

INSTRUCTIONS FOR INSTALLING MULTIPLE WIRE DISTRIBUTOR UNITS LD8, LD13, LD801, OR LD803 IN AN ASR SET (ON LXD TYPE LCXB BASE); LD9, LD16, OR LD800 IN KSR AND RO SETS; LD10 IN A SEQUENTIAL SELECTOR SET; LD19 IN SELF-CONTAINED RECEIVING SELECTOR OR SENDING DISTRIBUTOR BASE (LRSB204); LD802 FOR SELF-CONTAINED APPLICATIONS; 173358 MODIFICATION KIT TO ADD TERMINAL BOARD ASSEMBLY TO LAC203**, LAC204**, OR LAC205**

The chart below pertains to Bell System only :

Model 28 Unit (Teletype Name)	Teletype Code	Bell System Reference	Bell Code
Multiple Wire Distributor	LD8 LD9 LD10 LD13 LD16 LD19 LD800 LD801 LD802 LD803	Distributor	28J-1 28J 28J-2 28L
Transmitter Distributor	LXD3 LXD4	Transmitter Distributor	28E 28H
Keyboard	LK5 LK16 & up	Base (Send-Receive)	28C 28D & up
Base	LB4/146 LB4/218	Base (Receive-Only)	28B 28B-1
Cabinet	LAC203** LAC204**	Teletypewriter Cabinet	28C** 28B**
Sequential Selector Base	LSB1	Sequence Selector Base	28A
Refer to standardized information for Adjustments, Lubrication, and Wiring.			

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1. GENERAL

- 1.01 The models 28 and 35 multiple wire distributors are electromechanical units that transmit sequential, start-stop telegraphic signals from a parallel (multiwire) input.
- 1.02 The multiple wire distributor under an external control, such as pushbutton or function box, will transmit control characters when these are set up externally by coding distributor contacts. The distributors may also be used to translate continuous multiwire intelligence into sequential start-stop signals for transmission or use with Teletype receiving equipment. The distributors are operable in neutral telegraph circuits at 120 volts 0.020 or 0.060 amp dc line current and produce start-stop signals.
- 1.03 The multiple wire distributors are installed in the following units:
- LD8, LD13 - Model 28 Automatic Send-Receive Sets equipped with LXD transmitter distributor unit
 - LD9, LD16 - Model 28 Send-Receive Page Printer and Receive-Only Set
 - LD10 - Model 28 Sequential Selector Set
 - LD803 - Model 35 Automatic Send-Receive Sets
 - LD19, LD802 - For self-contained applications
- 1.04 The LD8, LD9, LD10, LD13, LD16, and LD19 are for use with 5-level code; the LD800, LD801, LD802, and LD803 are for use with 8-level code.
- 1.05 The 173358 modification kit provides terminal board assembly for the apparatus cabinets LAC203**, LAC204**, and LAC205**.
- 1.06 The double asterisk indicates a two letter (Bell System two digit) suffix to indicate paint finish.

2. INSTALLATION

- 2.01 Installation of LD8, LD13, or LD801 in an ASR Set (on LXD type LCXB base).
- (a) Replace 158017 shaft of LCXB base with 172985 shaft. Remount gears from 158017 shaft on 172985 shaft.
 - (b) Mount the 164991 right adapter plate and the 164992 left adapter plate on top of respective sides of LCXB base casting with two 153441 screws, two 2669 lockwashers, 104124 screw, and 2449 lockwasher.

Note: The 164991 and 164992 adapter plates are not required for transmitter distributor base castings that are provided with mounting holes for LD unit.

(c) Slide the LD distributor under the 172985 shaft and place it in the rectangular opening of the LCXB base. Mesh, align, and adjust the 164967 gear (on shaft) and 157615 gear (on LD). Secure the distributor with the 153441 screw, 2669 lockwasher, 117535 flat washer, three 151722 screws, 2191 lockwashers, and 7002 flat washers.

Note: The following paragraph applies only if the 159394 terminal block assembly is to be installed.

(d) Remove the 157155 cover and mount the 159394 terminal board assembly on the two threaded studs on the left side of the upper section of the cabinet. Secure it with two 3598 nuts and 2191 lockwashers. Route and secure the 164990 cable so as to clear any moving parts. Replace the 157155 cover and secure with 151630 screw.

2.02 Installation of LD9, LD16, or LD800 in Model 28 or Model 35 Send-Receive Page Printer and Receive-Only Set.

(a) Replace the 151127, 151896, or 154663 intermediate gear shaft with the 157171 shaft. If the 151127 or the 151896 intermediate gear shaft is being replaced, the spacers on either side of the intermediate gear are usable with the 157171 shaft. If the 154663 shaft is being replaced, a 151126 spacer is required to replace the 154662 spacer furnished with the 154663 shaft. Reassemble the 151129 intermediate gear and the 151131 (60 wpm), 151133 (75 wpm), or 151135 (100 wpm) (whichever is applicable) motor driven gear onto the 157171 shaft.

(b) Mount the 157166 gear on the 157171 shaft with the 151693 screw and 2191 lockwasher then tighten the nut on the shaft.

(c) Disconnect all leads from the motor terminal block. Transfer the terminal block and its associated parts (except the two 3598 nuts and 2191 lockwashers) to the terminal block bracket provided on the LD. Locate the 174057 insulator immediately beneath the present upper 150966 insulator before tightening the mounting screws.

(d) Mount the 157288 adapter plate above the keyboard filter position. If the filter is present, use the existing screws. If the filter is not present, use two 151346 screws, 2191 lockwashers, and 3598 nuts.

(e) Remount the five nameplates from the rear left hand corner of the keyboard or base to the 157288 adapter plate with the ten 92265 screws in the following order from front to rear: code plate, serial number plate, patent plate, and Teletype plate. Mount the Underwriters' Laboratory plate in the remaining position.

