

BAe JETSTREAM
Series 4100

MANUFACTURERS OPERATING MANUAL VOL.4

CHAPTER 4

EMERGENCY EQUIPMENT AND OXYGEN

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CHAPTER 4 EMERGENCY EQUIPMENT AND OXYGEN

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CHAPTER 4

EMERGENCY EQUIPMENT AND OXYGEN

1. General

The aircraft is equipped with an oxygen system which has separate flight deck and passenger cabin sub-systems.

A. Flight Deck Sub-System

A 1120 litre oxygen bottle, adjacent to the right hand side of the co-pilot seat's, is connected by a quick-disconnect coupling to a fixed distribution pipe. The distribution pipe supplies three flight deck outlet connectors.

Each pilot and the third crew member is provided with a demand type oxygen mask. The masks are housed in mask stowage cups adjacent to the three crew positions in the flight compartment.

The mask incorporates the following:

- Integral visor
- Microphone and connector
- Inflatable harness for quick donning
- Inflation control valve
- Pressure regulator and hose assembly.

The mask is designed to be used during a smoke or explosive decompression emergency.

The mask is released from its stowage cup by pressing the red plates of the inflation control valve together. The visor shield of the mask stowage cup is hinged to allow removal of the mask. At the same time, sufficient oxygen is supplied by the pressure regulator to inflate the harness. The harness is placed over the head, with the mask covering the mouth and nose. The red plates are then released and the harness deflates to hold the mask in the correct position.

The N-100% switch on the base of the mask provides diluted or 100% oxygen as indicated.

The EMERGENCY rotary control on the base of the mask by-passes the pressure regulator. When selected to the clockwise position, 100% oxygen at a small positive pressure will be supplied to the visor/mask assembly.

The EMERGENCY rotary control includes a Press-To-Test facility which allows a flow of oxygen to the mask as a test function.

The mask microphone is activated by selecting MASK on the MIC-MASK switch of the Audio Control Panel(ACP). Each crew position ACP must be set to MASK for communication to be made.

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The supply bottle has a regulator head, ON/OFF valve, pressure gauge, pressure relief port and charging point. It is charged to 1,850 psi when full and the output is regulated at the outlet supply hose.

The relief port is connected to an overboard discharge pipe by a quick-disconnect coupling. The pipe terminates at a discharge indicator flush with the aircraft skin. Oxygen is discharged to atmosphere if the supply bottle pressure exceeds 2,775 psi. The discharge indicator shows green when the flightdeck sub-system has not discharged oxygen. When the flightdeck sub-system has discharged oxygen, the discharge indicator shows red.

