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TECHNICAL BULLETIN 12-A-29A

LEGEND REPLACEMENT PROCEDURE

APPLICABLE TO:

SERIES 90 PRODUCT LINE

MODEL 92 FACEPLATE TYPES 8, 9, AND 0

DRAWING NO. 88105

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DRAWING NO. 88105

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SHEET 1 OF 7

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TECHNICAL BULLETIN 12-A-29A

Series 90 Pushbutton

LEGEND REPLACEMENT PROCEDURE

Purpose and Scope:

This procedure applies to Series 90 Lighted Pushbutton Switches and Indicators, and, in particular, to Model 92 Pushbuttons with Type 8, 9 or 0 Faceplates. These have "customer replaceable" legends. The scope of this document includes the physical requirements of the replaceable Legend Plate, instructions for the disassembly of the Pushbutton (as received from the factory), installation of the new Legend Plate, and then assembly of the finished unit.

Figure 1 shows an assembled Pushbutton. Figure 2 is an exploded view of the Pushbutton piece-parts.

Legend Plate Requirements

Customer-made Legend Plates should be square, $0.575" \pm 0.010"$ (14.60 ± 0.25 mm) per side with a maximum thickness of $0.006"$ (0.15 mm). The required corner radii are $0.030" \pm 0.010"$ (0.76 ± 0.25 mm). The viewable area is approximately $0.520"$ (13.21 mm) square.

The recommended materials are polyester (Mylar), polycarbonate (Lexan) or other high temperature film. The Legend Plates may be cut to size using a pair of scissors or a razor-bladed tool and a straight edge.

For Types 8 and 9, which are similar to factory-built Types 2 and 5 respectively, the Legend Plate is to have black characters or symbols on a clear background.

For Type 0, which has a dead-front appearance similar to the factory-built Type 6 sunlight readable display, the Legend Plate is to have clear characters or symbols with a black opaque background. When operational, the display will have lighted characters in the color of the selected filter or LED and provide a high degree of contrast against the non-reflective background. When not lighted, the display will have a totally black, dead-front appearance.

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Disassembly

NOTE: Standard factory-supplied Legend Plates (Model 92 Display Types 1 through 7) are permanently laminated to the Color Filter/Diffuser Assembly and are not replaceable. However, to replace a customer-changeable Legend Plate (Model 92 Display Types 8, 9 or 0) the following procedure applies:

Referring to Figure 1, slip your fingernail under the lip of the Bezel, using either side. Pull outward and lift up over the retention tab. Remove and set aside the Lower Pushbutton Assembly.

Place the Bezel on a flat surface with the edges downward and gently press the Seal/Display Assembly down and out of the Bezel.

Remove the Seal, thus separating the three loose parts, namely the Faceplate, the sample Legend Plate (provided by the factory), and the Color Filter/Diffuser Assembly. Observe and maintain the orientation of the three parts as they are set aside, as they probably will need to be arranged in the same orientation upon reassembly.

Slide out the existing Legend Plate and insert the new one in its place between the Faceplate and Color Filter/Diffuser Assembly, ensuring the legend is oriented correctly.

Assembly Procedure

Make a three-part Display Stack as shown in Figure 2, consisting of:

1) The top piece of the stack is the Facescreen. It is to be oriented such that the less-reflective surface is toward the outside of the stack-up. (This is the rougher surface of Type 8 or 9 Facescreen, or the non-reflective surface of Facescreen Type 0.) When in operation, this surface will face the viewer.

2) In the middle is the custom-made Legend Plate, with the "correct-reading" side next to the Facescreen.

3) Finally, the Color Filter/Diffuser Assembly is on the bottom with the flange toward the Legend Plate. Rotate the Color Filter/Diffuser Assembly so that the desired colors are in the proper orientation behind the Legend Plate.

Slip the rubber Faceplate Seal over the three-piece display stack, either side up. (No special orientation is required as the seal is square.) Make sure all four edges on both sides of the seal are overlapping the Display Stack on both the top and the bottom of the stack. This now is referred to as the Seal/Display Assembly.

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Place the Bezel on a flat surface with the viewer's side of the Bezel downward, i.e., edges up. Spread the four walls of the Bezel very slightly to help accept the Seal and Display Stack more readily. Note that the bezel can be installed in either of two positions, 180° apart, as the part is symmetrical about a center-line.

Drop one edge of the Seal/Display Assembly into the Bezel and press it all the way down and under one of the retainer tab holes. Then press the other edge of the assembly down into the Bezel wall. Your fingernail can serve as a "shoehorn" to assist in getting the seal to slide down smoothly inside the Bezel wall. Press the Seal/Display Assembly down firmly into the Bezel.

