

A350
TECHNICAL TRAINING MANUAL
MAINTENANCE COURSE - T1+T2 - RR Trent XWB
Equipment/Furnishings

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EQUIPMENT/FURNISHINGS

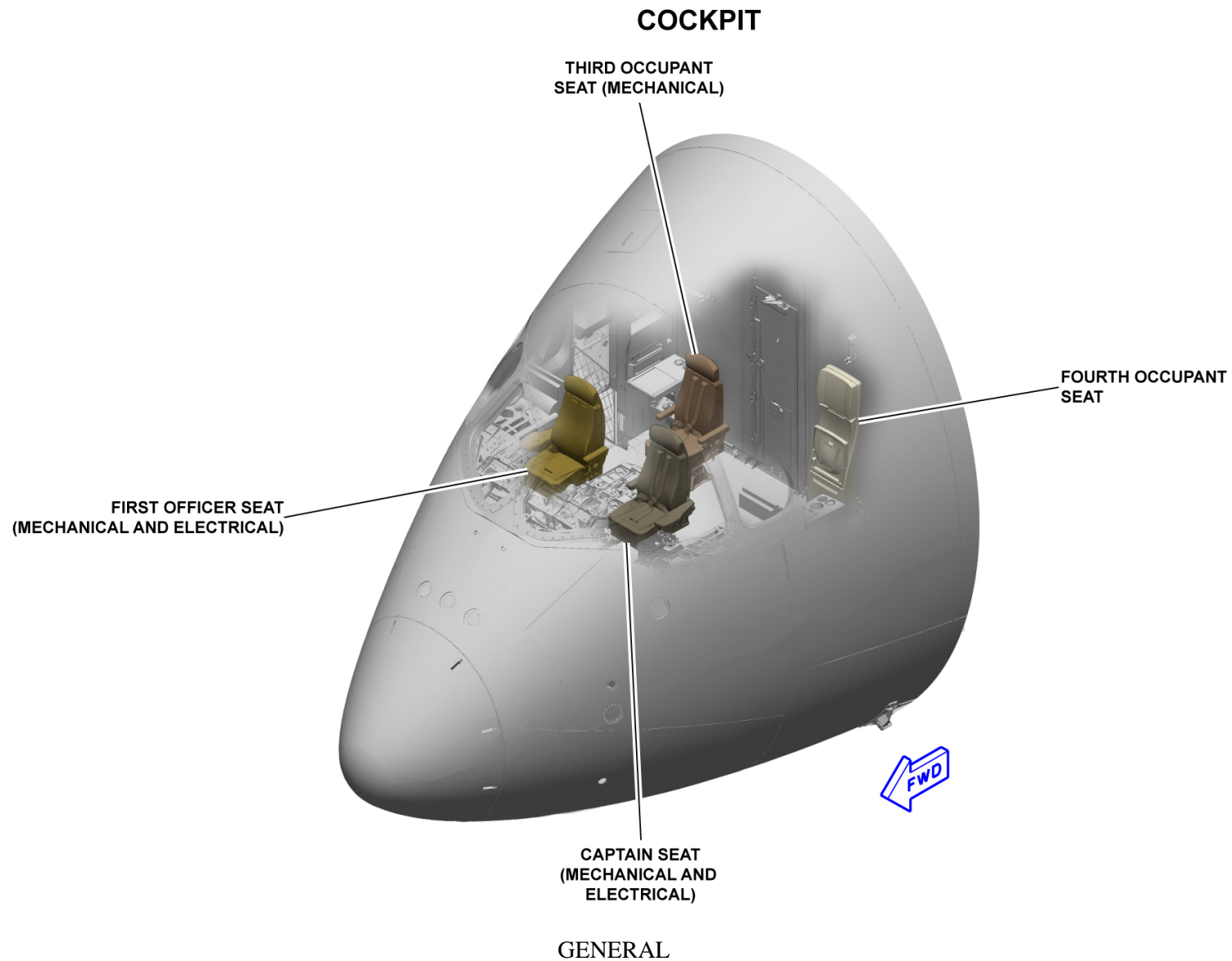
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COCKPIT DESCRIPTION (2/3)

General

The cockpit has these four seats:

- Two symmetrical seats: one for the captain, one for the first officer, each with an electrical and mechanical control
- A seat for the third occupant with a mechanical control
- A folding seat for the fourth occupant without adjustment.



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COCKPIT DESCRIPTION (2/3)

Captain and First Officer Seats

Description

Captain and first officer seats have the same functions.

The following positions are adjustable:

- Horizontal movement (electrically or manually)
- Vertical movement (electrically or manually)
- Backrest recline angle (only manually)
- Armrest angle (only manually)
- Lumbar support position (only manually)
- Headrest position (only manually).

In the extreme aft position, the seat can move laterally towards the consoles. This increases the space between the pedestal and the seat and thus facilitates access to the seat. This is the stowed position of the seat.

The seat base is attached to the cockpit floor by bolts (quantity 8) and has an electrical supply interface for the electrical adjustment. The electrical and mechanical controls of the seat are installed on the pedestal side of the seat pan.

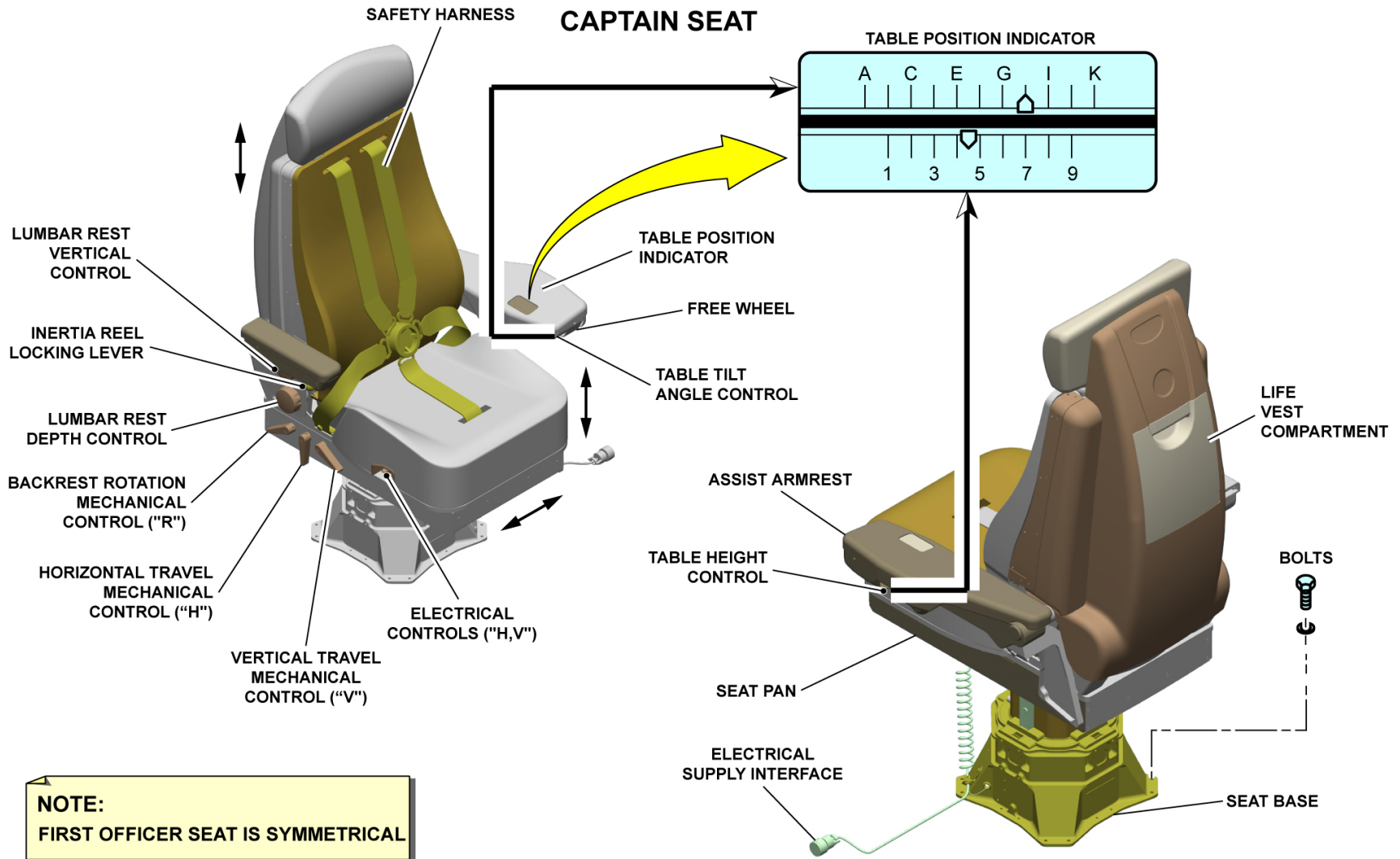
The backrest has manual controls to adjust its recline angle (up to 35 degrees). It is also possible to adjust manually depth and the vertical position of the lumbar rest.

The aft side of the backrest has a compartment with a hinged door which contains two life vests.

The assist armrest on the side-stick unit side is attached to the seat pan. It is possible to adjust the height and tilt angle with adjustment wheel knobs.

A table position indicator shows the set positions. On the front of the armrest table, there is a free wheel.

The safety harness is of standard five-strap aviation-type. The shoulder harness is attached to two inertia reels. On the lateral part of the backrest, a control lever can lock the inertia reel.



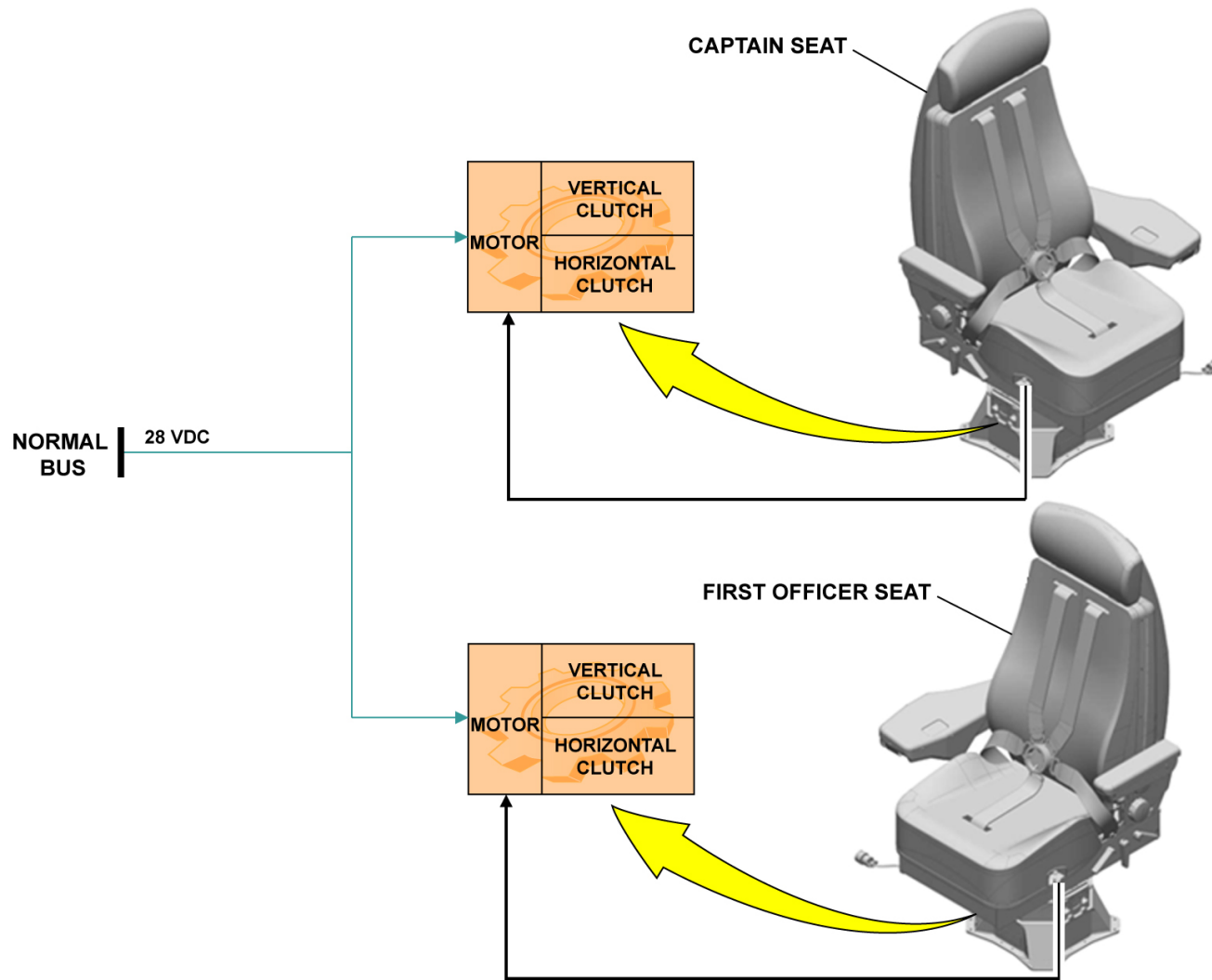
CAPTAIN AND FIRST OFFICER SEATS - DESCRIPTION

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COCKPIT DESCRIPTION (2/3)**Captain and First Officer Seats (continued)****Control**

The two electrical control switches, on the pedestal side of the seat pan of the two flight crew seats, control the horizontal travel and the vertical travel by help of electrical motors (28VDC) and a vertical and a horizontal clutch.

In the mechanical mode (horizontal and vertical mechanical switches), the electrical motors are compensated by gas cylinders (not represented).



CAPTAIN AND FIRST OFFICER SEATS - CONTROL

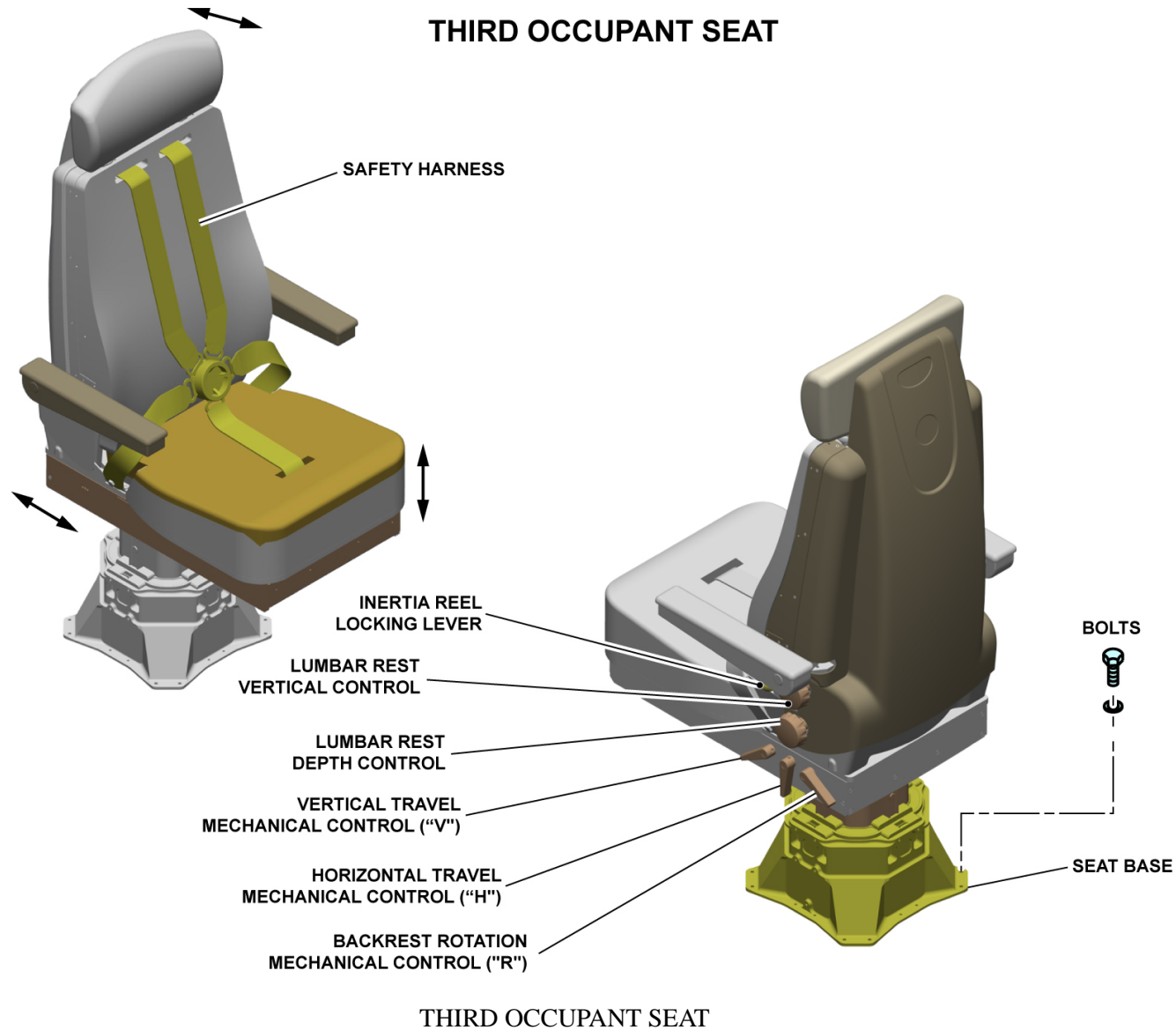
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COCKPIT DESCRIPTION (2/3)

Third Occupant Seat

The third occupant seat is the same as the flight crew seats except for the following points:

- This seat has mechanical controls only
- The horizontal motion is only in forward and aft direction (no lateral motion)
- The backrest recline angle is limited to 14 degrees.

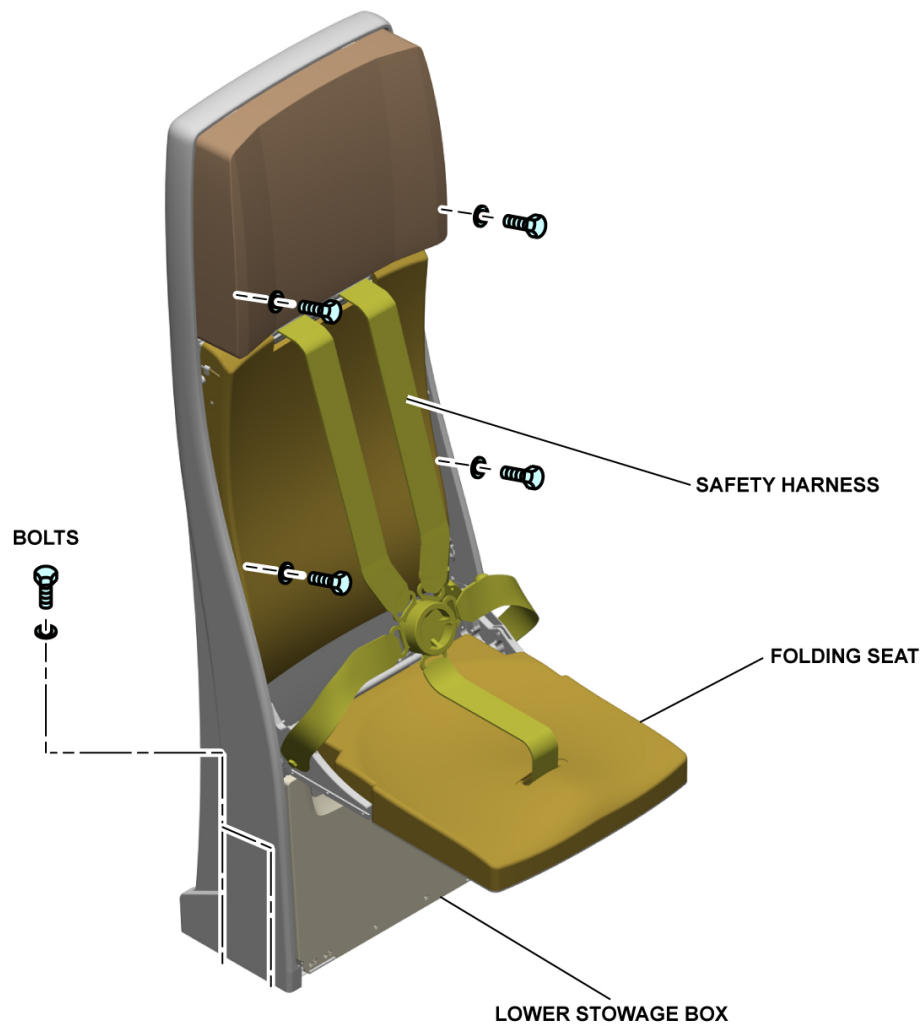


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COCKPIT DESCRIPTION (2/3)**Fourth Occupant Seat**

The fourth occupant seat, installed on the left rear zone of the cockpit, is attached by bolts to the floor (quantity 4) and to the wall (quantity 4). It is a folding type seat and is not adjustable.

It includes a five-strap safety harness and the bottom part of the seat has a stowage box to stow emergency equipment.



FOURTH OCCUPANT SEAT

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COCKPIT DESCRIPTION (2/3)

Sliding Table and Pilot Footrest

Each captain and first officer stations have a sliding table and a footrest assembly.

The two sliding tables are below the main instrument panel in front of the pilot's seats and have a Onboard Information Services (OIS) keyboard.

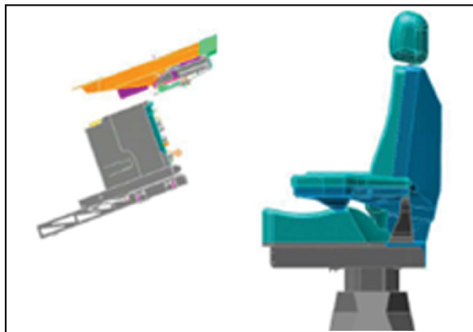
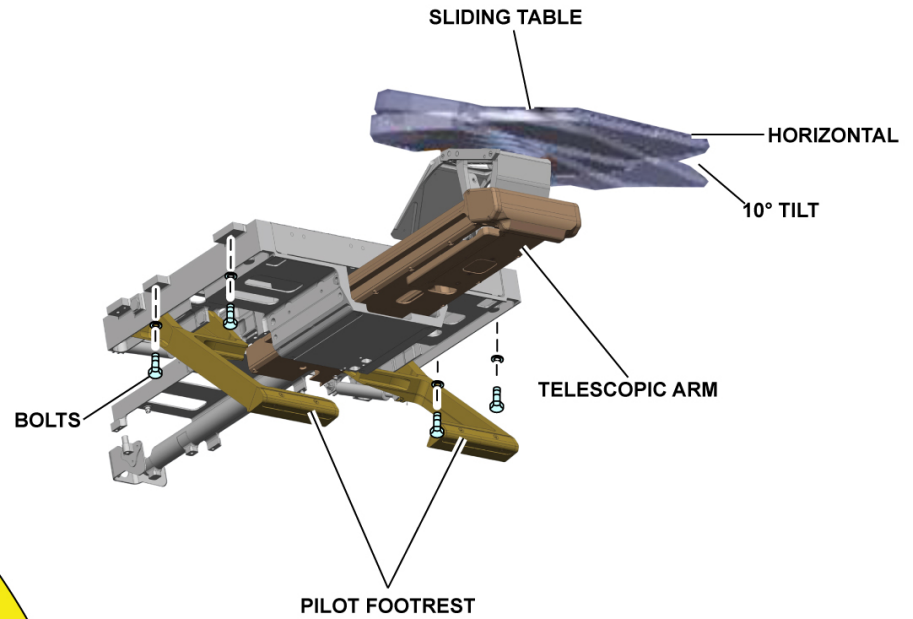
In the extended configuration, the sliding table gives two stable positions:

- Deployed with the table upper surface horizontal (better for table configuration)
- Deployed with the table upper surface tilted (at 10 degrees) (better for workstation configuration).

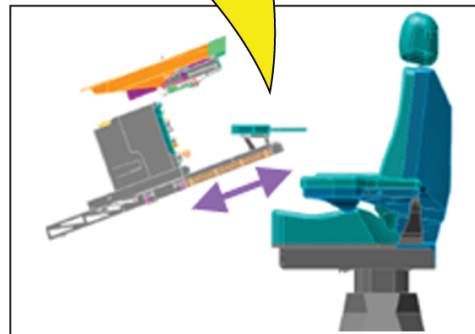
NOTE: Each assembly is attached by bolts (quantity 4) below main instrument panel for deactivation purpose.



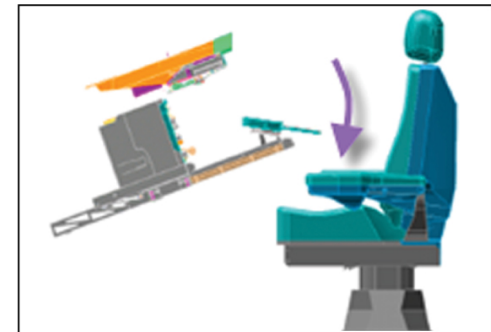
ONBOARD INFORMATION SYSTEM KEYBOARD



RETRACTED POSITION



EXTENDED POSITION - HORIZONTAL



EXTENDED POSITION - 10° TILT

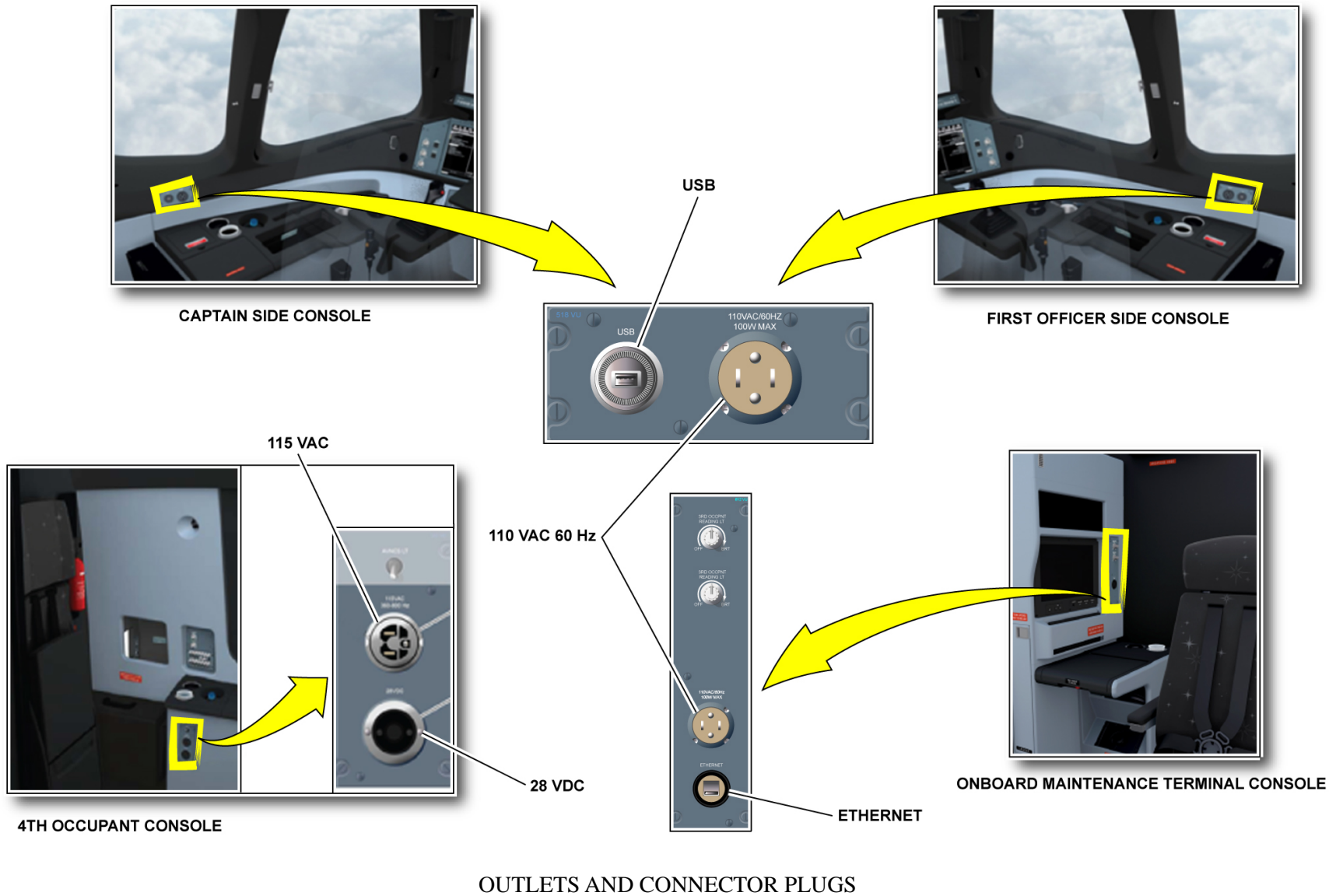
SLIDING TABLE AND PILOT FOOTREST

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COCKPIT DESCRIPTION (2/3)

Outlets and Connector Plugs

Many electrical outlets (e.g. 28VDC, 115VAC, 110VAC / 60 Hz) and connector plugs (e.g. USB, ethernet) are available in the cockpit for the operators.



