Figure 501)

D. Operational Check of the Slant Pressure Panel Drain Valve

SUBTASK 51-10-01-710-001

(1) Inspect the drain hoses and clamps for general condition.

(2) Remove the hose clamp at the drain tube assembly nipple and disconnect the upper end of the upper drain hose.

(3) Using a small piece of 0.032 steel corrosion resistant lock wire, insert the wire through the drain tube assembly nipple to remove any foreign objects from obstructing the water drain path.

(4) Using a syringe or equivalent, induce a small quantity of water or shop air into the disconnected end of the hose.

(5) Check that water or air flows through the drain valve and out the lower drain hose and that no obstructions are interfering with free flow of drainage.

(6) If no water drains from the lower drain hose, replace the valve or hoses as required to ensure free flow drainage on the slant pressure panel drain system. Alternatively, clean the hose(s) and/or the drain valve and reinstall.

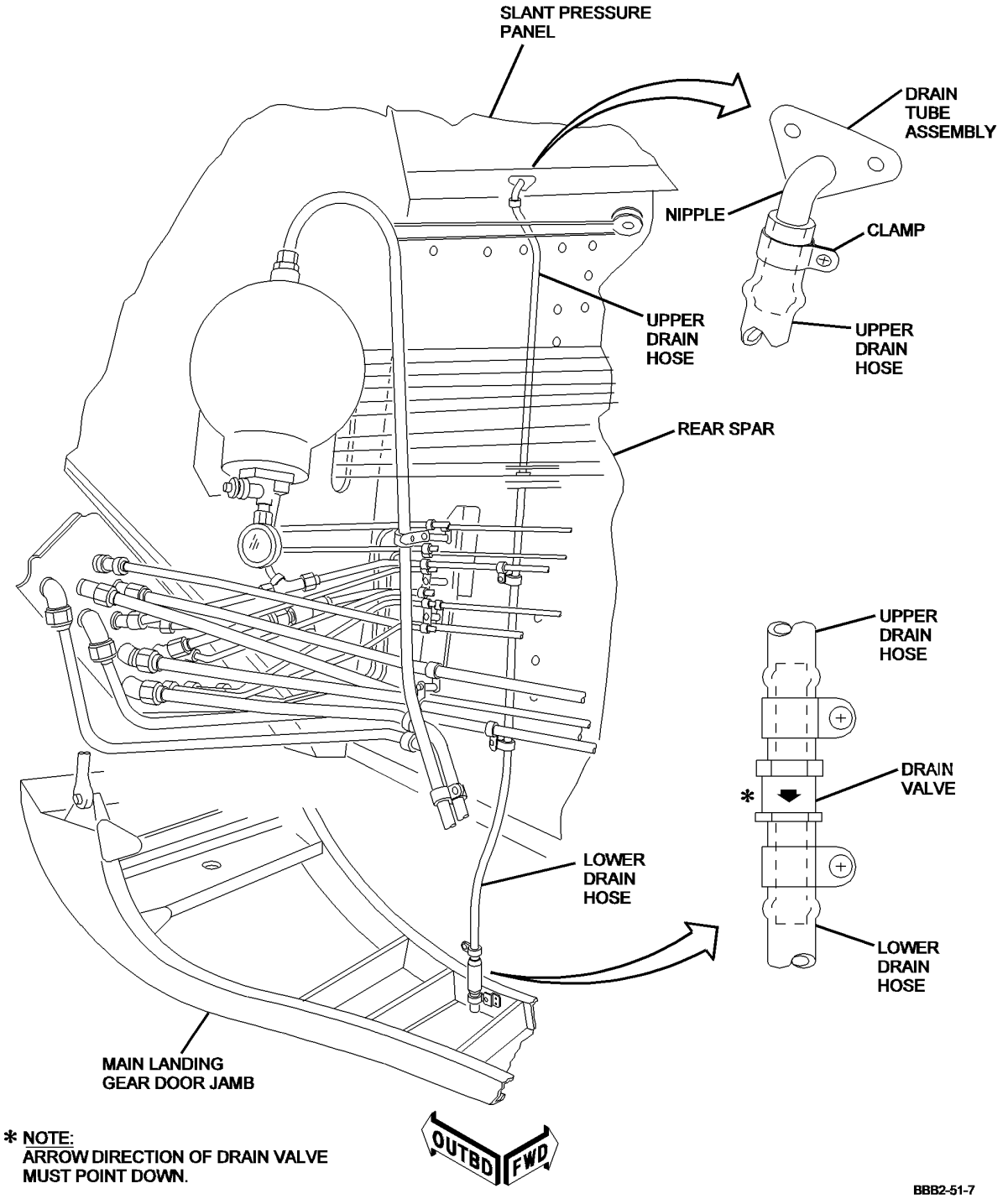
E. Job Close-up

SUBTASK 51-10-01-940-001

(1) Connect the upper drain hose and install the hose clamp.

(2) Remove all the tools and equipment from the work area. Make sure the area is clean.

END OF TASK



Slant Pressure Panel Drain Valve - Operational Check
Figure 501/51-10-01-990-804

SLANT PRESSURE PANEL DRAIN - INSPECTION/CHECK

1. General

A. This procedure contains MSG-3 task card data.

TASK 51-10-01-280-801

2. Inspection of the Slant Pressure Panel Drain Hole

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
25-23-00 P/B 201	PASSENGER SEATS - MAINTENANCE PRACTICES
53-20-01 P/B 201	FLIGHT AND PASSENGER COMPARTMENT FLOOR PANELS - MAINTENANCE PRACTICES

B. Prepare for the Inspection of the Slant Pressure Panel Drain Hole

SUBTASK 51-10-01-020-001

(1) Remove left and right side passenger seats between Sta. 927 to 1003 (MD-82, 83 and 88), Sta. 813 to 889 (MD-87), to gain access to slant pressure panel drain hole. (PASSENGER SEATS - MAINTENANCE PRACTICES, PAGEBLOCK 25-23-00/201)

