GENTEC®
GENSTAR TECHNOLOGIES

Compressed Gas Regulator Operating Instructions

Safety and Operating Instructions

Read All Instructions
SAVE THESE INSTRUCTIONS

⚠WARNING

Before installing and operating Gas Welding and Cutting Apparatus, and Compressed Gas Regulators, read and understand these entire instructions thoroughly. Content of these instructions are from manufacturer's suggestions. It is users' responsibility of judgment when using these instructions. Manufacturers assume no liabilities for their use. SAVE THESE INSTRUCTIONS.

Compressed Gas Regulator Operating Instructions
Safety and Operating Instructions

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Genstar Technologies Co., Inc.
4525 Edison Avenue
Chino, CA 91710

www.genstartech.com

Purchase Information for the warranty coverage :
Purchase from:_____
Purchase Date:_____
Outfit Model Number:_____

Table of Contents

SECTION 1: INTRODUCTION

These Instructions are offered as a practical guide to the safe operation of Compressed Gas Regulators. Information and instructions contained in this booklet are intended for experienced operators and those who are well trained and working under the close supervision of skilled welders.

Safety, health protection and fire prevention during installation, operation and maintenance should conform to regulations from Federal, State, County and City. For detail of safety information refer to provisions of ANSI standard Z49.1, “Safety in Welding & Cutting”.

There are many hazards to be considered when using Compressed Gas Regulators, e.g. with oxy-fuel welding, cutting, brazing and heating equipment. Proper safety precautions must be taken when using such equipment. Read, understand, and implement all safety precautions prior to performing operation!

Signs of Warnings, Cautions and Notices are used in these instructions for emphasized information:

⚠ WARNING

WARNING sign indicates hazardous conditions which may cause serious injury or even death if ignored.

⚠ CAUTION

CAUTION sign indicates potential hazardous situations which could cause injury if ignored.

NOTICE

NOTICE sign indicates important information which is worth of attention.

⚠ WARNING

READ AND UNDERSTAND THESE ENTIRE INSTRUCTIONS THOROUGHLY before installing and operating Gas Compressed Gas Regulators. It is users' responsibility of judgment when using these instructions. Manufacturers assume no liabilities for their use. SAVE THESE INSTRUCTIONS.

⚠ WARNING

REVERSE FLOW CHECK VALVE: It is strongly suggested that Reverse flow check valve be used at the outlet of the regulator. Check valve is used to prevent mixed gases from flowing back into the regulators.

⚠ WARNING

Gas Regulators should be serviced or repaired by authorized facilities or qualified technicians only. Service and repair by unauthorized facilities or unqualified technicians could result in malfunction or damage to the Regulator or even operator's injury.

⚠ WARNING

California Proposition 65 Warning

These products may contain chemicals known to the State of California to cause Cancers, Birth Defects or other Reproductive Harm. **WASH YOUR HANDS AFTER HANDLING.**

SECTION 2: SAFETY INFORMATION

Before installing and operating Compressed Gas Regulators, read these entire instructions thoroughly. SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

⚠ WARNING

Basic safety precautions should always be followed to reduce the risk of fire and personal injury, including the following checklist:

1. “Good Housekeeping” in work area is a “must”. Prepare your work area by moving out of the vicinity, any combustible material.
2. Secure cylinders to cart, wall or post to prevent them from falling.
3. All cylinders should be used and stored in an upright position.
4. Never use damaged or leaking Regulators.
5. Before installing the regulators “crack the cylinder valves by opening each valve slightly and then closing. This will clear the valves of dust or dirt that could be carried to the regulators and cause damage. Do not discharge flow of gas at any person or flammable material.
6. Always use recommended pressure settings. Improper pressures are wasteful. Watch for extreme pressure build up in the regulators which signifies they need repair.
7. Never use acetylene pressure over 15 PSIG.
8. Never use oil or grease on or around Oxygen regulator and cylinders. Oil or grease is easily ignited and burns violently in the presence of oxygen.
9. Make sure all connections are tight. Use only an approved leak detector solution.
10. Always have an approved fire extinguisher handy.
11. Always purge the system after use.

12. Always wear the proper goggles, gloves and clothing when operating Compressed Gas Regulators. Pants should not have cuffs.
13. Always work in a well ventilated area. Flammable materials burn violently in an oxygen atmosphere.

⚠ CAUTION

When installing Adjustment Screws into the bonnet (cap), if there is a Delrin Bushing with thread in the bonnet, do not push hard on the screw when turning it into the bonnet or the threads in the bonnet will be damaged (stripped).

⚠ CAUTION

For CO_2 regulators that come with a CGA320 Inlet Connection, a washer is included on the Inlet Stem (Nipple). The Washer must be used when the regulator is connected to the Cylinder Valve or the connection will not be properly seated and may cause leaks.

