A350
TECHNICAL TRAINING MANUAL
MAINTENANCE COURSE - T1+T2 - RR Trent XWB
Doors

This document must be used for training purposes only

Under no circumstances should this document be used as a reference

It will not be updated.

AIRBUS Environmental Recommendation
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DOORS

V1813401 - V01T0M0

COCKPIT DOOR DESCRIPTION (2/3)

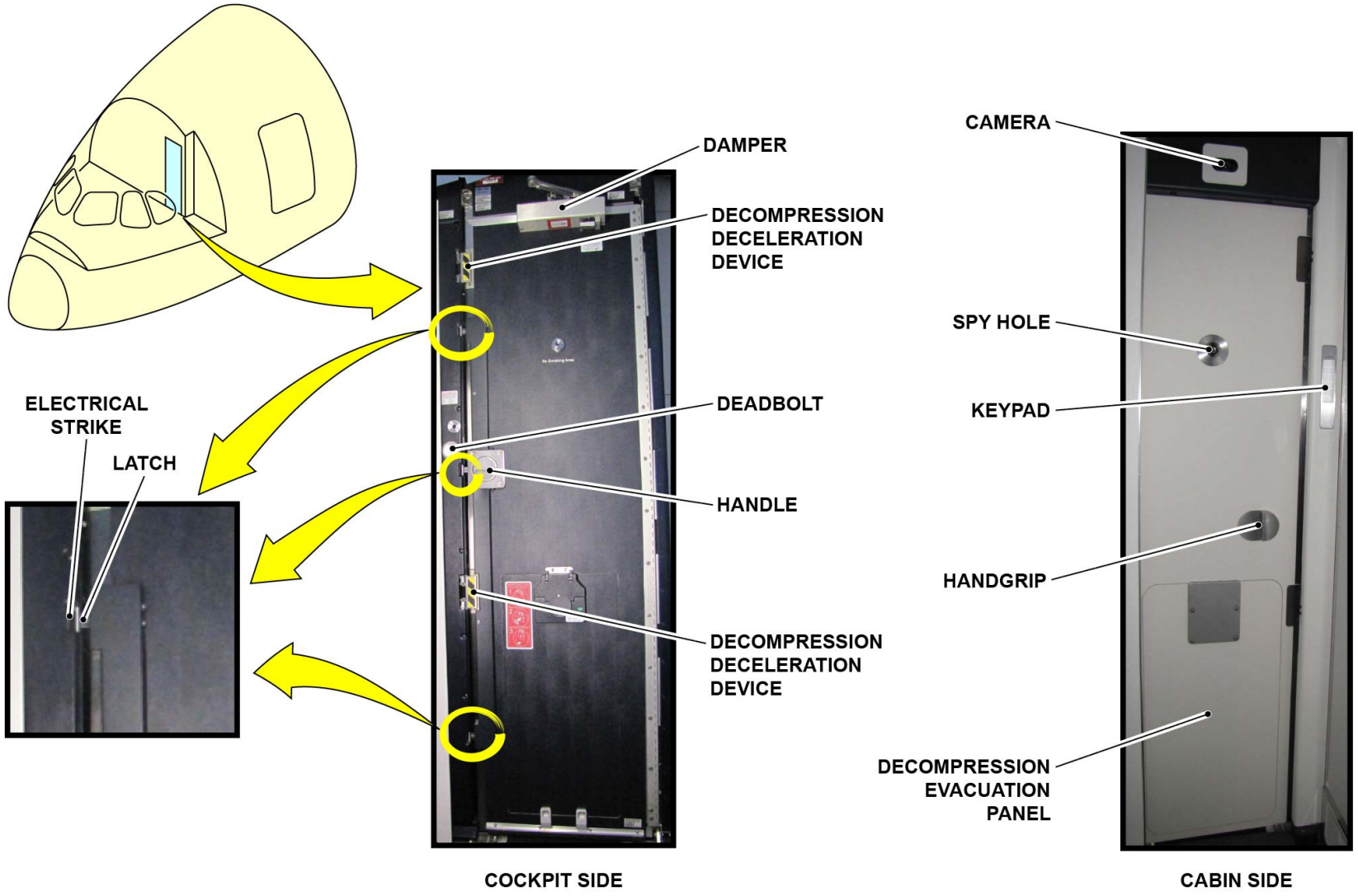
General

The cockpit door is a bullet-proof door with an electro-mechanically operated release system: the Cockpit Door Locking System (CDLS). The primary functions of the door are to:
- Make the cockpit safe to prevent access from the cabin by persons who are not approved.
- Make the pressure equal if there is a rapid decompression of the cabin or the cockpit.
- Give access for emergency evacuation if the door is blocked.
- Stop smoke and noise on the two sides.

The cockpit door has:
- A door handle that mechanically controls three latches, to open the door manually from the cockpit side only
- A mechanical override (deadbolt) on the cockpit side only
- A decompression and evacuation panel with its flap release mechanism
- A door damper
- A spy glass
- A handgrip on the cabin side.

The cockpit door opens into the cockpit (piano hinge on its left-hand door post). A keypad on the cabin side, three electrical strikes, a deadbolt and two decompression deceleration devices are embedded in the (right-hand) door post.

V1813401 - V01T0M0 - VM52D1COCDO3001


DAMPER
DECOMPRESSION DECELERATION DEVICE
ELECTRICAL STRIKE
LATCH
DEADBOLT
HANDLE
DECOMPRESSION DECELERATION DEVICE
COCKPIT SIDE
CAMERA
SPY HOLE
KEYPAD
HANDGRIP
DECOMPRESSION EVACUATION PANEL
CABIN SIDE

GENERAL

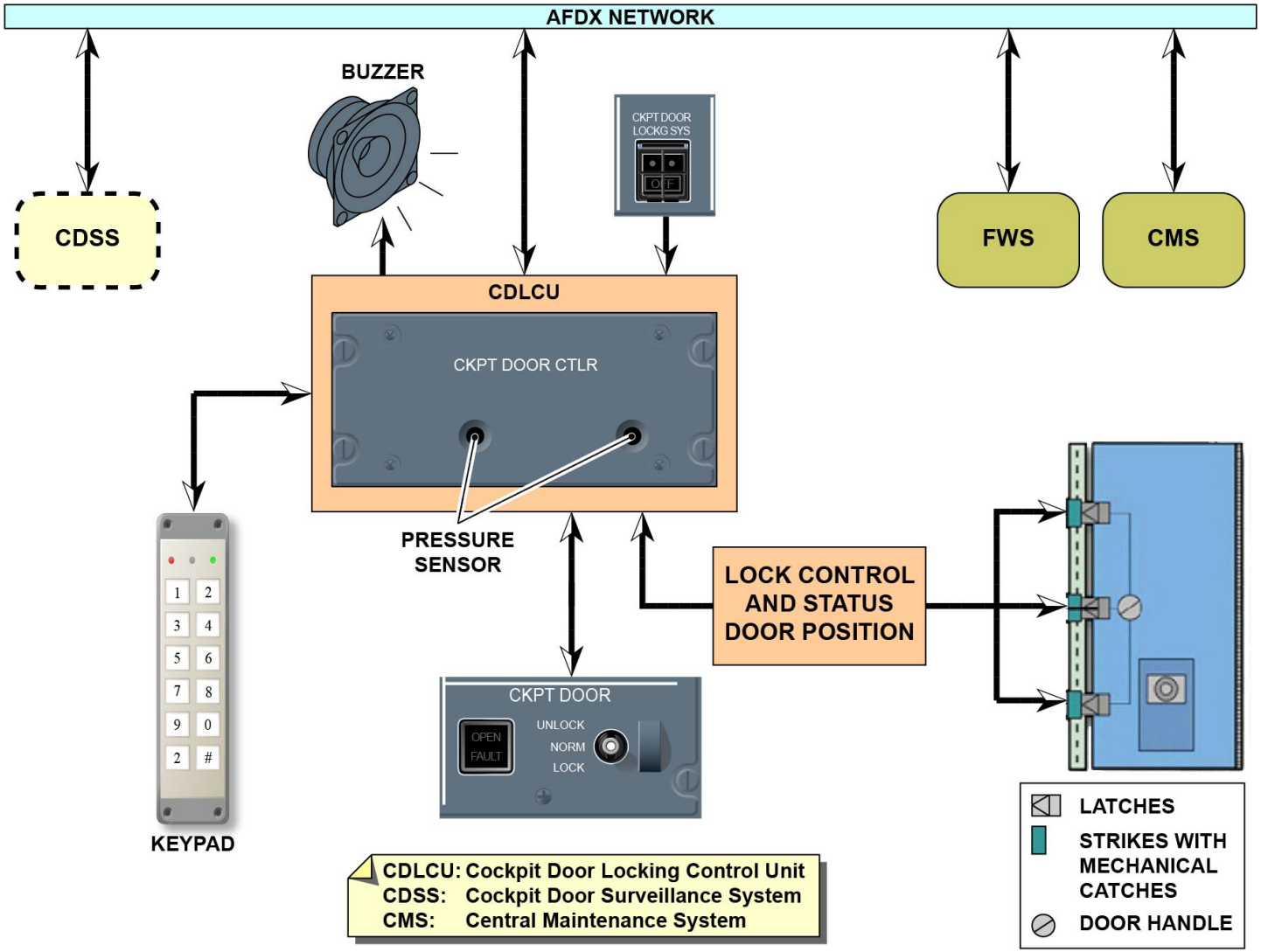
COCKPIT DOOR DESCRIPTION (2/3)

Cockpit Door Locking System

The CDLS controls and monitors the cockpit access through the three electrical strikes and the Cockpit Door Locking Control Unit (CDLCU). The CDLCU energizes the strikes when it is electrically energized (28V DC). Thus, the door is always locked when it is closed and the aircraft is energized. The electrical strikes have micro-switches to monitor the locking status. If there is a system fault that causes an unlocked door, a "FAULT" light comes on the cockpit door panel.
The door can be kept electrically unlocked for maintenance and also to prevent accidental lockouts during ground maintenance activities. This is done through the maintenance switch on the overhead panel.
When a request for access is made through the keypad, the CDLCU operates the buzzer and an audio message "DOOR PLEASE" is given by the Flight Warning System (FWS) to warn the flight crew. The flight crew uses the toggle switch of the cockpit door panel to give access or not . The toggle switch is spring-loaded and thus comes back to its "norm" position when released.
Two pressure sensing channels in the CDLCU sense the pressure drop if there is a rapid cockpit decompression. When decompression is sensed, the strikes are immediately de-energized to unlock the door. The difference in pressure between the cabin and the cockpit will then move the door open into the cockpit. The two pressure sensing channels, directly control the strikes to be released within a minimum time period required for this mode. This direct control will bypass the other modes of the CDLCU and requires only one pressure sensing channel available. A failure of the two sensing channels is shown by a FAULT light on the cockpit door panel.

NOTE: A failure of a door strike or a pressure-sensing channel will not be shown by a local alert, but a BITE fault message will be sent to the Central Maintenance System (CMS).

The CDLS has an interface with an optional Cockpit Door Surveillance System (CDSS) to help the flight crew to identify persons who want to get access to the cockpit.



COCKPIT DOOR LOCKING SYSTEM

COCKPIT DOOR DESCRIPTION (2/3)

Electrical Strikes and Door Bolting System

The electrical lock system has three electrical strikes that are installed in the right-hand door post. The CDLCU controls the power to the solenoid coils of the catch pins during the locked condition.
These electrical strikes contain 4 micro-switches (status switches). One micro-switch is attached to each electrical strike, to monitor the mechanical part of the solenoid. If the catch pin does not engage correctly (because of a blockage or equivalent event), the CDLCU automatically disconnects the power and sends a failure message to the CMS after an initial time period. The 4th micro-switch monitors the position of a status cam embedded in the center strike, to give a "door closed and locked" signal.
The door bolting system has three latches and a door handle which operate all three latches through mechanical links. It is installed on the cockpit side of the cockpit door panel. It operates with the electric strikes to be resistant to all intrusion events. Only the cockpit side has access to the door bolting system.
A mechanical override (deadbolt) is available to the cockpit crew only. It is installed on the cockpit side in the right-hand door post. The deadbolt is used to lock the cockpit door if the CDLS becomes inoperative.

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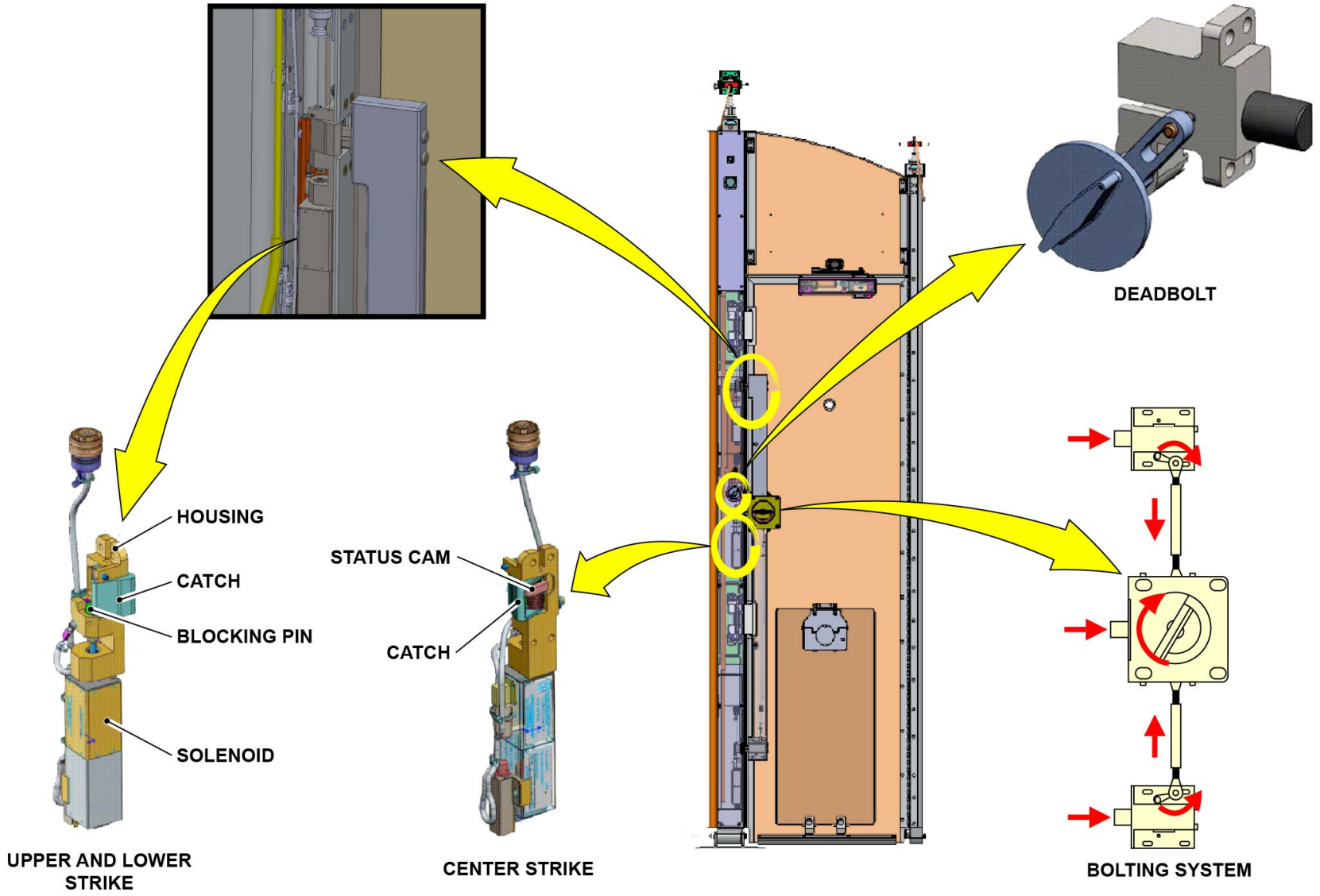

ELECTRICAL STRIKES AND DOOR BOLTING SYSTEM

COCKPIT DOOR DESCRIPTION (2/3)

Door Damping

Door Damper Assembly

The door damper connects the cockpit door to the cross beam subassembly. During normal opening and closing, the door damper will safely control the free movement of the door. To prevent any aircraft dispatch delay after the damper is blocked, a manual override handle is used.

Decompression Deceleration Device (DDD)

Two decompression deceleration devices, installed in the right-hand door post, decrease the speed of the door movement when the door opens during a rapid cockpit decompression event, for the protection of the cockpit personnel. This is done by a belt attachment mechanism. When the decompression occurs, a shear pin on the belt attachment mechanism breaks, allowing the lever arm to be taken by the door panel roller. As a result, the belt operates to turn a braking assembly which absorbs the door energy.

NOTE: During normal cockpit door opening, the lever arm does not catch the door panel roller and is spring loaded in an open position.

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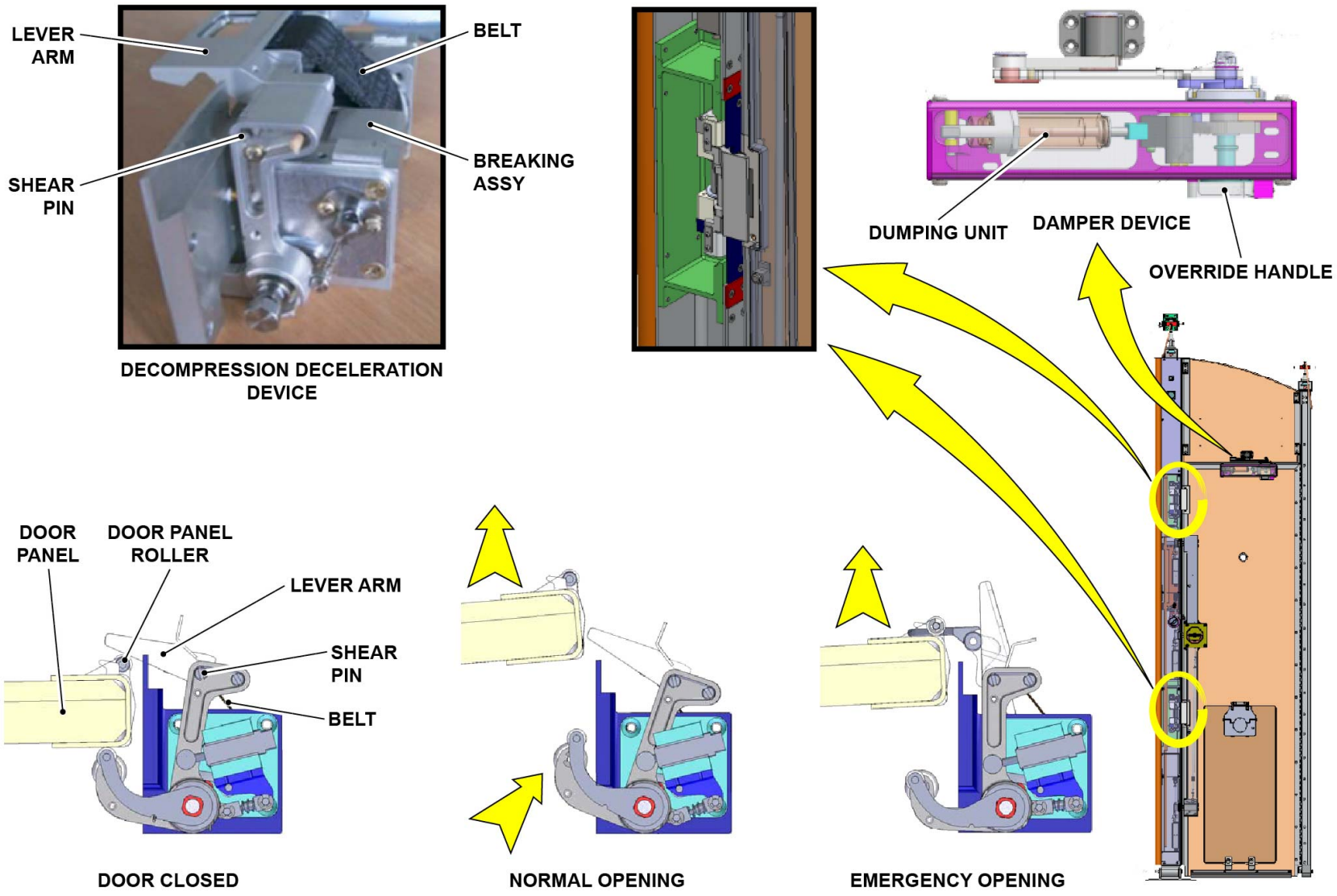

DOOR DAMPING - DOOR DAMPER ASSEMBLY & DECOMPRESSION DECELERATION DEVICE (DDD)

COCKPIT DOOR DESCRIPTION (2/3)

Cabin Decompression and Evacuation Panel

A flap release mechanism is installed on the decompression and evacuation panel. The panel is kept locked by two latches during normal operation.
If there is a rapid cabin decompression, this panel opens into the direction of the cabin. An air cylinder senses the pressure drop. When the air cylinder retracts, the handle is pulled in and keeps the retaining rods unblocked. When the pulling force on the panel is stronger than the spring force, the latches are free to move and the differential pressure then opens the panel in the direction of the cabin. After a decompression release, push the decompression and evacuation panel to lock it again in its position.
For evacuation of the cockpit (if the door is blocked), it is unlocked manually by the procedure that follows:
- Turn the protective cover.
- Push and turn the handle clockwise to the end position.
- Push/kick the panel to open it in the direction of the cabin.

An indicator window adjacent to the air cylinder shows the status of the panel: Green (locked and secure) or Red (ready to open).

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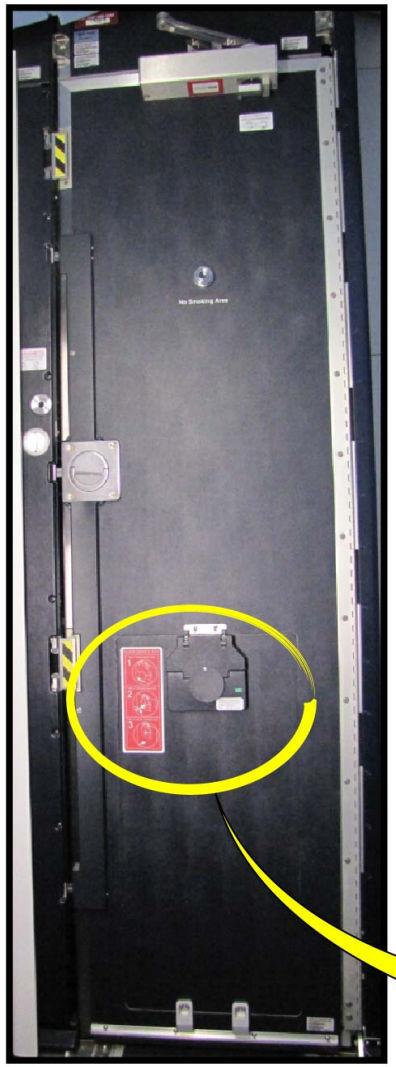
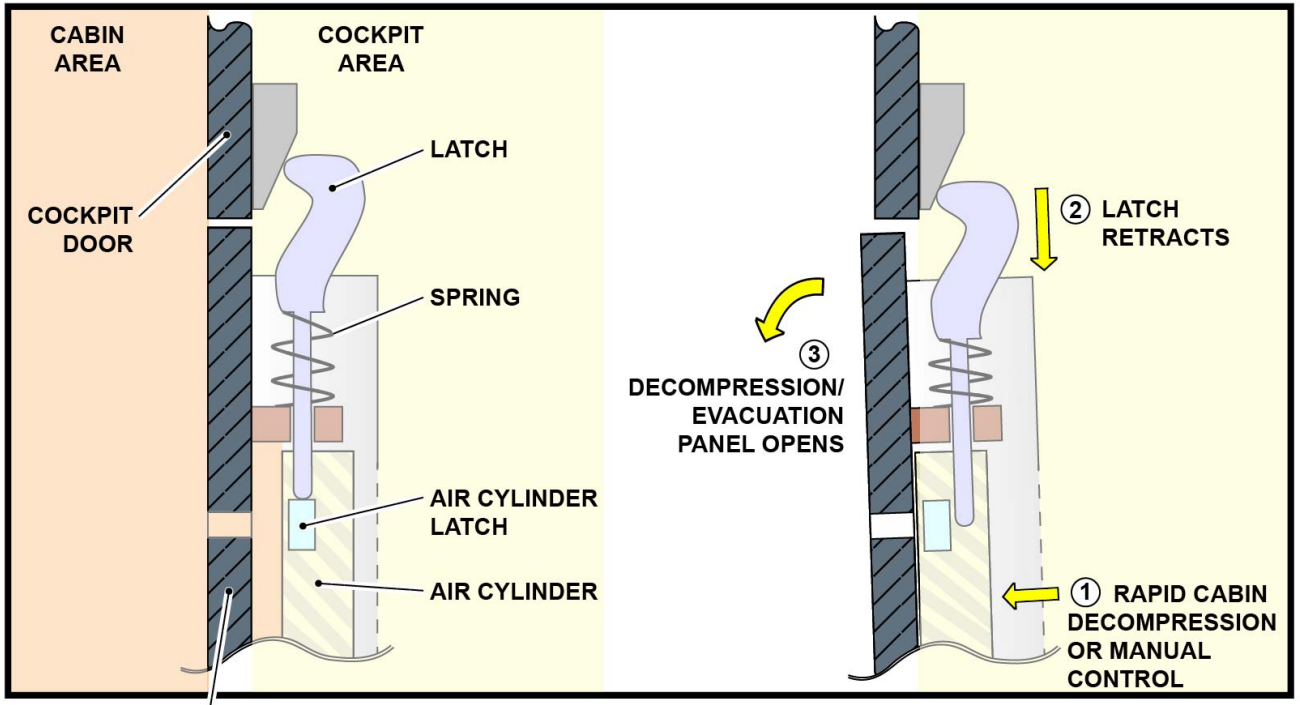
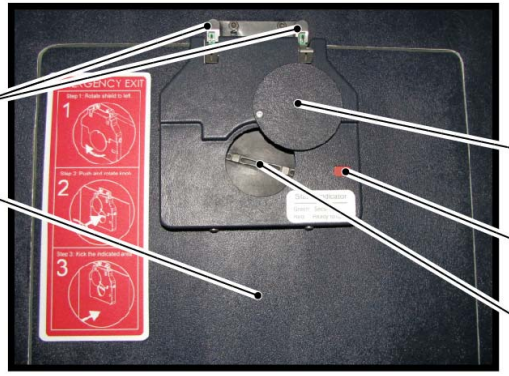




LATCH CUT VIEW



FLAP RELEASE MECHANISM

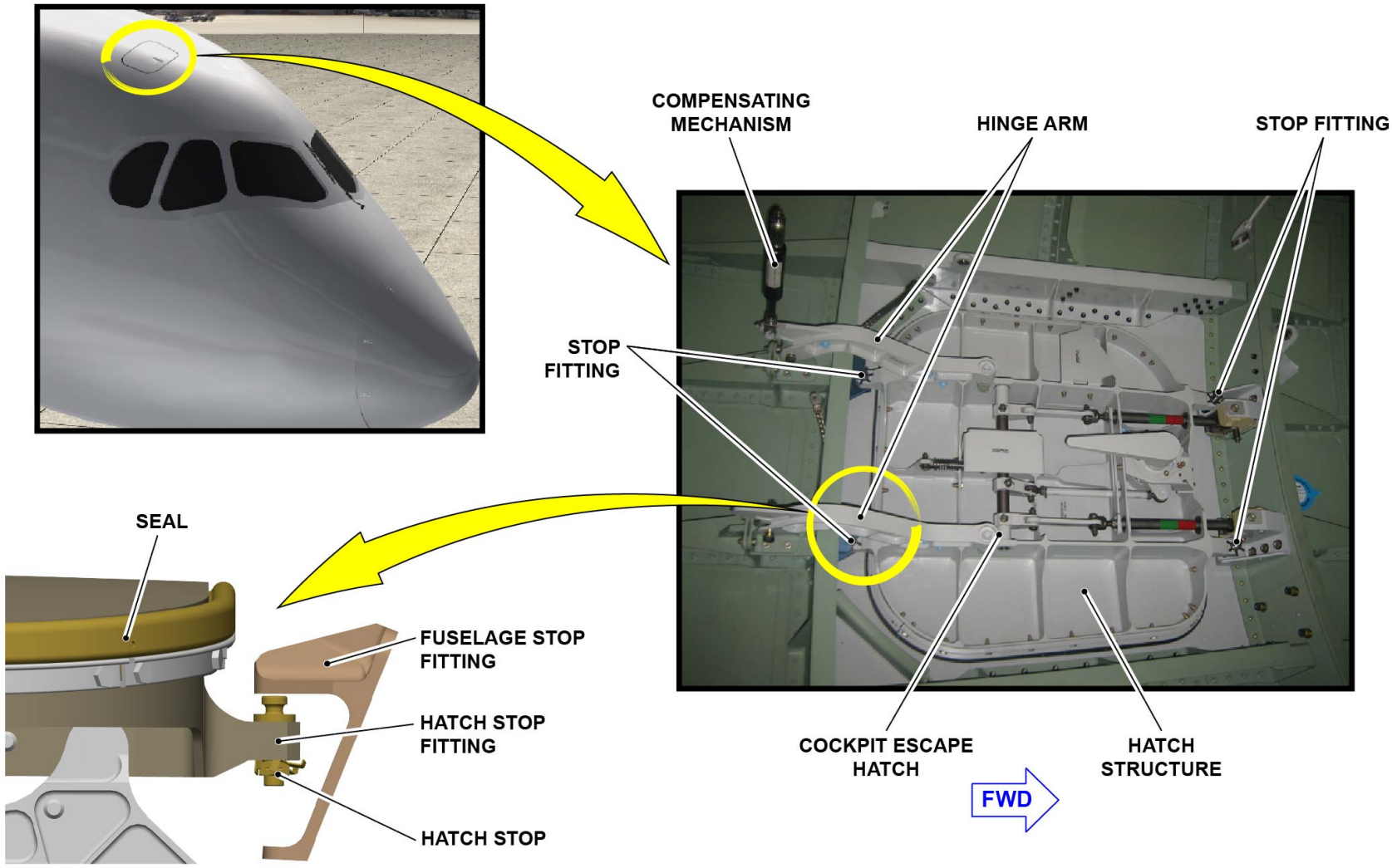
CABIN DECOMPRESSION AND EVACUATION PANEL

ESCAPE HATCH DESCRIPTION (2/3)

General

The cockpit escape hatch is installed on the top right side of the nose fuselage. This emergency exit is a plug type door for cockpit crew evacuation. It is opened with an inward rotation movement. Two hinge arms move the cockpit escape hatch through its turn.
Four stop fittings transmit the pressure loads to the fuselage and put the hatch flush with the fuselage skin.
A compensating mechanism is installed on one hinge arm of the hatch. This mechanism decreases the force necessary to open/close the hatch. It also keeps the hatch in the open position and prevents accidental opening/closing.
A seal supplies aircraft pressurization sealing and does not let water go into the cockpit.

