INSTRUCTIONS FOR INSTALLING THE 194049 MODIFICATION KIT TO PROVIDE AN UPPER CASE "D" ANSWER-BACK MECHANISM ON MODEL 28 ASR SETS

1. GENERAL

a. The 194049 Modification Kit provides an answer-back mechanism for Model 28 ASR-Sets containing an LCXB Transmitter Distributor Base and either containing or not containing an LESU Electrical Service Unit. The answer-back mechanism allows the identity of the called station to be transmitted automatically to the originating station upon receipt of "FIGS", upper case "D" from the signal line.

b. A control relay actuated by the local station signal generator prevents the local station answer-back from operating when a distant station has been called. However, local answer-back may be operated from the local red "HERE IS" keylever.

c. Because of the overall height of the 178317 Distributor Assembly which is the motive portion of the 194049 Kit, this kit is NOT compatible with ASR Sets containing an auxiliary reperforator and base or an LCXB having a LAXD, LBXD, or LCXD.

d. The 194049 Modification Kit consists of:

14	2191	Washer, Lock	1	153521	Bar, Function
1	2669	Washer, Lock	1	154125	Spring
1	3438	Washer, Flat	4	155753	Sleeve, Insulating
1	3598	Nut	4	156740	Screw
2	4703	Spring	2	157200	Spring
7	7002	Washer, Flat	2	157240	Spring
1	45815	Washer, Lock	1	157274	Clip
1	70314	Washer, Flat	1	161649	Lever, Function
2	72522	Wick	1	161650	Arm
1	90517	Spring	2	162875	Bracket
2	94693	Wick	1	162876	Bar, Retainer
1	112626	Nut	1	162878	Contact Assembly
2	121473	Stud	1	162885	Cam, Segment
3	125015	Washer, Flat	2	162886	Screw
4	151630	Screw	1	163852	Keylever Assembly, "Here Is"
5	151631	Screw	1	163979	Lever, Function
1	151632	Screw	1	164496	Bail
1	152642	Lever, Function	1	164497	Eccentric
1	152653	Pawl, Function	1	164499	Lockbar
1	152660	Plate, Spring	1	172985	Shaft w/Bearings and Gear
1	152666	Bar, Function	1	174180	Cable Assembly w/Control Relay
1	153442	Screw	1	174184	Plate, Cover

1	195016	Pawl, Function	1	178317	Distributor Assembly
1	174187	Cable Assembly, Function Box	1	178331	Keylever Contact Cable Assembly
			1	194050	Cable Assembly

e. For parts ordering information see Teletype Model 28 Parts Bulletin 1149B.

2. INSTALLATION

a. Refer to Teletype Model 28 Page Printer Set Bulletin 217B for instructions for removal of major components and assemblies.

NOTE

References in the text to left or right, up or down, front or rear, apply to the unit in its normal operating position as viewed from the front.

b. The Typing Unit Modification

(1) Remove the typing unit from the cabinet in accordance with standard practice. Do not replace until so instructed.

(2) Remove the stunt box from the typing unit in accordance with standard practice.

(3) Loosen the two screws which fasten the stripper bail and lock lever bracket (152711 or 153314) to the 150894 Guide Bar. Replace the keyboard lock lever slide arm (150561 or 154649) with the 161650 Arm, furnished. Install the 161650 Arm with its small curved projection extending upward and to the left of the guide slot (as viewed from the rear of the printer). Tighten the mounting screws.

(4) Install the following parts in slot No. 32.

Part No.	Description
195016	Pawl, Function
157240	Spring
72522	Wick
157200	Spring
94693	Wick
152666	Bar, Function "Figs"
4703	Spring
152642	Lever, Function
90517	Spring
152660	Plate, Spring

(5) Install the following parts in slot No. 34.

Part No.	Description
152653	Pawl, Function
157240	Spring
72522	Wick
157200	Spring
94693	Wick
153521	Bar, Function "U.C.D."
4703	Spring
152642	Lever, Function
90517	Spring
152660	Plate, Spring

(6) Use the 157240 Spring and 72522 Wick on units having a one stop function clutch; use the 157200 and 94693 Wick on units have a two stop function clutch.

(7) If the printer stunt box is equipped with the blank-blank keyboard lock sequence parts, replace the 152121 Function Lever in slot No. 35 with the 161649 Function Lever, furnished. If the stunt box is also equipped with a 152127 Clip to disable the blank-blank keyboard lock sequence, this clip must be removed and the 157274 Clip, furnished, used when it is desired to disable this feature. The 157274 Clip should be installed after the stunt box has been replaced in the printer following paragraph (9) below. Position the clip with its closed end under the function pawl in slot No. 35 so that it lifts the pawl out of engagement with the function bar when the hooks at the open end of the clip are placed over the 150544 Handle.

(8) Install the 172502 and 172526 Switch Assemblies across stunt box slots 29, 30, 31, 32 and 33, 34, 35, 36 respectively. The switch assemblies are part of the 174187 Assembly.

(9) Replace the stunt box in the printer. Adjust the 195016 Function Pawl as shown on Figure 18. Do not replace the printer.

(10) Route the 174187 Stunt Box Contact Cable Assembly to the connector (right) side of the printer. Tie the cable to the 150544 Handle at appropriate positions.

c. Keyboard Modification

(1) Remove the keyboard, keyboard hood, and keylever guide plate in accordance with standard practice.

(2) Remove and discard the plastic plug and speed nut from the keytop hole, sixth from the left in top row.

(3) Maneuver the 163979 Function Lever into the 21st slot of the 154070 Code Lever Guide until it is fully seated on the 154016 Code Bar Lever Shaft.

(4) Install a 154125 Spring on the 163979 Function Lever and 154070 Code Lever Guide.

(5) Replace the keylever guide plate on the keyboard in accordance with standard practice. Re-adjust the space bar bail pivot. (Refer to Bulletin 217B). Do not replace the keyboard hood until so instructed.

(6) Remove the lock ball retainer clamp from its present position in the center of the lock ball channel and install it in the position immediately to the right of center. Some keyboards may not have a lock ball retainer clamp in the center of the lockball channel. If so, disregard this paragraph.

(7) Install the 163852 Keylever Assembly (Here Is) in the keytop guide hole previously unplugged, snapping onto the 163979 Function Lever previously installed in this position. See Figure 2.

(8) Remove the two screws, lock washers and flat washers (one at a time on each side), holding the lockball channel. Install two 121473 Studs with the lock washers and flat washers just removed. See Figure 2.

(9) Check and if necessary, make the lock ball channel adjustment.

(10) Place a 162875 Bracket on top of each 121473 Stud and assemble them only friction tight with two 156740 Screws, 2191 Lock Washers and 7002 Flat Washers. Install the 162876 Retainer Bar with two 156740 Screws, 2191 Lock Washers, and 7002 Flat Washers. See Figure 2.

NOTE

Use caution when handling the 162873 Contact to be installed according to next paragraph.

(11) Install the 162873 Contact Assembly (part of the 178331 Cable Assembly) on the 162876 Retainer Bar and assemble it only friction tight with the 162874 Clamp Plate, 1178 Screw, 71073 Flat Washer, 93117 Lockwasher and 112627 Nut. See Figure 2. Move the contact assembly along the retainer bar until it is beneath the 163979 Function Lever previously installed. Tighten the assembly.

(12) Route the white-brown (W-BR) and slate (S) wires without terminals along the retainer bar and through the keyboard base to the signal generator.

(13) Route the slate (S) wire around the right rear of the keyboard to the motor terminal block.

(14) Route the white-slate (W-S) and white-brown (W-BR) wires with terminals as far as possible toward the right rear of the keyboard for later connection to the 174180 Control Relay Assembly. (Refer to wiring diagram 5843WD).

(15) Place the keyboard control switch in the "K" position.

(16) Remove the lock-bar contact assembly and its 158299 Cover from the keyboard. Do not disconnect any wires.

(17) Remove the 151631 Screw and 2191 Lock Washer which fastens the front of the 154008 Code Bar Guide and 158226 Bracket to the 154068 Right Side Code Lever Guide Bracket. Loosen the rear 151631 Mounting Screw so that it is friction tight.

(18) Pivot the 158226 Bracket upward so that its attached 158228 Lever disengages the slot in the 158010 Lock Bar.

(19) Remove the 151630 Screw and 2191 Lock Washer which fastens the front of the 154008 Code Bar Guide and 158063 Stop Bracket to the 154069 Left Side Code Lever Guide Bracket. Loosen the rear 151630 Mounting Screw so that it is friction tight.

(20) Pivot the 158063 Bracket downward so that its stop clears only the 158010 Lock Bar.

(21) Remove the Signal Generator Assembly in accordance with standard practice. Slide the 158010 Lock Bar to the right until it clears the right side 154008 Code Bar Guide. Disengage the lock bar from the 154023 Lock Bar Latch and lift it upward and to the left so that it is removed from the code lever guide assembly.

(22) Replace the 158010 Lock Bar with the 164499 Lock Bar by reversing the procedure outlined in Paragraphs (17) through (21) above. Re-adjust the code bar guide clearance. (Refer to the Model 28 adjustment bulletin.)

(23) Install the 164497 Eccentric on the 164496 Bail with a 45815 Lock Washer and 112626 Nut. (See Figure 17)

(24) Remove the three 139752 Screws and 110743 Lock Washers which fasten the 154184 Rear Blade to the 154179 Universal Bail.

(25) Remove the 3598 Nut, 2191 Lock Washer and 7002 Washer which fasten the 121242 Clamp to the 154149 Line Break Switch Cable. Also remove the two 153841 Screws and 2191 Lock Washers which fasten the 154039 Line Break Switch Bracket to the keyboard.

(26) Remove the two 119653 Retaining Rings from the left side of the 154092 Function Lever Shaft. Slide the shaft to the right until its left end is approximately in line with the roller on the 154239 Universal Extension mounted on the 154179 Universal Bail. Note the position of all function levers thus removed from the shaft so that they may be readily replaced.

(27) Rest the keyboard on its back side so that it is supported by the motor. From the bottom of the keyboard maneuver the 164496 Bail with 164497 Eccentric into its proper position on the 154059 Function Bail Bracket. Hold the bail with its long extension upward and its bearing holes at right angles to the 154092 Shaft. Insert the long extension of the bail upward through the base cutout in line with the previously installed 163979 Function Lever, (HERE IS). Position the 164496 Bail Extension so that it engages the 163979 Function Lever in a similar manner as the 154099 Local Carriage Return Function Bail engages its associated function lever. Place the 164496 Bail in the function bail bracket slot immediately to the left of the 163979 Function Lever so that the 164497 Eccentric is atop the 154067 Keyboard Lock Function Lever. Slide the 154092 Shaft to the left into the bearing holes of the 164496 Bail and all original function levers previously disengaged. Secure the 154092 Shaft with the two 119653 Retaining Rings previously removed. See Figure 17.

(28) Replace the parts previously removed in Paragraphs (24) and (25) above. Make the following keyboard lock adjustment at this time, and lubricate in accordance with standard practice.

Keyboard Lock Bail Eccentric (See Figure 17)

(29) The 194050 Cable Assembly consists of two sections. The white (W), red (R), green (G) and brown (BR) wires in one section are to be terminated by the customer for his particular application. Refer to wiring diagram 5843WD. The slate (S), purple (P) and white-slate (W-S) wires are to be inserted through one of the slots in the left rear of the keyboard; route the white-slate (W-S) wire along the rear of the keyboard to the right corner for later connection to the 174180 Control Relay Assembly. Route the slate and purple wires to the motor terminal block.

