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TOLERANCES

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

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**SEE ER**

**DO NOT SCALE  
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TITLE TECHNICAL BULLETIN, INSTALLATION PROCEDURE FOR SERIES 200 PUSHBUTTON SWITCHES			
SIZE A	CAGE CODE 12522	DWG NO TB-215	REV 1.0
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## 1.0 PURPOSE

The purpose of this technical bulletin is to provide necessary instructions for proper installation of Series 200 switches.

## 2.0 APPLICABLE DOCUMENTS

The following documents form a part of this document to the extent specified herein. Where specific paragraphs are called out, all subordinate paragraphs also apply. Where individual paragraphs are not specified, the document is applicable in its entirety.

### 2.1. Staco Systems Documents

Series 200 SCD      Specification Control Document, Series 200, Light-Emitting Diode (LED) Lighted Pushbutton Switches and Indicators

## 3.0 KEY COMPONENTS

- 3.1. Pushbutton removal tool P/N 15193
- 3.2. S200 switch with mounting spacers
- 3.3. Torque screw driver (capable of torquing 10 inch ounces)
- 3.4. Molykote 33 silicone grease
- 3.5. Isopropyl Alcohol

## 4.0 PROCEDURE

### 4.1. Receptacle Assembly Removal – For Crimp Termination Only

Prior to extracting pushbutton from switch or indicator housing, the receptacle assembly should be extracted from switch body. This can be accomplished by turning receptacle mounting screw counter-clockwise. It is important to note that the screw is captive and should not disengage itself from the receptacle completely. See Figure 1.

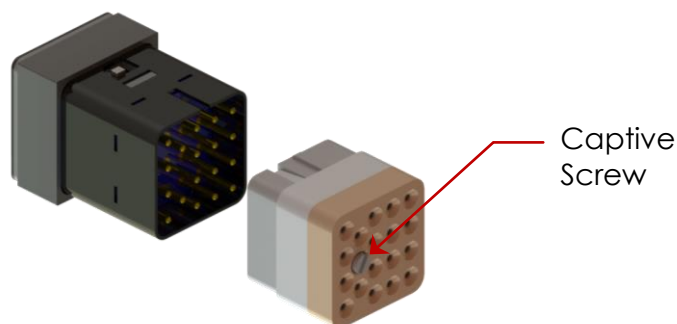


Figure 1: Receptacle Assembly Removal (crimp pin termination version shown)

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#### 4.2. Alternate Action Switch Only

Alternate action switches, when activated (or pressed), the pushbutton retained in the latch-down (or compressed) position until pushbutton is deactivated (or pressed again), it then returns to its free position.

In the latch-down position, pushbutton indentation tabs should be hidden. In the free position, pushbutton indentation tabs should be visible. See Figures 2 & 3 for pushbutton protrusion heights and indentation location.

**TO PREVENT PUSHBUTTON SEAL AND PUSHBUTTON RETAINER FROM BEING DAMAGED DURING THE EXTRACTION PROCESS, ALTERNATE ACTION SWITCHES SHALL BE IN THE FREE POSITION BEFORE ATTEMPTING PUSHBUTTON EXTRACTION PROCESS.**

