

B757 MANUAL SUPPLEMENT - ATP 3510
SECTION 1 CHAPTER 56
CONTROL PAGE - ISSUE 1

- A. File the attached Temporary Revision/Alerts in the Manual Supplement in ATA Chapter/Section/Subject/Page sequence
- B. File this Control Page in front of the Chapter TRs/Alerts.
- C. The following list shows active TRs/Alerts together with TRs/Alerts added by this control page.

Chapter Section Subject	Page	TR/Alert No.
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56-21-01	401	* 56-518

- D. Remove and Destroy the following TRs/Alerts:

* Indicates TRs/Alerts issued with this control page

ATP ALERT

AIRPLANE

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NA322

30 April, 1999

757 MAINTENANCE MANUAL

ALERT No. 56-515

THIS TEMPORARY REVISION IS ISSUED BY BRITISH AIRWAYS ENGINEERING (TECHNICAL INFORMATION SERVICES, G2, TBA, S401, P. O. BOX 10, HEATHROW AIRPORT, HOUNSLOW, MIDDLESEX TW6 2JA).
CAA DESIGN APPROVAL No. DAI/8566/78.

Manual Reference 56-11-00 Page 610

REASON FOR REVISION

Revised delamination limits for No.2 and No.3 windows.

ACTION

TASK 56-11-00-216-019

3. Inspection/Check for the No. 2 and 3 Windows

F. Procedure

Ignore existing step (8) and read the following:

- (8) Examine No.2 and No.3 windows for delamination.
 - (a) For the No.2 window, which has a bird strike requirement, the delamination limit is a 2 inch max width band around the perimeter of the window.
 - (b) For the No.3 window, which does not have a bird strike requirement, delamination is not a structural concern. Replace the window only if vision through the window is unsatisfactory.

Persons performing a supervisory function are responsible for informing their appropriate staff of the substance of this ATP Alert.

Originator: P.MASON
Reference: 03779
Workbook: 56-20

56-11-00
Page 610

**ATP
TEMPORARY
REVISION**

**AIRPLANE
NB322**

TR Page 1 of 4
21 November, 2000

**757 MAINTENANCE MANUAL
TEMPORARY REVISION No. 56-518**

THIS TEMPORARY REVISION IS ISSUED BY BRITISH AIRWAYS ENGINEERING (TECHNICAL INFORMATION SERVICES, G2, TBA, S401, P. O. BOX 10, HEATHROW AIRPORT, HOUNSLOW, MIDDLESEX TW6 2JA).
CAA DESIGN APPROVAL No. DAI/8566/78.

Manual Reference 56-21-01 Page 401

REASON FOR REVISION

To clarify the Passenger Window Removal/Installation procedure.

ACTION

TASK 56-21-01-024-001

2. Remove the Passenger Window (Fig. 401)

D. Procedure

Ignore existing step (3) and read the following

(3) Remove the ten off retainer screws (7) from around the window frame. Keep the washers (6) for installation (Ref 56-21-01 Figure 401).

NOTE: Make a written record of the size and quantity of the washers at each nutplate. Keep the washers for the subsequent installation of the passenger windows.

TASK 56-21-01-424-024

Ignore the exiting task and read the following

3. Install the Passenger Window (Fig. 401)

A. Consumable Materials

- (1) B00083 Aliphatic Naptha - TT-N-95**
- (2) G00034 Cheesecloth**
- (3) D00581 Silicone Based Lubricant MS4.**

B. References

- (1) AMM 12-16-03/301, Passenger Windows**
- (2) AMM 25-25-01/201, Passenger Seats**
- (3) AMM 25-21-02/401, Sidewall Panels**

C. Access

- (1) Location Zones**
200 Upper Half of Fuselage

D. Procedure

- (1) Remove the protective coating.**
- (2) Clean the faying surface of the window frame with a clean cheesecloth that is moist with aliphatic naphtha.**

Originator: R.PERKINS
Reference: 6051
Workbook: 56-24

56-21-01
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- (3) Clean the window panes (AMM 12-16-03/301).
 - (a) Apply an antistatic agent (AMM 12-16-03/301).
- (4) Assemble the middle and the outer panes in a new seal.

NOTE: On new seals with a diaphragm, cut the seal after you install the window.

- (5) Make sure the vent holes in the middle window pane (4) is at the bottom.
- (6) Apply silicone based lubricant MS4 in large quantity to the outer edges of the seal.
- (7) Install the window as follows:
 - (a) Put the window unit in the window frame.
 - (b) Install the clips and the washers strictly in accordance with 56-21-01 Figure 401.
 - (c) Make sure the retaining clips are at the right angles to the seal edge.
 - (d) Tighten the screws until the clip pushes tight against the middle pane.
 - (e) After all clips are in the correct location, tighten each screw until the clip pushes tight against the washers and the nutplates.
 - (f) Tighten the screws in this sequence:
 - 1) Tighten one screw on the left side of the window.
 - 2) Tighten one screw on the right side of the window.
 - 3) Tighten one screw on the top of the window.
 - 4) Tighten one screw on the bottom of the window.
 - 5) Continue to tighten the screws in a similar sequence shown in Figure 401.
 - 6) Torque to between 12 and 15 pound inches to keep the seal in the correct position. If the clips are loose you can increase the torque to a maximum of 25 pound inches.
 - 7) Make sure the faying surface between the middle pane and the window seal shows as a continuous black color band. If the color is not a continuous black band, adjust the spring clip screws or washers where necessary, to increase the pressure on the rubber seal to obtain a continuous black band.
 - (g) If the clip is damaged, repair or replace the clip as necessary.
 - (h) Examine each clip.
 - (i) If the clip is not tight against the middle pane, do this step:
 - 1) Check for the correct number of washers or bent clips. If correct, reduce the washer stack by .030 inches.
 - (j) Do these steps again, if necessary.

(8) WINDOW SEALS WITH THE DIAPHRAGM;

Remove the membrane that covers the outer window pane from the new seal as follows:

- (a) Hold the two beads of the seal between the finger and the thumb to lift the membrane from the surface of the outer pane (Fig. 402).
- (b) Make a small nick between these two beads with a craft knife.

NOTE: Be careful not to score the outer pane.

- (c) Do not cut around the seal against the window.
- (d) You can tear away the membrane carefully from this nick.

NOTE: The two inner beads will guide the tear.

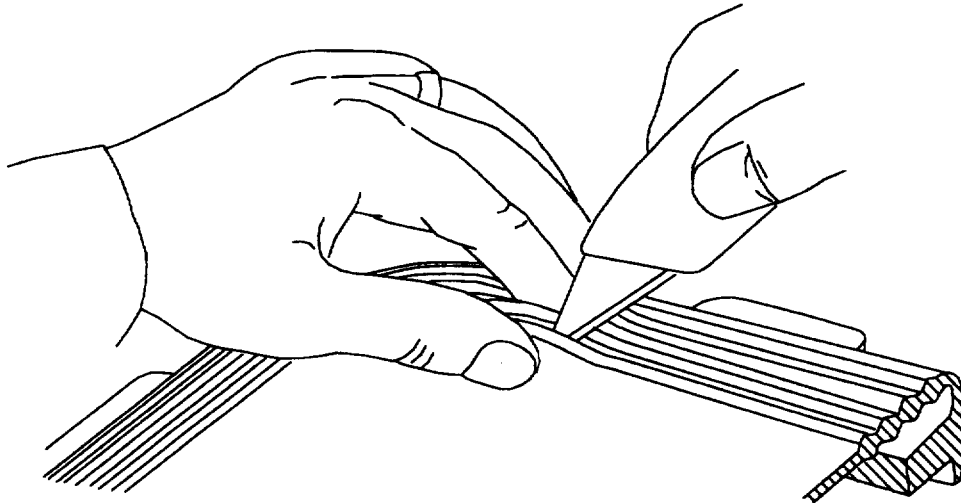
- (9) Make sure the outboard surface of the outer pane fairs in and is aligned with the fuselage skin and that the seal is not distorted.
- (10) Clean the two surfaces of the inner window pane. Apply an antistatic agent to the outer surface and apply wax to the inner surface (AMM 12-16-03/301)

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- (11) Install the sidewall panels (AMM 25-21-02/401).**
- (12) If necessary, install the passenger seats (AMM 25-25-01/201).**
- (13) Put the top of the window reveal into the window opening.**
- (14) Push the bottom of the window reveal outboard to latch the window in place.**



NOTE: WINDOW PANES AND ALMOST ALL SIDES ARE NOT SHOWN FOR CLARITY.

Passenger Windows - Removal and Installation
Figure 402

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WINDOW - DESCRIPTION AND OPERATION

1. General (Fig. 1)
 - A. This section covers windows in the flight compartment, passenger compartment, and passenger doors.
2. Flight Compartment Windows (Fig. 1)
 - A. The flight compartment has six windows, three on each side. They are numbered front to back 1, 2, and 3 left and right. The number 2 windows open manually.
3. Passenger Compartment Windows
 - A. Each window consists of an inner, middle, and outer panes. Inner panes are removable from sidewall panels which also have window shades. The middle pane has a breather hole for pressure equalization and seal leakage indication. The outer and middle panes are sealed in the window frame. Passenger windows do not have any prismatic or magnifying qualities.
4. Passenger Door Windows
 - A. Each passenger door has a five inch prismatic pane for wide angle vision. The lens will provide a view of the ground to within eight feet of the door.

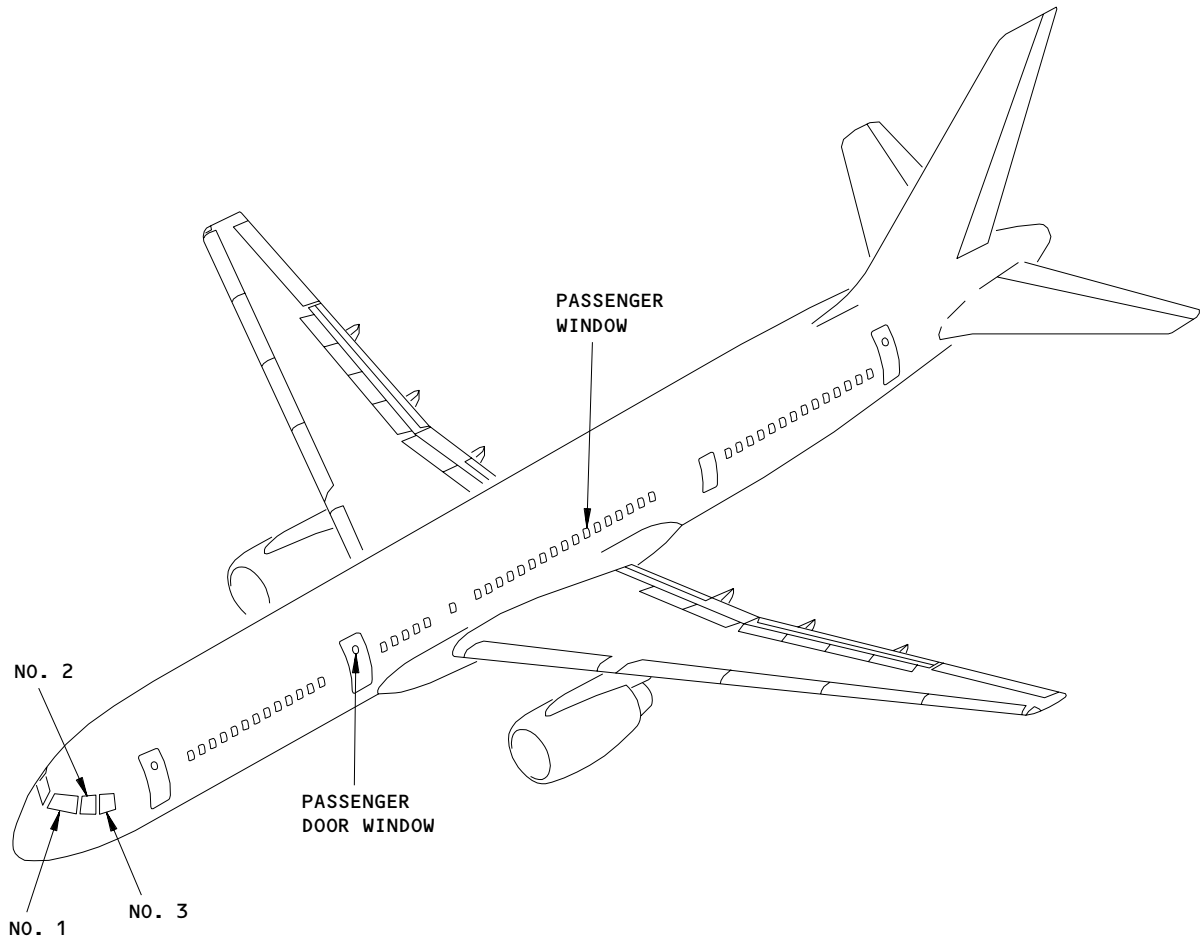
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Windows
Figure 1

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FLIGHT COMPARTMENT WINDOWS – DESCRIPTION AND OPERATION

1. General

A. The left and right No. 1 windows are called windshields and No. 2 and No. 3 windows are called windows. All windows have a conductive layer which is electrically heated for anti-icing and defogging. Bus bars on the upper and lower edges connect the power input to the conductive layer. Each window has two heat sensors, with electrical connectors, which measure window temperature.

2. No. 1 Windshields (Fig. 1)

A. The No. 1 windshields and frames are installed from outside the airplane. Screws mount the windshields to the fuselage. For removal and installation, three 5/16 inch diameter hoisting points are provided. The windshields are flat, approximately 45 by 29 inches, and weight about 100 pounds each. Three layers of glass separated by two layers of poly-vinyl-butylal (PVB) compose the windshields. The heating layer is indium oxide located on the inner surface of the outer glass ply for anti-icing and defogging.

3. No. 3 Windows (Fig. 1)

A. The No. 3 side windows are compound curved, approximately 30 by 28 inches, and weigh about 40 pounds. Hoisting points and installation are similar to the windshields. Acrylic windows have two layers of stretched acrylic separated by a layer of PVB compose the window. The heating layer consists of parallel wires buried in the PVB layer for defogging purposes. Glass windows are a lamination of glass, plastic, and anti-fog heating film. The external and internal window surfaces are glass.

4. No. 2 Openable Window (Fig. 1)

A. The No. 2 windows may be opened manually. Moving the latch handle aft releases four latches. A teleflex cable connects the latches to the handle. Rotating the operation handle clockwise opens the window. Rollers attached to the window follow two lower tracks and an upper track. The window pane is compound curved, approximately 30 by 28 inches, and weighs about 75 pounds in its frame. No. 2 and No. 3 windows have the same composition and heating layer.

5. Operation

A. The No. 2 Window Operation

(1) Open the No. 2 Window.

(a) Push the button on top of the latch handle and turn the latch handle aft to its aft locked position.

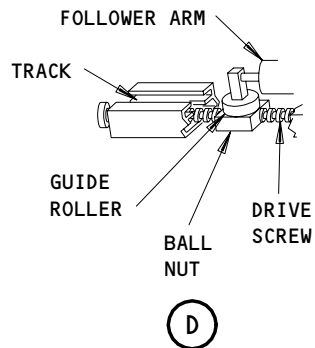
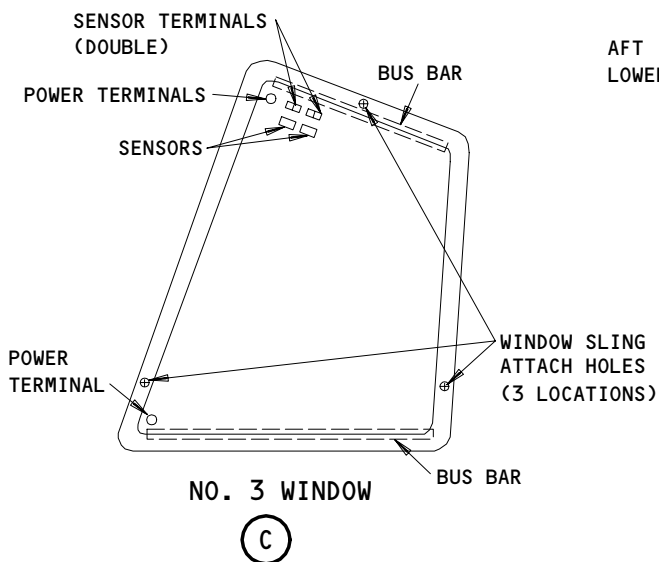
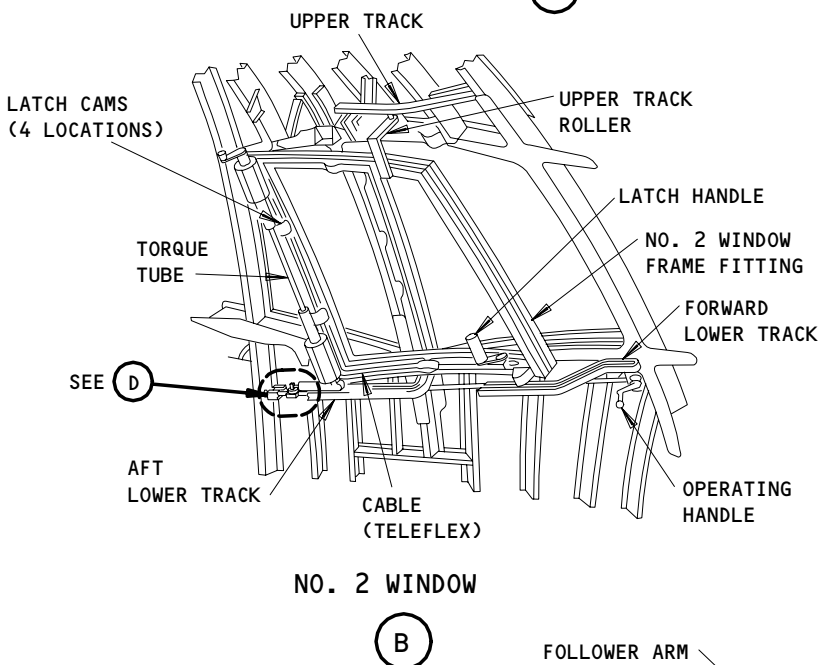
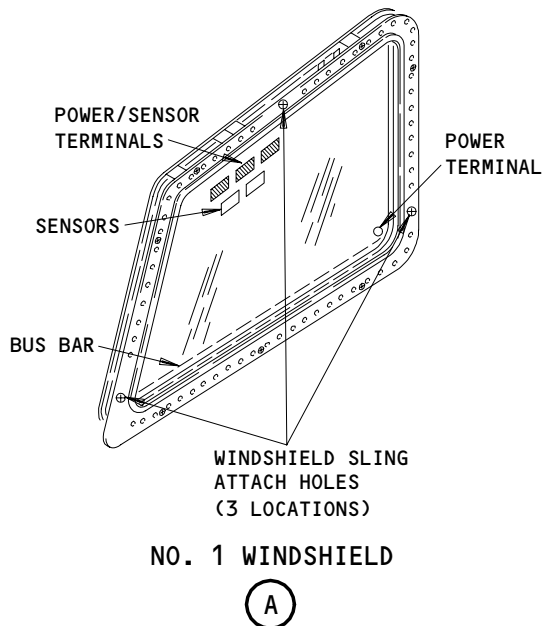
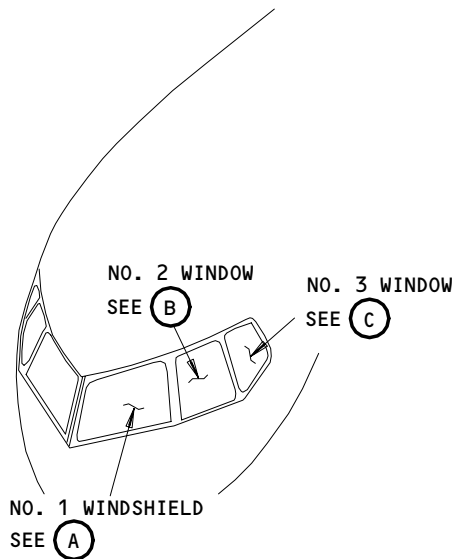
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Flight Compartment Windows
Figure 1

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- (b) Turn the operating handle aft to open the window.
- (2) Close the No. 2 Window.

CAUTION: DO NOT TRY TO CLOSE THE LATCH HANDLE WHILE THE WINDOW IS IN THE OPEN POSITION BECAUSE DAMAGE MAY RESULT TO THE INTERLOCK MECHANISM. THERE IS AN INTERLOCK MECHANISM INSTALLED ALONG THE AFT EDGE OF THE NUMBER 2 WINDOW. WHEN THE WINDOW IS OPEN, THE INTERLOCK MECHANISM HOOK WILL NOT PERMIT THE LATCH HANDLE TO MOVE TO THE CLOSED POSITION UNTIL THE WINDOW IS FULLY CLOSED.

- (a) AIRPLANES WITH INTERLOCK HOOK;
Before the latch handle can be moved to the closed position, the window must be fully closed.
- (b) Move the operating handle forward until you cannot move the handle any further.

NOTE: Do not apply too much force because damage to the drive screw may result.

- (c) Examine the position of the link arm, which is located at the lower aft corner of the window.

NOTE: When the window is closed, the link arm should be approximately perpendicular to the lower track. If it is not perpendicular, the window is not closed. The window may look closed but it is not.

- (d) Make sure the WINDOW NOT CLOSED placard is not visible on the bottom part of the window sill. If you can read the placard, the window is not completely closed.
- (e) Move the latch handle forward to the locked position. Release the button and try to pull back on the latch handle to make sure it is latched in place.

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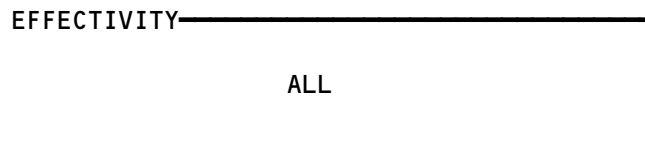
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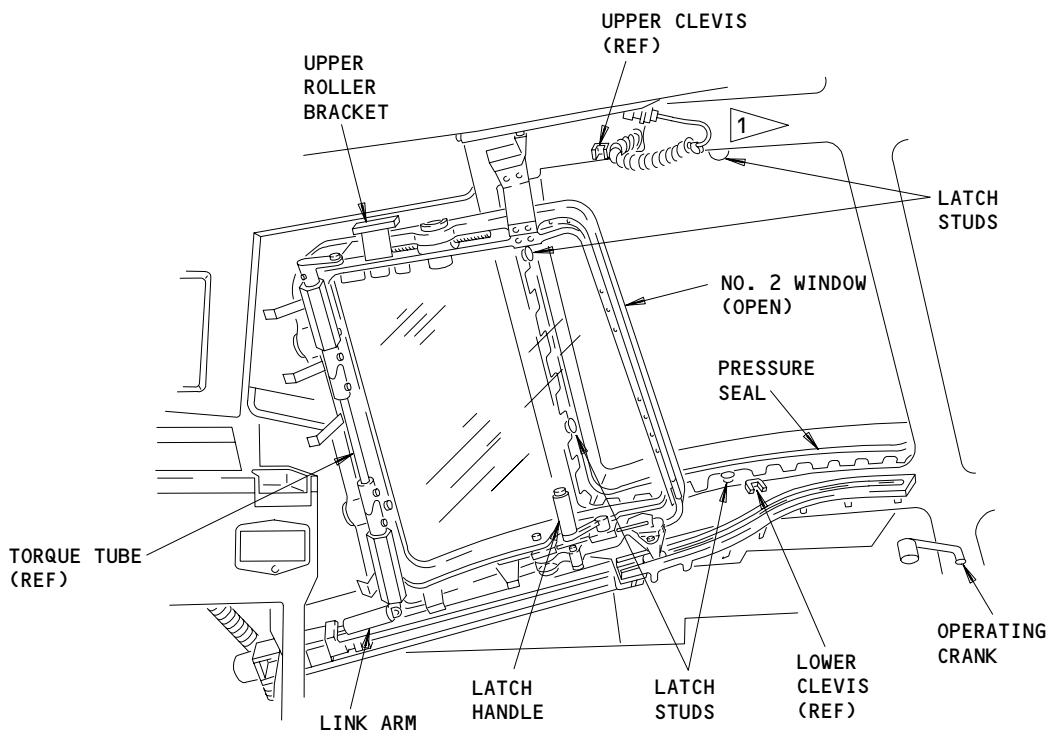
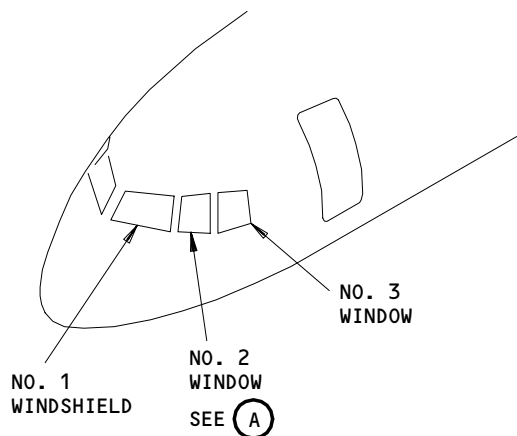
FLIGHT COMPARTMENT WINDOWS

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ARM - LINK	-	2	BELOW NO. 2 WINDOW	56-11-02
BRACKET - UPPER ROLLER	-	2	ABOVE NO. 2 WINDOW	56-11-02
CRANK - OPERATING	-	2	BELOW NO. 2 WINDOW	56-11-04
HANDLE - LATCH	-	2	ON NO. 2 WINDOW	56-11-02
SEAL - NO. 2 WINDOW PRESSURE	-	2	NO. 2 WINDOW FRAME	56-11-53
STUD - LATCH	-	8	NO. 2 WINDOW FRAME	56-11-02
WINDOW - NO. 2	-	2	FLT COMPT	56-11-02
WINDOW - NO. 3	-	2	FLT COMPT	56-11-10
WINDSHIELD - NO. 1	-	2	FLT COMPT	56-11-01

Flight Compartment Windows - Component Index
Figure 101



56-11-00



NO. 2 WINDOW

(A)

1 THE CORD IS SHOWN DISCONNECTED FROM THE WINDOW HEAT TERMINALS.

Flight Compartment Windows - Component Location
Figure 102

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FLIGHT COMPARTMENT WINDOWS – INSPECTION/CHECK

1. General

- A. This procedure contains two tasks.
- (1) Examine the No. 1 windows in the flight compartment.
 - (2) Examine the No. 2 and No. 3 windows in the flight compartment.
- B. Different types of damage are as follows:
- (1) Arcing:
 - (a) Arcing is a discharge or short circuit across a discontinuity in a wire, bus bar, conductive heating film, or other internal window components.
 - (b) Arcing usually occurs near the window bus bars, and are typically the result of moisture ingress.
 - (c) You can identify the heat damage caused by arcing, as follows:
 - 1) Brown or black burn marks in the interlayer.
 - 2) Brown or black burn marks on the bus bars or sensor wires.
 - 3) Bubbles in the interlayers.
 - 4) Cracks in the windshield face ply.
 - (d) Arcs in the heating film away from the bus bar can occur as a jagged line and is also known as a line arc.
 - (2) Bubbles:
 - (a) Bubbles are small, isolated or irregular shaped voids in the interlayer internal to the window and not at the window edge.
 - (b) Too much window heat can cause small bubbles in the vinyl core.
 - (c) Bubbles can be a result of a damaged window heat control system.
 - (d) Multiple bubbles together in a small group, or black or dark brown bubbles are an indication of a damaged window heat control system.
 - (3) Moisture Ingression:
 - (a) A cloudy white or yellow haze internal to the window usually around the periphery.
 - (b) It can follow wires internal to the window, along the bus bar and also in areas of delamination.
 - (c) Long term exposure to moisture can lead to electrical arcing of the heating system internal to the window.
 - (4) Chips:
 - (a) Chips are the removal of material from the surface of a glass or acrylic pane, usually from the impact with a hard object. There are two types of chips:
 - 1) External Chips:
 - a) Spall or shell type chips are in the surface or edge of the pane. These chips have a circular or curved shape with many fine lines or ridges that follow the outline of the edge of the chip that give it almost the same shape of a shell. The width of the chip is more than its depth. Spall chips do not usually cause structural failure of the windshield.

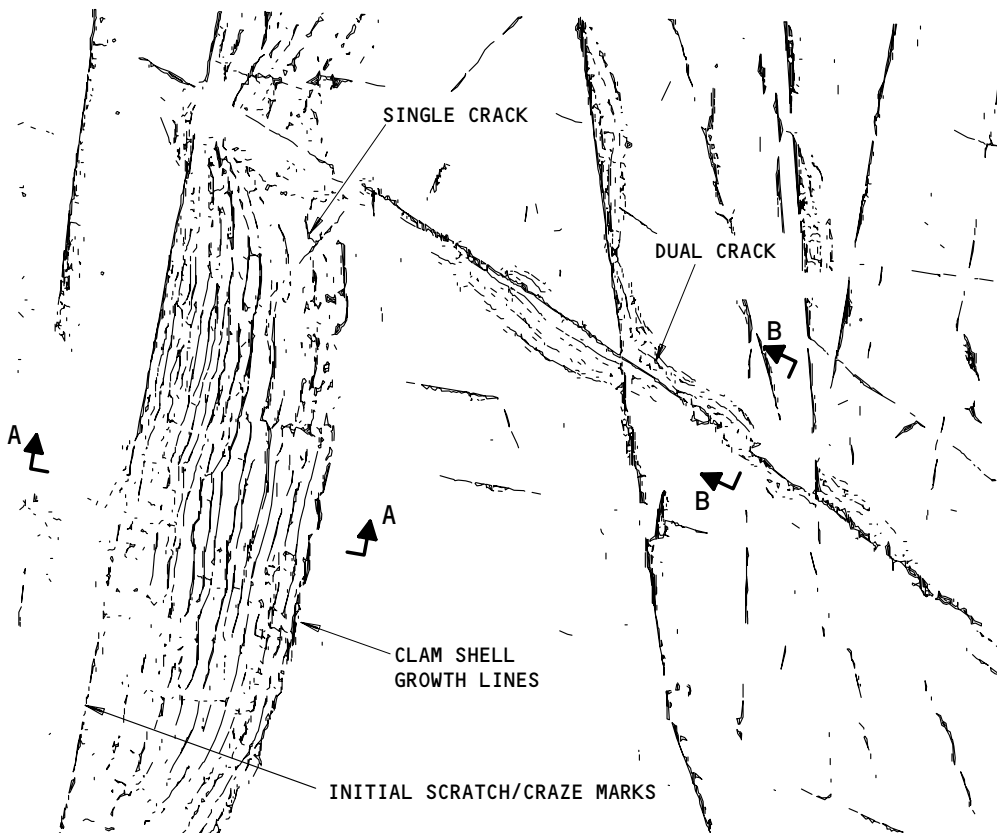
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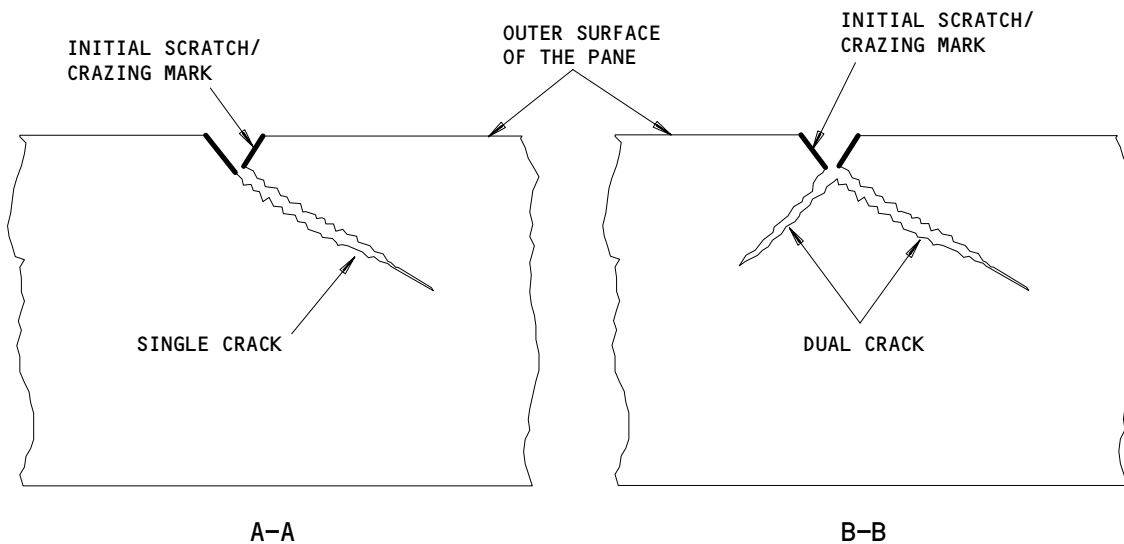
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WINDOW SURFACE



NOTE: THE ILLUSTRATIONS ARE SHOWN LARGER THAN USUAL.

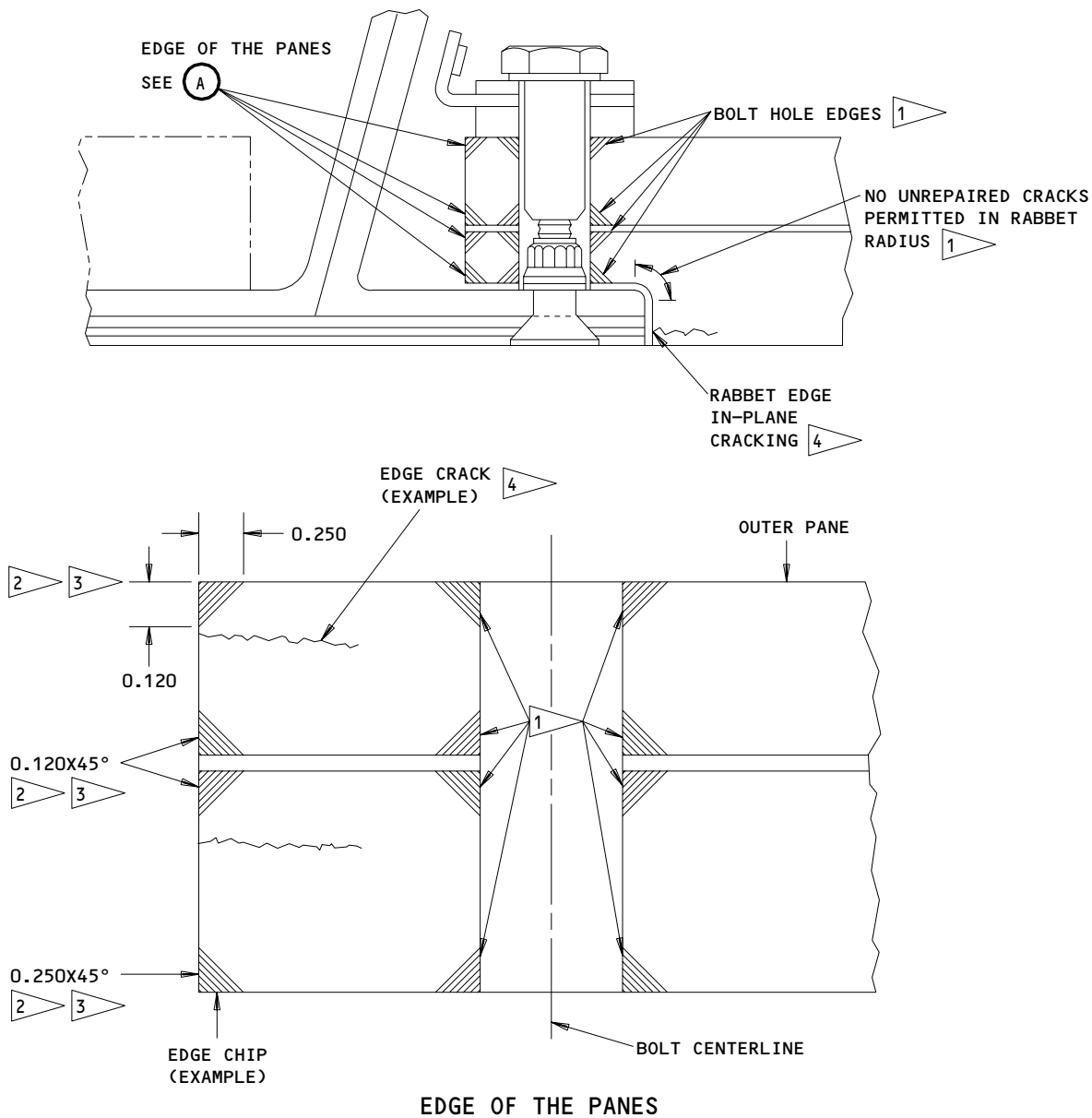
No. 2 and 3 Window Surface Damage
Figure 601

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NOTE: ALL DIMENSIONS ARE IN INCHES.

- 1 DAMAGE IN THIS AREA IS REPAIRED WITH THE COMPONENT MAINTENANCE MANUAL
- 2 MAY BE SMOOTHER TO 62RMS FINISH
- 3 ONLY ONE DEFECT IS PERMITTED WITHIN A CROSS SECTION OF THE INNER OR THE OUTER PANE WHEN THE DEFECT IS WITHIN ONE INCH OF MOUNTING HOLE CENTER LINE. THIS LIMITATION IS NOT APPLICABLE TO DEFECTS MORE THAN ONE INCH FROM THE MOUNTING BOLT HOLE CENTER LINE
- 4 EDGE CRACKS (IN-PLANE CRACKS) PARALLEL TO THE PANE FACE

Acrylic Edge Damage
Figure 602

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- b) V shaped chips have the shape of a sharp narrow "V". Depth of the chip is equal to or larger than the width. V - shaped chips can cause a windshield failure.
- 2) Internal Chips:
 - a) Peel Chips - Chips that occur on the internal surface of glass panes. Chipped areas have a curved, rough grained shape, and are easily seen in reflected light. The chipped area can have small glass flakes, usually white. The view through the window will distort through the rough surface of the chip. Usually the chips start very small but can continue to grow with the continued use of the airplane.
 - (b) Chips usually occur at the front part of the window.
- (5) Cracks:
 - (a) A crack is a break or discontinuity of the material. A list of descriptions of cracks by material is as follows:
 - 1) Acrylic Panes: Cracks in an acrylic pane do not always grow to an edge in a window and can occur as many small fissures in a pane.
 - a) Cast acrylic panes: Cracks will look equivalent to smooth fissures perpendicular to the surface.
 - b) In-plane acrylic cracking: A crack that grows parallel to the surface of the ply, and it starts from the edge of the pane or at a deep surface cracks. It will look equivalent to a smooth surface of fissures, or series of fissures internal to the pane. Usually found by the reflection of the light from the surfaces of the fissure.
 - c) Stretched Acrylic Panes: Cracks propagate at angles to the surface of stretched acrylic panes. Cracks in stretched acrylic can have a chevron or clamshell growth lines that propagate from a stress riser such as a scratch, chip, craze, or other surface damage.
 - 2) Glass Panes: Cracks in a glass pane will always grow to an edge or adjacent crack in the window. (A line arc can be confused with a crack but one end typically stops in the center area of the window).
 - a) Non-Structural Glass Pane - Cracks will look equivalent to smooth fissure perpendicular to the surface and through the entire thickness of the pane. There are usually many cracks across the glass surface (spider web pattern) of the pane. Cracks will not significantly decrease visual quality.
 - b) Structural Glass Pane - The pane will break into many small irregularly shaped pieces, typically no larger than 0.5 in. (12.7 mm) maximum dimension. Visual quality is significantly decreased.

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- (b) Cracks can start from a scratch or craze mark (acrylic windows only).
- (c) Cracks can be single or dual.
- (d) The cracks in an outer vinyl ply (the ply between the middle structural ply and the outer ply) are caused by incorrect heat application.
- (e) The cracks in the vinyl usually occur in the window corners and are within the edges of the release tape.

NOTE: Vinyl cracks are not a problem structurally.

NOTE: Only replace the windshield if your vision is limited.

- (6) **Crazing (acrylic panes only):**
 - (a) Crazing is many very fine fissures with no visible width or depth at the surface of a pane.
 - (b) Crazing will start to be noticeable when the depth of the cracks are 0.002 to 0.004 inch.
 - (c) In dim light, and light normal to the surface, crazing is difficult to see.
 - (d) In a bright light shown from an angle to the surface, crazing looks frosted and appears to light up.
 - (e) Crazing often develops into cracks.
- (7) **Delamination:**
 - (a) Delamination is the separation of a ply or plies from the interlayer.
 - (b) Delamination can appear as a flat smooth air bubble with either a circular edge or smooth finger-like projections in the window.
 - (c) In reflected light, delamination at the coating surface is seen as shiny blue gold, or brown areas.
 - (d) In transmitted light, delamination at the coating surface is seen as brown areas.
 - (e) Delamination between the interlayer and the outer glass pane is usually not found until they move into the coating area.
 - (f) Replace the window if delamination limits your vision.

NOTE: Delamination may result in arcing and glass fracture. It is recommended that windows with delamination extending beyond 3.50 inches (89 mm) from the edge of the window be replaced.

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- (g) Delamination will not cause structural failure of the No. 3 window assembly.
- (h) Delamination at the coating surface may prevent correct operation of the window heat system.
- (i) Delamination and window heat may also cause cracks in the outer glass pane.
- (8) In-Plane Cracking (acrylic plies only):
 - (a) In-plane cracking is also identified as delamination.
 - (b) In-plane cracking is a crack that grows parallel to the surface of the pane from an edge or crack.
 - (c) In-plane cracking looks like delamination but will not have the finger-like projections.
- (9) Scratches:
 - (a) A scratch is the linear removal or displacement of material from the surface of a pane.
 - (b) Scratches usually occur in a straight line or slight curve.
 - (c) The depth of a scratch is not usually greater than the width of the scratch.
- (10) External Aerodynamic Smoother – Erosion and Cracking.
 - (a) External aerodynamic smoother will degrade with time because of wind, rain and UV exposure.
 - (b) Erosion or cracks of the aerodynamic smoother will let moisture penetrate into the window laminate.
 - (c) Repair and maintenance of external aerodynamic smoother is necessary to get as much window life as possible.

TASK 56-11-00-216-001

2. Inspection/Check for the No. 1 Windshield

A. General

- (1) Removal of the window is only necessary for these reasons:
 - (a) Heat is inoperable for reasons internal to the window.
 - (b) There is arcing in the area of the window bus bars.
 - (c) There is a decrease in visual capacity.
 - (d) Cracks in any glass ply.
- (2) See the general paragraph to identify types of damage.

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B. References

- (1) AMM 30-41-00/501, Flight Compartment Window Anti-Icing

C. Equipment

- (1) Optical Micrometer - Model 966A1 or Model 966A (or equivalent)
Monocle Industries
P.O. Box 2426
Coppell, TX, USA 75019
Contact: John Leichtle
Tel (972) 393-9920
Fax (972) 393-9926

D. Access

- (1) Location Zones
211/212 Control Cabin

E. Prepare for Inspection

S 866-051

WARNING: DO NOT TOUCH THE WINDSHIELD UNLESS THE CIRCUIT BREAKERS AND WINDOW HEAT SWITCHES ARE OPEN. FAILURE TO OBEY CAN RESULT IN AN ELECTRICAL SHOCK.

- (1) Open this circuit breaker on the electrical equipment panel, P70, and attach a DO-NOT-CLOSE tag:
 - (a) 70C13, WINDOW HTR 1L

S 866-004

- (2) Open this circuit breaker on the right miscellaneous electrical equipment panel, P37, and attach a DO-NOT-CLOSE tag:
 - (a) 37J2, WINDOW HTR 1R

S 866-005

- (3) Make sure the WINDOW HEAT switches on the P5 panel are in the off position.

F. Procedure

S 226-046

- (1) Examine the No. 1 window for these types of damage:
 - (a) bubbles

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- (b) chips
- (c) cracking
- (d) delamination
- (e) scratches
- (f) Presence of liquid or moisture in the interlayer
- (g) electrical arcs in the area of the window bus bar
- (h) discoloration of the bus bar

S 966-044

- (2) Replace the window if the damage limits your vision through the acrylic or glass.

NOTE: A 2-inch wide band around the edges of the window is specified as a non-critical vision area and may contain manufacturing anomalies. Edge delamination in this area cannot cause structural failure.

S 966-037

- (3) Replace the windshield if the glass plies have "V" shaped chips.

S 966-038

- (4) Replace the windshield if the glass plies have cracks.

S 966-039

- (5) Replace the windshield if the inner main ply has a scratch deeper than 0.002 inches.

S 216-040

- (6) Examine the No. 1 window moisture seal and the aerodynamic smoother.
 - (a) Repair the moisture seal if these conditions exist:
 - 1) cracks
 - 2) loose edges
 - 3) deterioration
 - 4) erosion
 - (b) Repair the aerodynamic smoother if these conditions exist:
 - 1) cracks

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2) loose edges

S 216-064

- (7) Examine the window for moisture ingress.
- (a) Examine the window for a cloudy or milky white area in a delamination or around the periphery of the window. This is a sign of moisture ingress which can cause arcing in the window heat film.
 - 1) If the moisture is found with any signs of arcing, replace the window.
 - 2) If the delamination or the moisture limits vision, replace the window.
 - 3) If moisture is found near bus bars, it is recommended to replace the window.

NOTE: Moisture near bus bars is an indication that electrical failure may occur.

S 216-065

- (8) Examine the window for electrical arc damage.
- (a) Look for electrical arc damage on the window.
 - 1) Between the window panes and along the length of the top and bottom of the window are the bus bars. A braided electrical wire from the power terminal is soldered to the bus bar, which connects to the conductive heat film that supplies heat or defog power to the window.
 - (b) Replace the window if there is any signs of electrical arc damage.

S 216-066

- (9) Examine the window for discoloration.
- (a) While external to the airplane, look for discoloration of the anti-ice bus bars at the window.

NOTE: It is permitted to have discoloration at the solder joints, unless there is blistering, black discoloration, or some other indication that the window heat is too high.

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- (b) Replace the window if there are flakes or pieces of the anti-ice bus bar that broke off.
- (c) Replace the window if the defog bus bars has an uneven brown color or is black incolor.

NOTE: These are signs of window damage.

S 216-041

- (10) Examine the window posts and the sills for corrosion and damage.

