CHAPTER

52

DOORS

CHAPTER 52 - DOORS
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CHAPTER 52 - DOORS
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DOORS - DESCRIPTION AND OPERATION

1. General (Ref. Fig. 1)

   A. The airplane doors comprise:

   – a two-piece cabin door located on the left side of the airplane immediately to the rear of the flight compartment (Refer to 52-11-00 and 52-12-00)
   – an emergency exit door located on the right side of the airplane immediately to the rear of the flight compartment (Refer to 52-20-00)
   – a baggage compartment door located on the left side of the rear fuselage to the rear of the main wing (Refer to 52-30-00)
   – various service and access doors (Refer to 52-40-00)
   – landing gear doors located on the lower surface of the airplane nose and on each side of the fuselage under the wing root area (Refer to 52-80-00).

   B. A door warning system is provided to give indication of cabin door or baggage compartment door unlocked (Refer to 52-72-00).

   C. For information about the cabin door seal refer to 52-18-00.

2. Description

   A. Cabin Door

   The two-piece cabin door is an aluminum riveted fabrication which forms part of the pressurized cabin. The inner skin of the upper part of the door has access holes to give access to the mechanism and lockpins for maintenance. The lower part of the door has two access panels, attached with bolts, which give access to the mechanism, and four small hinged doors which give access to the lockpins. The inner skins of both parts of the door are covered with furnishing/trim panels which must be removed for maintenance (Refer to 25-20-00).

   B. Emergency Exit Door

   The emergency exit door is an aluminum riveted fabrication which forms part of the pressurized cabin. The door incorporates a cabin window and the inner skin has access holes to give access to the mechanism. The inner skin is covered by a furnishing/trim panel which must be removed for maintenance (Refer to 25-20-00vv).

   C. Baggage Compartment

   Door The baggage compartment door is a composite sandwich construction made up of a rohacell core with graphite/epoxy fabric skins.

   D. Service and Access Doors

   The service and access doors are all aluminum fabrications.

E. Landing Gear Doors

The landing gear doors are all of composite sandwich construction made up of a nomex-honeycomb core with graphite/epoxy fabric skins. Metal attachment points for the door operating rods are mechanically fastened to the structure of the doors.

F. Door Warning System

The Description of the door warning system is given in 52-70-00.

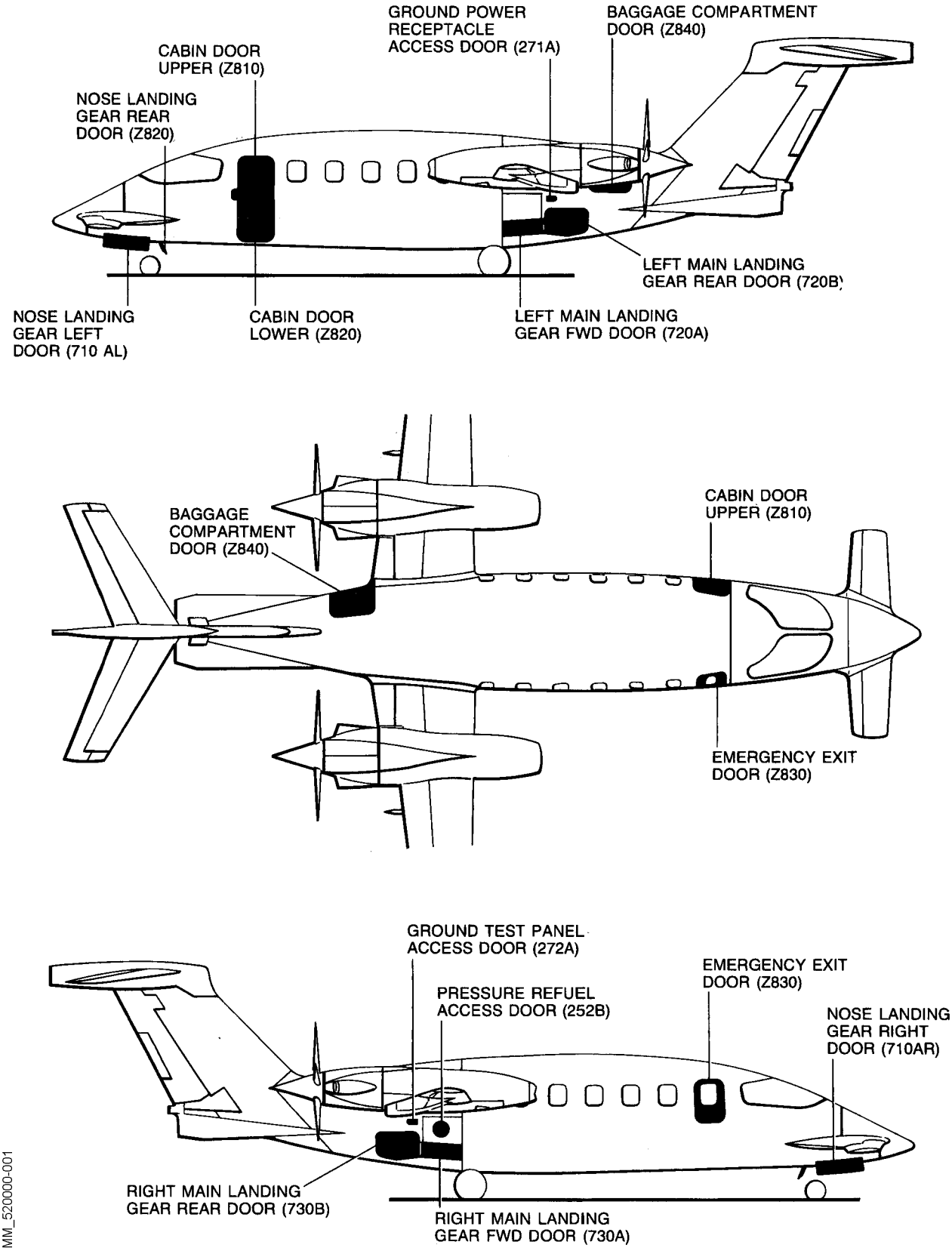

Fig. 1 - Doors - Location

3. Operation

A. Cabin Door Lower (Ref. Fig. 2)

The cabin door lower opens down, on a piano hinge attached to the door frame structure, to provide a step for boarding the airplane. The door is supported in the open position by two cables which spool from self-winding drums located inside the door structure.

The door locking mechanism is operated by a handle located between the steps on the inner face of the door. The handle is moved rearwards to unlock and forwards to lock and is retained in either position by a pip-pin which is attached to the handle.

The shaft of the handle is connected to a center link which transmits the movement via rods and cranks to the four lockpins. When the door mechanism is in the locked position, the cranks go overcenter to give the mechanism a geometric lock. As a precaution against the mechanism moving due to vibration (if the handle shaft is accidentally sheared), each crank is biased to its locked (overcenter) position by a spring. The cranks carry indicators, which can be seen through two windows located in the door interior covering, to give a visual check that the door is correctly locked.

As the door moves up to the shut position, the two support cables spool into the self-winding drums. The forward cable has a knob which can be used to pull the door shut from inside the airplane. When the door is shut and locked, the four lockpins go into strongpoints in the door frame structure and, when fully engaged, depress the microswitches of the door warning system.

A ratchet-type catch, installed on the door frame, retains the door in the shut position and must be released manually to open the door.

A seal installed along the top edge of the door provides the pressure seal between the lower and upper doors. To avoid damage to the seal, and to the door structure, the cabin door lower must be shut before you shut the cabin door upper.

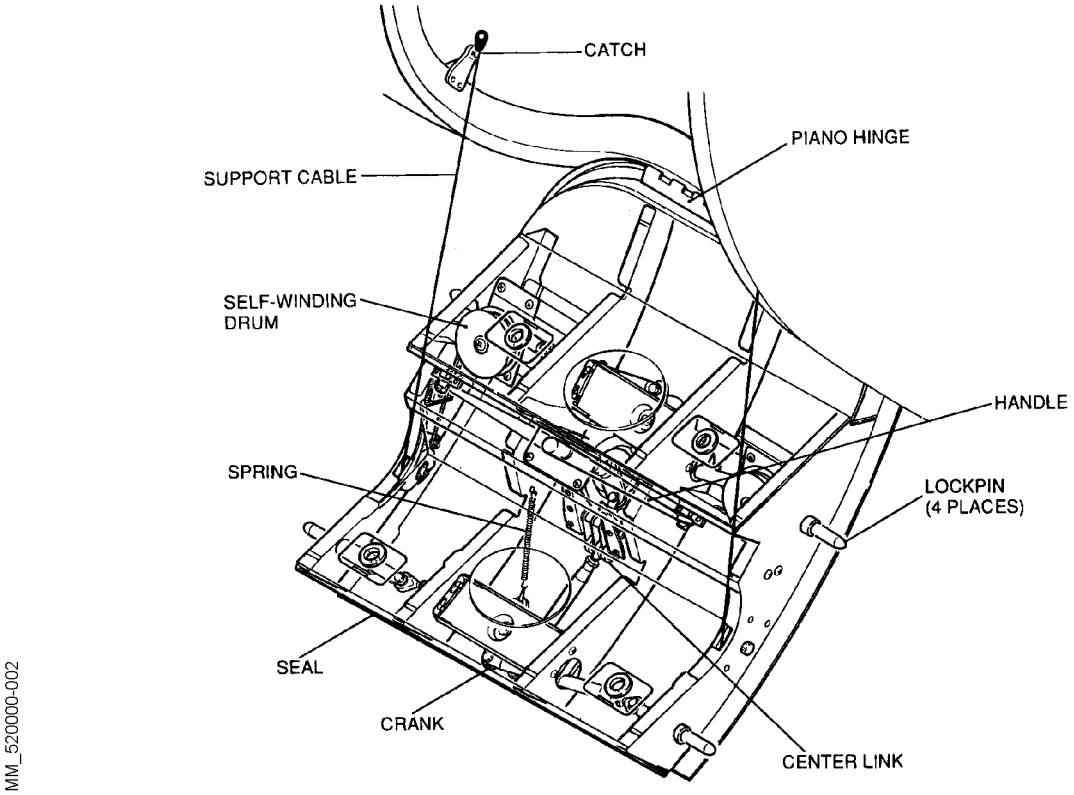

Fig. 2 - Cabin Door Lower - Description and Operation

B. Cabin Door Upper (Ref. Fig. 3)

The cabin door upper is hinged, at the forward edge, to the door frame structure. The hinge incorporates a latch which holds the door in the fully open position. The latch must be manually released before shutting the door.

The door has interior and exterior handles which operate the locking mechanism independently. The interior handle is moved fully forwards to open the door. To lock the door, the handle is moved fully rearwards and then returned to the center (STOW) position and locked in that position by a spring-loaded latch. The handle shaft turns a center crank which transmits the movement, via rods and cranks to seven lockpins. When the mechanism is in the locked position the cranks go overcenter to give the mechanism a geometric lock. As a precaution against the mechanism moving due to vibration, each crank is biased to its locked (overcenter) position by a spring. Indicators on the mechansim can be seen through three windows in the door interior covering to give a visual check that the mechanism is correctly locked.

The exterior handle turns the same center crank as the interior handle but is completely independent so that the door can be opened from the outside when the interior handle is locked in the STOW position. The exterior handle is moved up to

unlock and down to lock, and is then returned to the center position where it is stowed in a recess in the door.

When the door is shut and locked, the seven lockpins go into strongpoints in the door frame structure and, when fully engaged, depress the microswitches of the door warning system and the valves of the door seal inflation system. To avoid damage to the door structure, the cabin door lower must be shut and locked before you shut the cabin door upper.

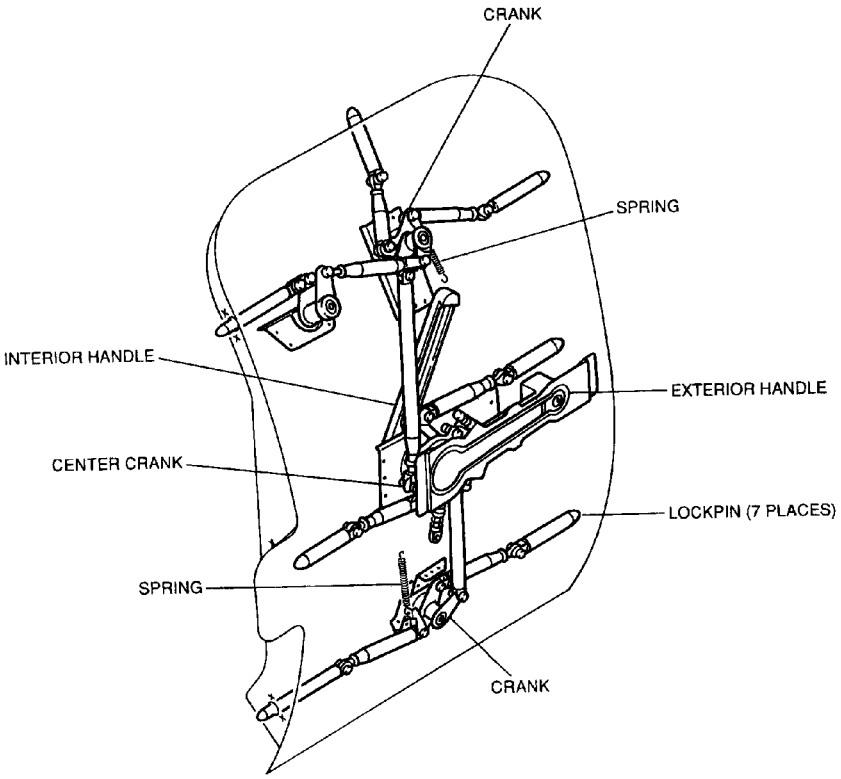

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Fig. 3 - Cabin Door Upper - Description and Operation

C. Emergency Exit Door

The emergency exit door is a plug type door retained in the fuselage structure by two fixed pins at the top and one retractable pin at the bottom.

The door has interior and exterior operating handles which retract the bottom pin by moving links inside the door. The door can then be pulled inwards at the bottom to disengage the top pins.

A rubber seal around the door forms a pressure seal between the door and frame.

D. Baggage Compartment Door

The baggage compartment door is hinged at the top and has one exterior operating handle. The handle operates two lockpins via a center crank and two rods. When shut and locked, the lockpins go into strongpoints in the baggage door frame structure and depress the microswitches of the door warning system.

E. Service and Access Doors

The various service and access doors are hinged doors retained by quick release catches or fasteners.

F. Landing Gear Doors

The landing gear doors are hinged doors mechanically connected to the landing gear by rods. The operation of the landing gear doors is given in Chapter 32-00-00.

G. Door Warning System

The door warning system comprises a system of 13 microswitches operated by the door lockpins. If any one of the door lockpins is not fully engaged in the door frame structure, a red warning caption on the flight-compartment annunciator-panel comes on. The complete Operation of the door warning system is given in 52-70-00.

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CABIN DOOR LOWER - MAINTENANCE PRACTICES

1. General

A. The cabin door lower is attached to the door frame structure by a hinge assembly attached to the bottom edge of the door structure. Two cables support the door in the open position. The locking mechanism comprises four lockpins operated, via a system of adjustable rods and cranks, by an interior handle. Each crank must be in an overcenter position when the door is shut. Springs hold each crank in the locked (overcenter) position.
On the lower door a seal with a series of holes that are in contact whit cabin when both, upper and lower, cabin doors are closed, is installed. During cabin pressurization, the air inflate the seal through the holes and this flow maintains the proper pressurization.

2. Cabin Door Lower - Removal (Ref. Fig. 201)

A. Procedure

(1) Open the cabin door.
(2) Support the cabin door lower.
(3) Remove the nut (1) and washer (2) attaching the forward support cable to the bracket.
(4) Remove the pin (5) and washers (3, 4) to disconnect the cable. Note the position of the washers (3, 4) for re-installation.
(5) Allow the cable to retract into the door.
(6) Remove the nut (11) and washer (10) attaching the rear support cable to the bracket.
(7) Remove the screw (6) bushing (7) and washers (8, 9, 12) to disconnect the cable. Note the position of the washers (8, 9, 12) for re-installation.
(8) Allow the cable to retract into the door.
(9) Remove the nuts (13), washers (14) and bolts (16) attaching the stop (15) to the door and remove the stop.
(10) Use a thin punch to remove the roll pins (17) from the hinge.
(11) Use a thin punch to remove each hinge pin from the hinge by carefully tapping it towards the center of the hinge. When the hinge pin protrudes sufficiently, use pliers to pull the hinge pin through the hinge.
(12) Remove the cabin door lower.

3. Cabin Door Lower - Installation (Ref. Fig. 201)

A. Referenced Information

Maintenance Manual Chapter 52-70-00

B. Procedure

(1) Put the door in the correct position for installation.
(2) Install a new roll pin (17) in each end of the hinge.

(3) Push the hinge pins through the hinges, from the center, until they touch the roll pins.
(4) Install the stop (15) using the bolts (16), washers (14) and nuts (13).
(5) Connect the forward support cable to the bracket using the pin (5) and washers (3, 4).
(6) Install the washer (2) and nut (1) to the pin (5).
(7) Connect the rear support cable to the bracket using the screw (6) bushing (7) and washers (8, 9, 12).
(8) Install the washer (10) and nut (11) to the screw (6).
(9) Make sure the door locking mechanism operates correctly and each lockpin has a minimum extension of 1.12 in (28.57 mm).
(10) Do a test of the door warning system (Refer to 52-70-00).

4. Cabin Door Lower - Adjustment (Ref. Fig. 202)

A. Materials

Lockwire	04-008

B. Referenced Information

Maintenance Manual Chapter 25-20-00
Maintenance Manual Chapter 52-70-00

C. Procedure

(1) Open the cabin door.
(2) Remove the floor covering from the cabin door lower (Refer to 25-20-00).
(3) Remove the two circular access panels from the door.
(4) Remove the nut (7), bolt (15) and washer (8) and disconnect the rods (6, 9, 18) from the link (14).
(5) Temporarily re-connect the rod (6) to the link (14) using the bolt (15).
(6) Move the handle (16) from the open position to the closed position and make sure that the link (14) has full and free movement and will not touch the skin panel in the closed position. If necessary, loosen the locknut and adjust the rod (6).
(7) Put the handle (16) in the door closed position and install the pin (17).
(8) Position the crank (11) at the correct angle. The angle is correct when the centerlines of the lockpin rods are between 0.12 in (3 mm) and 0.20 in (5 mm) apart (Fig. 202 DIMENSION Y).
(9) Loosen the locknut and adjust the rod (9) until the bolt (15) can be installed.
(10) Position the crank (3) at the correct angle. The angle is correct when the centerlines of the lockpin rods are between 0.12 in (3 mm) and 0.20 in (5 mm) apart (Fig. 202 DIMENSION X).
(11) Loosen the locknut and adjust the rod (18) until the bolt (15) can be installed.
(12) Install the washer (8) and nut (7) to the bolt (15).
(13) Measure the extension of the lockpins (1). Make sure that each lockpin protrudes a minimum of 1.12 in (28.57 mm) from the pin guide (2). If any lockpin protrudes less than the minimum, loosen the locknut on the lockpin

operating rod and turn the lockpin to increase the extension. Tighten the locknut.

(14) Remove the pin (17) and move the handle (16) to the open position. Make sure that the tip of each lockpin (1) protrudes a maximum of 0.08 in (2 mm) from the pin guide (2). If any lockpin protrudes more than the maximum, loosen the locknut on the lockpin operating rod and turn the lockpin to decrease the extension. Tighten the locknut.

(15) Move the handle (16) to the closed position and do step (13) again.

(16) Make sure all locknuts are fully tight.

(17) Safety the locknuts with lockwire.

(18) Loosen the attaching bolts and adjust the indicators (5, 12) to align the green lines in the fully closed position. Tighten the bolts.

(19) Remove all tools and equipment from the door. Make sure the interior of the door is clean.

(20) Install the two access panels.

(21) Install the floor covering to the door (Refer to 25-20-00).

(22) Do a test of the door warning system (Refer to 52-70-00).

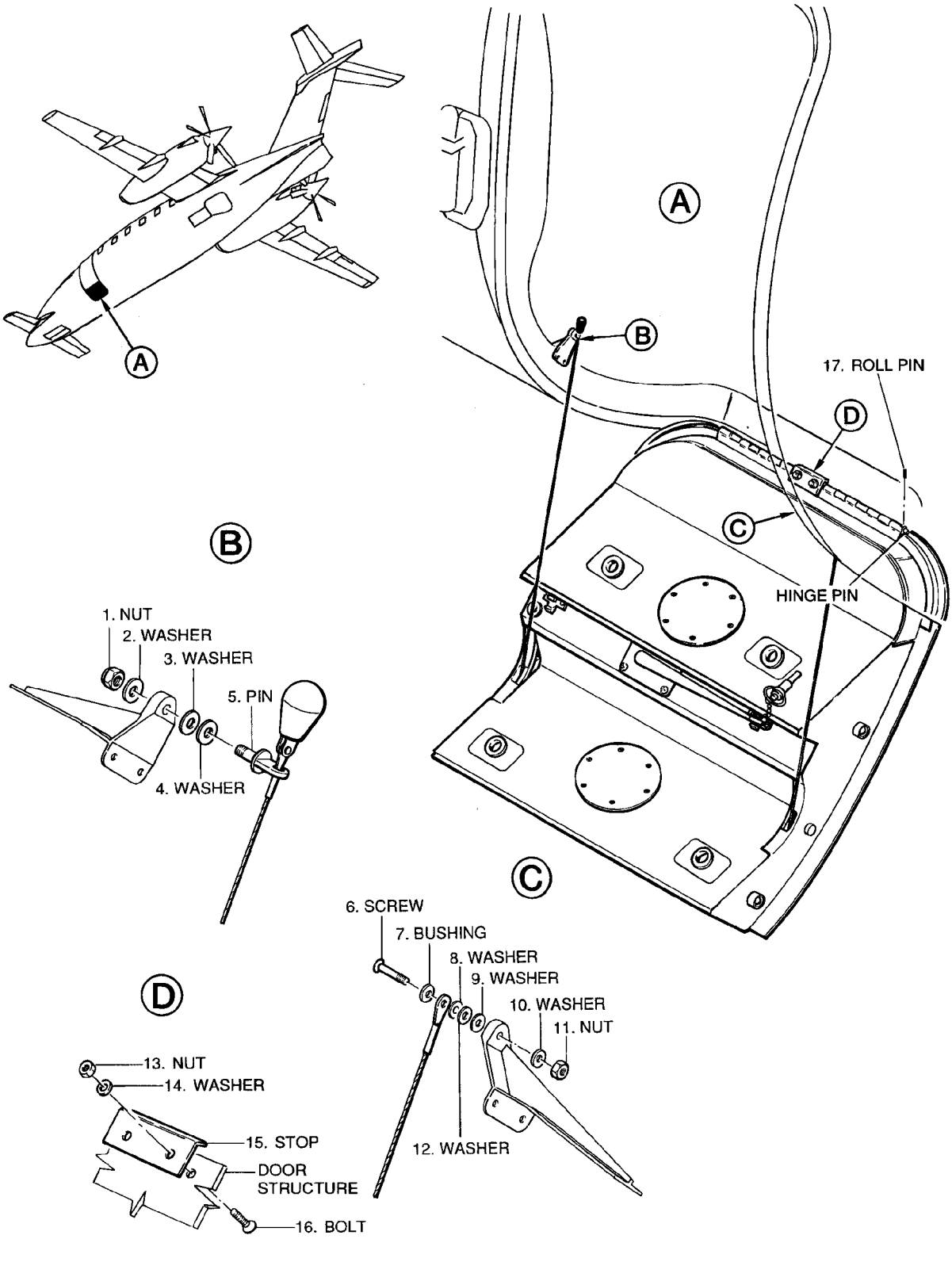


Fig. 201 - Cabin Door Lower - Removal/Installation

5. Cabin Door Lower - Inspection (Ref. Fig. 202)

A. Fixtures, Test and Support Equipment

Strong light source	Not specified
Mirror	Not specified

B. Referenced Information

Maintenance Manual Chapter 25-20-00

C. Preparation

(1) Open the cabin door.
(2) Remove the floor covering from the cabin door lower (Refer to 25-20-00).

D. Inspect the cables and hinge

(1) Examine the cables for:
- Damage and kinks
- Excessive wear
- Corrosion
- Broken wires.

(2) Make sure the cables retract smoothly when the door closes.
(3) Make sure the cables spool out smoothly when the door opens.
(4) Examine the hinge assembly for:
- Damage and distortion
- Excessive wear
- Corrosion
- Security of attachment.

(5) If necessary, repair or replace any defective parts.

E. Inspect the linkage

(1) Use a strong light source and mirror to examine the mechanism inside the door for:
- Damage and distortion
- Corrosion
- Correct safety locking of the adjustable rods
- Make sure the cranks are overcenter when the mechanism is in the locked position
- Security of attachment of the crank overcenter springs.

(2) Operate the mechanism and check for free movement of the cranks and rods.
(3) Examine the handle for:
- Damage and distortion
- Corrosion
- Correct installation.

(4) If necessary, repair or replace any defective parts.

F. Completion

(1) Install the floor covering to the cabin door lower (Refer to 25-20-00).

6. Cabin Door Lower - Check Lockpin Extension (Ref. Fig. 202 of this Sub-Chapter and Fig. 202 of Section 52-12-00)

A. Procedure

(1) Open the cabin door.
(2) Set the handle to the open position.
(3) Make sure all the lockpins (1) extend no more than 0.08 in (2.0 mm) beyond the level of the pin guides (2).
(4) Set the handle to the locked position.
(5) Measure the extension of each lockpin from tip to pin guide surface. Minimum extension is 1.12 in (28.57 mm).
(6) If any lockpin has less than minimum extension, adjust the mechanism (Refer to Para. 4).
(7) Check the pins overcenter as follows:
(a) Using a gauge and with the lower door open measure the maximum extension of the pin D1, then measure the overcenter. The measure must be more than 0.15 mm.
(b) Repeat the step (a) on the pin D2. The measure must be more than 0.15 mm.

7. Cabin Door Lower - Check Overcenter

A. Procedure

(1) Open the door.
(2) Move slowly the lower door internal handle to close position and check that every pins, after the mechanism overcenter position has been reached, slightly come back.
(3) After the closed position has been achieved push gently the pins and verify that they are blocked.