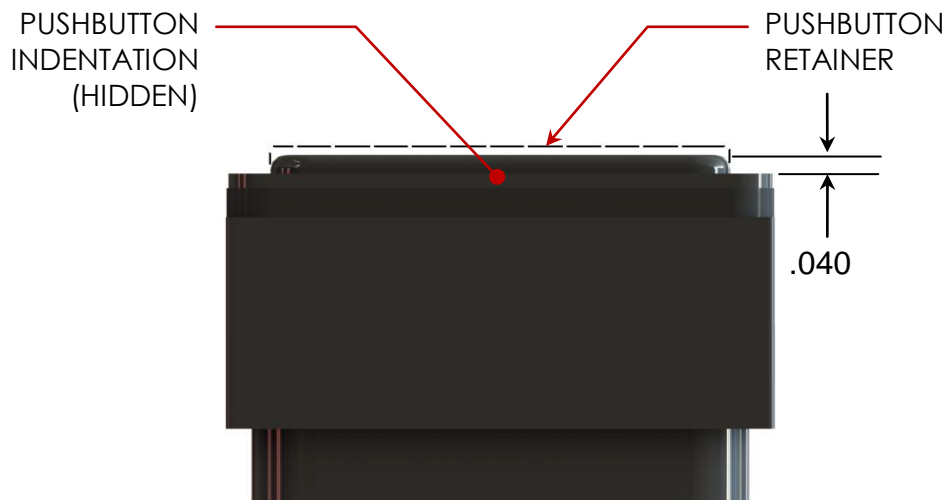


Figure 2: Latch Down Position



Figure 3: Free Position

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### 4.3. Mounting Procedure

#### 4.3.1. Extract pushbutton from switch / indicator housing

Using pushbutton extraction tool, see Figure 4. position the tool's gripping tabs around the two indentations, located on the pushbutton's retainer as shown in Figure 5 and Detail B. Clamp/squeeze the tool gently, but firmly, and pull the pushbutton away from the switch / indicator housing. The removal force should be in the range of two (2) to five (5) pounds.

This gives access to the heads of the locking screws located inside the front portion of the switch / indicator as seen in Figure 7.

Note: To prevent damage to the flex circuit and/or the pushbutton, pushbutton shall not be pulled away from switch housing opening no greater than 0.500". See Figure 6.

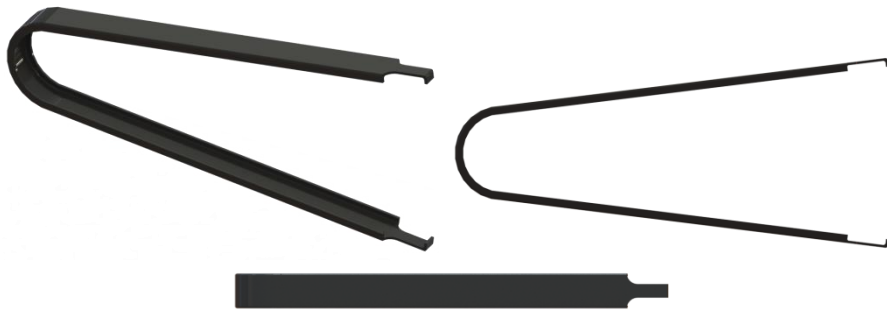


Figure 4: Pushbutton Extraction Tool (P/N 15193)