(30) To facilitate installation of the 174180 Control Relay Assembly in the right rear corner of the keyboard base, connect the white-slate (W-S) and white-brown (W-BR) wires from the 178331 Cable Assembly and the white-slate (W-S) wire from the 194050 Cable Assembly to the control relay terminal block as shown on wiring diagram 5843WD.

(31) Route the purple (P) and slate (S) wires from the control relay assembly to the motor terminal block.

(32) Route the four point connector through the top of the keyboard. (See Figure 3.

(33) Install the 174180 Control Relay Assembly with two 151630 Screws and two 2191 Lockwashers. (See Figure 3).

(34) Install the 174180 Control Relay Assembly in the right rear of the keyboard with two 151630 Screws and two 2191 Lock Washers. Install the 174184 Control Relay Cover Plate with two 151630 Screws, two 2191 Lock Washers and 70314 Flat Washer. (The entire control relay assembly is secured at the rear of the keyboard

by the 70314 Flat Washer which overlaps onto the keyboard base.) See Figure 3.

(35) Connect the two purple (P) wires, previously routed, to terminal one of the motor terminal block.

(36) Connect the three slate (S) wires previously routed to terminal two of the motor terminal block. Refer to 5843WD.

(37) Remove the signal generator from the keyboard according to standard practice.

(38) Remove and discard the two 151737 Screws which secure the cam sleeve assembly to the clutch cam disk. Retain the lockwashers.

(39) Install the 162885 Cam Segment with the two 162886 Screws and the two lockwashers previously removed. The 162885 Cam Segment and 162886 Mounting Screws can be maneuvered into place without removing any parts from the signal generator assembly except those removed in Paragraph (38).

(40) Place two 155753 Plastic Tubing Insulators over the slate (S) and white-brown (W-BR) wires previously routed to the signal generator. Solder the slate (S) wire to the contact spring and solder the white-brown (W-BR) wire to the contact stiffener of the 162878 Contact Assembly as shonw in 5843WD.

(41) Install the 162878 Universal Pulsing or blinding contact assembly on the 154009 Signal Generator Front Plate using two 151631 Screws, two 2191 Lockwashers, and two 7002 Flatwashers. See Figure 4.

(42) Make the 162878 Pulsing Contact Adjustment at this time. See Figures 5, 6, 7 and Paragraph 3.d.

(43) Replace the signal generator on the keyboard in accordance with standard practice. Check, and if necessary, make the code bar and code lever clearance, the code bar bail, the code bar bail and non-repeat lever clearance, the universal bail latch lever, the universal bail extension, the ball wedgelock and ball track clearance and the lock ball end play adjustment. (Refer to the Model 28 Adjustment Bulletin).

(44) Make the "HERE IS" Keylever Switch Adjustment as given in Section 3.

d. The 178317 Answer-Back Distributor

(1) Remove the existing main shaft on the LCXB Transmitter Distributor Base and replace it with the new 172985 Shaft Assembly. This shaft contains a gear used to drive the 178317 Distributor Assembly.

(2) Mount the 178317 Assembly on the LCXB Base. Mesh, align and adjust the 157165 Fiber Idler Gear (on the 178317 Distributor Assembly) with the 164967 Gear (part of the 172985 Shaft Assembly), before securing the four mounting screws (slotted holes are provided for this purpose.

e. The 178317 Distributor is shipped factory adjusted, and the adjustments and lubrication procedure given in Section 3 of this Specification should be made only if there is reason to believe that they were disturbed.

f. Replace the keyboard hood, keyboard and typing unit according to standard practice.

(1) Connect the floating male typing unit connector to the mating female connector from the keyboard.

(2) Connect the 14-point connector at the left of the keyboard to mating connector on the 178317 Distributor Assembly.

(3) Check cables for interference and correct if necessary.

3. ADJUSTMENTS AND LUBRICATION

a. For standard adjustments and standard lubrication procedure refer to Teletype Model 28 Bulletins 234B and 250B. (Bell System refer to standardized information).

b. Make the subject kit adjustments and lubrication as given in the text and referring to the appropriate attached figures.

c. Make the following "HERE IS" keylever adjustments before the keyboard hood is reinstalled on the keyboard. (See Figure 2)

(1) Keylever Switch Position - Preliminary

Requirement

The centerline of the insulator on the center contact spring should be aligned with the centerline of the 163979 Function Lever.

To Adjust

Loosen the 151830 Nut which fastens the switch assembly to the 162876 Retainer Bar and position the switch. Tighten the nut.

(2) Keylever Switch Horizontal Position

Requirement

The centerline of the insulator on the center contact spring should be aligned with the centerline of the lowermost portion of the 163979 Function Lever.

To Adjust

Loosen the two 156740 Screws which fasten the 162876 Retainer Bar to the two 162875 Brackets and position the retainer bar. Tighten the screws.

(3) Keylever Switch Vertical Position

Requirement

With a 0.035" feeler gage placed across the top of the 21st slot of the 154086 Wedge Lock Retainer and 163852.

Keylever Assembly (Here Is) depressed until the gage is securely held between the 163979 Function Lever and the top of the wedge lock retainer there should be some to .006" clearance between the contact points on the center and lower contact springs.

To Adjust

Loosen the two 156740 Screws which fasten the two 162875 Brackets on the two 121473 Studs and position the complete mounting assembly. Tighten the screws and recheck the requirement.

d. Make the 162878 Pulsing Contact Adjustment referring to Figures 5, 6, and 7.

(1) With the pulsing contact installed on the signal generator, there should be at least .010" clearance between the contact guard and the rocker bail assembly. (Refer to Figure 6). To adjust - loosen the two contact assembly mounting screws and position the contact assembly.

(2) Rotate the main shaft until the lower extension of the cam follower arm rests on the high part of the cam. The clutch should now be in a latched position. There should be .015 to .025" clearance between the contacts points. (Refer to Figure 5.) To adjust - loosen the two mounting bracket screws, leaving the bottom screws friction tight and position the mounting bracket to meet this requirement. Tighten the mounting screws.

(3) There shall be at least .015" clearance between the lower extension of the cam follower arm and the inside surface of the clutch disk. To adjust - loosen the two mounting screws and position the cam follower hinge. (Refer to Figure 6).

NOTE

When checking this adjustment, rotate the main shaft several times and check the entire cycle. Make sure the lower extension of the follower arm does not come in contact with the adjusting disk mounting screws.

e. The 178317 Distributor Assembly

NOTE

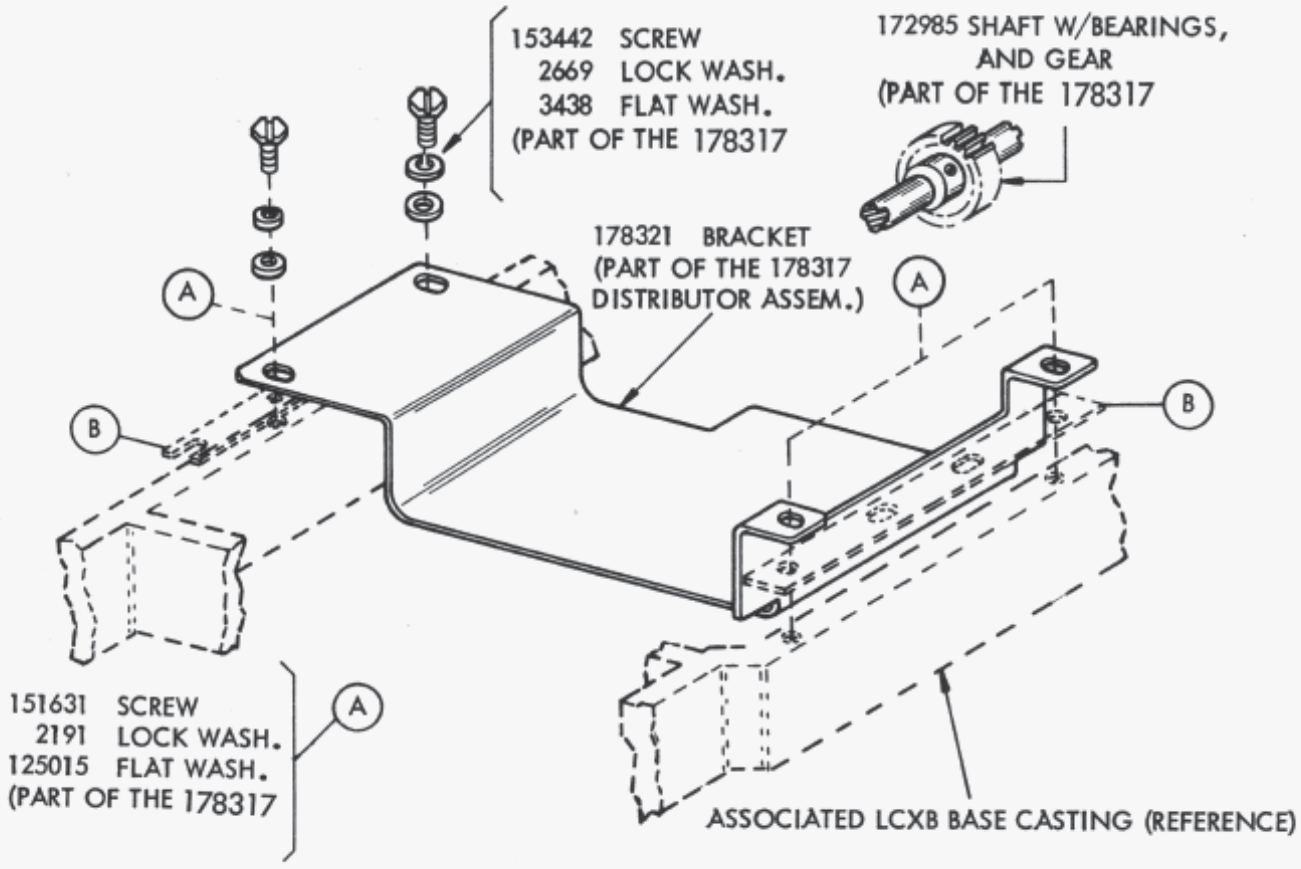
The 178317 Distributor Assembly is adjusted at the factory and the adjustments given should be made only if there is reason to believe they may have been disturbed.

(1) For standard adjustments and lubrication procedure see Teletype Model 28 Bulletin 234B.

(2) The adjustments on Figures 11 through 13 must be made with the 176765 Code Message Drum parts installed on the 178317 Distributor Assembly.