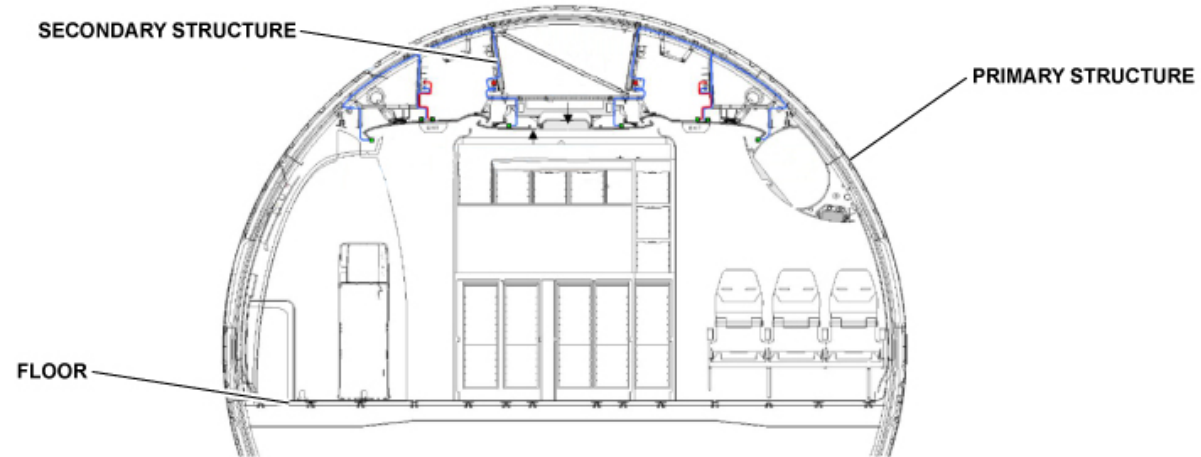
V1813401 - V01T0M0 - VM25D1COKPT3001

CABIN DESCRIPTION (2/3)

General

The A350 cabin is designed for a high level of flexibility, in a view to decrease the time for the airline to customize its classes in accordance with its activity.

Hence, quick attaching devices are used at floor, airframe primary and upper secondary structure level for all the monuments and furnishings.



GENERAL

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CABIN DESCRIPTION (2/3)

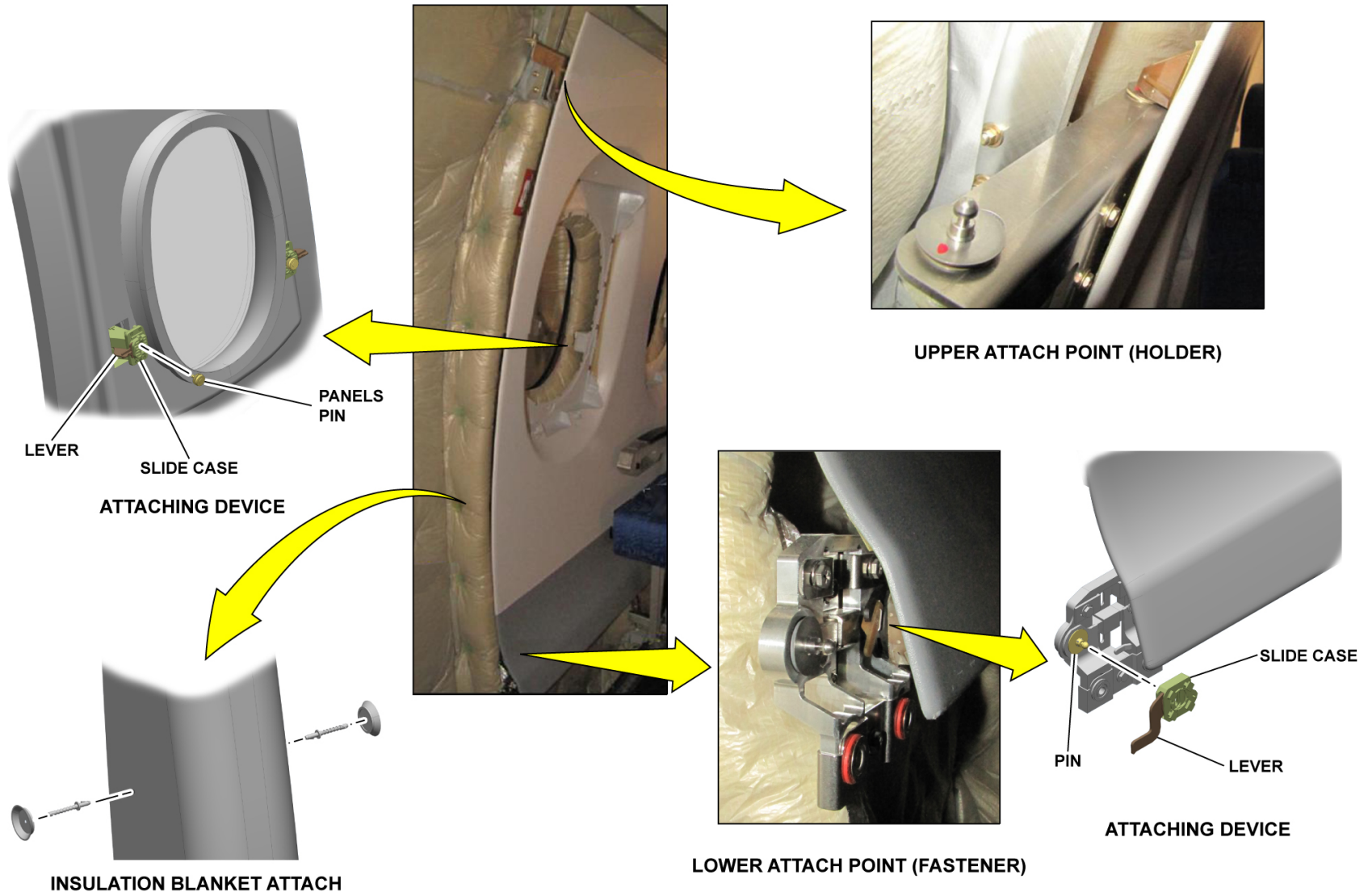
Sidewall and Ceiling Panels Attachment

Cabin panels are attached to the aircraft structure in different ways:

- Sidewall panels are attached with holders at the top and panel fasteners (pin and slide case lever) at the bottom and at the center (window frame)
- Ceiling panels are attached with match box brackets and fasteners (pin and slide case lever). When unlocked, the ceiling panels are retained by a rope.

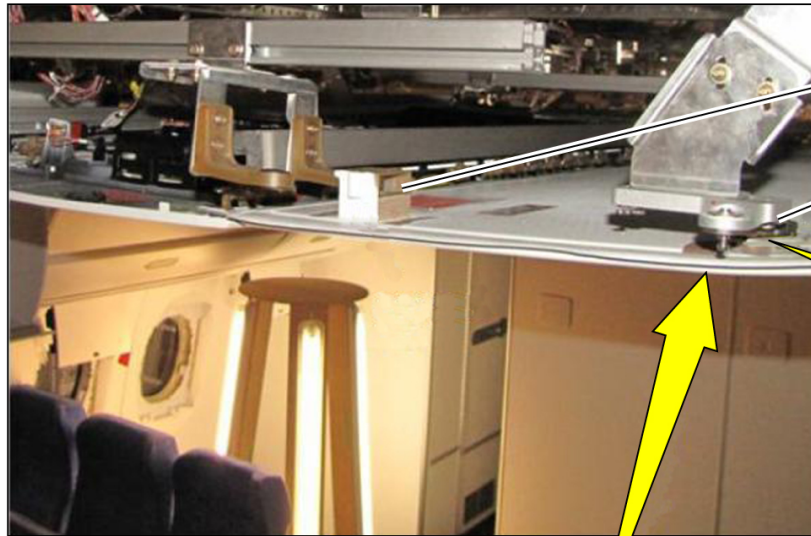
NOTE: Some of them have annunciators or emergency lights.

Between linings and airframe primary structure, blankets are used for thermal insulation and noise abatement.



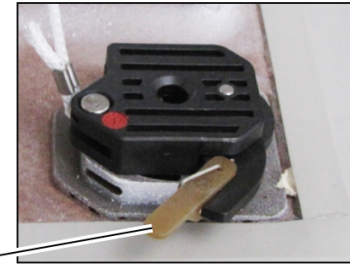
SIDEWALL AND CEILING PANELS ATTACHMENT

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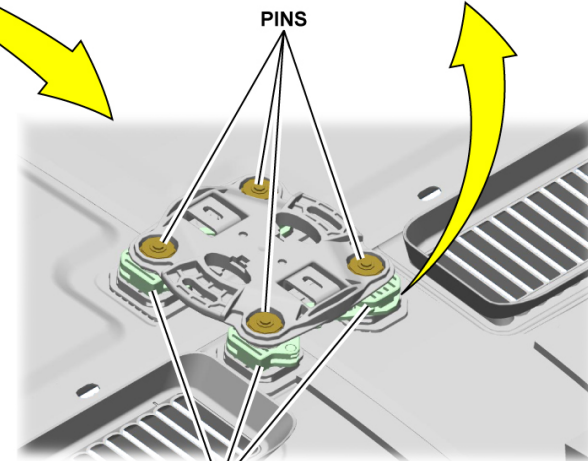
MATCH BOX BRACKET

FASTENER



LEVER

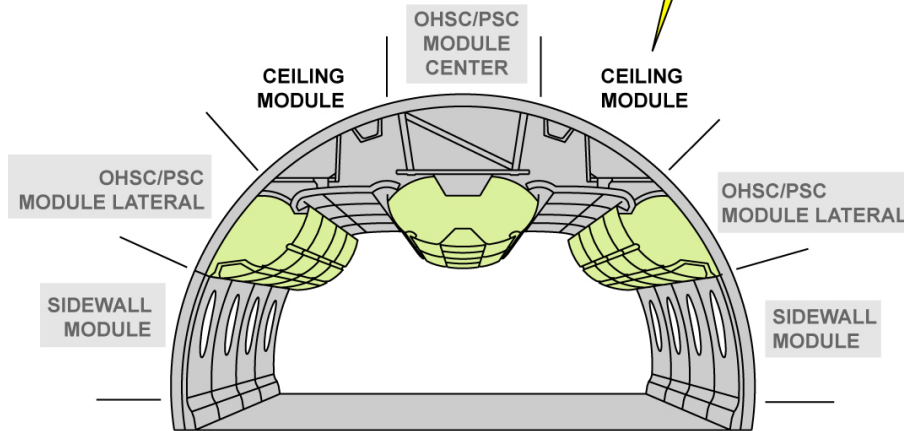
SLIDE CASE



PINS

SLIDE CASES

ATTACHING DEVICE
TOP VIEW



OHSC: Overhead Stowage Compartment
PSC: Passenger Supply Channel

SIDEWALL AND CEILING PANELS ATTACHMENT

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CABIN DESCRIPTION (2/3)

Overhead Stowage Compartments (OHSCs) Description

There are two types of OHSCs with movable bins in the cabin, the lateral OHSCs and the center OHSCs. The OHSC doors have two gas dampers to keep the doors in the open position.

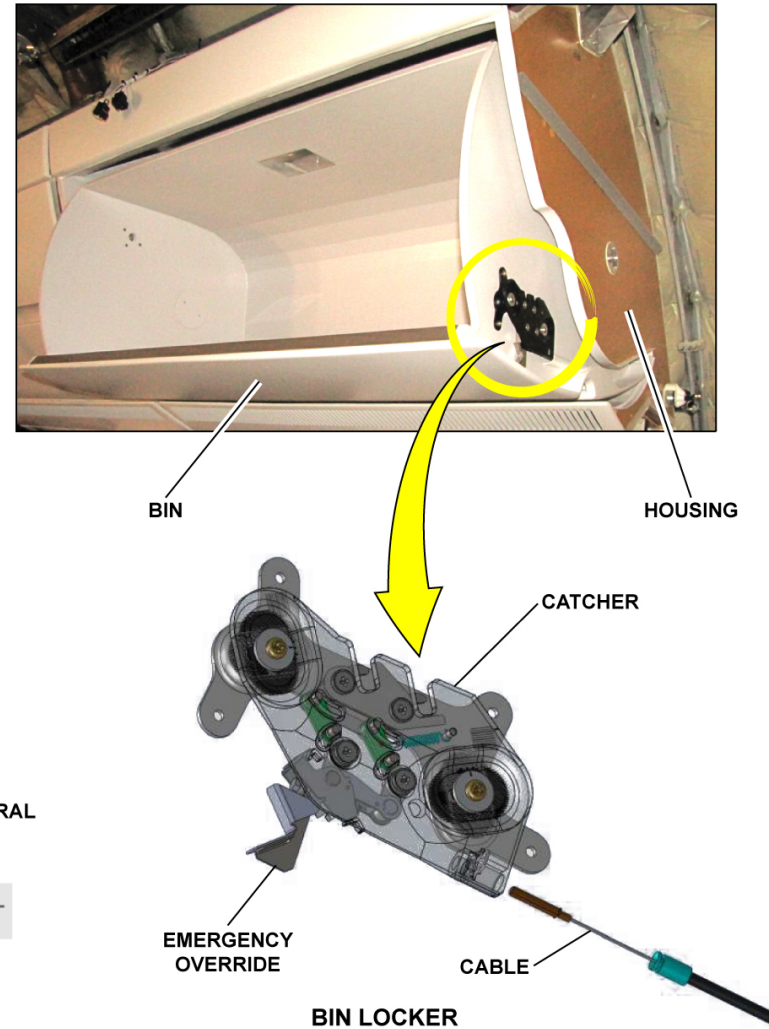
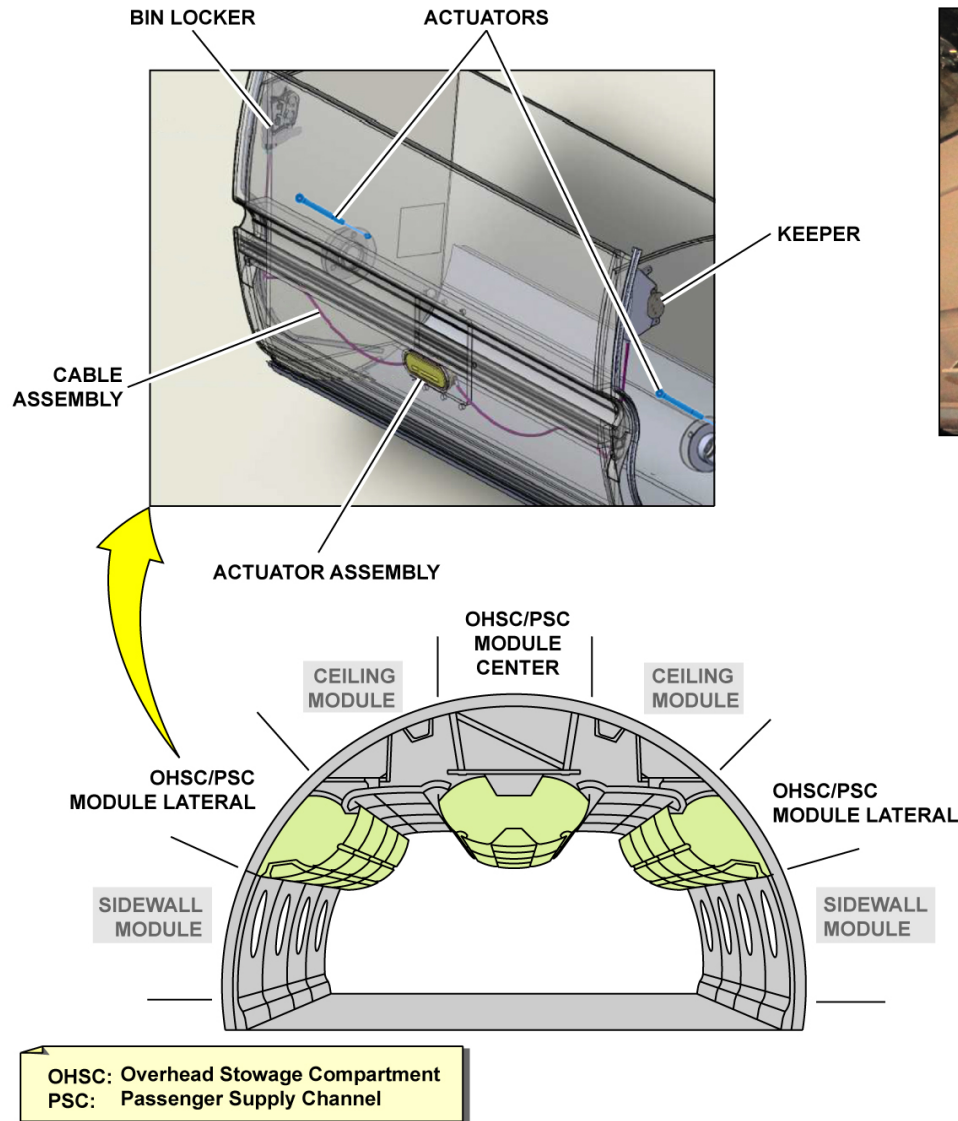
To open the OHSC bin, a manual actuator remotely controls the catcher of the two bin lockers (one on each edge) by cables.

In closed position, the OHSC bin is locked by its two lockers and their relative keepers on the OHSC housing.

If the remote control fails for bin lockers, there is an emergency override mechanism on each locker to unlatch the catcher with a tool (eg. manual release tool).

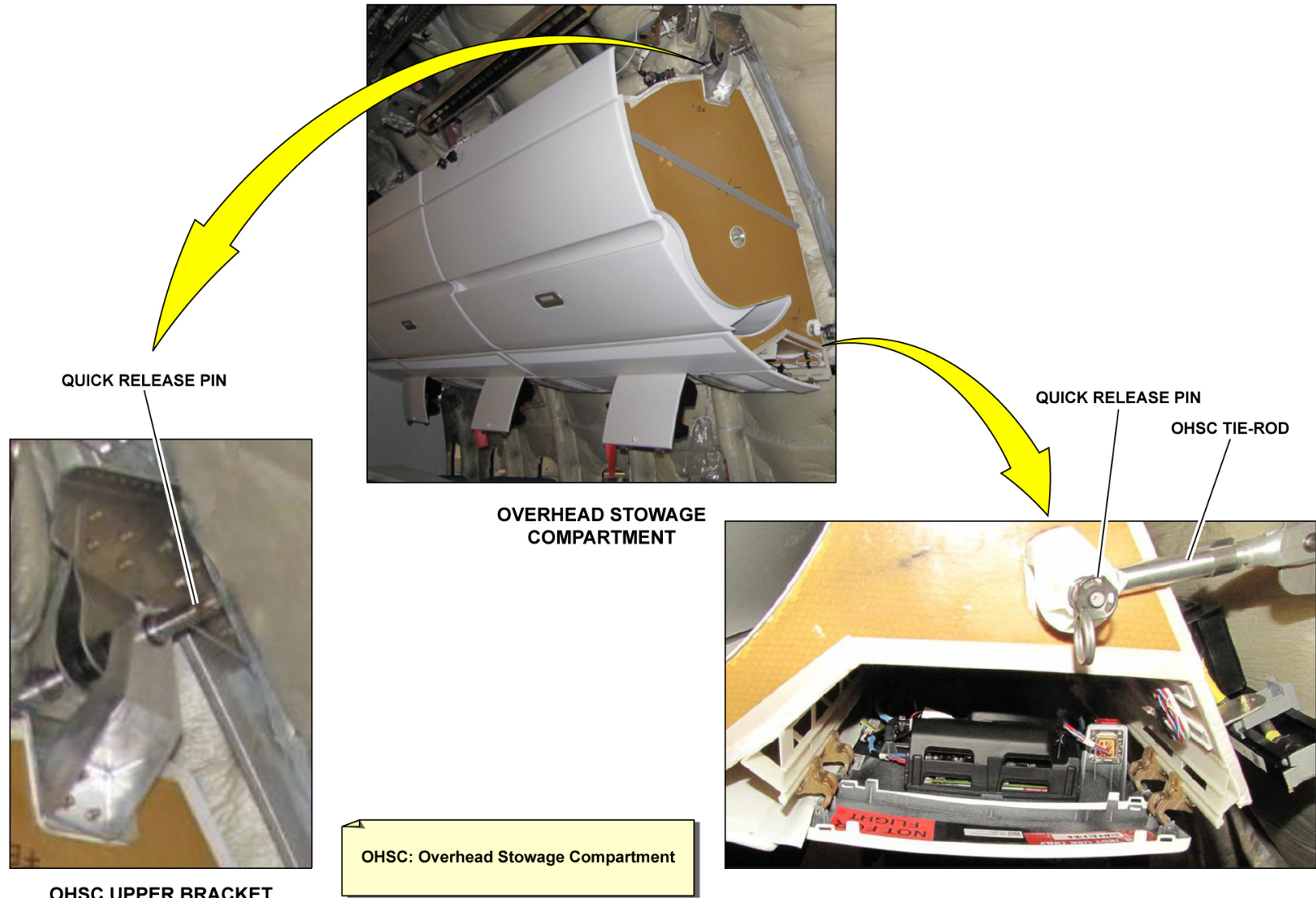
A lateral OHSC has one bin and a center OHSC has two bins, installed back to back onto the primary structure.

They are attached to the aircraft structure by tie-rods as lower fixation and brackets with quick release pins as upper fixation.



OVERHEAD STOWAGE COMPARTMENTS (OHSCS) DESCRIPTION

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OVERHEAD STOWAGE COMPARTMENTS (OHSCS) DESCRIPTION

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CABIN DESCRIPTION (2/3)

Passenger Service Channels Description

The passenger service channels are shaped on the lower part of the OHSCs and the ceiling panels (when there is no center OHSC) above the seated passengers.

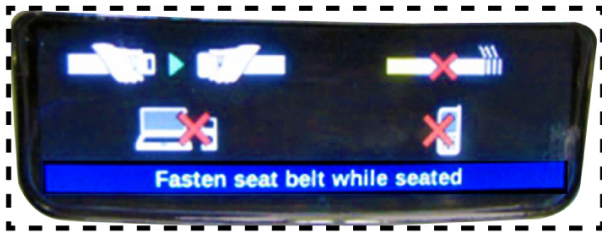
The passenger service channel is designed to host these standard assemblies:

- PSUs (loudspeaker, reading lights)
- Air outlet diffusers
- Emergency oxygen containers.

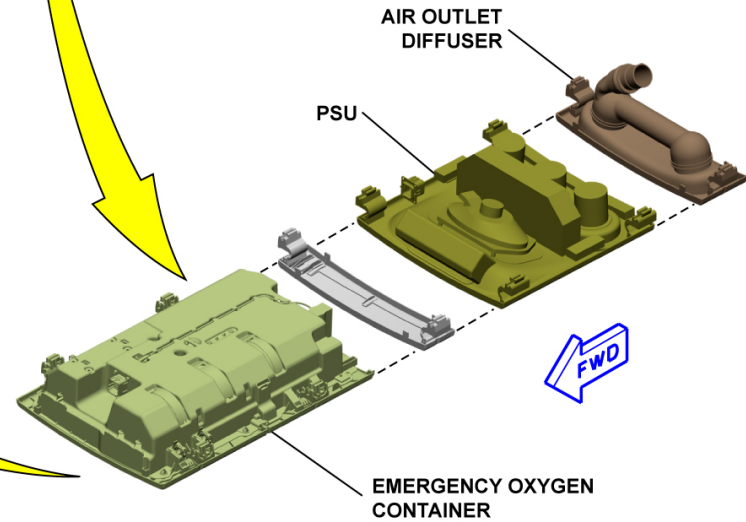
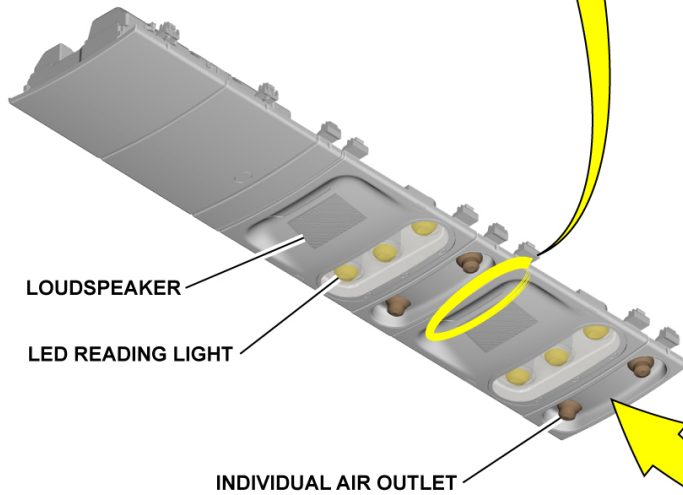
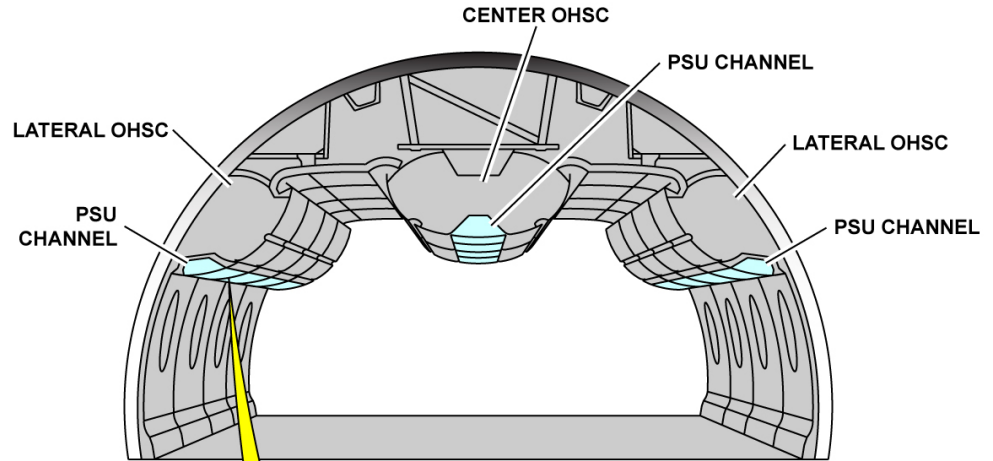
NOTE: It is possible to install an optional passenger information panel with LCD as an alternative to the standard signs panel.

