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THIRD ANGLE PROJECTION



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES

TOLERANCES

DECIMALS	ANGLES	FRACTIONS
X ± .03	± 1/2°	± 1/64
.XX ± .010		
.XXX ± .005		

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MGMT	
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TITLE			
TECHNICAL BULLETIN TB-147, INSTALLATION PROCEDURE FOR WATERTIGHT SEAL FIELD RETRO-FIT KIT P/N 15238			
SIZE	CAGE CODE	DWG NO	REV
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1.0 PURPOSE:

The purpose of this technical bulletin is to provide necessary instructions for the user in the field to reconfigure non-watertight Series 90 switch/indicator assemblies into watertight configurations. It is assumed that the switch/indicators to be retrofit are panel mounted in a normally installed condition with electrical wiring in-place. The switch/indicator must be unwired and removed from the panel for this procedure.

2.0 KEY COMPONENTS:

- 2.1. Pushbutton removal tool P/N 15193
- 2.2. Torque screw driver (capable of torqueing 6-12 inch ounces)
- 2.3. Field retrofit kit, watertight seal P/N 15238



Figure 1

3.0 PROCEDURE

- 3.1. Remove the pushbutton from the front of the switch/indicator assembly. Use extractor tool PN: 15193. When used, remove and discard the outer pushbutton seal PN: 124125. See Figure 2.
- 3.2. Dis-assemble the pushbutton to remove the faceplate bezel PN: 112015-2 (with legend faceplate in-place) from the lamp holder assembly.
Note the legend orientation with respect to the notch openings on the retainer sides. Carefully remove the faceplate and faceplate seal from the retainer.
- 3.3. Re-assemble the faceplate and faceplate seal into boot seal PN: 124001-001 with the legend having the same orientation to the notch openings as it did in the faceplate bezel it was originally removed from. Install the lamp box assembly. The post on the lamp box assembly must be at the top with the legend "right reading". See Figure 4. Temporarily set this assembly aside.
- 3.4. Un-solder the wiring from the back of the switch/indicator or, in the case of the crimp pin configuration; remove the crimp pin receptacle with wiring in-place.

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- 3.5. From the front of the panel, unscrew the cam screws to disengage the cams from the spacer(s) or sleeve behind the panel. Remove the spacer(s) and sleeve from the rear of the panel.
- 3.6. Remove the switch/indicator housing with panel seal PN: 12499 (where used) from the front of the panel. From this housing, remove and discard the panel seal (where used).
- 3.7. Install watertight seal retainer PN: 11881 and panel seal PN: 12497. See Figure 4.
- 3.8. Re-install the switch/indicator housing into the panel with the watertight seal retainer and panel seal on the front side of panel and re-install spacer and sleeve to switch housing from back side of the panel.

Note: One spacer PN: 108077-3 must be discarded due to use of watertight seal retainer.

- 3.9. Use a torque screw driver to tighten cam screws and secure cams against sleeve at rear of switch housing. Tighten the cam screws to a torque of 8 to 12 ounce/inches.
- 3.10. Re-install the switch/indicator wiring or crimp pin receptacle with wiring in-place. If crimp pin configuration, refer to Technical Bulletin TB-146.
- 3.11. The first step when installing a pushbutton with a watertight seal into a switch/indicator is to roll back the skirt portion of the watertight seal as shown in Figure 3. Now apply a light coating of lubricant (supplied in the kit) around the periphery of the three surfaces shown. The lubricant helps to fully seat the skirt into the groove in the retainer. Use caution that no lubricant is transferred to faceplate surfaces.
- 3.12. Install the pushbutton into the switch/indicator assembly. The next step is to roll down the skirt and seat it into the groove in the retainer. A screw driver blade run along the outside of the seal in the area of the skirt will help this seating process. Once fully seated, the seal will be watertight.
- 3.13. If removal of the pushbutton with watertight seal from the switch/indicator assembly becomes necessary, careful attention is required. Pinch the skirt, with your fingers, in the area of the seal at one corner of the pushbutton and pull outward and upward to unseat the seal. Be careful not to tear, cut or rupture the seal material. At the same time, while pulling outward and upward, roll back the skirt portion of the watertight seal to the position as shown in Figure 3. Now, grasp the pushbutton behind the rolled back skirt and pull straight out of the switch/indicator assembly.