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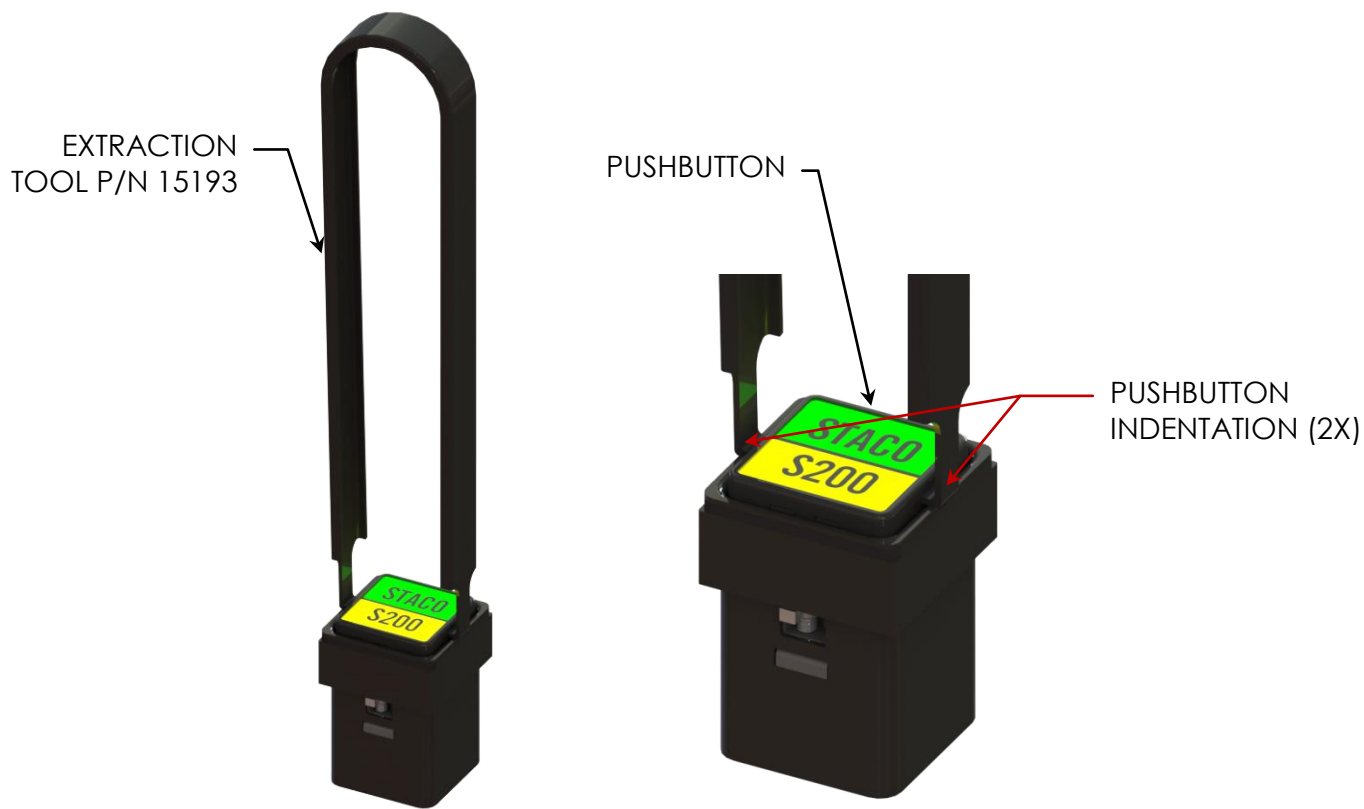


Figure 5: Pushbutton Extraction (crimp pin termination version shown)

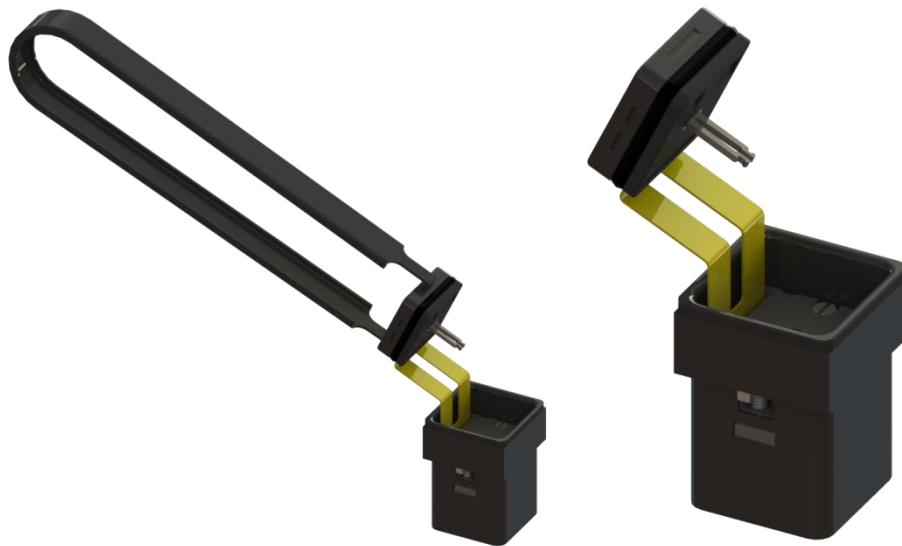


Figure 6: Pushbutton Extraction (Crimp termination version shown)

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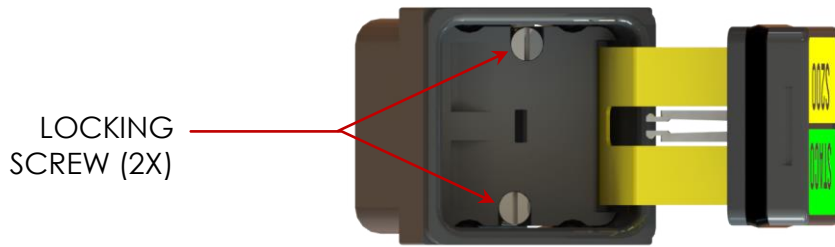