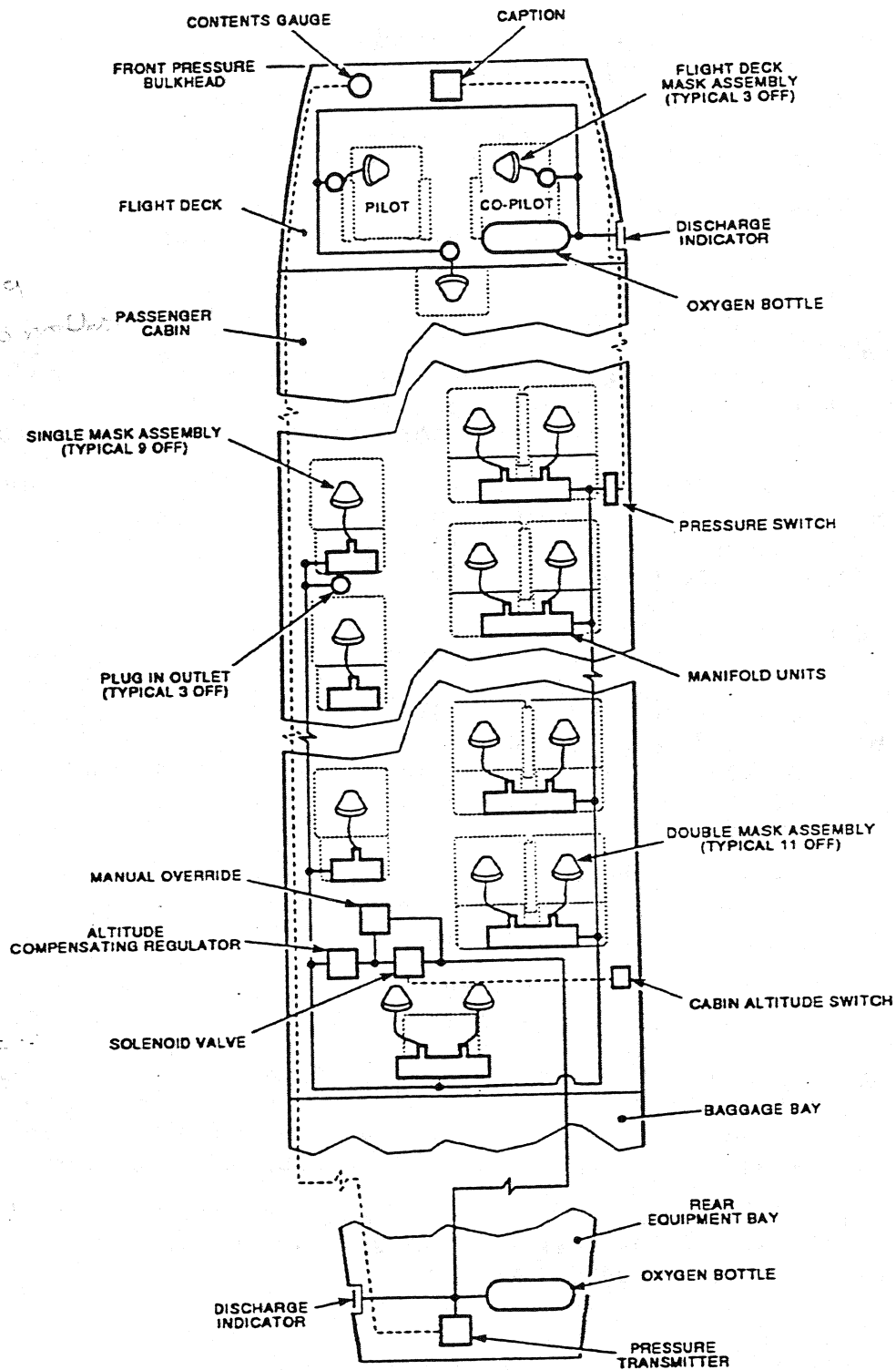
Quick disconnect couplings allow easy removal of the bottle, from the aircraft, for re-charging. A protective quick-release cover is installed over the bottle to prevent accidental damage.

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Oxygen System

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B. Passenger Cabin Sub-System

A 1120 litre oxygen bottle is located in the rear equipment bay. Quick-disconnect couplings allow the bottle to be removed from the aircraft for re-charging. The supply bottle has a regulator head, ON/OFF valve, pressure gauge, overboard safety vent and charging point. The output pressure is regulated at the outlet supply hose.

The overboard safety vent is connected to an overboard discharge pipe. The pipe terminates at a discharge indicator (green frangible disc) flush with the aircraft skin.

Oxygen is discharged to atmosphere if the supply bottle pressure exceeds 2,775 psi. The discharge indicator shows green (disc intact) when oxygen has not been discharged overboard. When oxygen is discharged overboard, the green frangible disc is broken and ejected to reveal the red inner surface of the discharge pipe.

A distribution line runs through the fuselage to the passenger cabin via an altitude compensating regulator which varies the output pressure according to altitude with a maximum output pressure from the regulator of 50 psi.

During normal operation, a solenoid valve located upstream of the regulator, prevents flow to the system. The solenoid valve is controlled by a cabin altitude switch inside the pressure cabin. The switch opens the solenoid valve when the cabin altitude is between 11,000 ft and 12,000 ft. A manual ON/OFF override switch mounted on the rear cabin bulkhead at the flight attendant station can be used to override the automatic system or used if the automatic system fails.

The cabin distribution system goes down both the left and right side of the cabin. T-pieces carry the supply to manifold units located above the overhead panels.

Two passenger masks are connected to each manifold along the right side and at rows 2, 4 and 9 on the left side. The remaining seat rows on the left side are provided with single passenger masks. The additional masks on the left side at Rows 2, 4 and 9 are for infants not provided with a seat. The masks are located in dedicated stowage positions in the overhead cove area. Two additional masks are located in the toilet compartment.

