

28 KEYBOARD SEND-RECEIVE (KSR) AND  
RECEIVE-ONLY (RO) TELETYPEWRITER SETS  
INSTALLATION

CONTENTS	PAGE
1. GENERAL.....	1
2. INSTALLATION.....	2
CONSOLE AND TABLE MODEL SETS.....	2
A. Installation of Cabinet.....	2
B. Electrical Connections.....	2
C. Installation of Components.....	4
WALL MOUNTED SETS.....	10
A. Mounting Backplate Assembly... ..	10
B. Intermediate Gear and Keyboard.....	10
C. Mounting Typing Unit on Keyboard.....	10
D. Electrical Service Unit.....	13
E. Cover Installation and Adjustments.....	15
F. Miscellaneous.....	16
MULTIPLE MOUNTED SETS.....	17
A. General.....	17
B. Installation of Cabinet.....	18
C. Installation of Components.....	18
D. Adjustments.....	23

1. GENERAL

1.01 This section outlines the installation procedure for the KSR and RO Teletypewriter Sets in their various enclosures. It also indicates requirements and adjusting procedures needed for proper operation of the set.

1.02 References made to left or right, top or bottom, and front or rear apply to the set in its normal position as viewed from the front or operator's position.

1.03 Each 28 Page Printer Set (KSR or RO) consists of a cabinet, an electrical service unit (LESU), motor unit, set of gears, keyboard or base, and a page typing unit. These are basic units, some of which may be provided with various accessories for different service requirements. The set of gears must be ordered separately for the desired speed of operation.

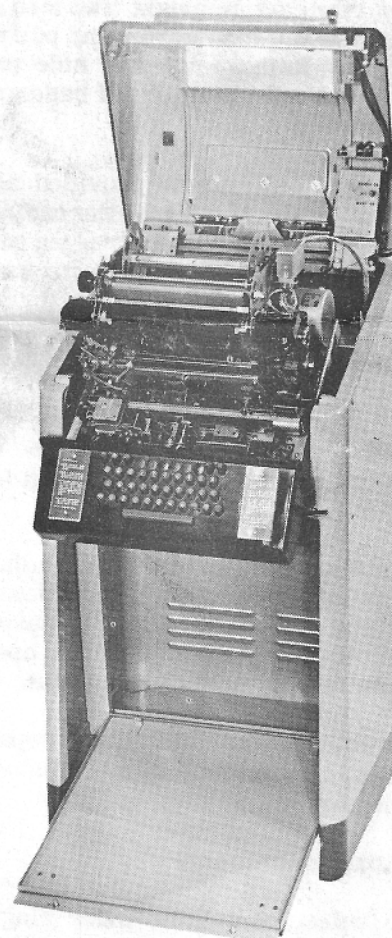


Figure 1 - Typical Console Model,  
KSR Set.

Note: Refer to the appropriate sections for location of parts, adjustments, and lubrication.

## 2. INSTALLATION

### CONSOLE AND TABLE MODEL SETS (Figure 1)

#### A. Installation of Cabinet

Note: Unpack all components with care. Observe all caution labels and instructions. All bags and small loose parts should be kept with their associated apparatus until used in the installation. Space requirement dimensions are given in Figure 2.

2.01 Lay carton on its side, then cut open the bottom sealed edges. Hold carton flaps back and stand the carton upright (two men should handle this phase). Grasp carton and pull up and off the cabinet. Remove top and side packing frame. Move cabinet carefully off base and remove paper cover.

2.02 A tapped bushing is provided at each corner of the bottom of the cabinet for securing cabinet directly to the mounting surface. In selecting the mounting bolts to be used, be certain each bolt will engage all the threads in the tapped bushing. The proper bolt thread and spacing between bolts are shown in Figure 3 for both the table and floor models.

Note: Install signal line and power cables before securing the table model to a mounting surface.

2.03 On the console model, four adjustable feet permit a maximum variation of one inch in height at each corner for the purpose of leveling the cabinet. Use a 3/4 inch open-end wrench on the feet to make adjustments.

2.04 Instructions for installing separately packed accessories are included with each modification kit.

#### B. Electrical Connections

2.05 Two holes, containing filler plugs, are provided in the rear corners of the shelf of the printer compartment. Two additional holes, containing knockouts, are provided in the rear corners of the floor of the lower compartment. Make electrical connections by opening these holes and feeding cables up from the bottom through the holes. Signal line and power cable

may be routed through either the left or right hole. Wires or cables (used in the table cabinet), which are routed through these holes, should be taped. The taped cables and/or wires will use the excess space in the hole and provide for noise reduction as well as strain relief for the cables. See Figure 4.

Note: In units where RF noise suppressors are used, power line and signal line connections are made directly to the appropriate suppressor through strain relief clamps located centrally underneath the bottom of the printer compartment. See Figure 4.

2.06 Cable clamps are provided for securing cables at the input point to the floor model cabinet, thus providing strain relief. Electrical tape may be wound around the wires at the clamping point, if additional thickness is required. The clamps are supplied in a bag tied inside the lower compartment.

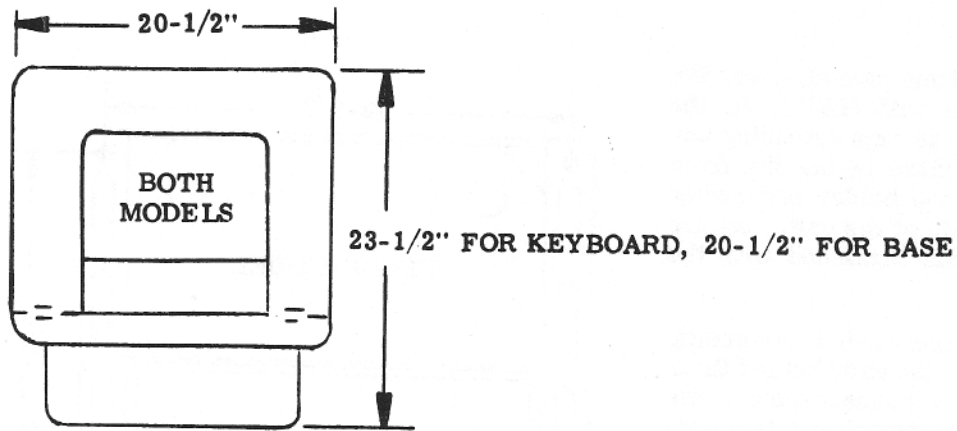
Note: Paragraph 2.06 does not apply to floor model cabinets that have a 4-1/4 inch wide and 6 inch high cable duct opening in the lower right side. Covers are provided to conceal the cable duct opening.

2.07 A horizontal wiring channel with two terminal blocks extends across the upper rear position of the printer compartment of the cabinet. These terminals are protected with insulating covers which are secured to posts in the channel by means of screws. Remove the cover to expose the terminals so that set connections may be made.

2.08 Make power and signal line connections to the cabinet and attach the wiring from various units comprising the printer set, in accordance with the appropriate printer set wiring diagrams. An actual wiring diagram of each unit is packed with the unit, while a schematic wiring diagram of the complete printer set is packed with the electrical service unit.

Note: Reference to these diagrams is emphasized in order to avoid the many difficulties that may arise from incorrect wiring and connecting.

2.09 A cabinet ground stud is provided above the right terminal block on the lid hinge mounting flange. A wire connected to the common station ground should be attached to the ground stud in each cabinet at the time of installation.



(Top View)

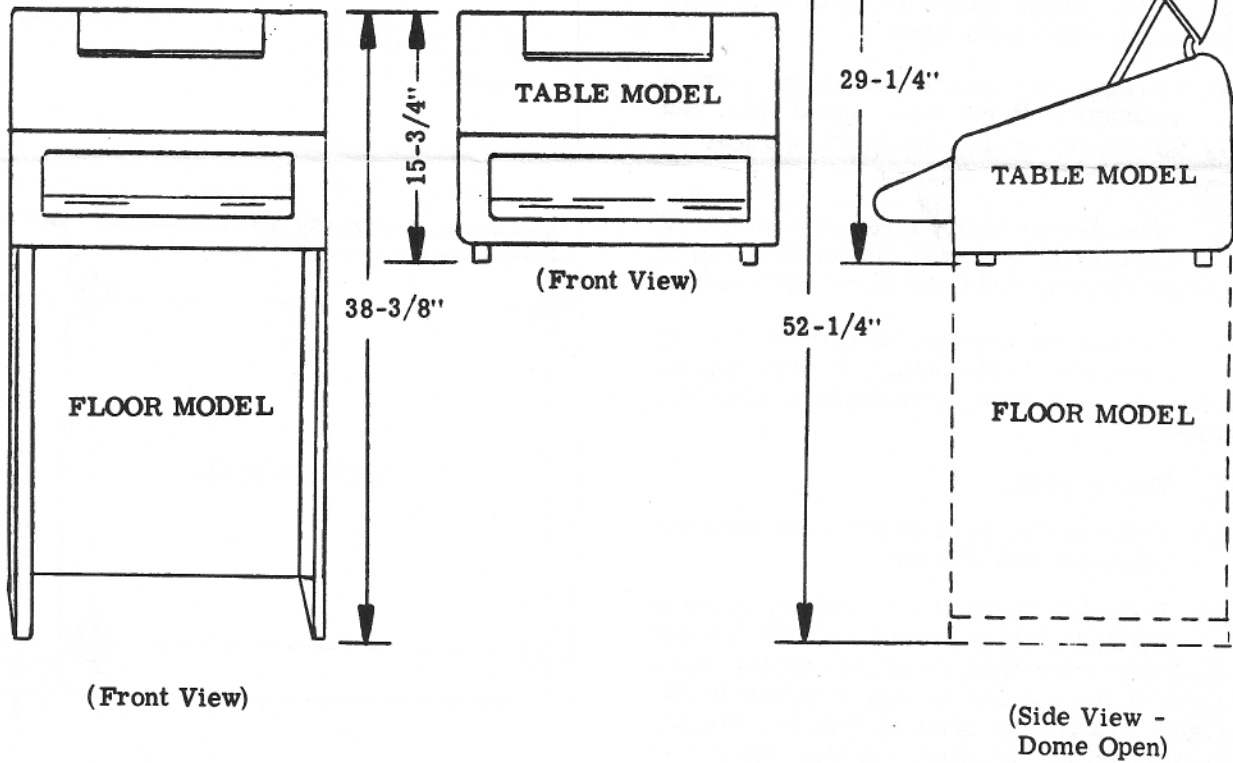


Figure 2 - Space Requirement Dimensions

## C. Installation of Components

## Electrical Service Unit

2.10 With the cabinet dome raised, place the electrical service unit (LESU) in the rear of the cabinet, with the legs extending upward, the serial number plate facing the front of the cabinet, and the fuse holder and power receptacle on the right side of the unit. Secure it in position with two studs furnished with the unit.