All passenger service channel components (PSUs, oxygen mask containers, infill and special panels) are equipped with retainers, which fit to lateral rails, attached to the OHSCs and lining parts.

Note: The light cover panels are attached by holders on one side. The other side is attached on the passenger service channel rail by the same brackets as PSU panels.



PASSENGER INFORMATION SYSTEM



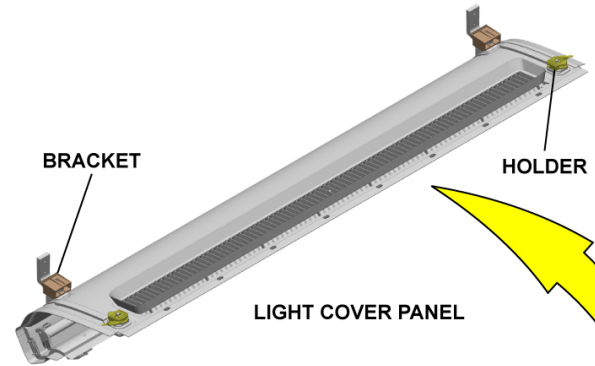
OHSC: Overhead Stowage Compartment
 PSU: Passenger Service Unit

PASSENGER SERVICE CHANNELS DESCRIPTION

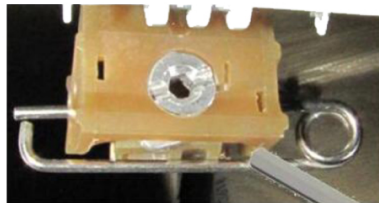
V1813401 - V01T0M0 - VM25D2CABIN3001



OVERHEAD STORAGE COMPARTMENT



PASSENGER SERVICE CHANNEL



PASSENGER SERVICE CHANNEL EQUIPMENTS BRACKET



ALLEN KEY

PASSENGER SERVICE CHANNELS DESCRIPTION

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CABIN DESCRIPTION (2/3)

Floor Panels Covering Description

There are two areas for the floor covering:

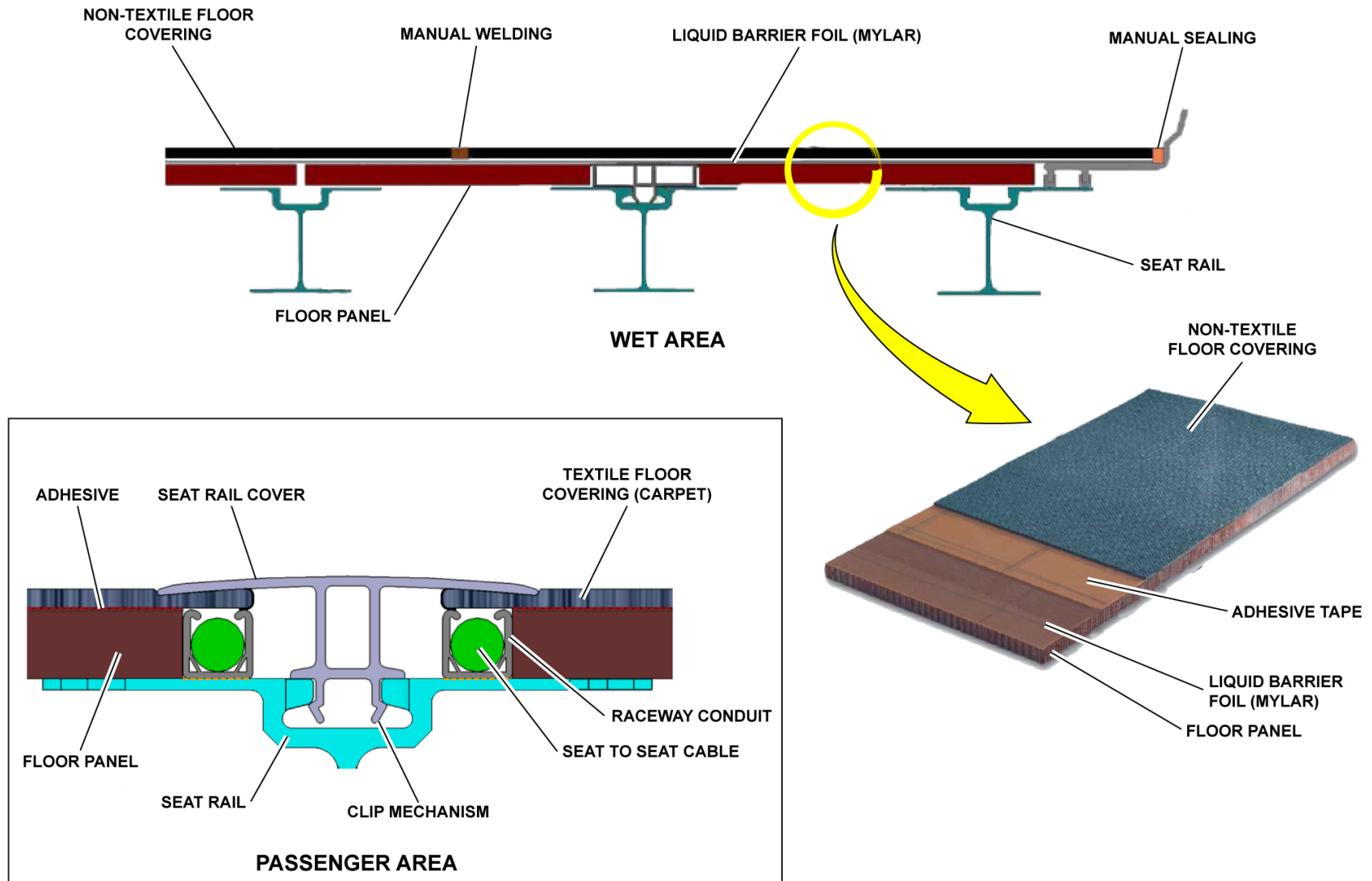
- The passenger zone
- The wet areas (entrance, galleys and lavatories areas).

The aircraft cabin floor is covered with textile or non-textile material.

Non-Textile Floor covering (NTF) is installed (with adhesive tape) in the wet areas above a liquid barrier foil to cover the complete surface (even seat tracks) limited by the monuments in the vicinity.

In the remaining dry areas (passenger areas) textile floor is installed (with adhesive tape).

The seat rail cover covers the seat rail and raceway conduit between seats and monument footprints. It is attached to the seat rail with a clip mechanism.


FLOOR PANELS COVERING DESCRIPTION

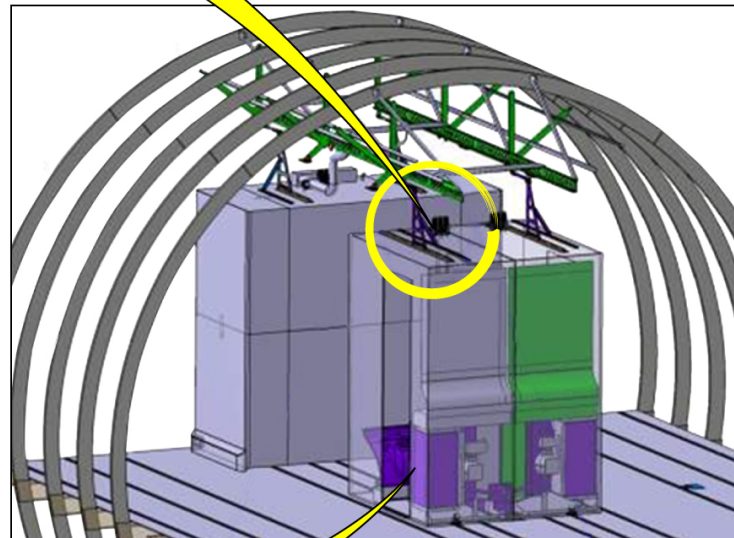
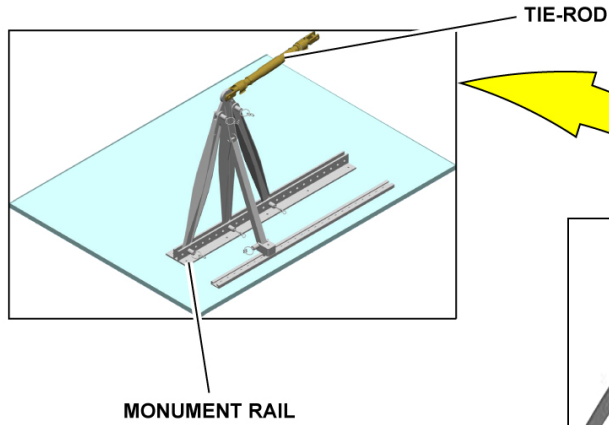
V1813401 - V01T0M0 - VM25D2CABIN3001

CABIN DESCRIPTION (2/3)

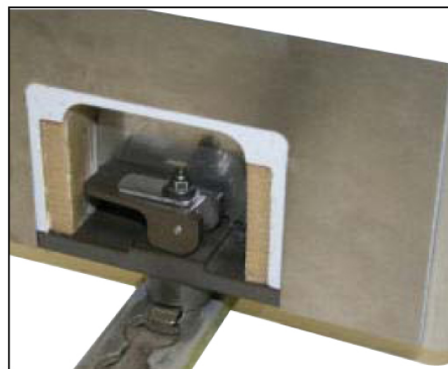
Stowage Monuments Attachment

The stowage monuments (doghouse and full height) can be installed as a stand-alone unit or in combination with another monument in lateral and center areas. They can be fixed on seat rails and/or wall and ceiling mounted with tie-rods.

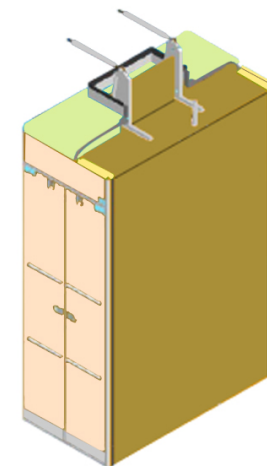
NOTE: Position adjustment of the monuments on the upper part, is obtained by rails fitted on the monument itself.



DOGHOUSE



TRACK FITTING



FULL HEIGHT STORAGE MONUMENT

STOWAGE MONUMENTS ATTACHMENT

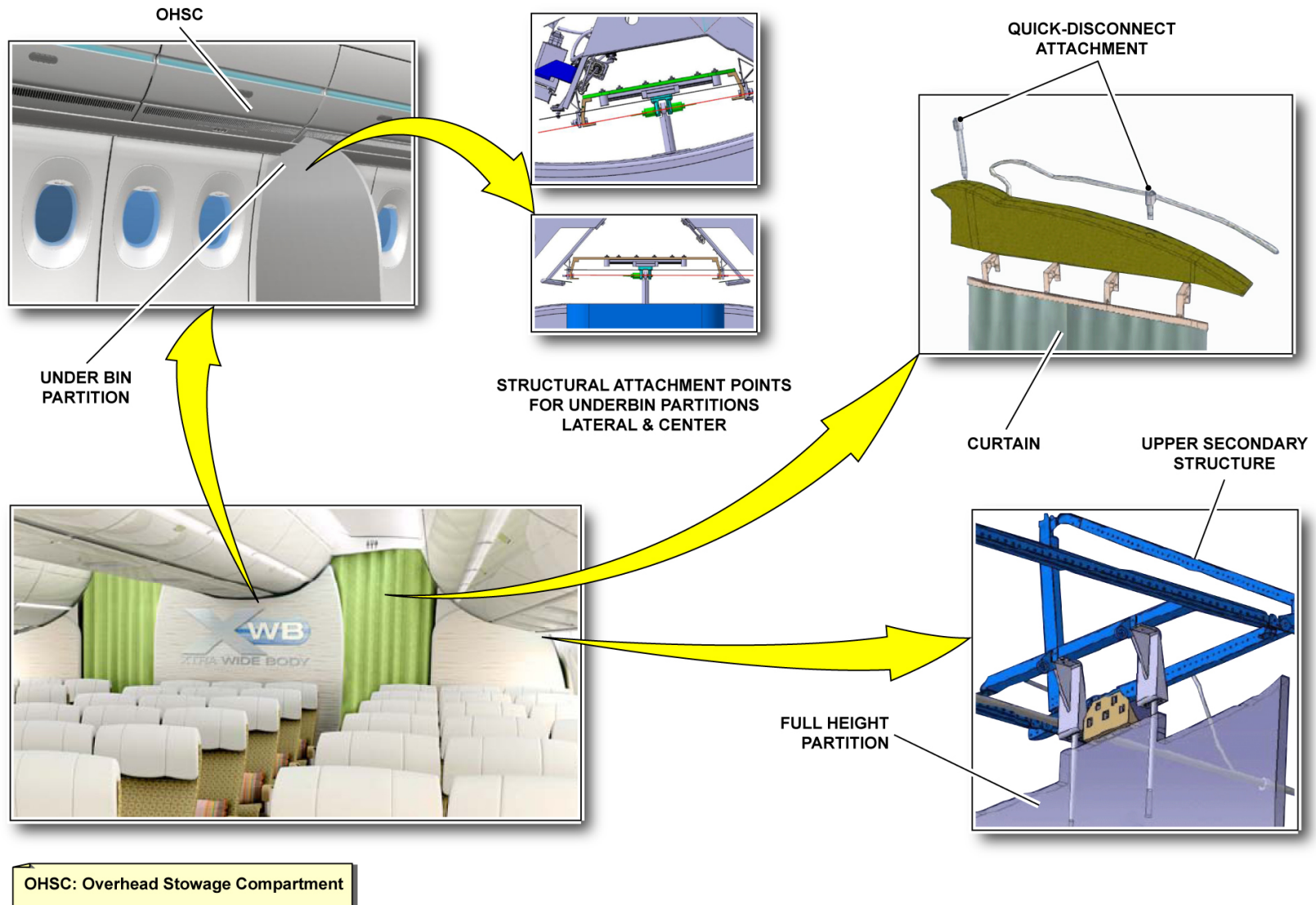
V1813401 - V01T0M0 - VM25D2CABIN3001

CABIN DESCRIPTION (2/3)

Partitions and Curtains Attachment

There are two different types of partitions: Full-height-partitions and partitions with a height below OHSC, also known as under bin partitions. The lower attachment of the partitions are attached to the seat rails and the upper attachments are attached to the passenger service channels rails (under bin partition) or to the airframe upper secondary structure (full height partition) by pins.

Curtain systems are installed to divide cabin into classes, in combination with partitions. They are attached to upper secondary structure by quick-disconnect attachment.



PARTITIONS AND CURTAINS ATTACHMENT

V1813401 - V01T0M0 - VM25D2CABIN3001

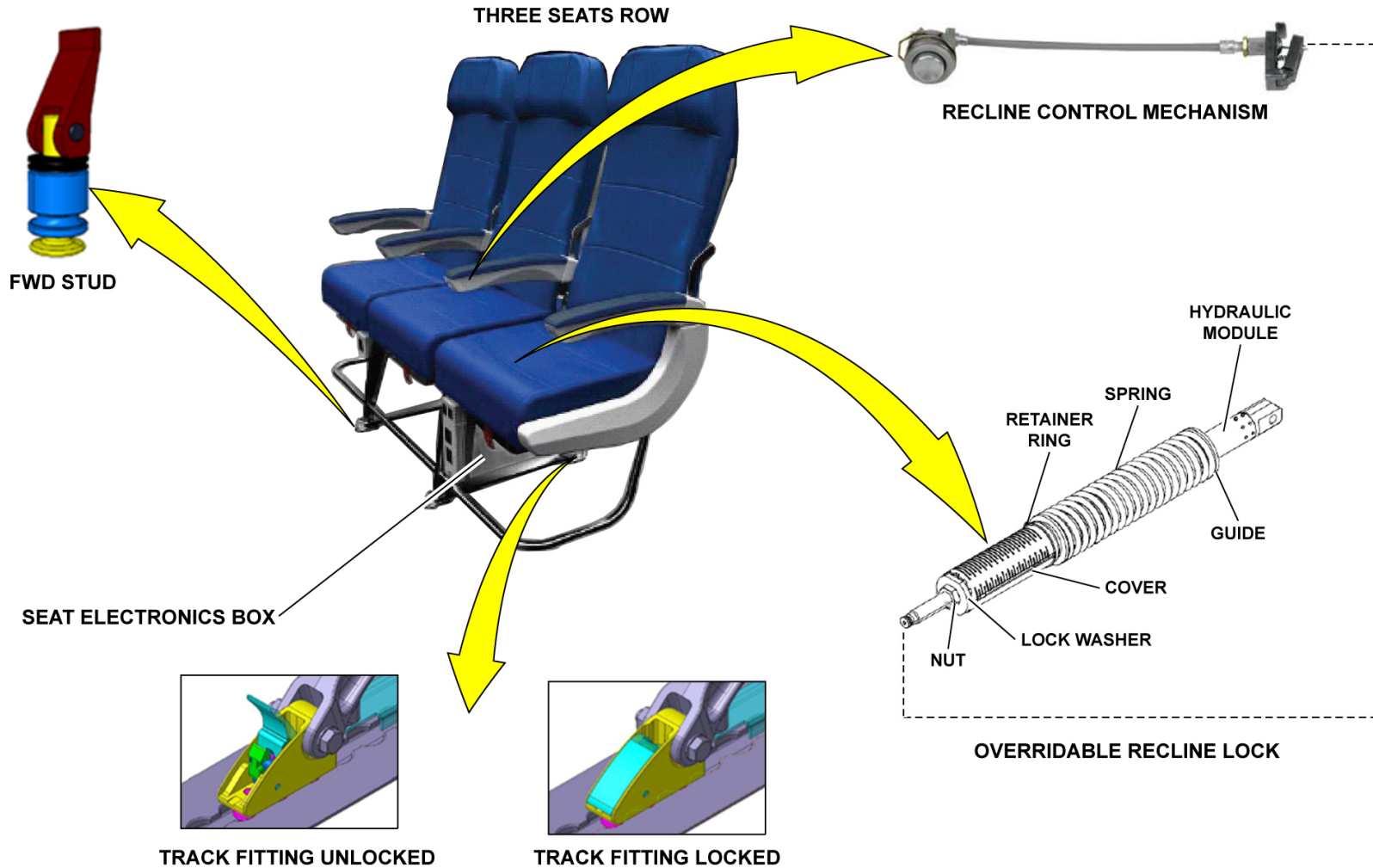
CABIN DESCRIPTION (2/3)

Economic Class and Cabin Attendant Seats Description

All passenger seats are track-mounted through seat fittings in the aft and studs in the forward. There are standard interfaces for In-Flight Entertainment (IFE) through SEBs.

A recline lock mechanism (hydro-lock) is remotely controlled by a recline control pushbutton, through a linkage embedded inside the seat armrest. The cabin attendant seats are track-mounted or attached to floor beams through hard points (quantity 4) and (quantity 6) screws on the "mounting wall".

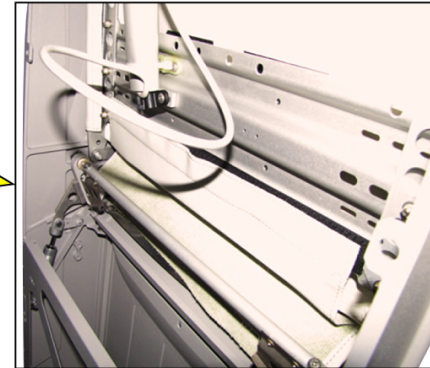
NOTE: You have to position an aluminum seal carrier before cabin attendant seats installation to achieve liquid tightness.



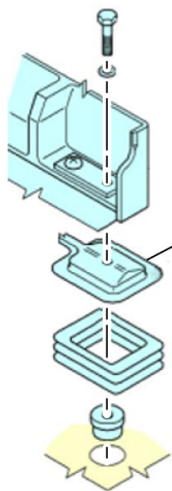
ECONOMIC CLASS AND CABIN ATTENDANT SEATS DESCRIPTION

V1813401 - V01T0M0 - VM25D2CABIN3001

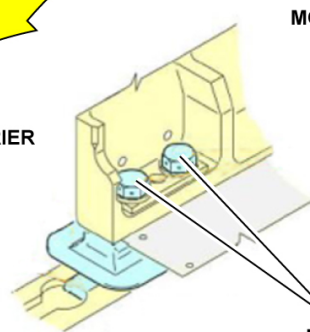
CABIN ATTENDANT SEAT



FOLDING MECHANISM



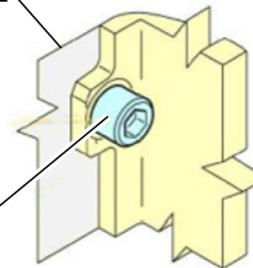
HARD POINT MOUNTED



SEAT TRACK MOUNTED

MOUNTING WALL

BOLTS



WALL MOUNTED

ECONOMIC CLASS AND CABIN ATTENDANT SEATS DESCRIPTION

V1813401 - V01T0M0 - VM25D2CABIN3001

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CABIN DESCRIPTION (2/3)

First and Business Class Seats Description

The in-seat installation is based on the customized configuration. It has IFE and seat actuation.

The seat actuation system has:

- Seat actuation controller
- Actuators
- Seat control unit.

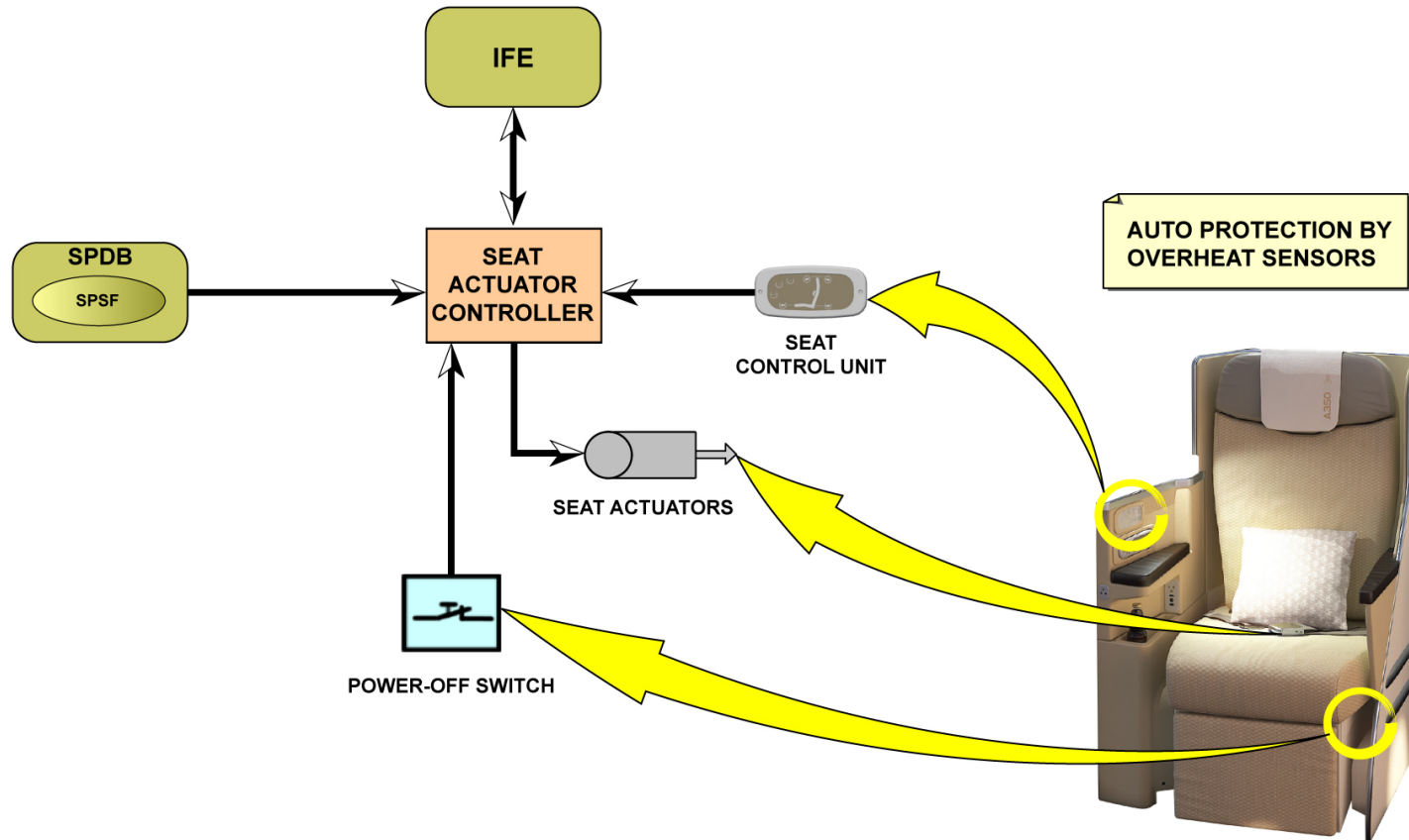
The SPDB electrical supply to the seat actuation system is managed by the Seat Power Supply Function.

To deactivate the seat actuation system, a power-off switch is installed under the seat.

All moveable parts are installed with a mechanical override to move the seat (if there is power loss or malfunction) in a safe position (for Taxi, Takeoff and Landing (TTL) phases).

Notes:

- Seat actuation controller and actuators are designed with overheat sensors, so that if overheating is detected, the system is automatically switched off until the affected unit is cooled down
- System components are monitored by the BITE function of the seat actuation controller. Occurred failures will be sent to IFE network.



