

Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

20g

OLSEN™

ACETYLENE COMPRESSED GAS REGULATOR

57574



Visit our website at: <http://www.harborfreight.com>
Email our technical support at: productsupport@harborfreight.com






When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-888-866-5797 as soon as possible.

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Tools required for assembly and service may not be included.

⚠ WARNING

Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.

WARNING SYMBOLS AND DEFINITIONS

	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.
	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	Addresses practices not related to personal injury.

IMPORTANT SAFETY INSTRUCTIONS

WARNING

Read all safety warnings and instructions.

Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur.

It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Work Area Safety

- Keep your work area clean and well lit.**
Cluttered benches and dark areas invite accidents.
- Keep bystanders, children, and visitors away while operating.** Distractions can cause you to lose control. Protect others in the work area from intense heat. Do not allow others close enough to look at the flame as eye damage is a real possibility. Provide barriers or shields as needed.
- When possible, move the work to a location well away from combustible materials.** If relocation is NOT possible, protect the combustibles with a cover made of fire resistant material. Remove or make safe all combustible materials for a radius of 35 feet (10 meters) around the work area.
- Enclose the work area with portable fire resistant screens.** Use a fire resistant material to block all openings and protect combustible walls, ceilings, floors, etc.
- If working near/on a metal wall, ceiling, floor, etc., prevent ignition of combustibles on the other side by moving the combustibles to a safe location.**
If relocation of combustibles is NOT possible, designate someone to act as a fire watch equipped with a fire extinguisher during the welding or cutting process and for at least one half hour after the welding or cutting project is completed.
- Do not place the Regulator on any material other than bare concrete until it has cooled completely.**
- Do not weld or cut any material that has a combustible coating or a combustible internal structure, such as drums or tanks, without an approved method for eliminating the hazard.**
- Do not dispose of hot slag in containers holding combustible materials.**
- Keep a fully charged fire extinguisher close by and know the proper way to use it.**
- After welding or cutting make a thorough check for evidence of fire and be aware the easily visible flame or smoke may not be present for some time after a fire has started.**

11. **Do not weld or cut in atmospheres containing dangerously reactive or flammable gases, vapors, liquids, or dust.**

12. **Clean and purge containers before applying heat.** Do not apply heat to a container that has held an unknown substance or a combustible material whose contents, when heated, can produce flammable or explosive vapors. Vent closed containers, including castings, before preheating, cutting, or welding.

Personal Safety

1. **Wearing and using personal safety clothing and safety devices reduce the risk of injury.**

Wear the following:

- a. **Fire-resistant clothing** (Do not wear pants with cuffs, shirts with open pockets, or any clothing that can catch and hold molten metal or sparks.)
- b. **Fire-resistant leather leggings and work boots**
- c. **Dry, insulating leather welding gloves**
- d. **NIOSH-approved respirator**
- e. **Shade 5 or higher welding goggles**
- f. **Appropriate head covering to protect head and neck**
- g. **Fire-resistant ear plugs or ear muffs (if welding or cutting overhead or in confined spaces)**


Keep clothing and safety equipment free of grease, oil, solvents and any other flammable substances.

2. **Stay alert. Watch what you are doing, and use common sense when operating this Regulator.**

Do not use while tired or under the influence of drugs, alcohol, or medication.

A moment of inattention while operating may result in serious personal injury.

3. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control in unexpected situations.

4.  **INHALATION HAZARD:
Welding and Cutting Produce
TOXIC FUMES.**

Exposure to welding or cutting exhaust fumes can increase the risk of developing certain cancers, such as cancer of the larynx and lung cancer. Also, some diseases that may be linked to exposure to welding or cutting exhaust fumes are:

- Early onset of Parkinson's Disease
- Heart disease
- Ulcers
- Damage to the reproductive organs
- Inflammation of the small intestine or stomach
- Kidney damage
- Respiratory diseases such as emphysema, bronchitis, or pneumonia



Use natural or forced air ventilation and wear a respirator approved by NIOSH to protect against the fumes produced to reduce the risk of developing the above illnesses.

5. **Avoid overexposure to fumes and gases.** Keep your head out of the fumes. Do not breathe fumes. Use enough ventilation or exhaust, or both to keep fumes and gases away from your breathing area. Where ventilation is questionable, have a qualified technician take an air sampling to determine the need for corrective measures. If necessary, use mechanical ventilation to improve air quality. If this is not possible, use an approved respirator. Do not work in confined areas unless they are well-ventilated or you are wearing an air supplied ventilator. Always follow OSHA guidelines for Permissible Exposure Limits (PEL's) for various fumes and gases. Follow the American Conference of Governmental Industrial Hygienists recommendations for the Threshold Limit Values (TLV's) for fumes and gases. Have a recognized specialist in Industrial Hygiene or Environmental Services check the operation and air quality and make recommendations for the specific welding or cutting situation.