S 216-042

- (11) Examine the No. 1 window fasteners.
 - (a) Make sure all the fasteners are installed.

CAUTION: ONLY TIGHTEN THE BOLTS TO THEIR MAXIMUM TORQUE TO STOP A LEAK. IF YOU TIGHTEN THE BOLTS TOO MUCH, YOU CAN CAUSE DAMAGE TO THE SEAL.

- (b) Tighten loose fasteners to 50-70 pound-inches (maximum torque) to stop water or air leaks.

S 216-043

- (12) Examine the No. 1 window heat system.
 - (a) Look for loose or damaged window heat terminal blocks.
 - (b) Look for electrical arc damage in the area of the heat bus bars on the window.

S 866-015

- (13) Remove the DO-NOT-CLOSE tag and close this circuit breaker on the P70 panel:
 - (a) 70C13, WINDOW HTR 1L

S 866-017

- (14) Remove the DO-NOT-CLOSE tag and close this circuit breaker on the P37 panel:
 - (a) 37J2, WINDOW HTR 1R

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S 716-018

- (15) Make sure the windshield anti-icing system operates correctly (AMM 30-41-00/501).

S 716-051

- (16) Make sure the window heat control unit operates correctly (AMM 30-41-00/501).

TASK 56-11-00-216-019

3. Inspection/Check for the No. 2 and 3 Windows

A. General

- (1) Refer to the general section in this procedure for the definition of the different types of damage.

B. References

- (1) AMM 30-41-00/501, Flight Compartment Window Anti-Icing

C. Equipment

- (1) Optical Micrometer - Model 966A1 or Model 966A
Monocle Industries
P.O. Box 2426
Coppell, TX, USA 75019
Contact: John Leichtle
Tel (972) 393-9920
Fax (972) 393-9926

D. Access

- (1) Location Zones
211/212 Control Cabin

E. Prepare for Inspection

S 866-020

- (1) Open these circuit breakers on the right miscellaneous electrical equipment panel, P37, and attach DO-NOT-CLOSE tags:
(a) 37E3, WINDOW HTR 2L
(b) 37E4, WINDOW HTR 3L

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S 866-022

- (2) Open these circuit breakers on the miscellaneous electrical equipment panel, P70, and attach DO-NOT-CLOSE tags:
 - (a) 70A3, WINDOW HTR 2R
 - (b) 70A4, WINDOW HTR 3R

S 866-035

WARNING: DO NOT TOUCH THE WINDSHIELD UNLESS THE CIRCUIT BREAKERS AND THE WINDOW HEAT SWITCHES ARE OPEN. FAILURE TO OBEY CAN RESULT IN AN ELECTRICAL SHOCK.

- (3) Make sure the WINDOW HEAT switches on the P5 panel are in the OFF position.

F. Procedure

S 216-012

- (1) Use a optical micrometer to measure the depth of the window damage.

S 216-044

- (2) Examine the No. 2 and No. 3 windows for these types of damage:
 - (a) chips
 - (b) cracks
 - (c) erosion
 - (d) scratches
 - (e) moisture ingress

S 966-045

- (3) Replace the window if the damage limits your vision through the window.

S 966-053

- (4) Replace the window if the glass plies have "V" shaped chips.

S 966-054

- (5) Replace the window if the glass plies have cracks.

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S 966-046

- (6) Repair (acrylic windows only) the window if the depth of the damage is more than 0.05 inch.

NOTE: The window must be replaced if after the repair is performed the window does not meet the minimum window thickness in table 801.

S 216-047

- (7) Examine the No. 2 and No. 3 windows for bubbles

NOTE: Too much window heat can cause small bubbles in the vinyl interlayer.

- (a) Replace the window if the bubbles limit your vision through the window.

1) Make sure the window heat control unit operates correctly.

S 216-067

- (8) Examine the window for moisture ingress.

- (a) Replace the window if a cloudy or milky white area can be seen in a delamination or around the periphery of the window. This is a sign of moisture ingress which can cause arcing in the heating film.

S 216-057

- (9) Examine No. 2 window for delamination (glass only).

- (a) If delamination damage limits your vision, replace window.

NOTE: Delamination may result in arcing and glass fracture. It is recommended that windows with delamination extending beyond 3.50 inches (89 mm) from the edge of the window be replaced.

S 216-061

- (10) Examine the No. 3 window for delamination.

- (a) Make sure delamination does not limit your vision.

NOTE: No. 3 window is not a bird strike requirement window and therefore does not require replacement based upon delamination. Window replacement is based on poor visibility through window or window heat failure.

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S 216-048

- (11) Examine the No. 2 and No. 3 window aerodynamic smoother.
(a) Repair all aerodynamic smoother that has cracks or loose edges.

S 216-049

- (12) Examine the No. 2 and No. 3 window posts, sills, and fasteners.
(a) Visually check the window posts and sills for corrosion, dents, cracks, and other damage.
(b) See the Structural Repair Manual for corrosion and damage limits.

CAUTION: DO NOT TIGHTEN THE FASTENERS MORE THAN THE MAXIMUM TORQUE. IF YOU TORQUE THE FASTENERS MORE THAN THE MAXIMUM TORQUE, YOU CAN CAUSE DAMAGE TO THE WINDOW. ONLY TIGHTEN THE BOLTS TO THEIR MAXIMUM TORQUE TO STOP A LEAK.

- (c) Make sure the fasteners have between 20 to 60 pound-inches of torque (maximum).

S 216-050

- (13) Examine the No. 2 and No. 3 window heat system.
(a) Do a check for loose or damaged window heat terminal blocks.
(b) Look for damage from electrical arcs in the area of the heat bus bars on the window.

S 226-026

- (14) The table that follows gives the limits for the minimum thickness permitted for the windows (acrylic windows only).

MINIMUM WINDOW ASSEMBLY AND INDIVIDUAL PANE THICKNESS *[1]	NO. 2	NO. 3
INNER PANE	0.410	0.410
OUTER PANE	0.810	0.650
INNER PANE PLUS OUTER PANE	1.340	1.060

*[1] Minimum total thickness does not include the 0.10-inch vinyl interlayer. The repair limits for the No. 2 and No. 3 windows are controlled by a minimum thickness for each of the panes after the repair. The repair limits for the No. 2 window are also controlled by a minimum total thickness of the two panes together after the repair.

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S 966-027

- (15) Repair (acrylic windows only) the No. 2 or the No. 3 window if the depth of the scratch on the inner or outer surface is more than 0.05 inch (AMM 56-11-00/801).

NOTE: The window must be replaced if after the repair is performed the window does not meet the minimum window thickness in table 801.

NOTE: The maximum depth of the defect is measured with an optical micrometer. To get the correct depth, multiply the index of refraction for acrylic plastic (1.49) by the micrometer value.

S 356-028

- (16) Repair (acrylic windows only) superficial scratches, if they limit your visual capacity (AMM 56-11-00/801).
(a) The No. 2 or 3 windows can be permanently bent outboard. This does not damage the window structurally. Do not remove the window for this reason.

S 866-040

- (17) Remove the DO-NOT-CLOSE tags and close these circuit breakers on the P37 panel:
(a) 37E3, WINDOW HTR 2L
(b) 37E4, WINDOW HTR 3L

S 866-041

- (18) Remove the DO-NOT-CLOSE tags and close these circuit breakers on the P70 panel:
(a) 70A3, WINDOW HTR 2R
(b) 70A4, WINDOW HTR 3R

S 716-043

- (19) Make sure the window anti-icing system operates correctly (AMM 30-41-00/501).

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FLIGHT COMPARTMENT WINDOWS – APPROVED REPAIRS

1. General

- A. This procedure contains these tasks:
 - (1) Prepare for repairs to the windows.
 - (2) Repair windows (No. 2 or 3) that have scratches or crazing (acrylic windows only).
 - (3) Repair windows (No. 2 or 3) that have chips or that have erosion (acrylic windows only).
 - (4) Repair the aerodynamic sealant.
 - (5) Repair the moisture sealant on the No. 1 windows.
- B. This procedure includes window repairs that you can do with the windows installed in the airplane. Repairs that you cannot do with the windows installed in the airplane are contained in the Component Maintenance Manual.
- C. Procedures for the inspection of the flight compartment windows and the limits of damage are given in (AMM 56-11-00/601).

TASK 56-11-00-848-066

2. Prepare for the Repair to the Windows

- A. References
 - (1) AMM 56-11-00/601, Flight Compartment Windows
- B. Access
 - (1) Location Zones
211/212 Control Cabin
- C. Procedure – Prepare for the repair
 - S 868-001
 - (1) Turn all the window heat control switches on the pilot's overhead panel, P5, to OFF.
 - S 868-004
 - (2) Open these circuit breakers on the right miscellaneous equipment panel, P37, and attach DO-NOT-CLOSE tags:
 - (a) 37E3, WINDOW HTR 2L (No. 2 left window)
 - (b) 37E4, WINDOW HTR 3L (No. 3 left window)
 - (c) 37J2, WINDOW HTR 1R (No. 1 right window)
 - S 868-005
 - (3) Open these circuit breakers on the left miscellaneous equipment panel, P70, and attach DO-NOT-CLOSE tags:
 - (a) 70A3, WINDOW HTR 2R (No. 2 right window)
 - (b) 70A4, WINDOW HTR 3R (No. 3 right window)
 - (c) 70C13, WINDOW HTR L (No. 1 left window)

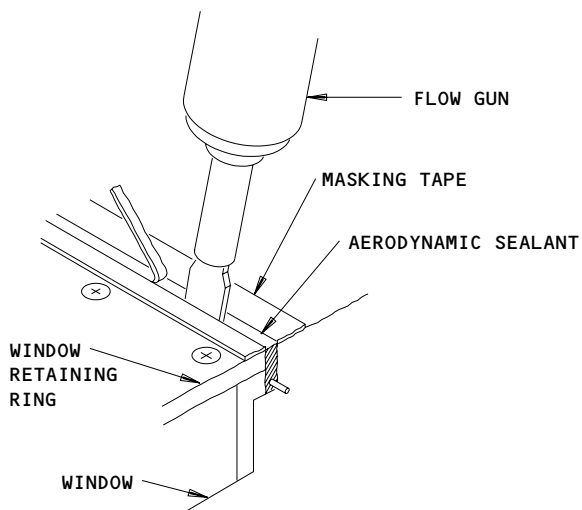
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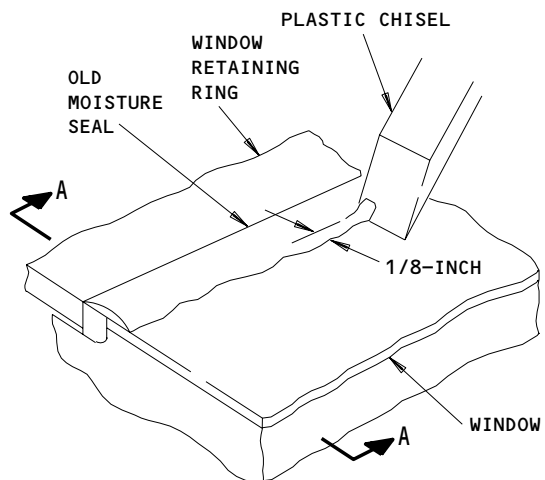
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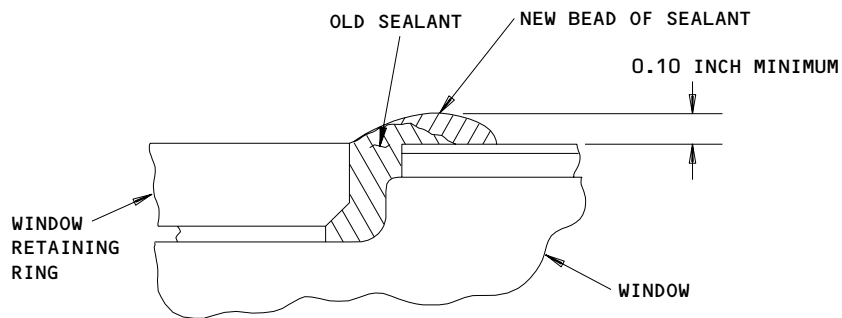
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AERODYNAMIC SEALANT REPAIR



MOISTURE SEALANT REPAIR



A-A

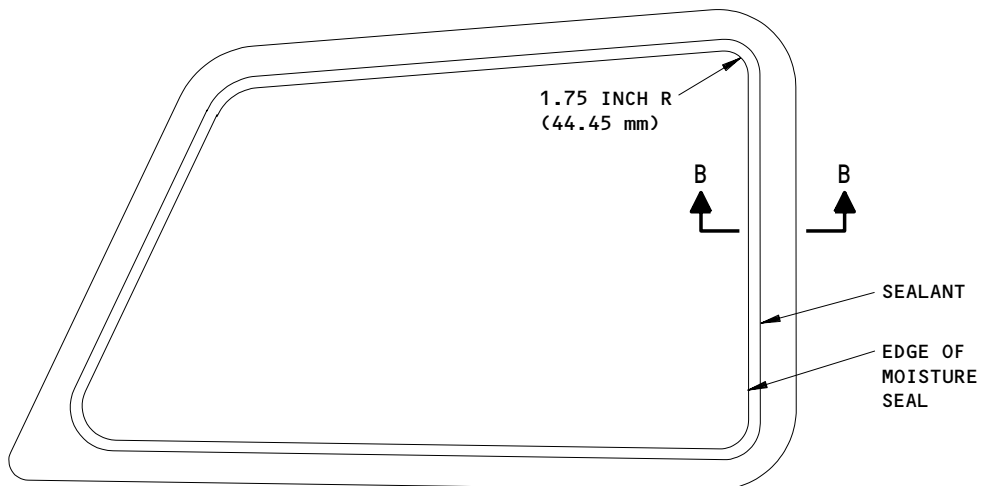
**Aerodynamic and Moisture Sealant Repair
Figure 801 (Sheet 1)**

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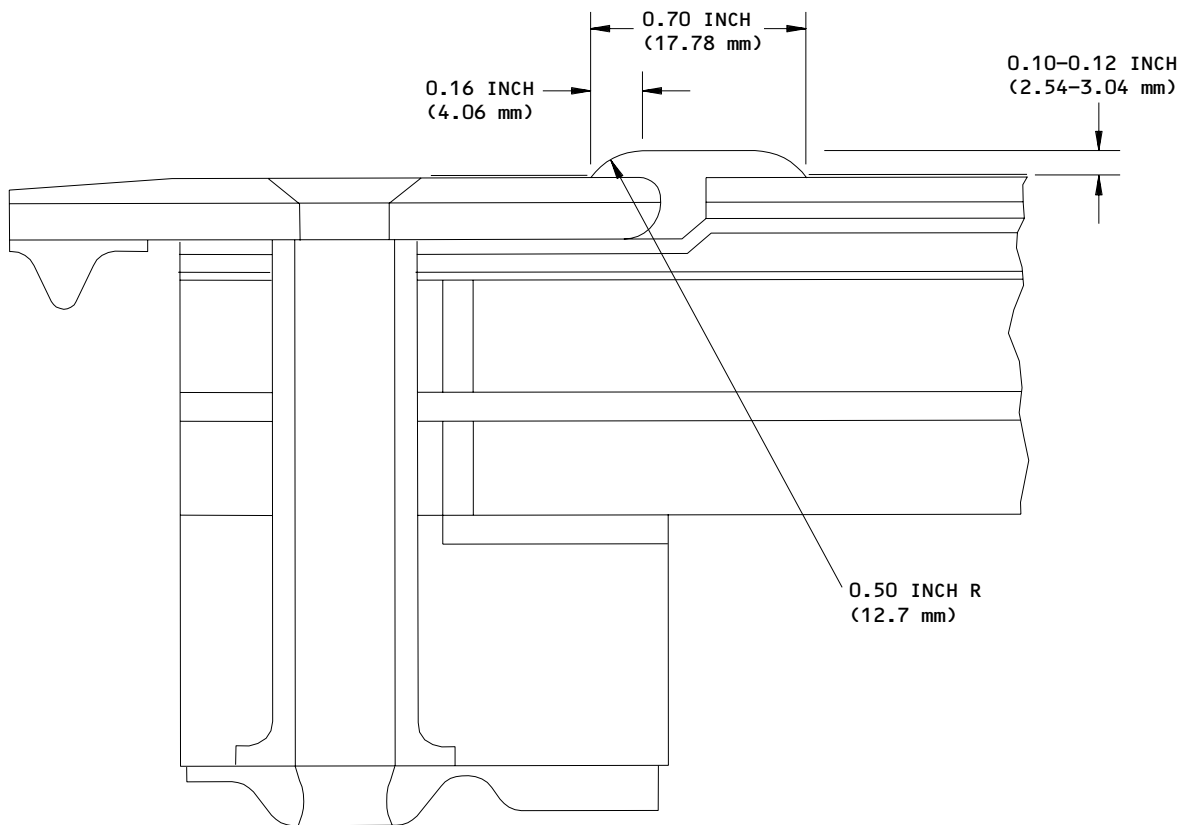
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NO. 1 WINDOW



B-B

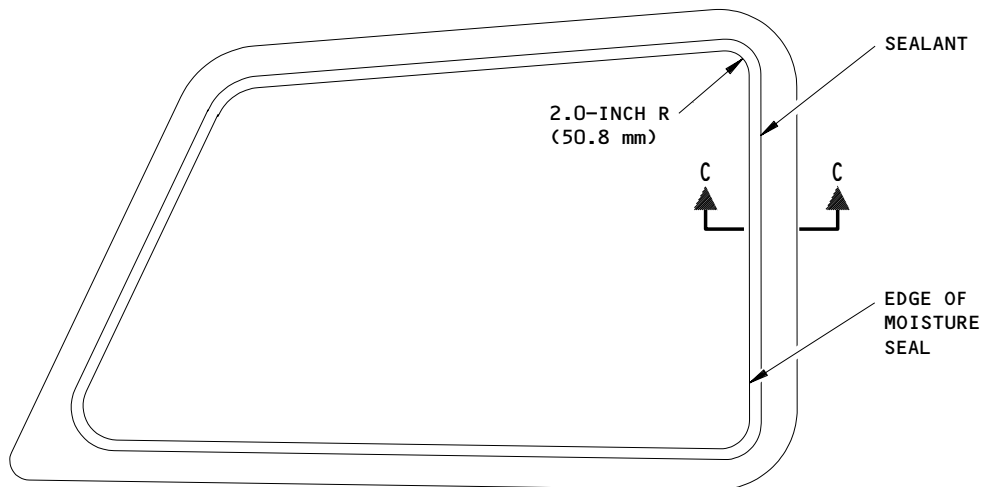
Aerodynamic and Moisture Sealant Repair
Figure 801 (Sheet 2)

EFFECTIVITY
AIRPLANES WITH STUD AND LUG POWER
TERMINALS
(PRE-SB 30-19/20 OR PRR 54530-265S);
AIRPLANES WITH 141T4801-57 THRU -999;

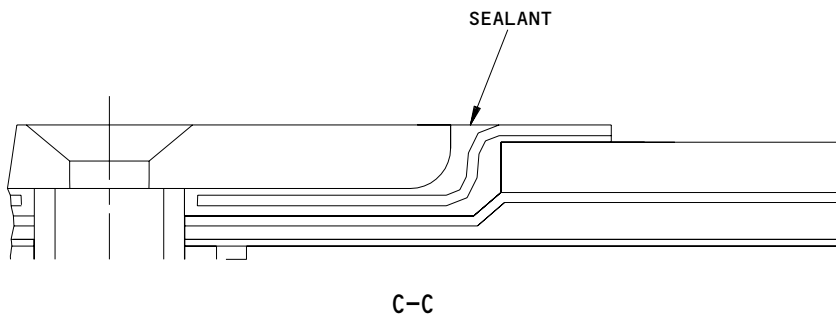
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NO. 1 WINDOW



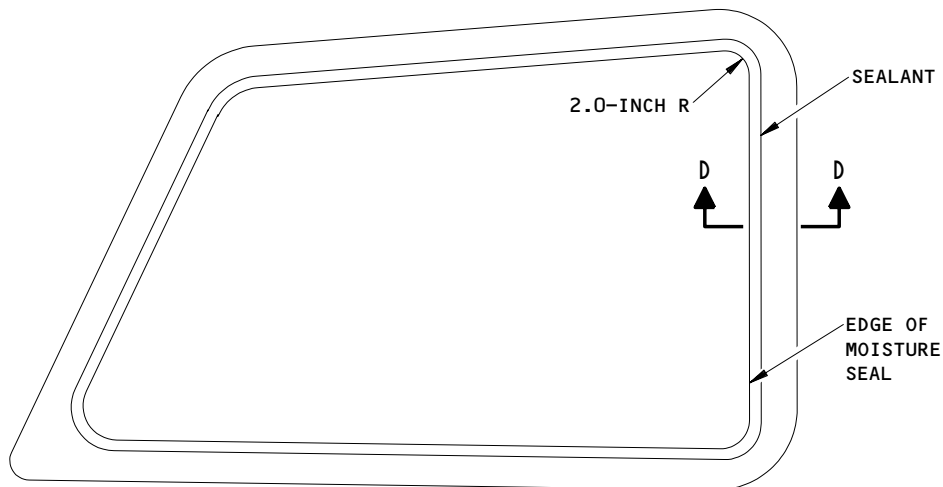
Aerodynamic and Moisture Sealant Repair
Figure 801 (Sheet 3)

EFFECTIVITY
AIRPLANES WITH 141W7400-31 THRU -32
(POST-SB 30-19/20 OR PRR 54530-265S);

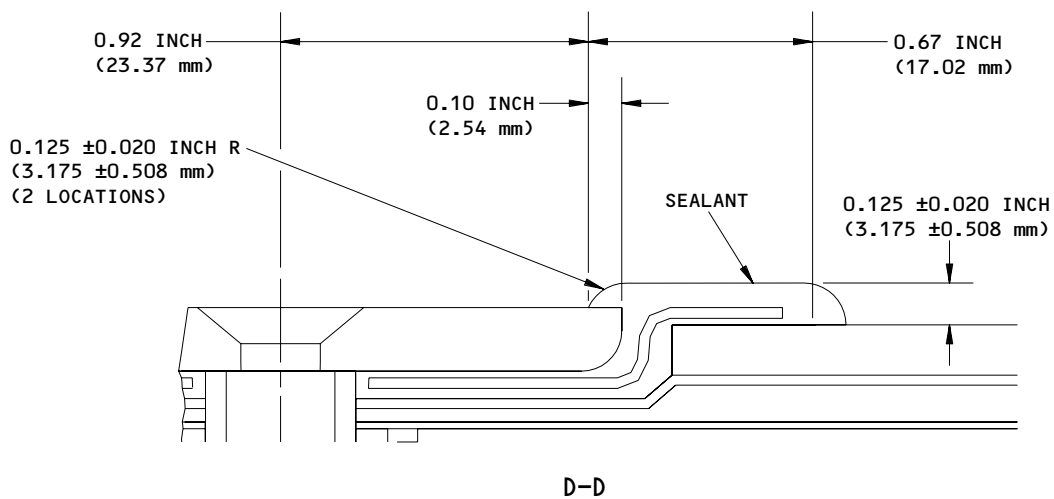
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NO. 1 WINDOW



Aerodynamic Sealant and Moisture Sealant Repair
Figure 801 (Sheet 4)

EFFECTIVITY
AIRPLANES WITH 141W7400-33 THRU -999
(POST-SB 30-19/20 OR PRR 54530-265S);

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TASK 56-11-00-308-006

3. Repair the Scratched or Crazed Windows (No. 2 or 3 Windows) (acrylic only)

A. General

- (1) With an orbital sander, polish, or buff the No. 2 or No. 3 (acrylic) windows to remove scratches and surface crazing.

NOTE: Refer to the Table 801 below to keep the correct window pane thickness.

NOTE: The minimum total thickness does not include the 0.10 inch vinyl interlayer.

The repair limits for the No. 2 and No. 3 windows are controlled by a minimum thickness for each window after the repair. Repair limits for the No. 2 window are also controlled by a minimum total thickness of the two windows together after the repair.

Table 801		
MINIMUM PANE THICKNESS	NO. 2	NO. 3
INNER PANE	0.410	0.410
OUTER PANE	0.810	0.650
INNER AND OUTER PANE TOTAL	1.340	1.060

- (2) Be careful with the window when you touch it.
 (3) Put on clean cotton gloves when you handle the polished window panes.
 (4) Do not use materials that are not approved.
 (5) Do not cause damage to the window surface with finger rings or other sharp objects.

B. Equipment

- (1) Ultrasonic Equipment - commercially available
 (2) Orbital Sander, Vibrating - Air Driven (with Rubber Pad) - Commercially Available
 (3) Optical Micrometer - Model 966A1 or Model 966A
 Monocle Industries
 P.O. Box 2426
 Coppell, TX, USA 75019
 Contact: John Leichtle
 Tel (972) 393-9920
 Fax (972) 393-9926

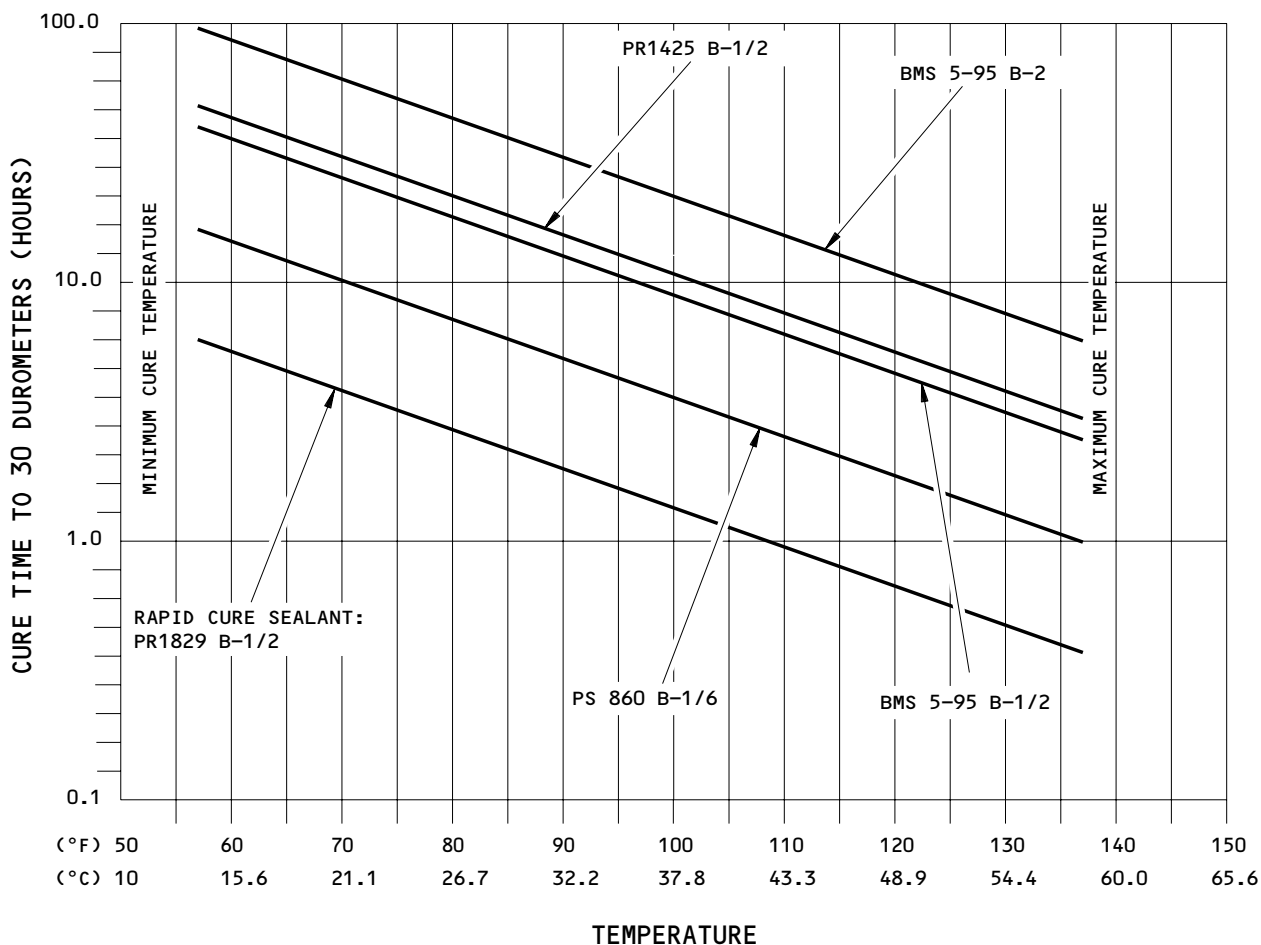
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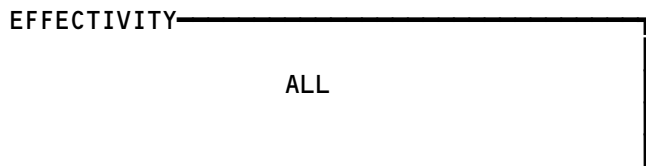
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Moisture Seal Repair - Curing Time
Figure 802



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69046

C. Consumable Materials

- (1) G00301 Protective Tape
(Elephant-Hide) Protex 20V or
Protex 20S
- (2) Finesse-It Plastic Repair Kit (Part No. 14078) or equivalent
for repair of deep scratches, crazing or haze

3M Microfinishing Systems Project
Industrial Abrasives Division
Bldg. 251-2A-08, 3M Center
St. Paul, Mn. 55144-1000

- (3) Cheesecloth - Commercially available
- (4) Mixture of liquid soap and water

D. References

- (1) AMM 56-11-00/601, Flight Compartment Windows

E. Access

- (1) Location Zones
211/212 Control Cabin

F. Procedure - Repair the Scratched or the Crazed Windows
(No. 2 and 3 Windows)

S 958-008

- (1) Apply protective tape to the window frame and the seal.

S 178-012

- (2) First flush loose dirt away with water and wipe with a cheesecloth.

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S 358-075

- (3) Use coarse to fine graduations of rotary disks to repair the window as follows:

- (a) Remove minor clamshell surface chips, scratches and surface crazing with the fine rotary disk. Use a coarse rotary disk for gouges, deep scratches and bad crazing (usually not larger than 100 grit).

NOTE: If a minor repair is necessary, use a fine disk to decrease the time to polish the window. Do not repair only a local part of the surface area. This will cause visual distortion. Use sufficient water to keep the window surface cool and to flush away the grit and acrylic material.

When you use the sander, start the orbital sander with the sander on top of the window. Do not operate the sander and then apply the sander to the window. When you stop the orbital sander, pull the sander off the window first. Do not stop the sander with the sander on the window.

Use a sander that vibrates at approximately 800 cpm. Sand all the window surfaces, first in the horizontal direction. Then, use the sander on all of the window surface in the vertical direction.

To rub with a coarse grit for 2-5 minutes will remove approximately 0.005 inches of acrylic. Change the abrasive disks frequently. Repeat the procedure until all surface damage is removed and the surface has a constant thickness. Rub for 2 minutes to make sure all cracks and crazes are removed.

- (b) After you use each disk, wipe off the window with a clean piece of cheesecloth.

NOTE: Do not use this cheesecloth again to wipe off the window. The sediment from the acrylic can get on the window if you use the cheesecloth again.

CAUTION: DO NOT OPERATE THE SANDER ON A DRY WINDOW SURFACE. MAKE SURE THERE IS CONSTANT SUPPLY OF WATER AND SOAP MIXTURE ON THE WINDOW DURING THE REPAIR OR YOU CAN CAUSE DAMAGE TO THE WINDOW.

- (c) When you start with a new disk, make sure you apply sufficient water-soap solution to the window.

S 358-076

- (4) Flush away the grit and acrylic material with water.

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- S 358-058
- (5) Rub all the window surface in the horizontal direction. Use a sander that operates at approximately 800 cycles per minute.
- S 358-065
- (6) Rub all the window surface in the vertical direction.
- S 358-059
- (7) Do the procedure again until all the surface damage is removed and the surface has a constant thickness.
- S 358-061
- (8) Polish the window with finer graduations of rotary disks.
- S 358-062
- (9) Continue each step until the polish marks are removed (normally 2-3 minutes in each step).
- S 358-063
- (10) Move the sander horizontally to polish the window surface.
- S 358-064
- (11) Move the sander vertically across the window surface.
- S 228-010
- (12) Make sure the window pane thicknesses are equal to or more than the limits permitted in Table 801.
- S 848-011
- (13) Clean and wipe the window off.
- S 848-012
- (14) Apply liquid polish and spread over the window to polish the window.
- NOTE:** With rotary buffer, the wheel surface speed must be 3200 feet per minute for coarse compound and 4200 feet per minute for fine compound.
- S 218-013
- (15) Do a check of the window visually for optical quality.
- S 358-014
- (16) If the window has damage, repeat the repair process.
- S 228-015
- (17) Make sure the window pane thickness is equal or greater than the limits permitted in Table 801 after rework.

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S 228-077

- (18) Use ultrasonic equipment to do a check of the window pane thickness.

NOTE: Before you use the ultrasonic equipment, make sure that the equipment is calibrated. To calibrate the equipment, use a "step-wedge" of known thickness made from the same material as the window.

S 848-016

- (19) Apply wax to the window surface. Polish the window to a glossy finish.

TASK 56-11-00-308-017

4. Repair the Chipped or Eroded Windows (No. 2 or 3 Windows) (acrylic only)

A. References

- (1) AMM 56-11-00/601, Flight Compartment Windows

B. Access

- (1) Location Zones
211/212 Control Cabin

C. Procedure

S 218-018

- (1) Make an inspection of the chips. Make sure the chips do not have cracks around them.

S 358-019

- (2) Repair the chips in the window bolt holes, and the large chips in the window surface. Refer to the Component Maintenance Manual for the repair of the window.

S 358-020

- (3) Rub with an abrasive disks to remove the clamshell chips or erosion at the window edges. Polish to a 62 RHS finish. Refer to the damage limits in (AMM 56-11-00/601), after the repair is completed.

TASK 56-11-00-398-021

5. Repair the Aerodynamic Sealant (Fig. 801)

A. References

- (1) AMM 51-31-01/201, Seals and Sealing

B. Consumable Materials

- (1) G00270 Masking Tape - Permacel No. 76 or equivalent
(2) B00083 Aliphatic Naphtha - TT-N-95
(3) Sealing Compound - (One of these optional compounds):
(a) A00247 BMS 5-95, Class B-1/2
(b) A00247 BMS 5-95, Class B-2

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- (c) A01056, PR 1829 Sealant (Rapid Cure)
- (d) A00908 Pro Seal 860, Class B
- (4) G00034 Cheesecloth, clean and lint-free
- (5) Tape - Scotch Cal No. 639

C. References

- (1) AMM 56-11-00/601, Flight Compartment Windows

D. Access

- (1) Location Zones
211/212 Control Cabin

E. Procedure - Repair the Aerodynamic Sealant.

S 028-091

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO REMOVE THE AERODYNAMIC SMOOTHER. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

- (1) Remove the loose or aerodynamic sealant that has a crack (AMM 51-31-01/201).

S 118-023

CAUTION: BE VERY CAREFUL WHEN YOU USE ALIPHATIC NAPHTHA. ALIPHATIC NAPHTHA IS A POISONOUS AND FLAMMABLE SOLVENT WHICH CAN CAUSE INJURY OR DAMAGE.

- (2) Clean the clearance and the faying surfaces with a cheesecloth that is moist with aliphatic naphtha.

S 118-024

- (3) Wipe off all the aliphatic naphtha with clean cheesecloth before it dries. Do not allow the aliphatic naphtha to dry on the surfaces.

S 218-025

- (4) Make sure there is no aliphatic naphtha remaining on the surface. Do not cause damage to the adjacent seal.

S 958-026

- (5) Apply masking tape on the fuselage skin and the window to the edge of the clearance.

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S 398-027

- (6) Apply the sealing compound.

NOTE: Do these steps in less than 2.5 hours.

- (a) Add the mixed sealing compound into the clearance with a flow gun. Add the compound slowly to avoid shrinkage. Add a little more compound than is necessary to fill the clearance.

NOTE: Use PR 1829 sealant, A01056 if rapid cure is required for dispatch.

NOTE: Use a spatula to apply the compound when the use of a flow gun is not possible.

- (b) Smooth the sealing compound to the level of the outer surface of skin and window.
(c) Make sure the sealing compound is level with the outer surface of the skin and the window.

S 038-028

- (7) Remove the masking tape from the edges of the clearance.

S 398-029

- (8) Smooth the sealing compound with a tool if there is unwanted sealing compound at the edges of the clearances.

TASK 56-11-00-308-039

6. Repair the Moisture Sealant (No. 1 Window) (Fig. 801)

A. References

- (1) AMM 51-31-01/201, Seals and Sealing

B. Equipment

- (1) Sealant Nozzle, Duck-Bill - SEMCO NO. 8643
(2) Spatula or Flow Gun (Commercially Available)

C. Consumable Materials

- (1) G00294 Masking Tape - Permacel No. 76 or equivalent

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- (2) B00083 Aliphatic Naphtha - TT-N-95
- (3) Polysulfide Sealant - PR 1425 B-1/2 or PR 1425 B-2, Products Research and Chemical Corporation
- (4) G00034 Cheesecloth - clean and lint-free (Commercially Available)
- (5) Plastic Sheet - .060 to .080 inch thick (Commercially Available)
- (6) Polysulfide Sealant - Pro Seal 860 class B, Essex Chemical Corporation, Specialty Chemicals Division, 19451 Susana Road, Compton, Ca. 90221

D. Access

- (1) Location Zones
211/212 Control Cabin

E. Procedure - Repair the Moisture Sealant

S 848-093

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO REMOVE THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

- (1) Remove the damage sealant not attached to the glass or the cracked sealant (AMM 51-31-01/201).

S 358-095

CAUTION: DO NOT DAMAGE THE WINDOW FRAME WHEN YOU CUT THE GROOVE. DAMAGE TO THE WINDOW OR STRUCTURE SKIN SUCH AS NICKS, CUTS, SCRATCHES, OR SCRIBE LINES WILL REDUCE THE FATIGUE STRENGTH AND DURABILITY OF THE STRUCTURE.

- (2) Cut a groove around the seal, between the seal and the frame.

S 358-043

- (3) Remove the sealant from the clearance.

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S 118-074

WARNING: BE CAREFUL WHEN YOU WORK WITH ALIPHATIC NAPHTHA. ALIPHATIC NAPHTHA IS A POISONOUS AND FLAMMABLE SOLVENT WHICH CAN CAUSE INJURY OR DAMAGE.

- (4) Clean the seal, the adjacent glass, and the clearance with aliphatic naphtha. Use a clean cheesecloth to apply the naphtha. Remove the naphtha with clean cheesecloth before it dries. Make sure there is no aliphatic naphtha remaining on the surface.

S 958-045

- (5) Put masking tape on the glass and the window frame.

S 398-097

- (6) Use a flow gun to apply a bead of fast dry PR 1425 B-1/2 or slow dry PR 1425 B-2 sealant on the old sealant. Apply the sealant equally.
(a) If necessary, use a sealant that dries fast. Pro Seal 860 class B sealant is a sealant that dries fast.

NOTE: The time allowed to apply this sealant is 20 minutes. The sealant is ready to be touched in 75 minutes when dried at 77°F (18°C).

S 398-047

- (7) Fill the clearances with sealant. Make the sealant into the shape shown on Fig. 801 with a spatula. Make sure the sealant is smooth.

S 218-079

- (8) Make sure the moisture seal dimensions are as shown on Fig. 801.

S 948-048

- (9) Carefully remove the masking tape immediately after the sealant is made smooth.

S 948-049

- (10) Remove unwanted wet sealant from the glass or the frame. Use a cheesecloth that is wet with aliphatic naphtha.

S 398-050

- (11) Permit the sealant to dry. Use the chart shown on (Fig. 802) for the time needed to dry the sealant before it is ready to be touched.

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S 868-052

- (12) Remove the DO-NOT-CLOSE tag and close this circuit breaker on the window heat panel, P31:
(a) 31A5, WINDOW HTR L (No. 1 left window)

S 868-054

- (13) Remove the DO-NOT-CLOSE tags and close these circuit breakers on the P37 panel:
(a) 37E3, WINDOW HTR 2L (No. 2 left window)
(b) 37E4, WINDOW HTR 3L (No. 3 left window)
(c) 37J2, WINDOW HTR 1R (No. 1 right window)

S 868-055

- (14) Remove the DO-NOT-CLOSE tags and close these circuit breakers on the P70 panel:
(a) 70A3, WINDOW HTR 2R (No. 2 right window)
(b) 70A4, WINDOW HTR 3R (No. 3 right window)
(c) 70C13, WINDOW HTR L (No. 1 left window)

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NO. 1 WINDSHIELD - REMOVAL/INSTALLATION

1. General

- A. This procedure contains two tasks. The first task is to remove the right and left No. 1 windshields. The second task is to install the right and left No. 1 windshields.

TASK 56-11-01-004-001

2. Remove the No. 1 Windshield

A. Equipment

- (1) Windshield Handling Sling - A56001-2, part of Sling Set A56001-15
- (2) Crane - 300 pound minimum capacity - STD-4781
- (3) Spatula or flow gun

B. Consumable Materials

- (1) G00139 Protective Tape - Gizard Protex 20V
- (2) G02173 - Protective Paper Cover
- (3) G00270 3M 250 Tape
- (4) AIRPLANES WITH PIN AND SOCKET POWER TERMINALS (POST-SB 30-0019, POST-SB 30-0020 OR PRR 54530-265S); Removal tool, Russtech RRX-12RA

C. Access

- (1) Location Zones
211/212 Control Cabin

D. Procedure - Remove No. 1 Windshield

S 864-065

WARNING: BEFORE YOU DO MAINTENANCE ON THE WINDSHIELD, OPEN THE WINDOW HEAT CIRCUIT BREAKERS. IF YOU DO NOT OPEN THESE CIRCUIT BREAKERS DURING MAINTENANCE, YOU CAN GET AN ELECTRICAL SHOCK.

- (1) For the left windshield, open this circuit breaker on the left generator power panel, P70, and attach a DO-NOT-CLOSE tag:
 - (a) 70C13, WINDOW HTR 1L

S 864-003

- (2) For the right windshield, open this circuit breaker on the right miscellaneous electrical equipment panel, P37, and attach a DO-NOT-CLOSE tag:
 - (a) 37J2, WINDOW HTR 1R

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S 424-066

CAUTION: HOLD THE WINDOW HEAT POWER TERMINAL BLOCKS WHEN YOU TIGHTEN OR LOOSEN THE SCREWS. THIS WILL PREVENT DAMAGE TO THE TERMINALS ON THE WINDOW.

- (3) AIRPLANES WITH STUD AND LUG POWER TERMINALS
(PRE-SB 30-0019, PRE-SB 30-0020);
Disconnect the electrical wires from the power terminals and identify for installation (Fig. 401).

S 034-067

- (4) AIRPLANES WITH PIN AND SOCKET POWER TERMINALS
(POST-SB 30-0019, POST-SB 30-0020 OR PRR 54530-265S);
Disconnect the wires from the windshield:
- (a) Use the removal tool, RUSSTECH RRX-12RA to disconnect the electrical wires from the power terminals.
 - (b) AIRPLANES WITH 141T4801-57 THRU -999 WINDSHIELD;
Disconnect the electrical wires from the sensor terminals.
 - (c) AIRPLANES WITH 141W7400-25 THRU -999 WINDSHIELD;
Disconnect the electrical wires from the sensor terminals.

NOTE: The 757 does not use the anti-fog J14 sensor terminal.

S 954-064

- (5) Install the protective paper cover on both sides of the window.

S 954-006

- (6) Use tape to apply a protective paper cover to protect the windshield surfaces. Do not attach the tape to the glass or the plastic.

S 034-007

- (7) Carefully remove the aerodynamic sealant from the clearance at the upper inboard corner to get to the nylon cord.

S 034-008

- (8) Pull the end of the cord out of the clearance. Fold the cord and slowly remove the cord from around the windshield.

S 034-009

- (9) Remove the screws (3) from the attach points of the windshield sling.

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S 494-050

CAUTION: DO NOT REMOVE THE 10 ASSEMBLY BOLTS THAT ARE BETWEEN THE WINDSHIELD RETAINER BOLTS. DAMAGE TO THE WINDSHIELD CAN OCCUR IF THE BOLTS ARE REMOVED.

(10) Loosen the retaining bolts (2).

S 484-073

(11) Attach the windshield sling at the attach points (Fig. 403).

S 424-069

(12) Tighten the bolts for the sling to 20-30 pounds-inches (Fig. 403).

S 034-010

(13) Remove the windshield retainer bolts (2).

NOTE: Certain windows come with longer length retainer bolts (Fig. 401). Make sure to identify between bolt lengths for removal/installation.

S 024-012

(14) Remove the windshield (12) and lower it to the ground.

S 094-013

(15) Remove the windshield sling from the windshield.

S 094-014

(16) Install the screws (3) in the windshield sling attach holes.

