

OXWELD®
RV-27, RV-28, & RV-29
RELIEF VALVES



These INSTRUCTIONS are for experienced operators. If you are not fully familiar with the principles of operation and safe practices for oxy-fuel gas equipment, we urge you to read our booklet "Precautions and Safe Practices for Welding, Cutting, and Heating," Form 2035. The same information appears in the "Oxy-Acetylene Handbook" which may be purchased from your distributor. Do NOT permit untrained persons to operate this equipment. Do NOT attempt to operate this equipment until you have read and fully understand these instructions. If you do not fully understand these instructions, contact your supplier for further information.

Relief Valve Assembly		Relief Pressure Setting psig (BARS)	Connection		Dimensions
Model	Part No.		Inlet	Outlet	
RV-27	11P62	15 (1.04)	3/4-in. NPT male	3/4-in. NPT female	Height: 4-5/8-in. (118mm) Width: 2-7/8-in. (73mm) Diam: 1-7/8-in. (48mm)
RV-28	11P63	20 (1.38)			
RV-29	11P64	23-75 (1.73-5.18)			

These relief valves were originally designed for acetylene and fuel gas equipment. It can be used for any non-corrosive, non-toxic industrial gas.

The following instructions and repairs are intended for experienced personnel only. Do not permit untrained persons to inspect, clean, or repair this apparatus. Use only recommended replacement parts or send the apparatus to your distributor for repairs. Improperly repaired apparatus is hazardous.

GENERAL MAINTENANCE

1. Periodically, lift the lever on the side of the relief valve slowly and release gas only for an instant. Allow the valve to close on its own spring force. This will operate properly in case of excess pressure.
2. Check all joints and connections for leakages periodically with Leak Test Solution, P/N 998771 (8 oz. container), or any other solution suitable for oxygen service. Also apply a film of the leak solution over the opening of the outlet. Bubbling of the solution will indicate leakage. Do not continue operating until leakage is corrected. If leakage was noted around valve joints or at the outlet, the O-rings in the relief valve should be replaced.

DISASSEMBLY

Shut off gas supply by closing valve upstream of relief valve and then release trapped pressure by opening downstream valve or by lifting relief valve lever. The relief valve can be disassembled by leaving it mounted to the equipment if desired.

To disassemble, do the following:

1. Insert a piece of 3/32-in. drill rod into the hole in the cap and then rotate the pressure-adjusting cap three or four times in a counterclockwise direction to reduce spring force on the poppet.
2. Unscrew the bonnet assembly from the body and, if necessary, remove the spring from the bonnet. The spring can be spiraled out by turning it from the bottom, counterclockwise.
3. Lift out the poppet, being careful not to lose the spacer which rests inside it.
4. Remove the operating lever by first removing the screw and washer which hold it in position and then sliding the lever off the lifting shaft.
5. Remove the lifting shaft by first removing the screw and washer which hold it in position and then sliding the shaft out of the relief valve body.

CLEANING AND INSPECTION

1. If parts are dirty from foreign matter in the gas stream, they should be cleaned by using a clean damp cloth. Replace any metal parts that appear heavily marred or damaged particularly in areas that contact the "O"-rings.
2. O-rings should be replaced periodically or whenever the valve is disassembled. After removing the old "O"-rings, make sure the grooves are clean. Lubricate the lever shaft O-ring and the upper poppet O-ring (70S05 and 70S03) lightly with Dow-Corning Compound No. 111 (77500101) before installing. DO NOT lubricate the lower poppet O-ring (70S04).

**Be sure this information reaches the operator.
You can get extra copies through your supplier.**



REASSEMBLY

1. Insert the shaft into the body with the flat section facing towards the poppet. Be sure the "O"-ring is in place on the shaft. Secure the shaft in place with the No. 4 screw and washer.
2. Install the operating lever in any position and secure it to the shaft with the No. 6 screw and washer.
3. Insert the spacer in the poppet and then place the poppet in the body so that the lower "O"-ring is resting on the seat.
4. Install the spring in the bonnet. Turn it a few times until the bonnet can be placed on the body without too much spring pressure against the poppet.
5. With O-ring properly positioned above the threads of the bonnet, assemble the bonnet to the body and tighten snugly with a wrench.

RESETTING THE RELIEF VALVE

Ideally, with proper test set up, using dry air or nitrogen, and a suitable gas regulator, the regulator, the relief valve can be set as follows:

1. Adjust pressure on the inlet side of the relief valve to the proper relief pressure as follows:

RV-27: 15 psi (1.04 BARS)

RV-28: 20 psi (1.35 BARS)

RV-29: Any pressure 1-1/4 to 3 times the normal operating pressure but no less than 25 psi (1.73 BARS) nor more than 75 psi (5.18 BARS).

