

**Pilot's Operating Handbook and  
FAA Approved Airplane Flight Manual  
Supplement  
for**

# **Approved Oxygen Systems**

When supplemental oxygen is required by the applicable operating rules (FAR Part 91 or FAR Part 135), this Supplement is applicable and must be inserted in the Supplements Section of the Pilot's Operating Handbook. This document must be carried in the airplane at all times. Information in this supplement adds to, supersedes, or deletes information in the basic Pilot's Operating Handbook.

• Note •

This POH Supplement Revision dated Revision 02: 01-06-10, supersedes and replaces the Revision 01 release of this POH Supplement dated 10-10-03.

FAA Approved Joseph C. Mies Date Jan 06 2010  
for Charles Smalley, Manager  
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## Section 1 - General

This supplement lists the approved portable oxygen systems that may be used in the aircraft when supplemental oxygen is required by the applicable operating rules, as well as provides mounting instructions and general operating procedures for all approved systems.

### Section 2 - Limitations

Above 18,000 ft a mask covering the nose and mouth of the user must be used. Use of cannulas above 18,000 ft is prohibited.

The following portable oxygen systems and dispensing units are approved for use in the aircraft:

Model	Capacity	Supplier	Dispensing Units
XCP-682	682 L	Mountain High Equip. & Supply	Mask (1 minimum), Cannula,
XCP-415	415 L	Redmond, OR	A4 Flowmeters Only (use mask or std. cannula scale only)
XCP-180	180 L	mhoxygen.com	<b>Do not use A3 flowmeters</b>

The system must be configured so that at least one mask capable of covering the nose and mouth is available for use. If nasal cannulas are provided in addition to the mask(s), the instruction sheet provided by the cannula manufacturer must be affixed to the tubing on each cannula and available to each user. The instructions must contain the following information:

- A warning against smoking while oxygen is in use;
- An illustration showing the correct method of donning; and
- A visible warning against use of the cannula with nasal obstructions or head colds with resultant nasal congestion.

The oxygen bottle must be secured in the right front seat so that the pilot can view the oxygen pressure gage and operate the regulator. When the oxygen bottle is installed, the seat may not be occupied in flight and the maximum occupancy is reduced by one. Oxygen storage bottles were hydrostatically tested at manufacture and the date stamped on the bottle. The storage bottle must be hydrostatic tested and recertified every 5 years.

## Section 3 - Emergency Procedures

### Smoke and Fume Elimination

In addition to the procedures outlined in the basic Handbook, pilot and passengers should don cannulas or masks and use oxygen at the maximum flow rate until smoke and fumes have cleared.

## Section 4 - Normal Procedures

• Note •

*Refer to Figure 2 – Oxygen Duration for duration at various altitudes and passengers using oxygen.*

### Preflight

1. Oxygen Bottle (right front seat) ..... Check Properly Secured
2. Oxygen Masks or Cannulas ..... Connected to Regulator
3. Oxygen Pressure Gage ..... Green Arc
4. Oxygen Shutoff Valve ..... OFF

### Before Starting Engine

1. Passengers ..... Brief on Oxygen System Operation

• Note •

Briefing to include oxygen mask/cannula donning, flowmeter adjustment, and connection to oxygen bottle regulator.

### Climb

As airplane approaches altitude requiring oxygen:

1. Pilot and passengers ..... Don Masks or Cannulas
2. Oxygen Shutoff Valve ..... ON
3. Flowmeters ..... Adjust flow for final cruise altitude

• WARNING •

Set A4 flowmeter using standard cannula or mask scale. **Do not use scale for oxygen conserving.**

## Descent

After airplane descends through altitude requiring oxygen:

1. Oxygen Shutoff Valve.....OFF
2. Pilot and passengers ..... Stow Masks or Cannulas

## Section 5 - Performance

No change from basic Handbook.

## Section 6 - Weight & Balance

The weight, arm, and moment for fully charged systems (1800 – 2200 psi) is provided in the following table:

Model	Weight - lb	Arm	Moment/1000
XCP-682 (682 Liter)	14.00	143.5	2.01
XCP-415 (415 Liter)	10.25	143.5	1.47
XCP-180 (180 Liter)	4.50	143.5	0.65

## Section 7 - System Description

Refer to approved system manufacturer’s data for a description of the equipment, cleaning instructions, and specific operational instructions.

### Mounting Instructions

The oxygen bottle must be properly mounted in the right front passenger seat using the cylinder harness supplied with the system. When properly mounted and secured, the pilot will be able to view the oxygen pressure gage and operate the shutoff valve. See Figure 1 for mounting instructions.