TASK 56-11-01-424-015

3. Install No. 1 Windshield

A. References

- (1) AMM 30-41-00/501, Flight Compartment Window Anti-Icing
- (2) AMM 30-42-00/501, Windshield Wiper System
- (3) AMM 51-31-01/201, Seals and Sealing
- (4) AMM 56-11-00/601, Flight Compartment Windows - Inspection/Check

B. Equipment

- (1) Windshield Handling Sling - A56001-2, part of Sling Set A56001-15
- (2) Crane, 300 pound minimum capacity - STD-4781

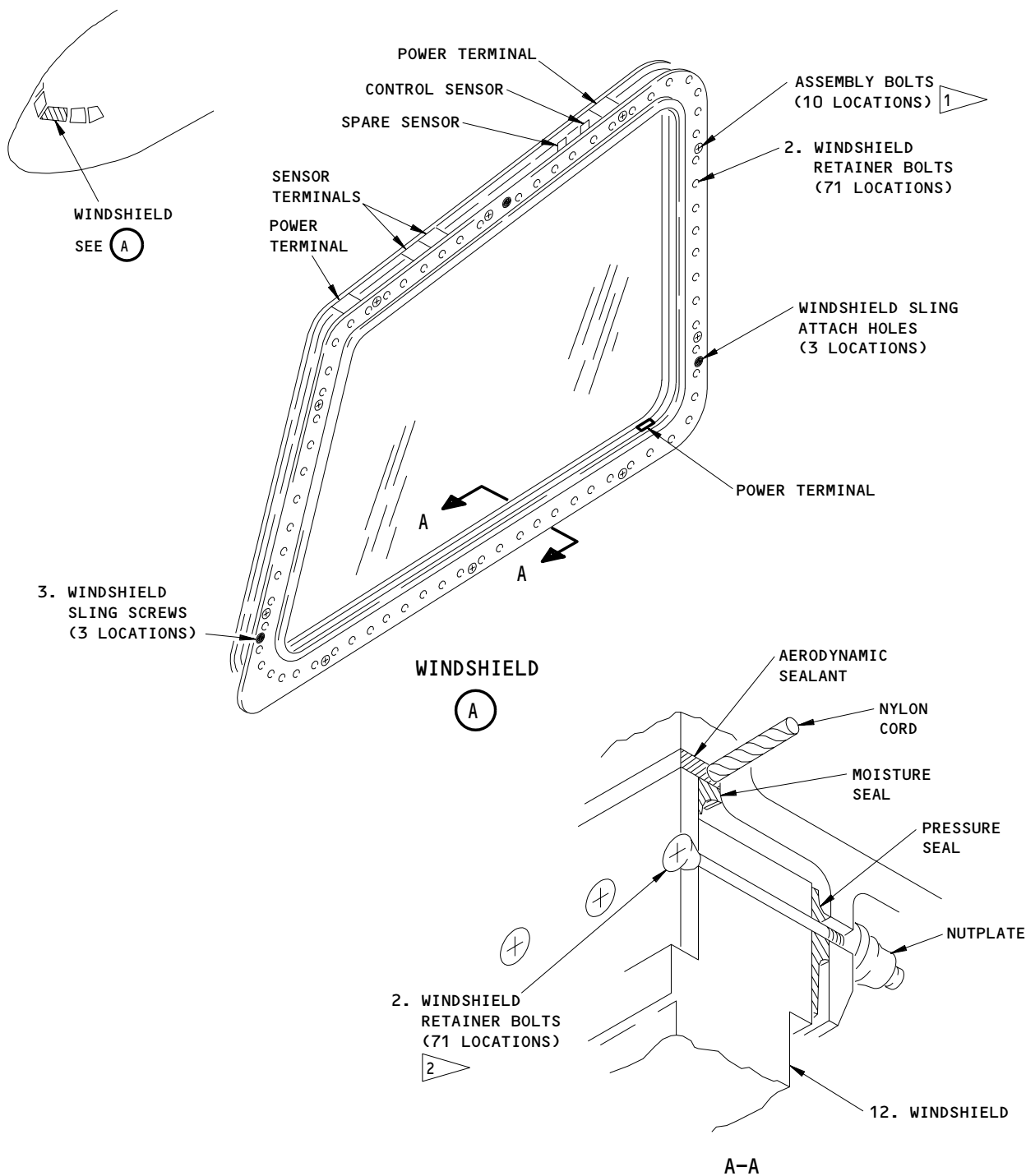
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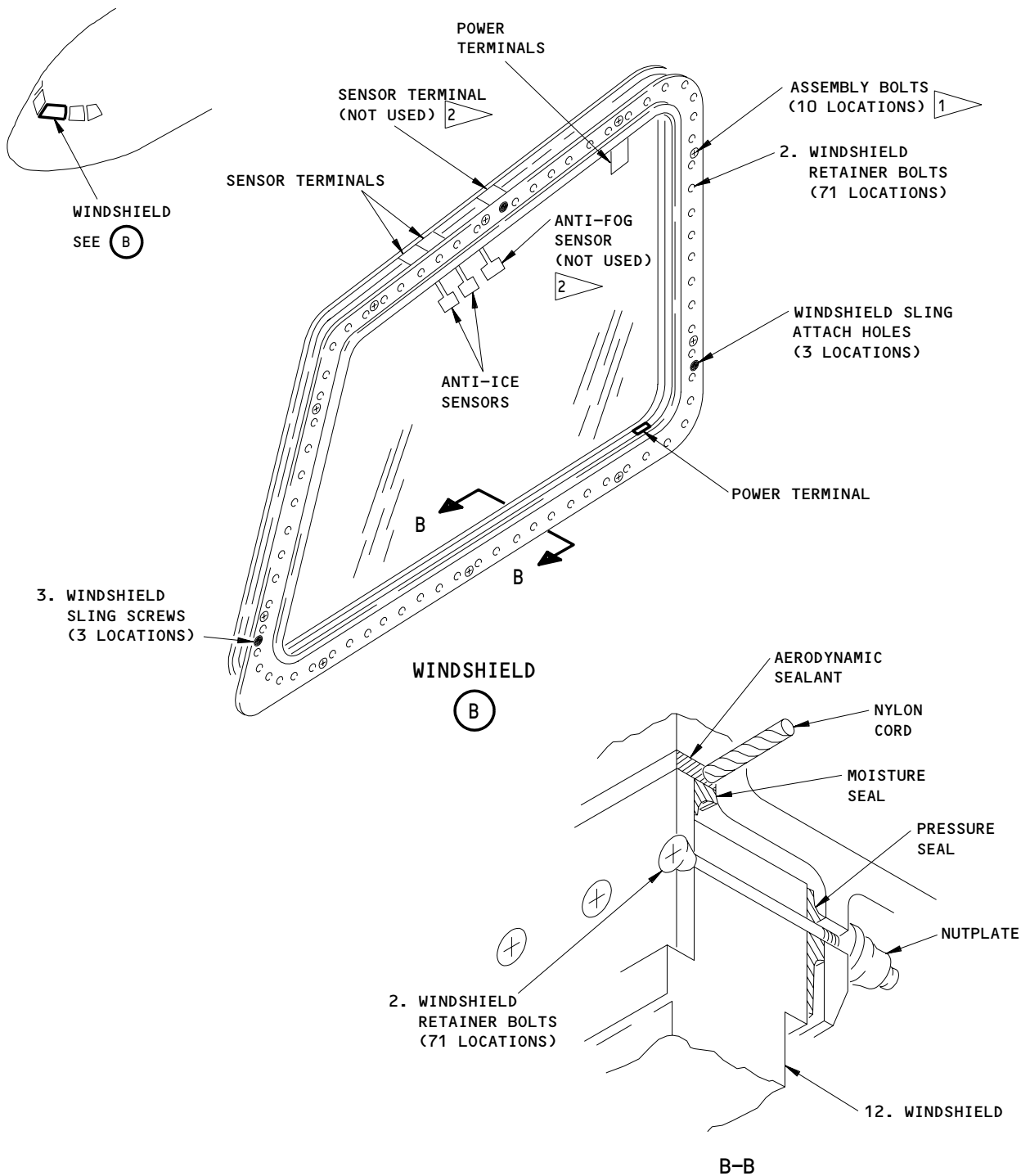


- 1 DO NOT REMOVE THESE BOLTS. THE HEADS OF THESE BOLTS HAVE A SEALANT COVER.
- 2 FASTENER BACB30NN4K37 (41) IN LOCATIONS 1-31 AND 62-71
FASTENER BACB30NN4K38 (30) IN LOCATIONS 32-61

No. 1 Windshield Installation
Figure 401 (Sheet 1)

EFFECTIVITY
N0146-N2699, N2716-N2999, N3053-N7000,
N9902-N9990

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- 1 DO NOT REMOVE THESE BOLTS. THE HEADS OF THESE BOLTS HAVE A SEALANT COVER.
- 2 AIRPLANES WITH 141W7400-19 THRU -999.

No. 1 Windshield Installation
Figure 401 (Sheet 2)

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N0146-N2699, N2716-N2999, N3053-N7000,
N9902-N9990 WITH PIN SOCKET POWER
TERMINALS

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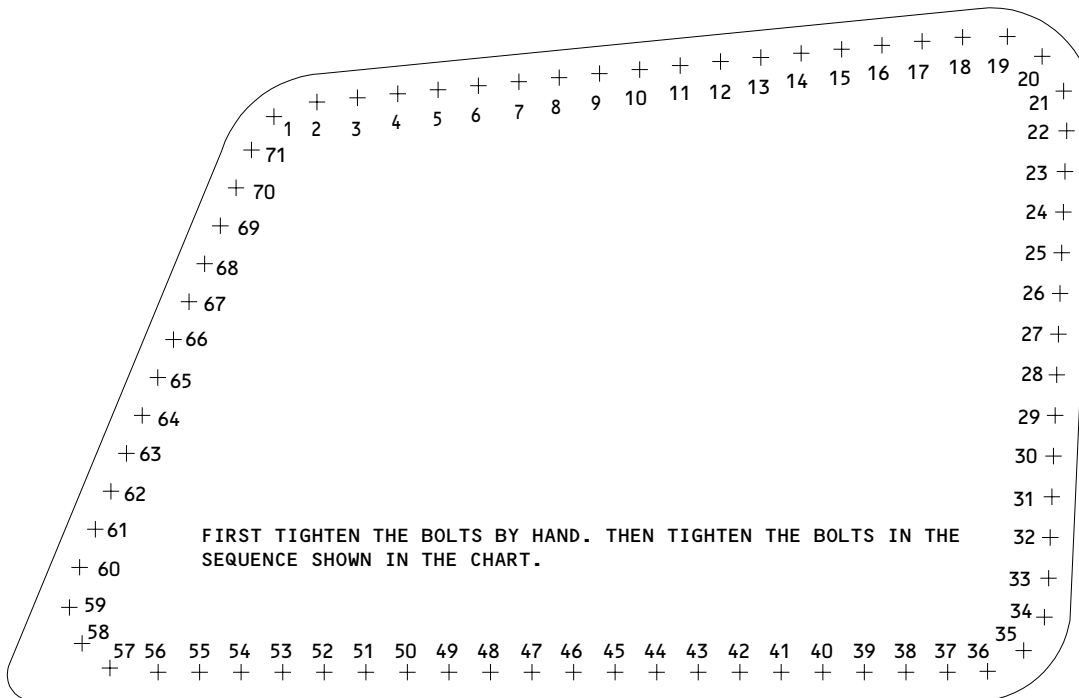
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J72808

BOEING

757 MAINTENANCE MANUAL



LEFT NO. 1 WINDSHIELD SHOWN
RIGHT NO. 1 WINDSHIELD OPPOSITE

SEQUENCE NUMBER	BOLT NUMBER	SEQUENCE NUMBER	BOLT NUMBER	SEQUENCE NUMBER	BOLT NUMBER
1	10	25	39	49	64
2	47	26	4	50	27
3	65	27	21	51	46
4	28	28	58	52	9
5	2	29	30	53	55
6	37	30	67	54	18
7	19	31	12	55	36
8	56	32	49	56	1
9	69	33	22	57	48
10	33	34	59	58	11
11	51	35	5	59	66
12	14	36	41	60	29
13	60	37	13	61	3
14	23	38	50	62	38
15	42	39	68	63	20
16	6	40	32	64	57
17	54	41	7	65	31
18	17	42	43	66	62
19	35	43	61	67	40
20	71	44	24	68	16
21	45	45	70	69	53
22	8	46	34	70	25
23	26	47	52	71	44
24	63	48	15		

Windshield Retainer Bolts Installation
Figure 402

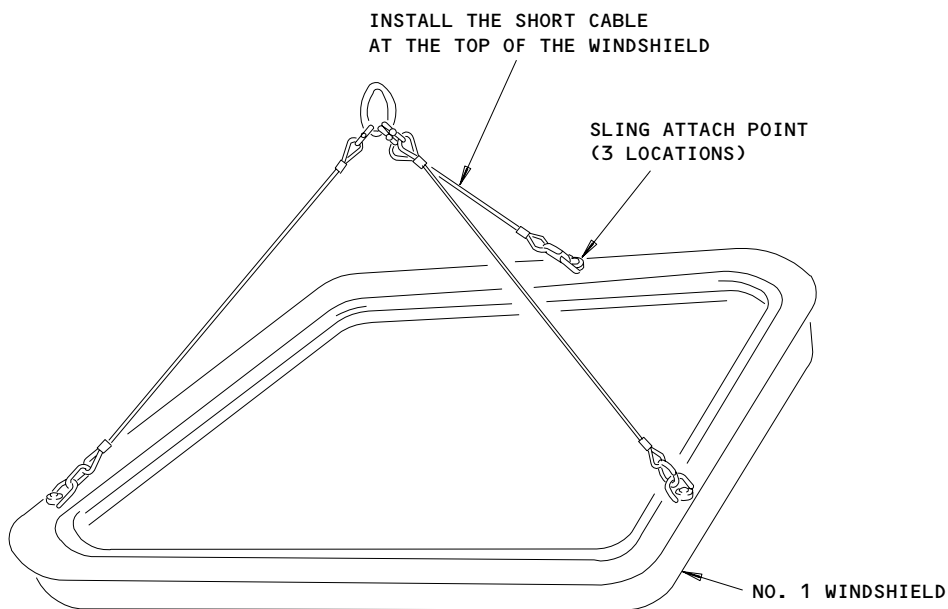
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WINDSHIELD HANDLING SLING, A56001-2

No. 1 Windshield Sling
Figure 403

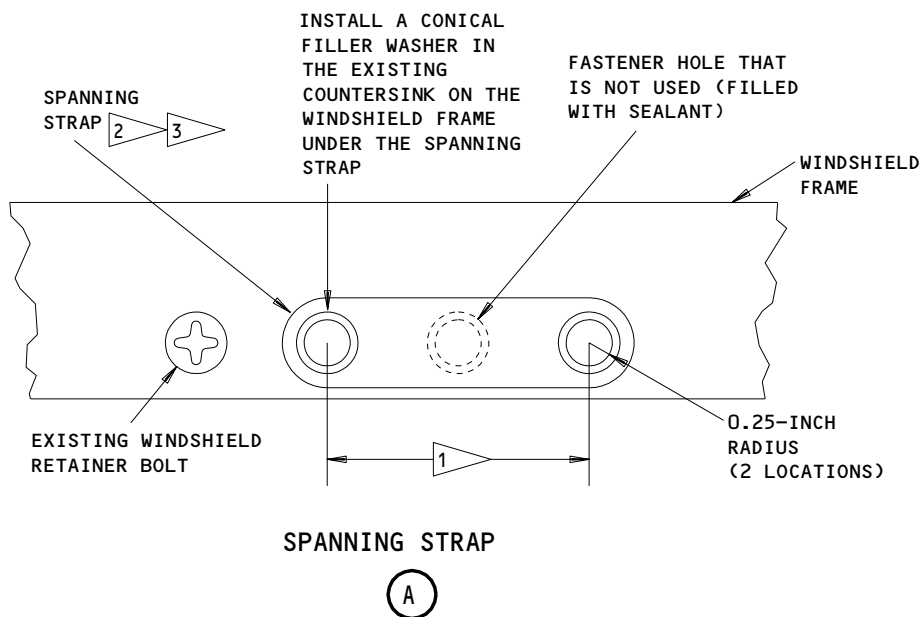
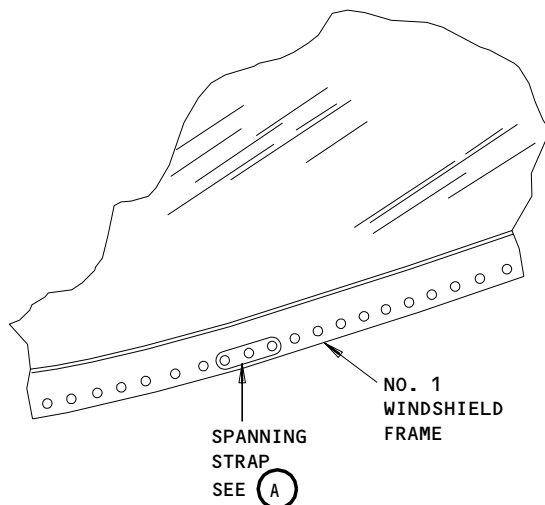
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- 1 THIS DIMENSION IS NOT ALWAYS THE SAME FOR ALL LOCATIONS
- 2 MAKE THE SPANNING STRAP FROM 0.040-INCH THICK 2024-T3/T4 ALUMINUM ALLOY 0.50-INCH WIDE. DRILL AND COUNTERSINK FOR TWO 100° COUNTERSUNK HEAD BACB30NN4K38 BOLTS.
- 3 REMOVE SHARP EDGES TO PROTECT THE WINDSHIELD WIPER BLADE AND FOR AERODYNAMIC SMOOTHNESS.

Spanning Strap Fabrication and Installation
Figure 404

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- (3) AIRPLANES WITH PIN AND SOCKET POWER TERMINALS
(POST-SB 30-0019, POST-SB 30-0020 OR PRR 54530-265S);
Insertion/Removal tool, Russtech RRX-12RA

- (4) Spatula or flow gun

C. Consumable Materials

- (1) G00039 Nylon Cord - MIL-C-5040, Type 1A
- (2) G00139 Protective Tape - Gizard Protex 20V
- (3) C00308 Corrosion Preventive Compound -
MIL-C-11796, Class 1
- (4) A00247 Sealant - BMS 5-95 Class B-1/2 or B-2
- (5) A00103 (Alternative) PR1425 Sealant.
- (6) A50052 (Alternative) PR1826, class B-1/2 and class B-1/4 (with
primer) (dark grey).
- (7) A00708 (Alternative) PR1828, Class B-1/2 and B-1/4 (White).
- (8) A01056, PR1829 sealant (Rapid Cure)
- (9) B00083 Aliphatic Naptha - TT-N-95A
- (10) G00034 Clean Cheesecloth
- (11) G00270 3M 250 Masking Tape
- (12) G00291 Pressure sensitive aluminum backed adhesive tape Scotch
3M 425 or 427.

D. Parts

AMM		NOMENCLATURE	AIPC		
FIG	ITEM		SUBJECT	FIG	ITEM
401	2	Bolt	56-11-01	05	20
	12	No. 1 Window, LH			10
	12	No. 1 Window, RH			15
	3	Screw			25

E. Access

- (1) Location Zones
211/212 Control Cabin

F. Procedure - Install No. 1 Windshield

S 764-075

- (1) Perform a continuity check at the sensors to make sure that there is
not an open circuit.

S 214-043

- (2) Do a visual check of the window post and sill for cracks and
corrosion (AMM 56-11-00/601).

S 434-016

- (3) Install new nutplates in the positions where the nutplate is gone.
Replace all damaged nutplates.

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- S 954-017
- (4) Use tape to apply a protective paper cover to both windshield surfaces. Do not attach the tape to the glass or the plastic.
- S 094-018
- (5) Remove the screws (3) from the attach points of the windshield sling (Fig. 401).
- S 494-019
- (6) Attach the windshield sling at the attach points (Fig. 403).
- S 114-020
- (7) Clean the faying surfaces of the rubber pressure seal and the windshield frame with aliphatic naphtha. Use a clean cheesecloth to apply naphtha and another clean cheesecloth to remove it. Do these steps until the surfaces are fully clean.
- S 434-021
- (8) Lift the windshield (12) into position.
- S 434-059
- (9) Install and tighten by hand the retainer bolts 10, 28, 47, and 65 (2) (Fig. 402).

NOTE: This will help align the window.

S 434-051

CAUTION: DO NOT APPLY TOO MUCH TORQUE TO THE WINDSHIELD RETAINER BOLTS DURING THE INSTALLATION. TOO MUCH TORQUE CAN CAUSE DAMAGE TO THE NUTS AND THE NUTPLATE RETAINERS.

YOU CAN KEEP OUT A WINDSHIELD RETAINER BOLT IF THERE IS A DAMAGED NUTPLATE OR THE NUTPLATE IS NOT THERE. NO TWO ADJACENT BOLTS CAN BE KEPT OUT. YOU CAN KEEP OUT NO MORE THAN ELEVEN BOLTS. YOU CAN INSTALL REPLACEMENT BOLTS AT THE NEXT WINDSHIELD CHANGE.

- (10) If windshield retainer bolt(s) (2) was kept out , fill bolthole(s) with sealant. Make and install spanning strap(s) on top of the filled bolthole (Fig. 404).

- S 434-060
- (11) Install the remaining retainer bolts (2). Tighten by hand.

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S 434-044

CAUTION: DO NOT APPLY TOO MUCH TORQUE TO THE BOLTS (2). TOO MUCH TORQUE COULD CAUSE DAMAGE TO THE NUTS AND THE NUTPLATE RETAINERS.

(12) Tighten the bolts:

- (a) AIRPLANES WITH 141T4801-1 THRU -56 WINDSHIELD;
Tighten all the bolts (2) in the sequence shown (Fig. 402).
Tighten to 50 to 70 inch-pounds.

NOTE: You must tighten the bolts (2) three times. The first time is when you install the window (12). The second time is three hours or more after the first window (12) installation. The third time is three hours or more after the second window (12) retorque. You can fly the airplane after the first time you tighten the bolts. This will prevent wind noise and leaks because of seal movement.

- (b) AIRPLANES WITH 141T4800-1 THRU -999 WINDSHIELD;
Tighten all the bolts (2) in the sequence shown (Fig. 402).
Tighten to 50 to 70 inch-pounds.

NOTE: You must tighten the bolts (2) three times. The first time is when you install the window (12). The second time is three hours or more after the first window (12) installation. The third time is three hours or more after the second window (12) retorque. You can fly the airplane after the first time you tighten the bolts. This will prevent wind noise and leaks because of seal movement.

- (c) AIRPLANES WITH 141T4801-57 THRU -999 WINDSHIELD;
Tighten all the bolts (2) in the sequence shown (Fig. 402).
Tighten to 50 to 70 inch-pounds.

NOTE: You must tighten the bolts (2) three times. The first time is when you install the window (12). The second time is three hours or more after the first window (12) installation. The third time is three hours or more after the second window (12) retorque. You can fly the airplane after the first time you tighten the bolts. This will prevent wind noise and leaks because of seal movement.

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- (d) AIRPLANES WITH 141W7400-25 THRU -999 WINDSHIELD;
Tighten the bolts (2):
- 1) Tighten each attach bolt (2) up to 40.0 in-lb. (4.5 Nm) in the sequence shown (Fig. 402).
 - 2) Tighten each attach bolt (2) (a second time) to 50.0 in-lb. (5.6 Nm) - 70.0 in-lb. (7.9 Nm) in the sequence shown (Fig. 402).

NOTE: It is recommended to tighten the bolts (2) with a manual torque wrench.

- a) If a screw gun is used, it is recommended to torque the bolts (2) (a third time) to 50.0 in-lb. (5.6 Nm) - 70.0 in-lb. (7.9 Nm) in the sequenc shown (Fig. 402).

S 224-027

- (13) Make sure the windshield is smooth or less than 0.04 inch in or out of the external surface.

S 094-028

- (14) Remove the windshield sling.

S 374-029

- (15) Apply a layer of corrosion preventive compound to the screws (3). Install the screws (3) in the sling attach holes.

S 954-030

- (16) Apply masking tape to both sides of the clearance between the edge of windshield frame and the external surface.

S 414-031

- (17) Install the nylon cord into the clearance around the windshield. Make sure the nylon cord is tightly installed in the bottom of the clearance.

S 424-062

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO APPLY THE AERODYNAMIC SMOOTHER. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

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(18) Apply the aerodynamic sealant as follows (AMM 51-31-01/201):

NOTE: The function of the sealant is to make sure there is good aerodynamic flow.

(a) If you must dispatch the airplane before the sealant is fully cured, do the steps that follow:

NOTE: Use PR 1829 sealant, A01056 if rapid cure is required for dispatch.

- 1) Install the Pressure sensitive aluminum backed adhesive tape on the top of the sealant.
- 2) Remove the tape when the sealant is fully cured.

S 394-071

(19) Apply the aerodynamic sealant as follows (AMM 51-31-01/201):

- (a) Put mixed aerodynamic sealant into the clearance. Apply it slowly to make sure the clearance is fully filled.
- (b) Remove the aerodynamic sealant until it is smooth with the window frame and the external surface.
- (c) Remove the masking tape and the protective paper from the windshield.
- (d) Make the sealant smooth at the edges of the clearance.

S 424-092

(20) AIRPLANES WITH STUD AND LUG POWER TERMINALS

(PRE-SB 30-0019, PRE-SB 30-0020);

Connect the electrical wires to the power terminals.

- (a) Tighten the screws to 25-30 in-lbs (2.8-3.4 N-m).

S 424-093

(21) AIRPLANES WITH PIN AND SOCKET POWER TERMINALS

(POST-SB 30-0019, POST-SB 30-0020 OR PRR 54530-265S);

Connect the wires to the windshield:

- (a) Use the insertion tool, RUSSTECH RIT-12RA to connect the electrical wires to the power terminals.

NOTE: The 757 does not use the J15 and J13 power terminals for the anti-fog bus bar (WDM 30-41-11).

- (b) AIRPLANES WITH 141T4801-57 THRU -999 WINDSHIELD;
Connect the electrical wires to the sensor terminals.
 - 1) Tighten the screws to 12-15 in-lb (1.4-1.7 N-m).
- (c) AIRPLANES WITH 141W7400-25 THRU -999 WINDSHIELD;
Connect the electrical wires to the sensor terminals.

NOTE: The 757 does not use the anti-fog J14 sensor terminal.

- 1) Tighten the screws to 12-15 in-lb (1.4-1.7 N-m).

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S 424-096

- (22) AIRPLANES WITH STUD AND LUG POWER TERMINALS (PRE-SB 30-0019, PRE-SB 30-0020);
Apply a sufficient amount of RTV162 or equivalent non-corrosive sealant to the terminal screws.
(a) Make sure the protective covers are installed on all the windshield terminal electrical connectors.

S 864-086

- (23) For the left windshield, remove the DO-NOT-CLOSE tag and close this circuit breaker on the P70 panel:
(a) 70C13, WINDOW HTR 1L

S 864-087

- (24) For the right windshield, remove the DO-NOT-CLOSE tag and close this circuit breaker on the P37 panel:
(a) 37J2, WINDOW HTR 1R

S 724-037

- (25) Do the window heating system check (AMM 30-41-00/501).

S 714-038

- (26) Do the window wiper operation check (AMM 30-42-00/601).

S 424-098

CAUTION: DO NOT APPLY TOO MUCH TORQUE TO THE BOLTS (2). TOO MUCH TORQUE COULD CAUSE DAMAGE TO THE NUTS AND THE NUTPLATE RETAINERS.

- (27) Tighten the bolts (2):
- (a) AIRPLANES WITH 141T4801-1 THRU -56 WINDSHIELD;
Tighten the bolts (2) one more time (the second time), beginning more than three hours but less than 72 hours after the completion of the first time. Obey the sequence shown (Fig. 402). Tighten to 50 to 70 pound-inches.
 - (b) AIRPLANES WITH 141T4800-1 THRU -999 WINDSHIELD;
Tighten the bolts (2) one more time (the second time), beginning more than three hours but less than 72 hours after the completion of the first time. Obey the sequence shown (Fig. 402). Tighten to 50 to 70 pound-inches.
 - (c) AIRPLANES WITH 141T4801-57 THRU -999 WINDSHIELD;
Tighten the bolts (2) one more time (the second time), beginning more than three hours but less than 72 hours after the completion of the first time. Obey the sequence shown (Fig. 402). Tighten to 50 to 70 pound-inches.

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S 424-099

CAUTION: DO NOT APPLY TOO MUCH TORQUE TO THE BOLTS (2). TOO MUCH TORQUE
COULD CAUSE DAMAGE TO THE NUTS AND THE NUTPLATE RETAINERS.

(28) Tighten the bolts (2):

- (a) AIRPLANES WITH 141T4801-1 THRU -56 WINDSHIELD;
Tighten the bolts (2) one more time (the third time), beginning
more than three hours after the completion of the second time.
Obey the sequence shown (Fig. 402). Tighten to 50 to 70
pound-inches.
- (b) AIRPLANES WITH 141T4800-1 THRU -999 WINDSHIELD;
Tighten the bolts (2) one more time (the third time), beginning
more than three hours after the completion of the second time.
Obey the sequence shown (Fig. 402). Tighten to 50 to 70
pound-inches.
- (c) AIRPLANES WITH 141T4801-57 THRU -999 WINDSHIELD;
Tighten the bolts (2) one more time (the third time), beginning
more than three hours after the completion of the second time.
Obey the sequence shown (Fig. 402). Tighten to 50 to 70
pound-inches.

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NO. 2 OPENABLE WINDOW – MAINTENANCE PRACTICES

1. General

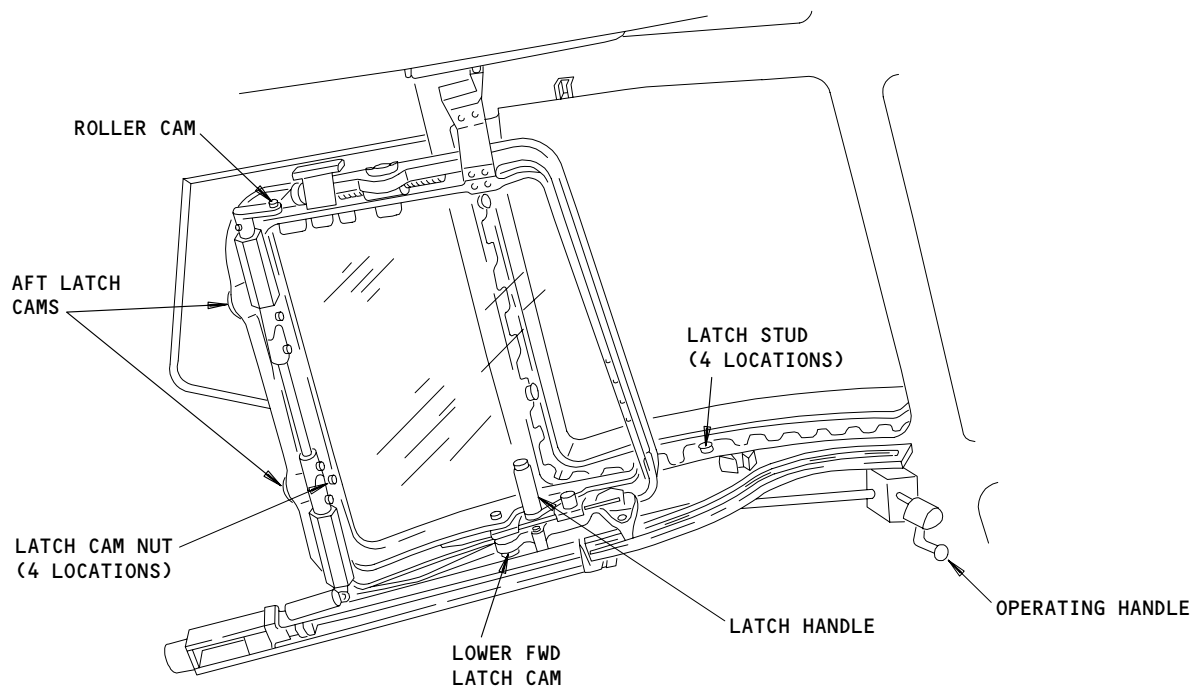
A. If the No. 2 window is not correctly adjusted, it is not easy to release the latch. The problem is caused when one or more of the four latch cams catches on the mating stud. The subsequent procedure should be followed to release the No. 2 window when it is difficult to release the latch.

TASK 56-11-02-822-001

2. Release the Window

A. Equipment

(1) Plastic Shim Material (0.03 to 0.06 inch thick)



Release of Binding No. 2 Window
Figure 201

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B. References

- (1) 56-11-02/501, No. 2 Window

C. Access

- (1) Location Zone
211/212 Control Cabin - Section 41 (Left/Right)

D. Procedure

S 822-003

(1) Shim Method:

- (a) Turn the operating handle in the window open direction. Use sufficient force to move the roller cam out of the cam block.
- (b) Move a plastic shim between the roller cam and the cam block. Use the roller cam mechanism in the upper aft corner of the window to put force to supply clearance at one of the two adjacent latch cams.
- (c) Turn the operating handle to close the window.
- (d) Turn the latch handle to release the latches and the roller cam.

S 822-004

(2) Pry Method:

- (a) If the shim method does not release the latch, apply the pry test (Ref 56-11-02) to determine which latch cam touches the stud. The pry test should also supply sufficient clearance to permit the latch handle to turn to the latch release position.

S 822-005

(3) Force Method:

- (a) If the above two procedures do not supply sufficient clearance, turn the latch cam nut to put force on the latch cam. At the same time turn the latch handle to the unlatched position.

NOTE: The nuts on the left side window are turned clockwise. The nuts are turned counterclockwise on the right side window. If only the nut on the right side window turns, remove the nut and put torque directly on the threaded end of the latch cam.

E. Put the Window Back to Its Initial Condition

S 822-006

- (1) After the window is released, adjust the window again (Ref 56-11-02).

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NO. 2 OPENABLE WINDOW – REMOVAL/INSTALLATION

1. General

- A. This procedure has three tasks. The first task is to remove the left or right No. 2 windows. The second task modifies old style/new style window frame to make these versions interchangeable. The third task is to install the left or right No. 2 window.
- B. This procedure is applicable to the left or right openable windows.
- C. There are two types of windows, windows for airplanes with an interlock mechanism and windows for airplanes without an interlock mechanism. These windows are not interchangeable.

TASK 56-11-02-004-010

2. Remove the No. 2 Window (Fig. 401)

A. Access

- (1) Location Zones
211/212 Control Cabin

B. Procedure

S 864-107

- (1) Open these circuit breakers and attach a DO-NOT-CLOSE tag:
 - (a) 37E3, WINDOW HTR 2L
 - (b) 70A3 or 34A6, WINDOW HTR 2R

S 954-106

- (2) Use tape to apply a protective paper cover or coating to both window surfaces to protect the windshield. Do not attach the tape to the glass or the plastic.

S 034-012

- (3) Open the No. 2 window (1) to the fully aft position.

S 034-013

- (4) Disconnect the electrical wires from the terminal leads.

S 034-014

- (5) Remove the interior window lining as follows:
 - (a) Remove the six screws (5) from the sill cover assembly (6).
Remove the sill cover assembly (6).

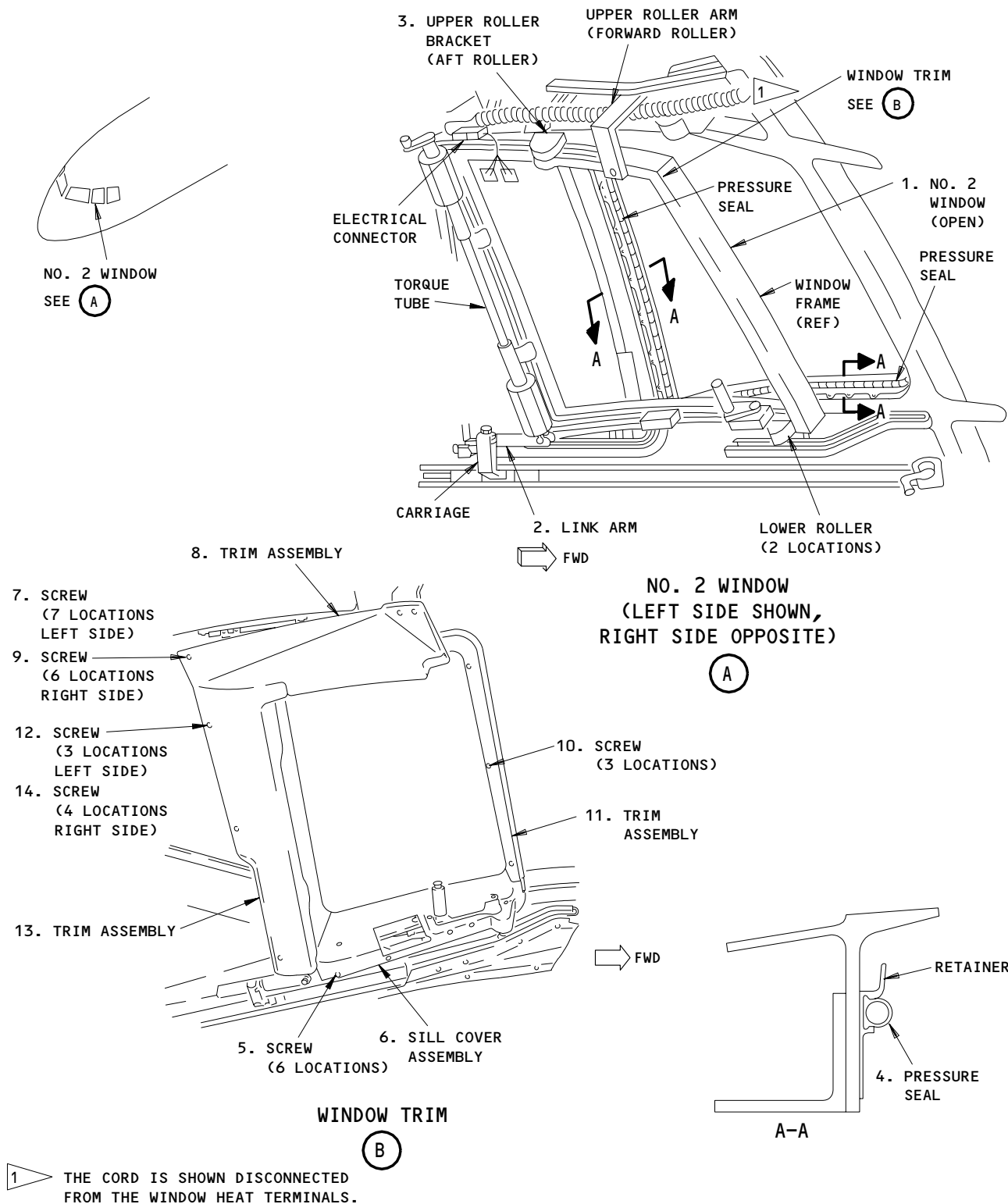
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No. 2 Window Installation
Figure 401

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- (b) For the upper window trim on the left side, remove the seven screws (7) from the trim assembly (8). Remove the trim assembly (8).
- (c) For the upper window trim on the right side, remove the six screws (9) from the trim assembly (8). Remove the trim assembly (8).
- (d) Remove the three screws (10) from the trim assembly (11). Remove the trim assembly (11).
- (e) For the aft window trim on the left side, remove the three screws (12) from trim assembly (13). Remove the trim assembly (13).
- (f) For the aft window trim on the right side, remove the four screws (14) from the trim assembly (13). Remove the trim assembly (14).

S 034-015

- (6) Disconnect the link arm (2) from the torque tube.

S 034-016

- (7) Disconnect the upper roller bracket (3) from the window frame.

S 034-017

- (8) Remove the upper roller from the forward, upper track.

S 034-018

- (9) Move the top of the No. 2 window (1) inboard and release the lower rollers from the tracks.

S 024-019

- (10) Remove the No. 2 window (1).

TASK 56-11-02-864-098

3. Interchanging No. 2 Windows

- A. Interior window trim panels installed on production airplanes after line number 588 differ from earlier window configurations. The redesigned trim panels have a different mounting bracket arrangement than the earlier trim panels. Do the following steps to make the windows interchangeable.

S 804-100

- (1) After removing the window trim panels and the unserviceable window, compare the trim attachment brackets between the unserviceable and replacement windows. If the brackets are the same there should be no problems reinstalling the trim on the new window.

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- S 804-101
- (2) If the trim attachment brackets are different, note the location of each bracket on the unserviceable window in preparation for installing them on the replacement window. Remove each bracket except the bracket at the lower forward location of the unserviceable window frame and label its location. Keep the brackets and all fasteners for use in reinstalling them later.
- B. To install an "old" window on a "new" airplane (Pre line #588 window on a Post line #588 airplane).

- S 854-096
- (1) If necessary, change the window assembly per SB 757-56-0001 (for factory line numbers 001 - 073), window latch replacement.

- S 864-061
- (2) Install interlock hook on the old window assy per SB 757-56-0007, if necessary.

- S 864-060
- (3) Window 2 Left: Close circuit breaker P37/E3, window HTR 2L.

- S 864-062
- (4) Window 3 Right: Close circuit breaker P70/A3, window HTR 2R.

- S 864-063
- (5) Attach a "DO NOT CLOSE" tag to any circuit breaker that is opened.

- S 014-064
- (6) Remove and keep the new trim panels that are installed on the new window. Keep the screws and other fasteners.

- S 014-065
- (7) Remove and keep the brackets and fastening screws from the new window assembly. Label each bracket with its location for reference when installing them in the replacement window.

- S 014-066
- (8) Remove the existing (new) window assembly.

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S 014-102

- (9) Remove the brackets and clips from the old window assembly. Keep the brackets, clips screws and bolts for spares only.

C. Do these steps at the bottom-forward corner of the old window assembly

S 224-067

- (1) Compare the bracket installation on the bottom-forward corner of the old window assembly with the types shown in Figure 404. Identify as Type I, II or Type III.

D. If the window assembly is a Type I or II bracket installation

S 424-068

- (1) Alternative I: Install an adapter bracket.
 - (a) Get an adapter bracket assembly (232N0014-5 or -6) from Boeing or fabricate one (Ref. S/B 757-56-0008).
 - (b) Install the adapter bracket as shown in Figure 404.

S 424-069

- (2) Alternative II: Replace bracket
 - (a) Disassemble part of the latch assembly. Refer to (CMM 56-11-51/301).
 - (b) Remove the window glazing assembly.
 - (c) Remove the plate nut spacer (Type I bracket) or the bracket assembly (Type II bracket).

S 424-103

- (3) Window assemblies that had a Type I bracket installation,
 - (a) On windows with a Type I bracket installation, attach 232N1803-19(L) or -20 (R) bracket with one kept NAS623-3-9 screw and one kept NAS1149D0316J washer.
 - (b) Attach the 232N1803-11 (L) or -12 (R) bracket with two kept NAS623-3-7 screws and two kept NAS1149D0316J washers.
 - (c) Temporarily attach 232N1803-15 (L) or 16 (R) bracket with one kept NAS623-3-9 and NAS1149D0332J washer.
 - (d) Attach 232N1803-7 (L) or -8 (R) bracket to the 232N1704 trim panel with two kept FCM10F7CPL11BG screws.
 - (e) Drill 0.161 - 0.164 diameter holes in the window frame, using holes in the 232N1803-7 (L) or -9 (R) bracket to set the location of these holes.
 - (f) Install two BACB30NW5K9 bolts, using sealant (BMS5-95) with the bolt heads on the outboard side of the frame.
 - (g) Remove and discard two MS21209F-15 inserts.
 - (h) Drill out the two holes to 0.254 - 0.265 diameter. Countersink lightly on both sides.
 - (i) Install two BACR15BA8AD14 rivets to fill the holes in the frame. Machine smooth on both sides.
 - (j) Clean aluminum surfaces (SOPM 20-30-03), and paint with primer (BMS 10-11 Type I).

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- (k) On windows that had a spacer installed with rivets, countersink the two holes and install two BACR15BA3AD10 rivets. Machine the surface smooth.
- (l) Clean the surfaces and apply one layer of primer.

S 424-104

- (4) Window assemblies that had a Type II bracket installation (Fig. 404)
 - (a) Install two BACB30NW5K9 size 0.161 - 0.164 diameter bolts with sealant (BMS 5-95) and the bolt heads on the outboard side of the window frame.
 - (b) Attach bracket (232N1803-7 or -8) to window assembly.
 - (c) Install the window glazing assembly.
 - (d) Assemble the latch assembly (CMM 56-11-51).

E. If the window has a Type III bracket installation

S 424-070

- (1) Alternative 1: Bracket replacement
 - (a) Remove and keep the existing bracket.
 - (b) Remove the two bolts from the input control box.
 - (c) Cut away the sealant between the latch mechanism conduit and the window frame.
 - (d) Carefully move the latch mechanism conduit one inch (25.4 mm) away from the window frame.
 - (e) Remove and discard the two collars, being careful to not allow the bolts to turn while removing the collars.
 - (f) Remove and discard the tape.
 - (g) Remove and keep for reinstallation, the 232N1803-7 (L) or -8 (R) bracket assembly.
 - (h) Do a check that the two holes in the window frame are the same distance apart as those in the bracket. If necessary, the holes may be drilled out to a maximum of 0.1719 diameter. Minimum edge margin is 1.5 times the diameter of the fastener hole.
 - (i) Apply sealant (BMS 5-95) to the mating surfaces and install the 232N1803-7 (L) or -8(R) brackets.
 - (j) Cut new aluminum foil tape in the same shape as the tape that was removed. Install the tape in the same location from where it was removed.
 - (k) Move the latch mechanism conduit back to its installed position. Install the two kept bolts that were removed from the input control box. (SRM 51-40-04 for torque values)
 - (l) Use sealant to fill the space between the latch mechanism conduit and the window frame. (SRM 51-20-05 and SOPM 20-50-12)

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(m) Install bracket assembly 232N1803-7 or -8 as shown in Fig 404.

S 424-071

(2) Alternative 2: Adapter bracket installation

(a) Obtain and install bracket assembly 232N0014-5 or -6. as shown in Figure 404.

F. Do these steps at the top-aft part of the old window assembly

S 224-072

(1) Compare the position adjustment bracket installed on the top-left part of the old window with the bracket types shown in Figure 403. Identify as Type A, B, C or D position adjustment bracket.

S 904-073

(2) Remove Type A position adjustment bracket (141N5106-3) if it is installed and replace with Type D position adjustment bracket (141N4909-7).

S 354-074

(3) Drill a hole at the top of any Type B position adjustment bracket (141N4909-1) that is installed. See Figure 403. This hole makes a Type B bracket equivalent to a Type C position adjustment bracket (141N4909-5).

S 934-075

(4) Identify/mark each ("old" and "new") window assemblies

(a) That the change in SB 757-56-0008 was made

(b) The window that it replaced/window that replaced it.

S 424-076

(5) Install the window on the airplane.

S 434-077

(6) Bond loop fastener tape BMS8-285, Type II, Loop or equivalent to the forward and aft window frame in the same location as the "new style" window with BMS 5010 type 72 or 89 or equivalent.

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S 424-078

- (7) Install the remaining brackets on the old window assembly as shown in Figure 402. Use the screws, bolts and brackets that were removed from the new window assembly.

