

32 AND 33 TYPING UNIT
DISASSEMBLY AND REASSEMBLY

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1. GENERAL

1.01 This section is issued to provide disassembly and reassembly instructions for the 32 and 33 typing unit and to present the instructions as a separate section.

1.02 References to "left," "right," "front," or "rear," etc consider the typing unit to be viewed from a position where the ribbon mechanism faces up and the selector mechanism is located to the viewer's left.

1.03 The disassembly procedure given in this section will break the typing unit down into its major assemblies and mechanisms. If further disassembly is required, refer to the appropriate illustrated parts section which shows detailed arrangements of parts. Where it will help in determining their location, the numbers of the parts are given in the instructions.

2. DISASSEMBLY AND REASSEMBLY

CAUTION: BEFORE BEGINNING DISASSEMBLY, REMOVE CONNECTORS FROM EXTERNAL RECEPTACLES (POWER SOURCE, DATA SET, ETC).

2.01 General:

(a) Most of the mechanisms are mounted on castings by self-tapping screws. Therefore, to remove the mechanisms, do not remove the screws. Merely loosen them unless specifically instructed otherwise.

(b) Retaining rings are made of spring steel and have a tendency to release suddenly. To avoid loss of these rings when removing them, proceed as follows:

- (1) Hold retaining ring to prevent its rotating.
- (2) Place blade of screwdriver in one of ring's slots and rotate screwdriver to increase diameter.
- (3) Ring will come off easily in fingers without flying.

2.02 Common Mechanisms:

(a) To remove typing unit proceed as follows:

Note: Reference Figures 1, 2, and 3.

(1) Remove all plugs which terminate wires leading from the typing unit from their receptacles on call control unit. Remove ground strap from ground tab on call control unit.

(2) Insert screwdriver in slot in TP180977 H-plate and push to left against pressure of spring until plate is disengaged from universal lever. Remove H-plate.

Note: If the keyboard has been disassembled from the subbase, the H-plate will already have been removed. See the appropriate keyboard section.

(3) Lift typing unit from subbase.

(4) To replace typing unit, reverse procedure used to remove it. Make sure that the typing unit is properly seated on rubber isolators and TP180831 answer-back bellcrank is under and aligned with

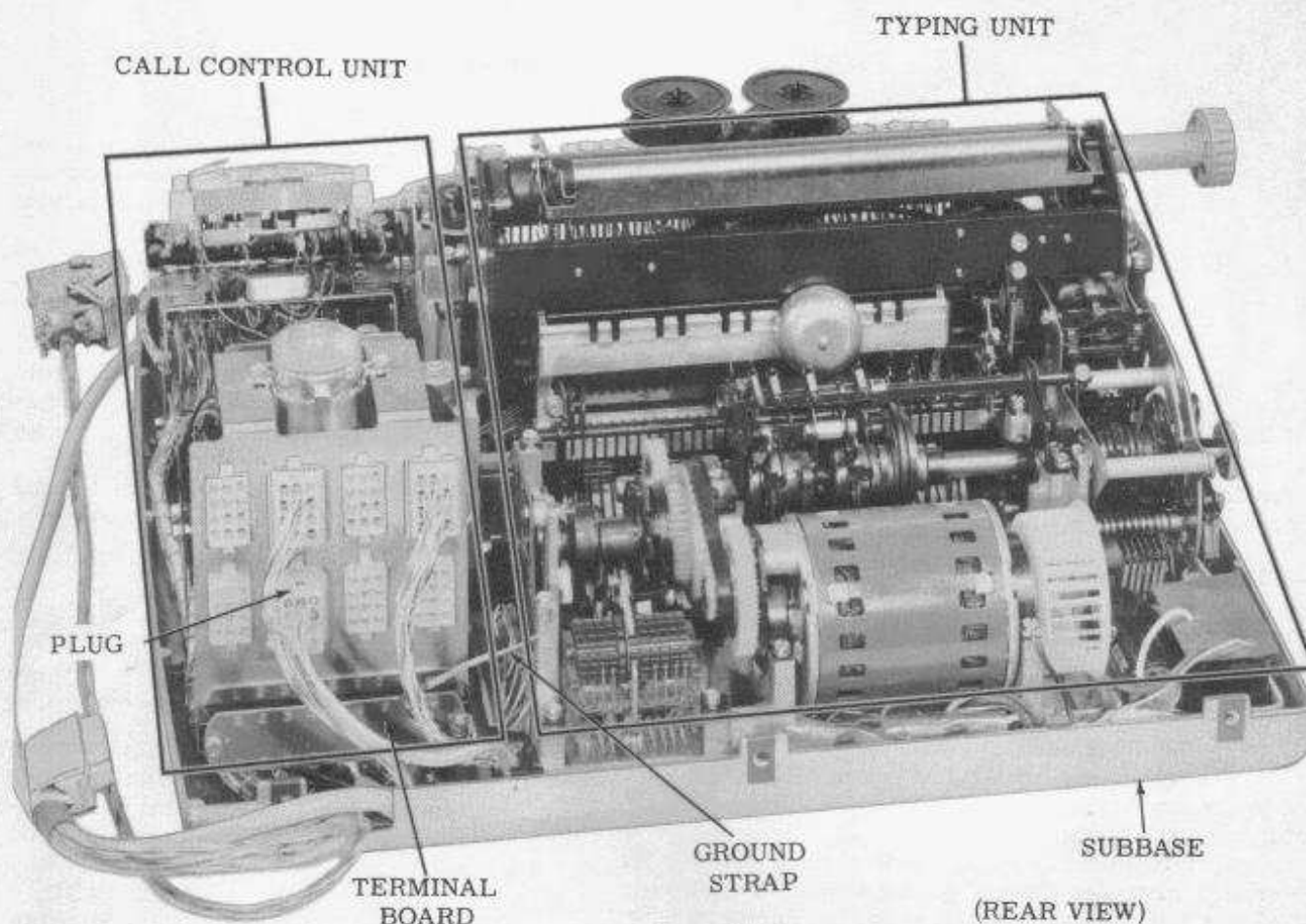


Figure 1 — Typing and Call Control Units

HERE IS keylever. Replace plugs into proper receptacles on call control unit.

