

CHAPTER

56

Windows

CHAPTER 56
WINDOWS

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CHAPTER 56
WINDOWS

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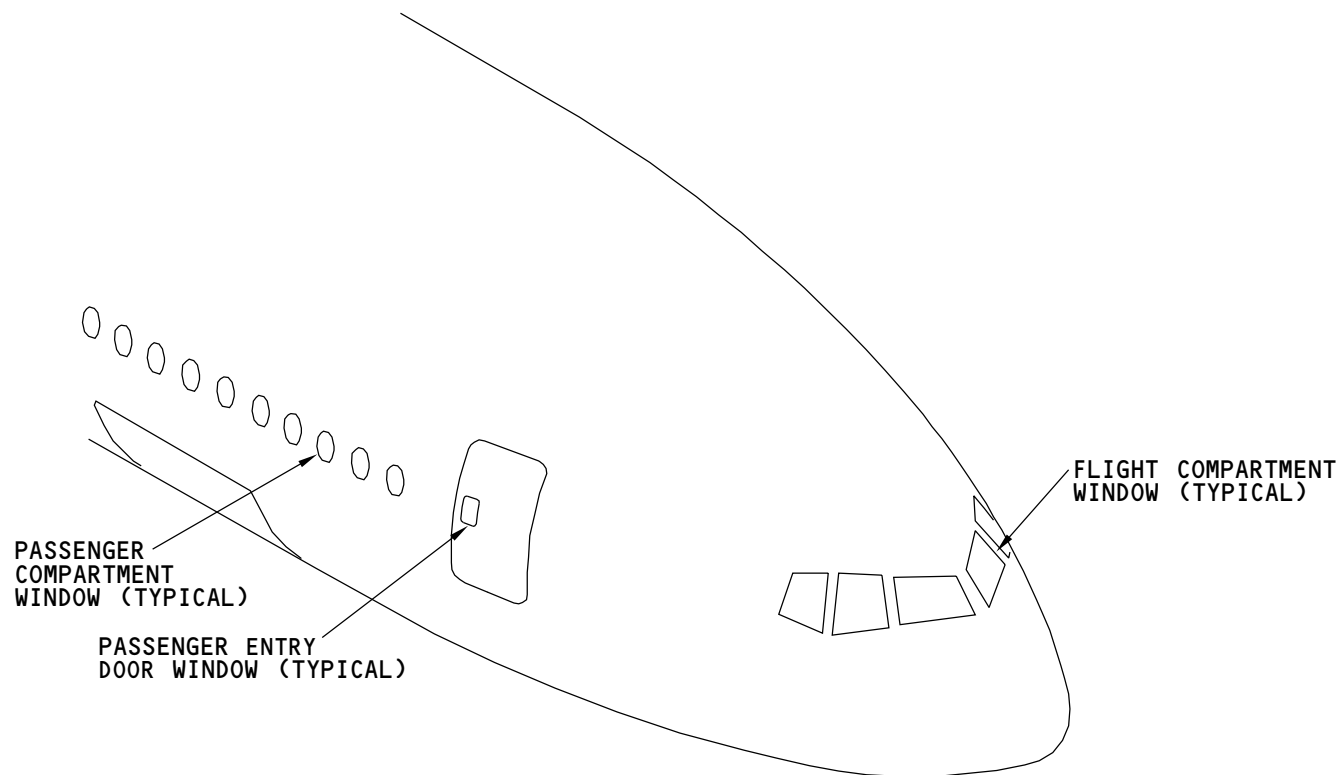
WINDOWS - INTRODUCTION

Location

Windows are in these locations:

- Passenger compartment (126)
- Passenger entry doors (8)
- Flight compartment (6).

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WINDOWS - INTRODUCTION

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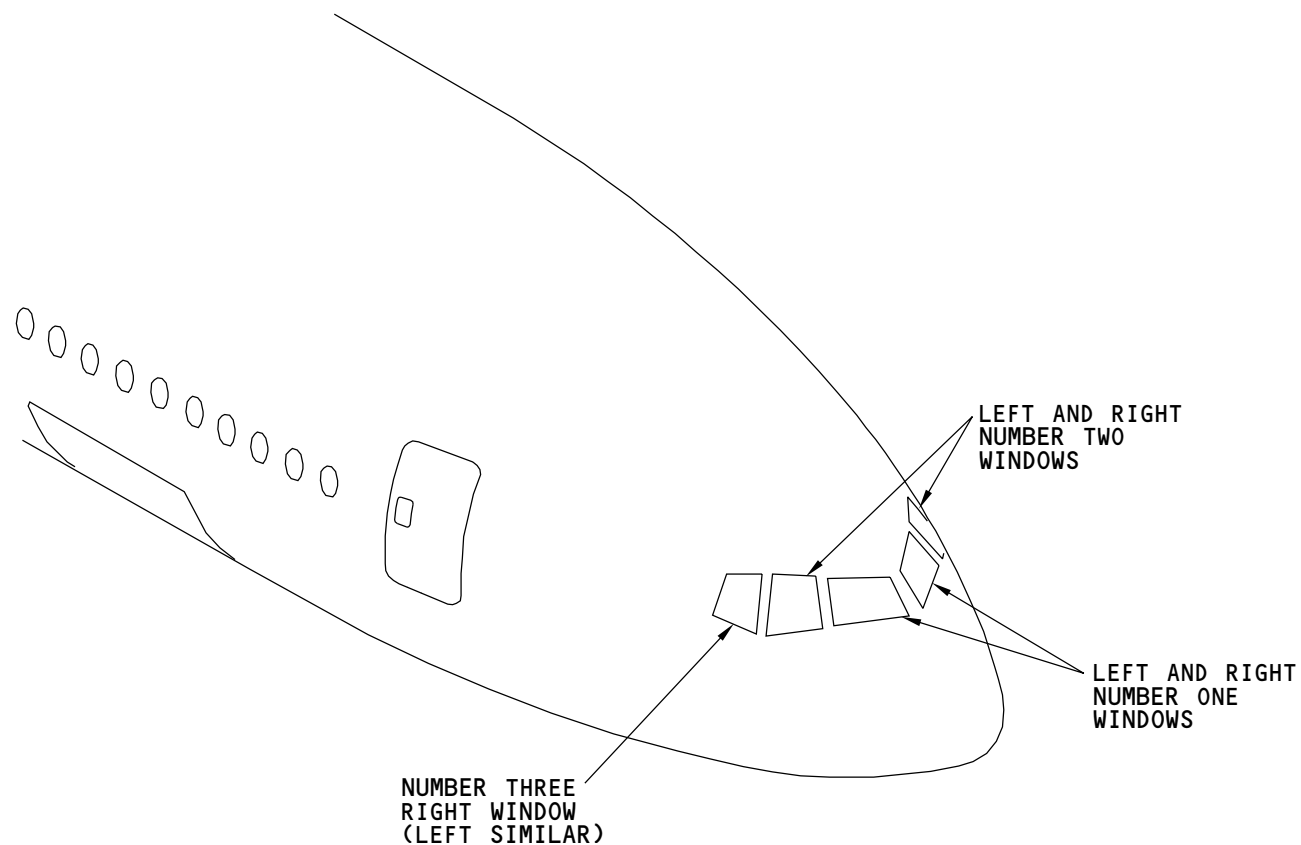
**WINDOWS - FLIGHT COMPARTMENT WINDOWS - INTRODUCTION****Location**