* * *

50146S



MOUNTING THE 178316 KIT

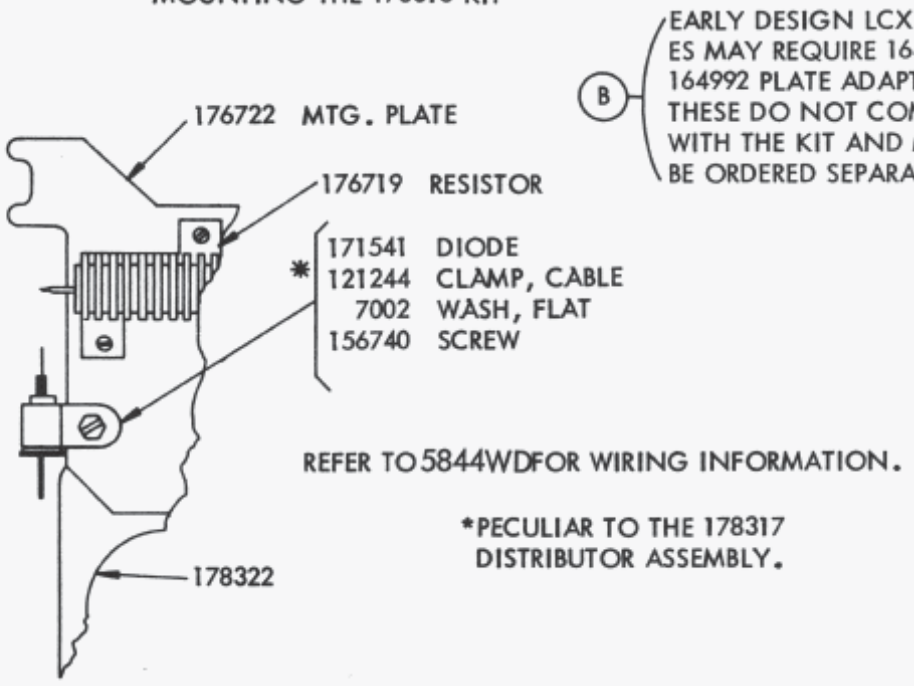


FIGURE 1

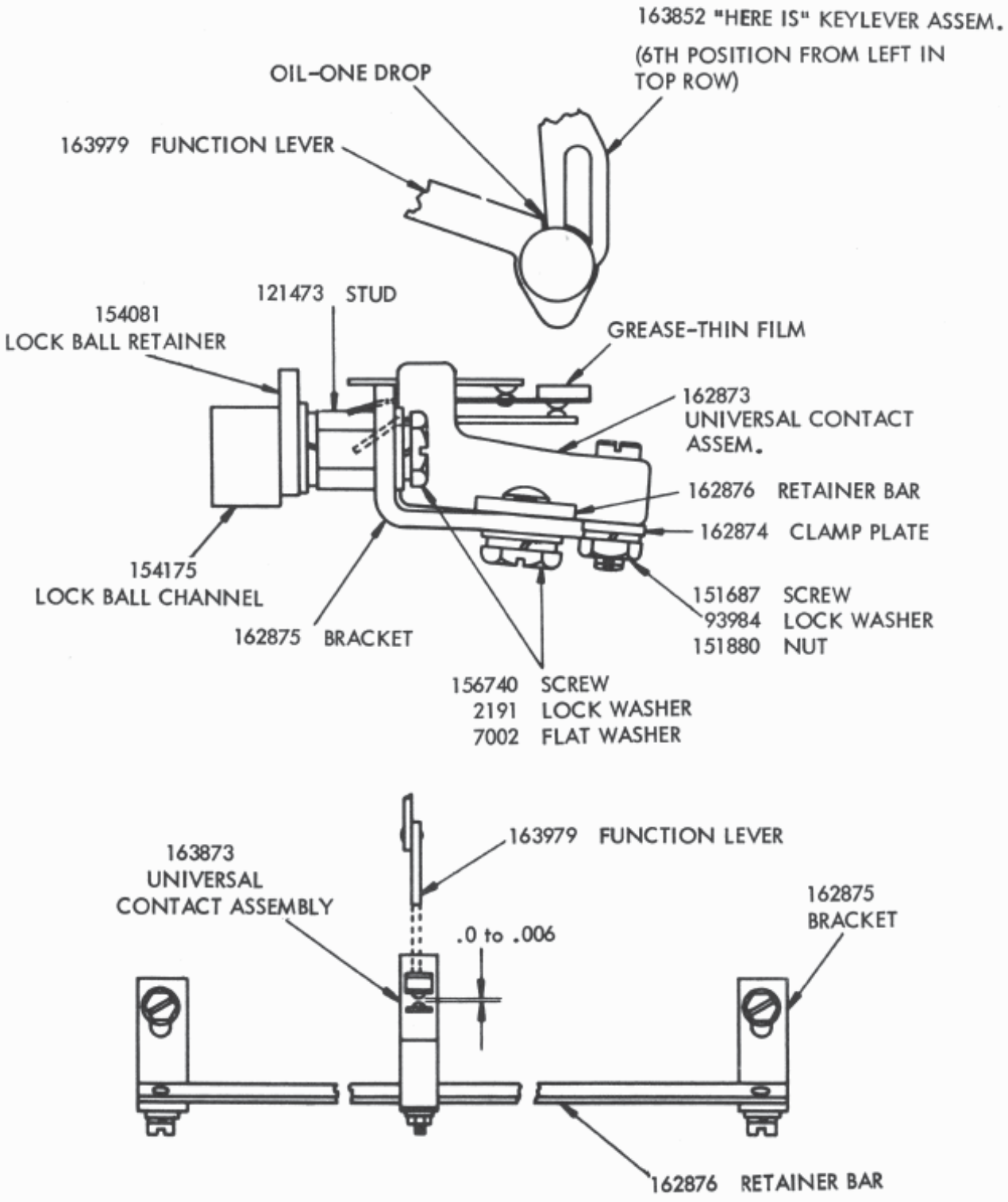
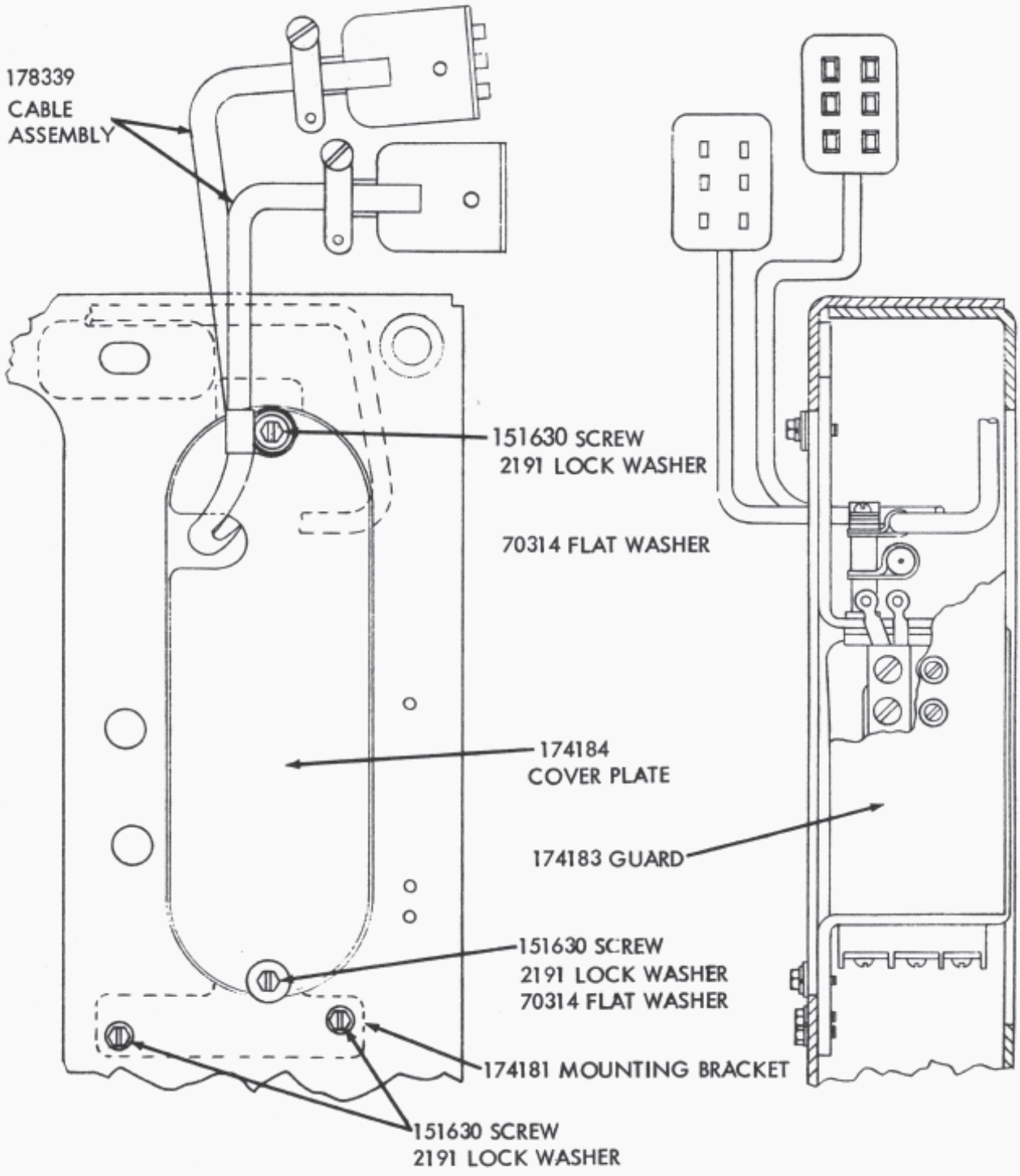

163852 "HERE IS" KEYLEVER ASSEM.
(6TH POSITION FROM LEFT IN TOP ROW)
OIL-ONE DROP
163979 FUNCTION LEVER
121473 STUD
154081
LOCK BALL RETAINER
GREASE-THIN FILM
162873
UNIVERSAL CONTACT ASSEM.
162876 RETAINER BAR
162874 CLAMP PLATE
154175
LOCK BALL CHANNEL
162875 BRACKET
151687 SCREW
93984 LOCK WASHER
151880 NUT
156740 SCREW
2191 LOCK WASHER
7002 FLAT WASHER
163873
UNIVERSAL
CONTACT ASSEMBLY
163979 FUNCTION LEVER
.0 to .006
162875
BRACKET
162876 RETAINER BAR

FIGURE 2.



KEYBOARD BASE
(VIEW OF RIGHT REAR SHOWING PARTIAL
VIEW OF 178399 ASSEMBLY)

FIGURE 3.

