

12.16 (ATA 35) OXYGEN

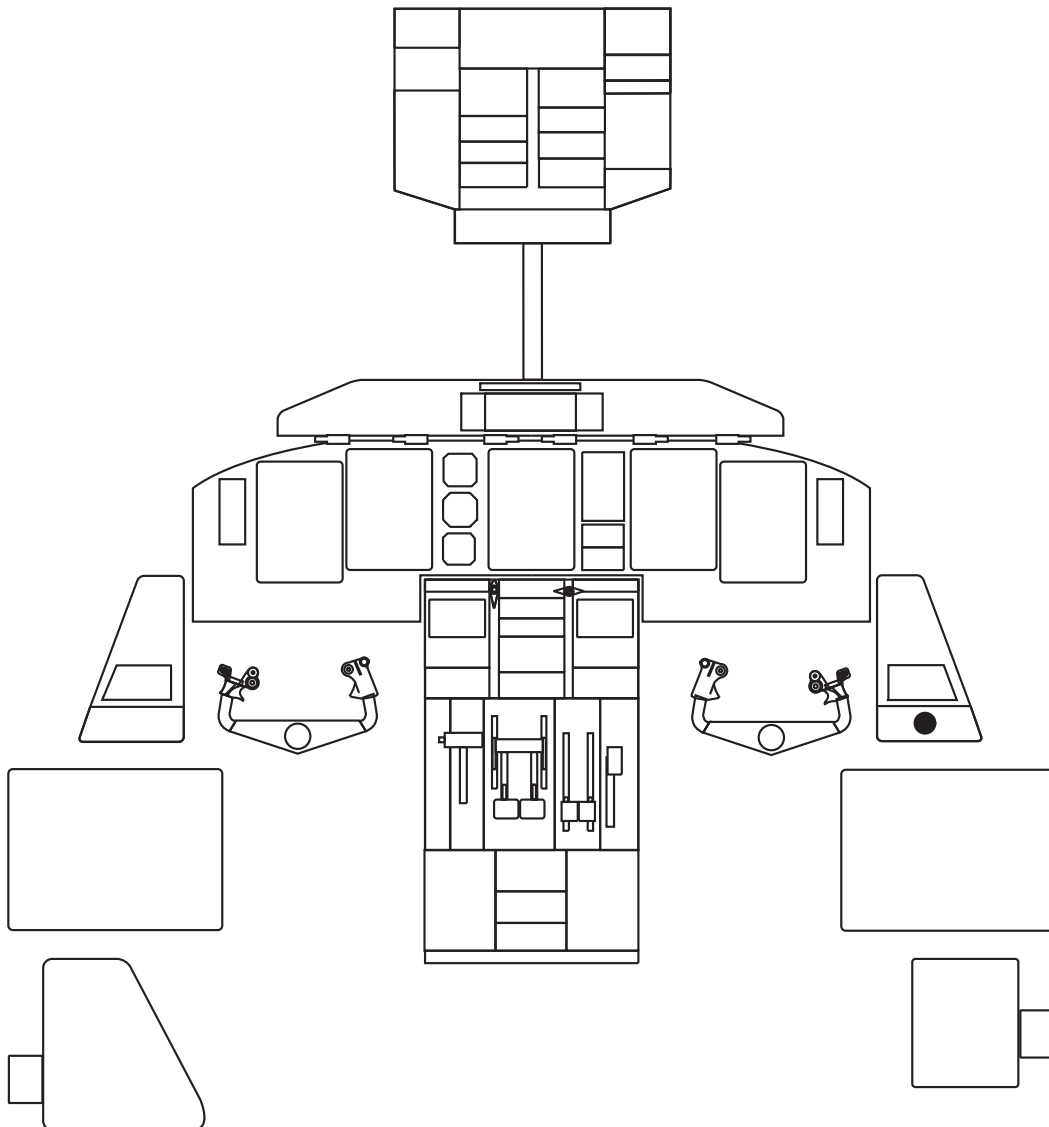
12.16.1 Introduction

There is a fixed oxygen system for the flight deck crew and observer. Separate portable oxygen systems are supplied for the cabin attendants and passengers. Separate breathing units are supplied for use in low oxygen environments.

