



SECTION 5 EMERGENCY INFORMATION

1. General

A. Figure 5-1 highlights the location of flammable or explosive components, equipment, and fluids, as well as the location of emergency equipment of the different interior arrangement configurations of the airplane. The following paragraphs provide a brief description of these items.

2. Fuel

A. On the EMB-135BJ the fuel is stored in the wing tanks, in the left/right under belly tanks and in the Left/Right Aft Internal Fuel Tank. On the airplanes provided with APU, the lines also extend to the tail cone. Total fuel capacity is 10114 liters (2672 U.S. Gal). The fuel used is jet fuel, specification CNP-08 (QAV1 or QAV4), ASTM D1655 (JET A or JET A1), or MIL-T-83133 (JP8).

3. Engine Oil

A. The oil used for engine lubrication is stored in an integral tank in each engine. The capacity of each tank is approximately 12.30 liters (13 U.S. qts) of which 7.46 liters (8 U.S. qts) is usable oil. The oil specification is MIL-L-7808K or MIL-L-23699D.

4. APU Oil

A. The oil used for APU lubrication is stored in an integral tank. The capacity of the tank is approximately 2.8 liters (3 U.S. qts). The oil specification is MIL-L-7808.

5. Wheels

A. The airplane landing gear wheels are made of forged aluminum alloy. Each main landing gear wheel is provided with fusible plugs, which deflate the tire if an overtemperature occurs.

6. Hydraulic Accumulators

A. The parking/emergency brake accumulator is pressurized to 1100 psi at 70°F (21°C) and is located at the left wing-to-fuselage attachment.

B. The nose landing gear doors and passenger door accumulator is pressurized to 1500 psi at 70°F (21°C) and is located in the hydraulic compartment, in the aircraft nose.

C. The specification of the nitrogen used is BB-411, type I, Class I, Grade B.

7. Hydraulic Reservoirs

A. Two hydraulic reservoirs of the bootstrap type are located one on each side of the rear wing-to-fuselage fairing. The hydraulic fluid is the fire-resistant SAE AS 1241A Type IV, phosphate ester-based hydraulic fluid (Skydrol 500B-4 or Skydrol LD-4).



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8. Oxygen Cylinder (Fixed)

- A. The flight-crew oxygen system is a high-pressure gaseous-type one, in which the oxygen is stored in a cylinder at high pressure (1850 psi) and distributed under low pressure to the flight crew masks. A quick-donning diluter/demand mask is available in each mask stowage box adjacent to each crew station.
- B. The crew oxygen supply is stored in a cylinder whose volume capacity is 50 cu.ft. The cylinder is installed on the right side of the cockpit/passenger partition and is provided with an integrated shutoff/regulator valve. The cylinder is protected from overpressurization by a safety disc set to rupture at 2770 psi at 21°C. Discharge through the safety disc may be visually verified from the outside, when the discharge indicator (green disc) has been blown out.

9. Portable Oxygen Cylinders

- A. One oxygen cylinder is positioned near the cabin attendant stations, to be used for first-aid therapeutic purposes only. The cylinder, specification DOT-3AA-1800, is equipped with freeflow masks and have a capacity of 11 cu.ft. (312 liters) when charged to 1800 psi at 21°C. The cylinder is provided with an ON-OFF regulator installed on the cylinder neck, which regulates the outlet pressure from 60 to 90 psi.

10. Protective Breathing Equipment

- A. The airplane is provided Protective Breathing Equipment (PBE) units, one installed in the cockpit and one in the passenger cabin. The PBE is an equipment for protection of the crew members against the effects of smoke, toxic gases, and hypoxia.

11. Batteries

- A. The airplane is equipped with two 24 V DC, 44 Ampere-hour, nickel-cadmium batteries to supply essential loads in the extreme case of an in-flight failure of all generators or if both engines are shut down. Battery 2 also provides electrical power for APU starting. The batteries are located in the battery compartment on the left side of the aircraft nose section.
- B. The airplane is also equipped with a 24 V DC, 5 Ampere-hour sealed lead-acid backup battery. The backup battery is located in the forward electronic compartment.

12. Emergency Free-Fall Landing Gear Extension

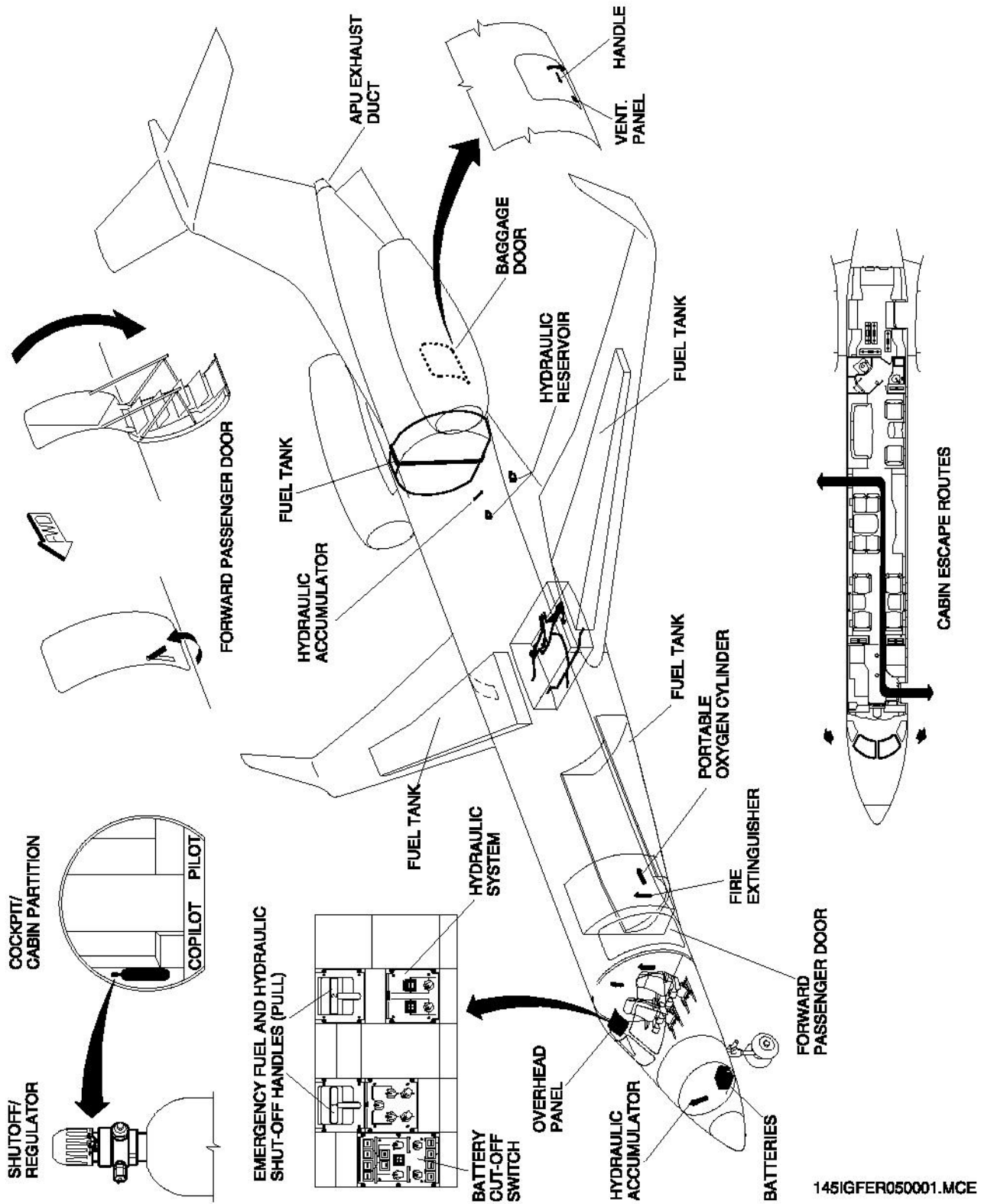
- A. The free-fall device is actuated through a lever located between the copilot's seat and the control pedestal. When pulled up, the lever mechanically actuates the free-fall selector valve and mechanically unlocks the three landing gear uplocks. The free-fall selector valve function is to cut the pressure line from the hydraulic system and connect the lines from the landing gear system to the return. With the lines depressurized and the uplocks deactivated, the gear legs fall by gravity until they reach the downlock devices. The free-fall lever remains locked in the vertical position, it being necessary to press a safety button on its top to return it to its normal position and restore the hydraulic operation, if required.



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13. Other Equipment

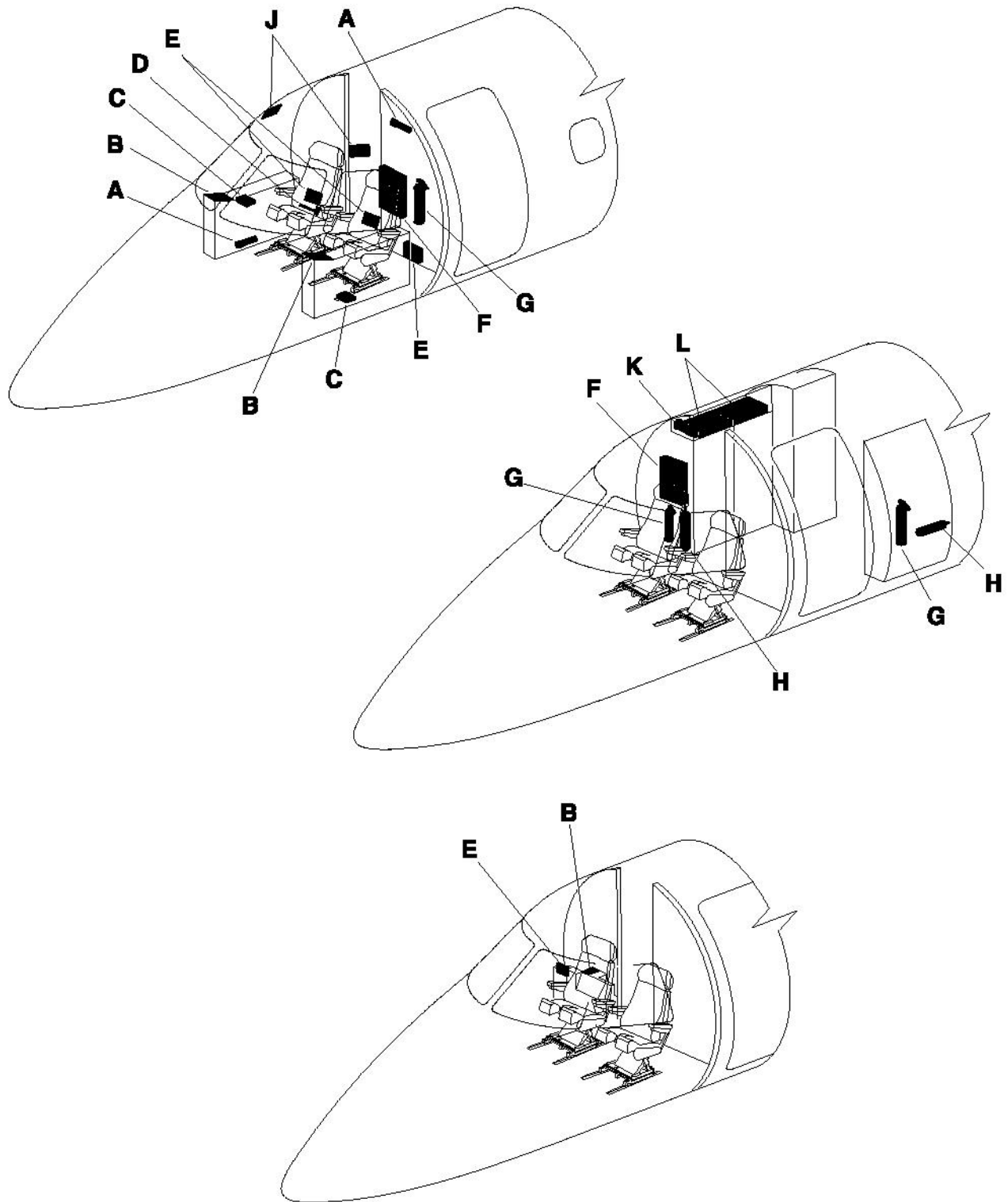
- A. The airplane is equipped with additional emergency equipment according to the local authorities' regulations. A typical set is composed of portable fire extinguishers, megaphone, first-aid kit, medical kit, hatchet, smoke goggles, and flashlights.



