

**Boil-Out Procedures (Form E-146A) Must be Completed Prior to Start-Up**

**To Place SIMPLIPORT® 4000/4100 in Service:**

**NOTE: Bench torque all new Simpliport Gages before installing on to the boiler!**

1. Shut off water and steam gage valves.
2. Make proper connection of SIMPLIPORT 4000/4100 end nipples or flanges to the water gage valves.

**NOTE 1:** Where end nipples are furnished, be sure that the red lug is at the top and that all SIMPLIPORT 4000/4100 window packing nuts point slightly to the **left** as observed by viewer, See Fig. 3

**NOTE 2:** Where expansion loops and flanges are furnished, the SIMPLIPORT 4000/4100 is installed with the loop on the top side.

**3. With Cold Boiler:**

- a) Open water and steam gage valves and allow SIMPLIPORT 4000/4100 to heat up along with boiler.
- b) Check each port window for leakage. A small mirror held opposite the leak-detector hole (drilled through one face of each window nut) is useful here. If leakage is observed, shut off water and steam gage valves and replace module of affected port, as described on reverse side under "Installing SIMPLIPORT 4000 Replacement Modules."

**NOTE:** If a mirror is used to detect leaks, a small wisp of steam may be seen on the surface of the mirror when held directly opposite of the leak detection hole. This is typical and should not be considered as a failure.

- c) Mounting the illuminator:  
Traditional Illuminator models (PI or PIW Series): Mount illuminator and hood on side lugs of SIMPLIPORT 4000/4100, joining red slot in illuminator with red lug on SIMPLIPORT 4000/4100 (see Fig. 3).

LED Illuminator models (SI\*-LED Series): Remove the four (4) Hex head screws from the gage, and install the four (4) socket-head cap screws (provided with the LED Illuminator), in order to install the LED Illuminator Mounting Bars (see Fig. 4). (Ref: IOM#R5400)

**4. With Hot Boiler:**

- a) Open drain valve. Open steam and water valves far enough to allow a small amount of water and steam to pass through the gage for about 5 minutes. This permits a gradual warm-up of the SIMPLIPORT 4000.
- b) Close the drain valve and finish opening the water and steam valves.
- c) Check each port window for leakage, as in procedure 3b) above.
- d) Mount Illuminator as described above in procedure 3c).

**CAUTIONS:**

1. **NEVER APPLY TORQUE TO SIMPLIPORT 4000 SERIES UNDER PRESSURE.**
2. **DO NOT HOT TORQUE ON SIMPLIPORT 4000 SERIES GAGES.**
3. **DO NOT TORQUE NUTS TO GREATER THAN 80 FT-LBS. TORQUE AS DESCRIBED.**
4. **EXCESSIVE BLOWDOWNS MAY SHORTEN GAGE SERVICE LIFE (Form E-156B).**

**SIMPLIPORT 4000 SERIES**

**COMPONENTS** (Fig. 1)

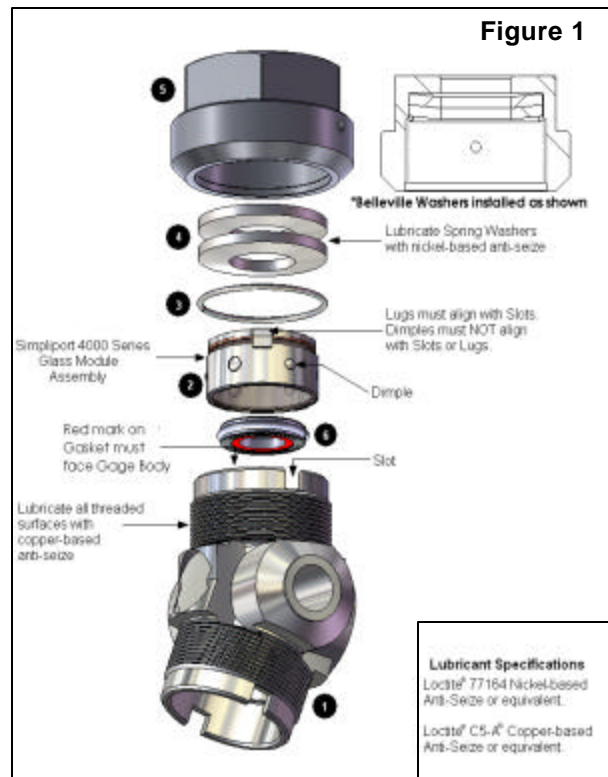
1. SIMPLIPORT 4000 Body (Single Window Unit)
2. Module (RPW-87)
3. Spring Retainer (RPW-40)
4. Spring Washers (RPW-66)
5. Packing Nut (RPW-65)
6. Spiral-Wound Gasket (RPW-90)

**Note:** Packing Nut Assembly (RPW-68) includes (1) Packing Nut (RPW-65), (2) - 0.125" edge thickness Spring Washers (RPW-66), and (1) Spring Retainer (RPW-40).

**\*\*DO NOT USE P/N RPW-39: 0.078" EDGE THICKNESS BELLEVILLE WASHERS\*\***

Note 2: Use only OEM replacement modules to retain design and maintain performance safety standards. See page two for additional maintenance information.

**Figure 1**



**NOTE: Industrial Power Boilers are one of the most harsh environments for Level Gage Glasses. Actual service life will vary based on one or more of the following conditions: cycle frequency, temperature fluctuations, water quality, and other factors. Depending upon these factors, the average service life is from 6-18 months.**

**Complete gage rebuilds are suggested on an annual basis for personnel and plant safety. This can reduce the number of maintenance intervals caused by the need to replace individual glass modules.**





## Notice to Plant Operators

The use of non-Original Equipment Manufacturer parts (such as glass, gaskets, probes, modules, 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.

**"PARTS-PLUS"**  
Critical spare parts for overnight  
delivery, direct from the manufacturer.

[clark-reliance.com/parts](http://clark-reliance.com/parts)



Steel Valve Repair Kit



Replacement Probes



Gage Glass Repair Kit



Simpliport Module



Simpliport Packing Nut



Replacement Relays



Probe Repair Kit



Replacement EA100 Ass'y



Replacement Micro-switch



Bronze Valve Repair Kit



Valve Packing



Replacement Floats

16633 Foltz Parkway Strongsville, OH 44149 USA  
Phone (440) 572-1500 Fax (440) 238-8828  
sales@clark-reliance.com www.clark-reliance.com