S 424-079

- (8) At the top-aft part of the old window assembly, attach the Trim Bracket 232N1704-65 (Left) or -78 (Right) to the position adjustment bracket as shown in Fig. 403. Use the fasteners removed from the new window assembly.

S 424-080

- (9) Install the trim panels on the old window assembly. Use the trim panels and screws that were removed from the new window assembly.

S 444-081

- (10) Remove the "DO-NOT-CLOSE" tag from each circuit breaker, and close breakers P37/E3 and P70/A3.

S 444-082

- (11) Put the airplane back into serviceable condition.
G. To install a "new" (Post line #588) window on an "old" (Pre-Line #588) airplane.

S 044-099

WARNING: BEFORE YOU INSTALL A NEW WINDOW ASSEMBLY WITH AN INTERLOCK HOOK, MAKE SURE A STRIKER PIN WAS INSTALLED ON THE AIRPLANE IN THE FACTORY OR AS SHOWN IN SERVICE BULLETIN 757-56-0007. WITHOUT THE STRIKER PIN, A WINDOW ASSEMBLY WITH AN INTERLOCK HOOK CANNOT BE LATCHED.

- (1) Open circuit breakers P37/E3 and P70/A3 and attach a "DO-NOT-CLOSE" tag to each circuit breaker.

S 014-084

- (2) Remove and keep the old trim panels and screws that are installed on the old window assembly.

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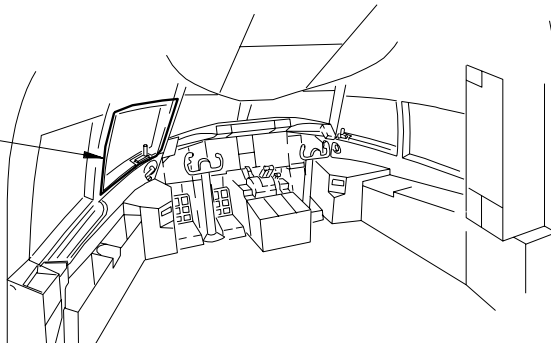
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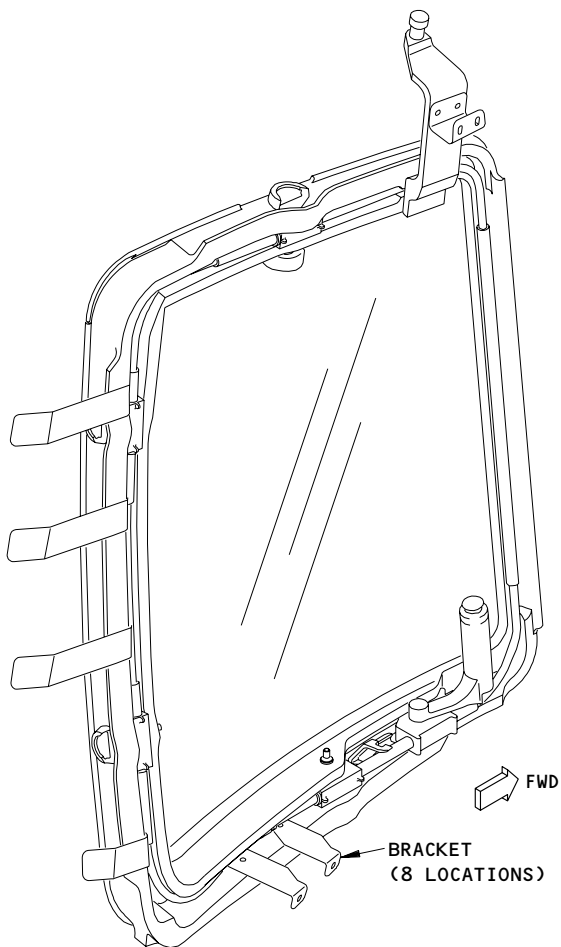
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NO. 2
WINDOW
SEE (A)

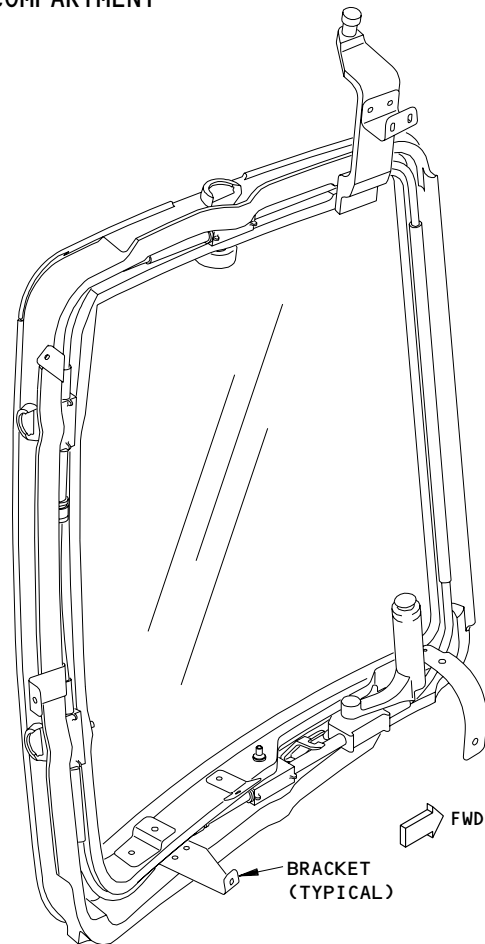


FLIGHT COMPARTMENT



LEFT WINDOW ASSEMBLY

(A) 1



LEFT WINDOW ASSEMBLY

(A) 2

NOTE: LEFT WINDOW ASSEMBLY IS SHOWN,
RIGHT WINDOW ASSEMBLY IS ALMOST THE SAME.

- 1 AIRPLANES PRE-SB 56-0008
- 2 AIRPLANES POST-SB 56-0008

No. 2 Window Assembly
Figure 402

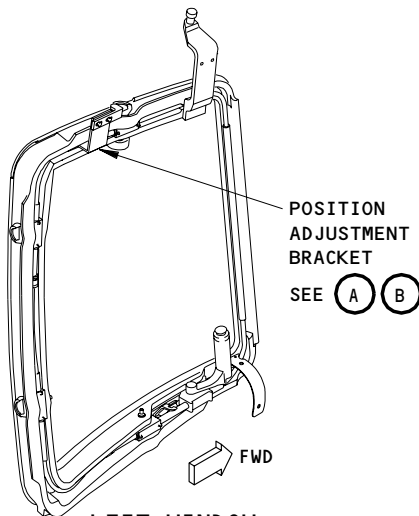
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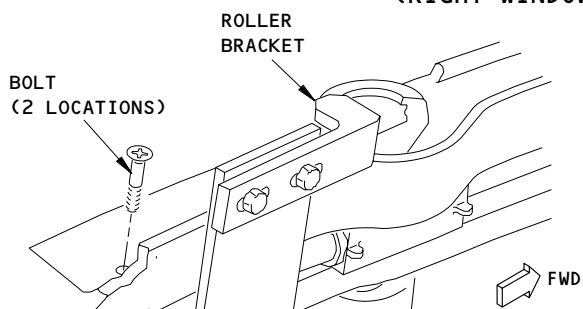
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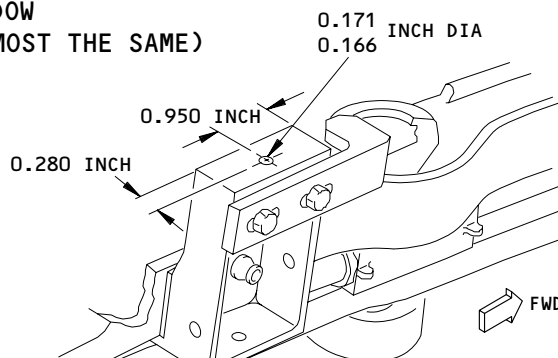
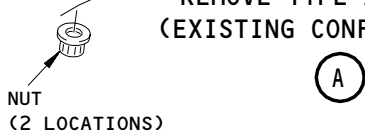
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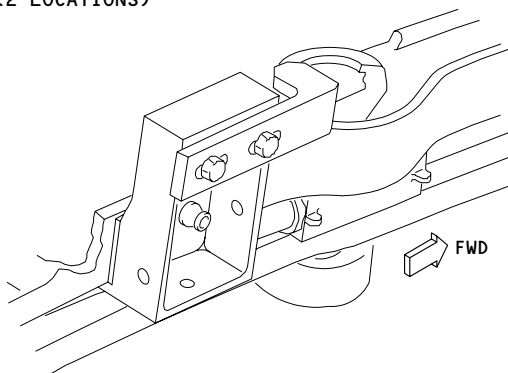
LEFT WINDOW
(RIGHT WINDOW IS ALMOST THE SAME)



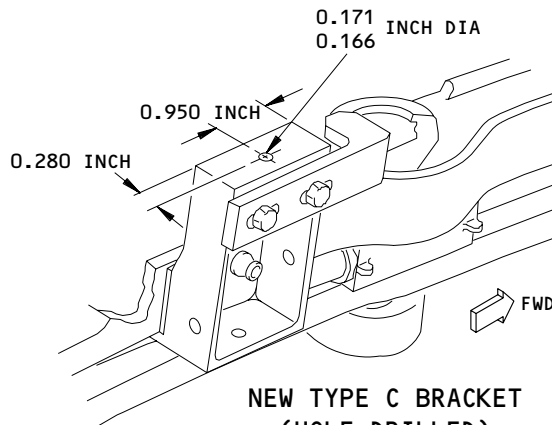
REMOVE TYPE A BRACKET
(EXISTING CONFIGURATION)



INSTALL TYPE D BRACKET
(NEW CONFIGURATION)



EXISTING TYPE B BRACKET
(NO HOLE DRILLED)



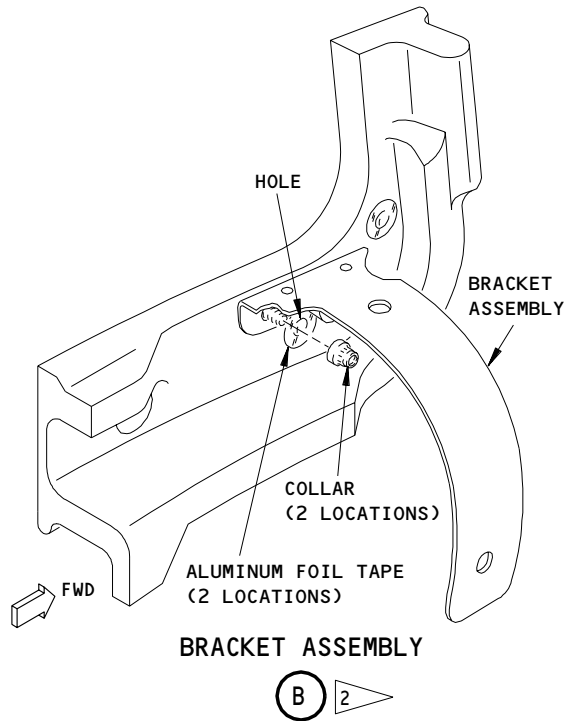
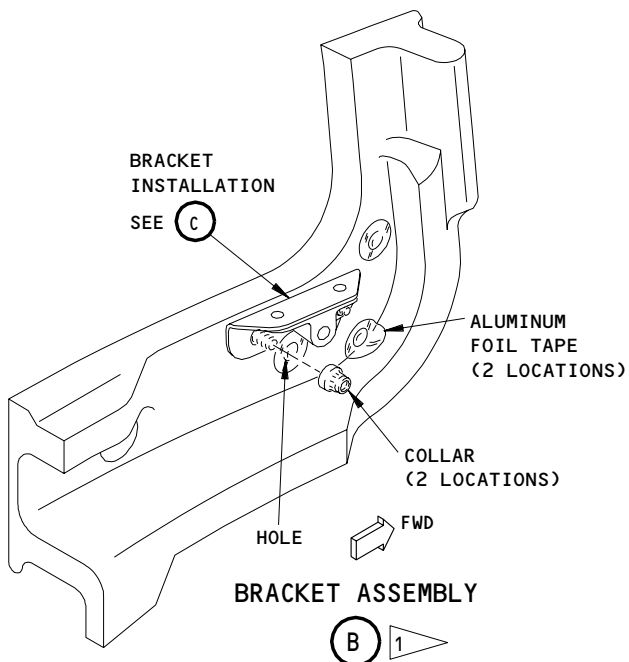
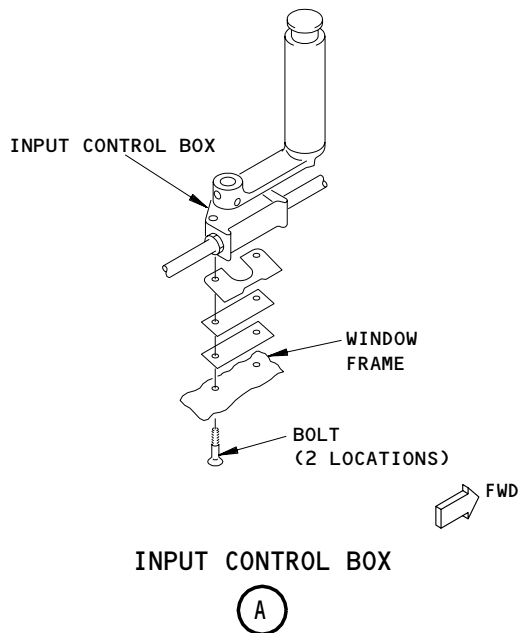
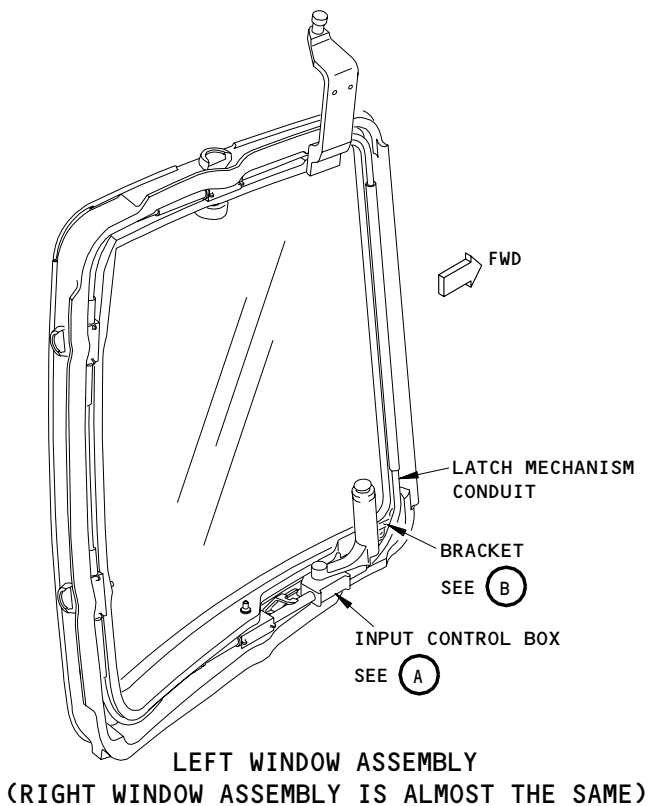
NEW TYPE C BRACKET
(HOLE DRILLED)



No. 2 Window Bracket Assembly
Figure 403

EFFECTIVITY	
	ALL

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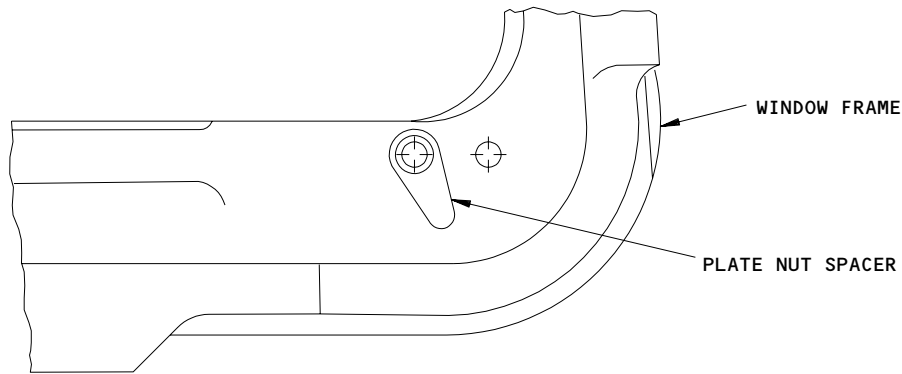


- 1 AIRPLANES PRE-SB 56-0008
- 2 AIRPLANES POST-SB 56-0008

No. 2 Window Bracket Installation
Figure 404 (Sheet 1)

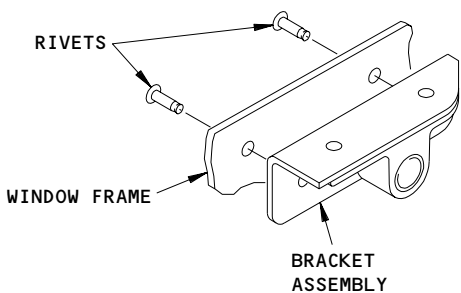
EFFECTIVITY	
	ALL

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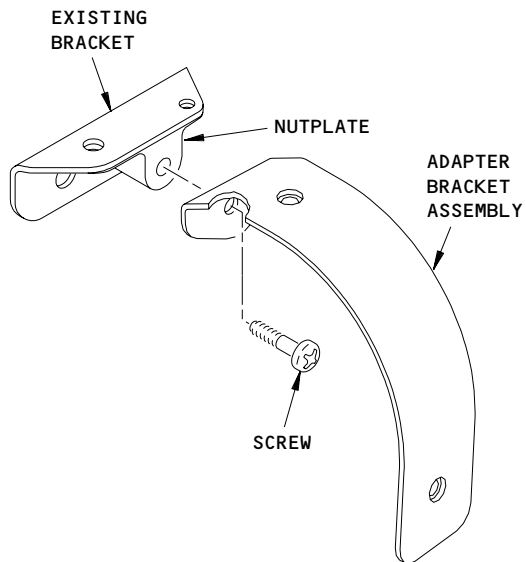
TYPE I BRACKET INSTALLATION

(C) 1



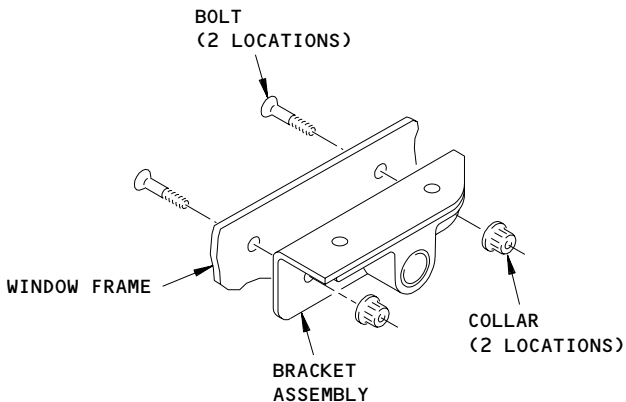
TYPE II BRACKET INSTALLATION

(C) 1



TYPE II OR III BRACKET INSTALLATION

(C) 2



TYPE III BRACKET INSTALLATION

(C) 1

No. 2 Window Bracket Installation
Figure 404 (Sheet 2)

EFFECTIVITY	ALL
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- S 014-085
- (3) Remove and keep the brackets and clips from the old window assembly, noting their position on the window assembly.
- S 034-086
- (4) Remove the bracket assembly 232N1803-7 (Left) or -8 (Right) that is installed in the lower right corner of the new window assembly. Keep the bracket assembly for spares.
- S 034-087
- (5) Remove the brackets shown in Figure 402 from the assembly. Keep the brackets, screws and bolts for spares.
- S 434-088
- (6) At the bottom forward corner of the assembly install the Bracket Assembly 141N4852-57 (Left) or -58 (Right) as shown in Fig. 404.
- S 424-089
- (7) Install the new window assembly on the old airplane.
- S 934-090
- (8) Identify on each window assembly
- (a) The Service Bulletin that gave this change (757-56-0008)
 - (b) The old window assembly replaced/new window that replaced it.
- S 434-091
- (9) Install the remaining brackets and clips, using the screws, bolts, brackets and clips that were removed from the old window assembly.
- S 434-092
- (10) Install the trim panels on the new window assembly, using the panels and screws that were removed from the old window assembly.
- S 444-093
- (11) Remove the "DO-NOT-CLOSE" tag from each circuit breaker and close the circuit breakers.
- S 844-094
- (12) Put the airplane back in serviceable condition.

TASK 56-11-02-404-020

4. Install the No. 2 Window (Fig. 401)

A. References

- (1) AMM 56-11-02/501, No. 2 Window

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- (2) AMM 56-11-00/601, Flight Compartment Windows - Inspection/Check
- (3) AMM 56-11-53/401, No.2 Window pressure Seal-Removal and Installation

B. Parts

AMM		NOMENCLATURE	AIPC		
FIG	ITEM		SUBJECT	FIG	ITEM
401	1	No. 2 Window (LH)	56-11-02	01	225
	1	No. 2 Window (RH)			230
	3	Upper Roller Bracket Assy			70
	2	Link Arm Assy	56-11-04	01	190
	4	Pressure Seal (LH)	56-11-53	01	10
	4	Pressure Seal (RH)			15
	5	Screw (LH)	25-15-51	01	130,135
					150,170
					200
	5	Screw (RH)			375,380
					395,415
					445
	6	Sill Cover Assembly (LH)			145
	6	Sill Cover Assembly (RH)			390
	7	Screw (LH)			55
	8	Trim Assembly (LH)			50
	8	Trim Assembly (RH)			270
	9	Screw (RH)			272
	10	Screw (LH)			115
	10	Screw (RH)			360
11	Trim Assembly (LH)			110	
11	Trim Assembly (RH)			355	
12	Screw (LH)			105	
13	Trim Assembly (LH)			100	
13	Trim Assembly (RH)			335	
14	Screw (RH)			340,345	

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C. Access

- (1) Location Zones
211/212 Control Cabin

D. Procedure

S 214-042

- (1) Do a visual check of the window post and sill for cracks and corrosion (AMM 56-11-00/601).

S 434-021

- (2) Move the carriage to the fully aft position.

S 034-022

- (3) Remove the upper roller bracket (3) from the window frame.

S 434-023

- (4) Put the lower rollers in the tracks.

S 824-024

- (5) With the lower rollers installed in tracks, move the top of the No. 2 window (1) outboard.

S 434-025

- (6) Install the upper roller in the forward, upper track.

S 434-026

- (7) Connect the upper roller bracket (3) to the window frame.

S 434-027

- (8) Connect the link arm (2) to the torque tube.

S 434-028

- (9) Connect the electrical wires to the terminal leads.

CAUTION: ENSURE THAT WIRE ROUTING DOES NOT INTERFERE WITH SURROUNDING STRUCTURE AND IS SECURE WITH NO SLACK ABOVE THE WINDOW FRAME.

CAUTION: DO NOT APPLY TOO MUCH TORQUE TO THE SCREWS. TOO MUCH TORQUE CAN DAMAGE THE TERMINAL BLOCK.

- (a) Hold the terminal block while tightening the screws.
(b) Tighten the screws on the power terminal to 25 - 30 pound-inches.

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(c) Tighten the screws to the temperature sensor terminal to 12 - 15 pound-inches.

S 434-030

(10) Install the protective covers on the terminal blocks of the window heat connectors.

S 434-031

(11) Close and latch the No. 2 window (1).

S 714-032

(12) Do the check of the latch handle for low loads (AMM 56-11-02/501).

S 834-033

(13) Adjust the window operating mechanism if it is necessary (AMM 56-11-02/501).

S 434-034

(14) Install the interior window lining as follows:

- (a) For the right side aft window trim, install the trim assembly (13) on the aft section of the window frame. Install the four screws (14) on the window frame.
- (b) For the left side aft window trim, install the trim assembly (13) on the aft section of the window frame. Install the three screws (12).
- (c) Install the trim assembly (11) on the forward section of the window frame and install the three screws (10).
- (d) For the right side upper window trim, install the trim assembly (8) on the upper section of the window frame. Install the six screws (9).
- (e) For the left side upper window trim, install the trim assembly (8) on the upper section of the window frame. Install the seven screws (7).
- (f) Install the sill cover assembly (6) on the lower section of the window frame and install the six screws (5).

S 214-053

CAUTION: MAKE SURE THE SEAL IS TIGHTLY INSTALLED IN THE RETAINER ALL AROUND THE WINDOW OPENING, AND IS NOT DAMAGED. INCORRECT INSTALLATION CAN CAUSE SEAL DAMAGE AND PRESSURE LEAKAGE.

IF THE SEAL IS ADJUSTED IN THE RETAINER, MAKE SURE THE SEAL IS NOT DAMAGED.

(15) Make sure the pressure seal (4) is not damaged, and is tightly installed in the retainer.

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S 864-007

- (16) Remove the DO-NOT-CLOSE tag and close these circuit breakers:
(a) 37E3, WINDOW HTR 2L
(b) 70A3 or 34A6, WINDOW HTR 2R

S 714-108

- (17) Make sure the affected window heating system operates correctly (AMM 30-41-00/501).

S 964-001

- (18) Replace damaged pressure seals, if it is necessary (AMM 56-11-53/401).

S 214-002

- (19) Make sure the seal is smooth in the corners and in the window latch cam areas.

S 834-003

- (20) Adjust the seals if it is necessary to get a correct fit in the retainer.

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NO. 2 WINDOW - ADJUSTMENT/TEST

1. General

- A. This procedure contains the tasks that follow:
- (1) Adjust the No. 2 window.
 - (2) Do a test of the No. 2 window.
 - (3) Repair aero-noise in the flight deck.

TASK 56-11-02-825-001

2. Adjust the No. 2 Window

A. General

- (1) This section includes the following adjustments of the number 2 window:
- (a) Vertical
 - (b) Forward/aft
 - (c) Inboard/Outboard
 - (d) Position of window operation crank
 - (e) Window operation clutch
 - (f) Repair Aero-Noise in Flight Deck

B. Consumable Materials

- (1) C00259 Primer, BMS 10-11
- (2) C00308 Dark Grease, CPC 3 (Corrosion Preventive Compound class 3) - MIL-C-11796B class III

C. References

- (1) AMM 56-11-02/401, No. 2 Window

D. Access

- (1) Location Zones
211/212 Control Cabin - Section 41

E. Prepare for Adjustment (Fig. 501)

S 015-003

- (1) Open the window.

NOTE: while opening the window, look for electrical cable binding or riding against structure.

S 015-004

- (2) Remove the interior window lining.

S 215-005

- (3) Examine the latch cams and the latch studs for burrs and damage.
 - (a) Repair or replace the latch cams or latch studs as necessary.

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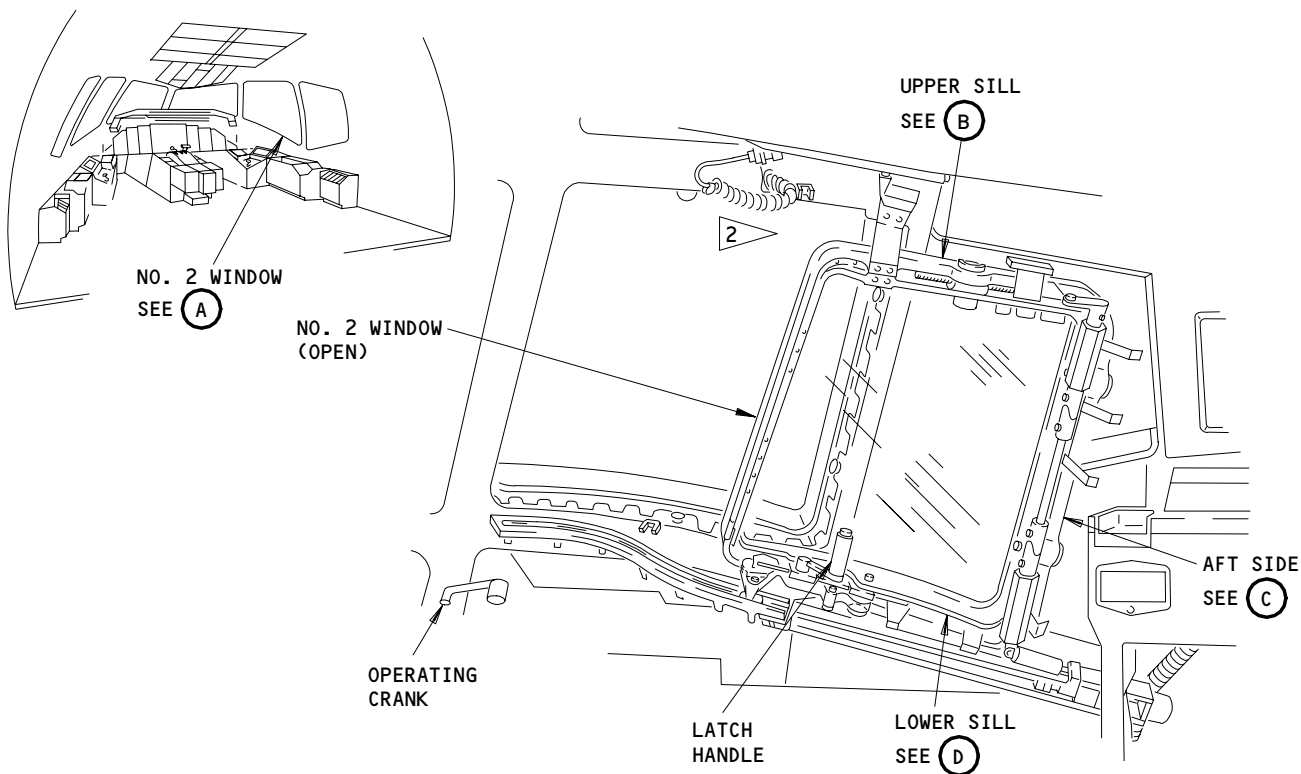
56-11-02

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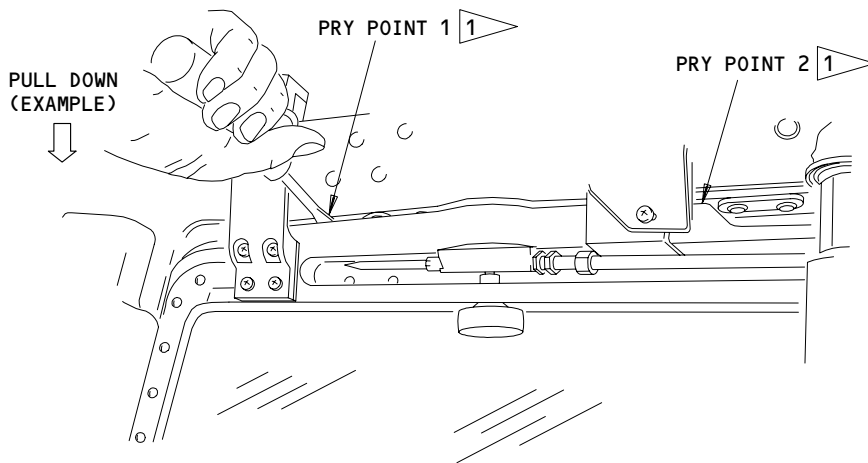
BOEING

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NO. 2 WINDOW

(A)



UPPER SILL PRY POINTS
(WINDOW CLOSED POSITION)

(B)

1 DO THE PRY TEST WITH THE WINDOW IN THE CLOSED POSITION. APPLY NO MORE THAN 50 POUNDS FORCE TO TO THE PRY TOOL. TEST EASE OF THE LATCH HANDLE OPERATION FOR EACH PRY POINT.

2 THE CORD IS SHOWN DISCONNECTED FROM THE WINDOW HEAT TERMINALS.

Pry Test For No. 2 Window
Figure 501 (Sheet 1)

EFFECTIVITY

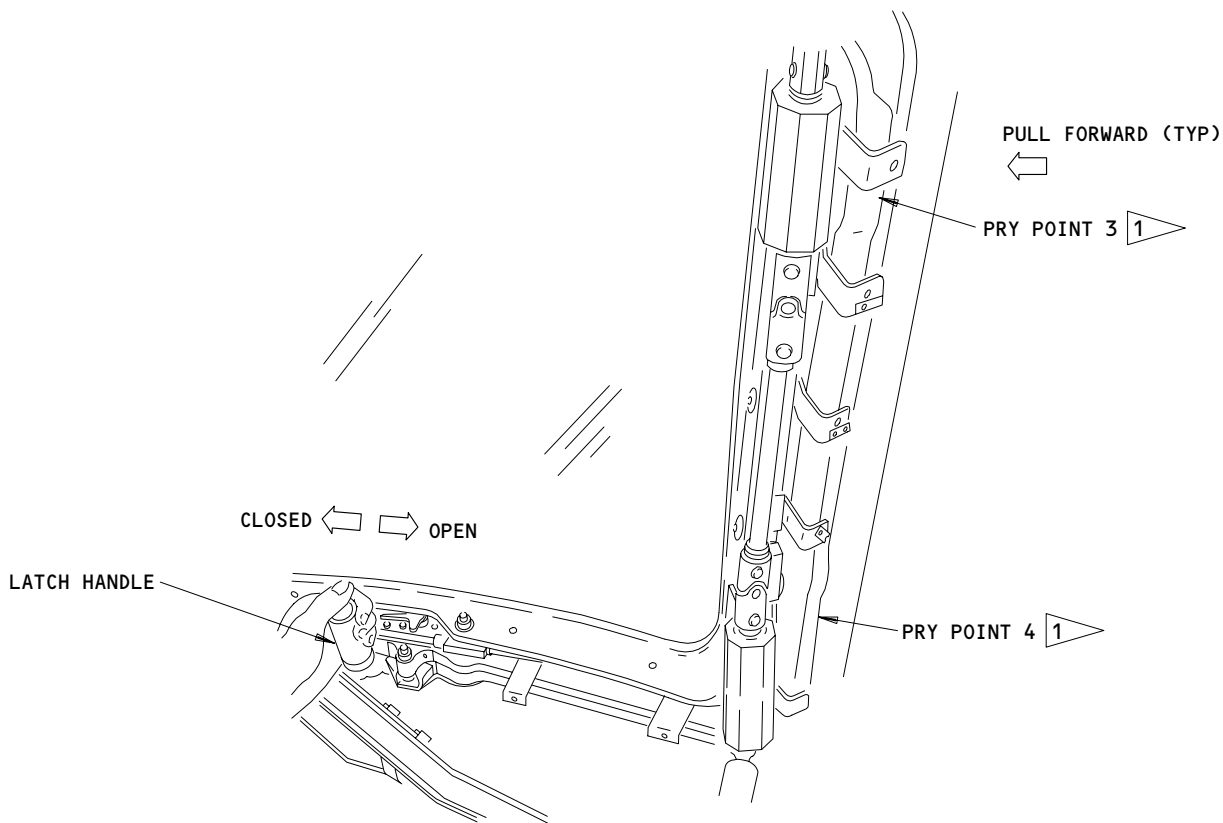
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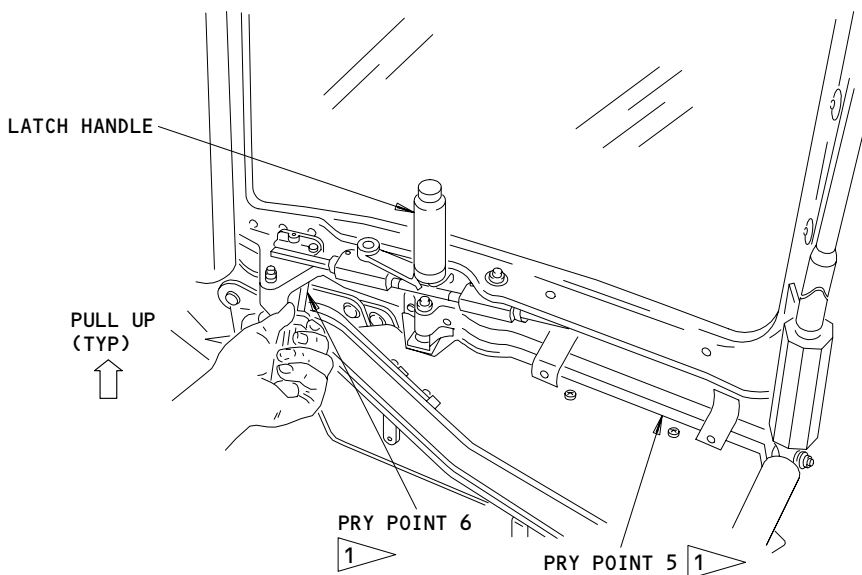
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AFT SIDE PRY POINTS (WINDOW CLOSED POSITION)

(C)



LOWER SILL PRY POINTS (WINDOW CLOSED POSITION)

(D)

Pry Test for No. 2 Window
Figure 501 (Sheet 2)

EFFECTIVITY	
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- S 825-083
- (4) ALL EXCEPT GUI 115;
Do the following to adjust new windows:
- (a) Close the window.
 - (b) Align the marks on the latch cams and the latch studs.

- S 845-008
- (5) Operate the window crank.
- (a) Make sure the window closes completely.

NOTE: If the window does not close completely do the vertical adjustment.

- S 845-009
- (6) Number 2 Window Pry Test (Fig. 501)
- (a) Open and close the window a minimum of five times to adjust the window.
 - (b) Ensure that the wire harness does not interfere with surrounding structure.
 - (c) Move the window to the closed position.

CAUTION: KEEP THE FORCE ON THE PRY TOOL TO A LIMIT OF 50 POUNDS MAXIMUM. HANDLE THE PRY TOOL WITH CARE TO PREVENT DAMAGE TO THE SURROUNDING STRUCTURE.

- (d) Move the latch handle from the open to the locked position.
- (e) Adjust each of the six positions with a screwdriver.

NOTE: The latch operates easier in some adjustment positions. Adjust the window in the direction that allows easiest operation.

- (f) To make sure the adjustment is correct open and close the window three times after each adjustment.
- (g) If the adjustments along the lower sill make the window latch easier, adjust the window up.
- (h) If the adjustments along the aft side of the window make the window latch easier, adjust the window forward.
- (i) Push the window outboard by hand.
- (j) If the latch handle operation is easier, adjust the window outboard.
- (k) If the adjustments along the upper sill make the window latch easier, adjust the window down.
- (l) If a mixture of adjustment positions on different sides makes the latch handle performance easier, do an angular adjustment.

- S 845-010
- (7) Latch Cam/Stud Scuff Mark Test (Alternate Test)
- (a) Open the window.

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06

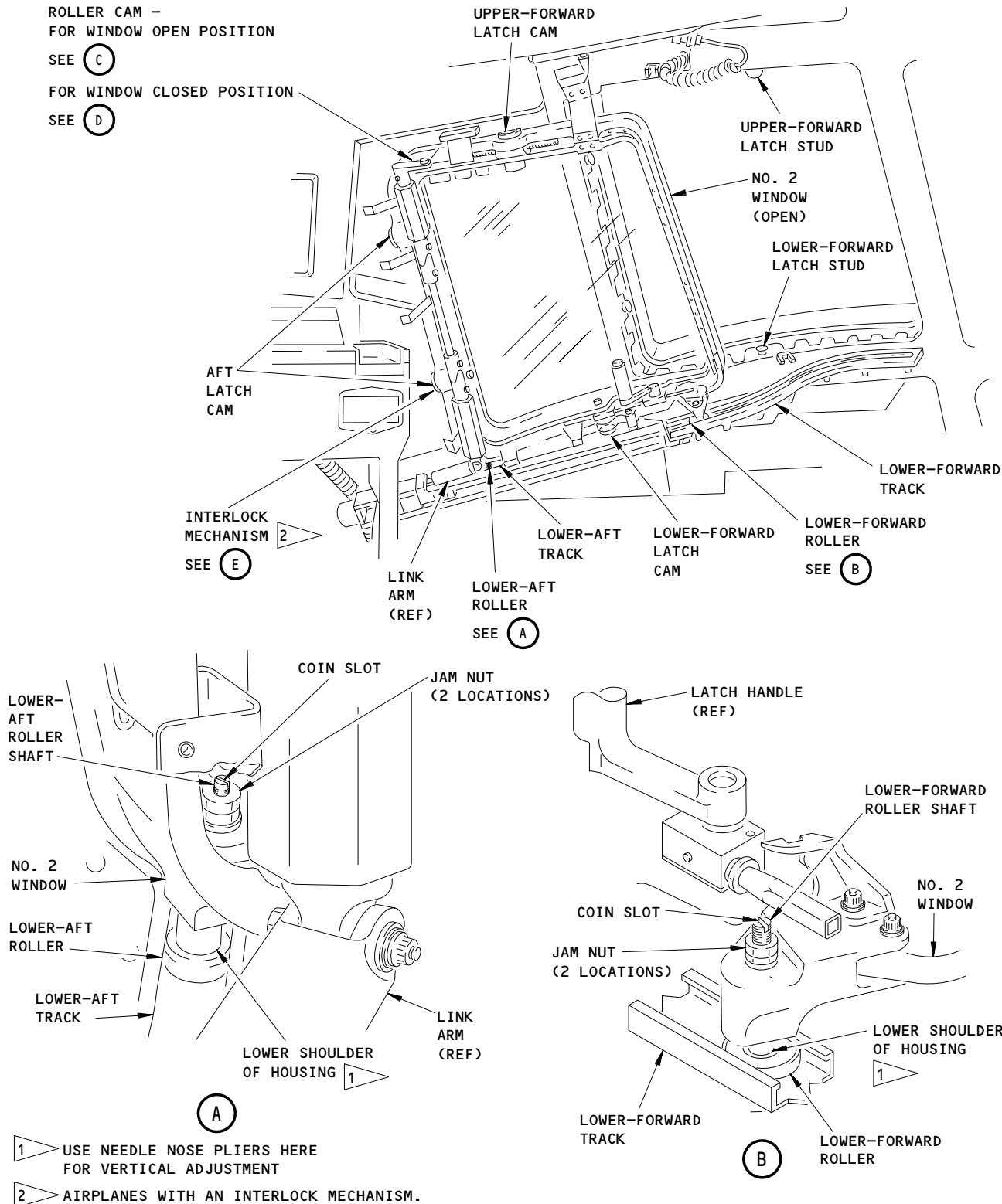
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ROLLER CAM -
FOR WINDOW OPEN POSITION

SEE (C)

FOR WINDOW CLOSED POSITION

SEE (D)



No. 2 Window Vertical Adjustments
Figure 502 (Sheet 1)

EFFECTIVITY

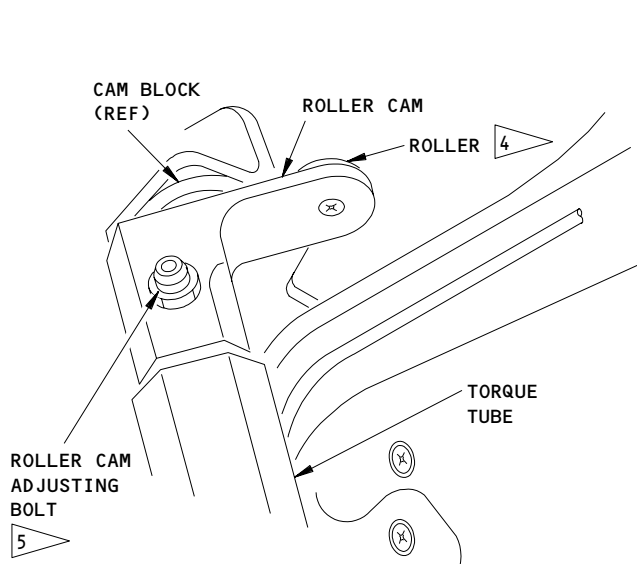
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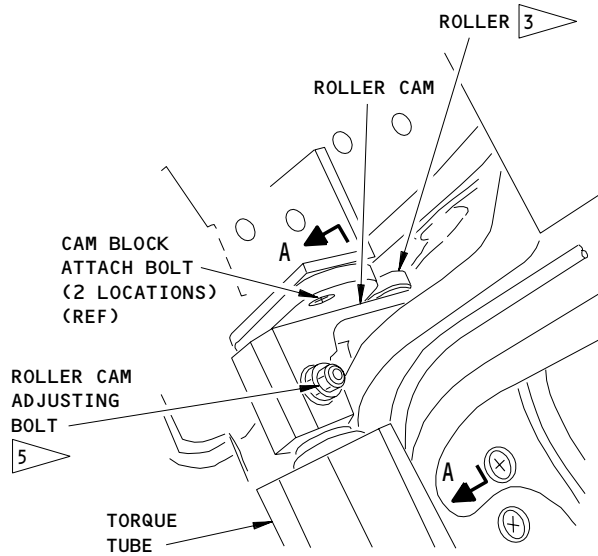
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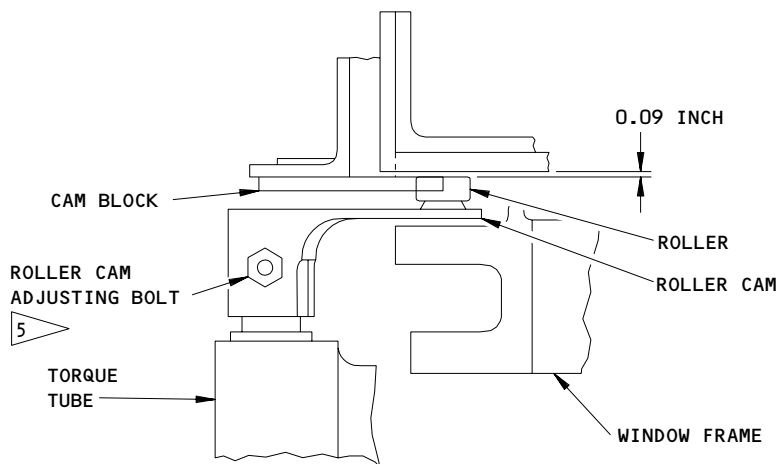
WINDOW OPEN POSITION

(C)



WINDOW CLOSED POSITION

(D)



A-A

- 3 THE WINDOW IS IN THE FULLY CLOSED POSITION. THE ROLLER IS IN THE DETENT POSITION ON THE CAM BLOCK.
- 4 THE WINDOW IS NOT IN THE FULLY CLOSED POSITION. THE ROLLER HAS NOT ENTERED THE DETENT ON THE CAM BLOCK.
- 5 FOR THE VERTICAL ADJUSTMENT OF THE ROLLER CAM.