V1813401 - V01T0M0 - VM52D2ESCHA3001


COMPENSATING MECHANISM
HINGE ARM
STOP FITTING
STOP FITTING
SEAL
FUSELAGE STOP FITTING
HATCH STOP FITTING
HATCH STOP
COCKPIT ESCAPE HATCH
HATCH STRUCTURE
FWD

GENERAL

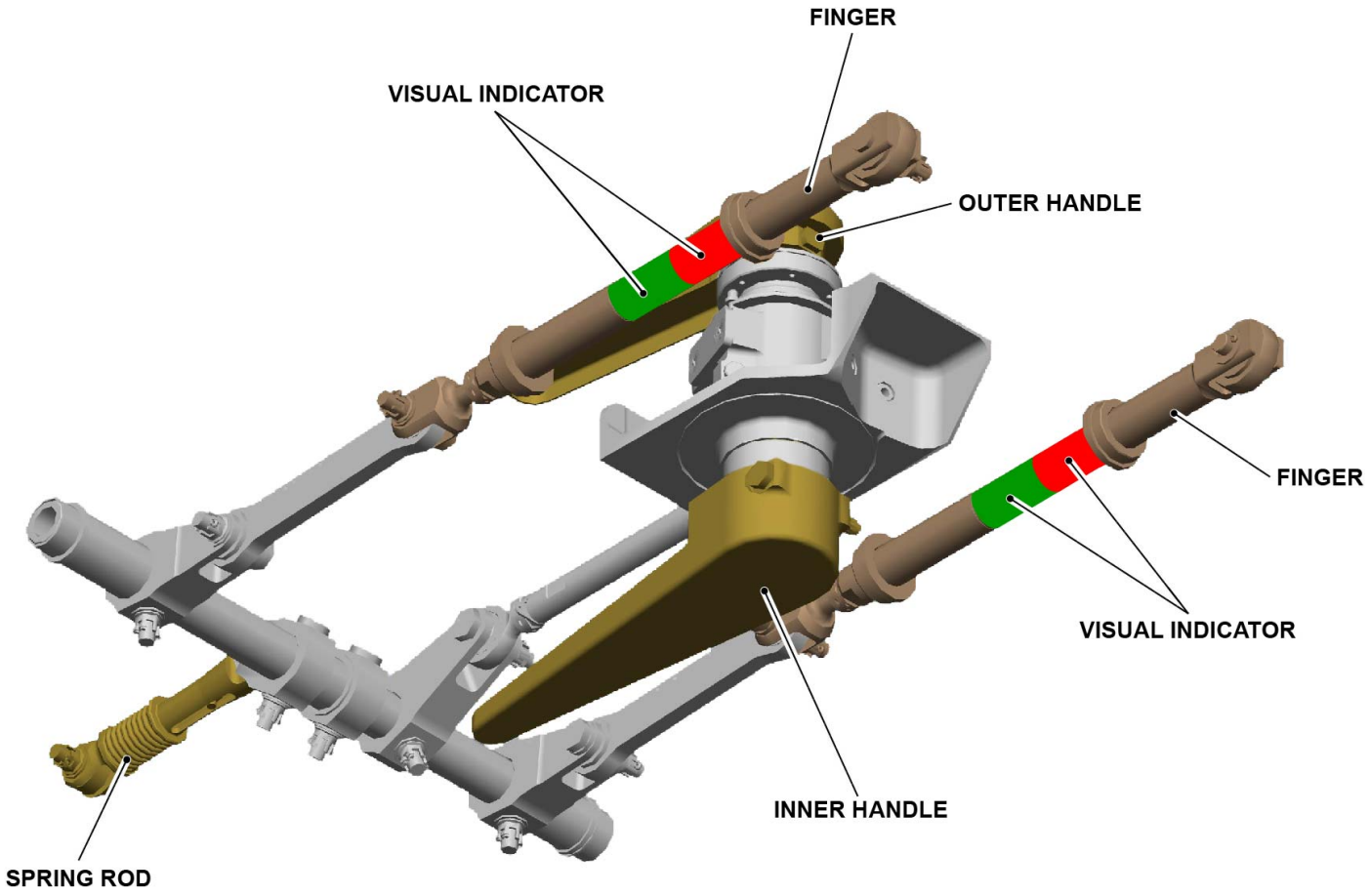
ESCAPE HATCH DESCRIPTION (2/3)

Latching Mechanism

The latching mechanism has the self-lubricated components that follow:
- 1 handle assembly to open/close the hatch
- 2 latch fingers
- 1 spring rod which keeps it in the unlatched/latched position.

The handle assembly includes an outer handle and an inner handle. Because the cockpit escape hatch is for operation during an emergency, it can be opened/closed from the inner side and only opened from the outside. The outer handle is flush with the fuselage when the hatch is closed.
There are two visual indicators on the latch fingers (Green indication "LOCKED" or Red indication "UNLOCKED") to visually show their condition.

NOTE: You can only see these visual indicators from the cockpit when the hatch lining is removed.



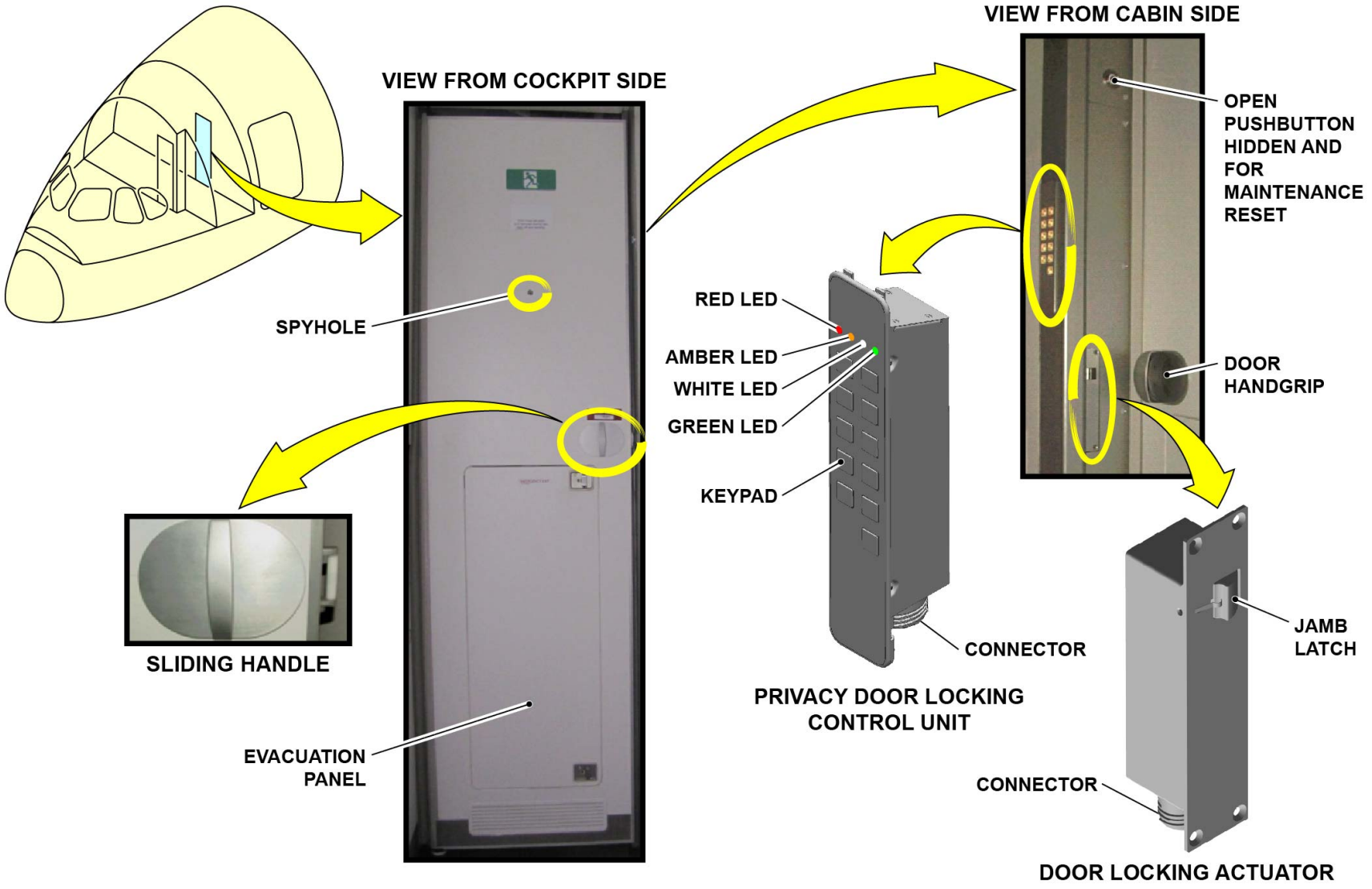
LATCHING MECHANISM

PRIVACY DOOR DESCRIPTION (OPTION) (2/3)

General

The optional Privacy Door makes sure that passengers cannot see into the cockpit or see the code entered on the cockpit door keypad. This door is not a security door. It opens in the direction of the corridor.
The Privacy Door has a mechanical locking system with a sliding handle which is operated from the cockpit side.
A Privacy-Door Locking Control-Unit (PDLCU) with a digital keypad on the cabin side controls a door-locking actuator. It also lets the flight crew operate the door with a pushbutton on the cockpit side. A latching device, installed on the door edge, holds the door in the open position during taxiing, take-off and landing.

V1813401 - V01T0M0 - VM52D3PRIDO3001



GENERAL

V1813401 - V01T0M0 - VM52D3PRIDO3001

PASSENGER DOORS DESCRIPTION (2/3)

Passenger Door Description

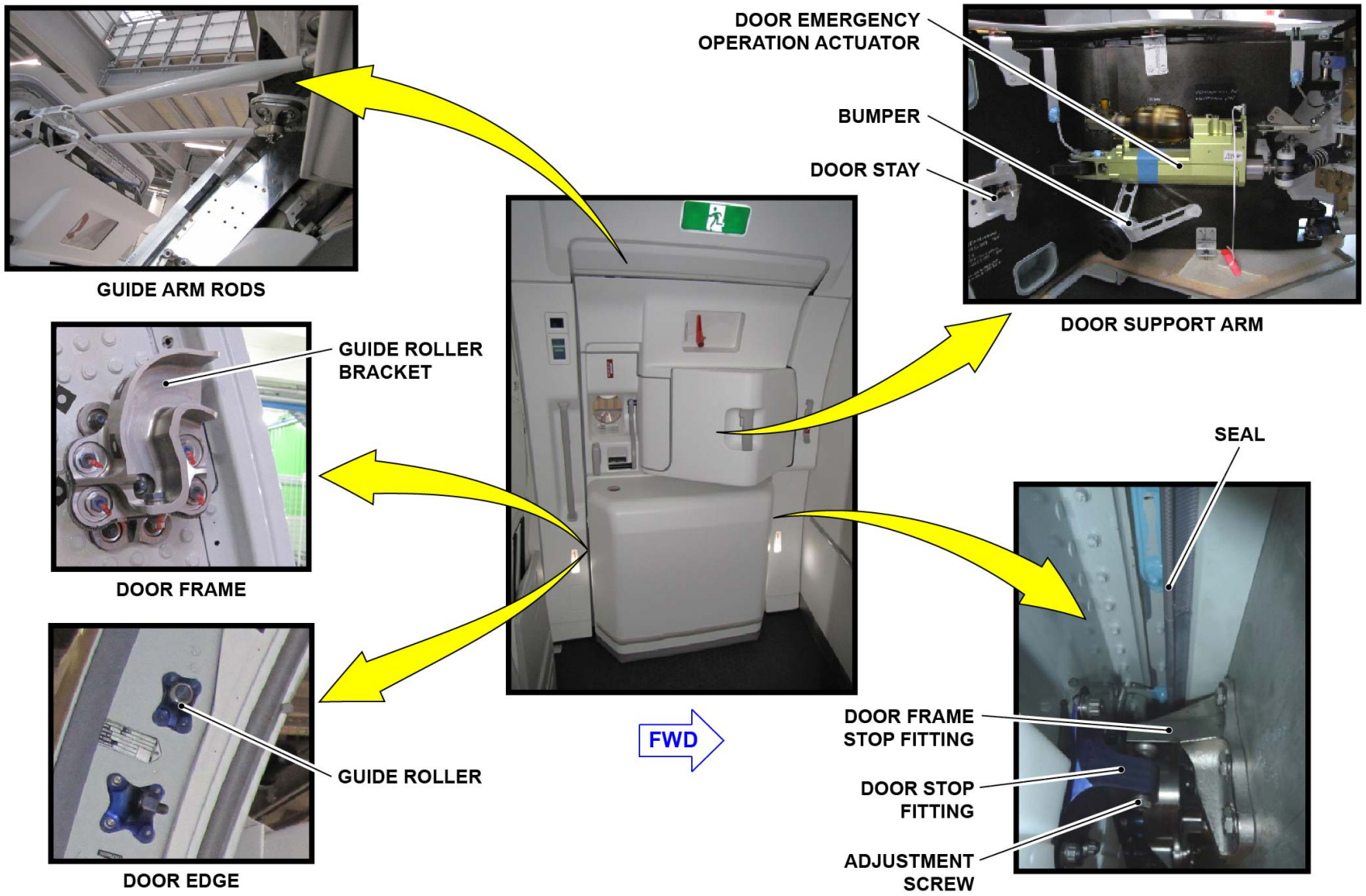
The eight passenger doors are plug doors with a fail-safe structure. It is possible to operate them manually from the inner side or outer side of the aircraft. They open out and turn around a door support. The passenger doors participate to the cabin pressurization and have an inflatable rubber door-seal. Fourteen adjustable stop-fittings are installed on the forward and aft door edges. They transmit the loads caused by cabin pressure to the fuselage.

Guide rollers and guide arm rods keep the door on its track. A Damper and Emergency Operation Actuator (DEOA) absorbs the movement of the door while it opens or closes. It also opens the door in emergency operation. If the door opens suddenly (gust of wind, emergency operation), a bumper will stop it. For emergency evacuation, each passenger door has a single-lane slide/raft or a dual-lane slide/raft installed on its lower part.

The passenger door control-system is a mechanism installed in the structure of the door. It controls:

- The latch and lock mechanisms
- The lifting and lowering mechanism
- The door stay mechanism.

V1813401 - V01T0M0 - VM52D4PAXDO3001

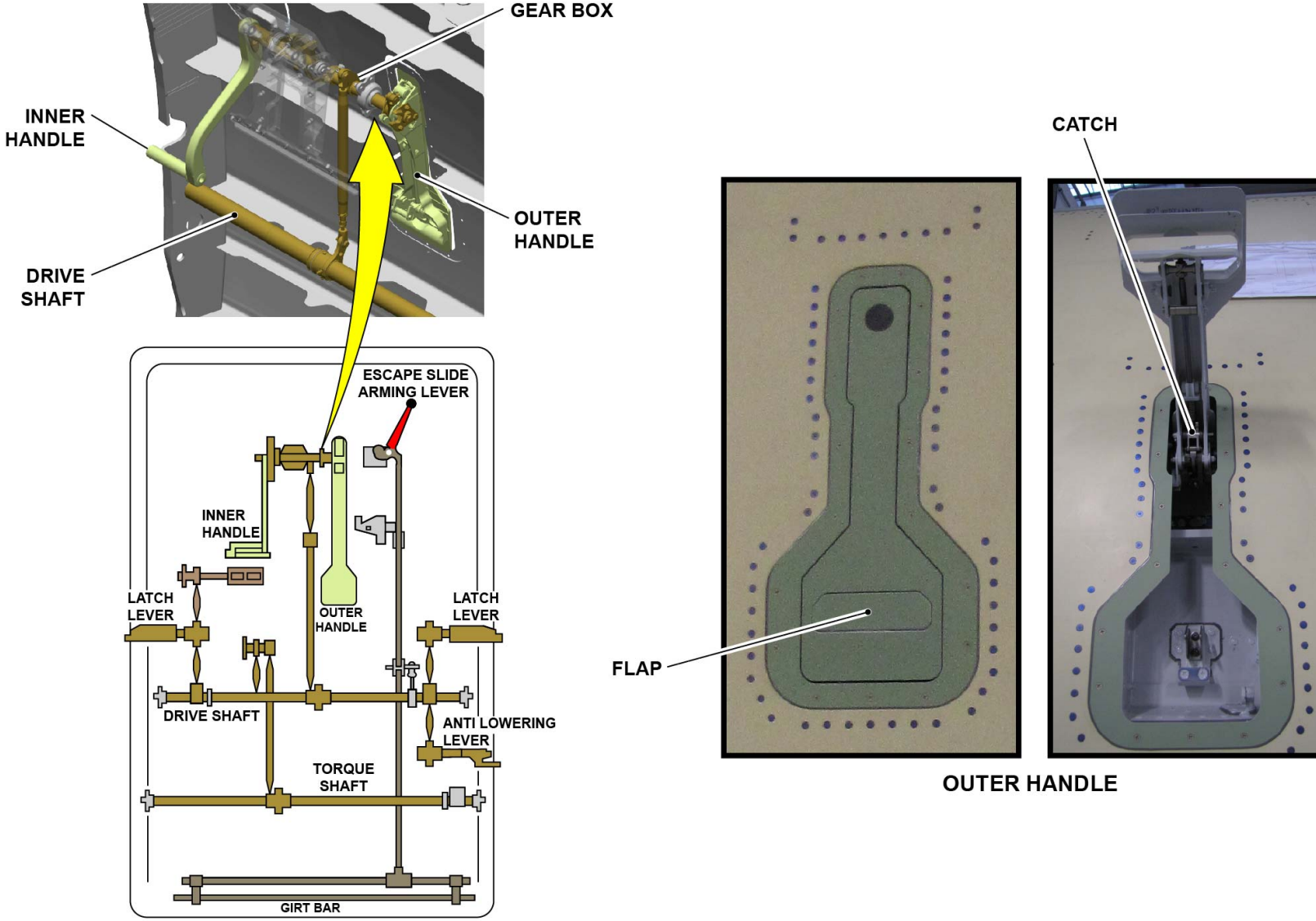


PASSENGER DOOR DESCRIPTION

PASSENGER DOORS DESCRIPTION (2/3)

Handles Operation

It is possible to open and close the door manually with an inner and an outer handle. During this operation, one mechanism with a gearbox lifts/lowers, latches/unlatches and locks/unlocks the door mechanically. The gearbox prevents movement of the outer handle during operation of the inner handle.
A flap on the outer handle connects the handle to the gearbox when it is manually pushed in. In this configuration, the outer handle can operate the door and the inner handle moves at the same time.



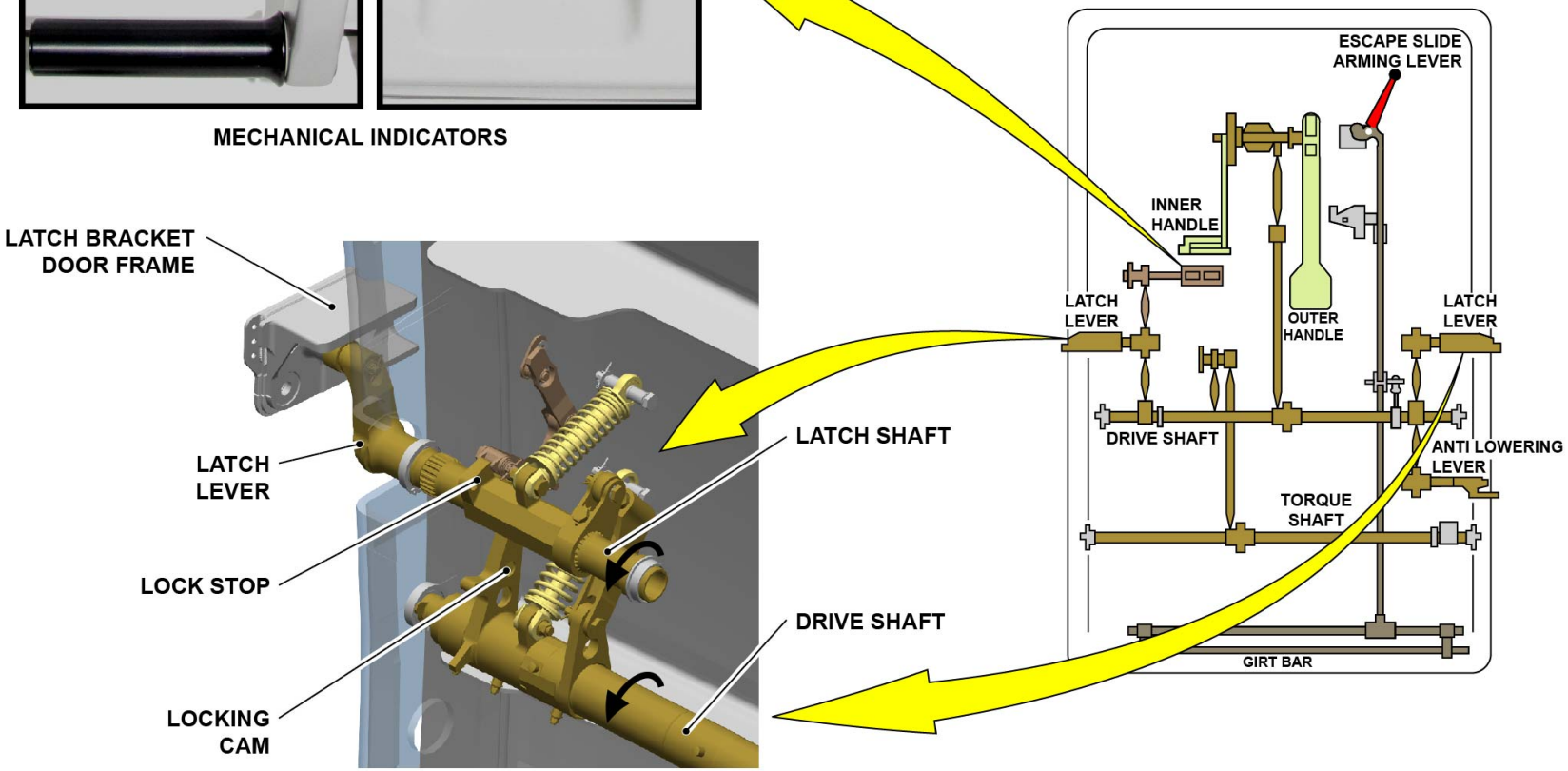
HANDLES OPERATION

PASSENGER DOORS DESCRIPTION (2/3)

Latch and Lock Mechanisms

The latch mechanism has two latches, which are installed at the forward and aft edges of the door and operate independently from each other. During latch operation, they engage into latch brackets on the side of the door-frame.
The lock mechanism has two locking cams (one for each latch) that keep the latch mechanism in a fully latched position. This is to keep the door in a closed, latched and locked configuration.
There is a mechanical indication with flags to show the lock/unlock operation. The two flags are seen from the inner side.

MECHANICAL INDICATORS

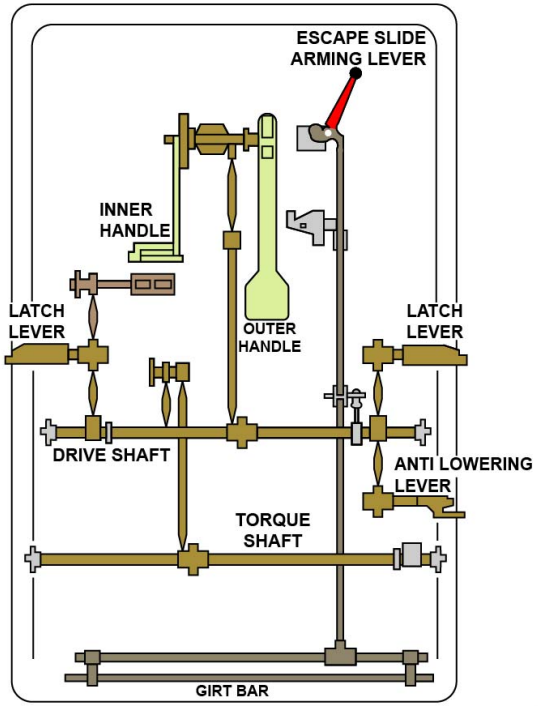


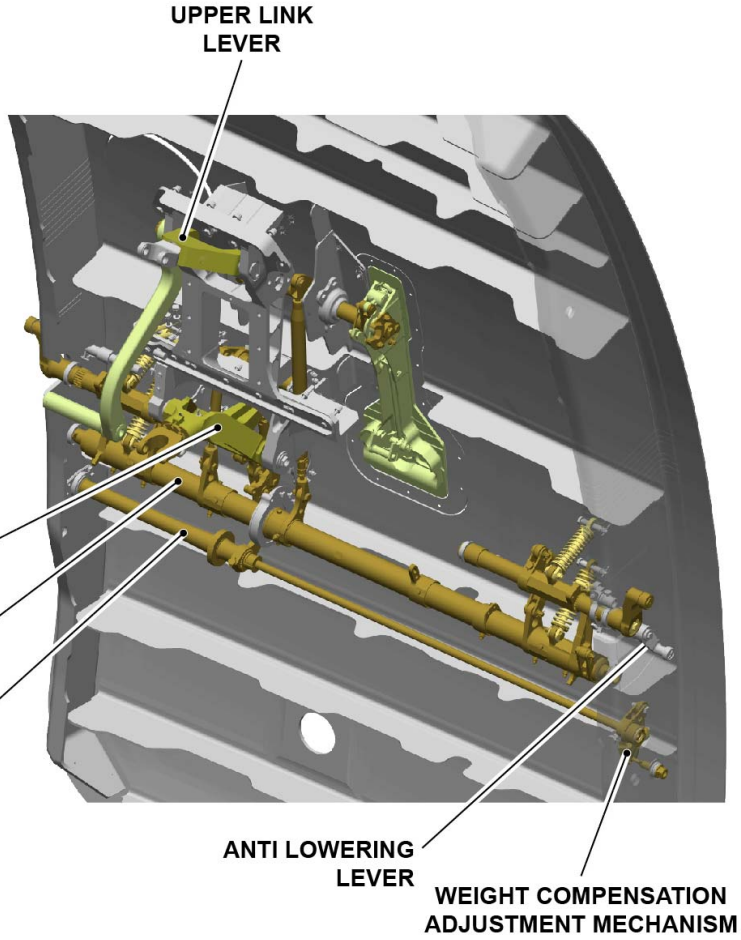
LATCH AND LOCK MECHANISMS

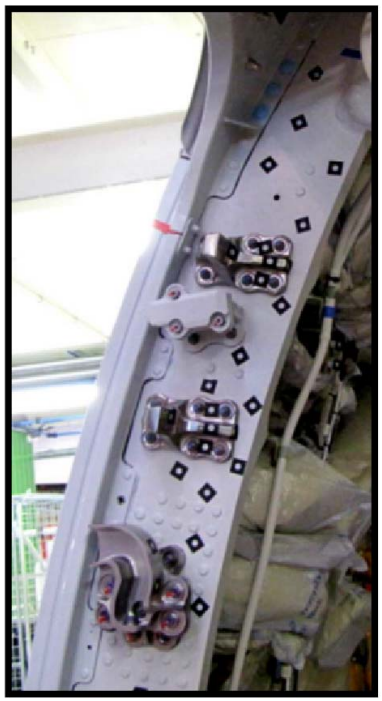
PASSENGER DOORS DESCRIPTION (2/3)

Lifting and Lowering Mechanism

The support arm of the passenger door holds and turns the door while it is lifted and lowered. An anti-lowering lever prevents this movement unless the door touches the door-frame. Then, the door can be lifted away from the door frame stop-fittings to open it, and lowered to close it.
When the door moves away from the door-frame, the anti-lowering lever fully locks the internal door mechanism. This keeps the door up and prevents the operation of the two handles.
To operate the handles, a torque shaft with a torsion bar spring compensates the weight of the door. This torque shaft is adjustable and has an effect on the lower link lever (the junction of the door with the support arm) and the latch mechanism.
By design, the door stop fittings and the guide roller brackets prevent (under cabin pressure) the door from lifting.







DOOR FRAME INNER VIEW

LIFTING AND LOWERING MECHANISM

PASSENGER DOORS DESCRIPTION (2/3)

Door Stay Mechanism

The door stay mechanism (or door gust lock) in the support arm has a trigger and a door stay hook. When the door is fully open, the hook holds the door in position. The trigger must be pushed to close the door.

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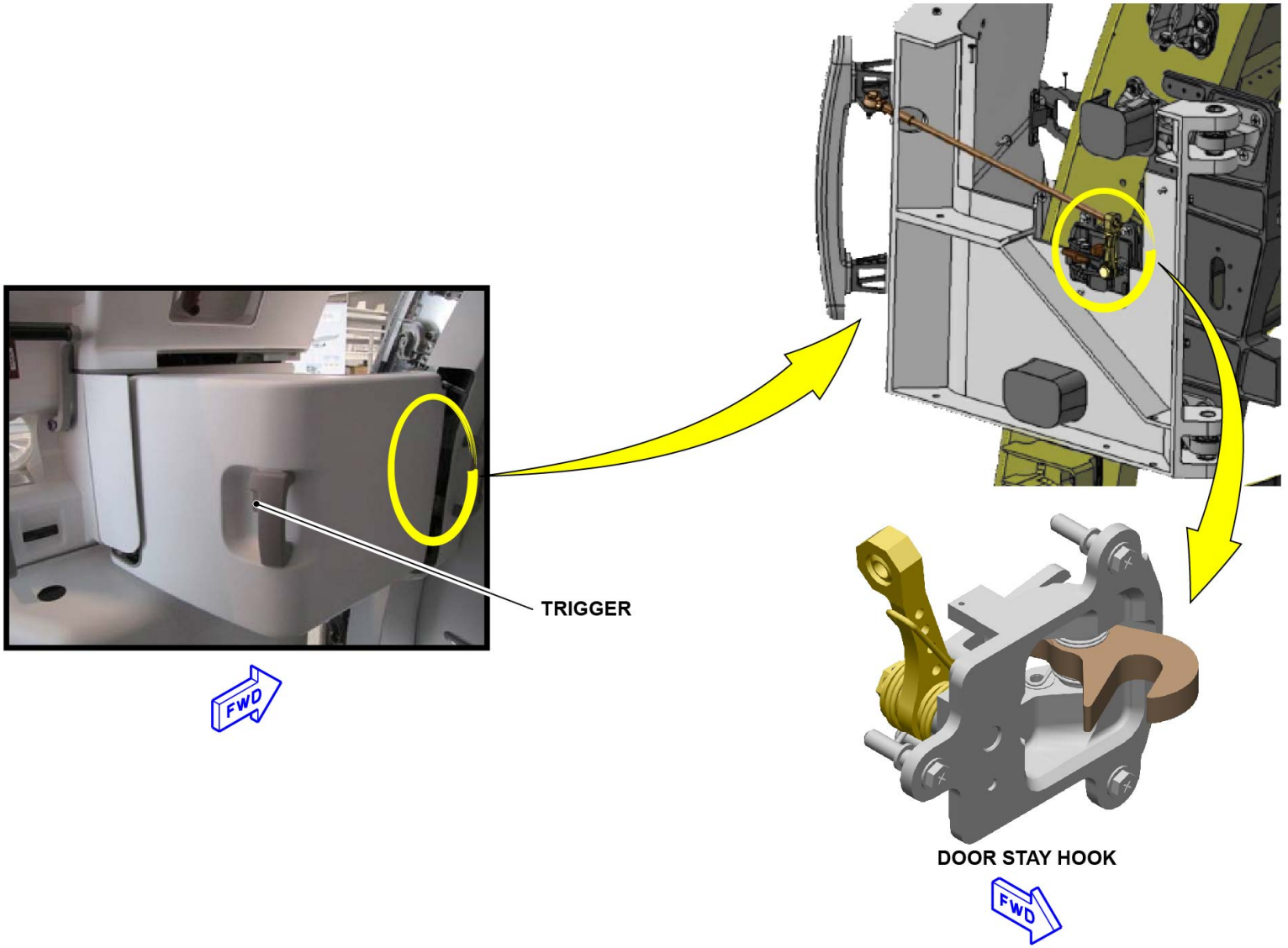


DOOR STAY MECHANISM

PASSENGER DOORS DESCRIPTION (2/3)

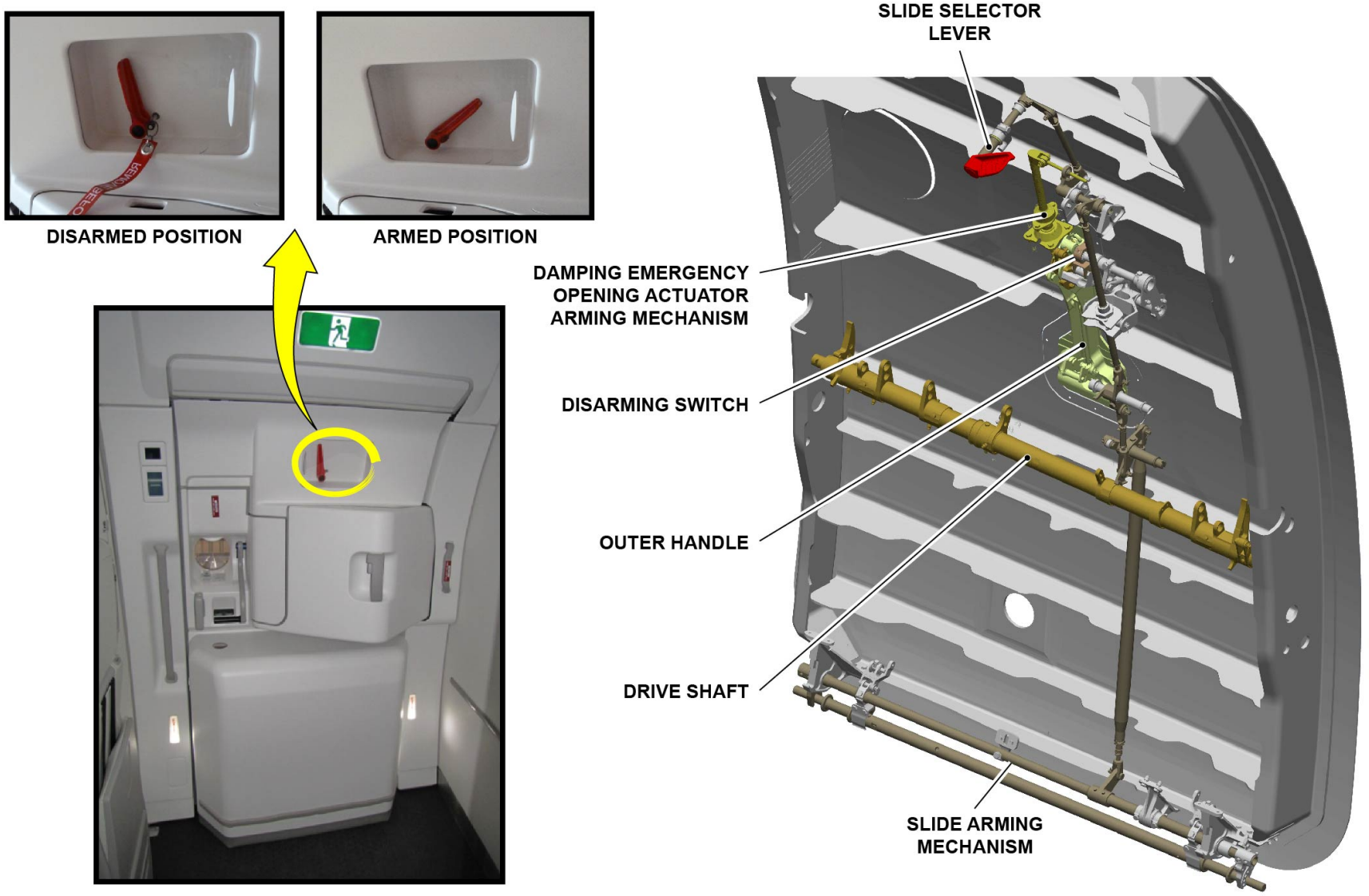
Emergency Operation

General

The cabin crew must arm the emergency mechanism of the passenger doors before each flight. To do this, they use the inner Slide Selector Lever, which mechanically controls the arming mechanisms of the slide and the DEOA. If the door is not fully lowered, latched and locked, it is not possible to arm the slide mechanism.
In an emergency, if the Slide Selector Lever is in the ARMED position and the door is opened from the inner side, the DEOA automatically opens it. The escape slide is then released and inflates. If the outer handle is lifted when the Slide Selector Lever is in the ARMED position, the DEOA and the slide arming mechanism go back to the DISARMED position.

