

INSTRUCTIONS FOR INSTALLING THE 152307 MODIFICATION  
KIT ON THE MODEL 28 TYPING UNIT LP3, LP4, LP5,  
LP6, LP7, LP8, AND LP9, TO PROVIDE REPERFORATOR  
CONTROL MECHANISM (H-ON, F-OFF OR F-ON, H-OFF)

\*The following chart pertains to Bell System only

UNIT	TELETYPE CODE	BELL SYSTEM CODE
Typing Unit	LP5, LP6, LP8, LP9	28A, 28B, 28B-1, 28B-2, 28C, 28D, 28E, 28F, 28G, 28H, 28J, 28J-1

1. GENERAL

a. The 152307 modification kit, when installed on the Model 28 Typing Unit Stunt Box will function to close and latch a contact when the upper case "H" signal is received. The contact will remain closed until the upper case "F" signal is received.

b. The 152307 modification kit can be used on an LP3, LP4, LP5, LP6, LP7, LP8, or LP9 Model 28 Typing Unit. This modification kit is equipped with two 153440 universal function bars which are uncoded function bars and may be coded in any manner as the customer desires. For purposes of reference UC-F and UC-H will be referred to in this specification.

c. The 152307 modification kit can be installed to give one of four operating conditions:

- (1) Reperforator motor control, H-ON, F-OFF.
- (2) Reperforator relay control (for reperforator equipped with line relay), F-ON, H-OFF.
- (3) Reperforator motor control, F-ON, H-OFF.
- (4) Reperforator relay control, H-ON, F-OFF.

For types of operation (1) or (2) in the "AN" stunt box, the two 153440 function bars coded UC-H and UC-F shall occupy slots 33 and 32 or 42 and 41. The switch assembly shall be mounted so that the contact arm and contact spring is directly above the 152298 function lever which is operated by the function bar coded UC-H.

NOTE

It may be necessary to relocate the contact arm and contact spring in any one of the four slots in the switch assembly to conform to the various locations of the universal function bar in the slots of the stunt box.

For types of operation (1) or (2) in the "AED" stunt box, the two 153440 function bars coded UC-H and UC-F shall occupy slots 31 and 30. The 157091 switch assembly furnished in the "AED" stunt box arrangement is mounted on slots 29, 30, 31, and 32 of the stunt box. Therefore, it is necessary to unsolder the leads of the 157091 switch assembly. Remove and retain the two 151689 screws and 110743 lockwashers from the 157091 switch and discard the 157890 terminal plate. Disassemble the switch assembly and discard the 157884 block, 151689 screws, and 110743 lockwashers. Mount the 157887 contact arm and 157889 contact spring in the required slot of the 157091 switch. Use the 151689 screws and 110743 lockwashers to mount the 157891 terminal plate onto the switch. Reconnect the leads which were previously unsoldered in the 157091 switch.

For types of operation (1) or (2) in the "AF, AG, AH," and other stunt boxes, the 153440 function bars coded UC-H and UC-F shall occupy slots 15 and 14.

\*Upon receipt of an upper case "H" code selection by the typing unit, the "UC-H" function bar is selected. In moving to the rear it operates its function pawl, the latter in turn operating the function lever that controls the upper electrical contact. The contact is closed and remains closed because the function lever latch holds the function lever in its operated position. The closing of the contact can be used to close the circuit of the motor control relay of the reperforator, giving "H-ON" operation or the closing of the contact can be used to shunt the marking contact and the armature of the reperforator line relay, giving "H-OFF" operation.

Subsequent reception of an upper case "F" code selection by the typing unit causes the selection of the "UC-F" function bar. This bar in turn operates its function pawl and thus operates its function lever. The stud attached to the lower end of the function lever engages and operates the latch that has been holding the contact function lever in the operated position. The latter lever is released from the latch and is restored to its normal unoperated position by its spring, thereby causing the contacts to be opened and to remain open until the subsequent reception of another upper case "H" code selection. This will give "F-OFF" operation for motor control or "F-ON" operation for relay control.

For types of operation (3) or (4), the coded function bars are reversed in the slots designated in Paragraph 1. c. Reception of an upper case "F" code selection will cause the contact to close to give "F-ON" operation for motor control or "F-OFF" for relay control. Reception of an "UC-H" code selection will cause the contact to open to give "H-OFF" for motor control or "H-ON" for relay control.

d. The 152307 modification kit consists of:

1	5831S	Specification	1	152357	Stud
1	3599	Nut	2	152653	Pawl
2	4703	Spring	1	152660	Plate, Spring
2	72522	Wick	2	153440	Bar, Function (Universal)
3	90517	Spring	2	157200	Spring
2	94693	Wick	2	157240	Spring
1	110743	Lockwasher	2	155751	Sleeve, Insulating Tubing
1	152089	Latch	1	172504	Switch Assembly
1	152298	Lever, Function	1	157975	Cable
1	152299	Lever, Function			

e. For part numbers referred to and for parts ordering information, see Teletype Model 28 Printer Parts Bulletin 1149B.