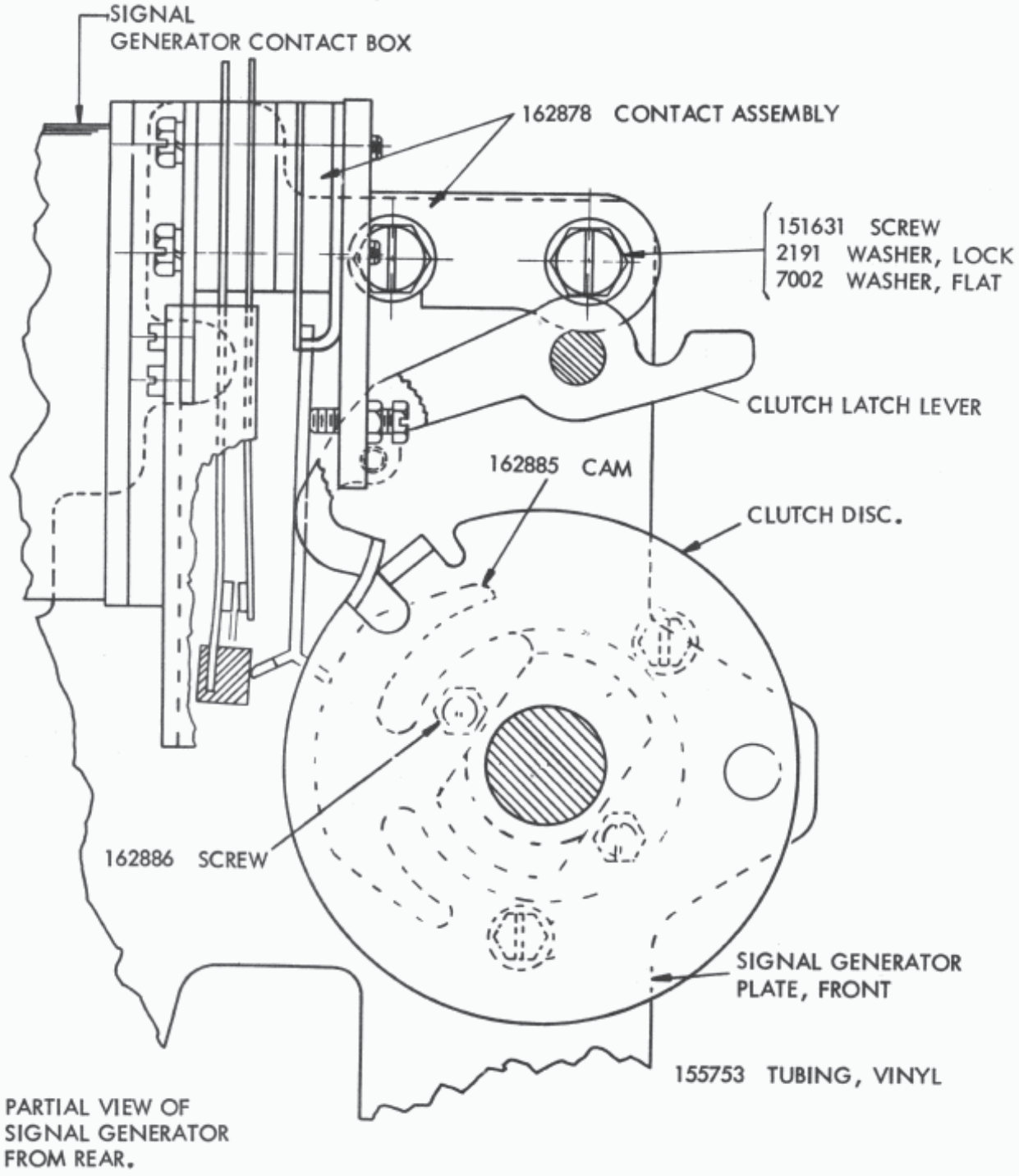

SIGNAL
GENERATOR CONTACT BOX
162878 CONTACT ASSEMBLY
151631 SCREW
2191 WASHER, LOCK
7002 WASHER, FLAT
CLUTCH LATCH LEVER
162885 CAM
CLUTCH DISC.
162886 SCREW
SIGNAL GENERATOR
PLATE, FRONT
155753 TUBING, VINYL
PARTIAL VIEW OF
SIGNAL GENERATOR
FROM REAR.

FIGURE 4.

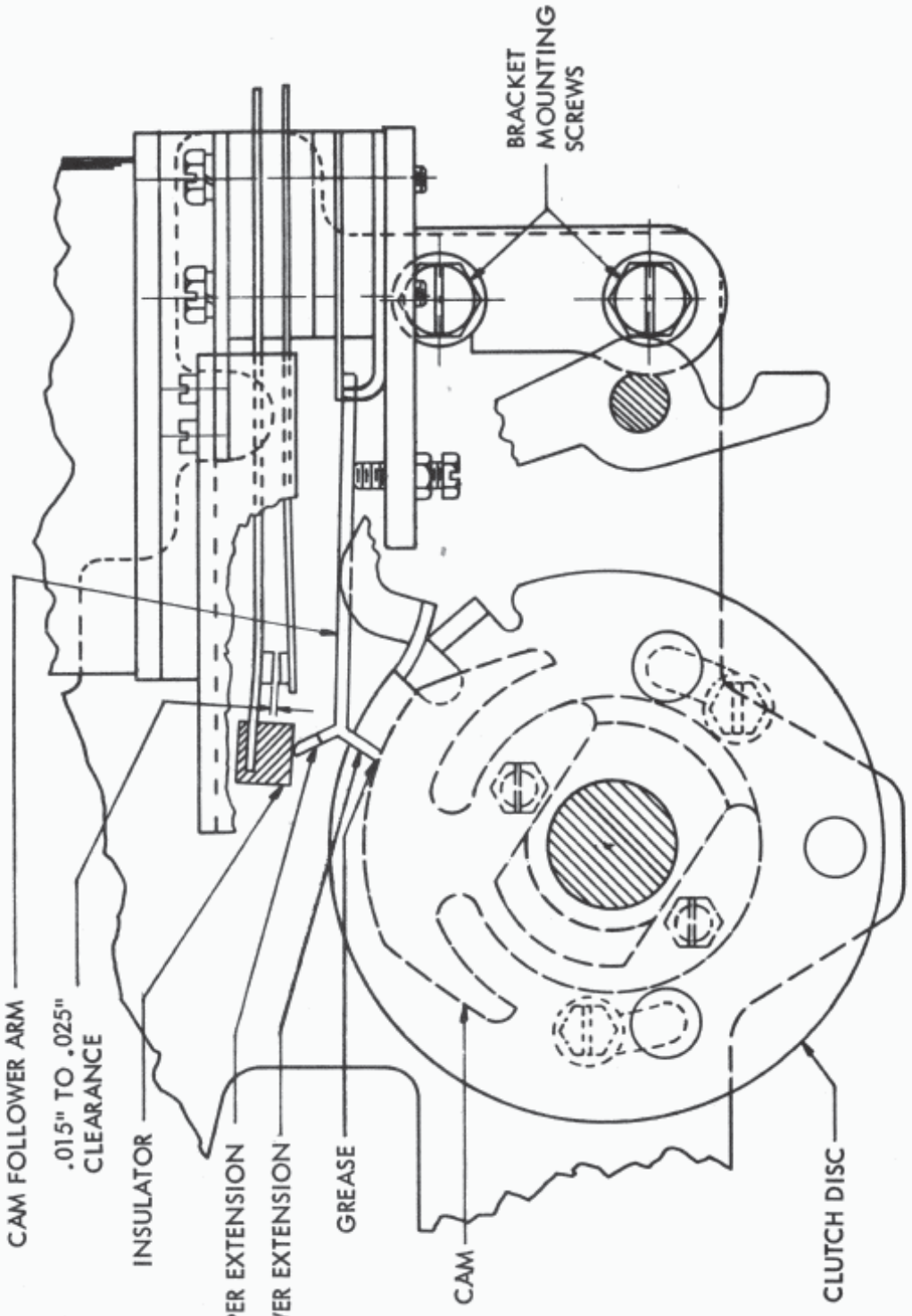

BRACKET MOUNTING SCREWS
CAM FOLLOWER ARM
.015" TO .025" CLEARANCE
INSULATOR
UPPER EXTENSION
LOWER EXTENSION
GREASE
CAM
CLUTCH DISC

FIGURE 5.

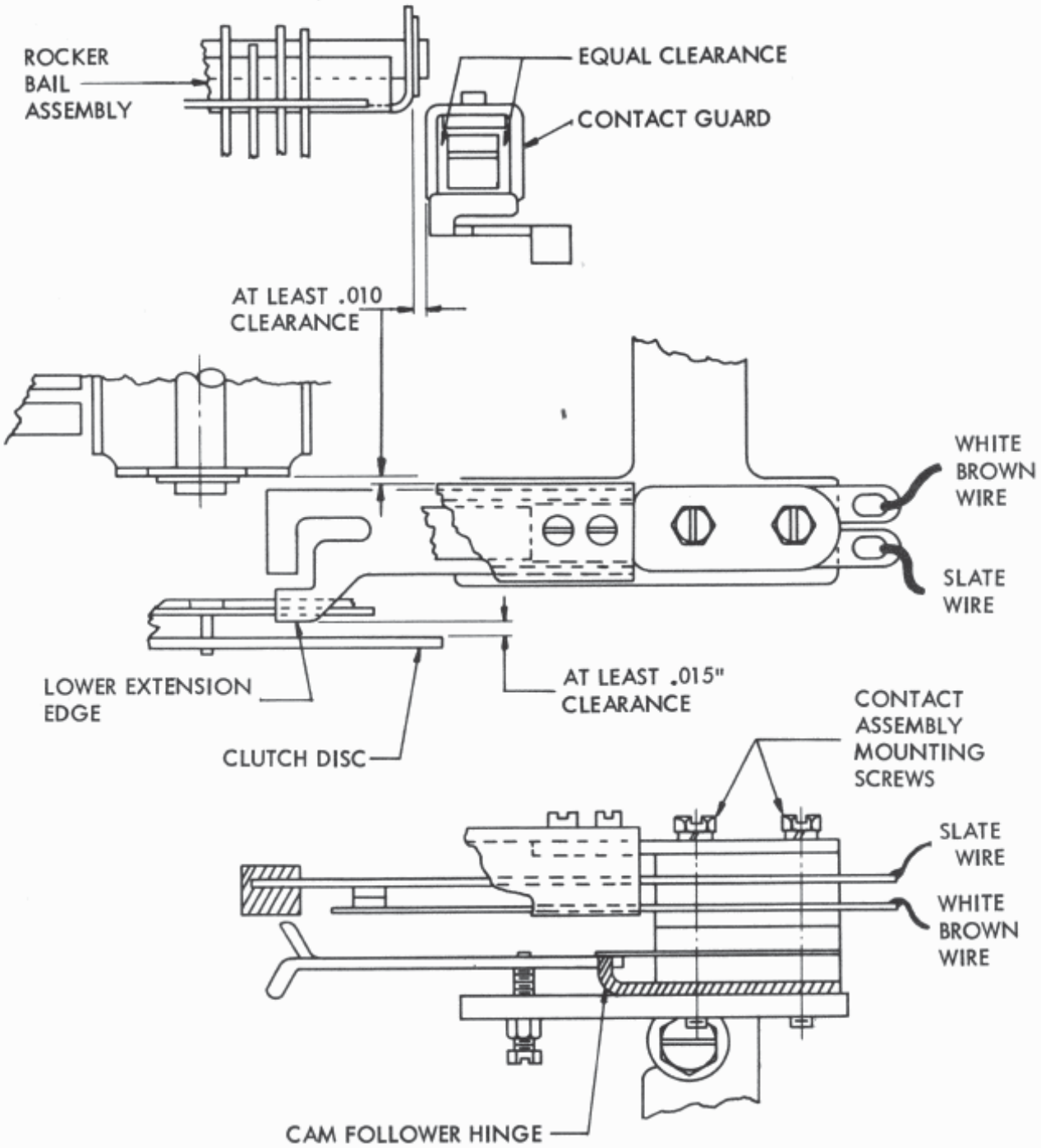

ROCKER
BAIL
ASSEMBLY
EQUAL CLEARANCE
CONTACT GUARD
AT LEAST .010
CLEARANCE
WHITE
BROWN
WIRE
SLATE
WIRE
LOWER EXTENSION
EDGE
AT LEAST .015"
CLEARANCE
CLUTCH DISC
CONTACT
ASSEMBLY
MOUNTING
SCREWS
SLATE
WIRE
WHITE
BROWN
WIRE
CAM FOLLOWER HINGE

FIGURE 6.