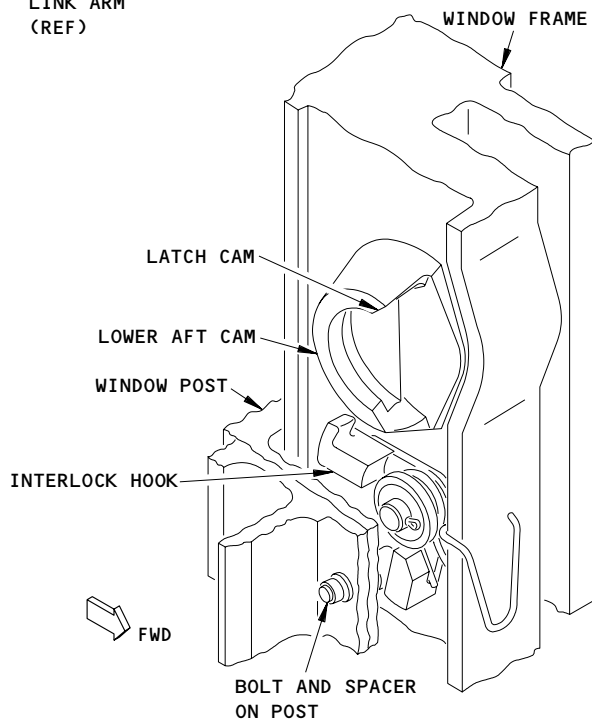
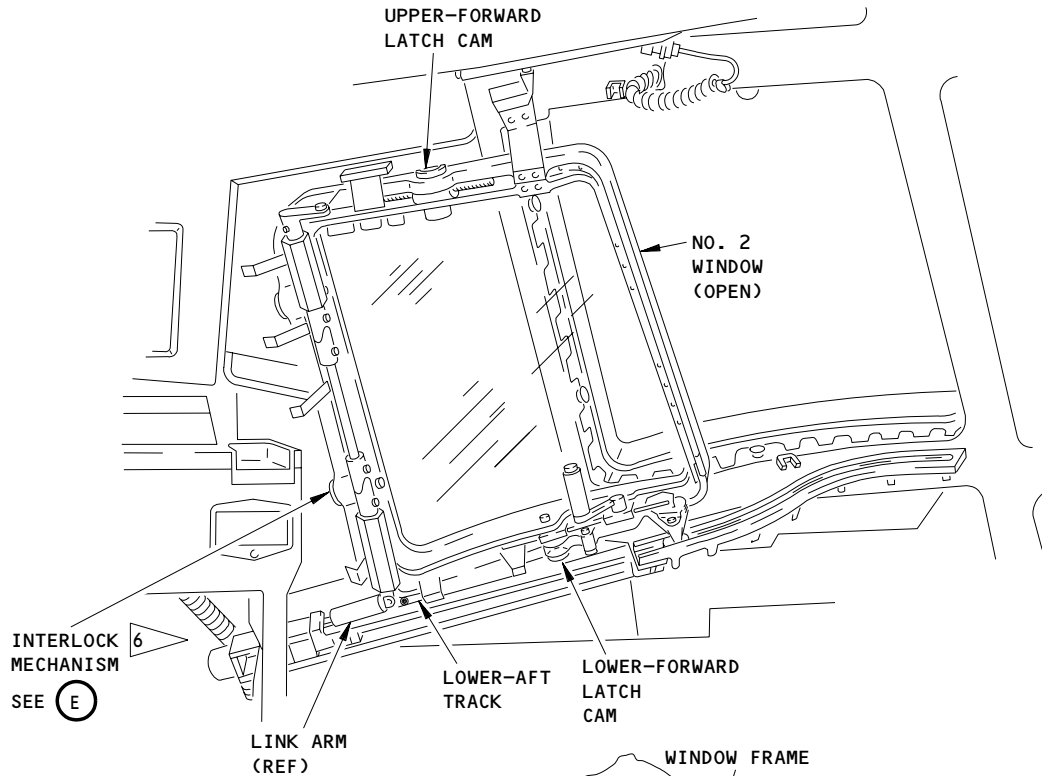
No. 2 Window Vertical Adjustments
Figure 502 (Sheet 2)

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6 AIRPLANES WITH AN INTERLOCK MECHANISM.

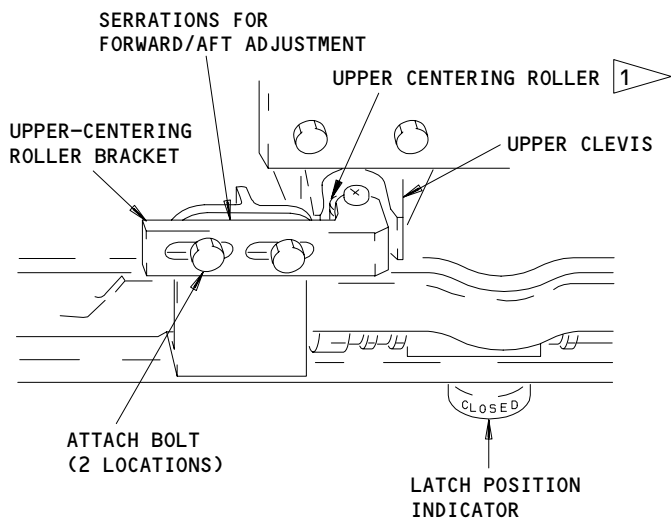
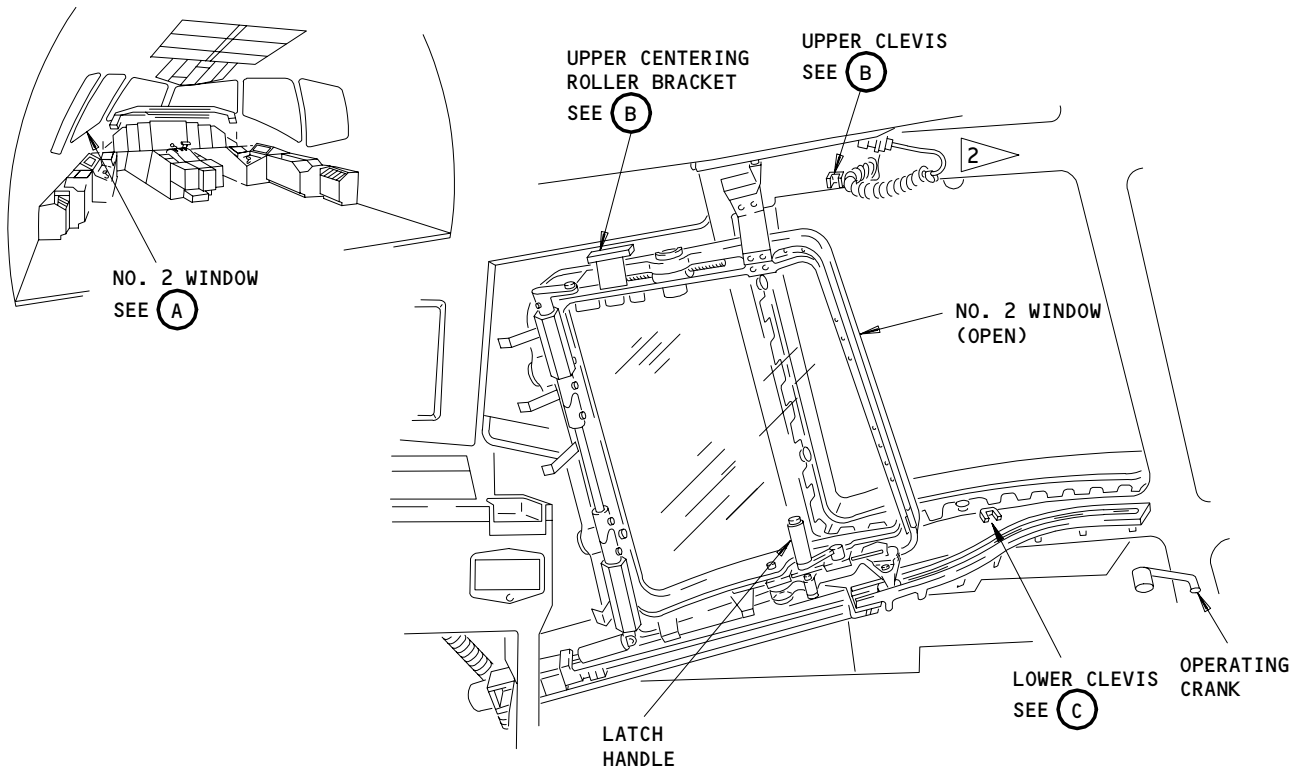
INTERLOCK MECHANISM

(E)

No. 2 Window Vertical Adjustments
Figure 502 (Sheet 3)

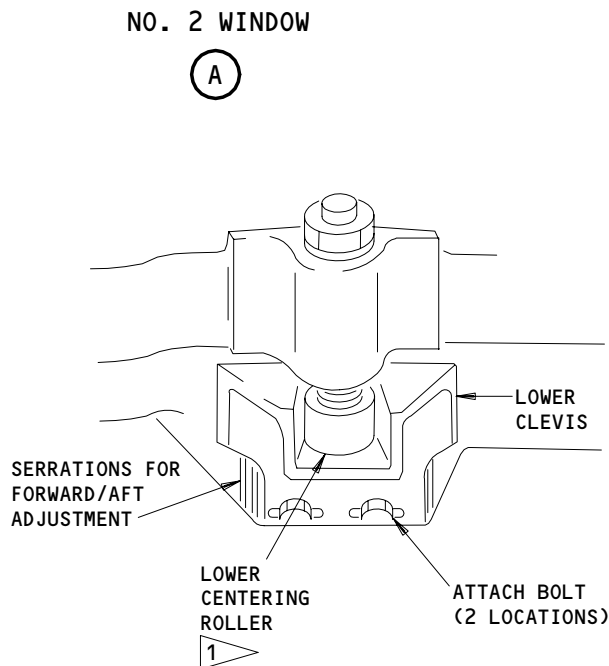
EFFECTIVITY
AIRPLANES WITH AN INTERLOCK MECHANISM

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UPPER CENTERING ROLLER AND CLEVIS

(B)



LOWER CLEVIS

(C)

- 1 STRONG PRESSURE BETWEEN THE ROLLER AND CLEVIS PROVIDES THE NECESSARY WINDOW ADJUSTMENT FORCE.
- 2 THE CORD IS SHOWN DISCONNECTED FROM THE WINDOW HEAT TERMINALS.

No. 2 Window Forward/Aft Adjustments
Figure 503

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- (b) Apply a thin coat of primer (or dark grease) to the surfaces of studs.

NOTE: The primer (or dark grease) on the studs show the contact points caused by the cams and studs not aligned. Also, the primer helps the adjustment of the window.

- (c) Close, latch, unlatch, and open the window.

NOTE: The location of scuff marks on the studs will show the adjustments necessary for proper cam/stud clearance. Window adjustments should always move the latch cams away from scuff marks on the studs.

F. Adjust the Number 2 Window

S 825-011

- (1) Vertical Window Adjustment of the Number 2 Window (Fig. 502)
 - (a) Open and close the window a minimum of five times to adjust the window.
 - (b) Ensure that the wire harness does not interfere with surrounding structure.
 - (c) Make sure that in all positions the window is clear of the lower aft track.
 - (d) To lift the window, adjust as follows:
 - 1) Open the window.
 - 2) Loosen the jamnuts on the lower forward and the lower aft roller shafts (Views A and B, Fig. 502,).
 - 3) Turn the roller shafts clockwise to lift the window.

NOTE: Use a screwdriver in the coin slot on the top of the shaft. Alternatively, use a needle nose pliers on the lower shoulder of the shaft housing. The Roller adjustment is very sensitive - use quarter-turn increments.

- 4) Operate the roller shafts until the latch handle operation loads are low.
- 5) Tighten jamnuts on forward and aft lower roller shafts.
- 6) Close the window.
- 7) Do a check of the clearance between the fixed frame and the roller cam (Fig. 502).
- 8) Open the window.
- 9) Loosen the roller cam adjustment bolt. Adjust the roller cam up or down to get the correct clearance between the fixed frame and the roller cam.
- 10) Tighten the roller cam adjustment bolt, and do a check of the clearance with the window closed.
- (e) To lower the window, do the same procedure, but turn the roller shafts counterclockwise.

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CAM BLOCK
(WINDOW OPEN POSITION)

SEE (C)

(WINDOW OPEN POSITION)

SEE (D)

SHIM UNDER UPPER
ROLLER BRACKET

SEE (E)

NO. 2 WINDOW
(OPEN POSITION)

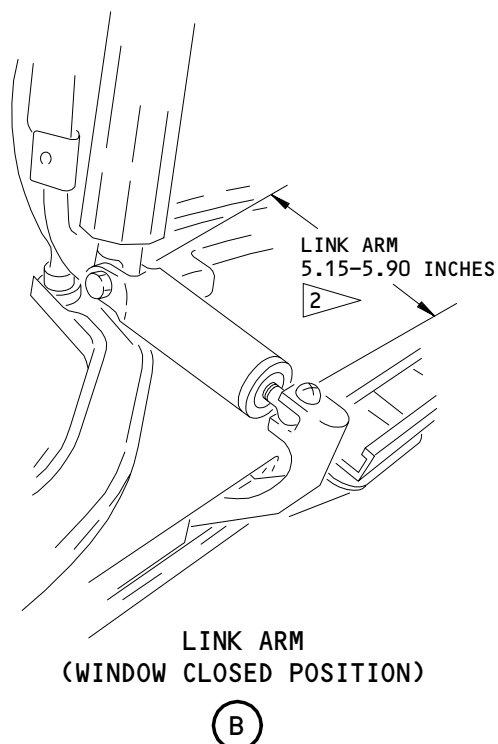
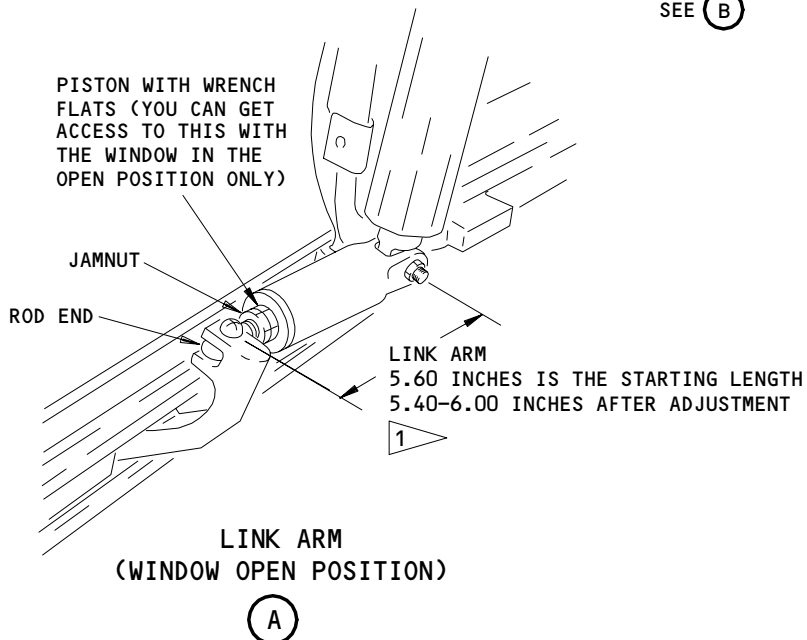
WINDOW
DRIVE
CARRIAGE

LINK ARM
(WINDOW OPEN POSITION)

SEE (A)

(WINDOW CLOSED POSITION)

SEE (B)



- 1 MAKE LINK ARM LENGTH ADJUSTMENT WITH THE WINDOW IN THE OPEN POSITION.
- 2 CHECK THE LINK ARM LENGTH WITH THE WINDOW IN THE CLOSED POSITION.
- 3 THE CORD IS SHOWN DISCONNECTED FROM THE WINDOW HEAT TERMINALS.

No. 2 Window Inboard/Outboard Adjustments
Figure 504 (Sheet 1)

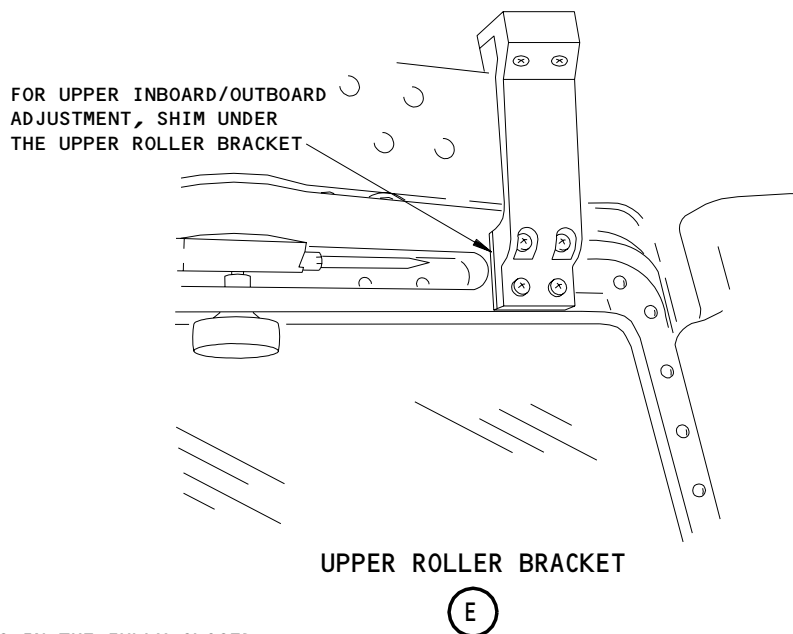
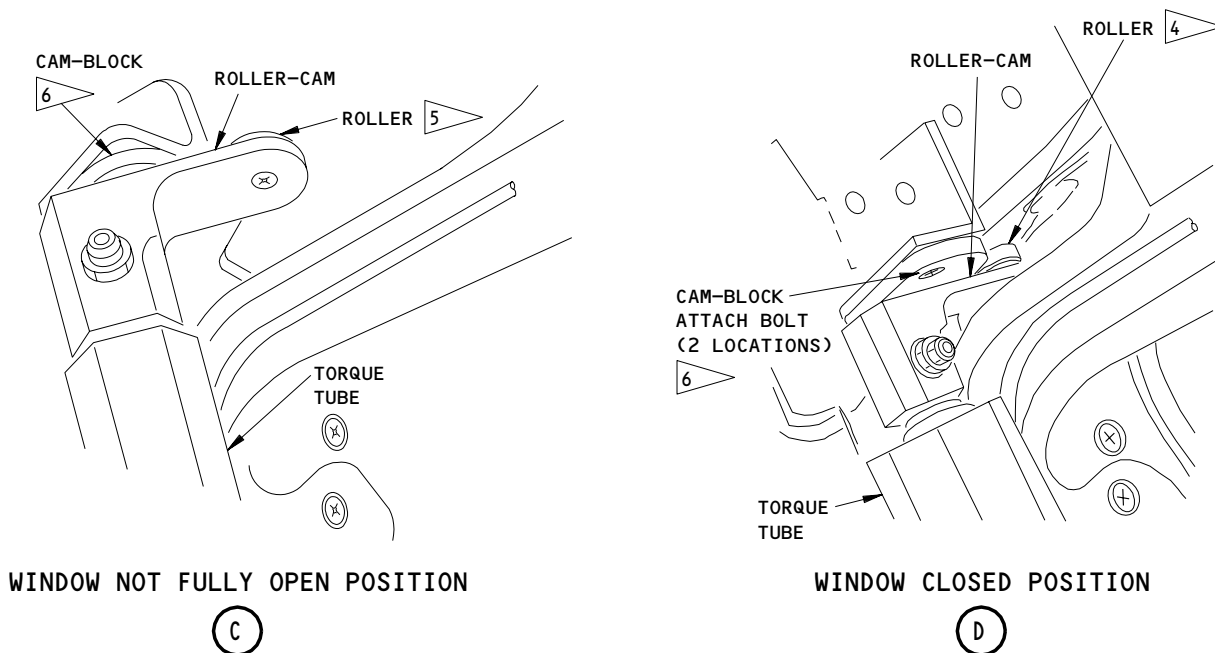
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- 4 WINDOW IS IN THE FULLY CLOSED POSITION. ROLLER IS IN THE DETENT POSITION ON THE CAM BLOCK
- 5 WINDOW IS NOT IN THE FULLY CLOSED POSITION. ROLLER IS NOT IN THE DETENT POSITION ON THE CAM BLOCK
- 6 FOR INBOARD/OUTBOARD ADJUSTMENT, MOVE THE CAM BLOCK

No. 2 Window Inboard/Outboard Adjustments
Figure 504 (Sheet 2)

EFFECTIVITY	ALL
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- (f) Do a test for low latch handle loads.
 - 1) If the latch handle loads are too high, do the pry test.

S 825-012

- (2) Adjust the Forward/Aft Position of the No. 2 Window (Fig. 503)
 - (a) Open and close the window a minimum of five times to adjust the window.
 - (b) Ensure that the wire harness does not interfere with surrounding structure.
 - (c) To move the window forward, adjust it as follows:
 - 1) Open the window.
 - 2) Loosen the upper centering roller bracket attach bolts (View B).
 - 3) Loosen the lower clevis attach bolts (View C).
 - 4) Move the upper bracket aft and move the lower clevis forward as necessary (0.018 inch per serration).

NOTE: Move the bracket aft and the clevis forward to set the window forward when it is closed.

- 5) Tighten all four bolts.
 - (d) To move the window aft, do the same procedure but move the bracket forward and the clevis aft.
 - (e) Do a test for low latch handle loads.
 - 1) If the latch handle loads are too high, do the pry test.

S 825-013

- (3) Adjust the Inboard/Outboard Position of the Number 2 Window (Fig. 504)
 - (a) Open and close the window a minimum of five times to adjust the window.
 - (b) Ensure that the wire harness does not interfere with surrounding structure.
 - (c) To move the window outboard, adjust as follows:
 - (d) Open the window.
 - 1) Do a check of the link arm length, and adjust as necessary (View A, Fig. 504).
 - 2) Loosen the jamnut on the rod end of the link arm.

NOTE: This adjustment provides a minimum spring force that closes the window and permits low loads on the latch handle.

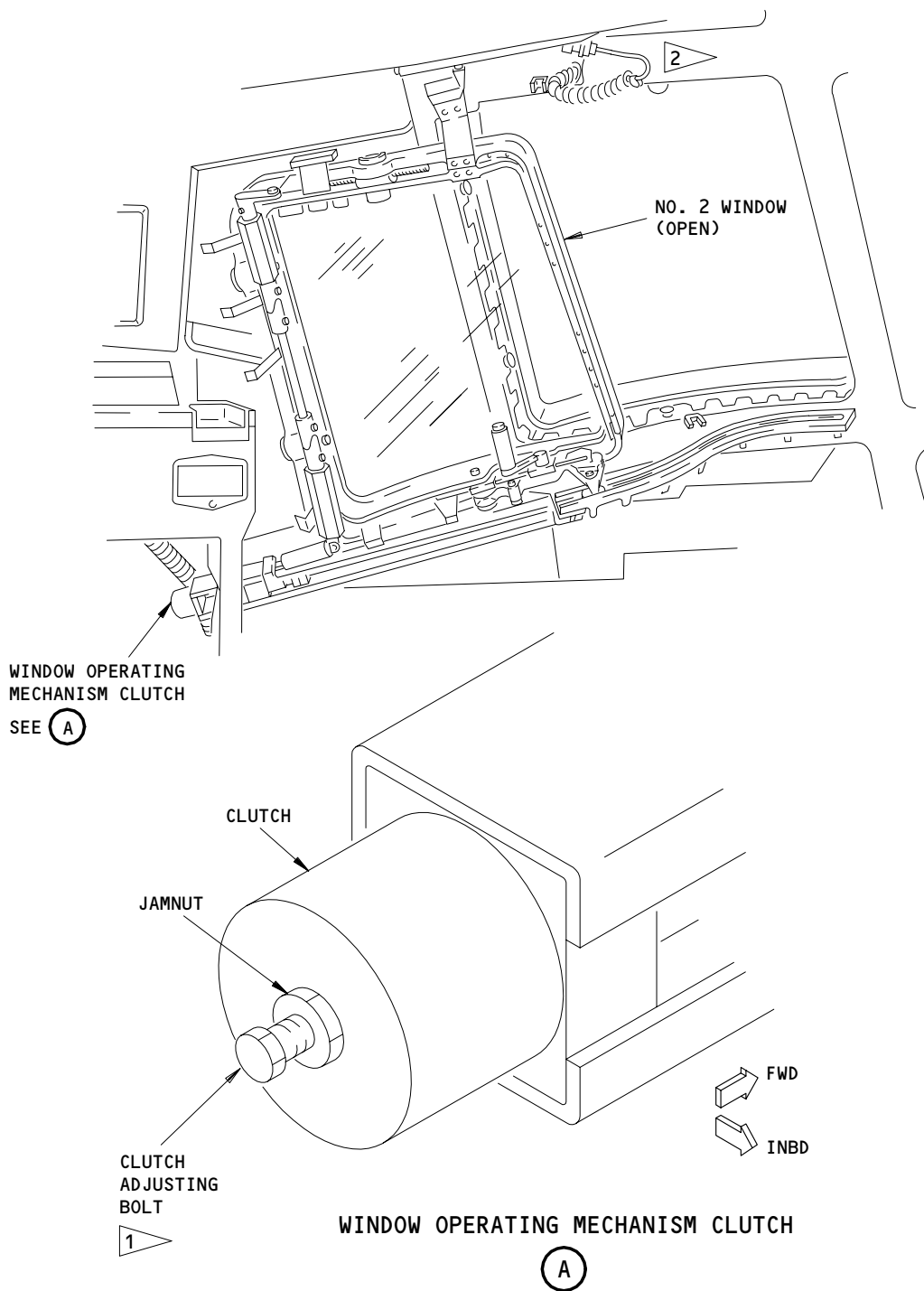
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- 1 MAKE ADJUSTMENTS IN ONE-QUARTER TURN INCREMENTS ONLY.
- 2 THE CORD IS SHOWN DISCONNECTED FROM THE WINDOW HEAT TERMINALS.

No. 2 Window Operating Mechanism Clutch Adjustment
Figure 505

EFFECTIVITY	
	ALL

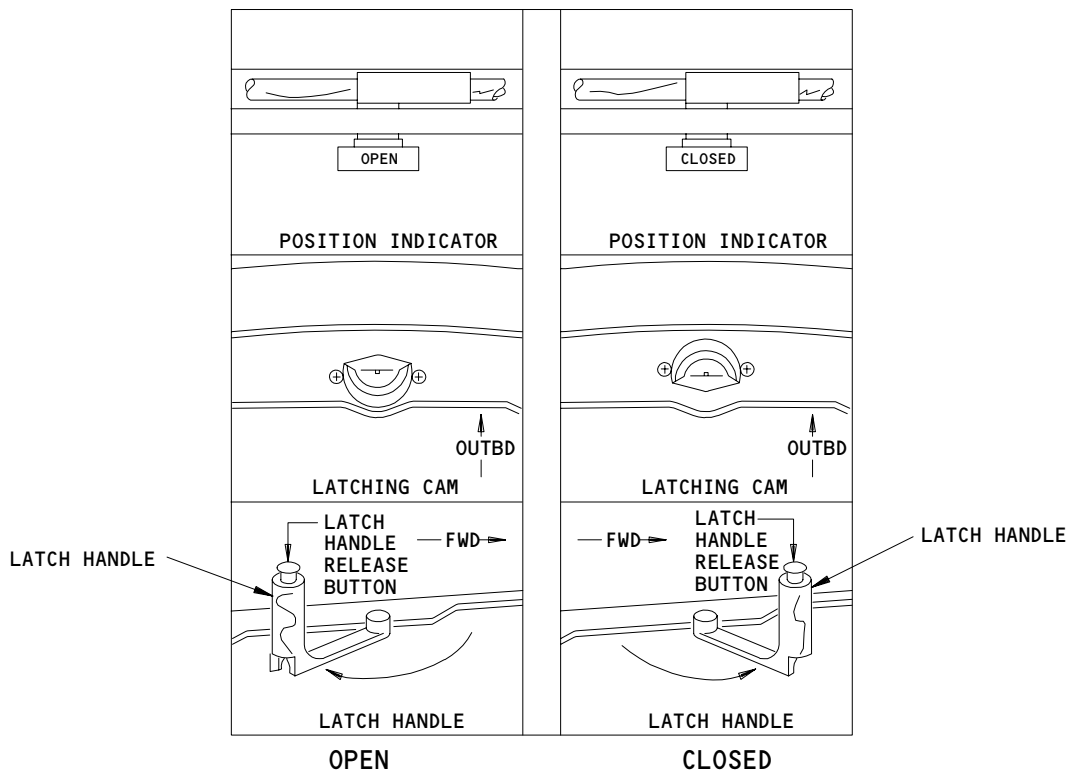
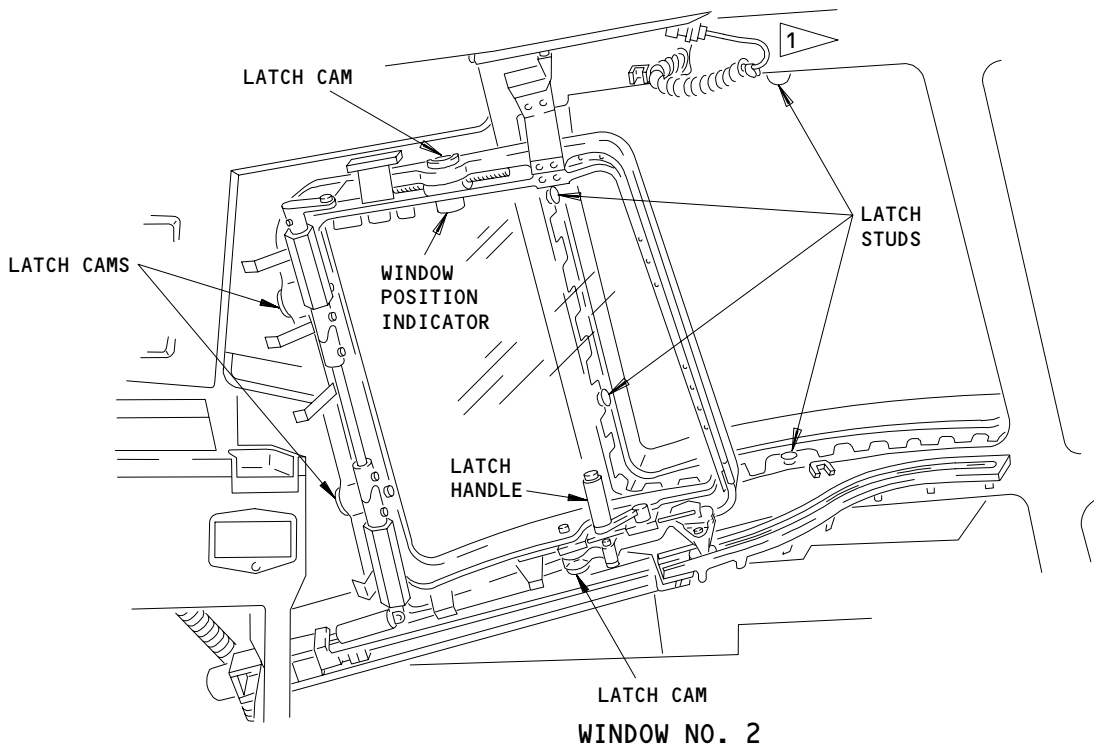
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1 THE CORD IS SHOWN DISCONNECTED FROM THE WINDOW HEAT TERMINALS.

Latch System Test
Figure 506

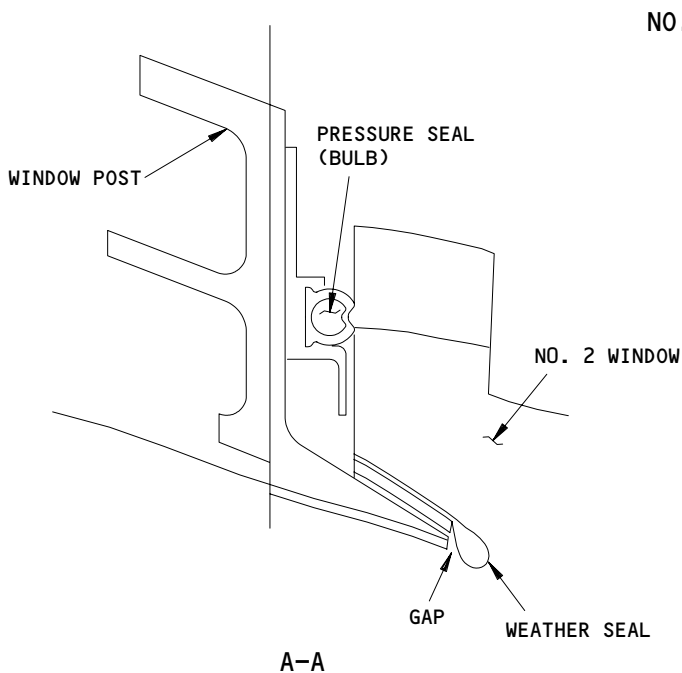
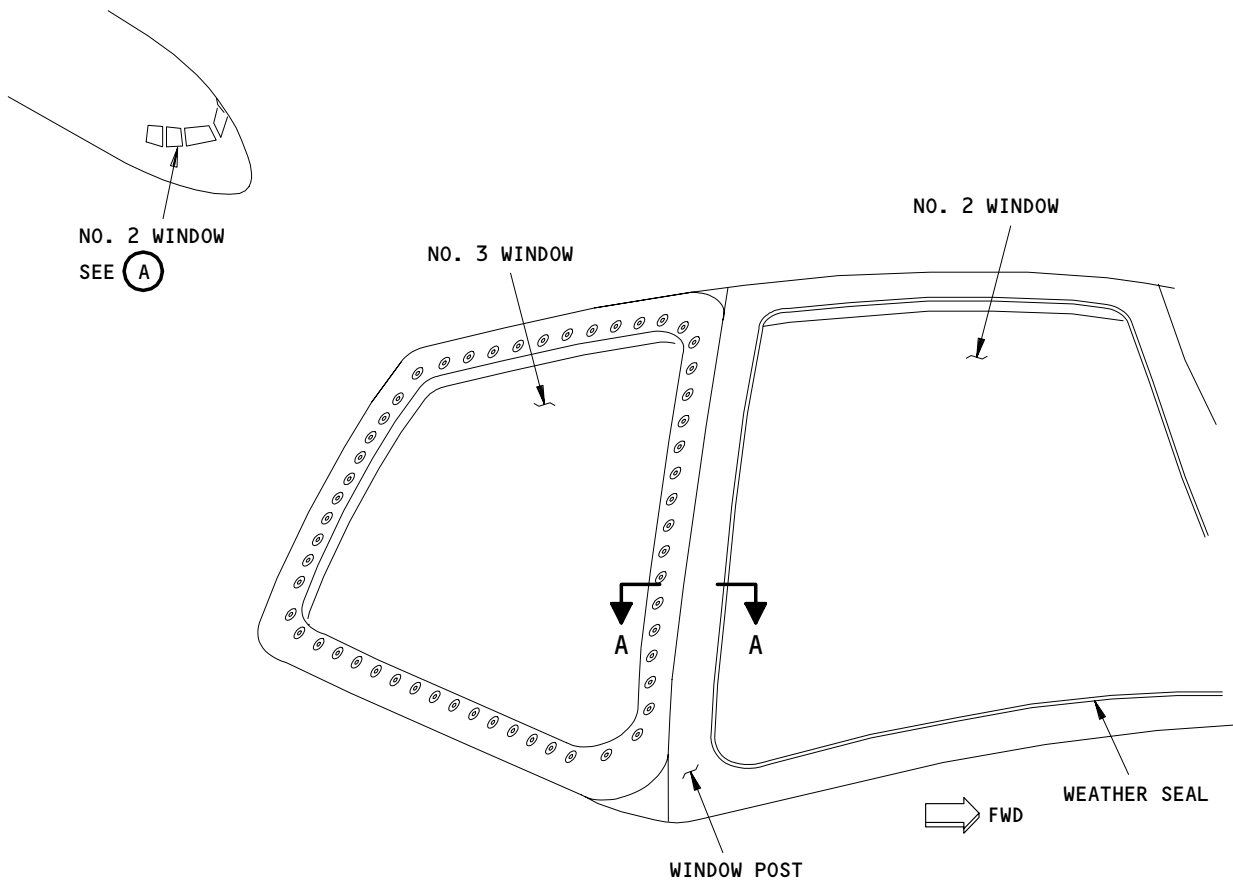
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No. 2 Window Air Leak/Aero Noise Repair
Figure 507

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- 3) Increase the length of the link arm to move the window outboard.

NOTE: Turn the piston with a wrench put on the piston flats to adjust the link arm. Clockwise piston rotation increases the length of the link arm, counterclockwise rotation decreases the length of the link arm.

- 4) Close the window.
- 5) Do a check of the link arm length (Fig. 504).
- 6) Open the window.
- 7) Tighten the jamnut on the link arm.
- 8) Loosen the attach bolts on the cam block (View C).
- 9) Move the cam block outboard as required (0.018 inch per serration).
- 10) Tighten the attach bolts on the cam block.
- 11) Add the shims under the upper roller bracket.

NOTE: This is a secondary adjustment and may not be required.

- (e) To move the window inboard, do the following:
 - 1) Shorten the link arm.
 - 2) Move the cam block inboard.
 - 3) Remove the shims from under the upper roller bracket.
- (f) Do a test for low latch handle loads.
 - 1) If the latch handle loads are too high, do the pry test.

S 825-014

- (4) Adjust the Position of the Window Operating Crank (Fig. 503)
 - (a) Close and latch the window.
 - (b) Make sure the operation crank knob is forward and slightly below the crank horizontal centerline.
 - 1) If the crank knob is not in the correct position, push the crank to close the window, until the correct position is reached.

NOTE: Sufficient force must be applied to the crank to move the crank clutch. The direction to close the window is clockwise for the left window, and counterclockwise for the right window.

S 825-015

- (5) Adjust the Window Operating-Mechanism Clutch (Fig. 505)
 - (a) Close and latch the window.
 - (b) Turn the operation crank in one-half turn increments to release and open the window.

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- (c) Release the operation crank after each half turn.
 - (d) If the window rolls when the operation crank is released, do the following:
 - 1) Loosen the jamnut on the operating-mechanism clutch.
 - 2) Turn the clutch adjustment bolt one-quarter turn clockwise.
 - (e) Tighten the jamnut on the operating-mechanism clutch.
 - 1) Make sure the window rolls.
 - (f) Tighten the clutch adjustment bolt in one-quarter turn increments until the window no longer rolls when the operation crank is released.
 - (g) If the window operating mechanism chatters while the window is closed, or the window cannot be completely closed, do the following:
 - 1) Loosen the jamnut on the operating-mechanism clutch.
 - 2) Turn the clutch adjustment bolt one-quarter turn counterclockwise.
 - (h) Tighten the jamnut on the operating-mechanism clutch.
 - 1) Do a check for window chatter.
 - 2) Make sure the window closes properly.
 - (i) Loosen the clutch adjustment bolt in one-quarter turn increments.
 - 1) Make sure there is no window chatter when the window is closed.
 - 2) Make sure the window can be closed properly.
- G. Put the airplane back to its usual condition.

S 165-017

- (1) Remove unwanted grease or primer from the latch cams and the latch studs. Leave a light layer of grease.

S 415-018

- (2) Install the interior window lining.

TASK 56-11-02-715-020

3. Test the Number 2 Window

- A. AIRPLANES WITH INTERLATCH MECHANISM;
Test of the Latching System (Fig. 506)

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S 215-089

CAUTION: DO NOT TRY TO CLOSE THE LATCH HANDLE WHILE THE WINDOW IS IN THE OPEN POSITION, DAMAGE MAY RESULT TO THE INTERLOCK MECHANISM. THE INTERLOCK MECHANISM IS INSTALLED ALONG THE AFT EDGE OF THE NUMBER 2 WINDOW. THE INTERLOCK MECHANISM HOOK WILL NOT ALLOW THE LATCH HANDLE TO MOVE TO THE CLOSED POSITION UNTIL THE WINDOW IS FULLY CLOSED.

- (1) Do a check of the latch handle operation with the window in the open position.
 - (a) Make sure no sudden changes in the handle load occur.
 - (b) Make sure the latch handle force does not exceed 7 pounds.

NOTE: The latch handle force should not exceed 7 pounds force applied tangential to handle motion. In addition, the system shall operate freely without binding to latch and unlatch positions with no more than 20 inch-pounds.

- (c) Move and hold the interlock hook away from the latch cam to allow movement of the latch handle (Fig 501).

NOTE: The latch handle can not be moved unless you hold the interlock hook away from the latch cam.

- (d) With the latch handle in the open position, make sure all four latch cams are in the open position.
 - (e) With the latch handle in the closed position, make sure all four latch cams are in the closed position.

S 985-084

- (2) Release the interlock hook.

S 985-103

- (3) Move the window to the middle of the track.

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S 985-104

- (4) Slowly move the latch handle from the closed to the open position.
- (a) Make sure the interlock mechanism engages with the latch cam.
 - (b) Make sure that the interlock hook does not permit the latch handle to turn to the open position.

S 225-105

- (5) Close and latch the window.
- (a) Make sure the latch handle force necessary to latch the handle did not exceed 7 pounds.

NOTE: Apply force tangential to handle motion. In addition, the system shall operate freely without binding to latch and unlatch positions with no more than 20 inch-pounds.

- (b) Make sure the latch position indicator clearly shows CLOSED.
- (c) Make sure all four latch cams are fully turned to the latched position.

NOTE: To see the latch cams with the window closed, look between the upper, lower, and aft window frame and sill.

S 865-106

- (6) Depress the latch handle release button.

S 865-107

- (7) Release the button.
- (a) Make sure the button returns to the up position.

S 215-108

- (8) Without the latch handle release button pushed, try to move the latch handle to the unlatched position.
- (a) Make sure the latch handle can not move to the unlatched position.

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- S 215-110
(9) Push the latch handle release button.
- S 215-111
(10) Move the latch handle to the open position.
- S 215-112
(11) After the latch handle has started to move, release the button.
(a) Make sure the latch handle is locked in the open position.
- S 215-113
(12) Move the latch handle to the open position.
(a) Make sure there are no sudden changes in the handle load.
(b) Make sure that the handle load is never more than 7 pounds.
- NOTE: Apply force tangential to handle motion. In addition, the system shall operate freely without binding to latch and unlatch positions with no more than 20 inch-pounds.
- (c) Make sure the operating crank is cranked to the forward, full closed position, prior to unlatching the window. If not, latch handle operation will require excessive load to operate.
(d) Make sure all four latch cams turn to the unlatched position.
(e) Make sure the latch position indicator clearly shows OPEN.
- S 215-114
(13) Push the latch handle release button.
- S 215-115
(14) Move the latch handle to the closed position.
- S 215-116
(15) Release the button after the handle has started to move.
(a) Make sure the latch handle locks in the closed position.

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S 715-096

- (16) Make sure the operation load of the latch handle force is less than 7 pounds.

NOTE: The latch handle force should not exceed 7 pounds force applied tangential to handle motion. In addition, the system shall operate freely without binding to latch and unlatch positions with no more than 20 inch-pounds.

B. Do a Test of the Window Operation Mechanism (Fig. 506)

S 715-038

- (1) Close and latch the window.

S 715-039

- (2) Make sure the operation crank knob is forward and immediately below the crank horizontal centerline.

NOTE: Apply sufficient force to the crank knob to override the crank clutch if the crank knob is not in the correct position. The reason for this location is to prevent interference with the tiller and the oxygen mask.

S 215-040

- (3) Move the latch handle to the open position.

S 715-041

- (4) Make sure the window stays closed with no movement of the window after the latch handle is released.

S 715-042

- (5) Turn the window operating crank counterclockwise for the left window or clockwise for the right window, and move the window to the full open position.

S 715-043

- (6) Make sure the window does not roll open when the operation crank is not turned.

S 715-044

- (7) Make sure the window moves smoothly with no sudden changes in the handle load.

S 715-045

- (8) Turn the crank in the other direction and move the window to the closed position.

S 715-046

- (9) Make sure the window operates smoothly and closes correctly.

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S 715-047

- (10) Make sure the operation crank load does not exceed 30 pounds.

NOTE: There is an increase in the crank load just as the window closes. This increase should not exceed 30 pounds.

S 715-048

- (11) Do the window operating mechanism test procedures at least five times.

S 715-049

- (12) Close and latch the window.

TASK 56-11-02-355-085

4. Repair the Aero-Noise in the Flight Deck (Acrylic only) (Fig. 507)

A. Consumable Materials

- (1) A00900 Sealant, Dow Corning 93-006-1
- (2) B00148 Solvent, Methyl Ethyl Ketone (MEK), TT-M-261
- (3) G00000 Parting Agent - Commercially Available

B. Access

- (1) Location Zones

211/212 Control Cabin - Section 41

- (2) Repair the aero-noise if the noise persists in the left or right window as follows:
- (a) Partially open the No. 2 window.
 - (b) From the inside of the airplane on the right or left hand side, mask with tape the aft outer edge of the window.

NOTE: The application of tape will prevent sealant from getting on the window.

- (c) With a brush, apply parting agent on the edge of and on the inner surface of the window frame.
- (d) Do not open the window during this operation.
- (e) Put a tag on the window to indicate this.
- (f) If there is a gap at the aft edge of the bottom and top corners, remove the sealant from both corners.
- (g) Use sandpaper or a wire brush to make the aft edge of the weather seal rough.

NOTE: This will help the new sealant adhere to the existing weather seal.

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- (h) From the outside of the airplane, apply masking tape to the aft edge of the window frame.

NOTE: This will prevent sealant from getting on the window frame.

- (i) Apply sealant to fill the gap.
- (j) Wipe off the excess with a spatula.

NOTE: Air bubbles should not be present after you apply the sealant.

- (k) Remove the masking tape from the window frame.
- (l) From the inside of the airplane, use solvent, Series 82 (AMM 20-30-82/201, SOPM 20-30-82), to wipe off the parting agent.

