

37 RECEIVE-ONLY (RO) TELETYPEWRITER SET

REMOVAL AND REPLACEMENT OF COMPONENTS

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1. GENERAL

1.01 This section provides removal and replacement of component information for the 37 Receive-Only (RO) Teletypewriter Set (Figure 1).

1.02 Photographs and line drawings are used to identify the mechanisms and specific parts mentioned in the procedures. Refer to the appropriate parts section for illustrations and part numbers of parts and assemblies.

1.03 References in the procedures to left or right, up or down, top or bottom, etc, refer to the unit as viewed facing the control panel (Figure 1).

1.04 Refer to maintenance tools Section 570-005-300 for information on tools necessary to perform the removal and replacement of component parts.

1.05 Use maintenance pad TP124828 to protect furniture and floor coverings from oil, grease, and dirt during the removal and replacement of component parts.

1.06 Most maintenance, lubrication, and adjustments can be accomplished after a component has been removed with no further disassembly. If possible, disassembly should be confined to subassemblies which do not require adjustment, or which can be removed without disturbing adjustments. When reassembling the subassemblies, all requirements for adjustments, clearances, and spring tensions must be observed.

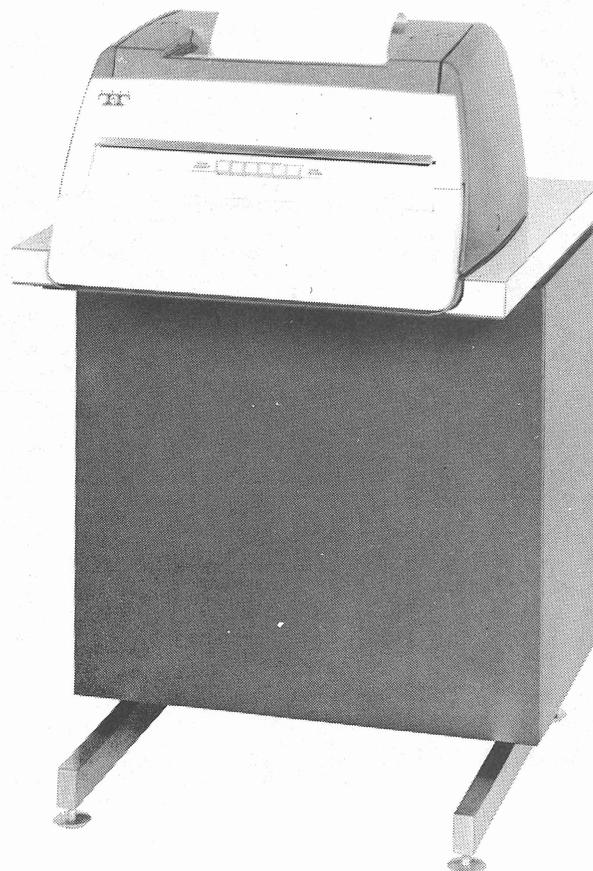


Figure 1 - 37 RO Teletypewriter Set

SECTION 574-300-702

1.07 The loss of retaining rings and springs should be avoided during disassembly by holding the items with one hand while it is released with the other. Springs should not be stretched or distorted more than is necessary for removal or their effective spring tension may be altered.

CAUTION: REMOVE POWER BEFORE DISASSEMBLING THE SET.

2. REMOVAL AND REPLACEMENT OF COMPONENTS

TYPING UNIT

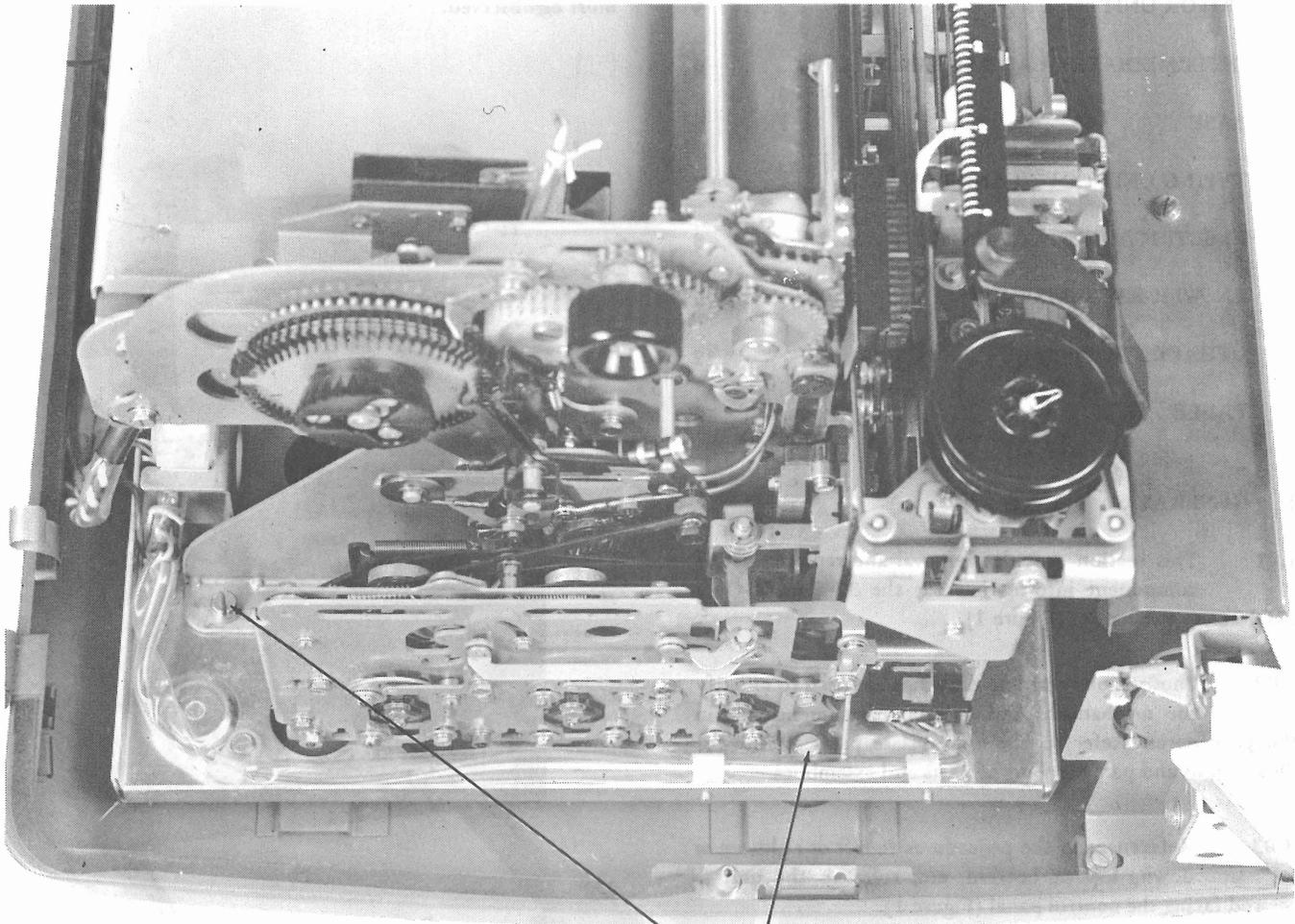
2.01 To remove the typing unit from the base, proceed as follows (Figures 2 through 4).

