

1. ASA Oxygen Policy

1.1. Any ASA member who meets the following criteria will be allowed unsupervised access to ASA oxygen system

?? Has attended a class given by a board approved trainer

?? Has paid required oxygen usage fee

?? Has signed a waiver releasing ASA from liability

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. Safety

2.1. Risks

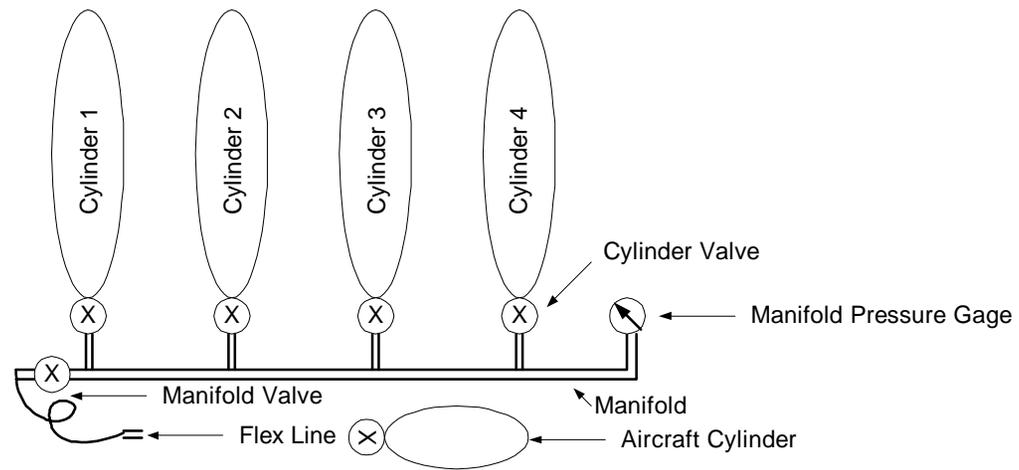
- ?? Disconnecting lines when pressurized.
- ?? Pipe rupture.
- ?? Contamination induced fire.
- ?? Cylinder failure.

2.2. Precautions

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

3. System Description

ASA OXYGEN SYSTEM



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

?? Check pressure log or cylinder marking for pressures.

?? 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

?? Expect to hear hissing as oxygen transfers

?? Expect to see manifold pressure increase

?? Expect aircraft cylinder temperature to increase

3.13. When pressure has equalized close trailer cylinder valve

3.14. Record cylinder pressure on cylinder or 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*

5. 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 manager when the high cylinder pressure is less than 1,400 psi*

6. Additional reading

- 6.1. <http://www.avweb.com/articles/pelperch/pelp0013.html>
(aviators vs welding oxygen)
- 6.2. <http://www.nelsonoxygen.com/article.htm> (excellent paper on oxygen use and oxygen systems)
- 6.3. <http://www.pp.okstate.edu/ehs/LINKS/gas.htm> (references to safety related bulletins)
- 6.4. <http://www.uwm.edu/Dept/EHSRM/LAB/labgascyl.html> (cylinder safety and markings)
- 6.5. <http://dbhs.wvusd.k12.ca.us/GasLaw/Gas-Ideal.html> (ideal gas law)