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NO. 2 WINDOW OPERATING MECHANISM - REMOVAL/INSTALLATION

TASK 56-11-04-004-001

1. Remove the Operating Mechanism

A. Access

- (1) Location Zones
211/212 Control Cabin

B. Procedure - Remove the Operating Mechanism

S 034-003

- (1) Remove the screw (25), washer (26), nut (27), and the washer (26) and remove the crank handle (1) (Fig. 401).

S 034-004

- (2) Remove the seven screws (30) from the panel (28) to the structure and remove the panel (28).

S 034-005

- (3) Remove the seven screws (29) from the shroud (2) to the carriage (3) and the sidewall panel. Remove the shroud (2).

S 034-007

- (4) Disconnect the drive shaft (8) (Fig. 401).

S 034-008

- (5) Remove the bolts (4), the nuts (6), and the washers (5), and remove the right angle drive gearbox (7).

S 034-009

- (6) Remove the bolt (19), the washers (20, 21) and the nut (22) to disconnect the link arm (17) from the window.

S 034-010

- (7) Remove the screws (23) and the washers (24).

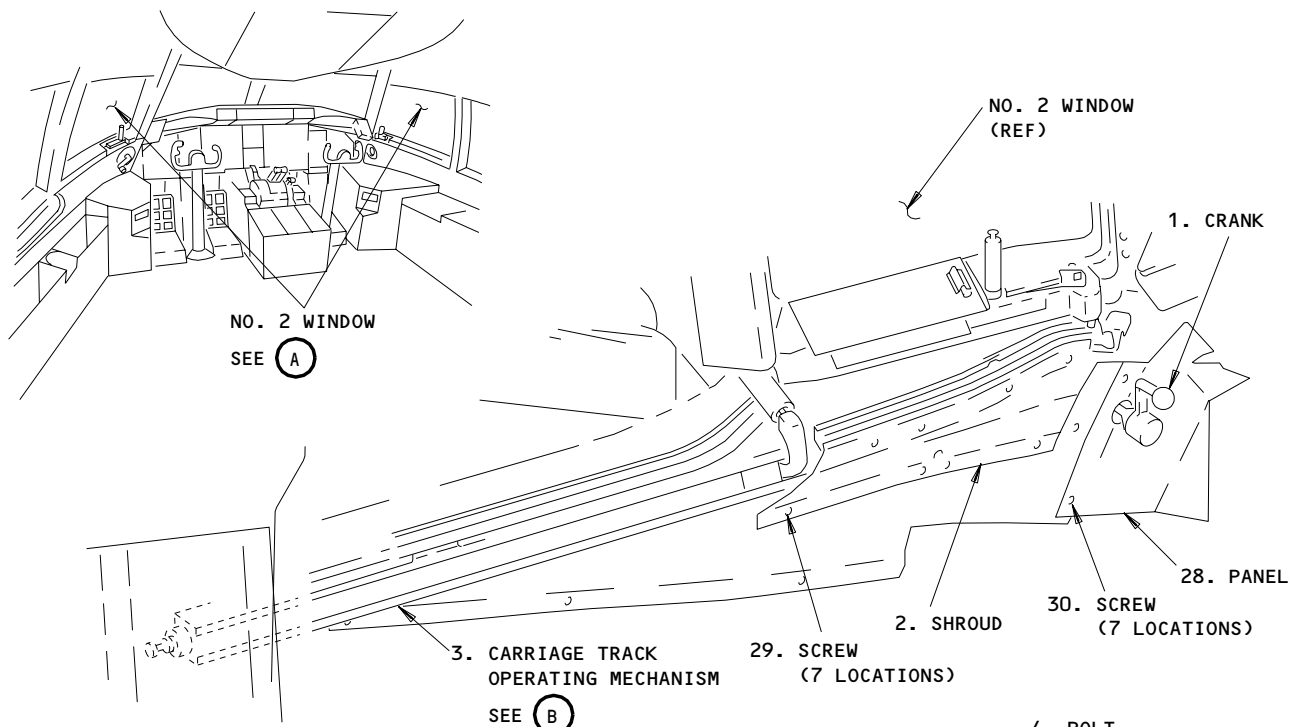
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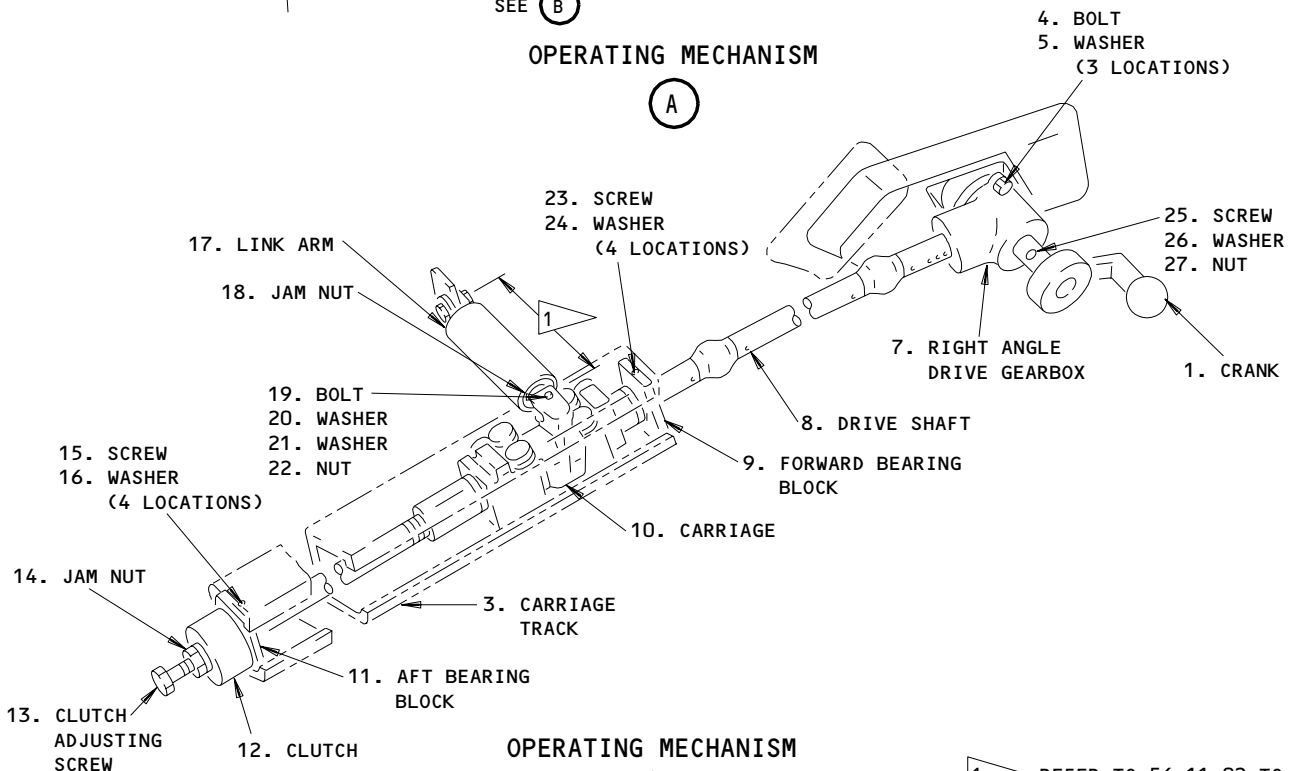
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OPERATING MECHANISM

(A)



OPERATING MECHANISM

(B)

1 REFER TO 56-11-02 TO ADJUST THE LINK ARM

NO. 2 Window Operating Mechanism Installation
Figure 401

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S 034-011

(8) Remove the screws (15) and the washers (16).

S 024-012

(9) Move the operating mechanism out of the carriage track (3).

TASK 56-11-04-404-013

2. Install the Operating Mechanism

A. Consumable Materials

(1) A00246 Chromate Type Sealant - BMS 5-95

B. Parts

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AMM		NOMENCLATURE	AIPC		
FIG	ITEM		SUBJECT	FIG	ITEM
401	1	Crank	56-11-04	01	244A
	2	Shroud (LH)	25-15-01	01	540
	2	Shroud (RH)	25-15-01	02	350
	4	Bolt	56-11-04	01	220
	5	Washer			225
	7	Right Angle Drive Gearbox (LH)			235
	7	Right Angle Drive Gearbox (RH)			240
	8	Drive Shaft			215
	9	Forward Bearing Block			105
	10	Carriage (LH)			155
	10	Carriage (RH)			157
	11	Aft Bearing Block			105
	12	Clutch			15
	13	Clutch Adjusting Screw			20
	14	Jamnut			25
	15	Screw			310
	16	Washer			320
	17	Link Arm			190
	19	Bolt			175
	20	Washer			180
	21	Washer			183
	22	Nut			185
	24	Washer			320
	25	Screw			244B
	26	Washer			244C
	27	Nut			244D
	28	Panel (LH)	25-15-01	01	45
	29	Screw (LH)			545
	30	Screw (LH)			40
	28	Panel (RH)	25-15-01	02	30,31
29	Screw (RH)			355	
30	Screw (RH)			5	

C. References

(1) AMM 56-11-02/501, No. 2 Window

D. Access

(1) Location Zones
211/212 Control Cabin

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E. Procedure - Install the Operating Mechanism

S 434-015

- (1) Install the right angle drive gearbox (7) and install the bolts (4), washers (5) and nuts (6) (Fig. 401).

S 434-017

- (2) Install the operating mechanism in the carriage track (3), and connect the drive shaft (8) (Fig. 401).

S 434-018

- (3) Install the forward bearing block (9) with the attaching screws (23) and the washers (24).

S 434-019

- (4) Install the aft bearing block (11), with the attaching screws (15) and the washers (16).

S 434-020

- (5) Install the bolt (19), the washers (20, 21) and the nut (22) to connect the link arm (17) to the window.

S 434-021

- (6) Install the shroud (2) on the lower window carriage track (3) with the seven screws (29).

S 434-022

- (7) Install the crank handle panel (28) with the seven screws (30).

S 434-023

- (8) Install the crank (1) on the gearbox input shaft with the screw (25), the washer under the screw (26), the nut (27), and the washer under the nut (26).

S 824-024

- (9) Adjust the operating mechanism.
(a) Adjust the link arm (17) (AMM 56-11-02/501).
(b) Adjust the clutch as follows:
1) Loosen the jamnut (14).
2) Turn the window crank. Tighten the clutch adjusting screw (13) until there is enough drag in the clutch to keep the carriage (10) in place.
3) Tighten the jamnut (14).
4) Open and close the window two or three times. Adjust the window again if it is necessary.

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NO. 3 WINDOW - REMOVAL/INSTALLATION

1. General

- A. This procedure contains two tasks. The first task is to remove the No. 3 windows on the left and right sides. The second task is to install the No. 3 windows on the left and right sides.
- B. The No. 3 windows are removed from the outer side of the airplane. The removal and installation procedure is the same on the left and the right No. 3 windows.

TASK 56-11-10-024-001

2. Remove the No. 3 Window (Fig. 401)

A. Equipment

- (1) Windshield Handling Sling - A56001-3, part of Sling Set A56001-15
- (2) Crane - 150 pound capacity.

B. Access

- (1) Location Zones
211/212 Control Cabin

C. Prepare for Removal

S 864-002

- (1) For the left window, open this circuit breaker on the right miscellaneous electrical equipment panel, P37, and attach a D0-NOT-CLOSE tag:
 - (a) 37E4, WINDOW HTR 3L

S 864-004

- (2) For the right window, open this circuit breaker on the miscellaneous electrical equipment panel, P70, and attach a D0-NOT-CLOSE tag:
 - (a) 70A4, WINDOW HTR 3R

S 034-005

- (3) Disconnect the electrical wires from the power and the sensor terminals.

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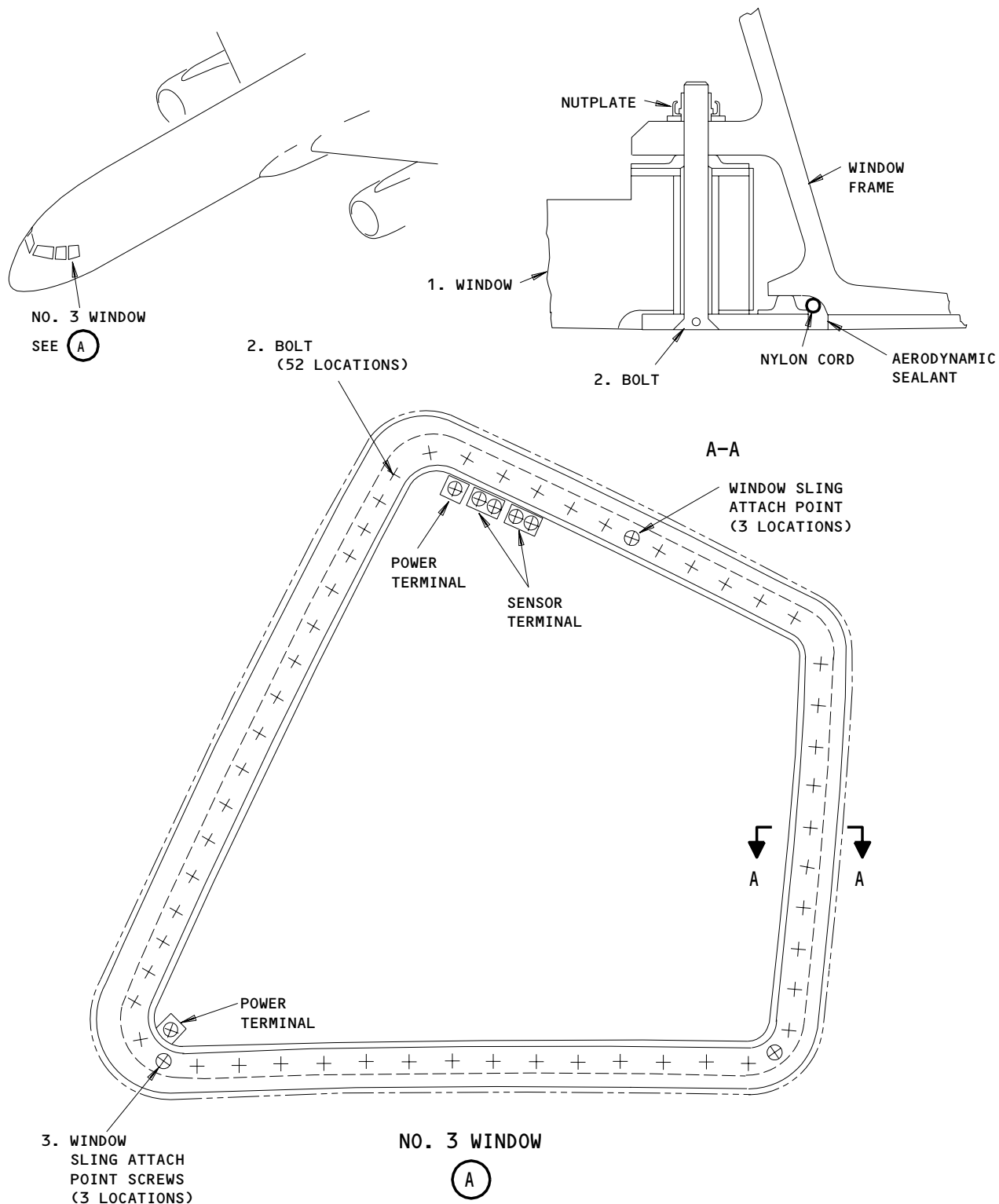
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No. 3 Window
Figure 401

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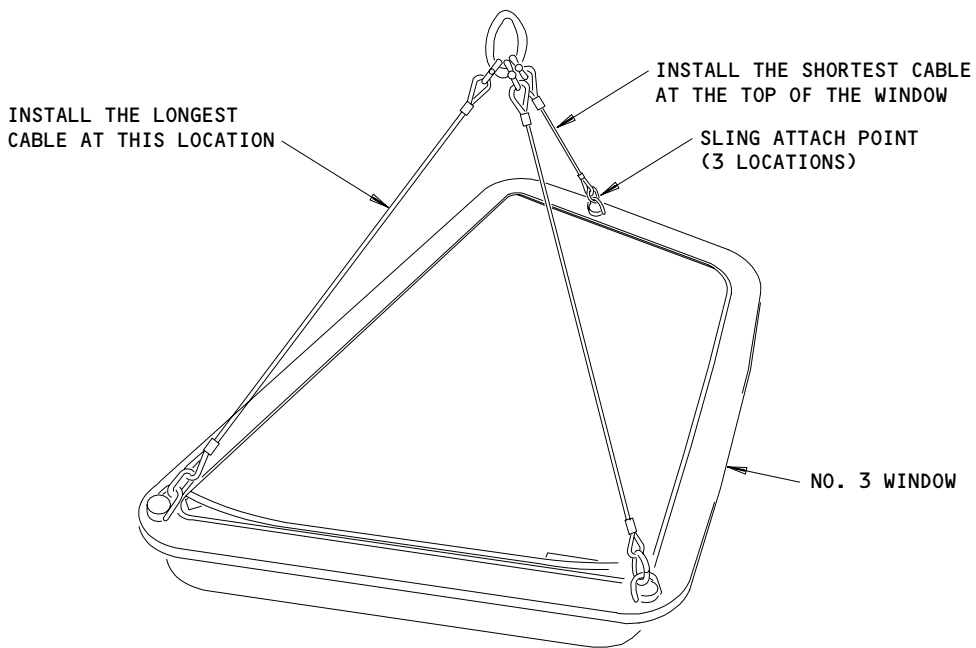
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WINDOW HANDLING SLING, A56001-3

No. 3 Window Handling Sling
Figure 402

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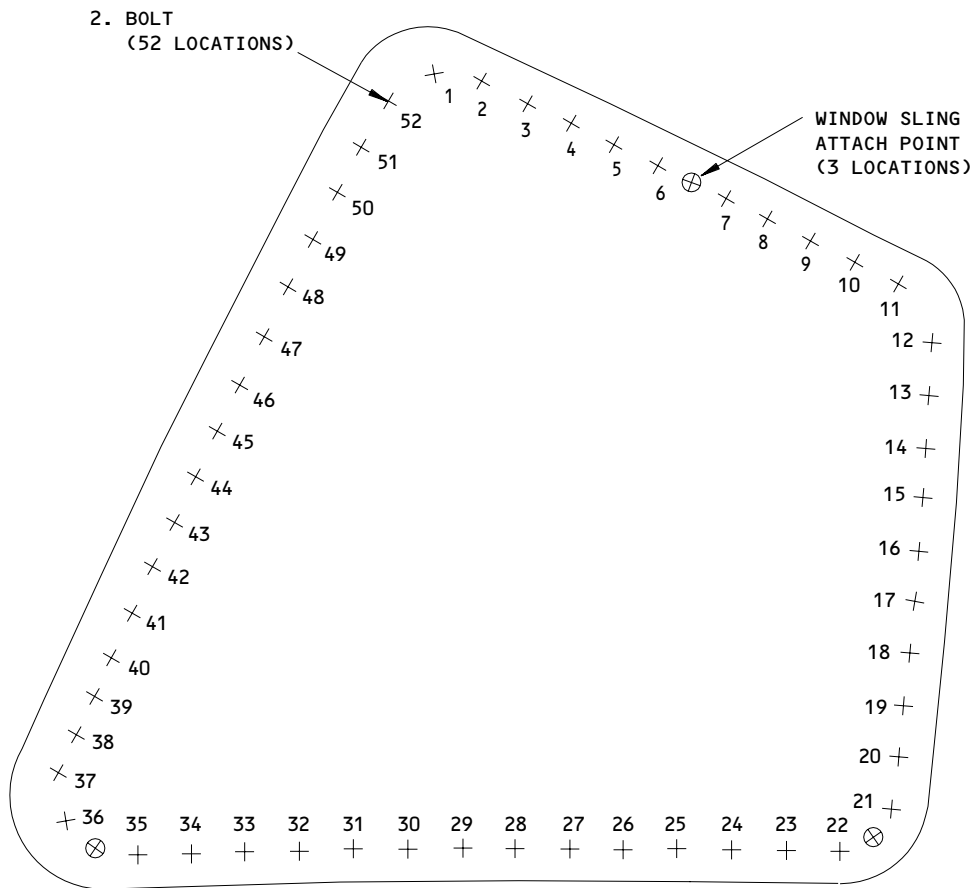
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**LEFT NO. 3 WINDOW
(RIGHT NO. 3 WINDSHIELD IS OPPOSITE)**

SEQUENCE NUMBER	BOLT NUMBER	SEQUENCE NUMBER	BOLT NUMBER	SEQUENCE NUMBER	BOLT NUMBER
1	6	19	20	37	25
2	28	20	38	38	48
3	45	21	13	39	21
4	16	22	24	40	36
5	43	23	46	41	11
6	8	24	15	42	32
7	31	25	42	43	12
8	47	26	7	44	34
9	18	27	30	45	52
10	41	28	44	46	22
11	4	29	17	47	10
12	26	30	40	48	35
13	39	31	5	49	2
14	14	32	29	50	23
15	49	33	50	51	1
16	9	34	19	52	27
17	33	35	37		
18	51	36	3		

**No. 3 Window Bolt Locations
Figure 403**

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S 954-006

- (4) Use tape to apply a protective paper cover or coating to both window surfaces to protect the windshield. Do not attach the tape to the glass or the plastic.

D. Procedure - Remove the No. 3 Window

S 034-007

- (1) Remove the aerodynamic sealant on the upper, aft corner of the window to get to the nylon cord.

S 034-008

- (2) Remove the cord from around the window.

S 034-009

- (3) Remove the window retainer bolts (2). Keep a sufficient quantity of bolts to temporarily hold the window.

S 034-010

- (4) Remove the screws (3) at the window sling attach points (Fig. 401).

S 494-011

- (5) Attach the window sling to the window (Fig. 402).

S 034-012

- (6) Remove all retainer bolts (2) (Fig. 401).

S 024-013

- (7) Remove the window (1) and lower it to the ground.

S 024-014

- (8) Remove the window sling and install the screws (3) at the attach points (Fig. 402).

TASK 56-11-10-424-015

3. Install the No. 3 Window

A. Equipment

- (1) Windshield Handling Sling - A56001-3, part of Sling Set A56001-15
- (2) Crane - 150 pound capacity.
- (3) Spatula or flow gun.

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B. Consumable Materials

- (1) G00301 Protective Tape - Gizard Protex 20V
- (2) G00191 Protective Coating - Spraylat SC-1071
- (3) G00034 Cheesecloth
- (4) B00083 Aliphatic Naphtha - TT-N-95

- (5) G00039 Nylon Cord - MIL-C-5040, Type 1A
- (6) A00247 Sealant - BMS 5-95 Class B-1/2 or B-2
- (7) A00103 (Alternative) PR1425 Sealant.
- (8) A01056, PR 1829 sealant (Rapid Cure)
- (9) C00308 Corrosion Preventive Compound - MIL-C-11796, Class 1
- (10) G00294 Masking Tape
- (11) G00291 Pressure sensitive aluminum backed adhesive tape Scotch 3M 425 or 427.

C. Parts

AMM		NOMENCLATURE	AIPC		
FIG	ITEM		SUBJECT	FIG	ITEM
401	2	Bolt	56-11-10	4	20
	1	No. 3 Window (LH)			1
	1	No. 3 Window (RH)			5
	3	Screw			25

D. References

- (1) AMM 30-41-00/501, Flight Compartment Window Anti-Icing
- (2) AMM 51-31-01/201, Seals and Sealants
- (3) AMM 56-11-00/601, Flight Compartment Windows - Inspection/Check

E. Access

- (1) Location Zones
211/212 Control Cabin

F. Procedure - Install the No. 3 Window

- S 214-045
- (1) Do a visual check of the window post and sill for cracks and corrosion (AMM 56-11-00/601).
- S 434-016
- (2) Install the nutplates. Replace the nutplates that are damaged (Fig. 401).
- S 114-017
- (3) Clean the mating surfaces with a cheesecloth that is moist with aliphatic naphtha.

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- S 434-018
- (4) Install the window sling at the attach points (Fig 402).
- S 434-019
- (5) Use the sling and crane to lift the window into position.
- S 394-020
- (6) Apply the corrosion preventive compound in the bolt holes (Fig. 401).
- S 434-021
- (7) Install and tighten by hand the retainer bolts (2) into positions 6, 28, 45, and 16 to align the window (Fig. 403).
- S 424-042
- (8) Install the remaining bolts (2). Install the bolts (2) firmly, but do not fully tighten.

S 434-041

CAUTION: DO NOT APPLY TOO MUCH TORQUE TO THE BOLTS (2). TOO MUCH TORQUE COULD CAUSE DAMAGE TO THE NUTS AND THE NUTPLATE RETAINERS.

- (9) Tighten all the bolts (2) to 20-60 pound-inches in the sequence shown until the external surfaces align to less than 0.04 inch (Fig. 403).

NOTE: You must tighten the bolts (2) three times. The first time is when you install the window (1). The second time is three hours or more after the window (1) installation. The third time is six hours or more after the window (1) installation. You can fly the airplane after the first time you tighten the bolts. This will prevent wind noise and leaks because of seal movement.

- S 094-024
- (10) Remove the window sling.
- S 394-025
- (11) Apply corrosion preventive compound in the sling attach holes and install the screws (3) to 15 in-lb (1.7 N-m) to 20 in-lb (2.3 N-m).
- S 164-026
- (12) Remove unwanted compound with a clean cheesecloth.
- S 414-027
- (13) Install the nylon cord in the clearance around the window. Make sure the cord is tightly installed in the bottom of the clearance.

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S 424-054

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO APPLY THE AERODYNAMIC SMOOTHER. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(14) Slowly add aerodynamic sealant to fully fill the clearance (AMM 51-31-01/201).

NOTE: The function of the sealant is to make sure there is good aerodynamic flow.

(a) If you must dispatch the airplane before the sealant is fully cured, do the steps that follow:

NOTE: Use PR 1829 sealant, A01056 if rapid cure is required for dispatch.

- 1) Install the Pressure sensitive aluminum backed tape on the top of the sealant.
- 2) Remove the tape when the sealant is fully cured.

S 434-029

(15) Make the aerodynamic sealant smooth with the window frame and the external surface.

S 164-030

(16) Remove unwanted aerodynamic sealant with a clean cheesecloth.

S 864-053

(17) Connect the electrical wires to the terminal leads.

CAUTION: DO NOT APPLY TOO MUCH TORQUE TO THE SCREWS. TOO MUCH TORQUE COULD CAUSE DAMAGE TO THE TERMINAL. HOLD THE TERMINAL WHILE TIGHTENING THE SCREWS.

- (a) Tighten the screws to the power terminal to 25 - 30 pound-inches.
- (b) Tighten the screws to the temperature sensor to 12 - 15 pound-inches.

S 214-032

(18) Make sure the protective covers are installed on all window terminal electrical connectors. Install covers if necessary.

S 864-036

(19) For the left window, remove the DO-NOT-CLOSE tag and close this circuit breaker on the P37 panel:
(a) 37E4, WINDOW HTR 3L

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S 864-037

- (20) For the right window, remove the DO-NOT-CLOSE tag and close this circuit breaker on the P70 panel:
(a) 70A4, WINDOW HTR 3R

S 724-038

- (21) Make sure the affected window heating system operates correctly (AMM 30-41-00/501).

S 424-049

CAUTION: DO NOT APPLY TOO MUCH TORQUE TO THE BOLTS (2). TOO MUCH TORQUE COULD CAUSE DAMAGE TO THE NUTS AND THE NUTPLATE RETAINERS.

- (22) Tighten the bolts (2) to 20-60 pound-inches one more time (the second time), three hours or more after the first time. You must tighten the bolts (2) in the sequence shown (Fig. 403).

S 424-050

CAUTION: DO NOT APPLY TOO MUCH TORQUE TO THE BOLTS (2). TOO MUCH TORQUE COULD CAUSE DAMAGE TO THE NUTS AND THE NUTPLATE RETAINERS.

- (23) Tighten the bolts (2) to 20-60 pound-inches one more time (the third time), six hours or more after the first time. You must tighten the bolts (2) in the sequence shown (Fig. 403).

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NO. 2 WINDOW PRESSURE SEAL - REMOVAL/INSTALLATION

1. General

- A. This procedure has two tasks.
 - (1) Remove the No. 2 window seal.
 - (2) Install the No. 2 window seal.

TASK 56-11-53-004-001

2. Remove the No. 2 Window Pressure Seal (Fig. 401)

- A. Equipment
 - (1) ST1742C-A Window Seal Installation Tool
- B. References
 - (1) AIPC 56-11-53, Fig. 1
- C. Access
 - (1) Location Zones
211/212 Control Cabin

D. Procedure - Remove the No. 2 Window Seal

S 014-002

- (1) Open the No. 2 window as far as possible.

S 024-012

- (2) If applicable, remove the seal depressor from the aft side of the window.

S 024-003

- (3) Carefully pull the seal from the retainer.

CAUTION: MAKE SURE THAT YOU DO NOT DAMAGE THE ADJACENT STRUCTURE.

- (a) Carefully cut across the bulb area of the seal.
- (b) Use this opening as a finger hold to pull the seal from the retainer.

NOTE: Do not reuse the seal.

TASK 56-11-53-404-004

3. Install the No. 2 Window Pressure Seal (Fig. 401)

- A. Equipment
 - (1) ST1742C-A Window Seal Installation Tool

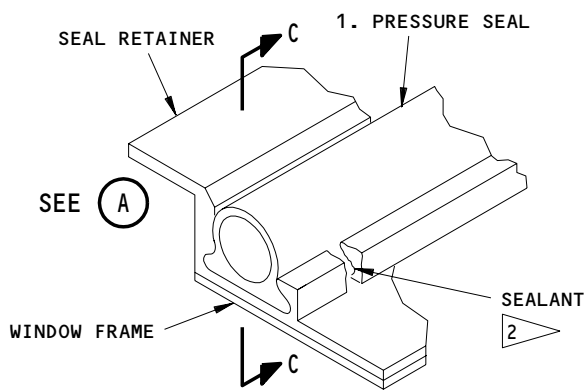
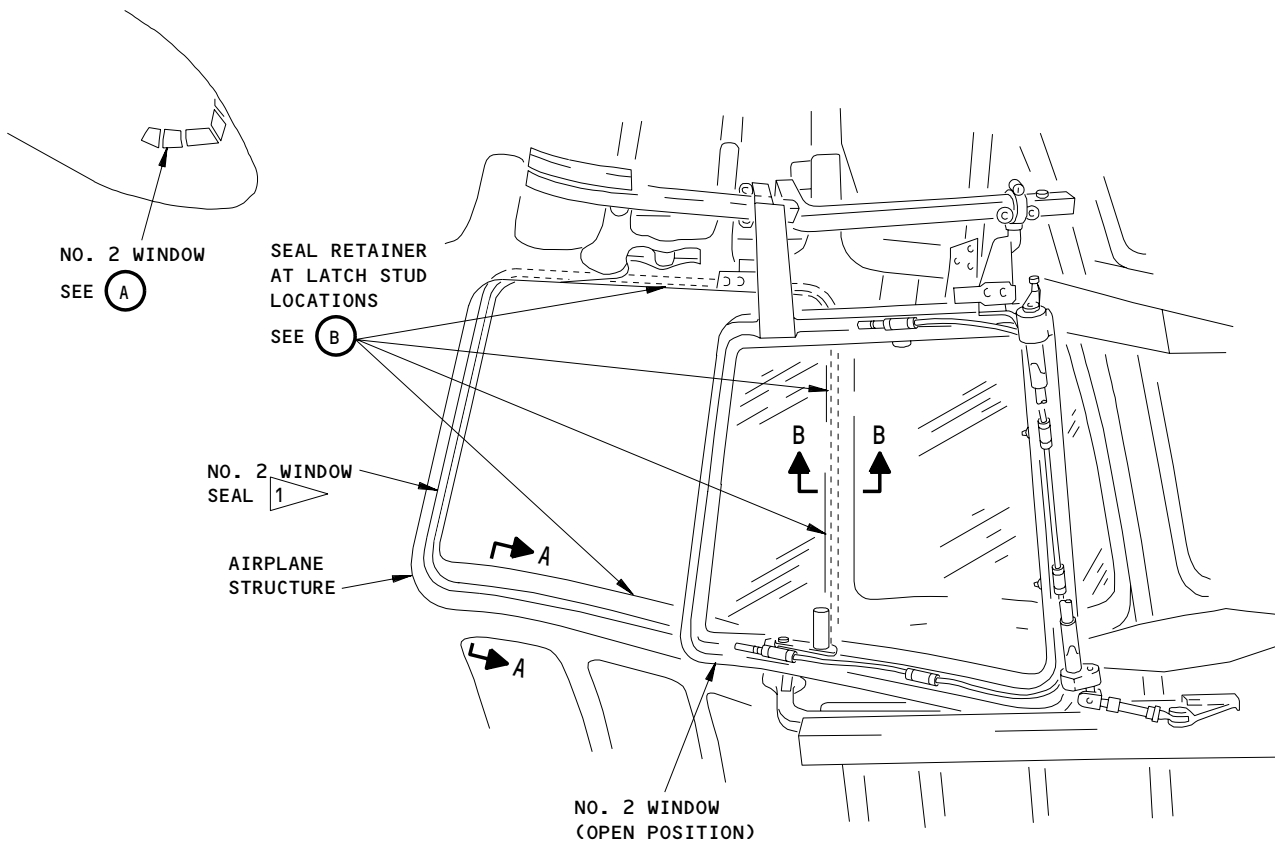
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SEAL RETAINER AT LATCH STUD LOCATIONS

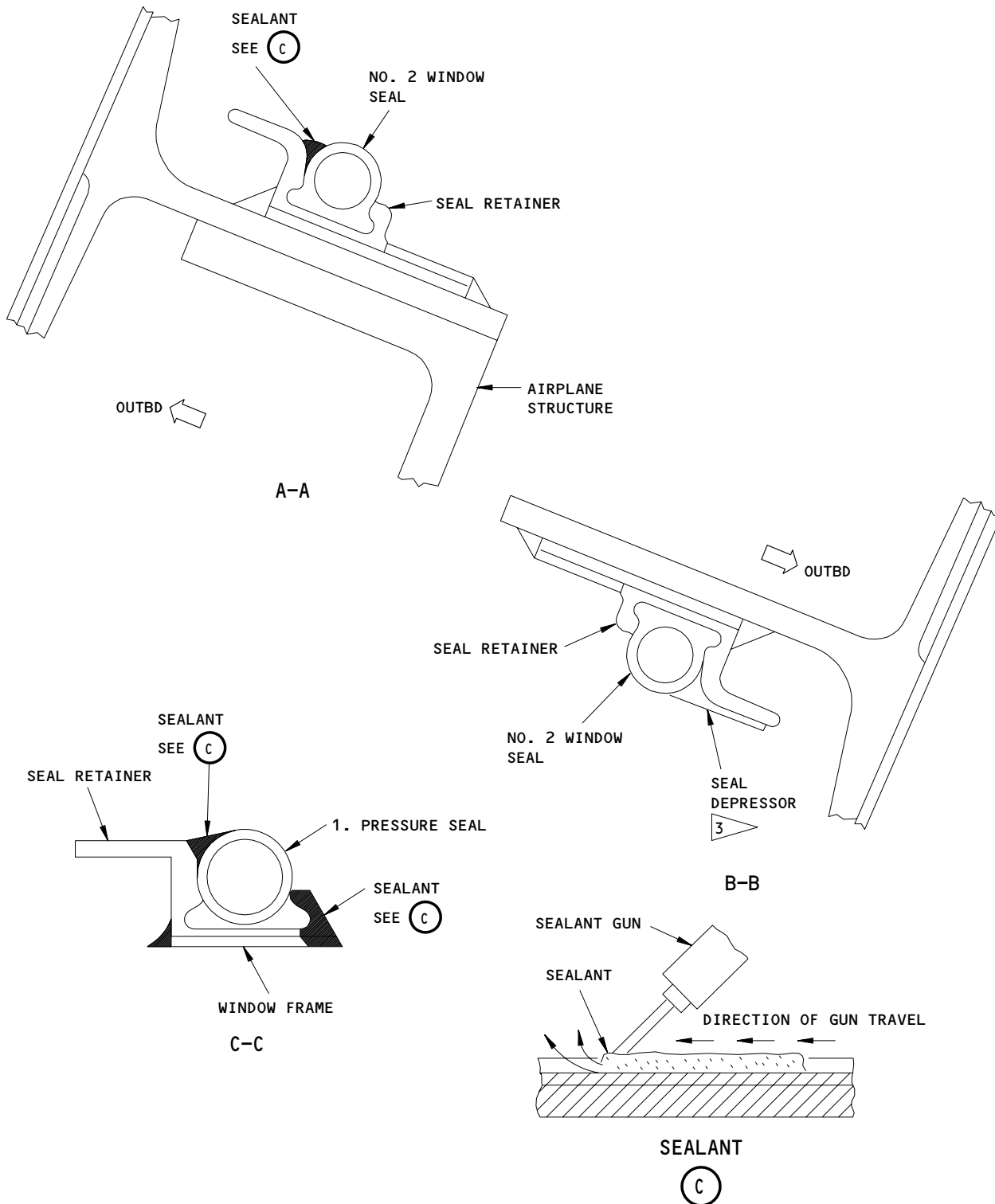
(B)

- 1 THE RIGHT SEAL IS SHOWN, THE LEFT SEAL IS OPPOSITE
- 2 THE EDGE OF THE SEAL RETAINER IS TRIMMED AWAY AT THE LATCH STUD LOCATIONS.

No. 2 Window Seal Installation
Figure 401 (Sheet 1)

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No. 2 Window Seal Installation
Figure 401 (Sheet 2)

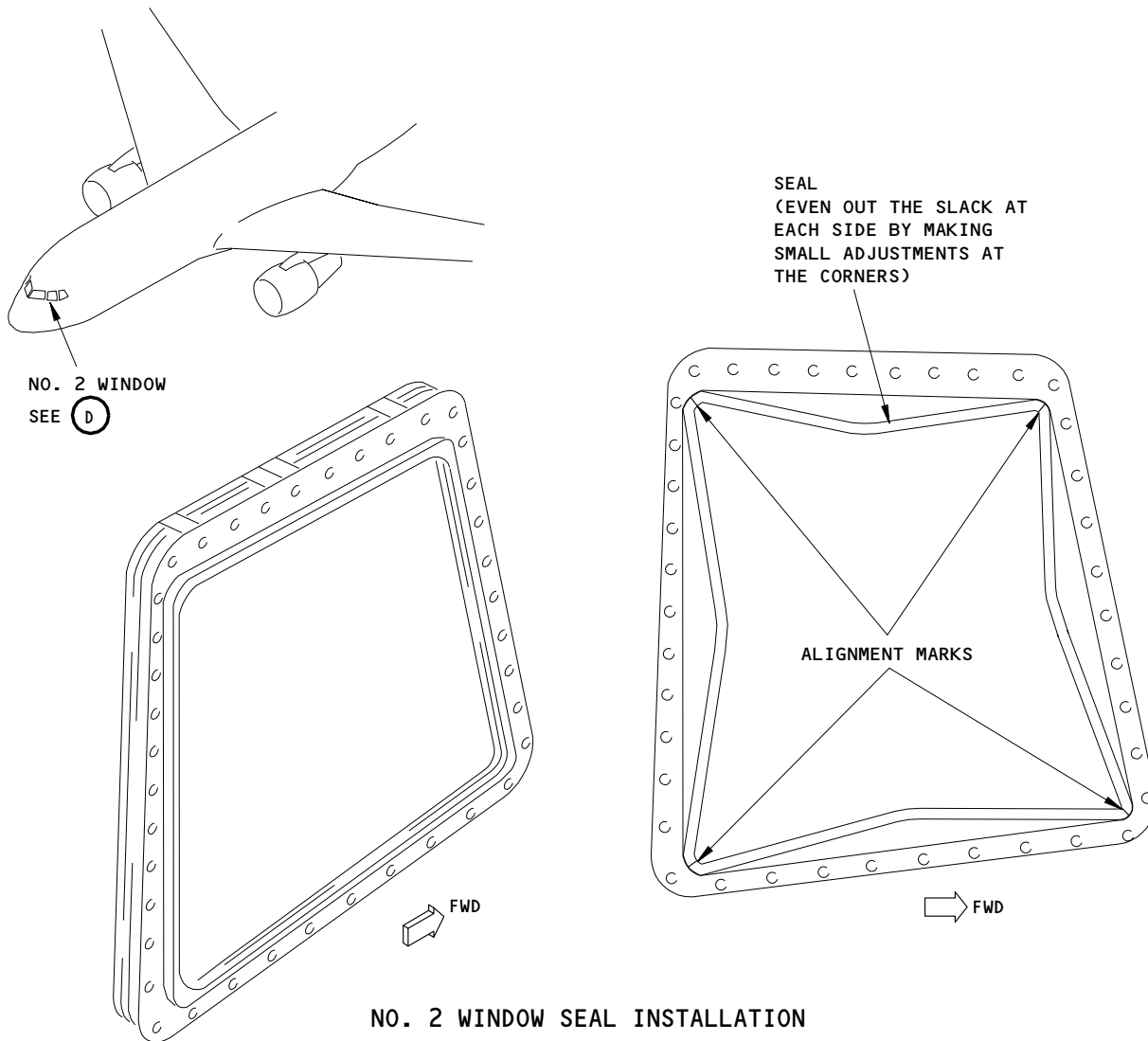
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(D)

1. THE BULB SEAL WAS DESIGNED WITH EXCESS MATERIAL IN ORDER TO ACHIEVE AN INTERFERENCE FIT WITH THE SEAL RETAINER. DO NOT CUT AND SPLICE THE SEAL IN ORDER TO INSTALL. THIS WILL DESTROY THE SEAL.
2. REMOVE THE OLD SEAL AND THOROUGHLY CLEAN THE RETAINER TRACK. MAKE SURE THAT THERE IS NO SEALANT INSIDE THE TRACK.
3. POSITION THE NEW SEAL WITH THE BREATHER HOLES FACING INBOARD.
4. INSTALL THE CORNERS OF THE SEAL WITH THE ALIGNMENT MARKS CENTERED AT EACH CORNER OF THE WINDOW FRAME.
5. EVEN OUT THE SLACK AT EACH SIDE BY SLIDING THE CORNERS OF THE SEAL.
6. LIGHTLY MARK THE WINDOW FRAME WHERE THE SEAL ALIGNMENT MARKS ARE LOCATED. THIS WILL HELP TO INDICATE ANY MOVEMENT OF THE SEAL CORNERS DURING INSTALLATION. RE-ADJUST IF NECESSARY.
7. INSTALL THE SIDES BY WORKING FROM THE CORNERS AND PROCEED TOWARDS THE MIDDLE.

No. 2 Window Seal Installation
Figure 401 (Sheet 3)

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B. Consumable Materials

- (1) A00303 Sealant - General Electric RTV 174 (Alternate)
- (2) A01049 Sealant - Dow Corning Q3-6093 (CPN: 4050770) (Recommended)
- (3) Solvent Series 92 (AMM 20-30-92/201)

C. Parts

AMM		NOMENCLATURE	AIPC		
FIG	ITEM		SUBJECT	FIG	ITEM
401	1	Pressure Seal	56-11-53	01	10 15

D. Access

- (1) Location Zones
211/212 Control Cabin

E. Procedure - Install the No. 2 Window Seal

S 164-005

- (1) Open the No. 2 window to the fully open position.

S 164-015

- (2) Remove old sealant, grease, oil, dirt and all unwanted material from the seal retainer and adjacent area.

NOTE: Use MPK, isopropyl alcohol, or ethyl alcohol and clean cheesecloth to remove all contaminants and sealant from the seal retainer and the adjacent area.

NOTE: Make sure all slots and recesses have been cleaned.

S 424-014

CAUTION: DO NOT LET SOLVENTS COME IN CONTACT WITH ANY ACRYLIC WINDOW SURFACES. CONTACT CAN CAUSE CRAZING.

CAUTION: DO NOT INSTALL THE WINDOW SEAL WITH A SCREWDRIVER OR OTHER SHARP TOOL. DAMAGE TO THE WINDOW SEAL CAN OCCUR IF A SHARP TOOL IS USED TO INSTALL THE WINDOW SEAL.

- (3) An ST1742C-A seal installation tool can be used to ease seal installation.

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S 424-016

- (4) Do these steps to put the seal (1) into the retainer.
- (a) Install the seal with the breather holes inboard and the seal alignment marks centered at each corner of the window frame.

NOTE: Seals have a "TOP" indication on them.

- (b) Even out the slack at each side by sliding the corners of the seal.
- (c) Lightly mark the window frame where the seal alignment marks are located at each corner of the frame.

NOTE: These marks on the window frame will indicate any movement of the seal corners during installation.

- (d) Push the seal into the retainer on all four corners of the window frame.

NOTE: Install the inboard lip of the seal first, then push the outboard lip in the track with the seal installation tool.

- (e) Push the seal out from the corners until the seal is completely in the retainer.
- (f) Install the sides of the seal by working from the corners and proceeding towards the middle.
- (g) If the last side to be installed has too much slack, carefully remove that side and the side adjacent to it.

NOTE: Be careful not to stretch the seal when removing it from the adjacent side.

- (h) Position the last corner to be installed so that the slack is even at the last two sides and attempt to install again.

NOTE: Make sure the seal is not kinked, wrinkled or otherwise damaged, particularly in the crown area. Some seals have a solid foam insert in the bulb seal common to the corner marks. Make sure the foam inserts are in the corner region by feeling for changes in seal flexibility.

- (i) Lightly clean the seal with a small quantity of isopropyl alcohol, or ethyl alcohol.

NOTE: Make sure the area in which the solvent will be applied is clean.

- (j) Make sure the seal (1) is correctly installed.

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- (k) Apply Dow Corning Q3-6093 sealant or RTV 174 sealant around the edge of the window seal where the seal and the seal retainer touch (View A-A, Fig. 401, sh. 1, Fig. 401, sh. 2, Fig. 401, sh. 3).