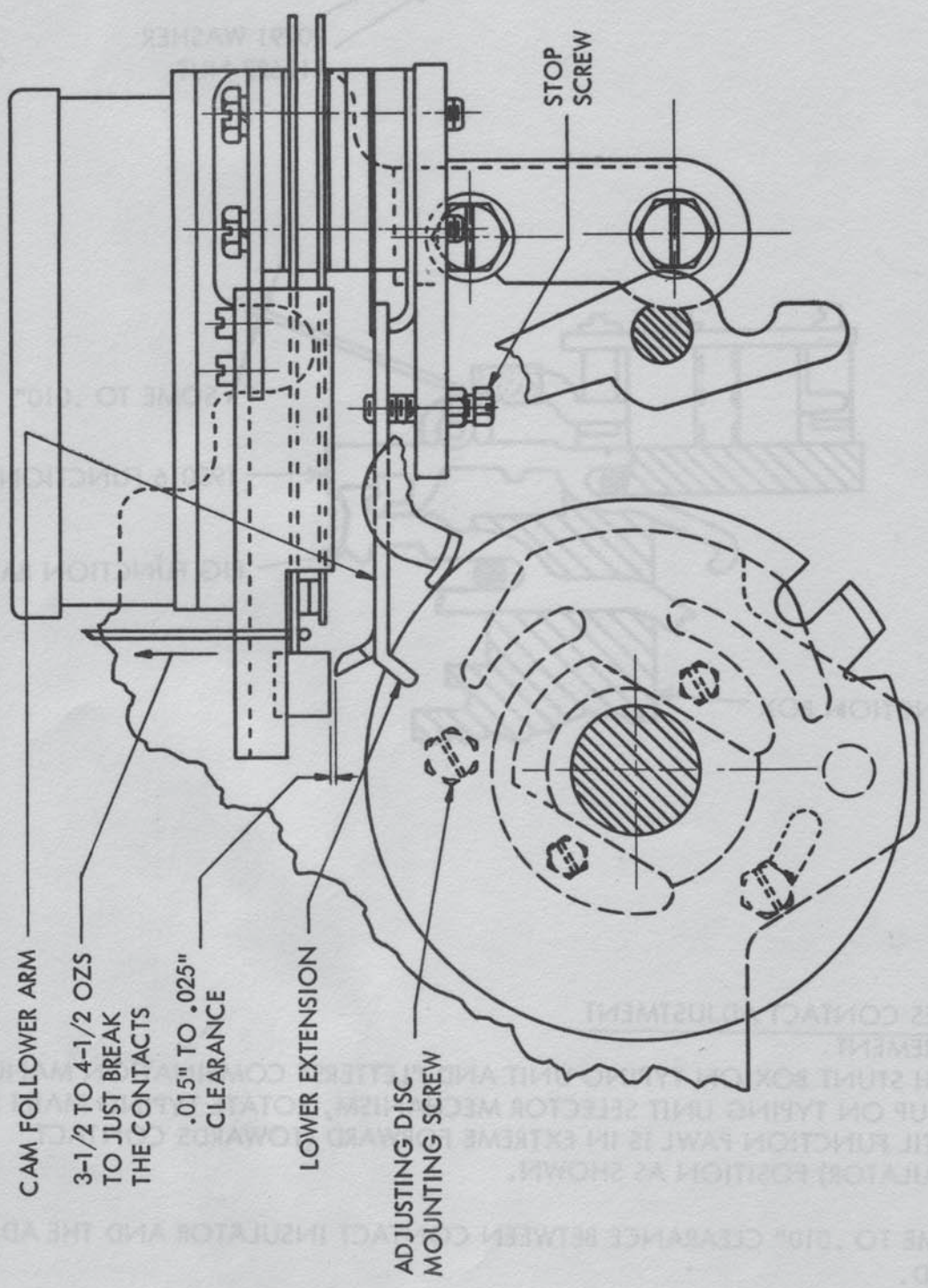
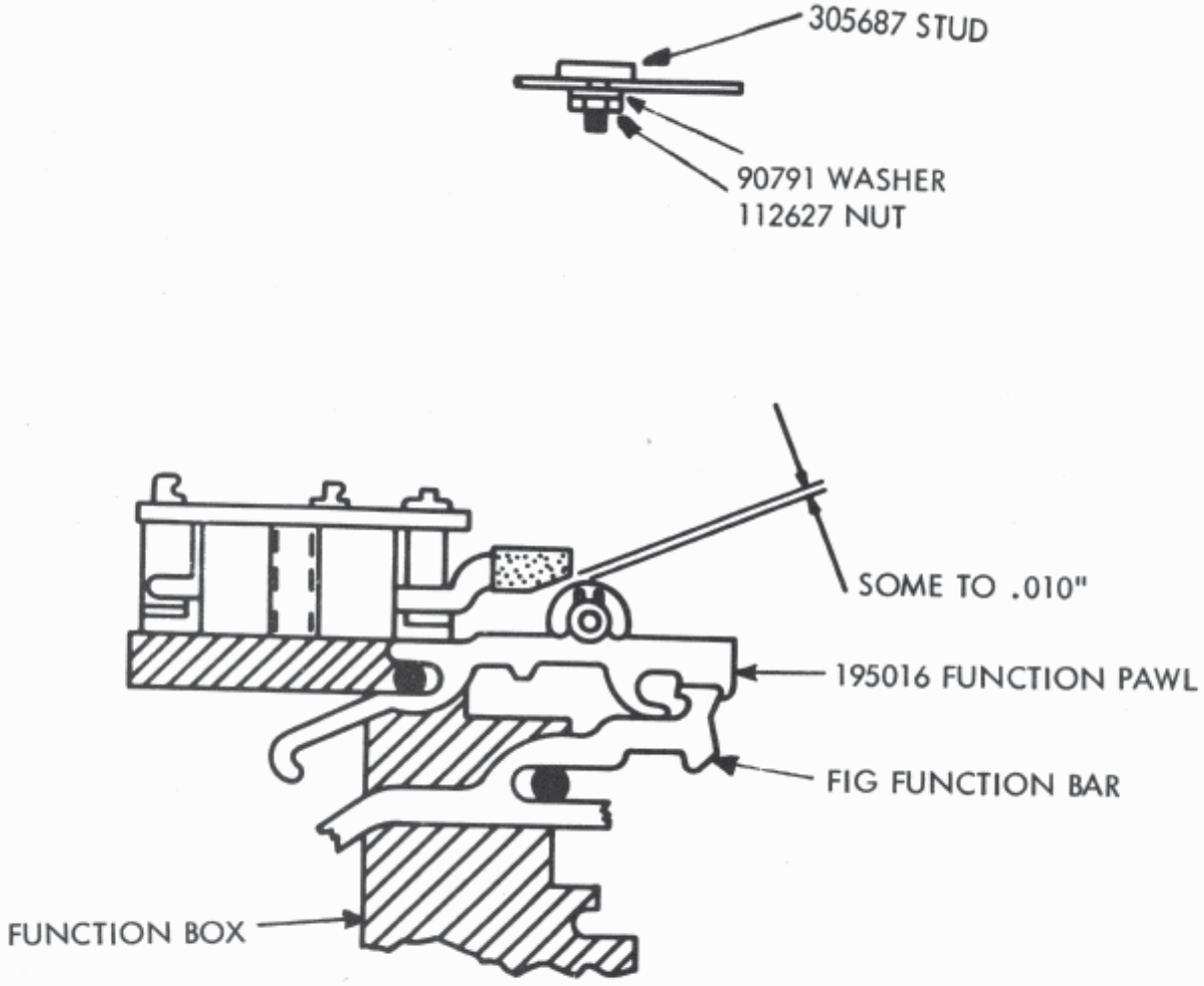

STOP SCREW
CAM FOLLOWER ARM
3-1/2 TO 4-1/2 OZS TO JUST BREAK THE CONTACTS
.015" TO .025" CLEARANCE
LOWER EXTENSION
ADJUSTING DISC MOUNTING SCREW

FIGURE 7.



FIGURES CONTACT ADJUSTMENT

REQUIREMENT

WITH STUNT BOX ON TYPING UNIT AND "LETTERS" COMBINATION MANUALLY SET UP ON TYPING UNIT SELECTOR MECHANISM, ROTATE TYPING MAIN SHAFT UNTIL FUNCTION PAWL IS IN EXTREME FORWARD (TOWARDS CONTACT INSULATOR) POSITION AS SHOWN.

SOME TO .010" CLEARANCE BETWEEN CONTACT INSULATOR AND THE ADJUSTING STUD.

TO ADJUST

LOOSEN THE ADJUSTING STUD MOUNTING NUT AND MOVE ADJUSTING STUD TO MEET REQUIREMENT. RETIGHTEN MOUNTING NUT.

FIGURE 8

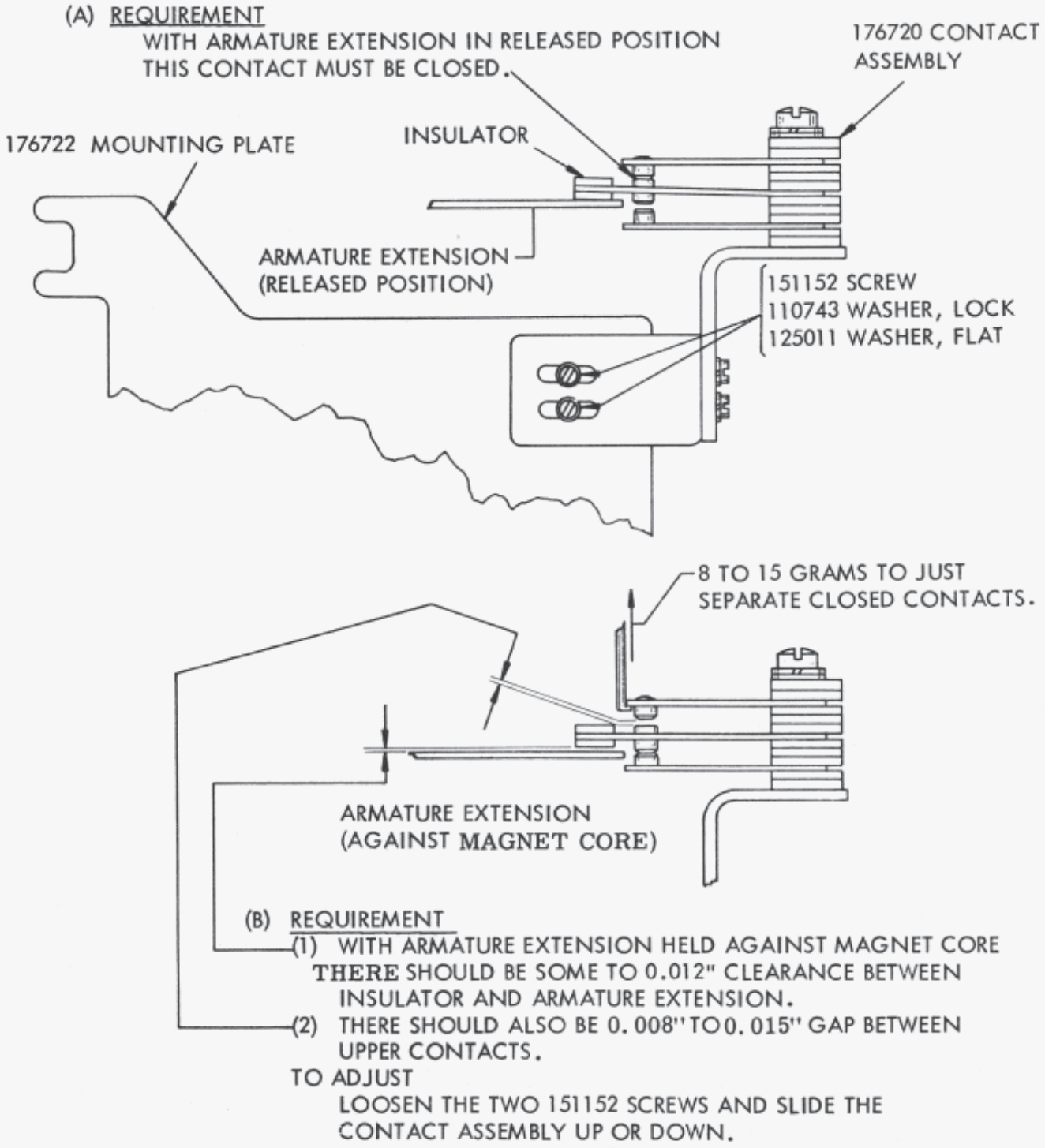
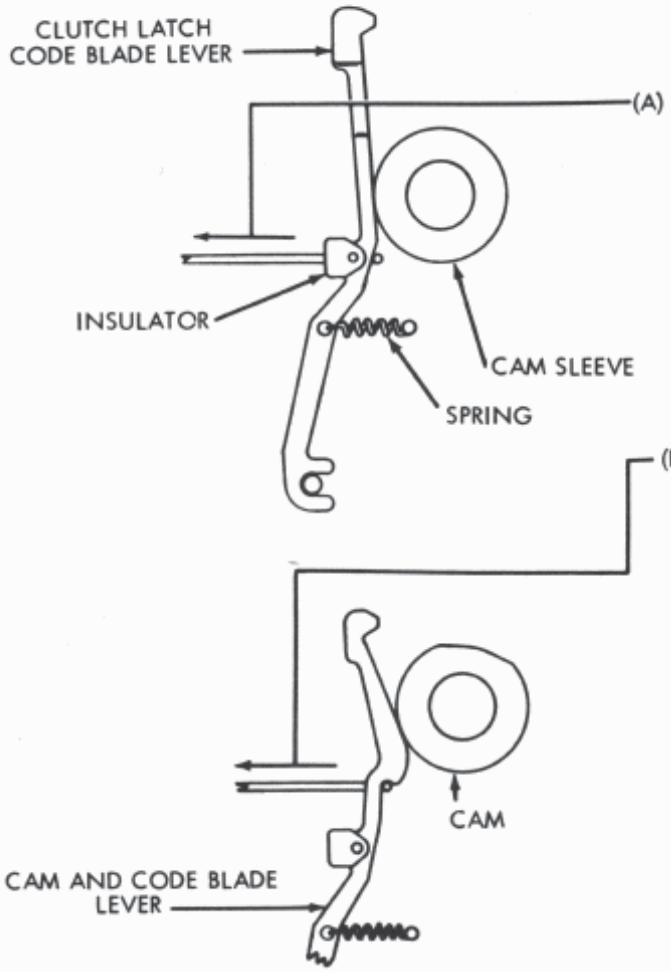

