



Manufactured by
Teleflex, Inc. USA
640 North Lewis Road
Limerick, PA 19468 (USA)
(610) 495-7011

CA 69027/28

**ELECTRIC SWITCH (RH/LH)
FOR CH4400, CH5600 CONTROLS
INSTRUCTIONS**

Copyright 1999, Teleflex Incorporated (USA)

INSTALLER: THESE INSTRUCTIONS CONTAIN IMPORTANT SAFETY INFORMATION AND MUST BE FORWARDED TO BOAT OWNER.

These instructions describe how to install CA 69027 or CA 69028 Electric Switch Assemblies into Teleflex CH 4400 and CH 5600 controls. These switches are for use with electric transmissions supplying a maximum of 5 amps current draw to the switching circuit.

The switches are available in either a right hand (CA 69027) or left hand version (CA 69028) to address multi-station applications or wire routing preferences.

WARNING

BEFORE STARTING INSTALLATION READ THESE INSTRUCTIONS AND ENGINE MAKERS INSTRUCTIONS THOROUGHLY. FAILURE TO FOLLOW EITHER OF THESE INSTRUCTIONS OR INCORRECT ASSEMBLY CAN RESULT IN LOSS OF CONTROL AND CAUSE PROPERTY DAMAGE OR INJURY.

DO NOT SUBSTITUTE PARTS FROM OTHER MANUFACTURERS, THEY MAY CAUSE A SAFETY HAZARD FOR WHICH TELEFLEX INC., USA CANNOT ACCEPT RESPONSIBILITY.

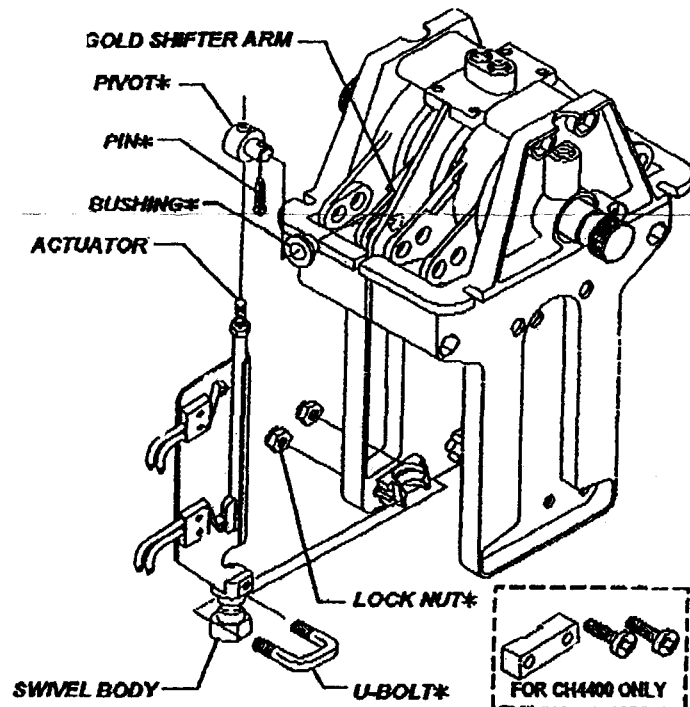
INSTALLATION PROCEDURE

Confirm that the version switch is correct for your application. Left hand versions (CA 69028) mount in the port/aft and starboard/forward positions in the control. Right hand versions (CA 69027) mount in the port/forward and starboard/aft positions.

CH 5600 Controls

- 1. Thread the pivot supplied with the CH 5600 control onto the threads of the actuator.** Turn the pivot until 1-2 threads extend beyond the top. Do not tighten the jam nut against the pivot at this time.
- 2. Attach the switch assembly to the control.** Feed the actuator up between the black and gold shifter arms while placing the grooved swivel body into the retainer of the control. Secure the swivel body with a U-bolt and lock nuts supplied with the control. Insert the bushing supplied with the control into the *INSIDE HOLE* of the *GOLD SHIFTER ARM* and install the pivot into the bushing. Secure the pivot to the arm with a cotter pin supplied with the control.
- 3. Cycle the shifter to the forward and reverse position detents several times while observing switch function with a continuity meter. Do for both forward and reverse switches.** Observe that the switches function in both positions and that the switch rollers are resting on the flat of the actuator cam. If necessary, make adjustments by turning the pivot up or down on the actuator and recheck. Make sure the cotter pin is installed in the pivot and jam the nut against the pivot. Recheck after jamming the nut.

CH 5600 CONTROL



***THESE ITEMS SUPPLIED WITH THE CH 5600 CONTROL.**

- 4. Wire switches to the forward and reverse position solenoids of the electric transmission.** Take note which switch activated when the shift lever was moved to the forward position and wire this switch to the forward position solenoid. Wire the remaining switch to the reverse position solenoid. **NOTE: SWITCHES ARE NORMALLY OPEN IN THE FREE STATE AND CLOSE THE CIRCUIT WHEN THE ROLLER IS ACTUATED.**
- 5. Test the system at dockside before using the boat.** With the boat still tied and the engine at idle speed only, move the shift lever to forward gear and back to neutral. Repeat for reverse gear. The boat should go in and out of each gear. If it doesn't, check the wiring, switches, and switch roller operation. Do all checks with the engine off. If the boat goes into reverse when the shift lever is moved to the forward position, then reverse the wiring to the switches.