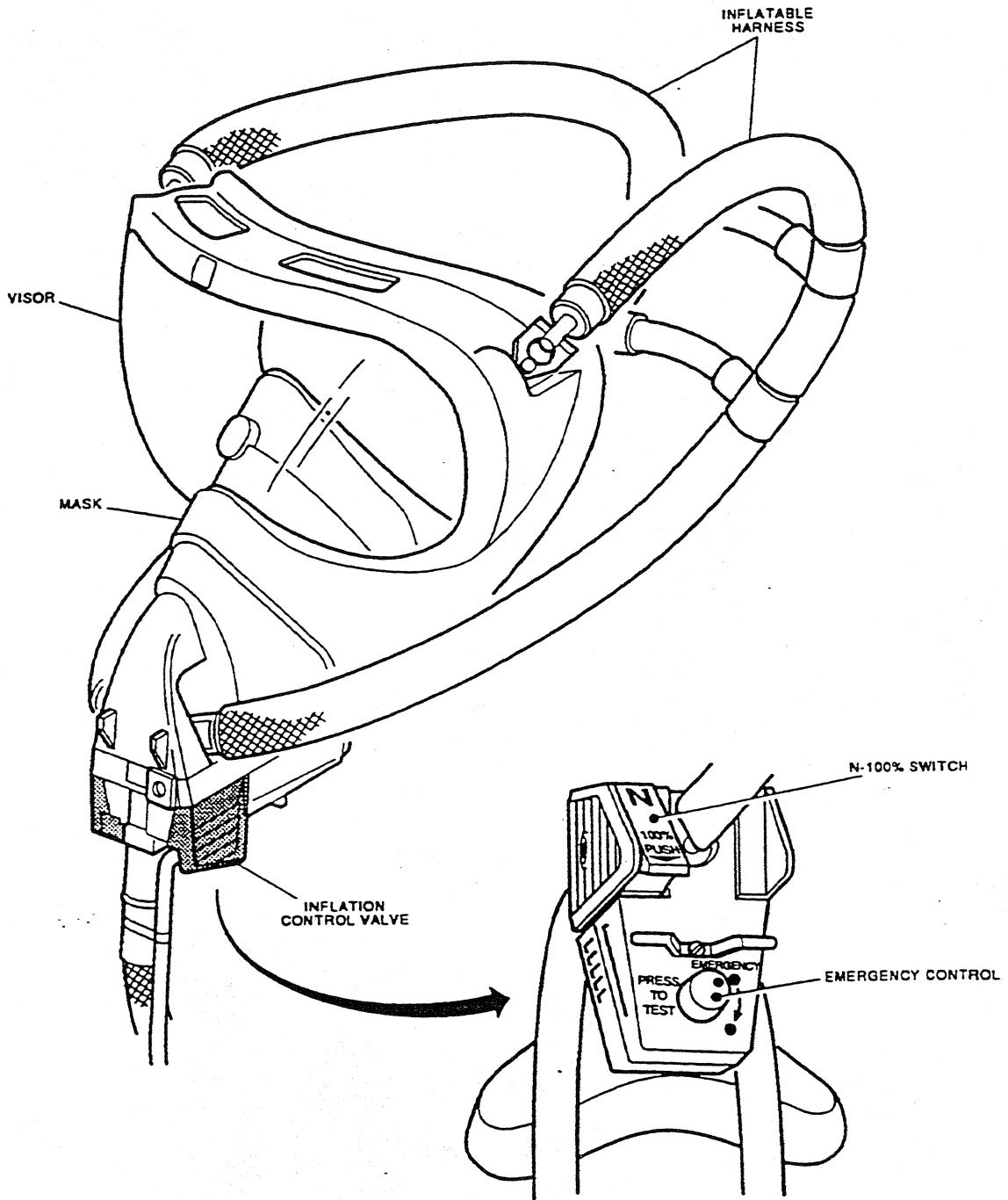
The flight attendant has a plug-in mask located above the flight attendant seat in the rear vestibule. A series of plug-in outlets are distributed throughout the cabin.