Emergency Equipment Location - Typical Locations

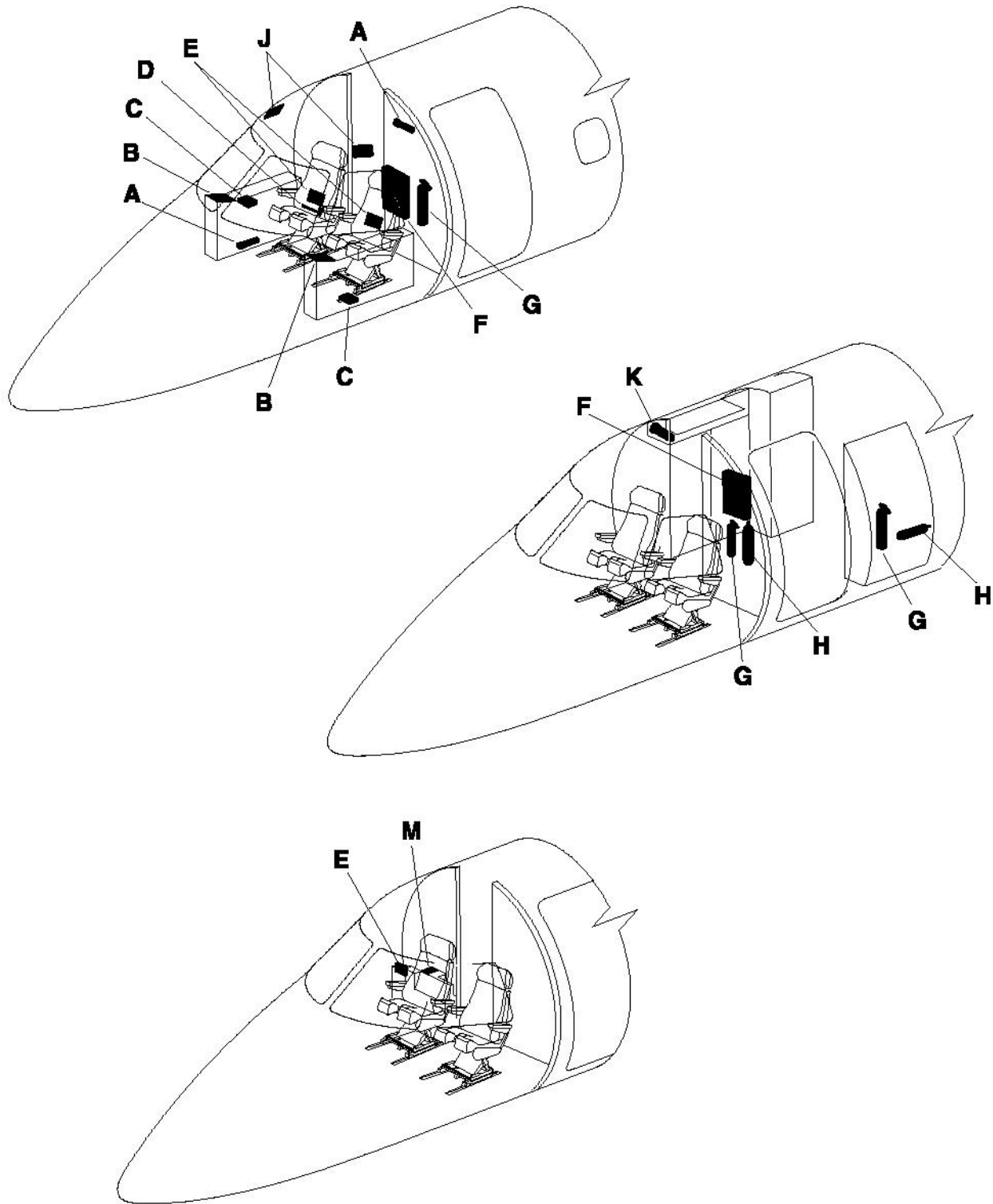
Figure 5-1

Sheet 1



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Emergency Equipment Location - Typical Locations
 Figure 5-1
 Sheet 2



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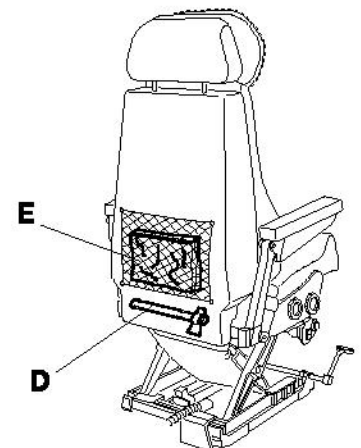
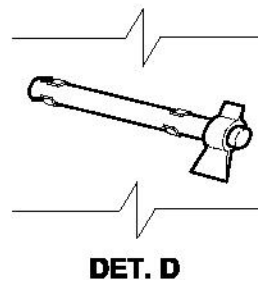
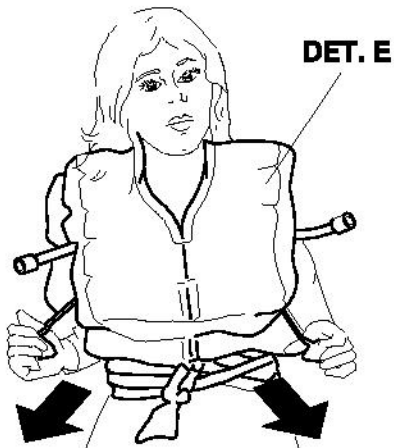
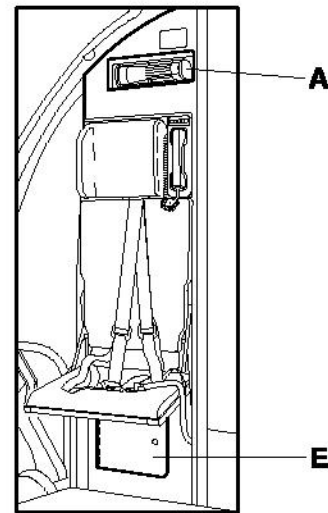
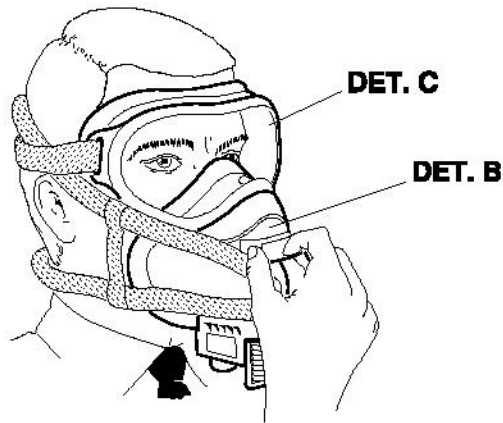
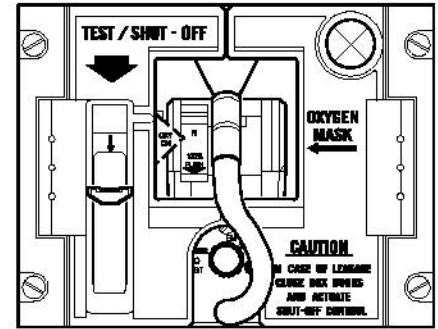
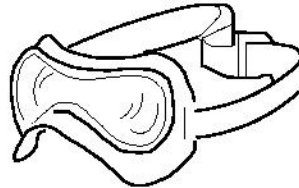
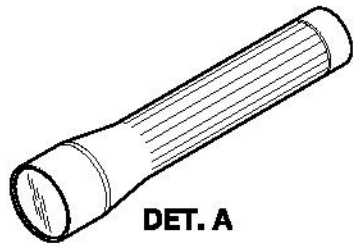
Emergency Equipment Location - Typical Locations