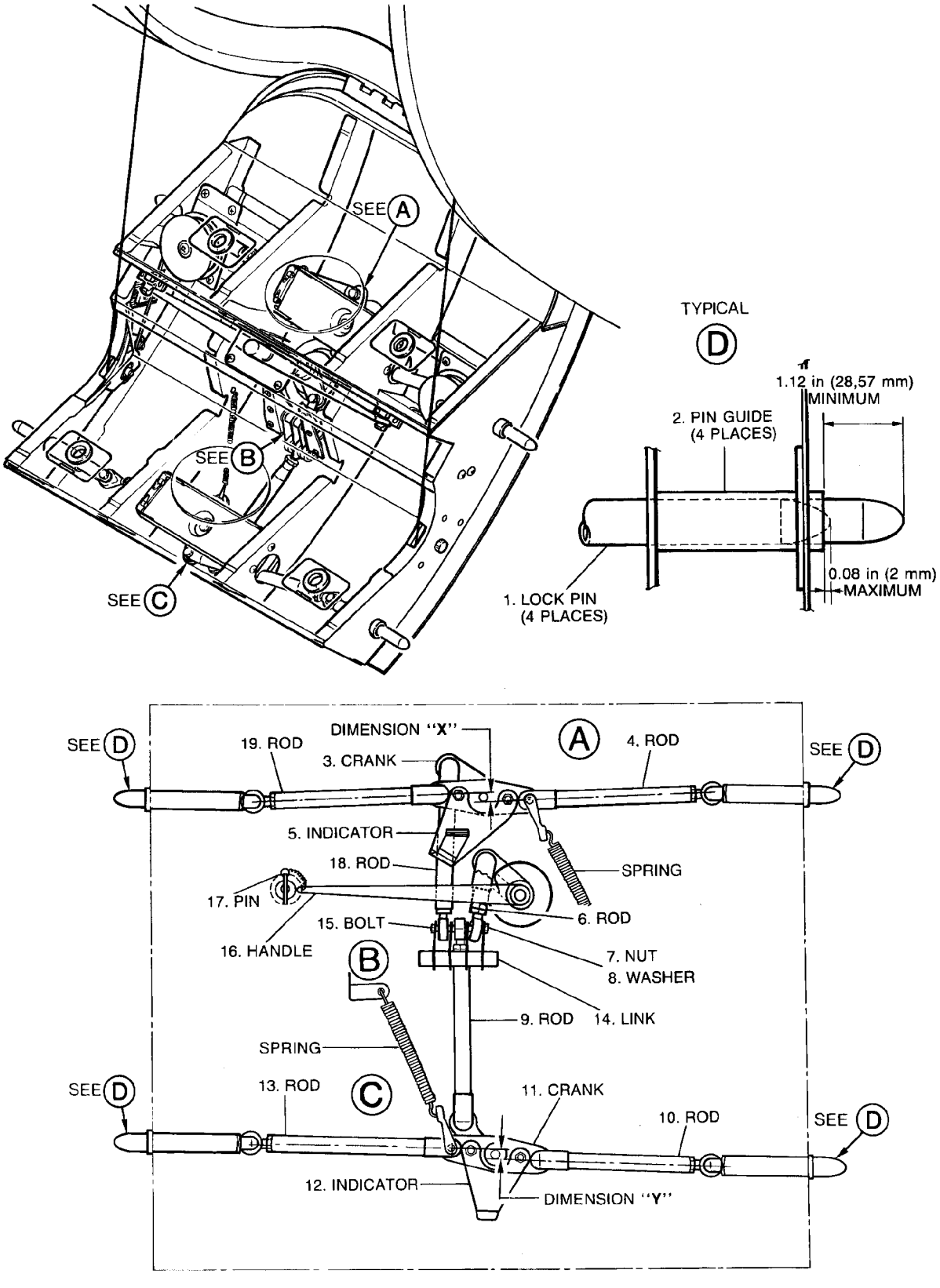


Fig. 202 - Cabin Door Lower - Adjustment

8. Lower Door Cable - Removal / Installation(Ref. Fig. 203)

A. Procedure

B. Fixtures, Test and Support Equipment

Portable Hand Swaging Machine Tool	Tool that conforms to MIL-S-6180, suitable for galvanized and stainless steel cables, 3/32 inches.

(1) Open the Lower Door Cable RH/LH Access Panel.

NOTE: If the broken cable is directly in sight, it shall be used to install the new one as per procedure from steps (a) to (c).

(a) Connect the new cable to the broken end.
(b) Pull out the cable from the reel assy (1) and disconnect the cable end from the attachment point (2).
(c) Connect a piece of electrical wire to the reel assy (1) in correspondence of the attachment point (2) to keep the spring compressed and allowing an easier installation of the new cable.

(2) Cut the old broken cable near the ball end (4) and connect the new cable to the other end of the old one.
(3) Pull the cable through the plate (5) and then pull it out around the pulley groove (7), in the working position.
(4) Make sure the reel assembly (1) properly compresses the spring.
(5) Lock the cable end (2) to the reel assy (1).
(6) Release the reel assy and check that the cable is prolperly wrapped around the groove.
(7) Check that the Cable Plate (5) is installed in middle position to ensure the proper adjustment of the cable lenght.
(8) Place a weight of approximately (25 to 30 Kg) at the central position of the door ower step to produce a minimum tension which is necessary to obtain the correct cable lenght.
(9) Pull gently the cable by hands to position the ball (4) in contact with the plate (5) and measure the cable lenght (ouside from the end of the cable end).

NOTE: If the cable is protected by a sheat, this last one must be removed in the part to be cut.

(10) Cut the cable.
(11) Insert the Lower Door Cable in the Eye Bolt (6).
(12) Insert the Lower Door Cable into the Cable End (3) and clamp it with the Portable Hand Swaging Machine Tool.
(13) Install the cable end on the handle and/or the support.
(14) Adjust the cable plate to maintain horizontal the step, if necessary.

NOTE: Check that the cable tension of both cables is the same.

(15) Check the cable tension and adjust the plate, if necessary.

(16) Adjust the cable end of cable assy as follows:

(a) Check the proper cable end alignment in direction of the axial stress. The handle should be freely rotated. When the nut (8) is tightened, verify that the Eye Bolt (6) is free to turn.

(17) Adjust the cable end of cable assy as follows:

(a) Check the proper cable end alignment in direction of the axial stress. When the nut (9) is tightened, verify that the Screw (10) is free to turn.

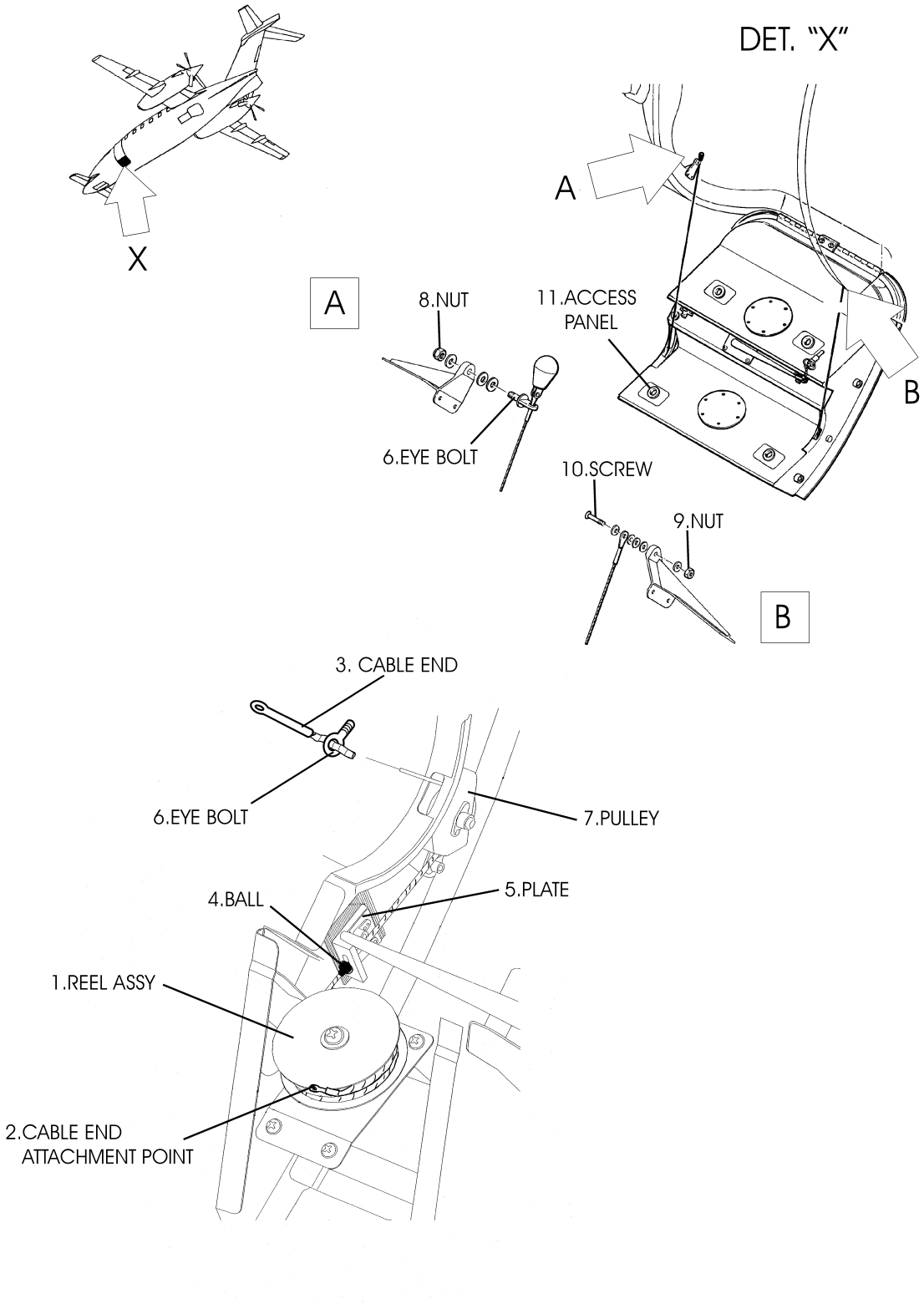


Fig. 203 - Lower Door Cable - Removal / Installation

9. Lower Cabin Door Seal - Removal(Ref Fig. 204)

A. Materials

Methyl-Ethyl-Ketone (MEK) solvent	02-009
Lint-free cloth	04-013

B. Referenced Information

Maintenance Manual Chapter 20-00-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(1) Strip the paint and remove the adhesive from the Seal Retainer (2) to gain acces to the screws.
(2) Remove the screw (4) that secure the Seal Retainer (2) to the Lower Door.
(3) Remove the Seal Retainer and the Seal (3).
(4) Remove all old adhesive from the Lower Door using MEK and a lint-free cloth.

10. Lower Cabin Door Seal - Installation(Ref. Fig 204)

A. Materials

Methyl-Ethyl-Ketone (MEK) solvent	02-009
Lint-free cloth	04-013
Adhesive	06-007
Sealant	06-005
Seal Plugs	80-151117-003

B. Referenced Information

Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 21-00-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE MEK AND ADHESIVE. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(1) Make sure that the contact surfaces are free of adhesive and clean.
(2) Thoroughly clean the new seal with MEK and a lint-free cloth.
(3) Insert the Seal Plugs (1) at the Seal ends.
(4) Apply a thin coat of adhesive on the seal place on the lower door.
(5) Place and hold the Seal (3) in its proper position on the lower cabin door.

NOTE: Make sure that the seal holes are aligned and in correct position.

(6) Apply the sealant on the Seal Retainer (2) facing the Seal (3)and the door.
(7) Place the Seal Retainer (2) on the seal and in contact with the Lower Door.
(8) Secure the Seal Retainer with Screws (4).
(9) Make sure that the Holes on the Seal are free of moisture.
(10) Perform a Cabin Pressurization Test Refer to 21-00-00).

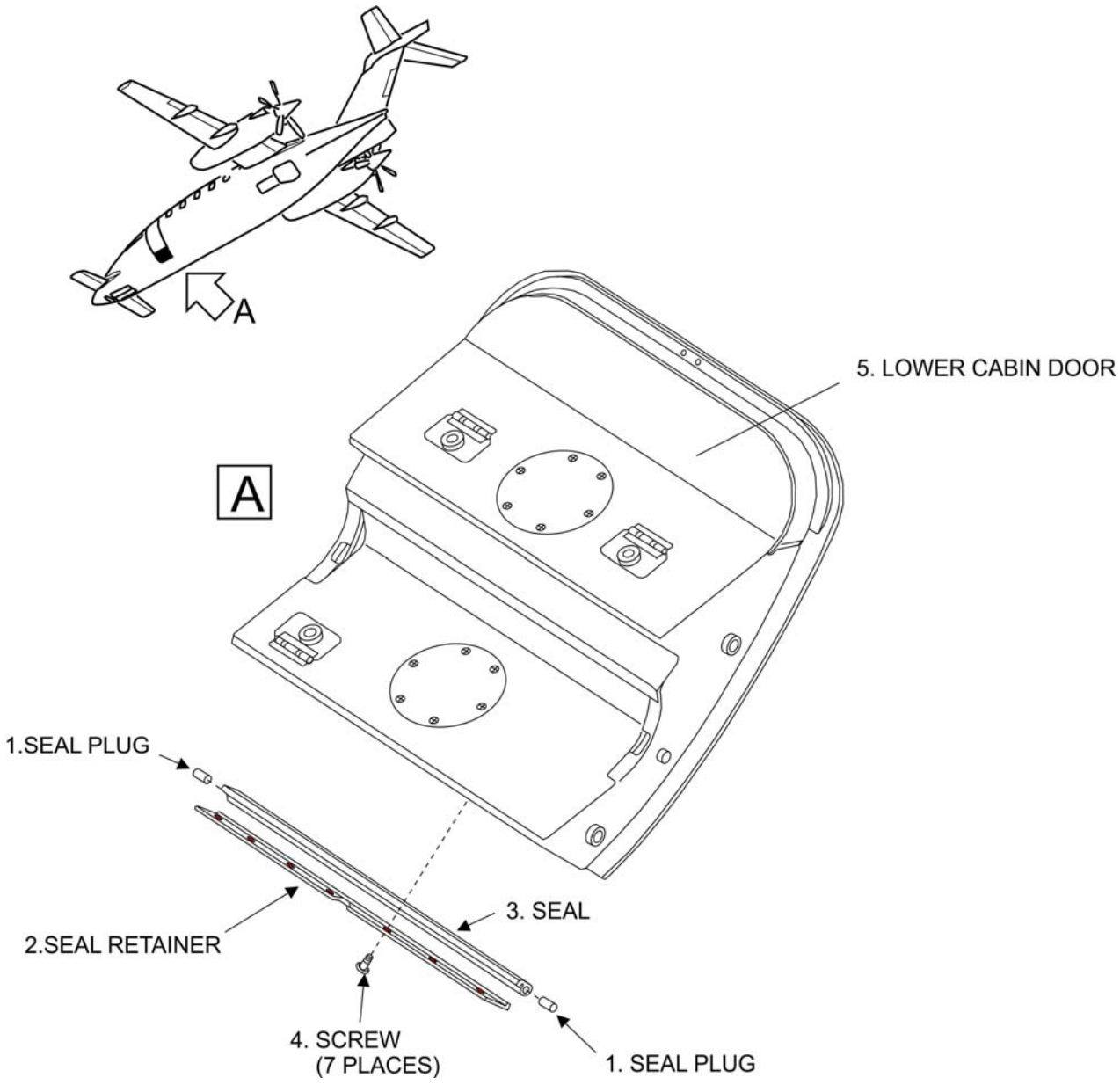
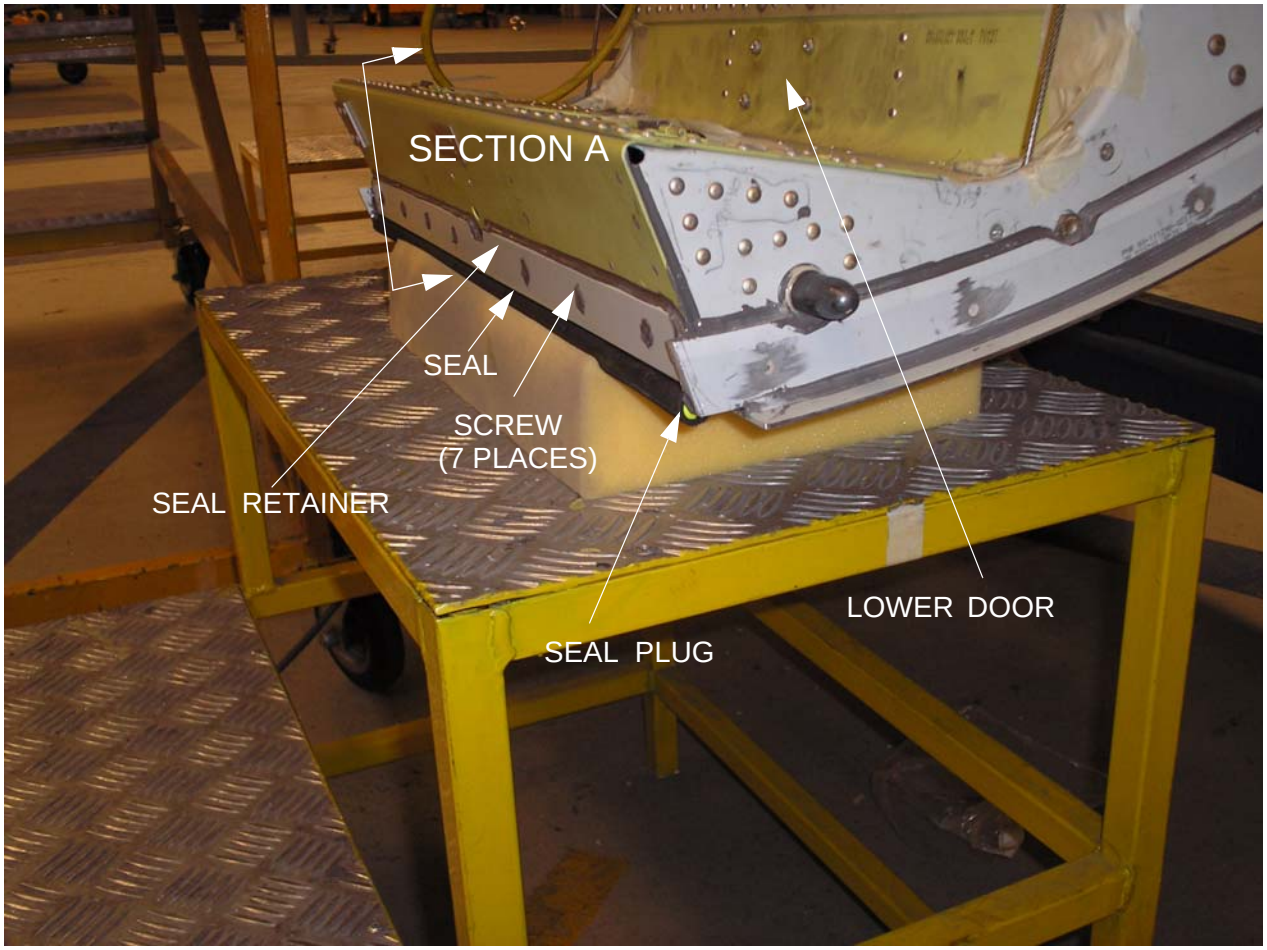


Fig. 204 - Cabin Lower Door Seal - Removal / Installation (Sheet 1 of 3)

Fig. 204 - Cabin Lower Door Seal - Removal / Installation (Sheet 2 of 3)



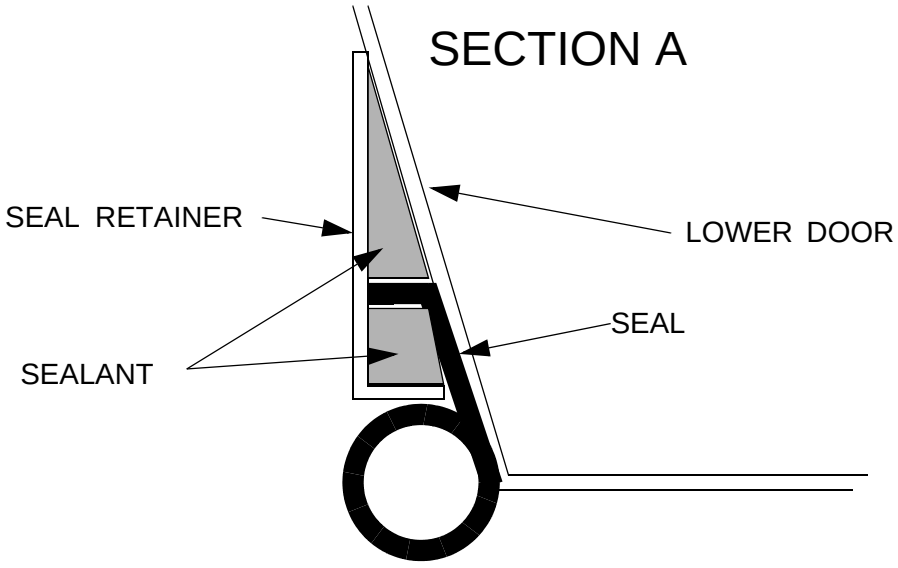


Fig. 204 - Cabin Lower Door Seal - Removal / Installation (Sheet 3 of 3)

11. Cabin Lower Door Seal Plugs - Removal / Installation(Ref. Fig. 205)

A. Materials

Methyl-Ethyl-Ketone (MEK) solvent	02-009
Lint-free cloth	04-013
Sealant	06-005
Seal Plugs	80-151117-003
Adhesive	06-007
Soft Plastic Ear Caps	Commercial

B. Referenced Information

Maintenance Manual Chapter 20-00-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(1) Pull out by hands the Lower Cabin Seal End.
(2) Remove the old Seal Plug.
(3) Remove all old adhesive from the Seal, using MEK and a lint-free cloth.
(4) Apply a thin coat of adhesive around the Seal Plug.
(5) Insert the new Seal Plug in the Lower Door Seal.
(6) Push the seal with the Plug in its own position on the lower cabin door.

NOTE: If the Seal Plug is not available, the Sealant or the Soft Plastic Ear Caps may be used in place of the Seal Plug, as shown in figures.

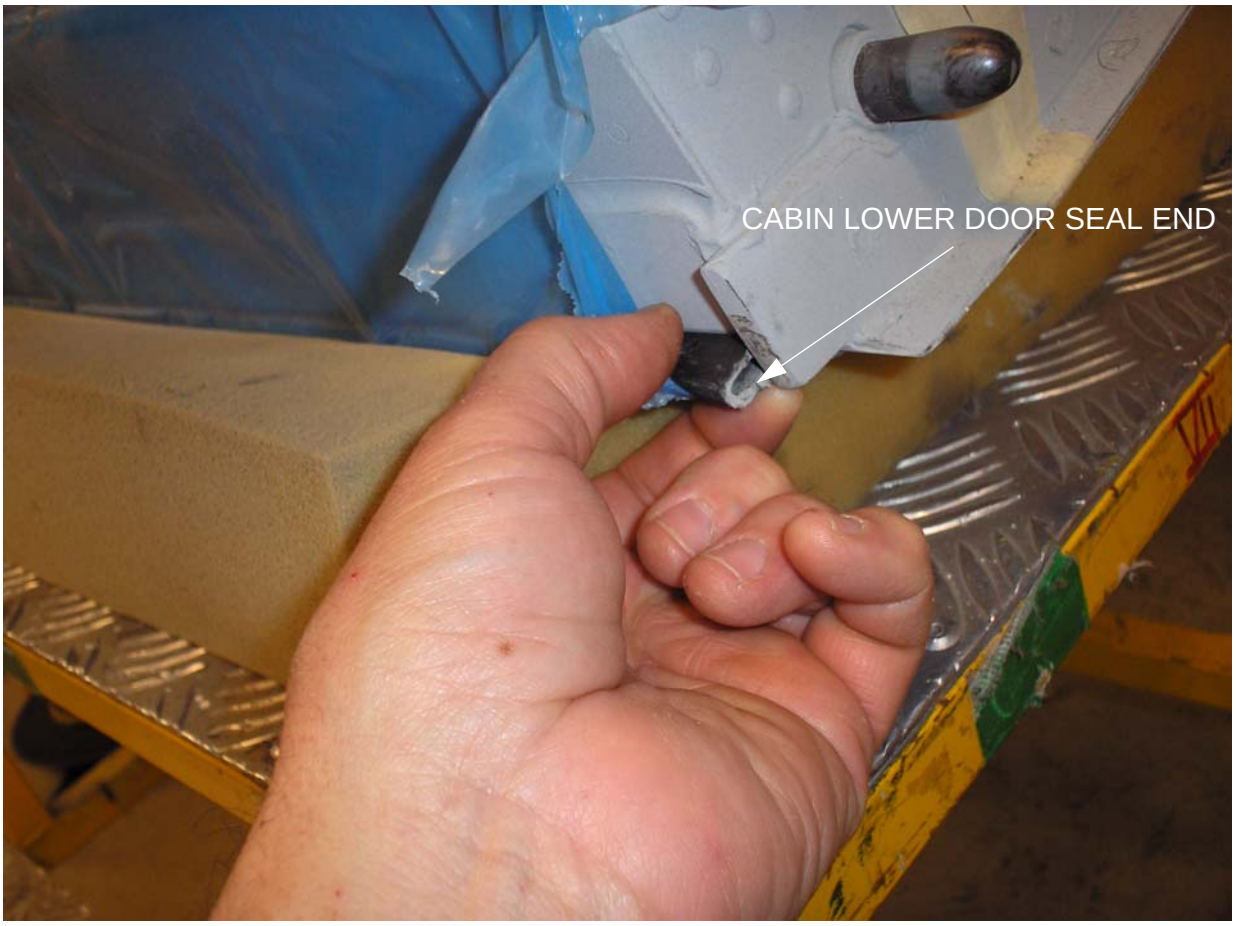


Fig. 205 - Cabil Lower Door Seal Plug - Removal / Installation

Fig. 205 - Cabil Lower Door Seal Plug - Removal / Installation

Fig. 205 - Cabil Lower Door Seal Plug - Removal / Installation

CABIN DOOR UPPER - MAINTENANCE PRACTICES

1. General

A. The cabin door upper is attached to the door frame structure by a single center hinge. The hinge incorporates a latch to hold the door in the fully open position. A nylon stop on the frame structure prevents the hinge making contact with the frame. The locking mechanism comprises seven lockpins operated, via a system of adjustable rods and cranks, by the central interior and exterior handles. Each crank must be in an overcenter position when the door is shut. Springs hold each crank in the locked (overcenter) position.

2. Cabin Door Upper - Removal (Ref. Fig. 201)

A. Procedure

WARNING: BE CAREFUL WHEN YOU MOVE THE DOOR. THIS COMPONENT IS HEAVY. INCORRECT MOVEMENT CAN CAUSE INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT.

(1) Open and support the cabin door.
(2) Remove the four bolts (5) and washers (4) attaching the door (1) to the hinge (3).
(3) Remove the door and collect the four washers (2) installed between the hinge (3) and door (1).

3. Cabin Door Upper - Installation (Ref. Fig. 201)

A. Referenced Information

Maintenance Manual Chapter 52-70-00

B. Procedure

WARNING: BE CAREFUL WHEN YOU MOVE THE DOOR. THIS COMPONENT IS HEAVY. INCORRECT MOVEMENT CAN CAUSE INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT.