NOTE: Application of the sealant is critical to a good pressure seal installation. Air bubbles are formed under the sealant if the sealant gun is "pulled" instead of "pushed" (Fig. 401). RTV 174 sealant is to be applied above 50 degrees fahrenheit and above 40 percent humidity. Under these conditions, the RTV 174 sealant will require at least 24 hours to cure. The Dow Corning sealant is to be applied above 70 degrees Fahrenheit and above 30 percent humidity. Under these conditions the Dow Corning sealant will require at least 1.5 hours to cure. Lower temperatures will slow the cure time (Mixed in a 10:1 ratio by weight). Do not close the window until the sealant has cured fully. It is critical to make sure that the sealant is installed correctly and allowed time to cure.

- (l) Use RTV 174 sealant or Dow Corning sealant to apply a fillet seal between the seal retainer and the pressure seal in the seal retainer cutout areas at the four latch stud locations (Fig. 401 sh. 1, Fig. 401 sh. 2, Fig. 401,sh. 3).
- (m) Close the No. 2 window when the sealant has dried.

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PASSENGER COMPARTMENT WINDOWS - DESCRIPTION AND OPERATION

1. Passenger Windows (Fig. 1)

- A. Passenger compartment windows have outer, middle, and inner panes. The outer and middle panes fit into a seal which also serves as a spacer to separate the panes. The assembly is held in the frame with spring type retainers. The middle pane has a vent hole for pressure equalization. The outer pane is stretched acrylic. The middle pane is molded acrylic. The inner pane is part of the passenger cabin sidewall panel. The window shade is in the sidewall panel. The windows are approximately 10.0 X 14.0 inches.

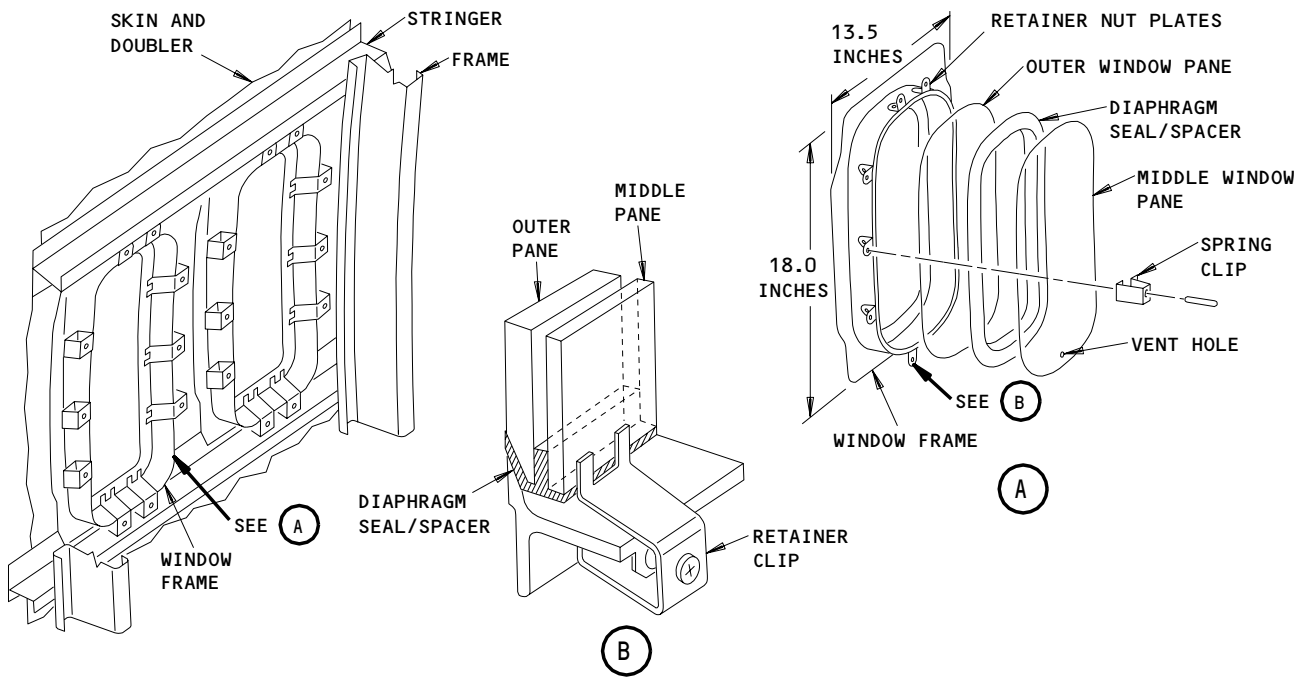
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Passenger Cabin Windows
Figure 1

EFFECTIVITY	
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PASSENGER WINDOWS – REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

- (1) The first task is to remove the passenger windows.
- (2) The second task is to install the passenger windows.

TASK 56-21-01-024-001

2. Remove the Passenger Window (Fig. 401)

A. Consumable Materials

- (1) G00139 Protective Tape – Gizard Protex 20V
- (2) G00191 Protective Coating (Maskant) – Spraylat SC-107

B. References

- (1) 25-25-01/201, Passenger Seats
- (2) 25-21-02/401, Sidewall Panels
- (3) AMM 51-31-01/201, Seals and Sealing
- (4) IPC 56-21-01
- (5) IPC 56-21-51

C. Access

- (1) Location Zones
200 Upper Half of Fuselage

D. Procedure

S 024-007

- (1) If it is necessary, remove the passenger seats (Ref 25-25-01/201).

S 024-008

- (2) Remove the sidewall panels (Ref 25-21-02/401).

S 024-009

- (3) Remove the retainer screws (7) from around the window frame.

NOTE: Make a written record of the size and quantity of the washers at each nutplate. Keep the washers for the subsequent installation of the passenger windows.

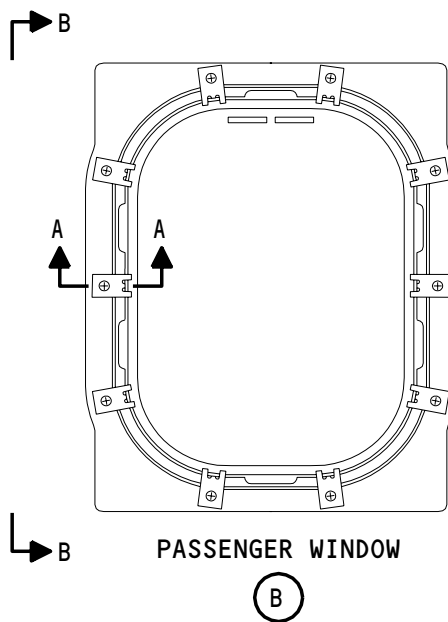
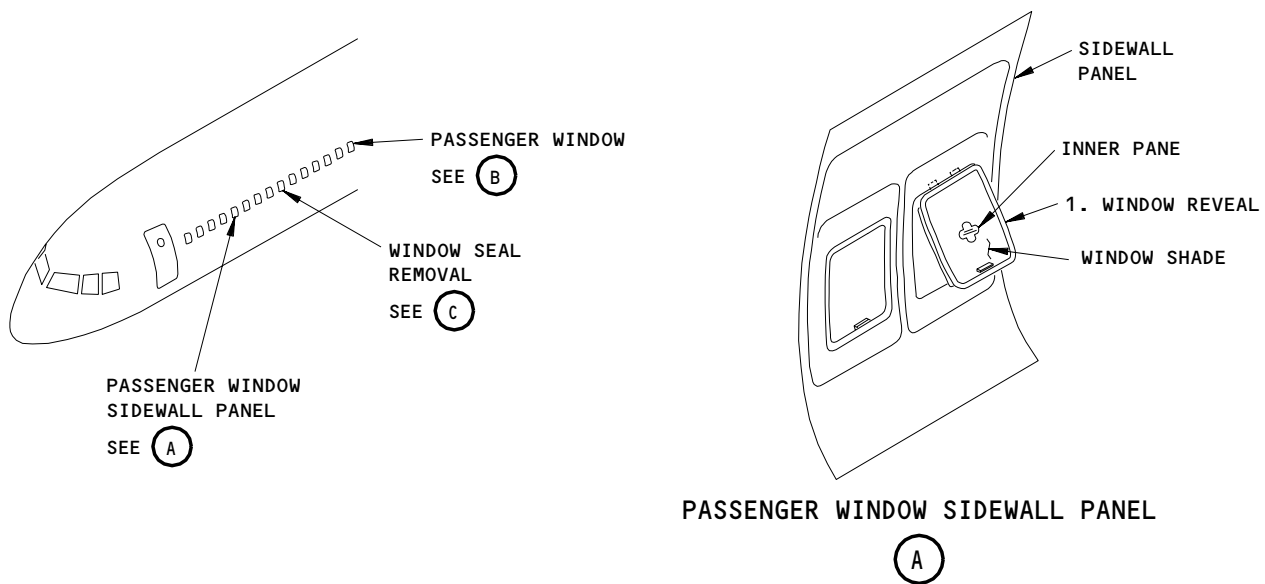
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Passenger Window
Figure 401 (Sheet 1)

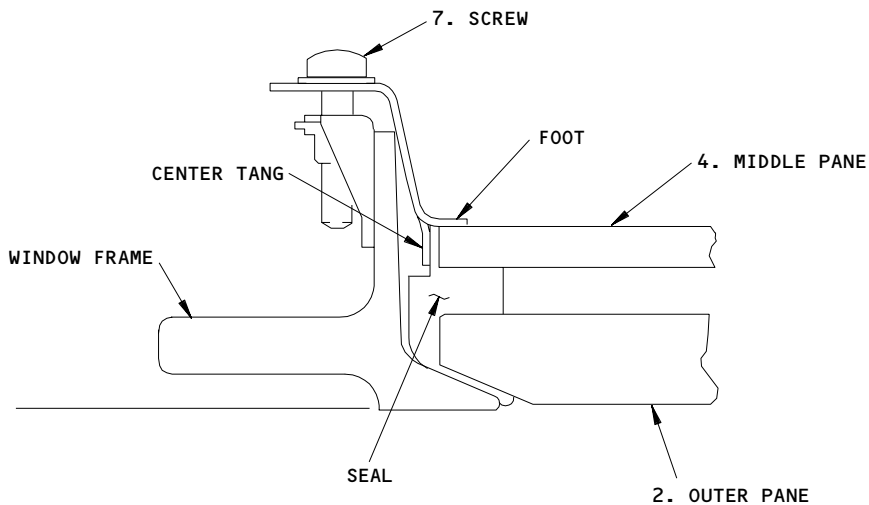
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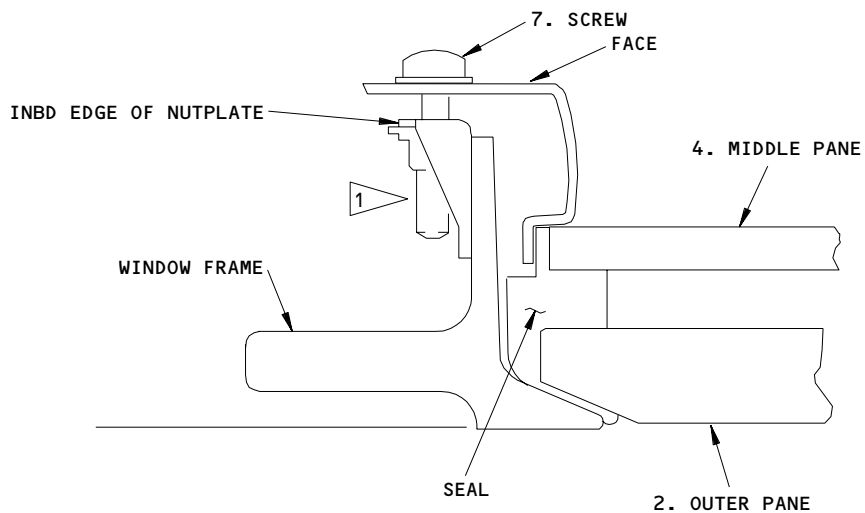
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SPRING CLIP INSTALLATION WITH CENTER TANG
A-A



SPRING CLIP INSTALLATION WITHOUT CENTER TANG
A-A

1 ENSURE THAT ONE OR MORE THREADS PROTRUDE PAST THE NUTPLATE.

Passenger Window
Figure 401 (Sheet 2)

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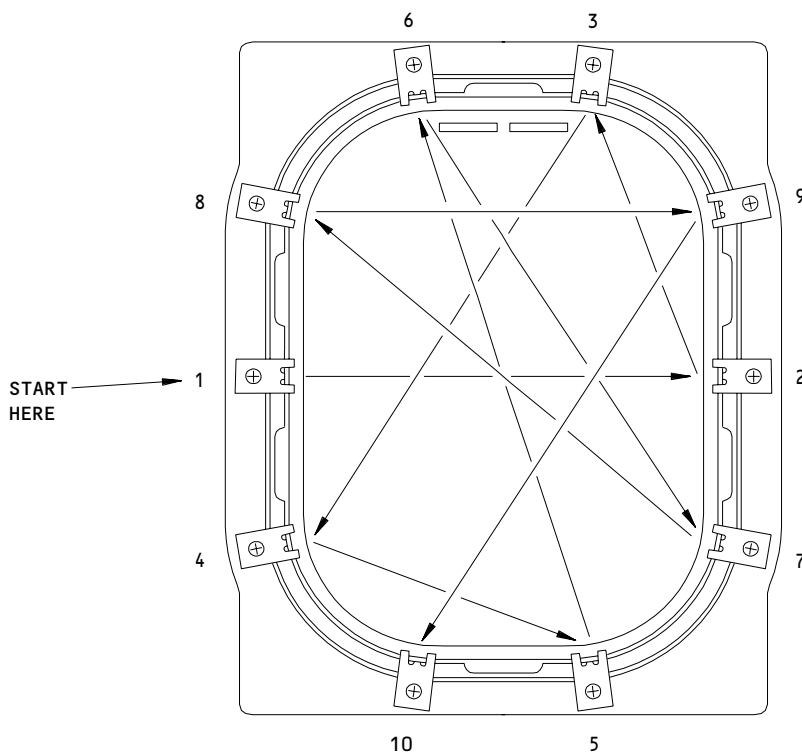
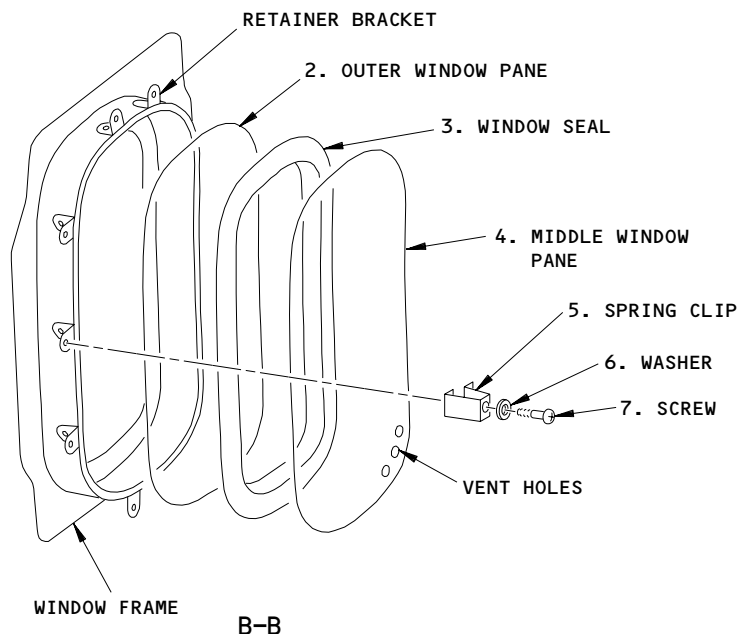
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**SCREW TIGHTENING
SEQUENCE DIAGRAM**

**Passenger Window
Figure 401 (Sheet 3)**

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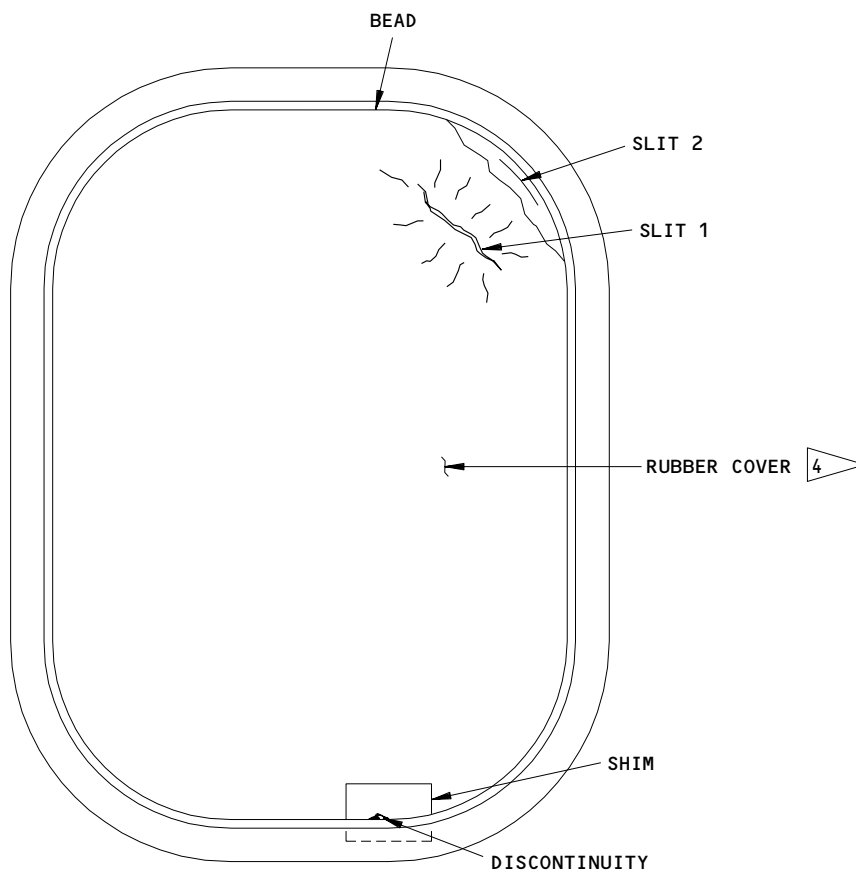
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WINDOW SEAL REMOVAL

4 WINDOW SEALS WITH THE RUBBER COVER (DIAPHRAGM). THIS COVER IS PART OF THE SEAL AND IS CUT DURING THE INSTALLATION

(C)

Passenger Window
Figure 401 (Sheet 4)

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S 024-010

- (4) Remove the middle (4) and the outer window panes (2).

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO REMOVE THE SEAL. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

- (a) Remove the seal (3) (AMM 51-31-01/201).

S 954-011

- (5) If you will use the same panes again, put tape or a protective coating on the panes to prevent damage.

TASK 56-21-01-424-024

3. Install the Passenger Window (Fig. 401)

A. Consumable Materials

- (1) B00083 Aliphatic Naptha - TT-N-95
- (2) G00034 Cheesecloth
- (3) G01989 Castille Soap

B. References

- (1) AMM 12-16-03/301, Passenger Windows
- (2) AMM 25-25-01/201, Passenger Seats
- (3) AMM 25-21-02/401, Sidewall Panels

C. Parts

AMM		NOMENCLATURE	AIPC		
FIG	ITEM		SUBJECT	FIG	ITEM
401	1	Window Reveal	56-21-51		
	2	Outer Window Pane	56-21-01		
	3	Window Seal			
	4	Middle Window Pane			

D. Access

- (1) Location Zones
 - 200 Upper Half of Fuselage

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E. Procedure

S 154-026

- (1) Remove the protective coating.

S 434-027

- (2) Install the seal (3) between the middle and outer panes.

S 164-029

- (3) If you replace the seal, clean the faying surface of the window frame with a clean cheesecloth that is moist with aliphatic naphtha.

S 164-030

- (4) Clean the window panes (AMM 12-16-03/301).
(a) Apply an antistatic agent (AMM 12-16-03/301).

S 424-031

- (5) Assemble the middle (4) and the outer window panes (2) in the seal (3).

NOTE: On new seals with a diaphragm,
cut the seal after you install the window.

S 424-099

- (6) Make sure the vent holes in the middle window pane (4) is at the bottom.

S 164-032

- (7) Apply a soap and water solution to the edge of the seal.

NOTE: If the soap comes in contact with the window, you should wipe the soap from the window immediately. The combination of extended soap contact and extended sun exposure can cause the window to craze.

S 424-033

- (8) Put the window in the window frame.

S 424-100

- (9) WINDOW CLIPS WITH CENTER TANG;
Install the window clips as follows:

CAUTION: CORRECT WASHER INSTALLATION IS CRITICAL. INCORRECT WASHER INSTALLATION MAY CAUSE EXCESSIVE LOADS TO THE WINDOW. EXCESSIVE LOADS ON THE WINDOW CAN CAUSE DAMAGE TO THE WINDOW.

- (a) Install the clips (5) and the washers (6).

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- (b) Tighten the screws (7) until the clip (5) pushes tight against the middle window pane (4).
- (c) After all clips are in the correct location, tighten each screw until the clip pushes tight against the washers and the nutplates.

NOTE: Tighten the screws in the sequence shown in Figure 401.

- 1) Examine each clip (5) for correct installation.
 - a) If the clip is damaged, repair, or replace the clip (5) as necessary.
 - b) If the clip is not tight against the middle window (4) pane, remove the clip and reduce total thickness of the washer stack by 0.03 inch (0.76mm).
- (d) Do the above steps again, if necessary.

S 424-101

(10) WINDOW CLIPS WITHOUT A CENTER TANG;

Do this step to tighten the window clips:

- (a) Tighten window clips in the pattern shown in Fig. 401.
- (b) Tighten the clip screw until the washer seats on the face of the clip.

NOTE: Do not overtighten the screws. Only tighten the screws until the the inboard face of the clip is approximately parallel to the window or plug.

- 1) It is acceptable to have A gap between the fastener head, washer, and clip face of up to 0.01 inch (0.25mm) at the side of fastener facing the inboard surface of the window.

S 424-094

(11) WINDOW SEALS WITH A DIAPHRAGM;

Do these steps if you installed a new seal:

- (a) Hold the loose rubber cover, 2 inches from the double head.

CAUTION: BE CAREFUL WHEN YOU CUT THE SEAL. DO NOT CAUSE DAMAGE TO THE WINDOW PANE.

- (b) Pull the cover tight and make a cut (SLIT 1) as long as necessary to put two fingers in.
- (c) With fingers in SLIT 1, pull the rubber cover away from the window until the double head extends 0.25 inch.
- (d) Make a cut (SLIT 2) between the beads.

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- (e) Slowly pull the rubber cover away from the bead until you have a total separation.

NOTE: Keep no more than 3 inches of rubber cover between your fingers and the window frame. Keep constant tension on the rubber cover. Pull the rubber cover from one location only.

- (f) If the cut goes towards the center of the rubber cover, release the tension.
- (g) Go to SLIT 2 and pull the rubber cover in the other direction.

CAUTION: BE CAREFUL WHEN YOU CUT THE SEAL. FAILURE TO OBEY CAN CAUSE DAMAGE TO THE WINDOW.

- (h) If the bead pulls away from the window frame, push against the window until the bead is pulled into the window frame.

NOTE: Do not push the bead under the window frame.

- (i) Remove the rough edges of the seal with a sharp utility blade.

NOTE: Use a thin stainless steel shim to prevent damage to the window pane.

S 214-045

- (12) Make sure the outboard surface of the outer pane fairings is aligned with the fuselage skin.

S 164-046

- (13) Clean the two surfaces of the inner window pane. Apply an antistatic agent to the outer surface and apply wax to the inner surface (AMM 12-16-03/301).

S 424-047

- (14) Install the sidewall panels (AMM 25-21-02/401).

S 424-048

- (15) If necessary, install the passenger seats (AMM 25-25-01/201).

S 424-049

- (16) Put the top of the window reveal into the window opening.

S 424-050

- (17) Push the bottom of the window reveal outboard to latch the window in place.

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PASSENGER WINDOWS – INSPECTION/CHECK

1. General

- A. This procedure has one task. This task is to do an inspection of the passenger windows.

TASK 56-21-01-006-025

2. Examine the Window Panes

A. General

- (1) If the window is damaged as specified in this procedure, remove the window and replace or repair the damaged components.
- (2) Crack:
 - (a) A crack is not a complete break but it has a width when you look parallel to the face of the crack. A crack can occur at any angle to the surface of the prismatic pane. The direction of the crack depends on the direction of the applied force. The stress from a scratch or a craze can cause a crack to occur.
- (3) Crazing:
 - (a) A crazed prismatic pane has a number of very thin cracks which are 90 degrees to the surface of the prismatic pane. Because the cracks are very thin, it is not easy to see the crazing. When you look at the prismatic pane at different angles, you can see the crazing by its reflection on the smooth surface of the prismatic pane.
- (4) In-plane Cracking (delamination):
 - (a) In-plane cracking can be a smooth fissure, or group of fissures that can occur along the surface of the pane. In-plane cracks can occur in acrylic. The cracks start at the edges of the pane or in the center of the pane. You can best find the cracks with a reflection of light from the smooth surface of the fissure.
- (5) Scratches:
 - (a) A scratch occurs when there is removal of material from the surface of the prismatic pane along a line. Scratches are divided into three types: superficial, minor, and major. Superficial scratches are less than 0.001 inch in depth. This type of scratch is caused when the window is not cleaned carefully. Minor scratches are from 0.001 to 0.004 inch in depth. Major scratches are greater than 0.004 inch in depth.
- (6) Chips:
 - (a) A chip occurs when there is removal of material from the surface of the prismatic pane not along a line. The chip in the prismatic pane can have a circular shape or a V shape.

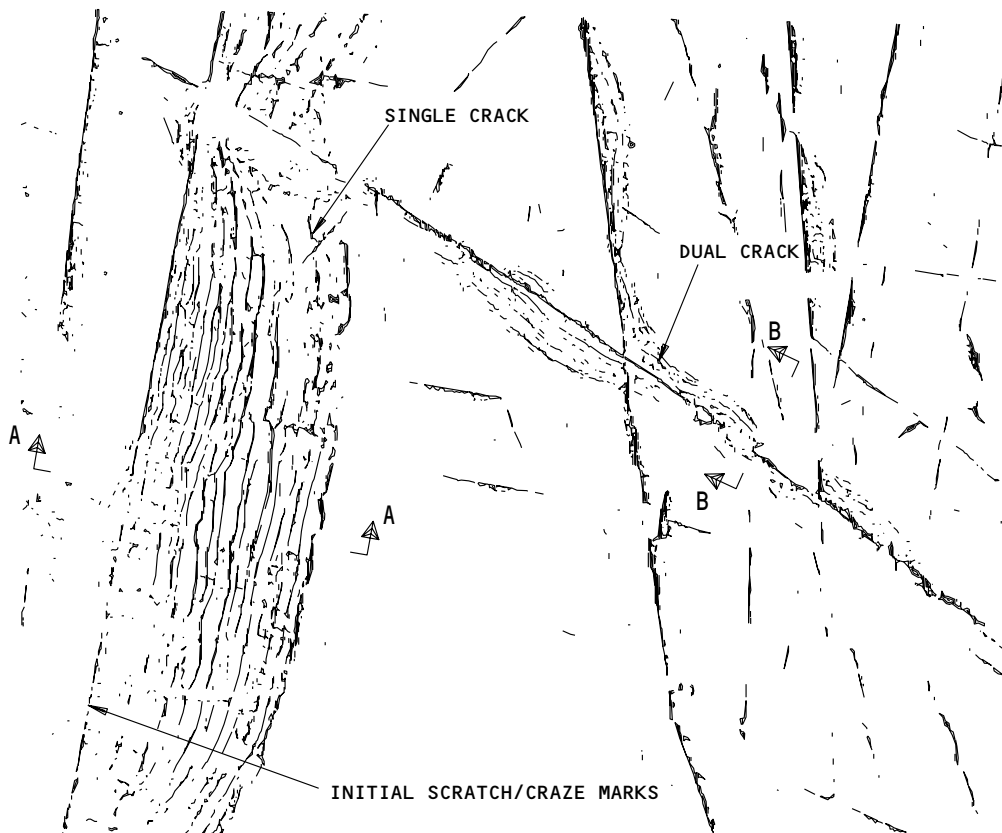
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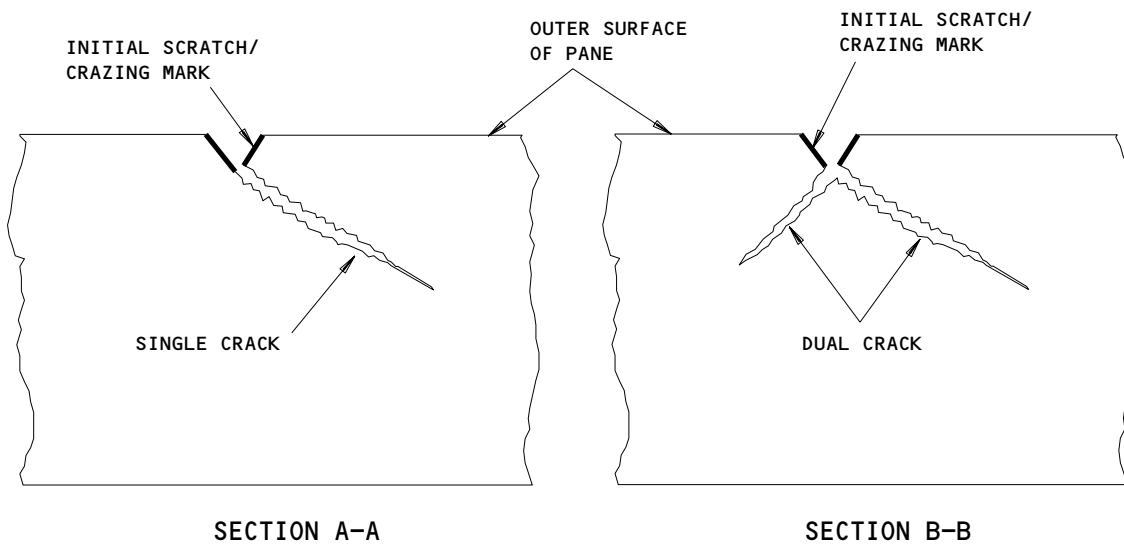
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WINDOW SURFACE



Outer Window Pane Surface Damage
Figure 601

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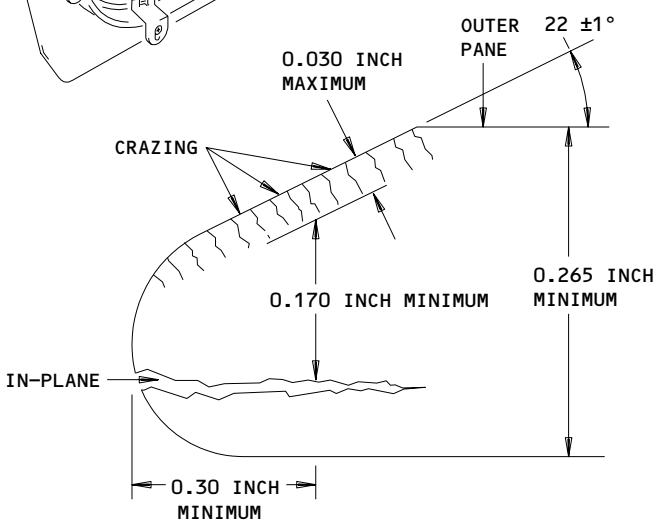
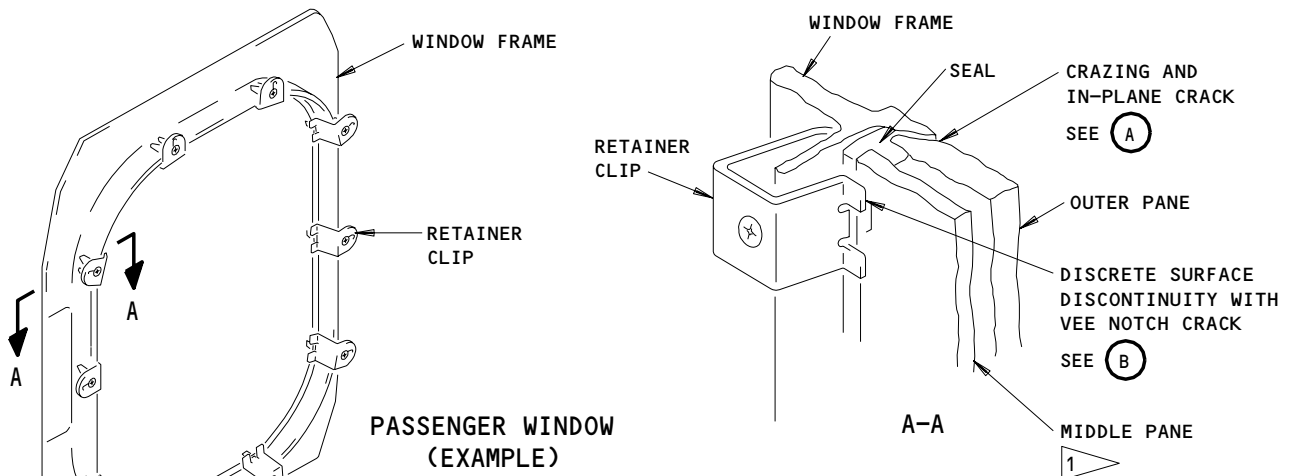
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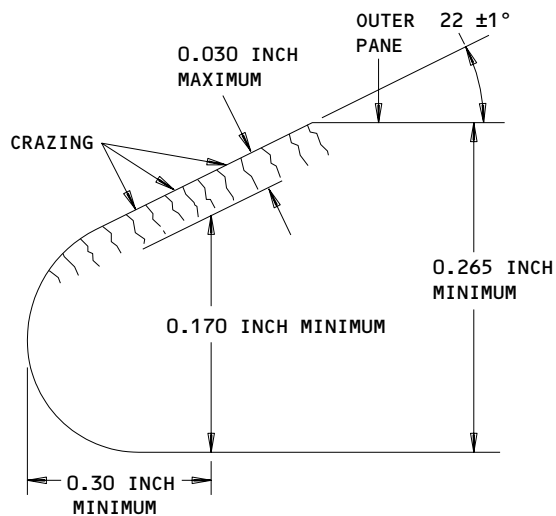
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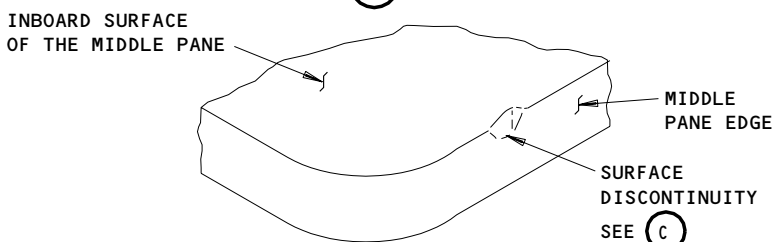
CRAZING AND IN-PLANE CRACK

(A)



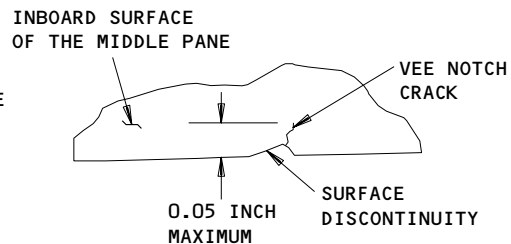
CRAZING ONLY

(A)



DISCRETE SURFACE DISCONTINUITY WITH VEE NOTCH CRACK

(B)



SURFACE DISCONTINUITY

(C)

1 REPLACE THE MIDDLE PANE IF THERE ARE CRACKS OR CRAZING

Passenger Window Inspection
Figure 602

EFFECTIVITY	ALL
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56-21-01

B. Equipment

- (1) Optical Micrometer - Model 966A1 or Model 966A
Monocle Industries
P.O. Box 2426
Coppell, Tx U.S.A. 75019
Tel (214) 393-9920
Fax (214) 393-9926

C. References

- (1) AMM 56-21-01/401, Passenger Windows
- (2) AMM 56-21-01/801, Passenger Windows

D. Access

- (1) Location Zones
200 Upper Half of fuselage

E. Procedure - Examine the panes for cracks.

S 966-026

WARNING: IF THERE IS A CRACK IN THE MIDDLE PANE, REPLACE IT IMMEDIATELY. CORRECT PRESSURIZATION OF THE FUSELAGE IS CRITICAL. A CRACK IN THE WINDOW PANE CAUSES INCORRECT FUSELAGE PRESSURIZATION.

- (1) Replace all cracked middle panes immediately (AMM 56-21-01/401).

NOTE: Middle pane cracks that start from the vent hole and are 0.062 inch or less in length do not need to be replaced.

S 226-003

- (2) Measure the thickness of the middle panes.

S 966-004

- (3) Replace the middle panes if the minimum thickness is less than the limits that follow:
 - (a) The minimum thickness for the middle pane is 0.157 inches.

S 966-005

- (4) Replace the outer pane if the minimum thickness after repairs is less than the limits that follow (AMM 56-21-01/401):

NOTE: Outer panes with cracks 0.050 inch in depth need to be replaced.

Cracks in outer pane can start from scratches or crazing (Fig. 601).

- (a) The minimum thickness is 0.265 inches for all outer passenger windowpanes in the fuselage.

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S 206-006

- (5) Measure the depth of the crack with an optical micrometer. To get the correct measurement, multiply the micrometer value by the index of refraction (1.49) for acrylic plastic.

F. Procedure - Examine the windows for crazing.

S 966-027

WARNING: IF THERE IS A CRACK IN THE MIDDLE PANE, REPLACE IT IMMEDIATELY. CORRECT PRESSURIZATION OF THE FUSELAGE IS CRITICAL. A CRACK IN THE WINDOW PANE CAUSES INCORRECT FUSELAGE PRESSURIZATION.

- (1) Replace all crazed middle panes immediately (AMM 56-21-01/401).

S 966-008

- (2) Replace the outer pane if the depth of crazing is larger than 0.03 inch on the bevel edge.

NOTE: A 0.03 inch maximum depth of crazing on the bevel edge is allowable. Keep a minimum of 0.170 inch thickness of uncracked and uncrazed material at all points 0.30 inches or more from the outer edge. If there is in-plane cracking the 0.170 inch thickness applies only to the material between the crack and the craze bottoms on the bevel (Fig. 602).

G. Procedure - Examine the windows for scratches.

S 356-036

- (1) Examine the window panes for scratches.

NOTE: Minor scratches in the outboard surface of the outer pane and the inboard surface of the inner pane are made less visible by waxing.

S 356-012

- (2) Repair any minor or major scratches from the surfaces of the window panes (AMM 56-21-01/801).

H. Procedure - Examine the windows for in-plane cracking

S 966-013

- (1) Replace the outer pane if you see in-plane cracking on the window edges with the window installed.

S 966-014

- (2) Replace the pane if in-plane cracking is larger than 0.55 inch from the edge of the removed pane.

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S 966-017

- (3) In-plane cracking of the outer pane at a location other than its edges, frequently has chips. Replace the outer pane if in-plane cracking or chips are larger than the limits that follow:
 - (a) The maximum chip depth is 0.05 inch
 - (b) The maximum size of in-plane cracking is 0.40 inch diameter
 - (c) The minimum distance between defects is two times the maximum damage diameter

I. Procedure - Examine the windows for chips.

S 216-028

- (1) Refer to the paragraph on in-plane cracking for the limits for chipping in the outer windowpane.

J. Procedure - Examine the windows for erosion.

S 216-029

- (1) Erosion or chipping can occur at the forward edge of the window. This is structurally satisfactory, but you can repair the damage (AMM 56-21-01/801).

K. Procedure - Examine the windows for concavity.

S 216-030

- (1) Concavity occurs when the window panes are out of contour. The outer pane bends inward and the middle pane bends outward. A window that is bent is structurally satisfactory even if the middle and the outer panes touch when the airplane is not pressurized.

S 356-018

- (2) You can repair a window that is bent. Remove the window from the airplane and let them dry.

L. Procedure - Examine the windows for visual distortion.

S 966-019

- (1) Replace the windows with very bad visual distortion, or different thickness.

NOTE: High temperatures can cause the windows to be bent or can cause visual distortion.

M. Procedure - Examine the windows for leaks between the middle and the outer panes.

S 216-020

- (1) Examine for signs of a seal that leaks. Some signs of leaks are:
 - (a) Window fog and concavity.
 - (b) Brown stains, near the seal or near the vent hole in the middle pane.

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- (c) Water or ice between the middle and outer panes that is at or above the level of the middle pane vent hole.
- (d) Damaged seals or seals that are not in the correct location.

S 966-021

- (2) Replace seals that leak (AMM 56-21-01/401).
- N. Procedure - Examine the windowpanes for creep deformation.

S 216-031

- (1) Creep deformation is middle pane damage caused by the window retainer clip against the edge of the pane (Fig. 602).

NOTE: Creep deformation of the inner pane is satisfactory if you cannot find a crack on the surface or on the edge with your fingernail. Do not repair the pane.

S 356-022

- (2) Repair the window if there is a discrete surface discontinuity (AMM 56-21-01/801). If there is a vee notch crack present do not repair the window.

S 356-023

- (3) Repair the window if there is a discrete surface discontinuity, and a vee notch crack less than 0.05 inches inward from the edge of the panel (AMM 56-21-01/801).

S 966-024

- (4) Replace windows that have a discrete surface discontinuity and a vee notch crack greater than 0.05 inches inward from the edge of the pane (AMM 56-21-01/401).

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PASSENGER WINDOWS – APPROVED REPAIRS

1. General

- A. This procedure has one task. This task is the repair of the external surface of the outer passenger windows.
- B. This procedure contains repairs that you can do with the windows installed in the airplane.
- C. For window repairs that are necessary to do with the window removed from the airplane (includes repairs to the bevel edge and the seal plane), refer to the Component Maintenance Manual. To do a check of the window surface damage, use an optical micrometer. To do a check of the window thickness during the window repair task, use ultrasonic equipment that is calibrated before its use.
- D. With an orbital sander, polish or buff the passenger compartment windows to repair the chips or scratches. The damage limits are found in AMM 56-21-01/601, Passenger Windows – Inspection/Check.
- E. Use clean cotton gloves when you touch the windowpanes to prevent more damage.
- F. Use only approved materials.
- G. Do not cause damage to the window surface with finger rings or other sharp objects.

TASK 56-21-01-308-001

2. Repair the Outer Pane External Surface

A. Equipment

- (1) Ultrasonic Equipment – commercially available
- (2) Optical Micrometer – Model 966A1 or Model 966A
Monocel Industries
P.O. Box 2426
Coppell, Tx U.S.A. 75019
Tel (214) 393-9920
Fax (214) 393-9926
- (3) Orbital Sander, Vibrating – Air Driven (with rubber pad) (Commercially Available)

B. Consumable Materials

- (1) G00301 Protective Tape
(Elephant-Hide) Protex 20V or
Protex 20S

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- (2) Finesse-It Plastic Repair Kit (Part No. 14078) or equivalent for repair of deep scratches, crazing or haze

3M Microfinishing Systems Project
Industrial Abrasives Division
Bldg. 251-2A-08, 3M Center
St. Paul, Mn. 55144-1000

- (3) Cheesecloth - Commercially available
- (4) Mixture of liquid soap and water

C. References

- (1) AMM 12-16-03/301, Passenger Windows
- (2) AMM 56-21-01/401, Passenger Windows
- (3) AMM 56-21-01/601, Passenger Windows

D. Access

- (1) Location Zone
200 Upper Half of Fuselage

E. Procedure

S 228-002

- (1) Before you begin to repair the window, use ultrasound equipment to measure the window thickness.

NOTE: The reading will tell you if the window can be repaired. Before you use the ultrasonic equipment, make sure that the equipment is calibrated. To calibrate the equipment, use a "step-wedge" of known thickness made from the same material as the window. The minimum pane thickness after rework must not be less than 0.265 inch for the outer window panes in the fuselage.

S 218-003

- (2) Examine the condition of the seal. Replace the window seal if there are signs of condensation or seal damage (AMM 56-21-01/401).

S 958-004

- (3) Apply protective tape to the window frame and the seal.

S 178-017

- (4) First flush the window with water and wipe off with a cheesecloth.

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S 358-016

(5) Remove defects as follows:

- (a) Remove minor clamshell surface chips, scratches and surface crazing with the fine rotary disk. Use a coarse rotary disk for gouges, deep scratches and bad crazing (usually not larger than 100 grit).

NOTE: If a minor repair is necessary, use a fine rotary disk to decrease the time to polish the window. Do not repair only a local part of the surface area. This will cause visual distortion. Use sufficient water to keep the window surface cool and to flush away the grit and acrylic material.

When you use the sander, start the orbital sander with the sander on top of the window. Do not operate the sander and then apply the sander to the window. When you stop the orbital sander, pull the sander off the window first. Do not stop the sander with the sander on the window.

Use a sander that vibrates at approximately 800 cpm. Sand all the window surfaces, first in the horizontal direction. Then, use the sander on all of the window surface in the vertical direction.

To rub with a coarse grit for 2-5 minutes will remove approximately 0.005 inches of acrylic. Change the rotary disk frequently. Repeat the procedure until all surface damage is removed and the surface has a constant thickness. Rub for 2 minutes to make sure all cracks and crazes are removed.

- (b) Polish the window with graduations of rotary disks.
(c) After you use each disk, wipe off the window with a clean piece of cheesecloth.

NOTE: Do not use this cheesecloth again to wipe off the window. The sediment from the acrylic can get on the window if you use the cheesecloth again.

- (d) Continue each step until you remove the polish marks (usually 2-3 minutes).

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CAUTION: DO NOT OPERATE THE SANDER ON A DRY WINDOW SURFACE. MAKE SURE THERE IS CONSTANT SUPPLY OF WATER AND SOAP MIXTURE ON THE WINDOW DURING THE REPAIR OR YOU CAN CAUSE DAMAGE TO THE WINDOW.

- (e) When you start with a new disk, make sure you apply sufficient water-soap solution to the window.
- (f) Move the sander horizontally to polish the window surface.
- (g) Move the sander vertically across the window surface.

S 168-008

- (6) Clean and wipe off the window.

S 148-009

- (7) Spread the liquid polish over the window to polish the window.

NOTE: With a rotary buffer, the wheel surface speed must be 3200 feet per minute for a coarse compound and 4200 feet per minute for a fine compound.

S 218-013

- (8) Examine the window.

S 358-014

- (9) Repeat the repair procedure if the window is damaged.