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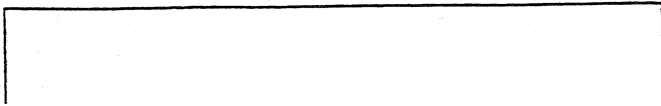
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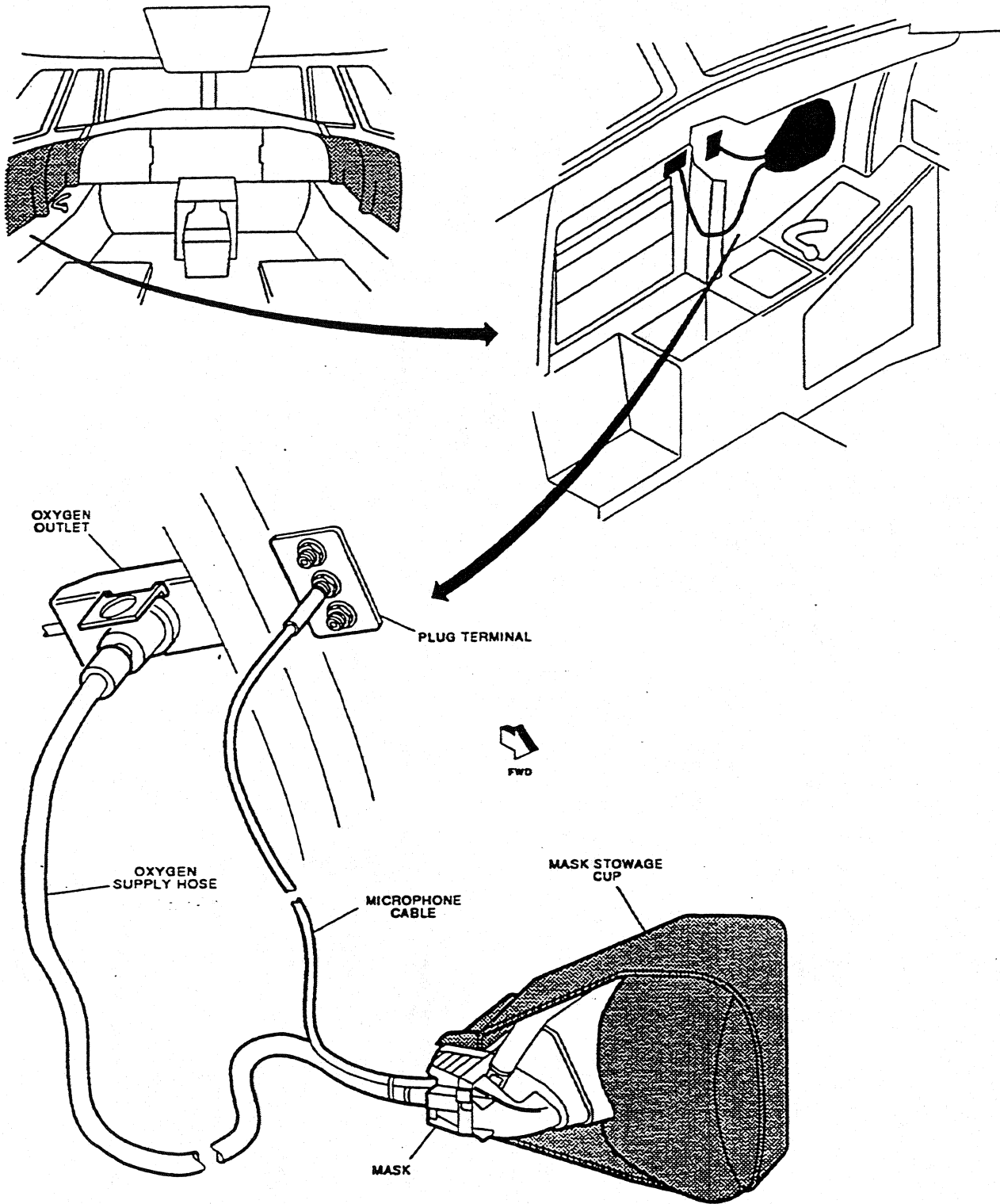
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Flight Crew Oxygen Mask