(2) Remove left and right side floor panels as required, between Sta. 927 to 1003 (MD-82, 83 and 88), Sta. 813 to 889 (MD-87) to gain access to slant pressure panel drain hole. (FLIGHT AND PASSENGER COMPARTMENT FLOOR PANELS - MAINTENANCE PRACTICES, PAGEBLOCK 53-20-01/201)

C. Inspection of the Slant Pressure Panel Drain Hole

SUBTASK 51-10-01-211-001

(1) Do a detailed inspection of the slant pressure panel drain tube outlet area, left and right side, for obstructions from insulation blankets, sealant, or particulate matter and ensure the flow path is unrestricted.

D. Job Close-up

SUBTASK 51-10-01-410-001

(1) Install the cabin floor panels. (FLIGHT AND PASSENGER COMPARTMENT FLOOR PANELS - MAINTENANCE PRACTICES, PAGEBLOCK 53-20-01/201)

(2) Install the passenger seats. (PASSENGER SEATS - MAINTENANCE PRACTICES, PAGEBLOCK 25-23-00/201)

SUBTASK 51-10-01-942-001

(3) Remove all the tools and equipment from the area. Make sure area is clean.

——— END OF TASK ———

WJE

CORRUPTION PREVENTION AND CONTROL - DESCRIPTION AND OPERATION

WJE

1. General

WJE A. In an effort to reduce the corrosion susceptibility of structural parts and maintain airframe structural integrity, the associated corrosion protection procedures outline in the Boeing DC-9/MD-80 Structural Repair Manual must be incorporated (see Section 2). In addition, the supplementary materials and/or procedures presented within this document are to be used in conjunction with other applicable items, which may include the following:

WJE
- Boeing Engineering Drawings
- Boeing Production Standards (Douglas Material Specifications, Douglas Process Standards, Douglas Process Material, and Finish Specifications)
- Midwest Airlines' Task Cards
- Midwest Airlines' Engineering Documents and Manuals
- Boeing DC, MD, 717 Non-Destructive test Standard Practices Manual
- Boeing MD-80 Aircraft Maintenance Manual
- DC-9/MD-80 Corrosion Prevention and Control Document (Report No. MDC-K4606, Revision 3, dated March 1995)

WJE B. Unless otherwise specified, the materials and/or procedures identified in this document take precedence over the materials and/or procedures outlined in the associated Boeing documents.

