TR-55a Transfiller

CGA-540N to CGA-540N

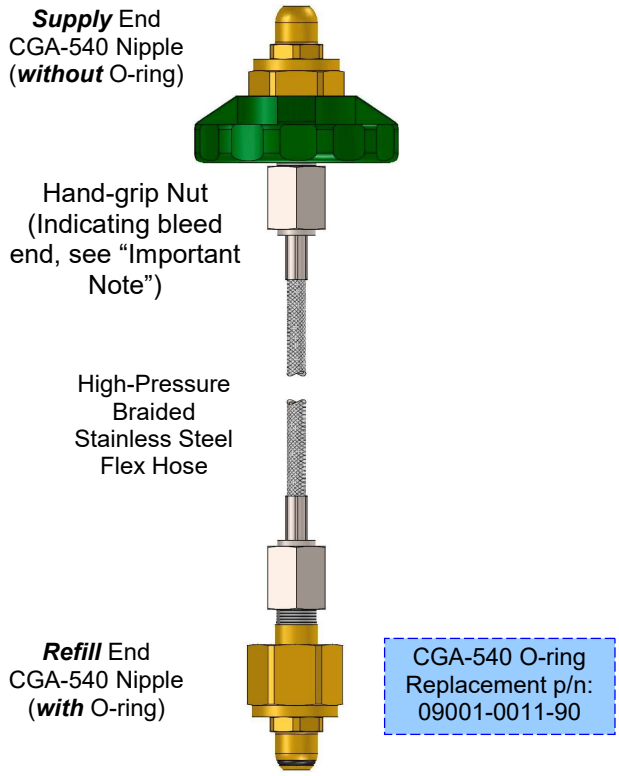
This device is intended solely for the transfilling (transfer) of compressed oxygen between cylinders with CGA-540S connections at pressures up to 3000 psig (207 Bar).

The TR-55 Transfiller features a standard 18 inch (46 cm) high-pressure braided stainless steel flex hose – other lengths are available on request. A spare O-ring is provided, with additional replacements available from Mountain High E&S Co.

Important Note

One end of the TR-55 Transfiller (referred to as the ***Supply*** end) ***does not*** have an O-ring. This is necessary because, without a bleed valve, the Transfiller ***must*** be disconnected while under pressure. If the end ***with*** the O-ring is disconnected first, the O-ring will invariably be damaged. For this reason ***it is important to disconnect the end without the O-ring first.*** When tightening it may be necessary to use a wrench to snug the supply end nut a little past hand tight to achieve a good seal.

Supply cylinders typically have a brass valve-head and will often provide a good seal without an O-ring, but a chrome-plated valve-head may leak if not tightly secured. If the Supply cylinder has a chrome-plated valve-head, but the Refill cylinder has a brass valve-head (atypical), then the Transfiller may be reversed – just be certain to disconnect/bleed the end ***without*** the O-ring first. If both cylinders have chrome-plated valve-heads, or if the connection still tends to leak, you may need to use a TR-75, TR-95 or TR-105 Transfiller. These models incorporate a bleed valve and have O-rings on both fittings.



TRANSFILLING PROCEDURE

SEE OTHER SIDE FOR SAFETY PRECAUTIONS

1. Verify that the Transfiller fittings (CGA-540) properly match the fittings of your cylinders. Make sure that all fittings are in good condition and completely free of any oil, grease or dirt.

2. Verify that the hydro-test date on the cylinder you intend to refill has not expired. Also note the DOT type rating stamped on the cylinder to double-check the proper fill pressure.

3. If the cylinder is completely empty and the valve has been left open, or if there is any question about it's status, make sure that the cylinder has not been internally contaminated with oil, gases, or any other combustible materials.

If you cannot assure the cylinder is safe… **DO NOT FILL IT!**

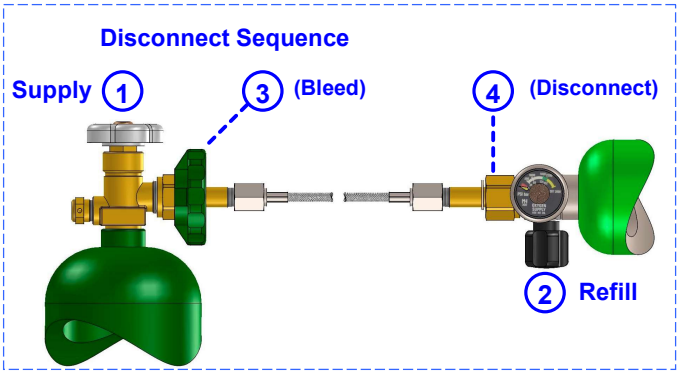
4. Securely mount the ***Supply*** end of the Transfiller to the Supply cylinder (wrench snug). Connect the Refill cylinder to the ***Refill*** end of the Transfiller. (See "***Important Note***" above)