(1) Depress the cover latches on both sides of the typing unit cover and tilt the cover back until it rests on the table.

(2) Remove the paper roll from the typing unit.

(3) Disconnect electrical cable plugs P306 and P308 from the selector and function box connectors at the upper right rear corner of the typing unit.

(4) Remove four typing unit mounting screws from the feet at the bottom front and rear corners of the left and right sides of the typing unit.



(Left Side View)

TYPING UNIT MOUNTING SCREWS

Figure 2 - Typing Unit

Note: Steps (5) and (6) may be omitted unless the control panel is to be replaced.

(5) Remove two screws securing the control panel trim plate to the top of the control panel and remove the plate. Be careful not to drop the screws into the base.

(6) Remove the control panel retaining screws at the right and left upper rear corners of the control panel. Raise the control panel upward and forward and then remove the cable B plug from the control panel (Figure 9).

(7) Pivot the control panel forward to provide more space for removal of the typing unit. Grasp the typing unit under the curve at the top rear of the left

side frame, and at the same time grasp the right side print position scale support (Figures 4 and 7). Lift the typing unit straight up away from the base. Set the typing unit aside in a protected area.

CAUTION: REMOVE THE TYPING UNIT ONLY IN THE MANNER DESCRIBED IN 2.01(7).

2.02 To replace the typing unit, proceed as follows (Figures 2 through 4).

(1) Remove the control panel retaining screws at the right and left upper rear corners of the control panel. Raise the control panel upward and forward.

Note: When typing unit was removed, the control panel was pivoted forward. Do not adjust control panel if it is now in the proper position.

