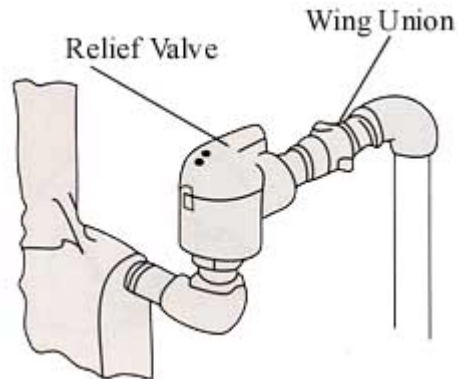


Product Safety and Installation Guidelines



The RETSCO Relief Valve is installed as close as possible to the source of pressure. On a drilling rig, it is normally coupled to one of the risers on the pump discharge header. **There must be no valve or restriction between the relief valve and the pressure source.** Discharge outlet of the valve is fitted with a short nipple and union, to permit, access to the valve interior for inspection. From the union, piping is laid by the most direct route to the mud tank or pump suction piping. **It is vital that there be no valves or restrictions in the discharge line which may create a back pressure on the relief valve discharge.** Discharge piping must go "downhill" only to prevent any fluid being left in the discharge at any time.

Setting

No other pin or shear device of any kind is to be used, since the setting of the valve may be seriously altered thereby. The required shear pin is shown on the setting plate which is attached to the top of the valve. Different pressure settings, in pounds per square inch, are also indicated opposite each hole through body and shear bar. One shear pin only, of the proper size is inserted in a hole corresponding to the desired valve pressure setting.

Corrosion and vibration and other factors may result in a variation of relief pressure from setting pressure. Relief pressure may be as much as 10-15% above or below setting pressure in normal operation.

Resetting

When a valve relieves, shut off the source of pressure at once, to prevent erosion of the seat and discharge piping. Correct the source of over-pressure.

With no pressure on the valve inlet, push the stem into the body until the end is between the

holes. Insert a new shear pin in the hole corresponding to the proper setting pressure.

It is recommended that a piece of wood or other soft material be used to push on the end of the stem and on the top of the shear bar. **The stem or shear bar never to be hammered during resetting.**

Installation and Maintenance

Once a week during operation and at every start-up after the valve has been out of service, inspect the valve for proper operation. With no pressure on the valve inlet, remove the shear pin and rotate the shear bar of the stem top.

Remove discharge piping downstream of the union. Working through the union half and short nipple, insert the blade of a long screwdriver into the slot around the enlarged portion of the stem just above the seal and pry the stem up. When the seal emerges from the sub, the stem must be free to move easily, up and down in the body.

An alternate method is to slowly apply pressure to the valve inlet until the stem moves out of the body and projects above the shear bar recess. **The valve discharge outlet is to be piped to pit, mud tank or pump suction line while pressure is on the valve inlet.** Take off the pressure and reset the valve by hand, assuring that the stem moves freely through the body.

If there is any indication of binding or inability to move the stem freely by either method of inspection, disconnect the discharge piping at the union and inspect the interior of the valve for solidified mud or other impediment to free valve operation. Application of general purpose grease to the valve top between the shoulders will assist in keeping the shear bar from binding. If the valve is freely operable, reset it, replace the shear pin and close the cover.

Caution

Improper use or maintenance of RETSCO's relief valves can cause excessive pressures which may result in property damage and/or serious personal injury or death. Use only one RETSCO oem shear pin of the size shown on the setting plate. Do not hammer on the shear bar, stem, or shear bar slot. The pressure setting must not exceed adjoining system equipment tolerances. Install, set, maintain and inspect valves as instructed by this publication.