

Arizona Soaring Association, Inc.

1.0 Usage Policy

- 1.1 Any ASA member who meets the following criteria will be allowed unsupervised access to ASA oxygen system
 - A. Has attended a class given by a Board approved trainer
 - B. Has paid required oxygen usage fee
 - C. Has signed a waiver releasing ASA from liability agreeing to terms
- 1.2 Any such approved member may provide oxygen to other members but may not allow other members unsupervised access
- 1.3 Training comprises class room presentation and a demonstration of the equipment
- 1.4 Unsafe use of the oxygen system, or other violations of this oxygen policy by a member, may result in the member losing the privilege of unsupervised access. Such action may be permanent, for a set period of time, or until the member has received additional training, at the discretion of the ASA board.

2.0 Safety

2.1 Risks

- A. Disconnecting lines when pressurized.
- B. Tube or pipe rupture.
- C. Contamination induced fire.
- D. Cylinder failure.

2.2 Precautions

- A. Think about each step. Always know which valves are open.
- B. Inspect hoses and fittings.
- C. No oil or grease on fittings, tools, or hands.
- D. Cylinders secure, undamaged, and have current test date.
- E. Use of oxygen trailer while consuming, or under the influence of, alcohol is prohibited.
- F. No smoking or open flames within 20 feet.

3.0 Filling procedures

- 3.1 Determine pressure of cylinder to be filled. If pressure 500psi or greater do not fill. (Exceptions made for flying at remote sites)
- 3.2 Determine pressure of each supply cylinder
 - A. Check pressure log or cylinder marking for pressures.
 - B. If High cylinder less than aircraft cylinder do not attempt fill.
- 3.3 Remove dust cap from flex line fitting
- 3.4 Attach/remove fill adapter as required
- 3.5 Inspect flex line fitting for contamination or damage
- 3.6 Open manifold valve
- 3.7 Purge flex line with 1 second pulse from low pressure cylinder.
- 3.8 Attach flex line to aircraft cylinder
- 3.9 Slowly open aircraft cylinder valve and listen for leaks
- 3.10 Check manifold pressure - this is aircraft cylinder pressure
- 3.11 Select trailer cylinder with pressure next higher than aircraft cylinder
- 3.12 Slowly open valve on selected cylinder
 - A. Expect to hear hissing as oxygen transfers
 - B. Expect to see manifold pressure increase
 - C. Expect aircraft cylinder temperature to increase
- 3.13 When pressure has equalized close trailer cylinder valve
- 3.14 Record cylinder pressure on cylinder and in log
- 3.15 Select next higher pressure trailer cylinder and slowly open valve
- 3.16 When pressure has equalized close trailer cylinder valve
- 3.17 Record cylinder pressure on cylinder or in log

- 3.18 Repeat steps "select, open, equalize, close, record" for remaining cylinders or until manifold pressure reaches 1,800 psi.
- 3.19 Close aircraft cylinder valve
- 3.20 Re-check that trailer cylinder valves are closed
- 3.21 Identify trailer lowest pressure cylinder.
- 3.22 Slowly open low pressure cylinder valve to recover high pressure manifold gas
- 3.23 Close low cylinder valve
- 3.24 Close manifold valve
- 3.25 Slightly loosen fitting on aircraft cylinder to allow pressure relief
- 3.26 When pressure relieved, remove flex line from aircraft cylinder and cap the fitting.
- 3.27 Re-check all trailer cylinder valves are closed
- 3.28 Ensure log entry is complete
- 3.29 Secure trailer

4.0 **Administrative**

- 4.1 Arizona Soaring Association Oxygen Cart usage record. (Sample)

<u>Date</u> (MM/YY/DD)	<u>LastName</u>	<u>Cylinder PSI After Fill</u>				<u>Comments</u>
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	

5.0 **System Maintenance**

- 5.1 Oxygen trailer maintenance shall be performed only by the designated equipment manager.
- 5.2 Authorized oxygen users are not authorized to maintain, repair, or modify the ASA oxygen system in any way
- 5.3 Any problems with the oxygen system should be brought to the attention of the designated equipment manager, or any board member.
- 5.4 Oxygen system users shall notify the designated equipment System Maintenance manager when the high cylinder pressure is less than 1,400 psi

6.0 **Additional reading (documents on the ASA Website)**

- A. Filling Your Aviator’s Oxygen Cylinder (Mountain High Equipment and Supply Company)
- B. Explanation of gas laws (relating pressure, temperature and volume).