CH 4400 Controls

1. **Thread the pivot supplied with the CH 4400 control onto the threads of the actuator.** Turn the pivot until 1-2 threads extend beyond the top. Do not tighten the jam nut against the pivot at this time.

2. **Attach the retainer to the control.** Locate the small bag containing the retainer and (2) retainer screws and use the screws to fasten the retainer to the control as shown in the illustration. Tighten the screws securely.

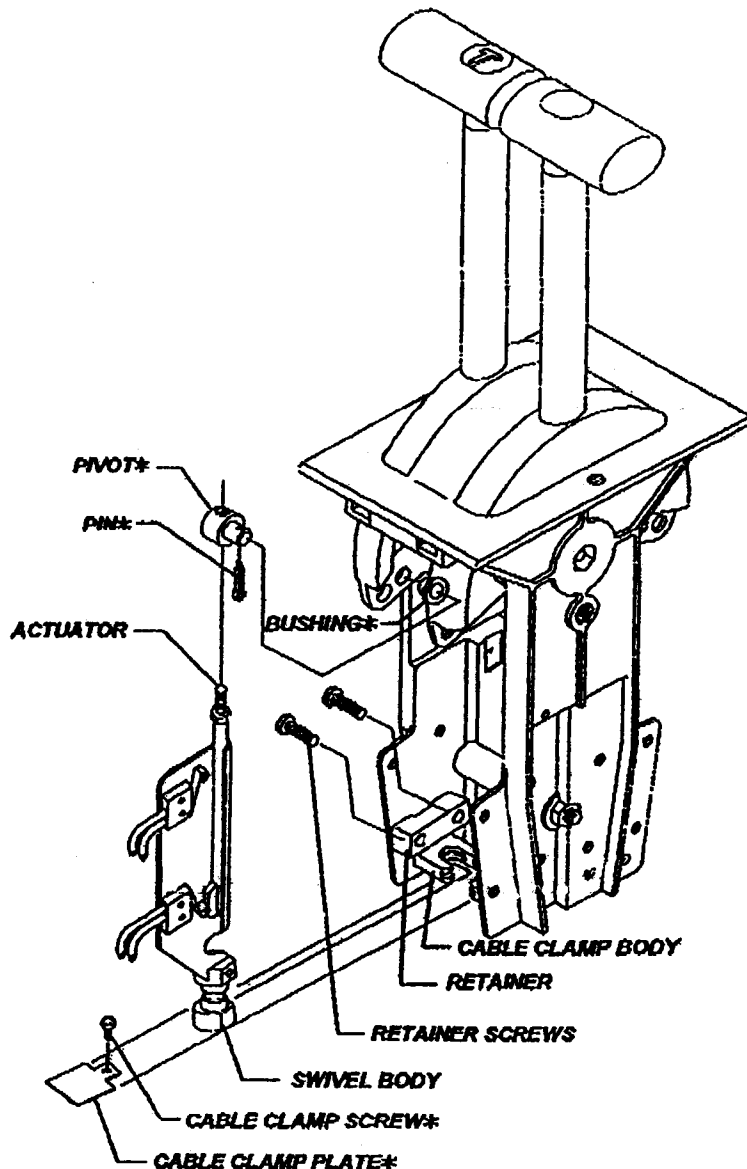
3. **Attach the switch assembly to the control.** Feed the actuator up between the two arms while placing the grooved swivel body into the cable clamp of the control. Secure the swivel body with a cable clamp plate and screw supplied with the control. Insert the bushing supplied with the control into the **INSIDE HOLE** of the **SHIFT ARM** and install the pivot into the bushing. Secure the pivot to the arm with a cotter pin supplied with the control.

4. **Cycle the shifter to the forward and reverse position detents several times while observing switch function with a continuity meter.** Do for both forward and reverse switches. Observe that the switches function in both positions and that the switch rollers are resting on the flat of the actuator cam. If necessary, make adjustments by turning the pivot up or down on the actuator and recheck. Make sure the cotter pin is installed in the pivot and jam the nut against the pivot. Recheck after jamming the nut.

5. **Wire switches to the forward and reverse position solenoids of the electric transmission.** Take note which switch activated when the shift lever was moved to the forward position and wire this switch to the forward position solenoid. Wire the remaining switch to the reverse position solenoid. **NOTE: SWITCHES ARE NORMALLY OPEN IN THE FREE STATE AND CLOSE THE CIRCUIT WHEN THE ROLLER IS ACTUATED.**

6. **Test the system at dockside before using the boat.** With the boat still tied and the engine at idle speed only, move the shift lever to forward gear and back to neutral. Repeat for reverse gear. The boat should go in and out of each gear. If it doesn't, check the wiring, switches, and switch roller operation. Do all checks with the engine off. If the boat goes into reverse when the shift lever is moved to the forward position, then reverse the wiring to the switches.

CH 4400 CONTROL



***THESE ITEMS SUPPLIED WITH THE CH 4400 CONTROL.**

KEEP THESE INSTRUCTIONS WITH YOUR BOAT FOR FUTURE REFERENCE.