The left and right number one windows are in front of the captain and the first officer. The number two and three windows are aft of the number one windows.

Interface With Other Systems

The flight compartment windows get electric power from the window anti-ice system. See the flight deck window anti-ice section for more information (SECTION 30-41).

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WINDOWS - FLIGHT COMPARTMENT WINDOWS - INTRODUCTION

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**WINDOWS - FLIGHT COMPARTMENT WINDOWS - NUMBER ONE AND NUMBER THREE WINDOWS****Physical Description**

Each number three window is a lamination of glass, plastic, and an anti-fog heating film. The external and internal window surfaces are glass. Spare number three windows are available as an acrylic window.

Each number one window is a lamination of glass, plastic, anti-ice heating film, and anti-fog heating film. The external and internal window surfaces are glass. The external surface has a rain protection hydrophobic coating.

The windows have retainer rings, moisture seals, and pressure seals. Sealant holds the rings, seals, and window together as an assembly.

Screws go through the rings to attach the assembly to the airplane structure.

There are temperature sensors for the heating films. The heating film and sensors have electrical terminals. The bus bar connects the electric terminals for heat to the heating film.

The number three window has these terminals:

- Two sensor
- Two anti-fog electric.

The number one window has these terminals:

- Three sensors
- Two anti-ice electric power
- Two anti-fog electric.

Training Information Point

There are three hoist points to lift each number three and number one window for removal and installation.

Use proper methods when you clean the windows to prevent damage. On the external surface use an isopropanol and water mixture. On the internal surface use a mild soap and water mixture or an isopropanol and water mixture.

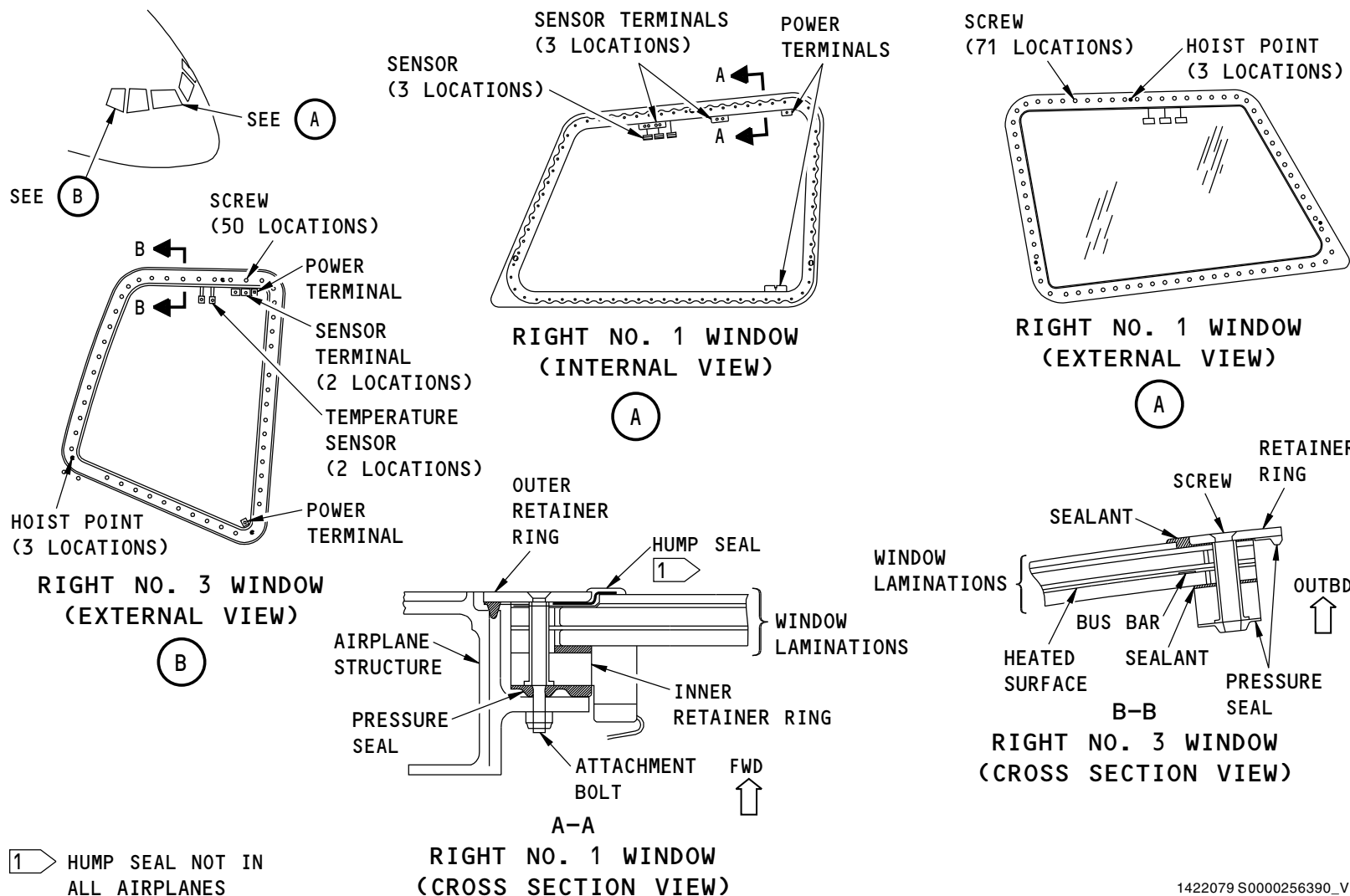
You can put a new hydrophobic coating on the number one windows on the airplane.