- (b) To remove ribbon mechanism, proceed as follows:

Note: Reference Figure 2.

- (1) Remove ribbon by removing two ribbon spools and disengaging ribbon from ribbon guide and TP181116 reverse arm.
- (2) Loosen two TP152893 mounting screws and lift ribbon mechanism from carriage.

- (3) To replace ribbon mechanism, reverse procedure used to remove it.

- (c) To remove carriage mechanism, proceed as follows:

Note: Reference Figures 2 and 5.

- (1) Unhook carriage return spring from carriage.
- (2) Loosen two TP180798 mounting screws in spacing pulley's mounting bracket. Rotate and remove bracket.

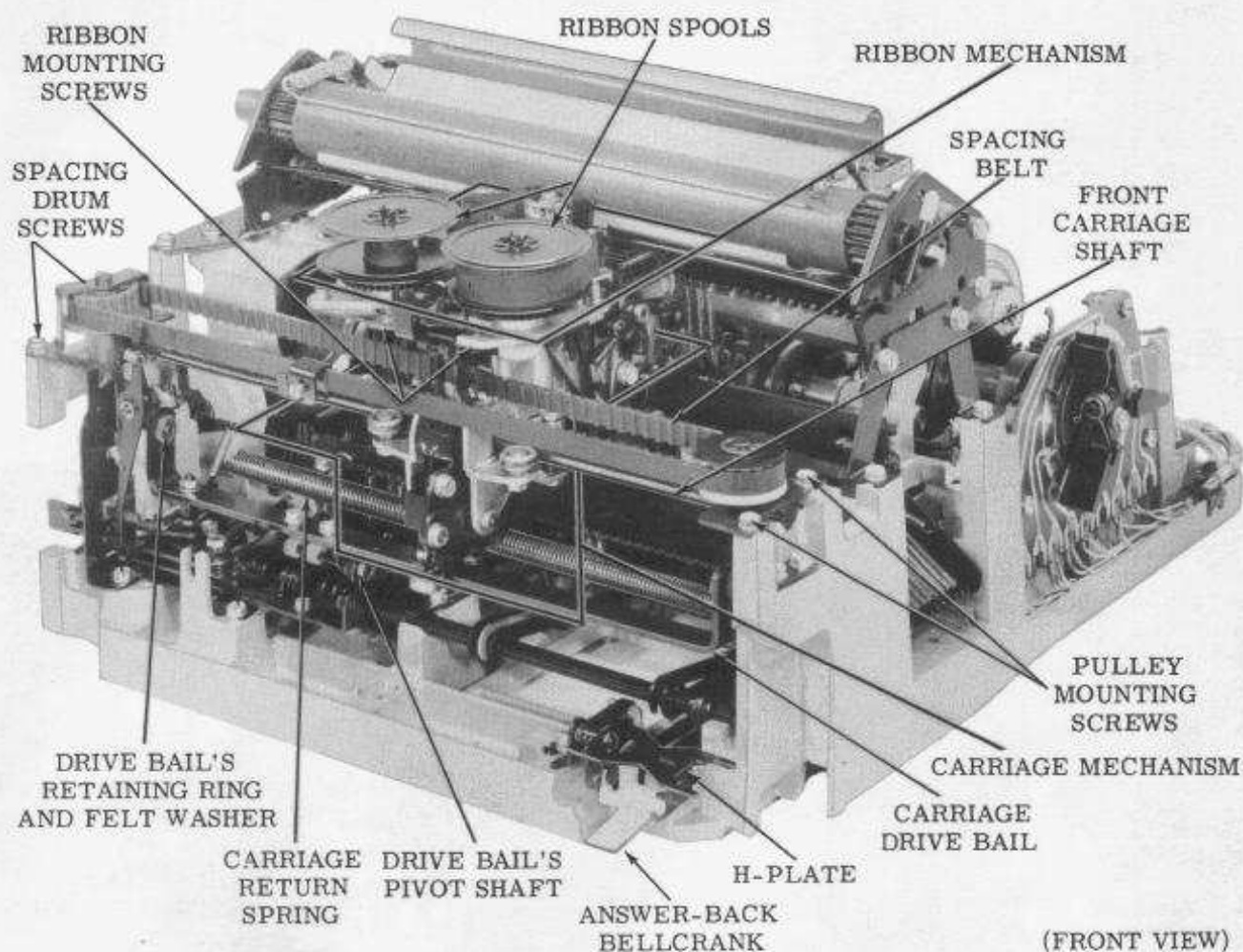


Figure 2 — Typing Unit

(3) Loosen two TP180798 mounting screws in spacing drum's mounting bracket. Remove mounting bracket.

(4) Disengage spacing belt from pulley on spacing drum.

(5) Remove front carriage shaft by sliding to right.

(6) Disengage rollers from rear plate and lift carriage from typing unit.

(7) To replace carriage mechanism, reverse procedure used to remove it and observe following precautions:

(a) Make sure nylon slide guides engage proper associated codebars.

(b) Make sure two rear rollers engage carriage rear plate.