⚠ WARNING

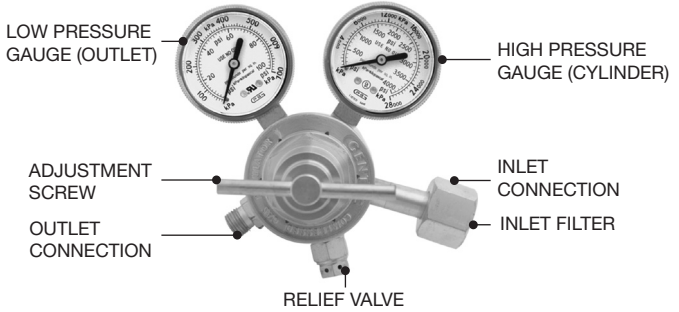
DO NOT use regulators which can deliver pressure higher than 15PSI on acetylene cylinders. **DO NOT** install propane regulators with CGA510 on acetylene cylinders. **Never** use acetylene pressure over 15 PSIG.

⚠ WARNING

DO NOT modify or alter a regulator for other gases without consulting a professional. **Only use the regulator for its specific Gas and Maximum Inlet Pressure.**

SECTION 3: INTRODUCTION OF GAS REGULATOR

When attached to cylinders, Pressure Regulators reduce the high pressure from cylinder to low working pressure for welding, cutting and heating operations. The Inlet Connection is connected to the cylinder and the outlet connection is connected to the welding hoses. The High Pressure Gauge shows the cylinder pressure and the Low Pressure Gauge shows the outlet pressure when the Adjustment Screw is turned to adjust the pressure. To protect the low pressure side of the regulator, the Relief Valve will open when the outlet pressure exceeds the preset relief pressure. It will reset itself when the pressure in the system is released.



⚠ WARNING

DO NOT modify or alter a regulator for other gases without consulting a professional. **Only use the regulator for its specific Gas and Maximum Inlet Pressure.**

Relief Valve (if attached) is not for protecting downstream equipment. It is only for protecting the low pressure side of the regulator.

SECTION 4: SETUP AND OPERATION

4.1 Installation

1. Secure the DOT approved cylinders in a Cart, Wall or Work Bench with chain. Keep the cylinder in upright (vertical) position.

⚠ CAUTION

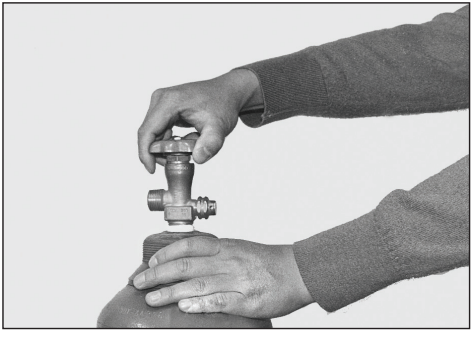
Cylinders are highly pressurized. Handle with extreme care. Never allow cylinders to be knocked over, dropped, or subjected to excessive heat.

2. Inspect the cylinder valve for grease, oil, or damaged threads.

⚠ WARNING

If oil or grease or damage is found at cylinder valve, discontinue use of cylinder immediately and contact your cylinder supplier.

3. While standing to one side, “crack” each cylinder valve. “Cracking” is to quickly open and close the valve, allowing gas to escape and clearing the valve of any foreign material.



⚠ CAUTION

Do not open the cylinder valve any more than is necessary to clear the valve port. Opening the valve too much may cause the cylinder to tip over due to the force of the escaping gas. Do not stand in front of valve port.

4. Confirm that the regulator has the correct pressure rating and gas service connection for the cylinder being used.

⚠ WARNING

Carefully check the regulator for damage, dirt, oil, grease and any flammable substances. Regulators must be **free of Oil, Grease and any flammable substance.** They can cause an explosion. If oil and grease are found, clean the regulator by a qualified technician.

5. Attach regulators to proper cylinders and tighten securely with a wrench. Make sure they are tightened in correct directions. (Normally clockwise for oxygen and counterclockwise for acetylene.) **NEVER use cylinder without Gas Regulator.**

NOTICE

When using a f**lowmeter regulator**, regulator must be positioned vertically in order to obtain accurate flow readings.

6. Regulator adjusting screws should be turned counterclockwise to relieve pressure on diaphragm (and the adjusting spring) before opening cylinder valves.

⚠ WARNING

Failure to release pressure on the diaphragm (and adjusting spring) before opening cylinder valve can damage diaphragm and render the regulator inoperable.