2.11 Route the loose end cables (extending from either side of the unit) behind their respective cable guides and connect them to the lower row of terminals on the cabinet terminal blocks. Make connections as shown on the applicable wiring diagram allowing sufficient slack near terminals.

2.12 Route the typing unit and keyboard cables behind their respective cable guides, and forward through cable guides mounted on the side cradle rails. These cables are to be connected to their respective units later.

2.13 Connect the cabinet lighting, margin indicator, signal bell, signal line, and power line cables to the terminals as shown on the appropriate wiring diagram.

2.14 Make the necessary strap connections at the cabinet terminal blocks as shown in the wiring diagram of the electrical service unit.

2.15 Remove the rear crossbar of the cradle assembly in the cabinet by removing its two mounting screws, lockwashers and flat washers.

## 2.16 Manual Switch

- (a) Unfasten the power switch shaft from the hinge bar and bracket.
- (b) From the inside of the cabinet, position the short bent portion of the shaft through the hole in the right front side on the upper shelf of the cabinet so that it points to the right. Locate the shaft so that the bracket on the end of the shaft engages the power switch lever on the electrical service unit and the groove at the end of the shaft engages the edge of the pivot hole in the front right corner of the LESU chassis.
- (c) Place one end of the power switch shaft spring on the power switch shaft and hook the other end in the hole on the side cradle

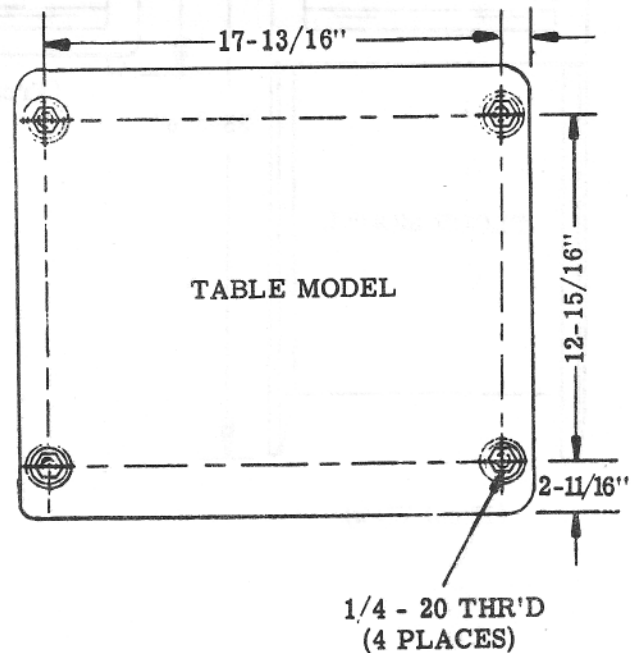
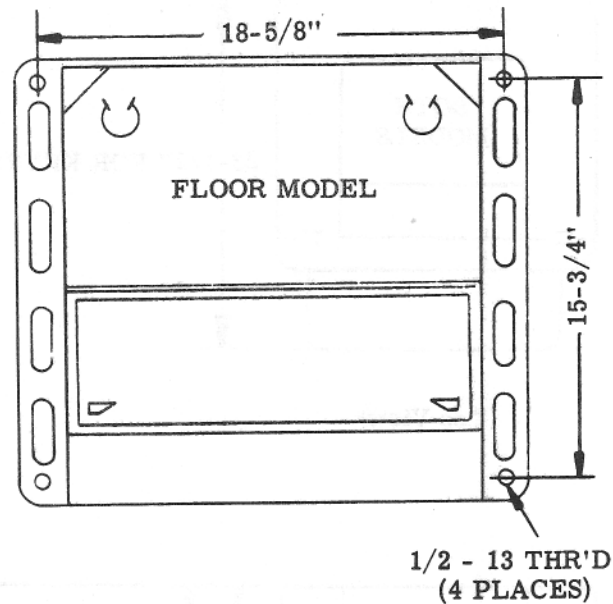


Figure 3 - Bottom Dimensions



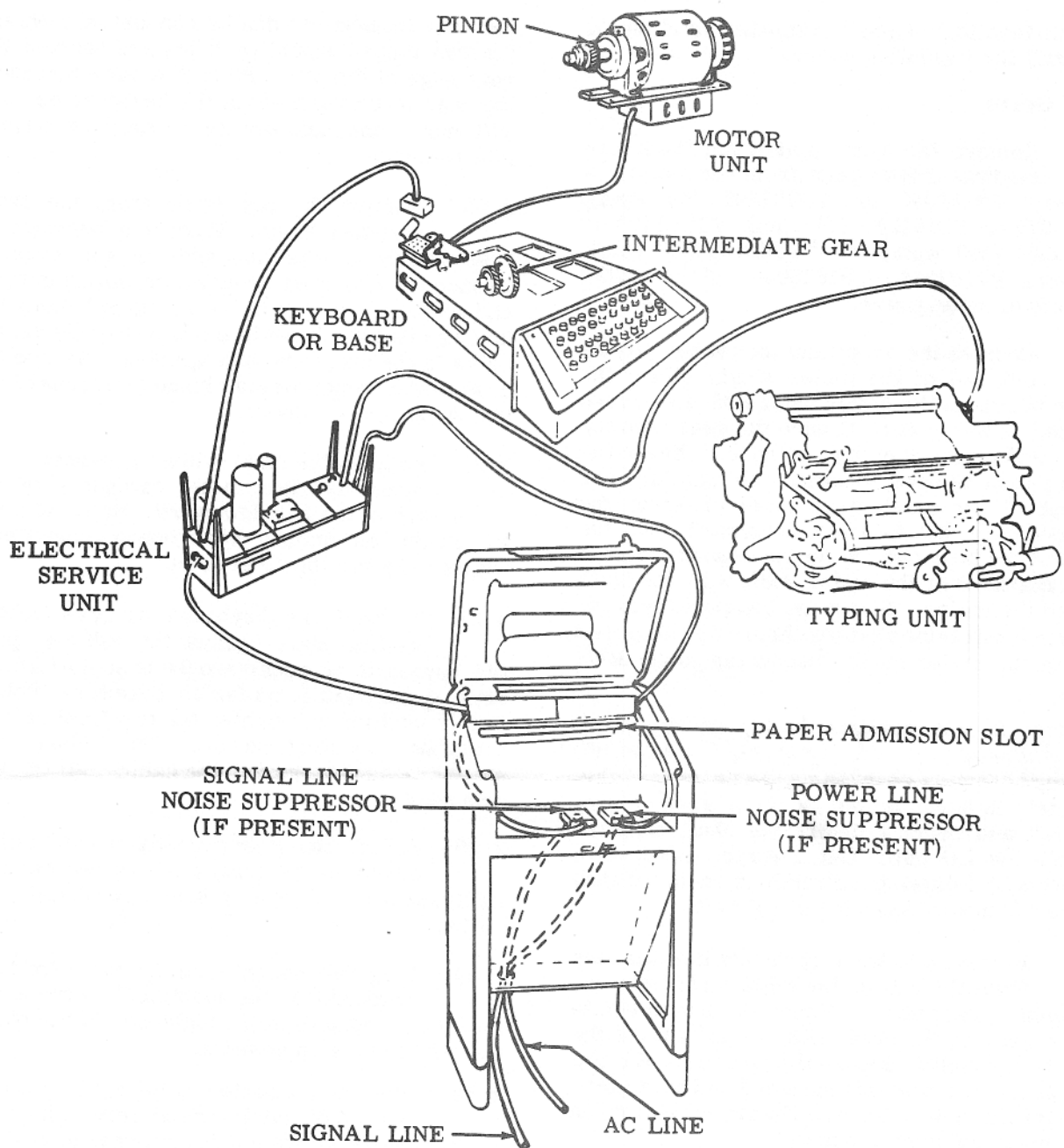


Figure 4 - Basic Units Cable Arrangement

rail of the cradle assembly. If the shaft is properly seated in the pivot hole in the LESU, the shaft will not pull out.

#### Motor Unit

2.17 Remove the gear guard tied to the keyboard or base. Remove four of the 1/4-32 hex head screws with captive lockwashers

from the bag tied to the gear guard. Secure the motor unit to the keyboard or base with the four screws and lockwashers. Connect the ground strap (on motor units so equipped) to the right rear motor mounting screw.

2.18 Remove the insulating cover from the terminal block on the keyboard or base just to the left of the motor. Connect the motor

leads to terminals 1 and 2 of this terminal block. Reinstall the insulating cover.