Safety Pin

A safety pin locks the Slide Selector Lever in the DISARMED position only. To let an operator open the door safely (without slide operation) from the outer side, it is not possible to lock the Slide Selector Lever in the ARMED position. Thus, the safety pin must be stowed on the slide cover.



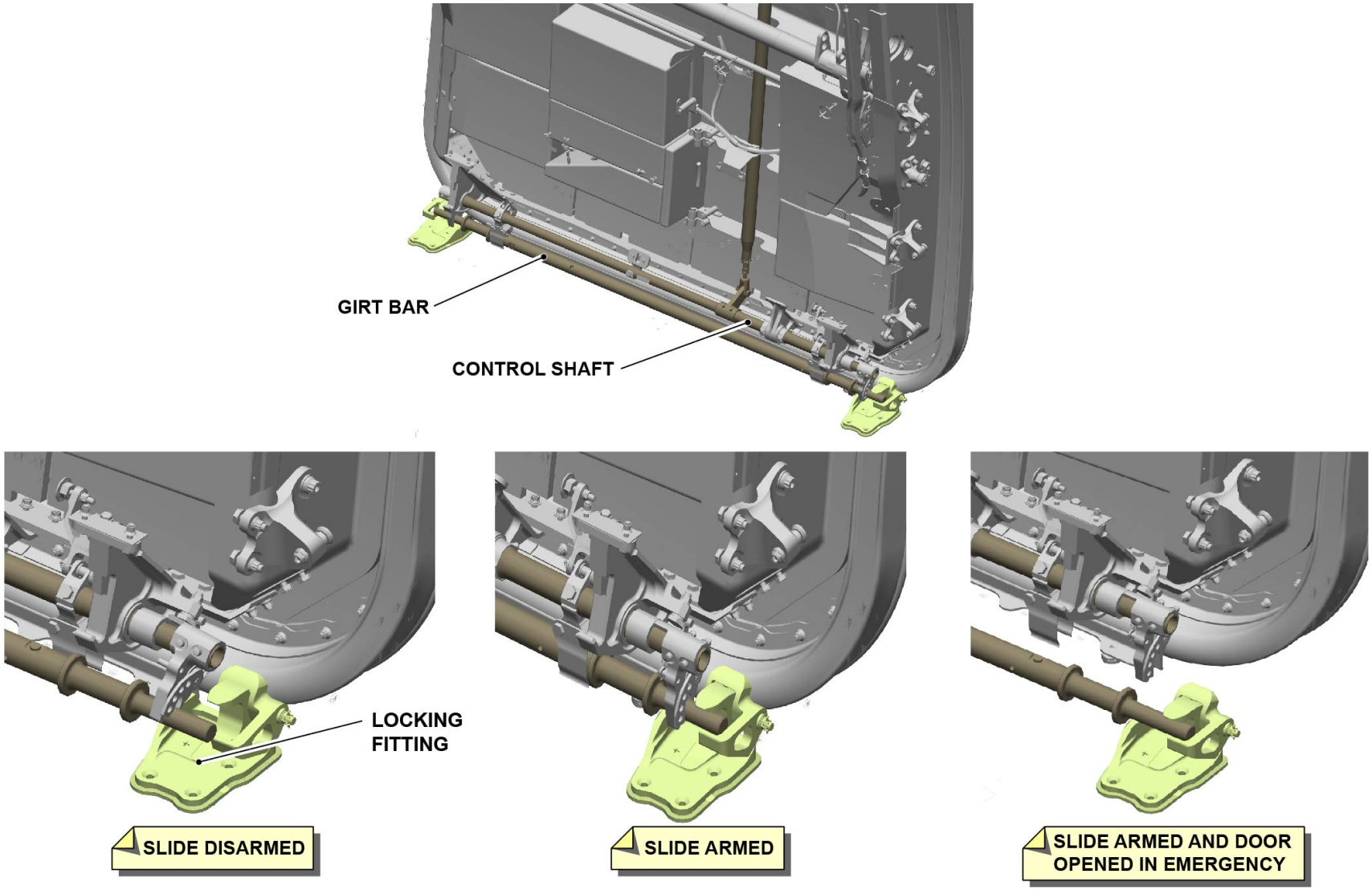
EMERGENCY OPERATION - GENERAL & SAFETY PIN

PASSENGER DOORS DESCRIPTION (2/3)

Girt Bar Operation

Each door has a girt bar that mechanically connects the slides to the fuselage. When the Slide Selector Lever moves to the DISARMED position, the control shaft turns and disengages the girt bar from the floor fittings. Thus, the slide pack will stay connected to the door while it opens and will not deploy. When the Slide Selector Lever is in the ARMED position, the girt bar stays connected to the fuselage floor fittings. In an emergency, when the door opens, the slide disconnects from the door and deploys automatically.

V1813401 - V01T0M0 - VM52D4PAXDO3001



GIRT BAR OPERATION

PASSENGER DOORS DESCRIPTION (2/3)

DEOA Function and Description

DEOA Description

The DEOA has:
- A gas cartridge in a pressurized cylinder
- An actuator. This actuator is a hydraulic damper or a gas piston (emergency operation).
- An actuating lever that touches the slide arming mechanism, when the Slide Selector Lever is in the ARMED position.

Door Damper Function

The damper function of the DEOA is to absorb the movement of the door while it opens and closes as the piston comes to the end of its stroke. This is done by hydraulic fluid which moves through a restrictor.

Emergency Function

The emergency function of the DEOA helps to open the door more quickly. When the door opens in an emergency (Slide Selector Lever in the ARMED position), the DEOA actuating lever makes a hole in the cartridge, then the gas pressure pushes the piston out.

Indication

A pressure gauge installed on the cylinder monitors the pressure of the cartridge. While the needle is in the Green band, the DEOA is serviceable.

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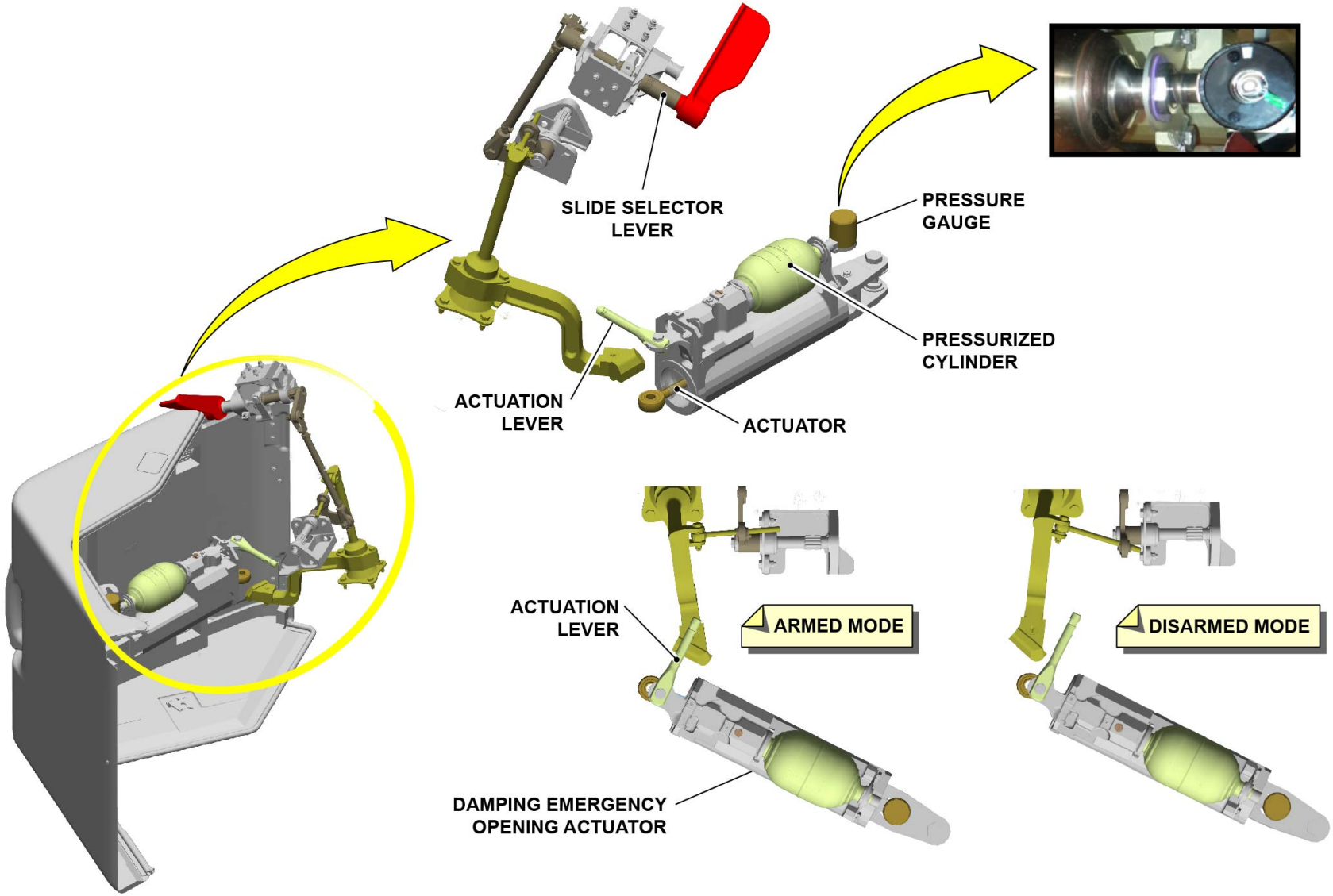


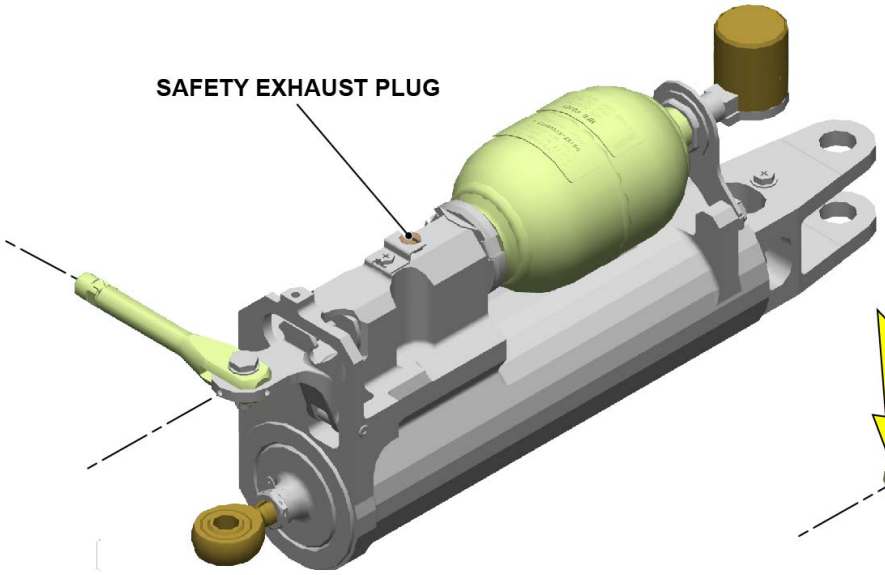
DEOA FUNCTION AND DESCRIPTION - DEOA DESCRIPTION ... INDICATION

PASSENGER DOORS DESCRIPTION (2/3)

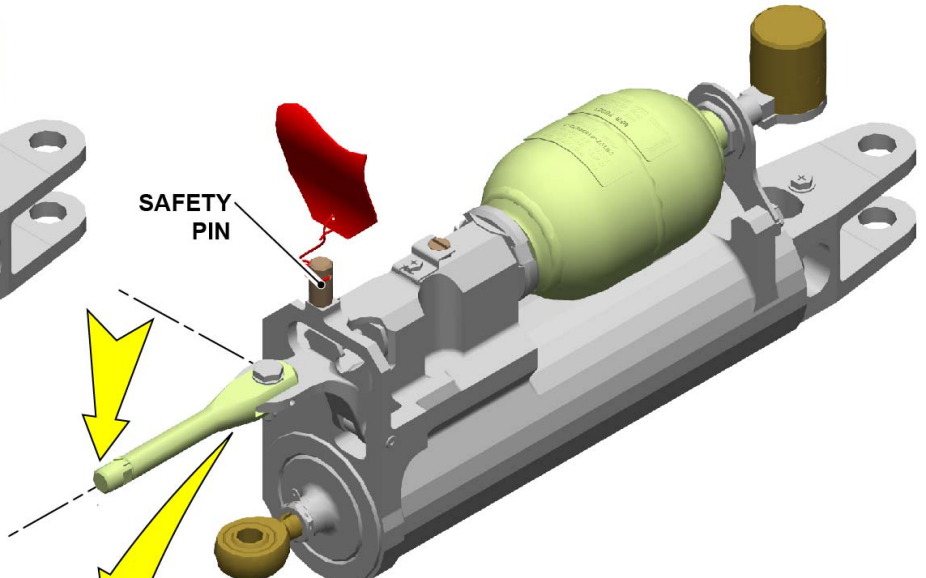
DEOA Servicing

Servicing of the DEOA components is not necessary, unless it has been punctured discard the cartridge and install a new one.
The DEOA must be deactivated during maintenance on the passenger door:
- Put the actuating lever in the disarmed position (aligned with the DEOA cylinder)
- Install the safety pin.

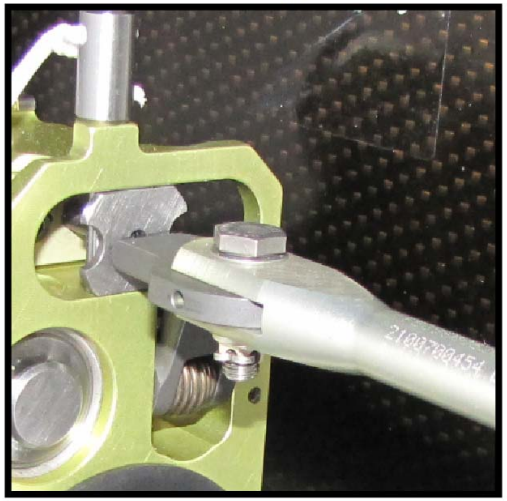
NOTE: After the door opens in an emergency, it can be closed again. If the cartridge has been punctured accidentally and the operator manage to keep the door closed, the maintenance personnel can use a safety exhaust plug on the DEOA to release the gas pressure.



DOOR EMERGENCY OPERATION ACTUATOR IN ACTIVE MODE



DOOR EMERGENCY OPERATION ACTUATOR DEACTIVATED



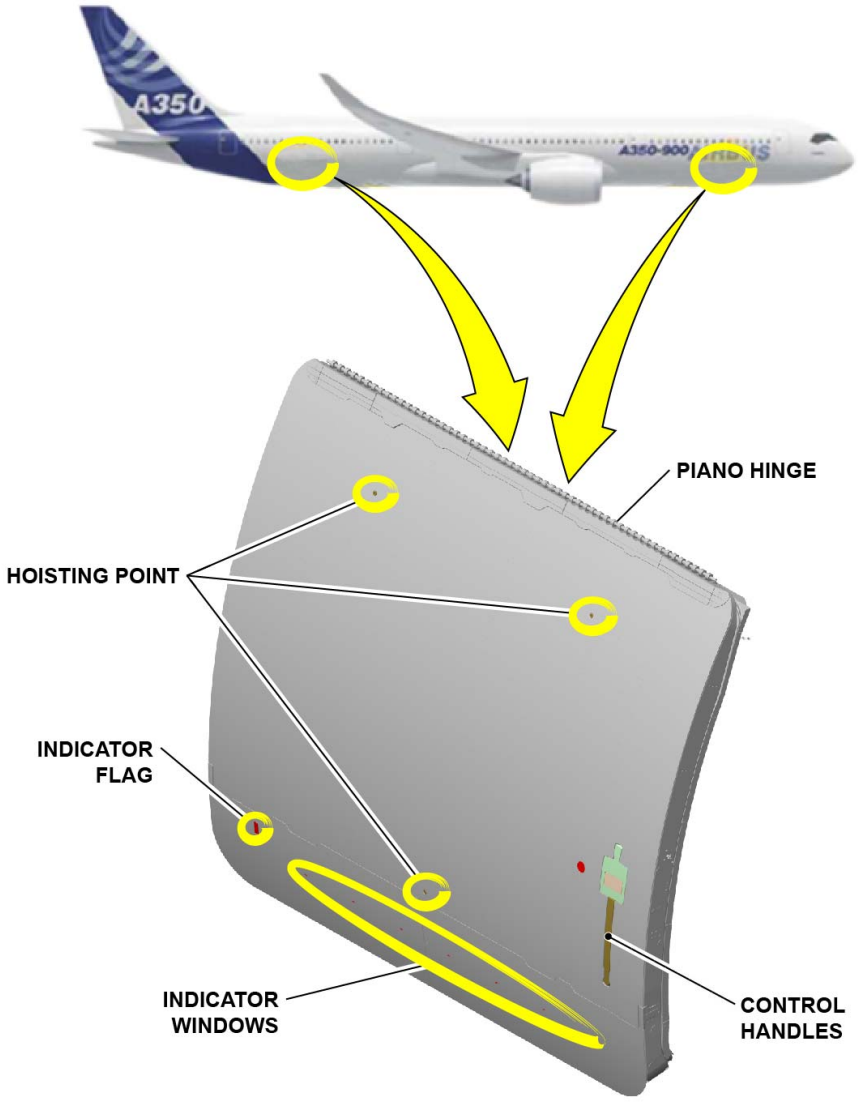
DEOA SERVICING

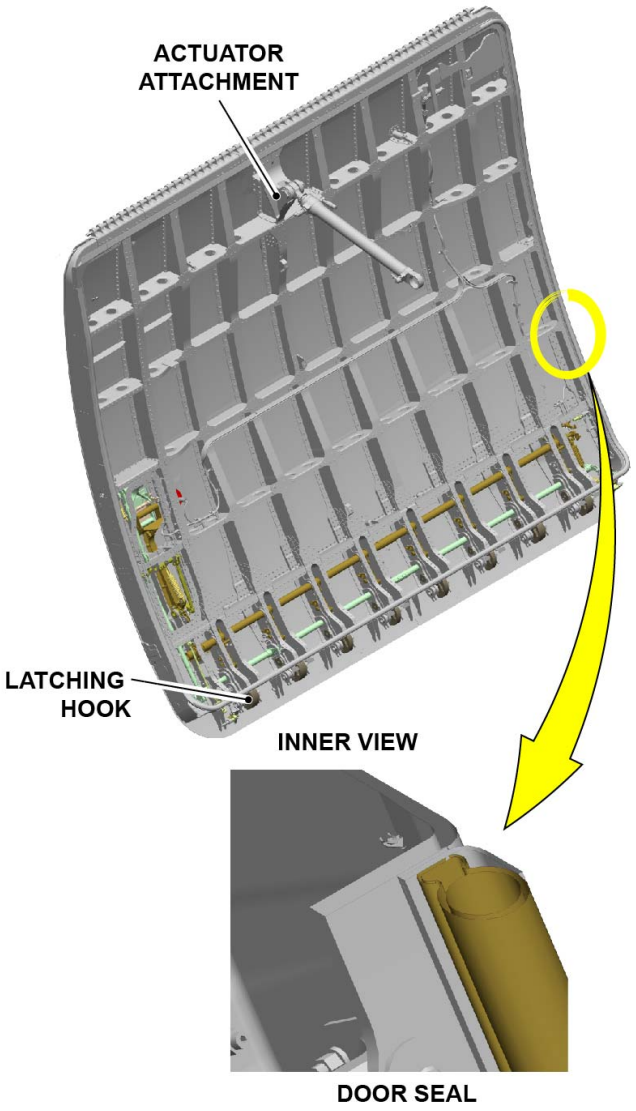
FWD AND AFT CARGO DOORS DESCRIPTION (2/3)

General

The two cargo compartment doors are similar by design, but their sizes are different. They open out and up, they turn (piano hinge) on their upper edge and they are hydraulically operated by one actuator. Control handles (one for latching/unlatching, one for locking/unlocking) operate the latching/locking mechanism, which moves (eight) latching hooks, installed in the lower part of the cargo door.
The system shows the status of the Locking System through indicator windows (one for each latching hook) and an indicator flag.
A seal is attached to the inner side of the door by retainers. When the aircraft is pressurized, the seal is inflated to keep the pressurization and to make sure that water cannot go into it. Three hoisting points on the outer skin must be used for maintenance handling.

V1813401 - V01T0M0 - VM52D5CARDO3001


PIANO HINGE
HOISTING POINT
INDICATOR FLAG
INDICATOR WINDOWS
CONTROL HANDLES

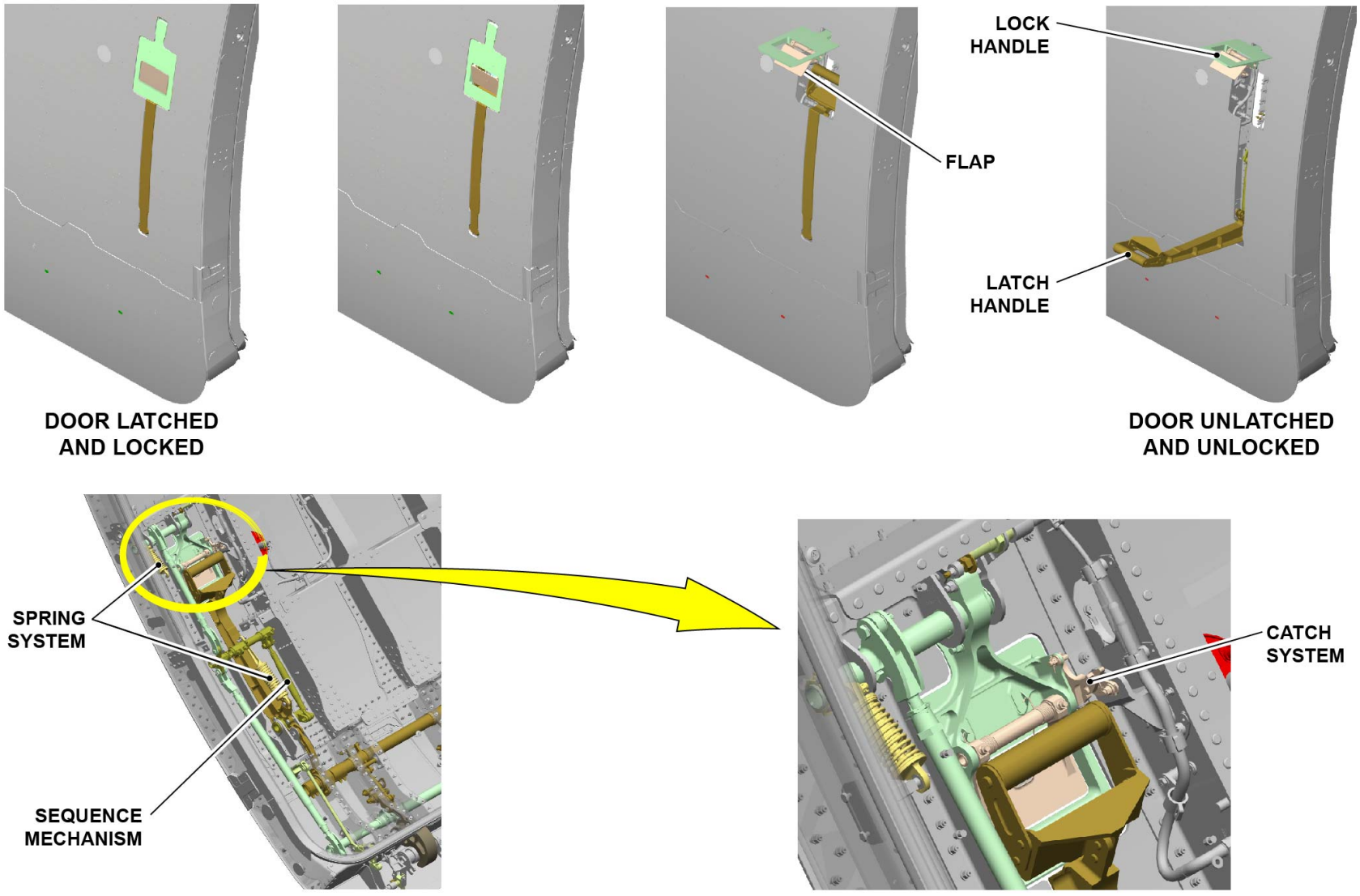

ACTUATOR ATTACHMENT
LATCHING HOOK
INNER VIEW
DOOR SEAL

GENERAL

FWD AND AFT CARGO DOORS DESCRIPTION (2/3)

Handle Group

The lock handle and the latch handle are in the forward side of each door. The two handles are kept in the closed and open position by spring systems. In latched and locked position the lock handle covers the latch handle. The lock handle is tightened in locked position with a catch system operated by a flap.
As sequence mechanism, installed in the handle area, makes sure that the handles are operated in sequence, as follows:
- No locking operation must be done until the latch mechanism is fully latched.
- No unlatching operation must be done until the lock mechanism is fully unlocked.



HANDLE GROUP

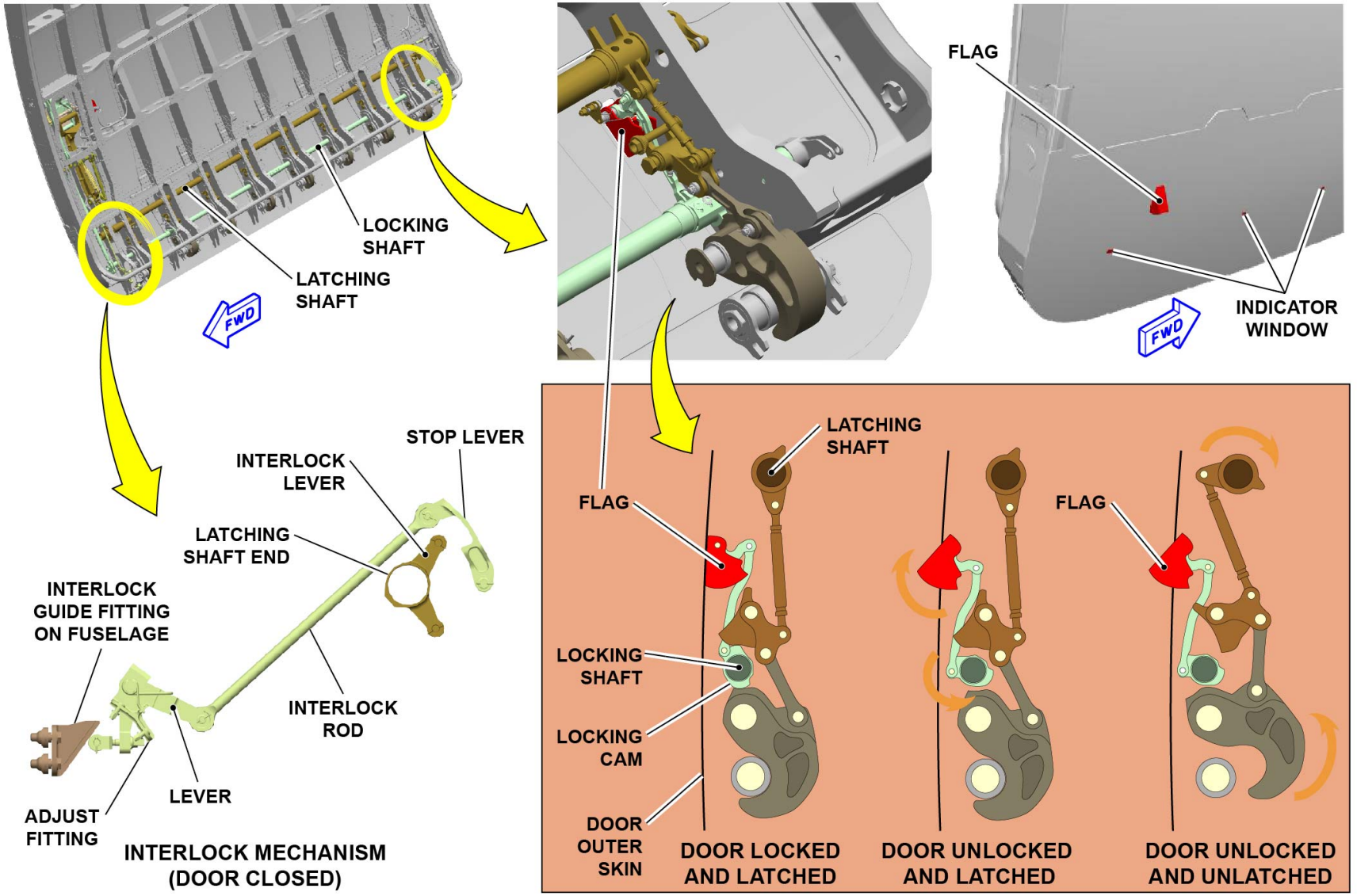
FWD AND AFT CARGO DOORS DESCRIPTION (2/3)

Latch and lock mechanism

During the door closure, the latching handle moves the latching shaft, which operates the eight hooks. The hooks are engaged with the door frame fittings when the cargo door is latched. When latched and locked, the locking shaft also prevents the movement of the hooks, which are secured by locking cams.
These cams position are visible through indicator windows:
- Eight windows directly show the status of the locking cam (Green or Red painted surface)
- For the aft hook, an additional window lets an indicator flag protrude, clearly in view for a ground operator, when the door is unlocked and directly operated by the related locking shaft.

