

00GSE-1050-00
FBO GSE TRANSFILLER KIT
INSTRUCTION & SAFETY MANUAL

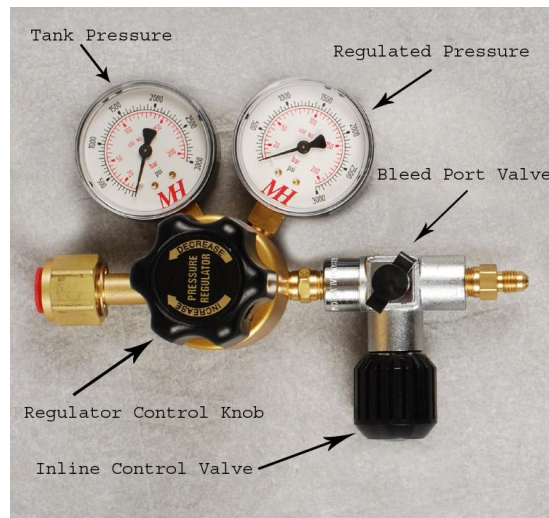
Safety Precautions

You should be familiar with the Hazards of high pressure oxygen and Transfilling.

Always wear eye protection when filling oxygen cylinders or systems.

Check the DOT hydro-test date of the supply cylinder(s) and cylinder(s) you are refilling to be sure they are within the test date requirement.

1. Before connecting the Regulator, make sure the Supply Tank(s) outlet fittings are clean, free from oil and dirt before attaching the pressure regulator to the Supply Tank. Connect the CGA-540 nut & nipple of the regulator assembly to the supply tank outlet and tighten connection with suitable wrench.
2. Make sure the **In-line Control Valve** and its **Bleed Port Valve** is closed by turning clockwise.
3. Back off the Pressure Regulator control knob (counter clockwise) until spring pressure is released and knob spins freely.



4. Connect the appropriate oxygen fill adaptor to the -4 jic end of the flex hose and tighten using the proper fitting end wrenches.
5. Connect the fill adaptor to the cylinder or oxygen fill port of the aircraft. Note: **BE AWARE OF THE PROPER FILL PRESSURE OF THE CYLINDER OR SYSTEM YOU ARE REFILLING!**

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6. Pre-setting the regulator.

Using the highest pressure supply tank, slowly open the valve.

Adjust the desired regulated pressure by turning the regulator knob clockwise.

Be sure at this point not to exceed the pressure of the system or slave cylinder.

If using a cascaded system you will want to close this tank now after setting the regulator, as we will start the filling from the tank with the lowest pressure.

BE SURE THE REGULATED PRESSURE DOES NOT EXCEED THE PRESSURE OF THE SYSTEM YOU ARE SERVICING.

7. SLOWLY open the Supply Tank, or with a cascaded system, the lowest supply pressure tank first. Note the supply tank pressure when the valve is opened.

8. SLOWLY open the Inline Control Valve with the large round black knob counter-clockwise. You should hear the O2 moving down the high pressure flex hose.

If you are filling a portable Slave Cylinder this valve will need to be opened at this time also.

The systems gauge will start to show an increase in pressure.

Note: The outlet side of the regulator has a metered orifice that prevents filling to fast.

When the pressure equalizes close the valve on the first tank and open the valve of the second tank.

Repeat this process through all the supply tanks until the desired set pressure is reached.

Once the system is filled...point 8

8. Once the Aircraft system or Slave Cylinder is filled shut off all valves.

This includes the Supply Tank, Inline Control Valve and Cylinder Valve. (Clock-wise)

When filling Aircraft you will only need to shut of the supply Tank and inline valve, as the aircraft will have a one way check valve at the fill port.

9. SLOWLY open the Bleed Valve on the Control Valve to bleed the gas from the fill hose.

10. Back off the Pressure Regulator control knob, (counter clockwise) until spring pressure is released and knob spins freely.

The regulator **should not** be stored with the regulator spring under pressure.

11. The adapter can now be removed from the slave cylinder or aircraft.

“Caution” Attempting to unscrew any of the "O" ring fittings while under pressure will cause damage to the "O" rings.

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Hazards of high pressure oxygen and Transfilling

Transfilling of gaseous oxygen from one cylinder to another involves hazards associated with the handling of oxygen under pressure. A hazardous condition does exist if high pressure oxygen equipment becomes contaminated with hydrocarbons such as oil, grease or other combustible materials which may include oil from a person's hands or contaminated tools. A cylinder will heat as it is filled from a high pressure source. The more rapidly the cylinder is filled, the higher the temperature rise in the cylinder resulting from the heat of compression of the gas. Excessive temperature may result in the ignition of any combustible materials that may be present in the system. Refill the cylinder at a flow rate that reduces heating of the cylinder. Use only equipment designed for refilling and transfilling.

Although oxygen itself is nonflammable, materials which burn in air will burn much more vigorously and at higher temperatures in an oxygen enriched atmosphere. If ignited, some combustible materials such as oil will burn in oxygen with explosive violence. Many other materials which do not burn in air will burn vigorously in oxygen-enriched atmospheres. Ignition temperatures are reduced in oxygen-enriched atmospheres. Compressed oxygen presents a hazard in the form of stored energy.

Open the cylinder valve slowly. The rapid release of high pressure oxygen through orifices, control valves, etc. in the presence of foreign particles can cause friction or impact resulting in temperatures which may be sufficient to ignite combustible materials present in the system..

Cleaning the adapter, service line and valve of oil and greases

If any part of the system should become contaminated or you suspect so, you can clean it by hot water and detergent. Do not use the system if it has become contaminated with oil or grease. If the contamination is mild a liquid form of automatic dishwasher detergent or the cleaning product "Formula 409" has shown to work best for this purpose. This type of detergent is able to cut and remove almost all types of oils or greases and will rinse off without any detectable residue.

To test for contamination take a clean cotton swab "Q-Tip" and wipe the suspected area with it. Next place the tip of the cotton swab into the surface of a plane of CLEAN water while you are observing a clear reflection of light that shows the water's surface. You should not detect any oil what so ever bleed from the cotton tip fanning out over the water's surface. This is an accepted method for oil contamination detection. An oil clean surface will pass this test without any doubt.

If the service line should become contaminated internally by oil or grease it can be cleaned by soaking the entire line in a vat of hot water and a liquid form of automatic dishwasher detergent. Rinse the line in hot water and inspect. If contaminates are still present repeat soaking. Dry the line by hanging it vertically in a hot air or direct sunlight environment. However, if the contamination is more so or severe you may have to perform the cleaning process several times or use a solvent such as "111 trichloroethane".