

AIRCRAFT SYSTEMS

EQUIPMENT

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DSC-25-40-10 Cockpit

DSC-25-40-10-10 Description

Description..... A

GENERAL

Ident.: DSC-25-10-10-00000982.0001001 / 10 DEC 09

Applicable to: ALL

The aircraft and system controls, required for piloting the aircraft, are arranged in such a way that the crew faces forward and all crewmembers can monitor instruments and systems.

The designers concentrated system controls on the overhead panel by making extensive use of pushbuttons, directly installed in the system synoptic.

Note: This section of the FCOM is designed to provide Operators with a general overview of the most common cockpit system configurations and cockpit panel layouts. Due to the large number of possible configurations and layouts, there may be a slight difference between these illustrations and the exact aircraft configuration.

For the applicable panel that corresponds to your aircraft configuration, refer to the panel layout illustrations provided in the related FCOM chapter.

PRINCIPLES FOR PUSHBUTTONS WITH INTEGRATED INDICATIONS

Ident.: DSC-25-10-10-00000983.0001001 / 10 DEC 09

Applicable to: ALL

Whenever possible, pushbuttons used for corrective actions, have integrated status and failure indications.

The pushbutton positions, and their illuminated indications, follow the "lights out" principle.

- While corresponding to particular aircraft configurations, indications also have the following color codes :

- Warnings
RED : A failure requiring immediate action.
- Cautions
AMBER : A failure, of which the flight crew should be aware, but does not call for immediate action.
- Indications
GREEN : For normal system operation.
BLUE : For normal operation of a system used temporarily
WHITE : - For an abnormal pushbutton position.
 - For a test result or maintenance information.

When the aircraft is in a normal configuration, only green lights can be permanently lit, whereas blue lights can be intermittently.

- Pushbutton positions :

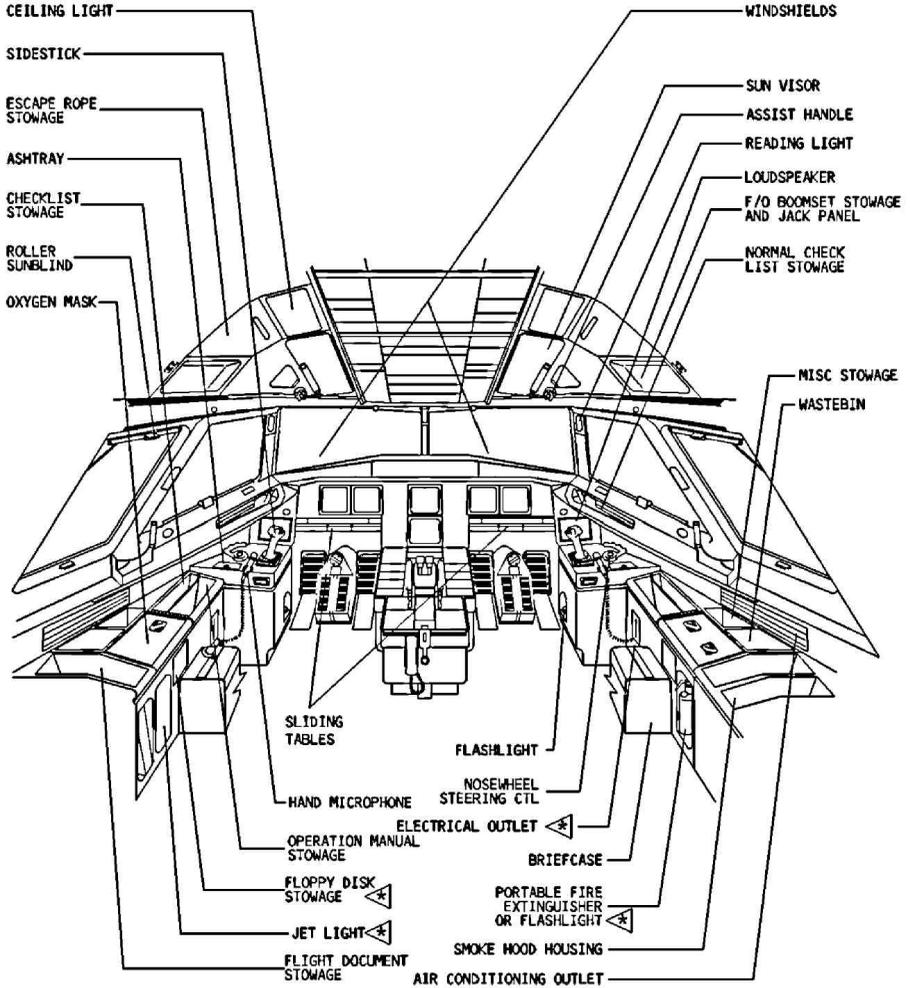
POSITION	BASIC FUNCTION
Pressed In	ON, AUTO, OVRD, OPEN
Released Out	OFF, MAN, ALTN, SHUT

- Note:**
1. Certain pushbutton lights have two dots, indicating that the corresponding part of the pushbutton is not used.
 2. Certain pushbuttons do not remain pressed in. These are referred to as "Momentary Action" pushbuttons.

GENERAL ARRANGEMENT

Ident.: DSC-25-10-10-0000984.0001001 / 10 DEC 09

Applicable to: ALL



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GENERAL

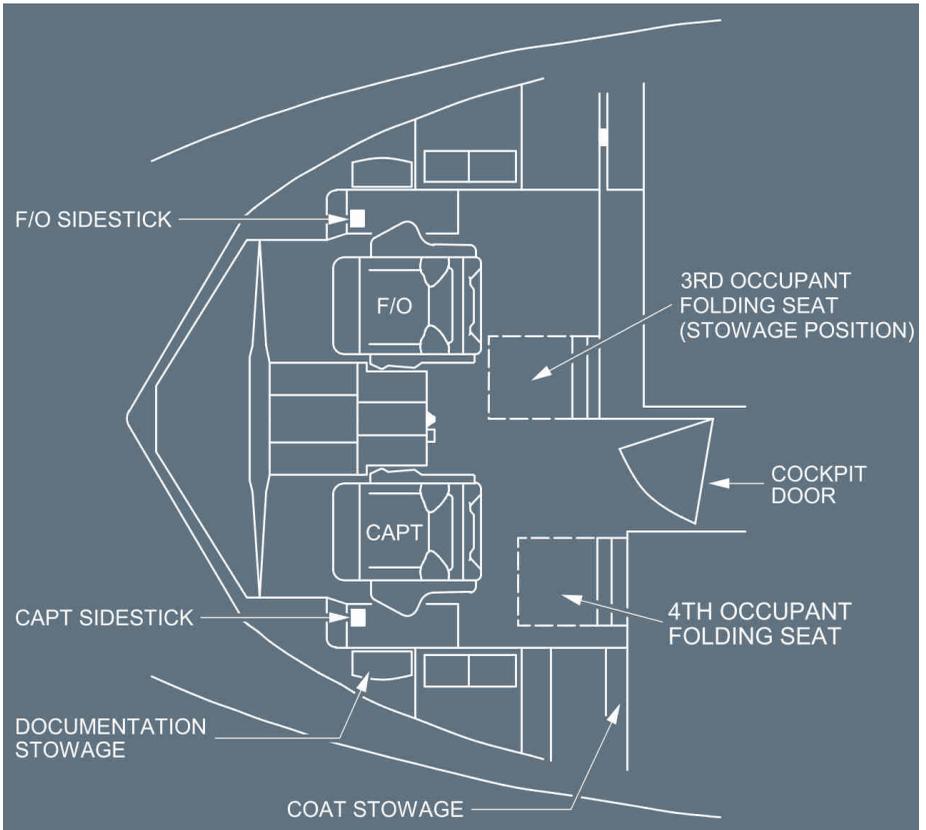
Ident.: DSC-25-10-20-00000985.0002001 / 22 MAY 12

Applicable to: ALL

The cockpit can accommodate two crewmembers, plus a third and fourth occupant.

The two pilot seats are mounted on columns.