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- (f) Remove and discard the 152460 or 154176 connector bracket on the keyboard or receive-only base. Retain all other parts mounted on the bracket.
- (g) For Keyboards LK6 and Up Only: Remove and discard the cable clamp and associated hardware which secures the keyboard cable to the left rear portion of the keyboard. Direct the 152467 cable connector into the base and out through the opening under the end of the local line feed lever.
- (h) Mount the following retained keyboard connector parts (see (f) above) on the 164985 mounting plate assembly (the mounting plate should be removed to facilitate installation of the parts): two 152464 insulators, 152467 keyboard connector with cable, two 151658 screws, two 2191 lockwashers, 152462 right latch, 152463 left latch, and 86835 spring. Connect the leads to the motor terminal board. The keyboard cable should be long enough so that the connector may be relocated to the mounting plate. If it is too short, loosen the cable by cutting the cable tie-in joints. Retie cable after relocation is completed.
- (i) Place the LD distributor on the base so that the respective mounting holes are aligned. Mesh, align, and adjust the 157165 gear (on LD) to the 157166 gear (on intermediate gear assembly) for minimum amount of play without binding at the closest point. Secure the LD using the 164971 shoulder screw, 153441 screw, two 125231 nuts, two 2669 lockwashers, and two 124512 flat washers.

2.03 Installation of LD802 on the receiving selector or sending distributor base (LRSB201).

- (a) Place the unit on the LRSB201 base with the 151631 mounting plate screws friction tight. Visually align 179006 mounting plate with the mounting holes on the LRSB201 base plate. Position LD unit front to rear so that the gears mate over their full area. Remove unit, invert, and tighten screws.
- (b) Mount unit friction tight on base with the 151723 screws and lockwashers furnished in the muslin bag attached to unit.
- (c) Position unit so that there is 0.004 to 0.008 inch between unit gear and intermediate driving gear at the point of least clearance. Tighten screws.

2.04 Installation of LD19 on the receiving selector or sending distributor base (LRSB204).

- (a) Place the appropriate gears of the desired gear sets (60, 75, or 100 wpm) on the intermediate shaft and motor shaft respectively.
- (b) Place the unit on the LRSB204 base with the 151631 mounting plate screws friction tight. Visually align 179006 mounting plate with the mounting holes on the LRSB204 base plate. Position LD unit front to rear so that the gears mate over their full arcs. Remove unit, invert, and tighten screws.

- (c) Mount unit friction tight on base with the 151723 screws and lockwashers furnished in the muslin bag attached to unit.
- (d) Position unit so that there is barely perceptible backlash between unit gear and intermediate driving gear at the point of least clearance. Tighten screws.
- (e) Attach the 305781 signal input cable to LD19, 161525 connector.

2.05 The 173358 modification kit.

Note: Paragraphs 2.05 (a) through 2.05 (c) are factory assembled when the kit is furnished with LD9, LD16, and LD800. The installation of this modification kit is made prior to the installation of the keyboard or base into the cabinet.

- (a) Place the 159346 insulator between the ears of the 163428 bracket assembly with the nos. 81 through 100 toward the single ear.
- (b) Assemble the two 153459 terminal board assemblies to the 163428 bracket assembly as follows:
 - (1) Use two 151346 screws and 2191 lockwashers to mount the lower terminal board assembly. Place one screw in the rear lower hole adjacent to terminal 120; place the other screw in the front upper hole.
 - (2) Place a 151346 screw and 2191 lockwasher in the upper front hole of the upper terminal board assembly adjacent to terminal 81.
 - (3) Place the 164990 cable into the 121247 cable clamp. Insert the 151659 screw through a 2191 lockwasher, 7002 washer, the cable clamp, and the lower rear hole of the upper terminal board assembly. The cable should lay between the two terminal board assemblies with the flat of the cable clamp away from the terminal boards.
- (c) Connect the 164990 cable to the upper terminal board according to Wiring Diagram 4113WD furnished with the multiple wire distributor.
- (d) Pertains to LD16 unit only. A 151819 wire strap is provided in the terminal board assembly furnished with the LD16 unit. The strap is necessary in order to effect single break-make contact operation.
- (e) Remove and retain the 74567 screw, 2449 lockwasher, and 2846 washer that mount the cradle hinge to the left cradle rail. Remove and retain the 125218 nut from the 151521 left front vibration mount stud. Remove and retain the 2449 lockwasher and 151955 cable guide.

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(f) Mount the 163428 bracket assembly to the left front cradle rail using the 74567 screw, 2449 lockwasher, and 2846 washer retained in Paragraph (c). Place the 151955 cable guide over the left front vibration mount stud and on top of the 163428 bracket assembly mounting extension. Install the 125218 nut and the 2449 lockwasher retained in Paragraph (c) on the 151521 vibration mount stud.

(g) Install the keyboard or base into the cabinet (see Teletype Specification 5759S furnished with the Model 28 Printer Set).

(h) Insert the keyboard cable coming from the electrical service unit through the lower 151955 cable guide (from the bottom), then through the 121246 cable clamp. Install the 157155 cover and fasten both the cover and the 121246 cable clamp using a 151631 screw. Draw the cable relatively taut through the cable clamp so that the cable is directed away from the type box clutch.

2.06 Installation of LD10 in Model 28 Sequential Selector: Follow steps listed in 2.02 (a) through 2.02 (e) and 2.02 (i).

3. ADJUSTMENTS AND LUBRICATION

3.01 Refer to Teletype Bulletin 234B for standard adjustments and lubrication.

3.02 Apply a light film of grease to all newly installed gears.

Note: Secure all cords and wires where necessary to keep them away from moving parts.