S 228-015

- (10) After the window repair, measure the window thickness with the ultrasound equipment as was done before repair. Make sure the ultrasound is properly calibrated. Make sure the window pane thickness is equal to or larger than the limits permitted.

NOTE: The minimum window thickness must not be less than 0.265 inch for the outer windowpanes in the fuselage.

- (a) The minimum thickness of the middle windowpane is 0.157 inch.

NOTE: The maximum permitted depth of a defect in the inner pane (dust cover) is 0.03 inch. Polish the full window pane surface to remove the defects.

S 168-010

- (11) Apply wax to the exterior surface (AMM 12-16-03/301).

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INTERIOR WINDOW - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

- (1) The first task is to remove the interior window.
- (2) The second task is to install the interior window.

TASK 56-21-02-004-001

2. Remove the Interior Window (Fig. 401)

A. References

- (1) IPC 25-21-02 Fig. 1
- (2) IPC 25-21-02 Fig. 2

B. Equipment

- (1) Rod - 1/16-inch diameter, 3- to 6-inches long

C. Access

- (1) Location Zones
200 Upper Half of the Fuselage

D. Procedure - Remove the interior windows

S 034-002

- (1) Pull the shade half open.

S 034-003

- (2) Put the rod through the hole in the window trim ring and push to release the latch.

S 034-004

- (3) Pull the trim ring inboard of the sidewall panel.

S 034-005

- (4) Remove the rod.

S 414-028

- (5) Close the shade.

S 034-006

- (6) On windows with shades that open up, pull the interior window assembly (2) down and inboard to remove.

S 034-007

- (7) On windows with shades that open down, pull the interior window assembly (1) up and inboard to remove.

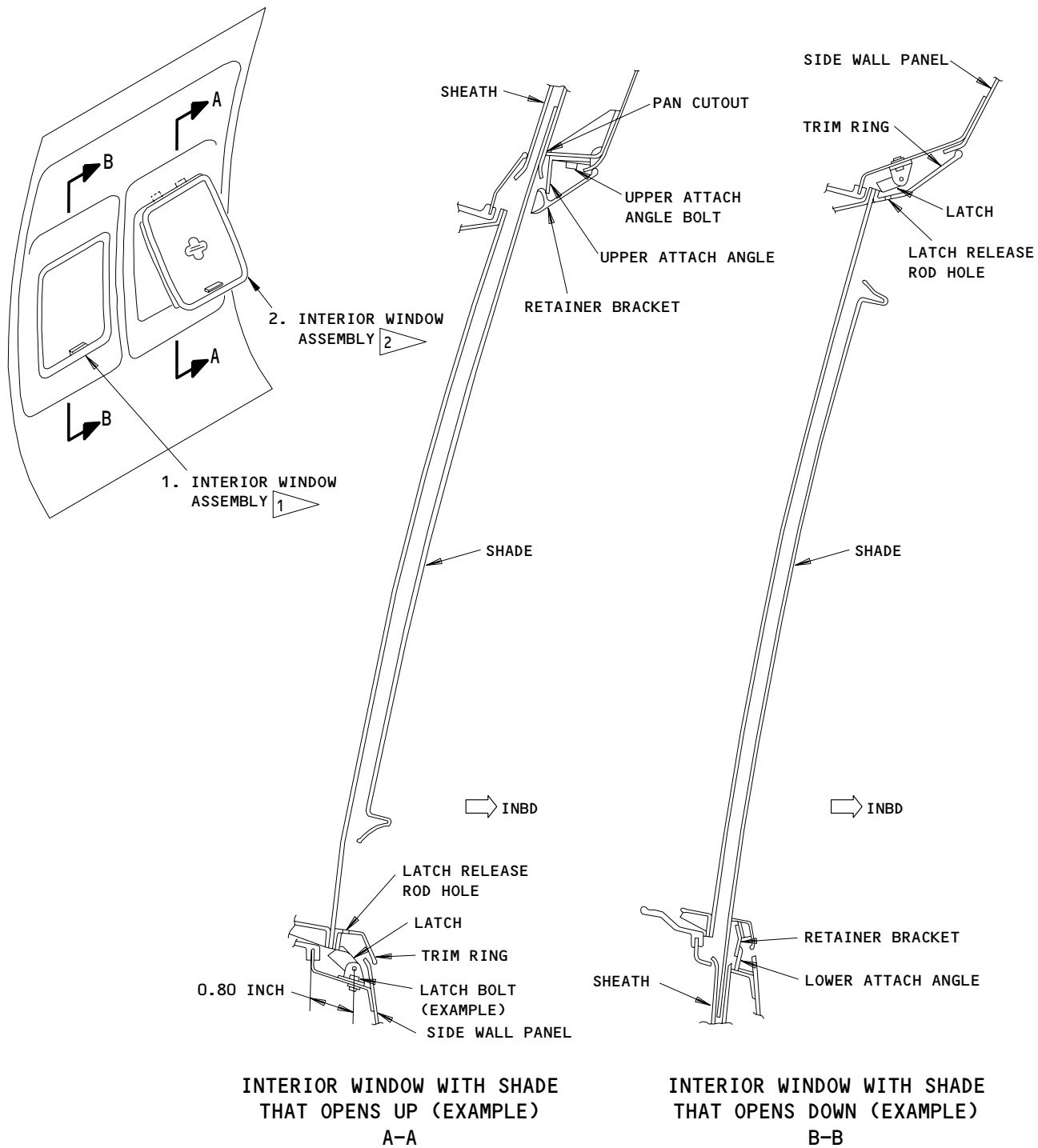
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- 1 INTERIOR WINDOW WITH SHADE THAT OPENS DOWN
- 2 INTERIOR WINDOW WITH SHADE THAT OPENS UP

Interior Window
Figure 401

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TASK 56-21-02-404-008

3. Install the Interior Window (Fig. 401)

A. Parts

AMM		NOMENCLATURE	AIPC		
FIG	ITEM		SUBJECT	FIG	ITEM
401	1	Window Assembly - Interior	25-21-02	01	115
					120
		125			
		130			
		135			
	2	Window Assembly - Interior	25-21-02	02	100
					105

B. Access

- (1) Location Zone
200 Upper Half of the Fuselage

C. Procedure - Install the interior windows with shades that open up.

S 824-009

- (1) Loosen the latch bolts.

S 824-010

- (2) Adjust the latch to the initial position shown.

S 434-011

- (3) Tighten the bolts.

S 824-012

- (4) Loosen the bolts on the upper attach angle.

S 824-013

- (5) Adjust the angle to align with the pan cutout.

S 434-014

- (6) Tighten the bolts.

S 434-015

- (7) Lift the shade half way and install the upper end of shade into the sheath.

S 434-016

- (8) Insert the retainer bracket behind the attach angle.

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S 824-017

- (9) Put the lower edge of the assembly into the window opening and adjusted onto the beveled edge of the window opening.

S 434-018

- (10) Push on the bottom of the trim ring until the interior window latches.

S 434-019

- (11) If a heavy force is necessary to latch the interior window, remove the window and adjust the latch inboard.

S 434-020

- (12) If a light force is necessary to latch the interior window, remove the window (2) and adjust the latch outboard.

S 434-021

- (13) Adjust the interior window to remove the clearances between the window and the window frame as follows:
- (a) Remove the interior windows (2) to make adjustments.
 - (b) If there is a clearance around the upper part of the trim ring, do a repair as follows:
 - 1) Loosen the bolt on the upper attach angle.
 - 2) Adjust the angle inboard until the clearance is removed.
 - 3) Tighten the bolt.
 - (c) If there continues to be a clearance around the upper part of the trim rim, do a repair as follows:
 - 1) Loosen the bolts.
 - 2) Adjust the latch outboard approximately 0.05 inch.
 - 3) Loosen the bolt on the upper attach angle.
 - 4) Adjust the angle inboard until the clearance is removed.
 - 5) Tighten the bolts.
 - (d) If there is a clearance around the lower part of the trim ring, do a repair as follows:
 - 1) Loosen the bolts on the latch.
 - 2) Adjust the latch outboard until the clearance is removed.
 - 3) Tighten the bolts.
 - (e) If there is a clearance around the sides of the window and the frame, do a repair as follows:
 - 1) Loosen the bolts on the latch and attach angle.
 - 2) Adjust the latch and the attach angle until the clearance is removed.
 - 3) Tighten the bolt.

D. Procedure - Install the interior windows with shades that move down.

S 434-022

- (1) Pull the shade half open.

S 014-029

- (2) Put the lower shade end into the sheath.

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02

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- S 434-023
- (3) Put the retainer bracket behind the attach angle.
- S 824-024
- (4) Put the upper edge of the assembly into the window opening and adjust onto the beveled edge of the window opening.
- S 434-025
- (5) Push on the top of the trim ring until the interior window latches.
- S 824-026
- (6) If a heavy force is necessary to latch the interior window, remove the window (1) and adjust the latch inboard.
- S 824-027
- (7) If a light force is necessary to latch the interior window, remove the window (1) and adjust the latch outboard.

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PASSENGER WINDOW PLUG – REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

- (1) The first task is to remove the passenger window plugs.
- (2) The second task is to install the passenger window plugs.

TASK 56-21-03-024-001

2. Remove the Passenger Window Plugs (Fig. 401)

A. References

- (1) AMM 25-25-01/201, Passenger Seats
- (2) AMM 25-21-02/401, Sidewall Panels

B. Access

- (1) Location Zones
200 Upper Half of Fuselage

C. Procedure

S 024-002

- (1) If it is necessary, remove the passenger seats (AMM 25-25-01/201).

S 024-003

- (2) Remove the sidewall panels (AMM 25-21-02/401).

S 024-090

- (3) Remove the insulation.

S 024-004

- (4) Remove the retainer clips.

S 024-076

- (5) Disconnect the grounding strap from the window plug.

NOTE: You do not have to remove the seal from the plug if the seal is not damaged.

S 024-006

- (6) Remove the window plug and seal.

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TASK 56-21-03-424-022

3. Install the Passenger Window Plug (Fig. 401)

A. Procedure

S 424-095

- (1) Install the window plug in the window frame.

S 424-096

- (2) Install the retaining clips.
(a) Install the retaining clip screws.
(b) Tighten each retaining clip adjustment screw to 12 to 15 pound - inches (1.4-1.7 newton meters). (Fig 401)

NOTE: If the window retaining clip does not contact the window plug, you can increase the torque to a maximum of 25 pound - inches (2.8 newton meters).

S 424-097

- (3) Connect the grounding strap to the window plug.

S 414-098

- (4) Install the insulation.

S 414-099

- (5) Install the sidewall panels (AMM 25-21-02/401).

S 414-100

- (6) If it is necessary, install the passenger seats (AMM 25-25-01/201).

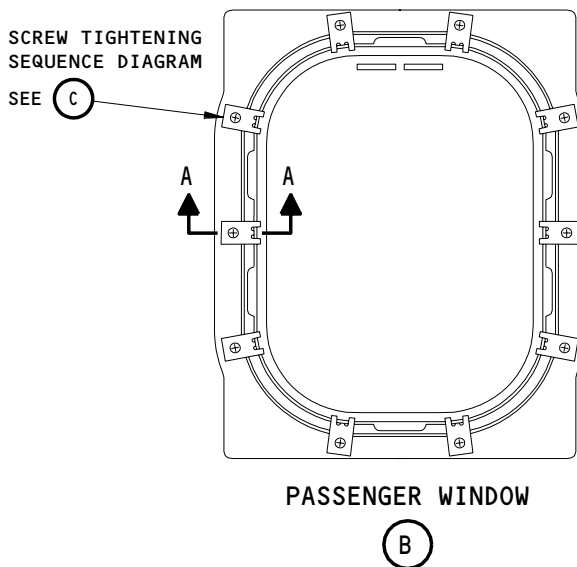
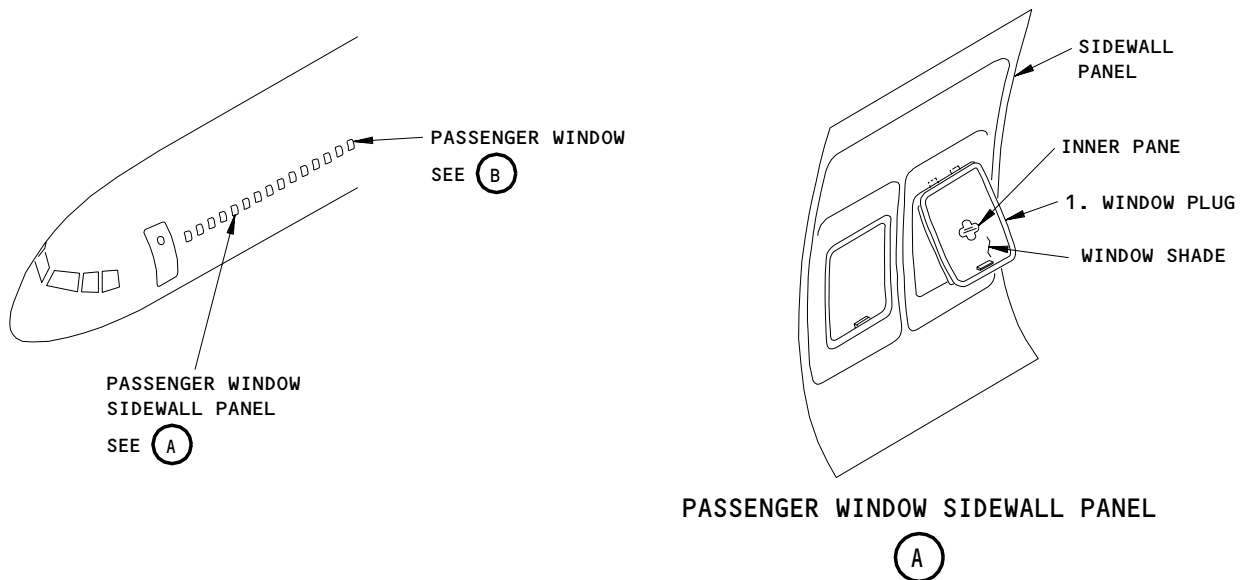
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Passenger Window Plug Installation
Figure 401 (Sheet 1)

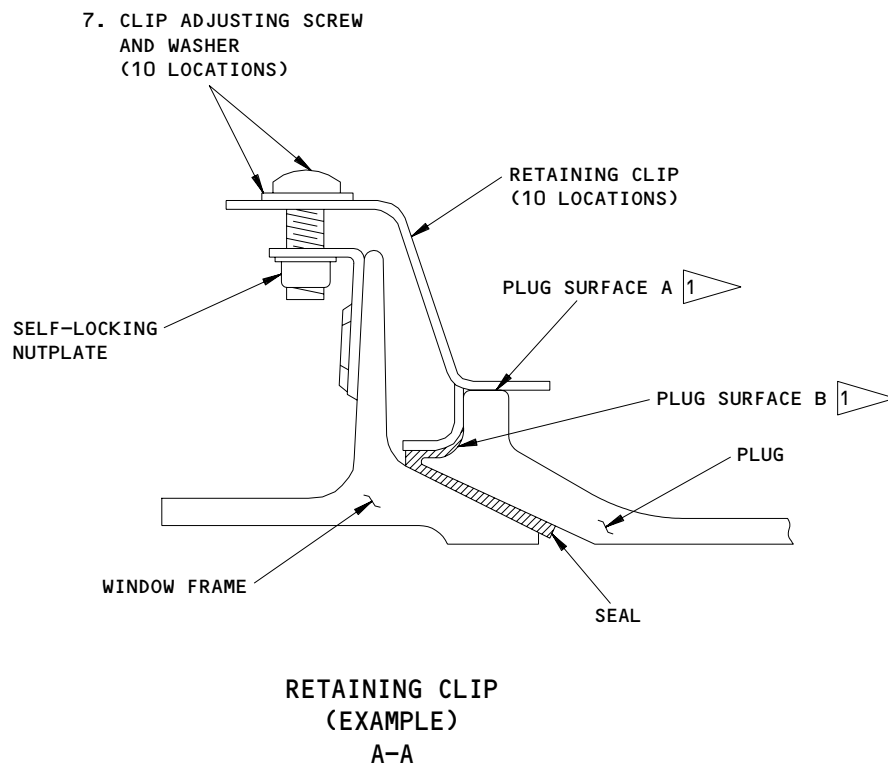
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1 IF THE WINDOW RETAINING CLIP TOUCHES PLUG SURFACE B, A SPACE IS PERMITTED BETWEEN THE WINDOW RETAINING CLIP AND PLUG SURFACE A.

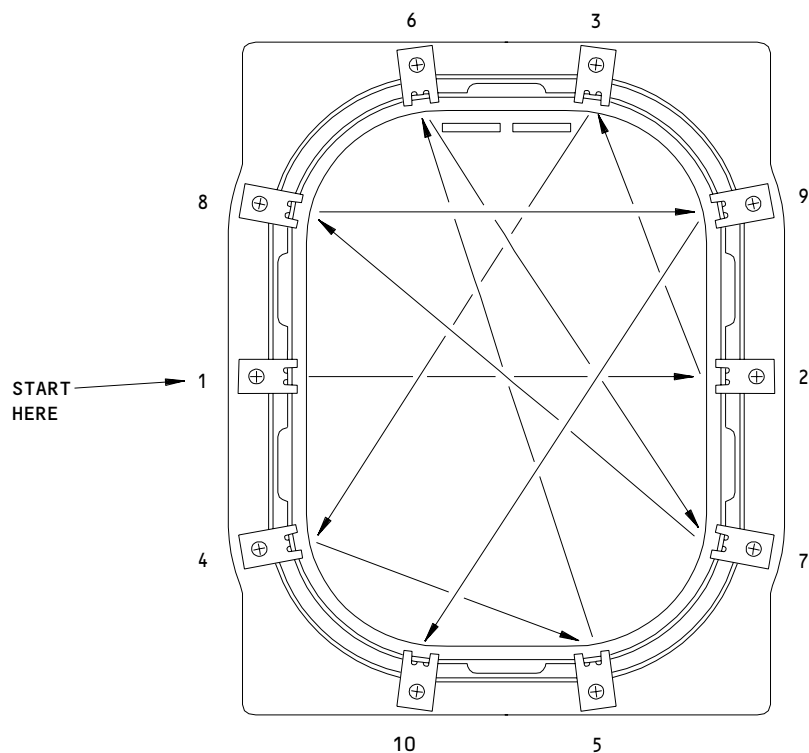
Passenger Window Plug Installation
Figure 401 (Sheet 2)

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SCREW TIGHTENING
SEQUENCE DIAGRAM

(C)

Passenger Window Plug Installation
Figure 401 (Sheet 3)

EFFECTIVITY ————
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DOOR-MOUNTED WINDOWS - DESCRIPTION AND OPERATION

1. Passenger Door-Mounted Window

- A. The passenger doors have a five-inch diameter window. The window has an integral prismatic and outer pane. When the airplane is on the ground, the window gives a view of the ground. The window is acrylic, and has a rubber seal. A retainer holds the window to the door.
- B. ON WINDOWS WITH AN INSULATION SLEEVE;
the insulation sleeve is installed to prevent window fog.

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DOOR MOUNTED WINDOWS – REMOVAL/INSTALLATION

1. General

- A. This procedure has two tasks:
 - (1) The first task is to remove the door mounted windows.
 - (2) The second task is to install the door mounted windows.
- B. This procedure is for the passenger doors and the emergency exits.

TASK 56-31-02-004-001

2. Remove the Door Mounted Window (Fig. 401)

A. Consumable Materials

- (1) G00191 Protective Coating – Spraylat SC-107
- (2) G00301 Protective Tape – Gizzard Protex 20N
- (3) G00034 Clean Cheesecloth
- (4) B00083 Aliphatic Naphtha – TT-N-95
- (5) G01989 Castille Soap
- (6) G00073 Antistatic Agent
- (7) B00106 Chamois

B. References

- (1) AMM 52-11-02/401, Passenger Door Lining
- (2) AMM 52-21-03/401, Emergency Exit Lining
- (3) AIPC 56-31-01 Fig. 1
- (4) AIPC 56-31-02 Fig. 1

C. Access

- (1) Location Zone
200 Upper Half of Fuselage

D. Procedure

S 034-002

- (1) Remove the door lining from the passenger door (AMM 52-11-02/401).

S 034-030

- (2) Remove the lining from the emergency exit (AMM 52-21-03/401).

S 034-025

- (3) Remove the fastener (1) and washers (6) from the retainer (2).

S 024-004

- (4) Remove the prism (3) with the seal (5).

NOTE: On the prism with insulation sleeve (4), the sleeve is bonded (or taped) to the prism.

S 954-005

- (5) If you will install the prism again, put a protective coating or tape over the surfaces.

EFFECTIVITY

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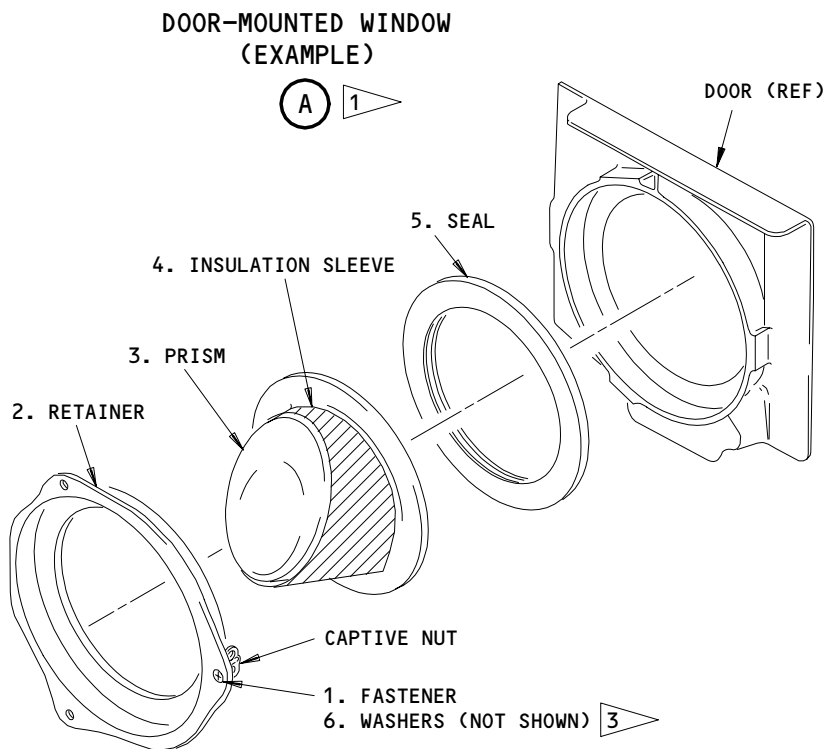
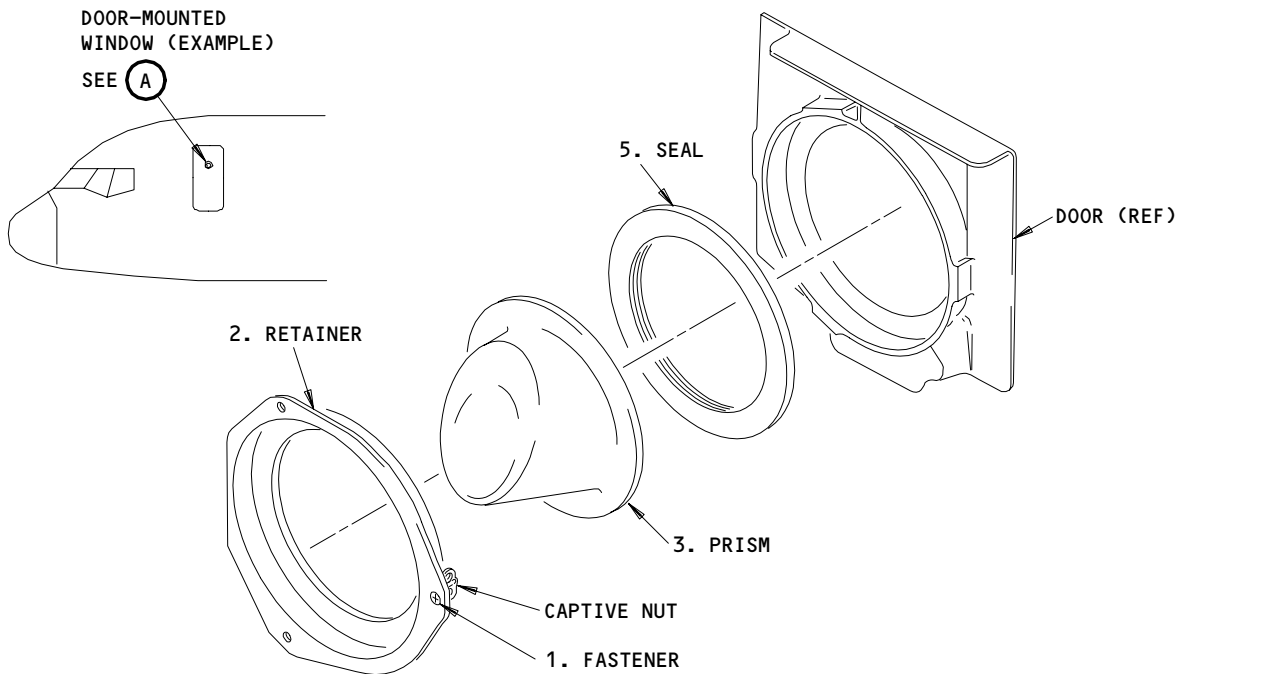
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BOEING

757 MAINTENANCE MANUAL



- 1 PRIMATIC PANE WITHOUT AN INSULATION SLEEVE
- 2 PRISMATIC PANE WITH AN INSULATION SLEEVE
- 3 NOT INSTALLED ON ALL AIRPLANES

DOOR-MOUNTED WINDOW (EXAMPLE)



Door-Mounted Window
Figure 401

EFFECTIVITY	
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TASK 56-31-02-404-006

3. Install the Door Mounted Window (Fig. 401)

A. Parts

AMM		NOMENCLATURE	AIPC		
FIG	ITEM		SUBJECT	FIG	ITEM
401	1	Screw (Fastener)	56-31-02	01	10, 210, 215
	2	Retainer LH RH		01	20 25 30 230
	3	Prism Assembly (Prism)		01	40, 245
	3	Prism Assembly (Prism)	56-31-01	01	1
	4	Sleeve (Insulation Sleeve)			5
	5	Seal	56-31-02	01	35, 240
	6	Washers			15, 220

B. References

- (1) AMM 12-16-03/301, Passenger Windows

C. Access

- (1) Location Zone
200 Upper Half of Fuselage

D. Procedure

S 114-007

- (1) Clean the window frame with a cheesecloth that is moist with alphatic naphtha.

S 034-008

- (2) Remove the protective coating on the window pane.

S 214-010

- (3) Make sure the insulation sleeve which is bonded (or taped) to the prism is not damaged.

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- S 164-011
(4) Clean the outer surface of the prism with warm water and soap.
- S 164-012
(5) Apply a soap solution with a clean cheesecloth but wash the window with your hands to prevent scratches.
- S 164-013
(6) Dry the window with a clean, moist chamois.
- S 114-014
(7) Apply the antistatic agent to the clean surfaces (AMM 12-16-03/301).
- S 424-015
(8) Install the prism (3) in the seal (5).
- S 434-016
(9) Put the prism into position in the window frame.
- S 424-026
(10) Install the retainer (2), washers (6) and fasteners (1).
- S 164-017
(11) Clean the outer surface of the prism with warm water and soap.
- S 164-018
(12) Apply a soap solution with a clean cheesecloth but wash the window with your hands to prevent scratches.
- S 164-019
(13) Dry the window with a clean, moist chamois.
- S 114-020
(14) Apply an antistatic agent to the inner surface of the prism.
- S 434-021
(15) Install the door lining.

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DOOR-MOUNTED WINDOW – INSPECTION/CHECK

1. General

- A. If the window is damaged as specified in this procedure, remove the window and replace or repair the damaged components.
- B. Crack:
 - (1) A crack is not a complete break but it has a width when you look parallel to the face of the crack. A crack can occur at any angle to the surface of the prismatic pane. The direction of the crack depends on the direction of the applied force. The stress from a scratch or a craze can cause a crack to occur.
- C. Cracking:
 - (1) A crazed prismatic pane has a number of very thin cracks which are 90 degrees to the surface of the prismatic pane. Because the cracks are very thin, it is not easy to see the crazing. When you look at the prismatic pane at different angles, you can see the crazing by its reflection on the smooth surface of the prismatic pane.
- D. Scratch:
 - (1) A scratch occurs when there is removal of material from the surface of the prismatic pane along a line. Scratches are divided into three types: superficial, minor, and major. Superficial scratches are less than 0.001 inch in depth. This type of scratch is caused when the window is not cleaned carefully. Minor scratches are from 0.001 to 0.004 inch in depth. Major scratches are more than 0.004 inch in depth.
- E. Chips:
 - (1) A chips occurs when there is removal of material from the surface of the prismatic pane not along a line. This chip in the prismatic pane can have a circular shape or a "V" shape.

TASK 56-31-02-206-001

2. Examine the Door-Mounted Window

- A. References
 - (1) 56-31-02/401, Door-Mounted Windows
 - (2) 56-31-02/801, Door-Mounted Windows
- B. Access
 - (1) Location Zones
830/840 Upper Half of Fuselage (Left/Right)
- C. Procedure
 - S 216-007
 - (1) Examine the prismatic pane for cracks.
 - S 966-002

WARNING: REPLACE A CRACKED PRISMATIC PANE IMMEDIATELY. PRESSURIZATION OF THE FUSELAGE CAN DECREASE IF THERE IS A CRACK IN THE PRISMATIC PANE.

- (2) Replace a cracked prismatic pane immediately (Ref 56-31-02/401).

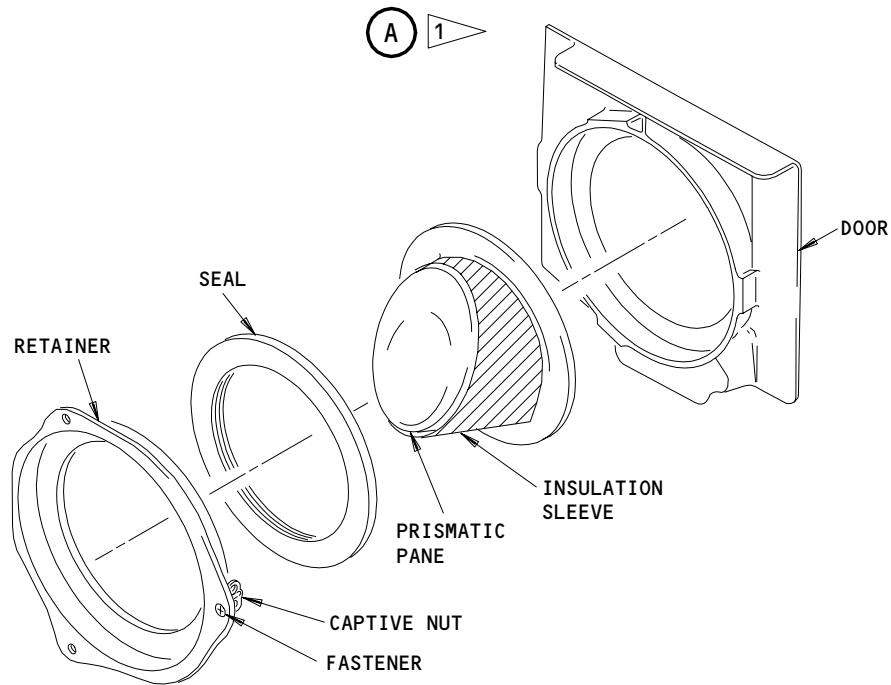
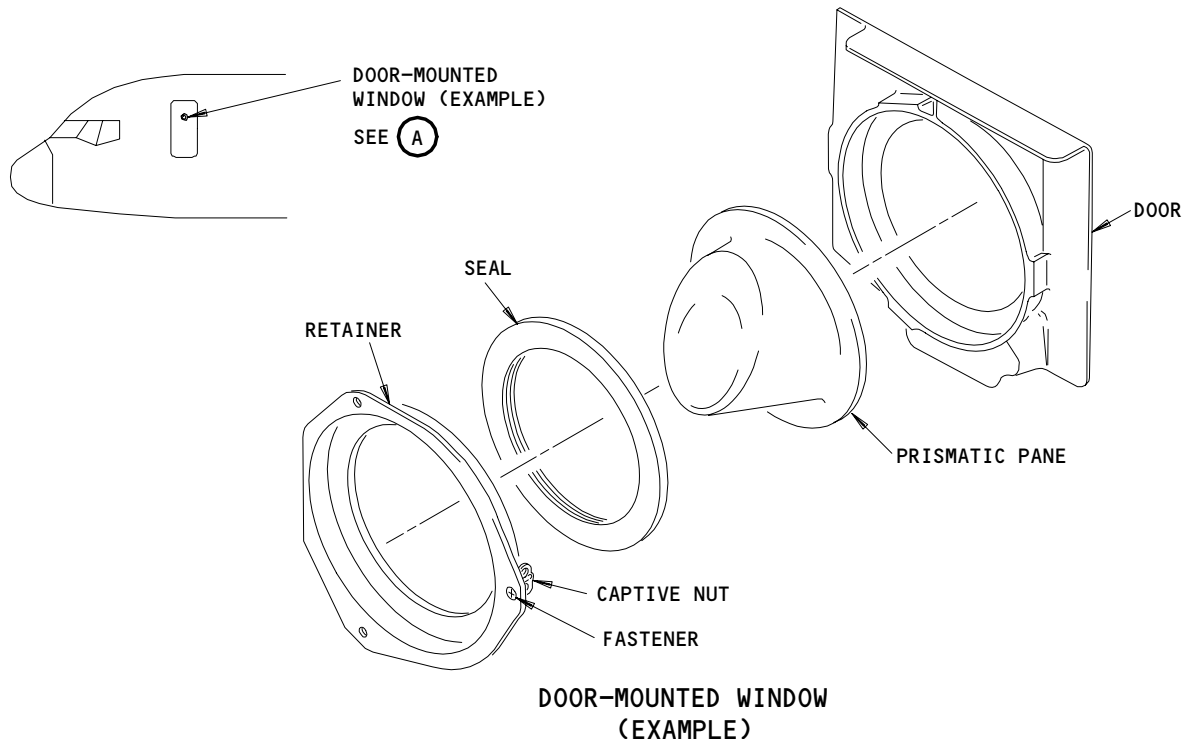
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- 1 PRISMATIC PANE WITHOUT INSULATION SLEEVE
- 2 PRISMATIC PANE WITH INSULATION SLEEVE

(A) 2

Door-Mounted Window Inspection
Figure 601

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- S 216-003
- (3) Examine the prismatic pane for crazing.
- S 346-008
- (4) Some crazing of the prismatic pane is permitted. If the crazing decreases the visual capacity of the area where the escape slide would be in an emergency, repair or replace the prismatic pane (Ref 56-31-02).
- S 216-005
- (5) Examine the prismatic pane for scratches and chips.
- S 346-006
- (6) Remove scratches and chips from the prismatic pane (Ref 56-31-02/801).

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DOOR-MOUNTED WINDOWS – APPROVED REPAIRS

1. General

- A. This procedure contains one task. The task is the repair of the door-mounted window.

TASK 56-31-02-308-001

2. Repair the Door-Mounted Window

A. Equipment

- (1) Sander, Vibrating – Air Drive (with rubber pads, Commercially available)
- (2) Sanding Block – Rubber Block of Shore – A Scale: Durometer 35 Hardness (Optional: Wood block with several layers of flannel, commercially available)

B. Consumable Materials

- (1) G00191 Protective Finish – Spraylat SC-1071
- (2) G00301 Protective Tape – Gizard Protex 20V
- (3) G01990 Canton (cotton) Flannel Cloth; clean and oil free
- (4) Buffing Compound:
 - (a) Finesse-It Plastic Repair Kit (Part No. 14078) or equivalent for repair of deep scratches, crazing or haze.

3M Microfinishing Systems Project
Industrial Abrasives Division
Bldg. 251-2A-08, 3M Center
St. Paul, Mn. 55144-1000

- (b) B00027 Learock No. 888 (optional)
- (c) B00026 Learock No. S-30 (optional)
- (5) Window Cleaner:
 - (a) B00702 Dustless Acrylic Window Cleaner
 - (b) B00302 Plex-I-Glow Cleaner and Polish
 - (c) B00712 Micro-Gloss Cleaner
- (6) G02124 Abrasive Paper – 100 thru 600-grit
- (7) A00925 Micromesh Cloths 1600 thru 8000-grit, Kit SN2
- (8) Polish:
 - (a) B00303 Mirror Glaze Polish, MGH-10
 - (b) B00304 Mirror Glaze Polish, MGH-17
- (9) Clean Cotton Gloves – Commercially available
- (10) Wax – Commercially available
- (11) Abrasive Compound

C. References

- (1) AMM 12-16-03/301, Passenger Windows
- (2) AMM 56-31-02/401, Door Mounted Windows

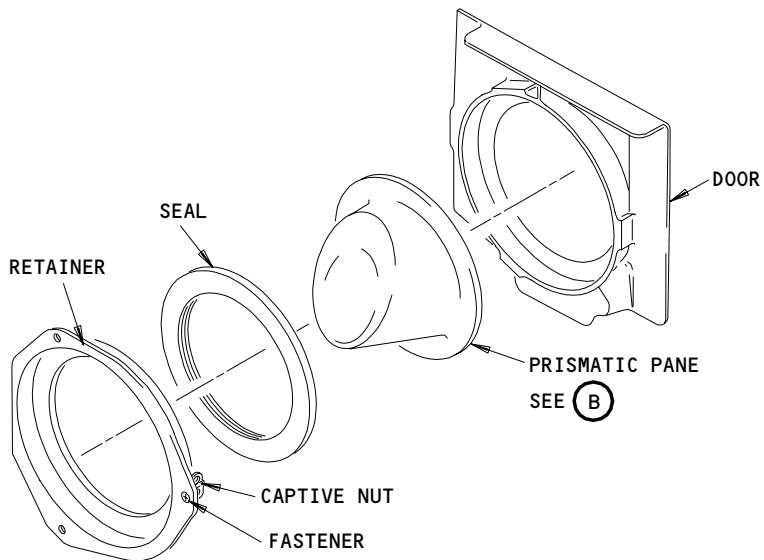
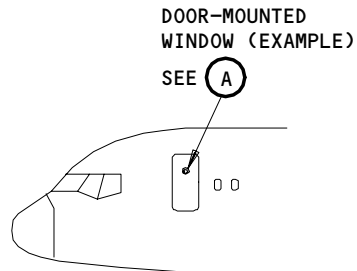
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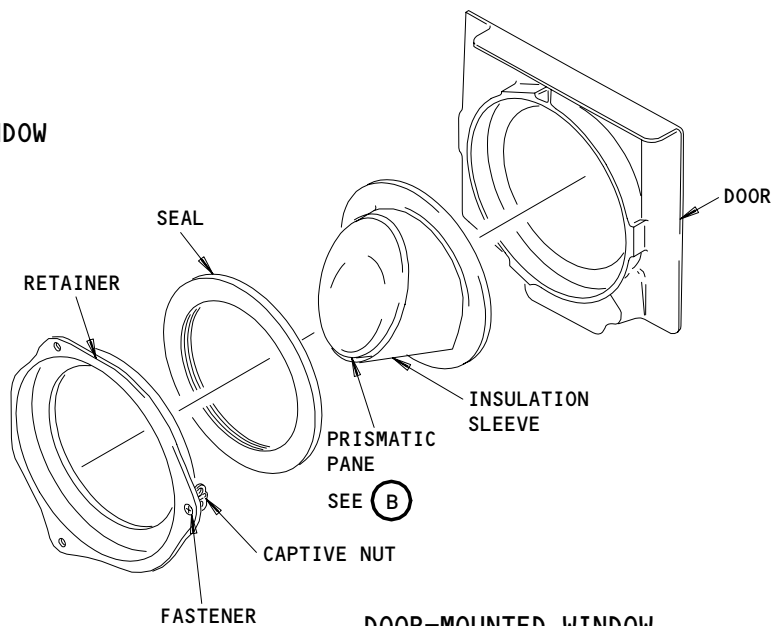
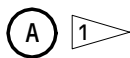
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DOOR-MOUNTED WINDOW
(EXAMPLE)



DOOR-MOUNTED WINDOW
(EXAMPLE)

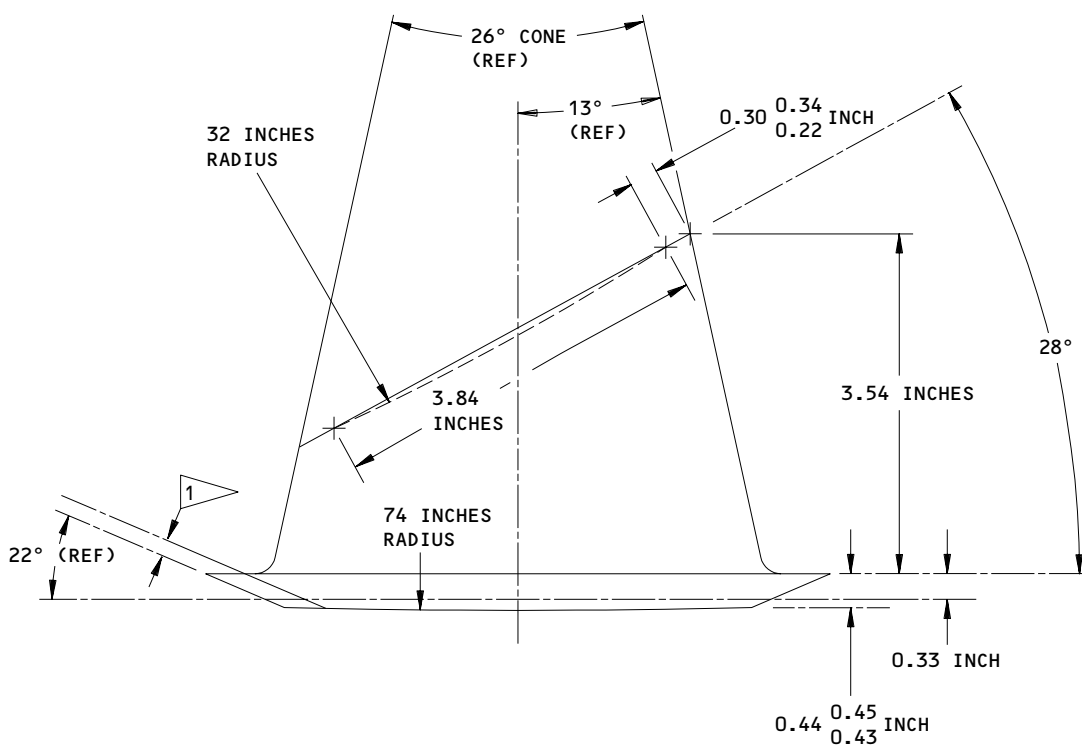


- 1 PRISMATIC PANE WITHOUT INSULATION SLEEVE
- 2 PRISMATIC PANE WITH INSULATION SLEEVE

Door-Mounted Windows Repair - Maximum Rework Limits
Figure 801 (Sheet 1)

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PRISMATIC PANE

(B)

1 MAXIMUM DEPTH OF REPAIR, 0.03 INCH, ON SEAL FACE

Door-Mounted Window Repair - Maximum Rework Limits
Figure 801 (Sheet 2)

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- (3) AMM 56-31-02/601, Door Mounted Windows
- D. Access
 - (1) Location Zones
 - 830/840 Upper Half of Fuselage (Left/Right)

E. Procedure - Repair the Door-Mounted Window

S 218-002

- (1) Examine the door-mounted window for damage (AMM 56-31-02/601).

S 028-003

CAUTION: MAKE SURE YOU DO NOT SCRATCH THE PRISMATIC PANE WHEN YOU REMOVE THE DOOR-MOUNTED WINDOW. USE CLEAN COTTON GLOVES WHEN YOU TOUCH THE PRISMATIC PANE. DAMAGE TO THE PRISMATIC PANE CAN OCCUR IF YOU ARE NOT CAREFUL.

- (2) If damage is found on the window, remove the door-mounted window and its components (AMM 56-31-02/401).

S 218-004

- (3) Examine the condition of the seal. Replace the seal if moisture or damage is found.

S 348-005

- (4) Do these steps to repair the prismatic pane:

CAUTION: DO NOT TRY TO REPAIR THE SURFACE DAMAGE ON A LOCAL AREA OF THE PRISMATIC PANE. MAKE SURE YOU REPAIR THE FULL SURFACE OF THE PRISMATIC PANE TO PREVENT OPTICAL DISTORTION.

KEEP THE SURFACE OF THE PRISMATIC PANE COOL. APPLY A SUFFICIENT QUANTITY OF WATER WHEN YOU RUB OR POLISH THE SURFACE. THE HEAT THAT OCCURS WHEN YOU RUB OR POLISH THE SURFACE CAN CAUSE DAMAGE TO THE PRISMATIC PANE.

- (a) Rub the surface of the prismatic pane with 100-grit abrasive paper.

NOTE: You can use a vibrating sander (at approximately 800 cpm).

You can remove a maximum of 0.06 inch of acrylic from each external surface of the prismatic pane and a maximum of 0.03 inch on seal face. You must keep the minimum dimensions on the prism shown in Fig. 801. Maintain curvature of the prismatic pane surface.

- (b) Rub the surface again until all surface damage is removed. Change the abrasive paper frequently.

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- (c) Use a vibrating sander to make the surface smooth. Start with 100-grit abraasive paper. After 2 to 3 minutes change to 200-grit abrasive paper. Continue this procedure up to 600-grit abrasive paper.
- (d) Repeat the above step with 1600-grit micromesh cloth. Continue the procedure up to 8000-grit micromesh cloth.

S 108-006

- (5) Remove all unwanted material and water from the surface of the prismatic pane.

S 348-007

- (6) Use a clean canton flannel cloth to polish the surface of the prismatic pane with a buffing compound. If it is necessary, use an abrasive compound to get a glossy finish.

S 218-008

- (7) Examine the prismatic pane for optical quality.

NOTE: If the prismatic pane has unsatisfactory optical quality, replace the prismatic pane.

S 348-009

- (8) Polish the prismatic pane with wax and apply a protective finish or protective tape.

S 428-010

- (9) Install the door-mounted window and its components (AMM 56-31-02/401).

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