12.16.2 General

The crew fixed oxygen system includes three Full Face microphone equipped masks with an oxygen dilution regulator. The portable passenger oxygen cylinders are kept in the cabin. Protective Breathing Equipment (PBE) units are available for the flight deck crew and cabin attendants. First aid oxygen is kept in the passenger compartment (cabin).

12.16.3 Controls and Indications - Oxygen



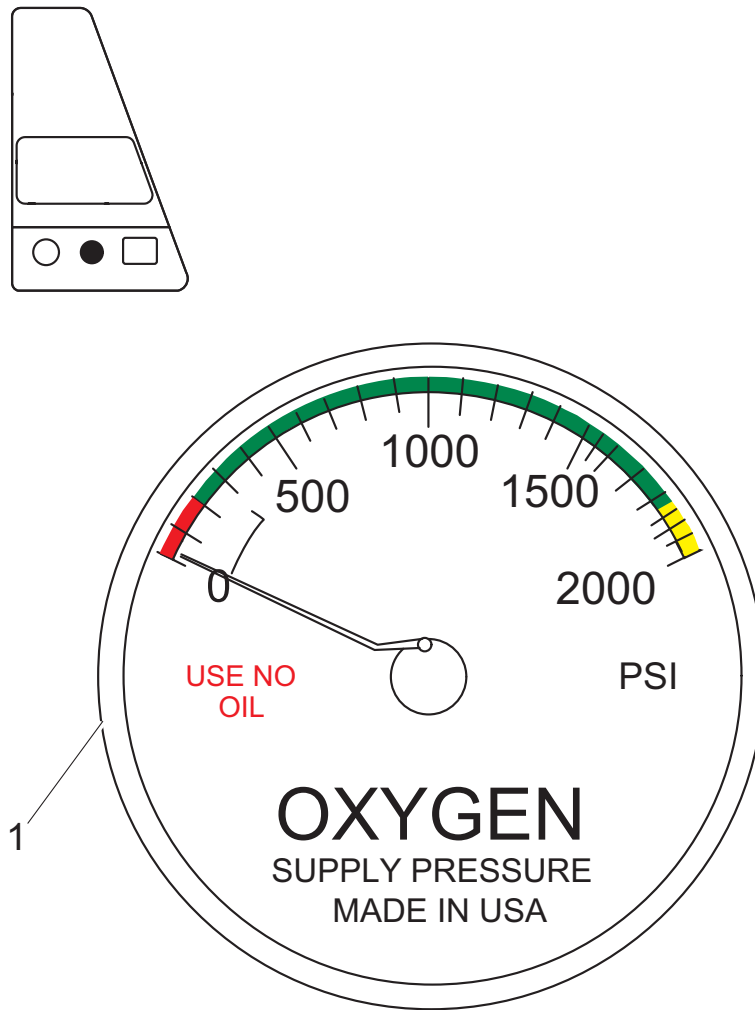


Figure 12.16-1 Flight Deck Oxygen Pressure Gauge

Flight Deck Oxygen Pressure Gauge Callout

1. FLIGHT DECK OXYGEN PRESSURE GAUGE

- oxygen pressure available to the fixed crew oxygen masks
- if the oxygen cylinder is turned off, the available pressure is automatically reduced to atmospheric but the gauge continues to show bottle pressure

