

INSTRUCTIONS FOR INSTALLING THE 309511 MODIFICATION
KIT TO PROVIDE A UNIVERSAL KEYBOARD SWITCH ON LATE
DESIGN MODEL 28 UNITS

1. GENERAL

a. The 309511 modification kit provides an electrical switch under any or all keys in the keyboard. It may be wired normally open or closed. The keyboard switch mounts directly under the lobe of the code bar lever in the keyboard. As the key is pressed, it performs its standard function and opens or closes the keyboard switch.

b. The contacts of the kit are capable of passing one ampere of A.C. or 1/2 ampere of D.C. current at 120 volts.

c. The 309511 kit consists of:

1	1178	Screw	2	121473	Stud
2	2191	Washer	2	153817	Screw
2	3599	Nut	2	156740	Screw
2	7002	Washer	1	309507	Contact Assembly
1	71073	Washer	1	309508	Bracket, Left
1	93117	Washer	1	309509	Bracket, Right
2	110743	Washer	2	309510	Bar, Retainer
1	112627	Nut	1	312727	Guide

d. For parts ordering information, other than the parts in the kit, and for standard adjustments and lubrication procedure refer to the standardized information.

2. INSTALLATION (Figures 1, 2, and Bulletin 1169B)

a. Remove the 154202 screws holding the 154198 label covers and remove the covers.

b. Remove the four 151659 screws and 81774 flat washers, the two 151632 screws, two 2191 lockwashers, and two 7002 flat washers holding the 154110 keyboard hood. Remove the hood.

c. Paragraphs d., e., and f. to follow apply only if a 163979 lever is to be installed. (The 163979 lever is used only when an additional keylever is required.)

- d. Remove the two 151233 screws holding the 151045 space bar. Remove the space bar.
- e. Remove the two 151659 screws, two 2191 lockwashers, and two 7002 flat washers holding the 154111 keytop guide plate to the 154212 keyboard front frame. Remove the keytop guide.
- f. Install a 163979 lever into the corresponding slot in the 154070 code lever guide. Install the 154125 spring.
- g. Install the 309510 retainer bars on the 309508 and 309509 brackets. Fasten the bar to the brackets friction tight using two 153817 screws, 110743 lockwashers, and 3599 nuts.

NOTE

Sight down the length of the 309510 retainer bars and check for straightness. Bend if necessary prior to assembly.

- h. Install the 309507 switch in its approximate location on the 309510 retainer bars. Fasten friction tight in place with the 1178 screw, 321727 guide, 71073 flat washer, 93117 lockwasher, and 112627 nut.
- i. Remove the 309506 spring from the 309507 switch to prevent molten solder from running into it. Solder the wires carefully to prevent shorting and/or interference with the swinger, spring, and 112627 mounting nut. Replace the 309506 spring.
- j. Remove the two 151631 screws, 2191 lockwashers, and two 7002 flat washers holding the 154175 lock bar channel. Install two 121473 studs along with the same lockwashers and flat washers. Be careful not to disturb the adjustment of the lock ball channel. Install the 309508 and 309509 brackets with attached 309510 retainer bars on top of the studs friction tight with two 2191 lockwashers, two 7002 flat washers, and two 156740 screws.

NOTE

On early design Model 28 Keyboards, the center of the old style 154086 wedge lock retainer was secured to the 154175 lock ball channel by a 152893 screw and a 111343 clamp. If it is required to mount the 309507 switch opposite the 111343 clamp; there may be interference with the clamp, therefore, it may be necessary to order a new style 154086 wedge lock retainer that does not require the 111343 clamp.

- k. Replace the 154111 keytop guide plate, 151045 space bar, and 154110 keyboard hood.

NOTE

Arc suppression should be provided as necessary.

3. ADJUSTMENTS (Figures 1 and 2)

Make the following adjustments.

a. Keyboard Switch Horizontal Adjustment

Requirement

With the contact assembly guide and code lever assembly lined up as per Figure 2, there shall be some to 0.020" clearance (gage by eye) between the right edge of the contact swinger insulator and the extension of the code lever assembly in the un-operated position.

To Adjust

Loosen the 1178 screw holding the contact assembly to the 309510 retainer bars and adjust. Tighten the screw.

NOTE

When the horizontal adjustment is completed, check for 0.050" to 0.075" clearance between the contact assembly spring and the keyboard wedge retainer. Bend the 309510 retainer bars if necessary.

b. Keylever Switch Vertical Adjustment

Requirement

With the unit in the stop position and the keylever depressed to a point where the clutch engages or the intended function selected, the center and lower contact shall just close.

To Adjust

Loosen the two 156740 screws which fasten the 309508 and 309509 brackets on the two 121473 studs and position the complete mounting assembly.