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WINDOWS - FLIGHT COMPARTMENT WINDOWS - NUMBER ONE AND NUMBER THREE WINDOWS

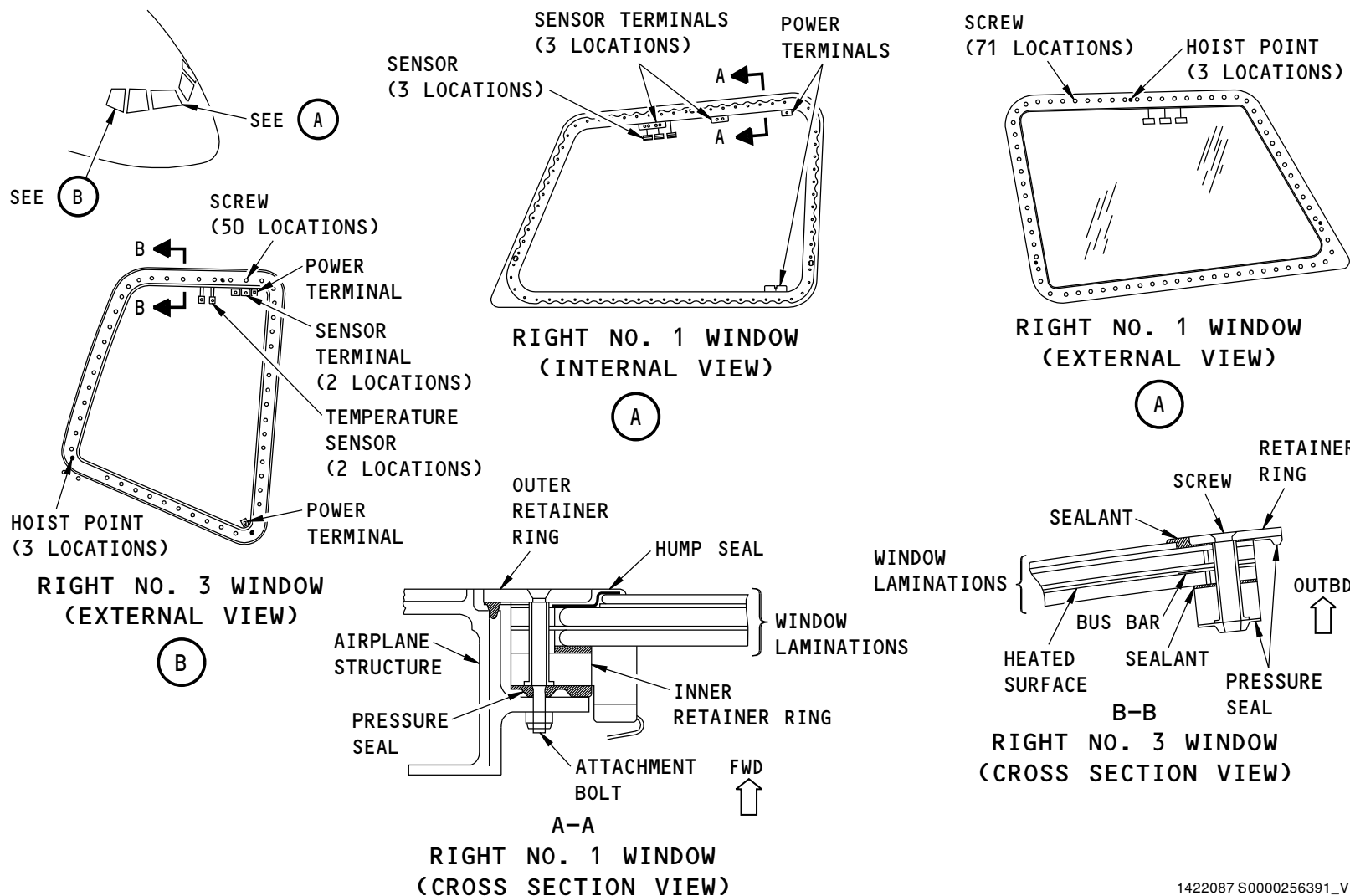
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**WINDOWS - FLIGHT COMPARTMENT WINDOWS - NUMBER TWO OPENABLE WINDOW - INTRODUCTION****Purpose**

The number two openable windows give emergency escape routing.

Physical Description

Each number two openable window has operating and latching mechanisms.

The operating mechanism has:

- Upper and lower tracks
- Drive cable
- Operating handle
- Drive screw (not shown) in lower aft track
- Rollers
- Carriage
- Link arm
- Torque tube.

The latching mechanism has:

- Latch handle
- Teleflex cable
- Latches.

There is an alert switch at the top of the window. It operates with a cam that attaches to the top latch.

The window is a lamination of glass, plastic, and an anti-fog heating film. The external and internal window surfaces are glass. Spare number two windows are available as an acrylic window. The window has electrical terminals for the heating film and for heat control sensors. The bus bar connects the electric terminals for heat to the heating film. Coiled electrical wire connects the window terminals to terminals on the airplane.

There is a retainer ring, sealant, and frame. Screws go through the ring and lamination, and into the frame to hold them together as an assembly.

The silicone bulb pressure seal between the window frame and fuselage attaches to the fuselage.

Training Information Point

Use proper methods when you clean the windows to prevent damage. Use a mild soap and water mixture or an isopropanol and water mixture.