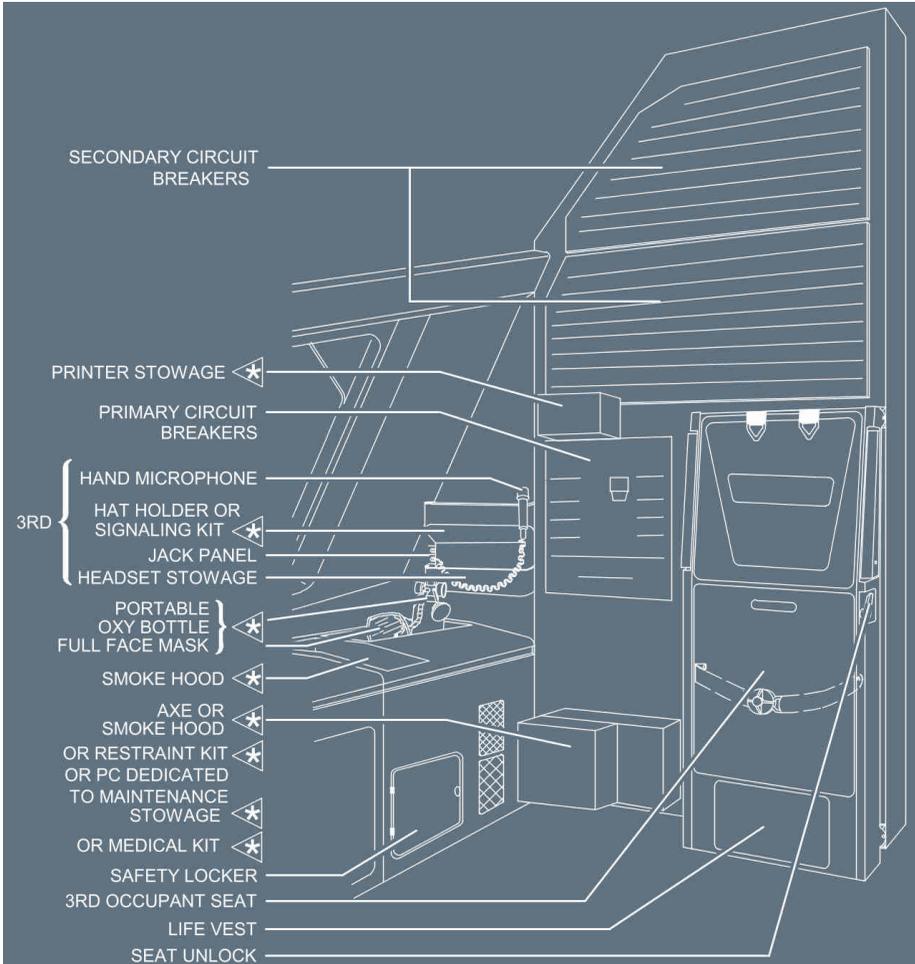
The third and fourth occupant seats are folding seats.



RIGHT REAR CORNER

Ident.: DSC-25-10-20-00000986.0001001 / 09 OCT 12

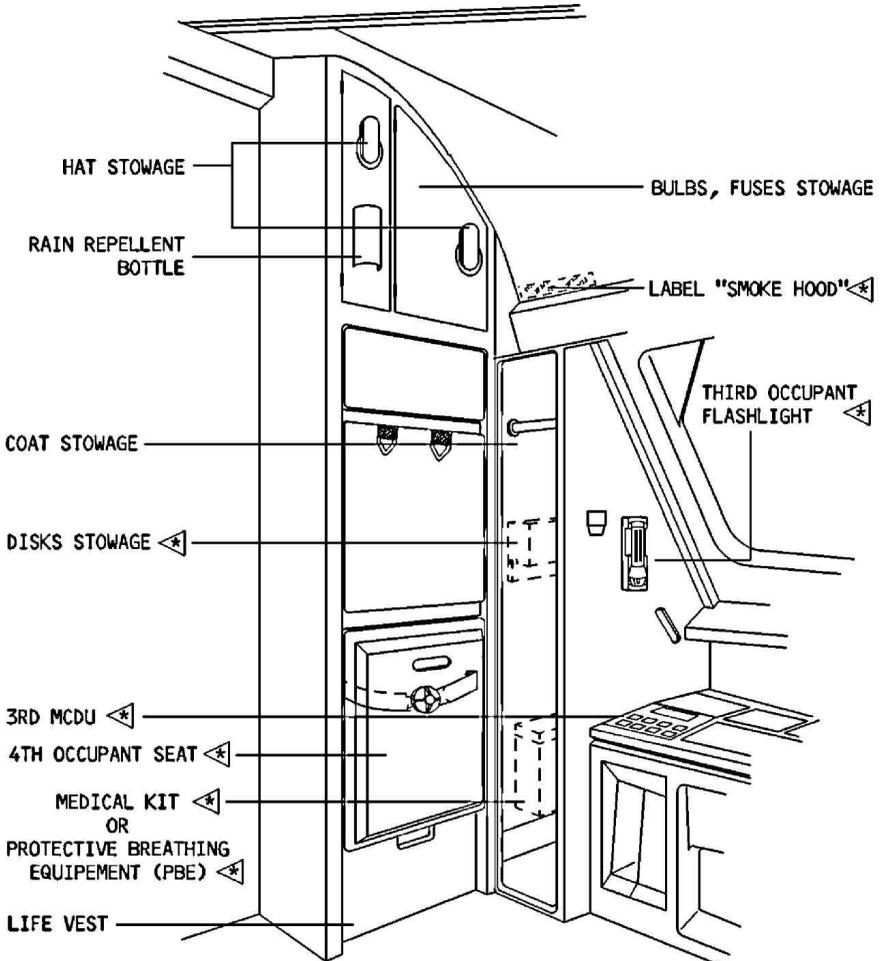
Applicable to: ALL



LEFT REAR CORNER

Ident.: DSC-25-10-20-00000987.0001001 / 10 DEC 09

Applicable to: ALL



AIRCRAFT SYSTEMS

EQUIPMENT

FLIGHT DECK - COCKPIT PLAN

A318/A319/A320/A321

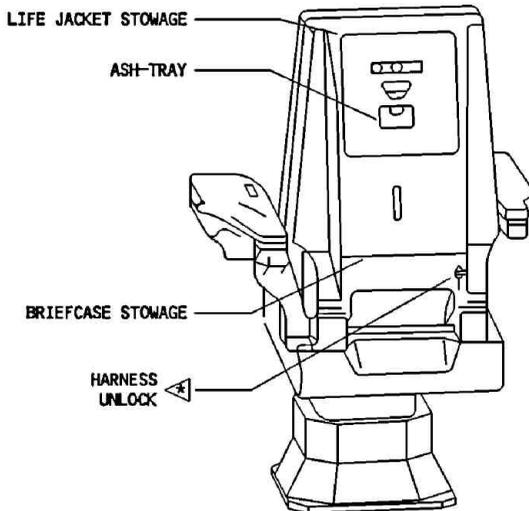
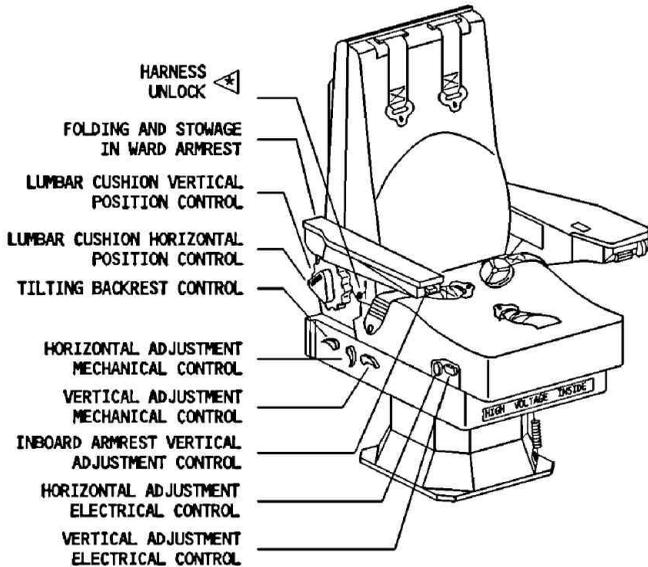
FLIGHT CREW
OPERATING MANUAL

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PILOT SEATS

Ident.: DSC-25-10-30-00000988.0002001 / 10 DEC 09

Applicable to: ALL



PILOT SEAT MECHANICAL ADJUSTMENT

Ident.: DSC-25-10-30-00000989.0001001 / 14 FEB 11

Applicable to: ALL

To adjust a seat mechanically, the occupant must lift the appropriate control handle. This unlocks the seat so that it may be moved. Releasing the control handle returns it to springloaded locked position. On electrically-powered seats  , the mechanical adjustment is a backup : The seat should be adjusted electrically.

PILOT SEAT ELECTRICAL ADJUSTMENT (IF INSTALLED)

Ident.: DSC-25-10-30-00000990.0001001 / 14 FEB 11

Applicable to: ALL

To adjust a seat electrically, the occupant must press the appropriate control switch in the desired direction, and release it when the seat reaches the desired position. The switch then returns to the springloaded neutral position.

To adjust the vertical position of the lumbar cushion, the occupant must :

- Pull the control out to the unlocked position,
- Turn the control to adjust the position of the cushion, and
- Push the control into the locked position.

HEADREST ADJUSTMENT (IF INSTALLED)

Ident.: DSC-25-10-30-00000992.0001001 / 14 FEB 11

Applicable to: ALL

To adjust the headrest in inclination, the occupant presses the inclination control button, and releases it to lock the position.