⚠ WARNING

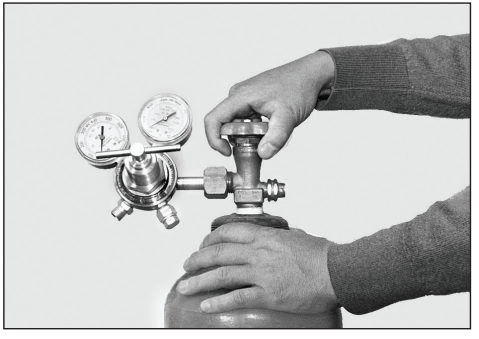
For your safety, when opening cylinder valve, **NEVER stand in front or behind the regulator.** Stand to the side of the cylinder to make the cylinder between you and the regulator.

7. While standing with the cylinder valve between you and the regulator, open cylinder valve **SLOWLY.** The high pressure gauge will show the pressure in the cylinder.

⚠ CAUTION

Acetylene cylinder valve should be opened a maximum of one turn.

Never set acetylene regulator above 15 PSIG working pressure.



8. Attach downstream equipment to the outlet of the regulator.

⚠ WARNING

REVERSE FLOW CHECK VALVE: It is strongly suggested that the Reverse flow check valve be used at the outlet of the regulator. Check valves are used to prevent mixed gases from flowing back into the regulators.

4.2 Leak Test (Connections and Seat)

Check all connections for leaks. **Use only an approved leak detector solution.**
1. There is a valve required downstream for Leak Test.
2. With the downstream valve and regulator off, SLOWLY open cylinder valve.
3. Turn the adjustment screws of regulator clockwise to set maximum delivery pressure of the regulator.
4. Close the cylinder valve.
3. Check the Pressure Gauges on regulators.

a. If the pressure reading drops in high pressure gauge, it is possible that there is a leak at a connection point(s) on the high pressure side (cylinder valve, high pressure gauge connection, inlet connection, etc).
b. If the pressure reading drops in low pressure gauge, it is possible that there is a leak at a connection point(s) on the low pressure side (low pressure gauge connection, outlet connection, hose connection, all control valves, etc).

If leaks are found tighten nuts more securely. If leaks still persist, discontinue use and call your supplier.

c. If the pressure reading on the low pressure gauge rises and at the same time, the high pressure gauge drops, there is a seat leaking. The seat may be contaminated.

If there is seat leaking, discontinue use and repair the regulator by a qualified repair technician.

d. If there is no pressure drop in both high pressure and low pressure gauge, there is no leaking in the system. Slowly open the cylinder valve to continue the operation.

4.3 When You Finish Using the Regulator

1. Close the cylinder valve.
2. Open the valve on the downstream equipment to release all pressure from the system. (Both pressure gauges should drop to zero “0” PSI.)
3. Close the valve on the downstream equipment after system pressure has been released. (Both pressure gauges should read zero “0” PSI.)
4. Turn the pressure adjusting screw on the regulator counterclockwise until there is no pressure on the adjusting spring and the screw turns freely.
5. After a few minutes, check the gauges on the regulator to ensure that the cylinder valve has been closed completely. (High pressure gauge should read zero “0” PSI.)
6. Remove regulator from cylinder if necessary.

4.4 Storage

After regulator is removed from cylinder, cap the inlet and outlet and protect the regulator from oil, grease and dust.

SECTION 5: STATEMENT OF WARRANTY

Any Genstar Technologies (GENTEC®) apparatus found to be defective either in material or workmanship during the time set forth below will be replaced by GENTEC® or its Authorized Distributors, provided that said apparatus was used under normal conditions for the purpose intended.

GENTEC® apparatus damaged or rendered inoperative due to abuse, negligence, misuse, accident or abnormal wear and tear is not covered by this warranty and must be repaired at the sole expense of the equipment owner. GENTEC® apparatus should be serviced facilities only. Service or repair of this apparatus by other than GENTEC® or designated service facilities may void any warranties and relieve GENTEC® of any claims for damage and/or liability.

To make a claim under this warranty, Buyer must notify GENTEC® or its Authorized Distributor of the details of such claim within 30 days of discovering a defect in material or workmanship along with proof of purchase. The Buyer will be responsible for transportation costs and related risks.

GENTEC® shall not, under any circumstances, be liable for any damages including but not limited to: indirect, incidental, consequential, or special damages, whether such damages result from negligence, breach of warranty or otherwise.

There are no other warranties, expressed or implied, except as stated herein. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. GENTEC® reserves the right to discontinue manufacturing of any product or change product materials, design or specifications without notice.

GENSTAR TECHNOLOGIES

4525 Edison Ave., Chino, CA 91710
Tel: 909-606-2726 • Fax: 909-606-6485
www.genstartech.com

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