#### Set of Gears

2. 19 Remove the motor pinion and the intermediate driven gear from the small box stamped TP151060 or TP161293 (60 wpm), TP151075 or TP161294 (75 wpm), TP151100 or TP161295 (100 wpm), or TP152766 (67 wpm). Numbers TP161293, TP161294, and TP161295 are sets of nylon gears.

2. 20 Remove the screw and lockwasher in the left end of the motor shaft. Place the motor pinion on the motor shaft with the geared end toward the motor. Secure the gear with the screw and lockwasher just removed. Where the nylon pinion is used, position the isolator over the hub of the nylon gear while pressing the extensions of the isolator downward into the holes of the gear hub. Slide the assembled gear and isolator over the motor shaft with the teeth toward the motor. Insert the two posts into the holes in the isolator aligning them with the tapped hole in the motor shaft. Screw the posts down tight.

Note: In sets on which the LD multiple wire distributor unit is to be used, intermediate gear assembly changes should be made at this point. Remove the intermediate gear driving shaft and replace it with the shaft supplied with the LD unit. Complete the LD installation by following instructions enclosed with the LD modification kit of LD unit.

2. 21 Remove the two screws and lockwashers from the hub on the right end of the intermediate gear shaft. Mount the intermediate driven gear on the shaft with the flat side of the gear to the right. Secure the gear with the two screws and lockwashers removed and make certain that the motor pinion and intermediate driven gear mesh together properly.

2. 22 To install the gear guard, mount it in position over the motor pinion and intermediate gear mechanism and secure it with the rear left motor unit screw.

#### Keyboard or Base

2. 23 Remove the cabinet crossbar from the front of the cabinet by loosening the two thumb screws that secure it.

2. 24 Remove the two studs from the rear crossbar previously removed from the cradle assembly. See Paragraph 2.15. Turn

the rear crossbar so that its channel is down and the two tapped mounting holes are nearest the rear edge of the bar. Place the bar underneath the rear mounting holes of the keyboard or base with motor unit, and secure it with the two studs just removed.

2. 25 Remove the two studs from the front crossbar hinge. Place the keyboard or base on the cradle assembly in the cabinet. Loosen the two front crossbar mounting screws and position the bar in its elongated mounting holes so that the holes in the base and the tapped holes in the hinge are in alignment. Secure the base to the front crossbar hinge by means of the two studs just removed.

2. 26 Replace the front cabinet crossbar in its mounting slots in the cabinet with the wider side of the bar downward. Be careful not to jam the bar against the keyboard contact box. Tighten the two thumb screws.

2. 27 To seal the keyboard or base rubber sealing plate against the cabinet, push the keyboard or receive-only base toward the rear of the cabinet as far as possible. Hold it in this position and tighten the two front cabinet crossbar mounting screws. The rubber seal should fit snugly against the cabinet all the way around.

2. 28 Secure the rear crossbar to the cradle assembly by means of the two screws, lockwashers, and flat washers previously removed.

2. 29 Plug the connector on the cable from the right end of the electrical service unit into the receptacle on the right side of the typing unit and latch it in position.

2. 30 Plug the connector on the cable from the left end of the electrical service unit into the receptacle on the left rear corner of the keyboard or base and latch it in position.

2. 31 Mount the RY30 relay in LESU units if so equipped. Observe polarized pins and insert relay into socket.

#### Typing Unit

2. 32 Install the typebox on the typing unit if not previously installed.

**CAUTION: THE TYPEBOX SHOULD BE FIRMLY SEATED ON THE BEARING STUDS. THE POINT OF THE LATCH TOGGLE**

SHOULD BE PLACED IN THE NOTCH OF THE TYPEBOX PLATE BEFORE MOVING THE TOGGLE TO ITS LATCHED POSITION TO AVOID SPRINGING THE LATCH.

2.33 Place the page typing unit on the keyboard or base. The front feet of the typing unit must be placed over the locating studs provided on the keyboard or base. Rotate the motor by hand until the gears mesh properly. Secure the typing unit with the four remaining screws with captive lockwashers from the bag.

2.34 The following adjustments should be made during initial installation of the printer set prior to placing the keyboard or base and typing unit into the cabinet. They should also be checked if a different unit is substituted at a later date.

- (a) MOUNTING TYPING UNIT ON KEYBOARD OR BASE (Interrelated Features) - Section 573-116-700TC
- (b) INTERMEDIATE GEAR BRACKET (Interrelated Features) - Section 573-116-700TC
- (c) TIME DELAY DISABLING DEVICE (Time Delay Mechanism) - Section 573-116-700TC
- (d) MOTOR SPEED (Series Governed Motor Units) - Section 573-220-700TC
- (e) PAPER FINGER OR GUIDE BRACKET (Line Feed and Platen Mechanism) - Section 573-115-700TC
- (f) PAPER GUIDE (Line Feed and Platen Mechanism) - Section 573-115-700TC
- (g) COPY WINDOW (LAC) - Section 573-134-700TC

#### Final Checking

2.35 A visual check of all fuses, plugs, screw terminal connections, and lamps for looseness or breakage should be made before putting the equipment into operation.

2.36 Make certain that the power control shaft is downward to its OFF position before closing the main power to the equipment.

Note: Insert a piece of bond paper between the selector magnet pole faces and the armature to soak up any lubrication which may have accumulated. When removing the paper, make sure no lint or bits of paper remain.

#### Lighting Facilities

2.37 For cabinet with two copylight switches, the switches are to be checked as follows:

- (1) The copylight switch (ON, OFF, MAIN ON), located on the electrical service unit, should be in the ON position.
- (2) The copylight switch, located to the left of the window in the cabinet dome, should be in the ON position.

Note: Make sure the copylight shield does not interfere with the print hammer. If necessary, loosen the crossbar mounting screws on the cradle and push keyboard or base toward the rear for clearance.

2.38 For cabinet with one copylight switch, the location of the switch depends upon the respective copylight modification kit installed.

- (a) When using either the TP154744 or TP159357 kit (6 volt system for ac application), the switch is located on a bracket attached to the right dome hinge and should be in the NORMAL ON position.
- (b) When using the TP152309 kit (60 volt lamps for dc application), the switch is located to the left of the window in the cabinet dome and should be in the NORMAL ON position.

#### Installing Paper and Ribbon

2.39 To install paper, remove paper spindle by sliding one of the spindle retainers toward the rear. Insert spindle in a roll of paper and remount it so that the paper unwinds from underneath. With the paper release lever toward the rear, route the paper up over the paper straightener shaft, down, and under the platen as shown in Figure 5.

2.40 To install ribbon, remove both spools from the ribbon spool shafts. Engage the hook on the end of the new ribbon in the hub of the empty spool. Wind a few turns of the ribbon onto the empty spool in the same direction that it comes off the full spool. Make sure that the reversing eyelet has been wound up on the empty spool. Place the spools on the ribbon spool shafts so that the ribbon on the right spool comes off the right side and the ribbon on the left spool comes off the left side without twisting. Thread the ribbon around the rollers and through the reverse lever slots as shown in Figure 6.