(d) To remove selector mechanism, proceed as follows:

Note: Reference Figure 4.

(1) Lock armature in spacing position to prevent it from pulling selector levers from their guide.

(2) Remove TP150040 mounting screw with lock washer from selector clutch.

(3) Holding levers away, remove selector clutch from main shaft by pulling to left and rotating back and forth.

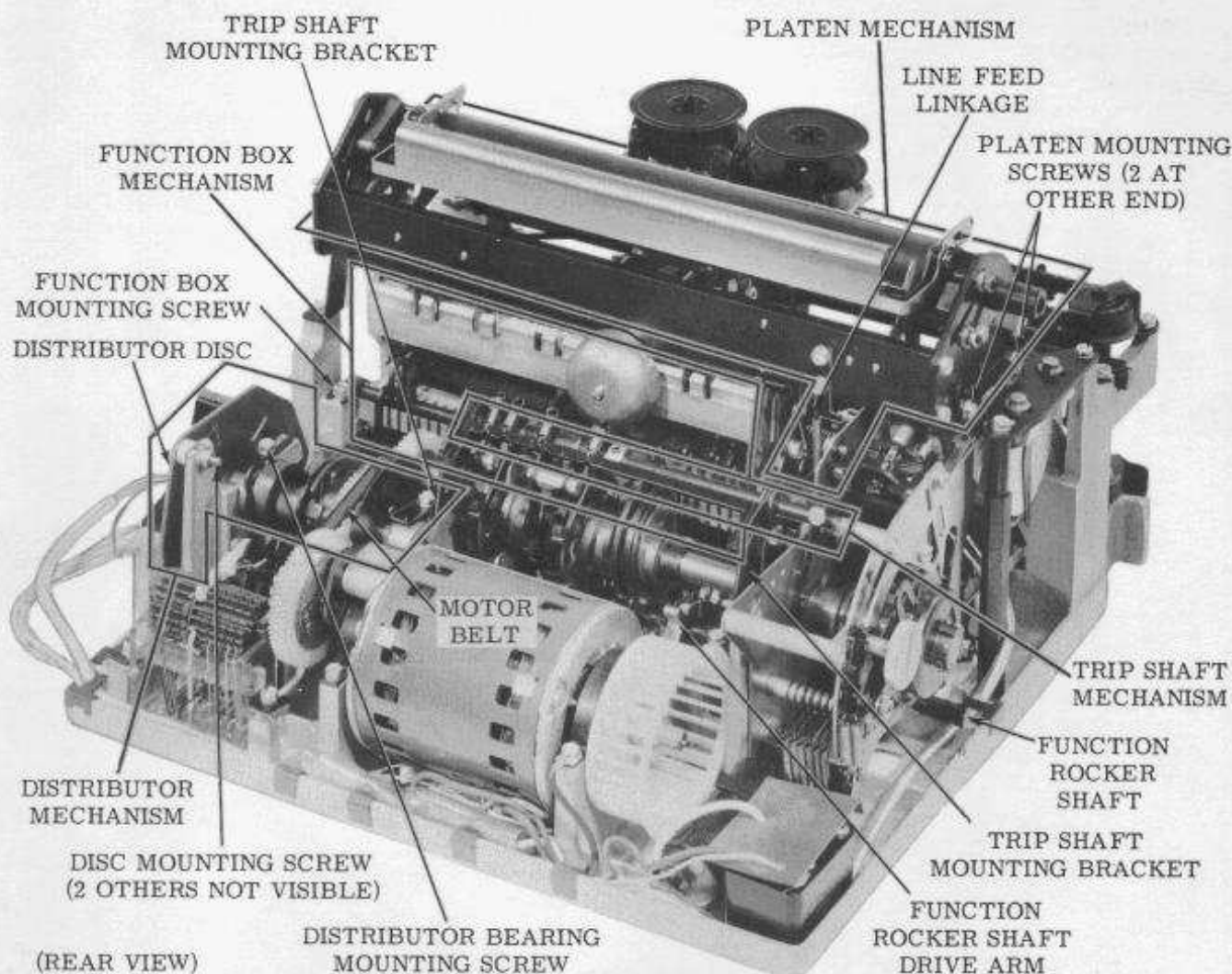


Figure 3 — Typing Unit

(4) From underside of base casting, remove TP180798 mounting screw from bottom of left platen support post. Loosen TP180798 screw in top of post and remove it and dashpot cylinder.

(5) Loosen TP181246 mounting screw in TP180648 follower arm. Slide arm off trip shaft.

(6) Loosen TP180798 mounting screw and remove TP180682 upstop bracket. Tighten screw to secure TP181230 retaining plate.

(7) Remove three TP180675 mounting screws with TP180676 speed nuts from selector plate.

(8) Loosen screws and remove two leads from selector magnet.

(9) Remove selector mechanism.

(10) To replace selector mechanism, reverse the procedure used to remove it with following precautions:

(a) Make sure blocking levers are properly seated to guide slots in front TP180950 codebar tie bracket.