To control the height of the headrest, the occupant must push it horizontally, adjust the height, and release it to lock the position.

ARMREST ADJUSTMENT

Ident.: DSC-25-10-30-00000993.0001001 / 10 DEC 09

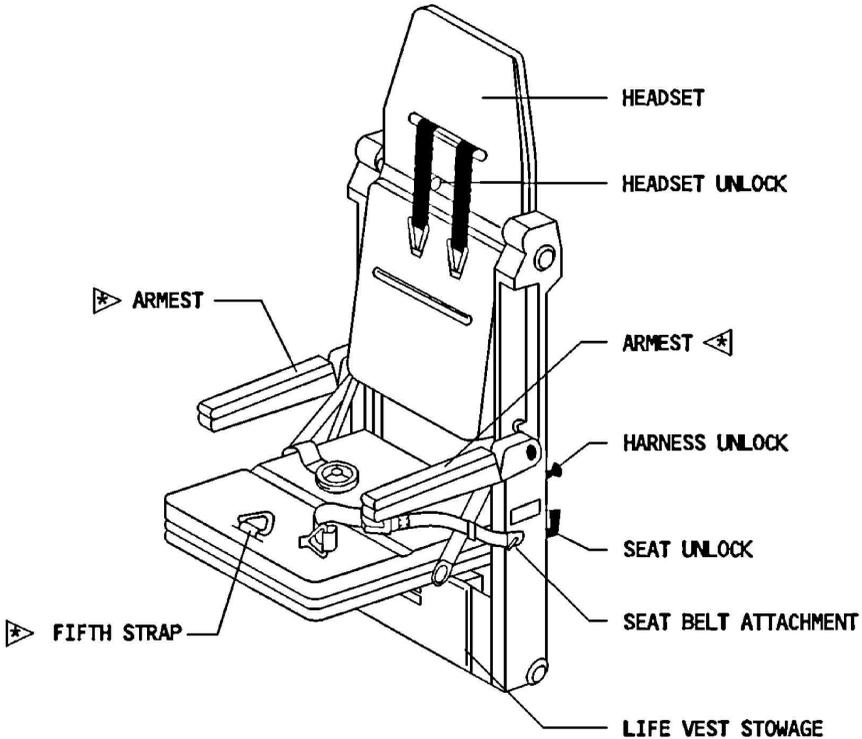
Applicable to: ALL

To adjust the inboard armrest, the occupant must turn the knurled knob, located on the bottom surface of the armrest.

OBSERVER SEAT

Ident.: DSC-25-10-30-00000994.0001001 / 10 DEC 09

Applicable to: ALL



OBSERVER SEAT ADJUSTMENT

Ident.: DSC-25-10-30-00000995.0001001 / 14 FEB 11

Applicable to: ALL

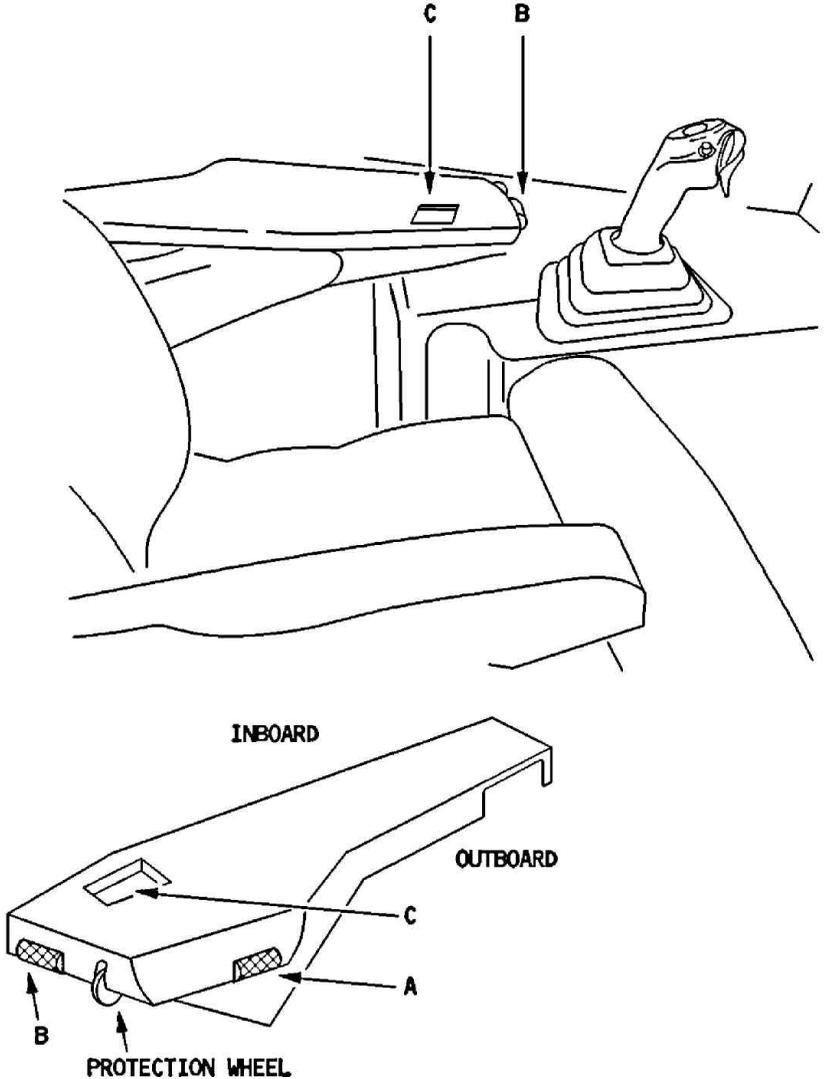
This seat has three positions :

- Normal : Centered on aircraft axis.
- Intermediate : Clear of the cockpit entrance.
- Stowed : Seat vertical and headrest folded back. The seat is usable in this position, and does not impede access to the documents and equipment on the right side of the cockpit.

ARM REST

Ident.: DSC-25-10-30-00000997.0001001 / 14 FEB 11

Applicable to: ALL



The position of the arm rest is adjustable as follows:

- A. Height adjustment
- B. Pitch adjustment

The armrest also has a memory display (C) that shows pitch and height.

GENERAL

Ident.: DSC-25-10-40-00000998.0001001 / 10 DEC 09

Applicable to: ALL

The cockpit has fixed and sliding windows.

FIXED WINDOWS

Ident.: DSC-25-10-40-00000999.0001001 / 10 DEC 09

Applicable to: ALL

There are four fixed windows :

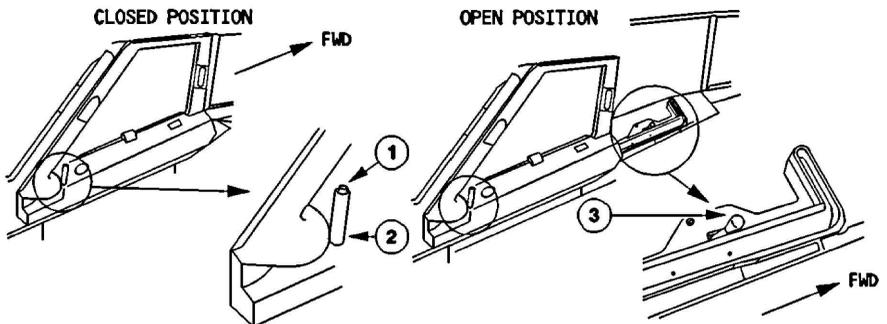
- two windshields
- two fixed side windows

SLIDING WINDOWS

Ident.: DSC-25-10-40-00001000.0001001 / 10 DEC 09

Applicable to: ALL

The flight crew can use the sliding windows as emergency exits. Therefore they are not permitted to stow any object so that it protrudes into the window area from the side console. Members of the flight crew can use the control handle to slide each of the windows rearward, and can use a locking pin to lock each window open.



- (1) Unlocking button
 Flight crew presses this button to unlock the control handle.
- (2) Control handle
 - To open the window, the crew member pulls inward and rearward.
 - To close the window, the crew member pushes forward.

(3) Locking pin

This pin locks the window open.

It is near the window's lower guide track and is visible when the window is open.

- Forward

Between the closed position and the one-third open position, the window is free to move forward and aft.

When the window is more than one-third open, this pin prevents it from moving forward.