Figure 7: Locking Screw

4.3.2. Remove Panel Spacer and Mounting Sleeve from Switch / Indicator Assembly

Rotate the two locking screws counter-clockwise ½ a turn with a screwdriver. **WARNING, DO NOT BACK OUT MOUNTING CAM COMPLETELY OUT, THIS WILL CAUSE DAMAGE TO THE SWITCH.** This will release mounting cams. Slide mounting sleeves and panel spacer off of the switch / indicator assembly. See Figure 8.

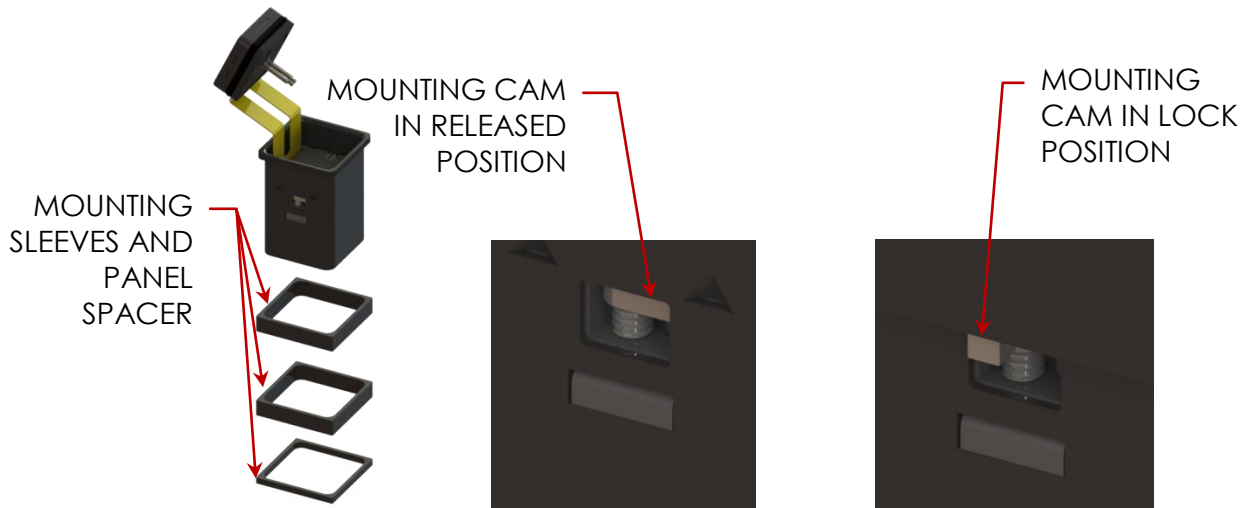


Figure 8: Mounting Cam

4.3.3. Install Switch / Indicator Assembly onto Mounting Panel

Install pushbutton switch/indicator through panel cut-out from front of panel. switch / indicator is marked with word "TOP" to help properly orient position of the assembly in the panel. See Figure 9.

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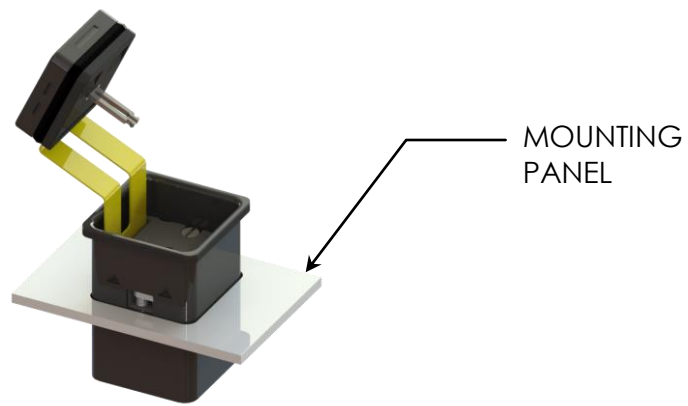


Figure 9: Switch Orientation (flush mount version shown)

To determine the use of the panel seal panel spacer, mounting sleeves and the maximum panel thickness refer to pages 31-36 of Series 200 SCD. In this particular application shown in this Technical Bulletin we will be installing the switch onto a panel in the flush mount condition.