(1) Support the door in the installed position.
(2) Install the four washers (2) between the hinge (3) and door (1).
(3) Install the four washers (4) and bolts (5).
(4) Make sure the door mechanism operates correctly and each lockpin has a minimum extension of 1.12 in (28.57 mm).
(5) Do a test of the door warning system (Refer to 52-70-00).

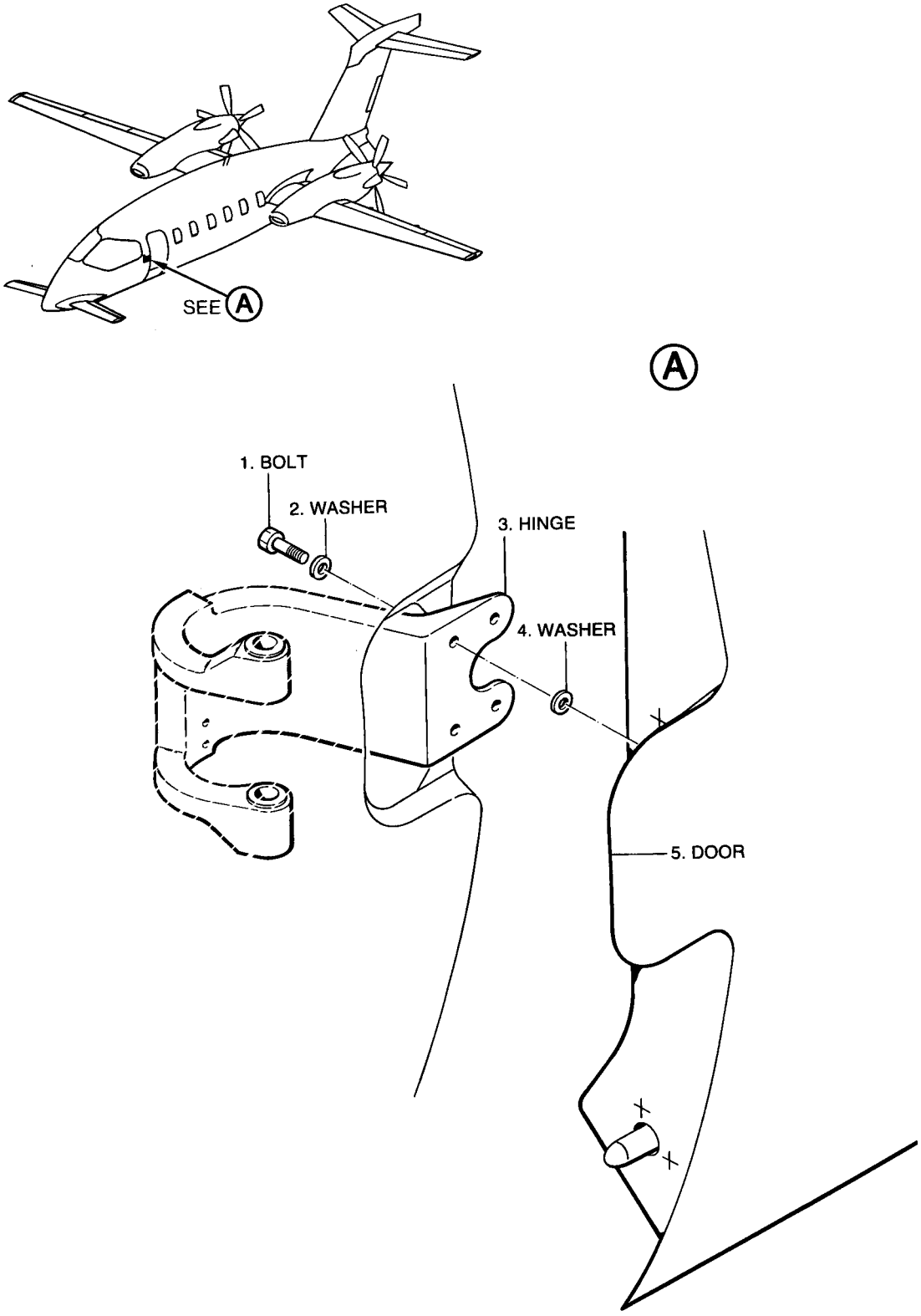


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Fig. 201 - Cabin Door Upper - Removal/Installation

4. Cabin Door Upper - Adjustment (Ref. Fig. 202)

A. Materials

Lockwire	04-008

B. Referenced Information

Maintenance Manual Chapter 25-20-00
Maintenance Manual Chapter 51-41-00
Maintenance Manual Chapter 51-43-00
Maintenance Manual Chapter 52-70-00

C. Procedure

(1) Open the cabin door.
(2) Remove the two set screws and slide the inner handle (15) off the shaft. Collect the key.
(3) Remove the door trim panel (Refer to 25-20-00).
(4) Remove the door insulation blanket
(5) Remove the three crank pivot plates from the inner skin.
(6) Remove the rivets attaching the inner skin to the door and remove the skin (Refer to 51-43-00).
(7) Disconnect rods (7, 14) from the center crank (9).
(8) Slide the handle (15) onto the shaft and temporarily secure using the key and one set screw.
(9) Put the handle (15) in the door closed position.
(10) Position the center crank (9) at the correct angle. Adjust the angle by loosening the locknut and turning ADJUSTER B. The angle is correct when the center lines of the lockpin rods (8, 16) are 0.27 in (6.9 mm) apart (Fig. 202 dimension Y). Tighten the locknut.
(11) Position the lower crank (12) at the correct angle. The angle is correct when the center lines of the lockpin rods (11, 13) are between 0.12 in (3 mm) and 0.20 in (5 mm) apart (Fig. 202 dimension Z).
(12) Loosen the locknut and adjust rod (14) until it can be connected to the center crank (9). Tighten the locknut.
(13) Position the upper crank (3) at the correct angle. The angle is correct when the center lines of the lockpin rods (6, 17) are between 0.12 in (3 mm) and 0.20 in (5 mm) apart (Fig. 202 dimension X).
(14) Loosen the locknut and adjust the rod (7) until it can be connected to the center crank (9). Tighten the locknut.
(15) Measure the extension of the lockpins (2). Make sure that each lockpin protrudes a minimum of 1.12 in (28.57 mm) from the pin guide (1). If any lockpin protrudes less than the minimum, loosen the locknut on the lockpin operating rod and turn the lockpin to increase the extension (the lockpin rod (6) must be disconnected from the crank (3) for adjustment). Tighten the locknut.
(16) Move the handle (15) to the door open position. Make sure that the tip of each lockpin (2) protrudes a maximum of 0.08 in (2 mm) from the pin guide (1). If all the lockpins protrude more than the maximum, adjust the travel of the mechanism by loosening the locknut and turning ADJUSTER A. If one lockpin

protrudes more than the maximum, adjust the appropriate lockpin operating rod. Tighten the locknuts.

(17) Move the handle (15) to the door closed position and do step (15) again.

(18) Re-check the angles of the cranks (3, 9, 12). Make sure they are all overcenter.

(19) Make sure all locknuts are fully tight.

(20) Safety the locknuts with lockwire.

(21) Loosen the attaching bolts and adjust the indicators (5, 10) to align the green lines in the door fully closed position. Tighten the bolts.

(22) Remove all swarf and debris from the door. Make sure the interior of the door is clean.

(23) Remove the set screw and slide the handle (15) off the shaft. Collect the key.

(24) Install the skin panel and attach with rivets (Refer to 51-41-00).

(25) Install the three crank pivot plates to the skin.

(26) Install the door insulation blanket.

(27) Install the door trim panel (Refer to 25-20-00).

(28) Install the key, slide the handle (15) onto the shaft and install the two set screws.

(29) Do a test of the door warning system (Refer to 52-70-00).

5. Cabin Door Upper - Inspection

A. Fixtures, Test and Support Equipment

Strong light source	Not specified
Mirror	Not specified

B. Referenced Information

Maintenance Manual Chapter 25-20-00

C. Preparation

(1) Open the cabin door.

(2) Remove the door trim panel (Refer to 25-20-00).

(3) Remove the door insulation blanket.

D. Inspect cabin door stop lug, stop block, hinge and exterior handle

(1) Press the door stop release catch to release the door.

(2) Examine the nylon stop block for:

- Damage and distortion
- Excessive wear
- Security of attachment.

(3) Move the stop lug by hand, make sure the action is unobstructed and the spring tension is adequate.

(4) Examine the stop lug for:
- Damage and distortion
- Excessive wear
- Corrosion

(5) Make sure the center pivot screw is tight.

(6) Examine the hinge bracket for:
- Damage and distortion
- Corrosion
- Excessive wear (vertical movement of the door).

(7) Press the lock and make sure the exterior handle springs out.

(8) Make sure the pin attaching the handle to the shaft is correctly installed.

(9) Examine the handle for:
- Damage and distortion
- Corrosion
- Excessive wear at the locking catch nib.

(10) Turn the lock using the airplane key and make sure the lock can not be depressed.

(11) If necessary, repair or replace any defective parts.

E. Inspect interior handle

(1) Make sure the pin attaching the interior handle to the shaft is correctly installed.

(2) Examine the handle for:
- Damage and distortion
- Corrosion

(3) Turn the handle and make sure the mechanism operates correctly.

(4) If necessary, repair or replace any defective parts.

F. Inspect linkage

(1) Use a strong light source and mirror to examine the mechanism inside the door for:
- Damage and distortion
- Corrosion
- Correct safety locking of the adjustable rods
- Make sure the cranks are overcenter when the mechanism is in the locked position
- Security of attachment of the crank overcenter springs.

(2) Operate the mechanism and check for free movement of the cranks and rods.

(3) Examine the adjusters on the handle crank for:
- Damage and distortion
- Corrosion
- Correct safety locking.
- Make sure the rubber pads on the adjusters are secure.

(4) If necessary, repair or replace any defective parts.

G. Completion

(1) Install the door insulation blanket.
(2) Install the door trim panel (Refer to 25-20-00).

6. Cabin Door Upper - Check Lockpin Extension (Ref. Fig. 202)

A. Procedure

(1) Open the cabin door.
(2) Set the door handles to the open position.
(3) Make sure all the lockpins are below the level of the pin guides.
(4) Set the door handles to the locked position.
(5) Measure the extension of each lockpin from tip to pin guide, minimum extension is 1.12 in (28.57 mm).
(6) If any lockpin is less than minimum extension adjust the mechanism (Refer to Para. 4).
(7) Check the pins overcenter as follows:
(a) Using a gauge and with the upper door open measure the maximum extension of the pin B1, then measure the overcenter. The measure must be more than 0.15 mm.
(b) Repeat the step (a) on the pin B2. The measure must be more than 0.25 mm.
(c) Repeat the step (a) on the pin B3. The measure must be more than 0.15 mm.

7. Cabin Door Upper - Check Overcenter

A. Procedure

(1) Open the door.
(2) Move slowly the upper door internal handle to close position and check that every pins, after the mechanism overcenter position has been reached, slightly come back.
(3) After the closed position has been achieved push gently the pins and verify that they are blocked.

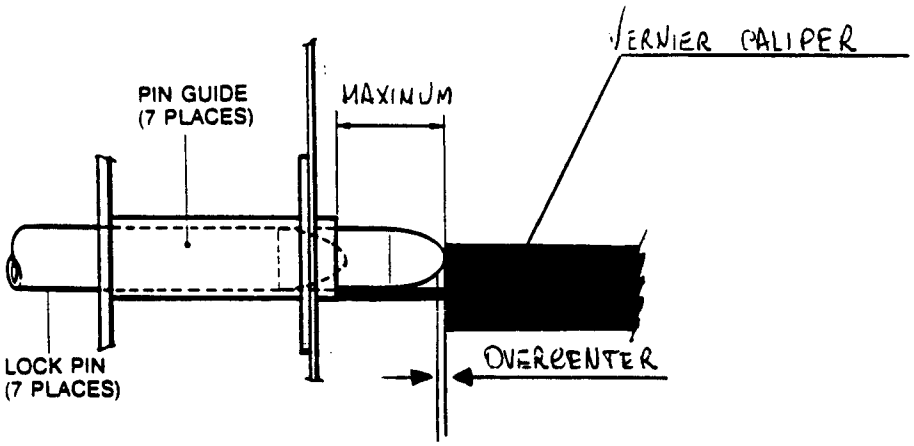

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Fig. 202 - Cabin Door Upper - Adjustment (Sheet 1 of 2)

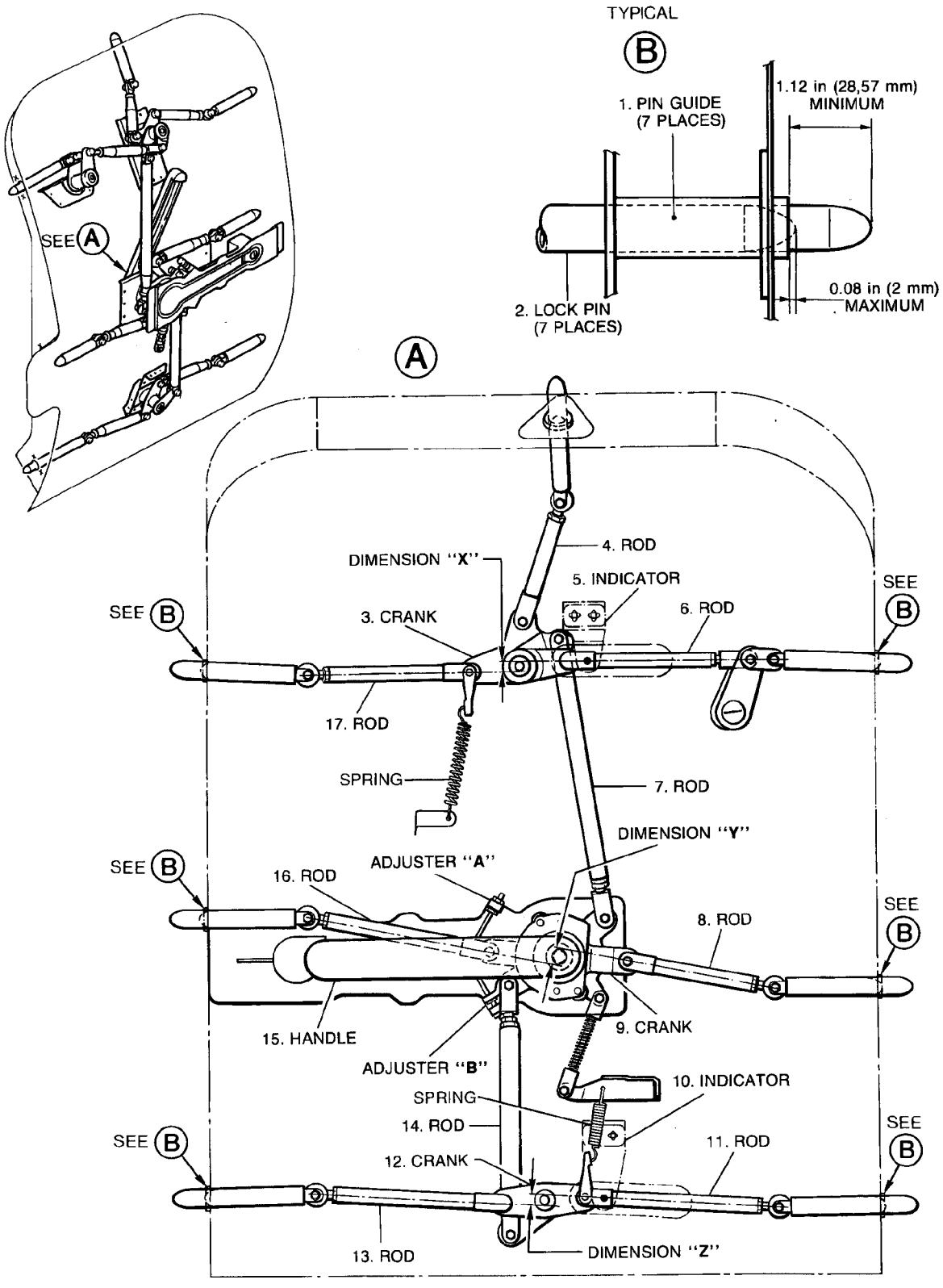

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Fig. 202 - Cabin Door Upper - Adjustment (Sheet 2 of 2)

CABIN DOOR SEAL - MAINTENANCE PRACTICES

1. General

A. The inflatable cabin door seal is bonded into a channel installed around the door cut-out. The seal has two integral chambers which are connected to the door seal pressurization system via two seal inflation tubes.
On the upper cabin door lower side, optional self-sticking stripes may be installed, to improve cabin comfort.

B. For Door Seal Inflation System information, refer to Maintenance Manual Chapter 36-10-00.

2. Upper Cabin Door Seal - Removal(Ref Fig. 201)

A. Materials

Methyl-Ethyl-Ketone (MEK) solvent	02-009
Lint-free cloth	04-013

B. Referenced Information

Maintenance Manual Chapter 25-20-00
Maintenance Manual Chapter 20-00-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(1) Remove the side trim panel to gain access to the cabin door inflation system (Refer to 25-20-00).
(2) Remove the two lower cabin door support cables and support the lower cabin door. (Refer to 52-11-00).
(3) Loosen the two clamps attaching the seal inflation tubes to the pressure regulators.
(4) Pull the seal inflation tubes out from the pressure regulator outlets, retain the clamps.
(5) Tie the seal inflation tubes ends using a string lanyard

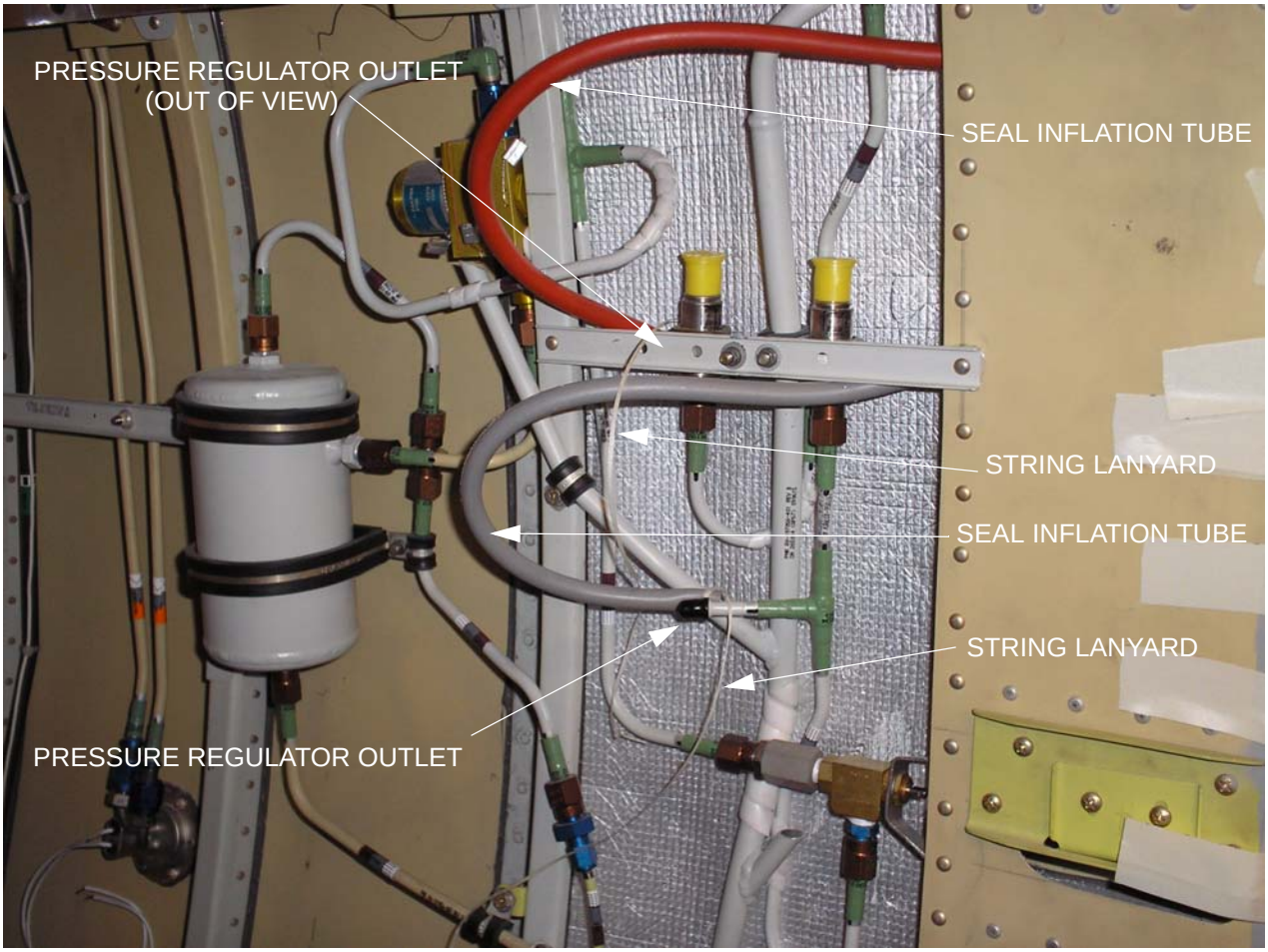

Fig. 201 - Upper Cabin Door Seal - Removal (Sheet 1 of 4)

(6) Pull one portion of the inflatable seal out of the channel, taking care not to damage or deform the channel.

Fig. 201 - Upper Cabin Door Seal - Removal (Sheet 2 of 4)

CAUTION: TAKE CARE NOT TO DAMAGE THE INSULATION BLANKET WHEN YOU SLIDE OUT THE SEAL INFLATION TUBE

(7) Slide out from the holes in the channel the two seal inflation tubes using string lanyard, until it is possible to untie the string lanyards from the seal inflation tubes ends.

(8) Untie and hold in position the string probes ends. (The figures show the string lanyards for the upper hole only).

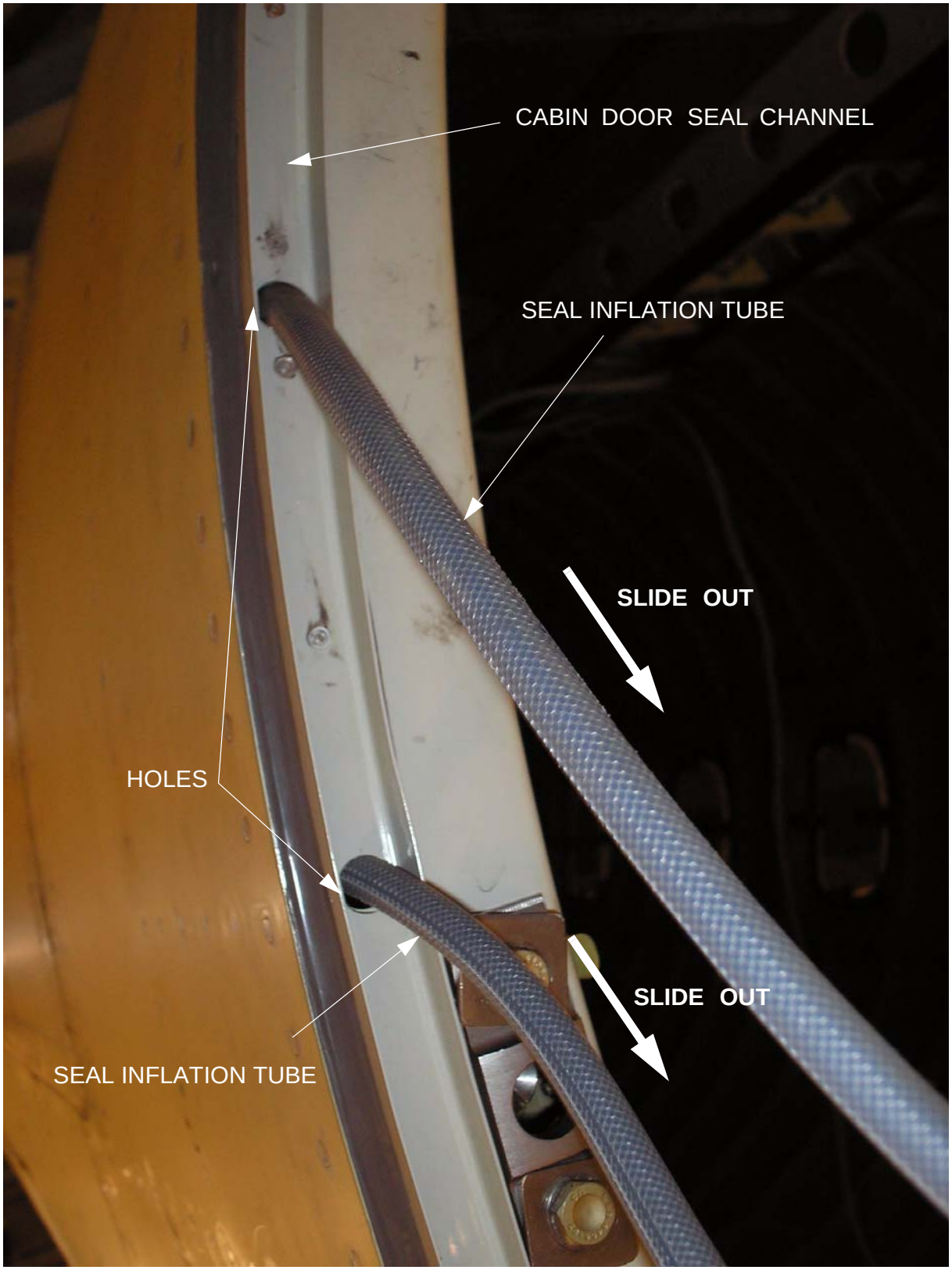

Fig. 201 - Upper Cabin Door Seal - Removal (Sheet 3 of 4)

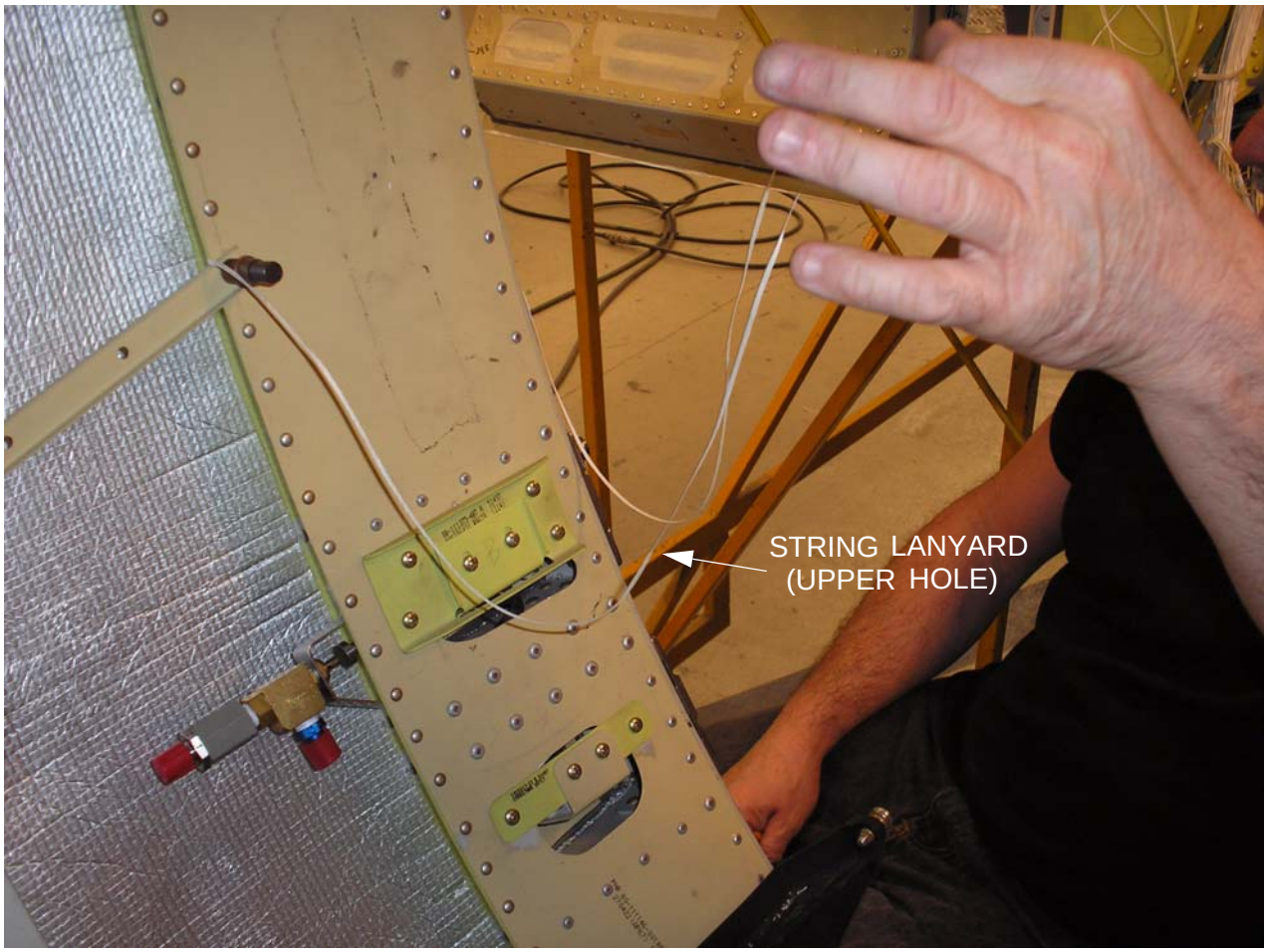

Fig. 201 - Upper Cabin Door Seal - Removal (Sheet 4 of 4)

(9) Detach and remove the upper door seal from the channel. Pull the seal out of the channel by hand.