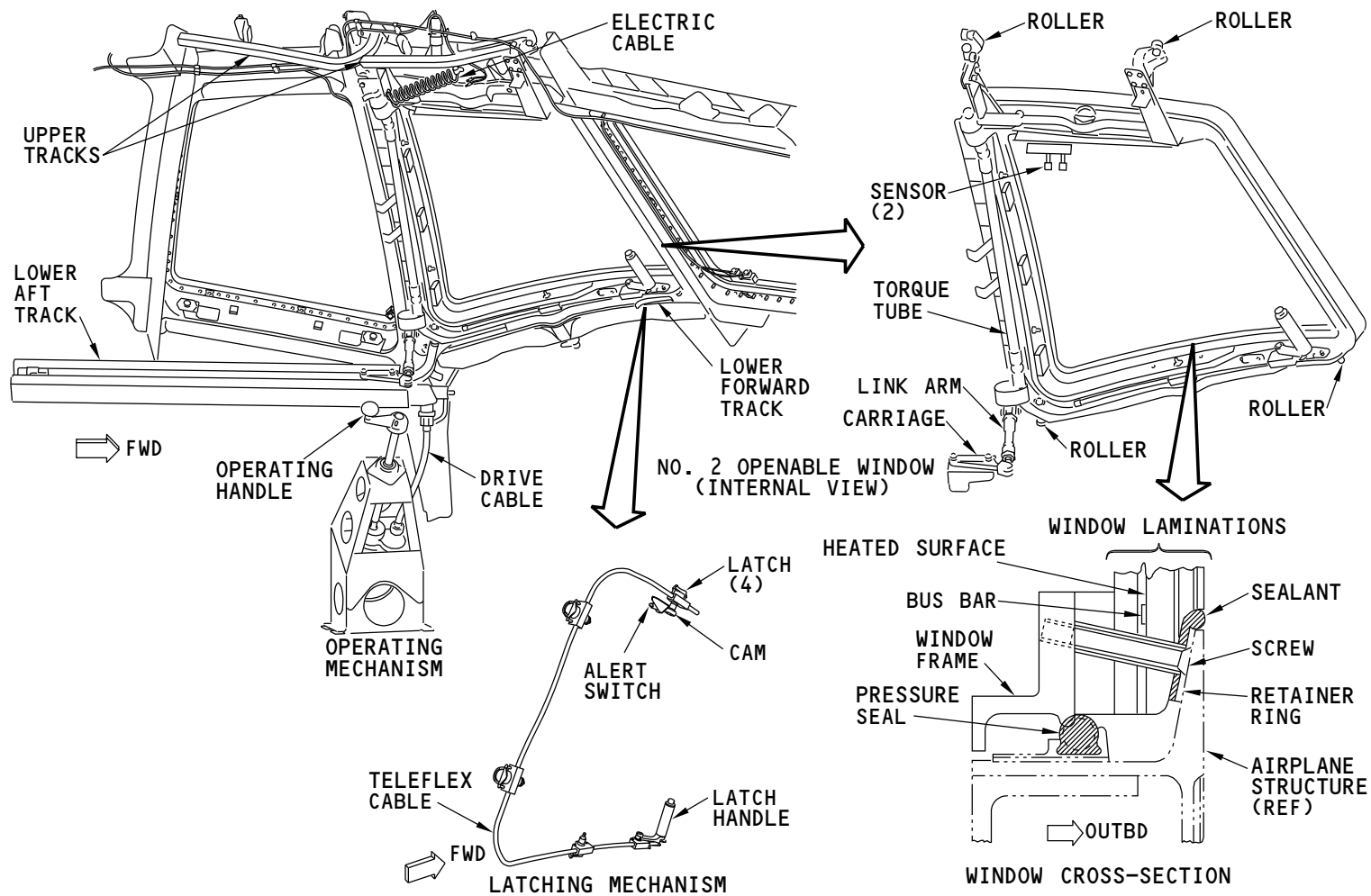
Do not touch the silicone bulb pressure seal when you have the window open for maintenance activities. This can damage the seal and cause air leaks.

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WINDOWS - FLIGHT COMPARTMENT WINDOWS - NUMBER TWO OPENABLE WINDOW - INTRODUCTION

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**WINDOWS - FLIGHT COMPARTMENT WINDOWS - NUMBER TWO OPENABLE WINDOW - ALERT SWITCH****Purpose**

The alert switch supplies window status to the flight crew.

Physical Description

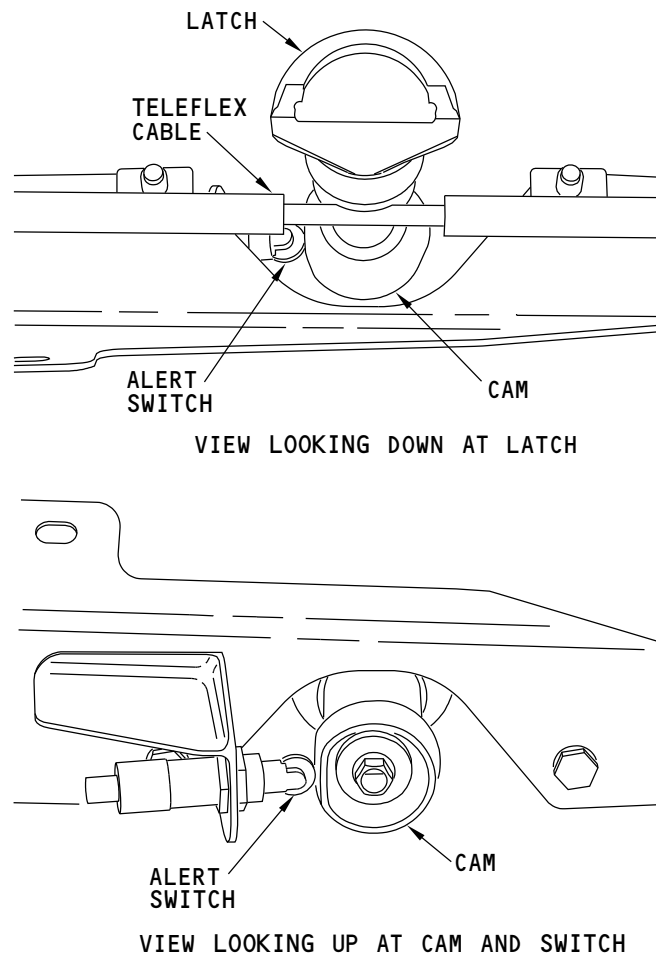
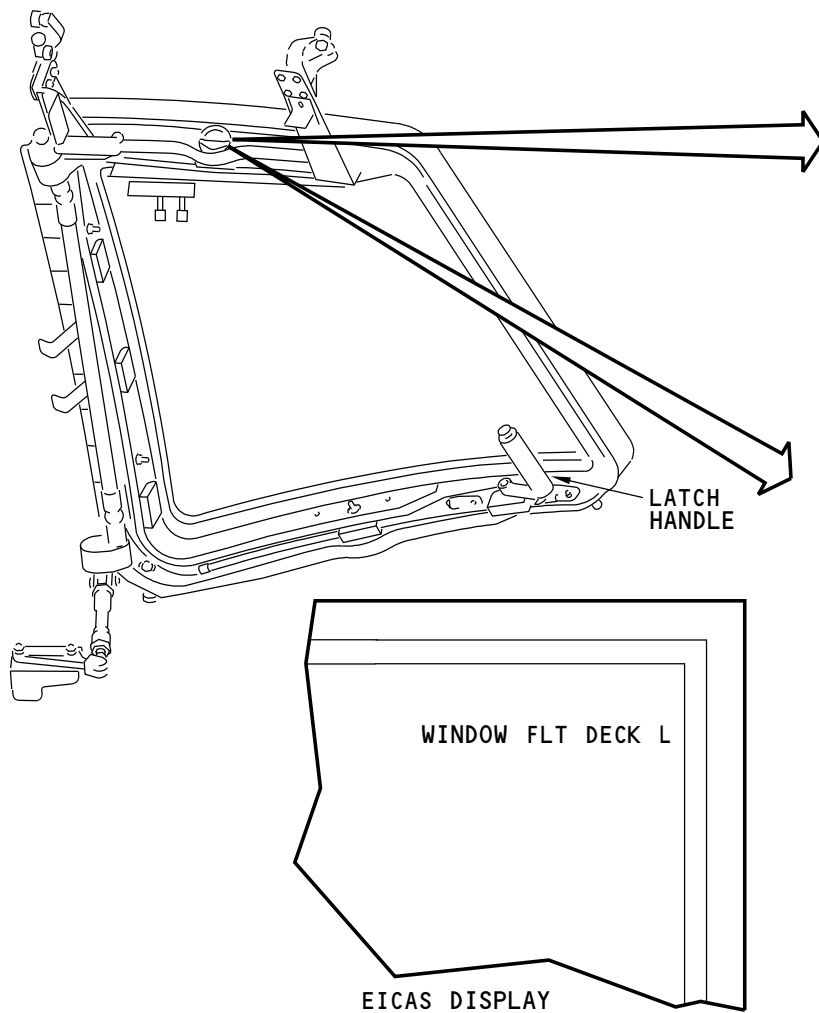
The switch is a plunger type that attaches to the window frame below the top window latch. The switch is adjacent to a cam that attaches to the upper latch.