Figure 5-1

Sheet 3

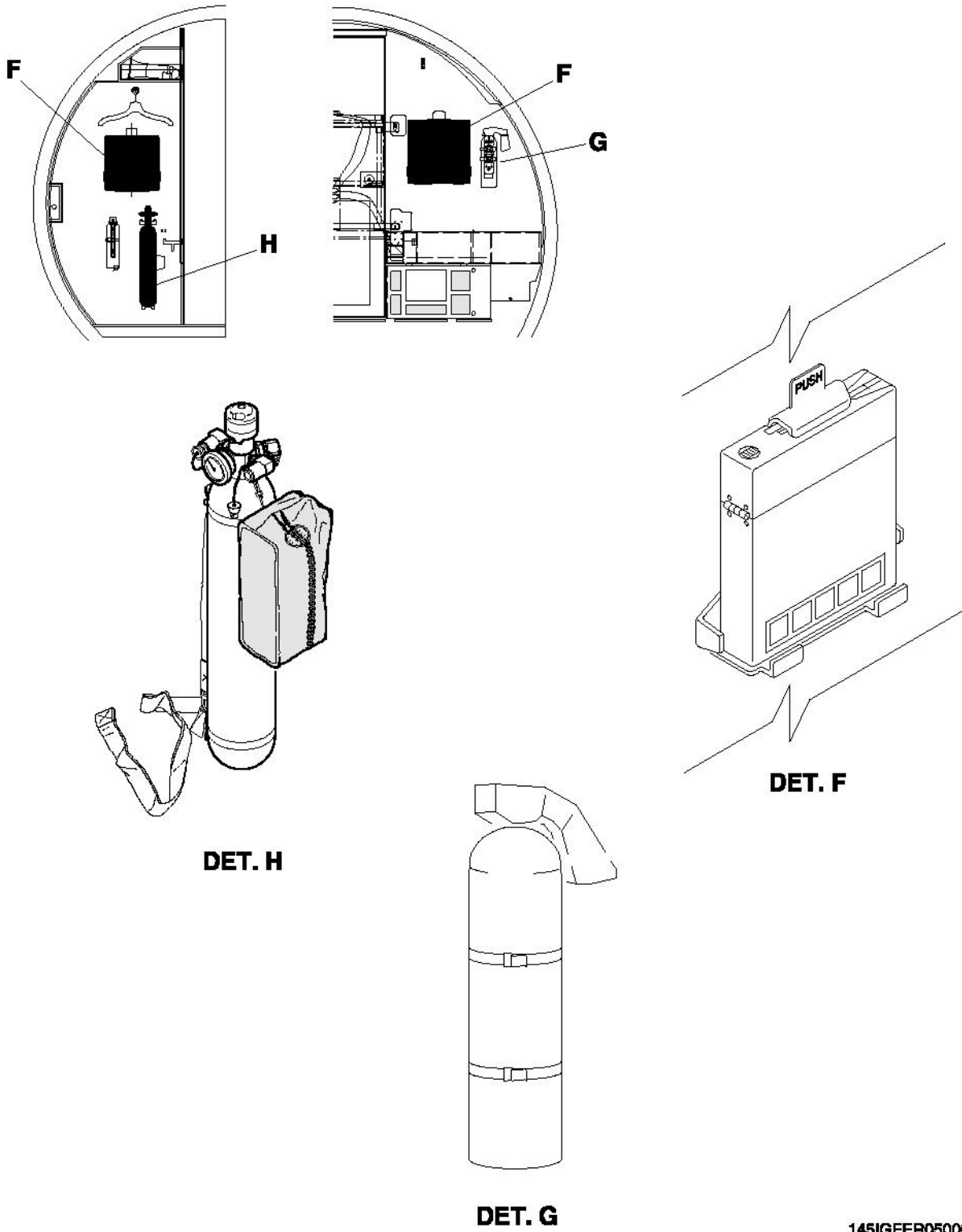


**INSTRUCTIONS FOR GROUND FIRE
EXTINGUISHING AND RESCUE**



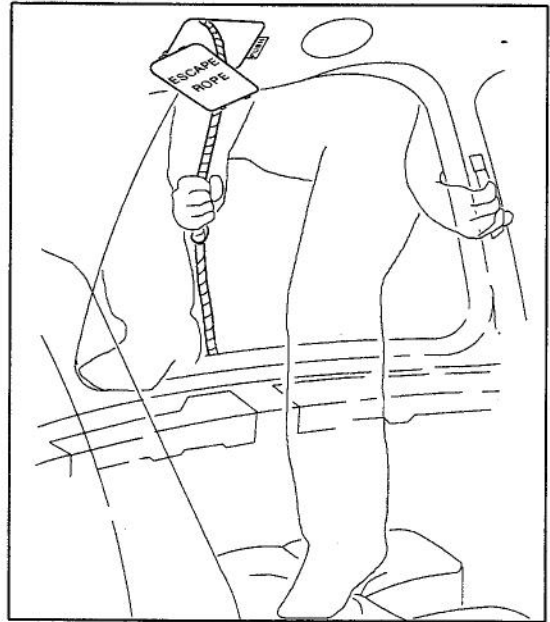
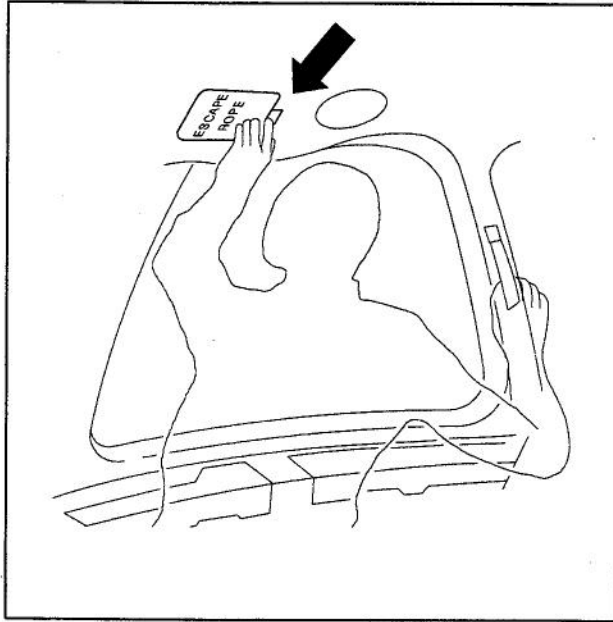
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Emergency Equipment Location
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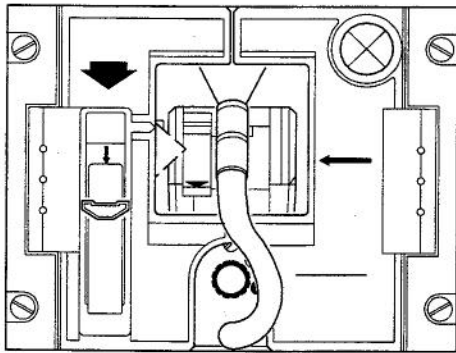


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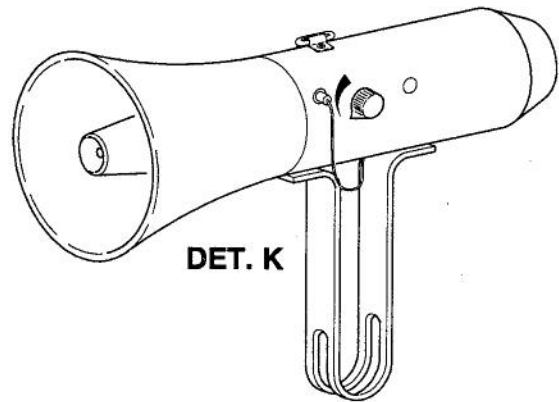
Emergency Equipment Location
Figure 5-1
Sheet 5



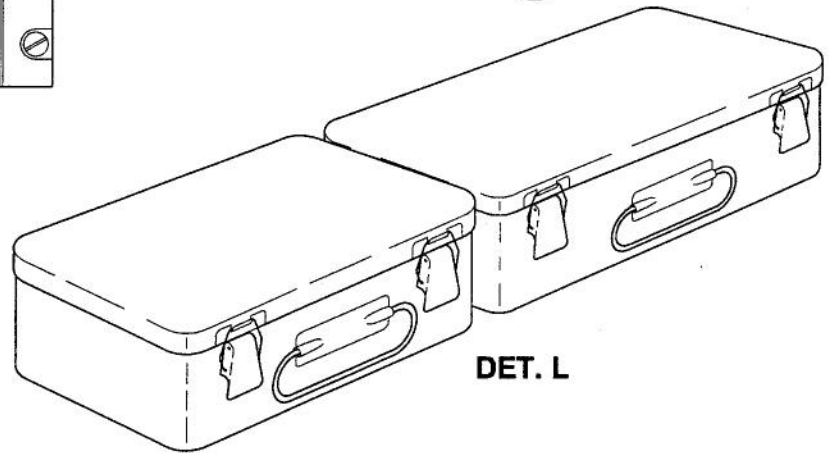
DET. J



DET. M



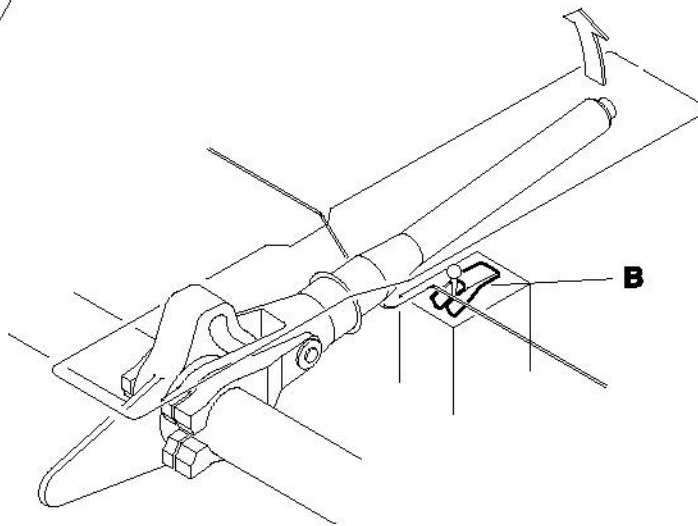
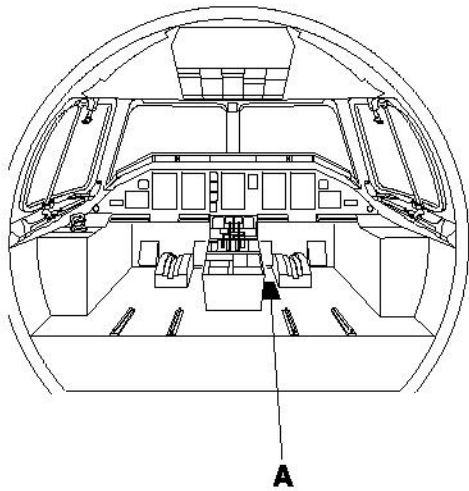
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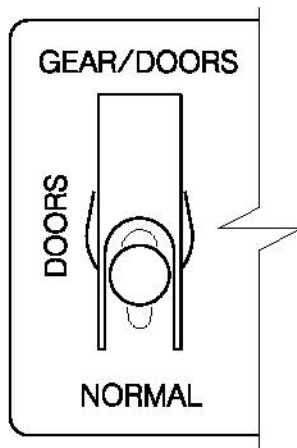
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Emergency Equipment Location
Figure 5-1
Sheet 6