WJE NOTE: It is the maintenance technicians responsibility to research the aforementioned documents and implement the proper corrosion protection provision at all times. Midwest Airlines' reliability engineering personnel should be contacted with any voids found within these documents. Maintenance technicians are also encourage to notify Midwest Airlines' reliability engineering personnel with any proposed protection enhancements that may preserve the overall structural integrity of the airframe.

WJE

2. Applicable DC-9/MD80 Structural Repair Manual Content

WJE A. Procedure 51-10-3 - Corrosion/Erosion Control and Prevention

WJE

Content
1. Description
2. Factors of Control
3. Effect of Material Selection
4. Effect of Heat Treatment
5. Effect of Geographical Locations
6. Effect of Contamination
7. Definition of Corrosion
8. Surface Corrosion
9. Pitting Corrosion
10. Intergranular Corrosion
11. Exfoliation Corrosion
12. Galvanic or Dissimilar Metal Corrosion
13. Stress Corrosion Cracking
14. Microbial Corrosion

WJE (Continued)

WJE (Continued)

Content
47. Corrosion Removal and Surface Treatment/Finish - Bilge/Keel Area, Longeron 26L to 26R, Forward Pressure Bulkhead to Aft Pressure Bulkhead
48. Sealing in Bilge/Keel Area, Longeron 26L to 26R, Forward Pressure Bulkhead to Aft Pressure Bulkhead
49. Surface Treatment and Finish After Corrosion Removal from Wing Lower Panel Plating
50. Corrosion-Inhibiting Flexible Polysulfide Primer P/S 870 Class C
51. Polishing and Buffing AlClad Leading Edges for Improved Erosion Resistance

B. Procedure 51-10-3B - Exterior Paint Systems

Content
1. General
2. Process “A” - For All Standard Aluminum Decorative Areas
3. Process “B” - For Impact-Resistant Coating Areas (Normally Painted Light Grey) and All Other Exterior Areas Not Included under Process “A”

C. Procedure 51-10-3C - Inspection of Exfoliation Corrosion Around Fastener Holes in Aluminum Wing Skins

Content
1. General
2. Inspection Procedures
3. Rework and Damage Analysis

D. Procedure 51-20-0 - Repair Sealing

Content
1. General
2. Tools and Equipment
3. Repair Sealants
4. Cleaning
5. Removal of Defective Sealant
6. Application of RTV-1200 Primer
7. Preparation of Sealant
8. Application of Sealant
9. Typical Sealing

3. Identification of Corrosion

A. Factors Governing the Incidence of Corrosion

(1) Protection Treatments[1]

(a) The use of protective coatings, sealants, and corrosion preventative compounds is the best method of preventing corrosion. The primary purpose of a protective coating is to act as a barrier, preventing contaminants or moisture from contacting the materials surface.

WJE Prior to the application of any protection coating, an appropriate surface treatment must be applied to ensure good adhesion of the coating.

WJE **4. Detection of Corrosion**

WJE A. Methods of Detection

WJE (1) Visual Detection[1]

WJE (a) Nondestructive testing/inspection (NDT/I) techniques are commonly used for detecting and evaluating corrosion. Technical information concerning the theory, application, and limitations of the various methods (except acoustic emission) is contained within the Boeing DC, MD 717 Non-Destructive Test Standard Practices Manual.

WJE

WJE The General Visual Inspection (GVI) is the primary method used in aircraft maintenance. Such inspections can reveal a variety of flaws or faults, including cracks, change of color, texture, or bulges. A few examples are rust stains, which indicate underlying intergrannular corrosion of the skin; and pitting caused by corrosion. When the inspection area is physically accessible, GVIs are commonly used.

WJE

WJE Sometimes, tools such as magnifying glasses or borescopes are used for further evaluations or for inspection of less accessible areas, respectively. The use of optical instruments in visual inspection is beneficial and is recommended for two reasons: instruments magnify flaws that cannot be detected by the unaided eye, and they permit visual checks of areas not accessible to the unaided eye. However, magnifying devices and lighting aids should be used only when specified. Furthermore, general areas should be checked for cleanliness, presence of foreign objects, security of parts, corrosion, and cracks. In many cases, the area to be inspected should be cleaned prior to examination (see below).

