

TECHNICAL MANUAL

TELETYPEWRITERS TT-7/FG AND TT-8/FG

TM 11-2216 }
 CHANGES NO. 2 }

DEPARTMENT OF THE ARMY
 WASHINGTON 25, D. C., 28 September 1955

TM 11-2216/TO 31W4-2FG-131, 11 October 1951, is changed as follows:

3. Description

* * * * *

b. *Tape*. In addition to * * * perforator transmitter unit. Selection of any one of **three** methods of operation may be made by placing this operating lever and a line switching key in one of the following positions:

* * * * *

(4) Rescinded.

* * * * *

f. *Table*. The table provided * * * into the table. Two variable resistors **terminated at negative battery are provided to control current to two separate loops if required. The table may be wired to provide power for two separate loops.**

6. Detailed Description of Teletypewriters TT-7/FG and TT-8/FG

(figs. 1-3)

a. *Base*. The base (fig. 5) * * * red shell plug. The ac power cord is fitted with a **four-prong** plug and the dc cord with a **three-prong** plug. The base unit * * * power terminal boards.

b. *Perforator Transmitter*. This unit (fig. 9) * * * and warning lamp.

* * * * *

(2) *Transmitter*. The transmitter is * * * is being sent. The **contact** levers are released when marking impulses are sent; thus the spring contacts are allowed to close. The key levers control operation of the transmitting contacts through code selector bars at the bottom of the keyboard, locking levers, **contact levers**, clutch, and associated mechanism. The rotating cams * * * impulse is sent. The locking levers are held either in the open or the closed position during each shaft revolution by a lock loop.

k. *Equipment Table* (fig. 2). The table is * * * of the table. Refer to paragraph 18 and figure 274 for the various electrical plugs and outlets and the **motor power selector switch** (marked S605) which are located at the back of the table. The line terminal * * * of the table.

10. General Functioning of Equipment

* * * * *

f. *Operating Controls*.

(1) *Table*. To the left * * * the following controls:

* * * * *

(e) (Superseded) *Motor power selector switch*. This switch is a four-pole, double-throw switch. It is mounted at the right rear of the table and is protected by a metal cover plate. Place it in the lower position for 115-volt, 60-cycle operation and in the upper position for operation on power sources other than 115 volts, 60 cycles.

11. Installation Planning Data

* * * * *

e. *Selection of Suitable Location*. Because these teletypewriters * * * contained in TM 11-486. Details for station layout are given in **TM 11-2237, The Planning of Large Comcenters.**

13. Service Upon Receipt of Used or Reconditioned Equipment

* * * * *

c. Attempted alterations or * * * not recommended, practices:

* * * * *

(7) Burned felt washers **or wicks** on main shaft **due to** improper lubrication.

(9) (Superseded) Strap between terminals 51 and 56 removed and left off at keyboard slip connectors. This permits reception of polar signals when the keyboard is removed.

18. Connections to Ground, Line, and Power

* * * * *

f. Installing Rectifier.

* * * * *

(4) Make sure that * * * unit are installed. The upper fuse position requires a 3 ampere fuse and the lower fuse position requires a 10 ampere fusetron.

* * * * *

j. Supplying Neutral Signal Loop Current. To supply the * * * proceed as follows:

* * * * *

(5) Connections to other equipment. The teletypewriter sending and receiving circuits usually are connected to the associated equipment by placing the black shell plug in the send jack and the red shell plug in the receive jack of the table.

19. Preoperational Adjustments

* * * * *

b. Checking and Adjusting Motor Speed (fig. 32). To adjust the * * * (tuning fork) as follows:

* * * * *

(7) (Rescinded)

* * * * *

26. Starting Procedure

* * * * *

b. Selecting Type of Operation. Teletypewriters TT-7/FG and * * * the perforator transmitter.

* * * * *

(3) (Added) Direct Magnet Operation. Wiring changes for this type of operation will be made on the 60 (relay) block, which is located on the left-hand side of the teletypewriter base, beneath the relay-mounting block. Remove and tape the top green wire of terminal 61. Move the yellow wire from terminal 62 to terminal 61. Move the white wire from terminal 65 to terminal 66. These changes connect the line circuit directly to the teletypewriter selector magnets bypassing the relay.

* * * * *

53. Preventive Maintenance of Teletypewriter Table.

a. Inspection.

* * * * *

(3) Back of table. Inspect the electrical outlets, motor power selector switch, fuseholders, LINE and TEST jacks, and other electrical connections. Look for loose * * * securely in place.

* * * * *

d. Adjustments. The only parts * * * require adjustment are:

* * * * *

(3) Motor power selector switch, line switching key, tape out switch, and transmitter distributor and rectifier ac switches. Adjust these items * * * in chapter 4.

67. Use of Test Unit I-236 or Multimeter TS-297/U for Localizing Electrical Trouble

* * * * *

The following information is intended only as a guide when these units are used.

* * * * *

b. Voltage checking. When localizing power * * * voltage being tested. Directions for use of Multimeter TS-297/U for checking voltage are given in TM 11-5500.

c. Checking Continuity. To make continuity * * * unit as follows:

* * * * *

(4) Connect the test * * * lamp from lighting. Directions for use of Multimeter TS-297/U for checking continuity are given in TM 11-5500.

