

INSTRUCTIONS FOR INSTALLING THE 152337 OR 157509 "ON LINE" OR 152345  
"OFF LINE" SHIFT CONTROL MODIFICATION KIT ON A MODEL 28 TYPING UNIT  
(BELL SYSTEM 28B, 28C, 28D)

1. General

\*a. The 152337 modification kit when installed on a Model 28 Typing Unit LP6, LP8, LP9 equipped with the "O" code bar and bell crank (provided by the 153945 modification kit, see Specification 5788S) and 152810 stunt box or equivalent (Bell System 28B, 28C, 28D) provides facilities for suppression of printing and suppression of LINE FEED, FIGS SHIFT, and LTRS SHIFT, from a remote station on the signal line. The 152337 and 153945 modification kit are part of the 153941 modification kit covered in Specification 5847S, which provides the parts required for converting a Model 28 Printer from nonselective calling to selective calling.

\*b. The 157509 modification kit when installed on a Model 28 Typing Unit LP10 or up provides facilities for suppression of printing and suppression of LINE FEED, FIGS SHIFT, and LTRS SHIFT from a remote station on the signal line.

\*c. The 152345 modification kit when installed on a Model 28 Typing Unit LP6, LP8, LP9 (Bell System 28B, 28C, 28D) equipped with the facilities provided by the 152337 on-line shift control modification kit, provides a means of shifting the suppression code bar so that a selective calling typing unit may be shifted from a nonprint to a print condition locally by means of a local switch such as provided by a 152342 or 154681 modification kit. The 152345 modification kit is not compatible with the page feed out mechanism (152302 or 153907 modification kit, Specification 5751S).

d. The 152337 or 157509 modification kit consists of:

	152337	157509
2 2191 Washer, Lock		x
7 2191 Washer, Lock	x	
2 7002 Washer	x	x
1 31636 Spring	x	
2 93758 Washer, Felt	x	x
1 110743 Washer, Lock		x
3 110743 Washer, Lock	x	
3 119649 Ring, Retainer	x	x
1 125011 Washer	x	x
2 151152 Screw 4-40 x 3/16 Hex.	x	
2 151637 Screw 4-40 x 1/4 Fil.	x	
7 151722 Screw 6-40 x 3/16 Hex.	x	
2 151722 Screw 6-40 x 3/16 Hex.		x
1 152893 Screw 4-40 Hex.	x	x
1 153566 Bracket	x	x
1 153570 Arm, Suppression	x	x
1 153600 Bracket, Spring	x	
5 153603 Nut 6-40 Special	x	
1 153605 Bracket	x	

\*Indicates change

			152337	157509
1	157047	Lever	x	x
1	157048	Lever	x	x
1	157049	Pin	x	x

e. The 152345 modification kit consists of:

7	2191	Washer, Lock	3	121605	Spacer
1	7002	Washer, Flat	2	151618	Screw 6-40 x 7/16 Fil.
2	8330	Washer, Flat	1	151632	Screw 6-40 x 3/8 Hex.
1	70388	Spring	4	151692	Screw 6-40 x 3/16 Fil.
1	80708	Clamp, Cable	1	153563	Bracket
1	106281	Screw 4-40 Shoulder	1	153564	Lever
1	110435	Nut 4-40 Hex.	1	153565	Pin
1	110743	Washer, Lock	1	153588	Solenoid
2	119649	Retainer, Ring	1	153594	Cable Assembly
			4	155751	Tubing, Vinyl

f. For part numbers referred to see Teletype Model 28 Printer Parts Bulletin.

## 2. INSTALLATION

a. 152337 modification kit (Figure 2-39)

NOTE: Bell System Units must be equipped with the 153945 modification kit and 152810 stunt box or equivalent.

(1) Remove the platen assembly and the paper pressure roller assembly in accordance with standard practice.

NOTE: If the 153945 modification kit is to be installed, the platen assembly and paper pressure roller assembly need not be removed since the 153605 Bracket can be installed when the front plate assembly is removed.

(2) With the 153605 bracket held in place on the suppression code bar studs determine the number and positions of the 153603 nuts needed for the fork of each suppression code bar shift slide to be engaged by one of the nuts. Assemble the 153603 nuts, the 151722 screws and the 2191 lock washers into the 153605 bracket in the positions previously determined.