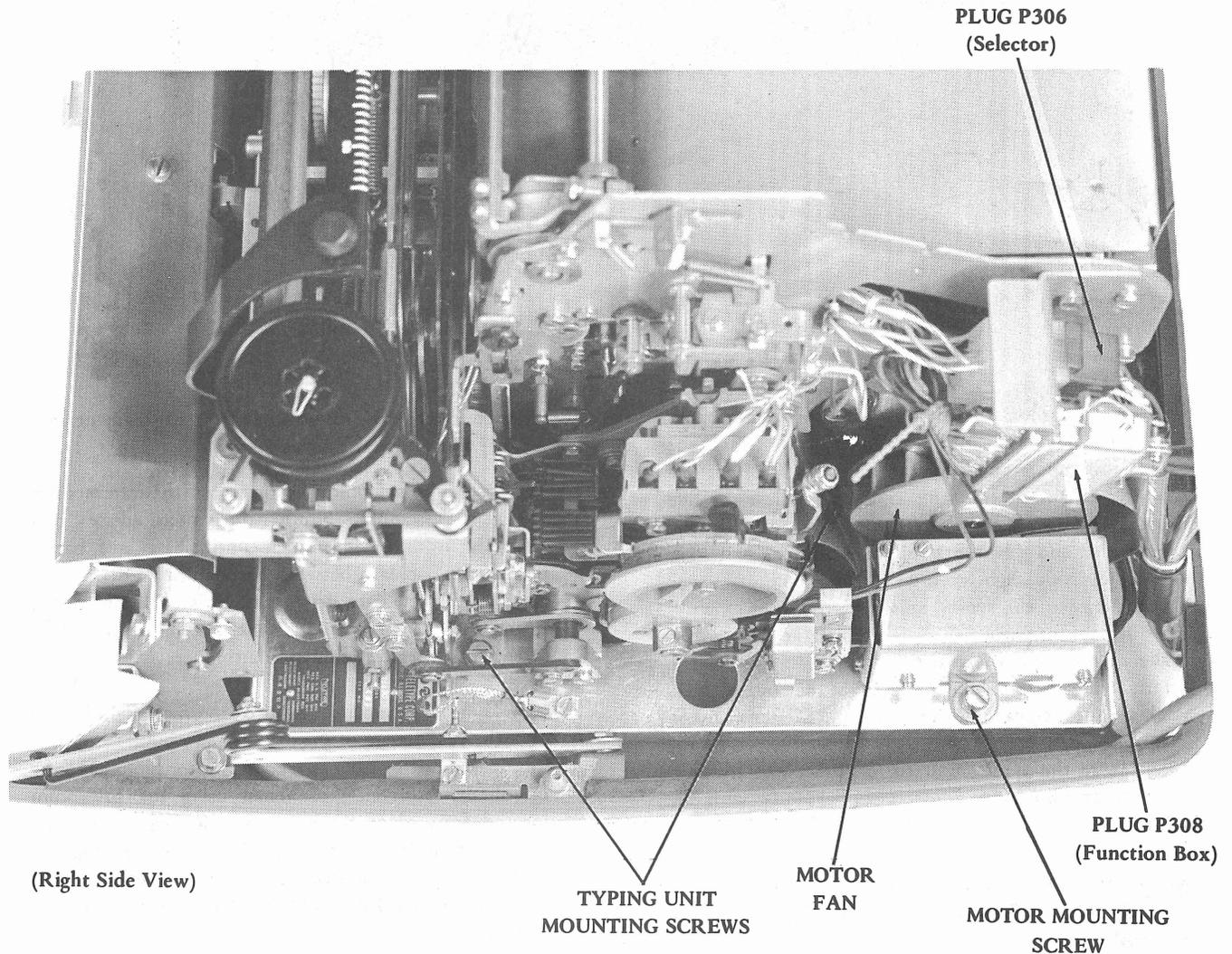


Figure 3 - Typing Unit

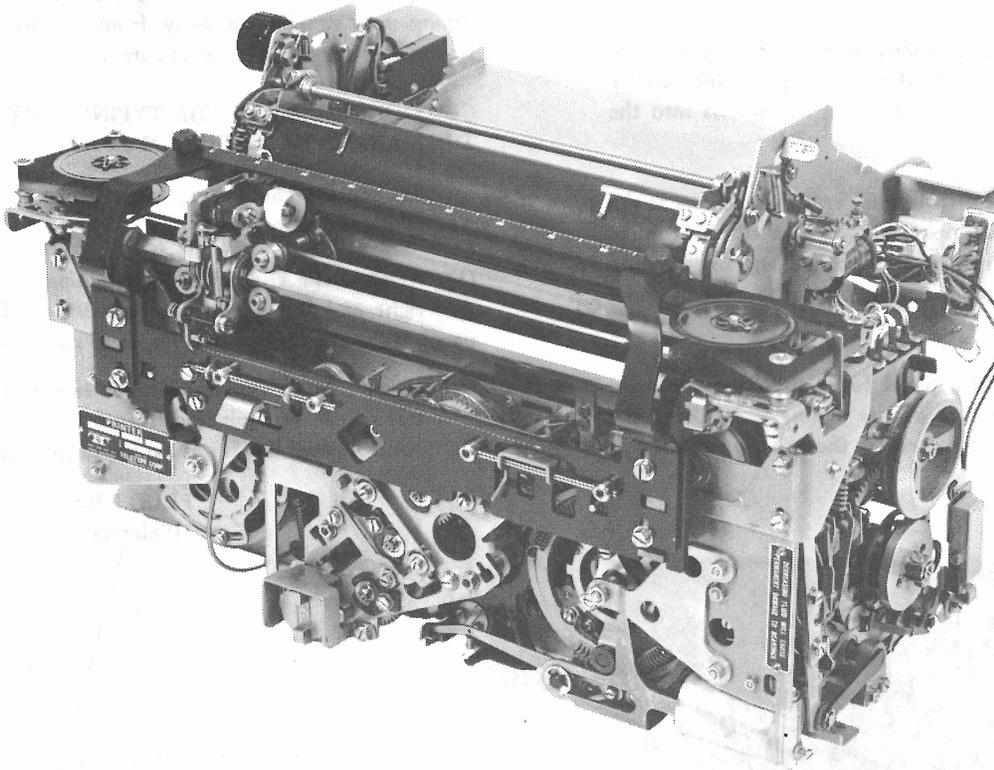


Figure 4 - Typing Unit

(2) Pivot the control panel forward to provide more space for replacing the typing unit. Grasp the typing unit under the curve at the top rear of the left side frame, and at the same time grasp the right side print position scale support (Figures 4 and 7). Raise the typing unit and position it directly over the base. Tilt the typing unit slightly forward from a normal level. Carefully lower the typing unit onto the locating studs and tilt back to engage the intermediate gear assembly. Make certain that the main shaft driven gear and the intermediate gear mesh properly. Pivot the control panel back into its regular position; lock and secure in place.

(3) Secure the typing unit to the base with the four typing unit mounting screws, beginning with the left rear screw.

Note: If a replacement typing unit (other than the original) is installed the following adjustments are required.

(4) Remove the two screws and lockwashers holding the intermediate gear guard to the typing unit base and remove the guard. Loosen the five motor mounting

screws and move the motor away from engagement with the intermediate gear assembly.

(5) Using the pry points at the rear of the intermediate gear assembly, adjust the intermediate gear assembly from front to rear until there is a barely perceptible backlash between the main shaft driven gear and the intermediate drive gear. This backlash can be from 0.004 inch to 0.008 inch. Tighten the three intermediate gear assembly mounting screws.

(6) Using the back left edge of the motor cradle and the rear flange of the base as a pry point, move the motor forward to fully engage the motor pinion and the intermediate driven gear. Then using the pry point located forward of the left rear mounting screw, ease the motor unit back to establish a barely perceptible backlash. Tighten the five motor mounting screws. Make sure the fan guard does not interfere with free rotation of fan.

(7) Install the gear guard over the intermediate gear assembly with the two screws and lockwashers taken out during the removal procedures. Align guard to clear gears and motor unit. Tighten screws.

- (8) The remaining replacement procedures are the reverse of the removal procedures.

- (4) Lift the control panel free from the mounting bracket and store it in a closed container to protect the switch and connector contacts.

CONTROL PANEL

2.03 To remove the control panel, proceed as follows (Figures 7 and 9).

- (1) Remove trim strip by removing the two top screws.
- (2) Disconnect the control panel cable plug from the control panel by pulling it straight out, using care to avoid bending the connector pins. Wrap the plug with a protective covering and tape it securely to protect the plug.
- (3) Detach the control panel cable clamp from the control panel assembly by taking out the screw, lockwasher, and flat washer used to secure the clamp.

2.04 To replace the control panel, reverse the procedures used for removal.

MOTOR UNIT

2.05 To remove the motor unit from the base, proceed as follows (Figure 5).

- (1) Remove typing unit as described in 2.01.
- (2) Disconnect the two motor leads from the two leads originating from the bottom of connector J304 mounted on the left rear of the base.