(10) Remove all old adhesive from the channel by using MEK and a lint-free cloth.

3. Upper Cabin Door Seal - Installation(Ref. Fig 202)

A. Materials

Methyl-Ethyl-Ketone (MEK) solvent	02-009
Lint-free cloth	04-013
Upper Cabin Door Seal	SF 14-1365 00-117609-001
Primer	05-001
Adhesive	06-007

B. Referenced Information

Maintenance Manual Chapter 25-20-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 36-11-00
Maintenance Manual Chapter 51-00-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE MEK AND ADHESIVE. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(1) Make sure that the channel is free of adhesive and clean.
(2) Apply a thin coat of primer along the whole channel.
(3) Abrade the upper door seal lower surface with sand paper (grit 220).
(4) Thoroughly clean the new inflatable seal with MEK and a lint-free cloth.

NOTE: For a better result start to attach the seal on the door upper side.

Fig. 202 - Upper Cabin Door Seal - Installation (Sheet 1 of 6)

(5) Tie the string lanyards, previously positioned, to the seal inflation tubes ends.

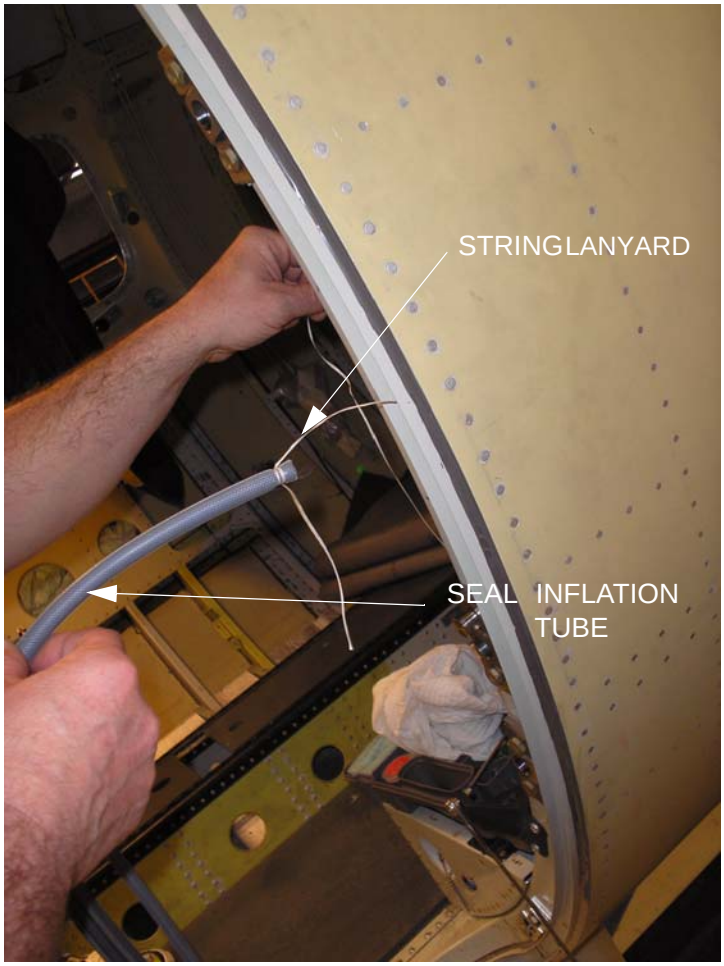

Fig. 202 - Upper Cabin Door Seal - Installation (Sheet 2 of 6)

CAUTION: SINCE THE ADHESIVE IS SUBJECT TO QUICK POLIMERIZATION ITS APPLICATION MUST BE PERFORMED ALONG CHANNEL AND SEAL PORTIONS SHORTER THAN 40 CM.

(6) Apply adhesive on the upper door seal lower surface, around the seal inflation tubes and into the channel for approx. 40 cm (Refer to 51-00-00).

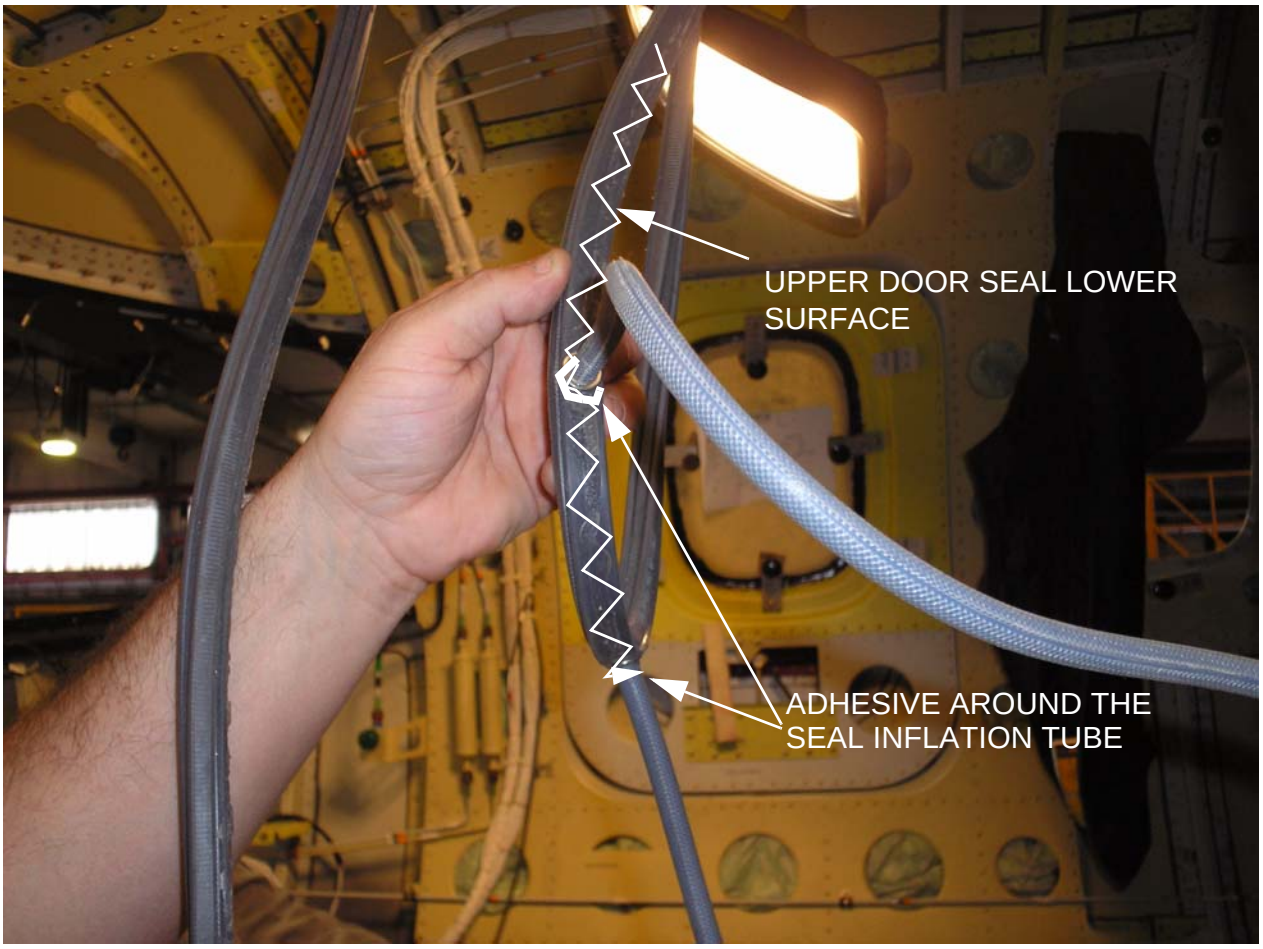

Fig. 202 - Upper Cabin Door Seal - Installation (Sheet 3 of 6)

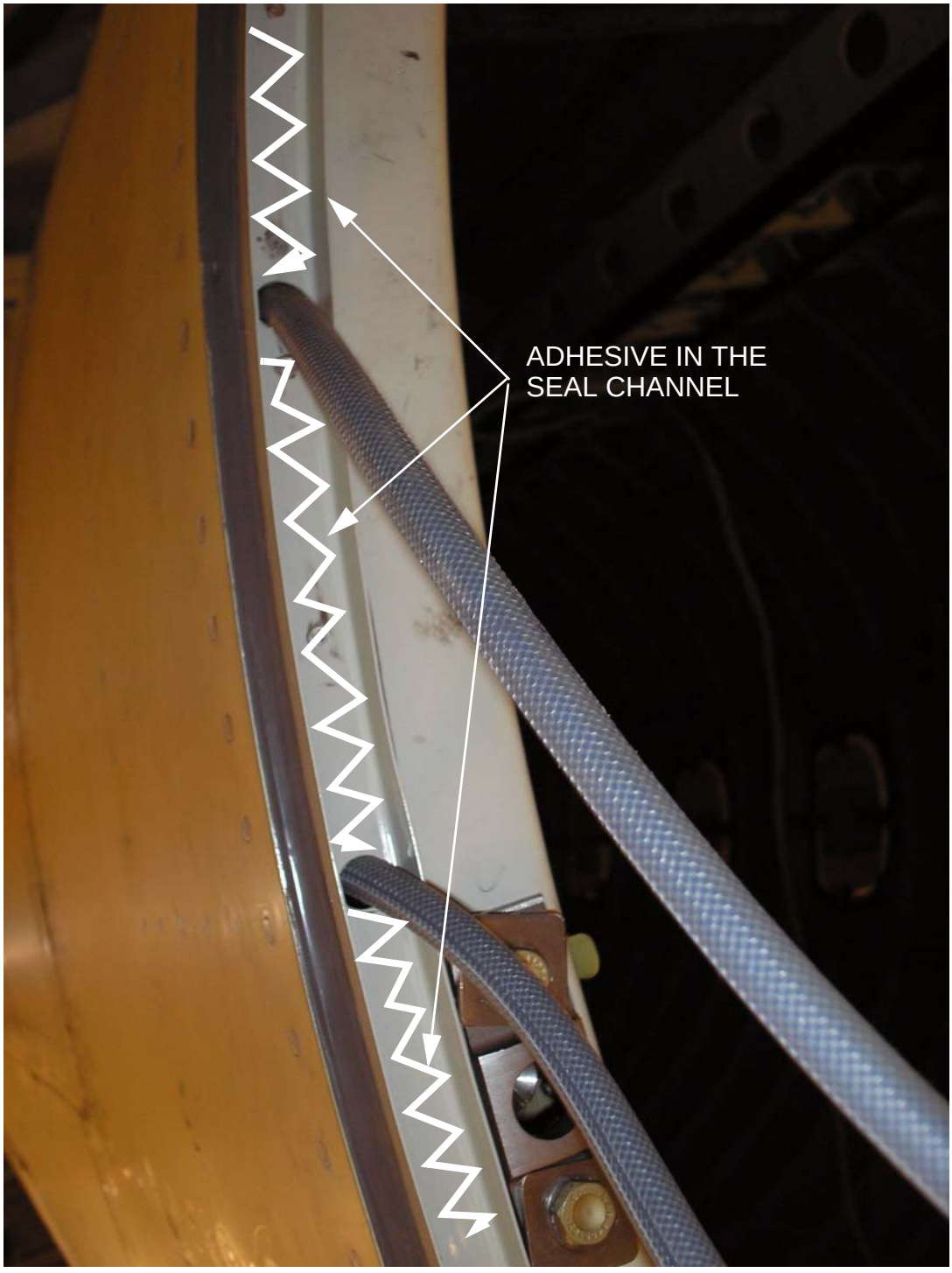

Fig. 202 - Upper Cabin Door Seal - Installation (Sheet 4 of 6)

(7) Insert the seal inflation tubes into the channel holes and position the seal into the channel, finally press it to allow the correct adhesion.

Fig. 202 - Upper Cabin Door Seal - Installation (Sheet 5 of 6)

(8) To ensure the proper curing interval it is recommended to keep the seal pressed with a suitable rubber hose, kept in position with adhesive tape.

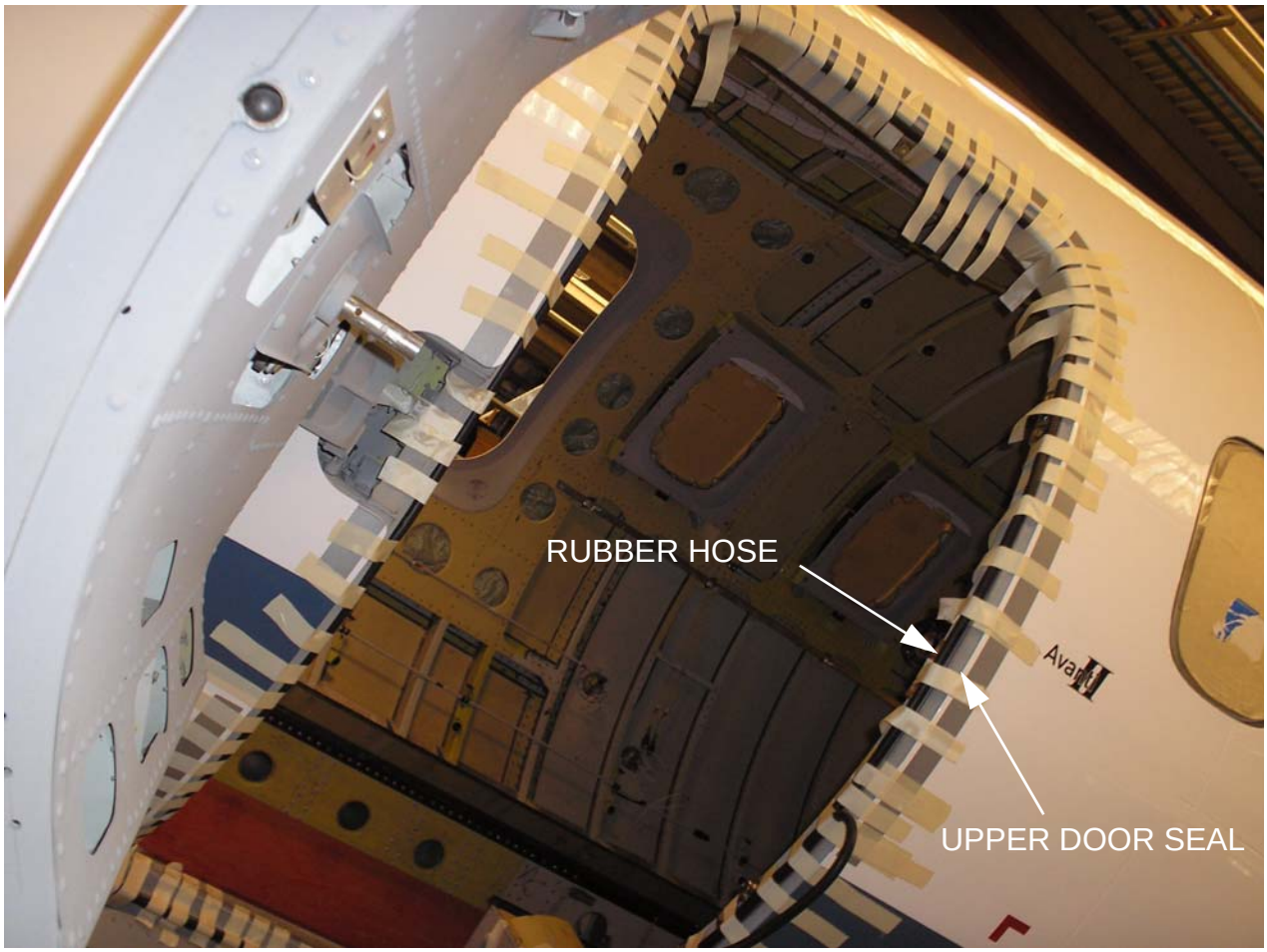

Fig. 202 - Upper Cabin Door Seal - Installation (Sheet 6 of 6)

(9) Push the seal inflation tubes onto the pressure regulator outlets and tighten the clamps.
(10) Wait for 24 hours and then remove the rubber hose and the adhesive tape.
(11) If necessary clean with MEK.
(12) Install the two lower cabin door support cables (Refer to 52-11-00).
(13) Do a test of the cabin door seal inflation system (Refer to 36-10-00).
(14) Perform a Cabin Pressurization Test Refer to 21-00-00).
(15) Install the side trim panel (Refer to 25-20-00).

4. Cabin Upper Door Lateral Rubber Buffer - Removal / Installation(Ref. Fig. 203)

A. Materials

Methyl-Ethyl-Ketone (MEK) solvent	02-009
Lint-free cloth	04-013
Seal	
Primer	05-001
Adhesive	06-007

B. Referenced Information

Maintenance Manual Chapter 20-00-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

NOTE: The LH and RH Door Lateral Rubber Buffer Removal/Installation procedures are identical.

(1) Remove the two screws that secure the Plate and the Door Lateral Rubber Buffer to the Cabin Upper Door.
(2) Remove the Plate with Door Lateral Rubber Buffer from the door.
(3) Remove all old adhesive from the Door, using MEK and a lint-free cloth.
(4) Apply a thin coat of primer at the Rubber Buffer place on the door.
(5) Place the Rubber Buffer in position with a thin coat of adhesive .
(6) Install the Plate upon the Door Rubber Buffer and fasten with the existing screws .

Fig. 203 - Cabin Upper Door Lateral Rubber Buffer - Removal / Installation (Sheet 1 of 2)

Fig. 203 - Cabin Upper Door Lateral Rubber Buffer - Removal / Installation (Sheet 2 of 2)

5. Cabin Door Seal - Inspection

A. Materials

Methyl-Ethyl-Ketone	02-009
Lint-free cloth	04-013

B. Referenced Information

Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 36-11-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE MEK. OBEY THE HEALTH AND SAFETY PRECAUTIONS GIVEN IN CHAPTER 20-00-00.

(1) Open the cabin door.
(2) Clean the cabin door inflatable seal using MEK and a lint-free cloth.
(3) Examine the seal for:
- Cuts
- Splits
- Punctures
- Crushing
- Signs of chemical contamination.

(4) Examine the seal channel for damage and corrosion.
(5) Make sure the seal is securely bonded into the channel.
(6) Do a test of the cabin door seal inflation system (Refer to 36-11-00).
(7) If necessary, replace the seal (Refer to Para. 2.).

6. Cabin Door Weather Stripes - Removal / Installation(Ref. Fig. 204)

A. Materials

Methyl-Ethyl-Ketone (MEK) solvent	02-009
Lint-free cloth	04-013
Self-Sticking Strip	

B. Procedure

(1) Remove the Upper Cabin Door Lower Weather Strip by hands.
(2) Remove the Upper Cabin Door Lateral Weather Stripes by hands.
(3) Remove all old adhesive from the Door, using MEK and a lint-free cloth.
(4) Install the new Upper Cabin Door Lower Weather Strip by hands as shown in figure.
(5) Install the new Upper Cabin Door Lateral Weather Stripes by hands as shown in figure.
(6) Perform the Pressurizatin Control System Functional Test (Refer to 21-30-00).

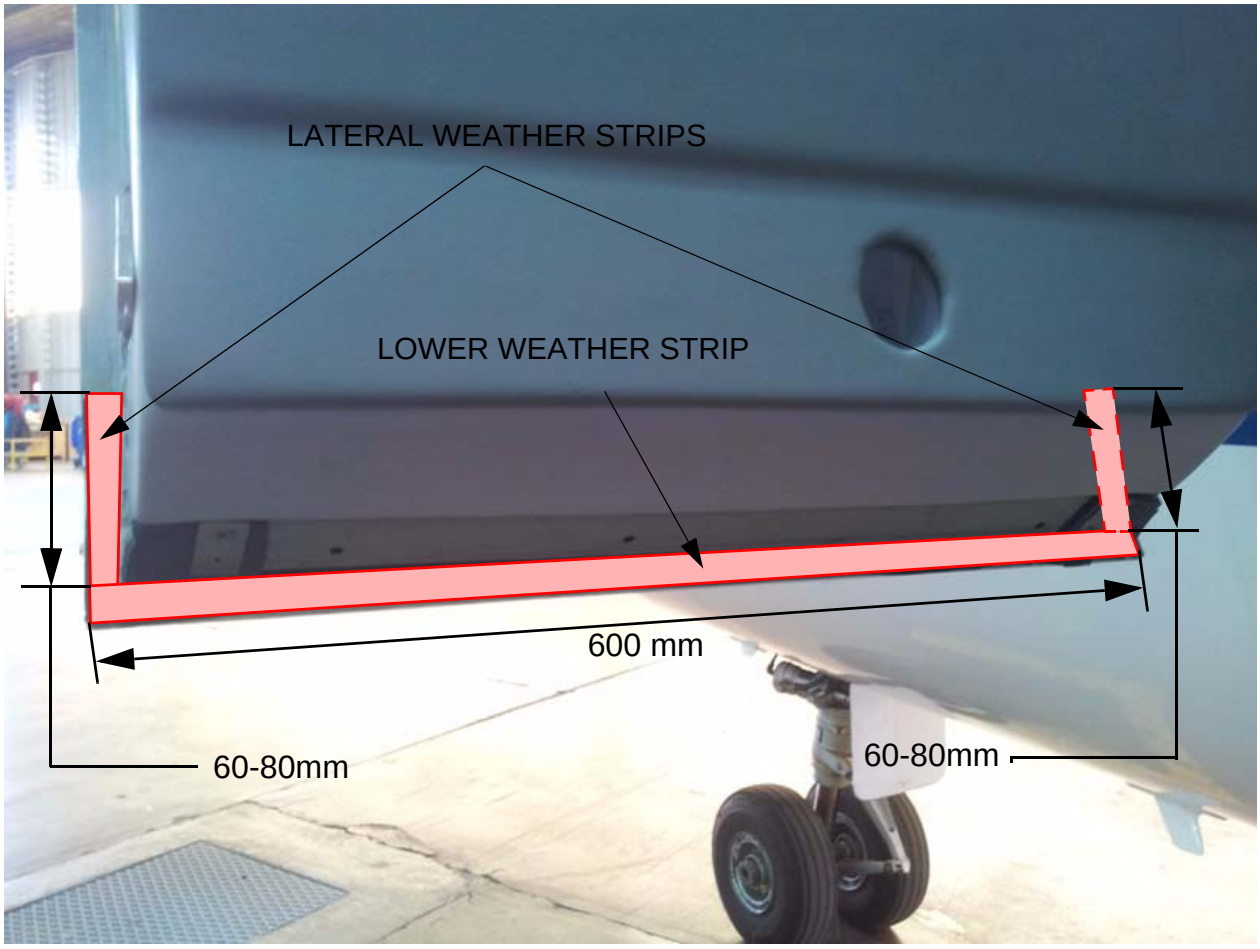

Fig. 204 - Cabin Door Weather Stripes - Removal / Installation

EMERGENCY EXIT DOOR - MAINTENANCE PRACTICES

1. General

   A. To open the emergency exit door is necessary to pull and rotate the handle to the left towards the cockpit compartment.

   B. To avoid the intrusion in the airplane during parking, locking of the emergency exit door is recommended. For this purpose a locking pin to be inserted in a suitable locking hole is provided.

   C. The emergency exit door is a plug type door which can be opened from inside or outside the airplane.

   D. To avoid an interference between the internal handle of the emergency door and the passenger seat cushion/upholstery interior, a suitable protection has been installed (Ref. Fig. 201).

   E. The emergency exit door internal handle could be free, at rest, to extend through its whole stroke and this could cause, on ground, the disengagement of the locking pin and the opening of the door. To avoid this problem a spring is installed which holds the handle at the minimum angle retention.

2. Emergency Exit Door - Removal

   A. Procedure

      NOTE: The Removal Procedure is identical for all P.180 airplanes.

      (1) Remove the seat back cushion (attached with Velcro).
      (2) Pull the interior release handle down.
      (3) Pull the bottom of the door inwards and remove the door.

3. Emergency Exit Door Handle - Removal (Ref. Fig. 202)

   A. Referenced Information

      Maintenance Manual Chapter 25-20-00

   B. Procedure

      (1) Remove the seat back cushion (attached with Velcro).
      (2) Pull the interior release handle down.
      (3) Pull the bottom of the door inwards and remove the door.
      (4) Remove the emergency exit door sidewall panel (Refer to 25-20-00).
      (5) Remove the insulation blanket.
      (6) Remove the handle protection.
      (7) Remove the screws (6) that secure the flange (5) with the door handle assembly (4) to the door strut.
      (8) Slide out the flange (5) and the door handle assembly (4) from the door.

