

INSTRUCTIONS FOR INSTALLING THE 179953 MODIFICATION KIT TO CONVERT THE 160334 TRANSMITTER CONTROL DEVICE TO THE 179472 TRANSMITTER CONTROL DEVICE

1. GENERAL

a. The 179953 Modification Kit improves the performance of the 160334 Transmitter Control Device.

(1) The open and busy line relays are replaced with two new relays.

(2) Circuit changes are included to provide an unlock circuit for the "Request to Start" relay as a safety measure.

(3) The 160334 Transmitter Control Device with the 179953 Modification Kit installed is the new 179472 Transmitter Control Device covered in Teletype Specification 5887S (edited separately).

(4) Refer to wiring diagrams 3463WD and 3464WD for wiring information after modification is completed.

b. The 179953 Modification Kit consists of:

2 ft.	31766RM	Wire, Electrical	1.5 ft.	32089RM	Wire, Electrical
2.5 ft.	31767RM	Wire, Electrical	0.35 ft.	60340RM	Tubing
1 ft.	32081RM	Wire, Electrical	2 ft.	78808RM	Twine, Lacing
1.5 ft.	32084RM	Wire, Electrical	2	162358	Diode
1.5 ft.	32087RM	Wire, Electrical	2	179954	Relay

c. For parts ordering information refer to Teletype Model 28 Parts Bulletins 1149B and 1169B.

2. INSTALLATION

CAUTION NOTE

TURN OFF ALL POWER.

a. Disconnect amphenol connector.

b. Remove the 160334 Control Device from the cabinet by removing the four 160389 Screws and four 150323 Flat Washers which hold the relay plate assembly to the mounting rack.

- c. Remove ground straps and metal cover.
- d. Remove the BL and OL Relays by unsoldering all leads and removing the four 125170 Screws, four 44048 Flat Washers, four 79012 Bushings and two 79967 Insulators.
- e. Remove the 172971 Terminal Board, the 400 Ohm Resistor and the 0.6 MF Capacitor with its mounting hardware and leads. Discard these items.
- f. Install the two new 179954 Relays. Fasten with hardware remove in Para. 2.d. in reverse order.
- g. Wire in accordance with wiring diagram 3464WD. The 60340RM Tubing is for use with the 162358 Diodes.

- (1) Disconnect the following lead:

<u>ON</u>	<u>COLOR</u>
N-13	W-G

- (2) Remove and discard the following leads:

- a. BL-D to BL-1-BK
- b. BL-C to BL-2-W
- c. N-15 to N-26-Y
- d. N-15 W-BL
- e. N-17 W-S
- f. N-18 W-P

- (3) On chassis connector "N" make the following changes:

- a. Install new W-G lead to N-13.
- b. Install new W-BL and new Y lead to N-15.
- c. Install Y lead, from N-15, to N-21 with original W-BL lead.
- d. Install new S lead to N-27.

- (4) On ST Relay do the following:

- a. On ST-6R remove and discard R lead. Install new P lead with W-BL lead from N-15.
- b. On ST-5R disconnect BK lead.
- c. On ST-4R install new BK lead to original BL lead.
- d. On ST (A) remove and discard BK lead; retain BL lead from ST-4R.
- e. On ST (B) disconnect the R and remove and discard the W-G lead. Install new W-BL lead.

(5) On the RS Relay do the following:

- a. On RS-4 remove the P lead and discard. Install the P lead from ST-6R with the original W-R lead.
- b. On RS-2 remove and discard the BK lead. Install S lead from N-27.
- c. On RS-A remove and discard the R lead. Install new P lead.

(6) On the OL Relay do the following:

- a. At OL-5 install the W-G lead from N-13.
- b. At OL-4 install new P lead from RS (A) along with new W-BL lead from ST (B).
- c. At OL-3 install one side of 22 Ohm Resistor.
- d. At OL-2 re-install Y lead from N-7.
- e. At OL-1 re-install BR lead from H-2.
- f. At OL-A re-install G lead from N-4 along with one side of the new Diode.

CAUTION NOTE

Diode polarity must be maintained. Diode arrow must point from G lead to the BK lead. Do not over heat the Diode during installation.

- g. At OL-B re-install BK lead from BL-B with the other side of Diode.

SEE CAUTION NOTE ABOVE

(7) On the B-L Relay do the following:

- a. At BL-5 re-install O lead from N-5.
- b. At BL-4 re-install the other side of 22 Ohm Resistor.
- c. At BL-2 re-install G lead from RS-3.
- d. At BL-1 install the new BK lead from ST-4R.
- e. At BL-A re-install R lead from N-3 along with one side of the new Diode.

CAUTION NOTE

Diode polarity must be maintained. This Diode arrow must point from red lead towards two black leads. Do not over heat diode during installation.

- f. At BL-B re-install two BK leads from N-1 and OL (B) along with the other side of the new Diode.

SEE CAUTION NOTE ABOVE

- h. Use the 78808RM Twine to lace the new wires to the cable.

- i. Replace the metal cover and ground straps.
- j. Re-install the Transmitter Control on cabinet mounting rack with four 160389 Screws and four 150323 Flat Washers.
- k. Re-connect the amphenol connector.
- l. If the transmitter control is used in an R/O or KSR Set, add strap across 22 Ohm resistor. If used in an ASR Set, the strap is optional depending upon requirements.

3. ADJUSTMENTS, LUBRICATION AND TEST PROCEDURE

- a. The 179954 Relay is adjusted at the factory and should need no adjustments in the field. In case of faulty operation of a relay, the relay should be replaced.
- b. The 179953 Kit requires no lubrication.
- c. Make the following tests:
 - (1) Check that the open line lamp lights and flashes when an open line condition exists.
 - (2) Check that the busy line lamp lights and remains lit continuously during reception of letters or blanks.
 - (3) Check that "The request to start" relay energizes on receipt of proper station call and that it releases if immediately followed by end of message code or open line condition prior to operation of "start" relay.
 - (4) Check that "start" relay energizes after the "request to start" is energized and the line becomes idle.

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