70. Localization of Trouble in Send Circuit

* * * * *

b. Location of Opens. Remove the typing * * * outgoing line conductors. For example, if the send circuit tests open at the line terminal board, remove the send plug from the send jack (black). If this does * * * the line resistors.

* * * * *

75. Locating Trouble in Perforator Transmitter

* * * * *

b. Locating Trouble in Perforator Mechanism.

* * * * *

(4) (Superseded) Punch magnet. Apply 110 volts dc to terminals 52 and 53 (fig. 270).

Set the operating control lever at KBD & TAPE and press one of the keys on the keyboard. The punch magnet should operate. Set the control lever at TAPE and press one of the keys on the keyboard. The punch magnet should operate. If the punch operating lever fails to operate, push up on the left-hand end of the punch operating lever to see if it moves freely. If it does, then the punch magnet electrical circuit is defective. Check the circuit. If the punch operating lever operates in one of the positions mentioned above and does not operate in the other, this indicates which portion of the punch magnet circuit is defective.

139. Rectifier

(fig. 272)

a. *General.* The rectifier power * * * the following subparagraphs.

- (2) *Ac output.* The rectifier power * * * relay K501 armature. The other side of plug P502 (terminal 14) is connected by a flexible lead to the tap on the auto-transformer marked with the frequency closest to that of the input source used. It is possible * * * or adjusted equivalent. The flexible lead on the right side of the tap and fuse panel (marked "MOTOR CYCLES") is connected to the terminal representing the frequency nearest to that of the source.

141. Multimeter TS-297/U

Multimeter TS-297/U is designed to measure resistance, ac and dc voltage and current over a wide range of values. See TM 11-5500 for * * * of this unit.

143. Distortion Test Set TS-383/GG

Distortion Test Set * * * base repair shops. It transmits the R, Y, T, O, M, V, BLK, and LTRS characters and functions. These transmissions are * * * this test set.

146. Power Supply

The model REC-30 * * * volts, 60-cycle ac. The table that * * * in paragraph 133.

164. Surfacing and Installing Motor Brushes

To shape the * * * proceed as follows:

- f. Examine the brush * * * to extend properly.

184. Removal and Disassembly of Typing Unit Subassemblies

d. *Removal of Main Shaft.* The main shaft is removed independently of other subassemblies. Details for removal * * * in paragraph 185.

e. *Removal of Printing Bail Assembly.* The type bar * * * Proceed as follows:

- (1) Remove the printing bail and the function bail springs.

195. Repair of Rectifier

e. *Adjustment of Time-delay Relay.*

- (1) The time-delay relay * * * check the following:

(b) The plate transformer fuse (lower fuse on the tap and fuse panel). If it is * * * a 3-ampere fuse.

- (3) The bimetal should pull the relay armature down.

(c) If a high * * * also will drop. In such a case, move the ac input line connection to the next lower tap on the tap and fuse panel to match more nearly the actual line voltage.

245. Instructions for Replacing Type Bar

The type bar * * * freedom of movement. Reassemble the type bar guide on the adapter plate; use the two screws and lockwashers previously removed. Reassemble the ribbon * * * the typing unit. Change the number and heading of paragraph immediately following 255 to read 256. Blocking Plate.

256. Blocking Plate

(fig. 179)

b. *Requirements.*

- (1) With the CAR RET combination selected, and the main shaft rotated until the carriage return function lever is drawn completely into selection with the

vanes, the travel of the blocking plate should be blocked by the selected function lever. Also, the front * * * return function lever.

- (2) With the LINE FEED combination selected, and the main shaft rotated until the line feed function lever is drawn completely into selection with the vanes, the travel of the function lever bail should be blocked by the line feed function lever. The front edge of the left projection of the blocking plate should be flush (within .005 inch) with the front edge of the rear prong of the line feed function lever.

284. Armature Trip-off Eccentric Screw
(fig. 195)

a. *Preparation.* The rangefinder assembly * * * its rearmost position.

327. Spacing Escapement Pawl Operating Arm

[AG 413.48 (15 Aug 55)]

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11-557R, Abn Sig Co (2)
11-587R, Sig Base Maint Co (2)
11-592R, Hq & Hq Co, Sig Base Depot (2)
11-597R, Sig Base Depot Co (2)
32-51R, Hq & Hq Co, Comm Recon Gp (2)
32-55R, Comm Recon Bn (2)
32-56R, Hq & Hq Co, Comm Recon Bn (2)
33-56R, Hq & Hq Co, Rad Best and Leaflet Bn (2)

NG: State AG (6); units—same as Active Army except allowance is one copy to each unit.

USAR: None.

For explanation of abbreviations used, see SR 320-50-1.

397. Transmitting Contact Gap
(fig. 224)

b. *Requirements.* With any contact * * * to .025 inch. For start-stop contacts, the gap should be .015 to .025 inch.

414. Tape Tension Lever Spring Tension
(fig. 240)

b. *Requirement.* Hook an 8-ounce scale over the end of the slotted extension of the tape tension lever and pull at a right angle to the lever. It should require a pull of 5 to 5½-ounces to start the slotted extension moving away from the feed roll.

Figure 240. 14 TO 16 is changed to read: 5 TO 5½.
Figure 274. (S-601) LINE SWTCHG. KEY (IN TEST POS.). LINE 1 is changed to read: LINE 2 (two places); LINE 2 is changed to read: LINE 1 (two places).

Figure 303. 98722 is changed to read: 1206.

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