(3) Mount the 153605 bracket on the suppression code bar studs and secure in position with the 151152 screws and the 110743 lock washers.

(4) Remove the 151630 screws and 2191 lock washer from the left end of the 153321 tie bar.

(5) Mount the 153600 spring bracket into position and replace the 151630 screw and 2191 lock washer just removed.

(6) Place the 31636 spring into position between the 153605 bracket and the 153600 spring bracket.

- (7) Replace the pressure roller assembly and platen assembly.
- (8) Assemble the 157047 lever to the 157048 lever using the 152893 screw, the 125011 washer and the 110743 lock washer.
- (9) Assemble the above combination to the 153566 bracket as follows:
  - (a) With the parts in their relative position place the ear of the 157048 lever to which the 157047 lever was assembled over the ear of the 153566 bracket containing one hole.
  - (b) The two holes of the 157048 lever should now be in alignment with the two holes of the 153566 bracket; the ears of the 157048 lever resting on the ears of the 153566 bracket.
  - (c) Insert the 157049 pin through the upper hole of the 157048 lever and the upper hole of the 153566 bracket.
  - (d) Place the 93758 felt washer on the 157049 pin before placing the pin in the lower hole of the 157048 lever and the lower hole of the 153566 bracket.
  - (e) Place a 119649 retainer ring in the groove of the 157049 pin just below the upper ear of the 153566 bracket.
  - (f) Place a 119649 retainer ring in the groove above the upper ear of the 157048 lever.
  - (g) Place a 93758 felt washer on the upper end of the 157049 pin.
  - (h) Place a 119649 retainer ring in the groove of the 157049 pin above the 93758 felt washer.
- (10) Remove the ball bearings and springs associated with the suppression code bar. To do this remove the two 151618 screws, 2191 lock washers and 152572 bracket. Note the number of shims between the 152572 and 152575 brackets. Hold the bracket so that the left-hand retainer plate (as viewed from left side of unit) is horizontal and faces upward. Carefully remove the 150293 retainer plate by removing the two 110434 screws and 110743 lock washers. Retain the lock washers. Remove the 150535 spring and 150537 ball bearing associated with the suppression code bar. Place the retainer plate in position. Place the 153566 bracket on top of the retainer plate so that the extension of the 157048 lever will be in position to engage the suppression code bar. Fasten the bracket and retainer plate using the two 151637 screws and 110743 lock washers. Turn the bracket so that the right hand retainer plate (adjacent to the code bar markings) is horizontal and faces upward. Carefully remove the retainer plate. Remove the 150535 spring and 150537 ball bearing associated with the suppression code bar. Replace the retainer plate. Remount the 152572 bracket so that the extension on the 157048 lever engages the square notch in the suppression code bar using the 151618 screws, 2191 lock washers and the proper number of shims between the 152572 and 152575 brackets.

(11) Mount the 153570 suppression arm to the 153569 type box clutch trip arm using the two 151722 screws, 2191 lock washers and 7002 washers.

b. 157509 modification kit (Figure 2-39)

(1) Follow procedure in Paragraphs 2.a (8) through (11) inclusive.

c. 152345 modification kit (Figure 2-38)

(1) Assemble the 153588 solenoid to the 153563 bracket with the four 151692 screws and 2191 lock washers.

(2) Mount the 153564 lever to the 153563 bracket with the 106281 screw, the 110743 lock washer and 110435 nut.

(3) Place the 153565 pin through the hole in the solenoid plunger so that it engages a 157048 lever and secure the 153565 pin in place with the two 119649 retainer rings.

(4) Remove the 151657 screw and the 2191 lock washer which mounts the 150546 bracket to the left side frame and the 151657 screw and 2191 lock washer which mounts in the rear hole of the 150894 tie bar. Discard the 151657 screws.

(5) Mount the assembly to the left side frame with the three 121605 spacers, two 151618 screws, a 151632 screw a 7002 washer, two 8330 washers and the 2191 lock washers. The 70388 spring should be installed between the 153565 pin and the 153566 bracket.

\*(6) Slip a 155751 vinyl tubing over each lead of the 153594 cable. Solder the 153594 cable to the solenoid and to the #6 and #9 terminal of the right typing unit connector as shown in figure 1. Slip each 155751 tubing over the terminal.

