

28 TYPING REPERFORATOR AND TAPE PRINTER  
DISASSEMBLY AND REASSEMBLY

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1. GENERAL

1.01 This section provides disassembly and reassembly for the 28 typing reperforator and tape printer units. It is revised to include recent engineering changes, additions, and to rearrange the text. Since this is an extensive revision, marginal arrows ordinarily used to indicate changes have been omitted.

1.02 Disassembly as outlined in this section covers a procedure for removing the principal subassemblies which make up the unit.

1.03 Refer to the exploded views found in the appropriate parts literature for illustrations of the mechanisms to be disassembled, for location and visual identification of parts and detailed disassembly and reassembly features.

1.04 Most maintenance, lubrication and adjustments can be accomplished simply by removing the unit from the base. If possible, disassembly should be confined to subassemblies, which can, in some cases, be removed without disturbing adjustments. When reassembling the subassemblies, be sure to check all associated adjustments, clearances and spring tensions.

1.05 If a part that is mounted on shims is removed, the number of shims used at each of its mounting screws should be noted so that the same shim pile-up can be replaced when the part is remounted.

1.06 Retaining rings are made of spring steel and have a tendency to release suddenly when being removed. Loss of these retainers can be minimized as follows: Hold the retainer with the left hand to prevent it from rotating. Place the blade of a suitable screwdriver in one of the slots of the retainer. Rotate the screwdriver in a direction to increase the diameter of the retainer for removal.

1.06 Avoid loss of springs in disassembly by holding one spring loop with the left hand while gently removing the opposite loop with a spring hook. Do not stretch or distort springs in removing them.

2. DISASSEMBLY AND REASSEMBLY

2.01 To remove the selector mechanism:

(a) Remove the screw, lockwasher, and nut from the TP150001 selector clutch drum. Place the TP152410 reset bail in its raised position. Holding the TP152432 stop arm and the TP152405 marking locklever to the left, grasp the cam-clutch by the cam disc (not by the drum) and pull forward rotating the cam-clutch slowly. The cam-clutch should come off easily.

CAUTION: DO NOT FORCE.

(b) Unhook the function clutch latchlever spring. Remove the TP156472 spring post by removing its nut and lockwasher. Remove the screw and lockwasher that pass through the TP156867 frame and the TP152400 selector mounting plate into the TP152402 selector lever guide. Remove the TP152457 oil wick, screw, lockwasher, and TP159467 wick holder. Remove the selecting mechanism.