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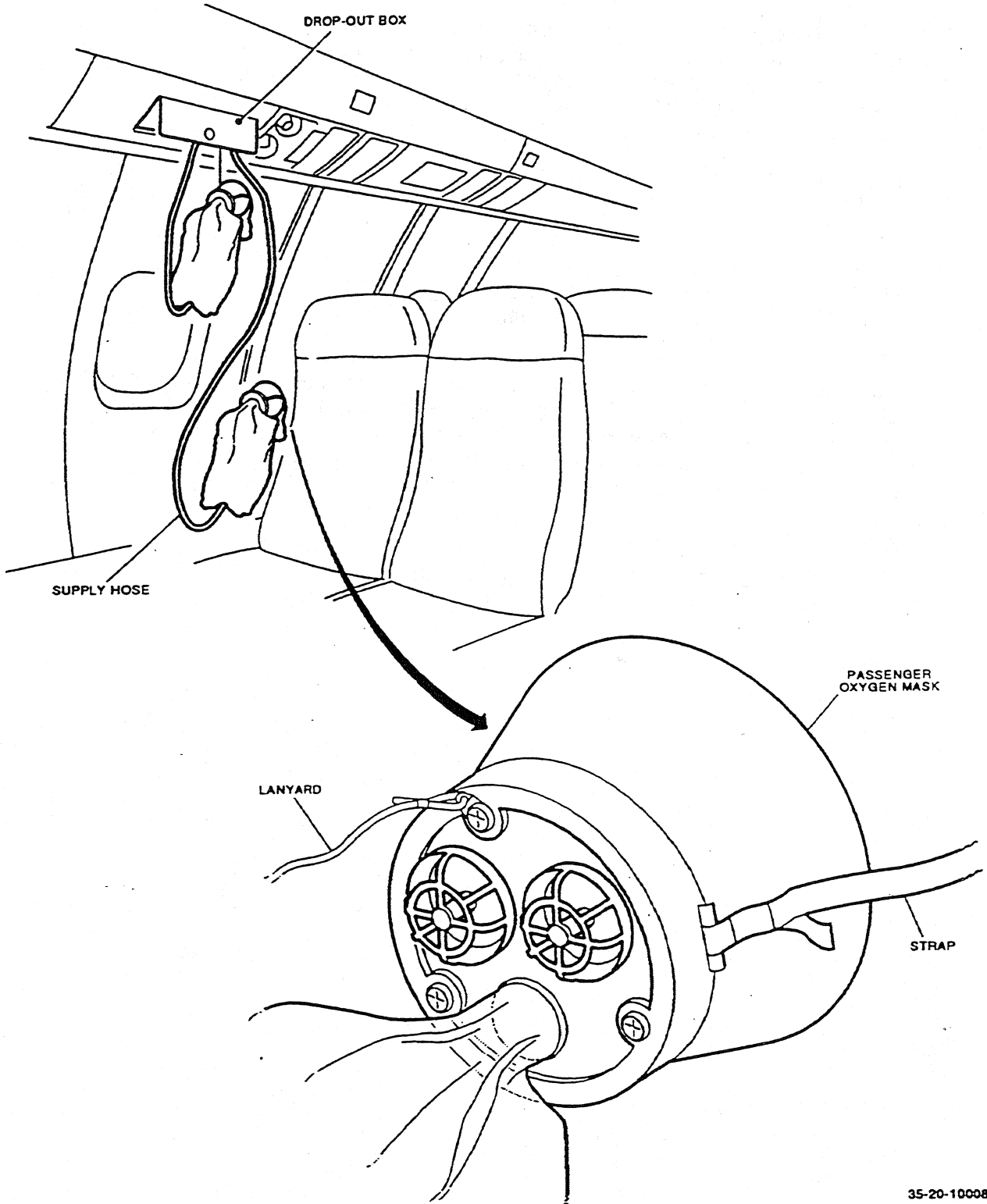
Flight Crew Oxygen Mask Installation

ACA/TSA

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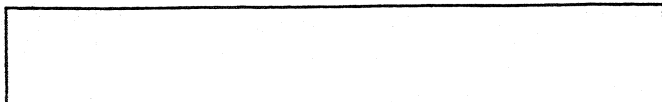
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Passenger Oxygen Mask

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C. Control and Indication

The ON/OFF valve on the oxygen bottle allows the crew to manually select flow to the flight deck sub-system. Flow indicators on each crew mask supply hose, indicate the flow of oxygen. The integral pressure gauge on the bottle is clearly visible to the crew and is used to indicate oxygen contents.

For the passenger system, a pressure transmitter on the oxygen bottle signals to a flightdeck contents gauge, the contents of the supply bottle. A pressure switch is located at the end of the

cabin right pipe run. This switch causes the CAP

CABIN OXYGEN

 (white) caption to come on when the passenger distribution system is pressurized. The passenger masks have flow indicators located in each hose.

The two oxygen bottles are charged to the correct pressure when the gauge pointer is in the green sector of each gauge. The correct charging pressure is determined using the Oxygen Bottle Temperature/Pressure Graph, given the local air temperature. The bottles contain a nominal pressure of 1850 psi at 70°F (21.11°C).

D. System Performance

The total duration of the supply for passengers is 30 minutes. The total duration of the supply for the flight deck occupants is 2 hours.