WJE B. Clean Inspection Area

WJE (1) As required, clean areas to be inspected to remove dirt, oil, fluid spills, and foreign debris to facilitate a thorough general visual inspection. Use mild detergent and water or a nonflammable cleaning solvent. Scrub the area using mops, cloths, or nonmetallic bristle brushes. Wipe the area dry using clean cloths. Refer to Midwest Airlines' Engineering Authorization Document (EA) 20-007, Boeing DC-9/MD-80 Structural Repair Manual (SMR), or Boeing MD-80 Aircraft Maintenance manual (AMM) for accepted materials and procedures.

WJE (2) Removal of corrosion inhibiting compound is not required to perform the corrosion inspection when the underlying structure is suitably visible. A light uniform film of corrosion inhibiting compound that has not accumulated dirt or debris will not normally require removal.

WJE

WJE Multiple layers of corrosion inhibiting compound is not required to perform the corrosion inspection of the structure. However, removal of any MIL-S-81733 (non-transparent) corrosion inhibiting compound, which has previously been installed in seat tracks located underneath the lavatories and galleys, is required only if any indication of deterioration exists.

WJE (3) Removal of paint or primer is not normally required only in isolated instances to aid in the further evaluation of a suspected corroded area.

WJE **5. Prevention of Corrosion**

WJE **WARNING:** DO NOT APPLY CORROSION INHIBITING COMPOUNDS TO ANY BALANCED FLIGHT CONTROLS.

WJE **WARNING:** DO NOT APPLY CORROSION INHIBITING COMPOUNDS TO INTERIOR SURFACES OF INTEGRAL FUEL TANKS OR ANY COMPONENTS THAT ARE INSIDE FUEL TANKS.

WJE A. Application of Protective Finishes

WJE (1) Application of Corrosion Inhibiting Compounds

WJE NOTE: For corrosion inhibiting compound (CIC) application purposes, seat tracks are not considered floor support structure.

WJE (a) Except as noted elsewhere within this document, one coat Ardrox AV 8 should be applied whenever the application of a corrosion inhibiting compound is required. AV 8 is a super penetrating, water displacing, corrosion-inhibiting compound that leaves a tack-free film. The viscosity allows very easy application in difficult to reach-areas of the airframe. Spraying using air mix or airless application system should be utilized when applying AV 8. AV 8 can be used in all areas of the airframe, offering good corrosion prevention at very low film weight. this includes interior of fuselage below passenger floor including all pressure panels, bulkheads and floor support structures.

WJE (b) Use of corrosion inhibiting compounds other than Ardrox AV 8 require the approval of Midwest Airlines' reliability engineering personnel prior to application.

WJE (c) If brush application of corrosion inhibiting compound is required, it must be documented in the maintenance corrective action.

WJE (d) Apply corrosion inhibiting compounds in accordance with, SRM 51-10-03, to all reworked or repaired areas, areas where the coating systems may have been removed to facilitate inspections or areas that may show signs of deterioration. Include all pressure panels, bulkheads and floor support structures. See Figures 1 and 2 for additional corrosion inhibiting compound application provisions[2]. (Figure 1)

WJE (e) Ensure all drain holes are open and clear of any corrosion-inhibiting compound after application.

WJE (f) Reinstall doubler dimple plastic sheeting in the lower fuselage below the cusp line, as applicable. The plastic sheeting is to be placed between the fuselage skin and any insulation blankets (pressure areas only).

WJE (g) Reinstall dry insulation. Any wet or damage insulation blankets must be replaced or repaired. Reapply tape to insulation per original installation procedures to prevent moist air from contacting the fuselage structure.

WJE (h) Apply corrosion inhibiting compounds in the following non-pressurized areas:

WJE 1) Aft accessory compartment

WJE 2) Wheel wells

WJE 3) Wing spars (fwd and aft)

WJE 4) All areas covered by wing fillet panels

WJE 5) Lower cargo compartment door jamb

WJE (i) Allow all corrosion inhibiting compounds to dry before reinstalling any removed panels.