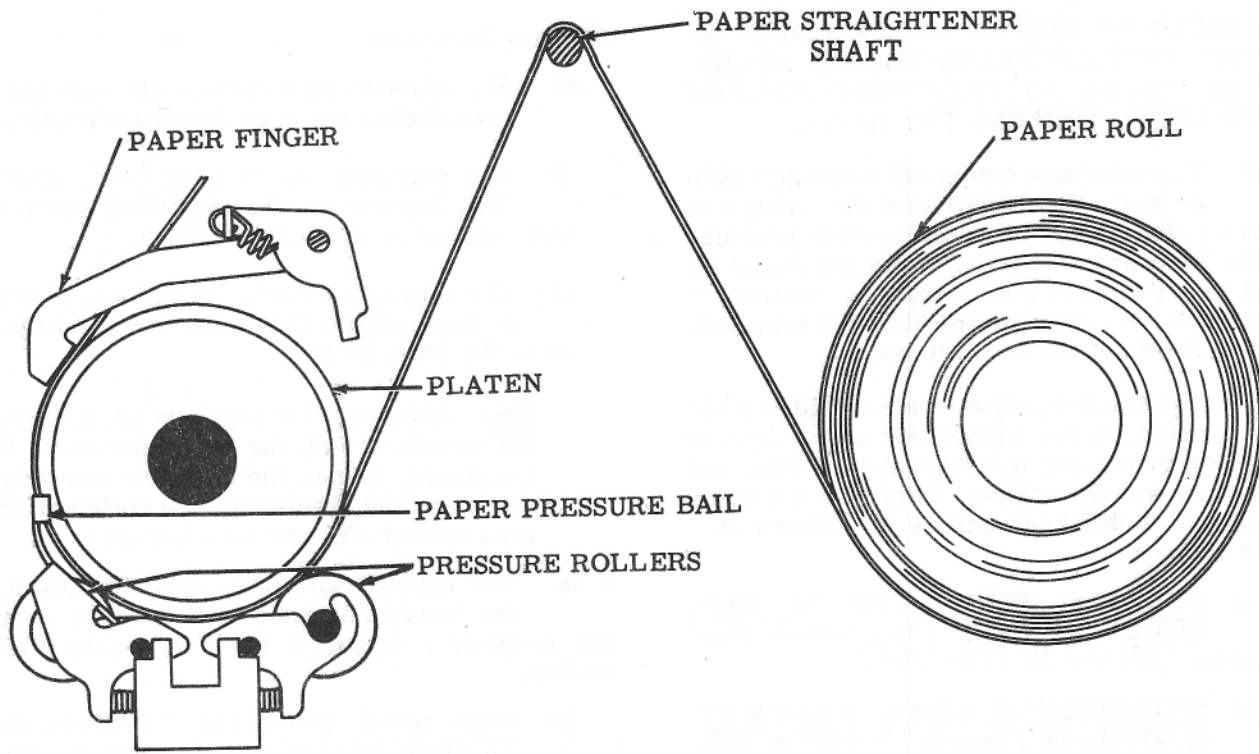


Figure 5 - Path of Paper

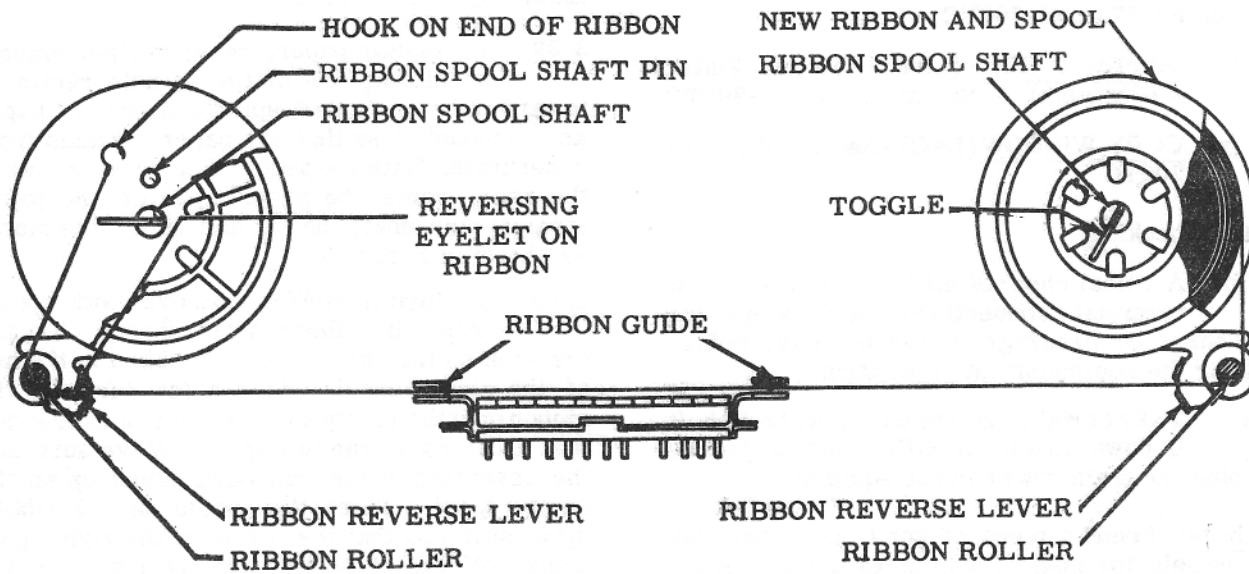


Figure 6 - Path of Ribbon



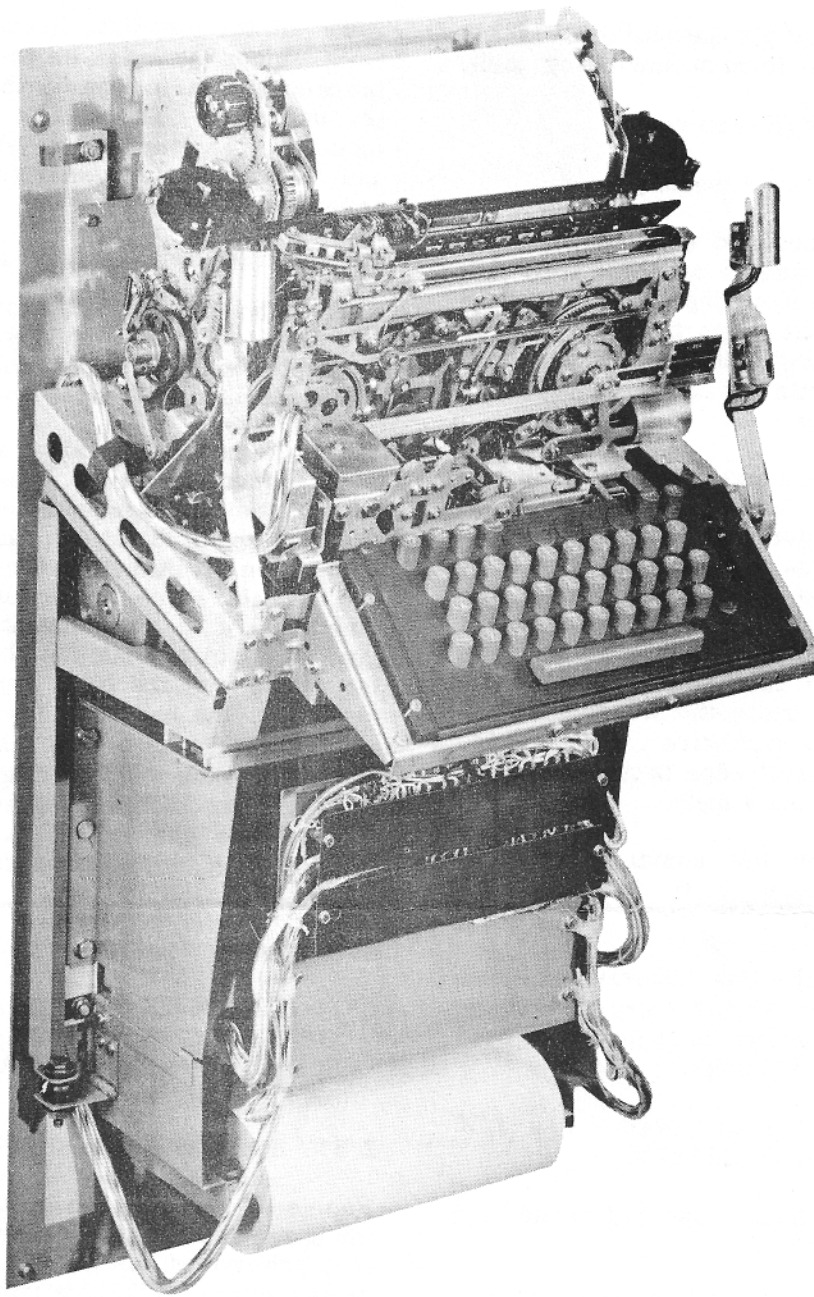


Figure 7 - Wall Mounted Printer Set (Cover Removed)

#### Sprocket Feed Paper

2.41 The sprocket feed typing unit will handle up to 12 copies of stapled continuous form paper or up to 6 copies of unstapled paper. When this paper is used, the paper admission slot in the back of cabinet behind the electrical service unit must be opened. Loosen the two nuts under the flange inside the cabinet and move the plate so that the slot is open.

2.42 The stapled form paper may be fed from a form supply box on the floor behind the cabinet or from the shelf provided in the TP152349 paper supply box and form accumulating shelf.

2.43 The unstapled form paper should be fed from the form supply box on a platform not more than 18 inches below the paper admis-

sion slot or on the shelf provided in the TP152349 paper supply box and form accumulating shelf.

#### WALL MOUNTED SETS (Figure 7)

##### A. Mounting Backplate Assembly

2.44 The fully assembled wall mounted page printer set weighs approximately 110 pounds. It has seven mounting holes for attaching it to the wall. The supporting wall must be capable of withstanding a 60-pound shear force and a 90-pound tensile (or compressive) force at each mounting hole.

2.45 The locations of the mounting holes on the backplate assembly are shown in Figure 8. Since the horizontal distance between holes is 14-5/8 inches, the backplate cannot be mounted on standard 16 inch center-to-center wall studs. When attaching the backplate assembly to wall structures where the existing mounting holes are unsatisfactory, alternate holes may be added along the side and bottom edges. No mounting hardware can be located along the upper central edge because it would interfere with the paper supply.

2.46 The following list contains suggested mounting hardware to be used with various wall materials.

- (a) Masonry Wall - Use Ackerman-Johnson retainers or tabular expansion shield (made by the Rawplug Company) with 3/16 inch diameter or #12 bolts.
- (b) Hollow Wood or Tile Wall - Use 3/16 inch diameter toggle bolts.
- (c) Solid Wood Wall - Use #12 round head wood screws.
- (d) Lath and Plaster, or Plasterboard Walls - Use 3/16 inch diameter toggle bolts. Auxiliary support may be required for these types of walls. Caution must be taken to insure that the supporting wall meets the loading requirements set forth in Paragraph 2.44.

2.47 As indicated in Figure 8, the recommended height from the floor to the top mounting holes is 54 inches. This distance has been found satisfactory to accommodate an average height operator. If desired, the height may be varied to meet the customer's requirements.

2.48 If the backplate is used for locating the mounting holes on the wall, it may be more convenient to separate the framework from the backplate. This can be accomplished by loosening the four screws shown in Figure 9 and sliding the framework from the backplate assembly.

##### B. Intermediate Gear and Keyboard

2.49 The following installation and adjusting procedure for the keyboard (or base) and the typing unit are to be performed before the units are installed on the backplate assembly.

2.50 Remove the retainer ring, which is adjacent to the left bearing side, and the 3/8 inch hex nut and associated lockwasher from the right end of the shaft. Slide the shaft to the left and remove the pulley, the two belt retainers, and the belt. Place the rubber isolator over the small end of the intermediate gear. Slide the gear with isolator onto the shaft so that the isolator side is on the left. Replace the two belt retainers, the belt, and the pulley. Slide the shaft to the right, back to its original position, and replace the retainer ring, the 3/8 inch hex nut, and associated lockwasher. Locate the intermediate gear in its correct position and fasten it with the two set screws supplied. See Figure 10.