Functional Description

Movement of the latch handle out of the latched position causes the teleflex cable to turn the latch and cam. The cam pushes the switch plunger in to close the switch.

When the switch closes, the WINDOW FLT DECK L(R) advisory message shows.

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WINDOWS - FLIGHT COMPARTMENT WINDOWS - NUMBER TWO OPENABLE WINDOW - ALERT SWITCH

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**WINDOWS - FLIGHT COMPARTMENT WINDOWS - NUMBER TWO OPENABLE WINDOW - OPERATION****Unlatch/Latch Operation**

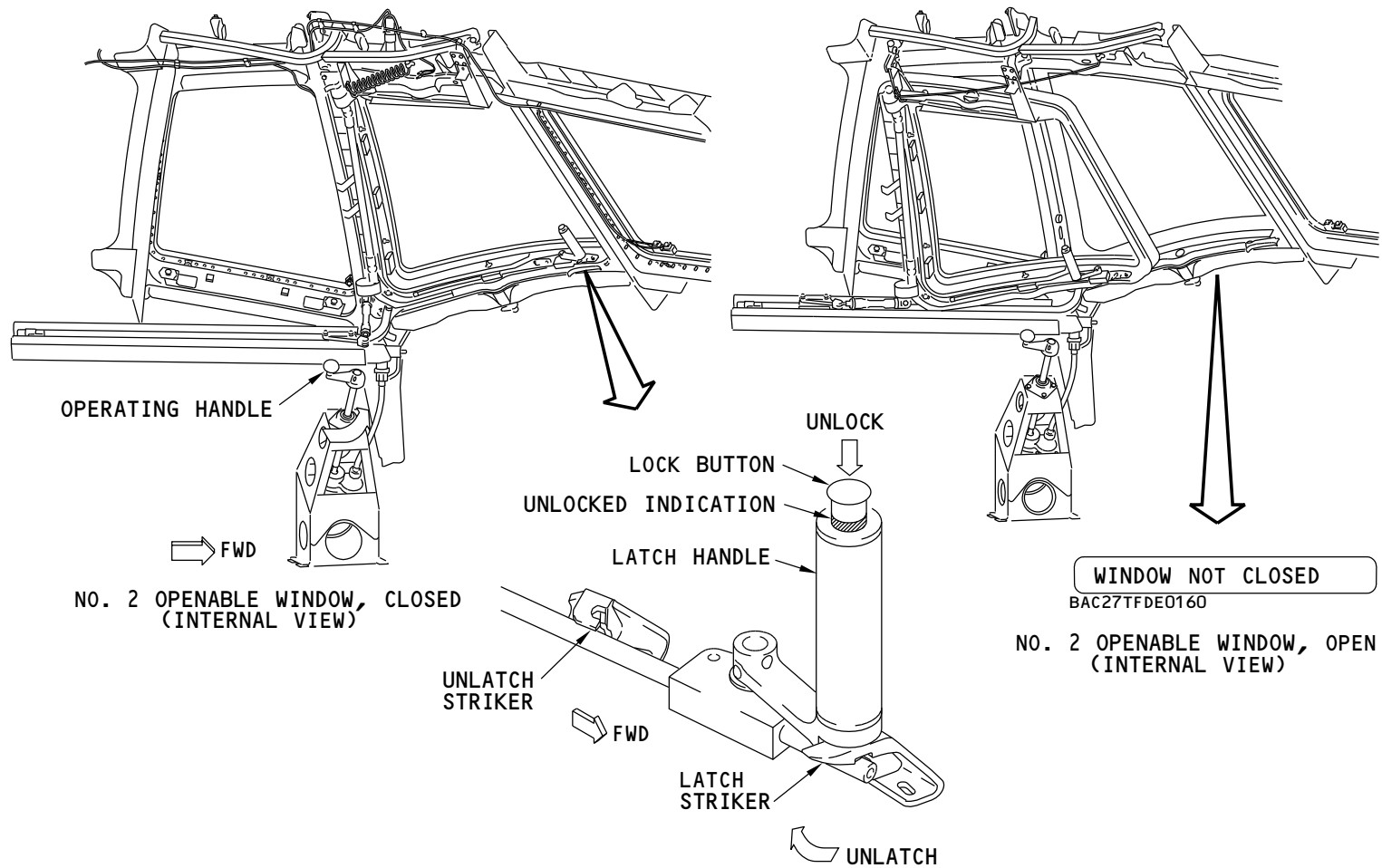
Push down on the latching handle lock button until the handle releases from the latch striker. Move the handle inboard and aft until it locks in the unlatch striker.

Reverse these operations to latch the window. The window is latched and the latching handle is locked when you cannot see the yellow indication stripe on the latch handle release.