4. Emergency Exit Door Handle - Installation (Ref. Fig. 202)

A. Referenced Information

Maintenance Manual Chapter 25-20-00

B. Procedure

(1) Position the flange (5) with the door handle assembly (4) into its own position and make sure that the lever (1) is between the pin (2) and the pin (3).
(2) Secure the flange (5) and the door handle assembly (4) to the door strut with the screws (6).
(3) Install the handle protection.
(4) Install the insulation blanket.
(5) Install the emergency exit door sidewall panel (refer to 25-20-00).

5. Emergency Exit Door - Inspection (Ref. Fig. 201)

A. Referenced Information

Maintenance Manual Chapter 25-20-00
Maintenance Manual Chapter 56-00-00

B. Procedure

(1) Remove the emergency exit door (1).
(2) Remove the trim panel from the emergency exit door (refer to 25-20-00).
(3) Remove the insulation blanket from the emergency exit door.
(4) Examine the latching mechanism for:
- Damage and distortion
- Corrosion
- Security of attachment.

(5) Examine the interior handle (8) for:
- Damage and distortion
- Deterioration of the red paint finish
- Corrosion.

(6) Examine the exterior handle (5) for:
- Damage and distortion
- Corrosion
- Correct operation of the PUSH to release catch.

(7) Operate the mechanism and check for full and free movement. Make sure the lockpin (4) retracts fully into the door.
(8) Examine the rubber seal (3) around the emergency exit door for:
- Cuts
- Splits
- Crushing
- Perishing
- Signs of chemical contamination.

(9) Examine the window for scratches, cracks and crazing (Refer to 56-00-00, Damage Limitations).

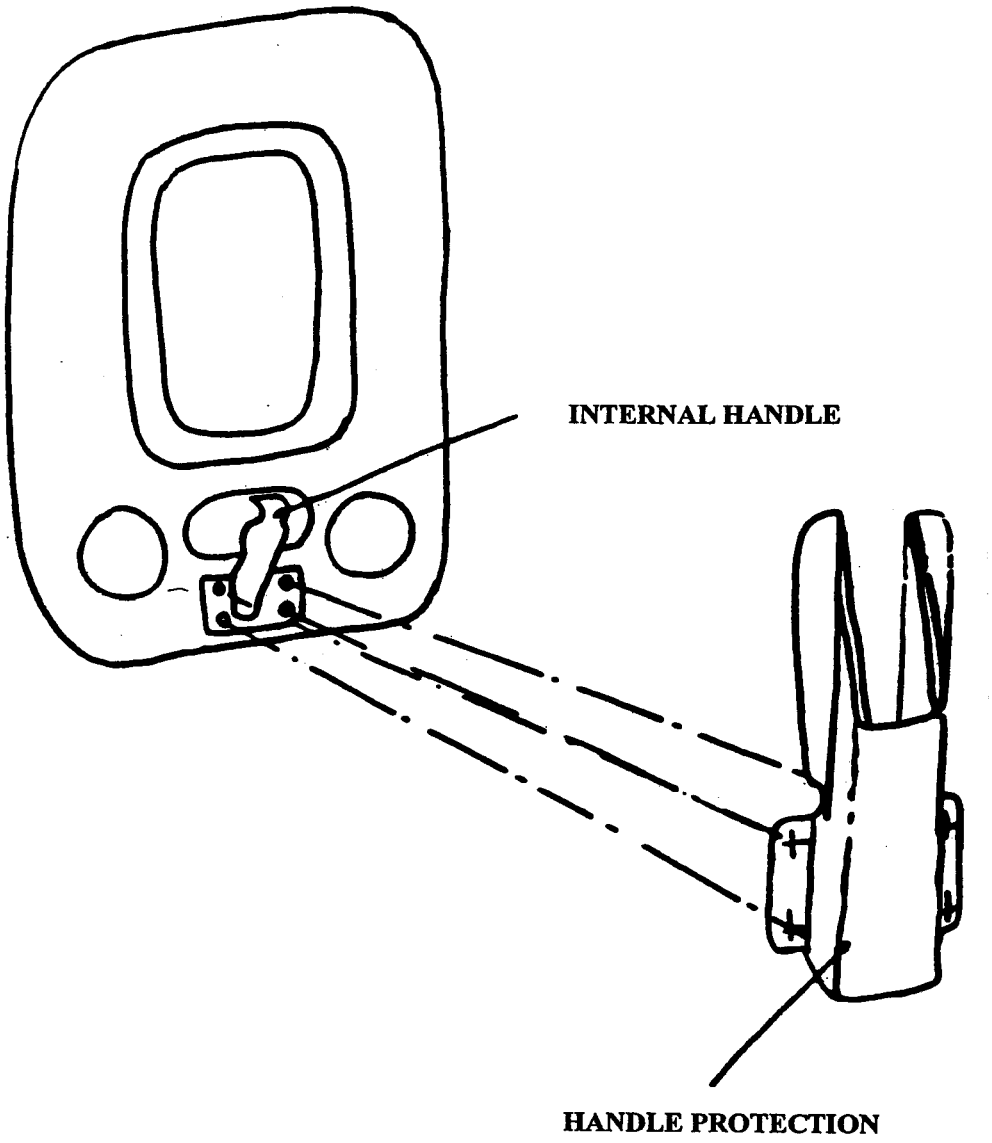

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Fig. 201 - Emergency Exit handle Protection

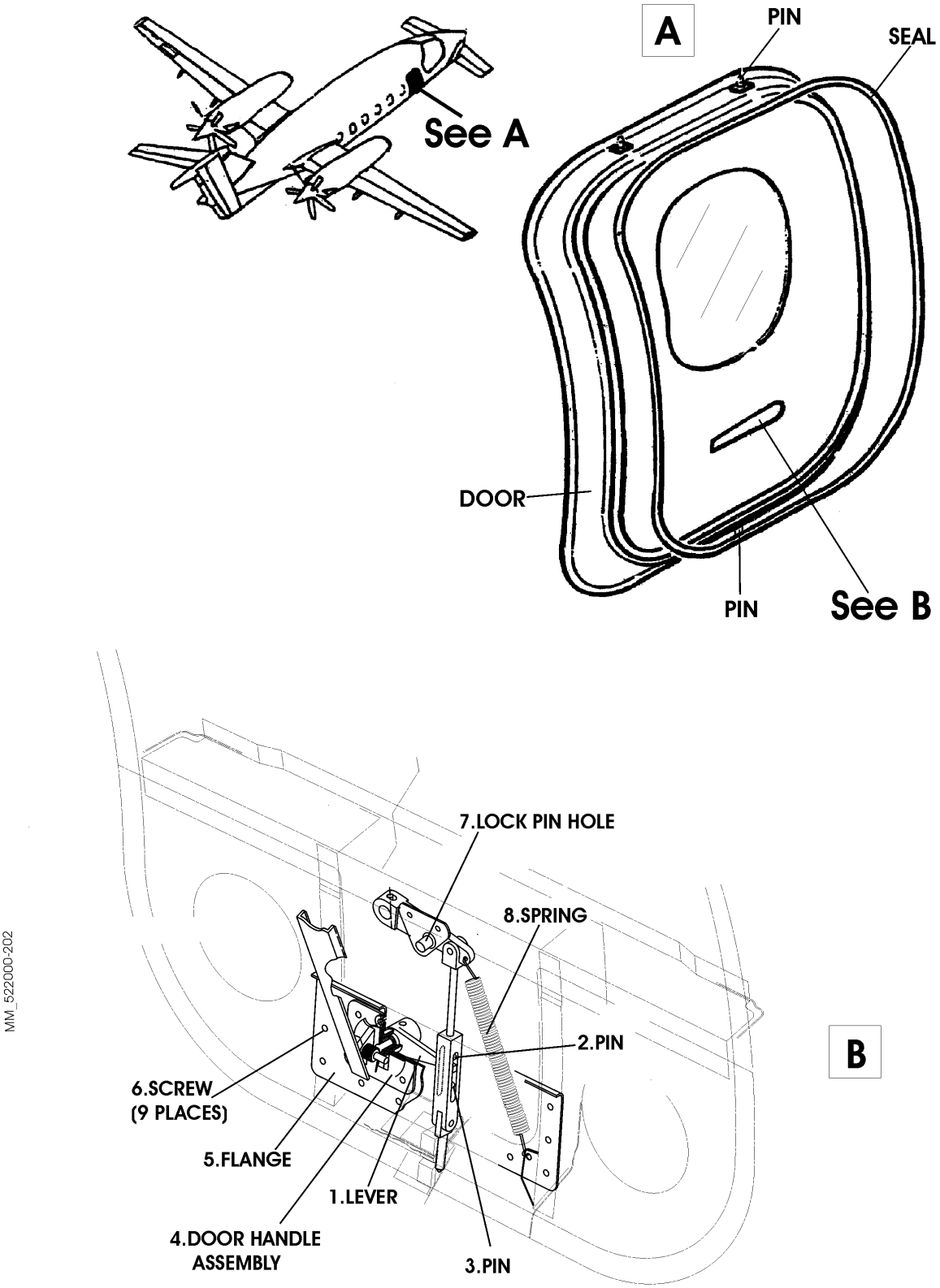

Fig. 202 - Emergency Exit Door Handle - Removal/Installation

(10) Examine the emergency exit signs and placards for damage, legibility and security of attachment.
(11) Install the insulation blanket to the emergency exit door.
(12) Install the trim panel to the emergency exit door (Refer to 25-20-00).
(13) Install the emergency exit door (1).

6. Emergency Exit Door - External Removal

A. Procedure

NOTE: Removing requires two persons, one to keep in position the Emergency Exit Door inside the airplane and one to operate the Handle Locking Pushbutton outside the airplane.

(1) If ithe two seat divan s installed, remove the cushion.

CAUTION: REMOVE THE EMERGENCY DOOR PANEL TO AVOID DAMAGE DURING REMOVAL PROCEDURE (REFER TO CHAPTER 25-20-00)

(2) Remove the Handle Lock Pin from the Emergency Exit Door inboard side.

CAUTION: KEEP IN POSITION THE EMERGENCY EXIT DOOR INSIDE THE AIRPLANE.

(3) Push the Handle Locking Pushbutton located on the Emergency Exit Door outboard side.
(4) Rotate the Emergency Exit Door Handle from down to up.
(5) Pull the bottom of the door inwards and disengage the pins from the two holes on the door frame.
(6) Remove the Emergency Exit Door.

NOTE: Is not possible install the Emergency Exit Door outside the airplane.

7. Emergency Exit Door - Internal Removal

A. Procedure

(1) If the two seat divan is installed, remove the cushion.

CAUTION: REMOVE THE EMERGENCY DOOR PANEL TO AVOID DAMAGE DURING REMOVAL PROCEDURE (REFER CHAPTER 25-20-00)

(2) Remove the Handle Lock Pin from the Emergency Exit Door.
(3) Pull and rotate the Emergency Exit Door Internal Handle leftwards (cockpit).
(4) Pull the bottom of the door inwards and disengage the pins from the two holes on the Emergency Exit Door frame.
(5) Remove the Emergency Exit Door.

8. Emergency Exit Door - Internal Installation

A. Procedure

(1) Place the Emergency Exit Door in its own position, inserting the two pins in the two holes on the door frame.

(2) Push the Emergency Exit Door in position.

(3) Rotate the Emergency Exit Door Internal Handle rightwards (passenger cabin), in such a way the Emergency Exit Door Lower Pin engages correclty to the Emergency Exit Door frame.

(4) Install the Emergency Door Panel

(5) Install the Handle Lock Pin into the Emergency Exit Door.

NOTE: If the Emergency Exit Door has been removed outboard, the Emergency Exit Door External Handle must be set in position.

BAGGAGE COMPARTMENT DOOR - MAINTENANCE PRACTICES

1. General

A. The baggage compartment door is a composite structure attached to the fuselage by two hinge assemblies. A support rod is provided to hold the door in the open position.

B. The locking mechanism comprises two lockpins operated by a lockable handle. The lockpins locate in plates attached to the fuselage structure.

C. The two lockpins operate microswitches for the door warning system. For information on the door warning system refer to Maintenance Manual Chapter 52-70-00.

2. Baggage Compartment Door - Removal (Ref. Fig. 201)

A. Procedure

(1) Open and support the baggage compartment door.
(2) Remove the cotter pin (7), washer (11) and pin (8) to disconnect the support rod (10).
(3) Remove the nut (4), washer (5), bolt (1) and spacer (2) from each hinge (12) and remove the door (6).

3. Baggage Compartment Door - Installation (Ref. Fig. 201)

A. Referenced Information

Maintenance Manual Chapter 52-70-00

B. Procedure

(1) Put the baggage compartment door (6) in the correct position for installation.
(2) Install the spacer (2) and bolt (1) to each hinge (12).
(3) Install the washer (5) and nut (4) to each bolt (1).
(4) Install the support rod (10) to the bracket (9) using the pin (8) and washer (11) and secure with a new cotter pin (7).
(5) Perform a Baggage Compartment Door Adjustment as described in this section.
(6) Make sure the mechanism operates and the door closes correctly.
(7) Do a test of the door warning system (Refer to 52-70-00).

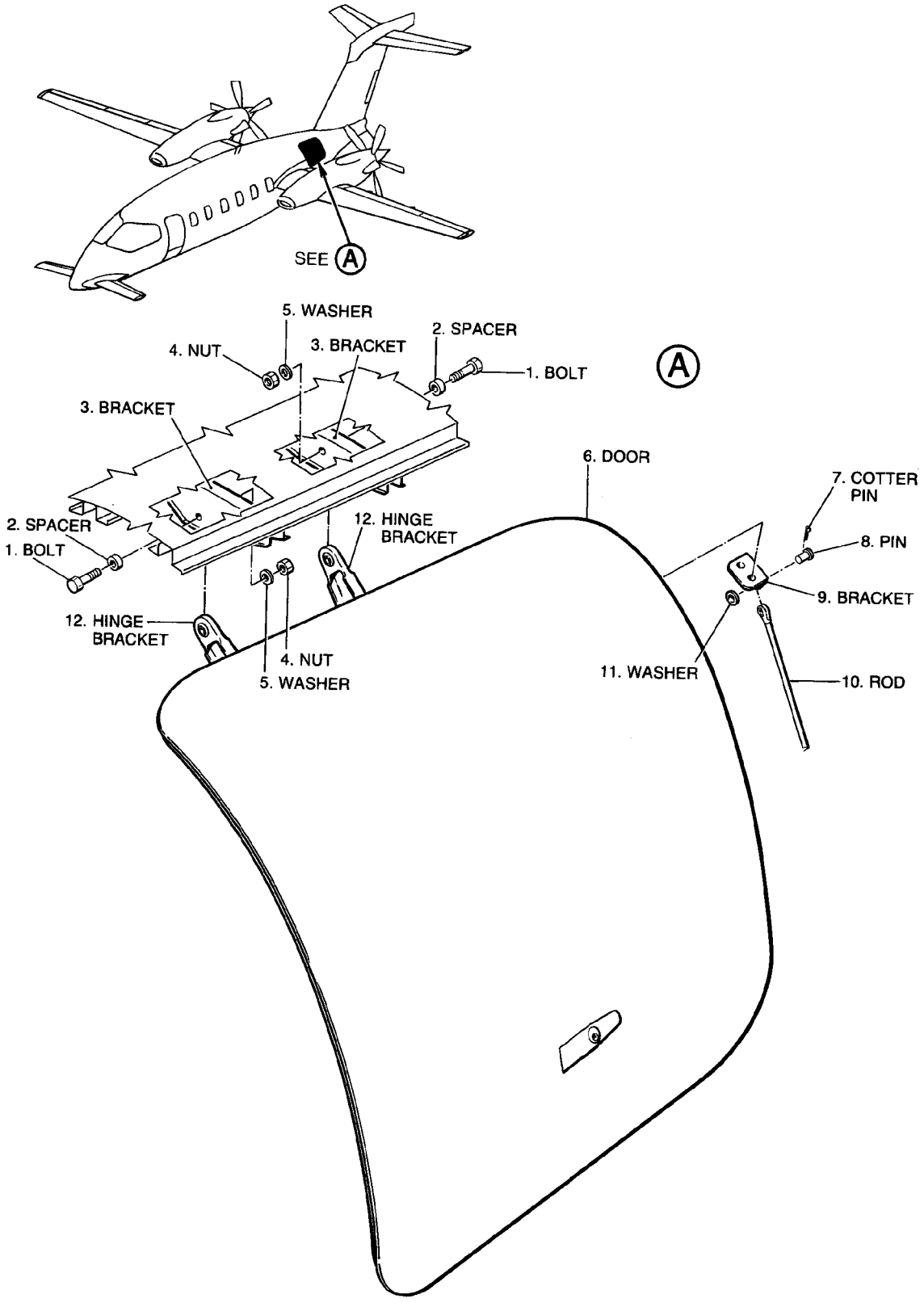

Fig. 201 - Baggage Compartment Door - Removal/Installation

4. Baggage Compartment Door - Adjustment (Ref. Fig. 202)

A. Referenced Information

Maintenance Manual Chapter 52-70-00

B. Procedure

(1) Remove the cotter pin (11), washer (9) and pin (10) to disconnect the terminal (12) from the rod (7).
(2) Allow the spring (14) inside the pin guide (6) to push the lockpin (15) fully out.
(3) Put the handle (3) and spindle (8) in the locked position.
(4) Turn the terminal (12) to align with the rod (7) and install the pin (10).
(5) Close and lock the baggage door and, from inside the baggage compartment, measure the engagement of the lockpin (Refer to VIEW C).

NOTE: Use a marker pen to mark a line on the lockpin (15) level with the surface of the plate (4).

(6) If necessary, remove the pin (10) and turn the terminal (12) to get the correct engagement.
(7) Install the pin (10), washer (9) and a new cotter pin (11).
(8) Make sure the mechanism operates correctly.
(9) Do a test of the baggage door warning system (Refer to 52-70-00).

5. Baggage Compartment Door - Inspection (Ref. Fig. 202)

A. Fixtures, Test and Support Equipment

Strong light source	Not specified

B. Procedure

(1) Open the baggage compartment door.
(2) Use a strong light source to examine the door for:
- Damage, cracks and splits
- Delamination
- Blistering or flaking of the paint finish.

(3) Examine the mechanism and hinges for:
- Damage and distortion
- Corrosion
- Security of attachment.

(4) Examine the handle and lock for:
- Damage and distortion
- Corrosion.

(5) Turn the lock using the airplane key and make sure the lock and handle operate correctly.
(6) Examine the door seal for:
- Cuts and splits
- Crushing
- Perishing.

(7) If necessary, repair or replace any defective parts.

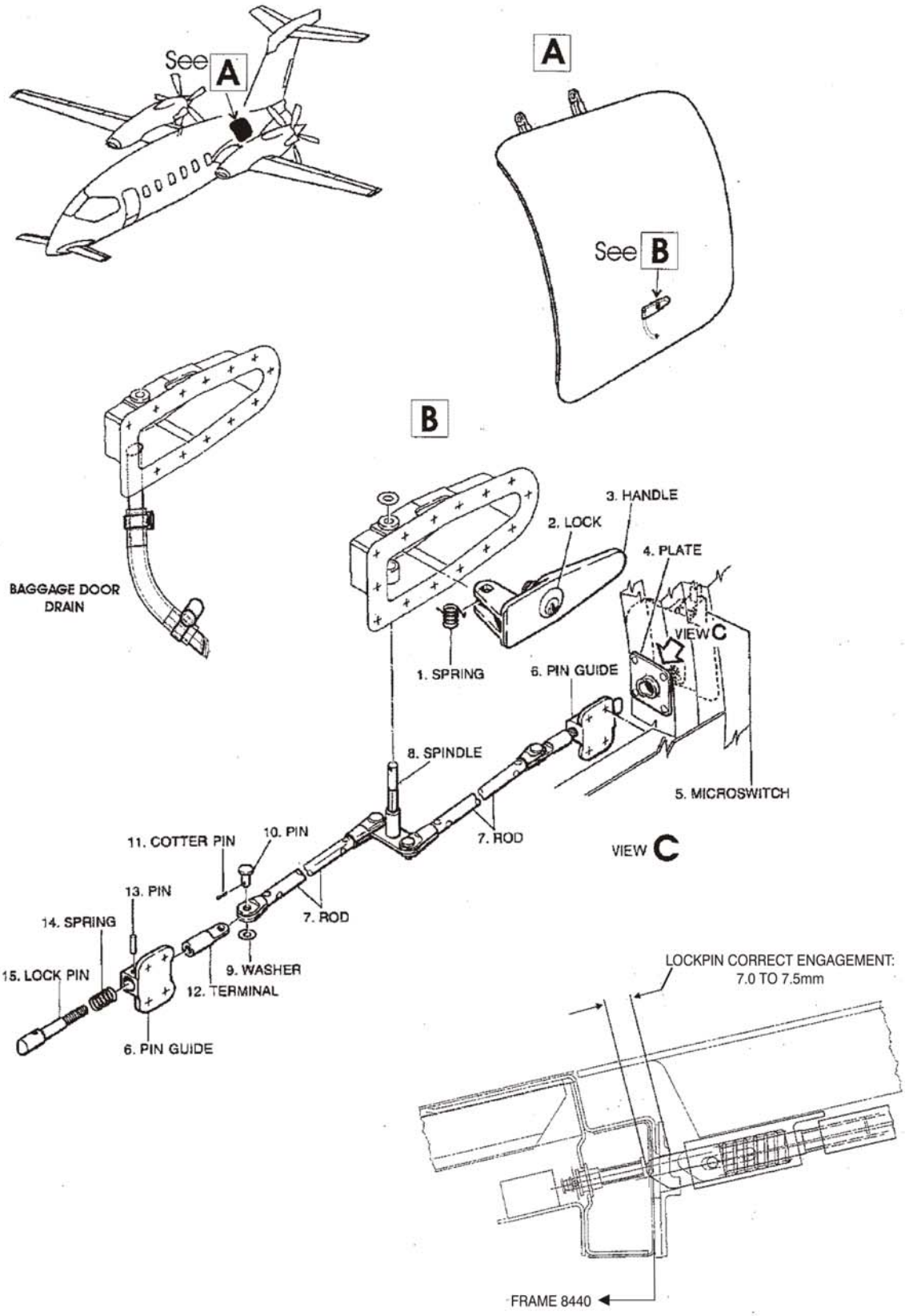

Fig. 202 - Baggage Compartment Door - Mechanism and Drain

6. Baggage Seal Door - Removal (Ref. Fig. 203)

A. Referenced Information

Maintenance Manual Chapter 52-70-00
Maintenance Manual Chapter 20-00-00

B. Fixtures, Test and Support Equipment

Suitable Plastic Tool	Not specified

C. Procedure

(1) Open the Baggage Compartment Door and make sure it is locked in open position.
(2) Using a plastic palette knife remove the Baggage Door Seal (1).
(3) Remove the residues of silicone.
(4) Clean and degrease the contact surface.

7. Baggage Seal Door - Installationl (Ref. Fig. 203)

A. Referenced Information

Maintenance Manual Chapter 52-70-00
Maintenance Manual Chapter 20-00-00

B. Fixtures, Test and Support Equipment

Adhesive tape	Not specified

C. Procedure

(1) Put the new Baggage Seal Door in its own position to verify the correct length.
(2) Lay off a coat of silicone on the seal seat.
(3) Position the Baggage Door Seal in its own position and fix to airplane fuselage with adhesive tape.
(4) Allow to dry the silicone and remove the excess.
(5) Remove the adhesive tape.
(6) Assure that the Baggage Door is closed correctly.

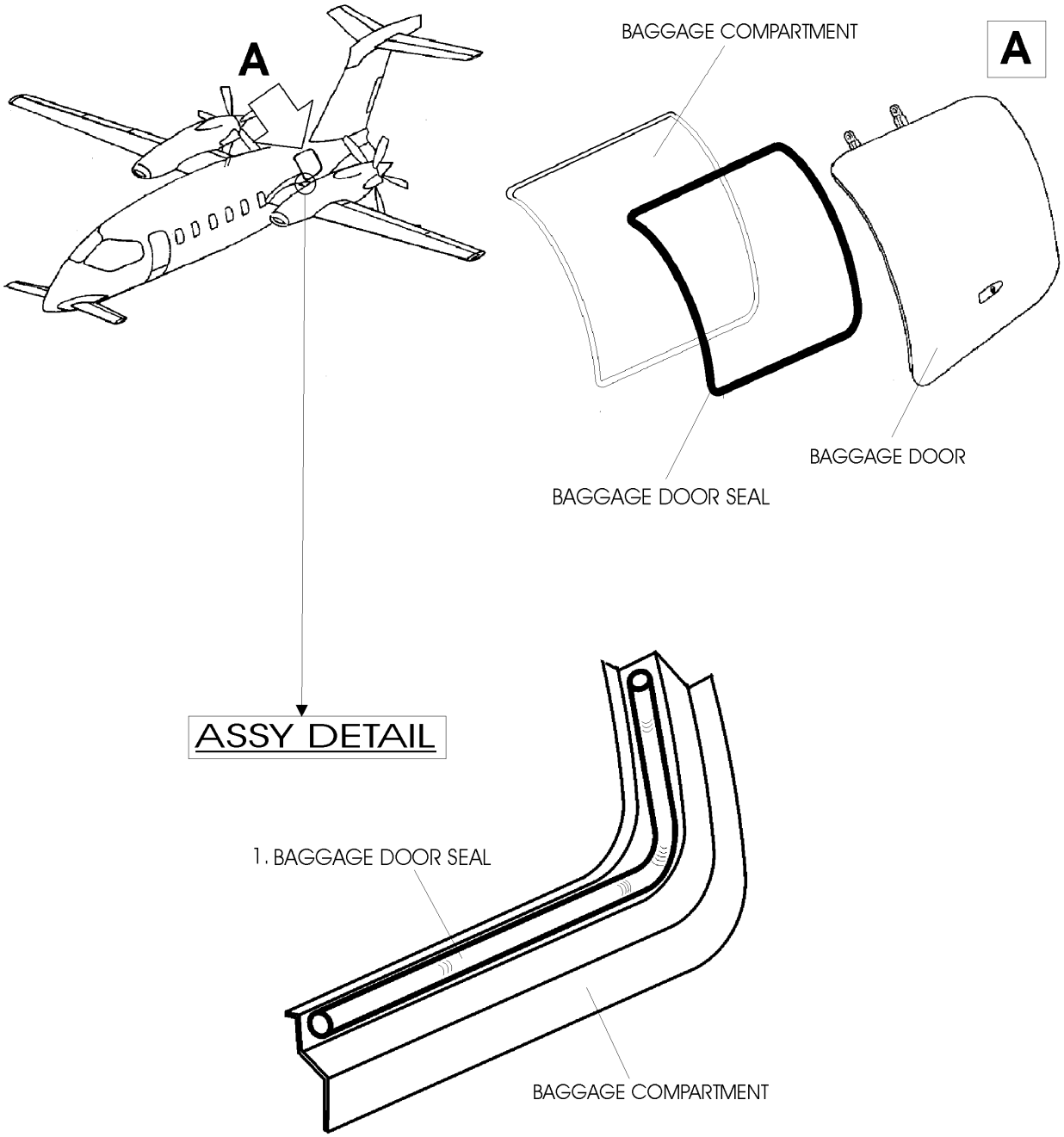

Fig. 203 - Baggage Compartment Door Seal - Rem/Instl

SERVICE DOORS - MAINTENANCE PRACTICES

1. General

A. The service doors include:

- Pressure refuel access door (252B)
- Ground power receptacle access door (271A)
- Ground test panel access door (272A)

B. The door assembly hinges are attached to the airplane structure with rivets. Replacement of the door assemblies are standard repairs.