##### C. Mounting Typing Unit on Keyboard

**CAUTION: LOOSEN MOUNTING SCREWS ON THE INTERMEDIATE GEAR ASSEMBLY. MOVE ASSEMBLY TO ITS REAR-MOST POSITION.**

2.51 Remove and retain the four mounting screws supplied with the base unit. See Figure 10. Place the typing unit on the keyboard (or base) unit and make certain that the front feet of the typing unit are placed over the locating studs provided on the base unit. Rotate the intermediate shaft by hand in order to mesh the gear teeth. Secure the typing unit to the base unit with the four mounting screws.

(1) Adjust the intermediate gear assembly and the timing belt as indicated in Figures 11 and 12.

(2) Remove the typing unit from the keyboard (or base) in preparation for installing the keyboard (or base) on the backplate assembly.

2.52 Place the motor unit on the bottom of the base unit in the proper location. See Figure 7. Place timing belt over the pinion.

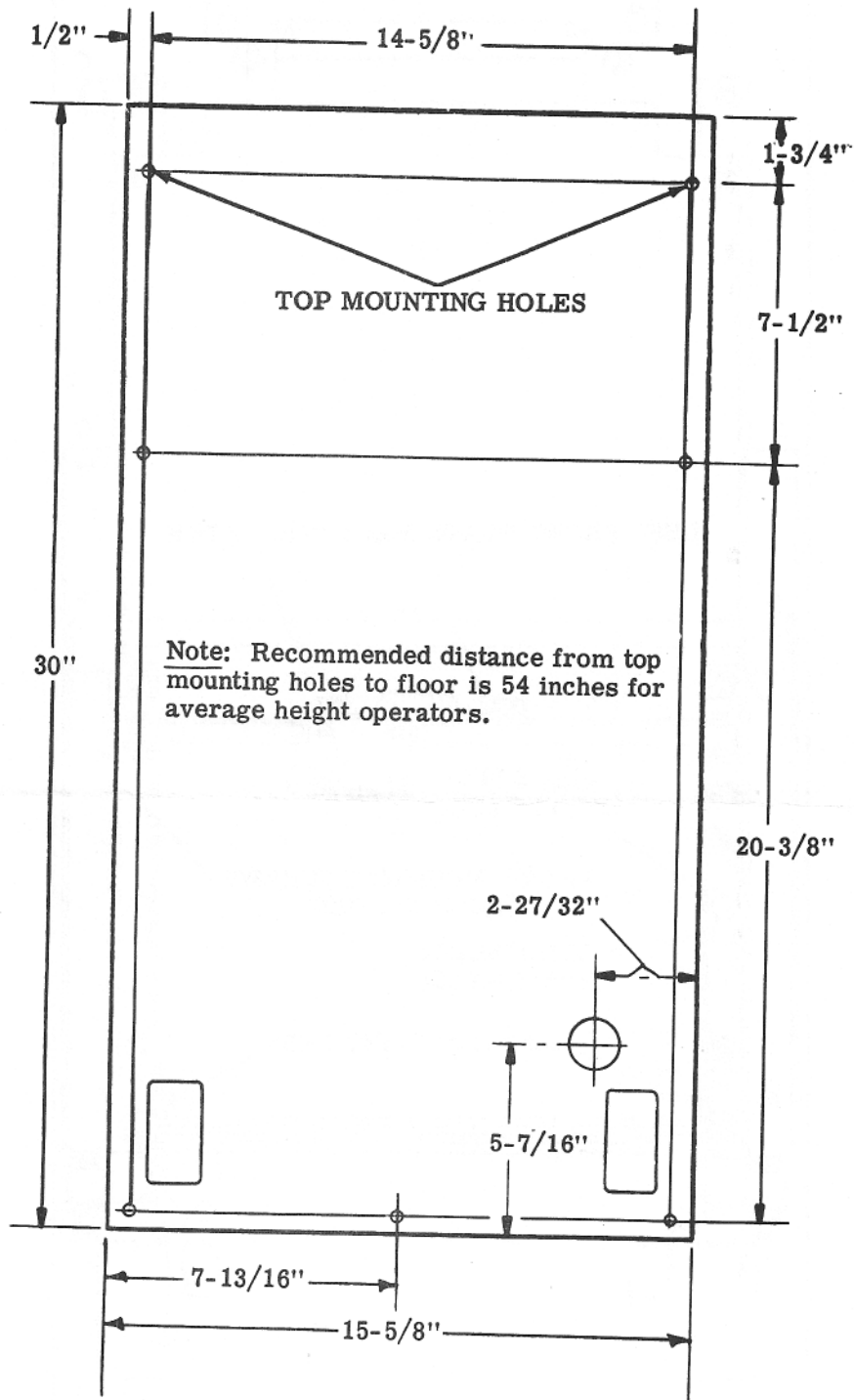


Figure 8 - Location of Mounting Holes for Backplate

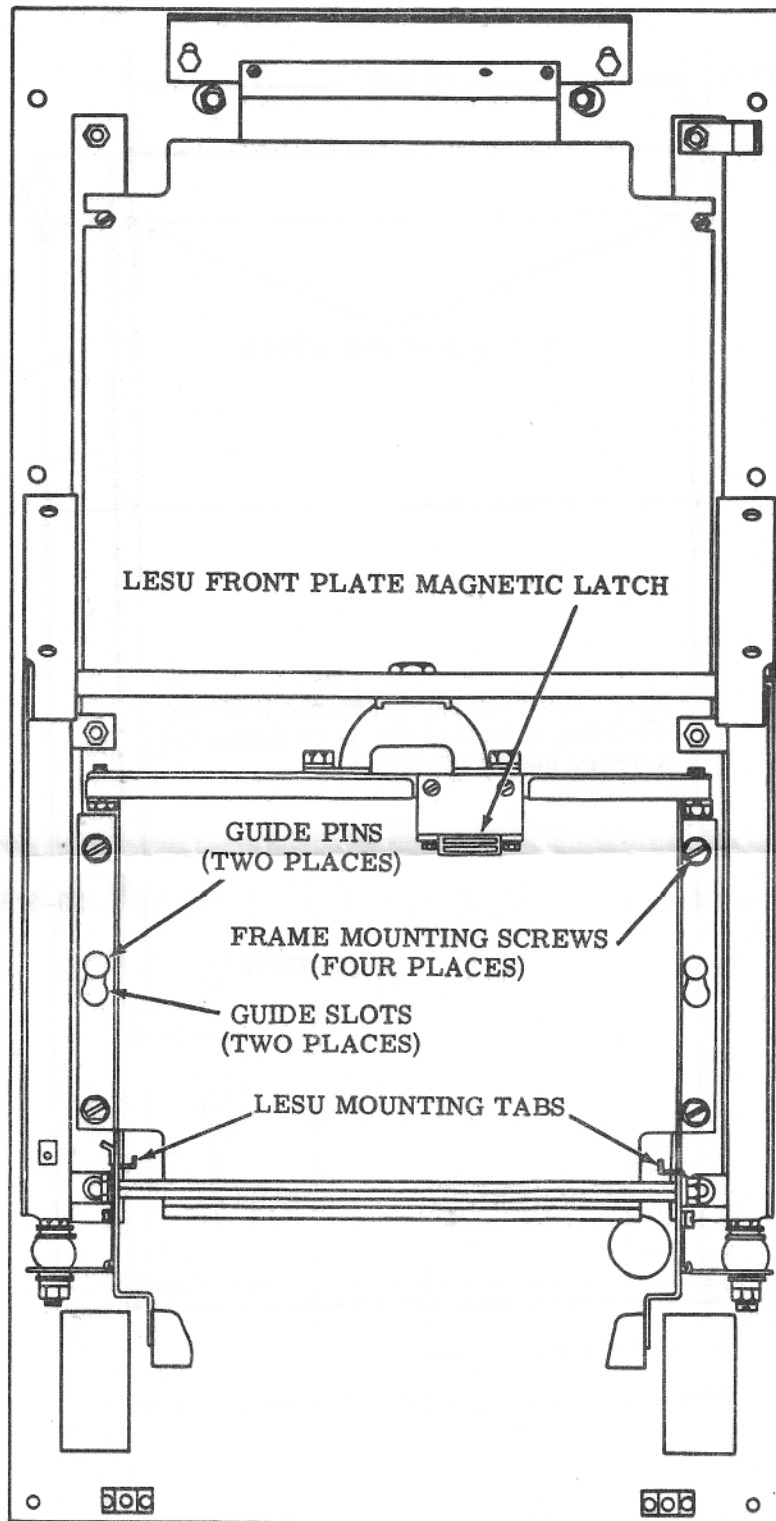


Figure 9 - Backplate Framework



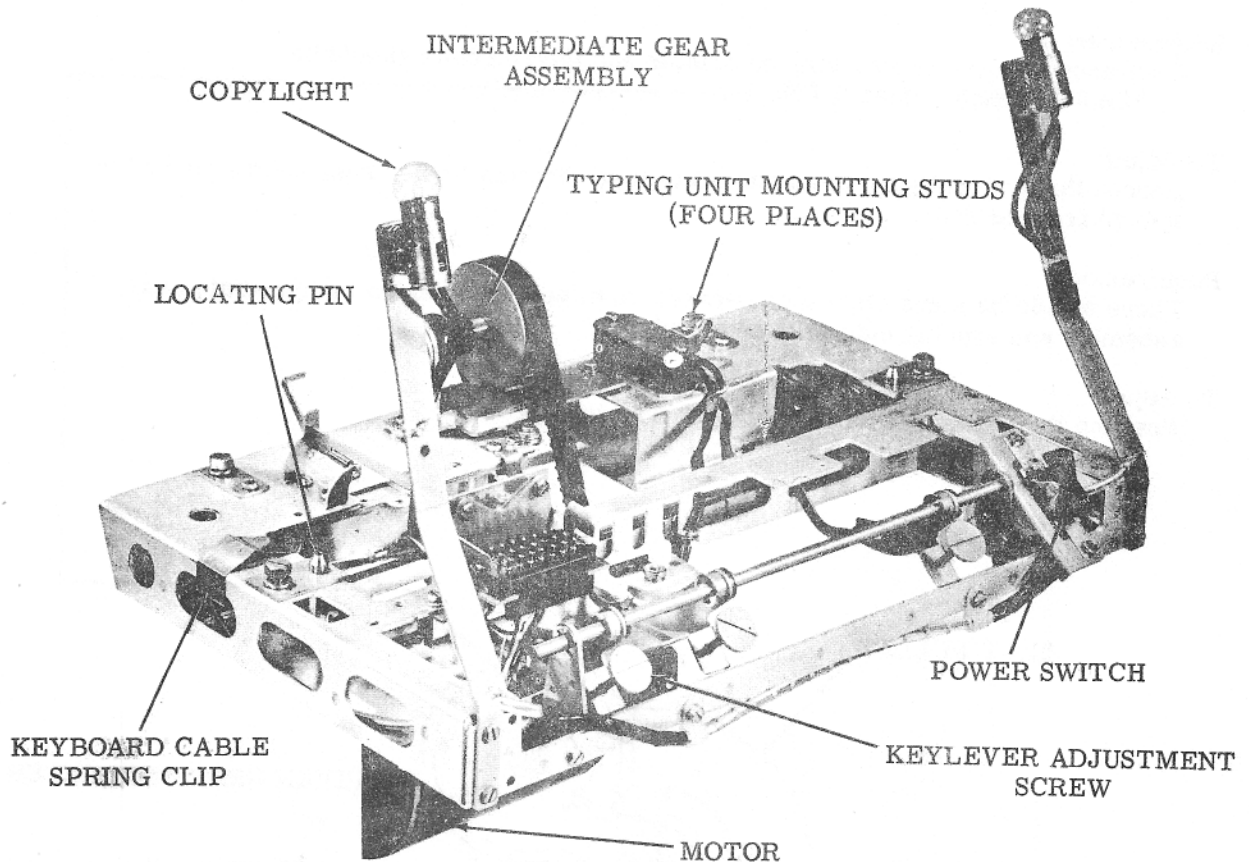


Figure 10 - Wall Mounted Printer Base

Push motor to rearmost position and secure it to the base with four screws, four lockwashers, two nuts, and two nut plates.

- 2.53 Insert the keyboard ground strap between its ground screw on the keyboard base and the mounting frame at the front right corner of the backplate assembly.
- 2.54 With the motor unit in its properly adjusted position, secure the keyboard (or base) to the backplate assembly with the mounting studs which are supplied as part of the keyboard (or base) assembly.
- 2.55 Mount typing unit to keyboard (or base) following instructions in Paragraph 2.51.
- 2.56 With the keyboard (or base) and typing unit in place, adjust the two support hinges near the base of the backplate assembly as outlined under HINGE MOUNTS in Section 573-134-700TC.

