

28 TYPING AND NONTYPING PERFORATORS

DISASSEMBLY AND REASSEMBLY

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1. GENERAL

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

1.02 The technician should refer to the exploded views found in the appropriate parts literature for an illustration of the mechanism to be disassembled, for location and visual identification of parts and detailed disassembly and reassembly features.

1.03 Most maintenance, lubrication and adjustments can be accomplished simply by removing the subject component from the cabinet. If possible, disassembly should be confined to subassemblies, which can, in some cases, be removed without disturbing adjust-

ments. When reassembling the subassemblies, be sure to check all associated adjustments, clearances and spring tensions.

1.04 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.

1.05 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.

1.07 Raise cabinet lid or enclosure cover and remove the typing unit from its base by removing the four screws that secure it to its keyboard or base. Remove the cable plug connector from the side frame. Lift the typing unit off.

Note: On sets equipped with a form supply container on the rear of the cabinet, rearward foot extensions should be in position on the cabinet. This prevents the cabinet from tilting when the typing unit is removed.

1.08 Assuming that the typing unit and keyboard base have been removed from the cabinet, remove the perforator from the base as follows:

(a) Loosen the set screws on the TP193565 coupling located on the rear of the shaft. slide the coupling and/or short shaft so as to disengage it. Remove the screw which fas-

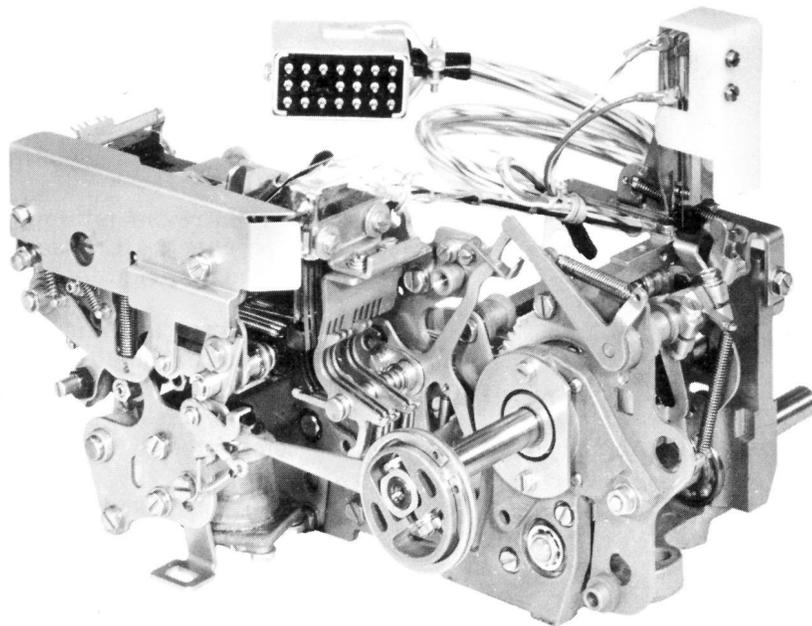


Figure 1 - 28 Non-Typing Perforator - Chadless Tape (With Code Reading Contacts, Timing Contacts and Backspace Mechanism)