The panel spacer, together with two different thickness mounting sleeves, 0.080" and 0.060", provide various options for fitting the switch/indicator assembly to mounting panels with thicknesses ranging from essentially zero to a maximum of 0.375".

Replace panel spacer and mounting sleeves as appropriate for the panel thickness as shown in Figure 10.

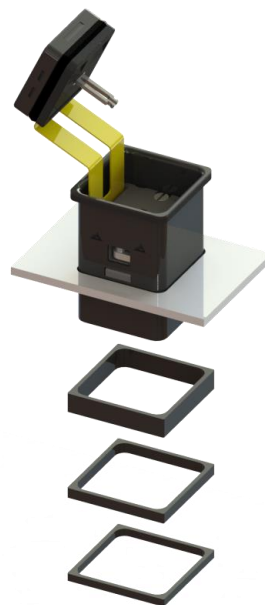


Figure 10: Mounting Cam in Locked Position (flush mount version shown)

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Rotate locking screws clockwise to bring mounting cams to lock position. recommended mounting torque is  $10 \pm 2$  ounce inches ( $0.071 \pm 0.014$  Nm). See Figure 10.

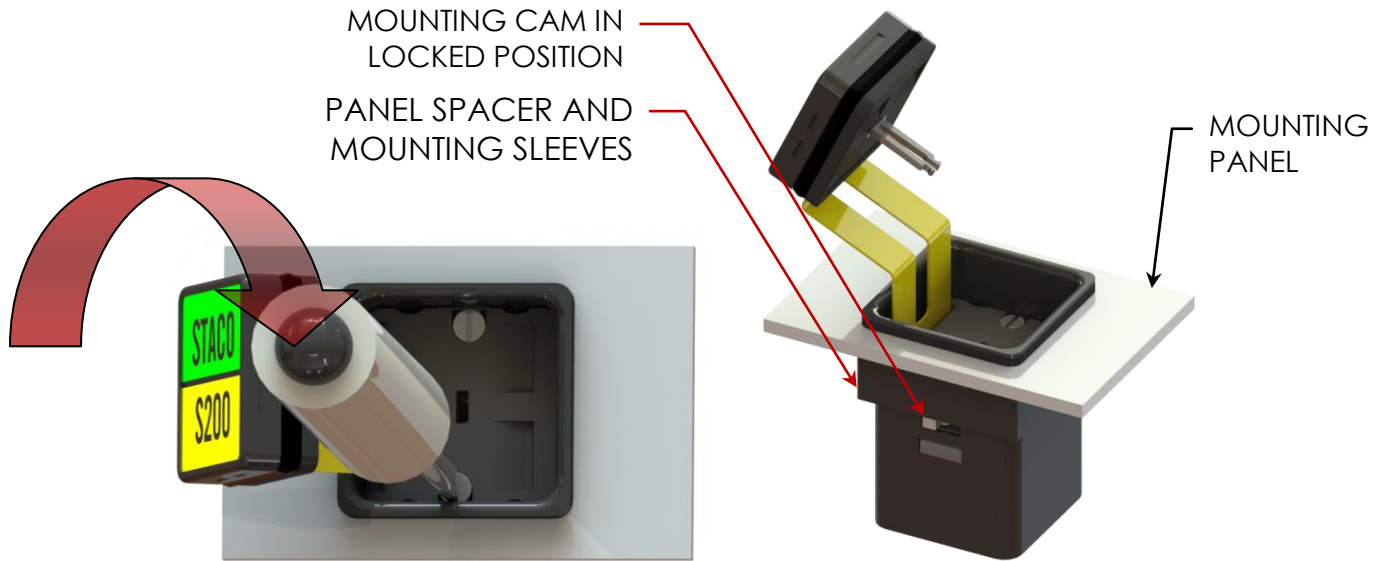


Figure 11: Mounting Cam in Locked Position (flush mount version shown)

#### 4.3.4. Pushbutton Installation

To insert the pushbutton properly, align the pushbutton shaft, located at bottom center of the pushbutton, to the shaft cutout, which located inside the top portion of the switch / indicator of the switch housing, and push gently until the pushbutton is properly seated. See Figure 12 and Detail C.