WJE (j) Corrosion inhibiting compounds should not be applied in the following areas or on the following components:

WJE 1) Cables, pulleys, wiring, plastics, elastomers or oxygen systems

WJE 2) Lubricated or Teflon surfaces

WJE 3) Areas with electrical arc potential

WJE 4) Interior cloth materials, including cargo liners

WJE 5) Engine cavities, nose cowling, engine cowlings, thrust reverse assemblies, and
WJE engine pneumatic ducts in pylon areas

WJE 6) APU shroud, APU exhaust duct or immediate structure around APU exhaust where
WJE temperatures exceed 220° F.

WJE 7) Wing leading edge anti-ice ducts.

WJE (k) All close tolerance and interference fit fasteners may be installed wet with Ardrox AV 8
WJE corrosion inhibiting compound.

WJE (2) White Epoxy Topcoat

WJE (a) Apply white epoxy topcoat, which meets Douglas Material Specification 2433 or
WJE equivalent, to the following areas:

WJE 1) All repairs and reworked areas where it was used in the original construction of the
WJE airplane.

WJE 2) Seat tracks in the forward and aft lavatory and galley areas.

WJE 3) All cargo tie-down rails. Install fasteners wet with FR primer to each mating surface.
WJE Apply white epoxy topcoat over the fastener head when coating the tie-down rails.

WJE (b) In addition to the hard Anodize per MIL-A-8625, Type III, Class 1, apply FR primer and
WJE white epoxy topcoat to the following galley base attach fittings:

WJE 1) 2301043-any configuration

WJE 2) 8421054-any configuration

WJE 3) 9421054-any configuration

WJE 4) 9421055-any configuration

WJE 5) 9423086-any configuration

WJE 6) 9424086-any configuration

WJE 7) CDSP2004-any configuration

WJE 8) CDSP2018-any configuration

WJE 9) CDSP2019-any configuration

WJE 10) CDSP20169-any configuration

WJE 11) 3881055-any configuration

WJE 12) 3931012-any configuration

WJE 13) 3931016-any configuration

WJE NOTE: To further prevent corrosion to the fittings that have not been pre-drilled,
WJE apply Alodine 1500 and FR primer to mounting hole(s) after the fitting is
WJE located and match-drilled on assembly.

WJE (c) Integral Fuel Tanks

WJE 1) Removed microbial growth and corrosion in accordance with SRM 51-22-01.

WJE 2) Apply Alodine to untreated aluminum reworked areas, repair parts, and apply epoxy
WJE primer.

WJE 3) Reinstall reworked, replacement, or repaired parts using full fay surface sealant. Install all fasteners with PR1422 sealant under the head and fully encapsulate all fasteners.

WJE 4) Apply polyurethane fuel tank coating that meets DMS 1850, or equivalent, reference, to any reworked or repaired areas or to any areas that require touch-up. (SRM 51-22-01)

WJE B. Sealing

WJE (1) Application of Supplemental Sealants

WJE (a) Fastener Sealant[1]

WJE 1) Sealant is applied to a fastener to restrict or contain fluids or gases or to prevent galvanic corrosion when a fastener made of one metal group is installed in a part made of another metal group. The degree of sealing varies with the purpose of the application. Sealant applied between the fastener head and the corresponding mating surface of the structure is intended only to prevent corrosion and not to stop leakage.

WJE 2) For completely sealed (wet-installed) bolts, screws, and pin-type fasteners (Figure 3) sealant is applied into the fastener hole, under the fastener head, on both sides of all washers, and between the nut and its mating surface; this sealing method is intended to prevent leakage and provide corrosion prevention. (Figure 2)

WJE 3) Encapsulating fasteners (covering the ends of installed fasteners with sealant or sealant-filled caps) prevents abrasion and corrosion but is not intended to provide a fluid or pressure seal except where rivets cannot be oriented properly to effect a sealed condition.

WJE 4) Interference fit fasteners and rivets produce metal-to-metal contact (seal) between the fastener (rivet) shank and the corresponding bearing surface of the attachment hole; therefore, no sealant is required to effect a seal.