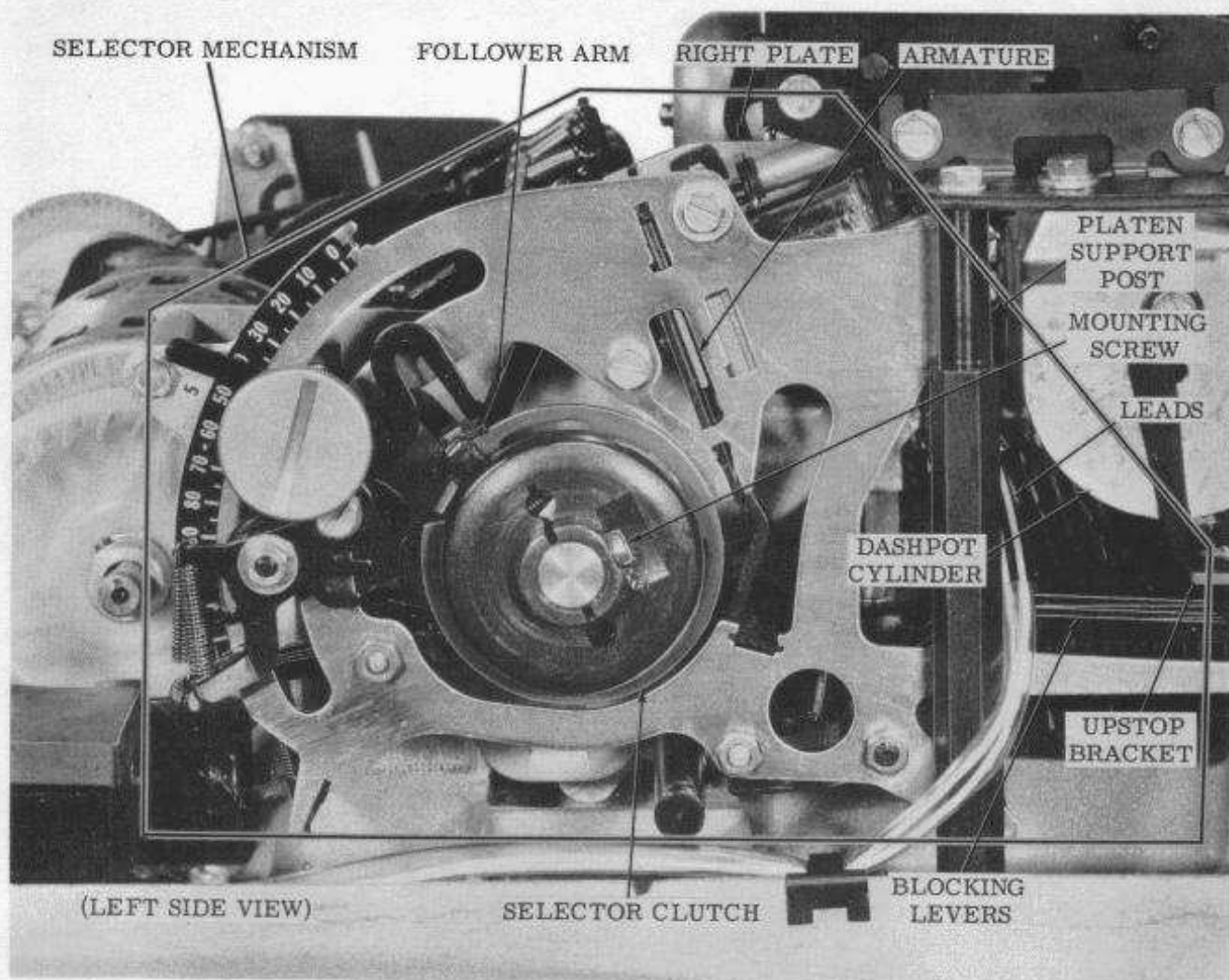


Figure 4 — Selector Mechanism

- (b) To prevent bending right plate, make sure it is properly fitted around TP181006 bearing on main shaft.
- (e) To remove codebar mechanism, proceed as follows:

Note: Reference Figures 5 and 6.

- (1) Loosen four TP180798 mounting screws, remove four TP180925 clamps, and lift codebar mechanism from frame.

- (2) To replace codebar mechanism, reverse procedure used to remove it and observe the following precautions:

- (a) Make sure function levers are in proper slots in codebars.
- (b) Make sure codebars' reset extensions are to right of TP180928 codebar reset bail and in proper slots of guide.
- (c) Make sure both right and left TP180920 guide shafts are fully seated in their mountings.

