General Assembly Instructions
Gliding Ring Type High BIL Tapchanger

Locate the following items from the shipping container:

Figure 1
Main Switch Body

Figure 2
Dielectric Washers
(Only on non-molded decks)

Figure 3
Socket Head Cap Screws
The above items will be needed in the areas where the switch will be attached to the transformer core and coil and where the cables will be attached to the switch.

Locate the following items:

Figure 5
Handle (external spring pin taped to handle)

Figure 6
Shaft (cotter pin taped to shaft)
The gland will be welded into the tank. The gland nut, o-rings, brass spacer, and index plate will be needed at final tanking. See Packing Gland Instructions for details o-ring installation.

**Connecting Leads to Switch Crimp Connectors**

Make sure approximately 1” of cable is bare. Remove all insulation. Insert bare cable into non-threaded end of crimp connector. Crimp or braze cable into connector.
Note that this step would not apply to connectors that have threaded stud. If using a threaded stud connector, cable would be inserted in a ring terminal. The ring terminal would be used to attach the cable to the switch terminals.

Connecting Crimp Terminals to Switch.

Insert Hex Head Cap Screw (supplied by Quality Switch) into deck.

Figure 10
Hex Head Cap Screw being inserted into a non-molded deck.

Figure 11
Hex Head Cap Screw being inserted into a molded deck.
Locate one of the dielectric washers (non-molded decks only). The washer goes on as shown:

Figure 12
Dielectric washer being installed.

Note that larger diameter of washer goes next to deck.

Figure 13
Crimp connector with cable being installed on top of dielectric washer.
Hold crimp connector in place and tighten socket head cap screw. Maximum tightening torque is 40 foot-lbs (480 inch-lbs). Crimps should be tight against washer and washer should be tight against deck board when fully tightened. If crimp wiggles or space can be seen between deck, washer, and crimp, the function of the switch may be impaired. However, properly installed contacts MAY rotate in the deck after tightening.

The socket head cap screw includes a special patch material that prevents it from loosening up in operation. The cap screw can be removed and reinstalled a maximum of 2 times (total installation of 3 times). After a maximum of 3 installations, a new cap screw must be used.

Also note that the patch will generate some copper particles when being inserted into the connector. Removing the cap screw should be a careful process. Switch should be thoroughly cleaned to insure that no copper particles remain on deck or surrounding items (leads, lead structure, windings).

**Final Assembly**

Switch body and index plate must be coordinated. Typically switch should be assembled in the NOMINAL tap position.

Figure 14
5 position switch shown in the typical NOMINAL tap position.
Prior to inserting the core and coil into the tank, the brass shaft must be inserted into the gland. (See Figure 6). The knuckle and pin stay inside the tank. The shaft with holes is external to the tank.

After switch is mounted to core and coil assembly and core and coil assembly is inside the tank, care must be taken to assure proper alignment of switch and index plate. With the switch in the “C” or NOMINAL position (see Figure 13) slide the knuckle into the coupler.

![Figure 15](image15.png)
**Figure 15**
Knuckle going into coupler

The coupler assembly is properly assembled if both pins are approximately centered in each slot.

![Figure 16](image16.png)
**Figure 16**
Pins located approximately center of slot.
Finally, external to the tank, shaft should go through index plate. Handle is attached to shaft using predrilled holes and roll pin (spring pin). Cotter pin is inserted through small hole in shaft behind index plate to prevent handle and shaft assembly from being pulled out of coupler internal to the tank.

Figure 17
Switch in NOMINAL position, handle in NOMINAL position according to Index plate.

Figure 18
Shaft with cotter pin taped to it (Foreground).

Note “knuckle” end with spring pin will be internal to the tank.

Note 2 holes in shaft. Larger hole will receive roll pin inserted through handle. Smaller hole (second from left) will receive cotter pin.
Figure 19
Handle with external spring pin taped to it.

Figure 20
Cotter Pin inserted into small hole in shaft. Hole must be behind index plate to prevent accidental removal of handle/shaft assembly from coupler inside the tank.

Spread legs of cotter pin to prevent cotter pin from falling out.

Figure 21
Roll pin being inserted into predrilled hole in handle. Hole in handle must line up with hole in shaft. Puck in handle (upper) must seat into index hole located on index plate below NOMINAL position.
Figure 22
Support must be provided as spring pin is inserted into shaft. In this picture a hammer is used on right side of handle to support the shaft as pin is driven in with hammer from left side of handle.