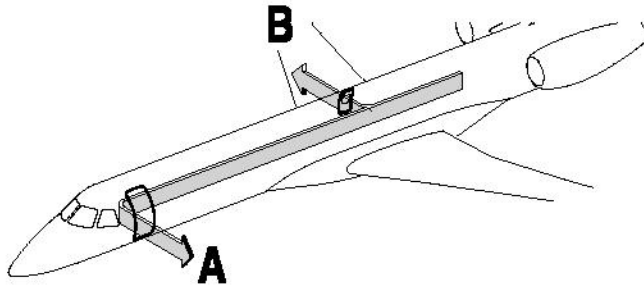
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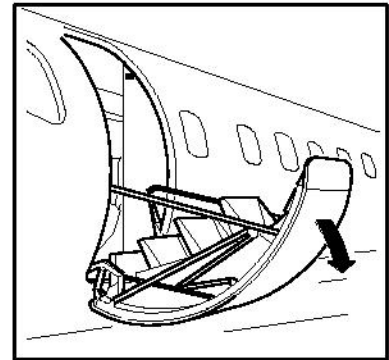
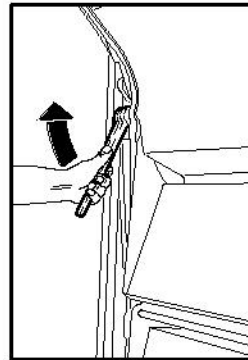
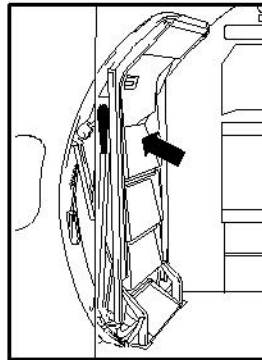
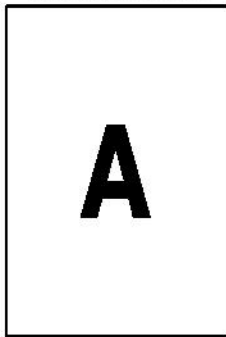
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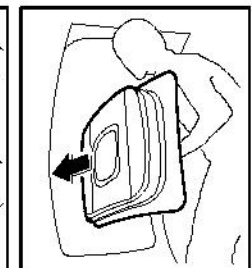
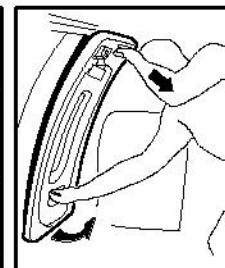
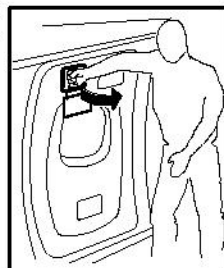
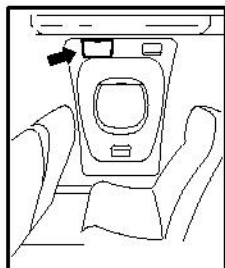
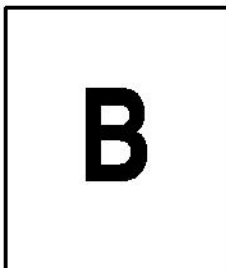
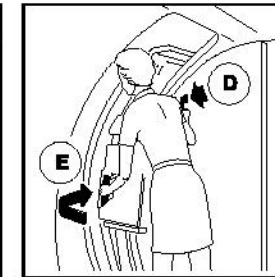
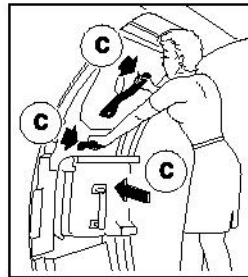
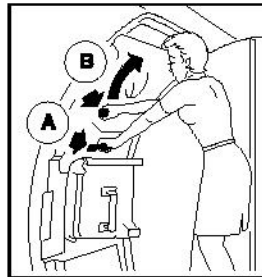
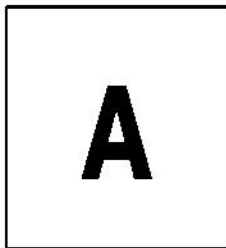
Landing Gear Free-fall Lever Compartment and Brakes OM
 Figure 5-2



AIRSTAIR DOOR:



JETWAY DOOR:



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Passenger Rescue
 Figure 5-3



**INSTRUCTIONS FOR GROUND FIRE
EXTINGUISHING AND RESCUE**

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SECTION 6 EMERGENCY EXIT AND DOOR OPERATION

1. General

A. The aircraft is equipped with escape hatches and emergency exits to assist in the evacuation of the airplane.

2. Cockpit Emergency Exits (Figure 6-1)

A. There are two crew emergency windows, of the plug-in type, placed laterally in the cockpit and openable from the inside. When the cabin is not pressurized, the crew is able to open the window by sliding it backward. With the additional action of unlocking a pin, the windows are removable, providing for cockpit evacuation by using escape ropes.

3. Overwing Emergency Exits (Figure 6-2)

A. The emergency exits are of the plug-in type and open inward to provide a clear opening 36 inches high and 20 inches wide.

B. The hatches are removable and latched by three latching pins actuated by a mechanism connected to an internally and externally operated handle, allowing them to be opened both from inside and from outside the fuselage.

4. Main Door (Figure 6-3)

A. The main door is located on the fore left side of the fuselage and may be of two types; airstair door and jetway door.

(1) Airstair Door

(a) The main door incorporates folding airstairs. The door is raised in normal operation by two hydraulic door actuators powered by hydraulic system 1 or by an accumulator with sufficient capacity for four complete operations of the door.

(b) The door may be controlled from the inside, through the entrance panel or from the outside, through the exterior main door control panel. The door may also be manually raised by an outside ground attendant. With the door in the raised position, it may be closed and locked by operation of either the inner or the outer handles. The door opening operation is manual. The hydraulic circuit provides a dumping function as the door is lowered, thus ensuring smooth operation.

(c) The door has a built-in airstair with retractable steps. In the open position, the door is supported by two retractable handrails.

(d) An alternative opening valve is provided in the cockpit to allow the main door to be lowered if it is blocked by the hydraulic system pressure (solenoid valve failure).

(2) Jetway Door

(a) The main door does not have handrails and stairs. This door will allow docking by air-



INSTRUCTIONS FOR GROUND FIRE EXTINGUISHING AND RESCUE

port fingers. With the door fully open, it stays beside the airplane letting the door place completely free to the airport finger.

- (b) The door may be opened from the inside or the outside and its opening movement is done to the airplane front side because there is a lateral hinge located in the airplane hull which makes this movement.
- (c) The system is full mechanical and the door can be manually operated from the inside and the outside. To open the door from the outside, it is necessary that the operator be on a stair or on a platform higher than the ground level.
- (d) The door movement is operated by internal and external handles and there is an assistance handle inside to facilitate the pulling movement to close it.

5. Cargo Door (Figure 6-4)

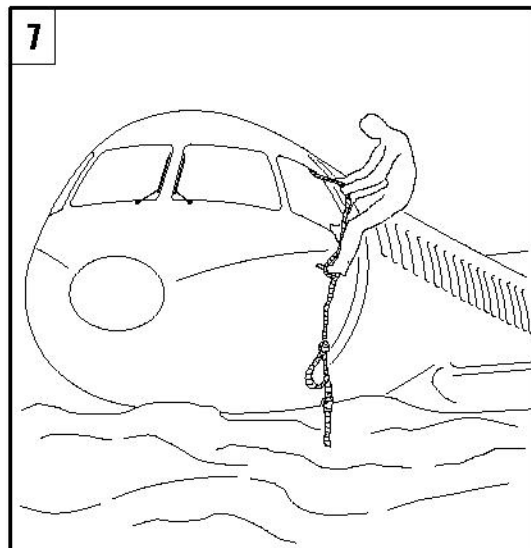
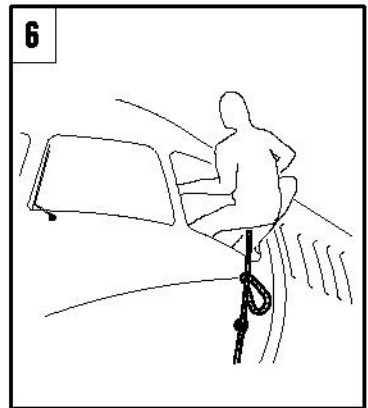
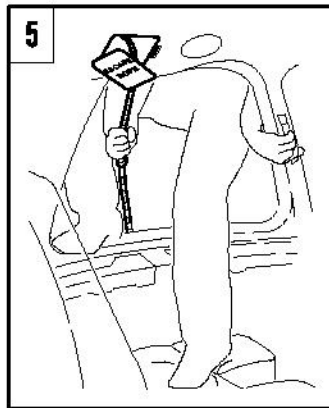
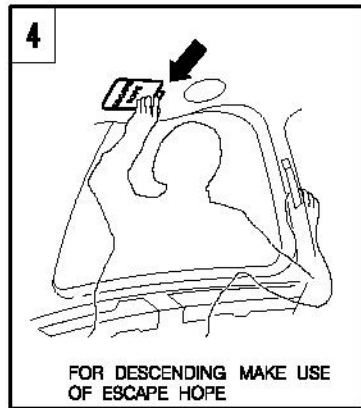
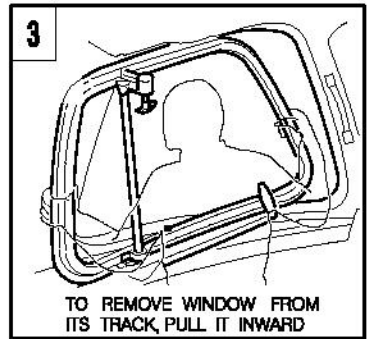
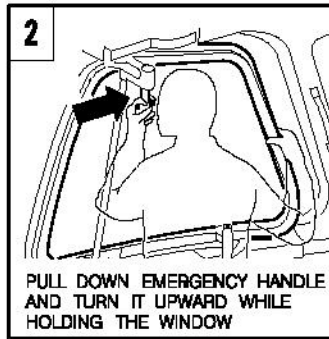
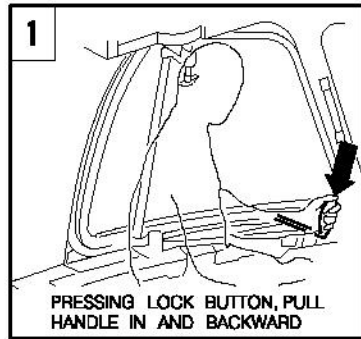
- A. The cargo door is located on the rear left side of the fuselage and is manually operated from the outside.
- B. The initial opening movement (displacement of the door inward) and final closing and latching movement (displacement of the door outward) are achieved by means of a door locking mechanism controlled by an external handle which is stowed in the lower half of the door.

6. Service Door (Figure 6-5)

- A. The service door is located on the right side of the forward passenger cabin and is used for galley servicing and cabin cleaning between flights and also as an emergency exit.
- B. The door is manually operated by internal and external handles. The first opening movement is an upward translation followed by an outward and forward rotation.

