

MECO

Single and Two Stage Regulators

⚠ IMPORTANT ⚠
Safety and Operating Instructions
For Your Safety...
PLEASE READ CAREFULLY

**RETAIN THESE INSTRUCTIONS
FOR FUTURE REFERENCE**

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⚠ WARNING ⚠

Warning Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ WARNING ⚠

DO NOT attempt to use this apparatus unless you are trained in its proper use or are under competent supervision. For your safety, practice the safety and operating procedures described in this booklet every time you use the apparatus. Deviating from these procedures may result in fire, explosion, property damage and/or operator injury. If at any time the apparatus you are using does, not perform in its usual manner, or you have any difficulty in the use of the apparatus, STOP using it immediately. DO NOT use the apparatus until the problem has been corrected!

⚠ WARNING ⚠

Service or repair of apparatus should be performed only by a qualified repair technician capable of servicing gas apparatus in strict accordance to applicable Part and Service bulletins for VICTOR manufactured products. Improper service repair, or modification of the product could result in damage to the product or injury to the operator.

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INTRODUCTION

This booklet is a guide to the safe and efficient operation of regulators used in oxy-fuel applications. If the apparatus is not used in an oxy-fuel application, the operator must still follow those safety and operating procedures that do apply to his particular application. There are several potential hazards present when using regulators. Read this booklet thoroughly and carefully before operating this equipment.

All operations should conform to applicable Federal, State, County or City regulations for installation, operation, ventilation, fire prevention, and protection of personnel. ANSI Standard Z49.11, "Safety in Welding and Cutting" contains detailed safety instructions. It is available from the American Welding Society, P.O. Box 351040, Miami, FL 33135.

A system of notices, cautions and warnings emphasize important safety and operating information in this booklet. These are:

⚠ This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

NOTICE

NOTICE conveys installation, operation, or maintenance information which is important but not hazard-related.

⚠ CAUTION ⚠

Caution indicates a potentially hazardous situation which, if not avoided, may result in injury.

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GENERAL SAFETY INFORMATION

Read and understand all safety and operating instructions provided before using this apparatus. **RETAIN THESE INSTRUCTIONS IN A READILY AVAILABLE LOCATION FOR FUTURE REFERENCE**

Fire Prevention

Welding and cutting operations use fire or combustion as a basic tool. The process is very useful when properly controlled. However, it can be extremely destructive if not performed correctly in the proper environment.

1. The work area must have a fireproof floor.
2. Work benches or tables used during welding or cutting operations must have fireproof tops.
3. Use heat resistant shields or other approved material to protect nearby walls or unprotected flooring from sparks and hot metal.
4. Keep an approved fire extinguisher of the proper size and type in the work area. Inspect it regularly to ensure that it is in proper working order. Know how to use the fire extinguisher.
5. Move combustible materials away from the work site. If you can not move them, protect them with fireproof covers.

⚠ WARNING ⚠

NEVER perform welding, heating or cutting operations on a container that has held toxic, combustible or flammable liquids or vapors. NEVER perform welding, heating or cutting operations in an area containing combustible vapors, flammable liquids, or explosive dust.

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⚠ WARNING ⚠

NEVER allow oxygen to contact grease, oil, or other flammable substances. Although oxygen by itself will not burn, these substances become highly explosive. They can ignite and burn violently in the presence of oxygen.

Keep ALL apparatus clean and free of grease, oil and other flammable substances.

Ventilation

⚠ WARNING ⚠

Ventilate welding, heating and cutting work areas adequately to prevent accumulation of explosive or toxic concentrations of gases. Certain combinations of metals, coatings, and gases generate toxic fumes. Use respiratory protection equipment in these circumstances. When welding/brazing, read and understand the Material Safety Data Sheet for the welding/brazing alloy.

Personal Protection

Gas flames produce infrared radiation which may have a harmful effect on the skin and especially on the eyes. Select goggles or a mask with tempered lenses shaded 4 or darker to protect your eyes from injury and provide good visibility of the work.