An interlock mechanism prevents the movement of the latching/locking handle when the cargo door does not touch the frame. This makes sure that no damage occurs to the hooks and the door frame fittings while the cargo door closes.

V1813401 - V01T0M0 - VM52D5CARDO3001



LATCH AND LOCK MECHANISM

FWD AND AFT CARGO DOORS ACTUATION SYSTEM DESCRIPTION (2/3)

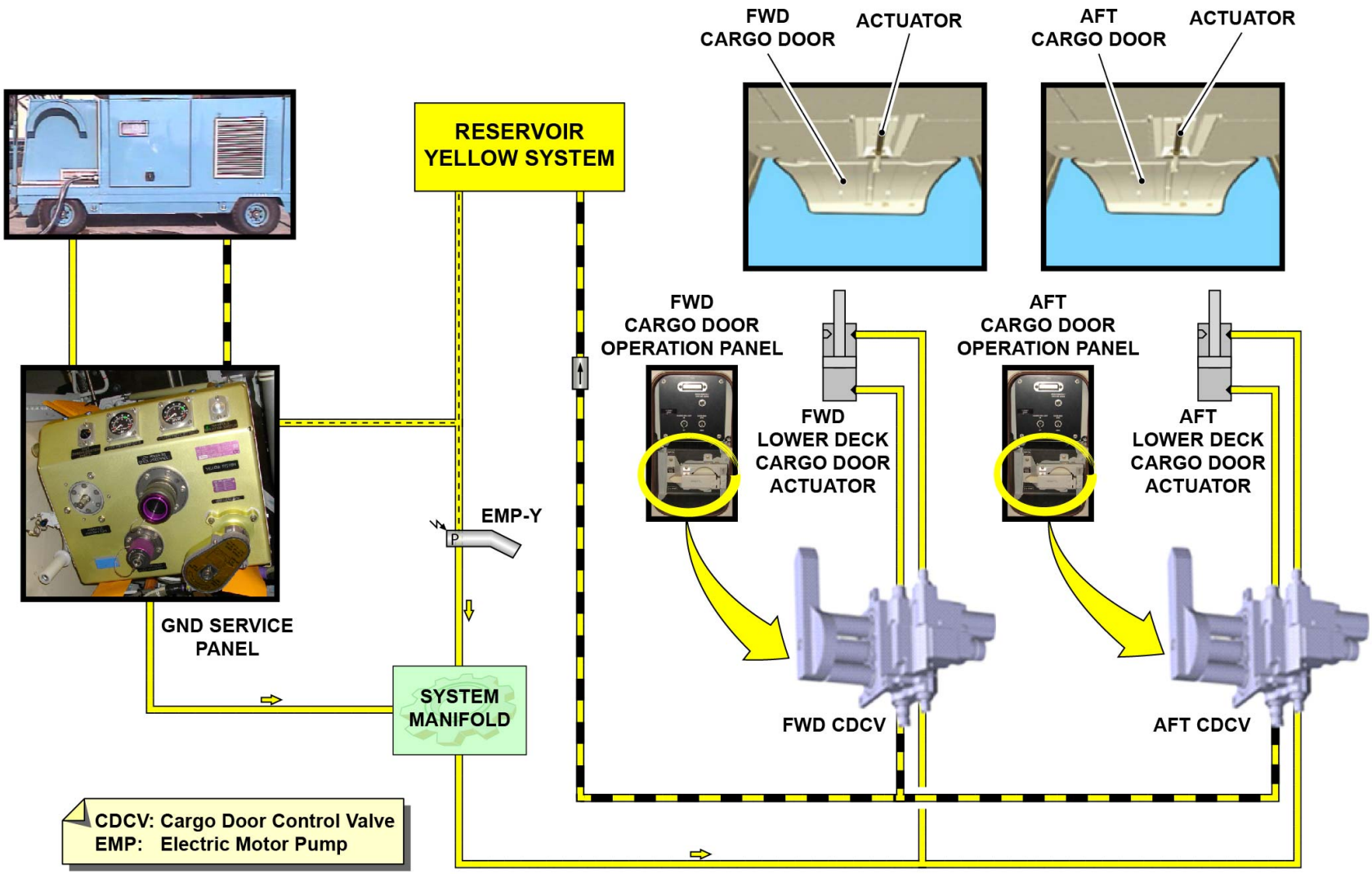
General

After the manual unlock and unlatch of the FWD and AFT cargo doors, the doors start to open by gravity, because of their weight and can then be operated by the Cargo Door Actuation System (CDAS). For each door, this system has:
- An hydraulic actuator (the Lower Deck Cargo Door Actuator (LDCDA))
- A Cargo Door Operation Panel (CDOP)
- A Cargo Door Control Valve (CDCV)
- A common hydraulic network, supplied by the Yellow hydraulic system.

The primary functions of the CDAS are:
- To open the cargo door (extension)
- To hold the cargo door in an open and locked position
- To close the cargo door (retraction).

The Yellow hydraulic Electrical Motor pump (EMP) supplies the hydraulic power for the CDAS. A ground service cart can be connected to the Yellow Ground Service Panel (GSP) to supply the system pressure, if the EMP is not available. If there is no electrical and/or hydraulic supply available from a ground cart, the cargo doors can be operated manually by an Hydraulic Auxiliary Pump (HAP). This pump is included in the Yellow ground service panel.

NOTE: The Cargo Door Actuation System is isolated from the hydraulic system (Yellow Manifold isolation valve) during take-off, flight, landing and taxiing.


FWD
CARGO DOOR
ACTUATOR
AFT
CARGO DOOR
ACTUATOR
RESERVOIR
YELLOW SYSTEM
FWD
CARGO DOOR
OPERATION PANEL
AFT
CARGO DOOR
OPERATION PANEL
FWD
LOWER DECK
CARGO DOOR
ACTUATOR
AFT
LOWER DECK
CARGO DOOR
ACTUATOR
EMP-Y
P
GND SERVICE
PANEL
SYSTEM
MANIFOLD
FWD CDCV
AFT CDCV
CDCV: Cargo Door Control Valve
EMP: Electric Motor Pump

GENERAL

FWD AND AFT CARGO DOORS ACTUATION SYSTEM DESCRIPTION (2/3)

Door Operation

Normal Operation

In normal operating mode, the CPIOMS Doors and Slides Control System (DSCS) application control and monitor the CDAS. The operator gives a command signal (OPEN or CLOSE position) from a toggle switch on the CDOP of the FWD or AFT cargo door. The toggle switch is released ("NEUTRAL/DOOR STOP"-position) to stop the movement of the cargo door immediately.

NOTE: In that mode, it is possible to operate the two cargo doors at the same time (approximately 30 sec are necessary for opening or closing).

A request for an automatic start of the EMP (for 30 seconds) is sent to the Hydraulic Monitoring & Control Application (HMCA) by the DSCS application when the cargo door is unlatched (to bleed the hydraulic system). The EMP also operates while the CDOP toggle switch is used.

The aircraft configuration, monitored by the CPIOMs DSCS application to let the EMP start, is as follows:

- A/C on ground: Landing Gear Extension and Retraction System (LGERS) - prevents cargo door operation.
- No engine in operation: Propulsion Control System (PCS) - prevents cargo door operation.
- Cargo loading: Sill latches in up position - prevents cargo door closing
- Cargo door unlatched - control sequence prevents hydraulic door opening.

NOTE: Only two of the five sill latches are monitored for the cargo door closing inhibition.

There are three modes:

- The cargo door is moved directly from the closed to the fully opened position.
- The cargo door is moved directly from the opened to the fully closed position.
- The cargo door is stopped in the middle position and then controlled in any direction.

The DSCS operates the EMP for 10 more seconds after having released the CDOP toggle switch:

- When the door is fully opened and locked, to make sure of the actuator locking status
- When the door is fully closed, to make sure that the door stays against its frame, to help the operator during the door latching.

For closure, to prevent a non-damped free fall of the fully open cargo door (caused by collected air in the CDAS after maintenance test/action), a pressure in the LDCDA extension chamber is applied before the unlocking of the actuator.

Manual Operation

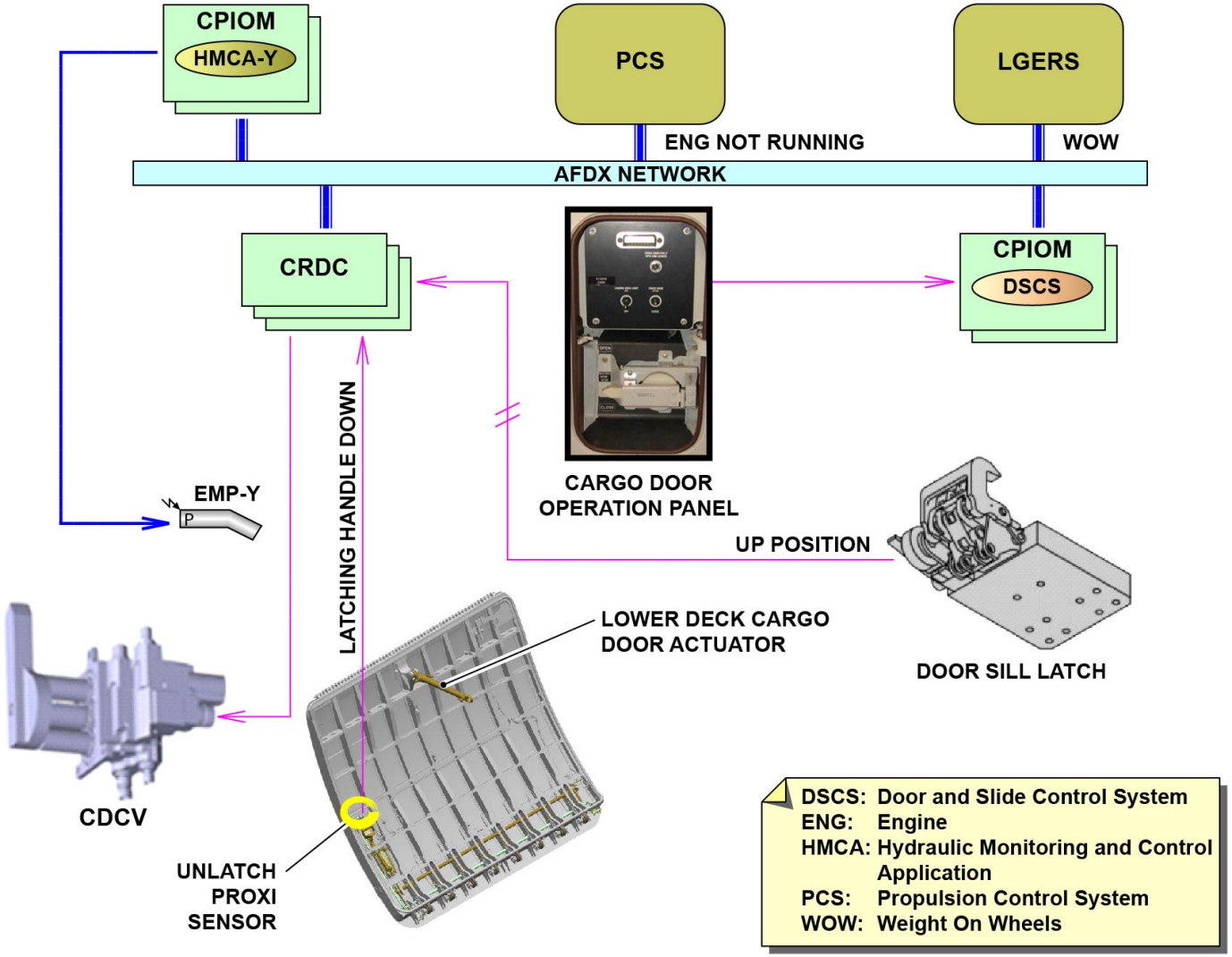
If there is no hydraulic power (Yellow EMP or hydraulic ground cart) and/or the DSCS is not available, manual operation is possible through:

- A manual override switch installed on the CDOP
- The aircraft HAP on the Yellow Ground Service Panel.

Two operators will be necessary for this task, one for the HAP and one for the control of the door on the CDOP.

During manual operation, the same events as in normal mode occur, but the operator must do the sequence that follows:

- To open the door, the operator must push and hold the switch in the Door Open position, until the door is fully opened and locked.
- To close the door, the operator must first push and hold the switch in the Door Open position for (2) seconds (for a smooth unlocking of the up-lock mechanism) and must then push the switch in the Door Close position until the door is fully closed.



DOOR OPERATION - NORMAL OPERATION & MANUAL OPERATION

FWD AND AFT CARGO DOORS ACTUATION SYSTEM DESCRIPTION (2/3)

Cargo Door Control Valves (CDCVs)

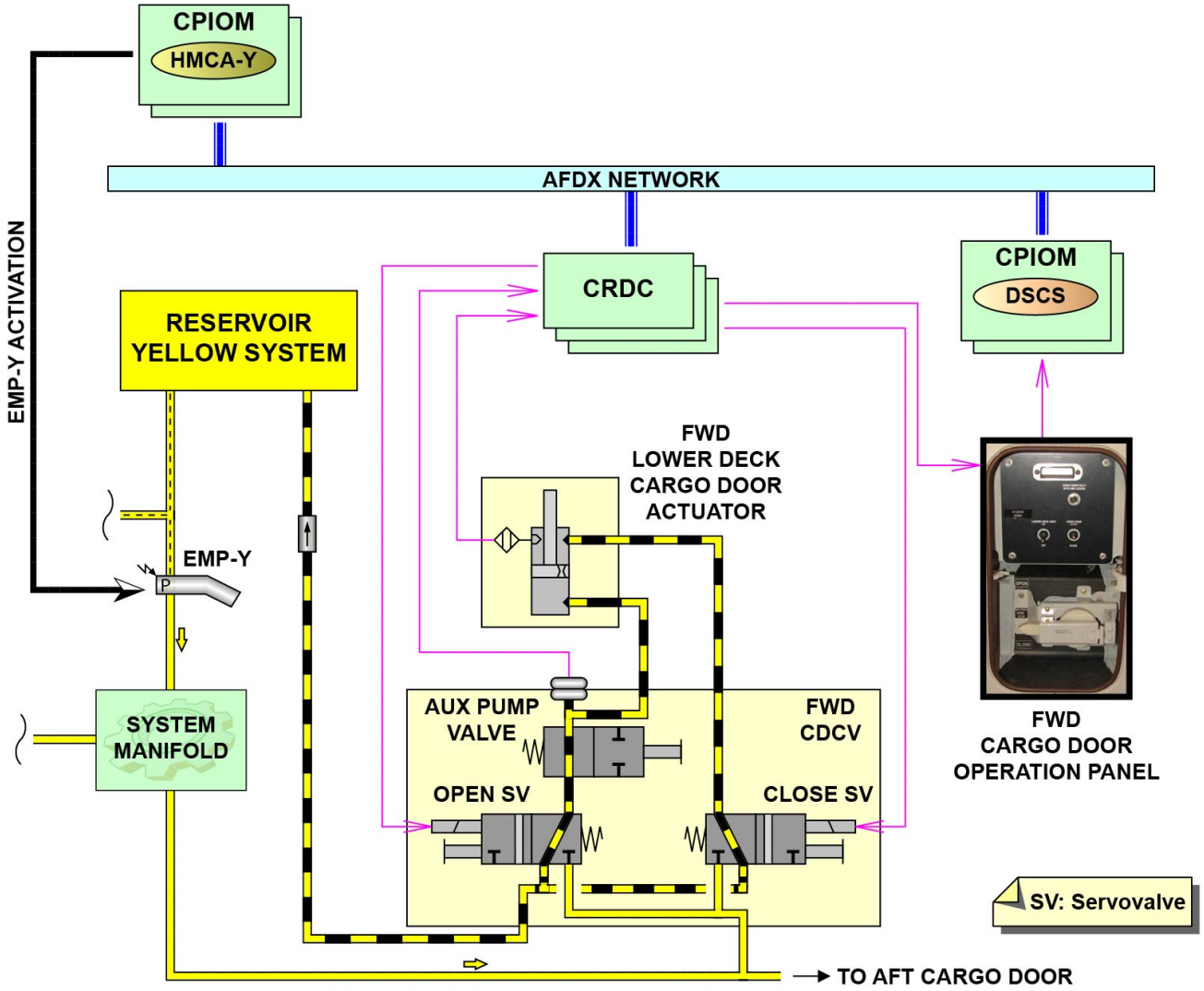
General

The CDCVs have some flow control devices which operate together to control the lower deck cargo-door actuators in the correct sequence and time.
The primary functions of the CDCV are:
- Extension of cargo door actuator
- Retraction of cargo door actuator
- Manual override for cargo door operation.

The primary components of the CDCV are:
- Two solenoid valves (Open/Close), with a manual operation function
- An auxiliary pump valve, manually operated
- A pressure switch.

Normal Door Operation

To operate the LDCDAs in normal operating mode, the solenoid valves are electrically controlled through the CPIOMs DSCS application.
A proximity sensor fitted to the LDCDA tells the DSCS that the actuator is fully extended and locked, and gives a warning to the ground operator through a Green light on the CDOP.
A pressure switch installed on the CDCV gives a feedback (pressure/no pressure) to the CPIOMs. During closure, the CPIOMs DSCS application waits for a maximum of 7 seconds for nominal pressure and then start the sequence.



CARGO DOOR CONTROL VALVES (CDCVS) - GENERAL & NORMAL DOOR OPERATION

FWD AND AFT CARGO DOORS ACTUATION SYSTEM DESCRIPTION (2/3)

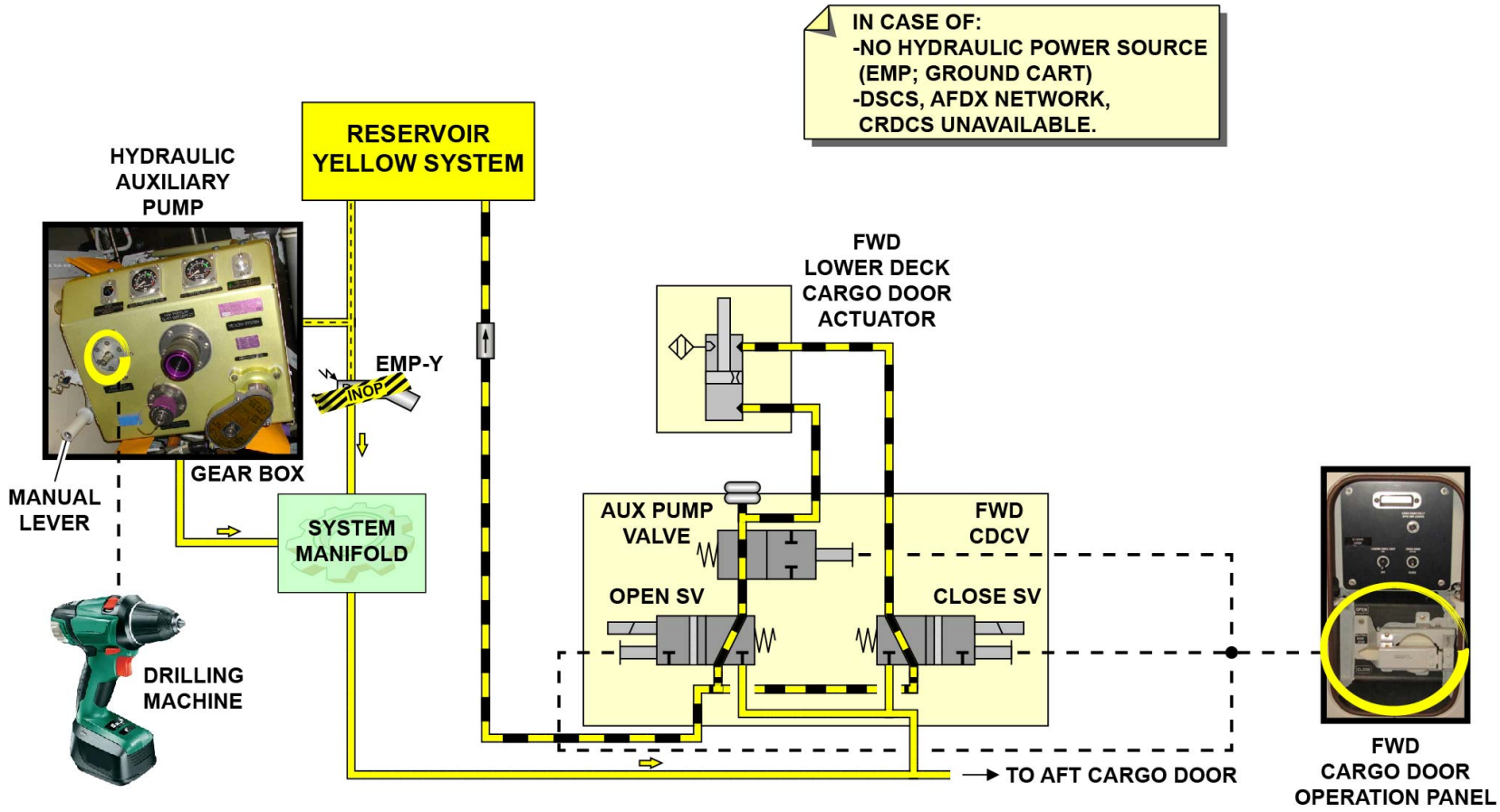
Cargo Door Control Valves (CDCVs) (continued)

Manual Door Operation

When the CDOP manual override switch is turned (open or close), it manually operates the related CDCV solenoid valve.

NOTE: When the manual override switch is selected, it also manually operates the Auxiliary Pump Valve. The purpose of the Aux Pump Valve is to make sure that the door does not open or close more quickly than the Aux pump can supply fluid. To do this, it introduces an added restriction to the fluid that flows out of the extension chamber.

The HAP is then used with a sufficiently energized hand-held drilling machine or a manual lever, to extend or retract the actuator.



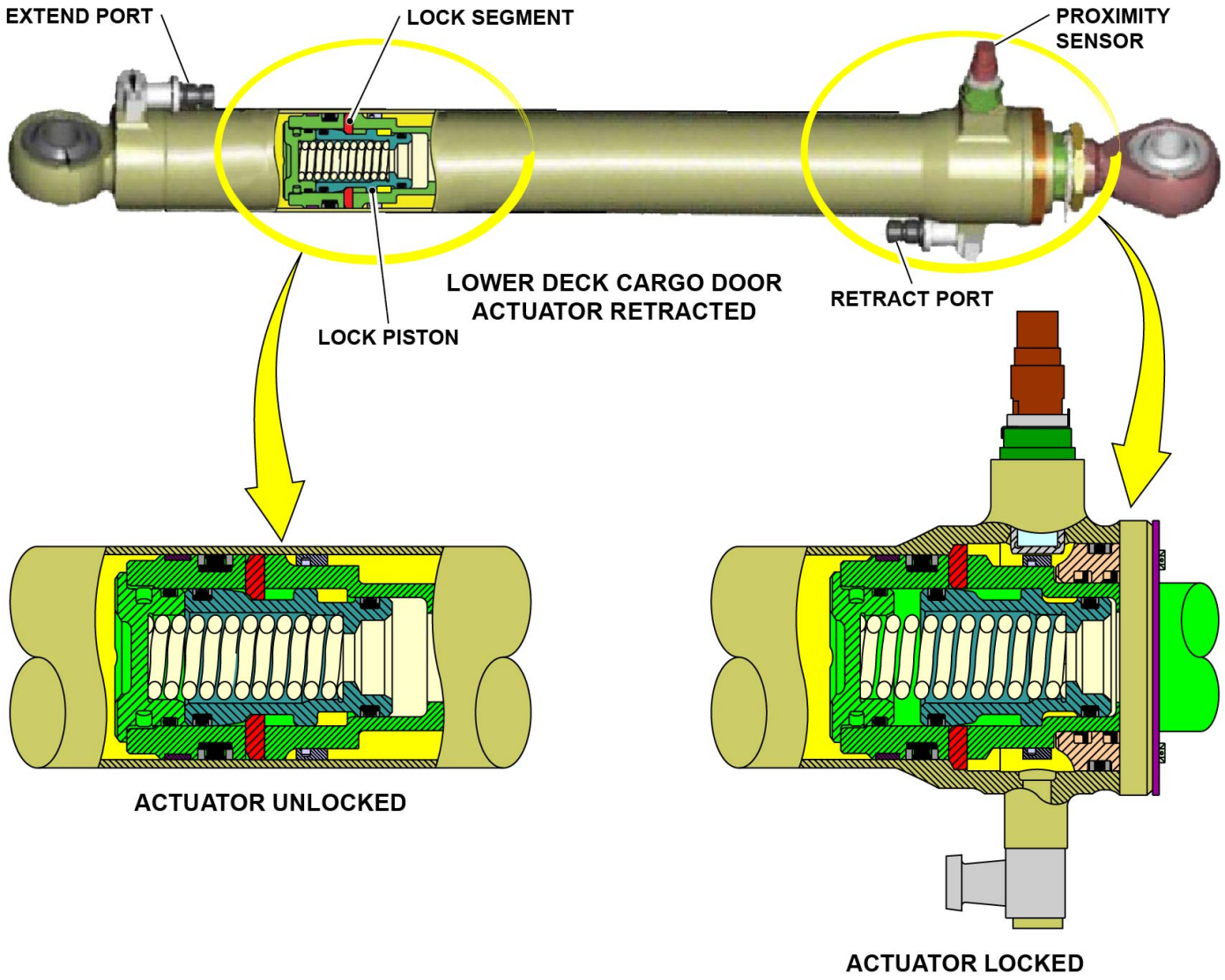
CARGO DOOR CONTROL VALVES (CDCVS) - MANUAL DOOR OPERATION

FWD AND AFT CARGO DOORS ACTUATION SYSTEM DESCRIPTION (2/3)

Lower Deck Cargo Door Actuator (LDCDA) Operation

For loading operations, each cargo door is opened and closed by one LDCDA. The LDCDA is a dual-action hydraulic cylinder with an internal mechanical locking device. The locking mechanism lets the piston stay in a set, extended position when the hydraulic pressure commands are removed. In the fully extended and locked position, a lock segment, fitted on the lock piston, engages in a cylinder groove. A proximity sensor in the actuator shows the locking status to the CPIOMs DSCS application. To make sure there is a permanent bleed of the trapped air on the extension chamber and to prevent load on the actuator because of thermal expansion, a restricted flow over the piston is possible.
WARNING: BLEED THE DOOR HYDRAULIC SYSTEM BEFORE YOU CLOSE THE CARGO-DOOR, IF THE DOOR WAS OPEN DURING MAINTENANCE ON THE YELLOW HYDRAULIC SYSTEM. IF YOU DO NOT BLEED THE DOOR HYDRAULIC SYSTEM, THE CARGO- DOOR CAN FALL SUDDENLY DURING THE CLOSING PROCEDURE. THIS CAN CAUSE INJURY AND/OR DAMAGE.

V1813401 - V01T0M0 - VM52D6CARHY3001



LOWER DECK CARGO DOOR ACTUATOR (LDCDA) OPERATION

CARGO DOORS ACTUATION SYSTEM MAINTENANCE (3)

Bleeding of Cargo Doors Actuation-System

Install the cargo door support-strut.
Disconnect the door actuator from the cargo door structure.
Make sure that the actuator is kept in a horizontal position.
Pressurize the Yellow hydraulic system.
Fully extend and retract the door actuator ten times.
WARNING: BLEED THE DOOR HYDRAULIC SYSTEM BEFORE YOU CLOSE THE CARGO DOOR IF:
- THE CARGO DOOR WAS OPEN DURING MAINTENANCE ON THE YELLOW HYDRAULIC SYSTEM, AND/OR
- THE CARGO DOOR WAS OPEN FOR MORE THAN 12 HOURS.

IF YOU DO NOT BLEED THE DOOR HYDRAULIC SYSTEM, THE CARGO DOOR CAN FALL SUDDENLY DURING THE CLOSING PROCEDURE. THIS CAN CAUSE INJURY AND/OR DAMAGE.

WARNING: BLEED THE DOOR HYDRAULIC SYSTEM BEFORE YOU CLOSE THE CARGO DOOR IF:
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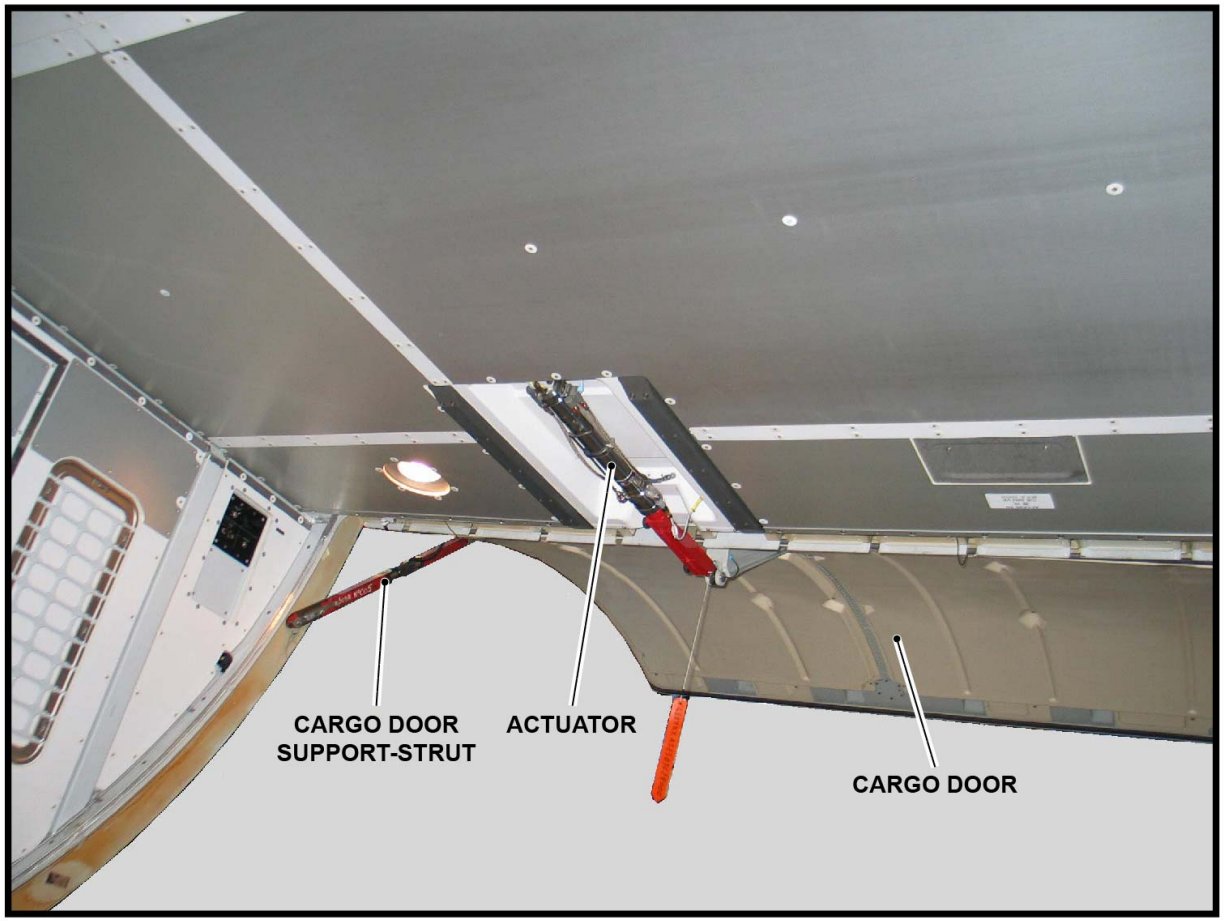
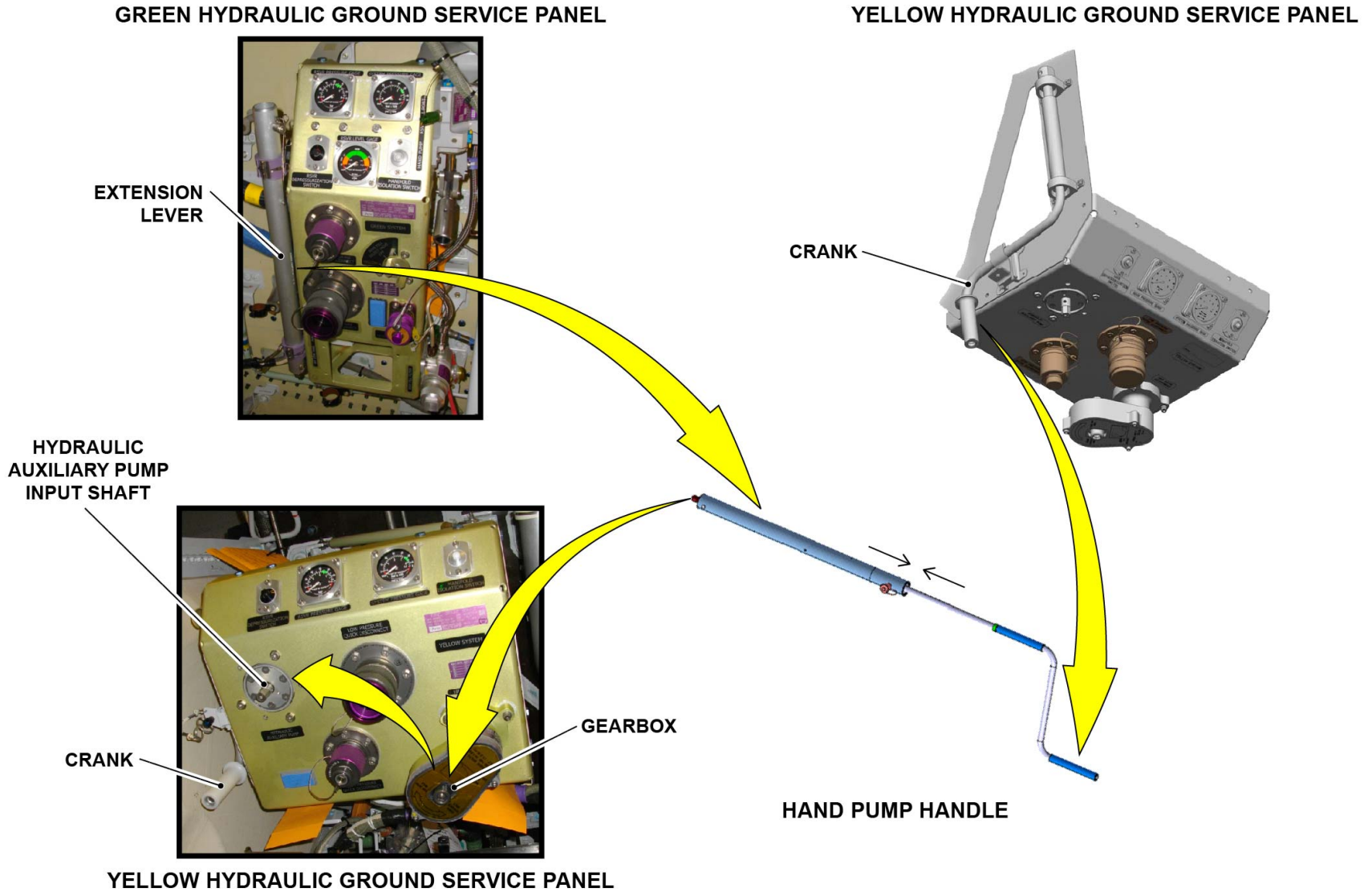


BLEEDING OF CARGO DOORS ACTUATION-SYSTEM

CARGO DOORS ACTUATION SYSTEM MAINTENANCE (3)

Fwd/Aft Cargo-Door Backup Manual Operation

If there is no electrical and/or hydraulic supply available from a ground cart, it is possible to operate the Fwd/Aft cargo door manually with an Hydraulic Auxiliary Pump (HAP) through a gearbox and with the aid of a hand pump handle installed in two parts (crank and extension lever) on the two hydraulic Ground Service Panels (GSPs) (Yellow and Green). The gearbox is installed in the front face of the Yellow GSP and you must adapt it to the HAP input shaft before you operate the handle.
Note: The two parts of the hand pump handle (crank and extension lever) are not already assembled.