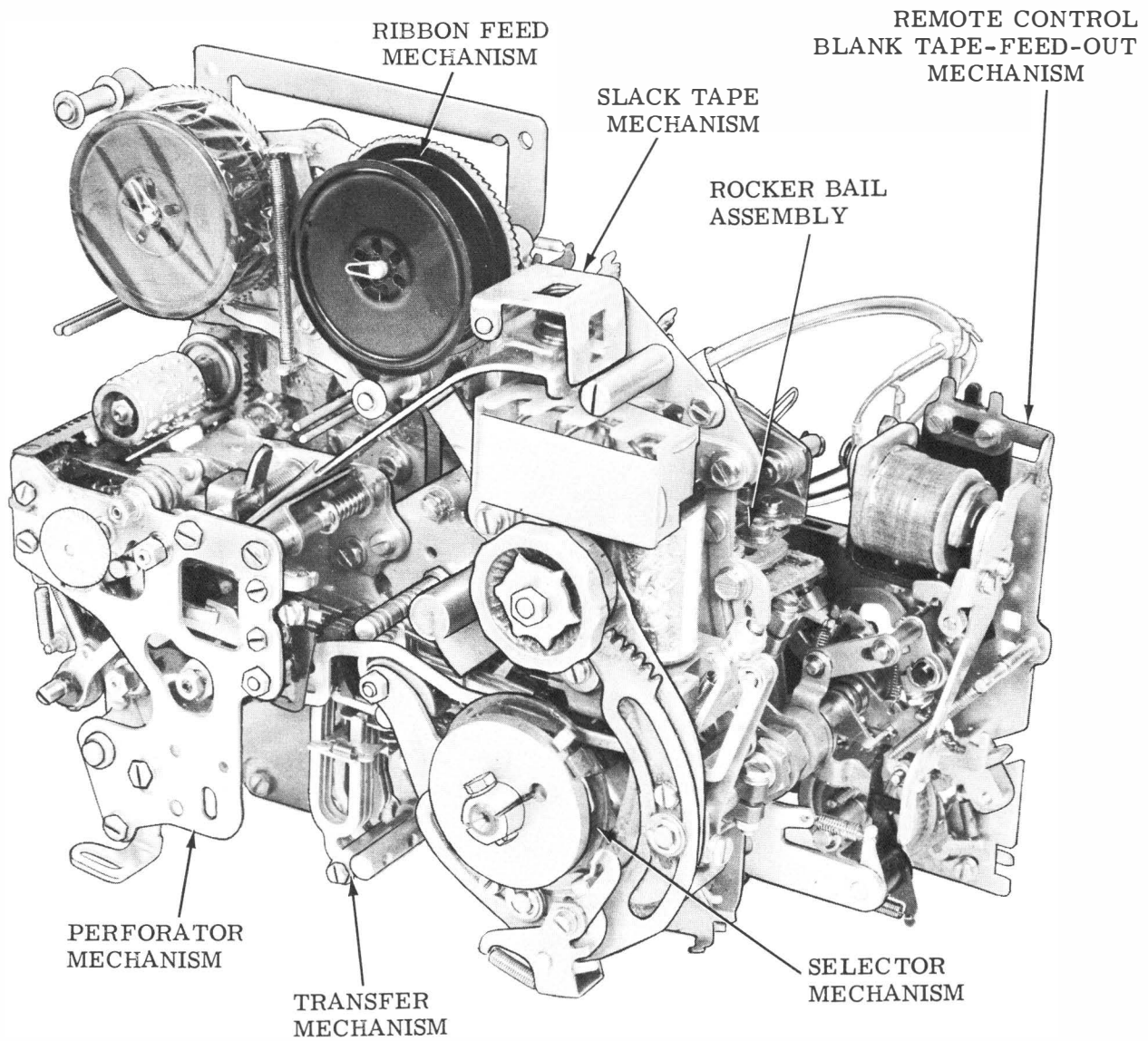


Figure 1 - 28 Typing Reperforator Unit with Remote Control Blank Tape Feed-Out Mechanism (Fully Perforated Tape)

