

**BELL SYSTEM PRACTICES**  
**Teletypewriter and Manual**  
**Telegraph Station and P.B.X.**  
**Installation and Maintenance**

**SECTION P35.542**  
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**AT&T Co Standard**

## **NO. 14 TRANSMITTER-DISTRIBUTOR**

### **MAINTENANCE INSPECTIONS AND TESTS**

#### **1. GENERAL**

1.01 This section specifies the procedures for carrying out the field maintenance of the No. 14 transmitter-distributor.

1.02 This section is being reissued to specify the use of KS-7860 petroleum spirits in place of carbon tetrachloride and to make minor revisions.

1.03 Reference should be made to the Checking List (or index) of these Practices for information regarding sections covering general cleaning procedures, lubrication, apparatus requirements and adjustments, etc.

1.04 When it is necessary to make any adjustment, time will be saved and the best adjustment obtained if all adjustments affected are checked in the order specified in the Apparatus Requirements and Adjusting Procedures, and readjustments made as required.

1.05 Troubles following maintenance visits have been noted in some cases to be due to the methods of carrying out the maintenance work. The instructions in this section have been arranged with the view of avoiding such troubles and it is therefore important that the Practices be very carefully followed.

#### **2. ROUTINE MAINTENANCE PROCEDURES**

2.01 The periodic cleaning, lubrication and inspection work should be carried out in the order shown below. This work should be confined to the items specified except for the correction of any condition noted, not mentioned herein, which in the judgment of the repairman is likely to cause trouble before the next regular inspection.

(1) Obtain the necessary authority for the release of the equipment unless the work is being done out of hours. In case the service is to be interrupted during the inspection

period, proper authority should also be obtained for the release of the circuit.

- (2) Disconnect the power.
- (3) Remove cover.
- (4) Clean, lubricate and inspect in accordance with the detail procedure given under Part 3.
- (5) Reconnect the power.
- (6) If excessive sparking at the transmitter-distributor motor brushes is now observed, clean the commutator.
- (7) For governed type motors, observe the condition of the governor slip rings. If there is pitting or wear, clean the governor rings and brushes. Replace if necessary.
- (8) If motor is of governed type, check speed after it has run for at least 3 minutes. If the speed is as much as 15 spots in 10 seconds, either fast or slow, or if the speed is variable, examine the governor contacts, and replace them if necessary.
- (9) Make final check of speed, if motor is of governed type, with machine running open, and adjust if required.
- (10) Check items 2 to 5, inclusive, under Paragraph 4.01.
- (11) Replace cover. Wipe off cover and external frame work.
- (12) Notify attendant that machine is again ready for service, or, if out of hours, place machine in normal condition for the usual start of service.

### **3. DETAILS OF CLEANING, LUBRICATING AND INSPECTING**

3.01 The detailed items to be covered in the cleaning, lubricating and inspecting are given in the paragraphs below.

#### **(A) Cleaning**

3.02 The cleaning should ordinarily be confined to the items shown.

- (1) Loosen brush holder clamping screw and rotate brush holder so that the brushes are in a vertical position.
- (2) With a piece of dry KS-2423 cloth wrapped around a KS-6320 orange stick clean out the tape guide.
- (3) Clean the distributor face with KS-2423 cloth dampened with KS-7860 petroleum spirits and then wipe with a ← dry cloth. Be careful not to damage the brushes.
- (4) Clean the slots between the segments with a double or triple thickness of KS-7187 bond paper.

- (5) Restore the brushes and tighten the brush holder clamping screw.

### **(B) Lubrication**

3.03 After all cleaning has been completed, lubricate the machine in the order shown below. Apply an amount of lubricant just sufficient for the purpose so that it will not be necessary to wipe off any excess oil or grease, as this tends to work dirt and grit into bearing surfaces.

- (1) Apply oil to all points requiring lubrication with oil. Complete this before applying any grease.
- (2) Apply grease to all points specified.

### **(C) Inspection**

3.04 During the processes of cleaning and lubricating, observe the condition of the machine with respect to the following points in so far as can be observed without any dismantling or disturbing of adjustments. Such items as are likely to cause trouble before the next scheduled inspection should be corrected.

- (1) Worn parts, loose parts, parts out of place, parts obviously out of adjustment, or likely to cause trouble.
- (2) Red or rust colored deposit indicates wear which should be investigated and, if necessary, the parts replaced. If the parts are not worn sufficiently to require replacing, special care should be taken in lubricating to see that the oil or grease gets into the bearing parts.
- (3) Bent parts or elongated springs should be investigated and replaced if found abnormal. Do not elongate or cut a spring to adjust the tension, use a new spring.

## **4. TROUBLE VISIT INSPECTIONS**

4.01 When a machine is visited on account of a trouble report, the following items should be checked after the trouble has been cleared or during the process of clearing it.

- (1) Speed, if motor is of governed type, after at least 3 minutes of operation unless motor is already warm. Should be steady under load. Adjust if required.
- (2) Check distributor brushes for wear and adjustment. Replace if necessary. Before inserting a new brush, the edge should be shaped to fit the commutator. Lay the brush on a flat surface and carefully file the edge to the proper angle.
- (3) Check adjustment of operating cam.
- (4) Check feeding of tape.
- (5) Check operation of tape stop lever.