Open/Close Operation

Turn the window operating handle to open the window. The left window handle turns counterclockwise. The right window handle turns clockwise.

Reverse these operations to close the window. The window is not closed if you see the WINDOW NOT CLOSED decal.



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WINDOWS - FLIGHT COMPARTMENT WINDOWS - NUMBER TWO OPENABLE WINDOW - OPERATION

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**WINDOWS - NUMBER TWO OPENABLE WINDOW - FUNCTIONAL DESCRIPTION - CLOSE/OPEN****Close Functional Description**

Clockwise rotation of the operating handle goes through the drive cable to the ball screw (not shown) in the lower latch track. The ball screw rotates. The carriage moves forward on the screw. The carriage pushes on the link arm. The link arm pushes on the torque tube on the window. The window moves forward on its rollers in the tracks.

When the rollers get to the curves in the tracks, the window moves outboard. The carriage and link arm push the bottom of the window to the completely closed position and turn the torque tube. A cam on the top of the torque tube push the top of the window outboard to the completely closed position. Continue to turn the window operating handle to close the window until a sudden and firm resistance is felt.

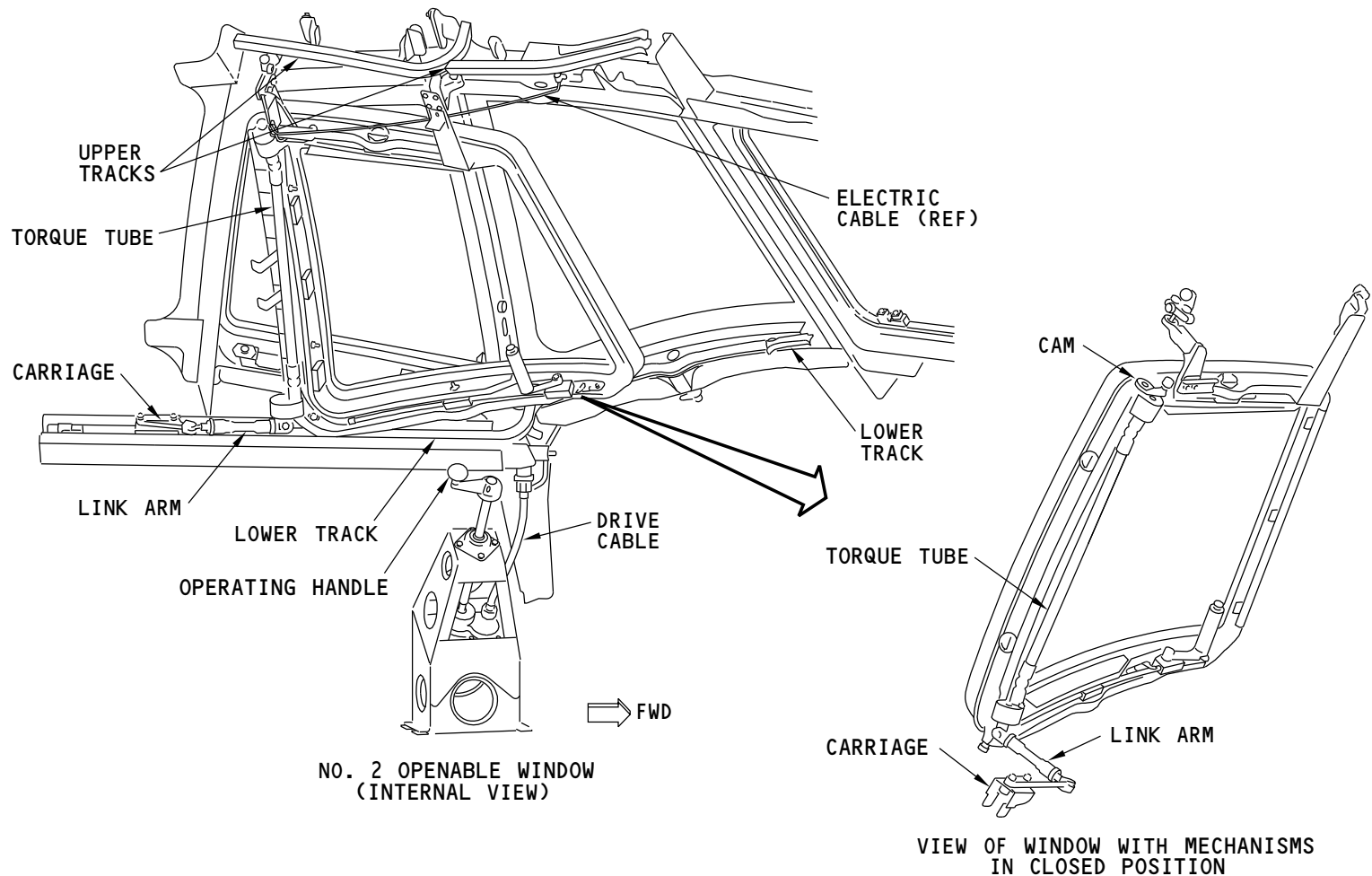
Open Functional Description

Component movement to open the window is the reverse of the movement to close the window.

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WINDOWS - NUMBER TWO OPENABLE WINDOW - FUNCTIONAL DESCRIPTION - CLOSE/OPEN

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**WINDOWS - NUMBER TWO OPENABLE WINDOW - FUNCTIONAL DESCRIPTION - LATCH/UNLATCH****Latch Functional Description**

Four latch pins are on the airplane structure around the window opening. One is on the top, two are on the aft side, and one is on the bottom. The latch cams on the window use these latch pins to latch the window.