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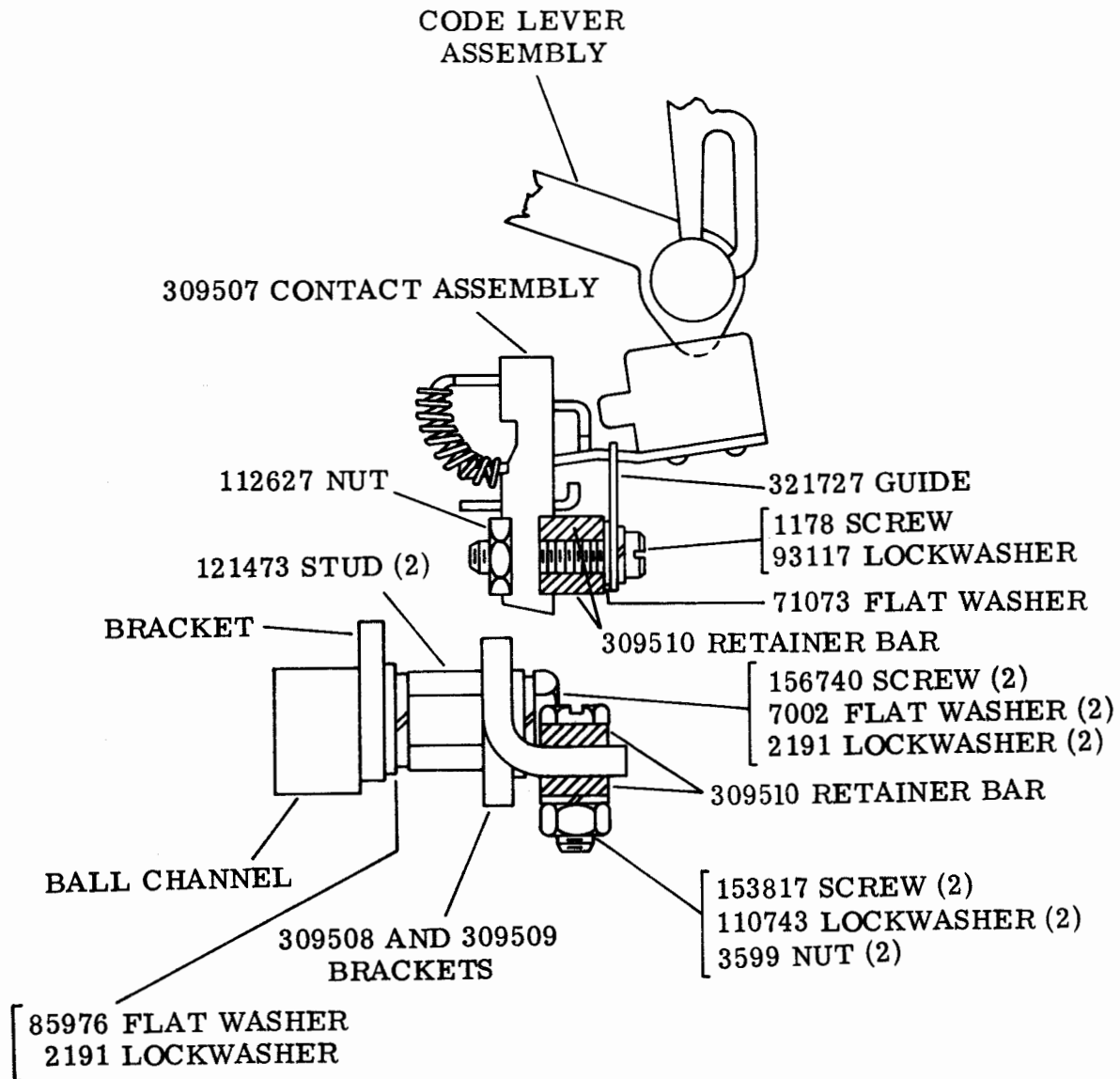


FIGURE 1

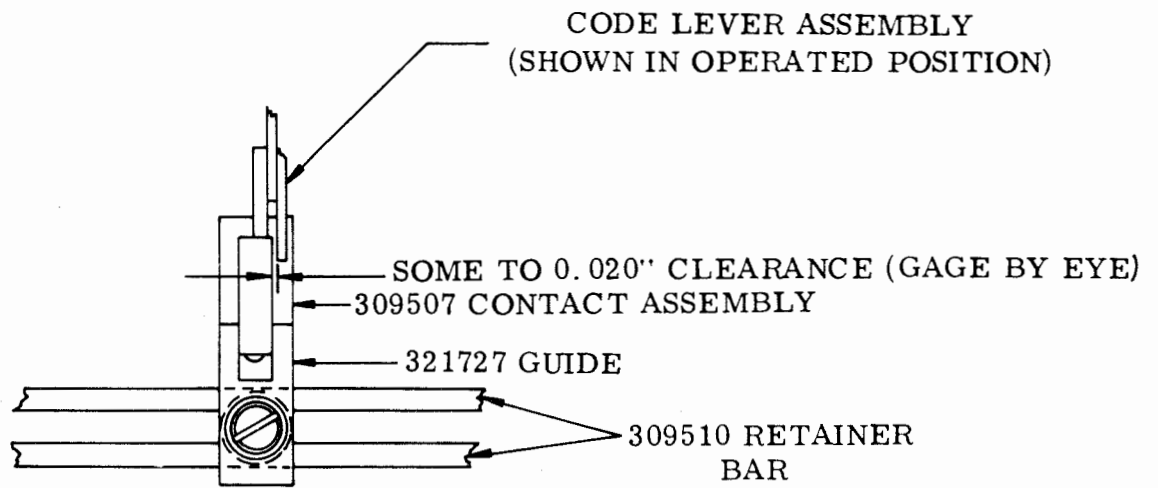


FIGURE 2