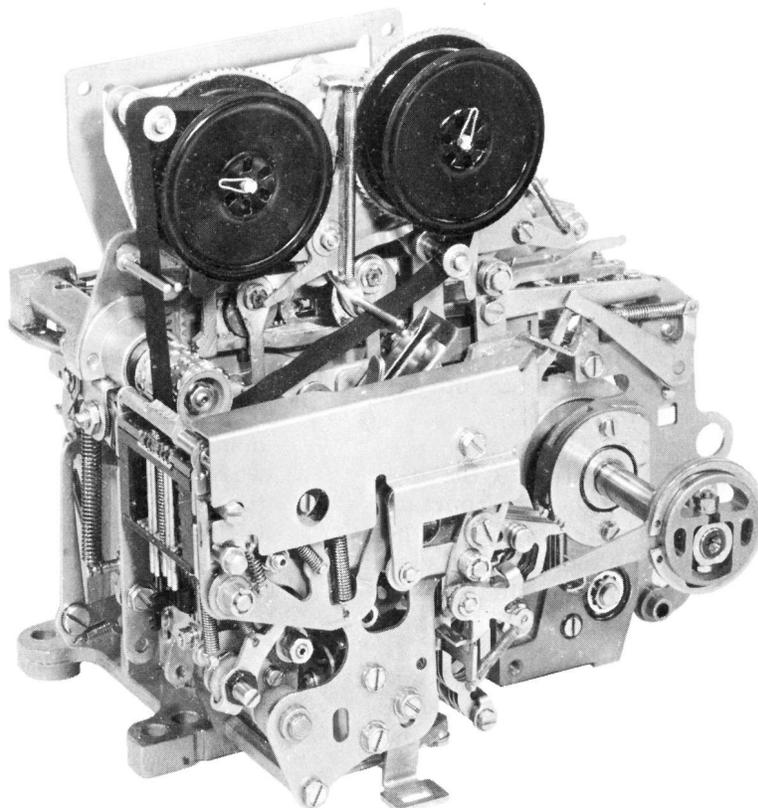


Figure 2 - 28 Typing Perforator - Chadless Tape (With Backspace Mechanism)

tens the TP156184 anchor bracket to the base. Remove the three screws which secure the reperforator to the base. Carefully lift the reperforator upward and tilt to one side.

- (b) Disconnect the wires from the backspace magnet, and remove the unit from the base.

2. DISASSEMBLY AND REASSEMBLY

2.01 In removing a subassembly from the unit, the procedure followed and the location from which parts are removed must be carefully noted so that reassembly can be done correctly. Where no specific instructions are given for reassembly, reverse the procedure used in removing it.

PUNCH AND MAGNET ASSEMBLIES AND BACKSPACE MECHANISM

2.02 To remove the punch and magnet assemblies and backspace mechanism unhook the TP90573 perforator drive link spring and disengage the TP192709 link. Remove three mounting screws that fasten the TP156024 rear plate to the TP159472 main plate.

- (a) Remove the three screws which hold the TP159472 perforator main plate to either the TP158169, TP159861 nontyping or typing perforator frame, and one screw that anchors unit to base.
- (b) Disengage the TP159961 eccentric arm and the assemblies will come free as a unit.

RIBBON FEED MECHANISM (TYPING PERFORATOR ONLY)

2.03 Remove the ribbon and then remove the two mounting screws that hold the ribbon mechanism.

TRANSFER MECHANISM (TYPING PERFORATOR ONLY)

2.04 Remove the TP150241 main trip lever spring and two mounting screws.

TYPING MECHANISM (TYPING PERFORATOR ONLY)

2.05 Remove the TP156872 operating blade from the rocker bail assembly by removing the two mounting screws, lockwashers, washers and shims that hold the mechanism.

Disconnect the TP159512 printing trip link by removing the retaining ring that secures it to the hammer accelerator. Remove the nut, lockwasher, washer and TP156936 eccentric on the rocker bail assembly and disconnect the TP159526 oscillating drive link. Remove the TP95378 spring from the TP156478 accelerator and the TP90606 spring from the TP156252 lifter.

2.06 Remove the screw and washer that fasten the TP159434 lifter plate to the TP162862 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 TP119653 retaining ring from the TP159659 eccentric shaft; and remove the TP151629 nut, TP159536 idler gear, TP159659 shaft 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. To remount the typing mechanism, reverse the procedure used to remove it.

2.07 To remove function box mechanism, remove the mounting screw, lockwasher and flat washer from the TP159535 front plate. Remove the function box from the typing mechanism.

2.08 To remove the axial plate assembly, remove the TP3870 correcting drive link spring. Remove the TP156413 correcting drive link by removing the TP119651 retaining ring. Remove the TP119649 retaining ring and disconnect the TP156869 ribbon guide from the TP156870 ribbon oscillating lever.

- (a) Remove the three mounting screws and lockwashers from the axial plate assembly. Remove the axial plate assembly.