#### D. Electrical Service Unit

2.57 The lower part of the mounting frame has four projecting tabs upon which the electrical service unit rests (Figure 9). Place the unit into the frame. On early models, the hinged front plate is held in place by a magnetic latch on the mounting frame. Later models have positive latches. The plate and latch should be perpendicular to each other as gauged by eye. If necessary, loosen the screws and position the latch to meet the requirement.

2.58 Route the keyboard connecting cable from the electrical service unit up along the left side of the mounting frame. Route the cable behind all spring clips supplied with the mounting frame for this purpose. Clamp the keyboard cable to the keyboard with the spring clip supplied on the keyboard. See Figures 7 and 10. Route the typing unit connector up along the right side of the mounting frame and fasten with the spring clips supplied with the frame.

SECTION 573-100-200TC

(1) Requirement

Clearance between driven gear on printer and intermediate should be  
Min 0.004 inch---Max 0.008 inch

To Adjust

Loosen three mounting screws and make them friction tight. Position the assembly toward front or rear.

(2) Requirement

There should be some clearance between right belt retainer on intermediate gear assembly and spacing cutout lever on printer.

To Adjust

Position the assembly toward the left. Tighten screws.

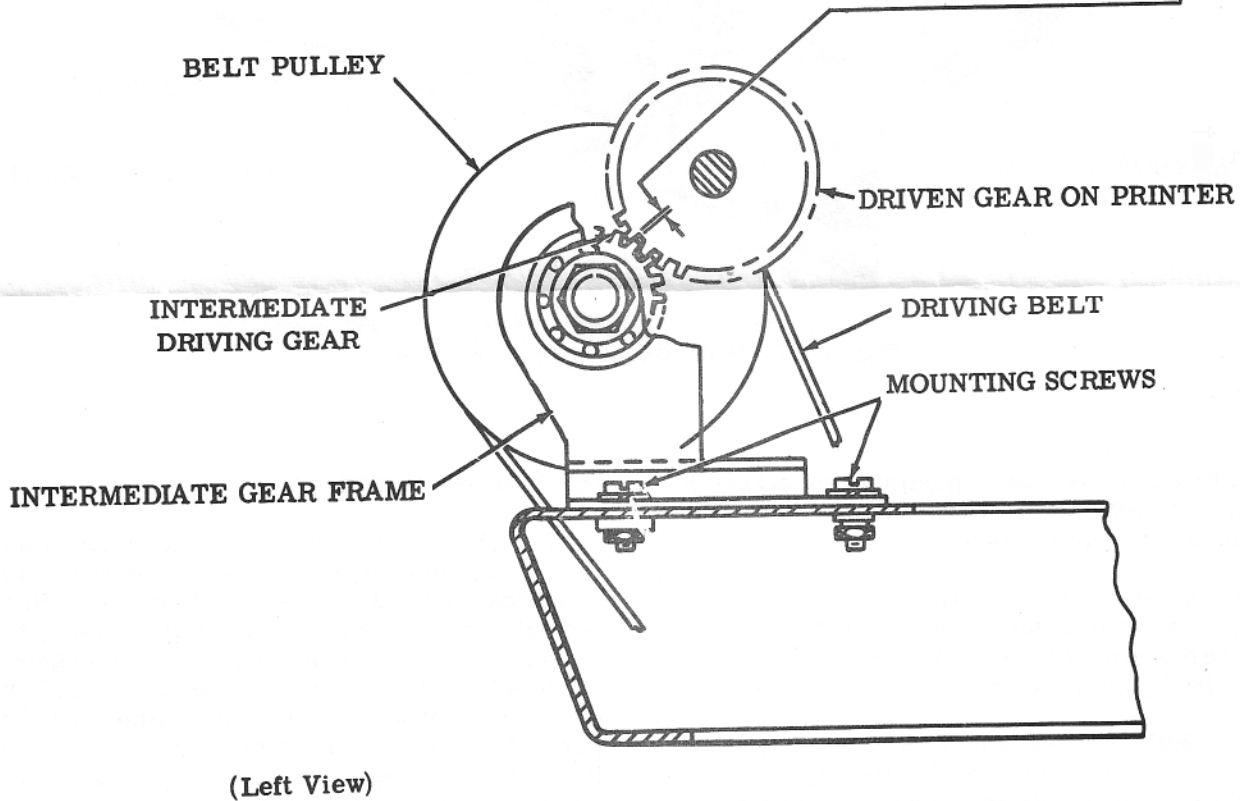


Figure 11 - Intermediate Gear Assembly

**Requirement**

Force of 2  $\pm$  1/2 ozs to deflect belt 1/8 inch when measured midway between pulleys.

**To Adjust**

With motor plate mounting screws loosened, slide motor toward front of base to increase tension or toward rear of base to decrease tension. Tighten screws.

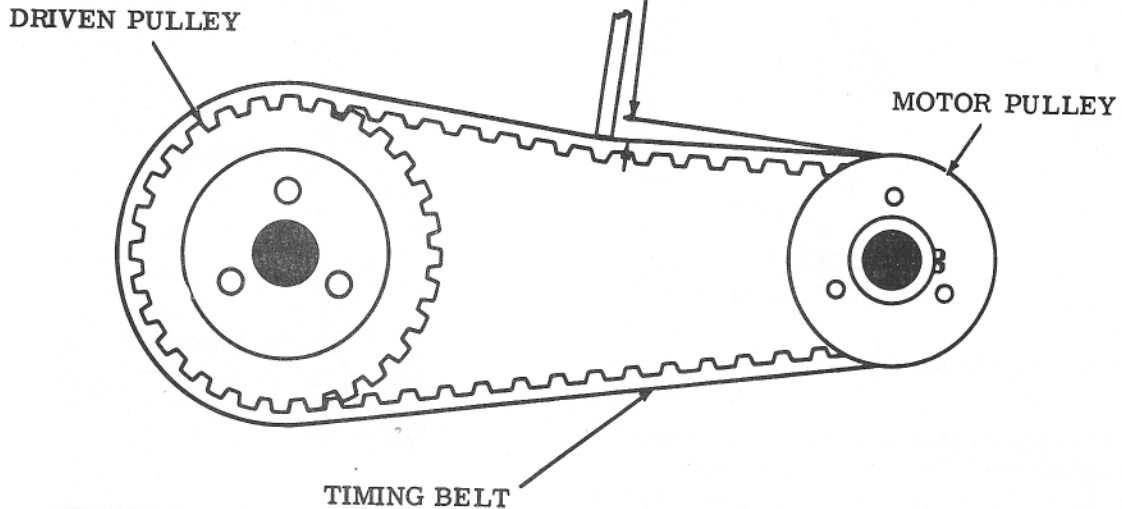


Figure 12 - Timing Belt Adjustment

- 2.59 Securely connect the two ground straps at the left end of the service unit to the cabinet mounting frame and the page printer mounting frame. See Figure 13. Friction fit ground tabs are supplied.