Dash8 - Q400 - Oxygen

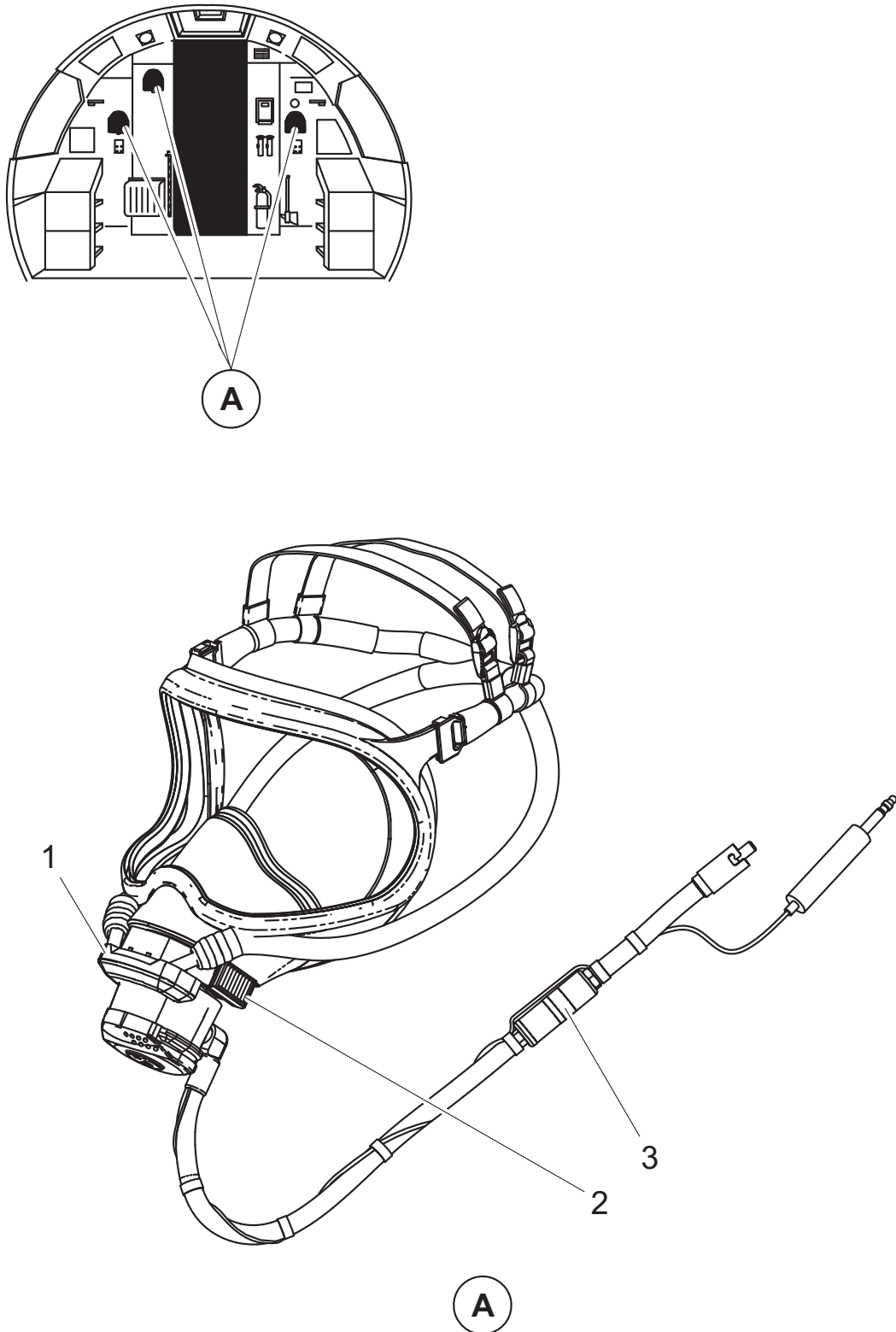


Figure 12.16-2 Flight Deck Crew Oxygen Mask

FLIGHT DECK CREW OXYGEN MASK CALLOUTS

1. CONTROL KNOB (rotary action)

NORM - regulator automatically supplies an air/oxygen mixture which varies with cabin altitude

100% - regulator supplies 100% oxygen regardless of cabin altitude

EMER - regulator supplies 100% oxygen at a slight positive pressure

CAUTION

Keeping the regulator in the EMER position can deplete the oxygen system.

2. HARNESS INFLATION BUTTON (red, momentary action)

PUSH - harness inflates with oxygen pressure

RELEASE - harness deflates and compresses

-optional comfort control mask has adjustable harness tension by slowly releasing button

WARNING

Smoking is not permitted when oxygen is in use.