5. Once both cylinders are connected, **SLOWLY** open the valve on the Supply cylinder first. You should hear oxygen pass from the Supply cylinder to fill the transfiller line. Next, **SLOWLY** open the valve on the empty (Refill) cylinder. You should likewise hear oxygen passing into the Refill cylinder.

6. Fill the cylinder **SLOWLY** to void excessive heating, using the Refill cylinder valve to control the fill rate (the recommended fill-rate is ~ 50-75 liters/min, which means an empty cylinder will require approx. 1½-2 minutes for each 100 liters of capacity). The cylinder will become warm to the touch during transfilling, but should not be allowed to heat up any further. For cylinders over 300 liters, transfilling may need to be done in segments, pausing to let the cylinders cool between segment transfers. In addition to keeping the cylinders cool, this will also help in detecting leaks or other problems. Use the gauge on the Refill cylinder to monitor the Refill cylinder pressure.

DO NOT fill a cylinder past it's rated pressure

7. After the Refill cylinder has been filled, close ***both*** Supply and Refill cylinder valves, then **SLOWLY** crack open (counter clock-wise) the Supply-fitting nut of the Transfiller to relieve pressure and bleed the line. You may need a wrench to do this. **DO NOT attempt to unscrew the O-ring nipple end while the line is under pressure - this will damage the O-ring**. You can now loosen the Refill-fitting nut and disconnect the (Refill) cylinder.



8. Repeat the entire process to fill additional cylinders. If regularly filling more than one cylinder at a time, consider using a TR-75, TR-95 or TR-105 Transfiller. These models incorporate a bleed valve and are therefore more convenient and efficient for multiple refills as they do not require the Supply cylinder fitting to be loosened/bled for each successive Refill cylinder. Also, less Oxygen is wasted, as the entire transfiller does not need to be completely bled between cylinders.

TR-55a Transfiller

00GSE-1008-__

CGA-540N to CGA-540N

Mfg Date:

Length:

Cleaned for Oxygen Service per MH ESR-008

Insert #	5IGSE-1008-00 Rev 3	ECO #	2024-038
Src File:	5IGSE-1008-xx$A3	Date:	2024-07-23

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 exists 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 up as it is filled from a high-pressure source. The more rapidly the cylinder is filled, the greater the temperature rise in the cylinder as a result of the heat of compression of the gas. Excessive temperature may result in the ignition of any combustible materials present in the system. Refill the cylinder at a flow rate that limits heating of the cylinder. Use only equipment designed for refilling and transfilling.

Although oxygen itself is nonflammable, materials that burn in air will burn much more vigorously and at higher temperatures in oxygen enriched atmospheres. If ignited, some combustible materials such as oil will burn in oxygen with explosive violence. Many other materials that do not burn in air will burn vigorously in oxygen-enriched atmospheres. Ignition temperatures are reduced in oxygen-enriched atmospheres.

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

Compressed oxygen also presents a hazard in the form of stored energy due to the high pressure inside the cylinder. Sudden or uncontrolled release of oxygen can create an ***extreme safety hazard***. Exercise due caution in handling, transporting or storing compressed oxygen cylinders.

Cleaning the Adapter, Service Line and Valve of Oil and Grease

If any part of the system should become contaminated (or you suspect so), it may be cleaned with 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 been 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, wipe the suspected area with a clean cotton swab ("Q-Tip"). Next, touch the tip of the cotton swab to the surface of a pan of CLEAN water while observing the light reflected from the water's surface. You should not detect any oil whatsoever bleed from the cotton tip fanning out over the water's surface. This is an accepted method for detection of oil contamination. 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 dish-washer detergent. Rinse the line in hot water and inspect. Repeat soaking if contaminates are still present. Dry the line by hanging it vertically in a hot air environment or in direct sunlight. If the contamination is severe, you may have to perform the cleaning process several times or use a solvent such as "111 trichloroethane". ***Note: Solvent-type cleaning fluids have an adverse effect on plastic and elastomeric materials after prolonged exposure.*** Components containing such materials should be removed from the system before proceeding with the cleaning operation.