## 2. INSTALLATION

- a. Remove the typing unit from the base.
- b. Remove the 151627 rear tie bar from the typing unit side frames.
- c. Remove the 150915 or 155060 line feed function pawl stripper from the 150424 or 155061 stripper blade.
- d. Remove the 151657 or 1010 single-double line feed lever screw and disengage the lever from the notch in the stripper blade.
- e. For typing unit LP3, LP4, LP5, LP7, hold the stripper blade toward the right side of the typing unit and unhook the 152541 stripper blade left arm from the blade. Pull the stripper blade toward the left side of the typing unit to disengage the stripper blade from the 152542 right hand arm and remove the stripper blade from the typing unit.
- f. Remove the 151692 screws which secure the stunt box assembly in the typing unit.

g. For typing unit LP6, LP8, LP9, remove the 151637 screw from the 153291 cam shaft drive arm, and slide the drive arm to lift out of engagement with the 153300 stripper blade drive arm.

h. Lift the stunt box upward to disengage it from its locating brackets and pull toward the rear. Remove the contact assembly and cable clamp, if present, from the stunt box. Remove the stunt box.

i. Remove the 152889 retainer plate from the left end of the stunt box, and remove the 150547 upper shaft.

j. Code the two 153440 function bars as desired in accordance with Specification 5831S.

k. Insert the 94693 wicks in the 157200 function pawl springs for use in printers equipped with two-stop function clutches (LP3, LP4, LP5, and LP7). Insert the 72522 wick in the 157240 function pawl springs for use in printers equipped with one-stop function clutches (LP6, LP8, and LP9).

l. Install the 152299 function lever, 152653 function pawl with the 157200 spring and 94693 wick (LP3, LP4, LP5 and LP7) or the 157240 spring and 72522 wick (LP6, LP8, and LP9), 153440 function bar coded UC-F with the 4703 spring, and the 152660 spring plate with the 90517 spring in the stunt box slot designated in Paragraph 1. c.

#### NOTE

If spacing is desired after each function, the 153670 function lever (ordered separately) should be used instead of the 152299 function lever.

m. Install the 152298 function lever, 152653 function pawl with the 157200 spring and 94693 wick (LP3, LP4, LP5, and LP7) or the 157240 spring and 72522 wick (LP6, LP8, LP9), 153440 function bar coded UC-H with 4703 spring, and 152089 latch with the 90517 spring in the stunt box slot designated in Paragraph 1. c.

n. Replace the 150547 shaft and the 152889 plate on the stunt box.

o. Install the 152357 stud in the hole at the lower end of the 152299 function lever (the threaded end of the stud should be toward the right side of the printer). Use the 110743 lockwasher and the 3599 nut to secure the stud.

p. Discard the two 151880 nuts of the 172504 switch assembly which are for handling purposes only. Mount the 172504 switch assembly on top of the stunt box in position so that the switch arm is directly above the 152298 function lever.

q. Solder the white wire of the 157975 cable to the switch terminal and the green wire to the top of the 157889 spring corresponding to the location of the switch arm.

#### NOTE

When soldering the wires, avoid getting solder or flux into the switch block.

r. Secure the 157975 cable to the 150544 upper handle on the stunt box with a 90517 spring. Hook the one end of the spring over the front edge of the handle and the other end into the right hand hole in handle.

s. Lubricate the new parts in accordance with standard information.

\*t. Replace the stunt box and the other parts in accordance with standard practice.

u. Route the 157975 cable around the end of the 150544 handle and through the cable hole in the printer right side frame. Slip a 155751 insulating sleeve onto each of the wires of the 157975 cable. Solder the white wire to terminal number 15 and the green wire to terminal number 16 in the 152467 cable connector on the typing unit. Push the 155751 insulating sleeves back down and over the soldered joints. The white and green wires now taped in the electrical service assembly, leading from terminals 15 and 16 on the printer connector plug, are used to connect the switch assembly to the external control circuit.

### 3. ELECTRICAL SERVICE UNIT CONNECTIONS

#### a. LESU5 or LESU6

Spare wires (white to terminal 15 and green to terminal 16) are provided in the electrical service unit cable leading to the typing unit connector plug. These wires are dead ended and taped inside the right end of the electrical service unit. Untape the wires and connect as indicated above to the reperforator control circuit.

b. LESU7

The electrical service unit cable contains wires connected to terminals 15 and 16 of the typing unit connector plug. The other end of the wires connect to cabinet terminals 27 and 28 (LAC204\*\*, LAC205\*\* or LAC200\*\*, LAC201\*\*, LAC202\*\*, LAC203\*\* converted to 40 terminals through installation of 152321 conversion modification kit). The reperforator control circuits may thus be connected at these terminals.

\*4. ADJUSTMENTS AND LUBRICATION

For adjustment and lubrication procedure refer to standardized adjustment information, for other than Bell System see Teletype Bulletin 217B. Check the following:

- a. Function Bar Spring Tension
- b. Function Pawl Spring Tension
- c. Function Lever Spring Tension
- d. Stunt Box Switch Spring Tension

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