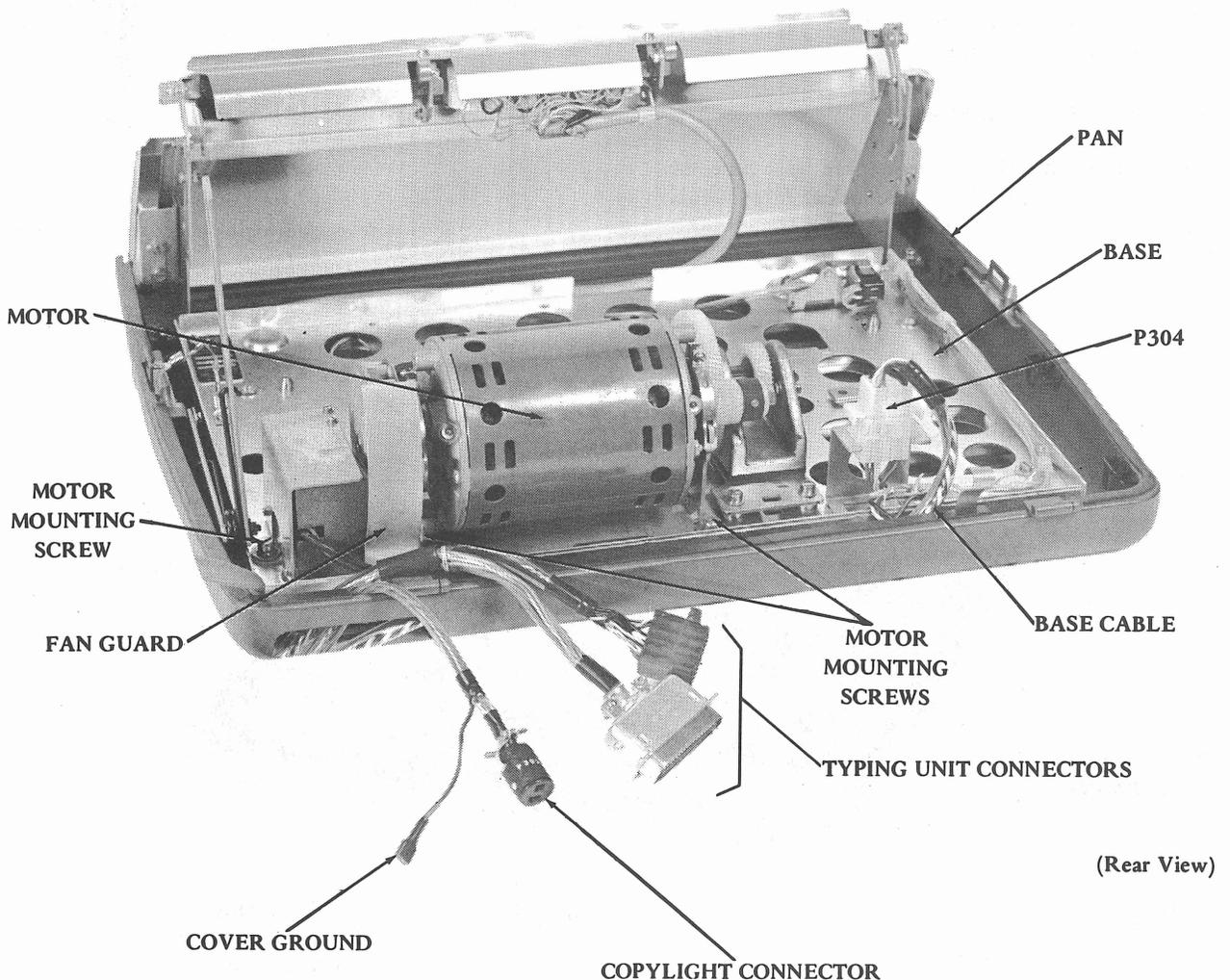


Figure 5 - Base, Pan, and Motor Unit

- (3) Remove the fan guard by taking out the motor mounting screws securing it in the right rear corner of the base.
- (4) Take out the remaining four motor mounting screws and lift the motor unit from the base. Set motor unit aside.

2.06 To replace the motor unit, reverse the procedures used for removal. Adjust the motor to the intermediate gear assembly as described in 2.02(6).

INTERMEDIATE GEAR ASSEMBLY

2.07 To remove the intermediate gear assembly from the base, proceed as follows (Figures 5 and 6).

- (1) Remove typing unit as described in 2.01.
- (2) Remove two screws and lockwashers securing the gear guard to the base.
- (3) Remove the gear guard.
- (4) Remove the three intermediate gear assembly mounting screws TP104898, lockwashers, and flat washers securing the intermediate gear assembly to the base.

- (5) Lift the intermediate gear assembly from the base and set aside.

2.08 To replace the intermediate gear assembly, reverse the procedure used during removal. If original intermediate gear assembly is installed, make sure there is a barely perceptible amount of backlash between the motor and intermediate gear assembly before tightening screws. If other than original intermediate gear assembly is installed, replace the typing unit and follow the adjustment information described in 2.02(5) and 2.02(6). Replace the gear guard.

BASE

2.09 To remove the base from the typing unit cover and pan, proceed as follows (Figure 6).

Note: In the RO set, the two leads usually connected to the mechanical reset mechanism are insulated with shrinkable tubing and inserted within the channel of the printer base.

- (1) Remove the typing unit (2.01), and control panel cables (2.03)(2), (3), and (4).
- (2) Remove the two base retainers by taking out the retainer screws and lockwashers securing each to the pan.

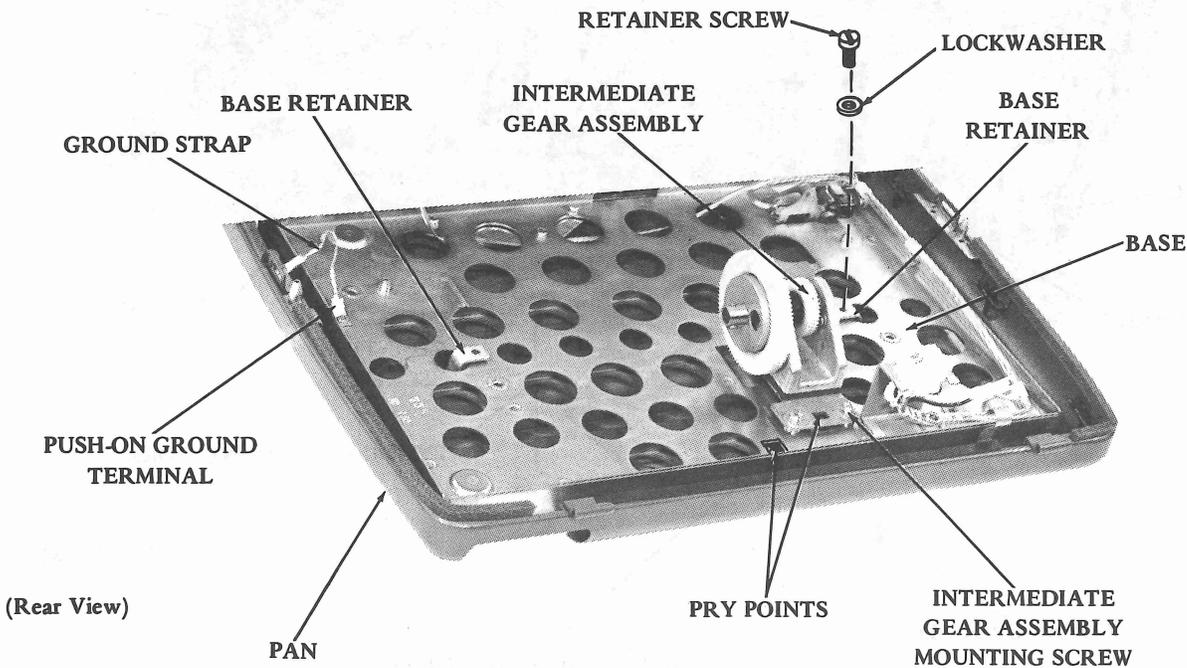


Figure 6 - Base and Intermediate Gear Assembly

Note: If the screw and lockwasher attaching each base retainer to the base for immobility during shipment are still in place, they should be removed and discarded at this time.