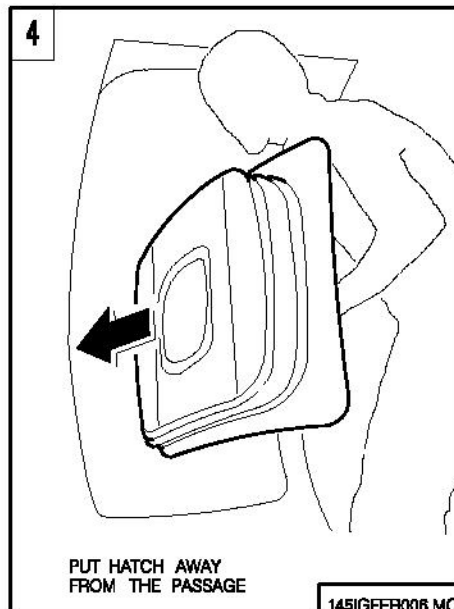
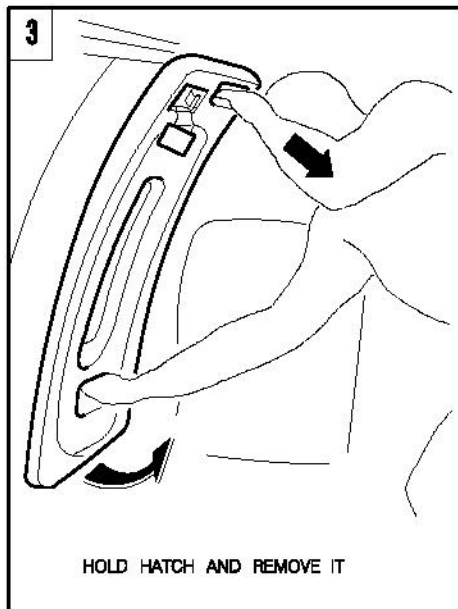
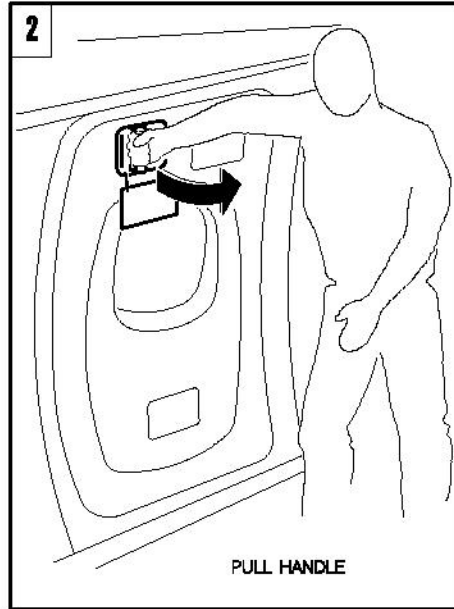
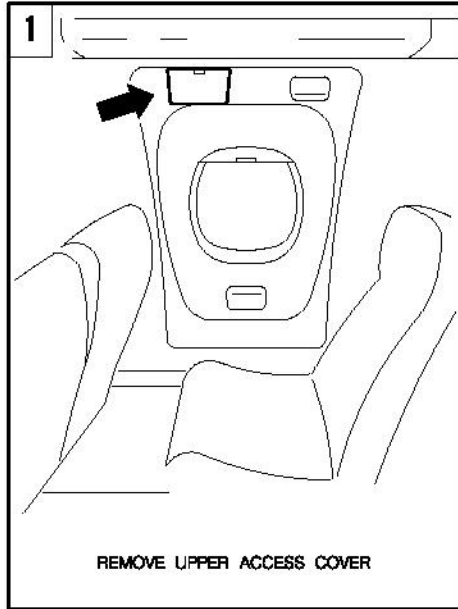
7. Compartment Hatches (Figure 6-6)

- A. The compartment hatches provide access for servicing purposes to locations where the airplane systems and equipment are housed. They are the removable plug-in type with continuous stops to support the pressurization loads and are latched by four latching pins. These latching pins are locked by an actuating handle.
- B. The cockpit underfloor access hatch is located on the fuselage bottom, providing access to the fuselage pressurized compartment.
- C. The rear electronic compartment access hatch is located on the rear right side of the fuselage. This hatch provides access to the airplane pressurized area where the rear electronic compartment, rudder autopilot servo, rudder control cables and electrical harness, stabilizer electrical harness, and elevator control cables are located.
- D. To open the hatch, the actuating handle is pulled out from its stowed position by releasing its spring-loaded hook and then it is rotated 90 degrees. To remove the hatch, it is first pushed inside the fuselage, rotating over the hinge pin. The hinge is disconnected and then rotated again to make its passage possible through the fuselage opening.



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Cockpit Evacuation
Figure 6-1



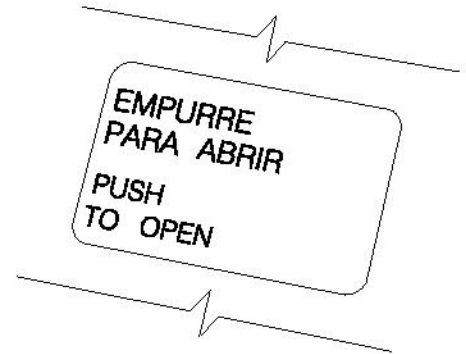
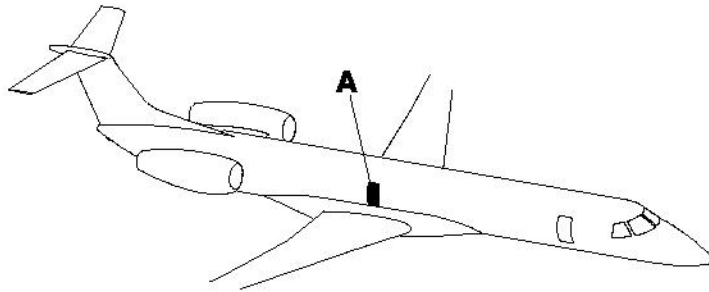
Emergency Exit Operation (Inside Cabin)

Figure 6-2

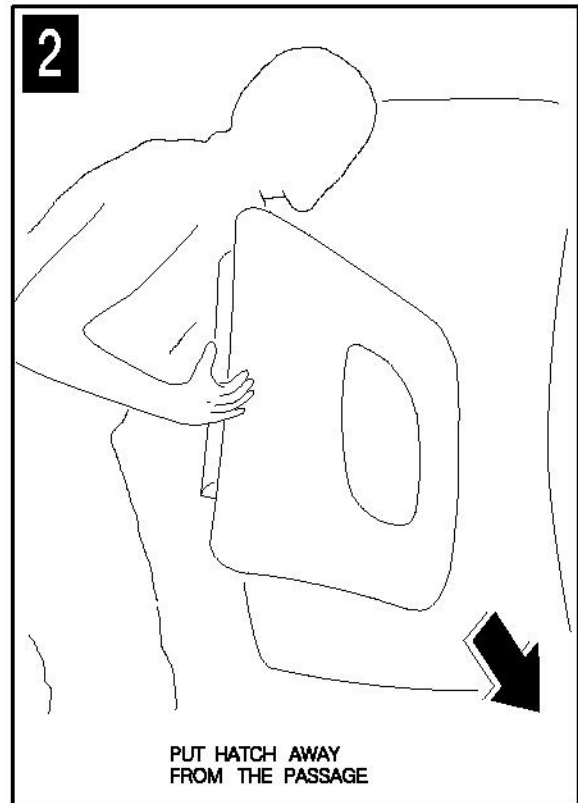
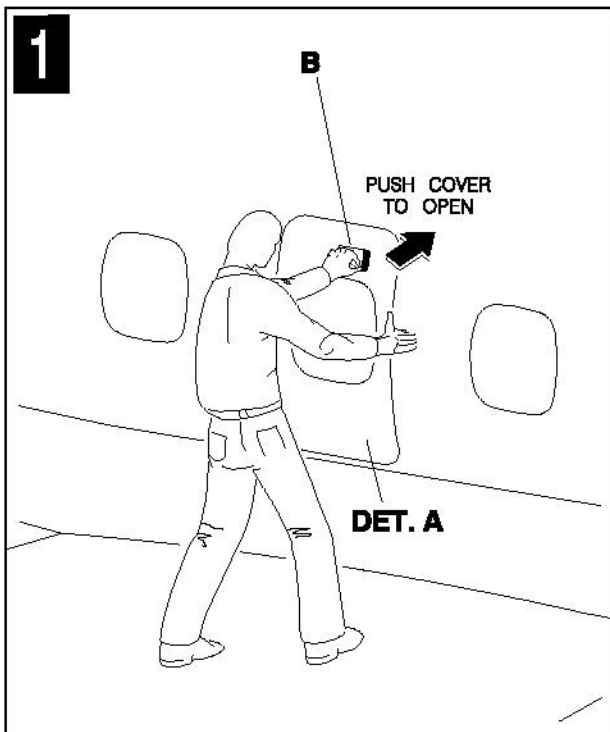
Sheet 1



INSTRUCTIONS FOR GROUND FIRE EXTINGUISHING AND RESCUE



DET. B

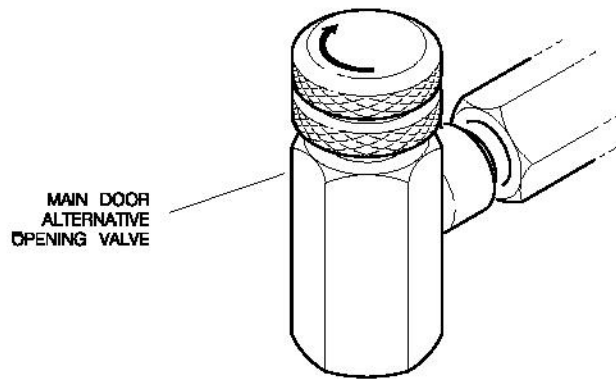
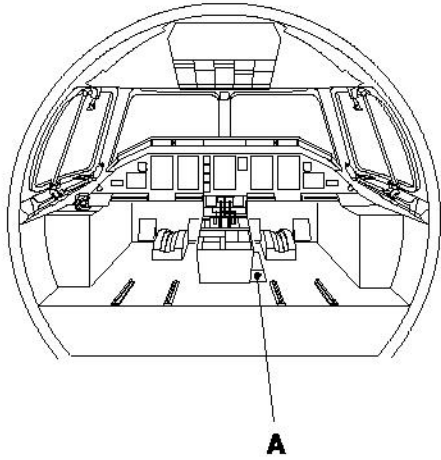


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Emergency Exit Operation (Outside Cabin)