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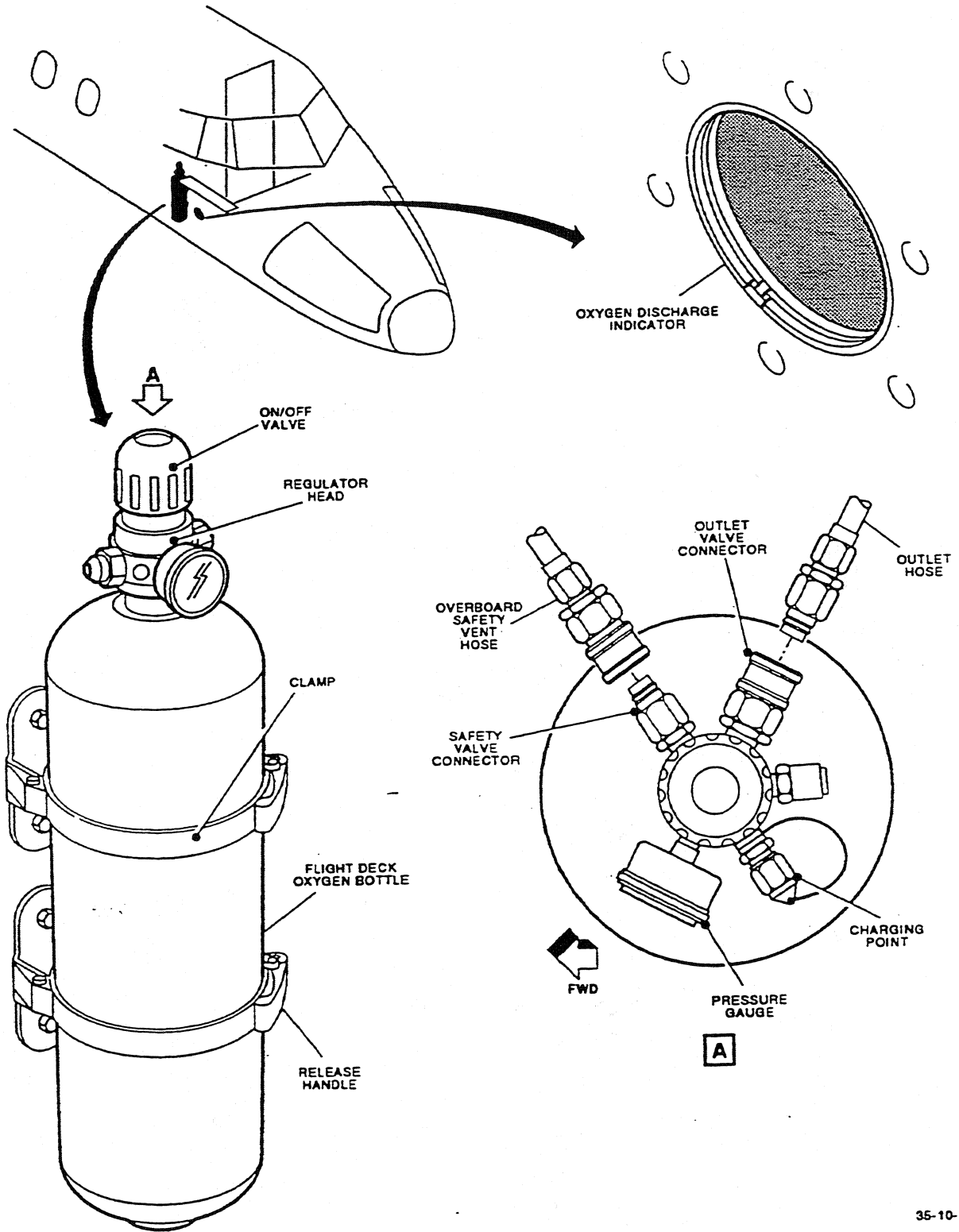
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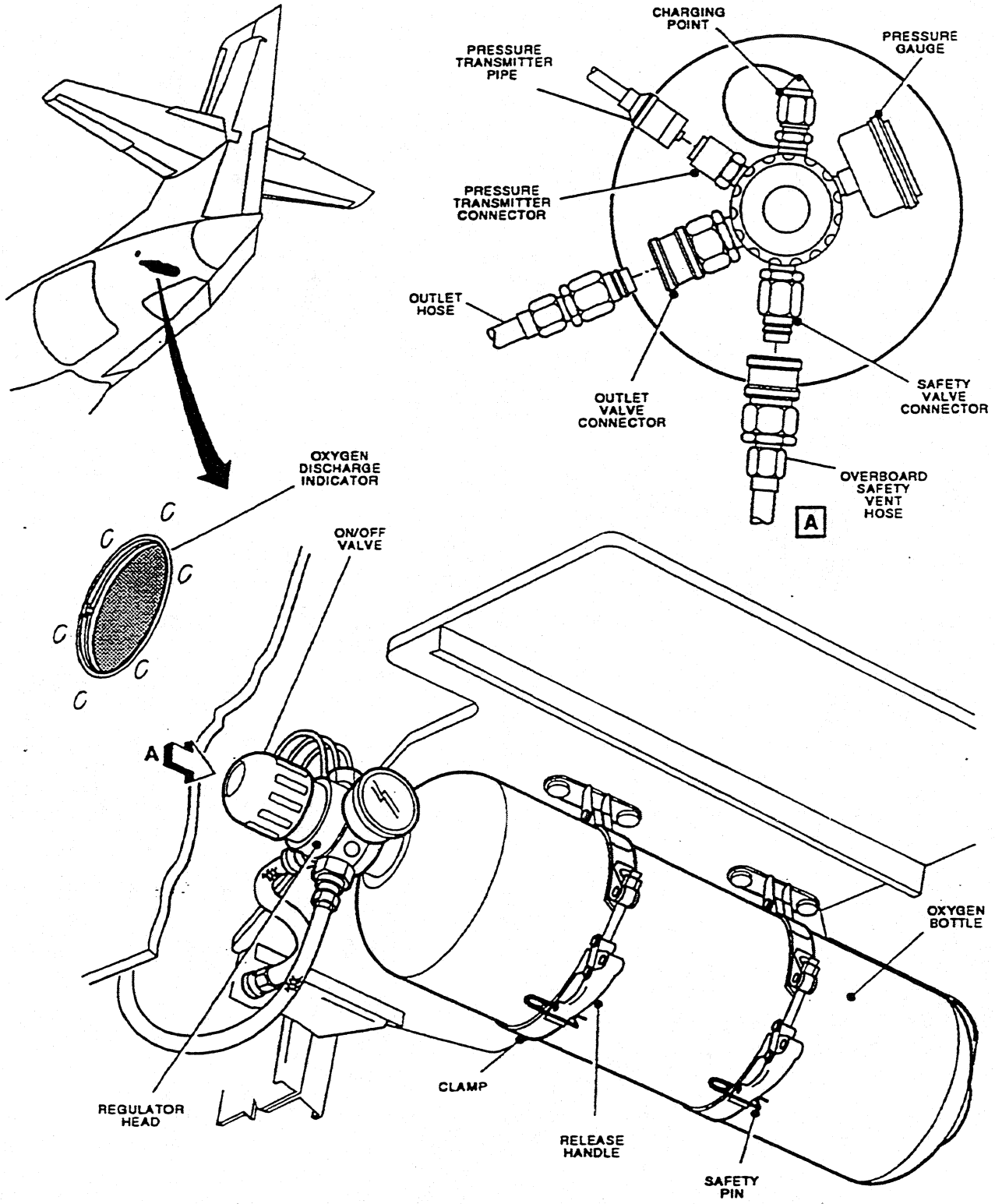
Flight Deck-Oxygen Bottle