WJE a) Reassemble and install reworked or new parts using a thin layer of faying surface sealant and install all bolts, screws, and non-interference fit pin-type fasteners using wet PR1422 or P/S 870 sealant. (SRM 51-20-00, and Figure 2)

WJE b) When installing flight/passenger and cargo compartment floor panels in accordance with FLIGHT AND PASSENGER COMPARTMENT FLOOR PANELS - MAINTENANCE PRACTICES, PAGEBLOCK 53-20-01/201 and LOWER CARGO COMPARTMENT PANELS - MAINTENANCE PRACTICES, PAGEBLOCK 25-52-01/201, it is acceptable to utilize either of the following sealants where Douglas Process Standards (DPS) 5941 and/or Douglas Material Specification (DMS) 2407 are specified:

WJE <1> PR 1428 Low Adhesion Sealing Compound (DMS 2410). PRC-DeSoto International, 11601 United Street, Mojave, CA 93501.

WJE <2> AC-632 Polysulfide Aluminum Sealant (DMS 1819). Advanced Chemistry & Technology, 7341 Anaconda Avenue, Garden Grove, CA 92841.

WJE <3> PR 1773 Corrosive Inhibiting Access Door Sealant (DMS 2410). PRC-DeSoto International, 11601 United Street, Mojave, CA 92841.

WJE NOTE: DPS 5941 was superseded by DMS 2407 and DPM 6535 has replaced DMS 2407. Futhermore, The Boeing Company has indicated that DMS 2410 and/or DMS 1819 may be substituted in lieu of DPM 6535.

WJE NOTE: PR 1428 Class B-1/2 and B-2 is no longer available for purchase certified to the MIL-S-8784 specification requirements. However, PR 1428 Class B-1/2 and B-2 still satisfies the requirements outlined in DMS 2410 and therefore, is approved for use on all MD-80 style aircraft.

WJE c) Under galley, lavatory, and entry areas, the seat tracks are filled with a corrosion inhibiting compound[1]. When corrosion protecting seat tracks it is acceptable to utilize the following corrosion inhibiting sealant where DPM 5896-2 (MIL-S-81733 Type II) is specified: (SRM 53-20-01)

WJE <1> Cor-Ban 27L Non-Curing, Corrosion Inhibiting Compound (DPM 6498). Zip-Chem Products, 400 Jarvis Drive, Morgan Hill, CA 95037.

WJE d) The following sealants are acceptable for use in sealing applications where DMS 1819 sealant is called out in the Maintenance Manual:

WJE <1> PR 1826 B-1/4 or PR 1826 B-1/2 Rapid Cure. Polythioether Sealant, PRC-DeSoto international, 11601 United Street, Mojave, CA 93501. PR 1826 Adhesion Promoter is recommended with this product.

WJE <2> PR 1828 Class B Rapid Curing Fuel Tank Sealant (DPM 6407). PRC-DeSoto international, 11601 United Street, Mojave, CA 93501.

WJE e) The following sealant is acceptable for use in fillet sealing applications where PR 1422 sealant is called out in the Maintenance Manual:

WJE <1> PR 1435 Quick Repair, Aircraft Integral Fuel Tank Sealant. PRC, 5454 San Fernando Road, Glendale, CA 91203.

WJE <2> PR 1426 or PR 1426MD (without adhesion promoter) Quick Repair, Low Temperature Curing, Sealing Compound (DPM 5952). Courtaulds Aerospace Inc., Glendale, CA 91203.

WJE <3> PR 1826 B-1/4 or PR 1826 B-1/2 Rapid Cure. Polythioether Sealant (DPM 6407), PRC-DeSoto international, 11601 United Street, Mojave, CA 93501.

WJE <4> PR 2001 B-1/2 Class B Rapid Curing Fuel Tank Sealant. Bergdahl Associates, Inc., 2990 Sutro Street, Reno, NV 89512 (Applicable to slant pressure panel applications only. Reference MD-80 Aircraft Maintenance Manual Chapter 51-10-01.

WJE f) It is acceptable to use the following material substitution in all applications/ repairs that specify PR 1431:

WJE <1> P/S 870 corrosion inhibitive sealant - Class B (for application by extrusion gun or spatula) or Class C (for application by roller of faying surface sealing applications).

