

INSTRUCTIONS TO CONVERT A TRANSMITTER DISTRIBUTOR LXD4
TO AN LXD15 USING THE 174309 MODIFICATION KIT

The following chart pertains to Bell System only

Unit	Teletype Code	Bell System Code
Transmitter Distributor	LXD4	28H
	LXD15	28H-1

1. GENERAL

1.01 The 174309 modification kit is used to convert Transmitter Distributor LXD4 to a LXD15 with an electro-mechanical device which will initiate transmission when the tape lid is depressed to the operating position. The three position control lever is removed to leave the mechanism in the run position.

1.02 The 174309 modification kit consists of:

1 47024 Flat Washer	1 176603 Bracket with Stud
1 90790 Flat Washer	1 176605 Tape Lid Sensing Lever
1 110743 Lockwasher	1 176606 Switch Lever
1 114107 Spring	1 176607 Plate with Studs
1 119649 Ring Retainer	1 176608 Plate with Studs
1 130511 Screw	1 176609 Contact with Point
1 160647 Tape Lid	1 177060 Pin with Sleeve
1 174349 Wear Plate	

1.03 For part numbers referred to other than those listed in the modification kit, see Teletype Model 28 Transmitter Distributor Parts Bulletin 1161B.

2. INSTALLATION

Note: References made to left or right, up or down, front or rear, etc, apply to the unit in its normal operating position.

2.01 Remove and retain the 156765** snap panel and mounting parts from the transmitter distributor unit.

2.02 Remove the 156557 tape guideplate with assembled parts and mounting parts.

2.03 Remove and retain the 156567 top plate with assembled parts.

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2.04 Remove and discard the 160628 spring contact from the contact assembly.

2.05 Remove and discard the following parts from the 156557 tape guideplate removed in 2.02.

156647	Start-Stop Lever	104751	Spring
156673	Bail	156549	Tape Lid
119649	Retaining Ring		

2.06 Remove and retain the remaining parts on the 156557 tape guideplate. Discard the 156557 tape guideplate.

2.07 Remove the two 156556 brackets (retain one) from the 156567 top plate (discard) removed in 2.03. Retain the mounting parts.

2.08 Remove the 160640 tape-out pin (discard) and the 160596 spring (retain).

2.09 Remove and retain the two 151630 screws, 2191 lockwashers, and 7002 flat washers which mount the 159295 bracket to the 156649 front plate. Remove and discard the following parts from the 159295 bracket: 128357 retainer ring, 159293 extension arm, 159292 bail, 151722 screw, 2191 lockwasher, 7002 flat washer, 31636 spring, 159291 bail, and 159298 torsion spring. Reinstall the 159295 bracket with its remaining assembled parts using the previously retained mounting hardware.

2.10 Remove and retain the 151395 clutch latchlever spring. Loosen the two 151630 (clutch trip magnet assembly) mounting screws friction tight and position assembly to extreme downward position. Remove and retain the two 112626 nuts and 2669 lockwashers from the rear threads of the two 156598 posts. Remove and retain the 151631 screw and 2191 lockwasher which mounts the 160601 guard to the right-hand 156598 post. Remove and retain the 151630 screw and 2191 lockwasher from the 156622 post. Remove the rear plate assembly and swing it to the magnet side. Remove and retain the 45024 spring from the 160606 arm. Remove and retain the 119650 retainer ring from the uppermost 160604 post. Remove all parts from the post and discard only the 160607 bail. Install the 90790 flat washer supplied on the 160604 post. Replace the previously removed and retained parts maintaining correct relationship between 160606 and 160613 arms. Reinstall the 45024 spring. Replace the rear plate assembly taking care that the oblong hole in the 156596 clutch trip bail is over the 156523 eccentric stud on the 156524 main bail. Reinstall all remaining parts in the reverse order of their removal. Make the clutch magnet assembly adjustment of clearance between the end of the armature bail extension and the main bail latch in accordance with standard practice.

2.11 Assemble the 160647 tape lid and the parts retained in 2.06 to the 176608 tape guideplate. The 174349 wear plate is used in place of the old wear plate.