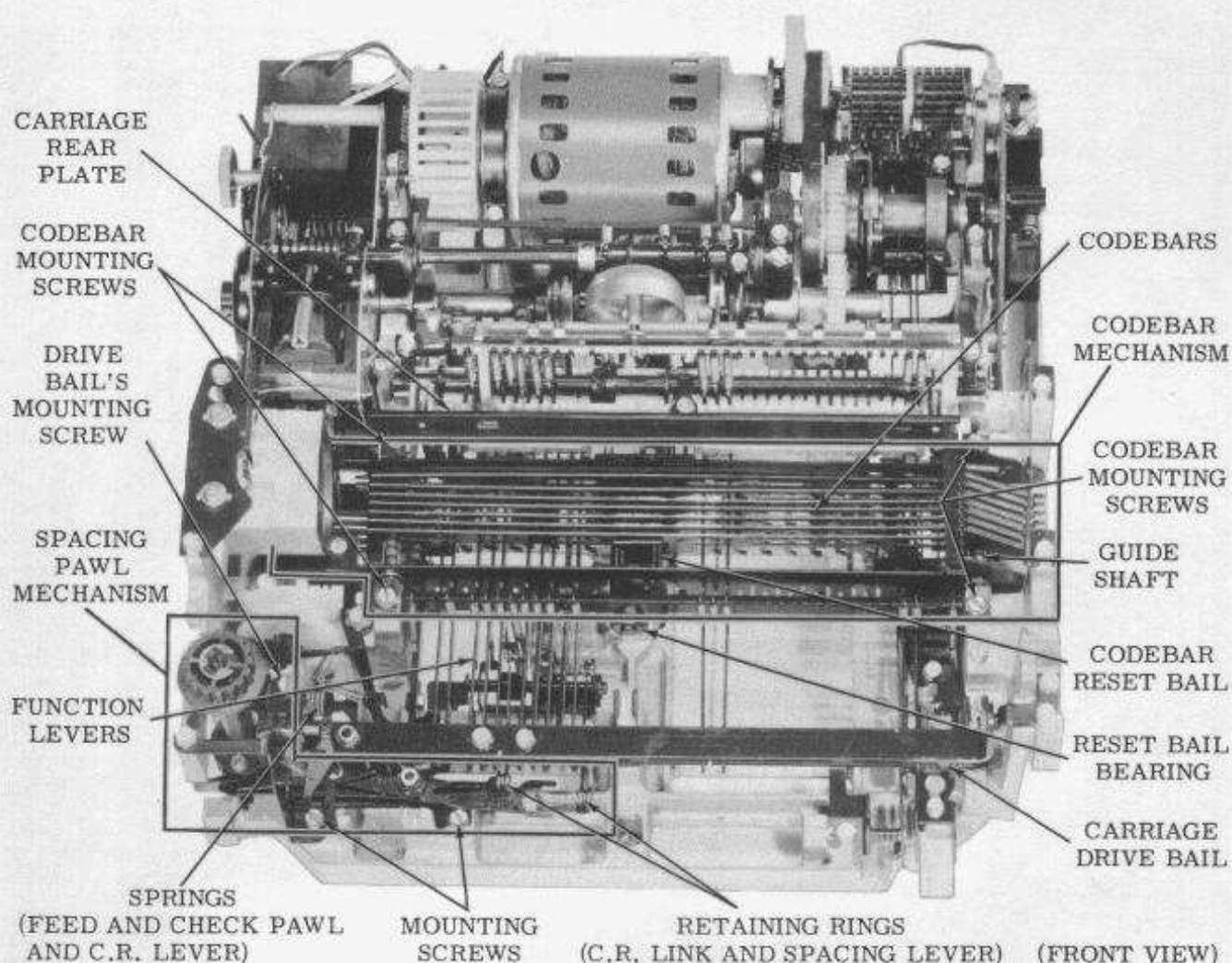


Figure 5 — Typing Unit (Carriage and Platen Removed)

- (d) Make sure TP181070 space suppression lever is to the left of TP180947 print suppression codebar.
- (e) Make sure TP180752 print suppression latchlever fits into slot of TP180923 bracket mounted on the rear tie bracket.
- (f) Make sure that the left ends of the codebars fully engage their respective blocking lever lines.
- (f) To remove trip shaft mechanism, proceed as follows:

Note: Reference Figure 3.

- (1) Loosen four TP180798 mounting screws in left and right mounting brackets. Push inwards on brackets and lift mechanism from base casting.
- (2) To replace trip shaft mechanism, reverse procedure used to remove it.
- (g) To remove function box mechanism, proceed as follows:

Note: Reference Figures 3, 5, and 7.

- (1) Unhook TP74702 spring (connects to TP180928 codebar reset bail) from TP180773 plate.