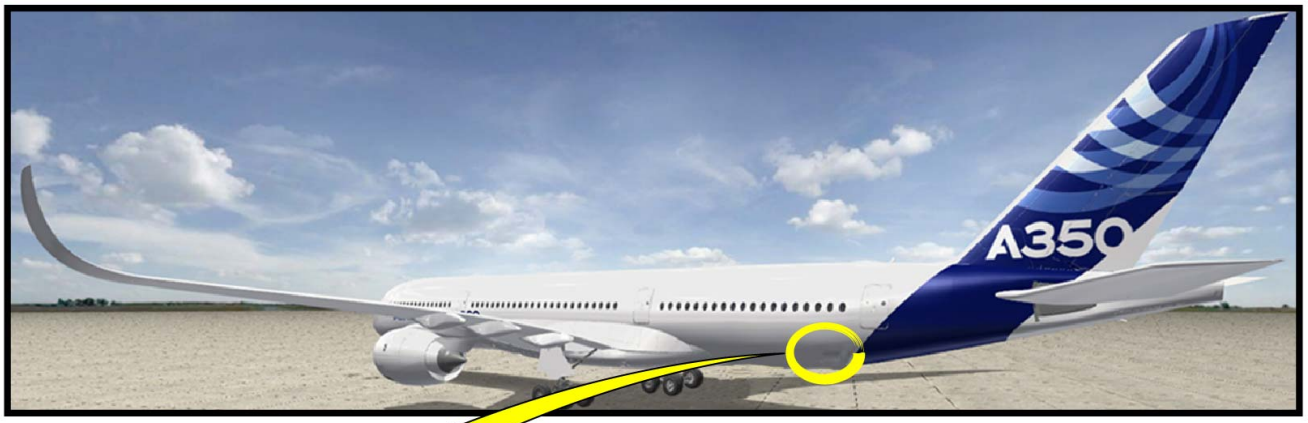


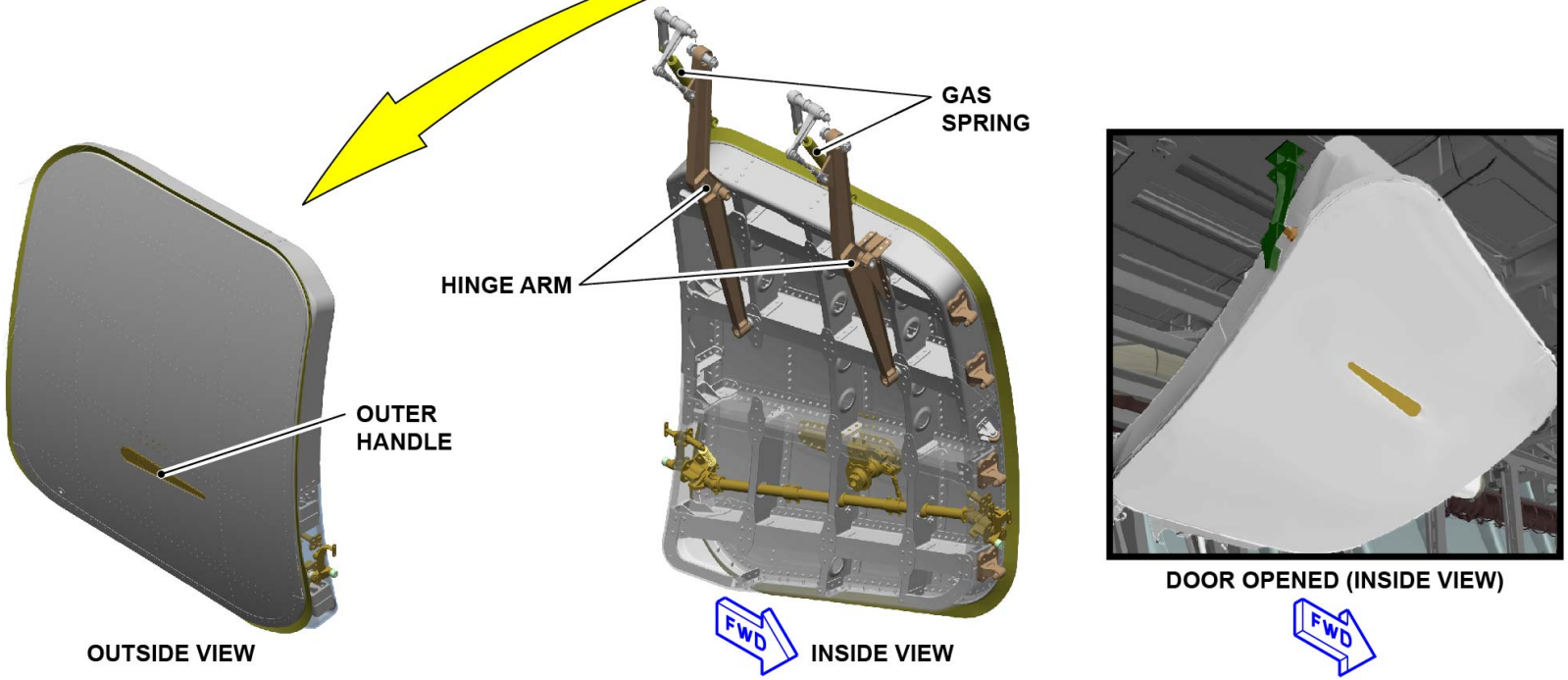
FWD/AFT CARGO-DOOR BACKUP MANUAL OPERATION

BULK CARGO DOOR DESCRIPTION (2/3)

General

The bulk cargo door is a failsafe plug-type door, installed on the rear part of the lower left side of the fuselage. Two hinge arms at the upper end attach the door.
The door is manually operated (helped by gas springs), for latching and unlatching. It is moved in and up and is locked in the open position onto the ceiling of the compartment. It is possible to operate the door from the inside or the outside.


A350


GAS SPRING
HINGE ARM
OUTER HANDLE
OUTSIDE VIEW
FWD
INSIDE VIEW
DOOR OPENED (INSIDE VIEW)
FWD

GENERAL

BULK CARGO DOOR DESCRIPTION (2/3)

Bulk Cargo Door Description

Locking And Latching Mechanism

The door latching mechanism is installed on the lower part of the door.
One handle is installed on the outer side of the door, spring loaded to the closed position. The handle is connected to a tie rod, which operates the latching shaft. In the closed position, the door is latched by the roller of the latch levers on the two sides of the door. When the outside handle is flush with the fuselage, it is disengaged from the latching mechanism but the door can still be opened from the inside of the bulk compartment, with its quad fitting operated by a tool.
When the door is in the fully open position, it is stopped automatically and held in this position by the door up-lock. Before the door can be closed, it is necessary to turn the external handle to release this up-lock.

Door Fittings and Guide Rollers

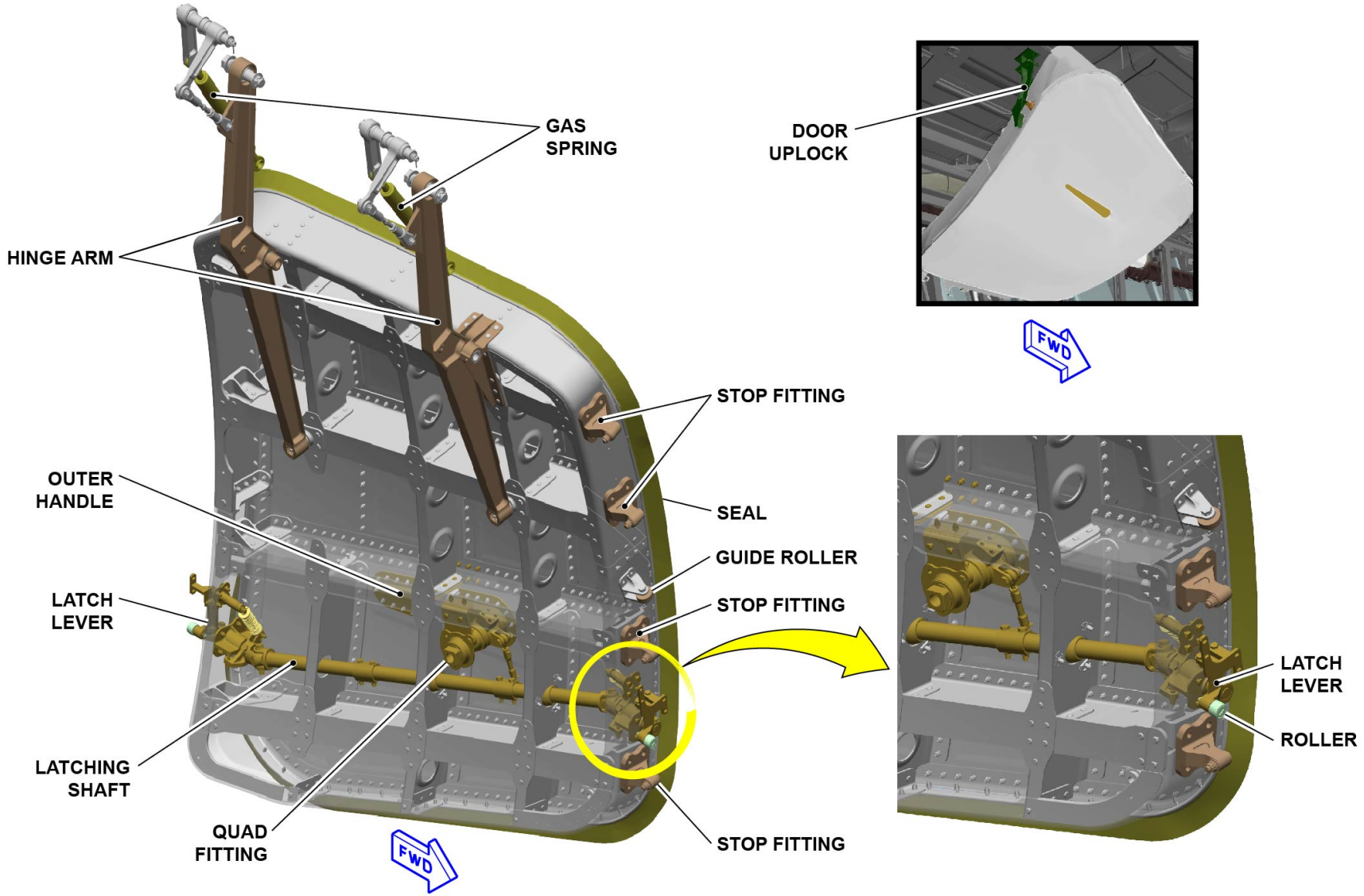
There are eight stop fittings installed around the edge members. The stop fittings are adjustable and hold the load of the door when the aircraft is pressurized.
Two guide rollers guide the door to the closed position during closure. They prevent damage to the proximity sensors and keep the longitudinal movement of the door between the limits during the flight.

Counter Balance Mechanism

The counter balance mechanism of the door decreases the force that is necessary to open or close the door. The primary components of the balance mechanism are two gas springs. The balance mechanism is connected to the hinge arms of the door and to the aircraft structure.

Pressure seal

A seal is used for the aircraft pressurization sealing and to keep out water.



BULK CARGO DOOR DESCRIPTION - LOCKING AND LATCHING MECHANISM ... PRESSURE SEAL

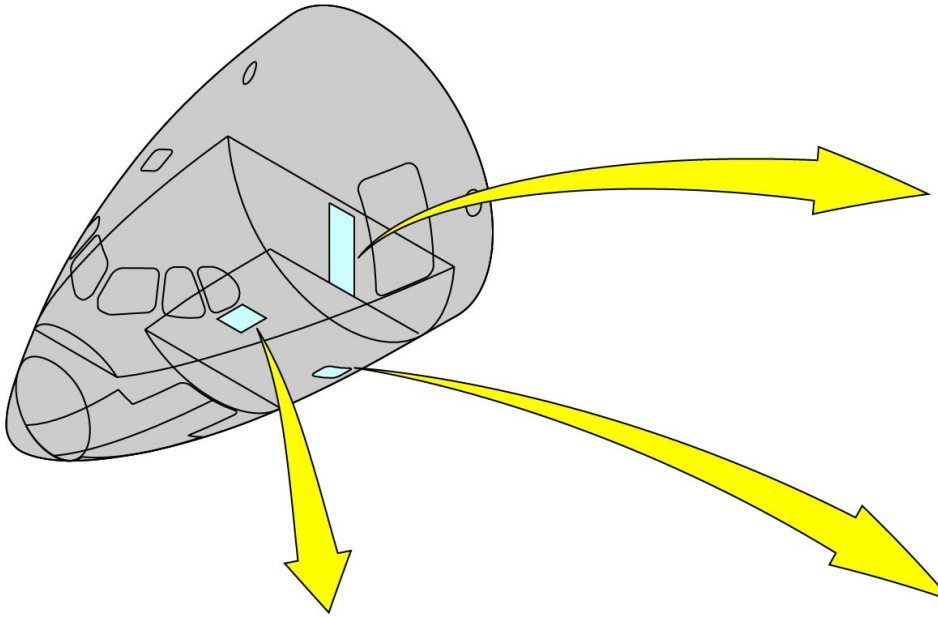
V1813401 - V01T0M0 - VM52D7BULDO3001

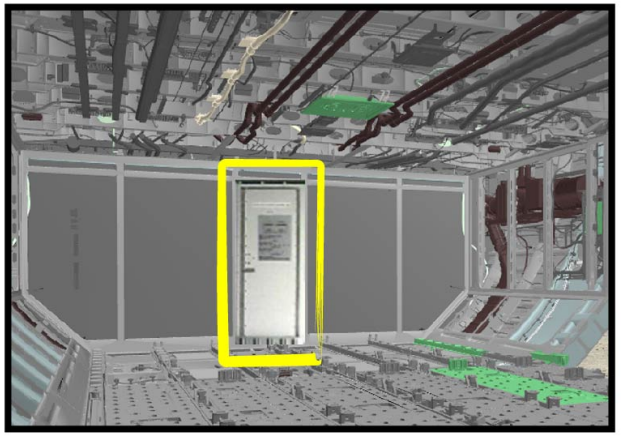
AVIONICS COMPARTMENTS ACCESS DOORS DESCRIPTION (2/3)

Main Avionics-compartment Access-doors

A number of accesses are available to the operator to go into the main avionics compartment. This is related to the location or activity of the operator. There is an access hatch in the cockpit floor, behind the captain's seat. The primary function of this hatch is to give the flight crew access to the compartment during flight. For the maintenance crew, an outer avionics compartment access door and a fixed partition door between the FWD cargo and the avionics compartment give access, for all A/C configurations.

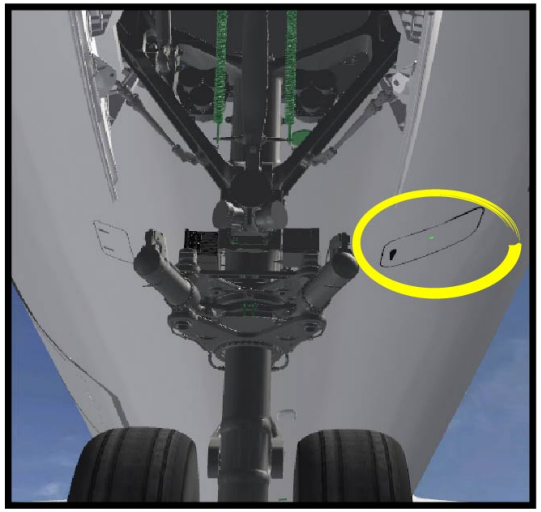
V1813401 - V01T0M0 - VM52D8AVDOR3001





FIXED PARTITION DOOR
(FORWARD CARGO VIEW)

COCKPIT FLOOR HATCH



AVIONICS COMPARTMENT DOOR

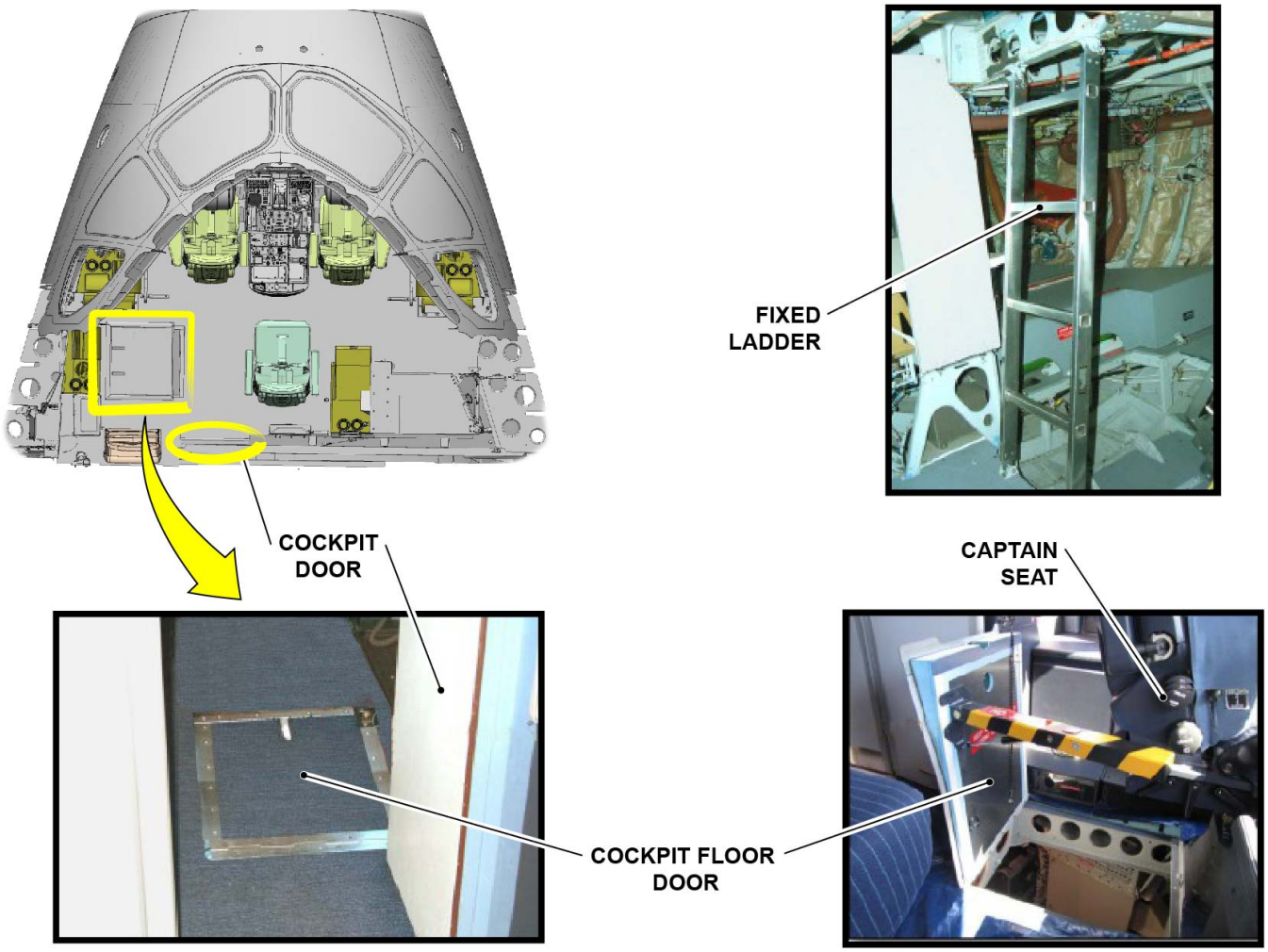
MAIN AVIONICS-COMPARTMENT ACCESS-DOORS

AVIONICS COMPARTMENTS ACCESS DOORS DESCRIPTION (2/3)

Cockpit Floor Access Hatch

The cockpit floor access hatch which has piano hinges on its rear edge and is latched on its FWD edge, is manually opened up in the cockpit. The hatch can be unlatched from the cockpit and avionics compartment and is kept open by a pneumatic actuator. A fixed ladder gives users access to the avionics compartment.

AVIONICS COMPARTMENT DOORS - AVIONICS COMPARTMENT DOORS COCKPIT



COCKPIT FLOOR ACCESS HATCH

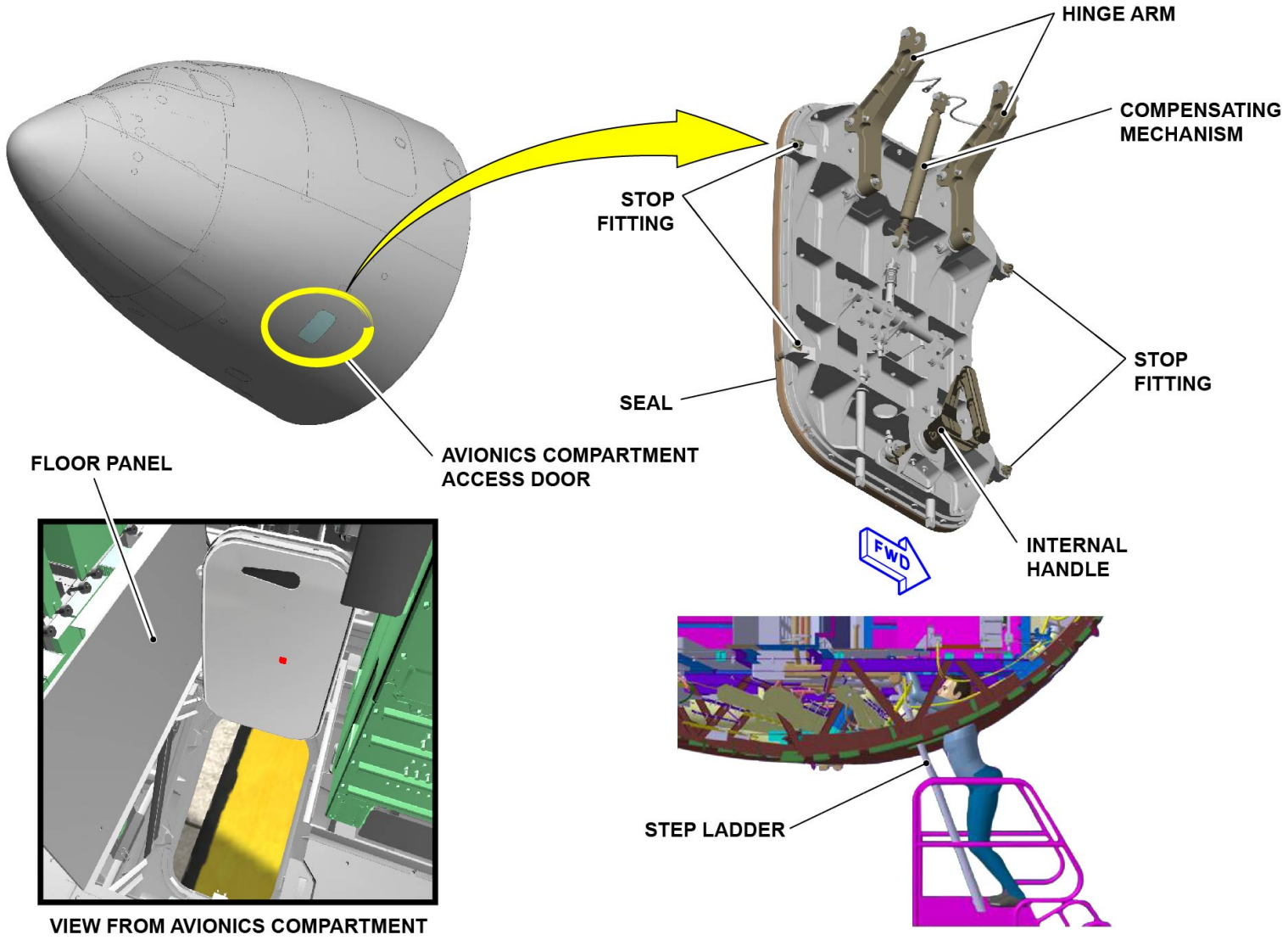
AVIONICS COMPARTMENTS ACCESS DOORS DESCRIPTION (2/3)

Outer Avionics-compartment Access-door

The outer avionics-compartment access door is a plug type and failsafe design, installed on the left side of the fuselage in the pressurized area. It opens manually, up and into the fuselage and can be opened and closed from the inside or the outside. (Two) hinge arms guide the door in its rotational movement. (Four) door stop fittings transfer the pressure loads to the fuselage and are used for the adjustment of the door flush with the fuselage skin. A compensating mechanism (gas actuator) is directly connected to the door structure and installed between the two hinge arms. The mechanism decreases the force necessary to open/close the door. It also holds the door in the opened position and prevents accidental opening/closing. A seal makes the avionics compartment pressure-tight and keeps out water.

NOTE: The Avionics Compartment Access Door is accessible from inside (by opening a floor panel) and from outside the aircraft thanks to a step ladder (part of the aircraft) and a platform.

V1813401 - V01T0M0 - VM52D8AVDOR3001



OUTER AVIONICS-COMPARTMENT ACCESS-DOOR

AVIONICS COMPARTMENTS ACCESS DOORS DESCRIPTION (2/3)

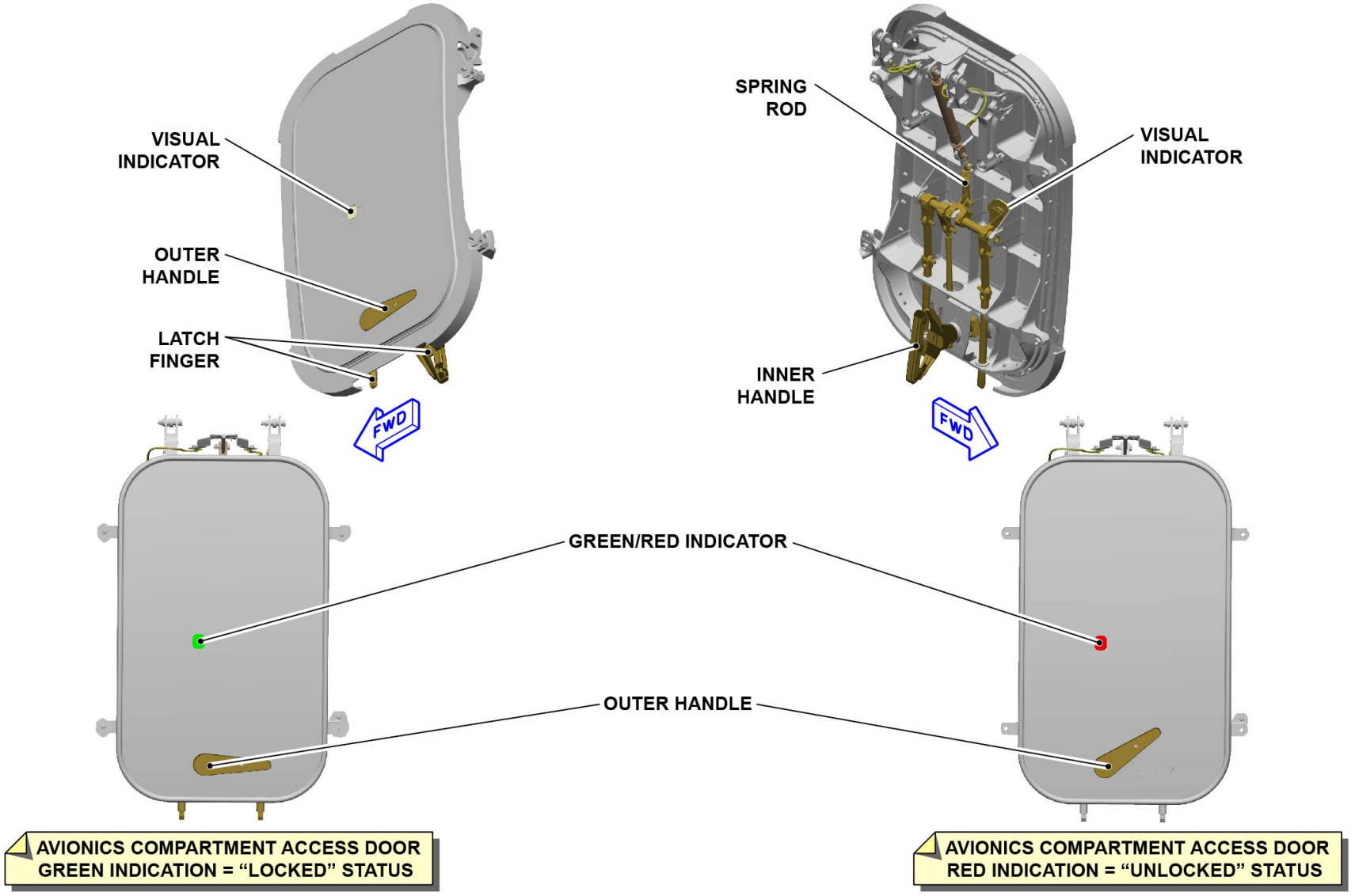
Outer Avionics-compartment Access-door (continued)

Latching Mechanism

The door latching mechanism has:
- One handle assembly, to latch/unlatch the door
- Two latch fingers
- One spring rod, to hold the unlatched/latched position.