Equipment Setup Safety

1. **Make sure you are prepared to begin work before opening gas supply.**
2. **To prevent explosion, use reverse-flow check valves and flashback arrestors (sold separately) on the base of the Regulator.**
3. **Use with oxygen and acetylene only.** Do not modify this Regulator or use it for a purpose for which it is not intended.
4. **Set Acetylene Regulator no greater than 15 PSI.** Acetylene is unstable and can explode if over-pressurized.
5. **Do not use oil, grease or thread seal tape on any connector.**
6. **Use clamps (not included) or other practical ways to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control, fire and/or personal injury.
7. **Use only accessories that are recommended by the manufacturer for your model Regulator.** Accessories that may be suitable for one Regulator may become hazardous when used on another Regulator. Only use proper gas hoses.

Cylinder Safety

1. **Do not use dented or damaged cylinders.**
2. **Secure cylinders to a cart, wall, or post to prevent them from falling.**
Use and store cylinders in an upright position only.
3. **Use cylinder caps when moving or storing cylinders.**
4. **Do not store cylinders in temperatures 120° F or higher.**
5. **EMPTY CYLINDERS: DO NOT DROP, STRIKE, PUNCTURE, HEAT OR SET FIRE TO A CYLINDER, EVEN IF IT IS EMPTY.** Keep empty cylinders in specified areas and clearly mark "empty." Contact local solid waste authorities for instructions on correct disposal or recycling of empty cylinders.
6. **KEEP WRENCH ON ACETYLENE CYLINDER'S VALVE whenever cylinder is in use to allow quick shutoff in case of emergency.**

Equipment Inspection

1. **DO NOT USE FLAME TO DETECT LEAKS.**
2. **INSPECT BEFORE EVERY USE.** Look for the following, and do not use kit if any damage is noted:
 - a. **Inspect the tapered seating surfaces on the Nozzles and the Tip Nut.** Have a qualified technician resurface the seat area if it has dents, burrs, or is burned. A poor seating surface may result in backfire or flashback.
 - b. **Examine all hoses for cuts, cracks, burns, worn areas, or other damage.** Do not use if damaged.
 - c. **Check for loose connections using soapy water solution.** Tighten or repair any leaks found.
 - d. **Do not use the Regulator if either gas does not turn off completely when the Oxygen Regulator Valve and Acetylene Regulator Valve are closed.** Leakage of gas from the tip is a substantial safety risk. If gas cannot be turned off at the Regulator Handle, it is dangerous and must be replaced.
 - e. **Inspect for any other defects or damage.** Do not use any damaged parts. Tag damaged parts "Do not use" until repaired.

Operation Safety

1. **Inspect before every use; see previous warning section.**
2. **Use only with proper ventilation.**
3. **Do not touch workpiece or tip until cool.**
4. **Keep hoses away from hot parts, from weld/cut area, and from flame.**
5. **Never leave the Regulator unattended when it is attached to a gas supply.**
6. **Allow sufficient time for the Regulator to completely cool before storing.**
7. **Any material discharged from the work area during use will be extremely hot.** Use care to not get burned by slag or other waste products.

8. **BACKFIRE:**
When the flame goes out with a loud “pop,” it is called a **backfire**. Backfire can be caused by:
- Operating the Regulator at lower pressures than required for the Tip used.
 - Touching the Tip against the workpiece.
 - Overheating the Tip.
 - An obstruction in the Tip.

If backfire occurs, close the Torch Handle Valves (oxygen first, then acetylene) and after remedying the cause, relight the Regulator.

9. **FLASHBACK:**
Flashback is a condition that results when the flame flashes back into the Regulator and burns inside with a shrill hissing or squealing noise.
If flashback occurs, close the Torch Handle Valves (oxygen first, then acetylene) IMMEDIATELY!
Flashback generally indicates a problem that should be repaired before proceeding with the job at hand. A clogged Tip, improper functioning of the Valves,

or incorrect acetylene/oxygen pressure could lead to flashback. Find and correct the cause before relighting the Regulator.
If the cause is not found, have the kit serviced by a qualified technician before returning to your project.

10. **Beware of leaking gas.**
If you notice the odor of acetylene during use, close the Torch Handle Valves (oxygen first, then acetylene) IMMEDIATELY!
Extinguish all open flames and carefully check all hoses and connections for leaks using soapy water. **NEVER check for leaks using a flame.**
If the odor continues do not use the Regulator. Call acetylene supplier for assistance.
11. **Read and understand all instructions and safety precautions as outlined in the manufacturer’s manual for the material you will weld or cut.**
12. **After use, bleed lines and store all components out of reach of children and other untrained persons.** Regulators are dangerous in the hands of untrained users.

Service

- Regulator service must be performed only by qualified repair personnel.**
Service or maintenance performed by unqualified personnel could result in a risk of injury.
- When servicing, use only identical replacement parts. Follow instructions in the “Maintenance Instructions” section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of fire or injury.
- Maintain product labels and nameplates.** These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.



SAVE THESE INSTRUCTIONS.

