

BELL SYSTEM PRACTICES
Teletypewriter and Data Stations

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28 MOTOR UNIT
DISASSEMBLY AND REASSEMBLY ROUTINES

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1. GENERAL

1.01 This section contains specific routines for removing a 28 motor unit from its associated teletypewriter apparatus, and where necessary, provides detailed reassembly information. The material herein, together with that in the section entitled Teletypewriter Apparatus, Disassembly and Reassembly, General Information and Routines, gives the complete disassembly and reassembly procedures necessary for maintenance of the 28 motor unit.

1.02 Any maintenance operation that requires dismantling the motor unit (removing the end shields, etc.) frequently results in additional maintenance problems. Therefore, if examination of the motor unit shows that dismantling may be necessary, consideration should be given to substituting another motor unit.

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2. DISASSEMBLY AND REASSEMBLY

2.01 Removal of 28 Motor Unit from 28 Teletypewriter of Keyboard Send-Receive Design (28 KSR) or Receive-only Design (28 RO) or from 28 Automatic Send-Receive Set (28 ASR)

- (1) Remove the typing unit, if present, in accordance with the section entitled 28 Typing Unit, Disassembly and Reassembly Routines.
- (2) Remove the special mounting screw and lockwasher (pilot screw) that secure the gear guard, through the mounting hole in the left rear corner of the motor-mounting bracket, to the left motor-mounting strip; and remove the gear guard.
- (3) Remove the top insulator from the keyboard-terminal block to the left of the motor unit, and remove the motor-cable leads from the terminal block.
- (4) Remove the remaining three mounting screws and lockwashers that secure the motor-mounting bracket to the left and right motor-mounting strips.
- (5) Lift out the motor unit.

Reassembly Notes

1. Check, and if necessary remake, the intermediate-gear bracket adjustment specified in the section giving the requirements for 28 teletypewriter bases (if the motor unit is part of a 28 KSR or 28 RO), or for 28 perforator-transmitter-bases (if the motor unit is part of a 28 ASR).
2. Check, and if necessary remake, the adjustments applying to the motor as specified in the section giving the requirements for 28 motor units.

2.02 Removal of 28 Motor Unit from 28 Typing-reperforator Set

- (1) Remove the insulator from the terminal-insulating block on the typing-reperforator base and remove the motor-cable leads from the terminal-insulating block.
- (2) If the set is equipped with a variable-speed drive mechanism, remove the two screws, lockwashers, and flat washers that hold the grease-retaining plate to the gear-shift frame, and remove the grease-retaining plate. If the set is equipped with a single-speed drive mechanism, remove the two screws and lockwashers that hold the intermediate-drive guard, and remove the guard.

(3) Remove the nut and lockwasher that secure the motor-mounting bracket and the motor-adjusting bracket to the motor-adjusting stud in the right motor-mounting post (gear end of motor).

(4) Remove the two screws and lockwashers that mount the motor-mounting bracket to the left motor-mounting posts (fan end of motor).

(5) Lift out the motor unit.

(6) To remove the motor-adjusting bracket from the motor unit, remove the two screws and lockwashers that hold it to the motor-mounting bracket (gear end of motor); then remove the adjusting bracket.

Reassembly Notes

1. Check, and if necessary remake, the adjustments for the gear mesh (intermediate drive) and the motor-adjusting stud specified in the section giving the requirements for 28 typing-reperforator sets.

2. Check, and if necessary remake, the adjustments applying to the motor as specified in the section giving the requirements for 28 motor units.

2.03 Removal of 28 Motor Unit from Auxiliary 28 Typing-reperforator Base in 28 Automatic Send-Receive Set (28 ASR)

(1) Disconnect all plug and receptacle connections between the typing-reperforator (base, unit, etc.) and the other components of the 28 ASR.

(2) Remove the screws, lockwashers, washers, and the one star lockwasher that hold the typing-reperforator base to the three typing-reperforator base mounting-studs.