IFE: In-Flight Entertainment
SPDB: Secondary Power Distribution Box
SPSF: Seat Power Supply Function

FIRST AND BUSINESS CLASS SEATS DESCRIPTION

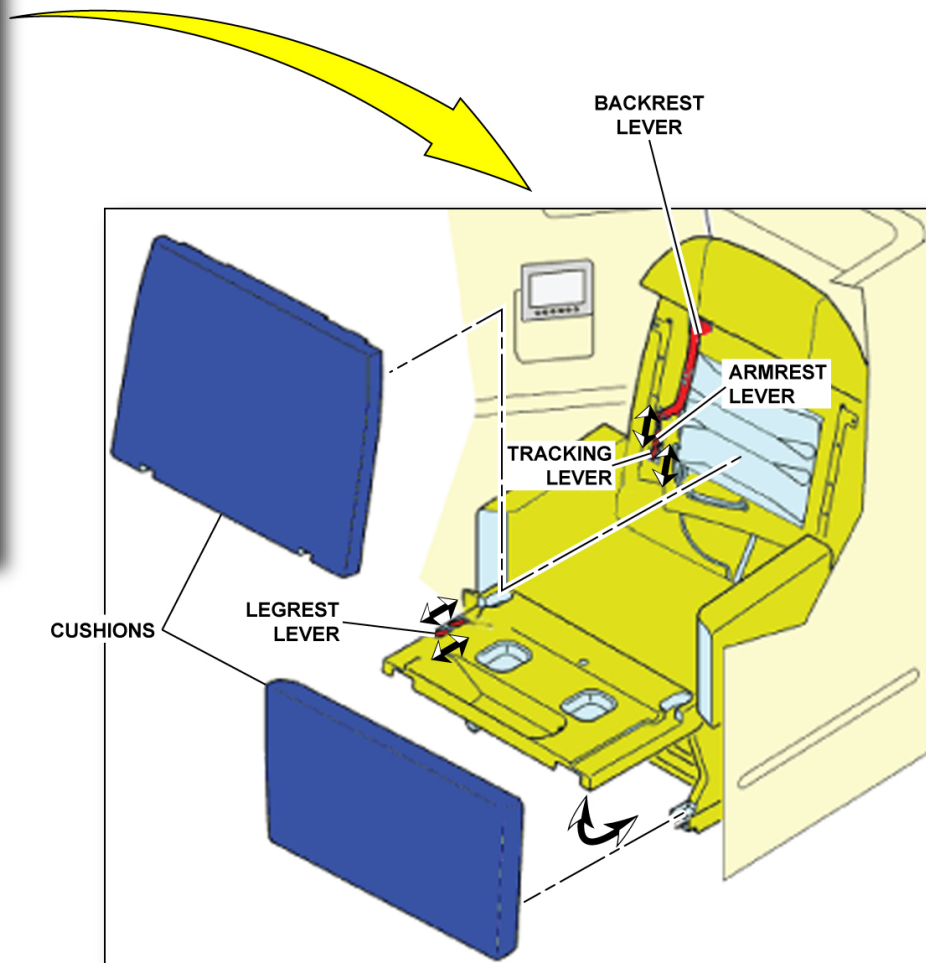
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CABIN EQUIPMENTS AND FURNISHING MAINTENANCE (2/3)

Passenger and Cabin Attendant Seats Manual Override

First, Business and Economic Class Seats

Before Taxi/Take-off/Landing (TTL) phases, all the passenger seats have to be set in an up-right position. If the normal operation of a seat fails (electrical for first and business seats, manual for economic class seats), a manual override mechanism is attached to each adjustable part (backrest, armrest...) to move back the seat in the up-right position. Note: During the TTL phases, the up-right position is mandatory to prepare the cabin for an emergency evacuation.


FIRST CLASS SEAT

PASSENGER AND CABIN ATTENDANT SEATS MANUAL OVERRIDE - FIRST, BUSINESS AND ECONOMIC CLASS SEATS

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ECONOMIC PASSENGER SEAT



RECLINE RING

PASSENGER AND CABIN ATTENDANT SEATS MANUAL OVERRIDE - FIRST, BUSINESS AND ECONOMIC CLASS SEATS

V1813401 - V01T0M0 - VM25MIMAIN3001

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CABIN EQUIPMENTS AND FURNISHING MAINTENANCE (2/3)**Passenger and Cabin Attendant Seats Manual Override
(continued)****Cabin Attendant Seat (CAS)**

If the foldable mechanism of a CAS fails, the seat must be considered as inoperative and must be set to the retracted position before TTL phases.

If the retracted position is not reachable, the CAS has to be removed before flight.



OR



SEAT REMOVED

PASSENGER AND CABIN ATTENDANT SEATS MANUAL OVERRIDE - CABIN ATTENDANT SEAT (CAS)

V1813401 - V01T0M0 - VM25MIMAIN3001

CABIN EQUIPMENTS AND FURNISHING MAINTENANCE (2/3)

Thermal and Acoustical Isolation Blankets Attachment

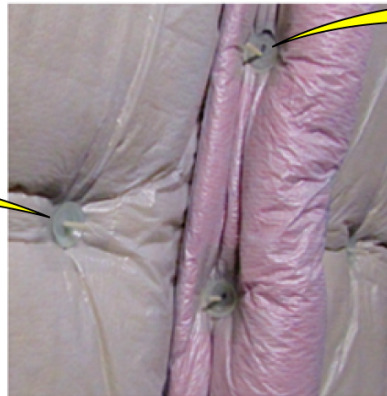
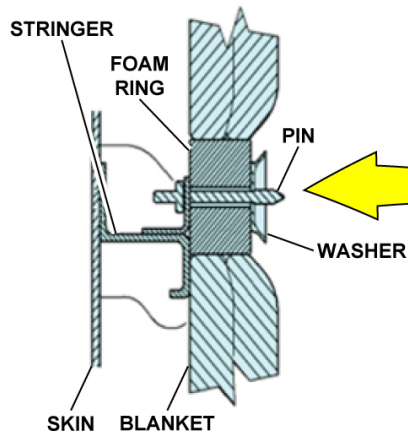
Thermal and acoustic insulation blankets are installed around the airframe, between the aircraft primary structure and the linings.

They are attached to the primary structure by pins and self-lock washers or directly bonded to the structure. The thermal and acoustical insulation blankets have vent and drain holes to prevent water condensation and accumulation.

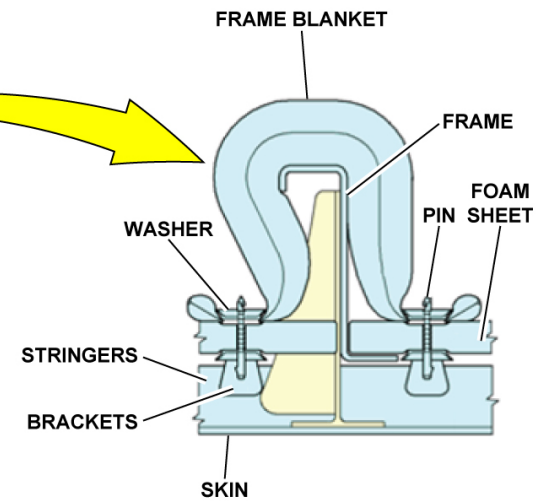
CAUTION: HAVE A PARTICULAR ATTENTION TO THE GOOD ATTACHMENT OF THE BLANKETS DURING INSPECTION OR WHEN YOU RE-INSTALL THE LININGS. AN UN-ATTACHED BLANKET CAN GENERATE A WATER ACCUMULATION AND INDUCE DAMAGE TO SYSTEMS WITH A RISK OF CABIN SMOKE.



HAVE A PARTICULAR ATTENTION TO THE GOOD ATTACHMENT OF THE BLANKETS DURING INSPECTION OR WHEN YOU RE-INSTALL THE LININGS. AN UN-ATTACHED BLANKET CAN GENERATE A WATER ACCUMULATION AND INDUCE DAMAGE TO SYSTEMS WITH A RISK OF CABIN SMOKE.



BLANKET ATTACHMENT EXAMPLES



THERMAL AND ACOUSTICAL ISOLATION BLANKETS ATTACHMENT

V1813401 - V01T0M0 - VM25MIMAIN3001

CABIN EQUIPMENTS AND FURNISHING MAINTENANCE (2/3)**Cabin Lining Repair**

WARNING: BE CAREFUL WHEN YOU USE CONSUMABLE MATERIALS. OBEY THE MATERIAL MANUFACTURER'S INSTRUCTIONS AND YOUR LOCAL REGULATIONS.

WARNING: USE OF NON-COMPLIANT MATERIALS FOR EQUIPMENT REPAIR INSIDE THE PASSENGER AREAS CAN CAUSE INJURIES IN CASE OF COMBUSTION DURING A FIRE EVENT.



**BE CAREFUL WHEN YOU USE CONSUMABLE MATERIALS.
OBEY THE MATERIAL MANUFACTURER'S INSTRUCTIONS AND YOUR LOCAL REGULATIONS.**



**USE OF NON-COMPLIANT MATERIALS FOR EQUIPMENT REPAIR. (e.g.:CARGO PANELS REPAIR KIT IS NOT APPROVED)
INSIDE THE PASSENGER AREAS CAN CAUSE INJURIES IN CASE OF COMBUSTION DURING A FIRE EVENT.**

CABIN LINING REPAIR

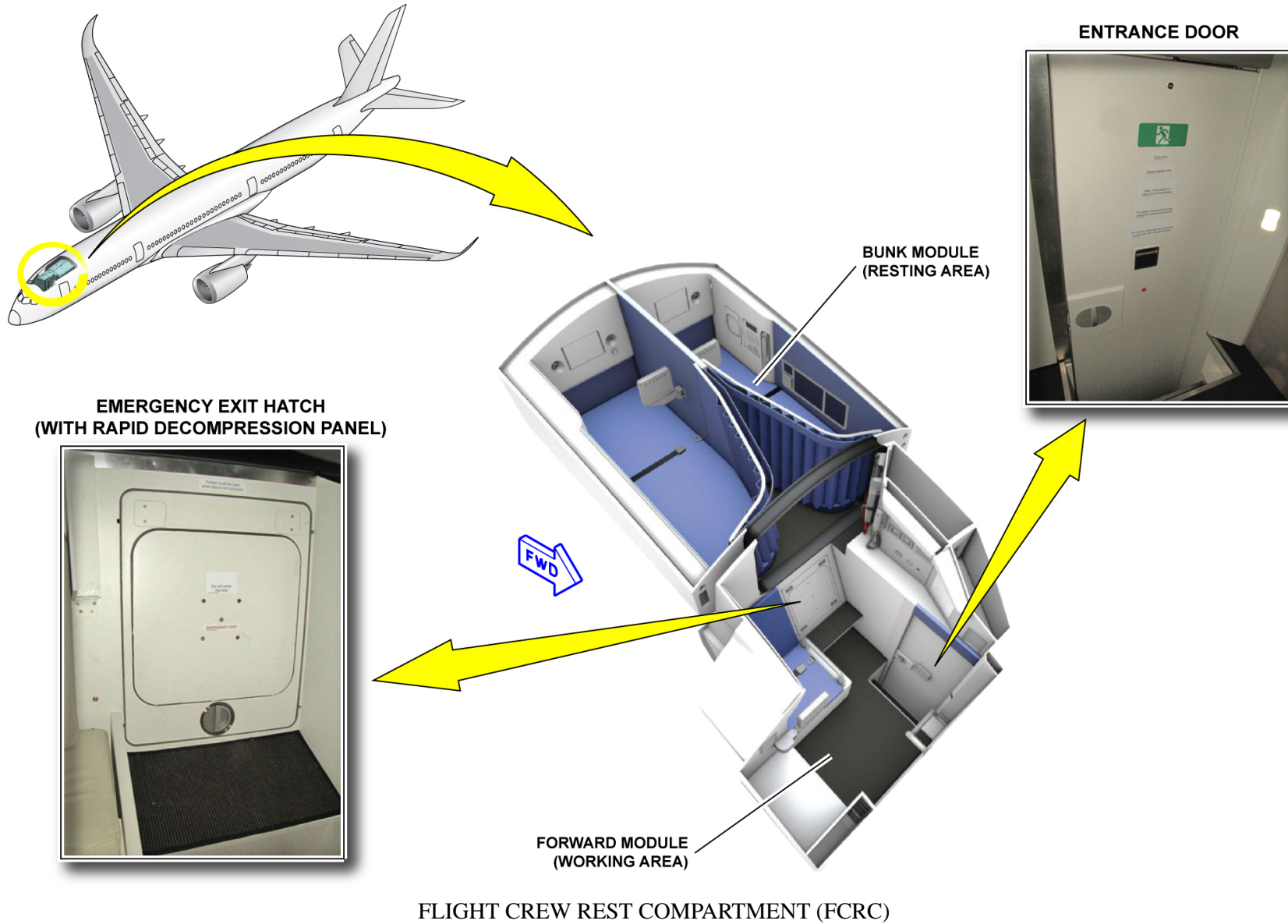
CREW REST COMPARTMENTS DESCRIPTION (OPTION) (2/3)**Flight Crew Rest Compartment (FCRC)**

The FCRC has two modules, the forward module and the bunk module. The forward module has a working area (1 seat) and is adjacent to the trolley stowage (galley).

The bunk module is a resting area with bunks (quantity 2).

It is possible to access the FCRC through a secured door immediately outside the cockpit. This door is latched by the electrical door locking-system. The operation of this door is the same as the operation of the privacy door (ATA 52).

There is an emergency exit hatch installed on the rear part of the working area. The emergency exit is closed by a panel with an integrated rapid decompression panel.



V1813401 - V01T0M0 - VM25D3CREWR3001

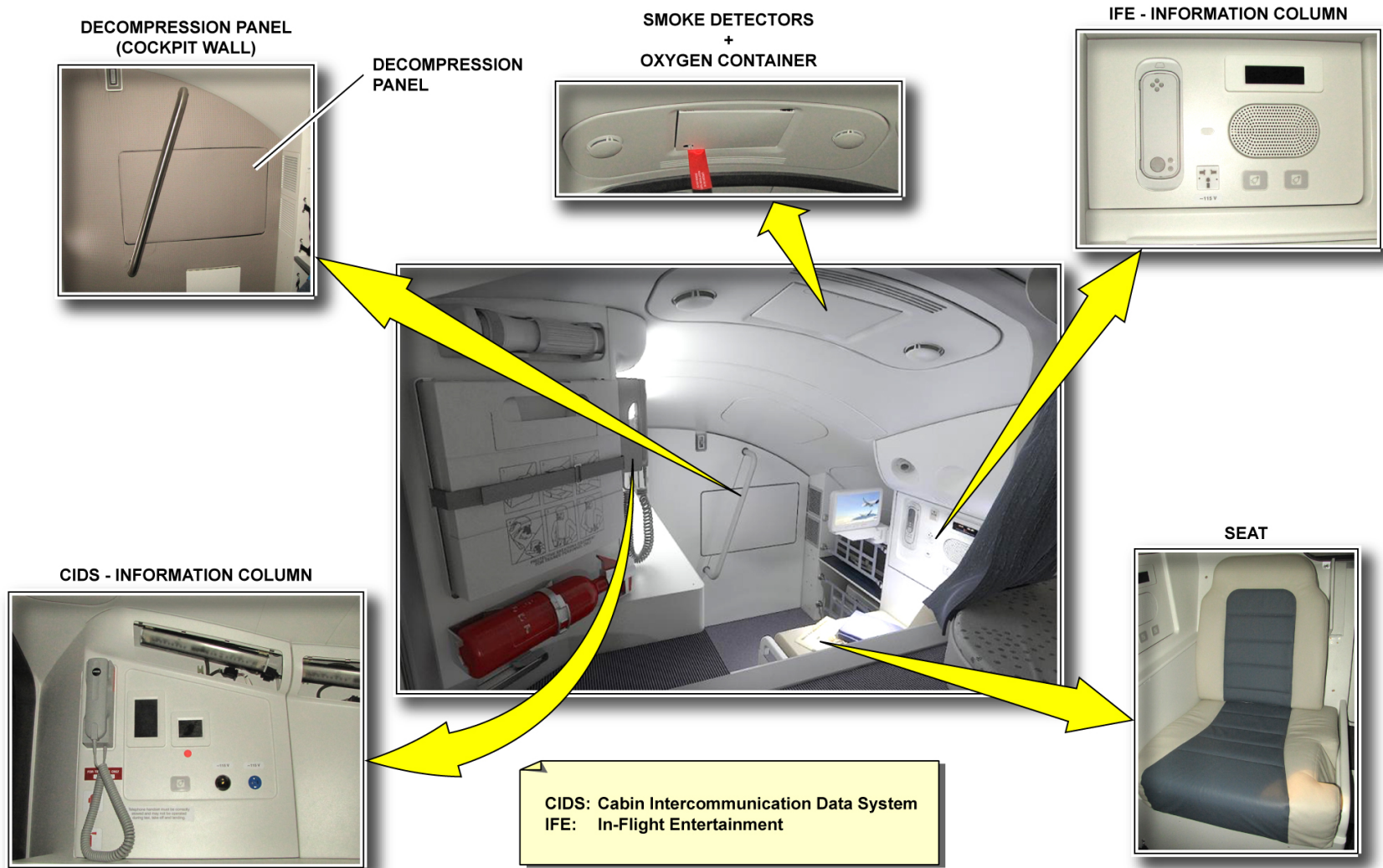
CREW REST COMPARTMENTS DESCRIPTION (OPTION) (2/3)**FCRC: Description**

There are many equipments installed in the FCRC.

Forward Module: Working Area

The working area of the forward module has:

- A CIDS information column (Additional Attendant Panel (AAP), Additional Indication Panel (AIP) and handset)
- A decompression panel installed on the cockpit wall which will open out of the FCRC, if there is a cockpit decompression
- Smoke detectors (quantity 2) in the ceiling of the working area.
Between the two smoke detectors there is an oxygen box container
- An IFE information column close to the seat.

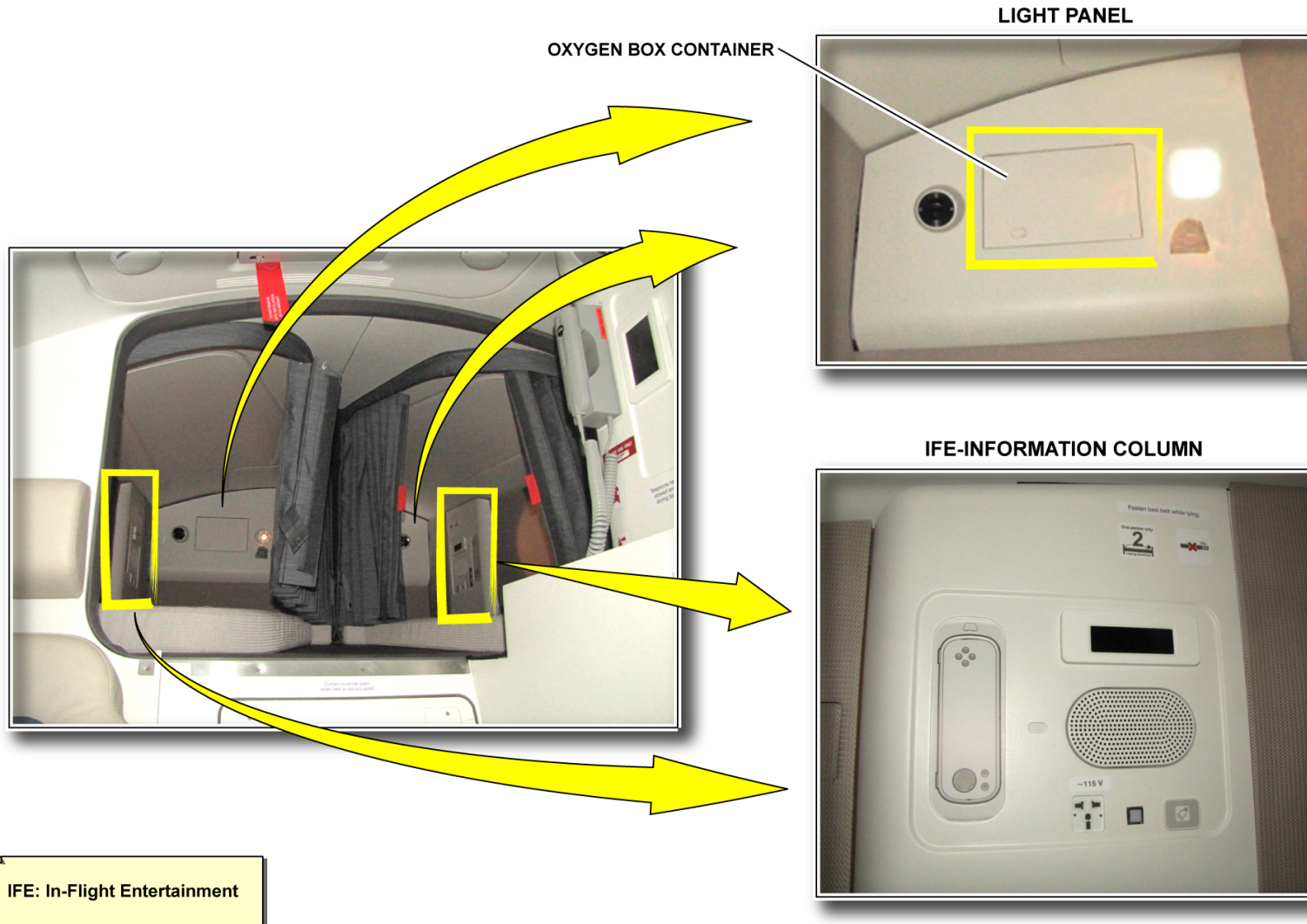


FCRC: DESCRIPTION - FORWARD MODULE: WORKING AREA

V1813401 - V01T0M0 - VM25D3CREWR3001

CREW REST COMPARTMENTS DESCRIPTION (OPTION) (2/3)**FCRC: Description (continued)****Bunk Module: Resting Area**

Near to each bunk there is a light panel with an oxygen box container and an IFE information column.



IFE: In-Flight Entertainment

FCRC: DESCRIPTION - BUNK MODULE: RESTING AREA

V1813401 - V01T0M0 - VM25D3CREWR3001

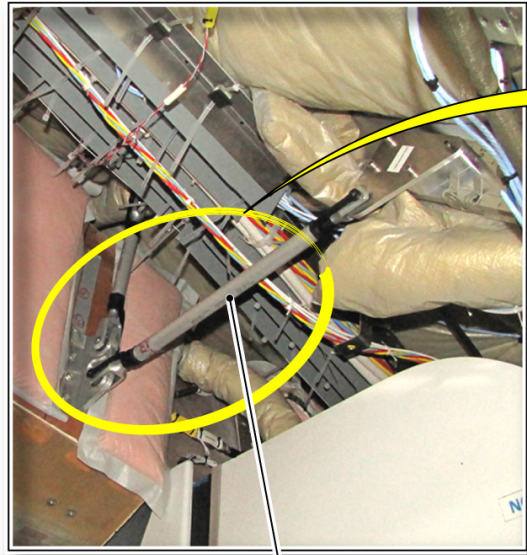
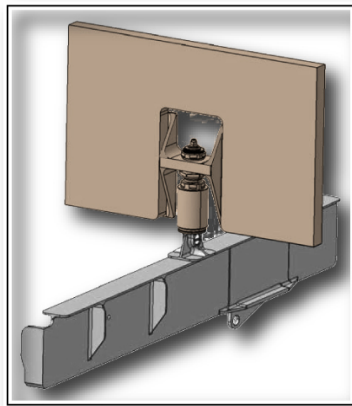
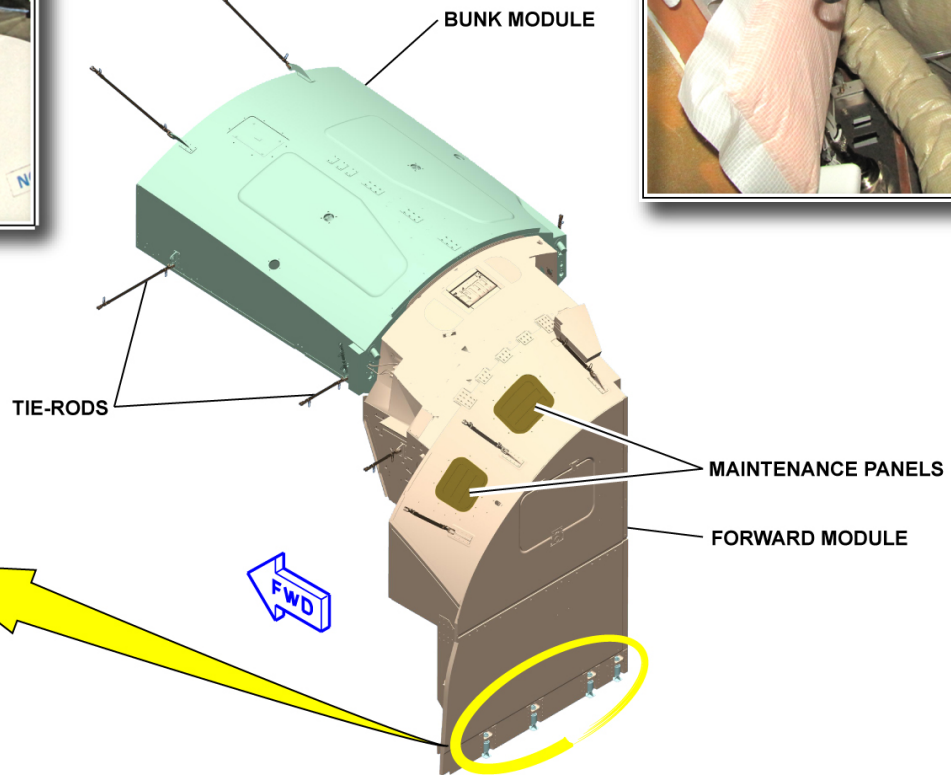
CREW REST COMPARTMENTS DESCRIPTION (OPTION) (2/3)

FCRC: Attachments

The FCRC is mechanically attached to the structure with upper and lower structural attachments.

The forward module is installed with tie-rods (quantity 3) and hard-points (quantity 4). But, the bunk module is installed with only tie-rods (quantity 8).

Maintenance panels are installed in the working area ceiling to give access to the FCRC tie-rods and for inspection.


TIE-ROD

HARD POINT ATTACHMENT
FCRC: ATTACHMENTS

V1813401 - V01T0M0 - VM25D3CREWR3001

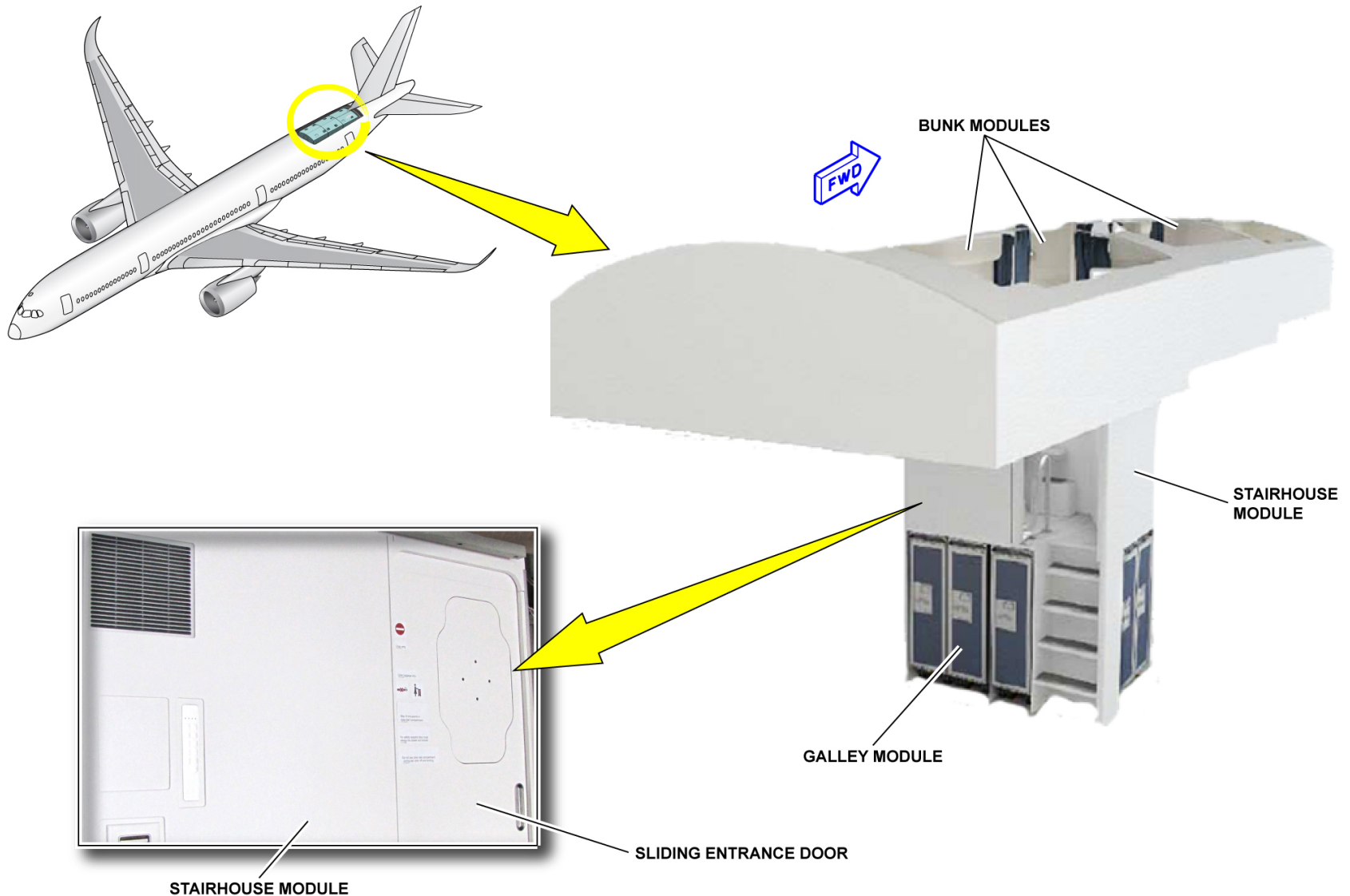
CREW REST COMPARTMENTS DESCRIPTION (OPTION) (2/3)

Cabin Crew Rest Compartment (CCRC)

The CCRC is installed at a fixed position near door 4.