⚠ WARNING ⚠

Cylinders are highly pressurized. Handle with care. Serious accidents can result from improper handling or misuse of compressed gas cylinders. DO NOT drop the cylinder, knock it over, expose it to excessive heat, flames or sparks. DO NOT strike it against other cylinders. Contact your gas supplier or refer to CGA P-1 "Safe Handling of Compressed Gases In Containers" publication.*

- Place the valve protection cap on the cylinder whenever moving it, placing it in storage, or not using it. Never drag or roll cylinders in any way. Use a suitable hand truck to move cylinders.
- Store empty cylinders away from full cylinders. Mark them "EMPTY" and close the cylinder valve.
- NEVER use compressed gas cylinders without a pressure reducing regulator attached to the cylinder valve.
- Inspect the cylinder valve for oil, grease and damaged parts.

⚠ WARNING ⚠

DO NOT use the cylinder if you find oil, grease or damaged parts. Inform your gas supplier of this condition immediately.

- Momentarily open and close (called "cracking") the cylinder valve to dislodge any dust or dirt that may be present in the valve.

*CGA P-1 publication is available by writing the Compressed Gas Association, 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923

Always wear protective gloves and flames resistant clothing to protect skin and clothing from sparks and slag. Keep collars, sleeves and pockets buttoned. DO NOT roll up sleeves or cuff pants.

When working in a non-welding or cutting environment, always wear suitable eye protection or face shield.

⚠ WARNING ⚠

Practice the following safety and operation precautions EVERY TIME you use pressure regulation equipment. Deviation from the following safety and operation instructions can result in fire, explosion, damage to equipment, or injury to the operator.

Compressed Gas Cylinders

The Department of Transportation (DOT) approves the design and manufacture of cylinders that contain gases used for welding or cutting operations.

- Place the cylinder where you will use it. Keep the cylinder in a vertical position. Secure it to a cart, wall, work bench, post, etc. (See Figure 1).

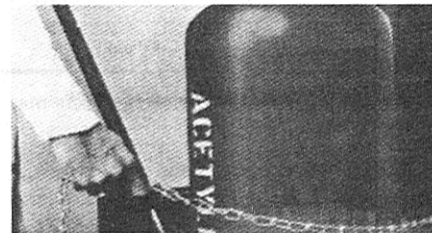


Figure 1

⚠ CAUTION ⚠

Open the cylinder valve slightly. If you open the valve too much, the cylinder could tip over. When cracking the cylinder valve, DO NOT stand directly in front of the cylinder valve. Always perform cracking in a well ventilated area. If an acetylene cylinder sprays a mist when cracked, let it stand for 15 minutes. Then, try to crack the cylinder valve again. If this problem persists, contact your gas supplier.

Regulators - Safety and Operation

Pressure regulators attached to the cylinder valve reduce high cylinder pressures to suitable low working pressures for welding, capping, and other applications (See Figure 2).

⚠ WARNING ⚠

Use the regulator for the gas and pressure for which it is designed. NEVER alter a regulator for use with any other gas.

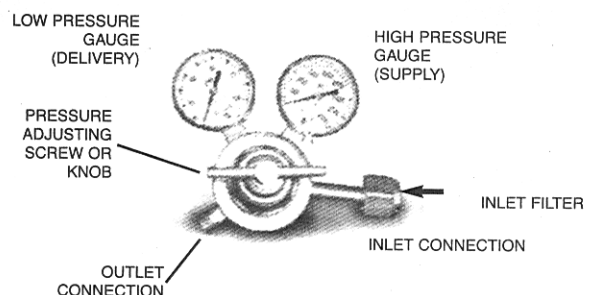


Figure 2

NOTICE

Regulators purchased with open 1/8", 1/4", 3/8", or 1/2" NPT ports must be assembled to their intended system.