Figure 6-2

Sheet 2

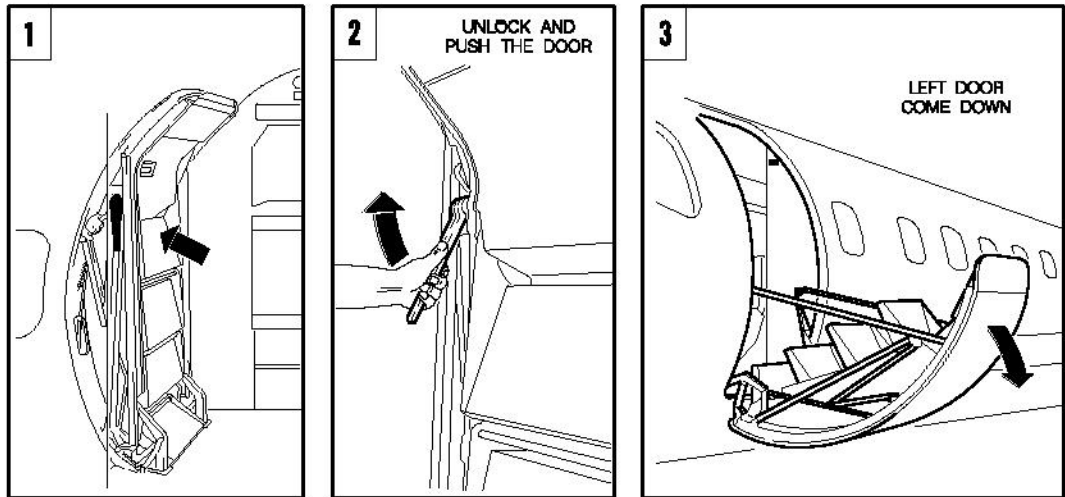


DET. A

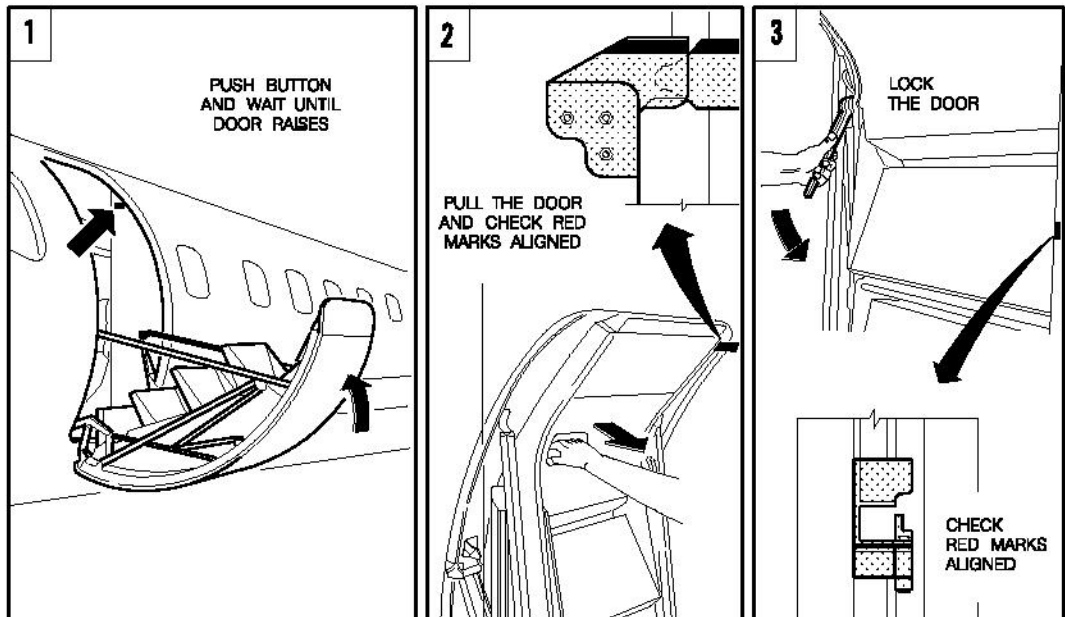
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Main Door Alternative Opening Valve
Figure 6-3
Sheet 1

TO OPEN:



TO CLOSE:



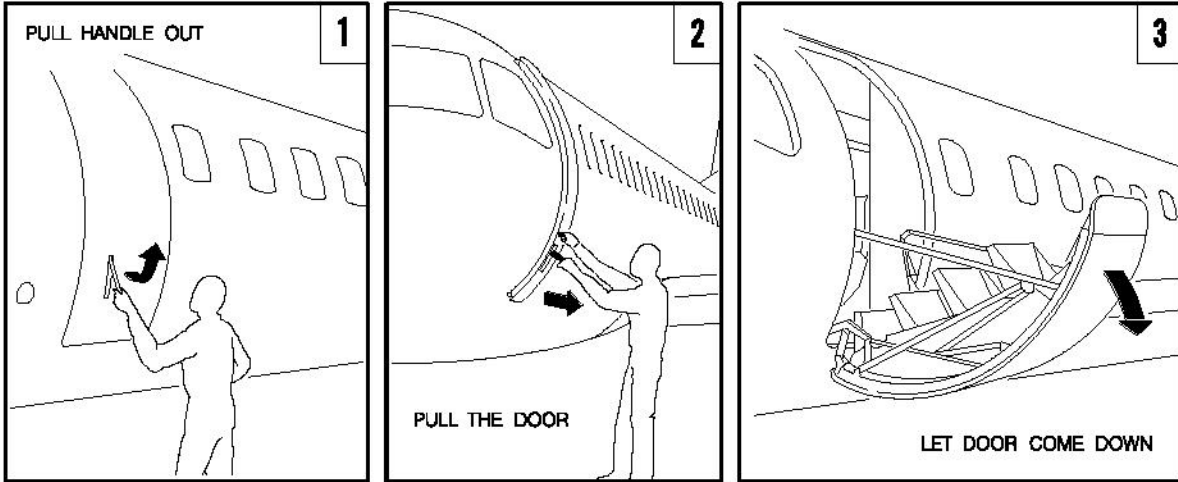
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Main Door Operation (Inside Cabin) - Airstair Door

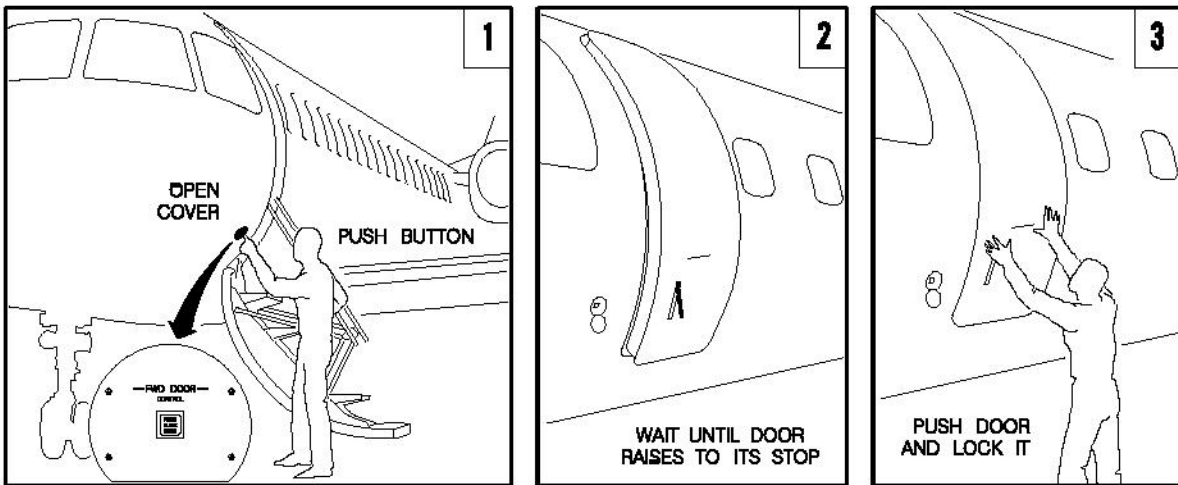
Figure 6-3

Sheet 2

TO OPEN:



TO CLOSE:

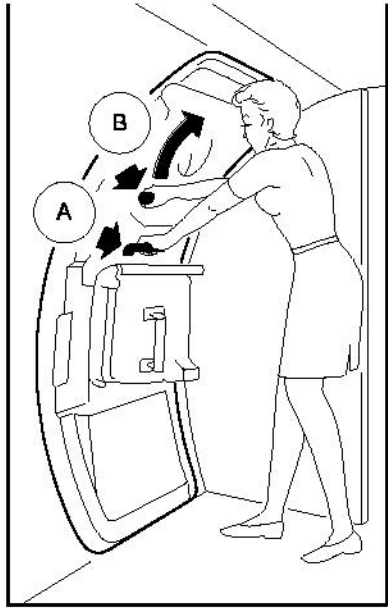


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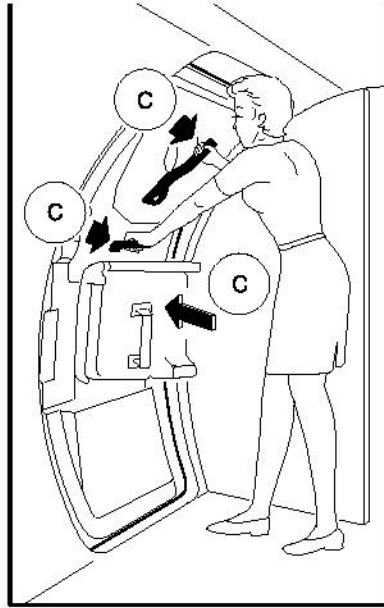
Main Door Operation (Outside Cabin) - Airstair Door

Figure 6-3

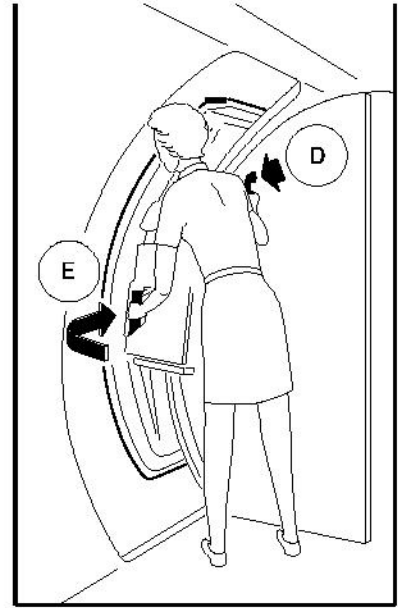
Sheet 3



- (A)** HOLD THE ASSISTANCE HANDLE
- (B)** TURN THE LEVER CLOCKWISE TO UNLOCK THE DOOR

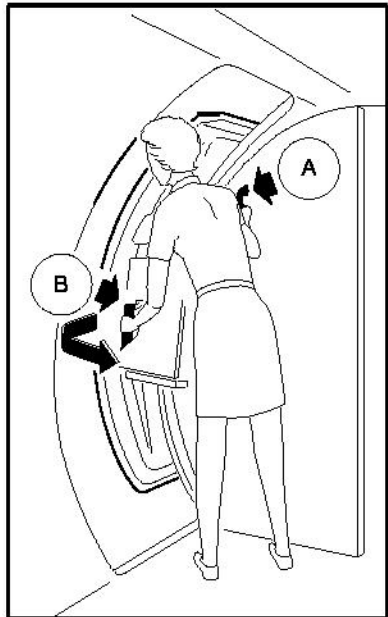


- (C)** HOLDING HANDLE AND LEVER, PUSH THE DOOR

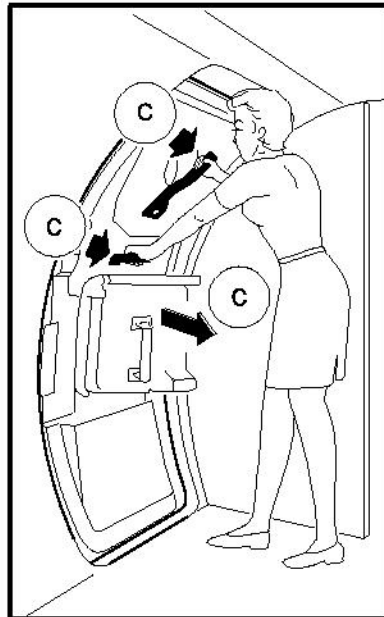


- (D)** HOLD THE PARTITION HANDLE
- (E)** PUSH THE DOOR HANDLE UNTIL THE DOOR LOCKS IN THE OPEN POSITION

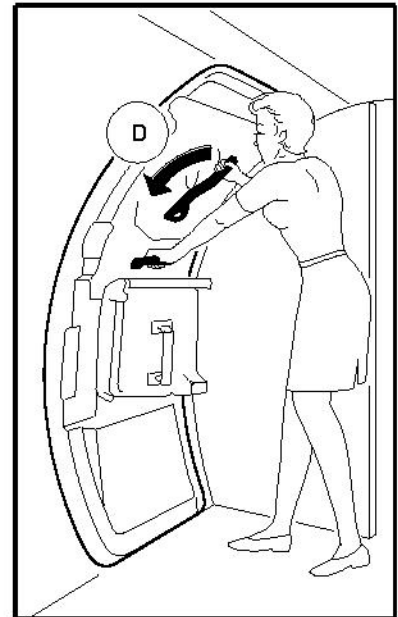
TO CLOSE:



- (A)** HOLD THE PARTITION HANDLE
- (B)** PULL THE DOOR HANDLE TO UNLOCK THE DOOR AND BRING IT TO CLOSURE POSITION



- (C)** HOLDING HANDLE AND LEVER, PULL THE DOOR TO THE CLOSURE POSITION



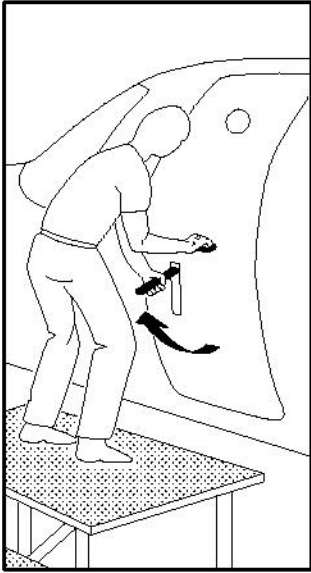
- (D)** TURN THE LEVER COUNTERCLOCKWISE TO LOCK THE DOOR CLOSED

Main Door Operation (Inside Cabin) - Jetway Door

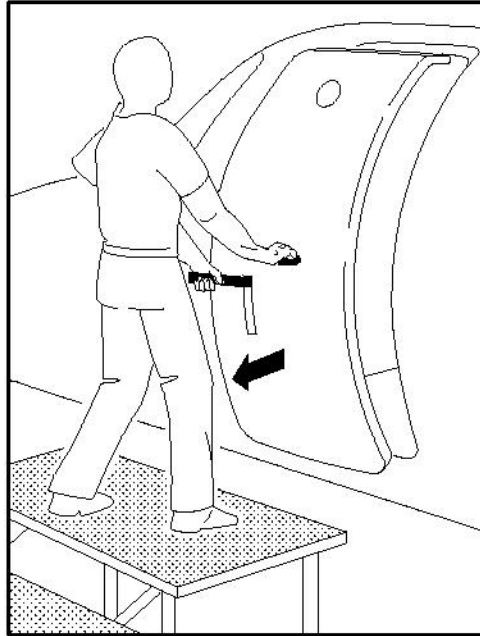
Figure 6-3

Sheet 4

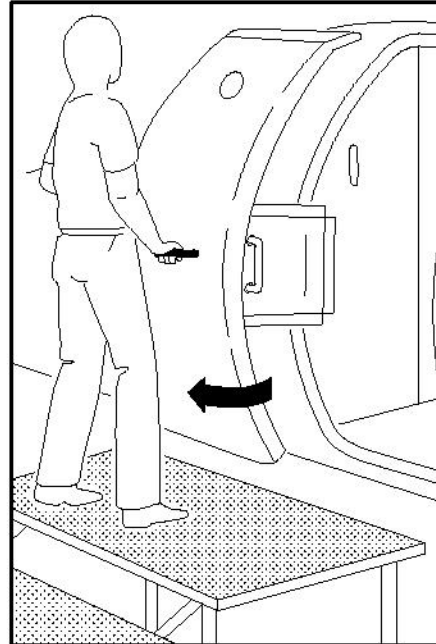
TO OPEN:



LIFT THE LEVER TO UNLOCK THE DOOR



PULL THE DOOR TO OPEN POSITION

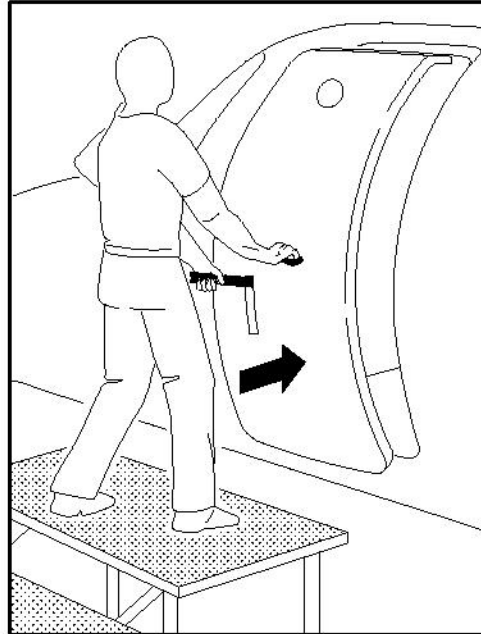


FULLY OPEN THE DOOR AND LOCK IT OPEN

TO CLOSE:



HOLD THE DOOR HANDLE TO UNLOCK THE DOOR AND BRING IT TO CLOSURE POSITION



PULL THE DOOR TO THE CLOSURE POSITION



LOWER THE LEVER TO LOCK THE DOOR CLOSED

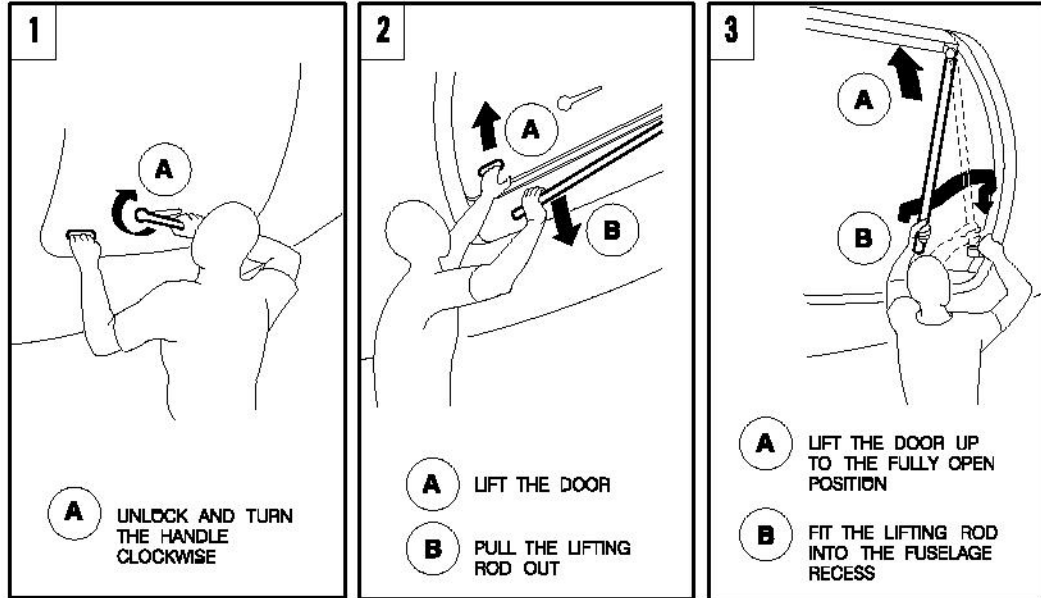
145IGFER071.MCE

Main Door Operation (Outside Cabin) - Jetway Door

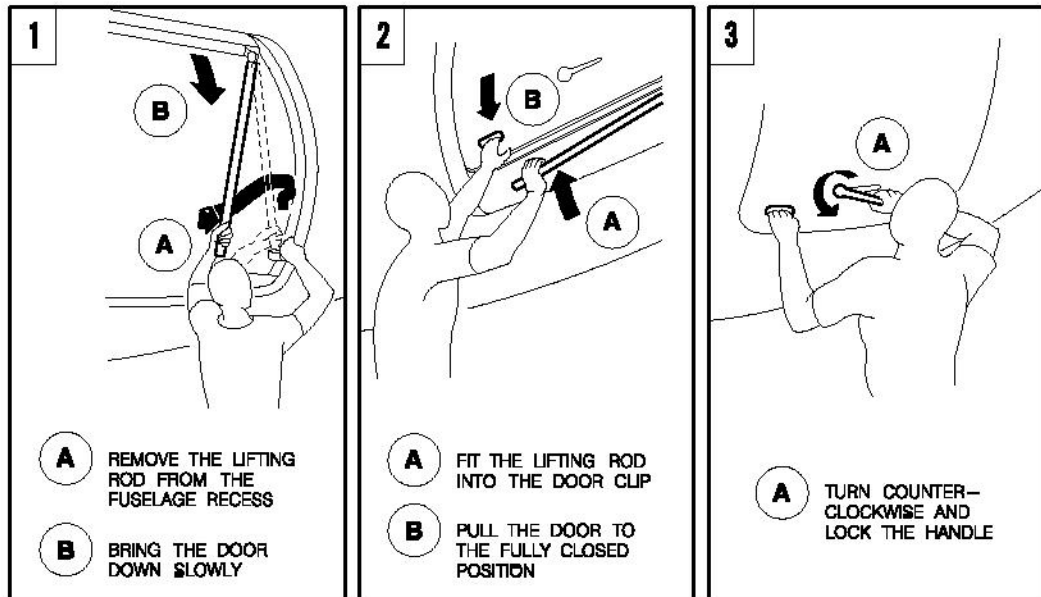
Figure 6-3

Sheet 5

TO OPEN:



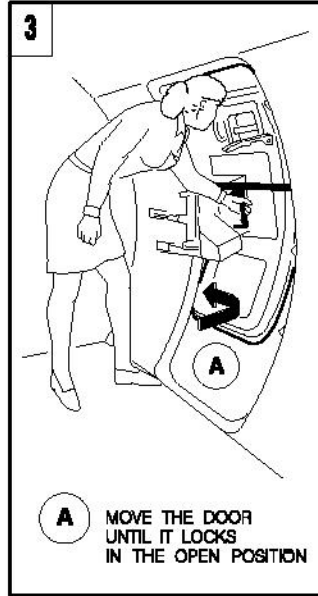
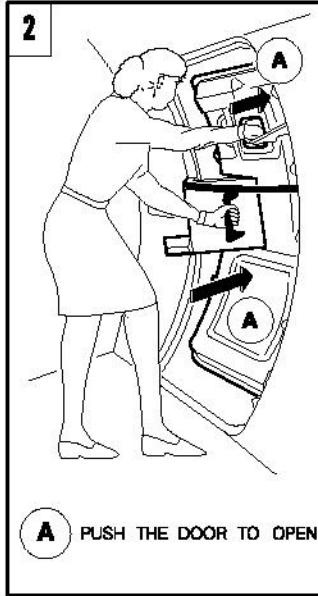
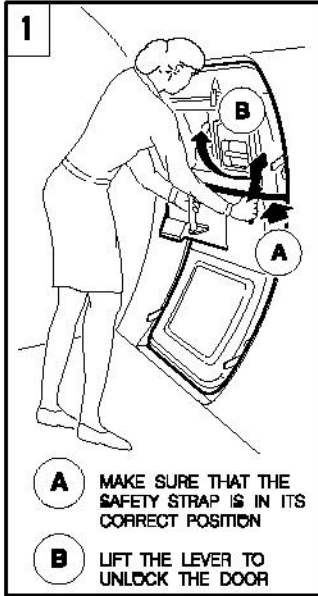
TO CLOSE:



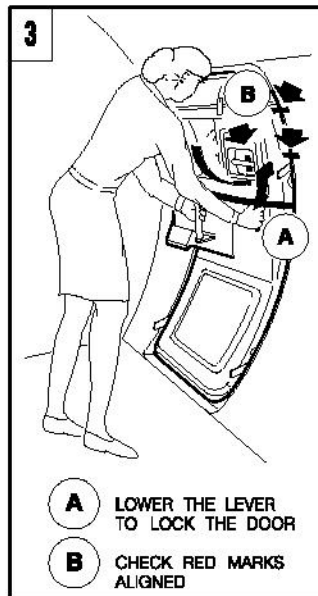
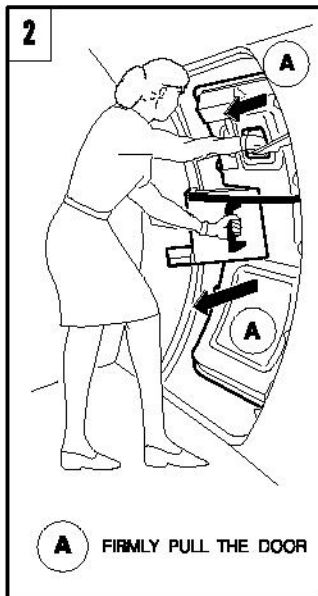
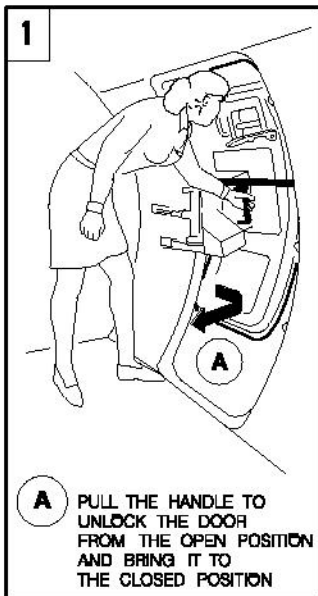
145IGFER009.MCE

Baggage Door Operation
Figure 6-4

TO OPEN:



TO CLOSE:

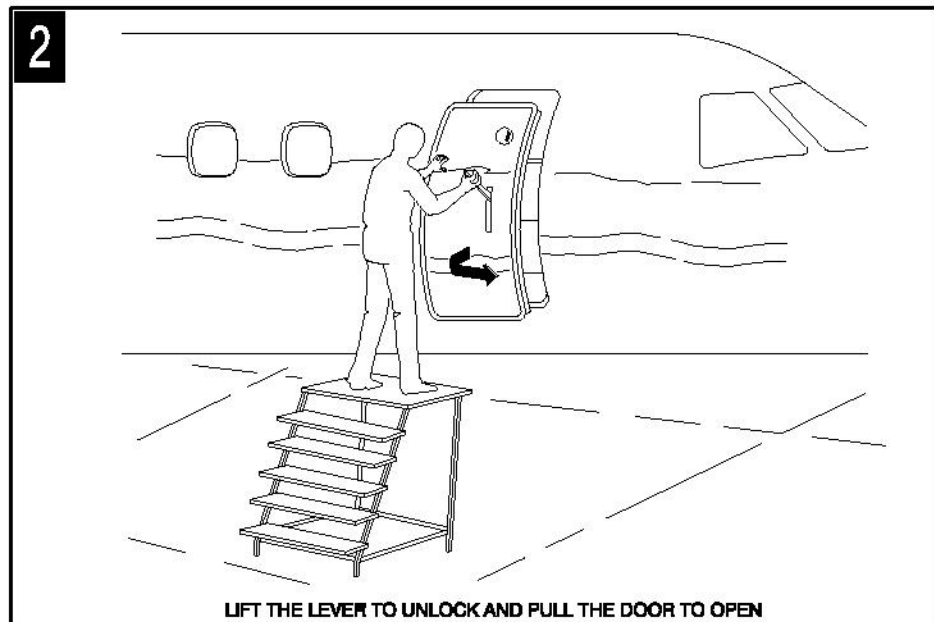
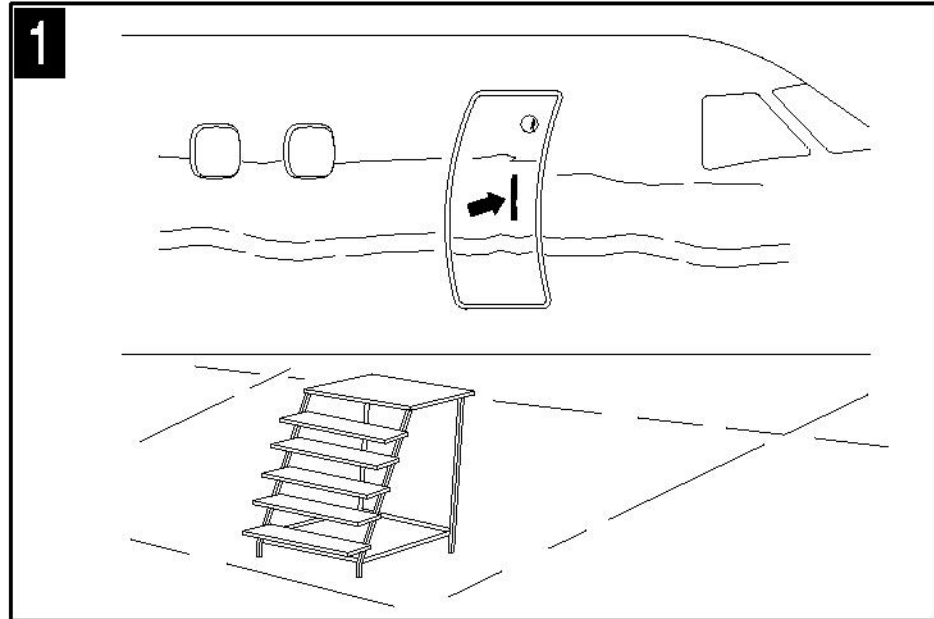


145IGFER022.MCE

Service Door Operation (Inside Cabin)

Figure 6-5

Sheet 1

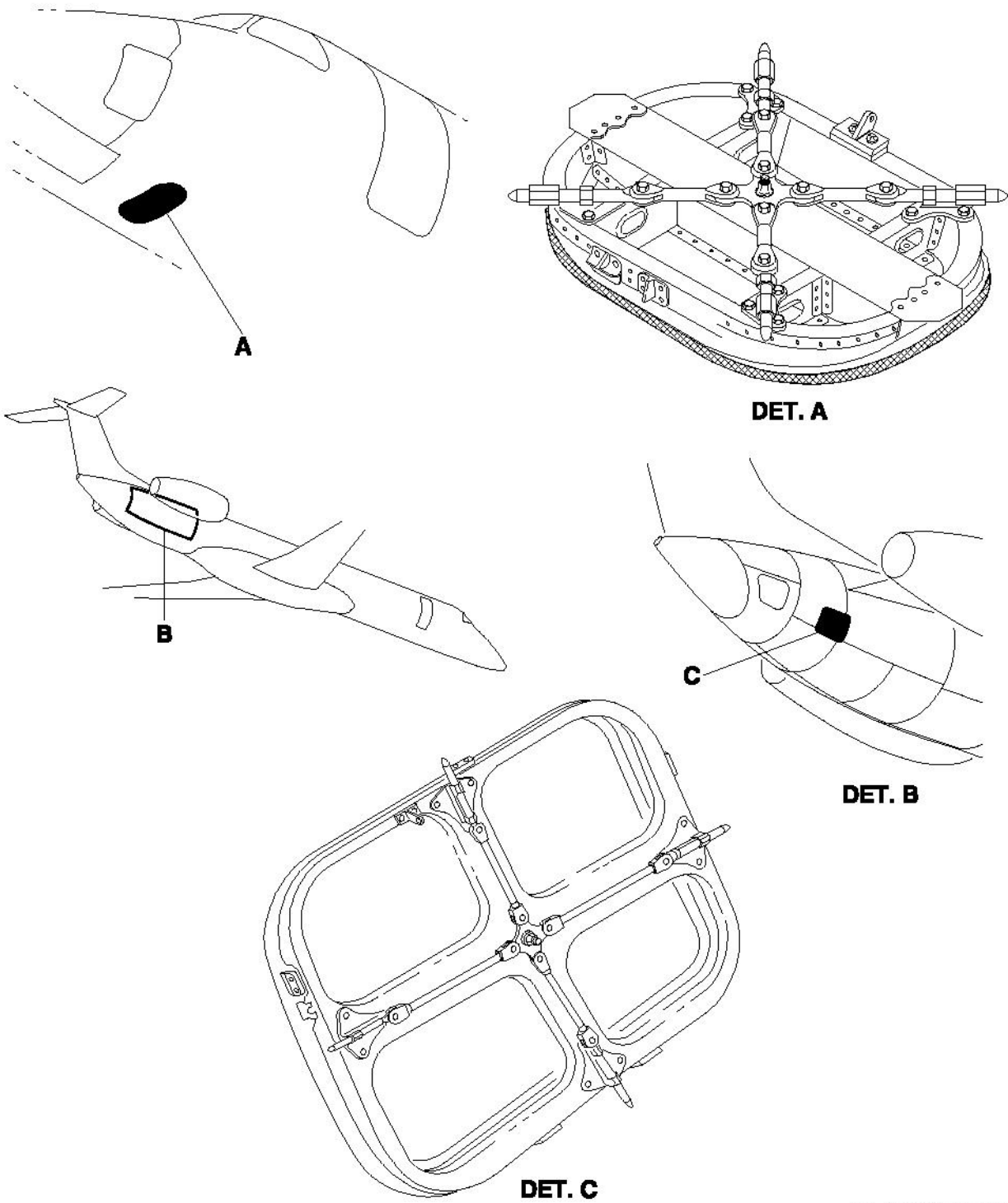


145IGFER010.MCE

Service Door Operation (Outside Cabin)

Figure 6-5

Sheet 2



IGFER000034.MCE A

Access Doors and Hatches
Figure 6-6