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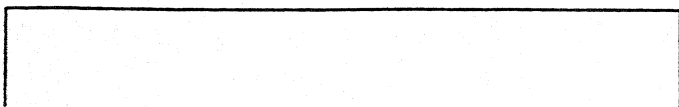
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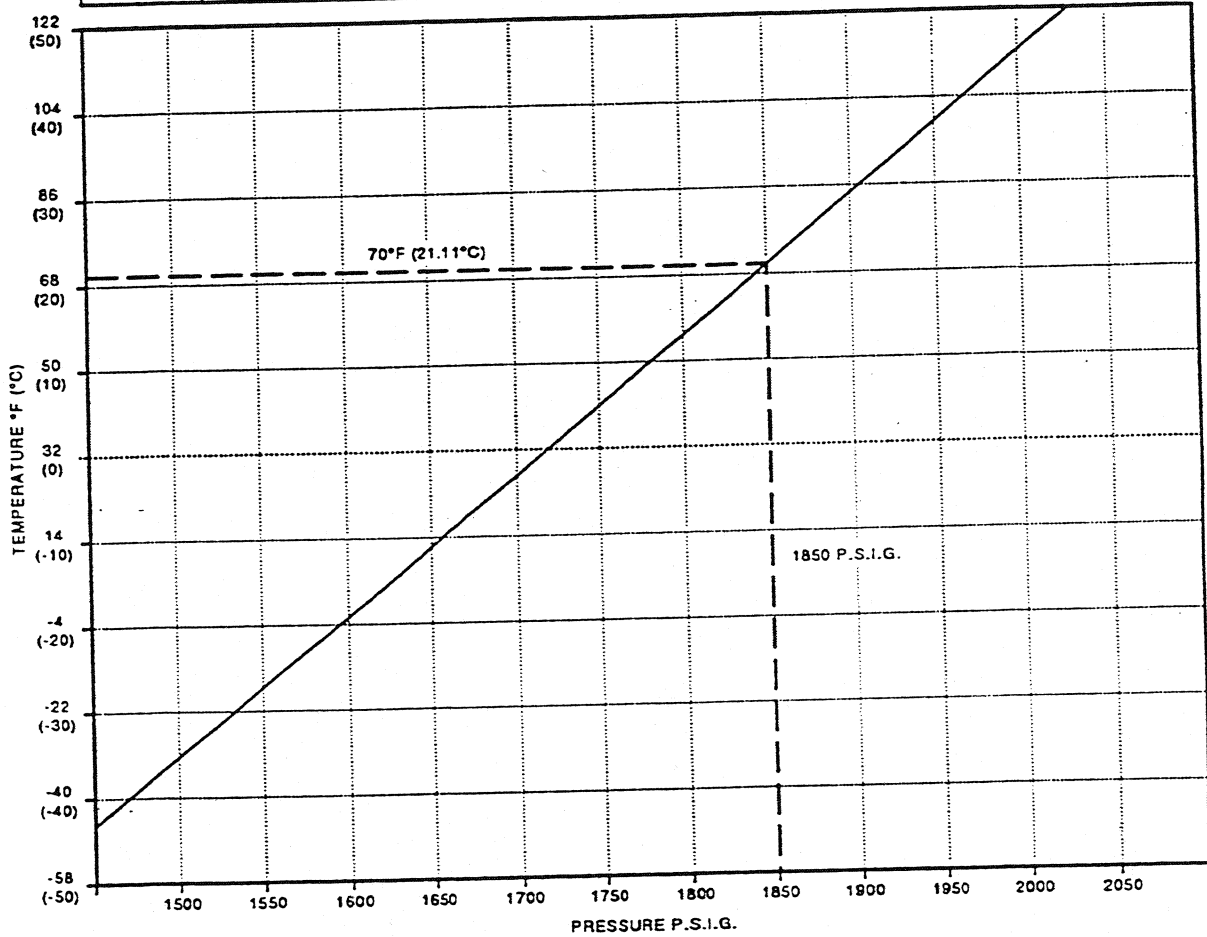
36-20-10012