### INITIAL INSTALLATION

- 1 Clip strap to triangular loop as shown in Detail A. Route strap over headrest, down the back of the seat, and forward between the cushion and seat back. Clip strap to lower triangular loop. Tighten strap with cinch.

**Note** Prior to installing bottle the first time, the horizontal straps will be disassembled in order to pass the loose ends through the loops on the Tuff Pack Bag. Be sure to note the strap routing through the buckle and cinch during disassembly to aid in reassembly.

- 2 Route loose end of strap around the seat back, through rectangular loops on forward side of bottle, as shown in Detail B, through the male buckle half, and through the cinch, as shown in Detail C. Insert male buckle half into female buckle half and tighten strap at cinch.
- 3 Same as step 2.

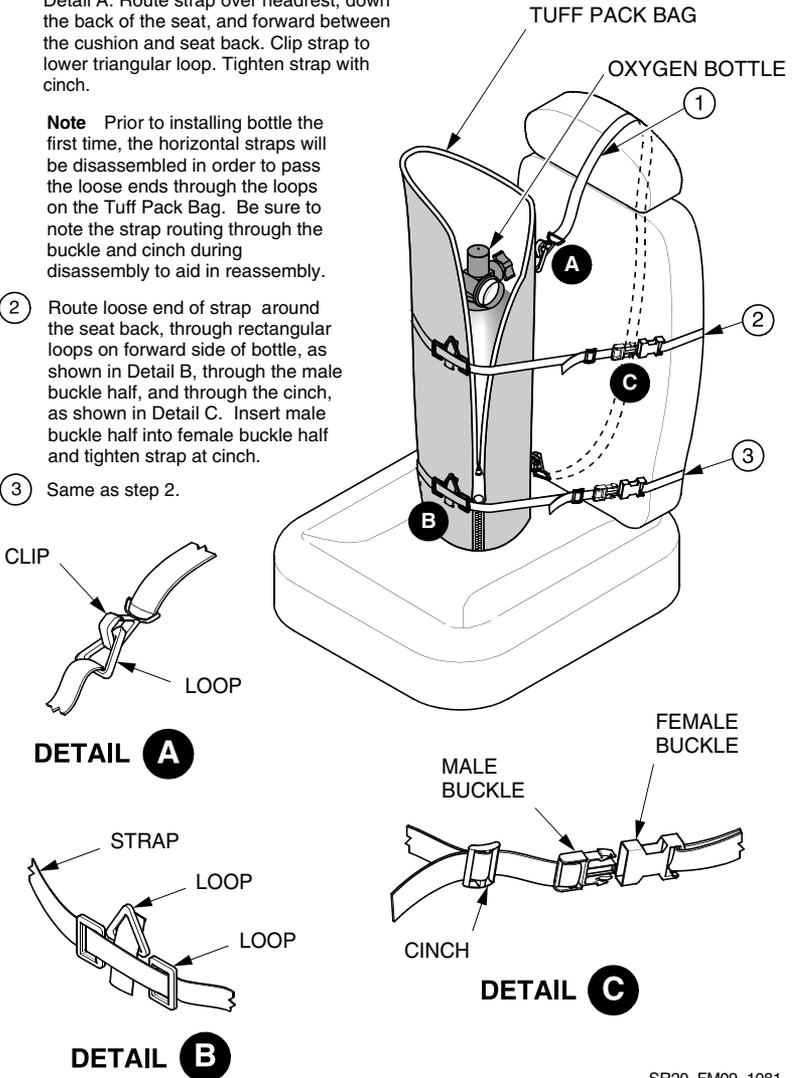


Figure - 1  
Oxygen Bottle Mounting

**OXYGEN DURATION - HOURS**  
**Fully Charged System**  
(1800 psig at 70° F)

System Typical (Liters)	Number of Persons Using O <sub>2</sub>	Altitude ~ Feet			
		10,000	15,000	18,000	25,000
XCP-180 (134)	1	2.23	1.49	1.24	0.89
	2	1.12	0.75	0.62	0.45
	3	0.74	0.50	0.41	0.30
XCP-415 (371)	1	6.18	4.12	3.43	2.47
	2	3.09	2.06	1.71	1.24
	3	2.06	1.37	1.14	0.82
XCP-682 (609)	1	10.15	6.77	5.64	4.06
	2	5.08	3.39	2.82	2.03
	3	3.38	2.26	1.88	1.35

Durations assume typical flow rate of 1.0 liter/minute at 10,000 feet pressure altitude.

**Figure - 2**  
**Oxygen Duration**