The CCRC has different parts, bunk modules (quantity 3) and a stairhouse module.

It is possible to access the bunk modules through a stairhouse module and a sliding entrance door (also used as a decompression panel). The stairhouse module extends above the galley module.



CABIN CREW REST COMPARTMENT (CCRC)

V1813401 - V01T0M0 - VM25D3CREWR3001

CREW REST COMPARTMENTS DESCRIPTION (OPTION) (2/3)

CCRC: Description

The CCRC has:

- Many bunks (up to 8 bunks)
- IFE Information panel (AAP, AIP), light panel and oxygen box container in each bunk module
- A CIDS info column for cabin crew communication function (AAP, AIP and intercommunication handset).

The CCRC has one emergency exit hatch installed at the front end of the aisle to the forward bunks and opening into the cabin area.

IFE-INFORMATION PANEL



CIDS-INFORMATION COLUMN



EMERGENCY EXIT HATCH



ENTRANCE AREA



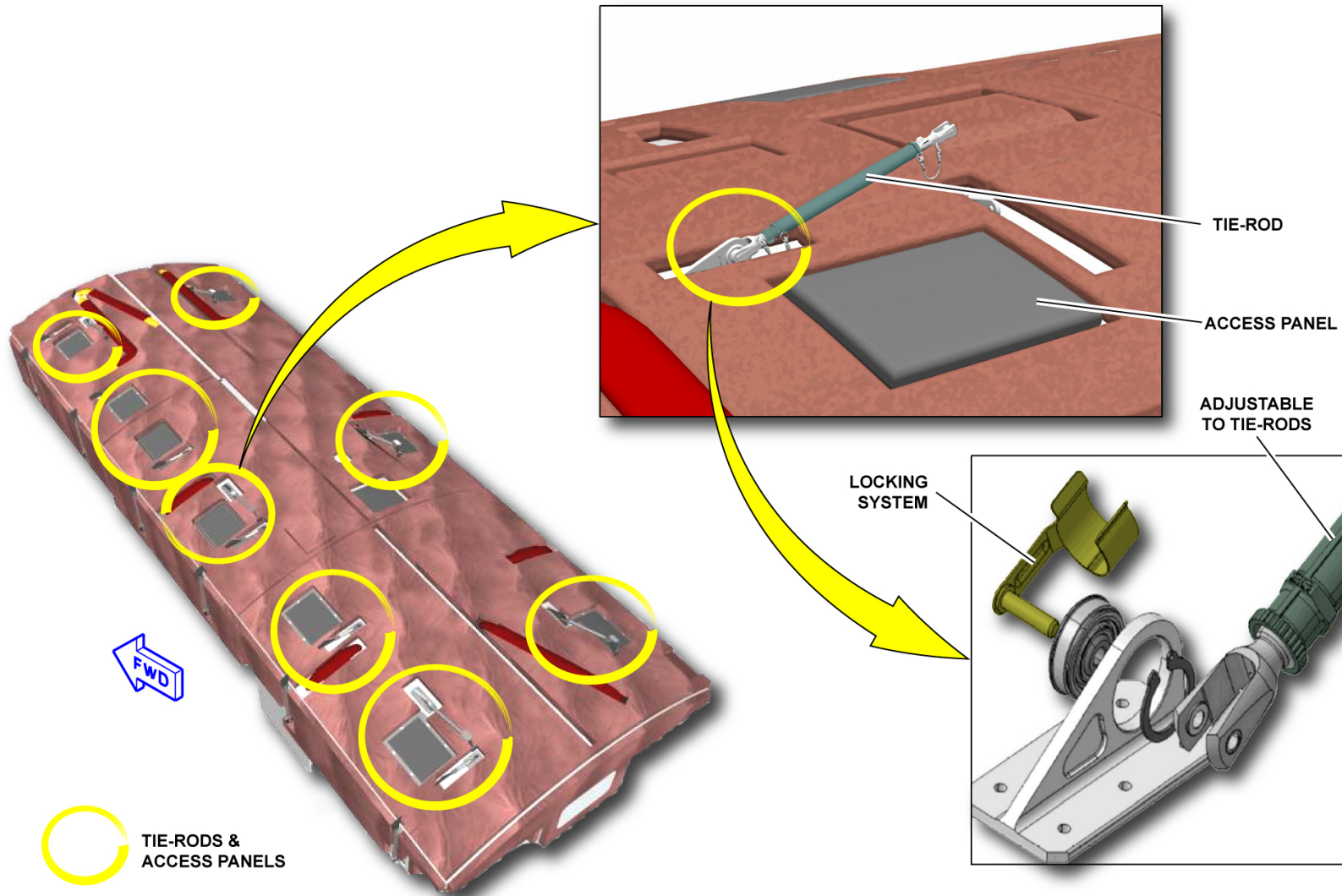
CIDS: Cabin Intercommunication Data System
IFE: In-Flight Entertainment

CCRC: DESCRIPTION

V1813401 - V01T0M0 - VM25D3CREWR3001

CREW REST COMPARTMENTS DESCRIPTION (OPTION) (2/3)**CCRC: Attachments**

The CCRC is mechanically attached to the structure with upper attachments only. Each bunk module has tie-rods for each load direction. The CCRC has no lower attachments to the primary structure. There is no contact between CCRC and the galley module during normal flight operation and ground operation.



CCRC: ATTACHMENTS

V1813401 - V01T0M0 - VM25D3CREWR3001

GALLEY AND EQUIPMENTS DESCRIPTION (2/3)

Galley Installation

There are two different types of galley installations based on the galley position:

- One for galleys at fixed positions that are built around aircraft geometry
- One adjustable type for all galleys in the flexible zones, using inch by inch flexibility.

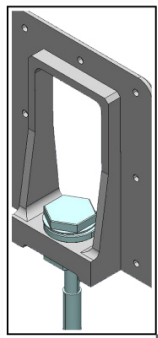
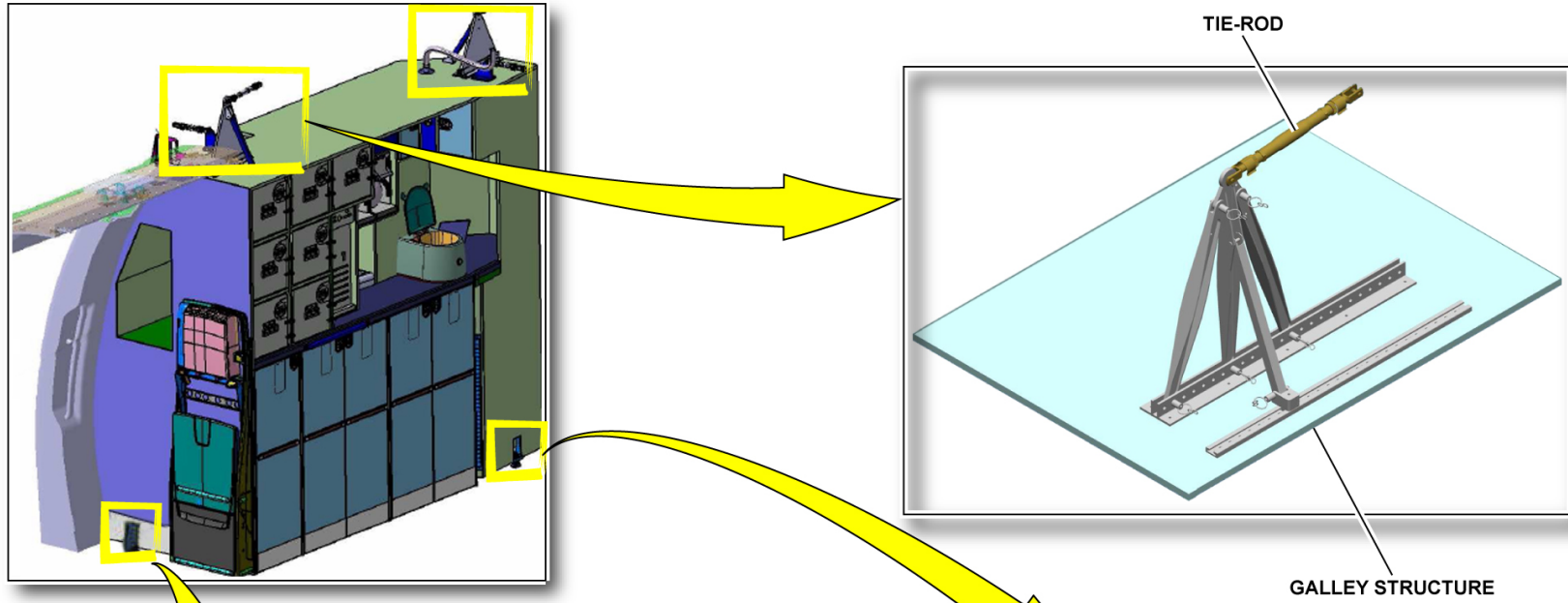
All galleys in all installation areas have direct interfaces to the aircraft.

In general, there are two principles for the connection:

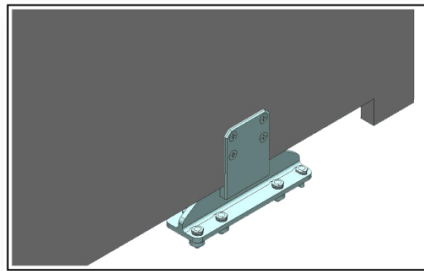
- Upper attachment with tie-rods secured to the aircraft primary structure
- Lower attachment with different attach types (hard point, flutter point, pin point, seat rail).

At the flexible galley locations, galleys interface with standard and easy reconfiguration connections for power supply, signals (call lights, handsets, speakers, etc.), water, waste (ATA 38) and air extraction (CAX ATA 21).

NOTE: The installation of a galley includes adaptation to the adjacent interior furnishing (e.g. dado panels, sidewall-panel, door frame lining, Overhead Stowage Compartments (OHSCs), floor panels and ceiling panel etc.) and installation of dummy windows behind the side galleys are necessary (not represented).



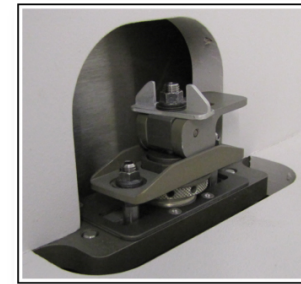
PIN POINT ATTACH



FLUTTER POINT ATTACH



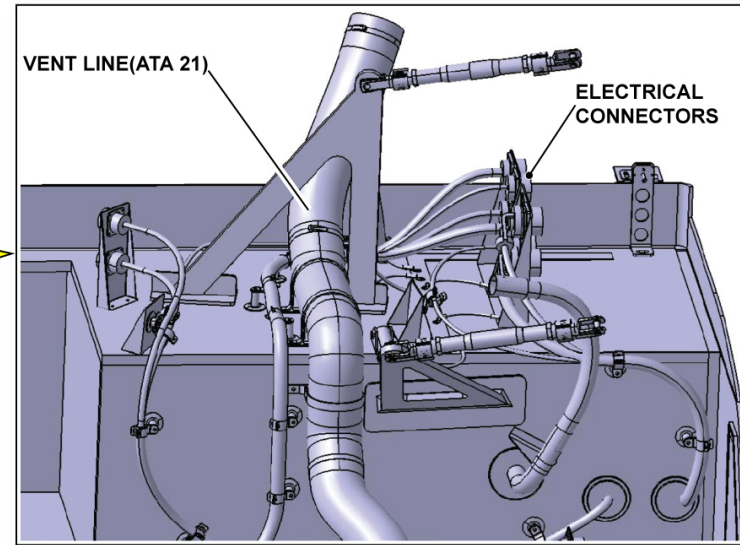
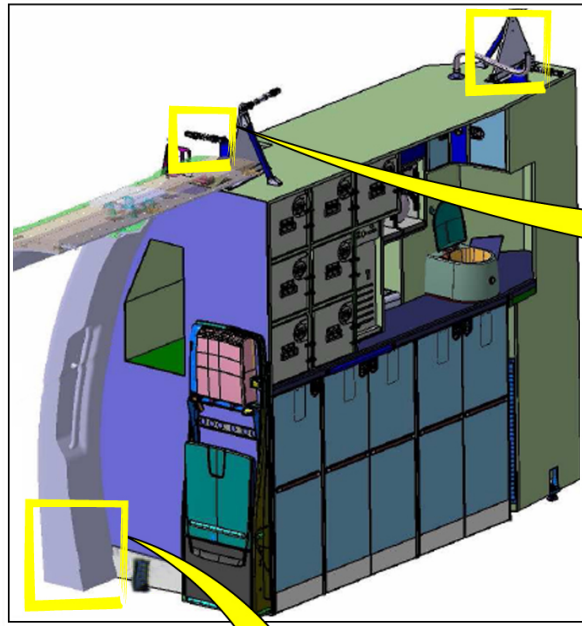
HARD POINT ATTACH



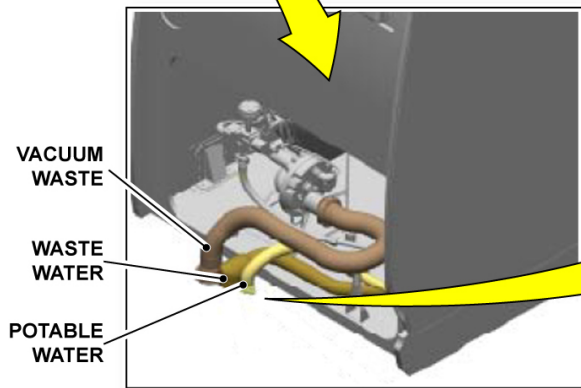
SEAT RAIL ATTACH

GALLEY INSTALLATION

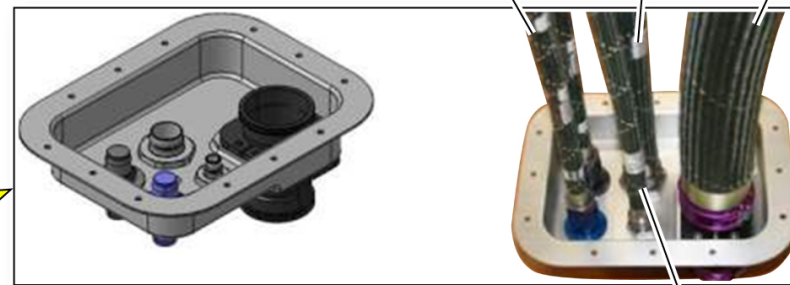
V1813401 - V01T0M0 - VM25D4GALEY3001



GALLEY CEILING INTERFACES



GALLEY FLOOR INTERFACES



GALLEY FLOOR INTERFACES

GALLEY INSTALLATION

V1813401 - V01T0M0 - VM25D4GALEY3001

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GALLEY AND EQUIPMENTS DESCRIPTION (2/3)

Galley Insert General

Galley monument structures can have these GAINs equipment:

- Beverage maker
- Espresso maker
- Water heater
- Convection oven
- Trash compactor
- Etc.

GAINs in many cases are 'fixed' equipment which are not an integral part of the galley but it is possible to remove them with the simple tools.

Galley monument structures can also have these non-electrical galley inserts:

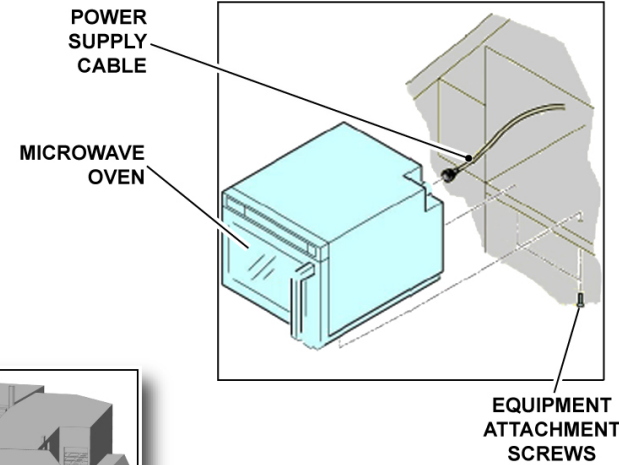
- Standard trolley
- Half size trolley
- Waste trolley
- Etc.



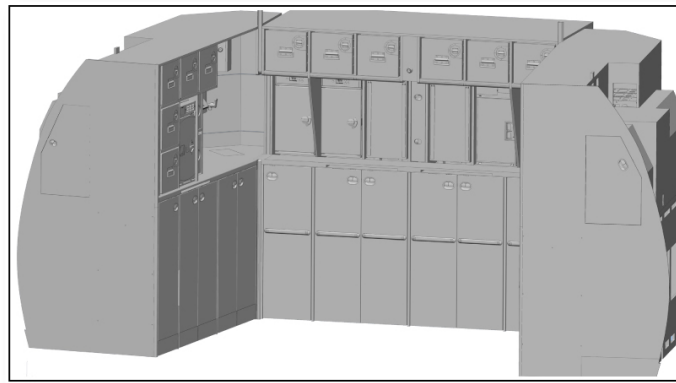
ESPRESSO MAKER



BEVERAGE MAKER



CONVECTION OVEN



GALLEY MONUMENT



TRASH COMPACTOR



TROLLEYS



WATER HEATER

GALLEY INSERT GENERAL

V1813401 - V01T0M0 - VM25D4GALEY3001

GALLEY AND EQUIPMENTS DESCRIPTION (2/3)

Galley Insert System

The galley insert system is composed of all the aircraft GAINs, two GNCs and digital communication CAN buses.

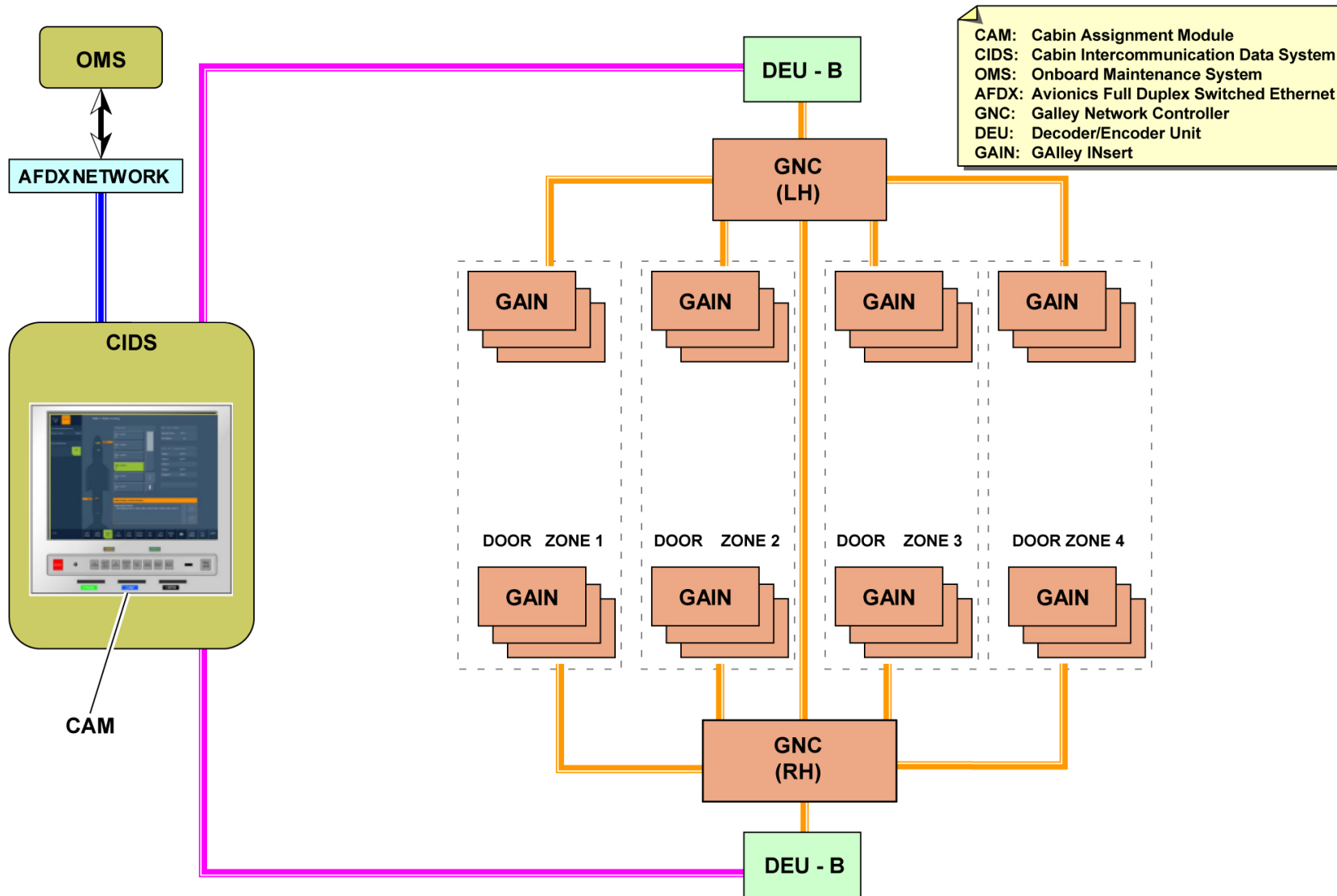
The functions of the GNCs are network monitoring, data transfer and local power supply management of the related GAINs. The GAINs are divided in two groups (left and right) and each group is managed by one GNC.

NOTE: The two GNCs communicate through a dedicated CAN bus.
Due to the CAN-bus architecture, each GNC handles up to (62) GAINs.

GAINs network gives GAIN BITE functionality and connection to the OMS for optimized maintenance actions (e.g. reduced no fault found cases).

The connection and communication to the OMS takes place through Decoder/Encoder Units (DEU-Bs) of CIDS.

NOTE: On the FAP, the CAM flash card memory lets the airline reconfigure the galleys layout.



GALLEY INSERT SYSTEM

V1813401 - V01T0M0 - VM25D4GALEY3001

GALLEY AND EQUIPMENTS DESCRIPTION (2/3)

GAIN Power Supply Management

The GAINs power-supply network have eight galley feeders supplied (with 115VAC 3 phases) by the EPDC through RCCBs.

Each of the eight galley feeders supply a maximum power of 15 kVA for all connected GAINs.

By pin programming, each GAIN is classified into:

- High priority equipment (primary GAIN)
- Low priority equipment (secondary GAIN).

In addition to the GAINs classification, data from CIDS (e.g. allocation of GAINs to galley feeders, maximum power dedicated to each installed GAIN, feeder status from Electrical Load Management Function (ELMF)), lets the GNCs manage the electrical power.

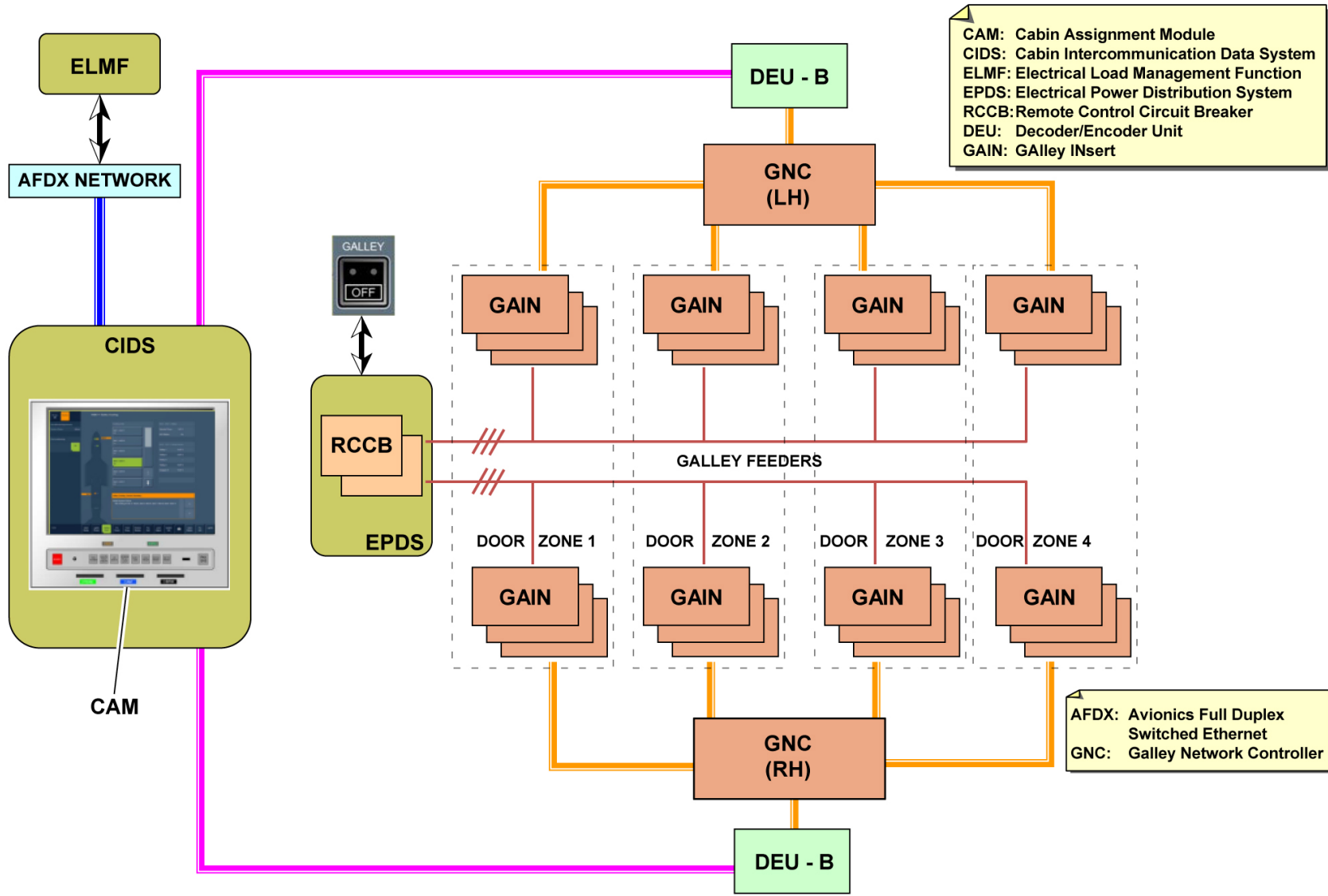
For this power management, a power control function of the GNC will prevent the GAINs from overloading the dedicated galley feeder.