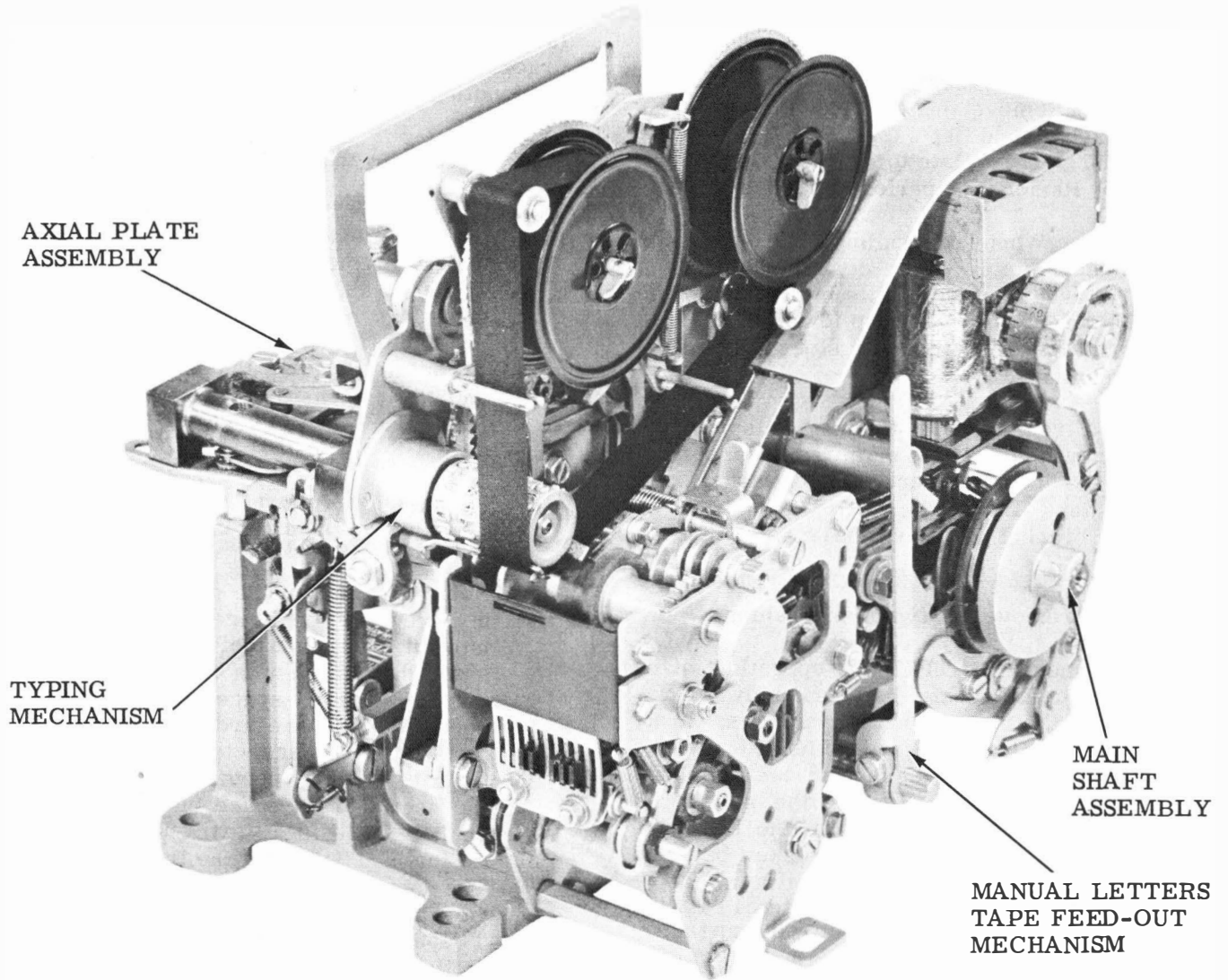


Figure 2 - 28 Tape Printer Unit With Manual Letters Tape Feed-Out Mechanism

2.02 To remove ribbon feed mechanism:  
Remove the ribbon, two mounting screws and lockwashers; remove the ribbon feed mechanism.

2.03 To remove perforator mechanism:

(a) Remove the TP90573 spring and disconnect the TP192709 perforator drive link from the TP156884 rocker arm.

(b) Remove the TP159621 shoulder screw with lockwasher from the TP159622 clamp. Remove the two mounting screws, lockwashers and flat washers, that fasten the TP156024 rear plate to the TP159472 main plate. Remove the perforator mechanism.

Note: When remounting the perforator mechanism, make certain that the TP156059 reset bail fits in the fork of the TP159430 reset bail trip lever and that the print hammer fits in its slot in the mechanism.

2.04 To remove transfer mechanism: Remove the TP49084 main trip lever spring. Remove the mounting screws, lockwashers and flat washers from the TP159488 transfer mounting bracket. Remove the transfer mechanism.

2.05 To remove the typing mechanism:

(a) Remove the TP156872 operating blade from the rocker bail assembly by removing the two mounting screws, lockwashers, flat washers and shims. Remove the retaining ring and disconnect the TP159512 printing trip link. Remove the nut, lockwasher and flat washer from the TP156396 eccentric on the TP156368 rocker bail and disconnect the TP159526 oscillating drive link. Remove the spring from the TP156478 accelerator and the spring from the TP156252 function blade lifter.

(b) Remove the screw with lockwasher that fastens the TP159434 lifter plate to the TP156474 mounting bar on the frame. Remove the screw and lockwasher that secure the TP159525 axial bracket to the TP159404 post on the frame. Remove the screw, lockwasher and flat washer that fasten the TP159487 function box front plate to the TP159472 main plate. Remove the retaining ring from the TP159659 idler gear eccentric shaft. Remove the eccentric shaft, the TP159536

idler gear, the TP151629 special nut and lockwasher by removing the TP159658 mounting screw. Remove the three screws, lockwashers and flat washers that secure the TP159535 front plate to the frame. Remove the typing mechanism from the frame assembly.

2.06 To remove the function box mechanism:  
Remove the mounting screw, lockwasher, and flat washer, that pass through the TP156316 function box rear plate and the TP159483 spring bracket into the TP159535 front plate. Remove the function box from the typing mechanism.