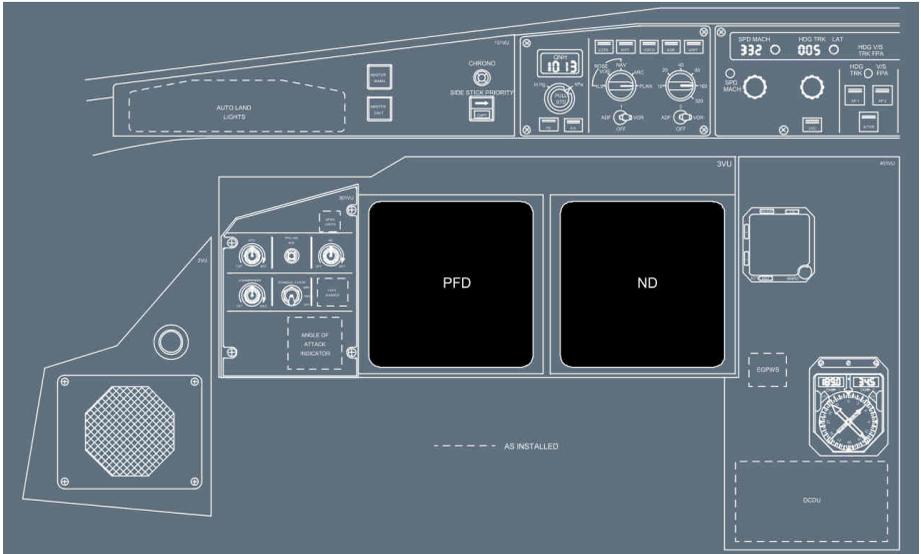
- Aft

Flight crew must move the locking pin aft in order to close the window. Left sliding window.