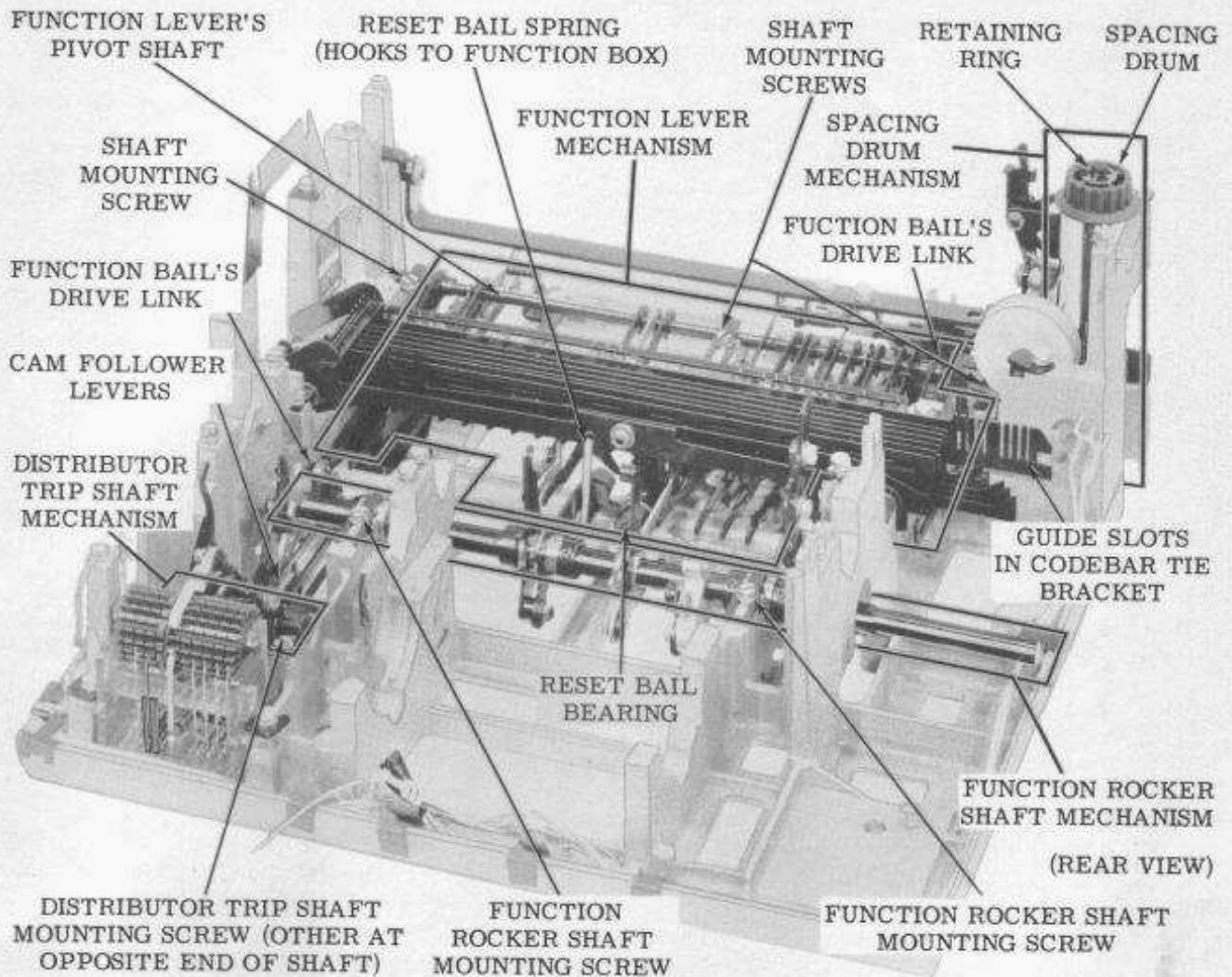


Figure 6 — Typing Unit (A Number of Mechanisms Removed)

- (2) Loosen two TP180798 mounting screws and remove two TP180796 clamp plates.
 - (3) Lift function box mechanism from base casting.
 - (4) To replace function box mechanism, reverse procedure used to remove it with following precaution:
Function levers should be in proper slots and aligned with their respective pawls.
 - (h) To remove main shaft mechanism, proceed as follows:
 - (1) Remove TP3598 nut and flat washer from TP180546 pivot shaft on carriage drive bail. Disengage front end of TP181005 drive link from pivot shaft.
 - (2) Remove TP119649 retaining ring from function rocker shaft's TP180774 drive arm. Disengage TP180746 arm on function rocker shaft from drive arm.
 - (3) Position main shaft mechanism to right and lift from base casting.
 - (4) To replace main shaft mechanism, reverse procedure used to remove it. Make sure distributor shaft is properly positioned to left against pressure of brush spring.
- Note: Reference Figures 2, 3, and 7.

- (i) To remove distributor mechanism, proceed as follows:

Note: Reference Figure 3.

- (1) Loosen TP180798 mounting screw and remove TP180797 retaining plate from bearing near right end of distributor shaft.
- (2) Loosen TP151721 and two TP180989 mounting screws in distributor disc.
- (3) Slide wire leads out of connections on distributor disc.
- (4) Remove motor belt.
- (5) Lift distributor mechanism from base casting.
- (6) To replace distributor mechanism, reverse procedure used to remove it with following precaution:

Make sure leads are inserted into proper connections on disc. (See the appropriate wiring diagram.)

- (j) To remove distributor trip shaft mechanism, proceed as follows:

Note: Reference Figure 6.

- (1) Remove TP119649 retaining ring from post connecting links to each of following cam follower levers: TP180985, TP180820, and TP180821.
- (2) Unhook five springs from TP180988 spring bracket.
- (3) Loosen two TP180798 mounting screws and remove two TP180972 buffer clamps.
- (4) Remove distributor trip shaft mechanism from base casting.
- (5) To replace distributor trip shaft mechanism, reverse procedure used to remove it.

- (k) To remove motor, proceed as follows:

Note: Reference Figure 7.

- (1) Remove four TP180798 mounting screws and two motor clamps.

- (2) Disengage motor belt from gear pulley mounted on motor housing.

- (3) Loosen TP180798 screw in motor start relay.

- (4) Remove motor, motor capacitor, start relay, and associated wiring.

- (5) To replace motor, reverse procedure used to remove it.

- (l) To remove function rocker shaft mechanism, proceed as follows:

Note: Reference Figure 6.

- (1) Remove TP119651 retaining rings from posts at rear of TP180769 left and TP180770 right function bail's drive links.

- (2) Loosen two TP180798 mounting screws and remove two TP180797 plates on left and right function rocker shaft bearings.

- (3) Lift function rocker shaft mechanism from base casting.

- (4) To replace function rocker shaft mechanism, reverse procedure used to remove it.

- (m) To remove codebar reset bail, proceed as follows:

Note: Reference Figures 5 and 6.

- (1) From underside of base casting, remove TP153841 screw with lock-washer and TP181247 screw from two TP180930 bearings.

- (2) Lift TP180928 codebar reset bail from base casting.

- (3) To replace codebar reset bail, reverse procedure used to remove it. In replacing TP153841 screw, make sure it passes through TP180776 spring bracket before entering bearing.

- (n) To remove spacing drum mechanism, proceed as follows:

Note: Reference Figure 6.

- (1) Remove TP119653 retaining ring from top of spacing drum and remove drum.
 - (2) From underside of base casting, remove the TP112626 nut and lockwasher from lower end of spacing drum shaft.
 - (3) Lift spacing drum shaft from base casting.
 - (4) To replace spacing drum mechanism, reverse procedure used to remove it.
- (o) To remove carriage drive bail, proceed as follows:

Note: Reference Figures 2 and 5.

- (1) Loosen TP180798 mounting screw and remove TP181230 clamp plate at left end of carriage drive bail.
 - (2) Remove TP119651 retaining ring and felt washer at right end of bail.
 - (3) Remove drive bail by sliding it to left.
 - (4) To replace drive bail assembly, reverse procedure used to remove it.
- (p) To remove spacing pawl mechanism, proceed as follows:

Note: Reference Figure 5.