2.12 Make the tape lid and tape guide adjustments in accordance with standard practice.

- 2.13 Assemble the 156556 bracket and mounting parts (retained in 2.07) to the rear stud of the 176608 top plate. Tighten the nut friction tight.
- 2.14 Assemble the 176605 tape lid sensing lever and the 176606 switch lever to the 176603 bracket with the 119649 retaining ring. Secure the 176605 and 176606 levers together using the 130511 screw, 110743 lockwasher, and 47024 flat washer. Tighten the screw friction tight.
- 2.15 Assemble the 114107 spring to the 176606 switch lever and 176603 bracket.
- 2.16 Assemble the 176603 bracket with mounted parts to the 176608 top plate using the mounting parts retained in 2.07. Tighten the nut friction tight.
- 2.17 Assemble the 177060 tape-out pin to the unit.
- 2.18 Make the tape-out pin adjustment listed in Section 3.
- 2.19 Assemble the 176609 spring contact to the contact assembly and resolder the wire which was removed in 2.04.
- 2.20 Make the tape-out contact assembly adjustment listed in Section 3.
- 2.21 Assemble the 176608 top plate to the transmitter distributor unit using the mounting parts retained in 2.07.
- 2.22 Assemble the 176607 tape guideplate to the transmitter distributor unit using the parts retained on 2.06. Tighten the screws friction tight.
- 2.23 Make the top plate and tape guideplate adjustments in accordance with standard practice and Section 3.
- 2.24 Make the switch lever adjustment listed in Section 3.

3. ADJUSTMENTS AND LUBRICATION

- 3.01 For adjustment and lubrication procedure, refer to standardized information. For other than Bell System, see Bulletin 235B. Perform the following adjustments.
- 3.02 Tape-Out Contact Assembly Adjustment (Figure 1)

Note: Remove the cover and top plates.

(a) Requirements

- (1) It should require 8 to 15 grams applied at the center of the molded pad to break the normally closed contacts.

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(2) There should be 0.008 to 0.015 inch gap between the normally open contacts.

(b) To Measure (On Unit): Remove the tape-out spring from the tape-out pin. Check tension and gap. (Tape guideplate may be removed if desired.)

(c) To Adjust

(1) Remove the tape-out extension bail spring. Remove the contact assembly from the unit by removing the two screws securing the contact assembly bracket to the front plate. Bend the contact swinger using a 110445 spring bender until the required tension has been met.

(2) Using the 110445 bender, adjust the upper contact leaf until the required clearance has been met. Replace the contact assembly with the contact swinger over the tape-out pin extension and switch lever extension. Replace the spring bracket, shoulder bushing on upper hole, washer on lower hole, and tighten the mounting screws into the screw plate. Replace the tape-out extension bail spring.

3.03 Check the following adjustments in the standard adjustment section: tape guide, replacing and positioning tape guideplate, replacing and positioning top plate, and tape-out contact bracket.

3.04 Tape-Out Pin Adjustment (Figure 1)

(a) Requirement: With the tape-out pin manually held against the stop arm, the top of the pin should be flush to 0.010 inch below the surface of the tape guideplate.

(b) To Adjust: Loosen the screw which secures the stop arm to the bracket with posts and adjust the stop arm until the requirement has been met. Tighten the screw and recheck.

3.05 Switch Lever Adjustment (Figure 2)

(a) Requirement: With the tape lid open and the tape-out pin depressed, there should be 0.005 inch to 0.015 inch gap between the normally closed tape-out switch contacts.

(b) To Adjust: Loosen the adjustment screw so that it is friction tight. With the tape lid sensing lever fully seated against the tape guideplate, rotate the switch lever clockwise or counterclockwise to obtain the requirement. Tighten the adjustment screw. Recheck tape-out contact bracket adjustment.

3.06 Start-Stop Contact Assembly Bracket Adjustment (Figures 3 and 4)

(a) Requirements

- (1) With the tight-tape arm with hub set to the middle of its adjusting range with the contact operating arm, the tight-tape contacts should open when the tight-tape arm bail is raised between 0.045 inch to 0.075 inch away from the tape guideplate.
- (2) The bakelite insulator pad should be fully engaged by the arm secured to the arm with hub.

(b) To Adjust

- (1) Loosen the tight-tape arm with hub adjusting screw and position its pry point approximately midway between the two pry points on the contact operating arm. Tighten screw. Loosen the contact assembly bracket mounting screws friction tight and position the contact assembly so that when a 0.045 inch gauge is placed between the tight-tape arm bail and the tape guideplate, the contacts are not open. The contacts should open, however, when a 0.075 inch gauge is inserted. Check the contacts visually. Tighten the bracket mounting screws and recheck.
- (2) Loosen the two screws which secure the contact "pile-up" to the contact assembly bracket and position the assembly until the requirement is met. Tighten the screws.