1. Note the maximum inlet pressure stamped on the regulator. DO NOT attach the regulator to a system that has a higher pressure than the maximum rated pressure stamped on the regulator.
2. The regulator body will be stamped "IN" or "HP" at the inlet port. Attach the inlet port to the system supply pressure connection.
3. Wrap pipe threads with Teflon tape 1 1/2 to 2 turns to effect a seal. If other sealants are used, they must be compatible with the gas that will be used in the system.
4. If gauges are to be attached to the regulator and the regulator is stamped "UL listed," the following requirements must be met:
 - a. Inlet gauges over 1000 PSIG (6.87 mPa) shall conform with the requirements of UL 404, "Indicating Pressure Gauges for Compressed Gas Service."
 - b. Low pressure gauges must be UL recognized for the class of regulator they are being used on according to UL 252A.

⚠ WARNING ⚠

Do not use a regulator that delivers pressure exceeding the pressure rating of the downstream equipment unless provisions are made to prevent over-pressurization (i.e. system relief valve). Make sure the pressure rating of the downstream equipment is compatible with the maximum delivery pressure of the regulator.

(See page 10 for information on regulator relief valve.)

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⚠ WARNING ⚠

DO NOT tamper with the relief valve or remove it from the regulator.

⚠ WARNING ⚠

Stand to the side of the cylinder opposite the regulator when opening the cylinder valve. Keep the cylinder valve between you and the regulator. For your safety, NEVER STAND IN FRONT OF OR BEHIND A REGULATOR WHEN OPENING THE CYLINDER VALVE!

5. Slowly and carefully open the cylinder valve (See Figure 4) until the maximum pressure shows on the high pressure gauge.
6. On all cylinders, except acetylene, open the valve completely to seal the valve packing. If the regulator is of the gaugeless type, the indicator will register the cylinder contents open.

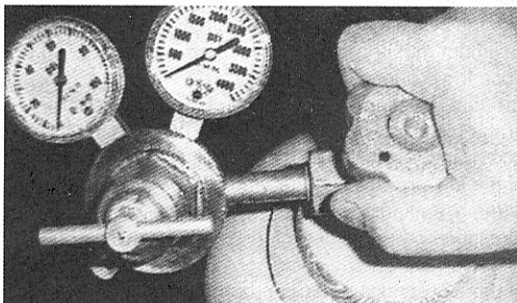


Figure 4

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1. Be sure that the regulator has the correct pressure rating and gas service for the cylinder used.
2. Carefully inspect the regulator for damaged threads, dirt, dust, grease, oil or other flammable substances. Remove dust and dirt with a clean cloth. Be sure the inlet swivel filter is clean and in place. Attach the regulator to the cylinder valve. Tighten securely with a wrench (See Figure 3).

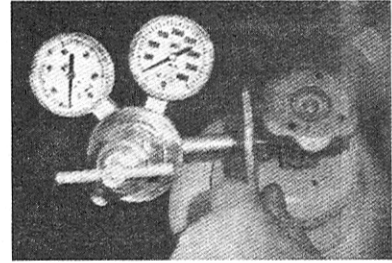


Figure 3

⚠ WARNING ⚠

DO NOT attach or use the regulator if oil, grease, flammable substances or damage is present! Have a qualified repair technician clean the regulator or repair any damage.

3. Before opening the cylinder valve, turn the regulator adjusting screw counterclockwise until there is no pressure on the adjusting spring and the screw turns freely.
4. Relief Valve (where provided) - The relief valve is designed to protect the low pressure side of the regulator from high pressures. **Relief valves are not intended to protect downstream equipment from high pressures.**

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7. On acetylene cylinders, open the valve three fourths (3/4) of a turn and no more than one and one-half turns (1-1/2).

⚠ WARNING ⚠

Acetylene delivery pressure must not exceed 15 psig or 30 psia. Acetylene can dissociate (decompose with explosive violence) above these pressure limits.

⚠ CAUTION ⚠

Keep the cylinder valve wrench, if one is required, on the cylinder valve to turn off the cylinder quickly, if necessary.

8. Attach the desired downstream equipment.

Leak Testing the System

Leak test the system before putting into operation.