(A) REQUIREMENT
WITH ARMATURE EXTENSION IN RELEASED POSITION
THIS CONTACT MUST BE CLOSED.
176720 CONTACT ASSEMBLY
INSULATOR
176722 MOUNTING PLATE
ARMATURE EXTENSION
(RELEASED POSITION)
151152 SCREW
110743 WASHER, LOCK
125011 WASHER, FLAT
8 TO 15 GRAMS TO JUST
SEPARATE CLOSED CONTACTS.
ARMATURE EXTENSION
(AGAINST MAGNET CORE)
(B) REQUIREMENT
(1) WITH ARMATURE EXTENSION HELD AGAINST MAGNET CORE
THERE SHOULD BE SOME TO 0.012" CLEARANCE BETWEEN
INSULATOR AND ARMATURE EXTENSION.
(2) THERE SHOULD ALSO BE 0.008" TO 0.015" GAP BETWEEN
UPPER CONTACTS.
TO ADJUST
LOOSEN THE TWO 151152 SCREWS AND SLIDE THE
CONTACT ASSEMBLY UP OR DOWN.

FIGURE 9

NOTE: TO CHECK TENSIONS (A) AND (B), REMOVE ENTIRE ANSWER BACK MECHANISM FROM ITS BRACKET, REMOVE MESSAGE DRUM AND TAKE OFF THE CONTACT BLOCK.



(A) CLUTCH LATCH CONTACT SPRING
REQUIREMENT
MIN. 1/2 OUNCE
MAX. 1-1/2 OUNCES
TO START CLUTCH LATCH CODE BLADE LEVER MOVING WHEN THE LEVER IS RESTING AGAINST CAM SLEEVE.

(B) CAM AND CODE BLADE LEVER SPRING
REQUIREMENT
MIN. 1-1/2 OUNCES
MAX. 2-1/2 OUNCES
TO START CAM AND CODE BLADE LEVERS MOVING WHEN THE LEVERS ARE ON HIGH PART OF RESPECTIVE CAMS.

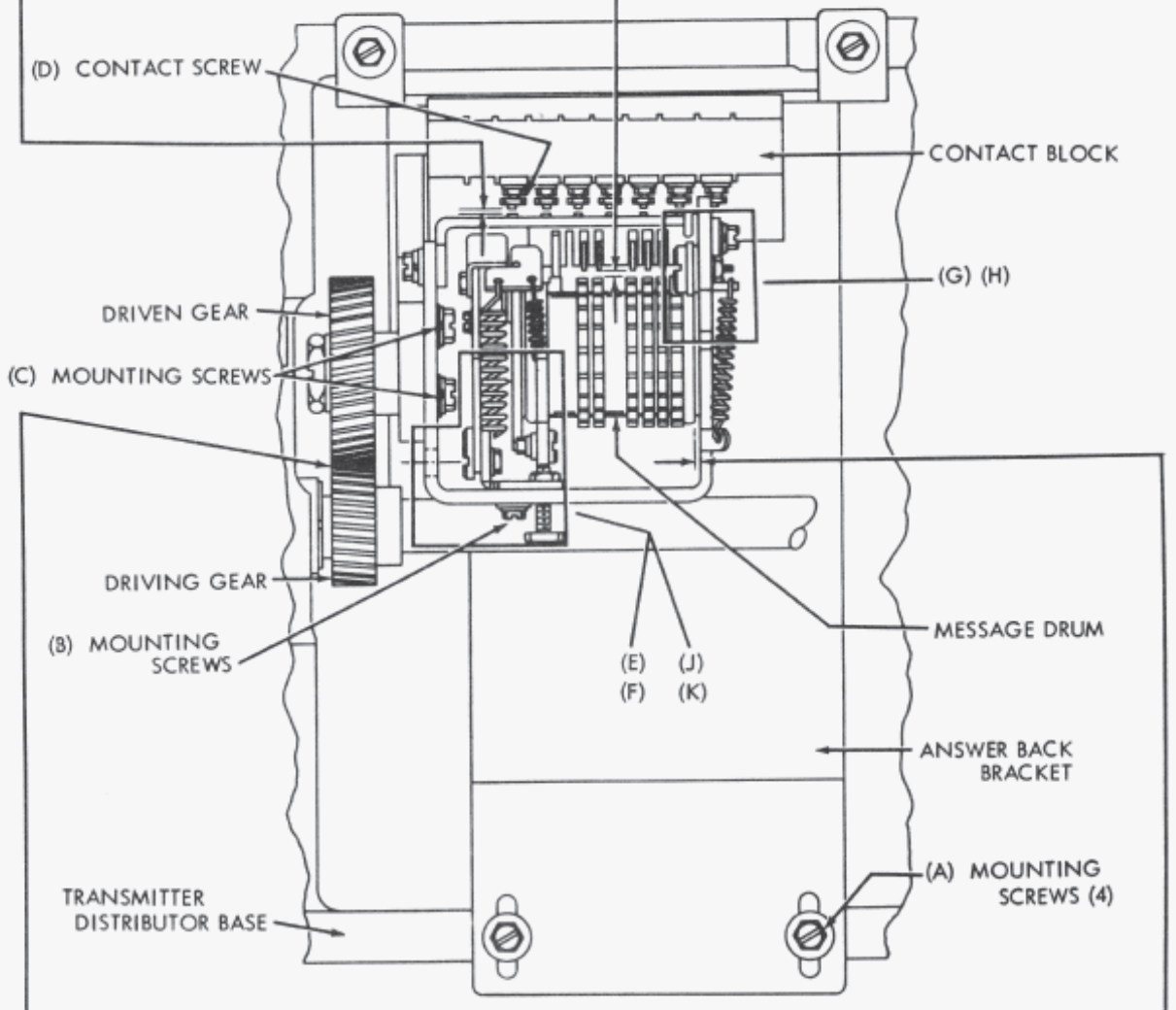
REASSEMBLE ANSWER BACK MECHANISM

ANSWER BACK MECHANISM

FIGURE 10.

(D) CLUTCH LATCHING CONTACT GAP
REQUIREMENT
GAP BETWEEN CLUTCH LATCHING CONTACTS SHOULD BE
MIN. 0.025 INCH
MAX. 0.035 INCH
TO CHECK
ROTATE MESSAGE DRUM UNTIL CLUTCH LATCH CODE BLADE LEVER IS RESTING ON STOP PROJECTION OF STOP BLADE.
TO ADJUST
POSITION CONTACT SCREW

(C) CAM FOLLOWER CODE BLADE CLEARANCE
REQUIREMENT
CLEARANCE BETWEEN CAM FOLLOWER CODE BLADE AND ASSOCIATED TINE ON CODE BLADE OF MESSAGE DRUM SHOULD BE
MIN. 0.007 INCH --- MAX. 0.020 INCH
TO CHECK
DISENGAGE CLUTCH. TINES OF CODE BLADES SHOULD BE OPPOSITE PROJECTIONS OF CAM FOLLOWER CODE BLADES.
TO ADJUST
POSITION BRACKET WITH MOUNTING SCREWS LOOSENED.



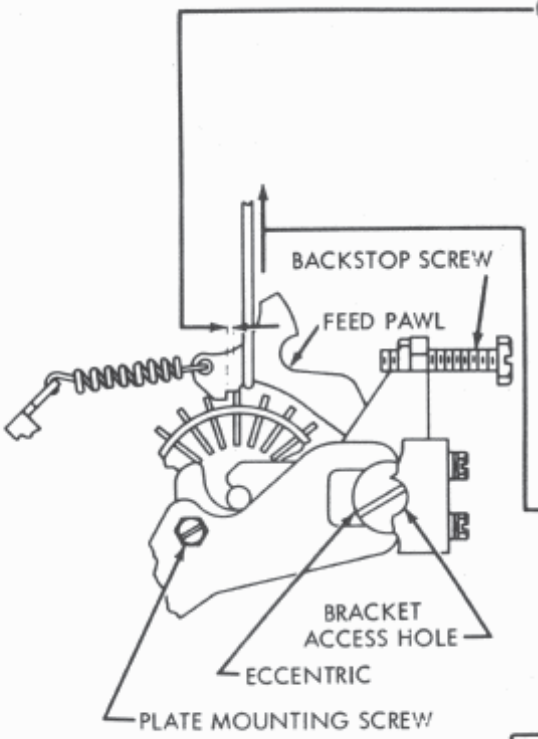
TOP VIEW - LEFT SIDE

(B) MESSAGE DRUM END PLAY
REQUIREMENT
END PLAY BETWEEN MESSAGE DRUM AND BRACKET OR DRIVE PLATE SHOULD BE
MIN. SOME
MAX. 0.012 INCH
TO ADJUST
POSITION REAR MESSAGE DRUM BRACKET WITH THE TWO MOUNTING SCREWS LOOSENED. KEEP BRACKET SQUARE WITH DRUM DRIVE PLATE.

(A) ANSWER BACK POSITION
REQUIREMENT
BACKLASH BETWEEN DRIVEN GEAR AND ITS DRIVER SHOULD BE
MIN. 0.005 INCH
MAX. 0.010 INCH
TO ADJUST
POSITION ANSWER BACK BRACKET WITH 4 MOUNTING SCREWS LOOSENED.

ANSWER BACK MECHANISM

FIGURE 11.