3.07 Tape Lid Sensing Lever Spring (Figure 2)

Requirement: With tape lid open, Min 20 grams---Max 35 grams to separate switch lever from swinger.

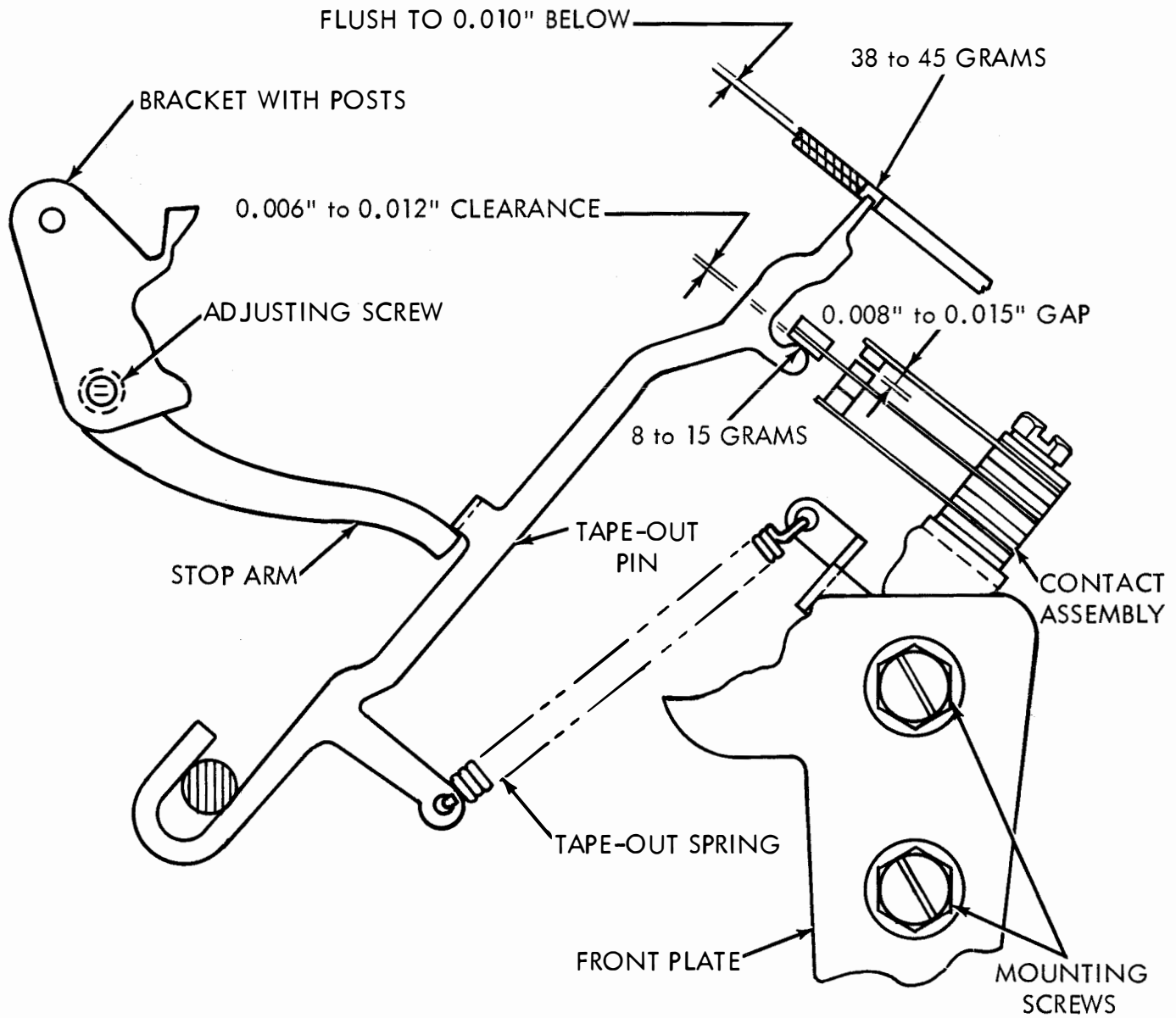


Figure 1

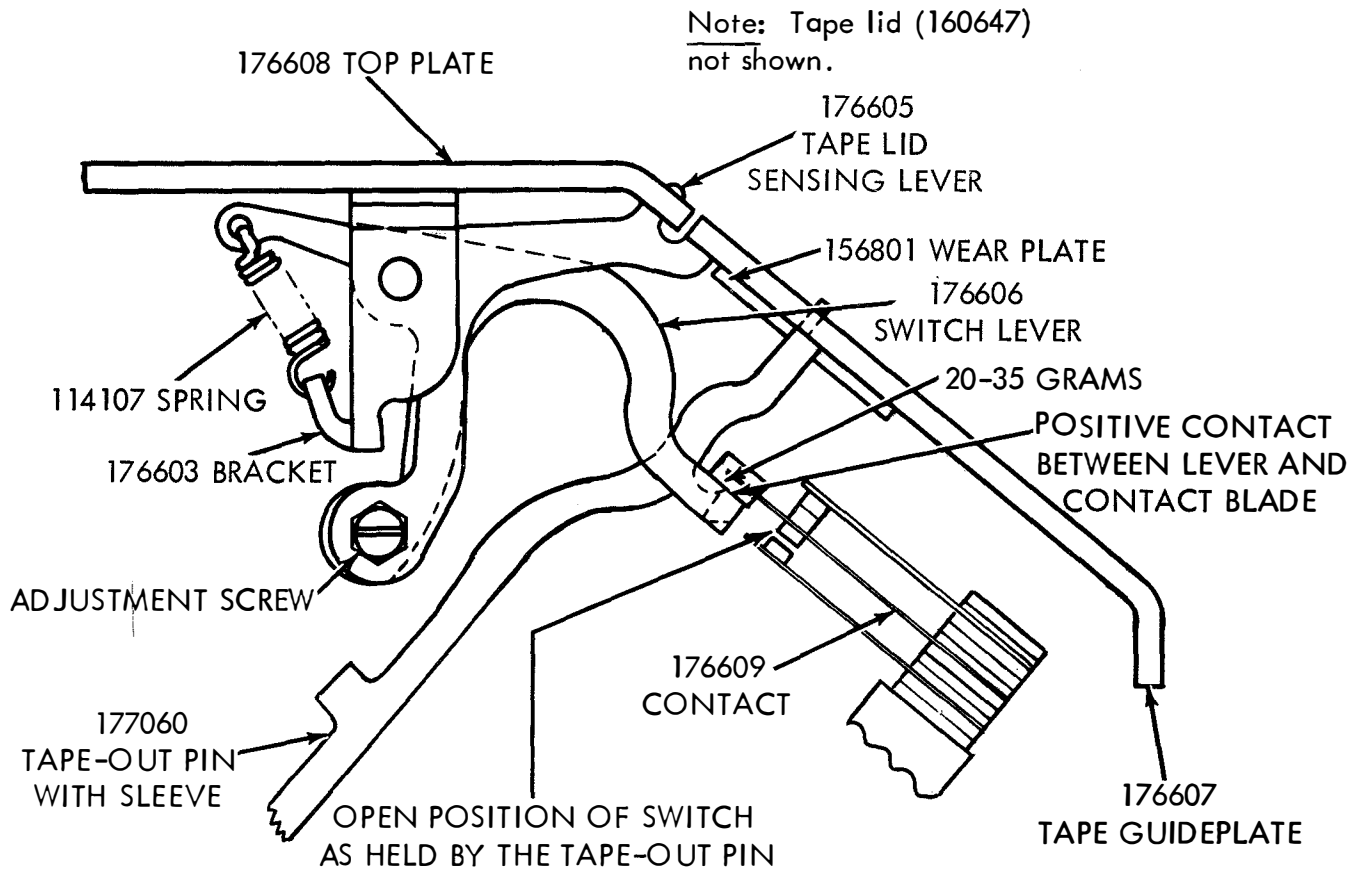