(7) Route the cable and tie to upper stunt box handle three places, and clamp with 80708 clamp.

3. ADJUSTMENTS (Figures 122 and 123)

For adjusting procedure refer to standardized adjustment information.

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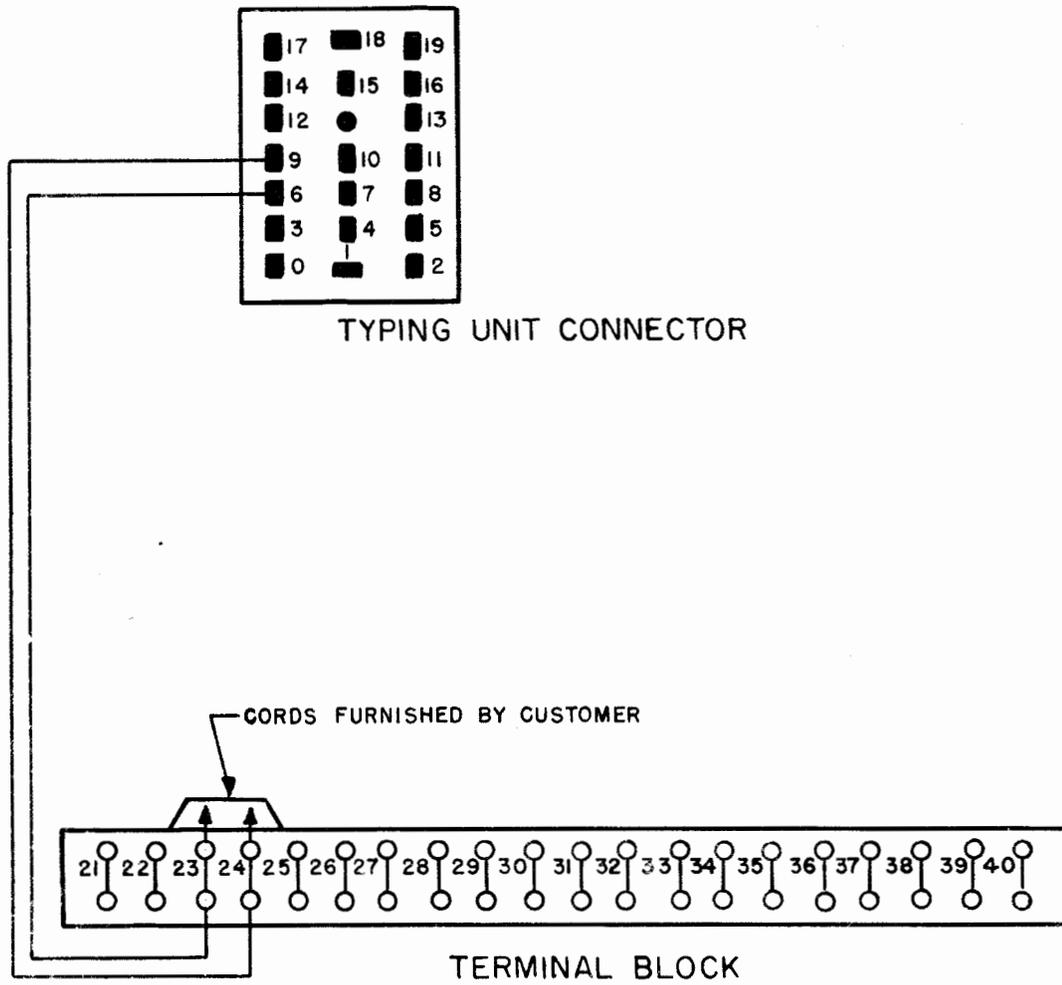