Notes:

- The GNCs power-control function lets more GAINs installation for each GNC. (the maximum usable power dedicated to all primary and secondary GAINs connected to the same feeder can exceed 15 kVA, if this limit is reached then the GNCs will shed low priority GAINs)
- For operational reasons, flight crew has the possibility to shed all the GAINs from a galley pushbutton on the electrical panel of the overhead
- If there is GNC failure, the related GAINs are in stand-alone mode and only the primary GAINs are operational (secondary GAINs are in standby).

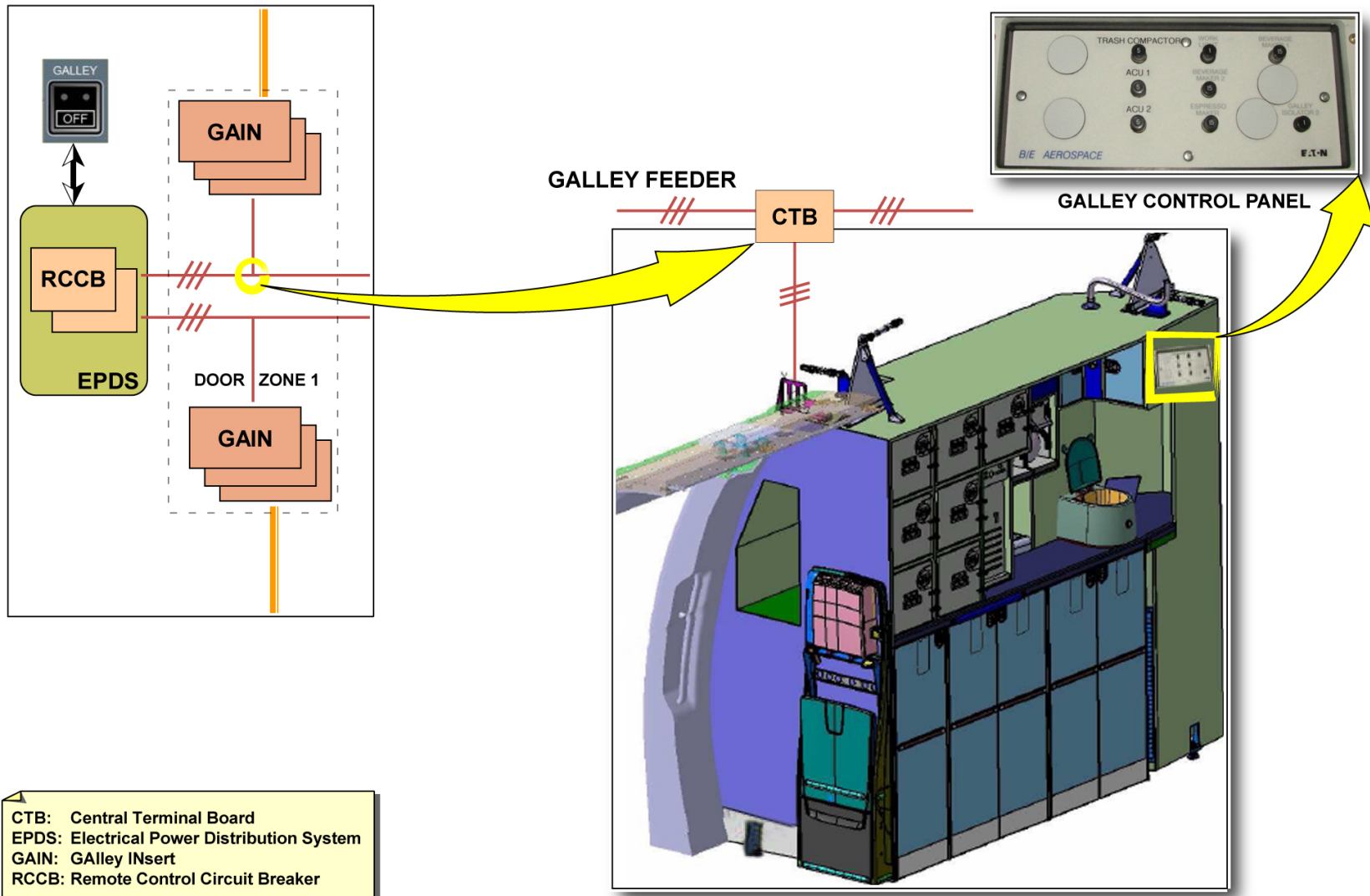
The galleys feeders are routed all along the ceiling and the floor of the aircraft cabin. The interface points of the network also know as central terminal board are installed above the different galley flex zones, to facilitate the electrical feeding of the galley monuments.

In the galleys, each GAIN is electrically supplied through a circuit breaker of a galley control panel.



GAIN POWER SUPPLY MANAGEMENT

V1813401 - V01T0M0 - VM25D4GALEY3001



CTB: Central Terminal Board
EPDS: Electrical Power Distribution System
GAIN: GALley INsert
RCCB: Remote Control Circuit Breaker

GAIN POWER SUPPLY MANAGEMENT

V1813401 - V01T0M0 - VM25D4GALEY3001

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LAVATORY DESCRIPTION (2/3)

Lavatory Module Installation

Each lavatory module, made of composite material, is a fully assembled housing with an integrated floor. Each lavatory has several accessories.

Doors Operation

There are two types of doors:

- A single door
- A bi-folding door.

The single door opens outwards with a pin from outside.

The bi-folding door opens easily from outside with sliding pins installed in the upper and lower parts of the door.

To latch the door in the open position, a door latch pin is used.



SINGLE DOOR



BI-FOLDING DOOR CLOSED



BI-FOLDING DOOR OPENED



DOOR LATCH PIN



SINGLE DOOR OUTSIDE OPENING

SLIDING PINS



LAVATORY MODULE INSTALLATION - DOORS OPERATION

V1813401 - V01T0M0 - VM25D5LVTRY3001

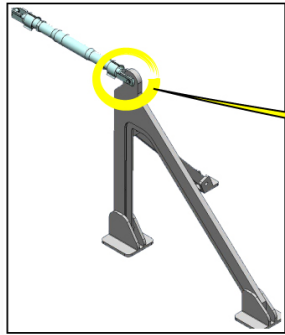
LAVATORY DESCRIPTION (2/3)

Lavatory Module Installation (continued)

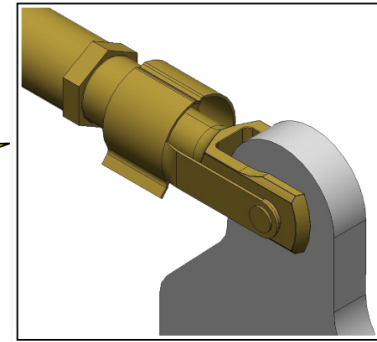
Attachments

Upper attachments (quantity 1 or 2) are used based on the location of the lavatory. The lavatory module is attached to the upper aircraft structure with a bracket and an adjustable tie-rod assembly.

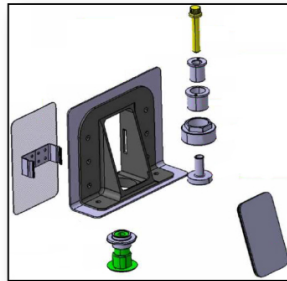
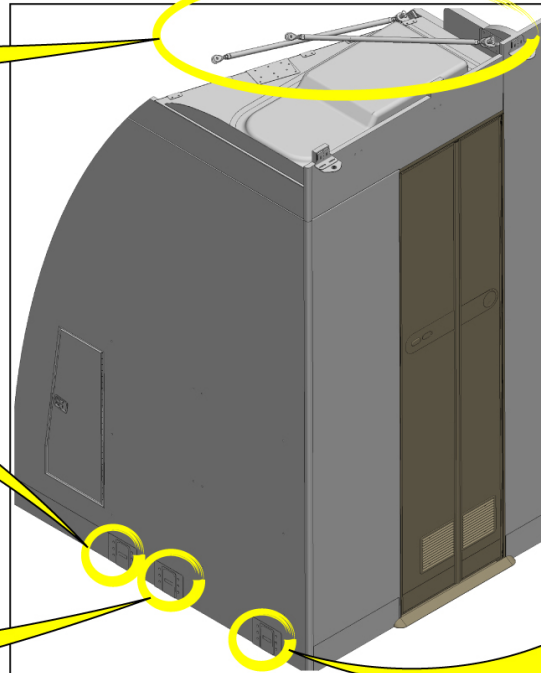
Lower attachments are done with bushings, hard points (quantity 4) or seat rail attachments (quantity 4).



UPPER ATTACHMENTS



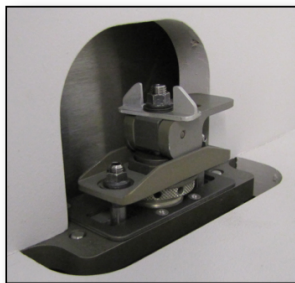
ADJUSTABLE TIE-RODS



**LOWER ATTACHMENTS:
BUSHING CONCEPT**



**LOWER ATTACHMENTS:
HARD POINT**



**LOWER ATTACHMENTS:
SEAT RAILS**

LAVATORY MODULE INSTALLATION - ATTACHMENTS

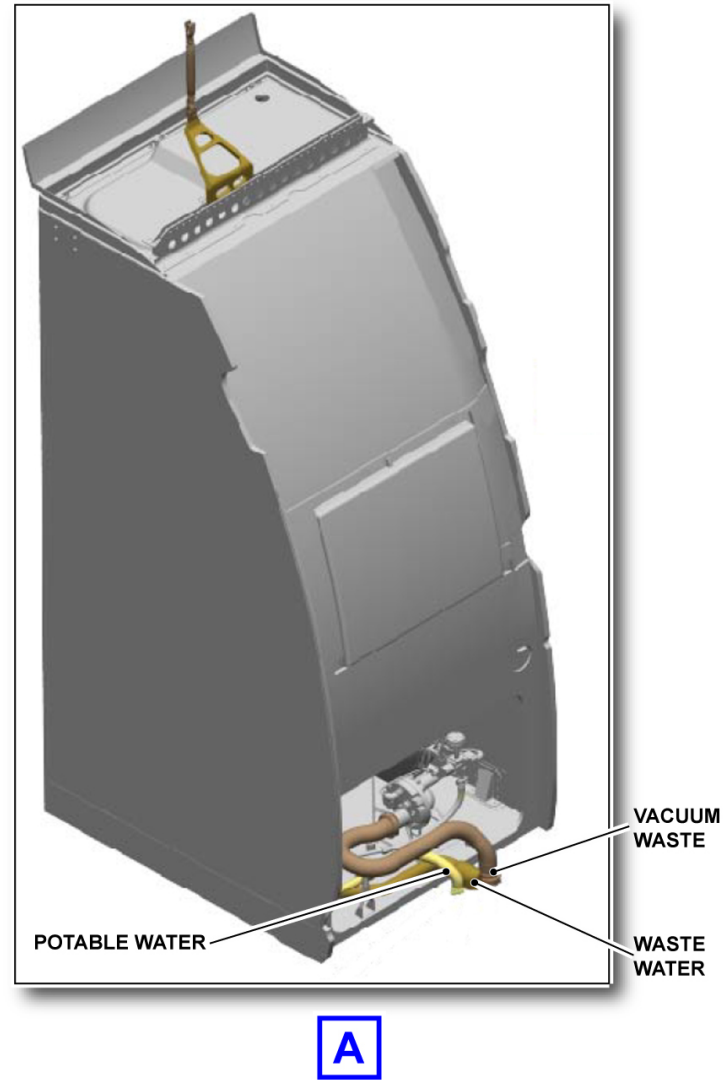
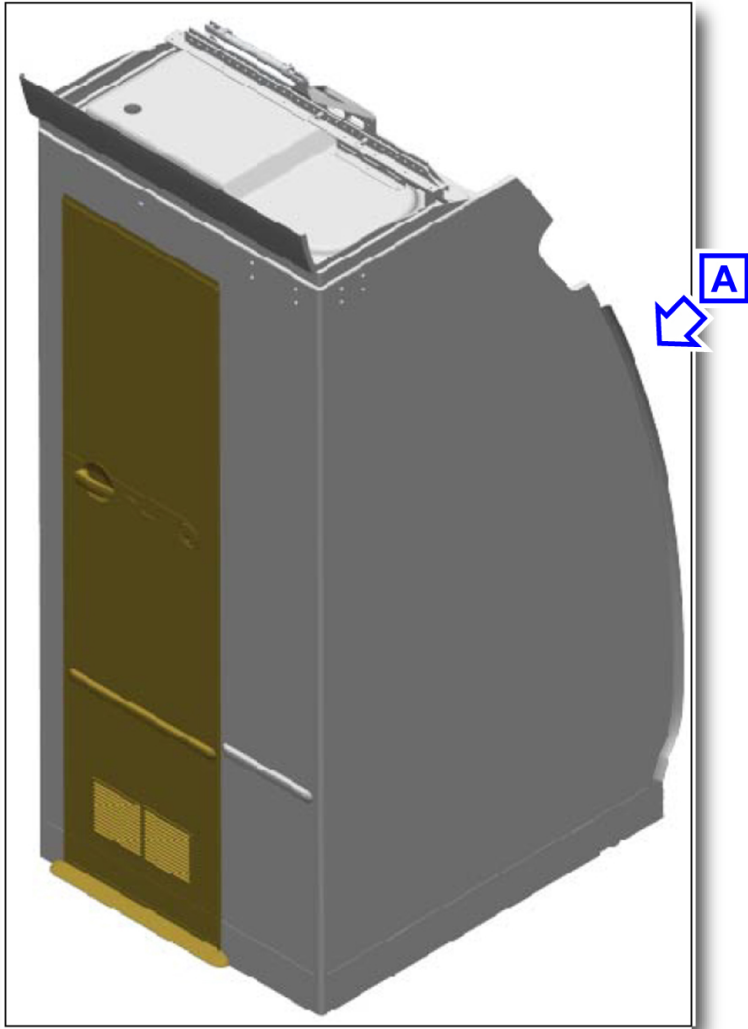
V1813401 - V01T0M0 - VM25D5LVTRY3001

LAVATORY DESCRIPTION (2/3)

Connections

A lavatory module has many connections with:

- Potable water system
- Waste water system
- Vacuum waste system.



CONNECTIONS

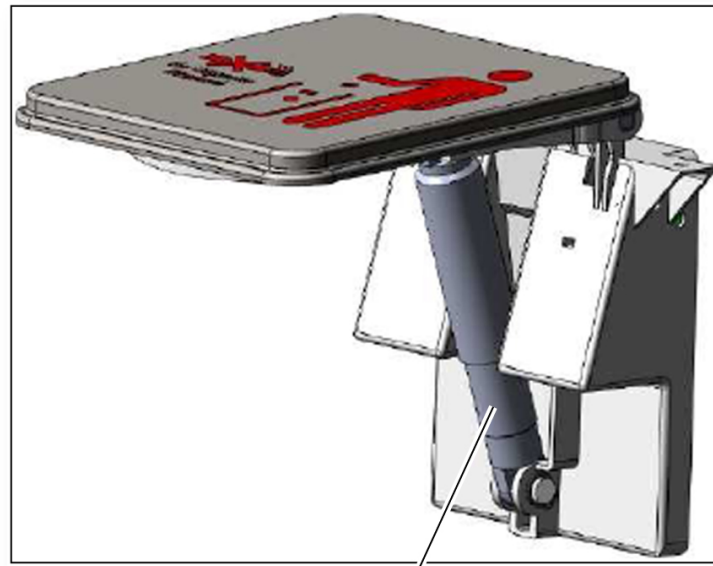
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LAVATORY DESCRIPTION (2/3)

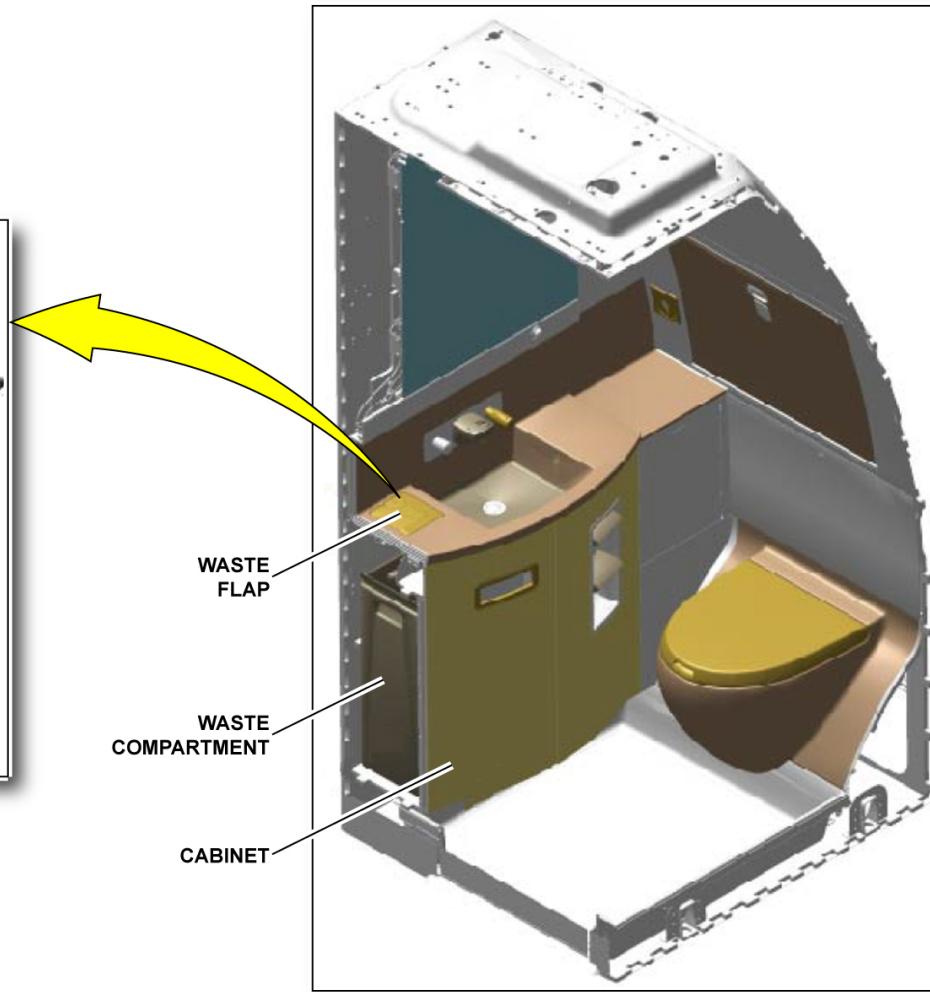
Waste Flap

A mechanical waste flap with an engraved placard is easily seen to the occupant because it is near to the washbasin. It is possible to open the waste flap by pushing it with the hand.

After the use, the flap closes mechanically with its attached spring to seal the waste compartment (if there is a fire/smoke).



MOUNTED SPRING



WASTE FLAP

V1813401 - V01T0M0 - VM25D5LVTRY3001

DECOMPRESSION PANELS DESCRIPTION (2/3)

Cockpit Panels

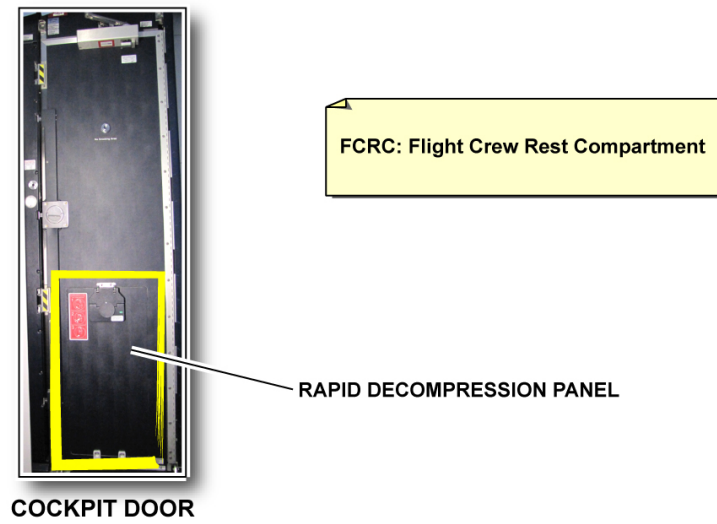
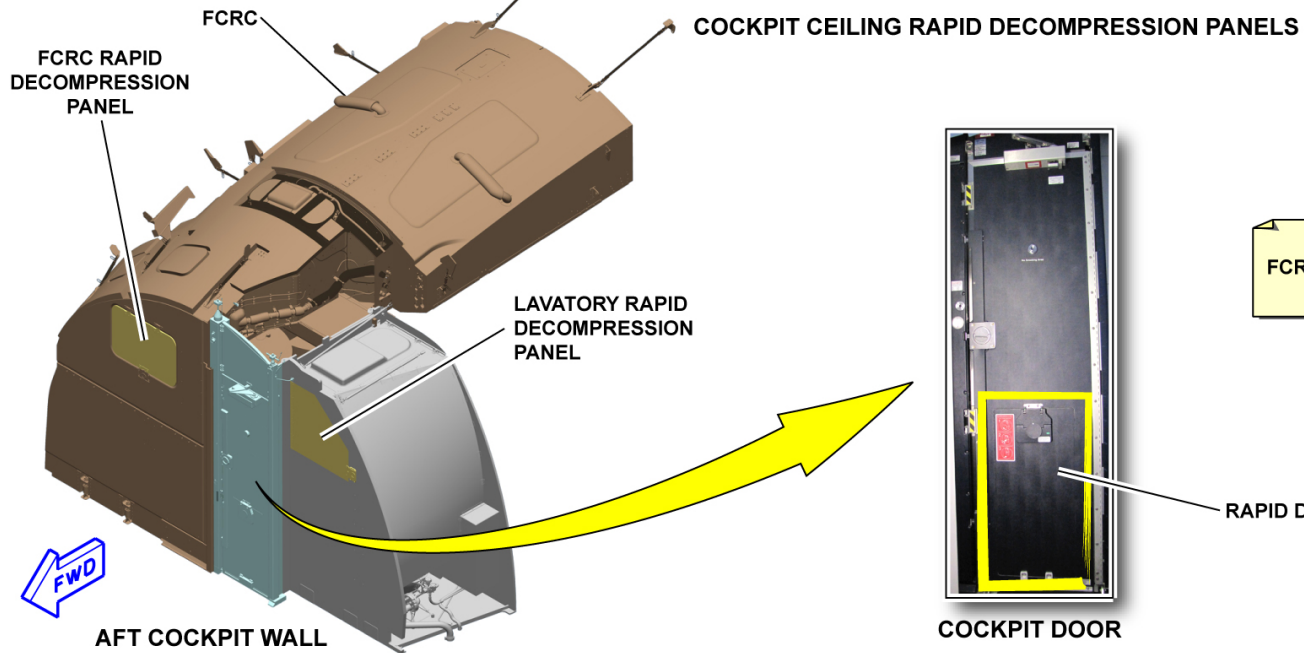
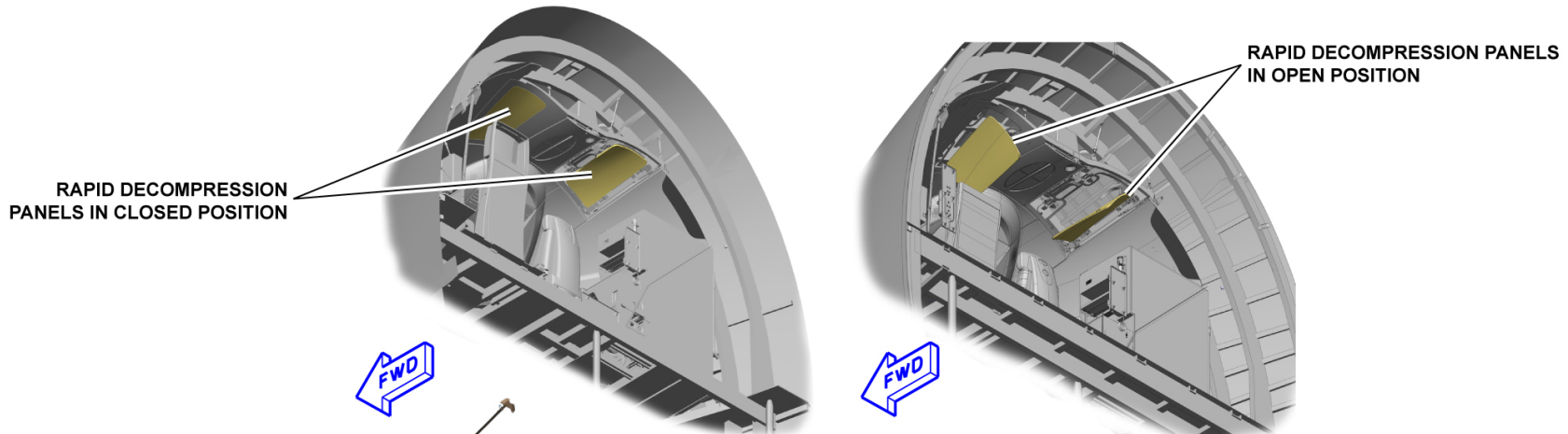
If there is a rapid decompression in the cockpit area, the following occurs:

- The RDPs at the cockpit ceiling open into the cockpit area
- The cockpit door opens with reduced speed (ATA 52)
- The RDP at the right cockpit/FCRC wall opens into the cockpit area
- The RDP at the left cockpit/lavatory wall opens into the cockpit area.

Notes:

- All panels are hand load safe and open only by differential pressure
- After rapid decompression, the RDPs are tied by restraining lanyards to the aft cockpit wall and the ceiling.

If there is a rapid decompression in the cabin area, the cockpit door RDP opens into the cabin area (ATA 52).



COCKPIT PANELS

V1813401 - V01T0M0 - VM25D6DECOM3001

DECOMPRESSION PANELS DESCRIPTION (2/3)

Cabin Panels

Flight Crew Rest Compartment (FCRC)

If there is a rapid decompression in the cockpit area, the RDP at the right cockpit/FCRC wall opens into the cockpit area as follows:

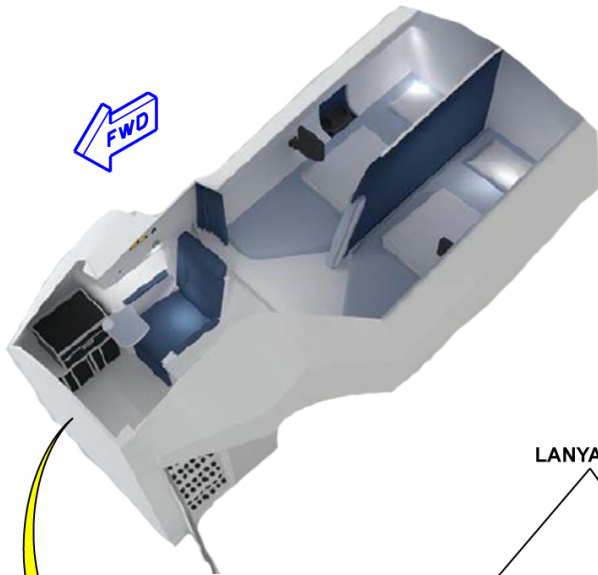
- A latch opens and releases the RDP (same principle as the flap release mechanism of the cockpit door ATA 52)
- The RDP is tied on the cockpit wall with restraining lanyards on the top side.