Figure 2

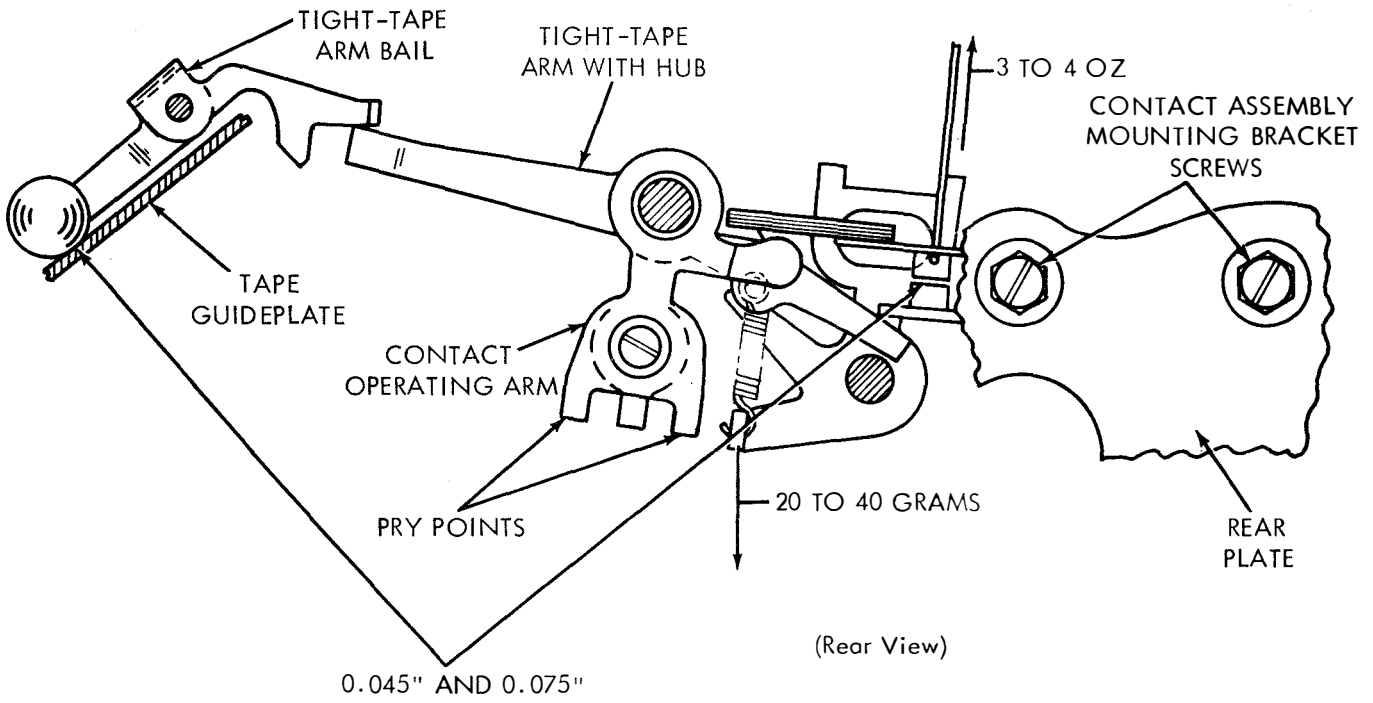


Figure 3

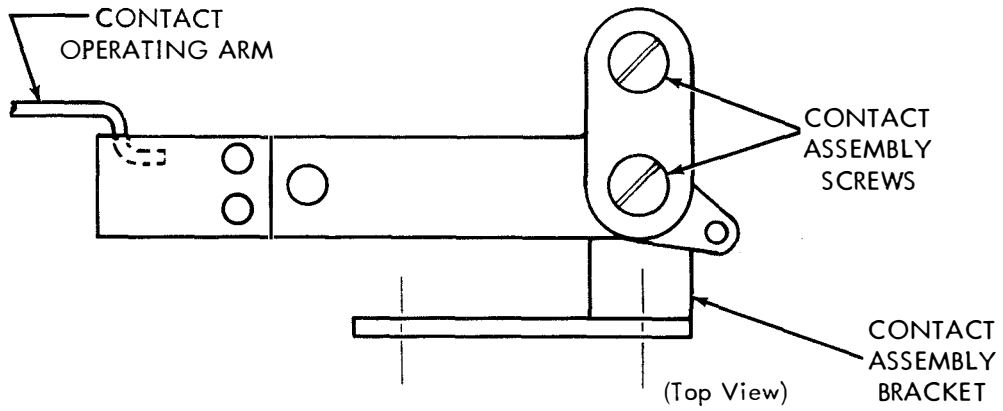


Figure 4