- (1) Unhook the TP76397 spring from TP181067 feed pawl, TP70466 spring from TP181065 check pawl, and TP70388 spring from TP181319 carriage return lever.
 - (2) Remove TP119649 retaining rings from TP181314 carriage return link and TP181068 spacing lever.
 - (3) Loosen two TP180798 mounting screws.
 - (4) Lift spacing pawl mechanism from base casting.
 - (5) To replace spacing pawl mechanism, reverse the procedure used to remove it.
- (q) To remove function lever mechanism, proceed as follows:

Note: Reference Figure 6.

- (1) Loosen three TP180798 mounting screws and rotate levers' pivot shaft so flat side is vertical.
- (2) To remove any function lever unhook its spring and disengage lever from pivot shaft.
- (3) To remove levers' pivot shaft, remove two TP180797 clamp plates and TP180795 spring bracket. Lift out shaft with two drive links attached.
- (4) To replace function lever mechanism, reverse the procedure used to remove it.

2.03 Friction Feed Mechanism:

- (a) To remove platen mechanism, proceed as follows:

Note: Reference Figure 3.

- (1) Remove TP119651 retaining ring and TP90615 spring from line feed linkage.
 - (2) Disengage TP181176 link from TP181168 bellcrank.
 - (3) Loosen four TP181242 mounting screws in two platen side plates.
 - (4) Lift platen mechanism from typing unit.
- (b) To replace platen mechanism, reverse procedure used to remove it.

2.04 Sprocket Feed Mechanisms:

- (a) To remove the platen mechanism, proceed as follows:

Note: Reference Figures 3 and 8.

- (1) Loosen TP3598 nut on TP183351 idler post. Back off two TP183341 idlers and slip two TP183379 belts off sprockets.
- (2) Loosen four TP181242 mounting screws in two platen side plates.
- (3) Lift platen mechanism from typing unit.
- (4) To replace platen mechanism, reverse the procedure used to remove it.

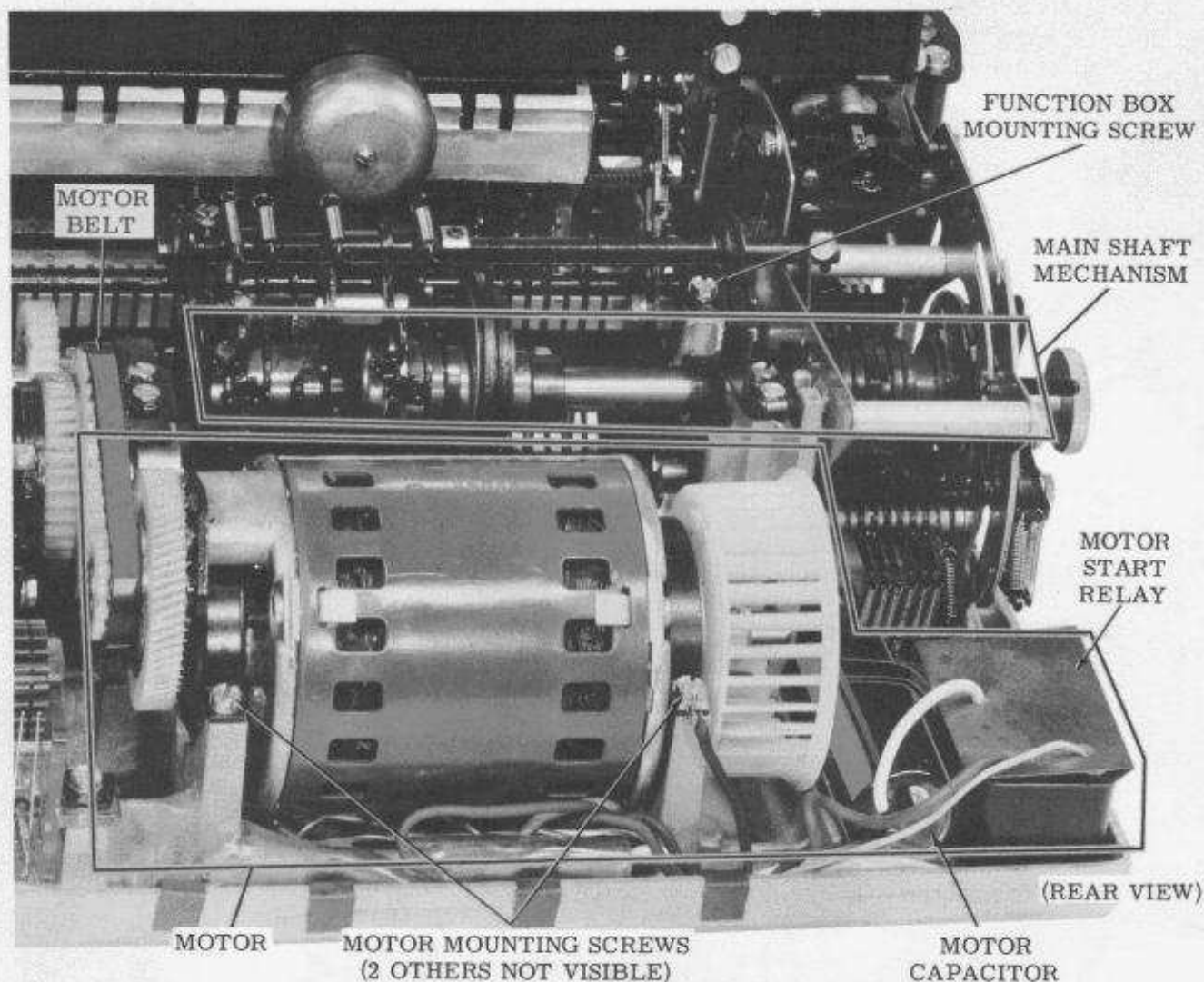


Figure 7 — Typing Unit

- (b) To remove form-out mechanism, proceed as follows:

Note: Reference Figures 3 and 8.

