

# **FIRON INDUSTRIES LTD.**

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## **SWITCH INSTALLATION AND MAINTENANCE RECOMMENDATIONS**

**Installation:** Switch packaging should be checked for damage, if there is significant damage, the switch should be inspected for visible damage and operated several times to verify that it is functioning properly.

It is imperative that the terminations be made correctly; this includes 1) proper terminal pad preparation, 2) correct connectors for the load and 3) proper torquing of the fixing bolts:

- 1) The terminal pads of the switch are tinned; therefore either copper or aluminum connectors may be used. Application of a non-grit oxide inhibitor compound such as Kearnalex® should be worked into the surface of the terminal pad of the switch. Care should be taken to avoid damage to the tin plating of the switch terminal pad.
- 2) Firon recommend the use of a two hole connector or two hole lug to ensure a low resistance electrical connection. Acceptable connector/lug materials include aluminum, tin plated aluminum or tin-plated copper. Follow connector/lug manufacturer's recommendations for preparation and installation.
- 3) It is critical that the connector/lug be installed using the hardware and recommended torque values provided by the connector/lug manufacturer. In the absence of manufacturer's hardware or recommendations, use grade five, galvanized, steel bolts torqued to a minimum of 40 ft-lbs.

For in-line switch installations, add extra suspension dead-end insulators to the aluminum tongues of the switch insulator, where permissible. These extra insulators will decrease the unintended current flow through the switch insulator end fittings.

**Maintenance:** The factory adjustment of Firon switches assures good electrical contact and positive positioning of the blade when in the open mode. At assembly, the hinge end is pre-lubricated with a lithium compound, (white grease), and the female jaw contacts are coated with a dry type lubricant, such as Dow Corning 557. If the switch blade has been left open for an extended period of time, the jaw and blade contacts should be wiped clean of any dirt particles to ensure that there will be no plating damage to the contacts and that they will properly mate. Thinners or Acetone may be used to clean the contacts and if the contacts are heavily coated use a fine Scotch-Brite® pad.

Periodic operation of the switch is recommended as this ensures the hinge pivot point is operating smoothly and helps clean any oxide from the jaw contacts, which may have formed since the last maintenance.

Under no circumstances should oxide or corrosion inhibitor be applied to the moving contacts for the following reasons:

1. They are not lubricants.
2. Some contact pastes are meant for bolted connections and contain fine copper powder, which will damage the surface plating and cause galling.
3. The pastes are often petroleum based and exposure causes the paste to harden as the lighter elements are driven off and leave a thick gummy residue. This residue may prevent opening or closing of the switch under normal conditions. This problem has been experienced in actual field conditions.