

MH Full-Pack™ Carry-on Cylinder Harness

INSTRUCTION MANUAL

The MH Full-Pack is a carry-on and strap-down cylinder harness for MH oxygen cylinders. To install, open the zipper all the way and place the cylinder into the Full-Pack. Make sure that the elastic strap secures the top (neck) of the cylinder just beneath the valve head. This can be easily accomplished by first placing the top part (neck) of your cylinder into the Full-Pack harness through the elastic band, then slide the bottom part of the cylinder into the Full-Pack past the opened zipper. After the cylinder has been secured into the Full-Pack, zip closed the zipper and follow the illustrated instructions below to secure the Full-Pack to the rear of the seat back, using the provided seat straps.



Open up the webbing loops and line up the straps with the seat top section.



Weave the webbing through the rear bottom seat struts and loop it back under the seat. Then loop the top webbing over the head rest or upper part of the seat, so when you look at it from the rear, it looks like this.



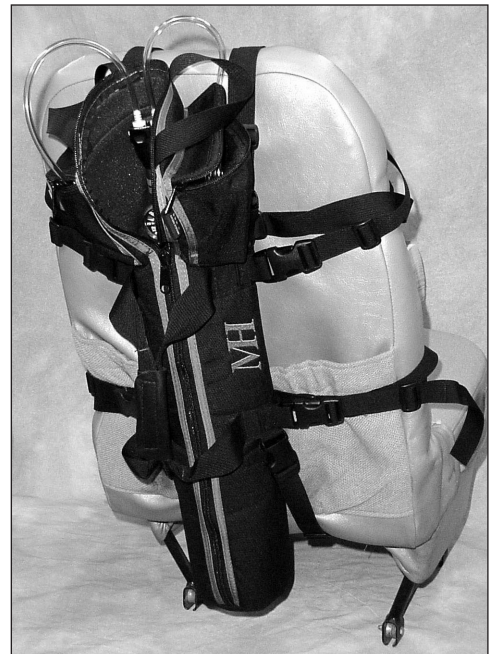
Tighten the webbing around the rear bottom seat struts and over the top head rest of the seat and place the Full Pack in position to snap into place.



Snap the Easy-Snaps onto the Full-Pack on right hand side.



Snap the Easy-Snaps onto the Full-Pack on left hand side.



Full-Pack on seat-back, ready to go with easy removal when required.



Toll Free: 800-468-8185
Telephone: 541-923-4100
Fax: 541-923-4141
E-Mail: sales@mhoxygen.com
www.MHoxygen.com

2244 SE Airport Way, Suite 100
Redmond OR 97756-7537

NOTE: See other side for oxygen information

A word about oxygen in general

Oxygen is oxygen. There are no specific grades or purities with oxygen under pressure that has been produced by liquefaction. Therefore, oxygen under pressure regardless of the cylinders claim must be 99.9% pure or the cylinder will be damaged by rust or corrosion prematurely. All utility oxygen cylinders will (must) have a service fitting of type CGA-540. This will be for welding, aviation and medical purposes. Oxygen specifically intended for medical purposes will most likely have a service valve fitting of type CGA-870 (sometimes referred to as a post valve) to help make distinction with a hygiene protocol but is still no different. Oxygen for medical purposes does have a specific protocol for hygiene and transport. There are, however, various mixtures of air that may be used strictly for medical purposes or industrial and is not interchangeable and may be the reason many think that there is different grades of oxygen purities. Vessels holding these air mixtures will have a CGA-346 type service fitting that is not compatible with the CGA-540 fitting for oxygen. Once again oxygen is oxygen. It can't be under pressure without any adverse reaction if it is not as pure and dry as possible. The CGA, Compressed Gas Association has adopted and helped develop almost all the standards for compressed gasses used in the USA and adopted by the FDA, DOT and other government agencies as well as many foreign governments. They have a variety of documents about compressed gases, vessels and fittings. To receive specific information, contact the:

Compressed Gas Association, inc.
1235 Jefferson Davis Highway Arlington, VA. 22202.
as of 1994

Hazards of high pressure oxygen and transfilling *(Refilling your cylinder)*

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, which is 21% oxygen, 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 may cause friction or impact resulting in temperatures which may be sufficient to ignite any combustible materials that may be present in the system.

You can have your cylinder refilled by any industrial gas supply facility, airport and at some medical equipment companies. Each cylinder has been hydrostatically tested and stamped with the date of the test. This is good for 5 years. After this time frame, it will need to be tested and certified again before it can be filled and used. Again, almost any industrial gas and welding supply facility that services and/or refills oxygen cylinders can do this.

Cleaning for dirt, oil and greases *(Basic hygiene for oxygen equipment)*

If any part of the system should become contaminated or you suspect so, you can clean it 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 shown to work well 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. With a cup or bowl of CLEAN water do this test. While you are observing a clear reflection of light on the water's calm surface, place the tip of the cotton swab into the water. 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 visual 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 contaminants 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 or so severe you may have to perform the cleaning process several times or use a solvent such as type "111 trichloroethane".