WJE g) Ensure the forward, middle and aft cargo door jamb internal scuff plate assemblies are fay surface sealed in accordance with DPS 2.590-4, Section 4.155. Apply fillet seal around the periphery of the forward, mid and aft cargo compartment internal scuff plates in accordance with the procedures outlined in DPS 2.50. Prior to fillet seal application, apply two coats of DPM 3494 mold release to the associated cargo floor panels per DPS 2.50.

WJE h) Douglas All Operator Letter (AOL) 9-1705, dated April 10, 1986, indicates the manufacturer discovered aluminized sealant had inadvertently been applied over a 0.13-inch drainage gap at Longeron 19 and Stations Y=693.000 (center cargo doorjamb) and Y=1212.000 (aft cargo doorjamb). Effective to production MD-80 aircraft fuselage numbers 1336 and subsequent, the opening on both the center and aft cargo headers was left open to allow adequate drainage of the associated areas. This change is depicted on both Boeing Drawing 5930483 (Zone 45, View AM) and Boeing Drawing 5930481 (Zone 42, Section AL-AL). In an effort to prohibit corrosion, ensure sealant is removed from these locations in accordance wit the aforementioned Boeing Drawings.

WJE i) Ensure that all cargo compartment door frame structure is sealed as follows:

WJE <1> All external fastener nuts in the cargo compartment lower doorframe jamb structure beneath the doorsill are encapsulated with PR 1422 or P/S870 sealant.

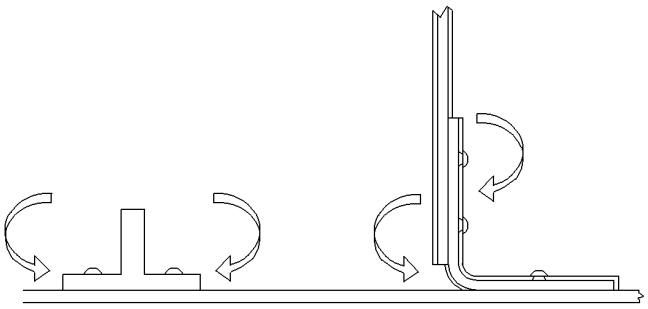
WJE <2> The doorsill scuff plate attach screws (internal and external) are installed wet with PR 1422 or P/S870 sealant. (SRM 51-20-00)

WJE **6. References**

WJE A. Reference Documents

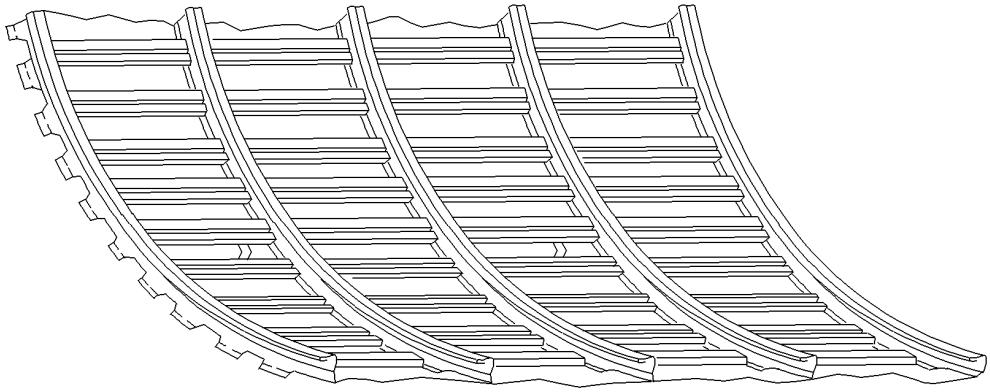
WJE • [1]McDonnell Douglas, 1989, Corrosion Control Handbook, Report MDC K0805, Revision Letter A

WJE • [2]Chemetall GmbH - Aerospace Technologies. Technical Marketing Corrosion Protection Slides - Ardrox AV CICs