2. Pressure Refuel Access Door - Inspection

A. Fixtures, Test and Support Equipment

Strong light source	Not specified

B. Procedure

(1) Open the door (252B) and make sure the spring catch operates correctly.
(2) Use a strong light source to examine the door for:
- Damage and distortion
- Cracks and corrosion
- Security of attachment to the hinge.

(3) Examine the hinge attachment to panel (252A) for security of attachment.
(4) Close the door and make sure is the door is flush with the airplane skin.
(5) Make sure the spring catch closes and locks correctly.
(6) If necessary, repair or replace any defective parts.

3. Pressure Refuel Access Door - Standard Repairs

A. Fixtures, Test and Support Equipment

Polythene sheet	Not specified
Gripper pins	TBA

B. Referenced Information

Maintenance Manual Chapter 51-00-00

C. Replace the door assembly

CAUTION: PANEL 252A IS A STRUCTURAL PANEL AND MUST NOT BE REMOVED UNLESS THE AIRCRAFT IS RAISED ON JACKS. THIS REPAIR CAN BE DONE WITH PANEL 252A INSTALLED TO THE AIRPLANE.

(1) Remove inspection panel (252C).
(2) Position a polythene sheet behind panel (252A) to catch debris.
(3) Drill out the rivets attaching the door hinge to panel (252A) (Refer to 51-00-00).
(4) Open the spring catch and remove door (252B).
(5) Position the new door assembly and back mark the new hinge plate through the existing holes in panel (252A).
(6) Pilot drill the new hinge plate.
(7) Pin the door in position and check for correct installation.
(8) Remove the pins and drill the holes in the hinge plate to the correct size.
(9) Apply protective treatment to the holes (Refer to 51-00-00).
(10) Install new rivets to attach the hinge plate to panel (252A) (Refer to 51-00-00).
(11) Remove the polythene sheet.
(12) Remove all swarf and debris from the area of work.
(13) Restore the surface finish as necessary (Refer to 51-00-00).
(14) Close and lock the door (252B).
(15) Install inspection panel (252C).

4. Ground Power Receptacle Access Door - Inspection

A. Fixtures, Test and Support Equipment

Strong light source	Not specified

B. Procedure

(1) Open the door (271A) and make sure the spring catch operates correctly.
(2) Use a strong light source to examine the door for:
- Damage and distortion
- Cracks and corrosion
- Security of attachment to the hinge.

(3) Examine the hinge attachment to the structure for security of attachment.
(4) Close the door and make sure the door is flush with the airplane skin.
(5) Make sure the spring catch closes and locks correctly.
(6) If necessary, repair or replace any defective parts.

5. Ground Power Receptacle Access Door - Standard Repairs

A. Fixtures, Test and Support Equipment

Polythene sheet	Not specified
Gripper pins	TBA

B. Referenced Information

Maintenance Manual Chapter 51-00-00

C. Replace the door assembly

(1) Cover the components in the landing gear bay with a polythene sheet.
(2) Drill out the three rivets attaching the door assembly hinge to the structure (Refer to 51-00-00).
(3) Open the spring catch and remove the door.
(4) Slide the new door assembly hinge between the skin and stiffener until the door assembly is in the correct position.
(5) Pilot drill through the existing holes in the skin.
(6) Pin the hinge in position and check for correct installation.
(7) Remove the pins and drill the holes to the correct size.
(8) Remove the door assembly.
(9) Remove all swarf and debris from the area of work.
(10) Apply protective treatment to the holes (Refer to 51-00-00).
(11) Position the door assembly and attach with rivets (Refer to 51-00-00).
(12) Restore the surface finish as necessary (Refer to 51-00-00).
(13) Close and lock the door.
(14) Remove the polythene sheet.

6. Ground Test Panel Access Door - Inspection

A. Fixtures, Test and Support Equipment

Strong light source	Not specified

B. Procedure

(1) Open the door (272A) and make sure the spring catch operates correctly.
(2) Use a strong light source to examine the door for:
- Damage and distortion
- Cracks and corrosion
- Security of attachment to the hinge.

(3) Examine the hinge attachment to the structure for security of attachment.
(4) Examine the safety guard for:
- Damage and distortion
- Security of attachment to the door.

(5) Close the door and make sure the door is flush with the airplane skin.
(6) Make sure the spring catch closes and locks correctly.
(7) If necessary, repair or replace any defective parts.

7. Ground Test Panel Access Door - Standard Repairs

A. Fixtures, Test and Support Equipment

Polythene sheet	Not specified
Gripper pins	TBA

B. Referenced Information

Maintenance Manual Chapter 51-00-00

C. Replace the door assembly

(1) Cover the components in the landing gear bay with a polythene sheet.
(2) Drill out the three rivets attaching the door assembly hinge to the structure (Refer to 51-00-00).
(3) Open the spring catch and remove the door.
(4) Slide the new door assembly hinge between the skin and the test panel mounting structure until the door assembly is in the correct position.
(5) Pilot drill through the existing holes in the skin.
(6) Pin the hinge in position and check for correct installation.
(7) Remove the pins and drill the holes to the correct size.
(8) Remove the door assembly.
(9) Remove all swarf and debris from the area of work.
(10) Apply protective treatment to the holes (Refer to 51-00-00).
(11) Position the door assembly and attach with rivets (Refer to 51-00-00).
(12) Restore the surface finish as necessary (Refer to 51-00-00).
(13) Close and lock the door.
(14) Remove the polythene sheet.

DOOR WARNING SYSTEM - DESCRIPTION AND OPERATION

1. General

- Eleven switch assemblies for the cabin door warning system
- One CAB DOOR caption on the annunciator panel
- Two switch assemblies for the baggage compartment door warning system
- One BAG DOOR caption on the annunciator panel

2. Description (Ref. Fig. 1)

The cabin door switch assemblies are numbered S123 - S133 inclusive. All the switch assemblies, with the exception of S125, comprise a microswitch, a bracket and a spring loaded plunger. The plunger has a screw type adjuster which is used to adjust the switch.

Switch assembly S125 is located at the hinge of the cabin door upper. This switch assembly comprises a microswitch and bracket with a separate, non-adjustable, spring loaded plunger. Slotted holes in the bracket provide an adjustment for the microswitch position.

The spring loaded plungers of switch assemblies S130 and S131 are used to operate the inflation valves for the cabin door seal inflation system. If these switches are adjusted reference must be made to Chapter 36-10-00 to avoid mal-adjustment of the door seal inflation valve.

The baggage compartment door switch assemblies are numbered S121 and S122. Both switch assemblies comprise a microswitch and bracket, with a separate spring loaded plunger. Slotted holes in the bracket provide an adjustment for the microswitch position.

The electrical supply to the door warning system microswitches is from the 28Vdc L Dual Feed Busbar through circuit breaker CB137 on the pilot circuit breaker panel.

3. Operation

When the cabin door is open and none of the cabin door switch plungers are depressed, the CAB DOOR caption (annunciator panel) comes on, dim and steady.

When the cabin door is closed and locked with all the cabin door switch plungers fully depressed by the door lockpins, the CAB DOOR caption goes off.

If the cabin door is closed and locked and one or more of the cabin door switch plungers is not fully depressed, the CAB DOOR caption flashes to indicate that the door is not safe.

When the baggage compartment door is opened the BAG DOOR caption (annunciator panel) comes on. When the baggage compartment door is closed and locked, and both switch plungers are fully depressed, the BAG DOOR caption goes off. If the baggage compartment door is closed but one, or both, of the switch plungers is not fully depressed, the BAG DOOR caption comes on to indicate that the door is not safe.

4. Component Location (Ref. Fig. 1)

The switch assemblies are located in the cabin door frame structure and baggage compartment door frame structure. The position of each switch is shown on Fig. 1.

The warning captions are located on the annunciator panel (Z225).

CB137 is located on the pilot circuit breaker panel (Z215).

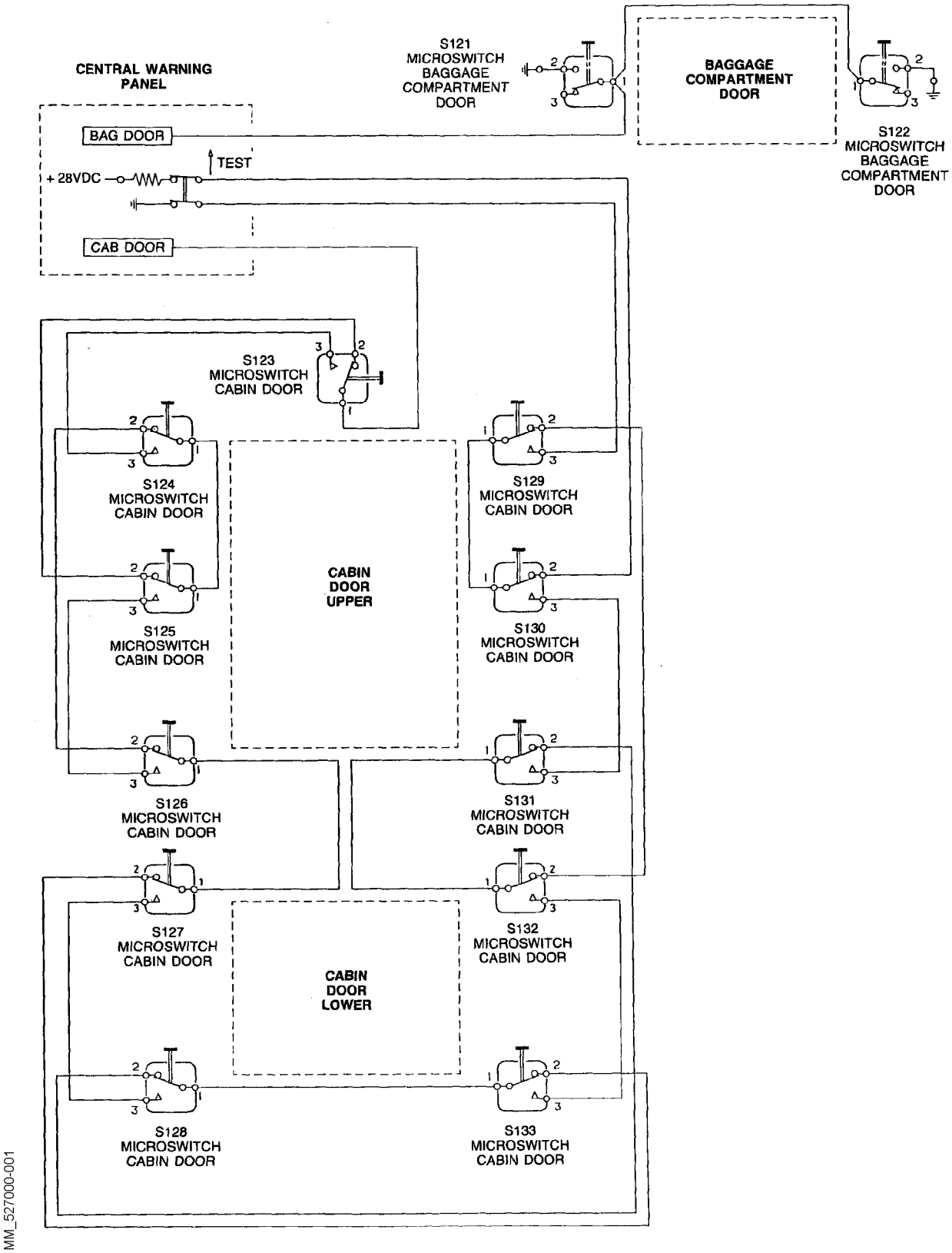

Fig. 1 - Door Warning System - Schematic

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DOOR WARNING SYSTEM - MAINTENANCE PRACTICES

1. General

A. This topic contains the adjustment/test and inspection/check procedures for the complete door warning system.

B. Maintenance practices for individual switch assemblies are contained in Chapter 52-70-00.

2. Door Warning System - Adjustment (Ref. Fig. 201)

A. Referenced Information

Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 36-10-00
Maintenance Manual Chapter 52-12-00

B. Preparation

(1) Make sure the electrical power is available (Refer to 24-00-00).
(2) Make a check of the cabin door lockpin extension (Refer to 52-11-00 and 52-12-00).

C. Adjust switch S125

(1) Close and lock the door.
(2) Make sure the CAB DOOR caption on the annunciator panel is off.
(3) Loosen the two screws (3) attaching the microswitch (2) to the bracket (1).
(4) Move the microswitch (2) forwards until the CAB DOOR caption comes on.
(5) Move the microswitch (2) rearwards until the CAB DOOR caption goes off and tighten the two screws (3).

D. Adjust switch S123, S124, S126, S127, S128, S129, S132, S133

(1) Close and lock the door and make sure the CAB DOOR caption on the annunciator panel is off.
(2) Open the door and turn the plunger (4) clockwise until the CAB DOOR caption flashes when the door is closed and locked.
(3) Open the door and turn the plunger (4) counterclockwise, one turn at a time, until the CAB DOOR caption is off when the door is closed and locked.

E. Adjust switch S130, S131

(1) Close and lock the door and make sure the CAB DOOR caption on the annunciator panel is off.
(2) Open the door and turn the plunger (5) clockwise until the CAB DOOR caption flashes when the door is closed and locked.
(3) Open the door and turn the plunger (5) counterclockwise, one turn at a time, until the CAB DOOR caption is off when the door is closed and locked.
(4) Do a test of the door seal inflation system (Refer to 36-11-00).

F. Adjust switch S121, S122

(1) Open the baggage compartment door.
(2) Loosen the two screws (7) attaching the microswitch (8) to the bracket (6).
(3) Move the microswitch (8) away from the lockpin until the BAG DOOR caption (annunciator panel) is on when the door is closed and locked.
(4) Move the microswitch (8) towards the lockpin until the BAG DOOR caption goes off and tighten the screws (7).

G. Completion

(1) Do a test of the door warning system (Refer to Para. 3).
(2) Remove the electrical power (Refer to 24-00-00).

3. Door Warning System - Operational Test

A. Fixtures, Test and Support Equipment

Wooden dowels	Local manufacture
Adhesive tape	Not specified

B. Referenced Information

Maintenance Manual Chapter 24-00-00

C. Procedure

(1) Make sure the electrical power is available (Refer to 24-00-00).
(2) Do the test of the door warning system.

	Action	Result
(a)	Close and lock the cabin door.	The CAB DOOR caption (annunciator panel) is off.
(b)	Open the cabin door.	The CAB DOOR caption comes on (dim and steady).
(c)	Depress one switch plunger by hand.	The CAB DOOR caption flashes
(d)	Release the switch plunger.	The CAB DOOR caption stays on (dim and steady).
(e)	Repeat step (c) and (d) for each switch in turn.	The CAB DOOR caption flashes and then goes dim and steady.
(f)	Depress all eleven switch plungers.	The CAB DOOR caption goes off.

Action		Result

NOTE: If required, use locally manufactured wooden dowels held by adhesive tape to depress the switch plungers.

(g)	Release one switch plunger.	The CAB DOOR caption flashes.
(h)	Depress the switch plunger.	The CAB DOOR caption goes off.
(i)	Repeat steps(g) and (h) for each switch plunger in turn.	The CAB DOOR caption flashes and then goes off.
(j)	Release all the switch plungers.	The CAB DOOR caption stays on (dim and steady).
(k)	Open the baggage compartment door.	The BAG DOOR caption (annunciator panel) comes on.
(l)	Depress, then release, on baggage compartment switch plunger by hand.	The BAG DOOR caption stays on
(m)	Depress, then release the other baggage compartment switch plunger by hand.	The BAG DOOR caption stays on.
(n)	Depress both baggage compartment switch plungers by hand.	The BAG DOOR caption goes off.
(o)	Release both baggage compartment switch plungers.	The BAG DOOR caption comes on.
(p)	Close and lock the baggage compartment door.	The BAG DOOR caption goes off.
(q)	Close and lock the cabin door.	The CAB DOOR caption goes off.

(3) Remove the electrical power (Refer to 24-00-00).

4. Door Warning System - Inspection

A. Fixtures, Test and Support Equipment

Strong light source	Not specified
Mirror	Not specified
Endoscope	Not specified

B. Procedure

(1) Open the cabin door.
(2) Use a strong light source to examine the switch assembly S125 at the hinge position for:
- Damage and distortion
- Cracks and corrosion
- Security of attachment to the bracket.

(3) Examine the electrical wires for:
- Chafing
- Discoloration and signs of burning
- Correct installation away from moving parts.

(4) Examine the plunger for:
- Damage and distortion
- Corrosion.
- Looseness

NOTE: If looseness is detected refer to chapter 52-72-00 for Plunger Removal / Installation procedure.

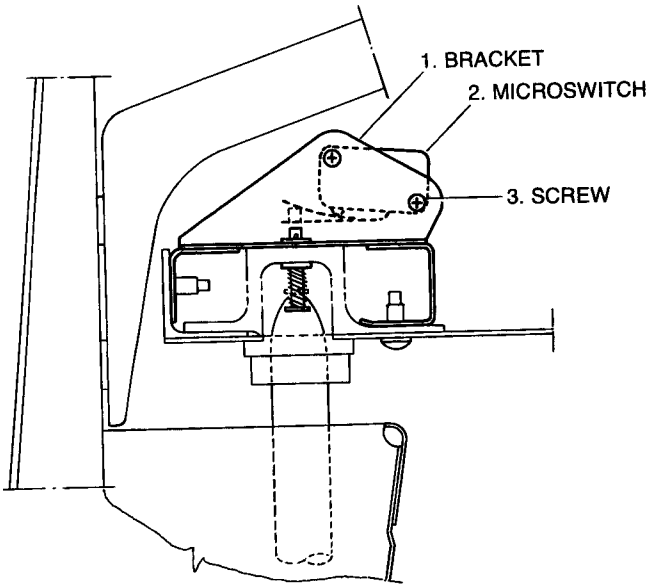
(5) Use an endoscope, through the lockpin holes, to examine the switch assemblies and plungers as far as possible for:
- Damage and distortion
- Corrosion
- Security of attachment.

(6) Open the baggage compartment door.
(7) Examine the baggage compartment door switch assemblies for:
- Damage and distortion
- Cracks and corrosion
- Security of attachment of the microswitch to the bracket
- Security of attachment of the bracket to the structure.

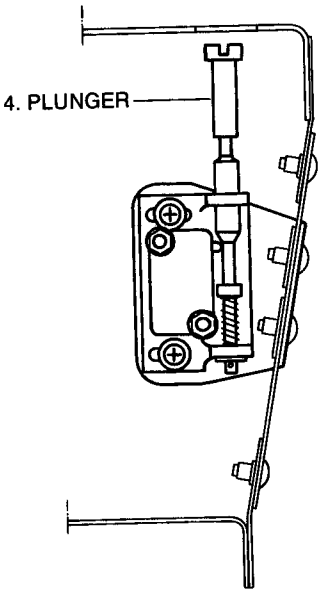
(8) Examine the electrical wires for:
- Chafing
- Discoloration and signs of burning
- Correct installation away from moving parts.

(9) Examine the plungers for:
- Damage and distortion
- Corrosion.
- Looseness

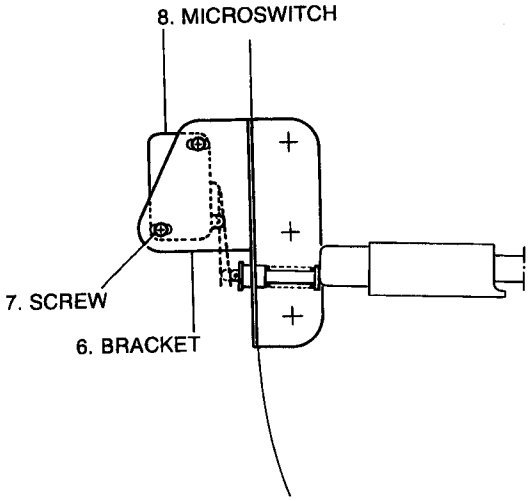
(10) If necessary, repair or replace any defective parts.
(11) Close the baggage compartment door.
(12) Close the cabin door.



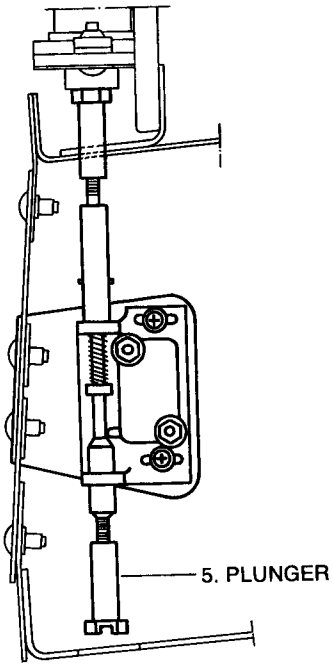
SWITCH S125



SWITCH S123, S124, S126, S127,
S128, S129, S132, S133



SWITCH S121, S122



SWITCH S130, S131

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Fig. 201 - Door Warning System - Adjustment

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WARNING SWITCHES - MAINTENANCE PRACTICES

1. General

A. The removal/installation procedures for the door warning switch assemblies are divided as follows:

- S125 (cabin door upper - hinge position)
- S123, S124, S126, S127, S128, S129, S132, S133 (cabin door upper and lower)
- S130, S131 (cabin door upper - inflation valve positions)
- S121, S122 (baggage compartment door)

2. Cabin Door Plunger - Removal(Ref. Fig. 203)

A. Procedure

NOTE: During Plunger removal, record the total turns required to completely unscrew the Plunger.

(1) Unscrew completely the Plunger.

3. Cabin Door Plunger - Installation(Ref. Fig. 203)

A. Fixtures, Test and Support Equipment

Methyl-Ethyl-Ketone (MEK) solvent	02-009
Lint-free cloth	04-013
Loctite 222	01-004

B. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE CONSUMABLE MATERIALS. OBEY THE SAFETY PRECAUTIONS GIVEN IN CHAPTER 20.

(1) Clean with MEK the residual of loctite 222 located on the Plunger Thread and on the Switch Clevis Bolt.
(2) Screw and adjust the Plunger in the Switch Clevis Bolt (Ref. to 52-70-00, Door Warning System - Adjustment, switches S130, S131).
(3) Take a note the number screw turns.
(4) Unscrew the Plunger.
(5) Apply 5 drops of the Loctite 222 in the Plunger Threaded Hole.
(6) Screw the Plunger to the Switch Clevis Bolt up to the previously recorded turns number.
(7) Perform the Door Warning System Operational Test (Ref. to 52-70-00, for Cabin Door only).

4. Switch Assembly S125 - Removal (Ref. Fig. 201)

A. Referenced Information

Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 25-20-00
Maintenance Manual Chapter 53-00-00

B. Procedure

(1) Open the cabin door.
(2) Remove the forward left partition (Refer to 25-20-00).
(3) Remove the trim panel from the forward side of the door frame (Refer to 25-20-00).
(4) Open, tag and safety the circuit breaker: LTS DOOR ACTR on the pilot circuit breaker panel.
(5) Remove the door hinge access panel (Refer to 53-00-00).
(6) Remove the three screws (3, 4) attaching the switch support bracket (1) to the door frame structure.
(7) Remove the switch assembly (2) as far as possible , take care not to put a strain on the electrical connections.
(8) Make a note of the electrical connection positions.
(9) Disconnect the electrical connections (Refer to 20-00-00).

5. Switch Assembly S125 - Installation (Ref. Fig. 201)

A. Referenced Information

Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 25-20-00
Maintenance Manual Chapter 52-70-00
Maintenance Manual Chapter 53-00-00

B. Procedure

(1) Connect the electrical connections as noted in Para 2, step (7) (Refer to 20-00-00).
(2) Position the switch assembly (2) in the door frame structure.
(3) Attach the support bracket (1) to the structure with the three screws (3, 4).
(4) Remove the safety tag and close the circuit breaker: LTS DOOR ACTR on the pilot circuit breaker panel.
(5) Adjust the microswitch (Refer to 53-00-00).
(6) Do a test of the door warning system (Refer to 53-00-00).
(7) Install the door hinge access panel (Refer to 53-00-00).
(8) Install the trim panel (Refer to 25-20-00).
(9) Install the partition (Refer to 25-20-00).

6. Switch Assembly S123, S124, S126, S127, S128, S129, S132, S133 - Removal (Ref. Fig. 202)

A. Referenced Information

Maintenance Manual Chapter 20-00-00

Maintenance Manual Chapter 25-20-00

B. Procedure

(1) Open the cabin door.
(2) Remove the trim as required to get access to the switch assembly (Refer to 25-20-00).
(3) Open, tag and safety the circuit breaker: LTS DOOR ACTR on the pilot circuit breaker panel.
(4) Remove the screws (4) attaching the mounting panel (1) to the door frame structure.
(5) Remove the switch assembly (2) as far as possible, take care not to put a strain on the electrical connections.
(6) Make a note of the electrical connection positions.
(7) Disconnect the electrical connections (Refer to 20-00-00).
(8) Remove the screws (3) attaching the switch assembly (2) to the mounting panel (1).

7. Switch Assembly S123, S124, S126, S127, S128, S129, S132, S133 - Installation
(Ref. Fig. 202)

A. Referenced Information

Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 25-20-00
Maintenance Manual Chapter 52-70-00

B. Procedure

(1) Install the mounting panel (1) to the switch assembly (2) with the screws (3).
(2) Connect the electrical connections as noted in Para. 4, step(6) (Refer to 20-00-00).
(3) Position the switch assembly (2) in the door frame structure and attach with the screws (4).
(4) Remove the safety tag and close the circuit breaker: LTS DOOR ACTR on the pilot circuit breaker panel.
(5) Adjust the microswitch and plunger (Refer to 52-70-00).
(6) Do a test of the door warning system (Refer to 52-70-00).
(7) Install the trim panel (Refer to 25-20-00).