If the Lower Pushbutton Assembly is still intact, go to the next step. If not, it can be reassembled from the two parts, a Lampbox and a Lampboard Assembly. Simply slide the Lampbox into the Lampboard Assembly in the orientation required. The index post of the Lampboard Assembly must be toward the top of the final Pushbutton Assembly. The two tabs of the Lampbox are on each side of the Pushbutton Assembly. If the light source is T1 incandescent lamps, either insert the lamps or reinstall the fibre-board Discard Plate before installing the pushbutton in the Switch/Indicator Assembly.

If the Lower Pushbutton Assembly has been reassembled (as described above) or if it still is in the factory-built configuration, pick up the assembly and orient the open lampbox toward you, the detent away from you, and the index post at the 12:00 position (i.e., the Pushbutton in the right-side up orientation).

Hook one side of the Bezel over the retention tab on the Lower Assembly, then rock the Bezel over onto the top of the Lampbox and press home, until both sides of the Bezel are snapped into place. Run your fingernail along under each retention tab to press the lip of the Bezel well under the retention tab to ensure the Pushbutton Assembly is securely locked together.

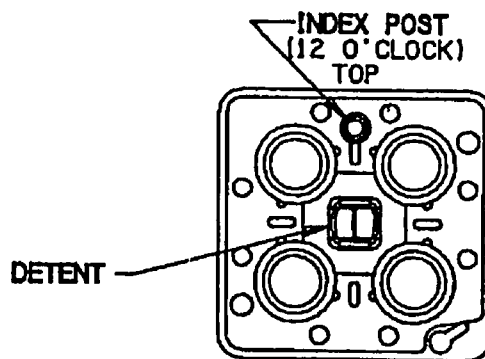
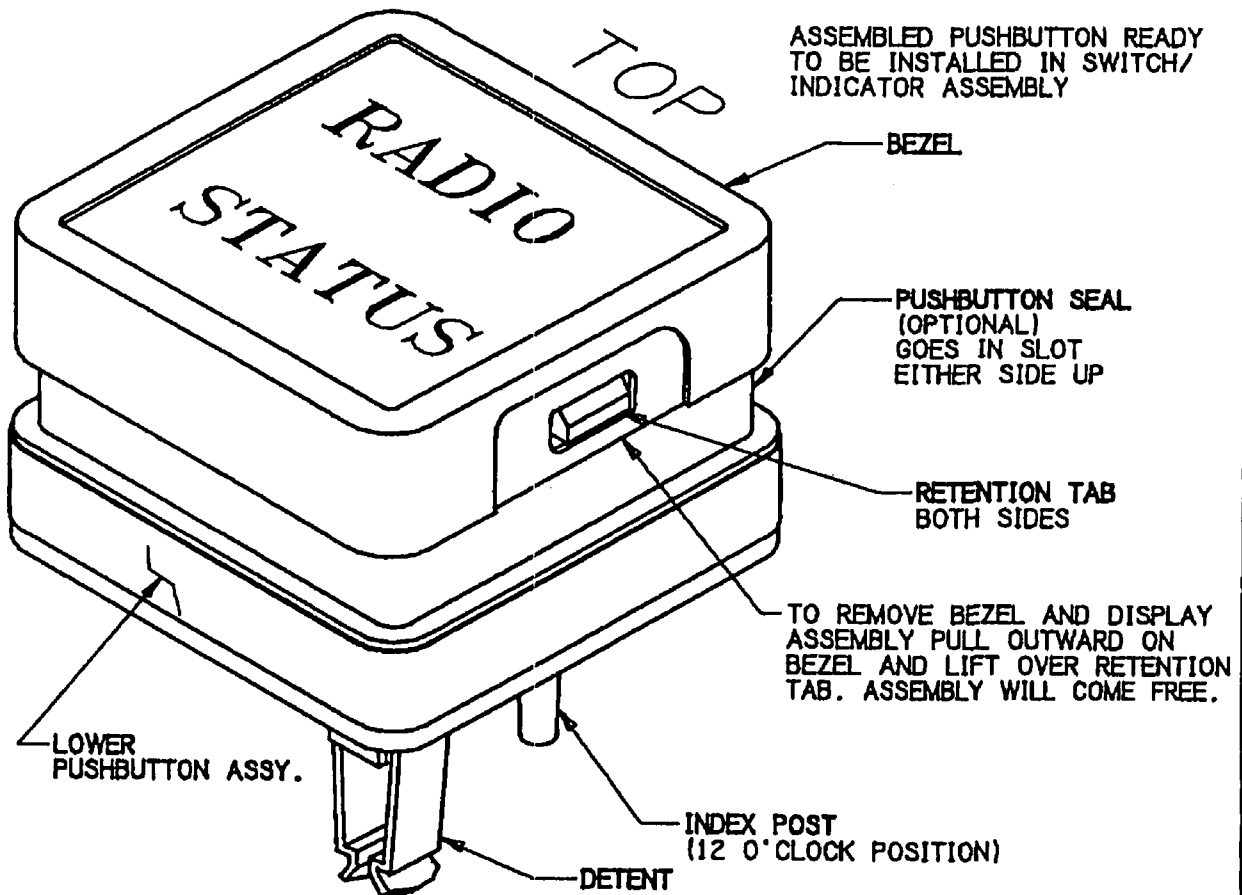
If the Pushbutton is to be sealed for dripproof protection, install the Pushbutton Seal into position as indicated in Figure 1.