PILOT'S INSTRUMENT PANELS - CAPTAIN SIDE

Ident.: DSC-25-10-50-00012707.0004001 / 14 FEB 11

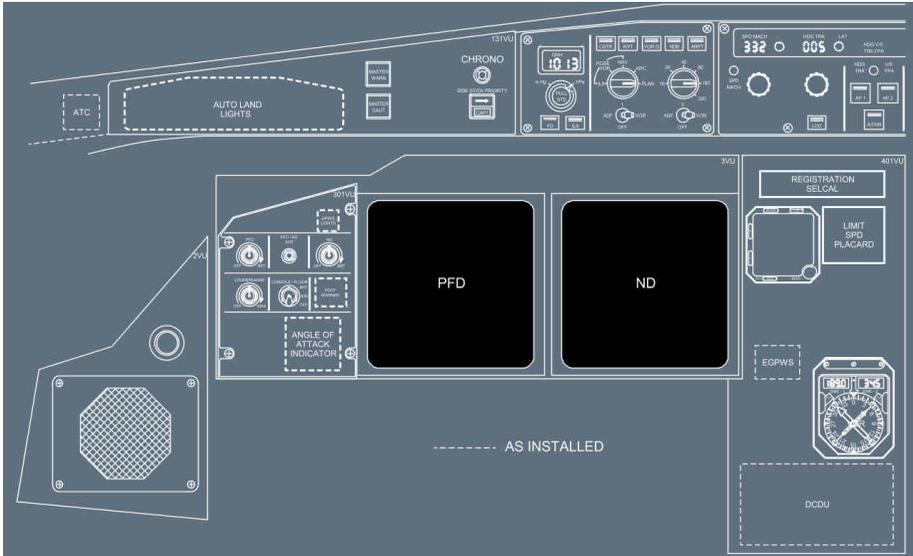
Applicable to: MSN 2649-2953



PILOT'S INSTRUMENT PANELS - CAPTAIN SIDE

Ident.: DSC-25-10-50-00012707.0010001 / 14 FEB 11

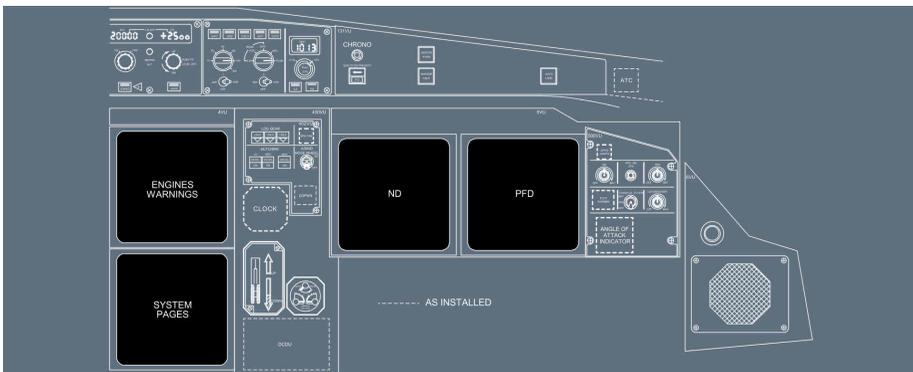
Applicable to: MSN 3428-5367



PILOT'S INSTRUMENT PANELS - FIRST OFFICER SIDE

Ident.: DSC-25-10-50-00012708.0003001 / 14 FEB 11

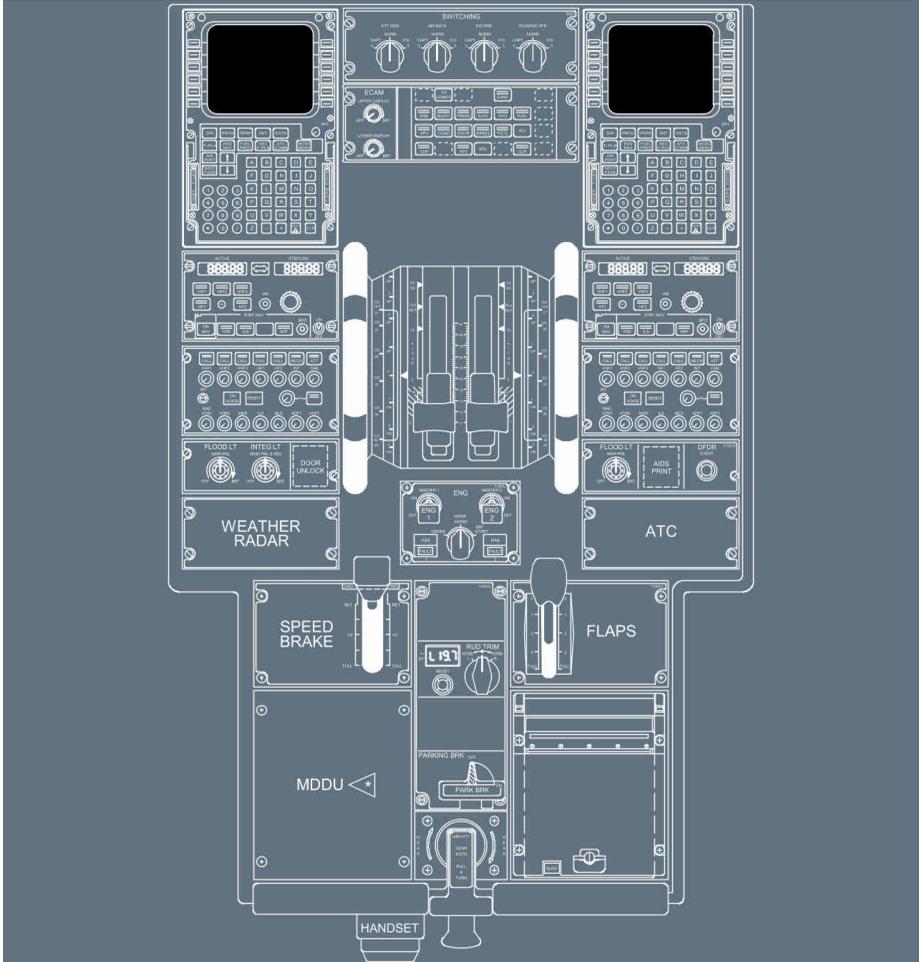
Applicable to: ALL



PEDESTAL

Ident.: DSC-25-10-60-00001002.0004001 / 09 OCT 12

Applicable to: ALL

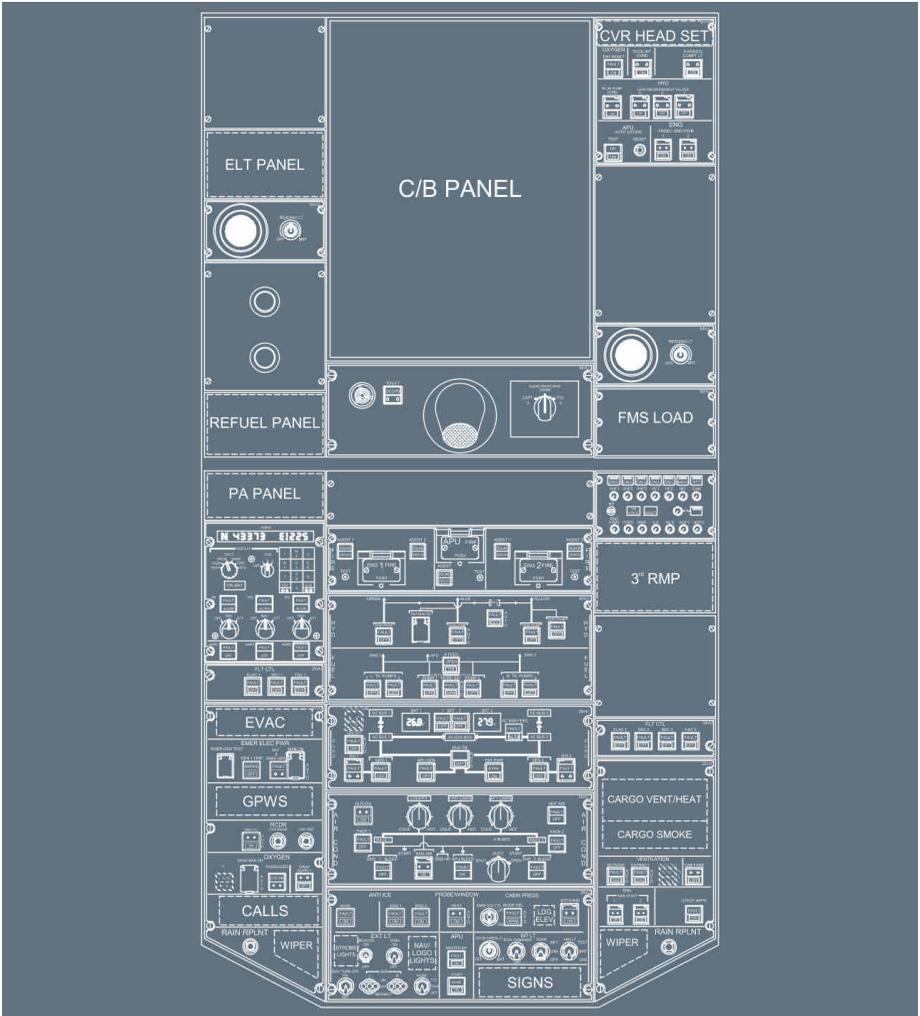


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OVERHEAD PANEL

Ident.: DSC-25-10-70-00001003.0012001 / 22 MAY 12

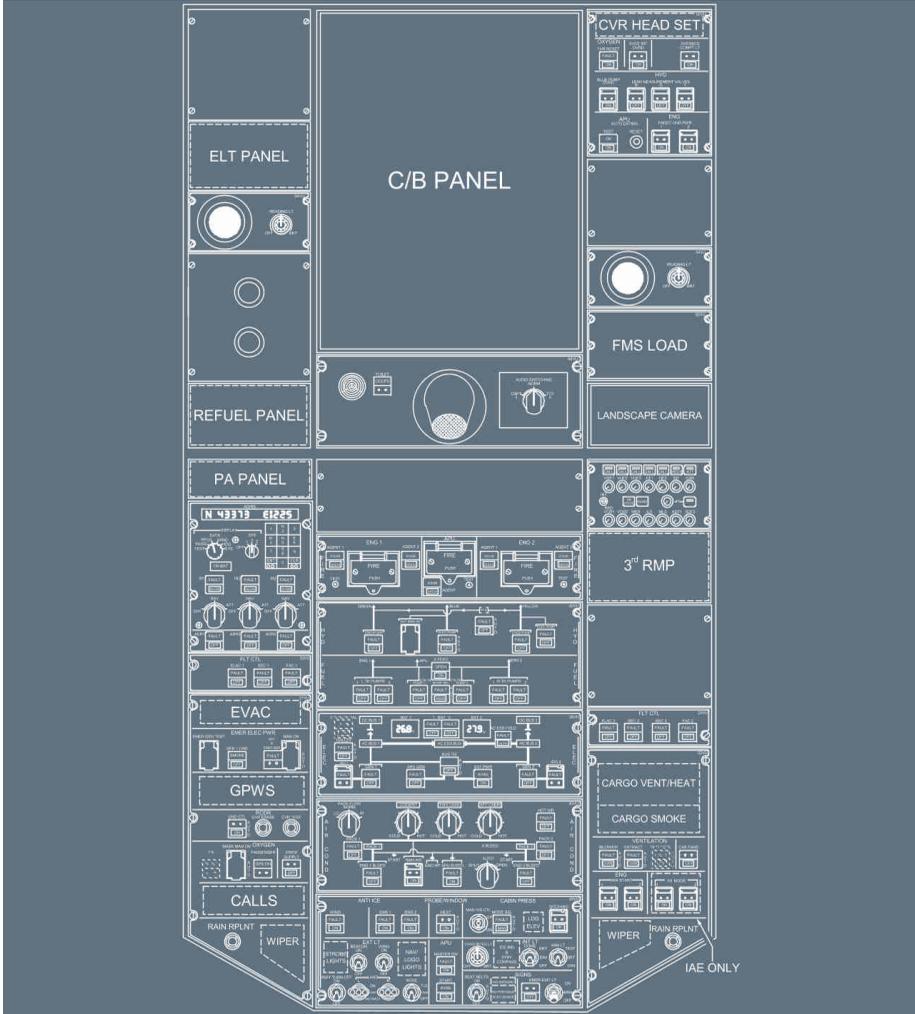
Applicable to: MSN 3803-3832



OVERHEAD PANEL

Ident.: DSC-25-10-70-00001003.0010001 / 22 MAY 12

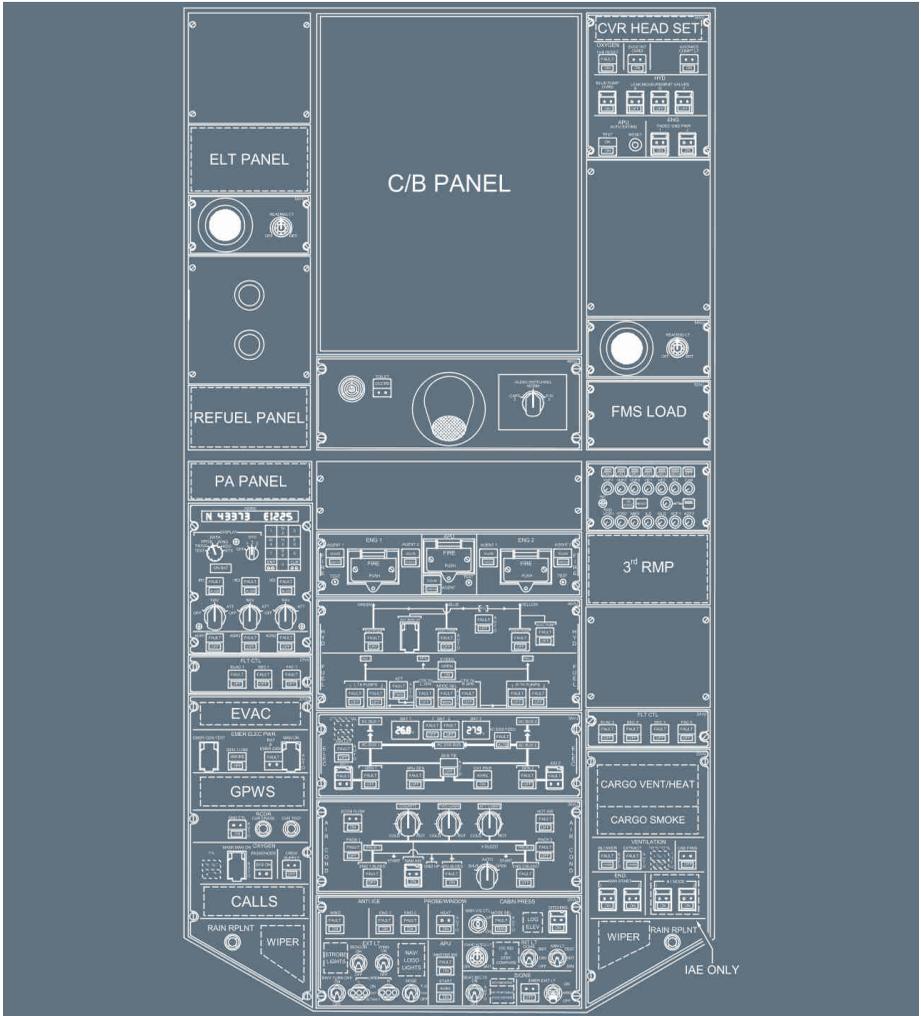
Applicable to: MSN 2649-3428, 3685, 4670-4853, 5128, 5367