**Note:** Ground connections must be made properly to eliminate shock hazard!

**E. Cover Installation and Adjustments**

**Note:** The requirements for the following adjustments are covered in Section 573-134-700TC.

- 2.60 With the cover removed from the backplate assembly, check the WINDOW DOOR HINGE MOUNTS, LOWER DOOR LATCHES, and COPYHOLDER adjustments.

- 2.61 Before placing the cover on the backplate assembly, loosen the nut securing the large central mount and make it friction tight. For Receive-Only (RO) Sets, remove the three

keylever assemblies from the cover by removing six nuts, lockwashers, and flat washers.

**Note:** The following adjustments in Section 573-134-700TC are to be performed with the cover in place but not secured, ie, the two screws at the bottom of the backplate assembly are not tightened:

KEYTOP GUIDEPLATE COVER (Send-Receive Set)  
KEYTOP COVER (Receive-Only Set)  
KEYTOP GUIDE AND COVER (Send-Receive Set)  
POWER SWITCH

**General Cover Adjustments**

- 2.62 Check the WINDOW AND PAPER GUIDE adjustment in Section 573-134-700TC.
- (a) Upon completion of the above adjustment, secure the cover in position with the two screws located near the bottom of the backplate assembly.

CAUTION: TO INSURE PROPER GROUNDING, PILE HARDWARE IN THE INDICATED ORDER.

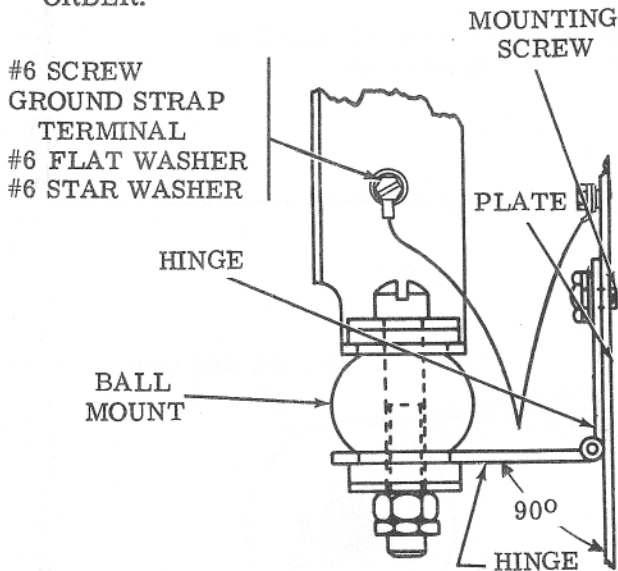


Figure 13 - Ground Strap Installation

(b) Clip the lamp shields on the two copyright lampholders. The clearance between the lamp shields and the cover should be a minimum of 1/16 inch, if as indicated under COPY LAMPS in Section 573-134-700TC.

F. Miscellaneous

Power and Telegraph Connections

2.63 The power cord to be used with the apparatus must be of the three-wire type. A receptacle supplied with the electrical service unit is to be connected to the mate provided on the bottom plate of the service unit.

Note: Attach the ground lead to the center post of the receptacle.

2.64 Power and telegraph leads may be brought through the rear of the backplate assembly or through the hole located in the bottom of the cover.

Paper and Ribbon Installation

2.65 The paper spindle for the friction feed page printer is supplied with the typing unit. Insert the spindle in a roll of paper and mount it in the lower part of the cabinet so that the paper unwinds from underneath. Route the paper up through the paper channel in the rear and down under the platen (as indicated in Section 573-134-700TC). Check power lead and, if nec-

essary, route it in such a manner as not to interfere with the paper.

2.66 If a sprocket feed page printer is installed, the plastic spindle retainers may be removed to provide additional storage space for sprocket feed forms. These retainers are attached to the lower part of the backplate assembly.

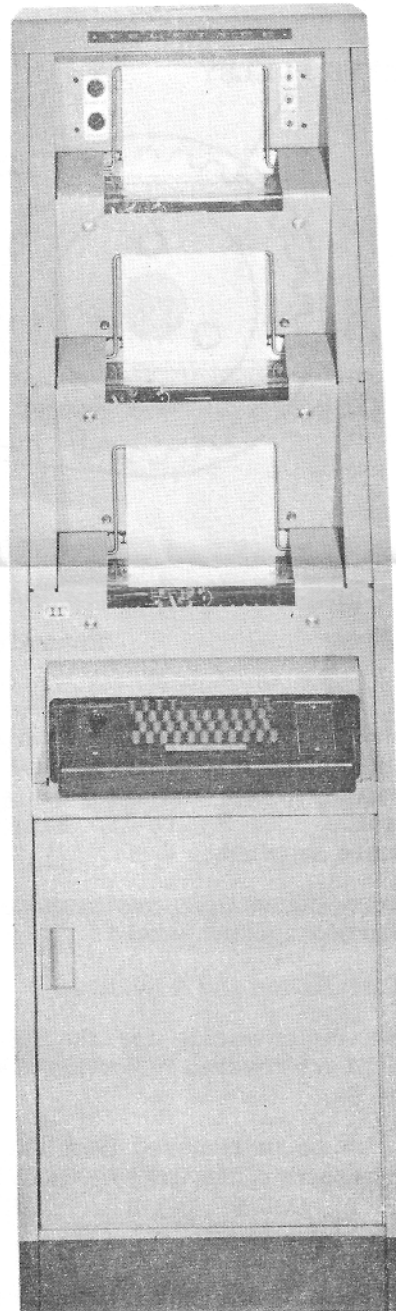
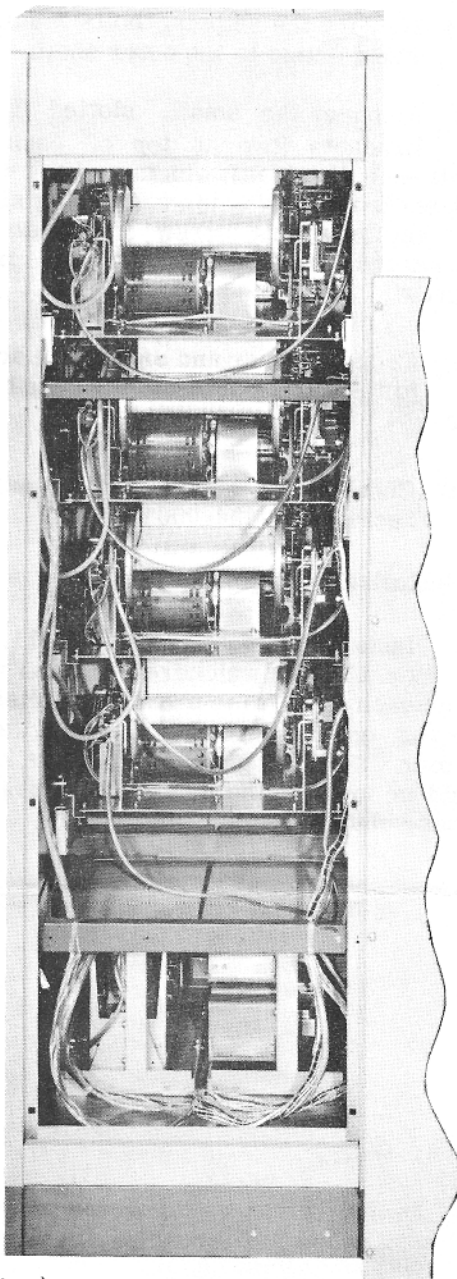


Figure 14 - Multiple Mounted KSR and RO Set

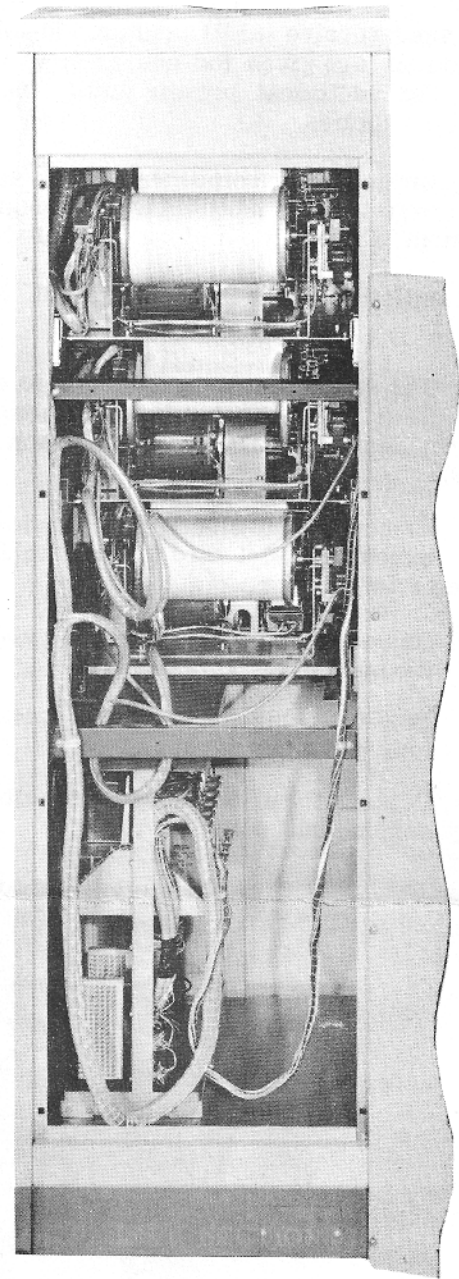




(Rear View)

Figure 15 - Four Unit Multiple Mounted RO Set

2.67 Remove both spools from the ribbon spool shafts. Engage the hook on the end of the new ribbon in the hub of the empty spool. Wind a few turns of the ribbon onto the empty spool in the same direction that it comes off the full spool. Make sure that the reversing eyelet has been wound up on the empty spool. Place the spools on the spool shaft so that the ribbon on the left spool comes off the left side without twisting. Thread the ribbon around the



(Rear View)

Figure 16 - Three Unit Multiple Mounted Set; One KSR and Two RO

rollers and through the reverse lever slots (Figure 6).