FIGURE 1

FIGURE 2-38 152345 MODIFICATION KIT TO PROVIDE OFF-LINE STUNT SHIFT CONTROL MECHANISM

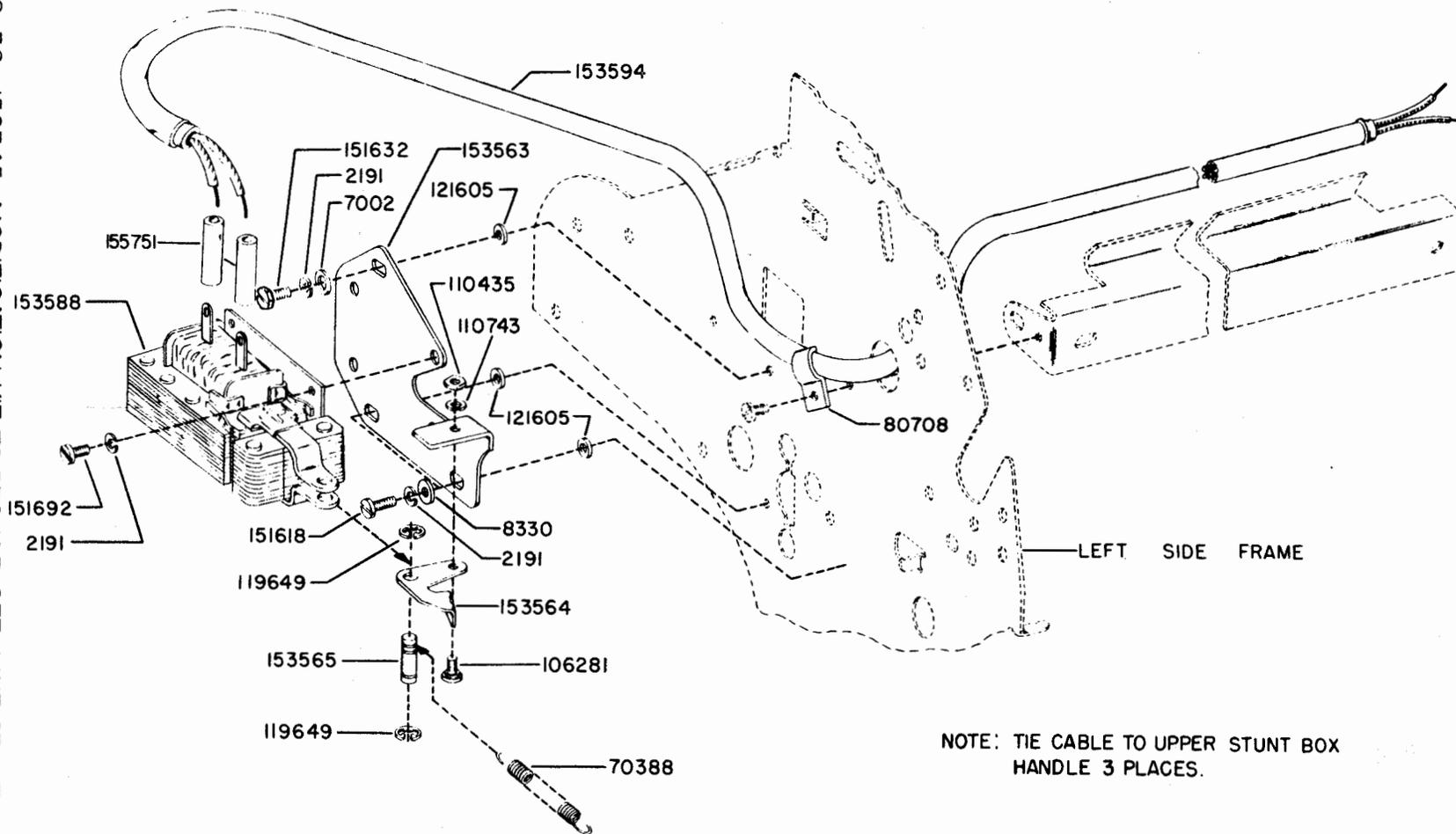
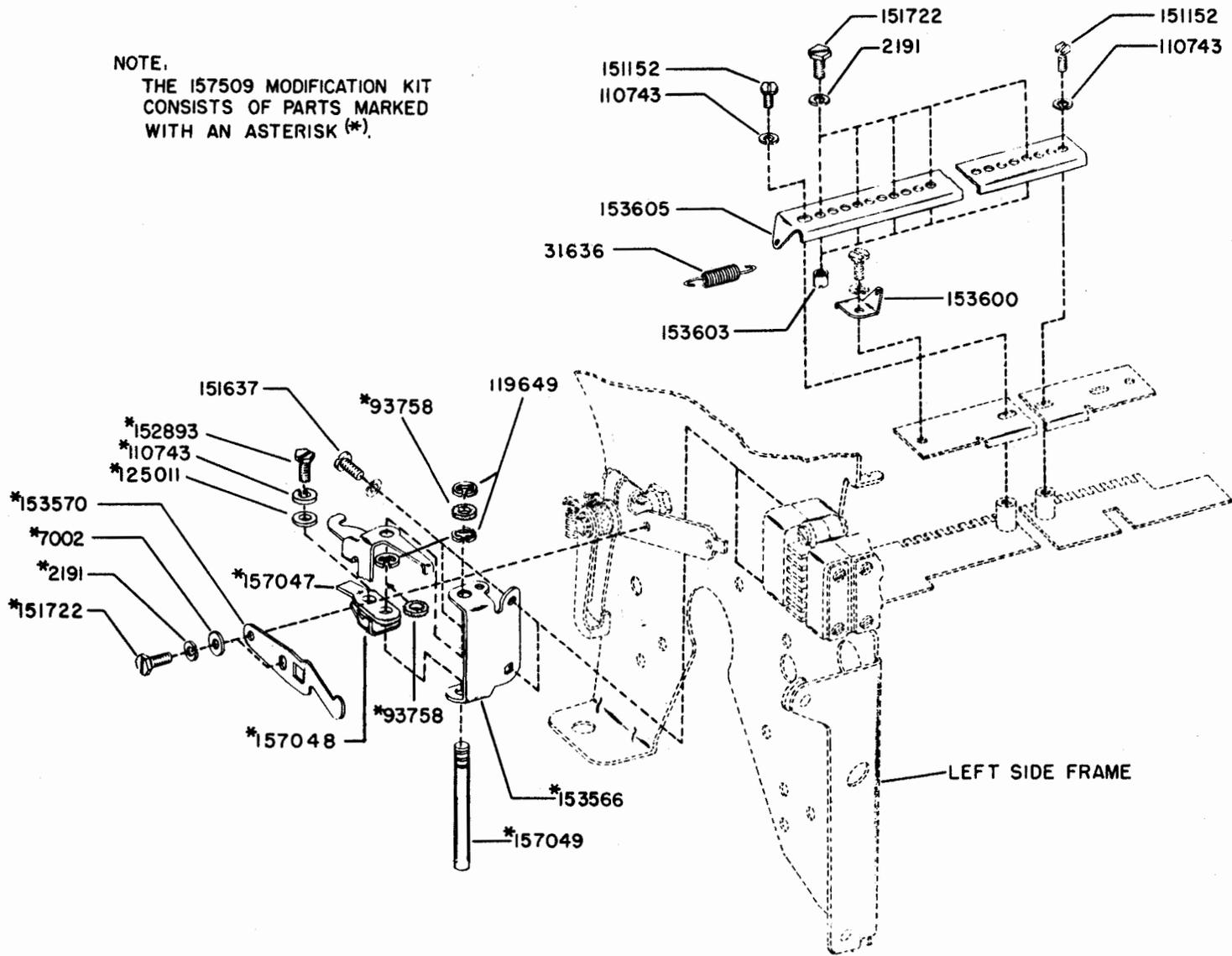