1. APPLY CIC TO HIDDEN AREAS FIRST
2. APPLY SUFFICIENT CIC TO PENETRATE INTO CRACKS AND CREVICES
3. TREAT GENERAL AREAS

FIGURE 1



1. APPLY ARDROX AV 8 CIC UNDER LONGERONS
2. APPLY ARDROX AV 8 CIC ON TOP OF LONGERONS
3. APPLY ARDROX AV 8 CIC ON FRAMES
4. APPLY ARDROX AV 8 CIC LIGHTLY OVER REMAINING AREAS

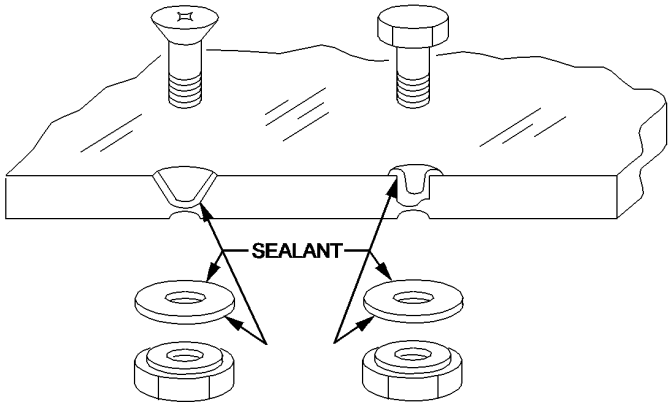
FIGURE 2

BBB2-51-8
S0000296166V1

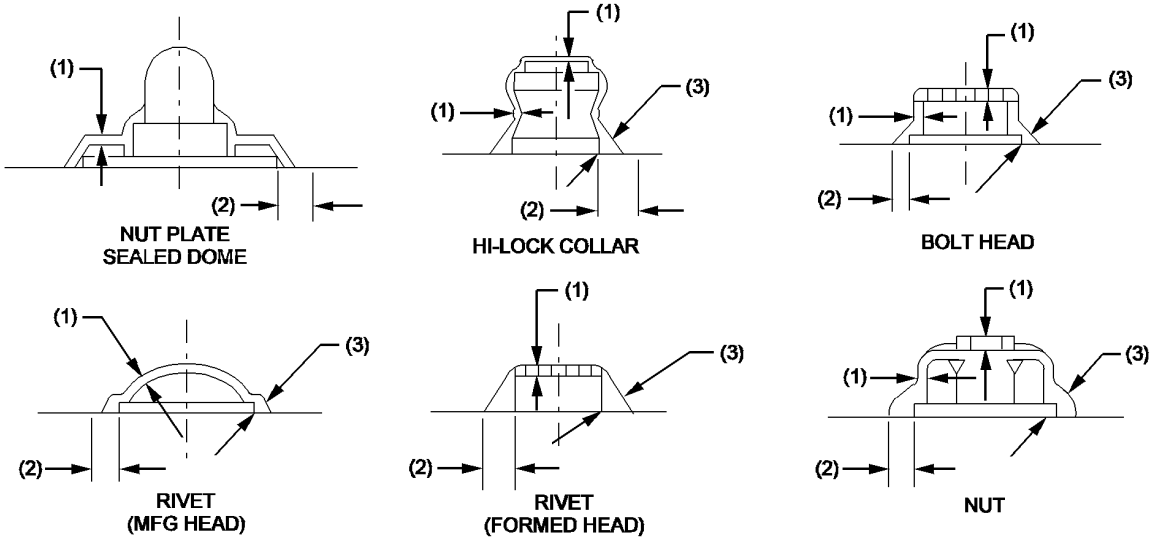
WJE
WJE

CIC Application Guidelines
Figure 1/51-30-00-990-801

BOLTS, SCREWS, AND NON-INTERFERENCE FIT PIN - TYPE FASTENERS - COMPLETE SEALING (WET INSTALLED METHOD) TYPICAL



ENCAPSULATING FASTENER ENDS WITH SEALANT



NOTES	SEALANT THICKNESS (IN MINIMUM)
(1)	0.005 TO 0.010
(2)	0.015 TO 0.020
(3)	0.030 TO 0.035

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Wet Installation and Encapsulation of Fasteners
Figure 2/51-30-00-990-802