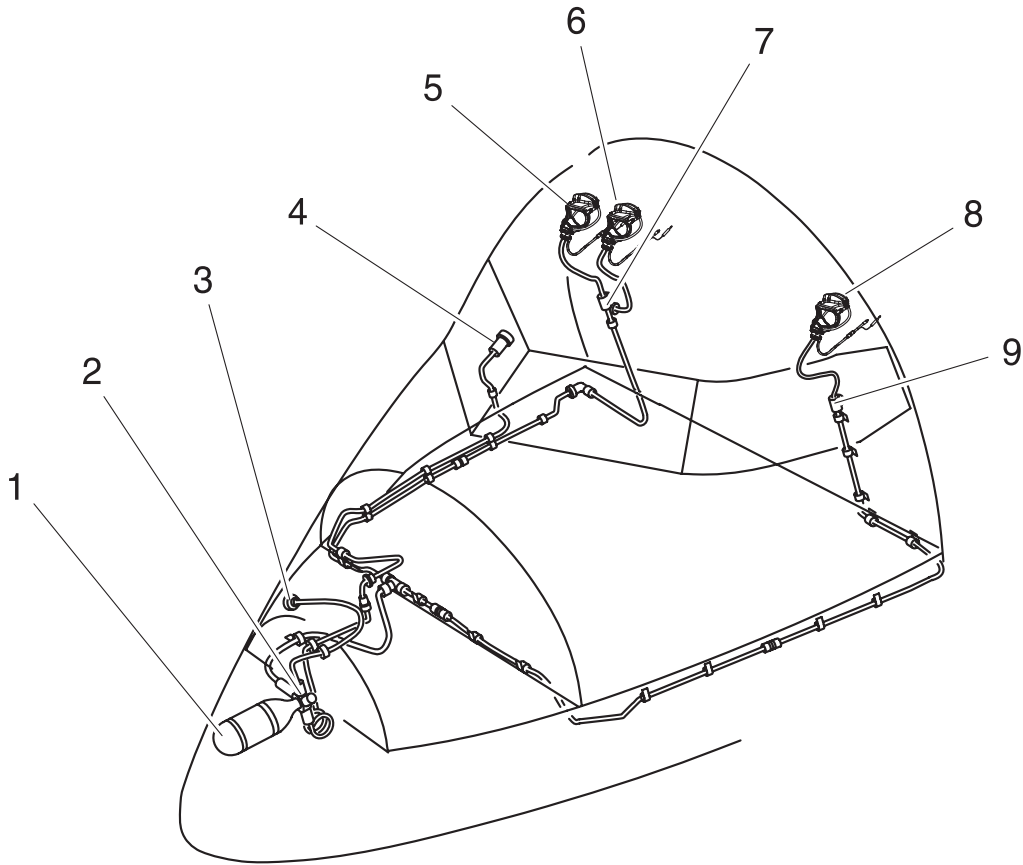
3. OXYGEN PRESSURE INDICATOR

(red) - low oxygen pressure

(green) - minimum oxygen pressure available

NOTE: If the mask is donned and difficulties in breathing are experienced or the oxygen line indicator is **red**, make sure the supply hose is connected.

Dash8 - Q400 - Oxygen



LEGEND

1. Oxygen Cylinder Assembly
2. Pressure Regulator
3. Overboard Discharge Indicator
4. Flight Deck Oxygen Pressure Gauge
5. Copilot's Oxygen Mask
6. Observer's Oxygen Mask
7. Copilot's and Observer's Oxygen Supply Outlets
8. Pilot's Oxygen Mask
9. Pilot's Oxygen Supply Outlet

Figure 12.16-3 Crew Fixed Oxygen System

12.16.4 Crew Fixed Oxygen

The crew fixed crew oxygen system (Figure 12.16-3) supplies supplemental oxygen for a descent to 14,000 feet in four minutes and flight at 14,000 feet for 116 minutes. The crew masks are supplied from a single, common cylinder in the right lower nose compartment. A pressure gauge on the cylinder shows the cylinder pressure. A green burst disc, located on the right side exterior of the nose, is ejected out if cylinder over-pressurization occurs (Figure 12.16-4). The oxygen pressure available to the masks is shown on a lighted flight deck gauge located on the COPILOT's SIDE console. If the oxygen cylinder is turned off, the available pressure is automatically reduced to atmospheric. The three crew masks are kept in stowage cups on the bulkhead behind the pilot's and copilot's seats. Each mask plugs into its related oxygen outlet. The observer's mask, which is kept adjacent to the copilot's mask, is supplied from the dual outlet on the copilot's oxygen supply line. If any outlets fail, the masks can be plugged into another outlet. The mask supply hose has an in-line pressure indicator to show if there is sufficient oxygen pressure. The indicator shows green with correct pressure and red if the oxygen pressure is low. If one mask fails to operate, the observer's mask may be used by either crew member. The oxygen masks have a microphone with an audio connector.