FIGURE 2-39. 152337 MODIFICATION KIT TO PROVIDE ON-LINE STUNT SHIFT CONTROL

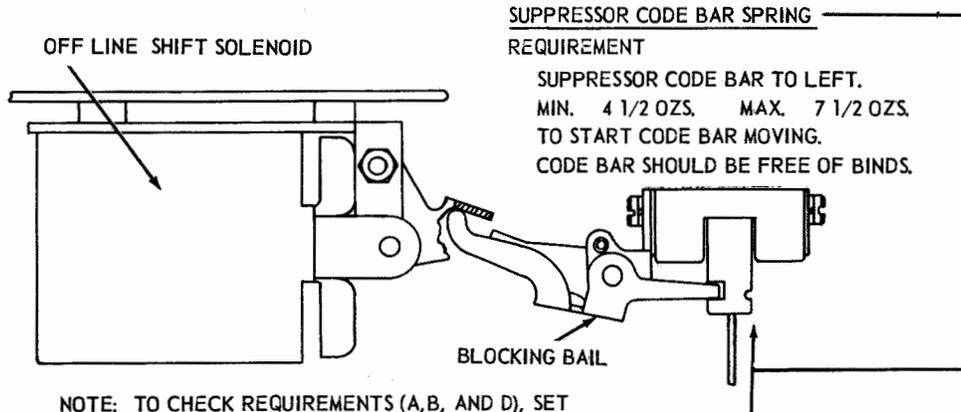
NOTE.  
THE 157509 MODIFICATION KIT  
CONSISTS OF PARTS MARKED  
WITH AN ASTERISK (\*).