2.07 To remove the axial plate assembly:

(a) Remove the TP3870 correcting drive link spring. Remove the TP156413 correcting drive link by removing the retaining ring from the TP156378 axial correcting plate. Remove the retaining ring and disconnect the TP156869 ribbon guide from the TP156870 ribbon oscillating lever. Remove the screw and lockwasher that fastens the TP159525 axial plate to the TP160943 typewheel shaft housing.

(b) Remove the three mounting screws and lockwashers from the TP159525 axial plate. Remove the axial plate assembly.

Note: To remount the axial plate assembly, reverse the procedure used to remove it. The last tooth on the typewheel shaft shall mesh with the last full (there may be a partial space at the rear of the sector, if so, disregard it) tooth space of the TP156294 gear sector. Also, the first tooth of the gear sector shall mesh with the second tooth space on the typewheel shaft. There is an extra tooth space on the forward portion of the typewheel shaft. The correct axial output rack sector engagement is when the last tooth on the TP156313 axial output rack and the last tooth space of the TP156294 gear sector shall mesh. Also, the first tooth of the axial output rack and the first tooth space on the gear sector shall mesh.

2.08 To remove the rocker bail assembly:

(a) Disconnect the TP156937 printing drive link by removing the retaining ring at its left end. Remove the nut, lockwasher, flat washer, felt washer, bushing, and screw from the TP156871 operating blade mounting bail.

(b) Remove the nut, lockwasher and the TP156921 adjusting lever guide, and remove the TP156366 rocker bail shaft. Remove the rocker bail.

2.09 To remove main shaft assembly:

(a) Remove the spring from the TP150355 clutch latchlever. Remove the retaining ring, spring washer and flat washers from the forward end of the TP154397 main shaft.

(b) Remove the screw and lockwasher (if present) from the TP150000 function clutch drum. Remove the screw and lockwasher from the TP173340 collar. Remove the screw and lockwasher from the TP158745 bearing clamp. Pull the main shaft out of rear of unit, removing the cam clutch and the collar.

(c) Note the location of the main shaft TP154398 needle bearings as shown in the parts section. Move the main shaft toward the rear of the unit a small amount at a time and exercise care not to drop or contaminate the 20 needle bearings in each race. A rubber band, string, or spring may be stretched around the shaft and needle bearings with the ends of the spring hooked together. The spring in conjunction with the grease will hold the needle bearings in place.

(d) To replace this type of main shaft assembly reverse the procedure used to remove it. Make sure the needle bearings are clean. Lubricate the race and bearings with TP195298 (Beacon 325) grease or its equivalent. Apply a liberal amount of KS7470 oil at each end of the bearing sleeve. When the main shaft is inserted into the cam clutch, hold the cam clutch firmly so that the drum is not pushed off the clutch, and compress the drum and cam disc together so that the holes in drum and clutch bearings are aligned.

2.10 To remove pushbars: Remove the typing mechanism. Remove the function box mechanism from the typing mechanism. Remove

the pushbar by disengaging the pushbar rack from its associated pinion.

2.11 The correct gear tooth engagement of racks on pushbars is as follows:

(a) When assembling the pushbars (no. 1 to no. 5 inclusive) to the various eccentric assemblies, great care must be exercised to assure the correct rack-pinion gear mesh. The correct mesh is such that the first tooth space on the rack is meshed. On later units this is identified by a mark on the pushbar and a mark on the eccentric. The last tooth on the pinion and the last tooth space on the rack should therefore also mesh. Misalignment of the mesh by as little as one tooth will produce a jam in the machine and cause part breakage if the machine is put under power while this condition exists.

(b) The assembly of the letters and figures pushbars to the left eccentric assembly must follow the assembly of the detents on the same eccentric. Starting with the left eccentric in the lower detented position, locate the gear tooth of the pinion which is at top dead center. (Using the oil hole in the eccentric housing as a reference may help since it also is located at top dead center.) The first tooth space of the rack of the letters pushbar must engage the tooth directly below. This requirement is met when the indicating mark on the pushbar and eccentric shaft are in line. Pull the letters pushbar all the way on the pinion. The eccentric shaft should now be in the upper detented position. Now locate the tooth at bottom dead center. The first tooth space of the rack on the figures pushbar should engage the tooth just located. The full travel of either pushbar should result in the eccentric shaft being rotated from one detented position to the other without jamming. As before, a misalignment of the mesh by one tooth will cause a jam and parts breakage if the machine is put under power while this condition exists.