Each mask has an inflatable harness so that the mask can be put on in less than five seconds. The harness is controlled by a red harness inflation button on the regulator. The automatic diluter demand regulator installed on each mask is controlled by a rotary knob which has three positions:

- NORM position, the regulator automatically supplies an air/oxygen mixture
- 100% position, the regulator supplies 100% oxygen regardless of altitude
- EMER position, regulator supplies 100% oxygen at a positive pressure

The EMER position will also purge smoke from the smoke goggles.

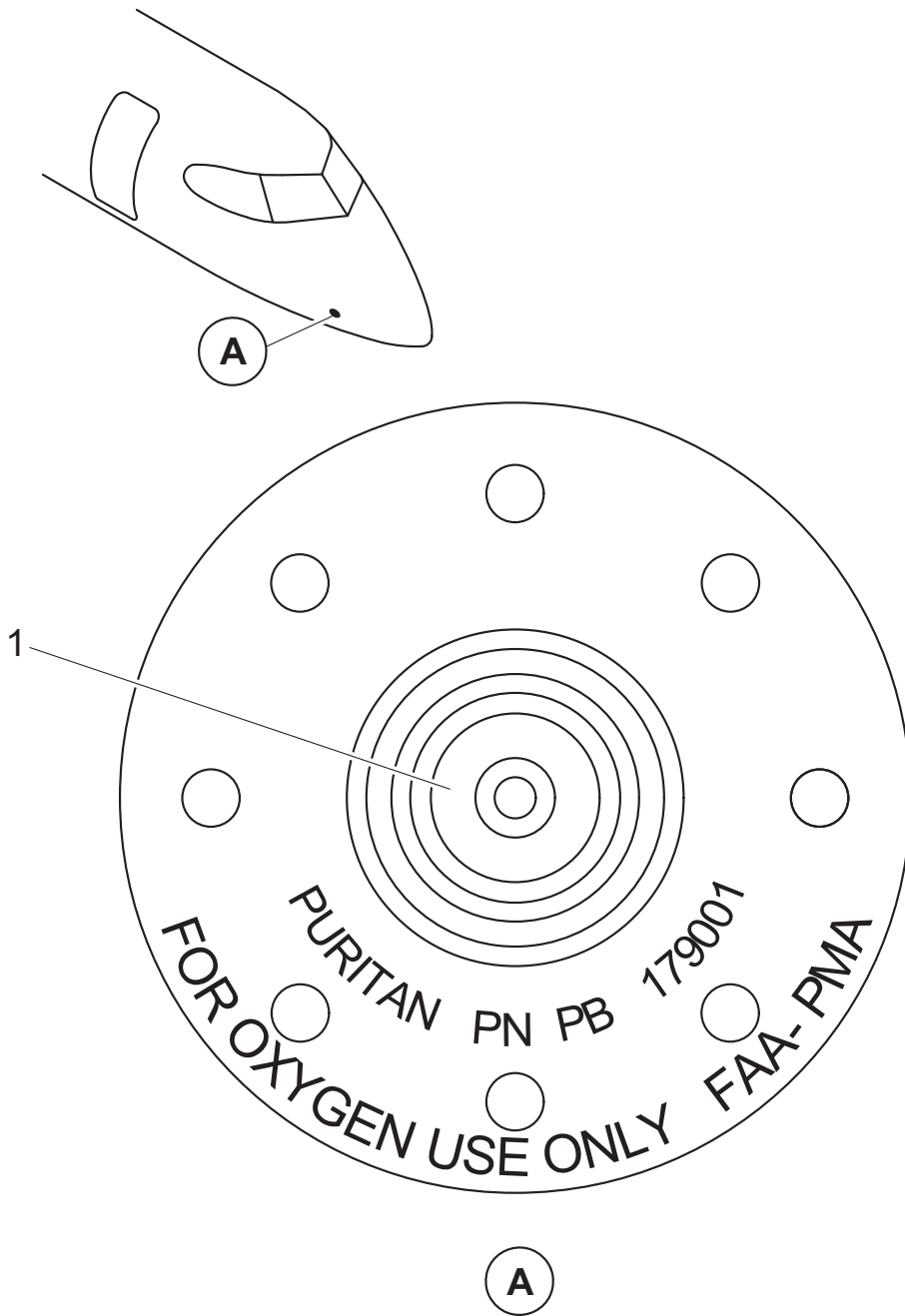
WARNING

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CAUTION

Keeping the regulator in the EMER position can deplete the oxygen system.

