

BELL SYSTEM PRACTICES
Teletypewriter Stations

SECTION P34.500
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AT&T Co Standard

28 TELETYPEWRITER

MAINTENANCE INSPECTIONS AND TESTS

1. GENERAL

- 1.01 This section specifies the procedures for carrying out the field maintenance of the 28 teletypewriter.
- 1.02 This section is being reissued to delete information that does not apply and to bring the section up to date. Marginal arrows indicate the changes.
- 1.03 Reference should be made to Part 5 for Bell System Practices that are associated with this section.
- 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. 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 may cause trouble before the next regular inspection. In this connection, avoid readjustments or parts replacements which are not considered essential.

- (1) Obtain the necessary authority for the release of the apparatus 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) Raise the hinged dome.
- (4) Clean, lubricate and inspect in accordance with the procedure given under Part 3.
- (5) Reconnect the power.
- (6) 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, observe the condition of the governor slip rings and brushes. Replace motor if necessary.
- (7) Make final check of speed, if motor is of governed type, with machine running open, and adjust if required.
- (8) Lower dome and wipe off dome and glass with a dry cloth.
- (9) Check Items 2 to 4, inclusive, under 4.01 to determine that the machine is functioning properly.
- (10) Check the orientation range and measure distortion in accordance with Bell System Practice covering this subject.
- (11) Make such additional tests as may be required by auxiliary features provided, for example, station sets employed for TWX use.
- (12) If range finder has been disturbed place the range finder at the optimum point.
- (13) **Check to see that line test key, where provided, is in line position.**
- (14) Observe a message being sent and the reply received.
- (15) 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 FOR CLEANING, LUBRICATING AND INSPECTING

(A) Cleaning

- 3.01 The cleaning should be done in accordance with the Practice covering Cleaning Instructions.

(B) Lubrication

- 3.02 After all cleaning has been completed lubricate the machine in accordance with the section on Lubrication. **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. **DO NOT OVERLUBRICATE.** After the lubrication has been completed, a piece of KS-7187 paper or equivalent should be drawn between the selector armature and the pole pieces of the magnet.

(C) Inspection and Test

3.03 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 and detailed checks or disturbance 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.

3.04 Check the following specific items to make certain that they are in satisfactory condition:

- (1) Platen, for wear.
- (2) Motor pinion and main gear, for wear, alignment and adjustment.

3.05 Whenever a part has been changed or a major readjustment made, all related adjustments shall be checked in their proper sequence.

3.06 When a part has been changed or a major readjustment made the teletypewriter shall be operated for at least 15 minutes using switched bias signals, when available, before measuring orientation range.

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) Appearance of copy, for strength of printing blow, condition of ribbon and left-hand margin. There should be no embossing of letters on the back of copy for single-copy work nor on the last copy of multiple-copy work. (Embossing of punctuation marks is permissible.)
- (3) All functions for correct operation, including margin indicating lamp and margin signal bell if used.
- (4) Ribbon feeding and reversing mechanism, for correct operation.
- (5) Check for tendency of ribbon edges to curl. If curling is evident, check to see that ribbon rollers (TP150327) are perpendicular to their spool brackets (TP152828 and TP152827) right and left sides, respectively. If ribbon rollers are not perpendicular replace the spool brackets.

5. BSP REFERENCES

Tools and Maintenance Supplies	P30.301
Cleaning Instructions	P34.010
Lubrication	P34.601
Disassembly Instructions	P34.611
Requirements and Procedures	
Selector Mechanism	P34.001
Motors and Governors	P34.004
Typing Unit	P34.612
Cabinet and Electrical Service Unit	P34.614
Auxiliary Features	P34.615
Horizontal Tabulator	P34.618
Sprocket Feed Mechanism	P34.619
Keyboard and Base	P34.620