9. SELECTIVE CALLING MECHANISM

TYPE BOX CLUTCH TRIP LEVER

SAME AS STANDARD ADJUSTMENT ( FIGURE 44 ) EXCEPT  
 CLEARANCE BETWEEN TYPE BOX CLUTCH TRIP LEVER  
 AND CLUTCH DISK STOP LUG SHOULD BE  
 MIN. 0.040 INCH                      MAX. 0.055 INCH



SUPPRESSOR CODE BAR SPRING  
 REQUIREMENT  
 SUPPRESSOR CODE BAR TO LEFT.  
 MIN. 4 1/2 OZS.    MAX. 7 1/2 OZS.  
 TO START CODE BAR MOVING.  
 CODE BAR SHOULD BE FREE OF BINDS.

NOTE: TO CHECK REQUIREMENTS (A,B, AND D), SET  
 FUNCTION CLUTCH IN STOP POSITION AND ALL CODE  
 BARS TO THE RIGHT.

A. CODE BAR SHIFT MECHANISM ( OFF LINE ONLY )

REQUIREMENTS

1. WITH FUNCTION CLUTCH IN STOP POSITION, LATCH FUNCTION LEVER (SHIFT MECH.) ON ITS LOWER RELEASING LATCH. NOTCH IN SUPP. CODE BAR SHOULD ALIGN WITH NOTCHES IN OTHER CODE BARS WHEN ALL CODE BARS ARE SHIFTED TO THE RIGHT.

TO ADJUST

1. POSITION UPPER OR LOWER GUIDE PLATE (FIG.126) WITH ITS CLAMP NUTS LOOSEMED.
2. REPEAT FOR EACH STUNT CASE CODE BAR SHIFT MECHANISM.

NOTE - - - POSITION THE ASSOCIATED GUIDE PLATE SO THAT THE MOVEMENT OF THE FORK IS NOT RESTRICTED WITHIN THE RANGE OF ADJUSTMENT

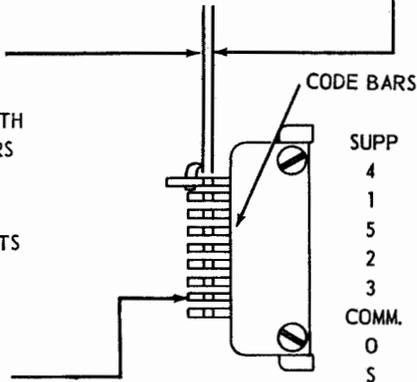
D. OFF LINE SHIFT BRACKET ASSEMBLY ( OFF LINE ONLY )

REQUIREMENT

NOTCH IN SUPPRESSION CODE BAR SHOULD ALIGN WITH NOTCHES IN OTHER CODE BARS WHEN ALL CODE BARS ARE SHIFTED TO THE RIGHT.

TO ADJUST

POSITION THE SOLENOID BRACKET ASSEMBLY WITH ITS MOUNTING SCREWS LOOSEMED.



B. CONDITION CODE ( ZERO ) CODE BAR SHIFT MECHANISM

REQUIREMENT

WITH FUNCTION CLUTCH IN STOP POSITION, LATCH FUNCTION LEVER (SHIFT MECH). THE NOTCH IN CONDITION CODE (ZERO) CODE BAR SHOULD ALIGN WITH NOTCHES IN OTHER CODE BARS WHEN ALL CODE BARS ARE SHIFTED TO THE RIGHT.

TO ADJUST

POSITION THE UPPER OR LOWER GUIDE PLATE (FIG.126) WITH ITS CLAMP NUTS LOOSEMED.

NOTE - - - POSITION THE ASSOCIATED GUIDE PLATE SO THAT THE MOVEMENT OF THE FORK IS NOT RESTRICTED WITHIN THE RANGE OF ADJUSTMENT.