OVERHEAD PANEL

Ident.: DSC-25-10-70-00001003.0008001 / 22 MAY 12

Applicable to: MSN 3522, 5099, 5177



AIRCRAFT SYSTEMS

EQUIPMENT

FLIGHT DECK - OVERHEAD PANEL

A318/A319/A320/A321

FLIGHT CREW
OPERATING MANUAL

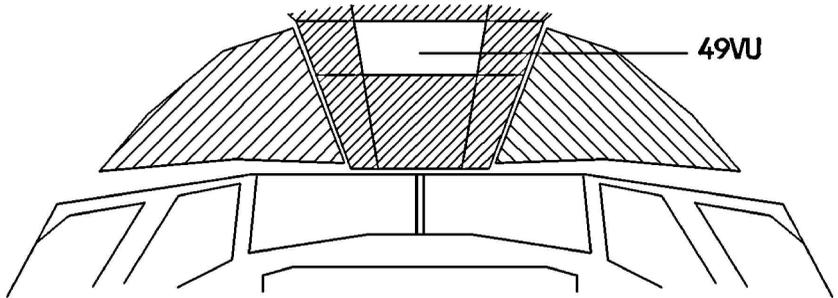
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C/B PANELS

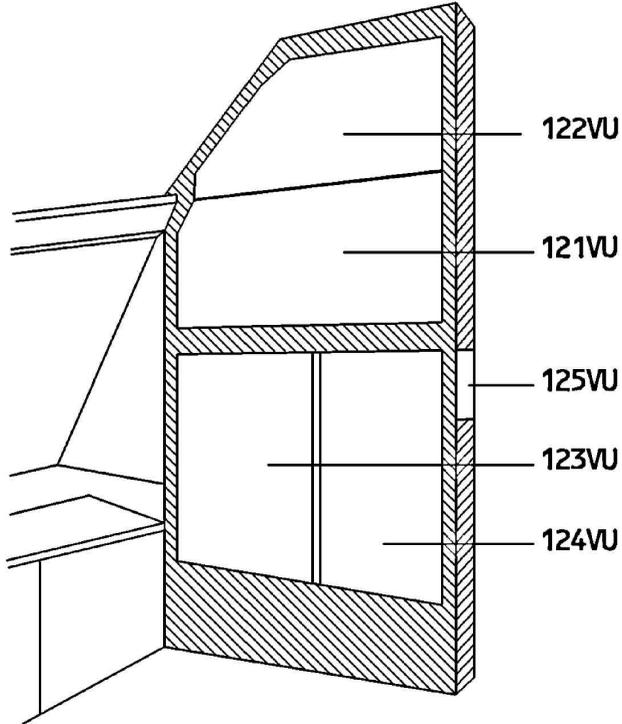
Ident.: DSC-25-10-80-00001004.0001001 / 10 DEC 09

Applicable to: ALL

OVERHEAD PANEL



RIGHT REAR PANEL



AIRCRAFT SYSTEMS

EQUIPMENT

FLIGHT DECK - ELECTRICAL SUPPLY

BUS EQUIPMENT LIST

Ident.: DSC-25-10-100-00001013.0001001 / 14 FEB 11

Applicable to: ALL

	NORM			EMER ELEC		
	AC	DC	DC BAT	AC ESS	DC ESS	HOT
CAPTAIN SEAT motors 	AC1					
F/O SEAT motors 	AC2					
FOOT WARMERS 	AC2					

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COCKPIT DOOR DESCRIPTION

Ident.: DSC-25-11-10-00001006.0001001 / 09 OCT 12

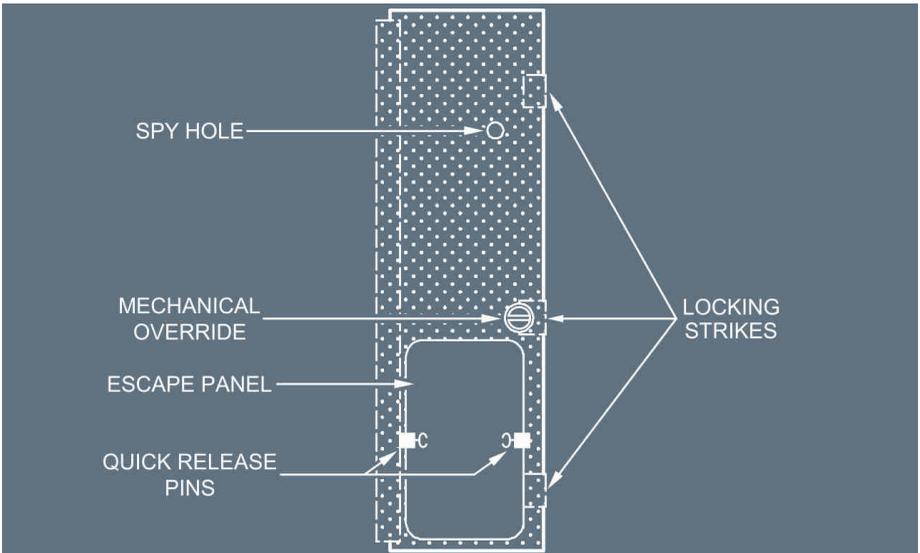
Applicable to: MSN 2649-3685, 4670-5367

A forward-opening hinge door separates the cockpit from the passenger compartment. It has three electric locking strikes, controlled by the flight crew. In normal conditions, when the door is closed, they remain locked. When there is a request to enter the cockpit, the flight crew can authorize entry by unlocking the door, that remains closed until it is pushed open.

When the flight crew does not respond to requests for entry, the door can also be unlocked by the cabin crew, by entering a two to seven-digit code (programmed by the airline) on the keypad, installed on the lateral side of the Forward Attendant Panel (FAP).

The door is bulletproof and fully compliant with rapid decompression requirements.

A mechanical override enables the flight crew to open the door from the cockpit side.



- Note:**
1. The escape panel enables the flight crew to evacuate the cockpit, in case of an emergency when the door is jammed. This panel can only be removed from the cockpit side by pulling the quick release pins towards the center of the flap and kicking the panel open.
 2. In case of an electrical supply failure, the door is automatically unlocked, but remains closed.

COCKPIT DOOR DESCRIPTION

Ident.: DSC-25-11-10-00001006.0003001 / 09 OCT 12

Applicable to: MSN 3803-3832

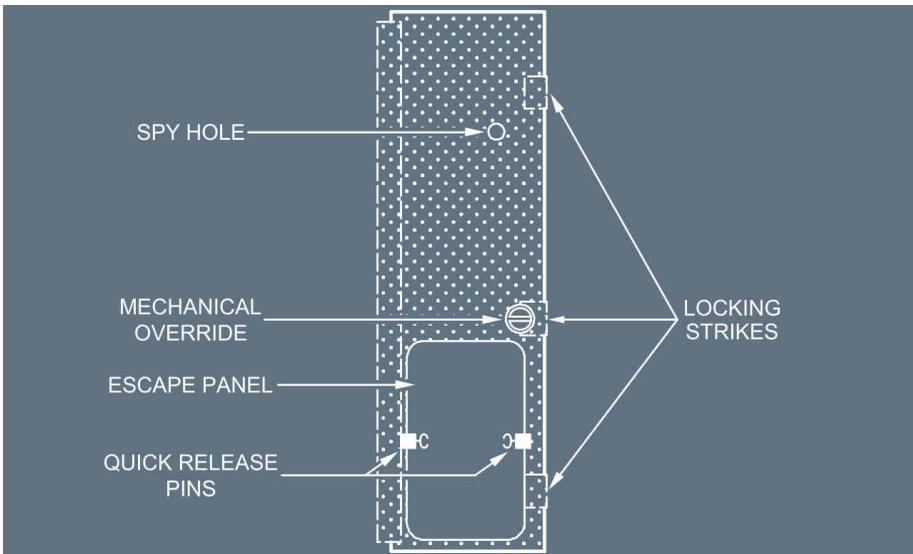
A forward-opening hinge door separates the cockpit from the passenger compartment. It has three electric locking strikes, controlled by the flight crew. In normal conditions, when the door is closed, they remain locked. When there is a request to enter the cockpit, the flight crew can authorize entry by unlocking the door, that remains closed until it is pushed open.

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The door is bulletproof and fully compliant with rapid decompression requirements.

A mechanical override enables the flight crew to open the door from the cockpit side.

A deadbolt is installed at the level of the center latch area of the cockpit door. This deadbolt bolts the door from the cockpit side, in the event that more than one locking latch strike fails, or in the case of a total CLS failure.



- Note:
1. The escape panel enables the flight crew to evacuate the cockpit, in case of an emergency, when the door is jammed. This panel can only be removed from the cockpit side by pulling the quick release pins towards the center of the flap and kicking the panel open.
 2. In case of an electrical supply failure, the door is automatically unlocked, but remains closed.

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AIRCRAFT SYSTEMS

EQUIPMENT

COCKPIT DOOR SECURITY SYSTEM -
 COCKPIT DOOR LOCKING SYSTEM (CDLS)

COCKPIT DOOR LOCKING SYSTEM (CDLS)

Ident.: DSC-25-11-20-00001007.0001001 / 10 DEC 09

Applicable to: ALL

The Cockpit Door Locking System (CDLS) provides a means of electrically locking and unlocking the cockpit door. This system is mainly composed of :

- A keypad, located in the forward cabin, near the cockpit door,
- A toggle switch, located in the center pedestal's Cockpit Door panel,
- A control unit and its CKPT DOOR CONT normal panel, located on the overhead panel,
- A buzzer.