- (3) Lift base retainers from the pan through holes in base.
- (4) Remove the ground strap from the base by pulling the push-on ground terminal straight off from the terminal tab mounted on the right side of the base.
- (5) Lift the base free from the pan one corner at a time. The shock mounts may hold the base firmly due to a suction formed in the cup in the base. A little force will break the base loose.

Note: No further disassembly of the base is recommended unless parts require replacement.

- 2.10 To replace the base, reverse the procedures used during removal.

TYPING UNIT COVER AND PAN

- 2.11 To remove the typing unit cover and pan, from the table, proceed as follows (Figures 7, 8, and 9).

- (1) Remove the typing unit pan (2.09).
- (2) Disconnect the copylight cable plug P302 from the 2-pin connector in the cover.
- (3) Pull the push-on ground terminal free from the ground terminal tab in the cover.
- (4) Use a screwdriver blade or needle nose pliers to spring the upper speed clip at the rear of the pan inward, and pull the base cable free. In a similar manner release the control panel cable from the lower speed clip.

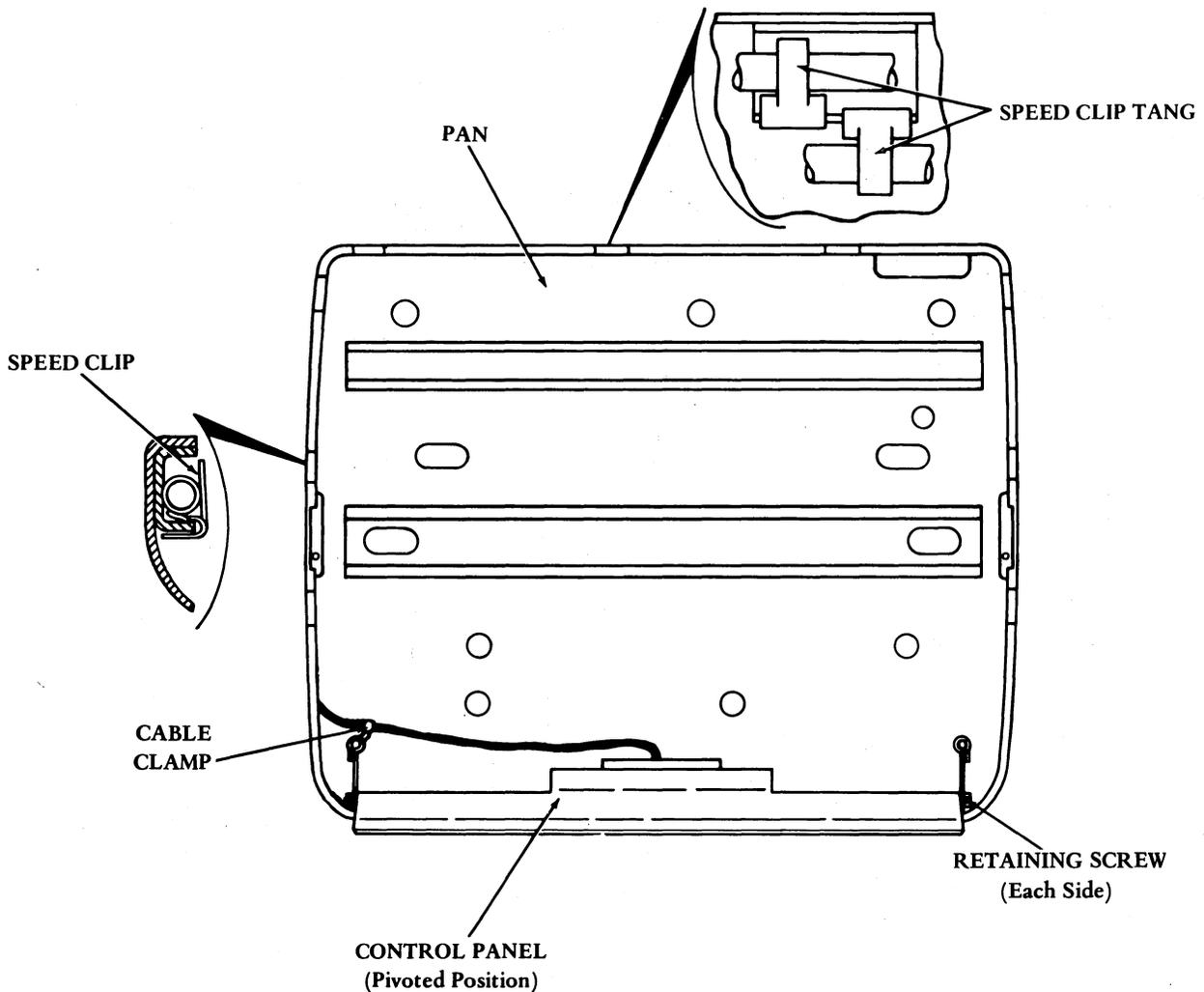


Figure 7 - Control Panel Cable Routing

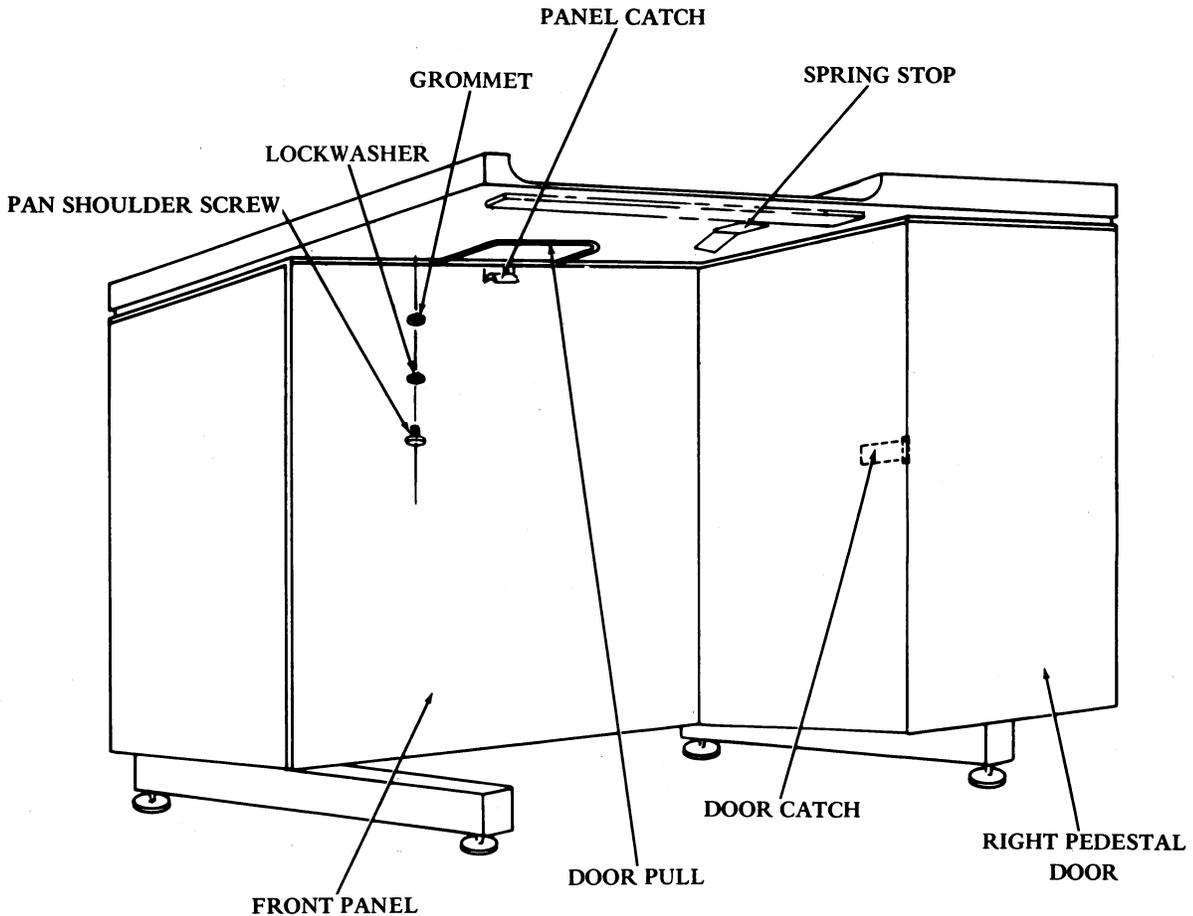