2. Turn the relief valve pressure-adjusting cap until the valve just starts to relieve.
3. Back out pressure-adjusting screw on the regulator supplying the air or nitrogen about one turn. Relieve the pressure by lifting the lever on the relief valve.
4. Turn in the regulator pressure-adjusting screw slowly to make sure the valve relieves at the proper pressure.

ALTERNATE RESETTING METHOD (RV-27 and RV-28)

If the relief valve assembly was not removed from acetylene equipment such as hydraulic back pressure valves and since acetylene pipeline pressure should not exceed 15 psi, the RV-27 and RV-28 can be reset as follows:

1. With downstream valve closed, open upstream valve and adjust the regulator to supply 13 psig of acetylene.
2. Turn the relief valve pressure-adjusting cap until acetylene starts to relieve.
3. Recheck the setting by backing out the regulator pressure-adjusting screw about one turn, release the trapped pressure by lifting relief valve lever; and then slowly increase the supply pressure back to make sure the valve relieves at 13 psi.
4. Turn the relief valve pressure-adjusting cap 1/2 turn clockwise on the RV-27, which will set the relief pressure at 15 psi; 2 turns clockwise on the RV-28 for the 20 psi setting.

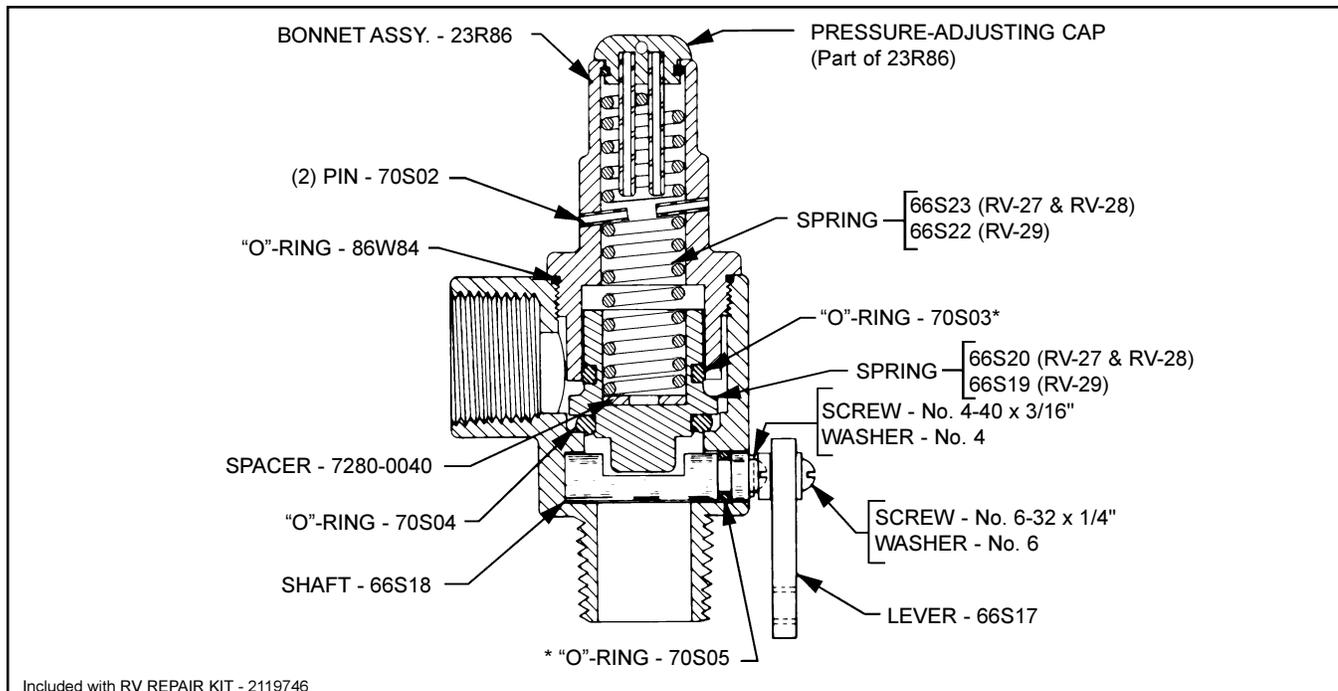


Fig. 1 - Relief Valve Assembly

RV-27 (11P62) 15 psi (1.04 BARS)
RV-28 (11P63) 20 psi (1.38 BARS)
RV-29 (11P64) 75 psi (5.8 BARS)