

TB 11-2221-1

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

TRANSMITTER DISTRIBUTOR TT-21/FG

Ref: TM 11-2221, Receiving Transmitter Distributors Models 14AA, 14AB, 14AD, and 14ABM

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Section I

DESCRIPTION AND OPERATION

1. GENERAL. Transmitter Distributor TT-21/FG (Teletype model XD100GW and 14ABM-1) is identical with Transmitter Distributor TT-25/FG (covered in TM 11-2221 as Teletype model XD95GW and 14ABM receiving transmitter distributor) except that Transmitter Distributor TT-21/FG has added a tape feed suppression mechanism and a new walnut snap panel. The tape feed suppression mechanism provides a means of suppressing the stepping action of the tape feed mechanism one step each time a lever extending from the side of the snap panel is manually depressed.

2. DESCRIPTION OF TAPE FEED SUPPRESSION MECHANISM. *a. Location and components.* The tape feed suppression mechanism is mounted in the tape transmitter on the base casting and connects with the contact lever bail and the tape feed lever. The mechanism consists

of a lever assembly, a restoring blade, and a tape feed lever extension.

b. Lever assembly. The lever assembly (fig. 8) is mounted on the base casting near the tape transmitter right bracket and is positioned so that the trip-off lever extension is to the right of the unit. The trip-off lever extension (fig. 4) extends through the cut-out in the walnut snap panel and is the means by which the tape feed suppression mechanism is operated manually.

c. Restoring blade. The restoring blade is mounted over the right-hand face of the contact lever bail (fig. 4). The step in the rear extension of the restoring lever (part of the lever assembly) fits over the upper edge of the restoring blade. A spring clip is mounted over the front hole of the restoring blade. A restoring blade spring is attached between the spring clip mounted with the restoring blade and a spring clip mounted on the tape transmitter right bracket (fig. 7).

d. *Tape feed lever extension.* The tape feed lever extension is mounted on the forward extension of the tape feed lever over a tape feed pawl stud used to mount the feed pawl and its spring (fig. 4). When the suppression mechanism is operated, the tape feed lever extension is blocked by a tape feed lever latch in the lever assembly to prevent one tape feeding operation.

3. OPERATION. To operate the tape feed suppression mechanism, depress the lever extending from the side of the snap panel.

Section II

MAINTENANCE INSTRUCTIONS

4. MEANING AND IMPORTANCE OF PREVENTIVE MAINTENANCE. a. *Meaning.*

Preventive maintenance (PM) means making systematic checks and adjustments at regular intervals to keep equipment operating at top efficiency, minimize unwanted interruptions in service, and eliminate major break-downs. Preventive maintenance is not the same as trouble shooting and repair. The prime function of preventive maintenance is the *prevention* of break-downs. The prime function of trouble shooting and repair is the *location* and *correction* of existing defects.

b. *Importance.* Preventive maintenance is of great importance. The usefulness of the entire communications system depends upon the capacity of the equipment to operate at peak efficiency when necessary.

Note. The operations in this section are organizational maintenance. The operations in section III are field or base maintenance.

5. DESCRIPTION OF PREVENTIVE MAINTENANCE TECHNIQUES. a. *General.* (1)

Most of the electrical and mechanical parts used in Transmitter Distributor TT-21/FG require routine preventive maintenance of one kind or another. Because maintenance techniques cannot be applied indiscriminately, definite and specific instructions are needed. This section of the bulletin gives specific instructions and serves as a guide for maintenance personnel. The standard lettering system for the six basic operations is as follows:

F—Feel.
I—Inspect.
T—Tighten.

C—Clean.
A—Adjust.
L—Lubricate.

(2) The kind of maintenance necessary is determined by field conditions. For example, dust filters into the equipment no matter how much care is taken to prevent it. Excessive dampness or rapid changes in climatic conditions, such as heavy rains followed by blistering heat, tend to cause deterioration of exposed surfaces and parts.

b. *Feel (F).* The Feel operation is used most often to check rotating machinery, such as motors, cams, and shafts, and to isolate overheated electrical connections, bushings, etc. Feeling indicates the need for lubrication or the existence of related types of defects. Many motors used in teletype-writer equipment operate at comparatively high temperatures. The maintenance man must be familiar with normal operating temperatures to detect overheating. It is important that the Feel operation be done as soon as possible after shut-down and always before any other maintenance is done.

c. *Inspect (I).* Inspection is the most important of all preventive maintenance operations. The inspector must know how to check for required clearances, tensions, and adjustments of the mechanical assemblies. Careful observation is required to detect minor abnormal conditions in this equipment. Minor defects may not interfere with performance, but critical time can be saved if the small defects are corrected before they lead to major break-downs. Make every effort to become familiar with normal operating conditions and to be able to listen for or identify abnormal conditions. Inspection includes checking (with tools, gauges, etc., when they are required) all parts of the equipment. Notice the state of cleanliness, lubrication, degree of wear, adjustment and placement, looseness, clearance, tension, and overheating. Inspect for these conditions as follows:

(1) State of cleanliness, by carefully examining all surfaces in the unit for dust, dirt, and excessive oil and grease. Parts, connections, and joints should be free of dust, corrosion, and other foreign matter. In tropical and high-humidity locations, look for fungus growth and mildew.

(2) Lubrication, by looking for too much or too little lubricant.