FIGURE 122 TYPING UNIT, CODE BAR SHIFT MECHANISM

9. SELECTIVE CALLING MECHANISM

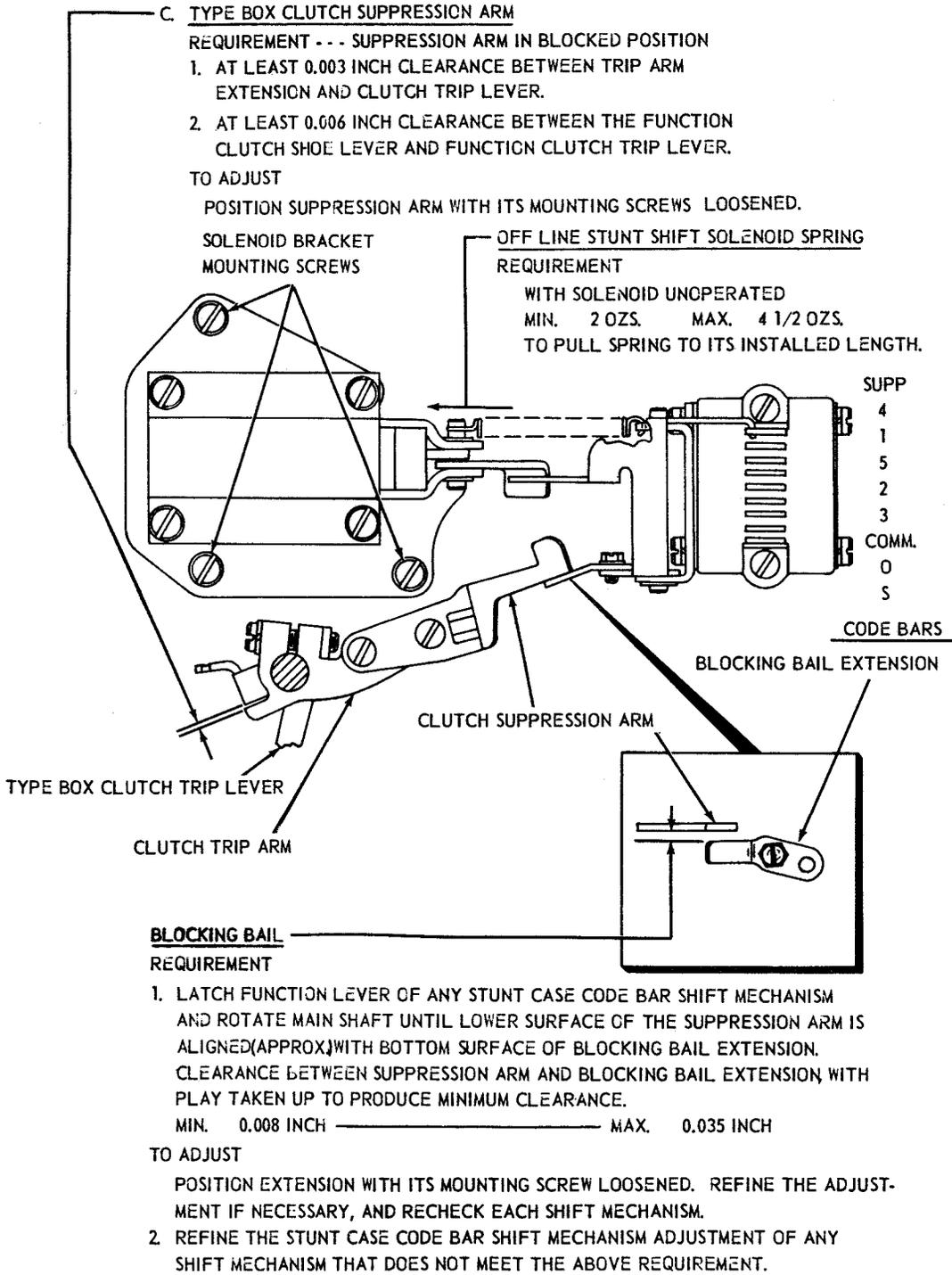


FIGURE 123 TYPING UNIT, OFF LINE STUNT SHIFT SOLENOID MECHANISM