(E) FEED PAWL CLEARANCE (PRELIMINARY)

REQUIREMENT

CLEARANCE BETWEEN LATCHING SURFACE OF FEED PAWL AND FEED PROJECTION OF CODE BLADE ON MESSAGE DRUM SHOULD BE

MIN. 0.010 INCH

MAX. 0.015 INCH

TO CHECK

DISENGAGE CLUTCH

TO ADJUST

LOOSEN PLATE MOUNTING SCREW AND ECCENTRIC RETAINING NUT TO FRICTION TIGHT. POSITION ECCENTRIC WITH SCREW DRIVER THROUGH HOLE PROVIDED IN BRACKET. DO NOT TIGHTEN NUT OR SCREW, **UNTIL REFINING ADJUSTMENT (1) IS MADE.**

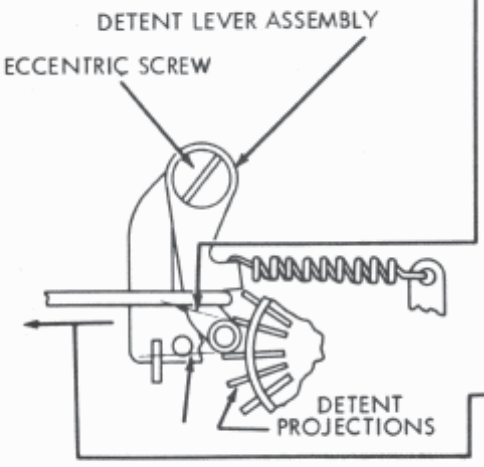
(F) FEED PAWL SPRING

REQUIREMENT

MIN. 2 OUNCES

MAX. 3 OUNCES

TO START FEED PAWL MOVING WHEN THE CLUTCH IS DISENGAGED AND FEED PAWL IN STOP POSITION.



(G) DETENT ROLLER POSITION

1. REQUIREMENT

ROLLER ON DETENT LEVER SHOULD BE FIRMLY SEATED BETWEEN TWO DETENT PROJECTIONS OF CODE BLADES IN MESSAGE DRUM.

TO CHECK - DISENGAGE CLUTCH

2. REQUIREMENT

CODE BLADE PROJECTIONS (TINES) ON MESSAGE DRUM SHOULD BE CENTRALLY LOCATED WITH RESPECT TO CAM FOLLOWER CODE BLADE (GAGE BY EYE).

TO CHECK

TRIP CLUTCH, ROTATE MAIN SHAFT TO INDEX MESSAGE DRUM FOR NEXT CHARACTER.

TO ADJUST

POSITION DETENT ROLLER ASSEMBLY BY MEANS OF ECCENTRIC SCREW LOOSENED TO FRICTION TIGHTNESS.

(H) DETENT LEVER SPRING

REQUIREMENT

MIN. 4 OUNCES

MAX. 6 OUNCES

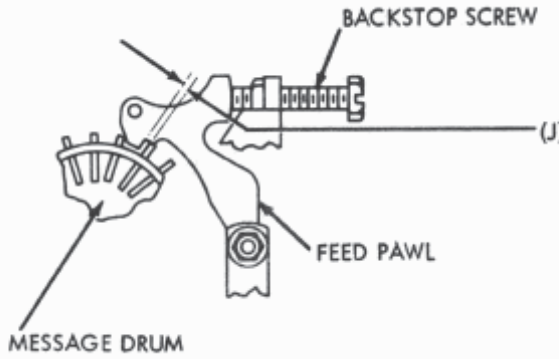
TO MAKE DETENT LEVER MOVE WHEN ITS ROLLER IS RESTING BETWEEN TWO DETENT PROJECTIONS ON MESSAGE DRUM AND THE CLUTCH DISENGAGED.

(I) FEED PAWL CLEARANCE (FINAL)

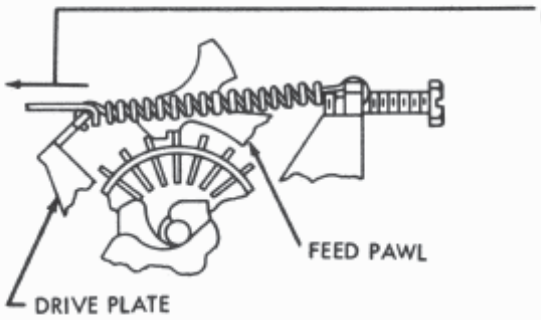
RECHECK PRELIMINARY FEED PAWL CLEARANCE ADJUSTMENT (E) AND REFINE IF REQUIRED. TIGHTEN NUT AND SCREW.

ANSWER BACK MECHANISM

FIGURE 12.



(J) FEED PAWL BACKSTOP
REQUIREMENT
CLEARANCE BETWEEN LATCHING SURFACE OF FEED PAWL AND ADJACENT FEED PROJECTION ON MESSAGE DRUM SHOULD BE
MIN. 0.010 INCH
MAX. 0.015 INCH
TO CHECK
TRIP CLUTCH, ROTATE MAIN SHAFT SLOWLY UNTIL FEED PAWL REACHES MAXIMUM REARWARD TRAVEL.
TO ADJUST
LOOSEN LOCK NUT AND POSITION BACKSTOP SCREW.



(K) DRIVE PLATE SPRING
REQUIREMENT
MIN. 18 OUNCES
MAX. 24 OUNCES
TO MOVE FEED PAWL FROM STOP POSITION (CLUTCH DISENGAGED).

CODING THE ANSWER-BACK FEATURE OF THE TELETYPE TRANSMITTER DISTRIBUTOR BASE LCXB

1. THE MESSAGE DRUM HAS A CAPACITY OF 21 CHARACTERS. THE FIRST CHARACTER TRANSMITTED MUST BE A "LETTERS" COMBINATION; THE REMAINING 20 MAY BE ANY CHARACTER DESIRED. CHARACTERS ARE DETERMINED BY DETACHABLE CODE BLADES SET IN THE MESSAGE DRUM. SINCE PROJECTIONS ON THE CODE BLADES ARE USED TO ROTATE THE DRUM, ALL OF ITS 21 SLOTS MUST BE OCCUPIED BY A BLADE.

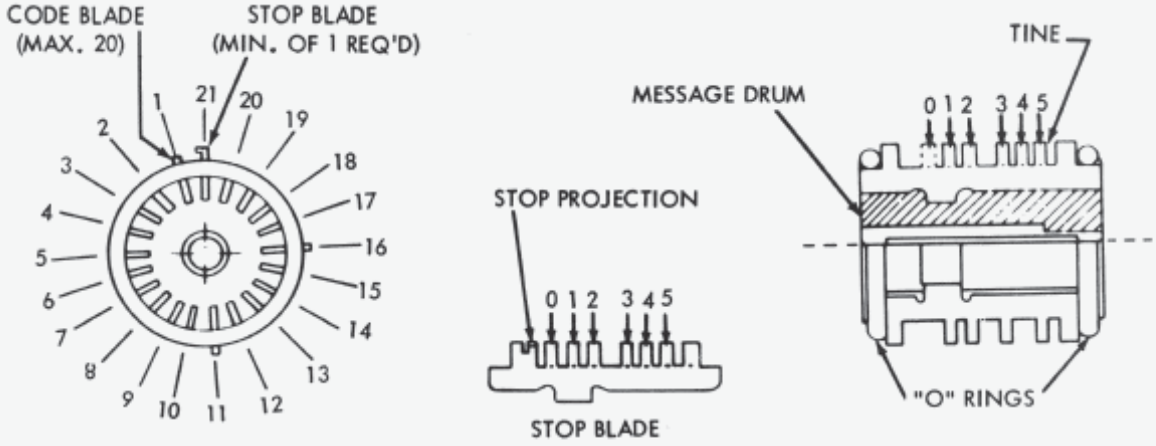
2. THE LAST CHARACTER TRANSMITTED IS DETERMINED BY A SPECIAL STOP CODE BLADE. THREE STOP BLADES ARE INCLUDED, SO THAT, EQUALLY SPACED ABOUT THE CODE DRUM IT WOULD RESULT IN 3 UNIFORM MESSAGES OF SIX CHARACTERS EACH, PRECEDED BY A "LETTERS" COMBINATION.

3. CODE A BLADE BY BREAKING OFF THE UNWANTED TINES AT THE SCORED LINE AT THE BASE OF THE TINE. FIGURE 14 INDICATES WHICH TINES ARE TO BE REMOVED FOR A PARTICULAR CHARACTER. TO PREVENT DISTORTION OF A CODE BLADE, EACH BLADE SHOULD BE HELD SECURELY NEAR THE SCORE MARK OF THE TINE TO BE REMOVED.

ANSWER BACK MECHANISM

FIGURE 13.

CODING ANSWER BACK CONT'D.



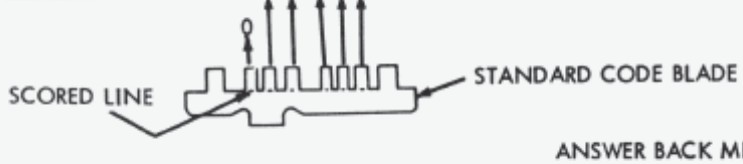
4. PLACE AN "O" RING IN THE GROOVE ON THE RIM OF THE MESSAGE DRUM WHICH IS FURTHEST FROM THE SLOT IN THE CENTER PORTION OF THE DRUM. INSTALL A STOP BLADE IN ANY SLOT POSITION IN THE DRUM BY FIRST INSERTING THE BLADE UNDER THE "O" RING AND THEN ROTATING THE BLADE TOWARD THE CENTER OF THE DRUM UNTIL IT IS FULLY SEATED.

5. CODE THE DRUM IN A COUNTER-CLOCKWISE DIRECTION BEGINNING WITH THE NO. 1 BLADE ADJACENT TO THE STOP BLADE. INSTALL EACH CODED BLADE IN THE PROPER SLOT POSITION INSERTING THE BLADE UNDER THE "O" RING AS IN PARAGRAPH 4.

■ — LEAVE TINE

□ — REMOVE TINE

LETTERS	TYPICAL FIG. ARRGT.	CODE 1	2	3	4	5
A	—	□	□	■	■	■
B	?	■	□	■	■	□
C	:	■	■	■	■	□
D	$	□	■	■	■	□
E	3	□	■	■	■	■
F	!	□	■	■	□	□
G	&	■	□	■	□	□
H	#	■	■	□	□	□
I	8	■	■	□	■	■
J	'	□	□	□	■	□
K	(	□	□	□	□	□
L	)	■	□	□	□	□
M	.	■	■	□	□	□
N	,	■	■	□	□	■
O	9	■	■	□	■	□
P	0	■	□	■	■	□
Q	1	□	□	■	■	□
R	4	■	□	■	□	□
S	BELL	□	□	■	□	■
T	5	■	■	■	□	■
U	7	□	□	□	■	■
V	;	■	■	■	■	□
W	2	□	□	■	■	□
X	/	□	■	■	□	□
Y	6	□	■	□	■	□
Z	"	□	■	□	□	■
CARRIAGE RETURN		■	□	■	□	□
LINE FEED		□	□	□	■	□
LETTERS SHIFT		□	□	□	□	□
FIGURES SHIFT		□	□	■	□	□
SPACE		■	■	■	■	■
BLANK		■	■	■	■	■



ANSWER BACK MECHANISM

6. AFTER FILLING THE DRUM, ENCIRCLE THE BLADES BY PLACING ANOTHER "O" RING IN THE GROOVE ON THE OPPOSITE RIM OF THE DRUM.