- (b) To remount the axial plate assembly reverse the procedure used to remove it. The rearmost tooth of the rack on the TP156332 typewheel shaft must mesh with the rearmost tooth space in the TP156294 axial sector, and the forward tooth on the sector must mesh with the second tooth space on the shaft; there is an extra tooth space on the forward portion of the shaft's rack.

2.09 After the function box mechanism and axial plate assembly have been removed, the remainder of the typing mechanism is the front plate assembly.

2.10 After the typing mechanism has been removed, the following remain on the frame assembly: The function clutch trip assembly, the two shaft assemblies and the rocker bail assembly (typing perforator only).

2.11 To remove pushbars after removing the typing mechanism, remove the function box mechanism from the typing mechanism. Remove the pushbar by disengaging the pushbar rack from its associated pinion.

2.12 The correct gear tooth engagement of racks for pushbars 1 through 5 is as follows: In assembling the pushbars 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 on the pinion and the first tooth space on the rack are 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.

CAUTION: 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.

2.13 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 is located at top dead center.) The first tooth space of the rack of the "Letters" pushbar must engage the tooth located directly below. This requirement is met when the indicating mark on the pushbar and eccentric shaft are in the line. Pull the "Letters" pushbar all the way on the pinion. The eccentric shaft should now be in the upper detent position. Now locate the tooth at bottom dead center. The first tooth space of 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.

ROCKER BAIL ASSEMBLY

2.14 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.

2.15 Remove the nut, lockwasher and remove the TP156366 rocker bail shaft. Remove the rocker bail.

MAIN SHAFT ASSEMBLY

2.16 Remove the spring from the TP158172 function clutch latchlever. Remove the retaining ring, spring washer and flat washers from the forward end of the TP154397 main shaft.

2.17 Remove the screw and lockwasher from the TP158184 function clutch drum. Remove the screw and lockwasher from the TP173340 collar. Remove the screw and lockwasher from the TP158745 bearing clamp.

2.18 Pull main shaft out of rear of unit, removing the cam-clutch and collar.

CAUTION: NOTE THE LOCATION OF THE MAIN SHAFT NEEDLE ROLLER BEARINGS AS SHOWN ON ILLUSTRATIONS OF PARTS IN APPROPRIATE 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 ROLLERS IN EACH RACE. A SMALL SPRING MAY BE STRETCHED AROUND THE SHAFT AND ROLLERS WITH THE ENDS OF THE SPRING HOOKED TOGETHER. THE GARTER SPRING IN CONJUNCTION WITH THE GREASE, WILL HOLD THE ROLLERS IN PLACE. WHEN REPLACING THE MAIN SHAFT, MAKE SURE THE ROLLERS ARE CLEAN. LUBRICATE THE RACE AND BEARINGS WITH TP88973 GREASE. APPLY A LIBERAL AMOUNT OF OIL AT EACH END OF THE BEARING SLEEVE.

Note: When the main shaft is inserted in the cam-clutch, hold the latter firmly so that the drum is not pushed off the clutch. Compress the drum and cam disc together so that holes in the drum and clutch bearings are aligned.

POWER DRIVE BACKSPACE MECHANISM

2.19 To remove the power drive backspace mechanism, unhook the TP84575 spring from the TP159958 drive link latch.

- (a) Loosen the screw on the TP159960 eccentric and pull the TP159961 eccentric arm off the TP159963 hub.
- (b) Disengage the eccentric arm from its guide between the TP159958 latch and TP159955 drive link.

(c) Unscrew the TP159956 post from between the TP159954 adjusting link and the front punch frame, and remove the link and latch assembly.

(d) Remove the two screws on the front punch frame and extract the magnet assembly.

MANUAL BACKSPACE MECHANISM

2.20 To remove the manual backspace mechanism, unscrew the two screws which hold the TP159900 plate to the rear punch frame and remove the TP159902 rake shaft. Remove the two screws and TP159916 eccentric from the TP159987 bracket on the left side of the punch front plate. Remove the TP159903 crank assembly.