



# Installation, Operating and Maintenance Instructions

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Specialists In Liquid Level Indication

Series 51 Gages

## INSPECTION AND DELIVERY

Upon receiving gage check all components carefully for damage incurred in shipping. Confirm that gage model number and pressure temperature ratings (on nameplate) meet application specifications. Also confirm that the material is compatible with both process fluid and surrounding atmosphere for your application.

**CAUTION:** Jerguson gage valves are not to be used for gaging lethal substances as defined by ASME Section VIII.

**CAUTION:** Prior to any disassembly of gage, first be sure that the gage was relieved of all internal pressure, and temperature is ambient, and has been drained and/or purged of any fluids. Failure to do this may result in a sudden release of pressure and/or physical injury to personnel.

## NOTES

1. When tightening cover nuts always follow the sequence shown in Figure 2 beginning with the nuts at the center of the cover and working alternately towards the nuts at the ends of the cover. When removing these nuts, follow the reverse procedure, beginning with the nuts at the ends of the cover and working toward the center.
2. Replace all O-rings showing evidence of extrusion between the chamber and the glass.
3. Do not mar, scratch or raise burrs on the surface of the chamber where the glass seats.
4. When tightening cover nuts, use a torque wrench.
5. Apply a thread lubricant such as Molykote M-77 before assembly of fasteners.

## DISASSEMBLY

1. Disassemble covers one at a time following the sequence for nut removal set forth in Note 1 above. After removal of glass and O-rings, the chamber may be cleaned with solvent. Do not use a scraper on the glass seating area.

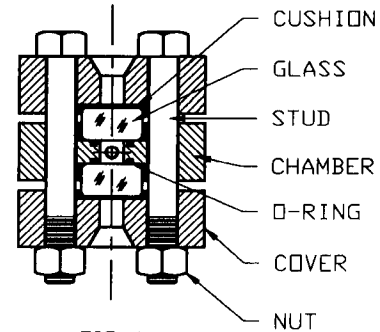


FIG. 1

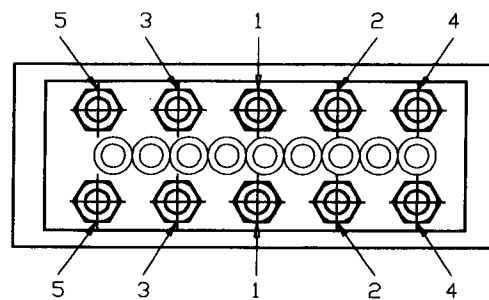


FIG. 2

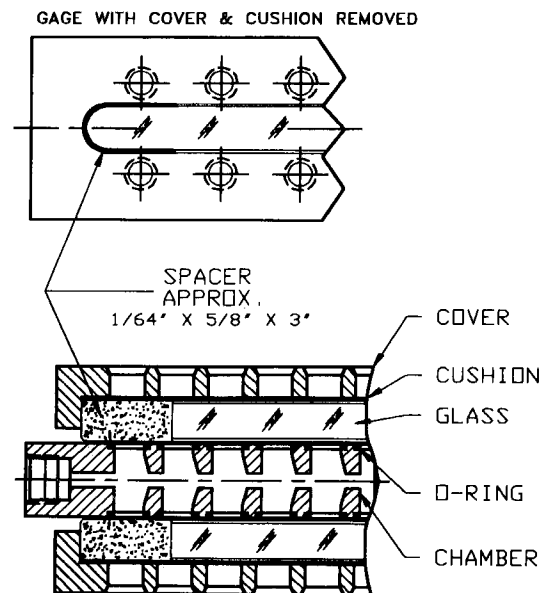


FIG. 3

GLASS END-SPACER INSTALLATION

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### **ASSEMBLY**

1. Always use a new glass, cushion and O-rings when rebuilding a gage section. Assemble the components in accordance with the sectional view Figure 1 above. In order to prevent contact between the sides of the glass and the cover which will cause point loading due to differential expansion and consequent glass breakage, install end spacers as shown in Figure 3.

### **COVER TIGHTENING PROCEDURE**

#### **A. For Gages With Natural or Synthetic Rubber O-rings.**

1. Install all nuts finger tight.
2. Torque all nuts to 10 ft/lbs. using sequence as shown in Figure 2.
3. Reset torque wrench and retorque to 15 ft/lbs.
4. Hydrotest the gage to 10,000 psi.
5. Release pressure and retorque to 20 ft/lbs.

#### **B. For Gages With Teflon O-rings.**

1. Install all nuts finger tight.
2. Torque all nuts to 10 ft/lbs. using sequence as shown in Figure 2.
3. Reset the torque wrench to 20 ft/lbs. and retorque.
4. Repeat Step 3 at 30 ft/lbs. wrench setting.
5. Hydrotest gage to 10,000 psi. Note: After Series 51 gages fitted with Teflon O-rings have been in storage, it is necessary to restore the torque to 30 ft/lbs. in order to counteract the cold flow which takes place in the Teflon. If, after retorquing to 30 ft/lbs., the gage leaks on hydrostatic test, disassemble the gage and replace all Teflon O-rings as described above.

### **O-RINGS, CUSHIONS AND GLASS**

Gages should be assembled using O-rings of material best suited for the service conditions. A variety of compositions are available for this purpose. Cushions used in the gage are cut from 1/32" thick sheet material. Glass used should be high pressure borosilicate.



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