1. Be sure that there is a valve in the downstream equipment to shut off the gas flow.
2. With the cylinder valve open, adjust the regulator to deliver the maximum required delivery pressure.
3. Close the cylinder valve.
4. Turn the adjusting screw counterclockwise one turn.
 - If the high-pressure gauge reading drops, there is a leak in the cylinder valve, inlet fitting or high-pressure gauge.
 - If the low-pressure gauge drops, there is a leak in the downstream equipment, hose, hose fitting, outlet fitting or low-pressure gauge. Check for leaks using an approved leak detector solution.
 - If the high-pressure gauge drops and, at the same time, the

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low-pressure gauge increases, there is a leak in the regulator seat.

- If the regulator requires service or repair, take it to a qualified repair technician.
5. Once leak testing has been performed and there are no leaks in the system, slowly open the cylinder valve and proceed.

⚠ WARNING ⚠

If a leak has been detected anywhere in the system, discontinue use and have the system repaired. **DO NOT** use leaking equipment. Do not attempt to repair a leaking system while the system is under pressure.

When You Finish Using the Regulator

1. Close the cylinder valve.
2. Open the valve on the downstream equipment. This drains all pressure from the system.
3. Close the valve on the downstream equipment.
4. Turn the adjusting screw counterclockwise to release the tension on the adjusting spring.
5. Check the gauges after a few minutes for verification that the cylinder valve is closed completely.

Storage

When the regulator is not in use and has been removed from the cylinder, it should be stored in an area where it will be protected from dust, oil and grease. The inlet and outlet should be capped to protect against internal contamination and prevent insects from nesting.

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contract, or anything done in conjunction therewith such as the performance or breach thereof, or from the manufacture, sale, delivery, resale, or use of any goods covered by or furnished by the manufacturer whether arising out of contract, negligence, strict tort or under any warranty or otherwise, shall not, except as expressly provided herein, exceed the price of the goods upon which such liability is based.

**For Warranty Consideration,
return material prepaid to:**

**Victor Equipment Company
P.O. Drawer 1007
Denton, TX 76202-1007**

**2800 Airport Rd.
Denton, TX 76205**

ATTN: Warranty Repair

THERMADYNE®

Victor Equipment Company
2800 Airport Road
P.O. Box 1007 Denton, TX 76202

TEL. (940) 566-2000
FAX (940) 382-4836

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WARRANTY

LIMITED WARRANTY: This product is warranted to be free of defects in workmanship or material. The use of any product with replacement parts or accessories, which are not manufactured or distributed by the manufacturer and which may affect product safety or performance, shall render this warranty and all other warranties, whether expressed or implied, null and void. Should any failure to conform to this warranty appear within two years after the initial sale, the manufacturer shall, upon notification thereof and substantiation that the product has been stored, maintained, and operated in accordance with the manufacturer's recommendations and standard industry practice, correct such defects by suitable repair or replacement at its own expense.

THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY WARRANTY OR MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHER WARRANTY OF QUALITY, WHETHER EXPRESSED OR IMPLIED, EXCEPT OF TITLE AND AGAINST PATENT INFRINGEMENT. Correction of non-conformities, in the manner and for the period of time provided above, shall constitute fulfillment of all liabilities of the manufacturer to the Purchaser with respect to, or arising out of this product, whether based on contract, negligence, strict tort or otherwise.

LIMITATION OF LIABILITY: The manufacturer shall not under any circumstances be liable for special or consequential damages, such as, but not limited to, damage or loss of other property or equipment, loss of profits or revenue, cost of capital, cost of purchased or replacement goods, or claims of customers of Purchaser for service interruption. Any property damage or personal injury resulting from this product, which contains replacement parts or accessories that affect the safety or performance of such product, shall be the responsibility of the Purchaser and the supplier of such replacement parts or accessories and not the responsibility of the manufacturer. The remedies of the Purchaser set forth therein are exclusive, and the liability of the, manufacturer with respect to any

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