(3) Remove the typing-reperforator base (with the unit, motor, and all other apparatus mounted on it) from the cabinet.

(4) Remove the tape-container assembly.

(5) Remove the insulator from the lower terminal block, and remove the motor-cable leads from the terminal block.

(6) Remove the three screws, lockwashers, and flat washers that secure the single-speed drive mechanism to the typing-reperforator base, and remove the mechanism.

(7) Remove the screws, lockwashers, washers, nuts, and the two star lockwashers that mount the motor unit to the typing-reperforator base.

(8) Remove the motor unit.

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Reassembly Notes

1. When remounting the motor unit, place one star lockwasher against the anodized aluminum surface of the motor-mounting bracket and one against the painted surface on the bottom of the typing-reperforator base so as to ground the motor-mounting bracket to the base.
2. When remounting the typing-reperforator base (with typing-reperforator unit, etc.) place the star lockwasher next to the upper painted surface of the base under the left front mounting screw.
3. Check, and if necessary remake, any adjustments that might have been disturbed.

2.04 Removal of 28 Motor Unit Used as a Component of 28 Self-contained Transmitter-Distributor Set

- (1) Remove the transmitter-distributor cover assembly.
- (2) If necessary, remove the two screws and lockwashers that secure the gear guard to the center mounting-plate of the base structure, and remove the gear guard.
- (3) Loosen the two screws that hold the terminal-block assembly to the underside of the transmitter-distributor mounting, and withdraw the terminal-block assembly.
- (4) Remove the terminal-block insulator, and remove the motor-cable leads from the terminal block.
- (5) Remove the four special screws with lockwashers (pilot screws) that mount the motor unit.
- (6) Lift the motor unit off the transmitter-distributor mounting.

Reassembly Notes

1. Check, and if necessary remake, the adjustments for the intermediate-gear assembly and the motor pinion specified in the section giving the requirements for 28 self-contained transmitter-distributor sets.
2. Check, and if necessary remake, the adjustments applying to the motor as specified in the section giving the requirements for 28 motor units.

2.05 Removal of Motor Unit from 28 Reperforator-Transmitter Set

- (1) Disconnect all plug and receptacle connections between the reperforator-transmitter unit and the reperforator-transmitter stand.
- (2) Carefully lift the tape-winder drive belt off the tape-winder pulley, which is located on the underside of the reperforator-transmitter unit.

(3) Remove the oil shields from the underside of the reperforator-transmitter unit by loosening the two tape-winder drive-bracket mounting screws, and sliding the oil shields out sideways.

(4) Remove the three captive screws (base-mounting screws) and lockwashers that secure the reperforator-transmitter unit to the reperforator-transmitter stand, and carefully lift the reperforator-transmitter unit from the stand.

(5) Remove the top insulating-plate from the terminal block, and remove the motor-cable leads from the terminal block.

(6) Remove the four motor-mounting screws and lockwashers.

(7) Remove the motor unit.

Reassembly Notes

1. Check, and if necessary remake, the adjustment for the oil shield and any other parts that might have been disturbed, as specified in the sections giving the requirements for 28 reperforator-transmitter stands and 28 reperforator-transmitter units.

2. Check, and if necessary remake, any adjustments applying to the motor as specified in the section giving the requirements for 28 motor units.

3. ASSOCIATED BELL SYSTEM PRACTICES

3.01 The following Bell System Practices provide additional information which may be required for use with this section.

Subject	Section
General Information and Routines for Disassembling and Reassembling Teletypewriter Apparatus	P30.013
General Requirements and Adjusting Procedures for Teletypewriter Apparatus	P30.012
Preparation of Teletypewriter Apparatus for Installation	P33.014
Specific Requirements and Adjusting Procedures for Teletypewriter Apparatus	P10.200
Teletypewriter Tools and Maintenance Supplies	P30.301
28 Teletypewriter (KSR and RO), Disassembly and Reassembly Routines	P34.401
28 Teletypewriter Apparatus, Index of Associated Bell System Practices	P34.001 (When Issued)

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