- (1) With the typing unit removed from subbase, remove the TP181242 mounting screw which secures the TP180980 brush holder.
- (2) Remove brush holder and brush.

Note: On Automatic Send-Receive Teletypewriter Sets, remove the front TP152893 and loosen the rear TP152893

contact bracket mounting screws which secure the tape reader feed magnet contact assembly to the typing unit. Rotate the tape reader feed magnet contact assembly out of the way clockwise, as viewed from the right.

- (3) Loosen TP151721 and two TP180989 distributor disc mounting screws and pull the distributor disc out of the way.

Note: It is not necessary to remove wires from the distributor disc.

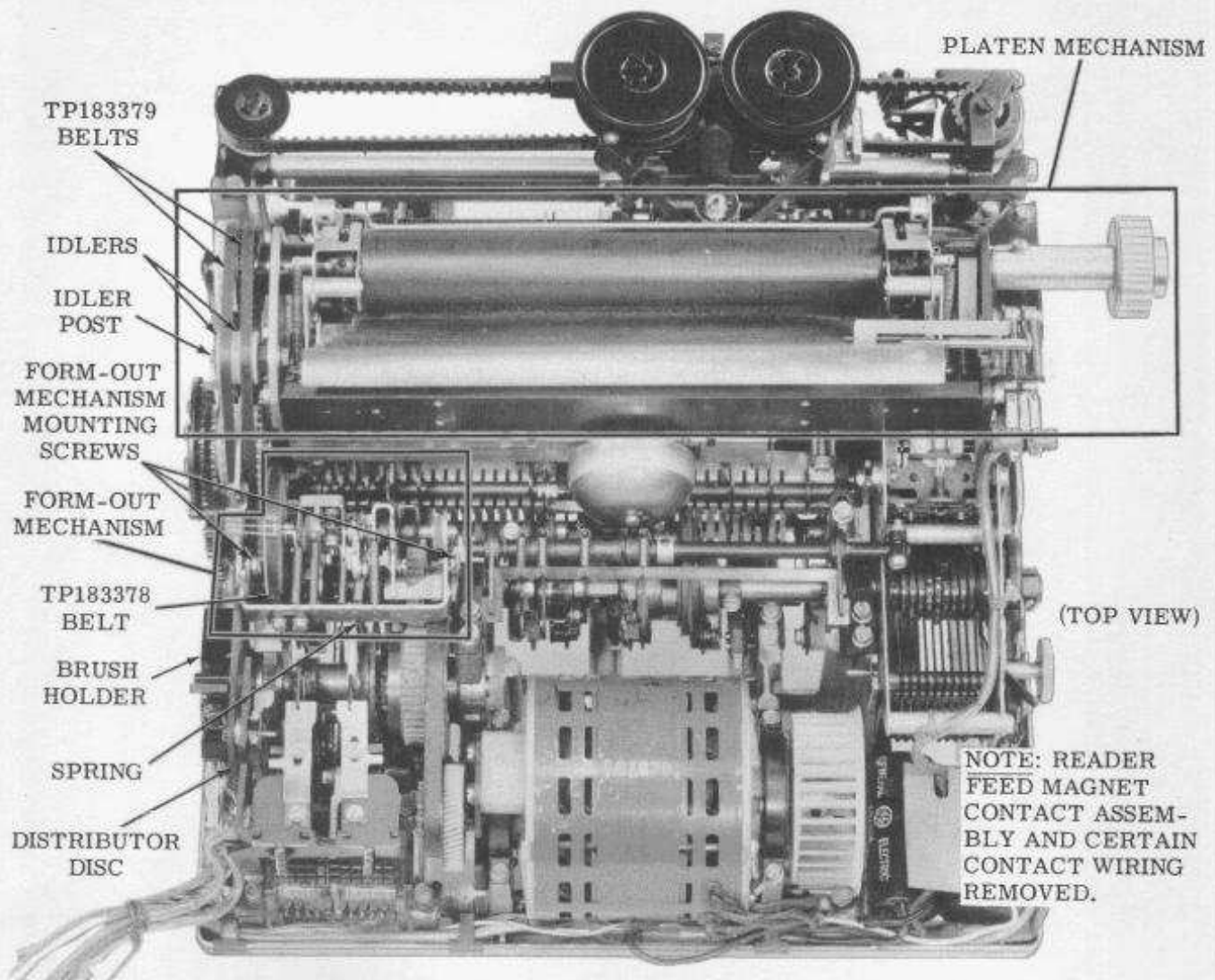


Figure 8 — Typing Unit

- (4) Loosen TP3598 nut on TP183351 idler post. Back off two TP183341 idlers.
- (5) Slip two TP183379 belts off sprockets.
- (6) Loosen three TP151630 form-out mechanism mounting screws.
- (7) Slip TP183378 belt off main shaft sprocket.
- (8) Disengage TP90891 spring from form-out latchlever assembly.
- (9) Gently work form-out mechanism upward and remove it.
- (10) To replace the form-out mechanism, reverse the procedure used to remove it.

Note: When tightening the three distributor disc mounting screws, be sure that the longer edges of TP180676 speed nuts are horizontal with the base casting.