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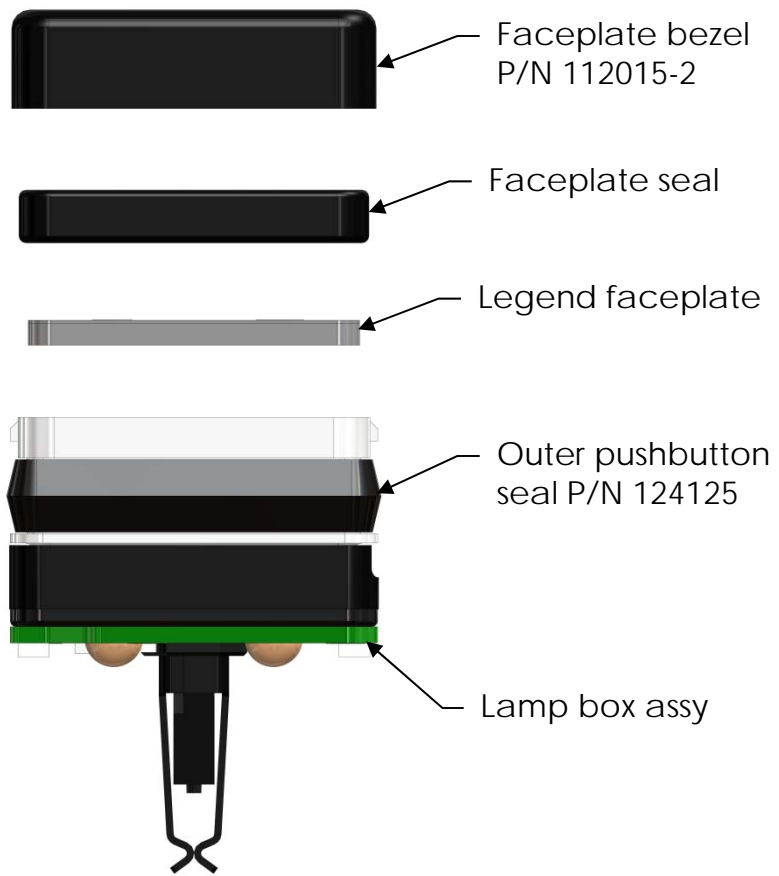