If there is a rapid decompression in the cabin area, the RDP in the FCRC escape hatch opens into cabin area. Its operation is as follows:

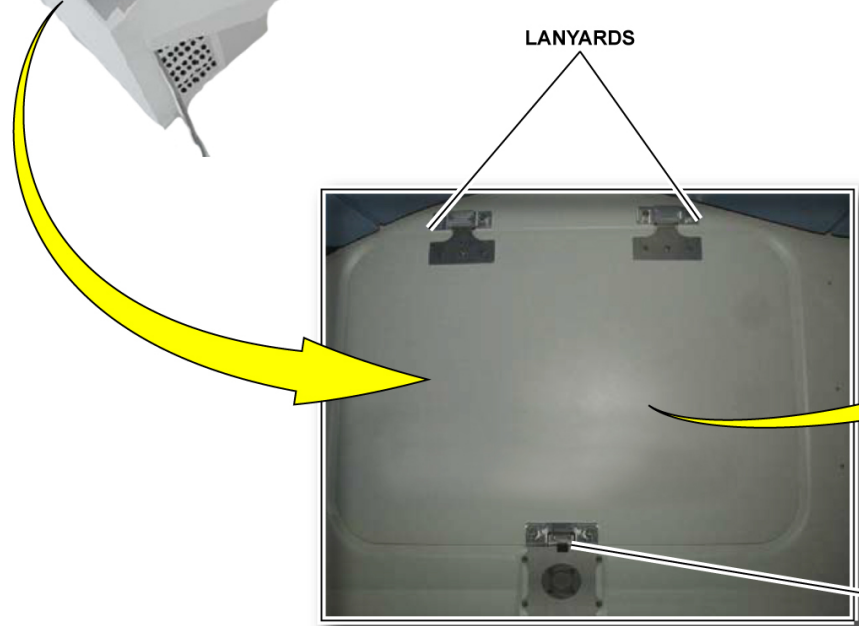
- A release disk when operates at a differential pressure above 30 hPa releases (four) locking pins
- A screw at the middle of the panel is used to rearm the system after a rapid decompression.

Notes:

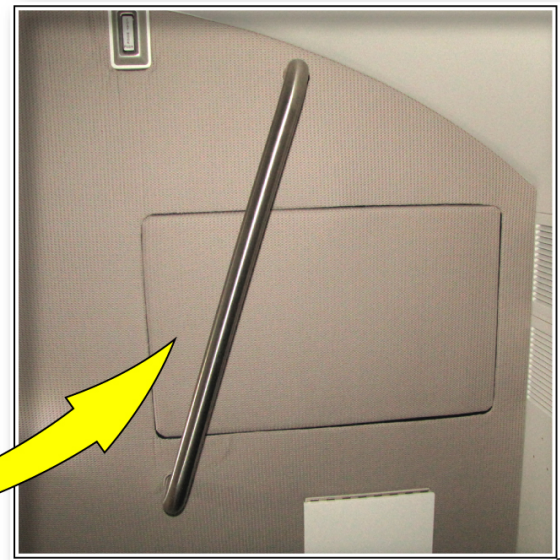
- The rapid decompression function and the emergency exit function are independent from each other
- All the RDPs are hand load safe and blow out panels tied with lanyards.



FCRC: Flight Crew Rest Compartment



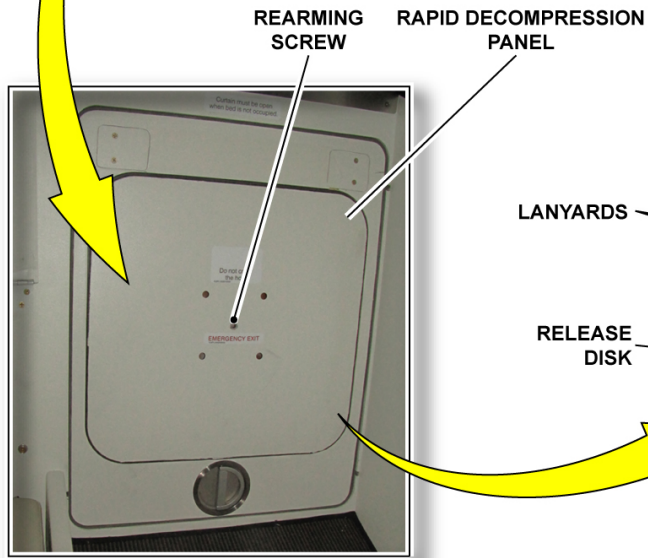
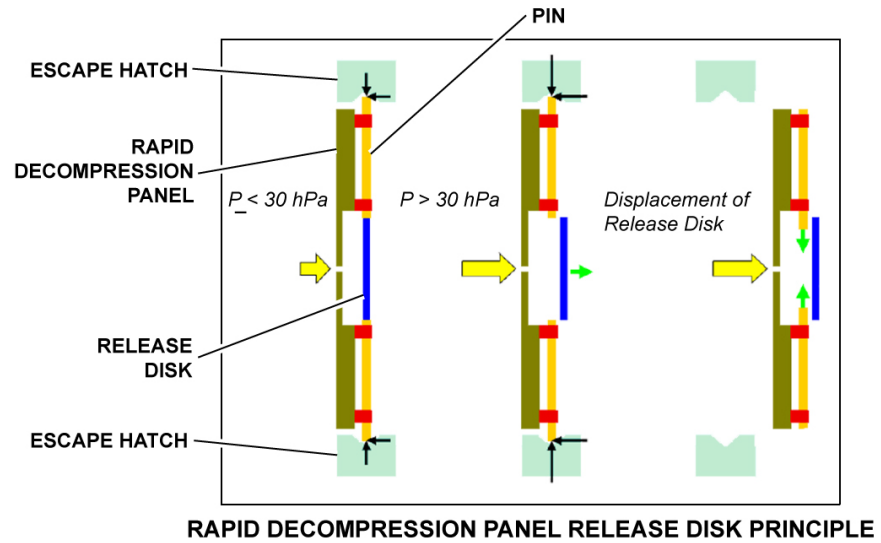
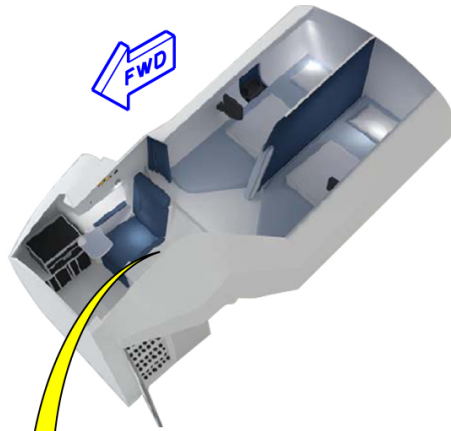
**FCRC RAPID DECOMPRESSION PANEL
COCKPIT SIDE VIEW**



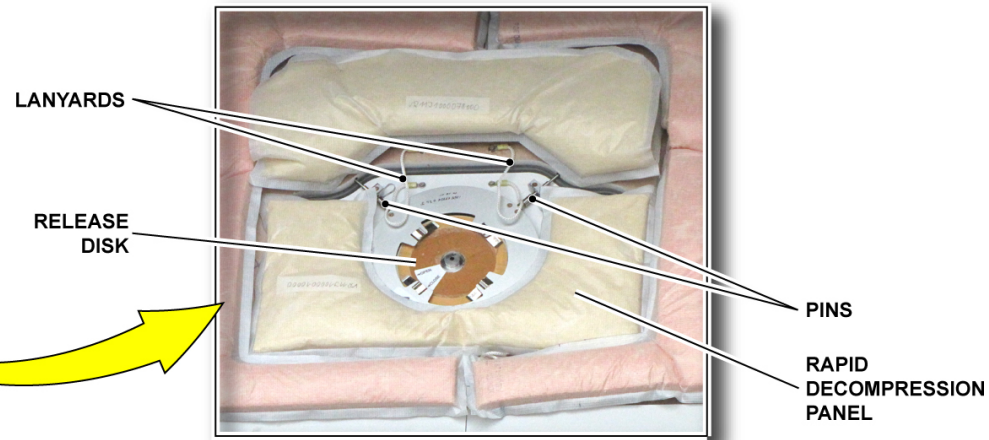
**FCRC RAPID DECOMPRESSION PANEL
INSIDE VIEW**

CABIN PANELS - FLIGHT CREW REST COMPARTMENT (FCRC)

V1813401 - V01T0M0 - VM25D6DECOM3001



ESCAPE HATCH/RAPID DECOMPRESSION PANEL



RAPID DECOMPRESSION PANEL RELEASE DISK OUTSIDE VIEW

CABIN PANELS - FLIGHT CREW REST COMPARTMENT (FCRC)

V1813401 - V01T0M0 - VM25D6DECOM3001

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DECOMPRESSION PANELS DESCRIPTION (2/3)

Cabin Panels (continued)

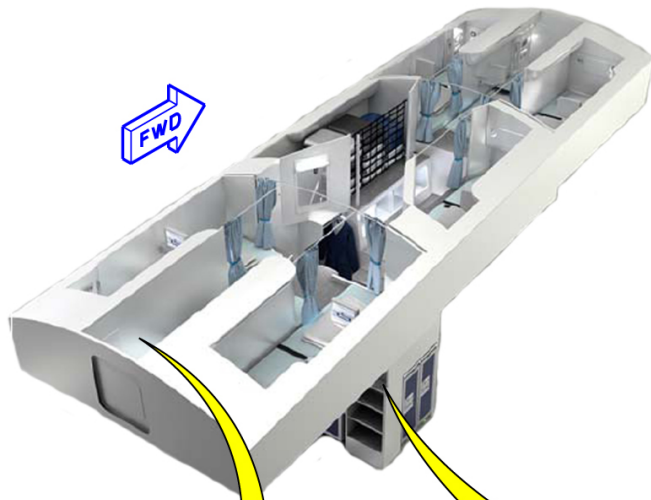
Cabin Crew Rest Compartment (CCRC)

The CCRC has two RDPs:

- One RDP on the head end of AFT center bunk
- One RDP installed in the sliding door.

NOTE: The center bunk RDP is installed in a maintenance panel. Their operation is similar to the FCRC RDP, with four pins and a release disk.

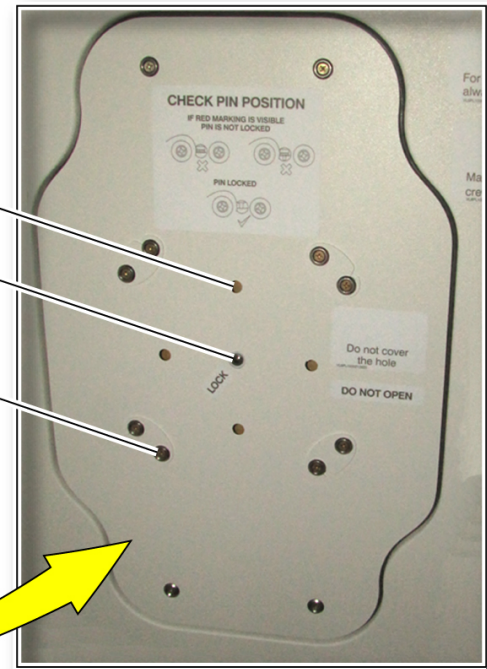
For the RDP installed in the sliding door, each pin position is checked through an inspection hole covered by a plug during normal operation.



**RAPID DECOMPRESSION
PANEL BUNK VIEW**



**CABIN CREW REST COMPARTMENT
SLIDE DOOR OUTSIDE VIEW**



**SLIDE DOOR
RAPID DECOMPRESSION PANEL
INSIDE VIEW**

PRESSURE PORT
REARMING SCREW
**PIN INSPECTION
HOLE COVER**

CABIN PANELS - CABIN CREW REST COMPARTMENT (CCRC)

V1813401 - V01T0M0 - VM25D6DECOM3001

DECOMPRESSION PANELS DESCRIPTION (2/3)

Cabin Panels (continued)

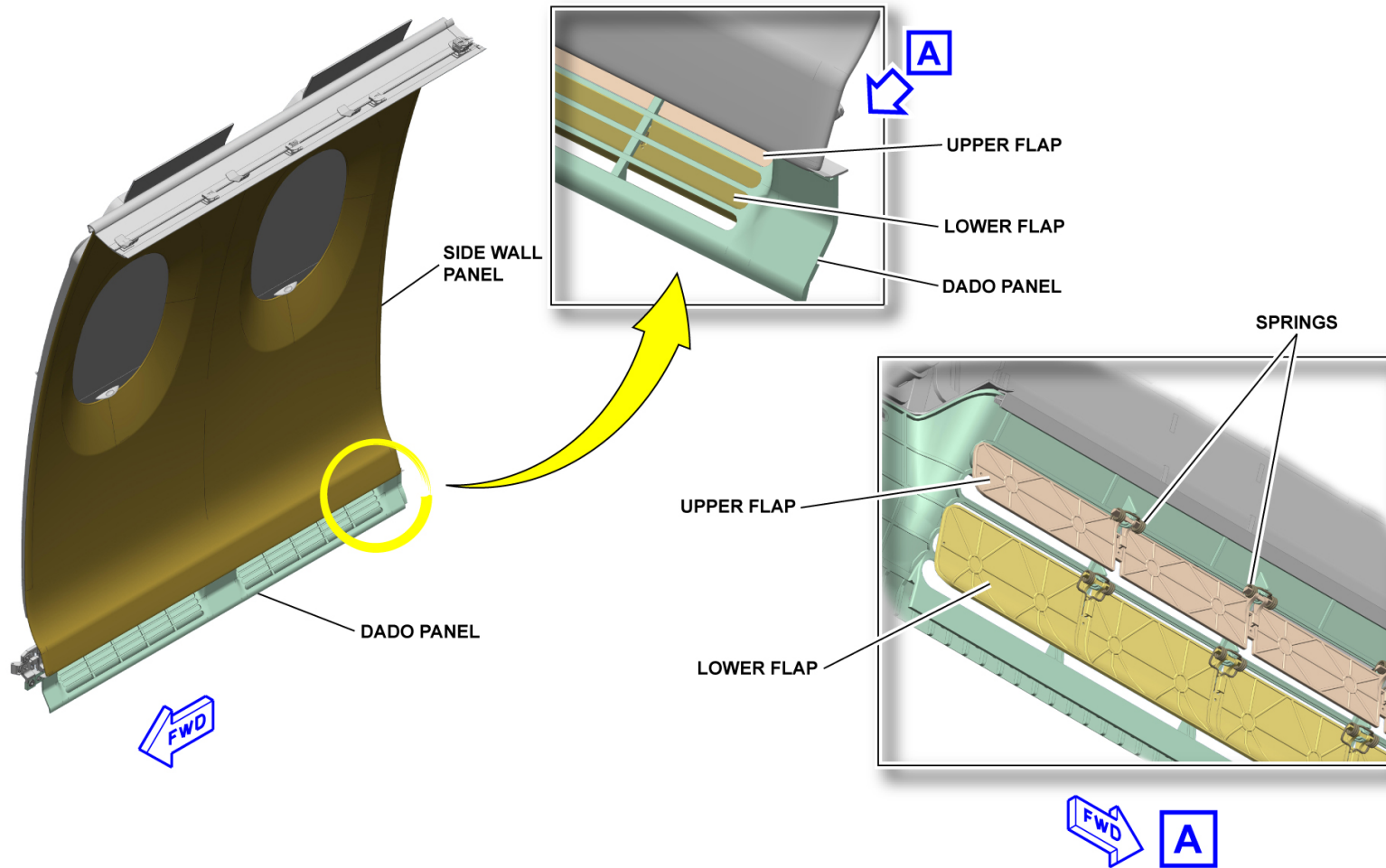
Passenger Area

The rapid decompression system for the cabin is integrated into the sidewall module just above the floor. This is to prevent structural damage to the cabin floor, if there is a rapid decompression in the cargo compartment.

Behind the grids of the dado panels, two flaps opens automatically.

It makes sure sufficient air extracting in addition to the normal airflow between the cabin and cargo deck.

A spring mechanism makes sure the self resetting function of the flaps.



V1813401 - V01T0M0 - VM25D6DECOM3001

CABIN PANELS - PASSENGER AREA

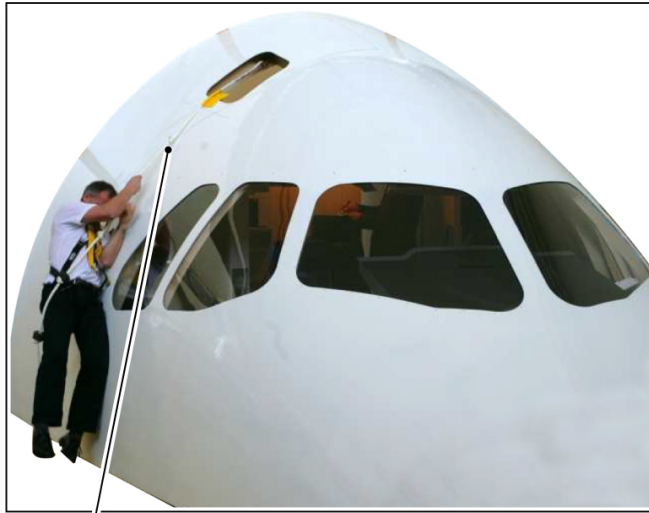
ESCAPE FACILITIES DESCRIPTION (2/3)

Cockpit

The primary function of the cockpit escape facilities is to let the flight crew evacuate the cockpit, when it is not possible to evacuate through the cabin.

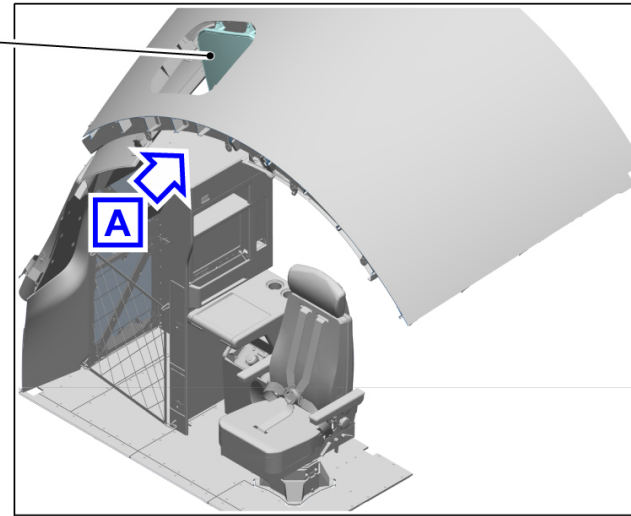
The cockpit escape facilities include an escape hatch and an escape rope. The crew uses the escape hatch installed in the ceiling to come out and then use the escape rope to get down on the ground.

The escape rope is in a stowage compartment adjacent to the escape hatch.

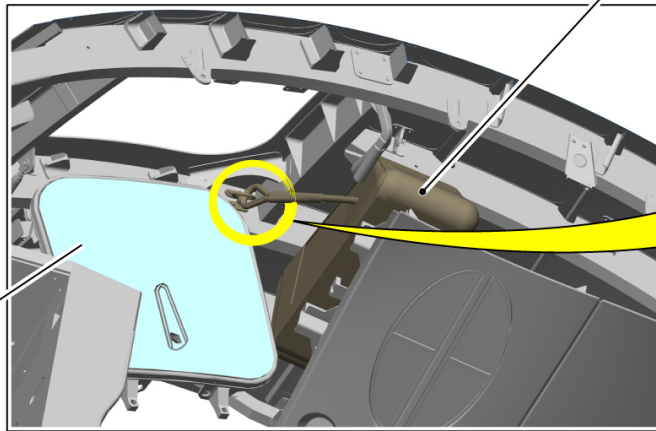


ESCAPE ROPE

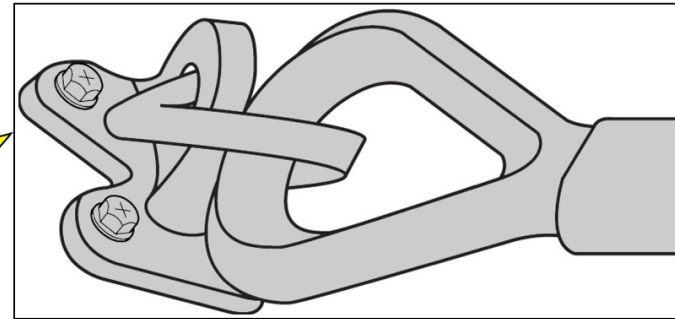
COCKPIT ESCAPE HATCH



STORAGE FOR ESCAPE ROPE



COCKPIT ESCAPE HATCH



COCKPIT

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ESCAPE FACILITIES DESCRIPTION (2/3)

Cabin

The emergency evacuation system at doors D1, D2, D3 and D4 left/right includes door-mounted escape slide/rafts.

Attached to the passenger door, the packboard assembly contains the escape slide/raft and the inflation system.

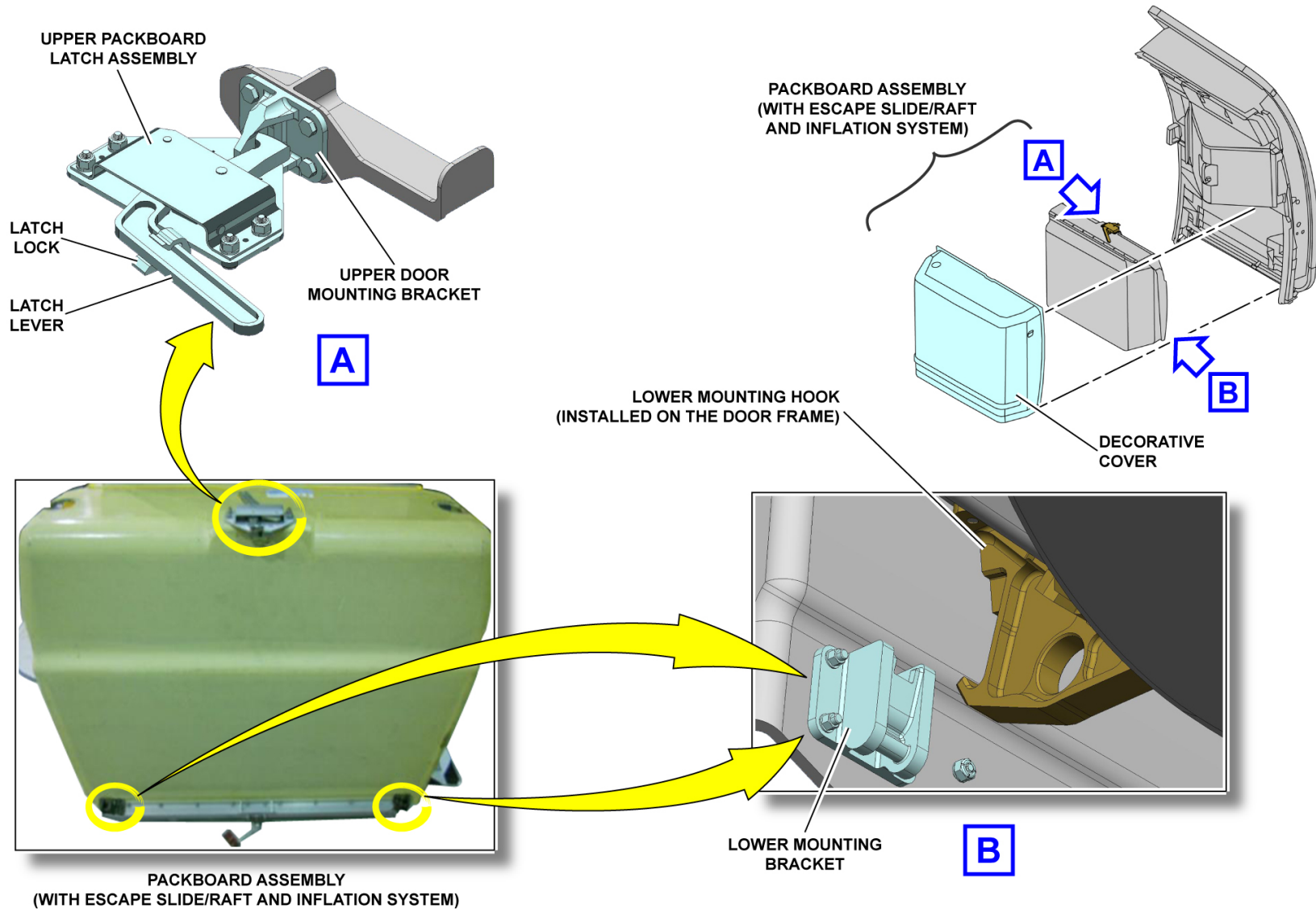
Packboard Attachments

The concept to attach the packboard to the door is a quick installation with a three-point attachment.

Engaged to the lower support brackets and attached on top by the upper latch mechanism.

The packboard is engaged to the lower mounting hooks (quantity 2) installed on the door and attached on the top to the upper door mounting bracket.

For the upper attachment, the packboard latch lever is moved to the latch lock position to secure its engagement into the upper aircraft-door mounting-bracket.



CABIN - PACKBOARD ATTACHMENTS

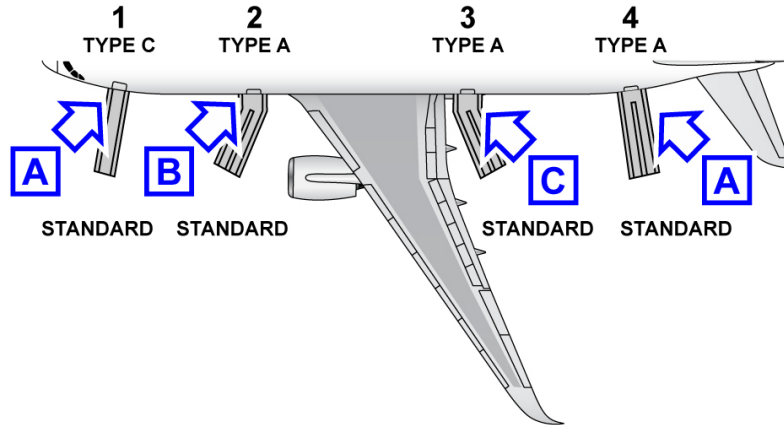
V1813401 - V01T0M0 - VM25D7ESCAP3001

ESCAPE FACILITIES DESCRIPTION (2/3)**Cabin (continued)****Coding Solution**

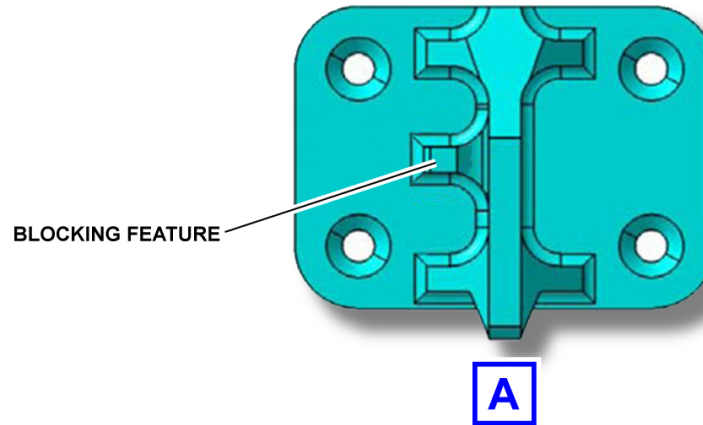
The packboards are not interchangeable. The coding solution prevents the installation of an evacuation device at an incorrect door by changing the installation of the upper and lower attachments both in position and geometry.

For the door 2 and door 3, a coding pin protrudes from the packboard. All these coding solutions make sure that a packboard is paired to only one passenger door.