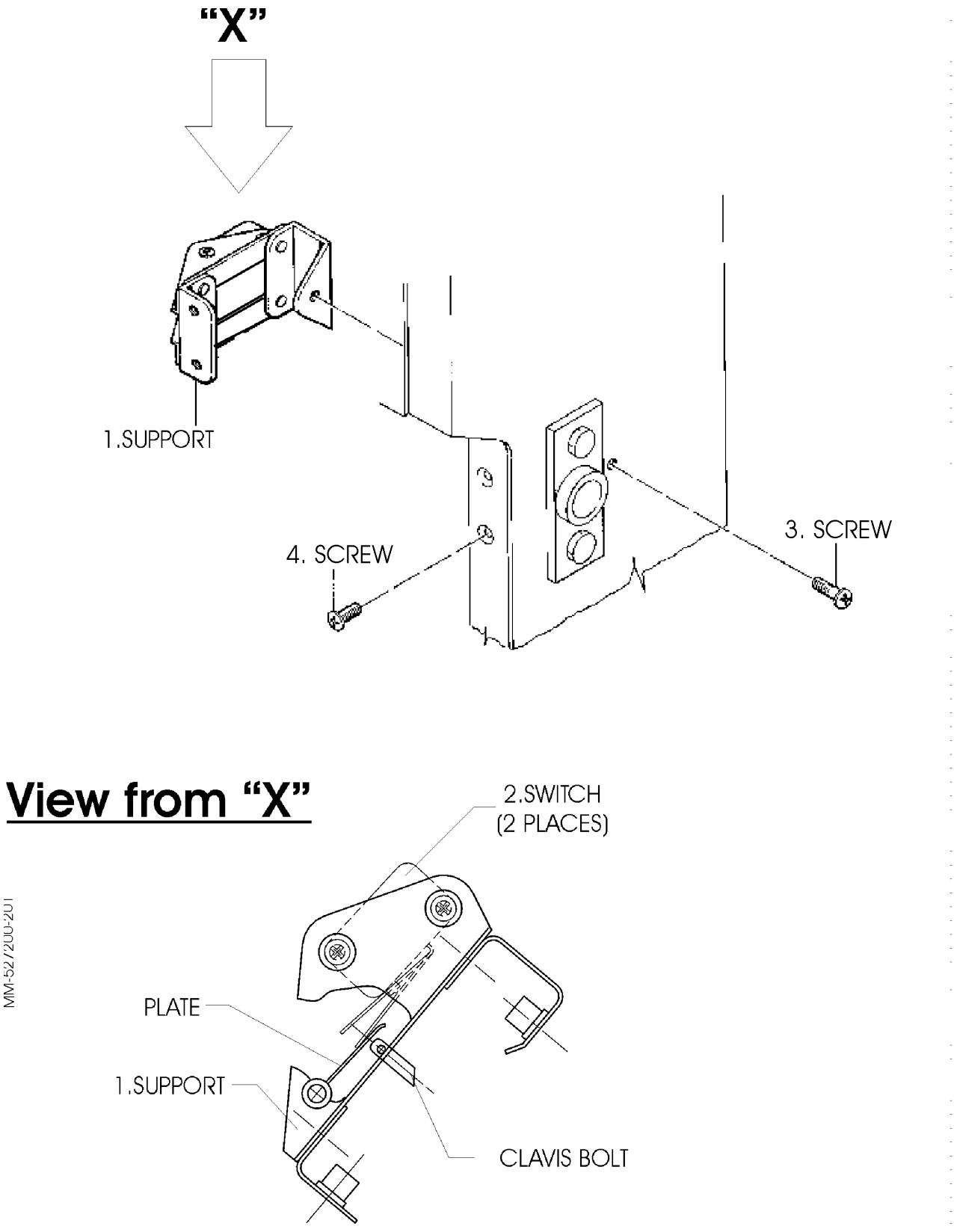

Fig. 201 - Switch Assembly S125 - Removal/Installation

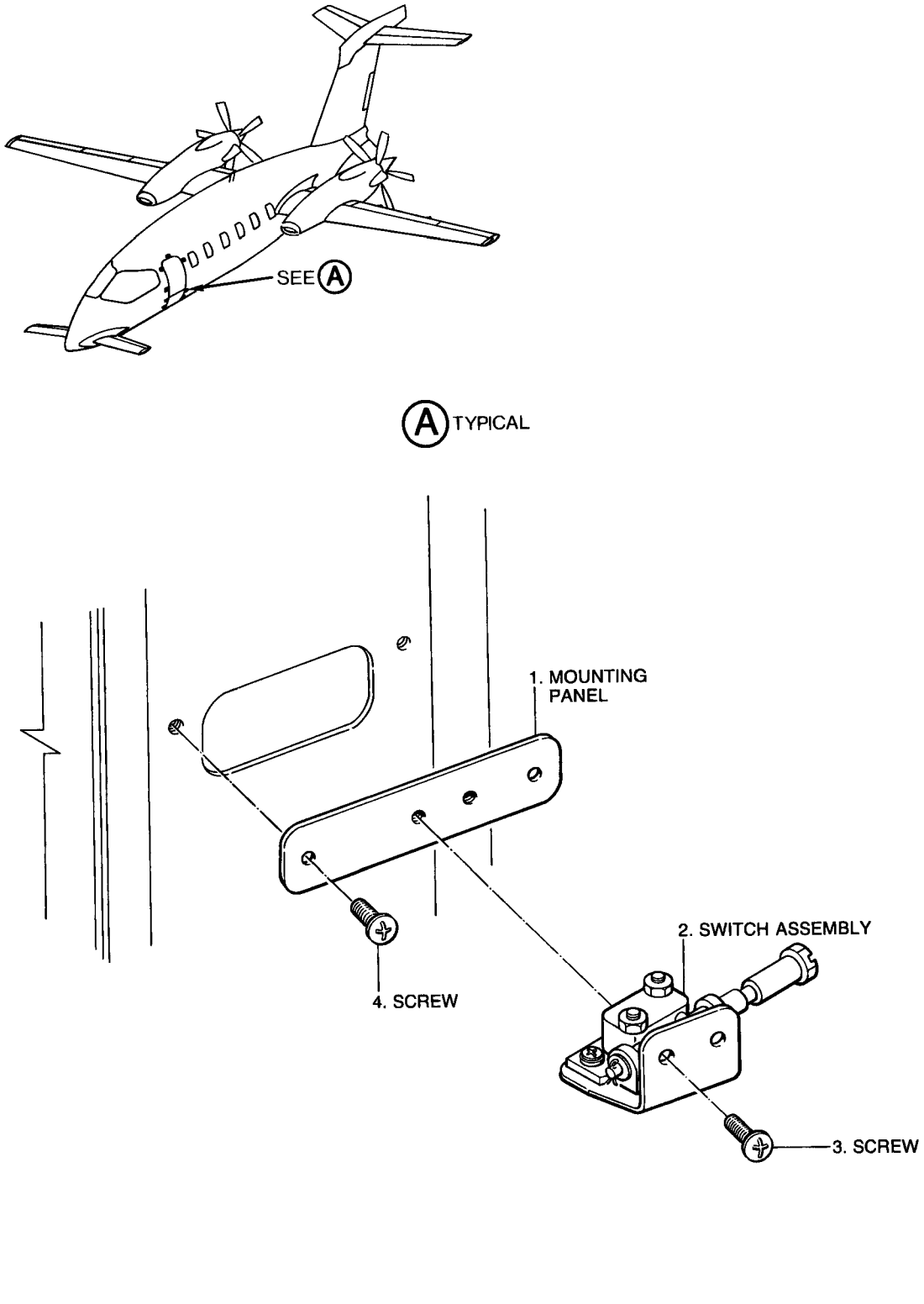

Fig. 202 - Switch Assembly S123, S124, S126, S127, S128, S129, S132, S133 - Removal/Installation

8. Switch Assembly S130, S131 - Removal (Ref. Fig. 203)

A. Referenced Information

Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 25-20-00

B. Procedure

(1) Open the cabin door.
(2) Remove the trim panel to the rear of the door (Refer to 25-20-00).
(3) Open, tag and safety the circuit breaker: LTS DOOR ACTR on the pilot circuit breaker panel.
(4) Remove the four screws (6) attaching the mounting panel (7) to the door frame structure.
(5) Remove the two screws (4) attaching the switch assembly (3) to the mounting panel (7).
(6) Slide the mounting panel (7) up and remove.
(7) Remove the cotter pin (2) attaching the plunger (5) to the connector tube (1).
(8) Move the switch assembly (3) forwards to disconnect the connector tube (1) from the plunger (5).
(9) Remove the switch assembly (3) as far as possible, take care not to put a strain on the electrical connections.
(10) Make a note of the electrical connection positions.
(11) Disconnect the electrical connections (Refer to 20-00-00).

9. Switch Assembly S130, S131 - Installation (Ref. Fig. 203)

A. Referenced Information

Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 25-20-00
Maintenance Manual Chapter 52-70-00

B. Procedure

(1) Connect the electrical connections as noted in Para. 6 step(10) (Refer to 20-00-00).
(2) Position the switch assembly (3) in the door frame structure.
(3) Install the plunger (5) to the connector tube (1) and secure with a new cotter pin (2).
(4) Slide the mounting panel (7) between the switch assembly (3) and the door frame structure.
(5) Install the two screws (4) to attach the switch assembly (3) to the mounting plate (7).
(6) Install the four screws (6) to attach the mounting panel (7) to the door frame structure.
(7) Remove the safety tag and close the circuit breaker: LTS DOOR ACTR on the pilot circuit breaker panel.
(8) Adjust the microswitch and plunger (Refer to 52-70-00).
(9) Do a test of the door warning system (Refer to 52-70-00).
(10) Install the trim panel (Refer to 25-20-00).

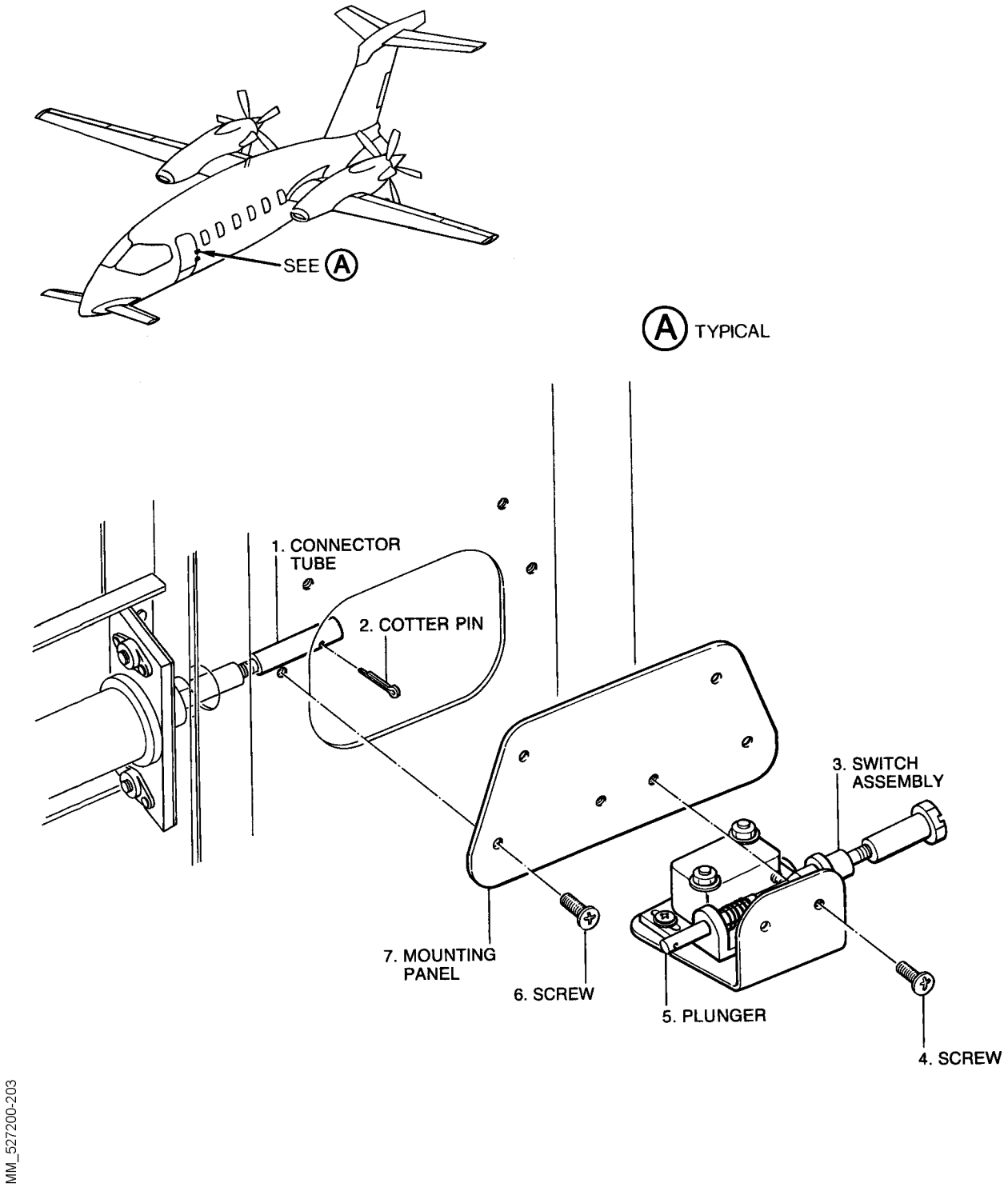

Fig. 203 - Switch Assembly S130, S131 - Removal/Installation

10. Switch Assembly S121, S122 - Removal (Ref. Fig. 204)

A. Referenced Information

Maintenance Manual Chapter 20-00-00

B. Procedure

(1) Open, tag and safety the circuit breaker: LTS DOOR ACTR on the pilot circuit breaker panel.
(2) Open the baggage compartment door.
(3) Make a note of the electrical connection positions at the microswitch (3).
(4) Disconnect the electrical connections (Refer to 20-00-00).
(5) Remove the two screws (1) attaching the microswitch (3) to the bracket (2) and remove the microswitch (3).

11. Switch Assembly S121, S122 - Installation (Ref. Fig. 204)

A. Referenced Information

Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 52-70-00

B. Procedure

(1) Position the microswitch (3) on the bracket (2) and attach with the two screws (1).
(2) Connect the electrical connections as noted in Para. 8 step 3 (Refer to 20-00-00).
(3) Remove the safety tag and close the circuit breaker: LTS DOOR ACTR on the pilot circuit breaker panel.
(4) Adjust the microswitch (Refer to 52-70-00).
(5) Do a test of the door warning system (Refer to 52-70-00).

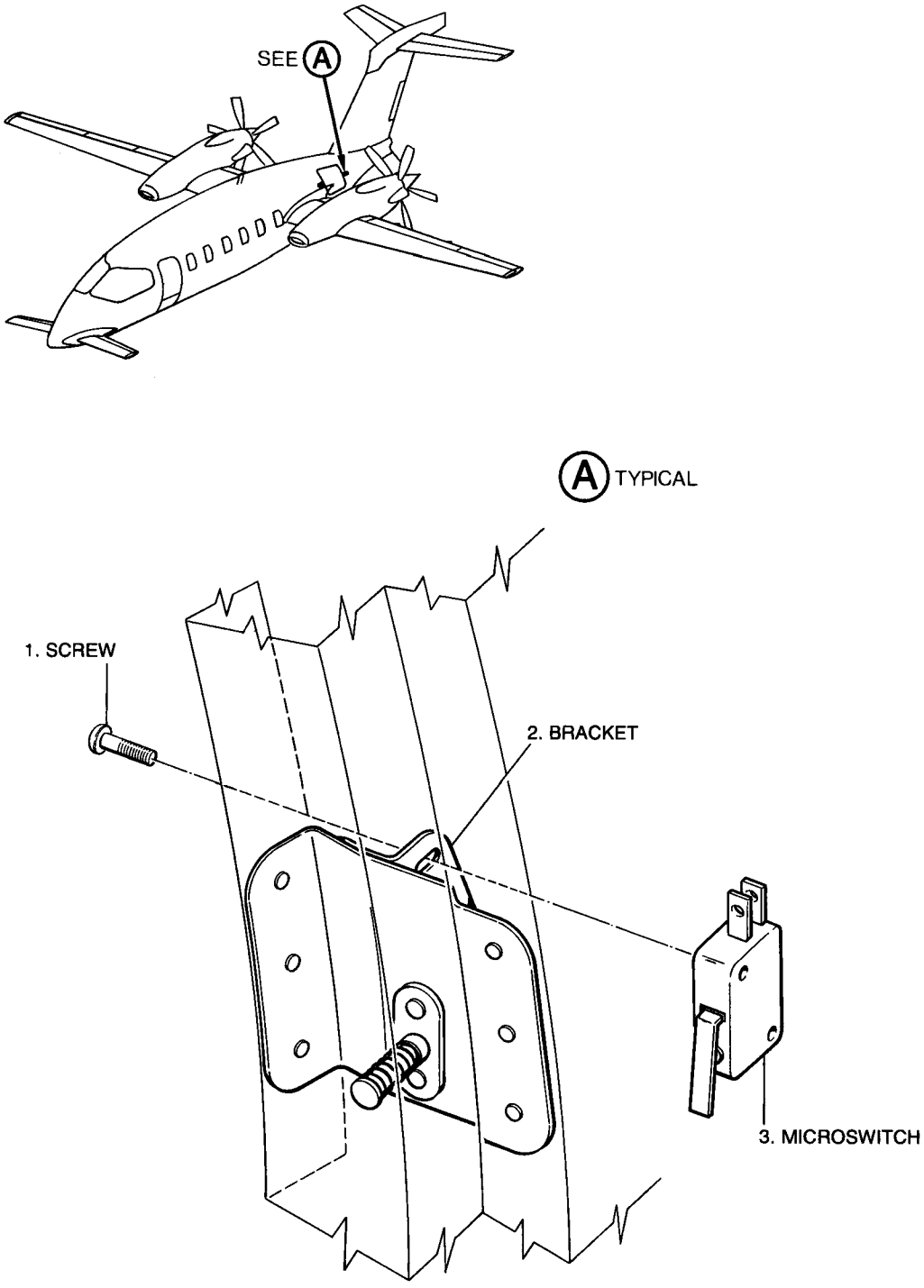

Fig. 204 - Switch Assembly S121, S122 - Removal/Installation

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NOSE LANDING GEAR DOORS - MAINTENANCE PRACTICES

1. General

   A. The nose landing gear doors comprise the left and right doors and the rear door. The doors are manufactured from composite materials and are connected to the landing gear mechanism with adjustable rods.

   B. This topic contains the procedures for removal/installation and inspection/check of the doors. For the adjustment of the doors refer to Chapter 32-20-00.

2. Nose Landing Gear Left/Right Door - Removal (Ref. Fig. 201)

   A. Referenced Information

      Maintenance Manual Chapter 07-10-00
      Maintenance Manual Chapter 32-00-00
      Maintenance Manual Chapter 53-80-00

   B. Procedure

      NOTE: This procedure is applicable to the LH and RH installations.

      (1) Remove the radome/nose cone (Refer to 53-80-00).
      (2) Lift the aircraft on jacks until the wheels are clear of the ground (Refer to 07-00-00).
      (3) Partially retract the landing gear until the nose landing gear doors are fully open (Refer to 32-00-00).
      (4) Remove the nut (4), bolt (1) and washer (3) attaching the rod (2) to the hinge bracket (8).
      (5) Attach temporary ties to safety the rod (2) in a position which will allow extension and retraction of the landing gear.
      (6) Remove the bolts (7, 10) attaching the hinge brackets (8, 13) to the brackets (5, 12). Collect the spacers (6, 11).

         NOTE: Access to the bolts (7, 10) is through the avionics compartment Zone 110

      (7) Remove the door (9).
      (8) Extend the landing gear (Refer to 32-00-00).

3. Nose Landing Gear Left/Right Door - Installation (Ref. Fig. 201)

   A. Referenced Information

      Maintenance Manual Chapter 07-10-00
      Maintenance Manual Chapter 32-00-00
      Maintenance Manual Chapter 32-30-00
      Maintenance Manual Chapter 53-80-00

B. Procedure

NOTE: This procedure is applicable to the LH and RH installations.

(1) Partially retract the landing gear until the nose landing gear door operating mechanism is in the door open position (Refer to 32-00-00).
(2) Put the door (9) in the correct position for installation and install the bolts (7, 10) and spacers (6, 11) through the brackets (5, 12).
(3) Remove the temporary ties from the rod (2).
(4) Install the rod (2) to the hinge bracket (8) with the bolt (1), washer (3) and nut (4).
(5) Extend the landing gear (Refer to 32-00-00).
(6) Adjust the door (Refer to 32-20-00).
(7) Lower the airplane to the ground and remove the jacks (Refer to 07-10-00).
(8) Install the radome/nose cone (Refer to 53-80-00).

4. Nose Landing Gear Rear Door - Removal (Ref. Fig. 202)

A. Procedure

(1) Remove the nut (15), washer (16) and bolt (2) attaching the rod (1) to the hinge bracket (4).
(2) Attach temporary ties to safety the rod (1) in a position which will allow extension and retraction of the landing gear.
(3) Remove the nuts (8, 9) and washers (7,10) from the bolts (3, 13).
(4) Support the door (14) and remove the bolts (3, 13).
(5) Remove the door (14).

5. Nose Landing Gear Rear Door - Installation (Ref. Fig. 202)

A. Referenced Information

Maintenance Manual Chapter 32-20-00

B. Procedure

(1) Put the door (14) in the correct position for installation and install the two bolts (3, 13).

NOTE: The bolt (3) is longer than bolt (13) and is installed at the RH hinge bracket (6) position.

(2) Install the washers (7, 10) and nuts (8, 9) to the bolts (3, 13).
(3) Remove the temporary ties from the rod (1).
(4) Install the rod (1) to the hinge bracket (4) with the bolt (2), washer (16) and nut (15).
(5) Adjust the door (Refer to 32-20-00).

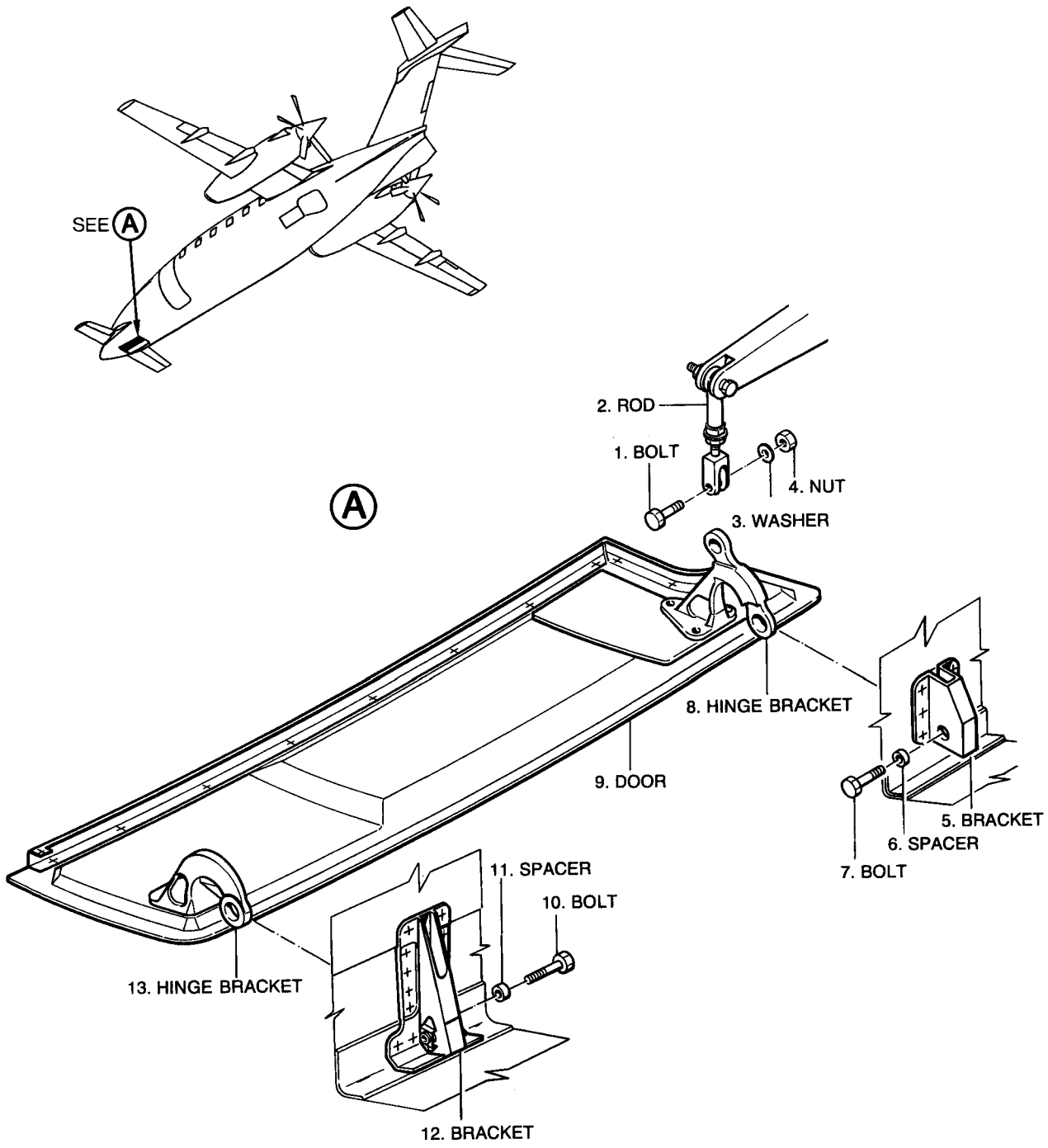
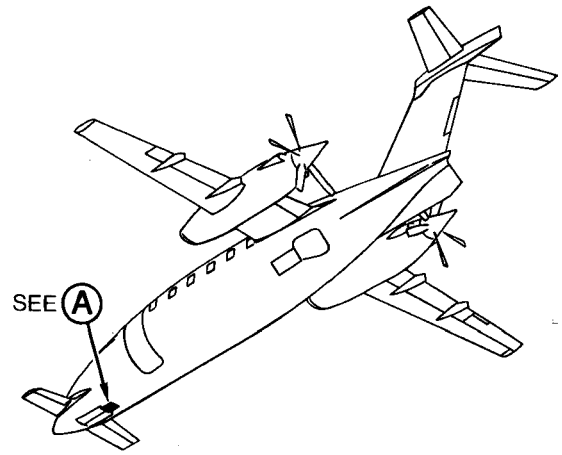


Fig. 201 - Nose Landing Gear Left/Right Door - Removal/Installation



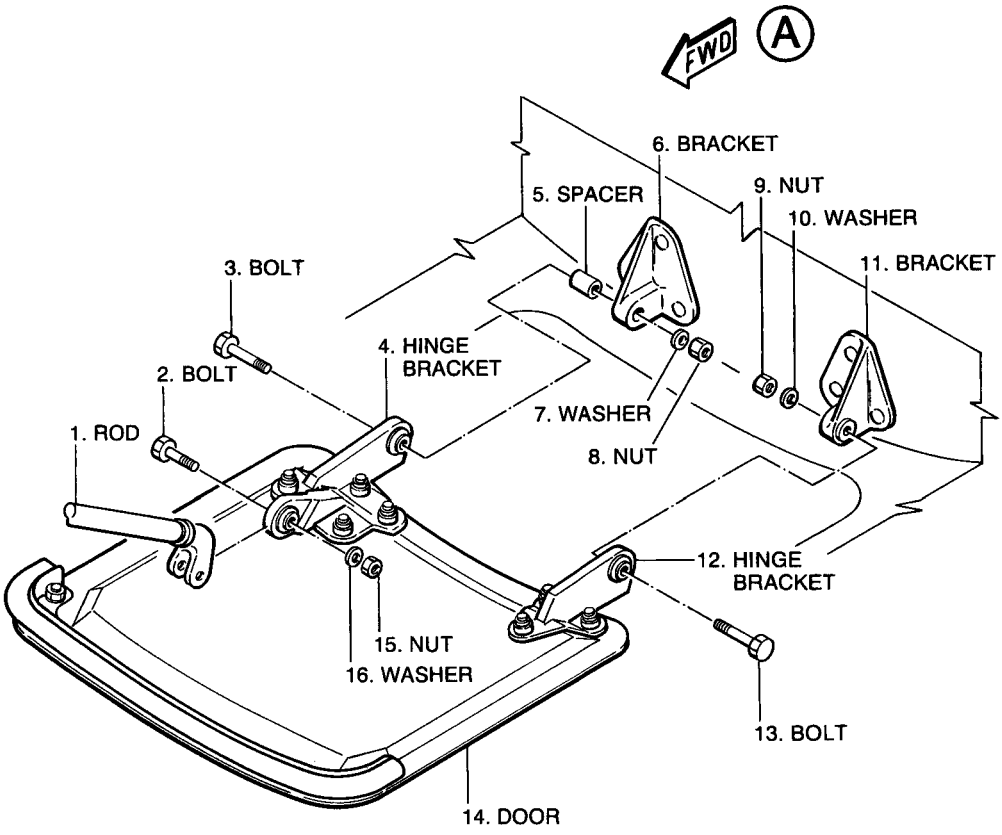


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Fig. 202 - Nose Landing Gear Rear Door - Removal/Installation

6. Nose Landing Gear Doors - Inspection

A. Fixtures, Tools and Support Equipment

Calibrated coin	Not specified
Strong light source	Not specified

B. Materials

Methyl-Ethyl-Ketone (MEK) solvent	TT-M-261
Lint-free Cloth	Not specified

C. Referenced Information

Maintenance Manual Chapter 07-10-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 32-00-00
Maintenance Manual Chapter 51-00-00

D. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(1) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-10-00).
(2) Partially retract the landing gear until the nose landing gear doors are fully open (Refer to 32-00-00).
(3) Disconnect the left and right doors and use temporary ties to safety the rods in a position which will allow extension and retraction of the landing gear (Refer to Para. 2 steps (4) and (5)).
(4) Extend the landing gear (Refer to 32-00-00).
(5) Disconnect the rear door (Refer to Para. 4 step (1)).
(6) Clean the inner and outer surfaces of the doors with MEK solvent (TT-M-261) and dry with a lint-free cloth.
(7) Use a strong light source to examine the doors for:
- Damage, cracks and splits
- Delamination
- Blistering or flaking of the paint finish.