The Pushbutton is now complete and ready for installation in a Switch or Indicator Assembly.

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FIGURE 1

COMPLETELY ASSEMBLED PUSHBUTTON

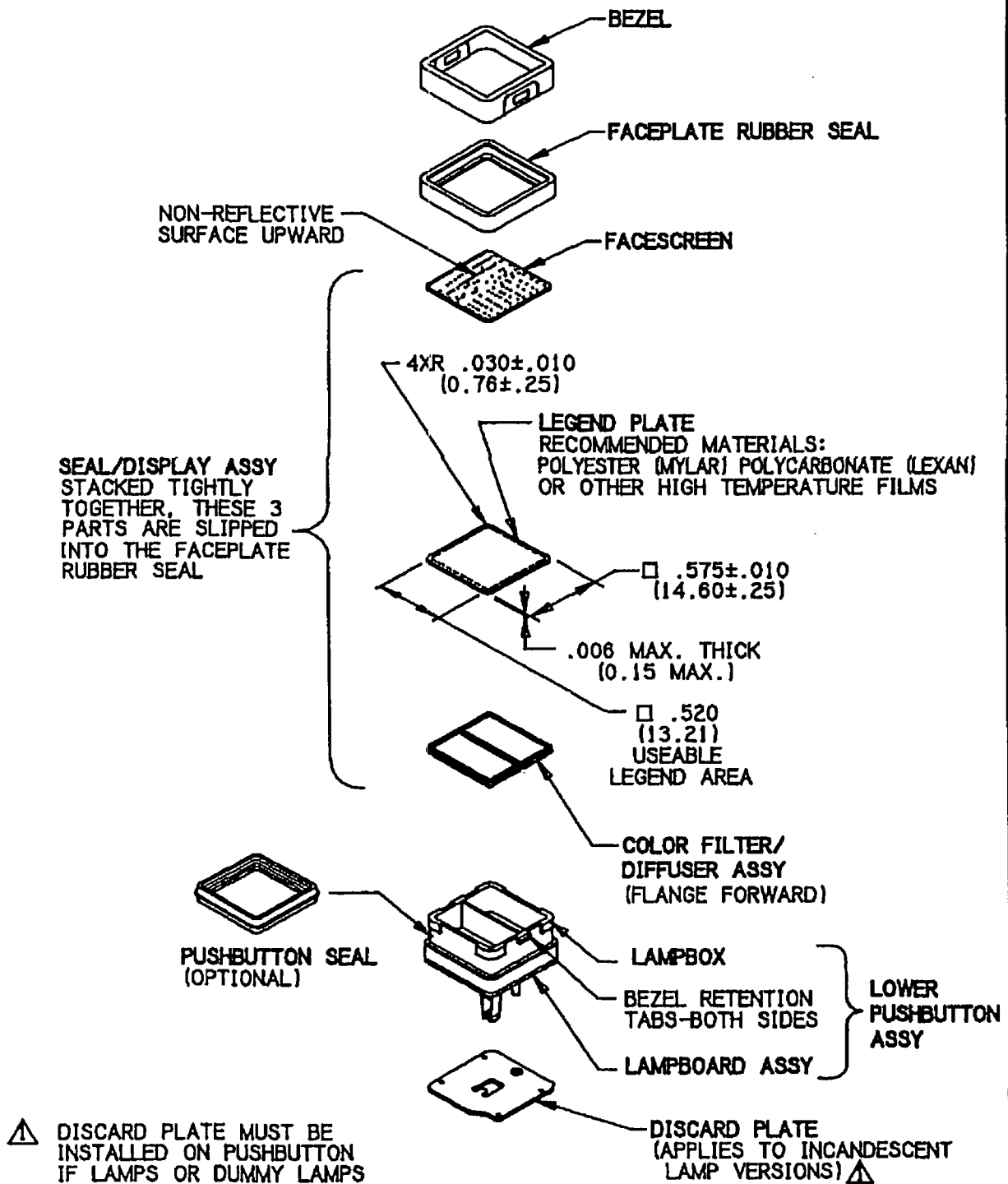


REAR VIEW

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FIGURE 2

EXPLODED VIEW OF PUSHBUTTON PIECE-PARTS



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