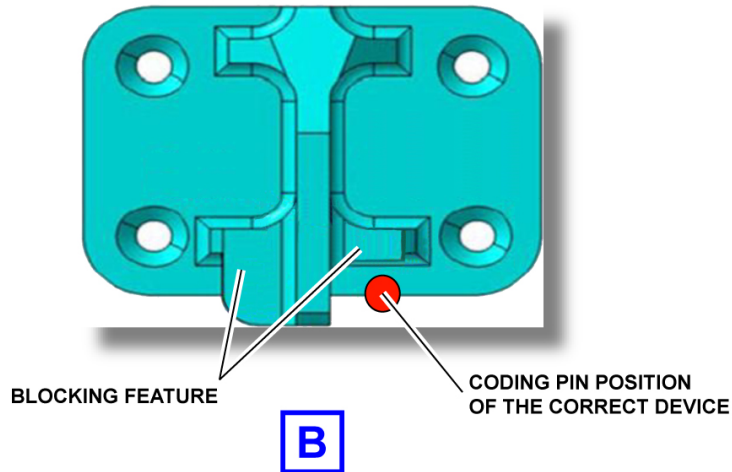
CABIN ESCAPE FACILITIES



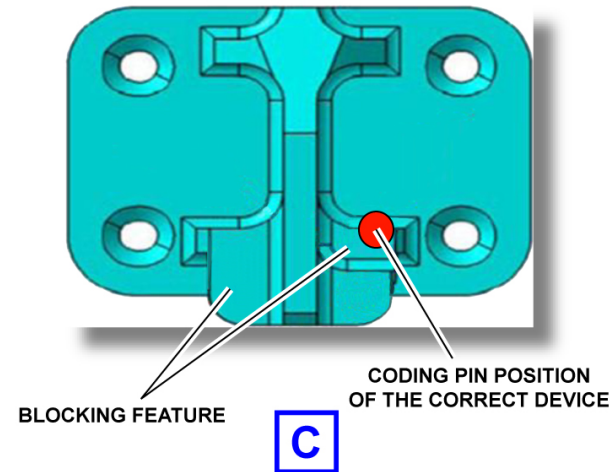
DOOR 1 AND DOOR 4
AIRCRAFT DOOR
MOUNTING BRACKET



DOOR 2 UPPER
AIRCRAFT DOOR
MOUNTING BRACKET



DOOR 3 UPPER
AIRCRAFT DOOR
MOUNTING BRACKET



CABIN - CODING SOLUTION

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ESCAPE FACILITIES DESCRIPTION (2/3)

Cabin (continued)

Escape Slide/Raft Deployment

For the escape slide/raft packboard, the girt with the girt bar is installed at the bottom of the packboard.

In the disarmed mode, the girt bar stays with the aircraft door. This makes the packed slide/raft to move freely with the aircraft door.

In the armed mode, the girt bar is attached to the fuselage floor fittings. The release mechanism at the bottom of the packboard has these primary components: a housing, a release mechanism shaft and spring pins.

The lower lacing cover release-cables are inserted between two adjacent spring pins.

In normal configuration, the release mechanism shaft keeps the lacing covers in place to hold the packed slide/raft within the packboard tray.

In the armed mode, the girt bar is fixed to the fuselage floor fittings. When the door opens, the release mechanism shaft rotates with the stretch of the girt (step 2).

After the shaft rotation, the release cables slide out from the spring pins.

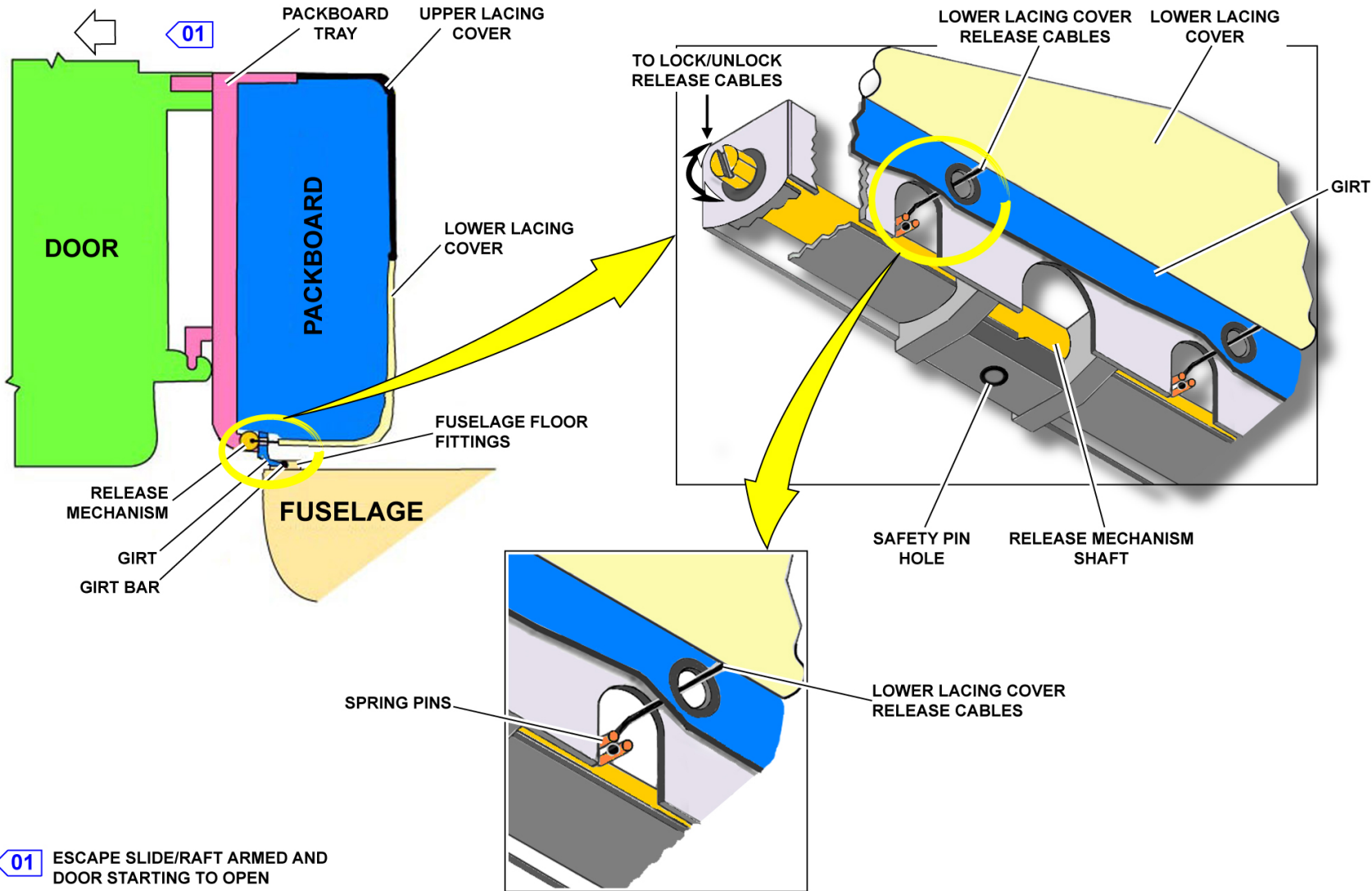
Finally, the lower lacing cover is removed from the release mechanism to release the escape slide/raft from the packboard tray for deployment (step 3).

The girt bar is first wrapped into the two related grommet webbings on the girt. The girt bar is then attached to the girt grommet webbings by inserting two parachute pins into the girt cord loops. These parachute pins are at the two ends of the girt release cable.

You can release the escape slide/raft from the fuselage by pulling the girt release-cable handle.

When the girt release-cable handle is pulled, the parachute pins disengage from the girt cord loops, releasing the girt from the girt bar.

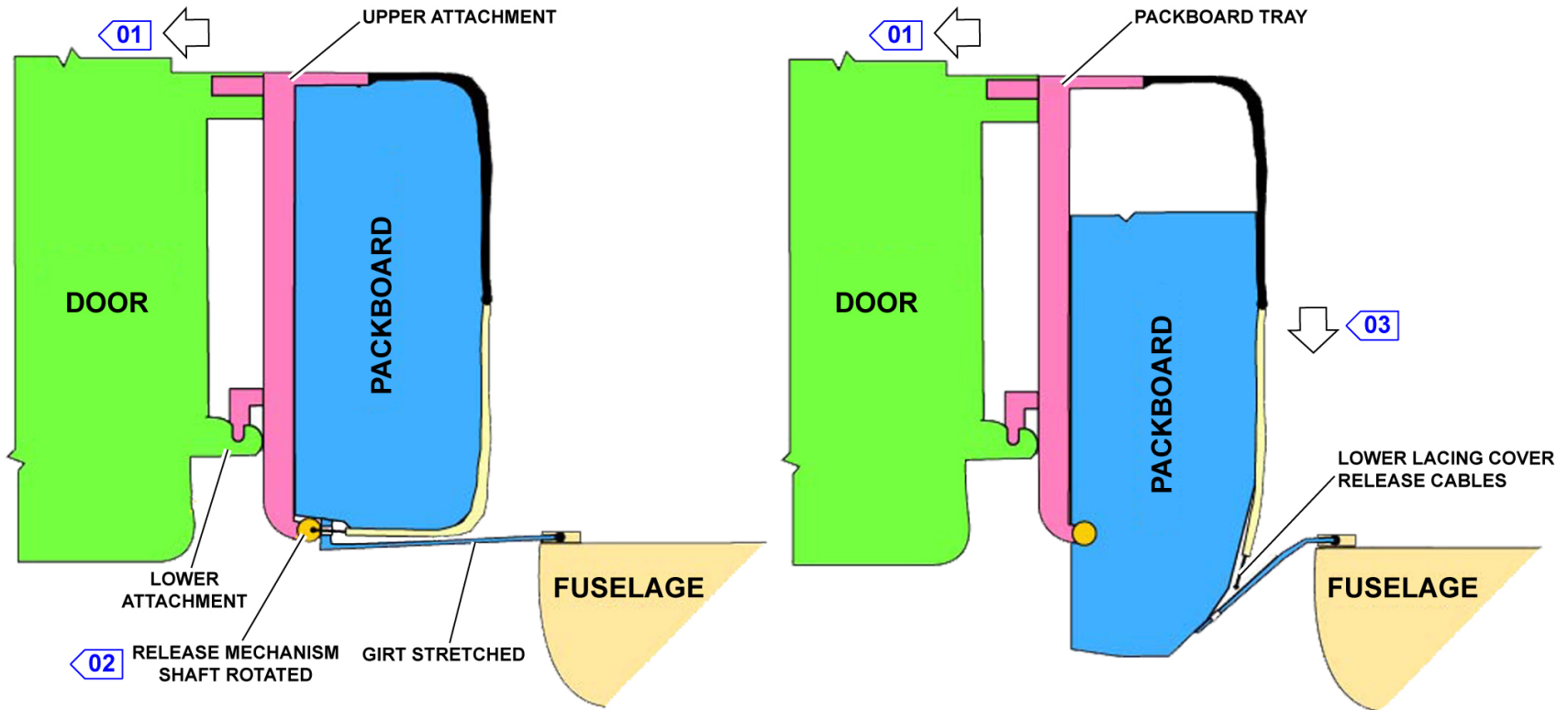
When the girt is removed from the girt bar, the escape slide/raft is released from the fuselage.



01 ESCAPE SLIDE/RAFT ARMED AND DOOR STARTING TO OPEN

CABIN - ESCAPE SLIDE/RAFT DEPLOYMENT

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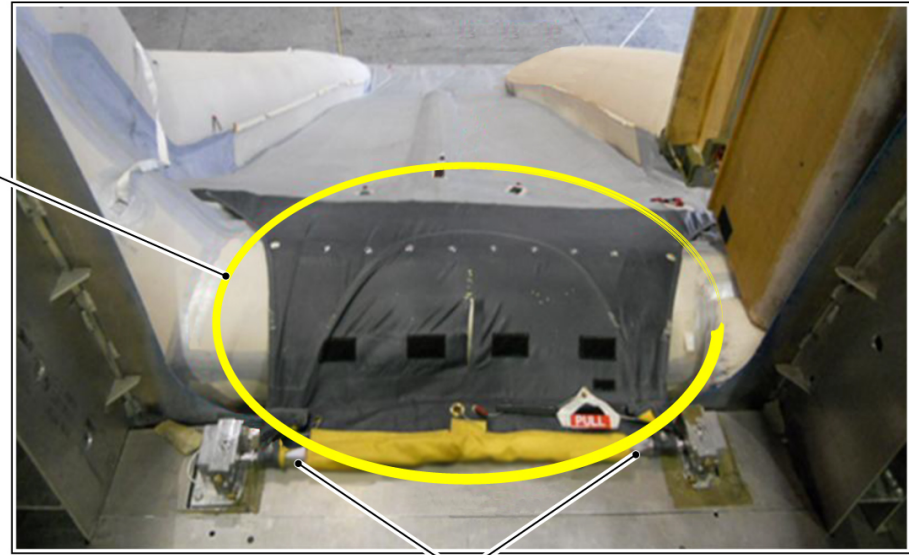
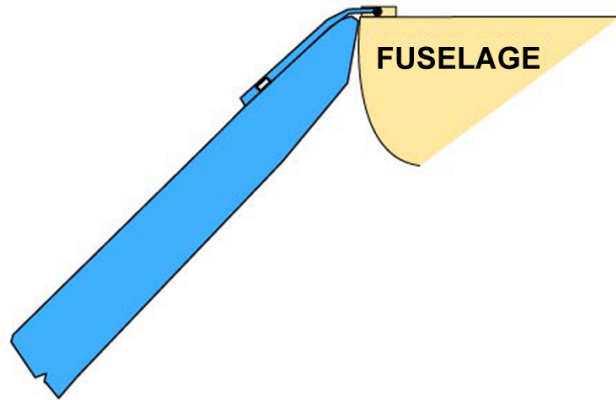


- 01 ESCAPE SLIDE/RAFT ARMED AND DOOR STARTING TO OPEN
- 02 GIRT STRETCHED -> RELEASE MECHANISM SHAFT ROTATED -> CABLES OF THE LOWER LACING COVER RELEASED
- 03 ESCAPE SLIDE/RAFT SLIDES DOWN

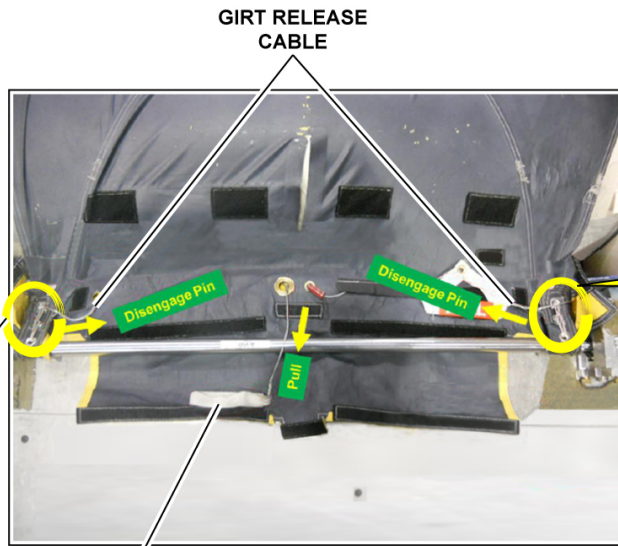
CABIN - ESCAPE SLIDE/RAFT DEPLOYMENT

V1813401 - V01T0M0 - VM25D7ESCAP3001

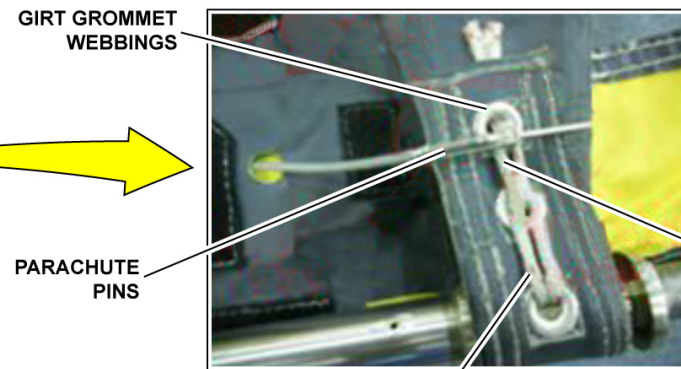
04 ESCAPE SLIDE/RAFT DEPLOYED AND INFLATED



GIRT BAR



GIRT RELEASE CABLE HANDLE



GIRT CORD LOOPS

CABIN - ESCAPE SLIDE/RAFT DEPLOYMENT

VI1813401 - V01T0M0 - VM25D7ESCAP3001

ESCAPE FACILITIES DESCRIPTION (2/3)

Cabin (continued)

Inflator Assembly

The function of the inflation system is to start the inflation of the escape slide/raft and inflate it at the necessary pressure. The inflator assembly has:

- The gas reservoir
- The inflation valve/regulator
- Two aspirators with associated flappers.

The gas reservoir stores some quantity of carbon dioxide and nitrogen at a ratio sufficient to operate the aspirator for inflation of the escape slide/raft.

The pressurized gas stored in the gas reservoir is sufficient for the aspirators to pump the ambient air (venturi effect) into the inflatable chambers until they reach the necessary functional pressure range.

You can deflate the escape slide/raft by the manual push of flappers.

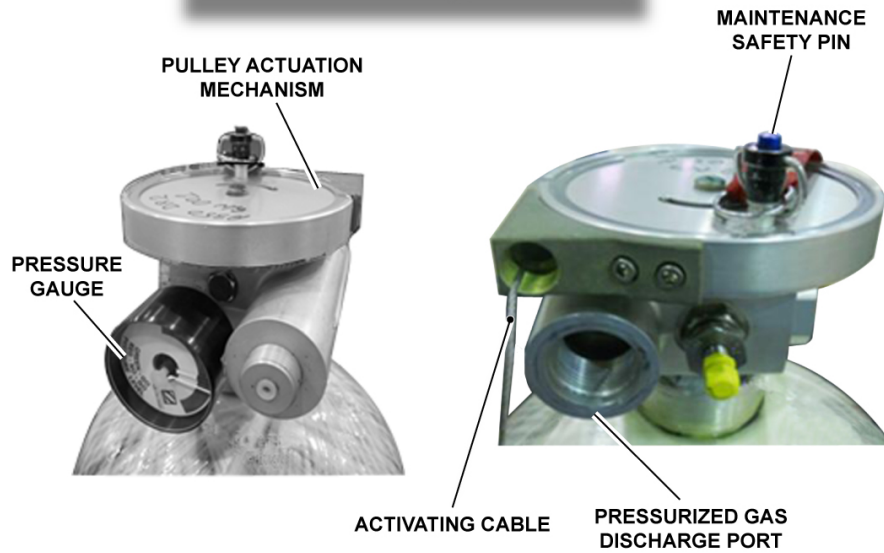
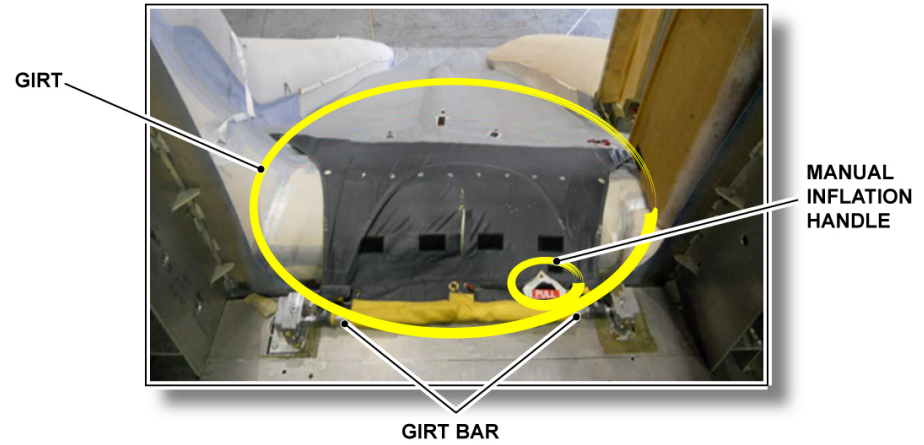
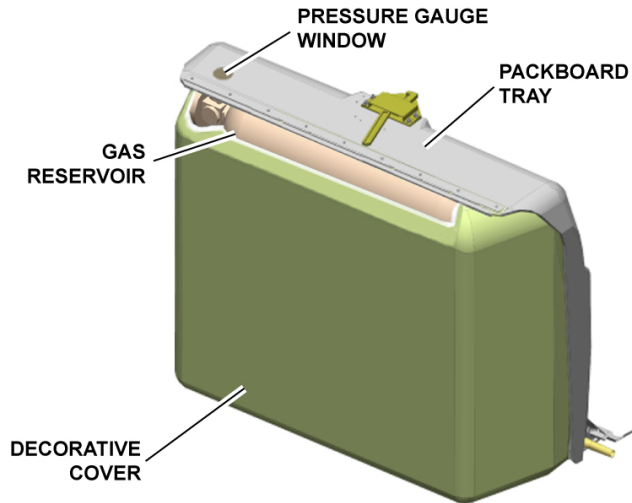
To release the gas from the reservoir to the aspirators, you have to open the valve installed in the inflate valve/regulator. This valve operates with a pulley mechanism, attached with an activating cable. To open the valve, the activating cable must be pulled to rotate the pulley mechanism (approximately 90 degrees).

This activating cable is pulled automatically when the escape slide/raft falls from the door. If the inflation procedure does not start automatically, the cabin crew can pull the activating cable with the manual handle.

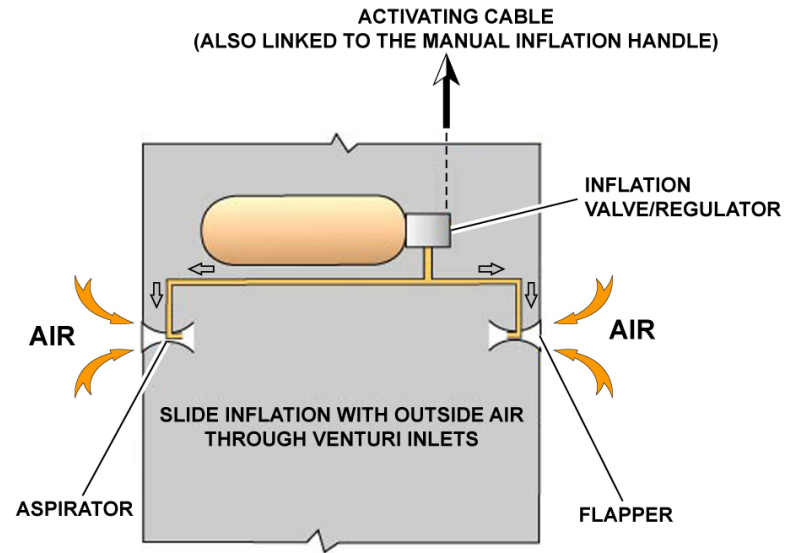
A pressure gauge, connected to the inflation valve/regulator, monitors the pressure status in the gas reservoir.

The pressure gauge is visible through a small window located on the packboard tray.

When the pointer stays in the green 'GO' band range, the pressure status is correct.



INFLATION VALVE/REGULATOR



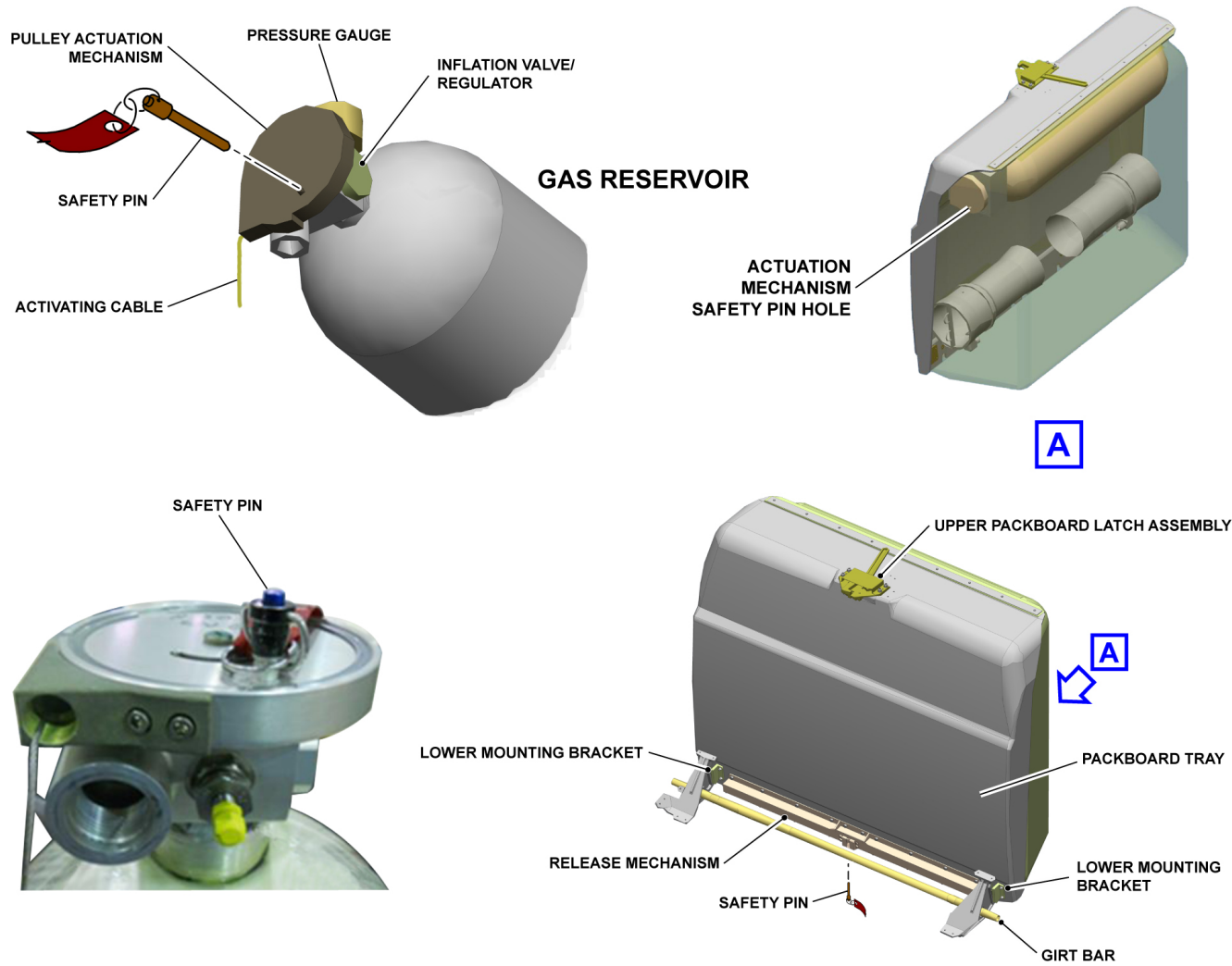
CABIN - INFLATOR ASSEMBLY

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ESCAPE FACILITIES DESCRIPTION (2/3)**Cabin (continued)****Maintenance Precaution for Removal/Installation**

Safety pins prevent release and inflation of the slide/raft pack accidentally, before its installation on the aircraft door.

Each packboard has two safety pins. One is inserted at the center of the release mechanism to prevent rotation of the release mechanism shaft. The other one is inserted into the pulley mechanism of the inflation valve/regulator to prevent the opening of the inflation valve/regulator.



CABIN - MAINTENANCE PRECAUTION FOR REMOVAL/INSTALLATION

V1813401 - V01T0M0 - VM25D7ESCAP3001



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