- (5) Open the front panel of the table by pressing upward on the panel catch while pulling outward on the door pull. The panel will be stopped by the spring stop, but can be released by pressing upward on the strip. Lower the panel until the door pull rests on the floor.
- (6) Locate the copyright cable under the table. Draw the cable down and carefully feed the plug P302 and ground terminal through the oblong slots in the pan and table.
- (7) Draw the base cable down and feed its plug P304 through the slots.
- (8) Draw the selector cable and its plug P306, and the function box cable and its plug P308 down through the hole.

- (9) Very carefully work the control panel cables and connector plugs down through the slot.
- (10) Remove the four pane shoulder screws and lockwashers from the grommets in the lower side of the table to release the typing unit pan and cover.
- (11) Lift the typing unit pan and cover out of the recess in the table and set aside.

2.12 To replace the typing unit pan and cover, reverse the procedures used during removal.

ELECTRICAL SERVICE UNIT

2.13 To remove the electrical service unit from the left compartment in the base of the table proceed as follows (Figures 8 through 11).



(Left Oblique Front View)

Figure 8 - Table

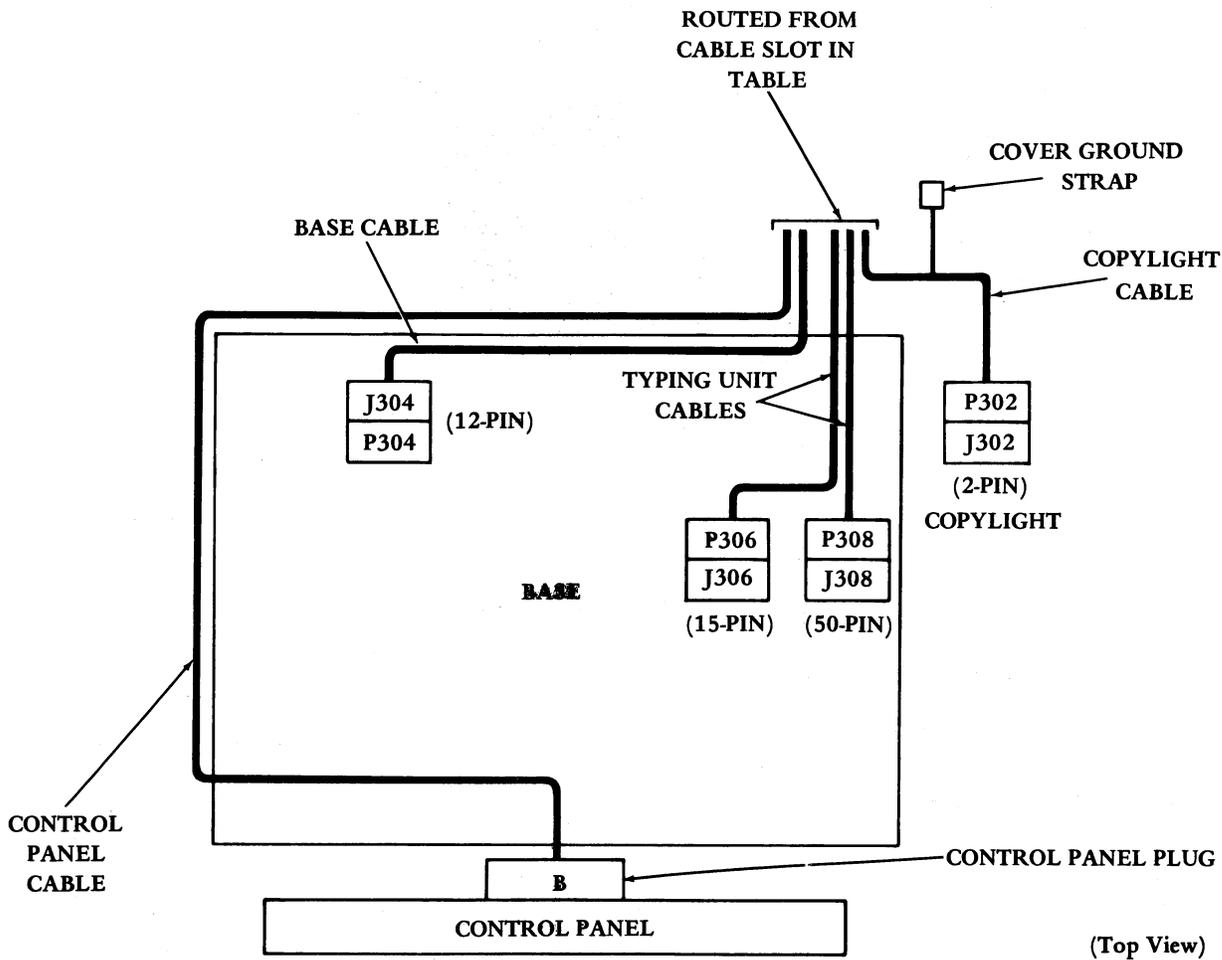
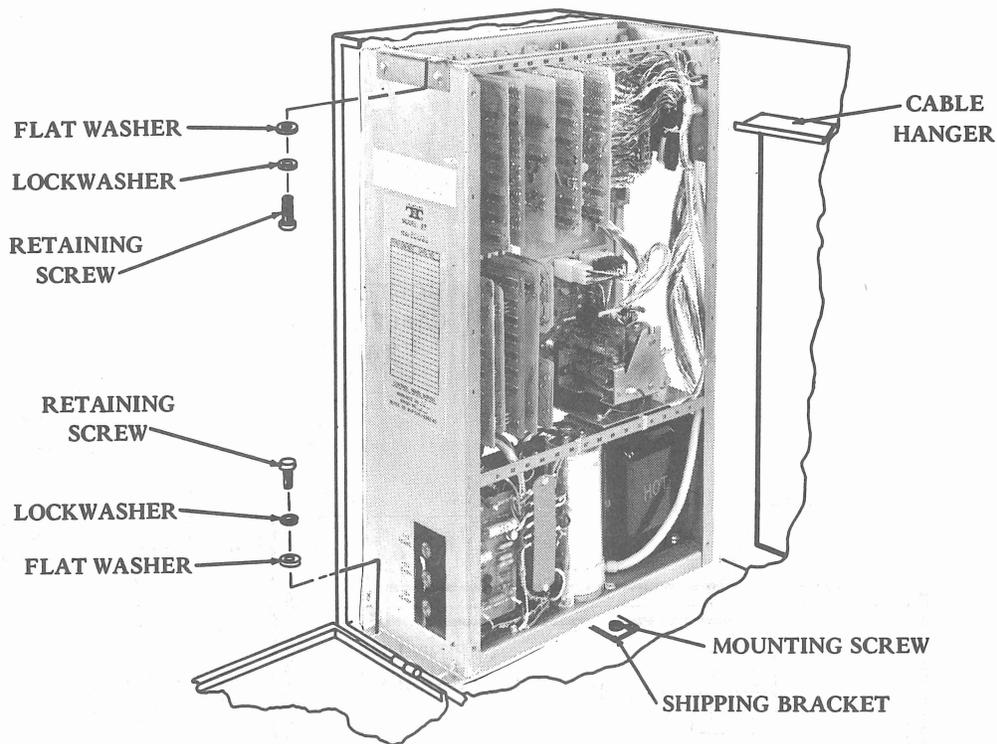