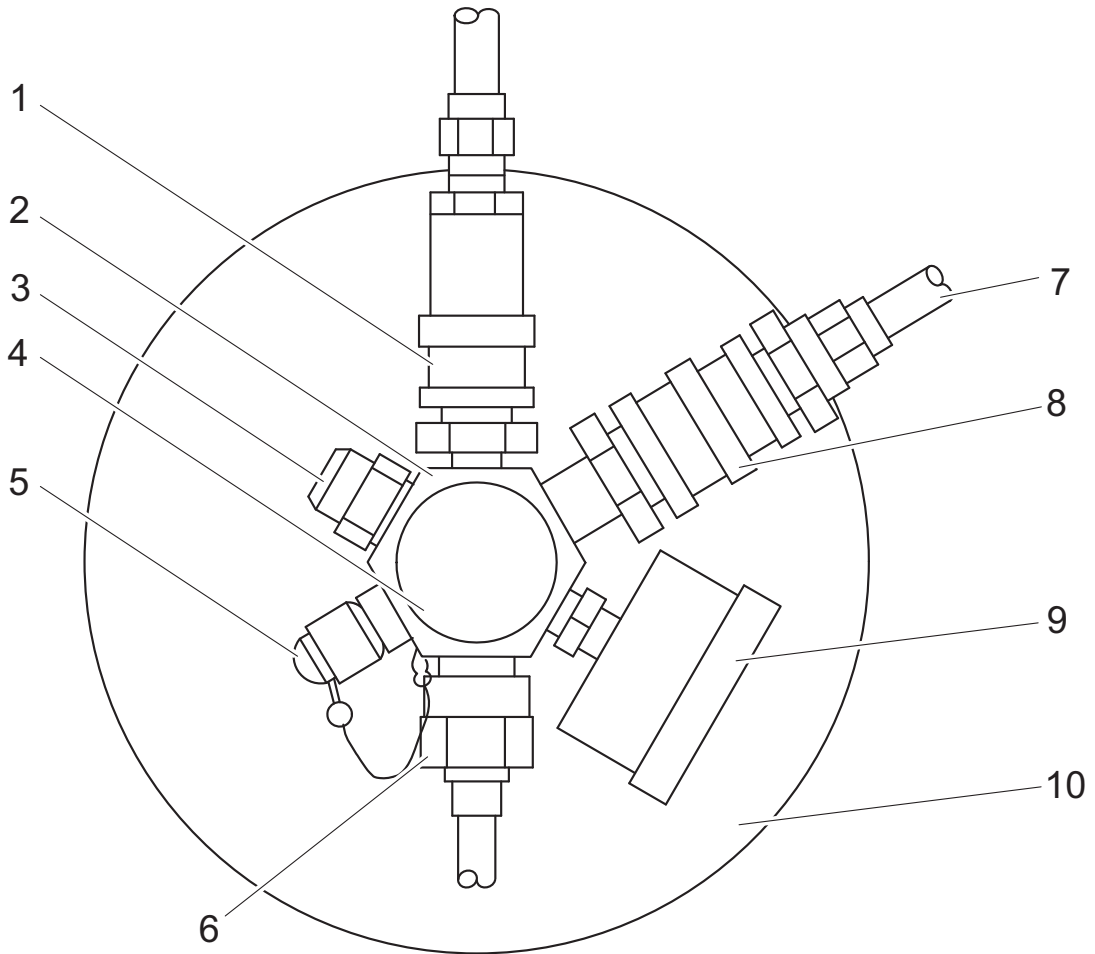
NOTE: If the mask is donned and difficulties in breathing are experienced or the oxygen line indicator is red, make sure the supply hose is connected.



LEGEND

- 1. Green Burst Disc.

Figure 12.16-4 Crew Oxygen Burst Disc



LEGEND

- 1. High Pressure Relief Port.
- 2. Pressure Regulator.
- 3. Low Pressure Relief Valve.
- 4. ON-OFF Knob.
- 5. Charging Valve.
- 6. High Pressure Fitting.
- 7. Crew Oxygen Supply Line.
- 8. Quick Disconnect Fitting.
- 9. Oxygen Cylinder Pressure Gauge.
- 10. Crew Oxygen Cylinder.

Figure 12.16-4 Crew Oxygen Cylinder