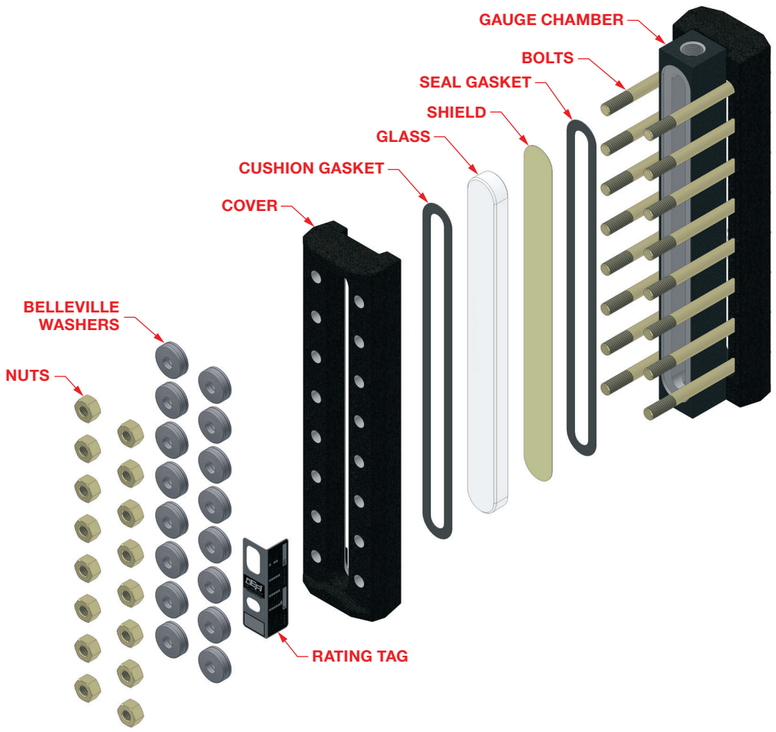
ERNST FLOW INDUSTRIES®
A CLARK-RELIANCE COMPANY

ERNST FLOW INDUSTRIES GLASS GAUGE REPAIR KITS

EJRK- _ _ _

- S = Garlock IFG-5500 (Standard) Seal & Cushion Gaskets
  T = Teflon Seal Gasket; IFG-5500 Cushion Gasket
  G = Grafoil Seal Gasket; IFG-5500 Cushion Gasket
  AG = Grafoil Seal & Cushion Gaskets
- Glass Size, 1 thru 9 (Applicable with below codes 0-4 only)
- 0 = Model S/ST Reflex Borosilicate Glass
  1 = Model S/ST Transparent Borosilicate Glass
  2 = Model S/ST High Pressure Transparent Borosilicate Glass
  3 = Model S/ST Transparent Borosilicate Glass with Standard Mica Shields
  4 = Model S/ST High Pressure Transparent Borosilicate Glass with High Quality Mica Shields



Rebuilding an Ernst Flow Industries Gauge

Note: An Ernst Flow Industries level gauge may be repaired while installed on a vessel. However, it is easier to perform the following steps in a workshop on an appropriate work table.

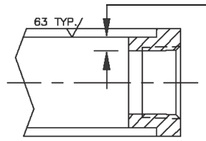
Disassembly

1. Isolate gauge from service, relieve internal pressure, and drain.
2. Remove the gauge from the vessel (if conducting rebuild in a workshop).
3. Loosen end bolts first, then work towards center, alternating from top to bottom and following the sequence for tightening in reverse.
4. Remove glass, gaskets, cushions, and shields from assembly. Promptly dispose of all used components. **NEVER REUSE GLASS, GASKETS, CUSHIONS, OR SHIELDS!**
5. Clean chamber gasket surface and cover cushion seating area. Remove all debris or residual gasket material.
6. Thoroughly inspect chamber gasket surface seating area. Remove any pitting damage, steam cuts, gouges, or scars on a milling machine. The minimum dimension shown in **Figure A** must be maintained.

Reassembly

1. Place seal gasket in chamber seat and cushion gasket in cover seat. Do NOT lubricate gasket or cushion.
2. Locate the glass centrally in the chamber seat and cover to avoid glass-to-metal contact at the ends or sides. (This is best done with the gauge lying flat on a bench.) If the gauge must be reassembled in the vertical position, use a small strip of gasket material as a spacer at each end of the glass. This will prevent any glass-to-metal contact.
3. Inspect bolt and nut threads. If the nut cannot be freely spun down the length of the bolt threads, then the nut and/or bolt should be discarded. If nuts and bolts show signs of excessive corrosion, they should be discarded.
4. Apply Molykote or similar molybdenum disulfide lubricant to the bolt threads and nut seating surface.
5. If the gauge includes an option for Belleville spring washers, reference **Figure B** for proper orientation of the washer stacks.
6. Tighten nuts finger-tight, working from the middle set, alternating outward (**See Figure C**). Next, tighten with a torque wrench in the same sequence in 5 ft.-lb. (6.7 N-m) increments. (**See Figure D**).
7. It is recommended that all reassembled gauges be hydrotested for a minimum of five minutes before returning the gauge to service. This is in order to verify the integrity of the renewed pressure seal(s).
8. Note: New gaskets often become permanently compressed after a short time in service (especially if the gauge operates hot). This causes slight leaks or apparent loosening of bolts. If the gauge has not been provided with spring washers, isolate and relieve the gauge and retorque to the original value after the gauge has been in hot operation for 30 minutes.
9. For additional maintenance tips, contact the factory at info@ernstflow.com.

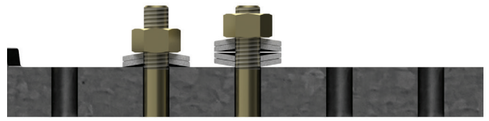
Figure A



.100 MIN. FROM GASKET SEATING SURFACE TO I.D. OF THRU BORE

Figure B

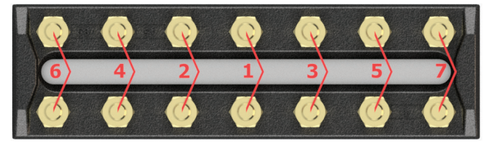
STACKING ORDER FOR BELLEVILLE WASHERS



REFLEX	TRANSPARENT
WASHER STACK UNDER EACH STUD NUT OR U-BOLT NUT	WASHER STACK UNDER EACH BOLT NUT

Figure C

SEQUENCE FOR TIGHTENING COVER BOLTS



ALWAYS START IN THE CENTER AND WORK OUT IN EACH DIRECTION. START WITH FINGER-TIGHT AND INCREASE IN 5 FT-LB INCREMENTS UNTIL REACHING THE FINAL TORQUE SETTING. (SEE BELOW)

Figure D

PROCESS GAUGES TORQUE DATA

REFLEX AND TRANSPARENT GAUGES

GAUGE MODEL	FINAL TORQUE
S/ST	32 FT.-LBS. 43 N-m

TORQUE VALUES ARE THE SAME FOR ALL GASKET MATERIALS

Notice to Plant Operators

The use of non-Original Equipment Manufacturer parts (such as glass, gaskets, etc.) will void the Agency Approval (FM, UL, CSA, CRN, ABS, etc.), pressure/temperature rating, and warranty of this equipment. Clark-Reliance requires the use of OEM parts for all repairs on this product in order to maintain plant and personnel safety, and reliable operation.

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