(8) Examine the hinge brackets for:
- Damage and distortion
- Corrosion
- Security of attachment.

(9) Examine the door seals for:
- Cuts and splits
- Crushing and perishing
- Signs of hydraulic fluid contamination
- Security of attachment.

(10) Do a coin tapping test of the hinge bracket attachment areas to check for internal delamination (Refer to 51-00-00).
(11) If necessary, repair or replace any defective parts.
(12) Connect the rear door (Refer to Para. 5 step (4)).
(13) Partially retract the landing gear until the nose landing gear door operating mechanism is in the door open position (Refer to 32-00-00).
(14) Remove the temporary ties from the rods (Refer to Para. 3 step (3)).
(15) Connect the left and right doors (Refer to Para. 3 step (4)).
(16) Extend the landing gear (Refer to 32-00-00).
(17) Lower the airplane to the ground and remove the jacks (Refer to 07-10-00).

MAIN LANDING GEAR DOORS - MAINTENANCE PRACTICES

1. General

A. The main landing gear doors comprise the left main landing gear forward and rear doors and the right main landing gear forward and rear doors. The doors are manufactured from composite materials and are connected to the landing gear mechanism with adjustable rods.

B. For the adjustment of the doors refer to Chapter 32-00-00.

2. Main Landing Gear Forward Door - Removal (Ref. Fig. 201)

A. Referenced Information

Maintenance Manual Chapter 07-10-00
Maintenance Manual Chapter 53-60-00

B. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

(1) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-10-00).
(2) Remove panel 251A (252A) (Refer to 53-60-00).
(3) Remove the nut (14), bolt (3) and washer (15) and disconnect the rod (1) from the hinge bracket (2).
(4) Remove the nuts (5,9) and washers (4, 10) from the bolts (12, 13).
(5) Support the door (6) and remove the bolts (12, 13). Collect the two bushes (8).
(6) Remove the door (6).

3. Main Landing Gear Forward Door - Installation (Ref. Fig. 201)

A. Referenced Information

Maintenance Manual Chapter 07-10-00
Maintenance Manual Chapter 53-60-00
Maintenance Manual Chapter 32-00-00

B. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

(1) Put the door (6) in the correct position for installation.
(2) Install the bushes (8), bolts (3, 12), washers (4, 10) and nuts (5, 9).
(3) Remove the temporary ties from the rod (1).
(4) Install the bolt (3), washer (15) and nut (14) to connect the rod (1) to the hinge bracket (2).

(5) Install panel 251A (252B) (Refer to 53-60-00).
(6) Adjust the door (Refer to 32-00-00).
(7) Lower the airplane to the ground and remove the jacks (Refer to 07-10-00).

4. Main Landing Gear Rear Door - Removal (Ref. Fig. 202)

A. Referenced Information

Maintenance Manual Chapter 07-10-00
Maintenance Manual Chapter 32-00-00

B. Procedure

NOTE: This procedure is applicable to the LH and RH installations.

(1) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-10-00).
(2) Partially retract the landing gear until the rear door (16) is fully open (Refer to 32-00-00).
(3) Remove the nut (4), bolt (17) and washer (3) and disconnect the rod (1) from the hinge bracket (2).
(4) Attach temporary ties to safety the rod (1) in a position which will allow extension and retraction of the landing gear.
(5) Support the door and remove the nuts (10, 11), bolts (7, 15) and washers (9, 12) attaching the hinge brackets (2,5) to the brackets (6, 13). Collect the spacers (8, 14).
(6) Remove the door (16).
(7) Extend the landing gear (Refer to 32-00-00).

5. Main Landing Gear Rear Door - Installation (Ref. Fig. 202)

A. Referenced Information

Maintenance Manual Chapter 07-10-00
Maintenance Manual Chapter 32-00-00

B. Procedure

NOTE: This procedure is applicable to the LH and RH installations.

(1) Partially retract the landing gear until the door operating mechanism is in the door open position (Refer to 32-00-00).
(2) Install the spacers (8, 14) and put the door (16) in the correct position for installation.
(3) Install the bolts (7, 15), washers (9,12) and nuts (10, 11) to attach the hinge brackets (2, 5) to the brackets (6, 13).
(4) Remove the temporary ties from the rod (1).
(5) Install the bolt (17), washer (3) and nut (4) to connect the rod (1) to the hinge bracket (2).
(6) Extend the landing gear (Refer to 32-00-00).
(7) Adjust the door (Refer to 32-00-00).
(8) Lower the airplane to the ground and remove the jacks (Refer to 07-10-00).

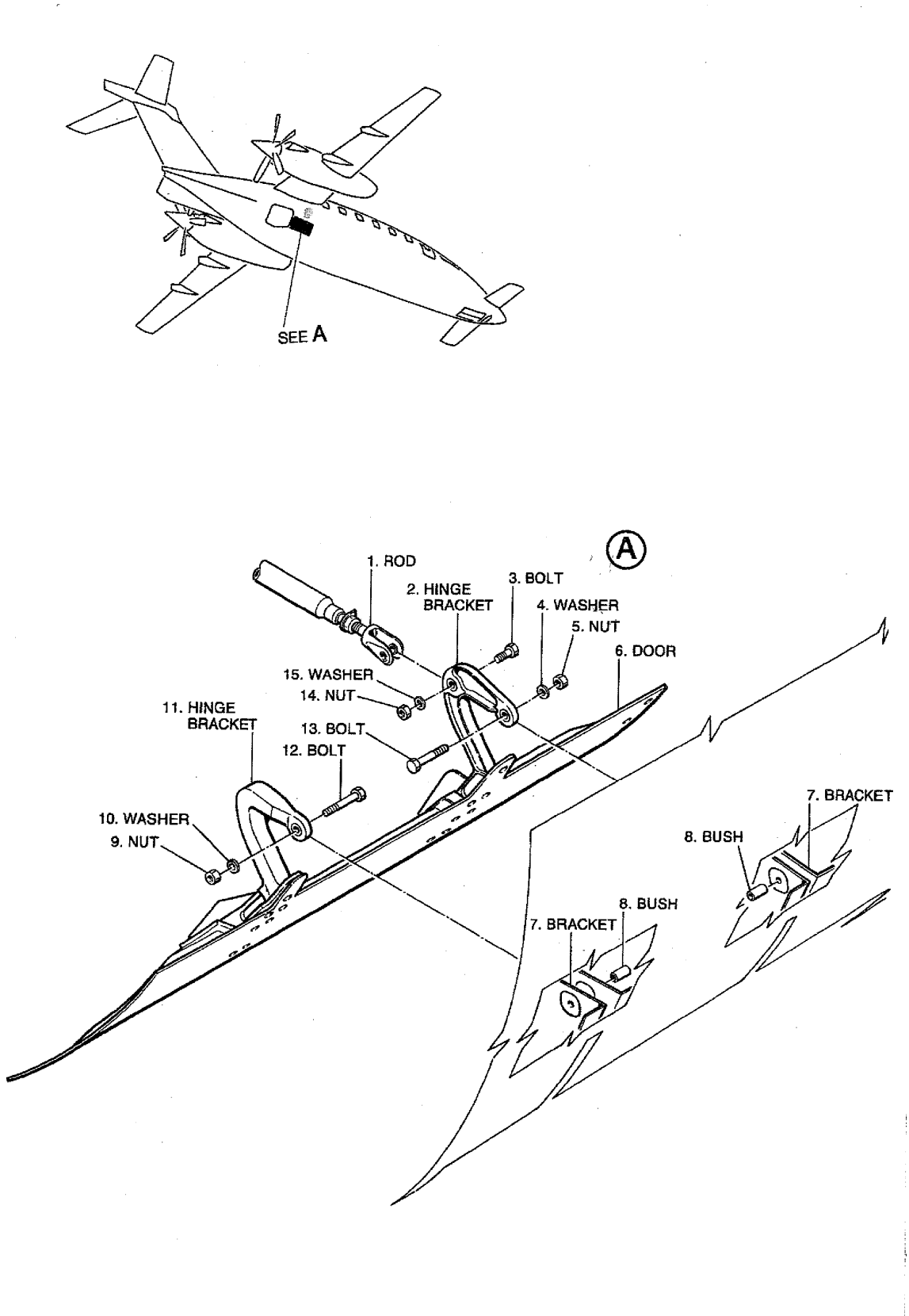

Fig. 201 - Main Landing Gear Forward Door - Removal/Installation

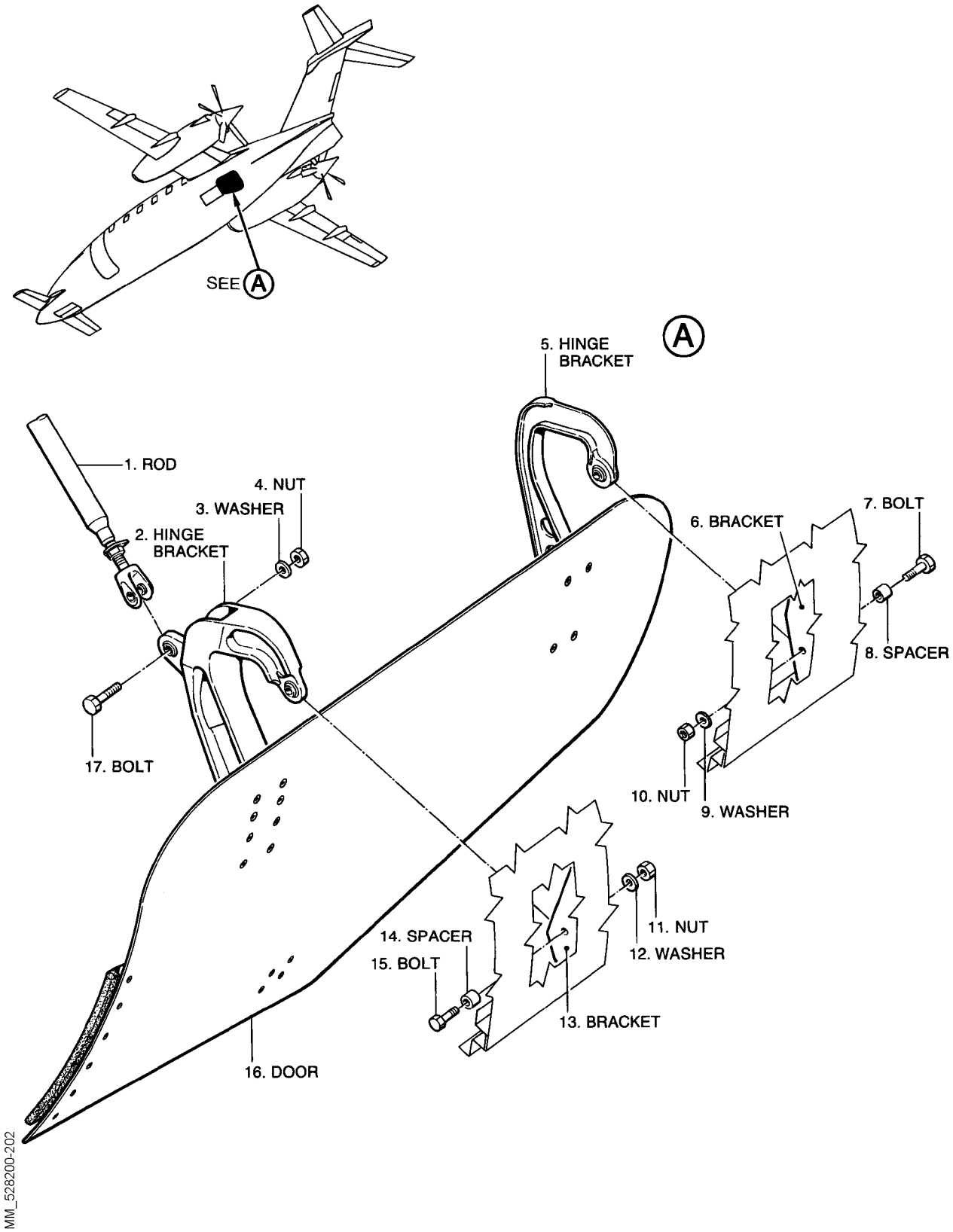

Fig. 202 - Main Landing Gear Rear Door - Removal/Installation

6. Main Landing Gear Rear Door Mechanism - Functional Test

A. Fixtures, Test and Support Equipment

Suction cup	Not Specified
Dynamometer - 110 lbs (50 kg)	Not Specified
Dynamometer - 22 lbs (10 kg)	Not Specified

B. Materials

Solvent	02-009
Lint-free cloth	04-013

C. Referenced Information

Maintenance Manual Chapter 07-10-00
Maintenance Manual Chapter 32-00-00
Maintenance Manual Chapter 20-00-00

D. Procedure

NOTE: This procedure is applicable to the LH and RH installations.

(1) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-10-00).
(2) Partially retract the landing gear to get access to the uplatch mechanism (Refer to 32-00-00).
(3) Remove the nut, washer and pivot bolt from the uplatch hook.
(4) Move the uplatch hook inboard so that it can not engage the rollers on the door bracket.
(5) Extend the landing gear (Refer to 32-00-00).

WARNING: BE CAREFUL WHEN YOU USE THE SOLVENT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(6) Clean the outer surface of the door in the area of the four fasteners that attach the door uplatch bracket using the solvent and a lint-free cloth.
(7) Attach the suction cup to the landing gear door so that the center of the cup is over the center of the four fasteners that attach the door uplatch bracket.
(8) Attach the dynamometer (22 lbs/10 kg) to the suction cup and pull the door outwards. Make sure the pull force is perpendicular to the door.
(9) Make a note of the reading on the dynamometer scale when the door begins to open. The reading must be 11 lbs (5 kg) or more. If the reading is less than 11 lbs (5 kg) adjust (shorten) the door connecting rod until the force is correct (Refer to 32-00-00).
(10) Retract the landing gear (Refer to 32-00-00).
(11) Do steps (7) and (8) again using the dynamometer (110 lbs/50 kg).

(12) Make a note of the reading on the dynamometer scale when the door begins to open. The reading must be between 46.2 lbs (21 kg) and 50.6 lbs (23 kg). If the reading is outside the limits, adjust the door connecting rod as necessary (Refer to 32-00-00).

(13) Partially extend the landing gear to get access to the door connecting rod.

(14) Disconnect the door connecting rod (Refer to Para. 4).

(15) Use temporary ties to safety the rod in a position which will allow retraction and extension of the landing gear.

(16) Put the uplatch hook in the correct position and install the pivot bolt, washer and nut.

(17) Make sure the uplatch hook is in the door open position.

(18) Hold the landing gear door open and retract the landing gear (Refer to 32-00-00).

(19) Use the dynamometer (22 lbs/10 kg) to push the door against the uplatch hook. Make a note of the force required to push the uplatch hook to the door closed position. The force must be between 11 lbs (5 kg) and 14.3 lbs (6.5 kg).

(20) Attach the suction cup to the landing gear door so that the center of the cup is over the center of the four fasteners that attach the uplatch bracket.

(21) Attach the dynamometer (110 lbs/50 kg) to the suction cup and pull the door outwards. Make sure the pull force is perpendicular to the door.

(22) Make a note of the reading on the dynamometer scale when the door begins to open. The reading must be between 75 lbs (34 kg) and 77 lbs (35 kg).

(23) If the reading in step (19) or (22) is outside the limits, adjust the fork-end which connects the spring/damper unit to the uplatch hook.

(24) Remove the dynamometer and suction cup from the landing gear door.

(25) Partially extend the landing gear (Refer to 32-00-00).

(26) Connect the door connecting rod (Refer to Para. 5).

(27) Extend the landing gear (Refer to 32-00-00).

(28) Lower the airplane to the ground and remove the jacks (Refer to 07-10-00).

7. Main Landing Gear Doors - Inspection

A. Fixtures, Tools and Support Equipment

Calibrated coin	Not specified
Strong light source	Not specified

B. Materials

Methyl-Ethyl-Ketone (MEK) solvent	02-009
Lint-free cloth	04-013

C. Referenced Information

Maintenance Manual Chapter 07-10-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 32-00-00
Maintenance Manual Chapter 51-00-00

D. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(1) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-10-00).
(2) Partially retract the landing gear until the main landing gear rear doors are fully open (Refer to 32-00-00).
(3) Disconnect the left and right rear doors and use temporary ties to safety the rods in a position which will allow extension and retraction of the landing gear (Refer to Para. 4 steps (3) and (4)).
(4) Extend the landing gear (32-00-00).
(5) Clean the inner and outer surfaces of the forward and rear doors with MEK solvent and dry with a lint-free cloth.
(6) Use a strong light source to examine the doors for:
  – Damage, cracks and splits
  – Delamination
  – Blistering or flaking of the paint finish.
(7) Examine the hinge brackets for:
  – Damage and distortion
  – Corrosion
  – Security of attachment.
(8) Examine the uplatch brackets on the rear doors for:
  – Damage and distortion
  – Corrosion
  – Security of attachment.
(9) Examine the door seals for:
  – Cuts and splits
  – Crushing and perishing
  – Signs of hydraulic fluid contamination
  – Security of attachment.
(10) Do a coin tapping test of the hinge bracket attachment areas to check for internal delamination (Refer to 51-00-00).
(11) If necessary, repair or replace any defective parts.
(12) Partially retract the landing gear until the rear door operating mechanism is in the door open position (Refer to 32-00-00).
(13) Remove the temporary ties from the rods (Refer to Para. 5 step (4)).
(14) Connect the left and right rear doors (Refer to Para. 5 step (5)).
(15) Extend the landing gear (Refer to 32-00-00).
(16) Lower the airplane to the ground and remove the jacks (Refer to 07-10-00).

8. MLG Rear Door Uplatch Mechanism Spring/Damper - Removal (Ref. Fig. 203)

A. Referenced Information

Maintenance Manual Chapter 07-10-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 32-00-00
Maintenance Manual Chapter 52-82-00

B. Procedure

NOTE: This procedure is applicable to both LH and RH installations.

(1) Lift the airplane on jacks, until the wheels are clear of the ground (Refer to 07-10-00).
(2) Partially retract the landing gear to get access to the uplatch mechanism (Refer to 32-00-00).
(3) Move the uplatch hook (6) inboard so that it cannot engage the rollers on the door bracket.
(4) Extend the landing gear (Refer to 32-00-00).
(5) Refer to Fig. 203 and remove the uplatch mechanism bolts (1).
(6) Remove the uplatch mechanism cover (2).
(7) Remove the nut (3), washer (4) and pivot bolt (5) from the uplatch hook (6).
(8) Remove the nut (7), the washer (8) and the bolt (9) which connect the damper fork end to the hook (6).
(9) Remove the lockwire which secures the spring damper unit attachment special bolts (10).
(10) Remove the special bolts (10).
(11) Remove the spring damper unit (11).

9. MLG Rear Door Uplatch Mechanism Spring/Damper - Installation (Ref. Fig. 203)

A. Referenced Information

Maintenance Manual Chapter 07-10-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 32-00-00
Maintenance Manual Chapter 52-82-00

B. Procedure

NOTE: This procedure is applicable to both LH and RH installations.

(1) Screw the spring damper unit fork end until it is in the same position of the removed one.
(2) Install the spring/damper unit with the special bolts (10).
(3) Secure the bolts (10) with lockwire.
(4) Connect the fork end to the uplatch hook (6) with the bolt (9), the washer (8) and the nut (7).
(5) Install the uplatch hook (6) with the bolt (5), the washer (4) and the nut (3).

(6) Install the uplatch mechanism cover (2) with the bolts (1).

WARNING: BE CAREFUL WHEN YOU USE THE SOLVENT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN AMM CHAPTER 20-00-00.

(7) Perform the Functional Test by starting from step (6) of the AMM referenced procedure, until the correct latching setting is obtained.

(8) The procedure shall be repeated for the opposite side of the MLG door uplatch mechanism.

(9) Lower the airplane to ground and remove the jacks (Refer to 07-10-00).

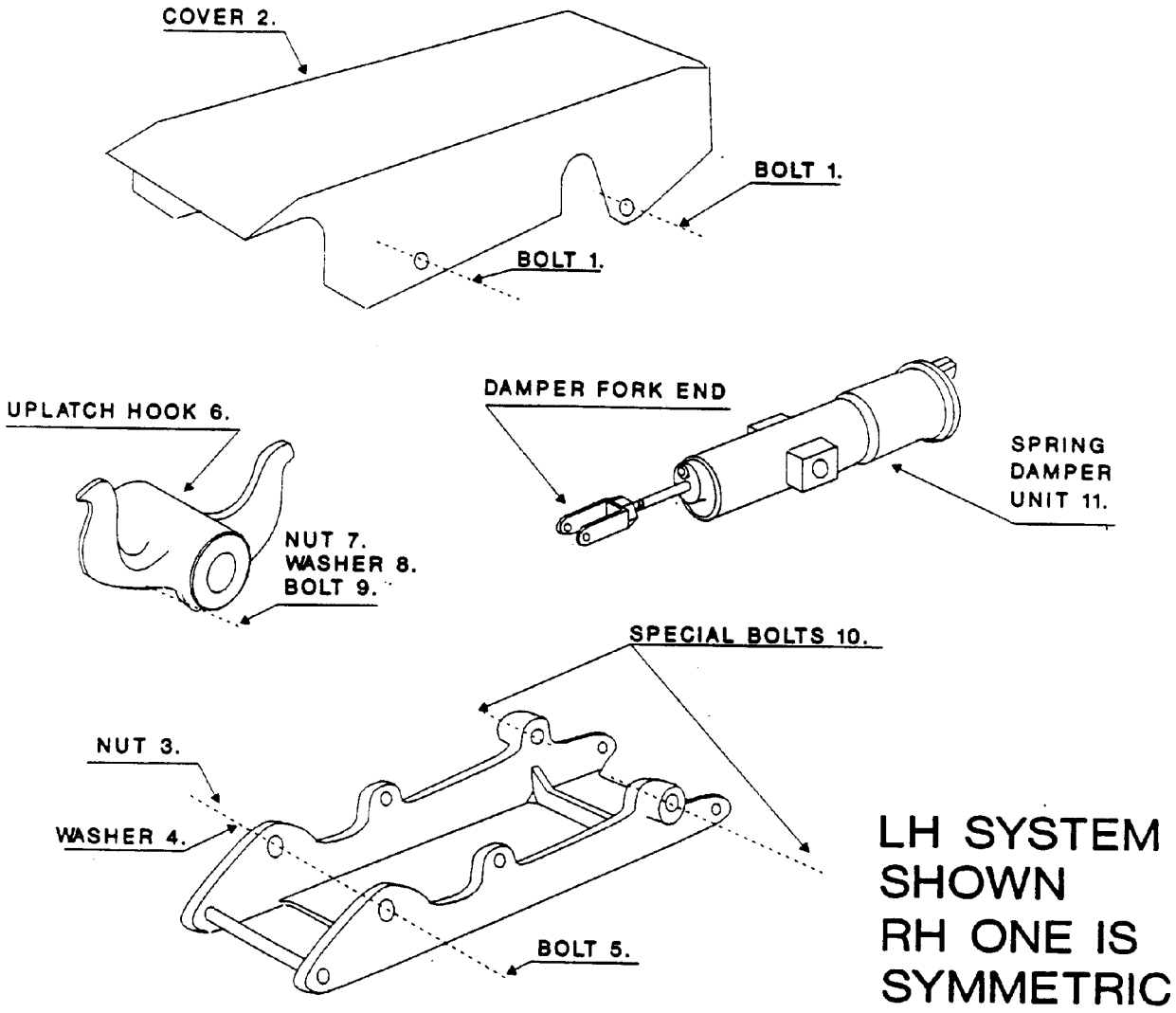

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Fig. 203 - MLG Rear Door Uplatch Mechanism Spring/Damper - Removal/Installation