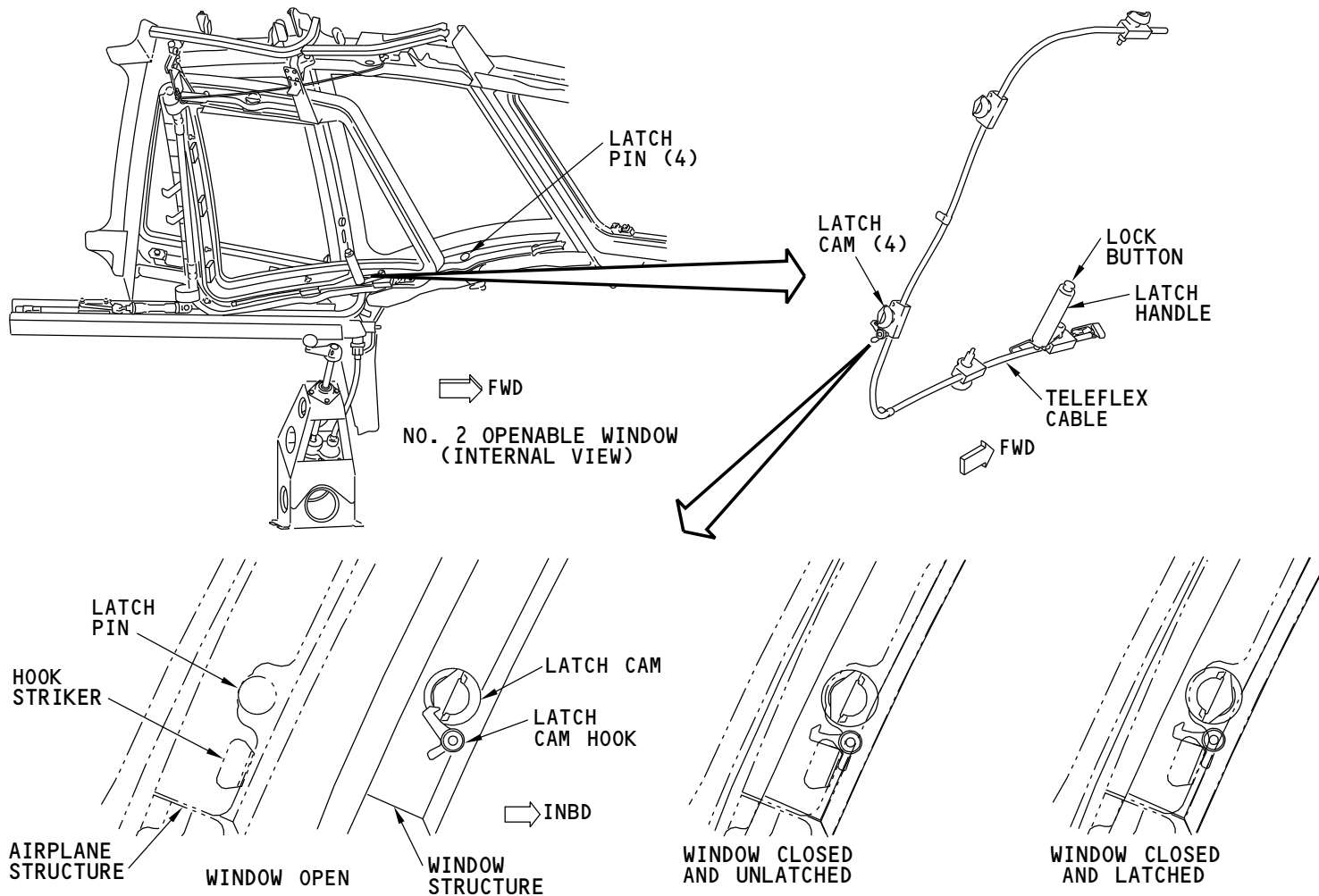
When the window is not completely closed, the spring-loaded latch cam hook will not let the latch cam turn. When the window moves to the closed position, the hook striker on the airplane structure moves the latch cam hook. The latch cam is free to turn.

Downward movement of the lock button on the latching handle releases the handle from the handle unlatched striker. Forward movement of the handle causes the teleflex cable to turn the latch cams to a position outboard of the latch pins. The window cannot move inboard. It is latched. The latch striker holds the latch handle.

Unlatch Functional Description

Component movement to unlatch the window is the reverse of the movement to latch the window.

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WINDOWS - NUMBER TWO OPENABLE WINDOW - FUNCTIONAL DESCRIPTION - LATCH/UNLATCH

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**WINDOWS - PASSENGER COMPARTMENT WINDOWS****Location**

There are passenger compartment windows along both sides of the passenger compartment.

Physical Description

Each window has a plastic middle and outer pane. A seal holds the panes together in an assembly. Spring clips hold the assembly to the fuselage.

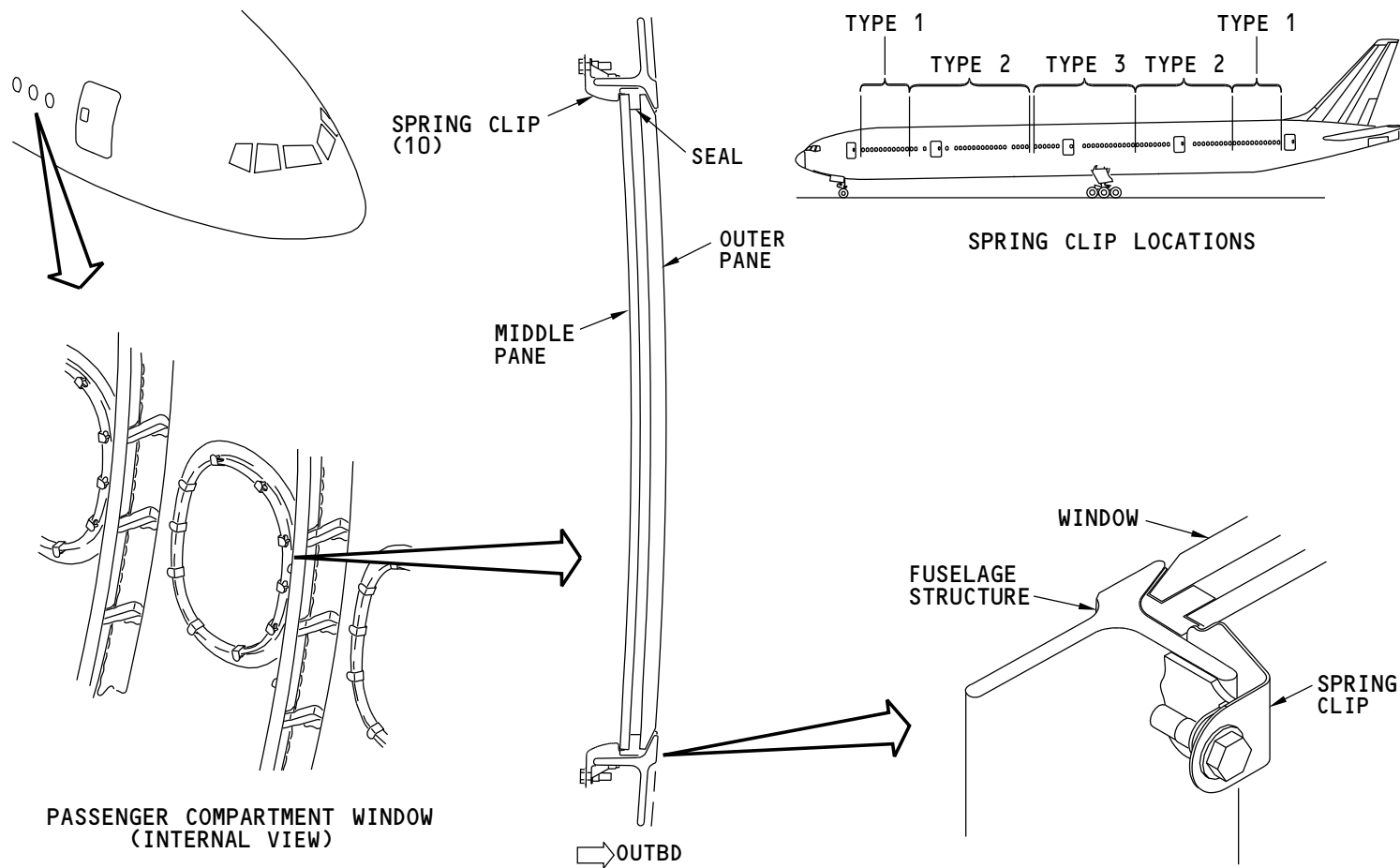
The inner pane (not shown) is part of the passenger compartment sidewall lining. See the passenger compartment section for more information (SECTION 25-20).