The keypad enables the cabin crew to request access to the cockpit. There are two different access request types : "Routine" and "Emergency" access request (*Refer to PRO-SUP-25 Cockpit Door Operation - General*).

The toggle switch enables the flight crew to lock or unlock the cockpit door, following an access request, thereby allowing or denying the entry to the cockpit.

The cockpit door control unit is the system controller, in charge of :

- Locking or unlocking the door latches, upon flight crew action.
- Unlocking the door, in case of cockpit decompression (the door then opens towards the cockpit under differential pressure).
- Indicating system failures of electrical latches and pressure sensors.
- Activating the access request buzzer and turning on the keypad LEDs.

The buzzer sounds in the cockpit for 1 to 9 s to indicate that a routine access request has been made, or sounds continuously if an emergency access procedure has been initiated.

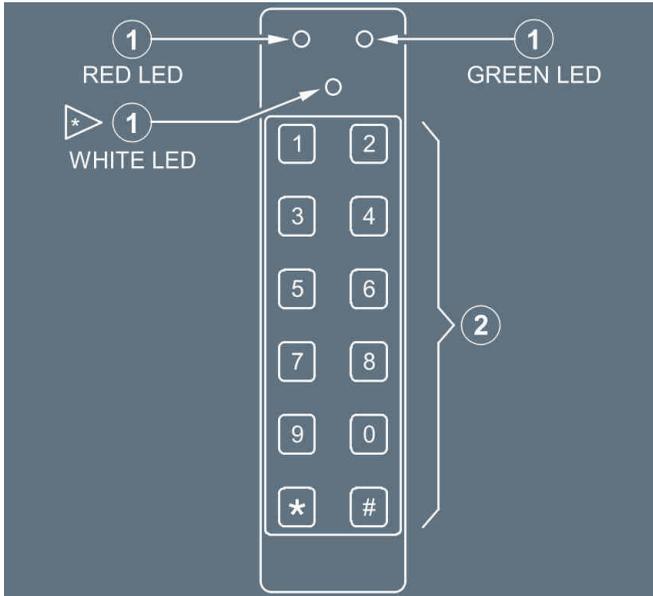
CONTROLS

Applicable to: ALL

Ident.: DSC-25-11-20-A-00001008.0001001 / 09 OCT 12

KEYPAD

The keypad is used by the cabin crew to request pilots to open the door (*Refer to PRO-SUP-25 Cockpit Door Operation - General*).



(1) Locked/Unlocked Door Indicator

- GREEN light ON : The door has been unlocked either by a flight crew action, or automatically (during 5 s) when no flight crew action is performed during the delay following an emergency access request. The door can be pushed open.
- GREEN light flashes : An emergency request to enter the cockpit has been made; the buzzer will sound continuously in the cockpit, but no action has yet been taken by the flight crew.
- RED light ON : The flight crew has denied access, and the door remains locked.
- WHITE light ON  : The light comes on each time the cabin crew presses a key on the keypad.

(2) Digital Keypad

The keypad is used to sound the buzzer in the cockpit for 1 to 9 s (3 s by default), by entering a zero to seven-digit code, as programmed by the airline, followed by the '#' key. It is also used to enter the two to seven-digit emergency code, followed by the '#' key, when the flight crew does not respond.

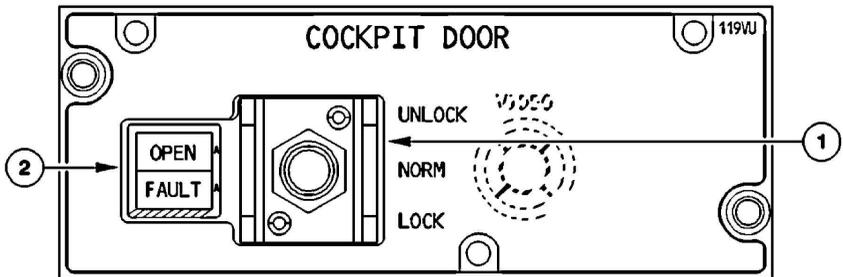
*Note: During the test performed by the cockpit door control unit, the CDLS keypad remains operational, and the CDLS operates as follows:
The control unit will store access codes that are entered, and the LOCKED/UNLOCKED DOOR INDICATOR (RED/GREEN LEDs) of the keypad will remain on, as long as the test is running.*

- *If the correct access code is entered on the keypad, the buzzer will not sound, until the test is completed.*
- *If the emergency access code is entered, the door will unlock. The cockpit buzzer and the LOCKED/UNLOCKED DOOR INDICATOR will be inoperative.*

Ident.: DSC-25-11-20-A-00001009.0001001 / 15 FEB 11

CENTRAL PEDESTAL COCKPIT DOOR PANEL

The secured cockpit door opening is controlled by a toggle switch, located on the central pedestal.



(1) COCKPIT DOOR toggle switch

- UNLOCK position** : This position is used to enable the cabin crewmember to open the door. The switch must be pulled and maintained in the unlock position until the door is pushed open.
- NORM position** : All latches are locked, and EMERGENCY access is possible for the cabin crew.
- LOCK position** : Once the button has been moved to this position, the door is locked ; emergency access, the buzzer, and the keypad are inhibited for a preselected time (5 to 20 min).

- Note:*
1. If the LOCK position has not been used by the pilot, for at least 5 to 20 min, the cabin crew is able to request emergency access to open the cockpit door.
 2. The UNLOCK position overrides and resets any previous selection.
 3. In case of an electrical supply failure, the cockpit door is automatically unlocked, but remains closed.

(2) COCKPIT DOOR Fault Open indicator

OPEN light ON : The door is not closed, or not locked.

OPEN light flashes : The cabin crew has started an emergency access procedure. If there is no reaction from the flight crew, the door will unlock at the end of the adjustable time delay (15 to 120 s).

FAULT : This light comes on when a system failure has been identified (Example : Latch, pressure sensors, control unit).
The inoperative item can be identified by checking the strike and pressure sensor status lights on the CKPT DOOR CONT panel.

Ident.: DSC-25-11-20-A-00001010.0001001 / 09 OCT 12

OVERHEAD CONTROL PANEL

The Cockpit Door Locking System's control panel is located on the overhead panel.



(1) Strikes' status lights

Off : The corresponding (upper, mid, or lower) locking latch is operative.

On : The corresponding (upper, mid, or lower) locking latch is faulty.

(2) Pressure sensor

Two redundant differential pressure sensors enable rapid pressure variation in the cockpit to be detected, in order to command simultaneous opening of all latches when a defined pressure drop is detected.

(3) Pressure sensor status lights

Off : The corresponding (1 or 2) pressure sensor is operative.

AIRCRAFT SYSTEMS

EQUIPMENT

COCKPIT DOOR SECURITY SYSTEM -
COCKPIT DOOR LOCKING SYSTEM (CDLS)

On : The corresponding (1 or 2) pressure sensor is faulty.

Note: *These indicators enable the crew to identify the faulty item, when the Central Pedestal Fault indicator light is ON.*

AIRCRAFT SYSTEMS

EQUIPMENT

A318/A319/A320/A321
FLIGHT CREW
OPERATING MANUAL

COCKPIT DOOR SECURITY SYSTEM -
COCKPIT DOOR LOCKING SYSTEM (CDLS)

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AIRCRAFT SYSTEMS**EQUIPMENT**COCKPIT DOOR SECURITY SYSTEM - COCKPIT
DOOR SURVEILLANCE SYSTEM (CDSS)**GENERAL**