The handle assembly includes an outer handle and an inner handle, used for opening and closing on the two sides of the door. The outer handle can operate the latching mechanism only when it is out of its recess. When it is operated, the two handles turn at the same time. When you operate the inner handle, the outer handle stays in its recess, flush with the fuselage.

A visual indicator (Green/Red) is used on the center of the door to do a visual check of the latching mechanism status from the outside of the aircraft.



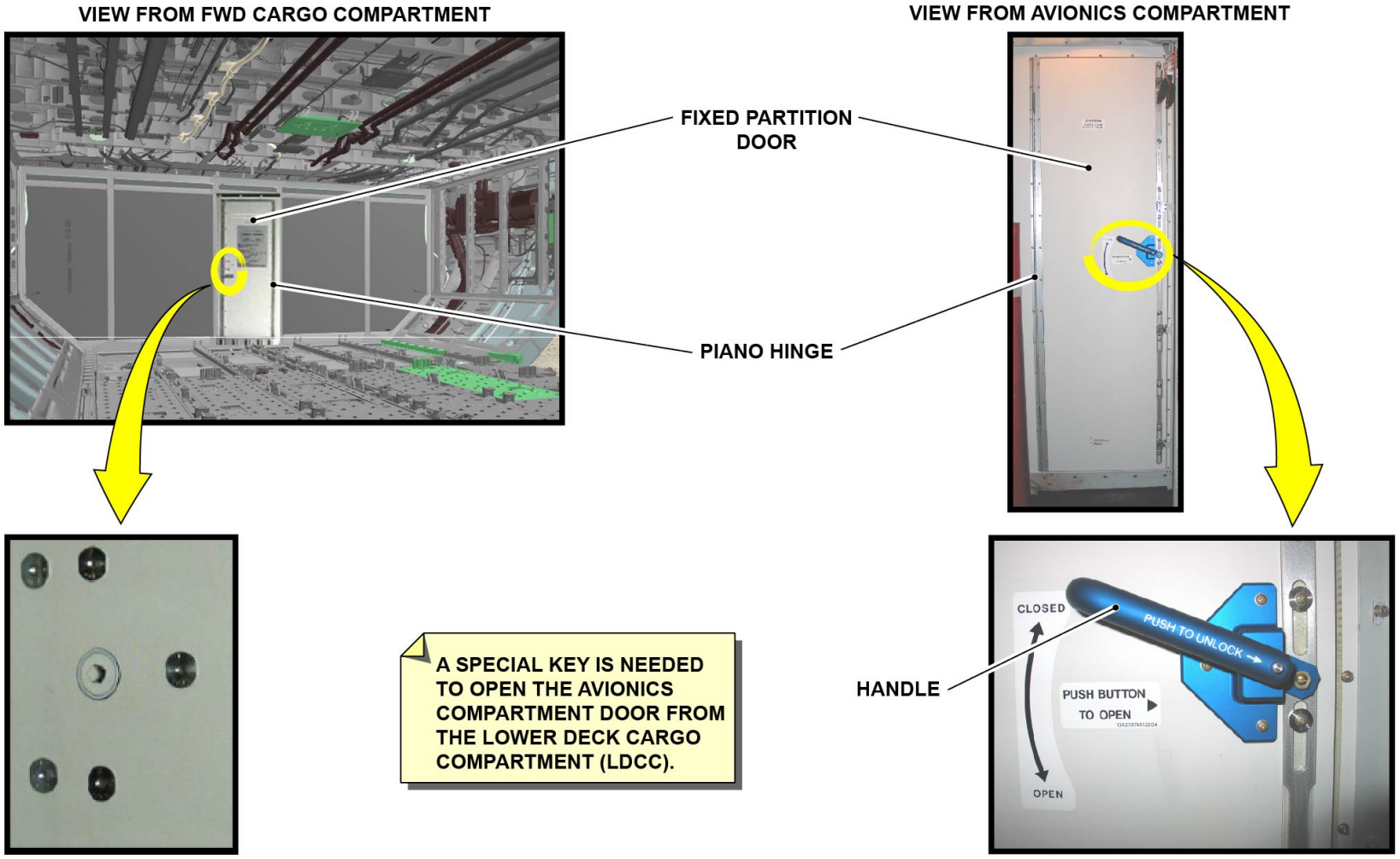
OUTER AVIONICS-COMPARTMENT ACCESS-DOOR - LATCHING MECHANISM

V1813401 - V01T0M0 - VM52D8AVDOR3001

AVIONICS COMPARTMENTS ACCESS DOORS DESCRIPTION (2/3)

FWD Cargo to Main Avionics-compartment Access-door

The fixed partition door gives access to the main avionics compartment from the FWD cargo compartment. It can be opened from the two sides, by a fixed handle on the avionics compartment and a special key on the FWD cargo compartment. A piano hinge attaches the door to the fixed partition and the door opens into the avionics compartment.

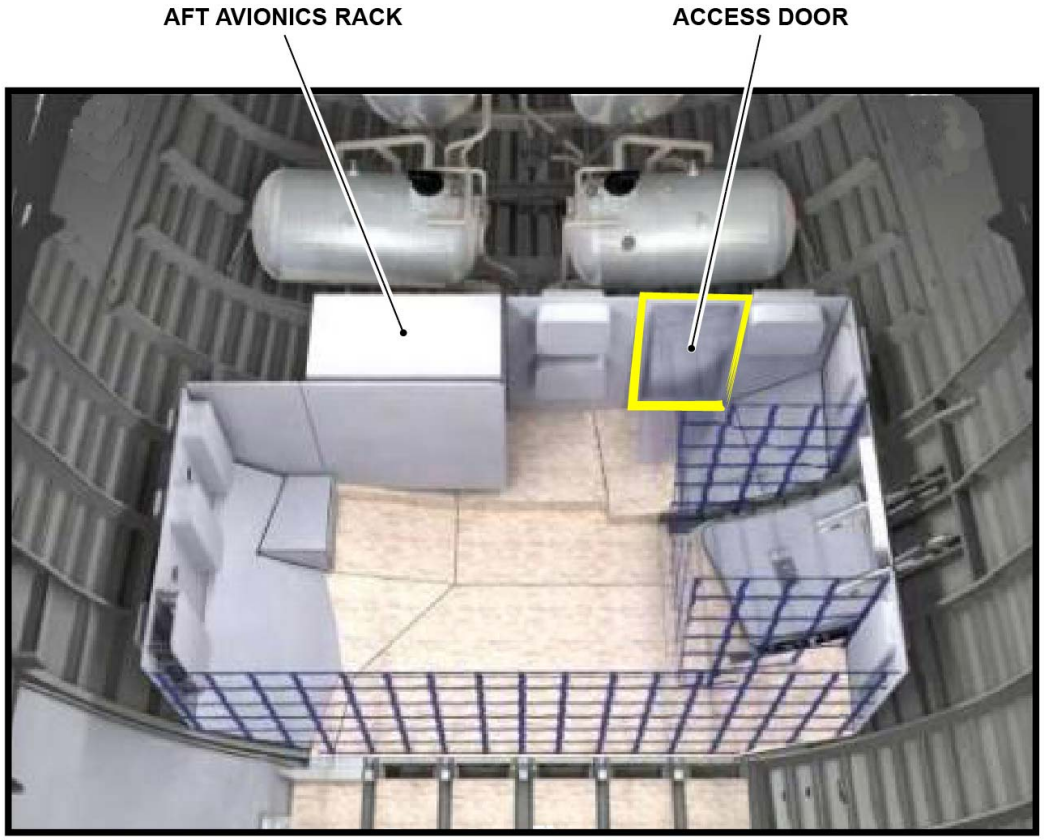


FWD CARGO TO MAIN AVIONICS-COMPARTMENT ACCESS-DOOR

AVIONICS COMPARTMENTS ACCESS DOORS DESCRIPTION (2/3)

Aft Avionics Compartment Access-door

A fixed partition door gives access to the aft avionics compartment from the bulk cargo compartment. It can be opened from the two sides, by a fixed handle on the avionics compartment and a special key on the bulk cargo. A piano hinge attaches the door to the fixed partition and the door opens into the avionics compartment.



AFT AVIONICS COMPARTMENT ACCESS-DOOR

DOORS AND SLIDES CONTROL SYSTEM DESCRIPTION (2/3)

General Presentation

The Doors and Slides Control System (DSCS) monitors the position of the doors and the slide arming levers. For safety and reliability requirements, there are a number of redundant proximity sensors for each passenger door, Cargo Door and Bulk Cargo Door. These sensors are routed to three CRDCs, which operate independently, for measurement and digitalization. The data is then transmitted through the AFDX network to four CPIOM DSCS applications for the "ALL-DOORS-STATUS" signal computation. For the FWD & AFT avionics access doors (internal and external) and the escape hatch, only one proximity sensor for each door is necessary, because they are not used for the "ALL-DOORS-STATUS" signal computation. The DSCS applications then perform the functions that follow:

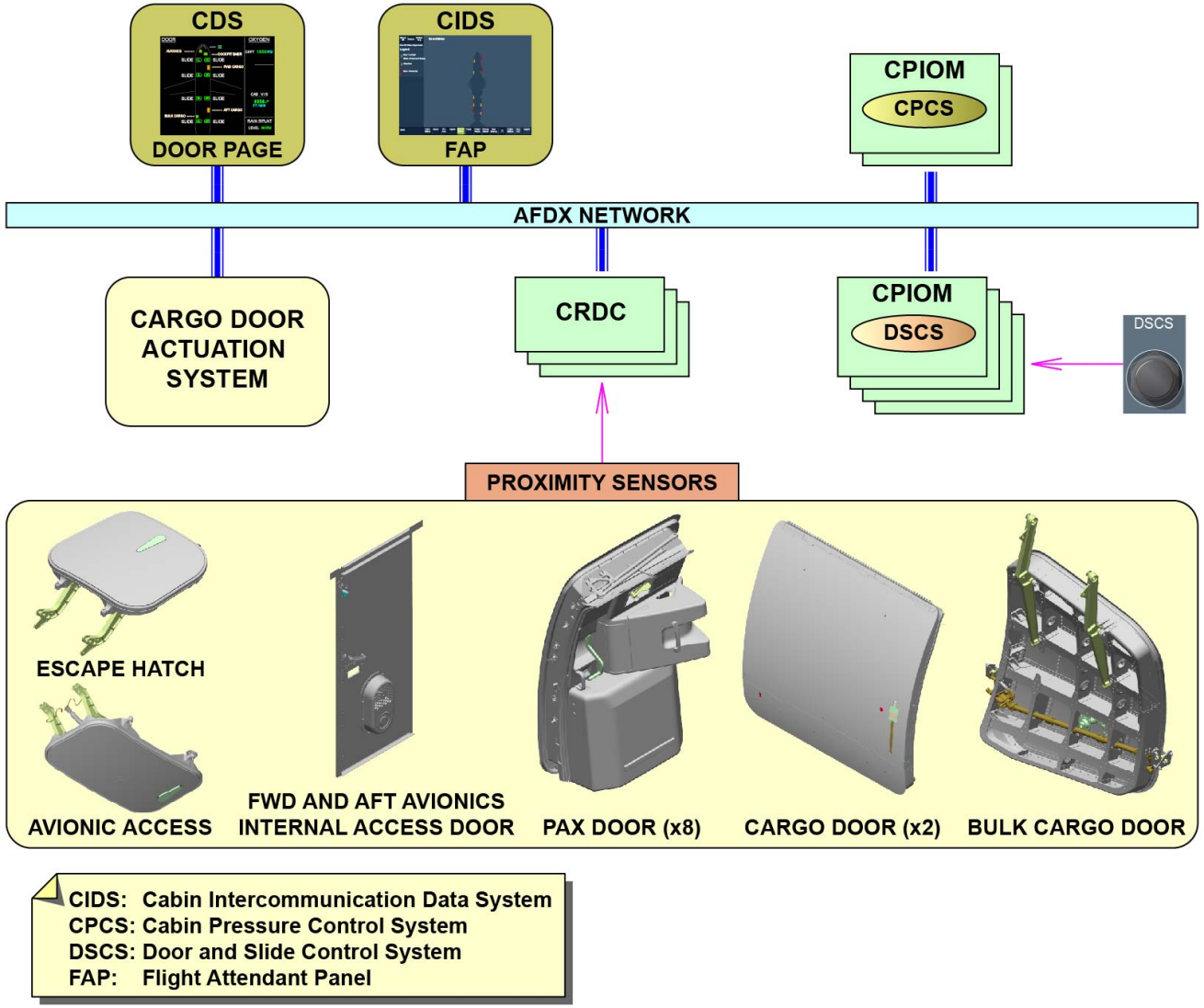
- Indication in the cockpit and on the Flight Attendant Panel (FAP).
- Cargo doors operation.
- Cabin pressurization inhibition in some conditions ("DOORS-STATUS" signal to Cabin Pressure Control System (CPCS)).

The DSCS may be reset with the DSCS reset switch on the cockpit overhead panel.

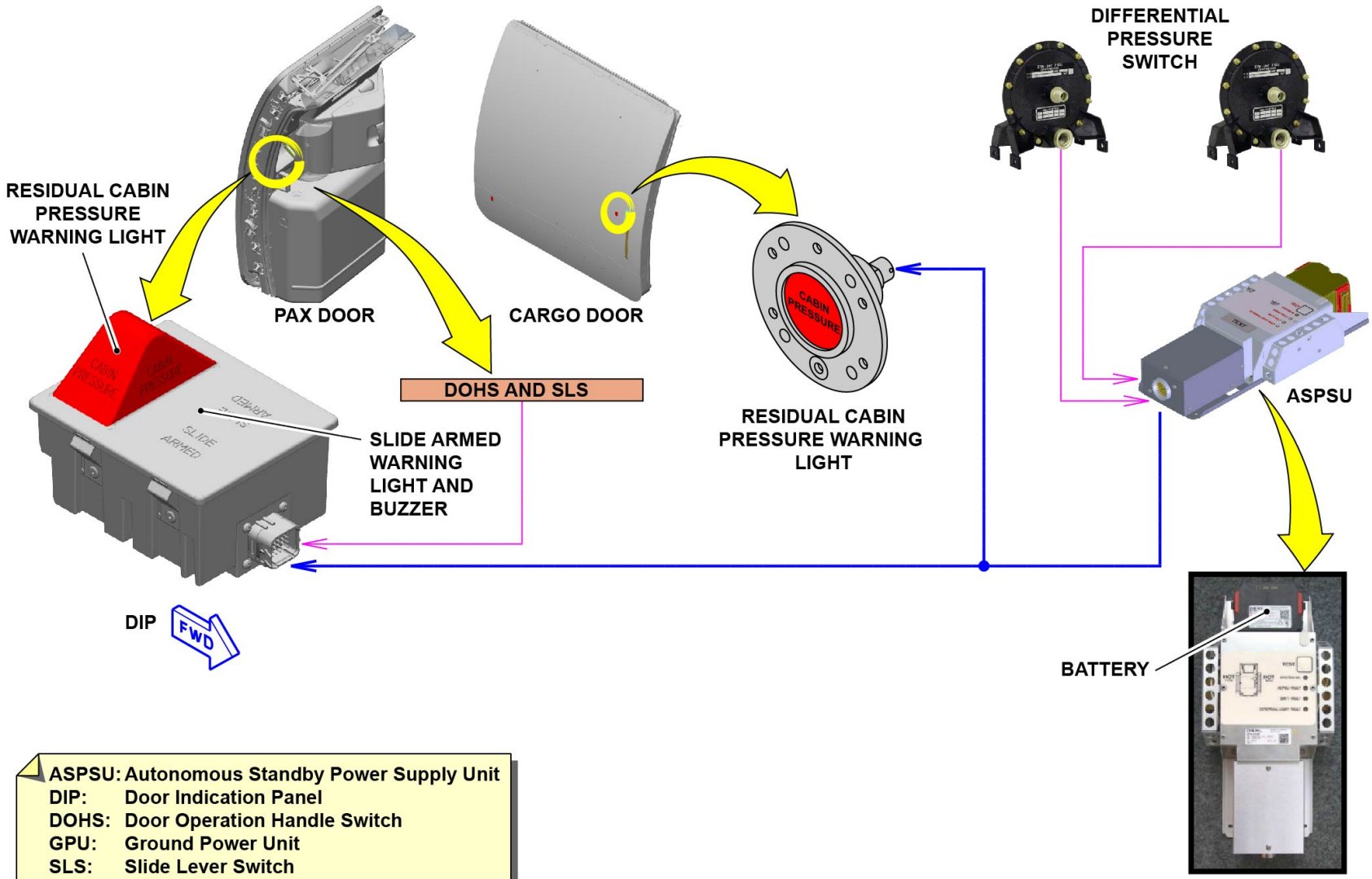
A Door Indication Panel (DIP) is on each passenger-door observation-window frame. It is visible from the inner and outer side of the cabin. A white attention getter "SLIDE ARMED", alert the crew or maintenance staff of an armed slide condition during passenger door opening. It is controlled indirectly by discrete inputs through the DIP internal logic. Dedicated sensors signals (Door Operation Handle Switch and Slide Lever Switch) are directly acquired by the DIP of the respective door.

On passenger door DIP and cargo doors, residual cabin pressure lights are flashing, to prevent a door opening, when a residual pressure is sense inside the aircraft by two Differential Pressure Switches (DPS). An Autonomous Standby Power Supply Unit (ASPSU) manages and directly energizes the residual cabin-pressure lights for the passenger and cargo doors.

NOTE: - Buzzers for the residual cabin pressure audio warnings are triggered on all the DIPs.
- Optional buzzers for the slide armed audio warnings can be activated on all the DIPs.



GENERAL PRESENTATION



GENERAL PRESENTATION

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DOORS AND SLIDES CONTROL SYSTEM DESCRIPTION (2/3)

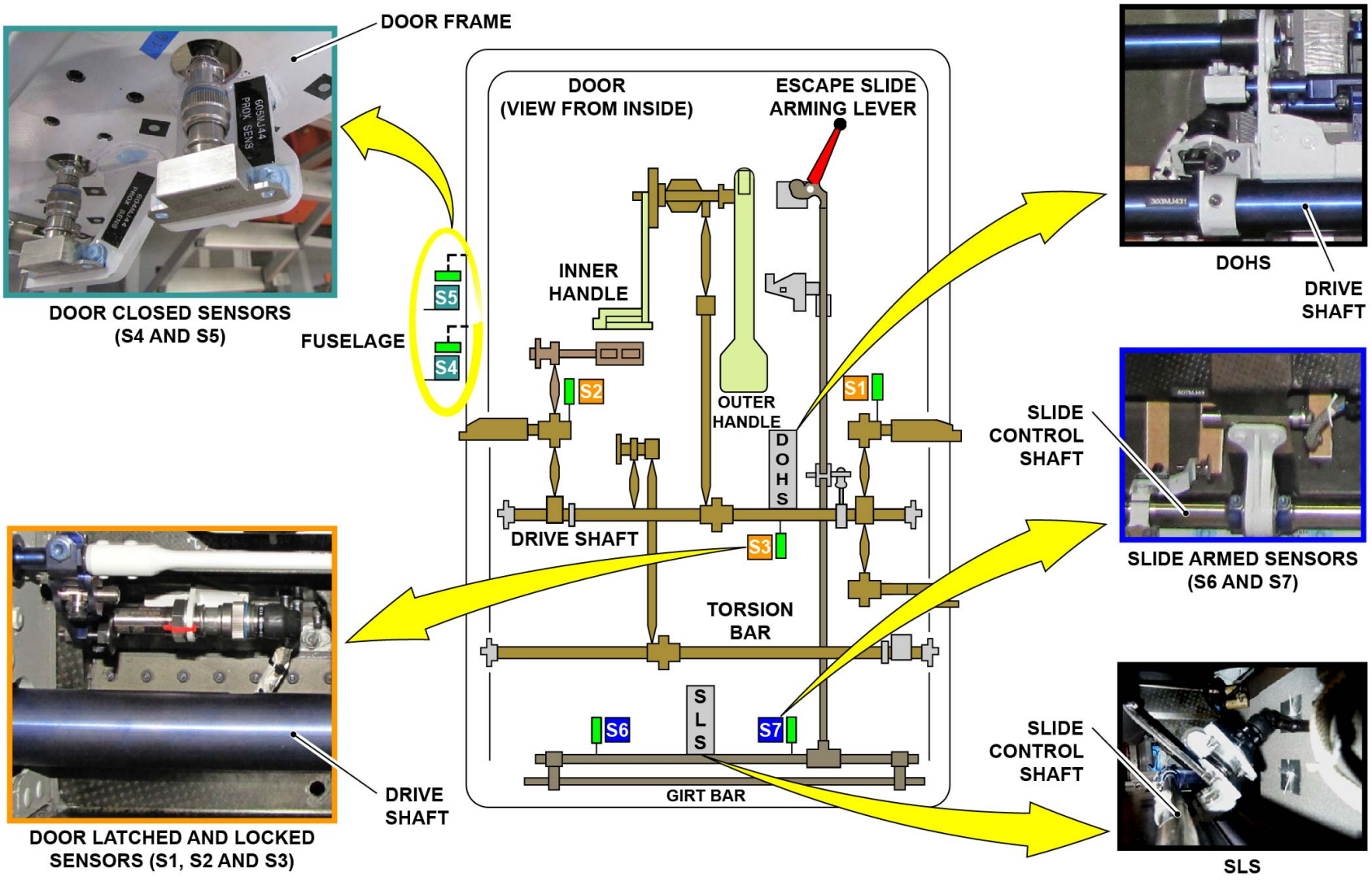
Passenger Doors and Slides Status Monitoring

The equipment installed in a passenger door includes:
- Proximity sensors
- A Door Operation Handle Switch (DOHS)
- A Slide Lever Switch (SLS).

There are (seven) proximity sensors for each passenger door:
- (Three) sensors (S1/S2/S3) in the door to monitor the door latched and locked status
- (Two) sensors (S4/S5) in the door frame (targets on the rear door edge) to monitor the door closed status
- (Two) sensors (S6/S7) in the door to monitor the slide armed status (for the indication function).

There are two more Triple Reed Contact Switches in the door:
- The DOHS to monitor an initial movement of the door operation handle, to give a warning to the operator before the door is moved to a position that is not safe.
- The Slide Lever Switch (SLS) to monitor the slide armed mechanism.

V1813401 - V01T0M0 - VM52D9DSCSD3001



PASSENGER DOORS AND SLIDES STATUS MONITORING

DOORS AND SLIDES CONTROL SYSTEM DESCRIPTION (2/3)

Lower Deck Cargo Doors Status Monitoring

There are (five) proximity sensors for each cargo door:
- One sensor (S1) in the door to monitor the door latched and locked status
- Two sensors (S2/S3) in the door frame (targets on the rear hook lock mechanism) to monitor the door closed, latched and locked status
- One sensor (S4) in the door frame (target on the bottom door edge) to monitor the door closed status
- One sensor (S5) in the door to monitor the door unlatched status.

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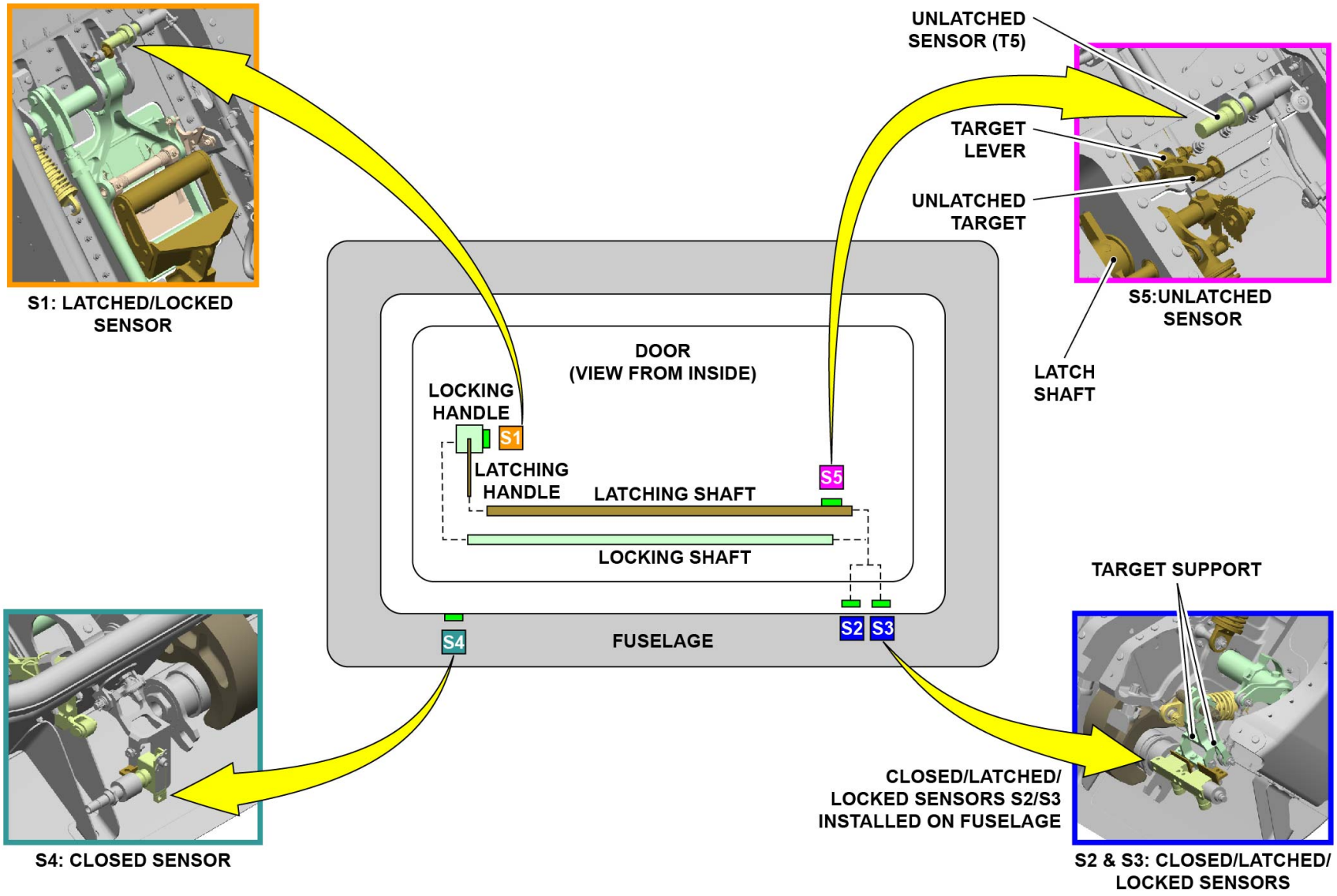
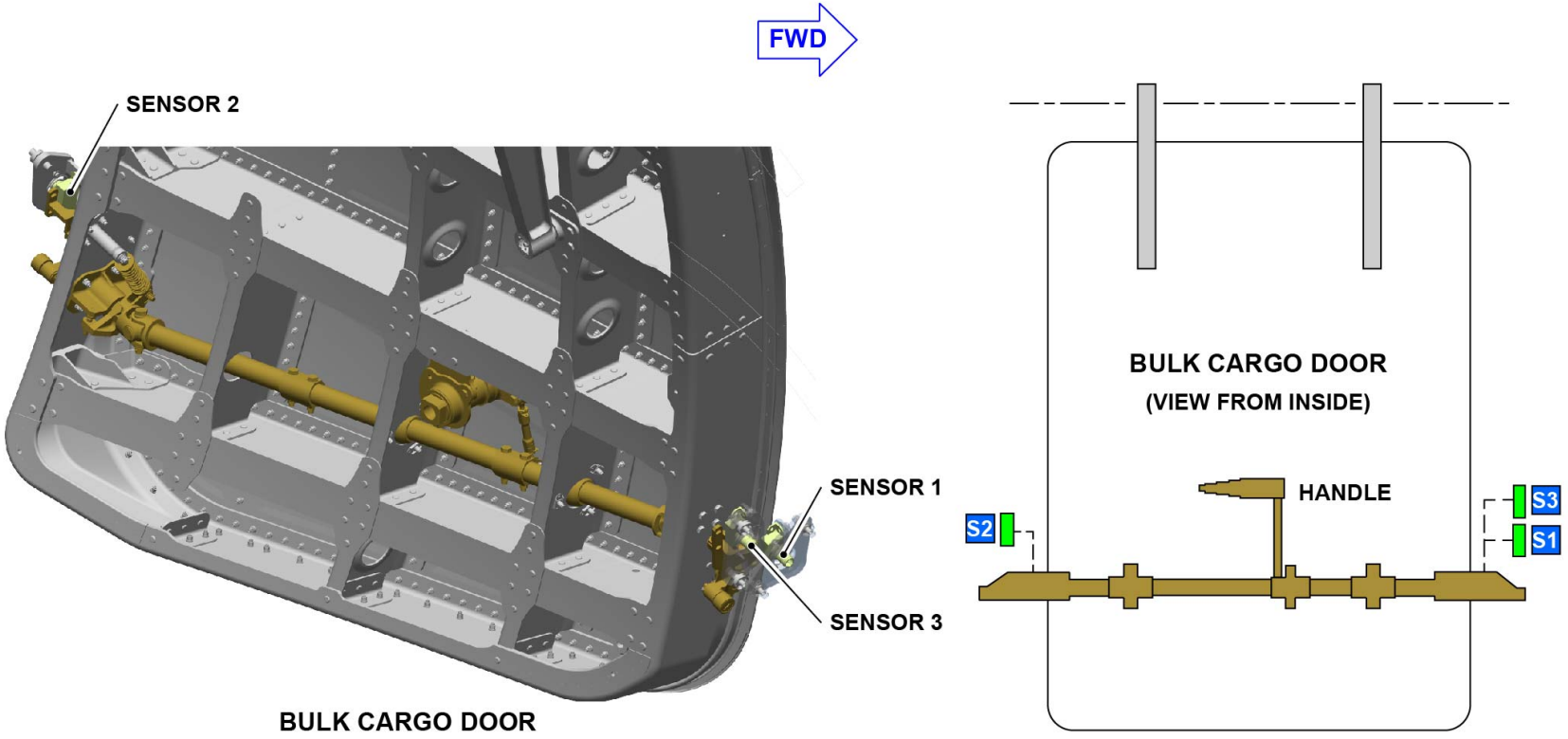


LOWER DECK CARGO DOORS STATUS MONITORING

DOORS AND SLIDES CONTROL SYSTEM DESCRIPTION (2/3)

Bulk Cargo Door Status Monitoring

The bulk cargo door has on its door frame three proximity sensors to monitor its closed and latched status. Only the targets are attached to the latching mechanism (two on the FWD and one on the AFT edge).

