

BELL SYSTEM PRACTICES
Teletypewriter and Manual
Telegraph Station and P.B.X.
Installation and Maintenance

SECTION P36.482
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AT&T Co Standard

15 TELETYPEWRITER

INSTALLATION OF CONTROL CONTACTS

AND PRINTING AND SPACING—

SUPPRESSING MECHANISM

1. GENERAL

1.01 This section describes the installation of control contacts, and the mechanism to suppress printing and spacing on upper-case "H" on the 15-type typing unit and its base.

1.02 This installation converts a 15AA typing unit to a 15AB and a 15Y typing unit to a 15AD.

1.03 The material necessary for this installation is furnished complete in two sets of parts; TP113660 for the typing unit and TP104206 for the base. These parts provide for the following added functions:

<u>Part</u>	<u>Function</u>
Universal Contacts	Make on every selection.
"H" Contacts	Make on every upper-case "H" selection.
Figs. Contacts	Make on every Figs. selection.
"H" Function Lever	Operates the "H" contacts.
Upper case "H" Function Lever	Suppresses printing and spacing on upper case "H" signal.

1.04 To facilitate installation, wiring should be connected to the contact terminals before securing the contact assemblies in place.

1.05 Other sections with information pertinent to this installation are as follows:

General Requirements and Procedures	P30.012
M Plan for Base	P30.412
Wiring Diagram of Typing Unit and Base	P36.301
Lubrication	P36.601
Adjusting Requirements and Procedures	P36.701

2. LOCATION OF PARTS

<u>Parts</u>	<u>Location</u>
On Typing Unit:	
Universal Contacts	Left end of track support.
"H" Contacts	Left position on contact-mounting bar.
Figs. Contacts	In rear with bell-bracket assembly.
Terminal Block	Under side of typing unit beside existing terminal block.
"H" Function Lever (TP101597)	Slot 13.
Upper Case "H" Function Lever (TP101938)	Slot 6.
Switching-Contact and Selector Cable	Between added apparatus and terminal block.
Blocking Bail	Replaces TP81956 blocking bail.
On Base:	
Switching-Contact Cable	Between connecting springs and terminal block.
Connecting Springs	In vacant spring positions, 109, 110, 111, 112.

3. TYPING UNIT (Set of Parts TP113660)

3.01 Switching-Contact and Selector-Cable

- Move the type-bar carriage away from its left position.
- Remove the typing unit from its base and rest it on its rear.

(c) Lay in and temporarily secure the switching-contact and selector cable (TP102015) to the under side of the typing unit following the cable presently installed. The wires should break out at the following apparatus.

"H" Contacts	2-white, 1-red.
Figs. Contacts	2-white, 1-black.
Universal Contacts	3-white, 1-green, 1-orange, 1-blue.
Terminal Block	1-white at Term. 9
	1-red " " 10
	1-black " " 109
	1-green " " 110
	1-orange " " 111
	1-blue " " 112

3.02 **Universal-Contacts-and-Bracket Assembly:** To mount the universal-contacts-and-bracket assembly, the unit should stand in its upright position.

- (a) Remove and discard the left rear screw (TP6810) from the track support (TP74126).
- (b) Set the universal - contacts - and - bracket assembly (TP101921) in place (do not secure) and connect the wires to the spring terminals as shown for 15AB and 15AD typing units in Section P36.301.
- (c) Secure the assembly (TP101921) to the track support (TP74126) using new screw (TP6745) in the hole vacated in (a). The spring contacts should be toward the rear of the unit.
- (d) Remove the locknut and screw from the printing-bail operating-arm (TP74089). Retain the screw and discard the locknut.
- (e) Mount the new contact-lever (TP101920) on the new contact-operating-lever (TP101919) so that the "U" shaped end of the contact-lever is downward. Secure these two pieces with the two new mounting screws (TP1163), two washers (TP103-27) and two lockwashers (TP200-153).
- (f) Mount the assembly made up in (e), on the printing-bail arm. The contact-lever should be on the bottom and in a horizontal position. Reuse the screw removed in (d) and add new locknut (TP76474) at vacated screw hole.
- (g) Mount the new helical spring (TP74712) in the spring hole in the contact-operating-lever and the spring hole in the universal-bracket assembly.

3.03 **Universal-Contact Cover**

- (a) To mount the universal-contact cover (TP102014) remove and discard, one at a time, the two thick nuts (TP3598) from the top left-side assembly-plate of the selector and replace them with two thin nuts (TP3606). **Do not loosen or disturb the selector assembly.**
- (b) Mount the universal-contact cover (TP102014) by means of its single hole and slotted hole placed over the screw projections of the selector assembly. The cover is held in place by using a lockwasher (TP2191) and nut (TP3606) on the rear selector screw projection and a washer (TP7002) and nut (TP3606) on the forward selector screw projection.

3.04 **"H" Contact Spring-Assembly**

- (a) Mount the "H" contact spring-assembly (TP101760) in the extreme left position of the contact mounting-bracket located on the typing unit. The contacts should be toward the right and mounted with the screws that hold the assembly together. Remove and discard the nuts from the assembly before mounting.
- (b) Connect the three wires from the cable to the contact-spring terminals as shown for 15AB and 15AD typing units in Section P36.301.