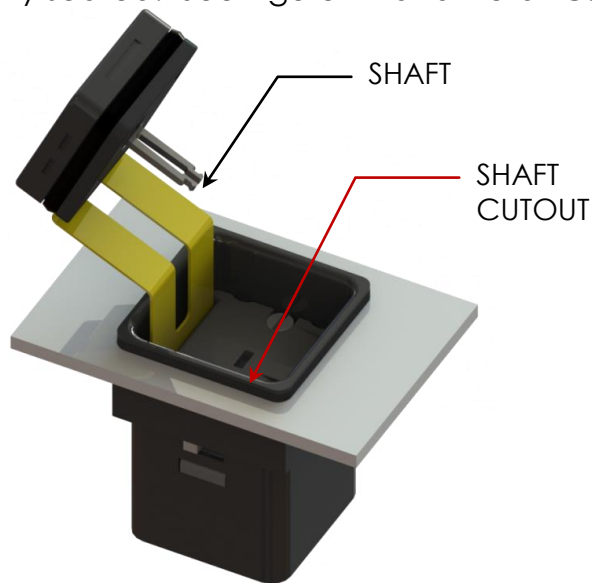


Figure 12: Pushbutton Installation

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4.3.5. Receptacle Assembly Installation – For Crimp Pin Termination Only

Once the switch/indicator has been properly installed, place receptacle assembly back onto switch/indicator. It is important that all crimp pins and mounting holes are properly aligned. Also, there is a locking slot on the housing and a locking protrusion on the receptacle to help with orientation. See Figure 13.

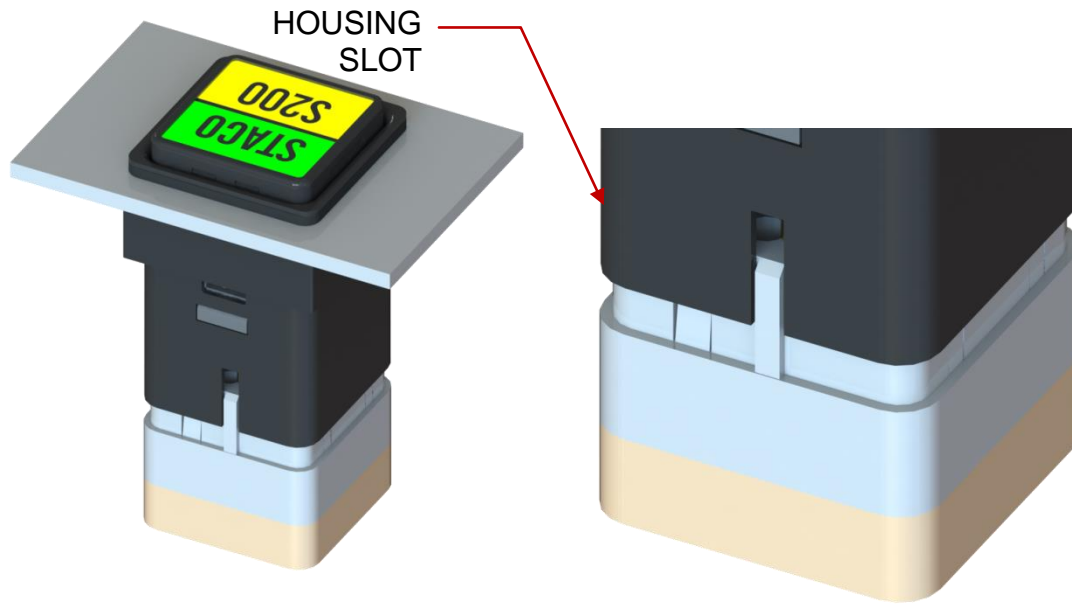


Figure 13: Receptacle Installation

While holding receptacle in place on switch/indicator, tighten receptacle mounting screw clockwise. Recommended torque is  $8 \pm 2$  inch-ounces.

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