Figure 2 - pushbutton

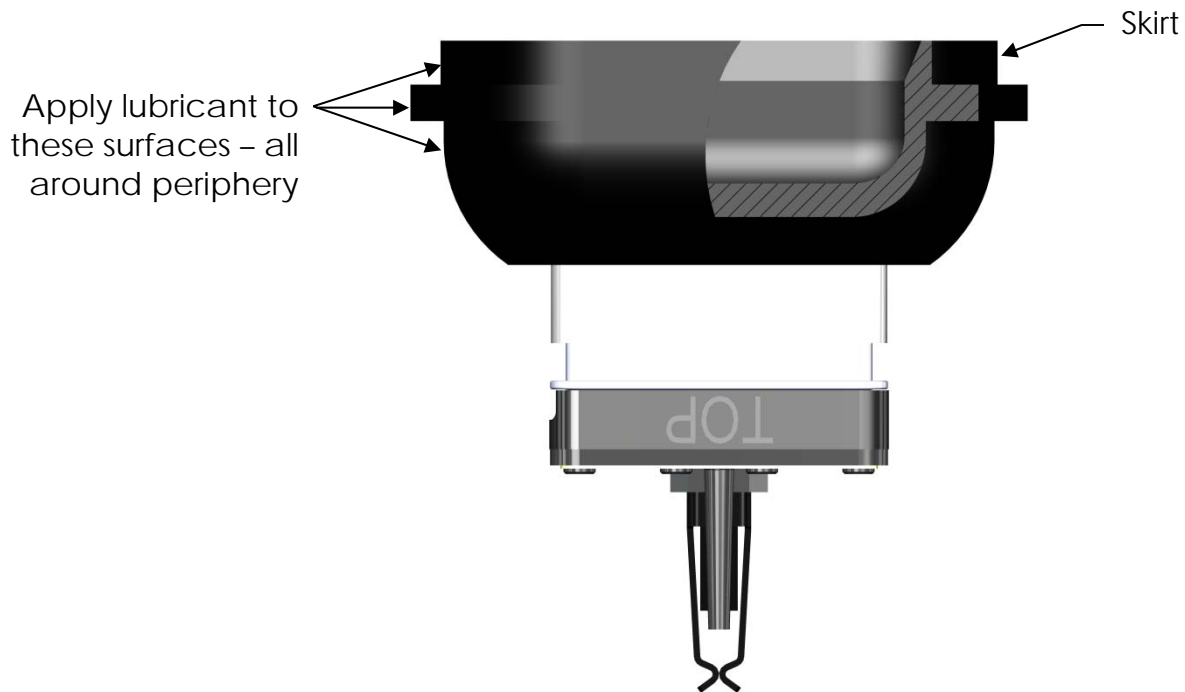


Figure 3 - Rolled back skirt position

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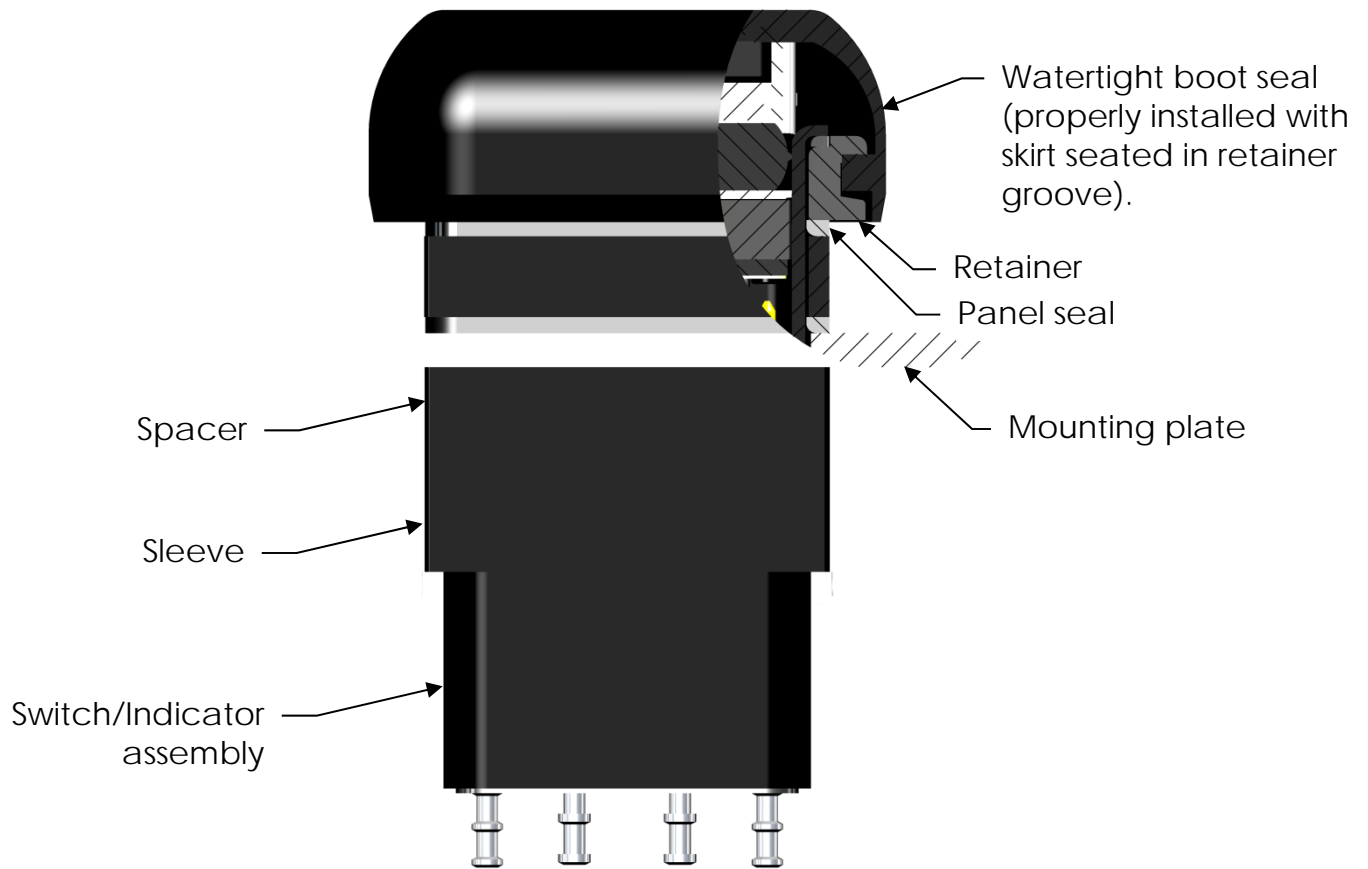


Figure 4 – Switch/pushbutton with watertight seal in installed position

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