Training Information Point

There are spring clips with different grip lengths. The grip length depends on the location of the window in the fuselage. The spring clips are a different color for each grip length (type).

Use proper methods when you clean the windows to prevent damage. Use a mild soap and water mixture or an isopropanol and water mixture.

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NOTE: TYPE 1 = BLACK, TYPE 2 = BLUE, TYPE 3 = WHITE

WINDOWS - PASSENGER COMPARTMENT WINDOWS

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**WINDOWS - DOOR-MOUNTED WINDOWS****Purpose**

The door-mounted windows let the cabin attendants see if the space outside the door is clear to open the door.

Location

There is a window in each of the passenger entry doors.

Physical Description

Each window has a plastic outer and a middle pane. A seal holds the panes together in an assembly. Retainers hold the assembly to the door.

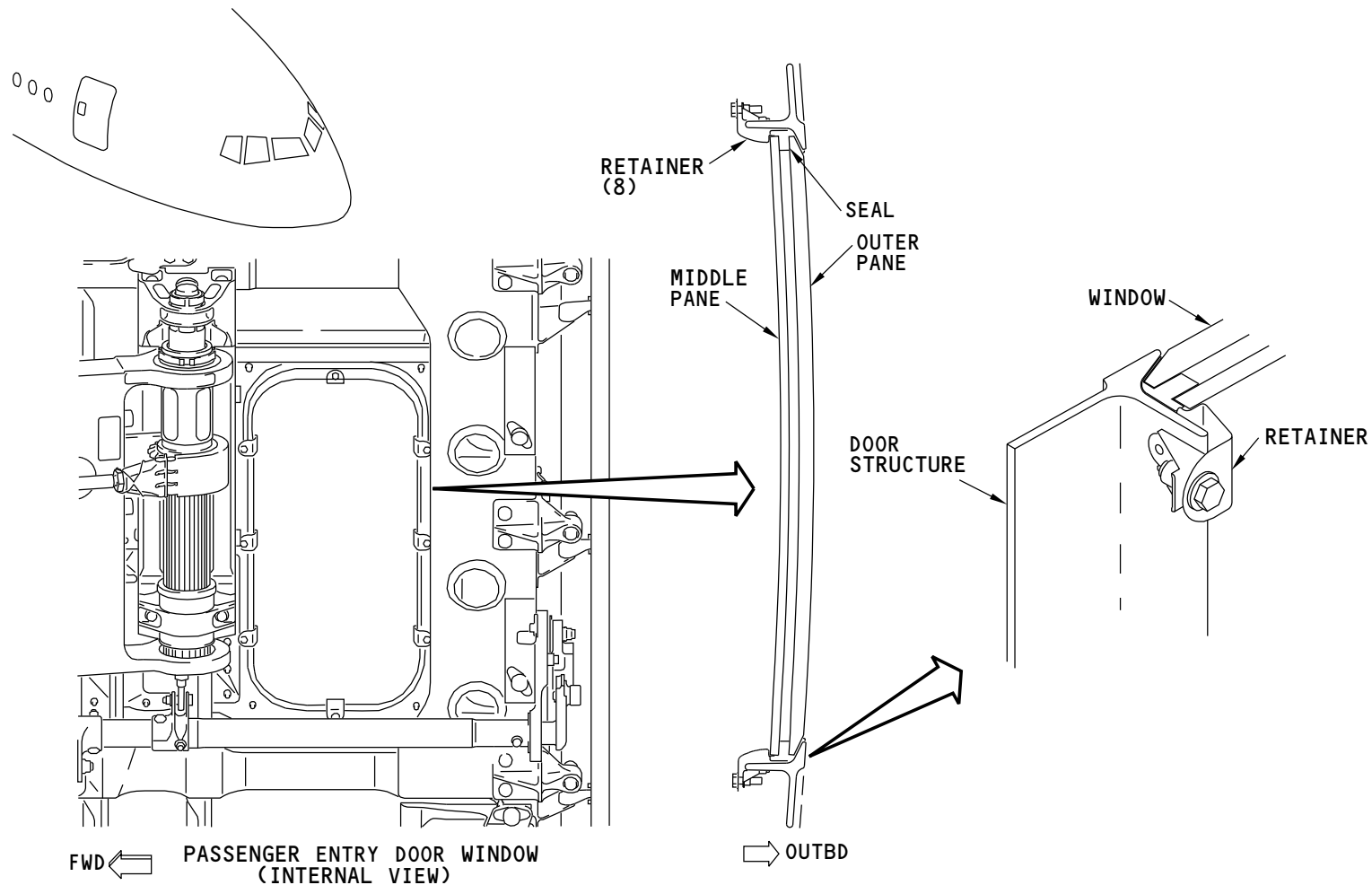
The inner pane (not shown) is part of the door lining.

The retainers for the passenger entry door windows are all the same grip length and color.

Training Information Point

Use proper methods when you clean the windows to prevent damage. Use a mild soap and water mixture or an isopropanol and water mixture.

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WINDOWS - DOOR-MOUNTED WINDOWS

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