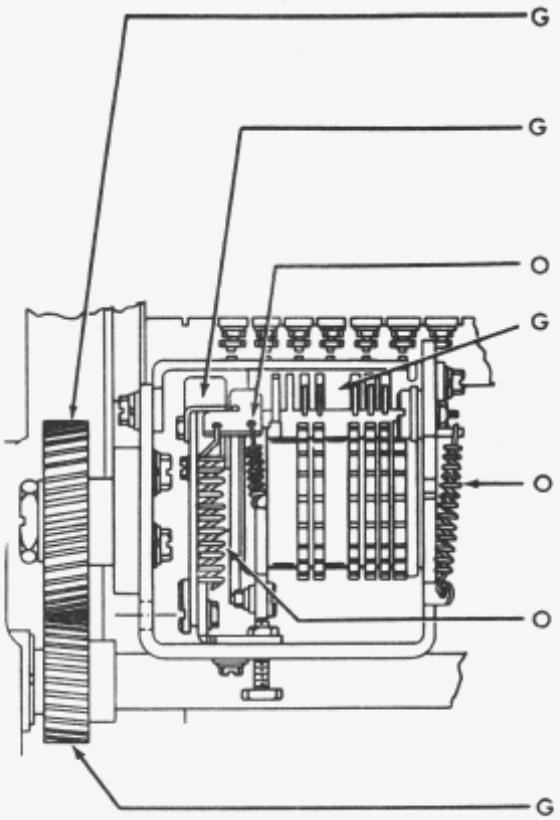
7. PLACE A THIN COAT OF GREASE ON THE SHAFT AND STUD OF THE DRIVE PLATE. INSERT THE SHAFT PORTION OF THE DRIVE PLATE INTO THE MESSAGE DRUM (NOTE THAT DUE TO A DIFFERENCE IN HOLE DIAMETERS IN THE MESSAGE DRUM, THE SHAFT CAN BE INSERTED ONLY ONE WAY). HOOK THE SPRING BETWEEN THE DRIVE PLATE AND THE FEED PAWL. OIL BOTH ENDS OF THE SPRING.

8. TO INSERT THE MESSAGE DRUM ASSEMBLY INTO THE DISTRIBUTOR ASSEMBLY, TRIP THE CLUTCH AND ROTATE THE DISTRIBUTOR MAIN SHAFT UNTIL THE DRIVE LEVER ASSEMBLY IS ON THE HIGH PART OF THE CAM, THEN INSERT THE MESSAGE DRUM ASSEMBLY BETWEEN THE MOUNTING BRACKETS. NOTE THAT THE DRIVE PLATE HAS A STUD WELDED ON TO IT; THIS STUD MUST GO UNDER THE DRIVE LEVER ASSEMBLY. THEN ROTATE THE MAIN SHAFT TO LATCH THE CLUTCH. NEXT HOOK THE DRIVE PLATE SPRING BETWEEN THE DRIVE PLATE AND THE SPRING POST PROJECTION ON THE BRACKET. THE DETENT LEVER SPRING SHOULD BE HOOKED ON TO THE SPRING POST PROJECTION OF THE BRACKET, AND THE DETENT LEVER. LUBRICATE THE MECHANISM ACCORDING TO THE LUBRICATION FIGURES.

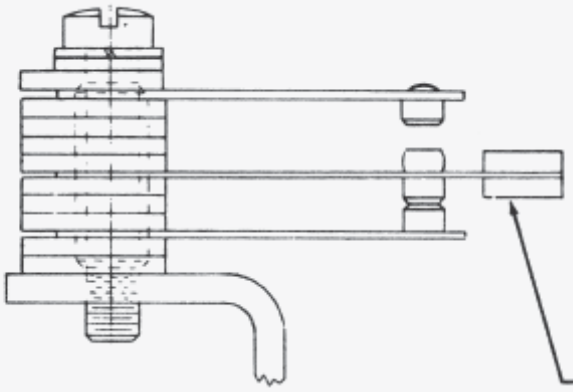
NOTE:

1. STOP BLADE HAS SAME PROVISIONS FOR INDIVIDUAL CODING AS STANDARD CODE BLADE.
2. WHEN CODING THE BLADES REMOVE THE "O" POSITION TINE ON ALL STOP AND CODE BLADES.

FIGURE 14.



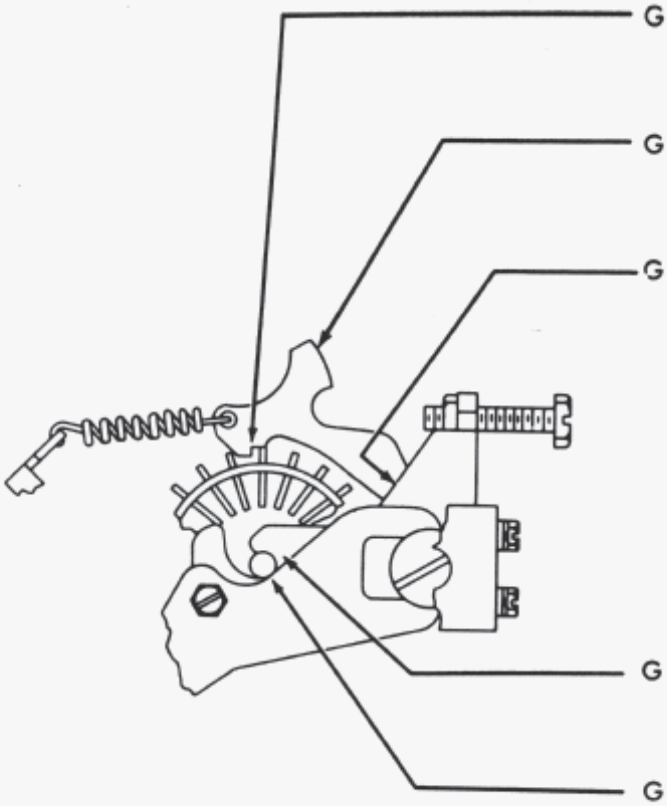
G	GEAR TEETH	DRIVEN GEAR
G	PIVOT HOLES AND ROLLER SURFACE	DRIVE LEVER
O	LOOPS - EACH END	FEED PAWL SPRING
G	GUIDING SURFACE	GUIDE
O	LOOPS - EACH END	DETENT LEVER SPRING
O	LOOPS - EACH END	DRIVE LEVER SPRING
G	GEAR TEETH	DRIVEN GEAR



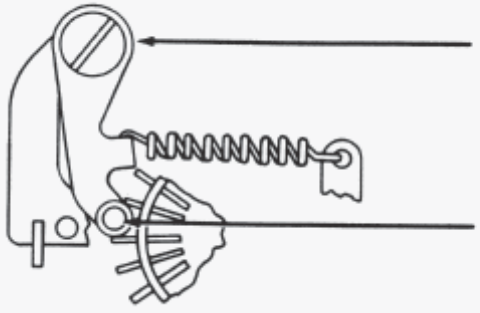
G	INSULATOR SURFACE	CONTACT ASSEMBLY

ANSWER BACK MECHANISM - LUBRICATION

FIGURE 15.



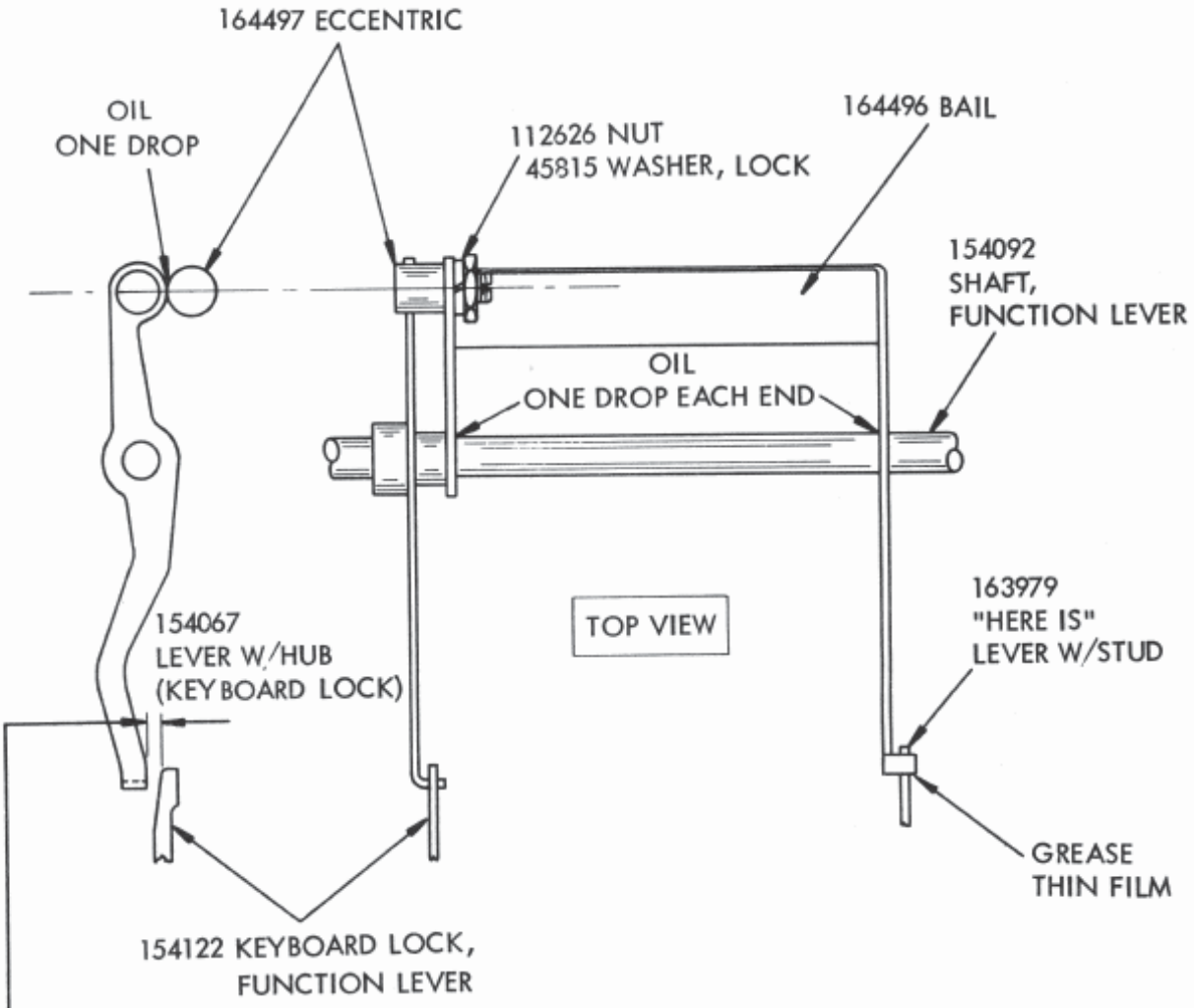
G	TOOTH SURFACE	FEED PAWL
G	BACKSTOP SURFACE	FEED PAWL
G	PIVOT HOLE	FEED PAWL
G	PIVOT SURFACE	MOUNTING BRACKET
G	SHAFT AND STUD	DRIVE PLATE



G	PIVOT HOLE	DETENT LEVER
G	ROLLER	DETENT LEVER

ANSWER BACK MECHANISM - LUBRICATION

FIGURE 16.



KEYBOARD LOCK BAIL ECCENTRIC ADJUSTMENT

REQUIREMENT

WITH BOTH THE "KEYBOARD LOCK" AND "HERE IS" KEYTOPS LIGHTLY HELD FULLY DEPRESSED, THERE SHOULD BE SOME TO .006" CLEARANCE BETWEEN THE KEYBOARD LOCK LEVER W/HUB AND THE KEYBOARD LOCK FUNCTION LEVER.

TO ADJUST

POSITI ON THE ECCENTRIC WITH ITS LOCK NUT LOOSENED SO THAT ITS HIGH POINT IS TOWARD THE FRONT OF THE KEYBOARD

FIGURE 17