Ident.: DSC-25-11-30-00001011.0001001 / 09 OCT 12

Applicable to: ALL

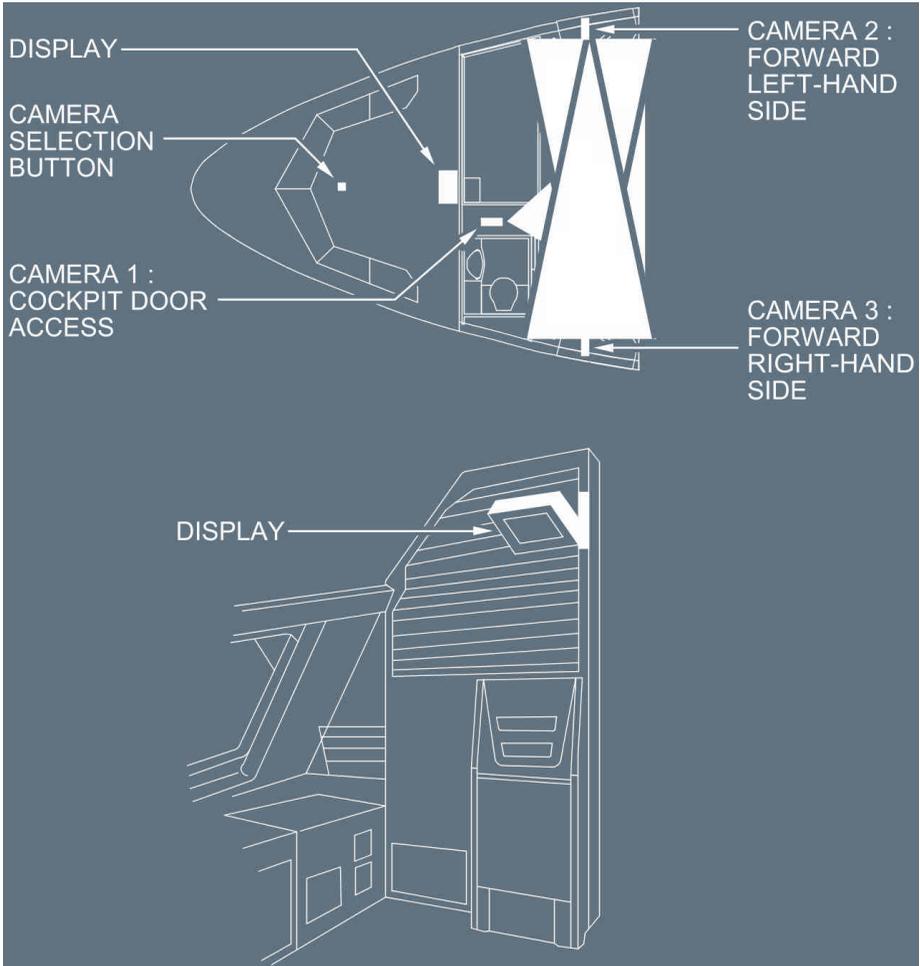
The Cockpit Door Surveillance system consists of three video cameras, which enable the flight crew to identify persons prior to authorizing their entry into the cockpit. An LCD display, located on the rear panel, shows the various camera views. It has automatic brightness adjustment and is activated by the Cockpit Door Video pb.

AIRCRAFT SYSTEMS

EQUIPMENT

A318/A319/A320/A321
FLIGHT CREW
OPERATING MANUAL

COCKPIT DOOR SECURITY SYSTEM - COCKPIT
DOOR SURVEILLANCE SYSTEM (CDSS)

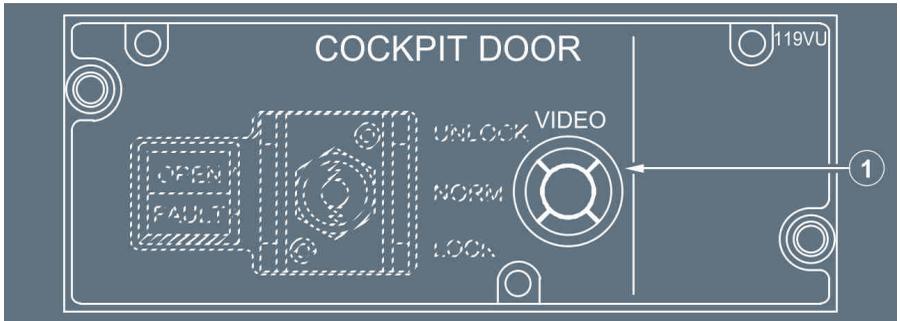


CONTROLS

Ident.: DSC-25-11-30-00001012.0002001 / 09 OCT 12

Applicable to: ALL

CENTRAL PEDESTAL



(1) Cockpit Door Video pb

Selects the various camera image displays.

- | | | |
|-----------------------|---|---|
| Camera 1 image | : | Displayed by pressing the pushbutton when the screen is on standby, or after Camera 2 and 3 images have been displayed. Automatically displayed, after an entry request is performed on the keypad. |
| Camera 2 and 3 images | : | Displayed on a split screen, when the pushbutton is pressed after Camera 1's image has been displayed. |
| Standby | : | If the pushbutton is maintained pressed for at least two seconds, or if no action has been taken for 5 min, the screen goes blank and remains on standby. |

***Note:** An entry request, performed on the keypad within 30 s following an earlier entry request, will not lead to the automatic selection of Camera 1, since the flight crew is given authority to select any desired camera image via the cockpit door video pb. After these 30 s, the system reverts to its normal operation.*

OVERHEAD PANEL



(1) Cockpit Door Video pb

OFF: The Cockpit Door Surveillance System is manually de-energized.

AIRCRAFT SYSTEMS
EQUIPMENT

COCKPIT DOOR SECURITY SYSTEM - ELECTRICAL SUPPLY

BUS EQUIPMENT LIST

Ident.: DSC-25-11-40-00001015.0001001 / 15 FEB 11

Applicable to: ALL

	NORM			EMER ELEC		
	AC	DC	DC BAT	AC ESS	DC ESS	HOT
COCKPIT DOOR LOCKING SYSTEM 		DC2				
COCKPIT DOOR LOCKING SYSTEM BACKUP 		DC1				
COCKPIT DOOR SURVEILLANCE SYSTEM 		DC1				

Intentionally left blank

AIRCRAFT SYSTEMS
EQUIPMENT

IN SEAT POWER SUPPLY SYSTEM - ELECTRICAL SUPPLY

BUS EQUIPMENT LIST

Ident.: DSC-25-15-30-00001016.0001001 / 16 MAR 11

Applicable to: ALL

	NORM			EMER ELEC		
	AC	DC	DC BAT	AC ESS	DC ESS	HOT
IN SEAT POWER SUPPLY ⚠	AC2					

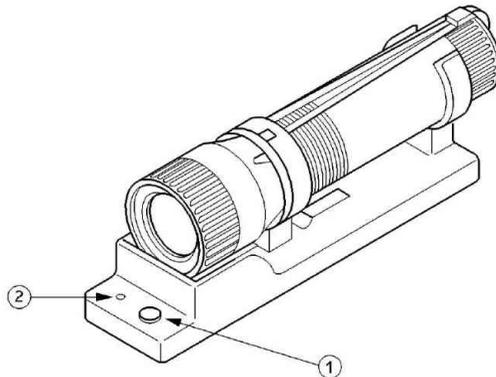
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FLASHLIGHTS

Ident.: DSC-25-30-00012706.0001001 / 15 NOV 10

Applicable to: MSN 3428-5367

Emergency flashlights are installed in a bracket at each lateral console.
Each flashlight comes on automatically when it is removed from its bracket.
A push-to-test button and its associated red/green LED indicate the battery status.



(1) Push-to-Test Button

Pressing this button indicates the battery status.

(2) Charge Indicator (LED)

When the Push-to-Test button is pressed:

- If the LED comes on in green (flashes green one time), the flashlight battery is charged
- If the LED comes on in red (flashes red one time), the battery is low, and should be changed
- If the LED does not come on, the flashlight system has a failure and must be repaired.

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Description

DESCRIPTION

Ident.: DSC-25-40-10-10-00013772.0001001 / 14 NOV 11

Applicable to: ALL

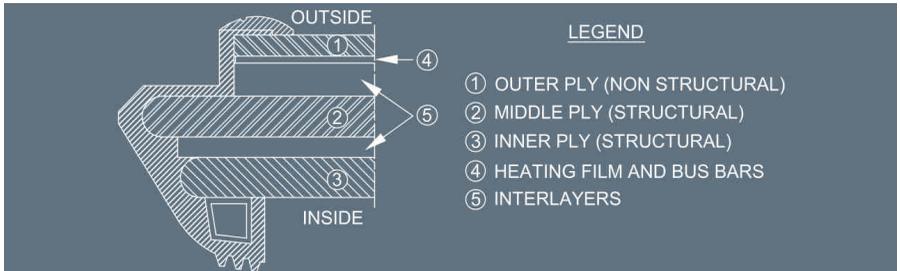
COCKPIT WINDSHIELD AND WINDOWS DESCRIPTION

All cockpit windows are fail-safe design.

The windows are made of:

- A non structural ply, the Outer ply (1), which is only a protective layer
- Two structural plies, the Middle ply (2) and the Inner ply (3)
 Each structural ply is able to sustain individually the pressurization loads
- A heating film (4) to defog and/or de-ice the windshield/window
- Two interlayers (5).

Typical Structure Of A Cockpit Window (Cut View)



For information on cockpit window damage procedure, description and evaluation method, Refer to *PRO-ABN-80 COCKPIT WINDSHIELD/WINDOW CRACKED* and, Refer to *FCTM/AO-090 COCKPIT WINDSHIELD/WINDOW CRACKED*.

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