Figure 9 - Typing Unit Cable Routing



(Right Oblique Cut-Away View of Table)

Figure 10 - Electrical Service Unit

- (1) Open the front panel of the table and draw all electrical service unit cables back through the oblong slot in the table as directed in 2.11.
- (2) Disconnect the power cord plug from the utility strip.
- (3) Remove three service unit retaining screws, lockwashers, and flat washers from the retaining flanges at the front top and bottom of the unit.
- (4) If the shipping bracket secured to the floor of the left table compartment for shipment has not been removed, take out the mounting screw and lockwasher holding it in place and discard this hardware.
- (5) Lift the electrical cables out of the cable hanger at the top rear wall of the compartment.
- (6) Pull the electrical service unit straight forward out of the table.

2.14 To replace the electrical service unit, reverse the removal procedures.

ANSWER-BACK ASSEMBLY

2.15 To remove the answer-back assembly from the electrical service unit, proceed as follows (Figure 11).

- (1) Carefully pull plug connectors P402 and P401 from the top of the printed circuit card on the answer-back assembly.
- (2) Remove four answer-back mounting screws, lockwashers, and flat washers from the corners of the answer-back mounting plate.
- (3) Lift the answer-back assembly out of the electrical unit, and set aside.

2.16 To replace the answer-back assembly, reverse the removal procedures.

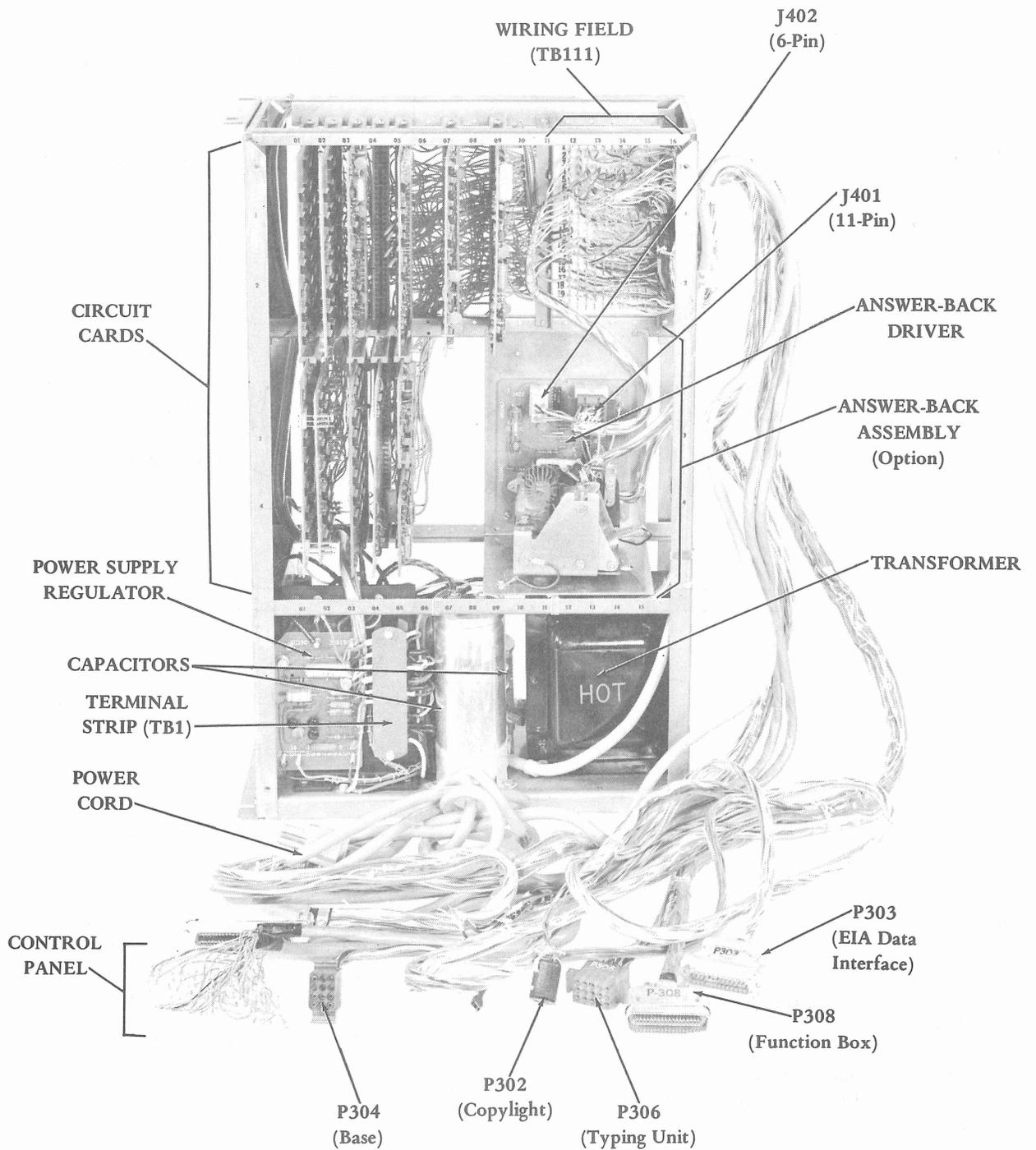
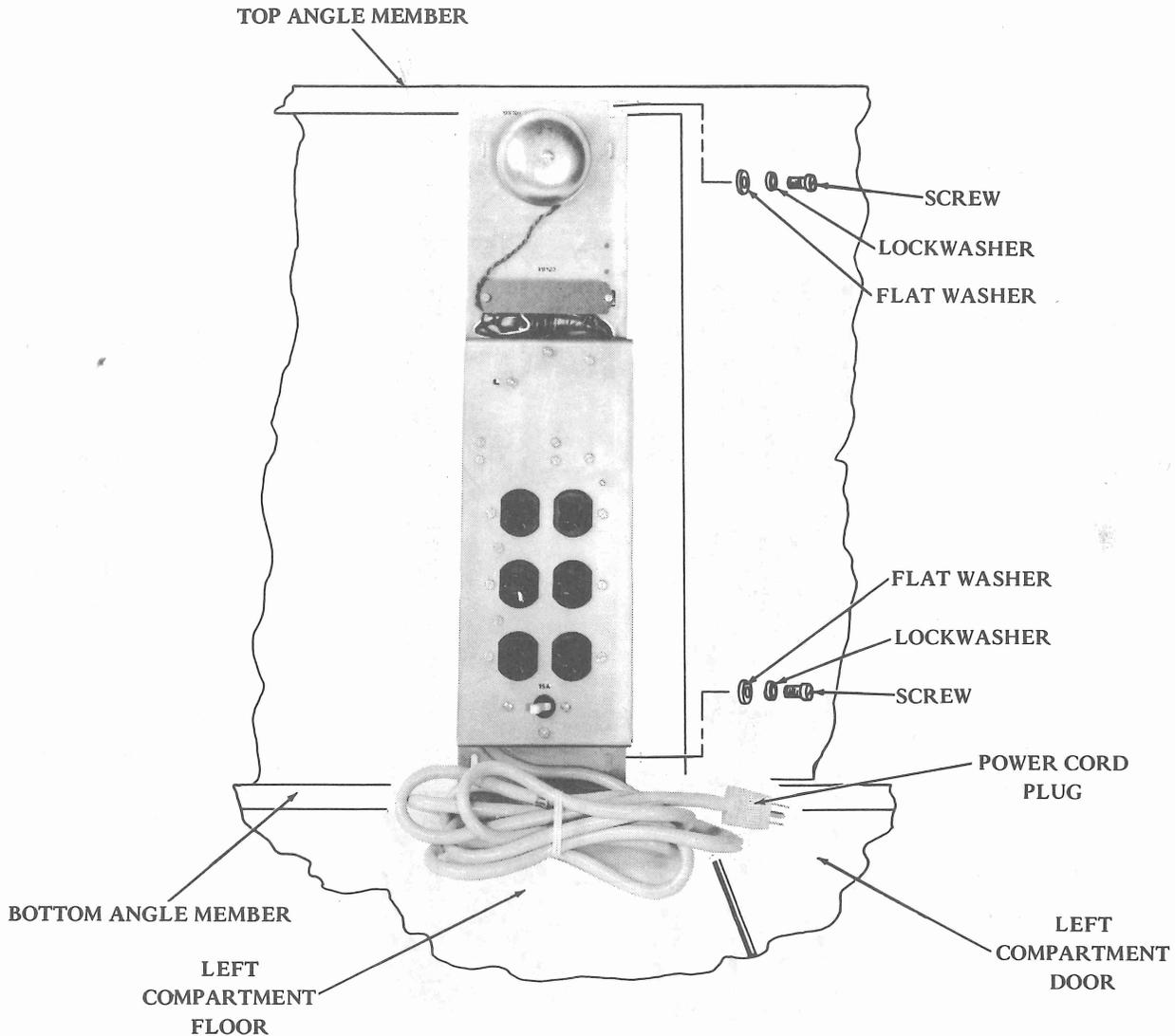


Figure 11 - Electrical Service Unit



(Left Cut-Away View of Table)

Figure 12 - Utility Strip

UTILITY STRIP

2.17 To remove the utility strip from the left compartment in the base of the table, proceed as follows (Figures 8 and 12).

- (1) Open the front panel of the table by pressing upward on the panel catch, and pull forward on the door pull.
- (2) Press upward on the spring stop, and continue to swing the panel outward and downward until the door pull rests on the floor.
- (3) Disconnect the utility strip power cord plug and any other power cord plugs connected to the utility strip.

- (4) Remove four utility strip mounting screws, lockwashers, and flat washers securing the utility strip to the top and bottom angle members of the table on the right side of the left compartment.
- (5) Remove the utility strip from the table and store.

2.18 To replace the utility strip, reverse the removal procedures.

TABLE

2.19 No removal or replacement procedures are required for the tables, since all areas are accessible through the front panel and the right pedestal door.

Note: Both tables shown in Figures 1 and 8 have the same mountings.