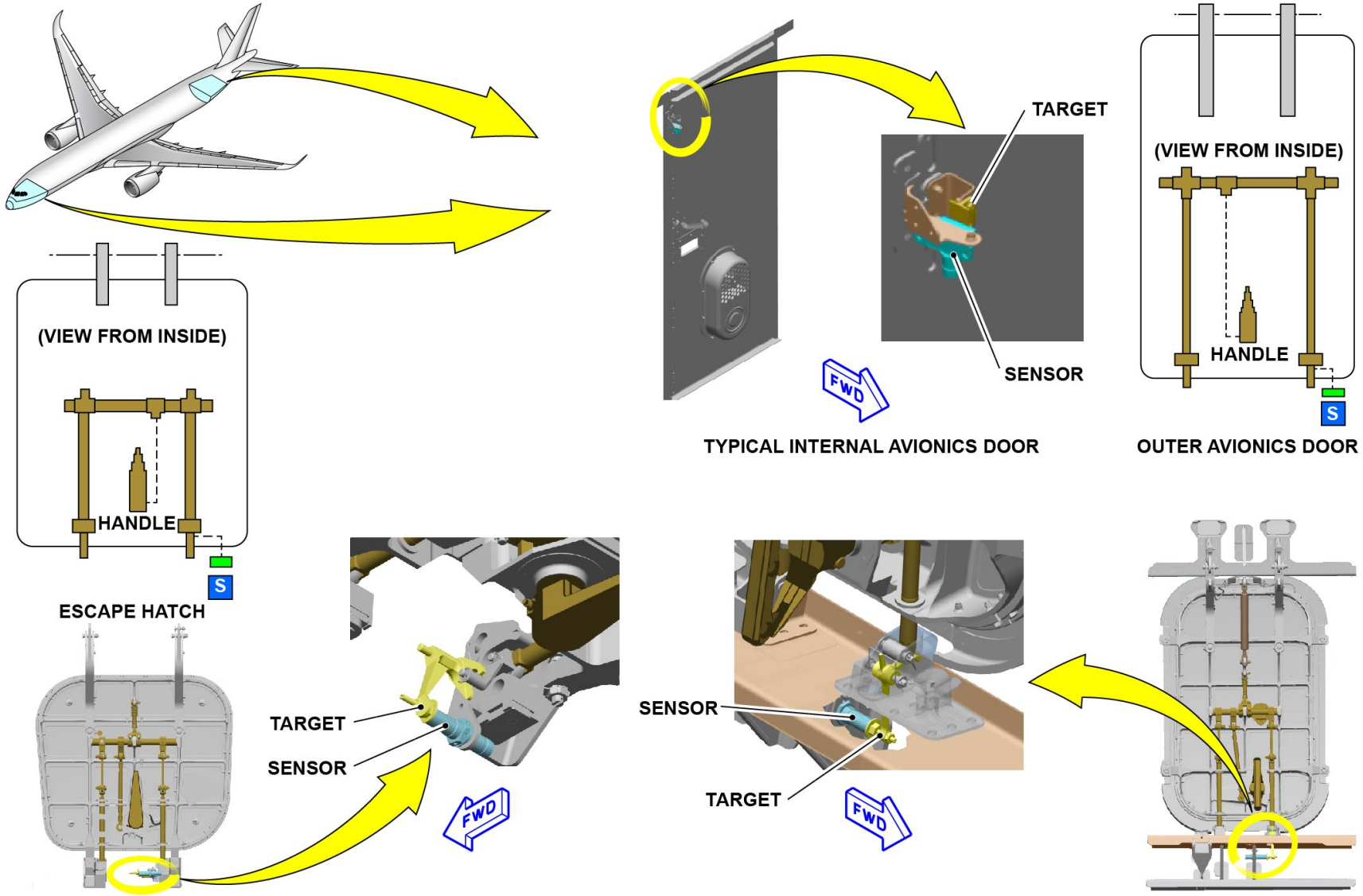


BULK CARGO DOOR STATUS MONITORING

DOORS AND SLIDES CONTROL SYSTEM DESCRIPTION (2/3)

Escape Hatch and Avionics Access Doors Status Monitoring

Each avionics access door, cockpit escape hatch and the two avionics internal access doors are monitored by one proximity sensor, for indication functions.

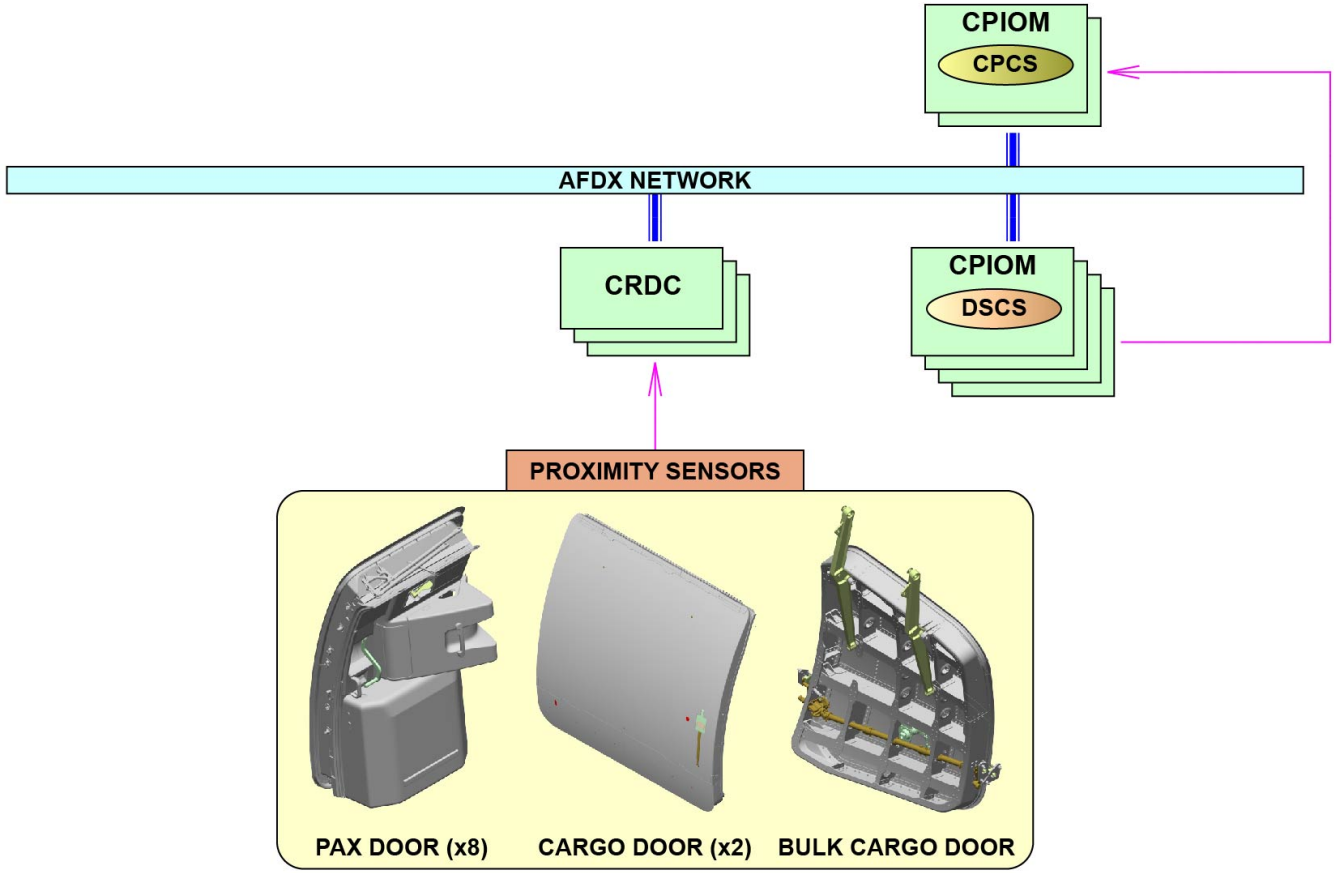


ESCAPE HATCH AND AVIONICS ACCESS DOORS STATUS MONITORING

DOORS AND SLIDES CONTROL SYSTEM DESCRIPTION (2/3)

All Doors Status Monitoring for Pressurization

Each CPIOM DSCS application transmits the ALL DOORS STATUS signal periodically to the CPCS, through AFDX and discrete signals. If one door is not closed, latched and locked or if there is a door failure (electrical or mechanical failure), the pressurization of the aircraft will be prevented on the ground and a warning (CAB PRESS INHIBITED BY DOORS) is triggered on the flight deck.
The aircraft is considered as safe for pressurization if:
- All passenger doors are closed, latched and locked
- The two FWD and AFT cargo doors are closed, latched and locked
- The bulk cargo door is closed and latched.



ALL DOORS STATUS MONITORING FOR PRESSURIZATION

DOORS AND SLIDES CONTROL SYSTEM DESCRIPTION (2/3)

Residual Pressure Warning

For the safe operation of the passenger and cargo doors, the DSCS gives indications to the door operators to give them warning of a differential pressure (P > 2.5 mBar) between the pressurized area of the A/C and the ambient atmospheric pressure.
The primary components of this warning function are:
- The ASPSU (central controller, energy storage, A/C and sensing interface)
- The two DPSs
- The DIPs (warning indication on passenger doors)
- The cargo door residual pressure light.

The two DPS are installed in the electronics bay. They are connected to the Integrated Standby Instrument System (ISIS) static pressure line by use of a quickly disconnect mechanism.
The ASPSU controls the cargo door residual pressure light and the DIP residual pressure indication when at least one of the two DPSs senses a remaining pressure and the DSCS finds that the A/C is on the ground.

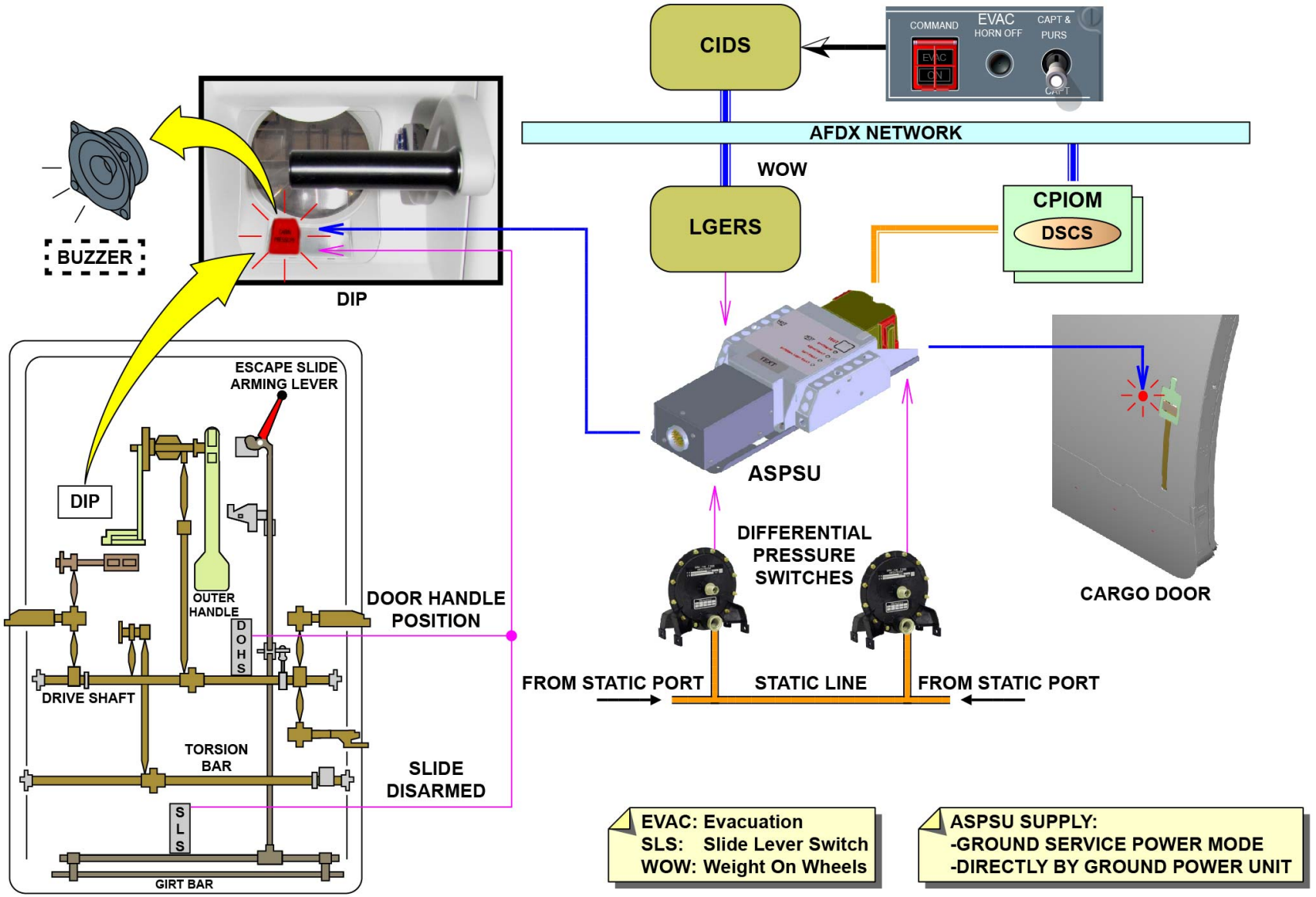
NOTE: The APSU receives the ground/flight signal from the CPIOM DSCS applications by CAN bus or, as a backup, the ASPSU can use the LGERS gnd/flt discrete signal.

The ASPSU is installed in the cargo area below the floor panels (section 13). It is energized by the 115VAC supply in ground service power mode and is also directly supplied by the Ground Power Unit (GPU) without the GND SVCE CTL switch set to ON. The ASPSU also has a battery for a full autonomous supply and directly receives the residual pressure sensed by the two DPSs.

NOTE: The ASPSU battery must supply energy to operate the residual pressure indications (for 45 minutes minimum without A/C power) and has a "Quick Release Mechanism", which makes it easy to replace.

Thus any of the cargo and passenger doors residual pressure light can be energized even when there is a malfunction on a CPIOM or when the electrical power is removed on the aircraft.
The residual-pressure warning indication at the lower-deck cargo doors is directly embedded in the cargo doors. It is only possible to see their indication from outside the A/C and are flashing red when the command from the ASPSU is active.
For the passenger door DIPs, the residual pressure warnings (red flashing lights) are "on" when:
- The command from the ASPSU is active
- The slide lever is in the disarmed position, as signaled by the SLS
- The evacuation alert from the CIDS controllers is "off".

As soon as the door is intended to be opened, as signaled by the DOHS, an additional acoustic warning is activated.



RESIDUAL PRESSURE WARNING

V1813401 - V01T0M0 - VM52D9DSCSD3001

DOORS AND SLIDES CONTROL SYSTEM DESCRIPTION (2/3)

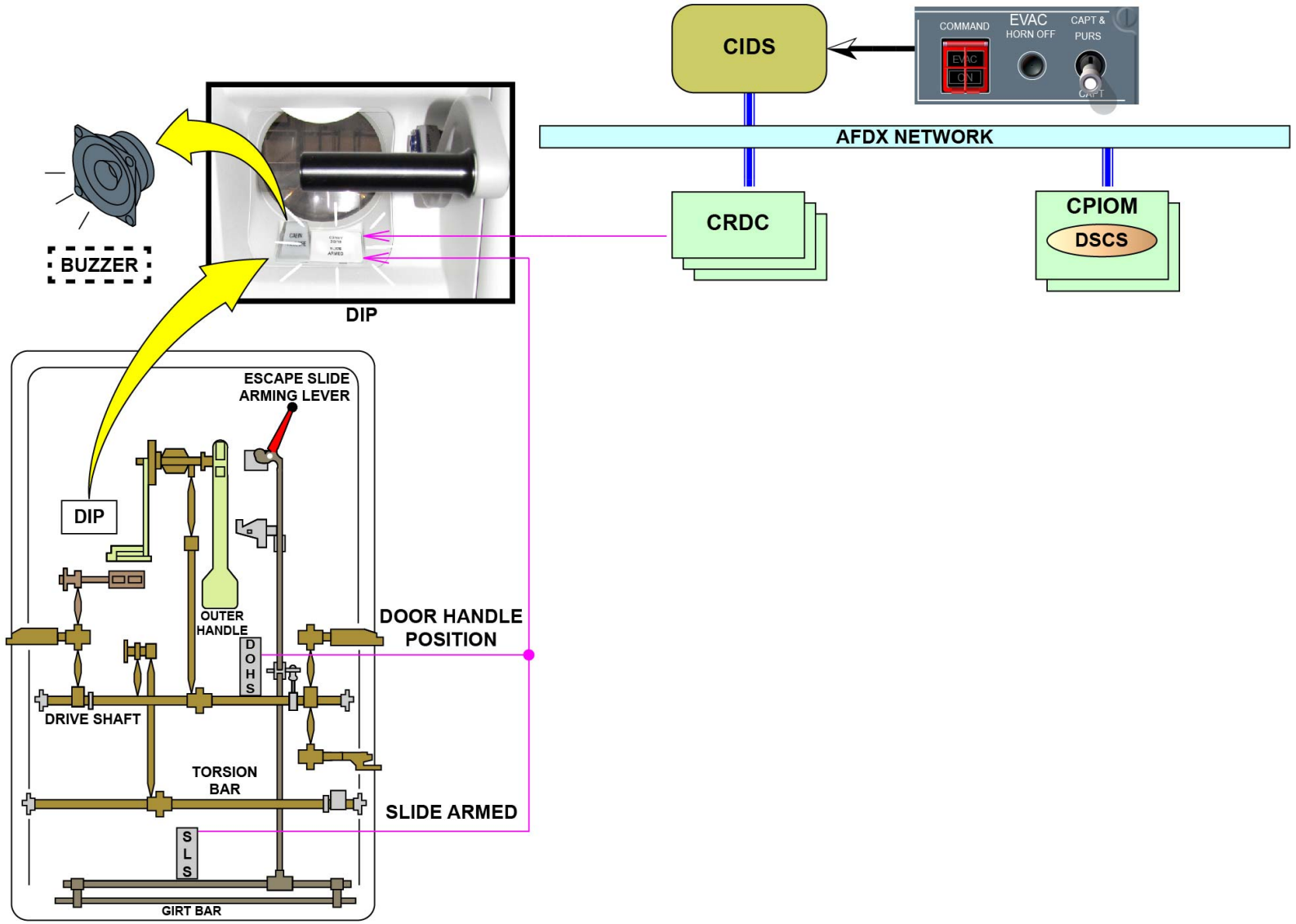
Slide Armed Warning

The DSCS gives a visual indication 'SLIDE ARMED' and an optional aural warning (tone: 2900 HZ) at the related door DIP to prevent accidental deployment.
The primary components of this warning function are:
- The DIP
- The SLS
- The DOHS.

This warning only occurs if:
- The DSCS status is A/C on-ground.
- The slide lever is armed, as signaled by the SLS.
- The door operation handle is moved to start to lift the door, as signaled by the DOHS.
- The evacuation alert from the CIDS controllers is "off".

When the door is in the fully lifted position, the slide armed warnings are switched off again.
The slide armed indication precondition signal (A/C on-ground and evacuation alert "off") is calculated by the CRDCs that transmit the signal to their related DIPs.

V1813401 - V01T0M0 - VM52D9DSCSD3001



SLIDE ARMED WARNING

V1813401 - V01T0M0 - VM52D9DSCSD3001

DOORS SYSTEM CONTROL AND INDICATING (2)

Passenger/Crew Door Operation (2)

It's possible to operate the passenger doors from inside or outside the A/C.
From inside the A/C, each door is manually operated from the inner door control handle.
From outside the A/C each door is manually operated from the outer door control handle.
The unlocking/unlatching and latching/locking operations are always manually made by moving up or down the inner or outer control handles.
Next to the inner handle, mechanical door locking indicators are installed in order to allow a visual check of the door locked/unlocked status.
These indicators are in green color when the door has been locked and latched, and they change to red color as soon as the door is unlocked.
After unlocking/unlatching the door, it can be moved to the totally open or totally closed position by pushing/pulling it manually from inside or outside the A/C.
If the door is in the fully open position and you want to close it, the door-stay mechanism (gust-lock) will need to be unlocked first before closing the door.
In case of passenger door slide armed when the inner door control handle start to move to 'open', the Emergency Escape Slide release warning function provides functionality to warn the door operator with an advisory light (located in each door window, DIP - Slide Warning Light) and an aural buzzer signal.
Pax/crew doors "SLIDE ARMED " Light activation logic:
A/C ON GROUND
DOOR LOCKED, RESPECTIVE SLIDE ARMED
DOOR OPERATING HANDLE LIFTED BY A FEW DEGREES
EVAC PRIORITY SWITCH NOT ACTIVATED
If the door is open from inside with the slide in armed configuration, it will be forced to open by the DEOA and the slide will be automatically deployed.
If the door is open from outside with the slide in armed configuration, it will be automatically disarmed.
All advisory lights and buzzer signals are disabled in case of emergency evacuation by pressing the priority switch (EVAC) on the FAP or on the EVAC panel of the overhead.
At the Door/Oxygen ECAM SD page each door will appear in green color when it is closed, latched and locked; if not it will be in amber color. When a passenger door is closed/latched/locked, and the slide is armed, "SLIDE" will be displayed in white color next to the door symbol concerned.
At the FAP doors/slides page, each passenger door symbol will appear in green color when it is closed/latched/locked & slide armed, in amber color when the slide is disarmed, in red color when the door is unlocked.

Cargo Door, Bulk and Avionic Doors Operation (2)

The Cargo Doors Actuation System (CDAS) operates the forward and aft cargo doors providing the door is unlocked and unlatched.
For loading operations each cargo door is opened and closed by one hydraulic actuator. This is achieved by the extension and retraction of the actuator piston rod. The actuator is equipped with an internal mechanical locking device that engages when the actuator is in the fully extended position.
A proximity sensor in the actuator indicates to the DSCS when the actuator is in the fully extended and locked position.
The system is monitored and controlled by the Doors and Slides Control System (DSCS).
The DSCS uses sensors for monitoring the FWD/AFT cargo door unlatch status, as well as the fully open and locked status of the cargo door actuator.
The lower deck cargo doors are operated externally from an operation panel. The panel is equipped with a toggle switch for normal operation mode, a manual lever for auxiliary operation mode and an indicator for

the internal locking of the cargo door actuator in the fully extended position (green light bulb).
One Cargo Door Control Valve (CDCV), electrically triggered by the DSCS, controls the actuator on the associated cargo door.
When at least one engine is running, the CDAS is isolated from the hydraulic system by a valve fitted to the Yellow HP manifold.
Hydraulic power for the CDAS is provided by the yellow EMP at a pressure of 345 bar (5000 psi). The fluid is routed through the Yellow HP manifold to the CDAS.
The EMP automatically start for 30 seconds when the cargo door is unlatched and will remain supplied for approximately 10 seconds after a cargo door fully closed or fully opened and up-locked or until the toggle switch is selected by the operator.
Both lower deck cargo doors shall be manually latched and locked.
If the EMP is not available system pressure can be supplied by connecting a ground service cart to the Yellow Ground Service Panel (GSP).
If there is no electrical and/or hydraulic supply available from a ground cart the cargo doors can be operated manually by a Hydraulic Auxiliary Pump (HAP) that can be operated by a hand held drilling machine. The HAP can also be operated with a lever via a gearbox. The gearbox is stored in the front face of the yellow GSP and must be adapted to the HAP input shaft before lever operation.

Cabin Residual Pressure Indications (2)

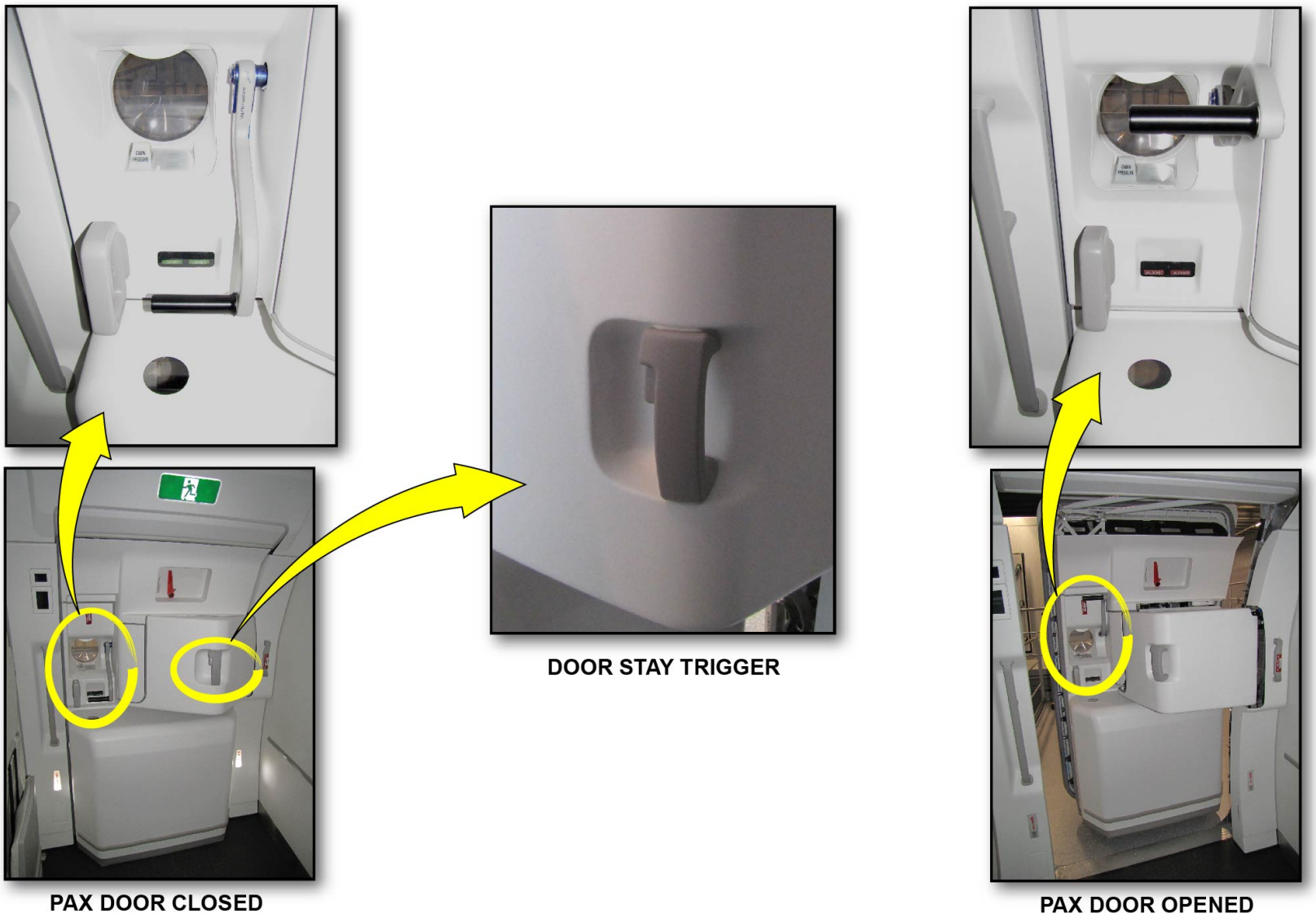
During cold weather operation, the A/C is parked on the apron for a night stop. The engineer prepare the A/C for the night: potable water and waste tanks drainage, DITCHING P/BSW pressed in (outflow valves, avionics cooling valves,...close).
In the morning, another engineer starts to prepare the A/C for the first flight of the day: an air conditioning ground cart (GSE) is connected to, and supply LP conditioned air to the A/C; as a result, after some time the pressure build-up, and the fuselage is now pressurized above the 0.036 PSI cabin delta Pressure threshold.
WARNING: such very small pressure applied to a cabin door will create a force of around 50daN, and the same pressure on the forward cargo door will create a force of around 160daN. Increase the pressure to 0.36PSI (10 times more) and you get forces as high as 500daN and 1600daN respectively.
Now the engineer wants to open the aircraft for catering and freight loading operations: as soon as he will be in front of any pax/crew door or any lower deck main cargo door, he will be warned by a red flashing light (2HZ - duty cycle 50%) indicating that the fuselage is pressurized.
If he miss the visual warning and tries to open a pax/crew door anyway, an aural warning (buzzer TBD) will sound as soon as the outer door operation handle is lifted by a few degrees. Note that main cargo doors are not equipped with this aural warning system.
Pax/crew doors Residual Pressure Light activation logic:
A/C ON GROUND
RESPECTIVE SLIDE DISARMED
CABIN DELTA P ABOVE 0.036 PSI
EVAC PRIORITY SWITCH NOT ACTIVATED
The aural warning will also be activated if, on top of those four conditions, the inner or outer door operation handle is moved away from the locked position by a few degrees.
Lower deck main cargo doors Residual Pressure Light activation logic:
A/C ON GROUND
CABIN DELTA P ABOVE 0.036 PSI
Even when the A/C is de-energized, the visual and aural residual pressure warnings are still available, supplied by the ASPSU battery, that provides sufficient energy to look after residual pressure for 5 days, and activate the warnings during 45 minutes maximum.

Cockpit Door Operation (2)

The cockpit door is always locked when the door is closed and the aircraft is electrically energized (28V DC).
The door can be kept electrically unlocked for maintenance and also to prevent accidental lockouts during ground maintenance activities. This

is done through the maintenance switch CKPT DOOR LOCKG SYS on the overhead panel when it is set to OFF.
When an authorized crew member wants to access into the cockpit, a routine access code (preset by the airline) must be entered on the cockpit door keypad (cabin side).
Note: Each pressed key illuminates the white keypad LED.
This code entry triggers a buzzer (on the overhead panel) and a 'Door please' message broadcasted by the captain and F/O loudspeakers.
The answer from the flight crew can be:
- To authorize the access by setting the toggle switch on the cockpit door control panel to UNLOCK,
- To deny the access by setting the toggle switch on the cockpit door control panel to LOCK.

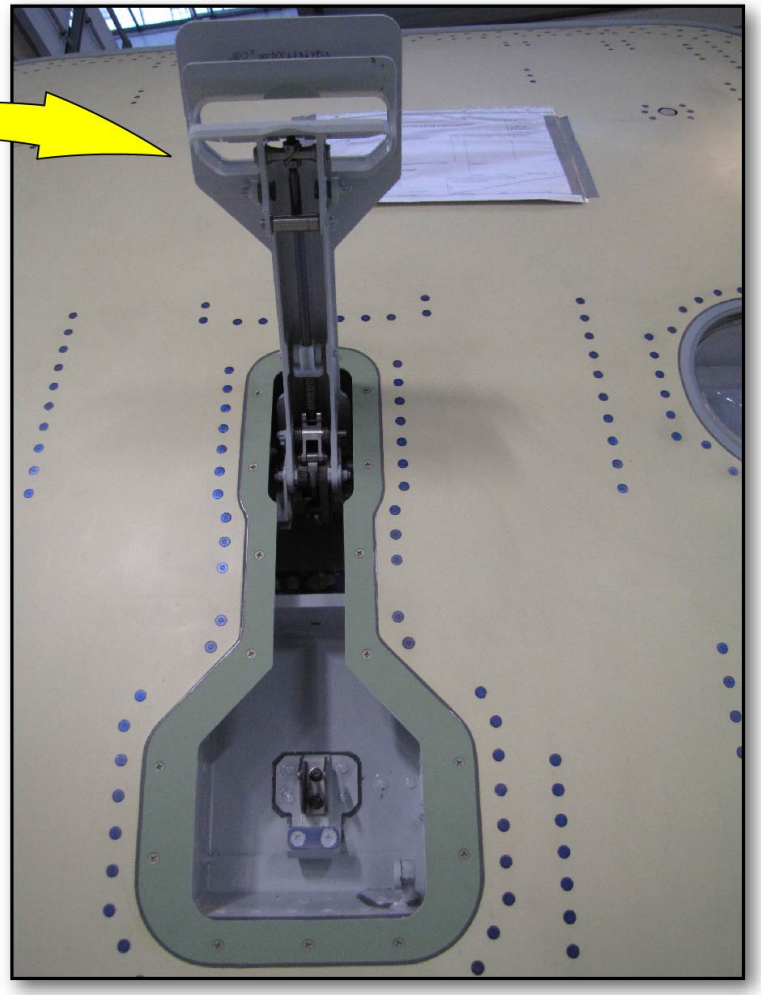
When UNLOCK is selected, the door is unlocked, a green keypad LED illuminates and the OPEN light appears on cockpit door control panel.
When LOCK is selected, the door stays locked and the keypad is inhibited (indicated by a red LED) for a defined period.
If following a routine access code, there is no answer from the flight crew, an authorized crew member can enter an emergency access code (preset by the airline) on the cockpit door keypad.
This action triggers the buzzer and makes the keypad green LED and the OPEN light on cockpit door control panel flashing until an expected flight crew action (UNLOCK/LOCK on cockpit door control panel).
If steal no answer after a defined period of time (by default 30 seconds), the door unlocks for five seconds (green keypad LED steady).
A FAULT light illuminates on the cockpit door control panel when the door security is no more ensured by the CDLS (e.g. Dual failure of the electrical strikes, dual failure of the CDCU pressure channels, etc...).
If the door security is no more ensured by the CDLS, the flight crew steal have the possibility to manually lock the door with a mechanical deadbolt.
If an electrical strike is jammed in a locked position, the flight crew steal have the possibility to manually open the door with the door handle.
In case of emergency exit (if steal possible through the cabin, otherwise exit through the escape hatch) and if the cockpit door itself is jammed in a closed position, the flight crew steal can evacuate through the cabin by manually opening the Decompression/Evacuation Panel through the Flap Release Mechanism handle.
Note: The locked/unlocked status of this panel is given by a green/red indicator.