Passenger Cabin-Oxygen Bottle



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TEMP. °F	-40	-31	-22	-13	-4	5	14	23	32	41	50	59	68	77	86	95	104	113	122	131
TEMP. °C	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45	50	55
PRESS. P.S.I.G.	1466	1497	1529	1560	1591	1623	1654	1686	1717	1749	1780	1812	1843	1874	1906	1937	1969	2000	2032	2063



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Oxygen Bottle Temperature/Pressure Graph

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2. Emergency Equipment

A. Smoke Hood 10 B/C

A smoke hood of the closed-circuit chemical rebreather type is located in the emergency equipment stowage area on the left rear bulkhead.

B. Hand-Held Fire Extinguishers 1 cockpit 2 10 behind

Hand-held fire extinguishers are provided on the left flight deck bulkhead and in the emergency equipment stowage area on the aft right partition.

In the event of a Main Baggage Compartment fire, BCF extinguishant can be discharged into the compartment via a dedicated fire-fighting point and discharge pipe. The fire-fighting point is situated on the aft bulkhead adjacent to the outboard vapour cycle evaporator grill.

C. Fire Fighting Gloves 1/2 1/2

Space is provided on the right flight deck bulkhead for the stowage of fire fighting gloves.

D. Emergency Hydraulic Hand Pump Handle]

An emergency hydraulic hand pump handle is located on the inboard side of the co-pilots seat support.

E. Flashlights 3

Hand held flashlight stowages are located on the flight deck left and right console panels, and in the emergency equipment area on the left rear bulkhead.

F. First Aid Kit

A first aid kit is located in the rear emergency equipment stowage area on the right rear bulkhead. behind 100

Medicine - in the cockpit

escape route / 2/3

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