3.05 **"H" Function - Lever:** The "H" function - lever (TP101597), for operating the "H" contacts, should be mounted in slot No. 13 and held in place with function-lever spring (TP74962).

3.06 **Upper-Case "H" Function-Lever:** The upper-case "H" function-lever (TP101928), for suppressing printing and spacing on upper-case "H" signals, should be mounted in slot No. 6 and held in place with function-lever spring (TP74962).

3.07 **Figs.-Contact and Bell-Bracket Assembly:** The Figs.-contact and bell-bracket assembly should be installed as follows:

- (a) In the rear of the typing unit, remove the signal-bell backstop - bracket (TP74413). Retain the screws and lockwashers.
- (b) Place the new assembly (TP101930) where the old signal-bell backstop-bracket was located and connect the three wires to the contact-terminals as shown for the 15AB and 15AD typing units in Section P36.301.

(c) Secure the Figs.-contact and signal bell-bracket assembly, reusing the screws and lockwashers retained in (a). Viewed from the rear of the typing-unit, the contacts should be toward the right.

(d) Mount the Figs.-contact operating-lever spring (TP35-133) on the spring posts.

3.08 Terminal Block: The terminal block (TP8884) should be mounted in the vacant space beside the present terminal block on the under side of the typing unit. Use mounting screws (TP6811), insulator (TP74946) and lockwashers (TP2191). Connect the wires from the new cable to the terminals as shown for 15AB and 15AD typing units in Section P36.301 and permanently secure the switching-contacts and selector cable in the standard manner.

3.09 Blocking Bail: Remove the 3 screws and old blocking bail (TP81956) and replace with new blocking bail (TP94300). Reuse screws.

3.10 Nameplate: Replace the nameplate with the nameplate furnished with the set of parts.

3.11 Adjusting Requirements and Procedures and Lubrication: The apparatus installed herein should be adjusted in accordance with Section P36.701 and lubricated in accordance with Section P36.601.

4. BASE (Set of Parts TP104206)

4.01 Switching-Contact Cable: The switching-contact cable (TP102049) should be laid in and secured to the existing cable so that the leads terminate at one end on the new (TP7094) connecting springs 109, 110, 111 and 112 and existing springs 9 and 10 while the other end of the leads connect to existing terminals 37, 38, 39, 40, 29 and 30 respectively.

4.02 Connecting - Springs: The four connecting - springs (TP7094) should be installed by mounting with the spring plates (TP7095) and mounting screws (TP6811) in the vacant positions alongside of existing springs 9 to 12 and be known as springs 109, 110, 111 and 112 and should make contact with the same numbered terminals previously installed herein on the typing unit when the unit is mounted on the base.

4.03 Wiring Connections: The switching - contact cable (TP102049) should be connected between the connecting springs and the terminal block per M-Plan for 15AB and 15AD typing units in Section P30.412 as follows:

<u>Connecting Spring No.</u>	<u>Color of Wire</u>	<u>Terminal Block Terminal No.</u>
9	WH	29
10	R	30
109	BLK	37
110	G	38
111	O	39
112	BL	40

5. TYPING UNIT LIST OF PARTS (TP113660)

5.01 Universal Contacts

(a) 1—TP101921	Universal-Contacts-and-Bracket Assembly
(b) 1—TP6745	Contact-Bracket Mounting-Screw
(c) 1—TP101919	Contact Operating-Lever
(d) 2—TP1163	Contact-Lever Mounting-Screw
(e) 2—TP200-153	Lockwasher
(f) 1—TP101920	Contact Lever
(g) 2—TP103-27	Washer
(h) 1—TP74712	Universal-Contacts Operating-Lever Spring
(i) 1—TP102014	Universal-Contacts Cover
(j) 1—TP7002	Washer
(k) 1—TP2191	Lockwasher
(l) 4—TP3606	Nut
(m) 1—TP76474	Locknut

5.02 "H" Contact

(a) 1—TP101760	"H" Contact Spring-Assembly
(b) 1—TP101597	"H" Function-Lever
(c) 1—TP74962	Function-Lever Spring

5.03 Figs. Contact

(a) 1—TP101930	Figs.-Contact and Bracket-Assembly
(b) 1—TP35-133	Figs.-Contact Operating-Lever Spring

5.04 Suppressing Printing and Spacing on Upper Case "H"

- (a) 1—TP101928 Upper Case "H" Function-Lever
- (b) 1—TP74962 Function-Lever Spring
- (c) 1—TP94300 Blocking-Bail

5.05 Wiring, Terminals and Nameplate

- (a) 1—TP102015 Switching-Contact and Selector Cable
- (b) 1—TP8884 Terminal Block
- (c) 1—TP74946 Insulator
- (d) 2—TP6811 Mounting Screw
- (e) 2—TP2191 Lockwasher
- (f) 1—TP1226 Screw
- (g) 2—TP7002 Washer
- (h) 1—TP120452 Nameplate stamped 15AB
1—TP120452 Nameplate stamped 15AD

6. BASE-LIST OF PARTS (TP104206)

6.01 Wiring and Terminals

- (a) 1—TP102049 Switching-Contact Cable
- (b) 4—TP7094 Connecting-Spring
- (c) 4—TP7095 Spring-Plate
- (d) 8—TP6811 Mounting-Screw