PASSENGER/CREW DOOR OPERATION (2) ... COCKPIT DOOR OPERATION (2)

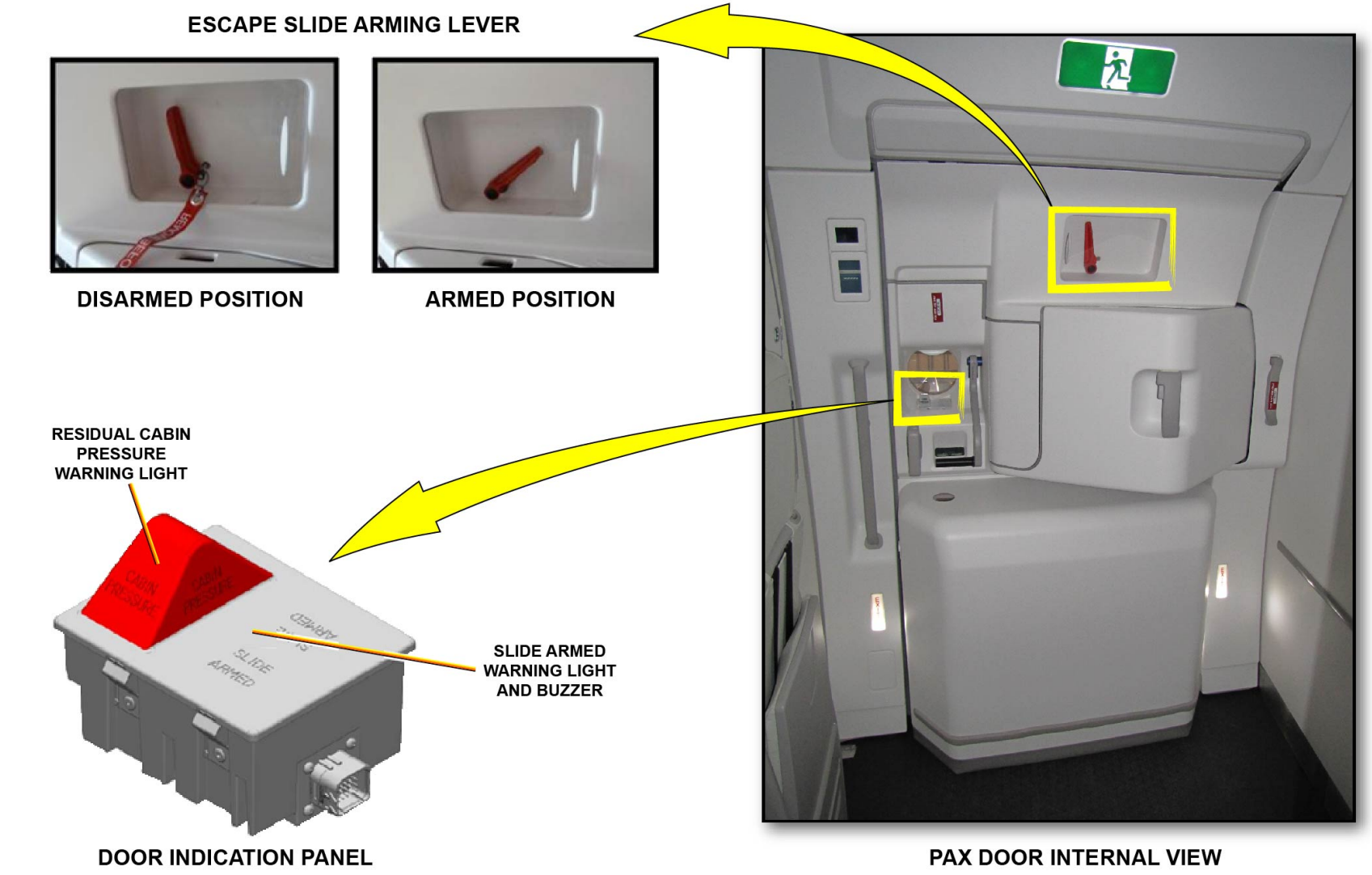
V1813401 - V01T0M0 - VM52I1000002301

PAX DOOR OUTER VIEW

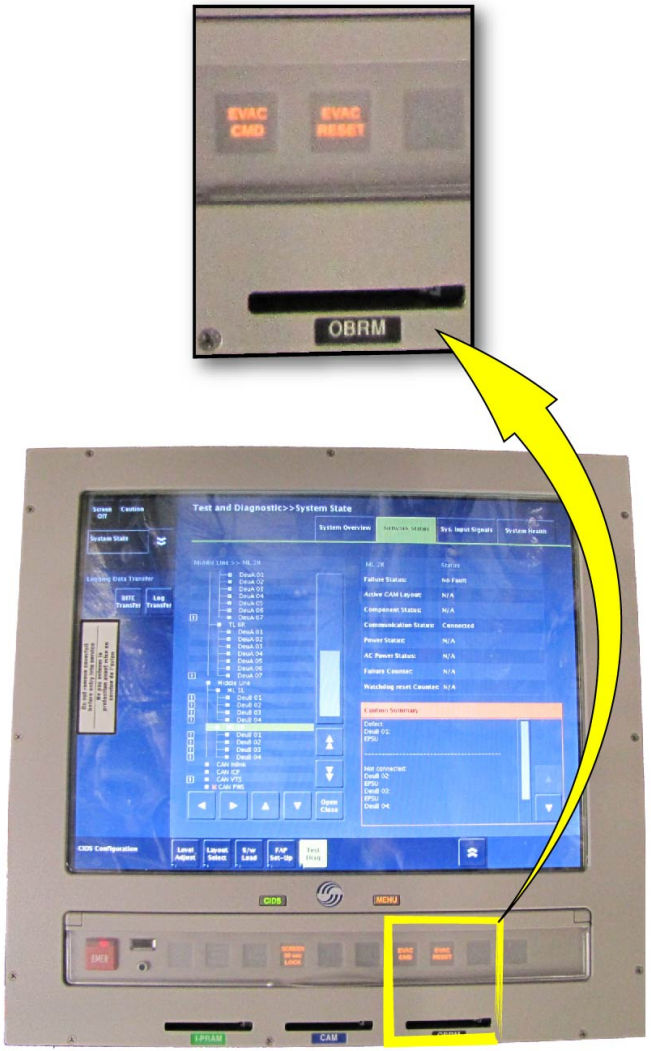


OUTER HANDLE LIFTED

PASSENGER/CREW DOOR OPERATION (2) ... COCKPIT DOOR OPERATION (2)

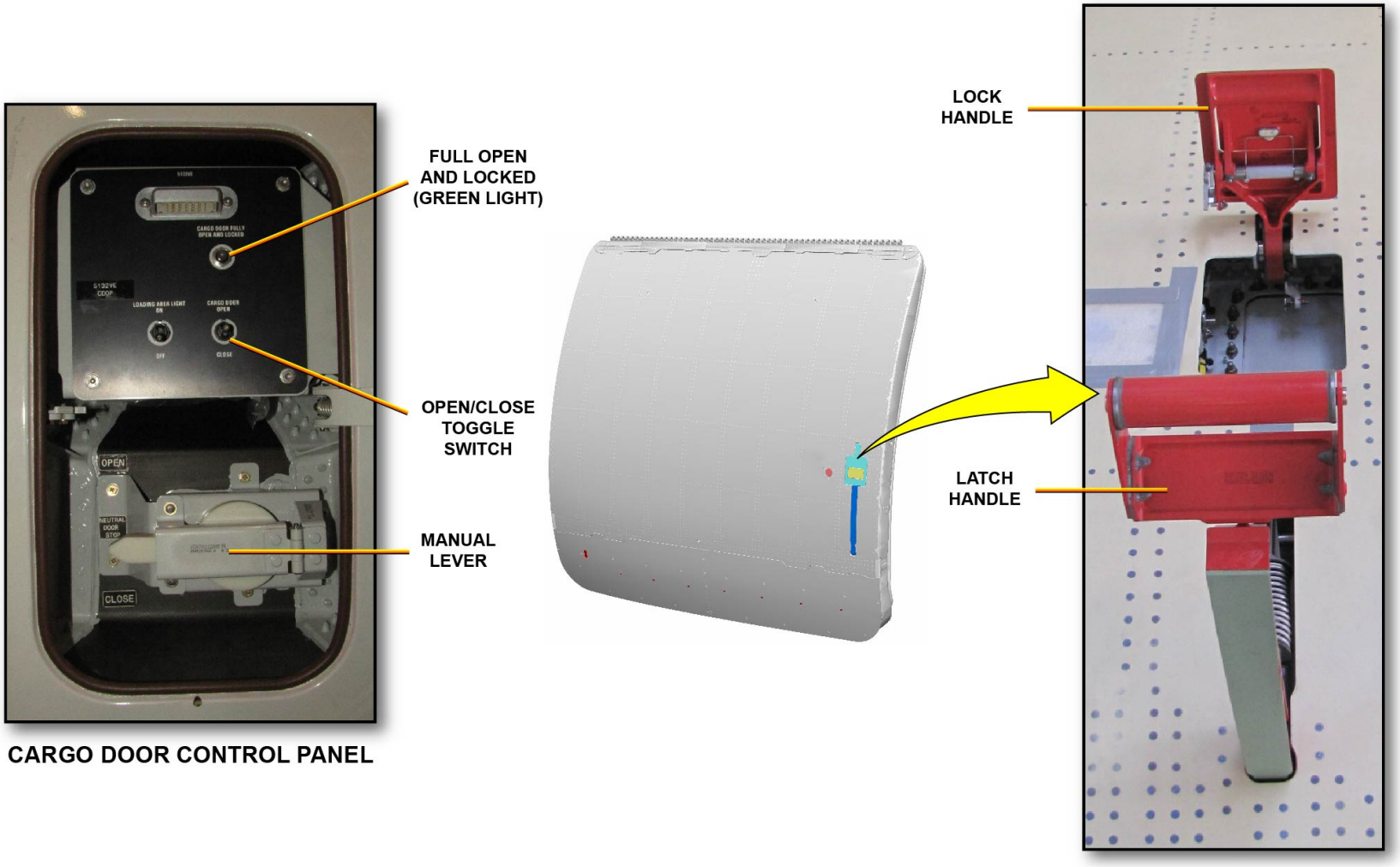


PASSENGER/CREW DOOR OPERATION (2) ... COCKPIT DOOR OPERATION (2)



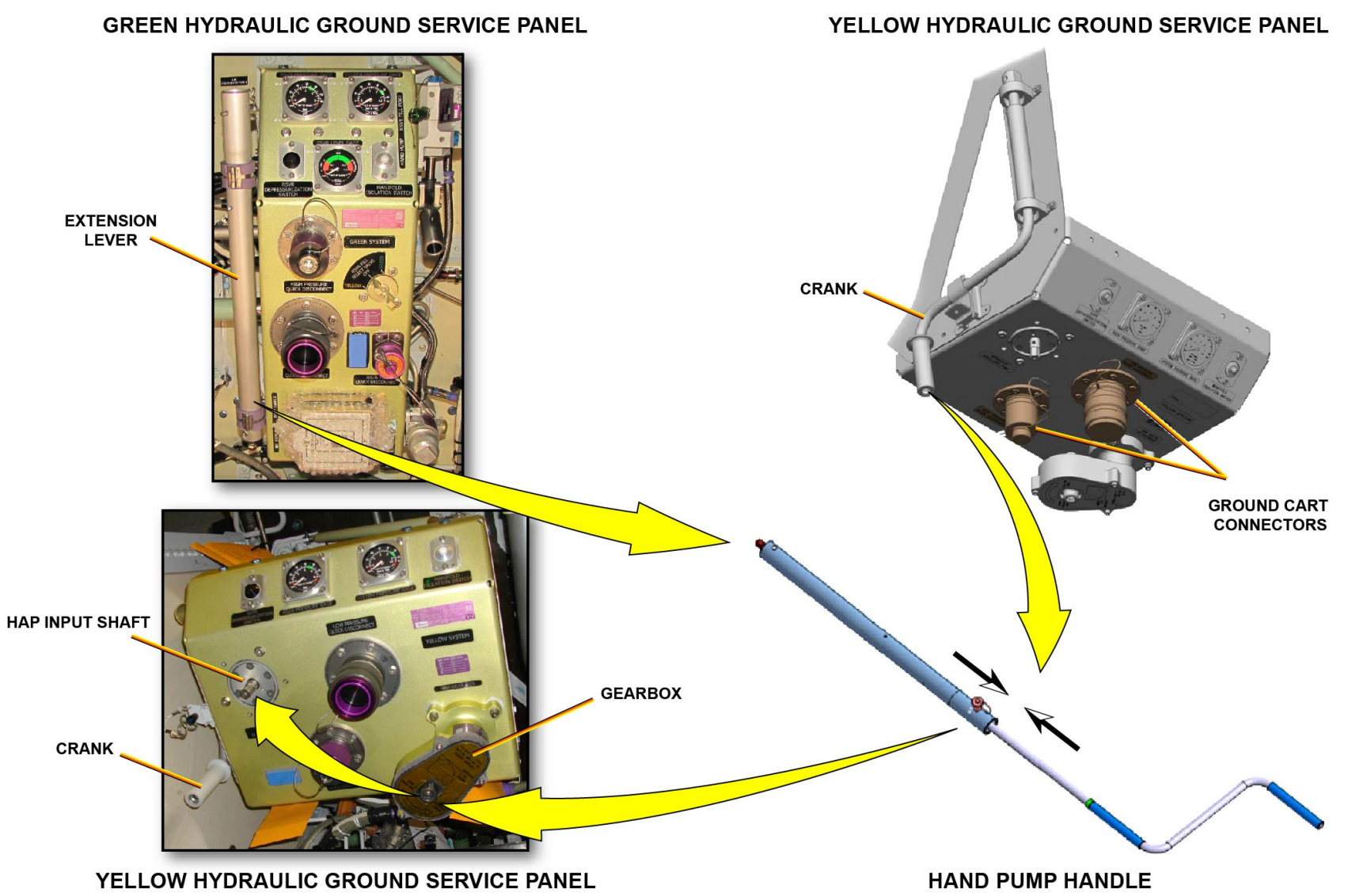
FORWARD ATTENDANT PANEL

PASSENGER/CREW DOOR OPERATION (2) ... COCKPIT DOOR OPERATION (2)

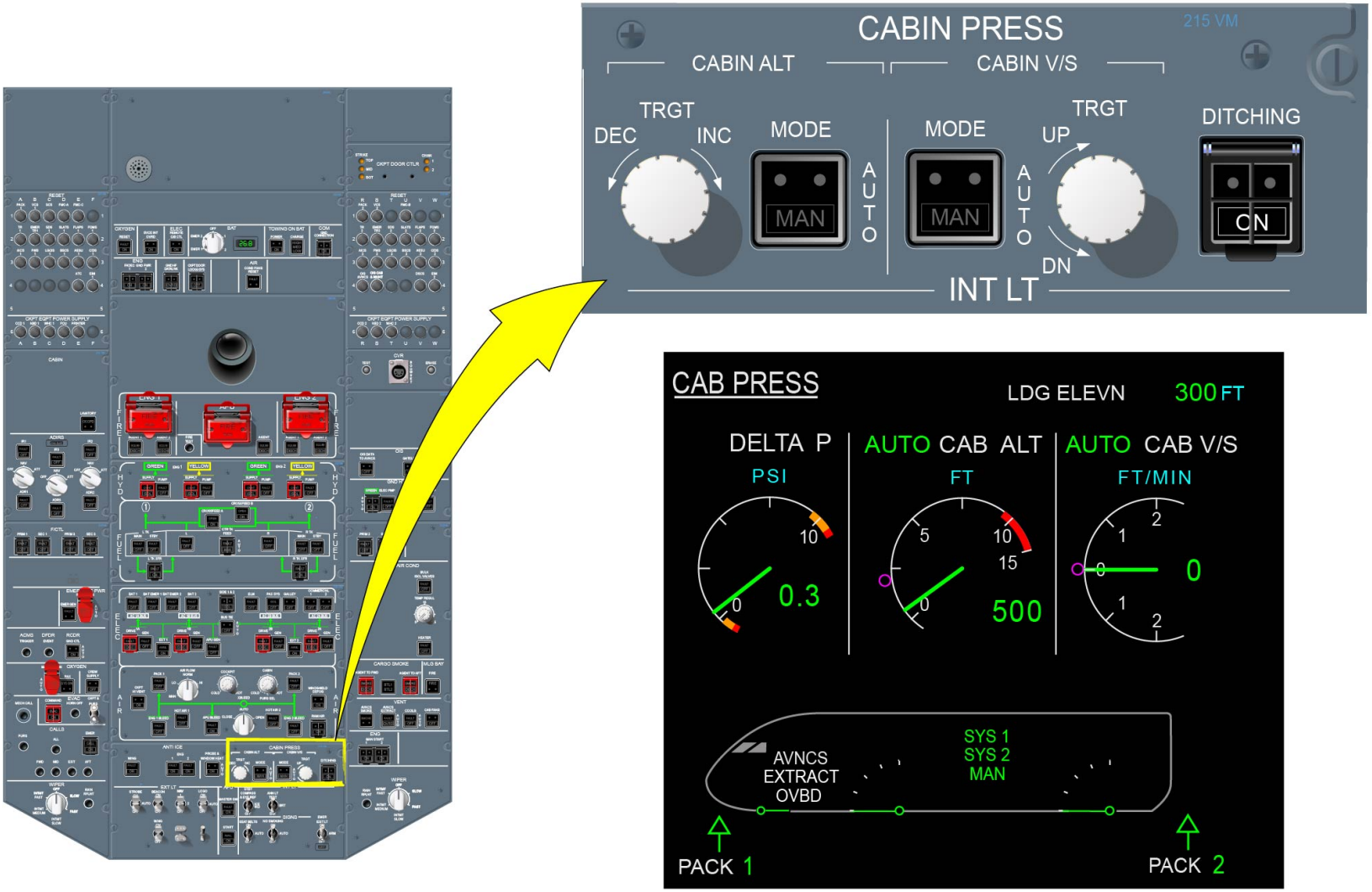


CARGO DOOR CONTROL PANEL

PASSENGER/CREW DOOR OPERATION (2) ... COCKPIT DOOR OPERATION (2)

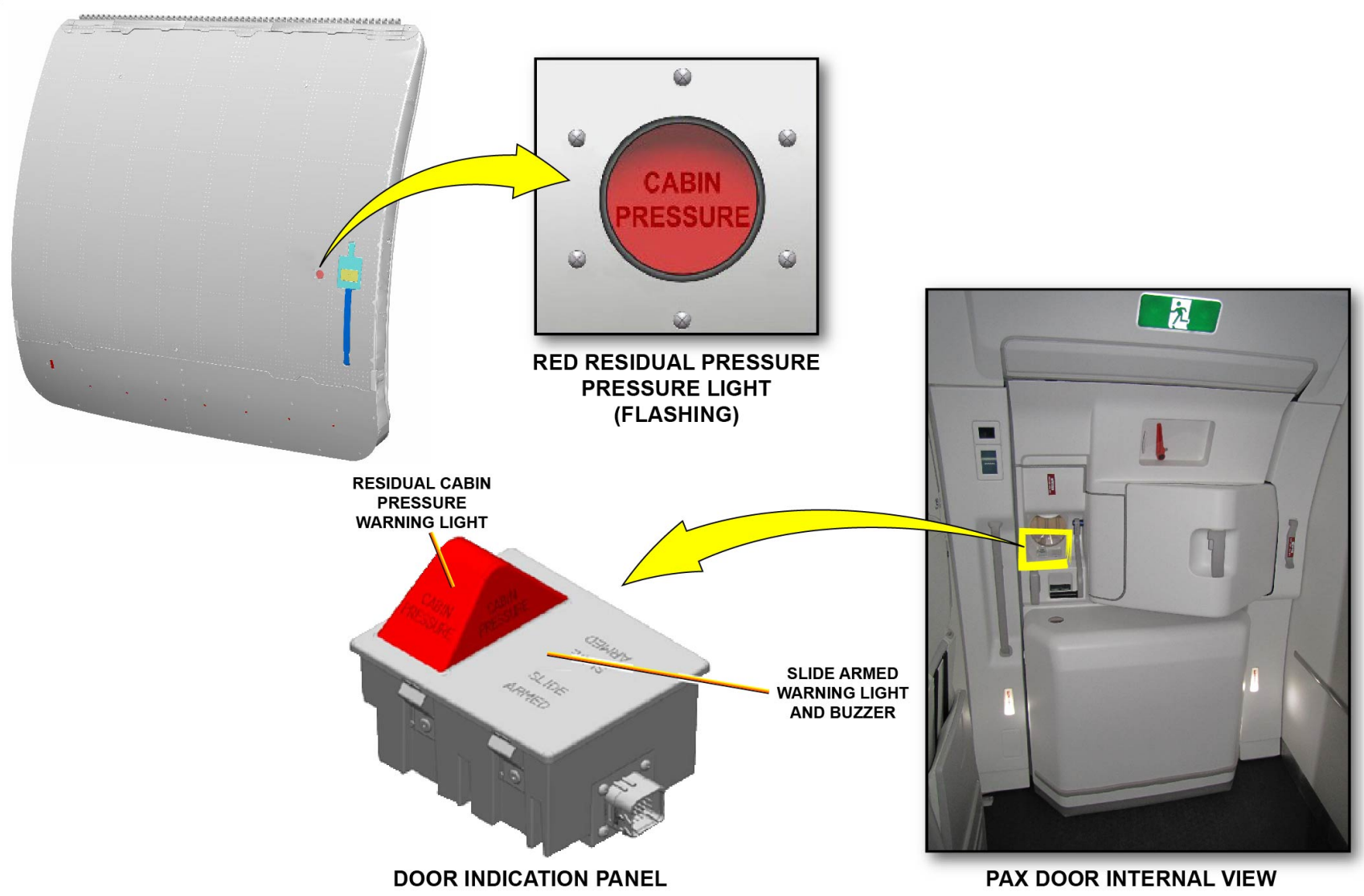


PASSENGER/CREW DOOR OPERATION (2) ... COCKPIT DOOR OPERATION (2)

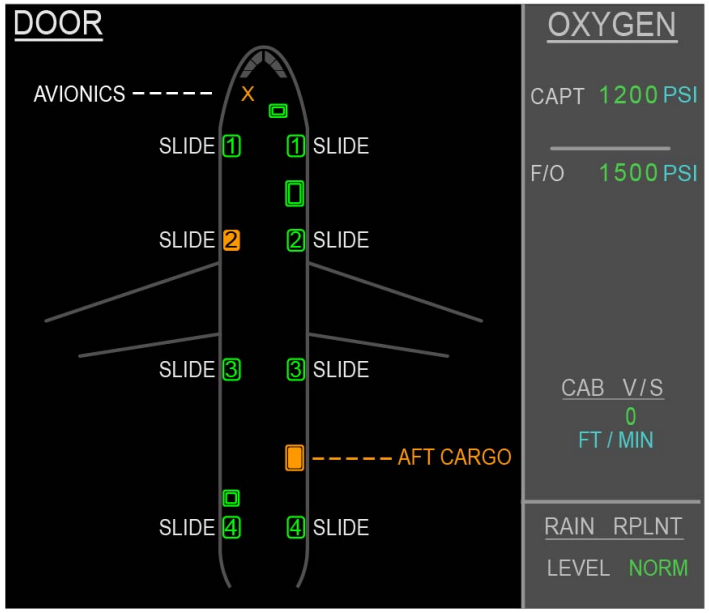


CABIN PRESS ECAM SD PAGE

PASSENGER/CREW DOOR OPERATION (2) ... COCKPIT DOOR OPERATION (2)

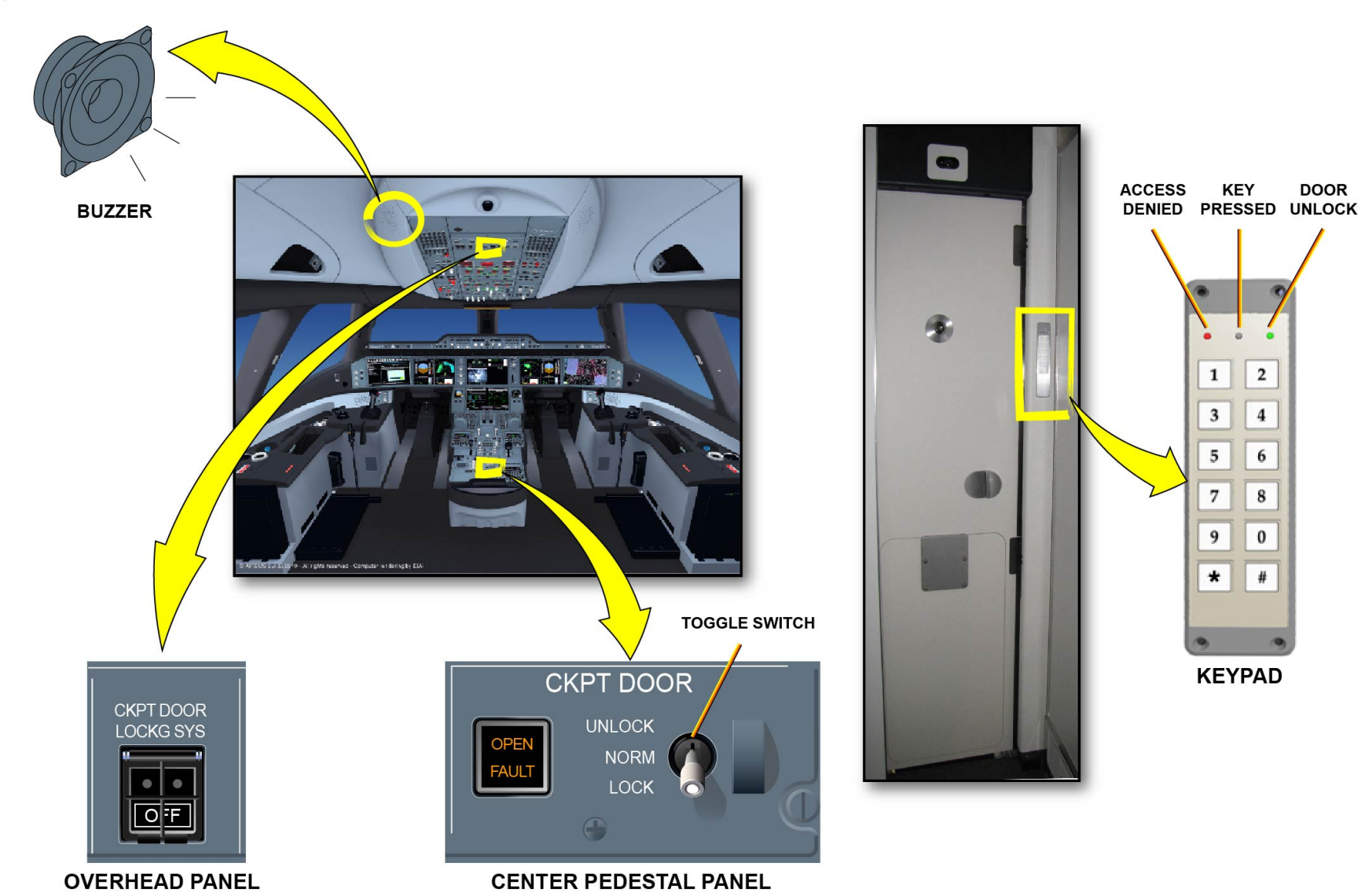


PASSENGER/CREW DOOR OPERATION (2) ... COCKPIT DOOR OPERATION (2)

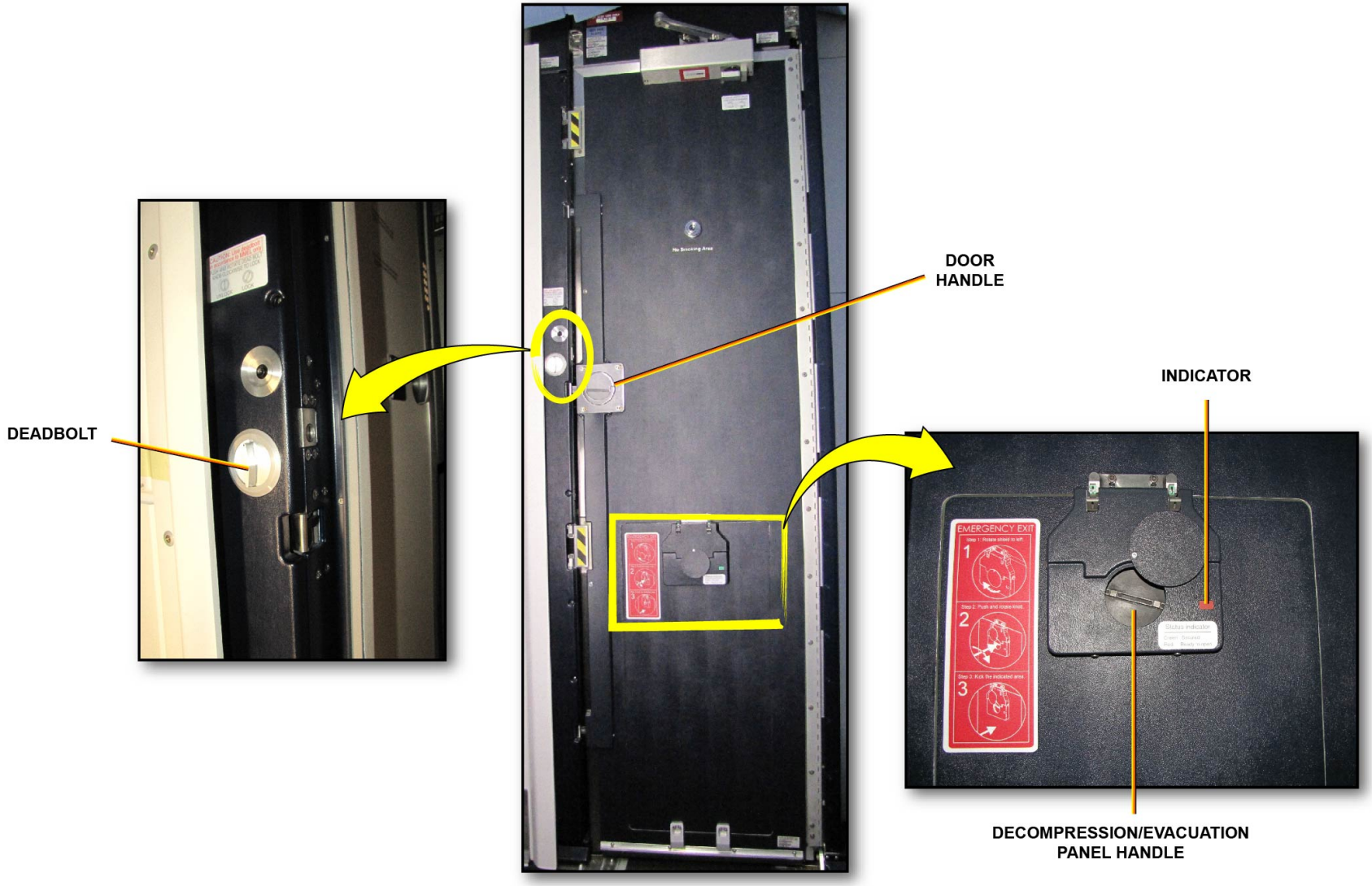


DOOR/OXYGEN ECAM SD PAGE

DOOR/SLIDES FAP PAGE



PASSENGER/CREW DOOR OPERATION (2) ... COCKPIT DOOR OPERATION (2)



PASSENGER/CREW DOOR OPERATION (2) ... COCKPIT DOOR OPERATION (2)

AIRBUS S.A.S.
31707 BLAGNAC cedex, FRANCE
STM
REFERENCE V1813401
OCTOBER 2013
PRINTED IN FRANCE

AN EADS COMPANY