Symbology

CGA	Compressed Gas Association
ft³	Cubic Feet
PSI	Pounds per Square Inch
CFH	Cubic Feet per Hour flow
OXY	Oxygen related components
GAS	Fuel gas (acetylene) related components

	WARNING marking concerning Risk of Eye Injury. Wear ANSI-approved safety goggles with side shields.
	Read the manual before set-up and/or use.
	WARNING marking concerning Risk of Explosion. Do not use flame to detect leaks. Handle cylinders properly.
	WARNING marking concerning Risk of Inhalation Hazard. Use in well-ventilated area only.

Specifications

Connection

CGA 510

Setup



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Workpiece and Work Area Setup

1. Designate a work area that is clean and well-lit. The work area must not allow access by children or pets to prevent distraction and injury.
2. Remove all combustible material from area and/or cover surfaces with fire resistant material.
3. The work area must have a fireproof floor.
4. Secure loose workpieces using a vise or clamps (not included) to prevent movement while working.

Note: Proper weld preparation can be complicated, and is outside the scope of this manual.

Tool Set Up



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

⚠ WARNING



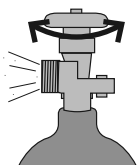
TO PREVENT SERIOUS INJURY FROM EXPLOSION:

Turn the Oxygen and Acetylene Regulator Valves fully clockwise to close (oxygen first and acetylene second) before making any adjustments or performing any inspection or service to this product.

1. Secure cylinders to a cart, wall, or post to prevent them from falling. **Do not place Acetylene Cylinder on its side.**

WARNING! TO PREVENT FIRE AND EXPLOSION: Make sure there is no oil, grease, or ignition source (such as a hot weld, electric motor, or another welding operation) nearby before proceeding with the next step.

2. While standing to one side, “crack” cylinder valve. “Cracking” is to quickly open and close the valve, allowing a small amount of gas to escape and clearing the valve of any foreign material. **WARNING! If oil or grease is found, discontinue using cylinder and immediately contact your gas supplier.**



Briefly open valve to clean, then close valve.

Figure A: Crack Each Cylinder Valve

No Leaks Found

If the leak testing has been completed and the unit is found to be working properly, open the cylinder valve, turning counterclockwise, and proceed to operation. **WARNING! Only open Acetylene Cylinder Valve 1/4 to 1/2 turn to allow quick shutoff.**

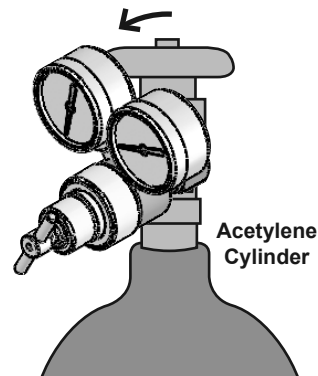


Figure B: Open Cylinder Valve Only After Testing Confirms There Are No Leaks

3. Attach the Red labeled Acetylene Regulator to the Acetylene Cylinder, **tighten counterclockwise - threads are reversed.**

Maintenance Instructions



Procedures not specifically explained in this manual must be performed only by a qualified technician.

⚠ DANGER



TO PREVENT SERIOUS INJURY AND DEATH FROM FIRE OR EXPLOSION:

Close the oxygen cylinder valve, then acetylene cylinder valve and allow the Regulator to cool completely, then disconnect the hoses before performing any inspection, maintenance, or cleaning procedures.

Do not use damaged equipment. If abnormal noise, vibration, or leaking gas occurs, have the problem corrected before further use.

- BEFORE EACH USE**, inspect the general condition of the Regulator. Check for loose hose connections, cracked or worn hoses, and any other condition that may affect its safe operation. If any abnormal condition occurs or is noticed, have the problem corrected before further use. **Do not use damaged equipment.**
- To clean the outer body of the Regulator, use a clean, dry, cloth. Do not immerse any part of the Regulator in ANY liquid. **Do not use solvents or other flammable agents to clean the Regulator.**

Troubleshooting

Problem	Possible Causes	Likely Solutions
Before turning on Regulator, gas odor is noticed.	<ol style="list-style-type: none"> Hose connections loose. Crack in hose. Cylinder leak at neck. 	<ol style="list-style-type: none"> Tighten all connections. Check hoses. If any cracks are found, replace entire hose. DO NOT PATCH OR TAPE GAS HOSES. Check neck area of cylinders. If cracks or damage are found, do not use. Secure upright, in a well-ventilated area, well away from sources of ignition. Contact gas supplier IMMEDIATELY. Replace cylinders before proceeding with work.
Flame is irregular.	<ol style="list-style-type: none"> Tip clogged or dirty. Gas low. 	<ol style="list-style-type: none"> Close gas, acetylene first, then oxygen. Let Regulator cool completely. Remove Tip, check for dirt and debris. Use tip cleaner to clean Tip or replace if necessary. Check gas level and refill if needed.



Follow all safety precautions whenever diagnosing or servicing the tool. Disconnect air supply before service.

Record Product's Serial Number Here: _____

Note: Replacement parts are not available for this item. Reference UPC 193175417565

Note: If product has no serial number, record month and year of purchase instead.

Limited 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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