**MULTIPLE MOUNTED SETS** (Figures 14, 15, 16, and 17)

**A. General**

2.68 Some multiple mounted sets consist of three or four receive-only (RO) printers; others consist of two RO printers and one key-

board send-receive (KSR) printer. Installation instructions are given for one printer of each type. For additional printer units, the same procedure applies.

2.69 Unpack each component of the set with care to avoid scratching or damaging the equipment. Carefully cut along the sealed edges.

B. Installation of Cabinet (Figures 18, 19, and 20)

2.70 The cabinet must be fastened to a level floor. One-quarter inch mounting holes are provided. Mounting hardware is not furnished.

- (a) Remove the electrical service unit mounting panel through the front lower compartment door.
- (b) Remove the plate floor to gain access to the base of the cabinet.
- (c) Bolt the cabinet to the floor through the four holes provided.
- (d) Replace the plate floor and the electrical service unit mounting panel.

(e) Remove the shipping bolts which tie the inner frame to the outer shell.

(f) Remove the small, slotted L-shaped brackets (two at top of each sliding rail — both sides) which prevent the base plates from moving upward during shipment. Loosen mounting screw and slide slotted L-shaped bracket out. Tighten mounting screw.

(g) Connect power and signal line according to the wiring diagram furnished with the set.

(h) Check cover adjustments as outlined in Section 573-134-700TC.

C. Installation of Components

2.71 Install the motor unit (LMU21, LMU28 or LMU52 whichever is used with the set) on each of the base plate assemblies for the receiving-only levels with four TP104124 screws and four TP2449 lockwashers. This hardware should be found in the muslin bag that is tied to the base plate.

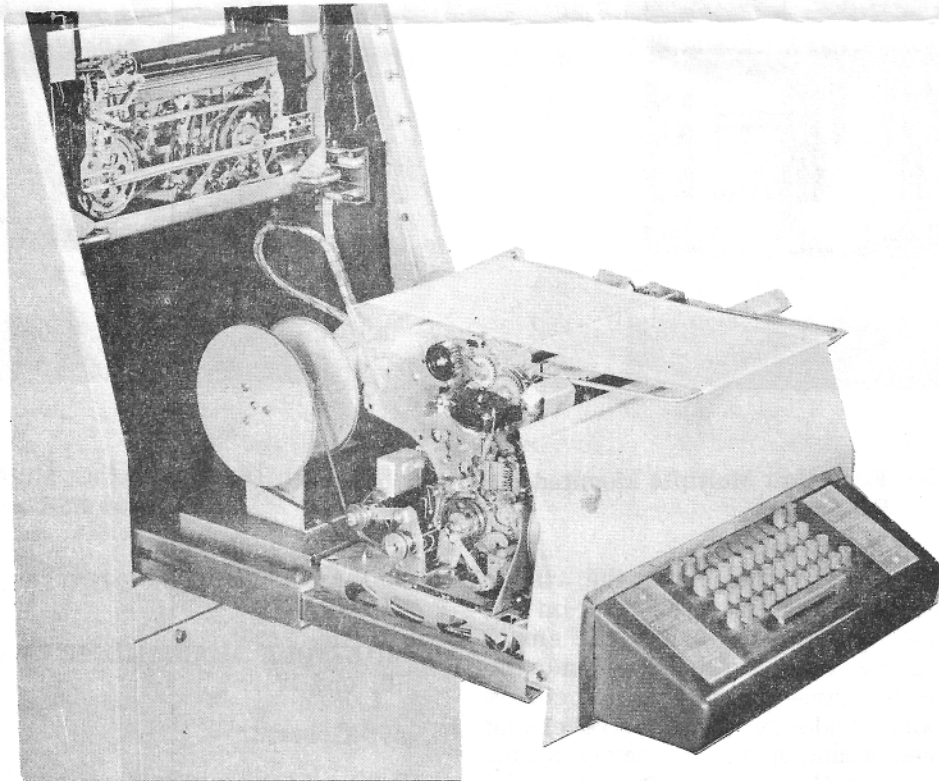


Figure 17 - KSR Unit Pulled Out of Multiple Mounted Set

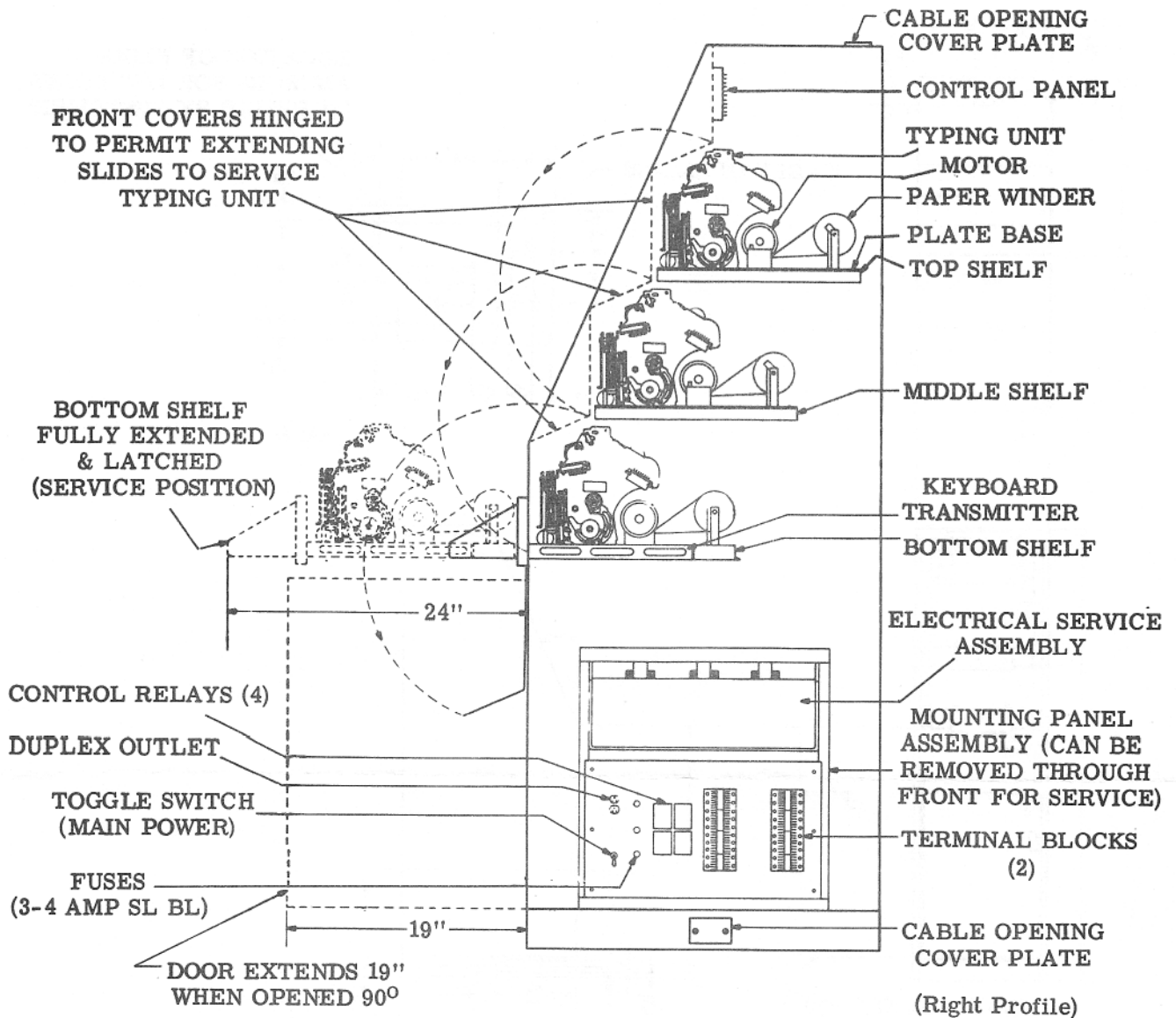


Figure 18 - Multiple Mounted Set

2.72 Mount the box containing the filtering element to the base directly behind the left rear typing unit side frame. Secure it with three TP121575 screws and three TP2669 lockwashers which should also be in the muslin bag.

2.73 Select the proper gear set for the desired operating speed as listed below:

SPEED	7.42 UNIT CODE		7.00 UNIT CODE
	GEAR SET		GEAR SET
60 wpm	60 Cycle TP161293	50 Cycle TP307850	60 Cycle TP173795
67 wpm	-	TP307851	-
75 wpm	TP161294	-	TP163504
100 wpm	TP161295	TP307852	TP163505

Install the TP159287 isolator on the motor pinion. Place the isolator and pinion on the motor shaft so that the pinion is between the motor and the isolator. Secure the pinion and isolator to the motor shaft with two TP161301 posts.

2.74 Remove screws and lockwashers from the intermediate gear hub. Mount the drivengear with the two screws and lockwashers just removed from the hub.

2.75 Loosen the four intermediate gear assembly mounting screws and position the assembly to provide

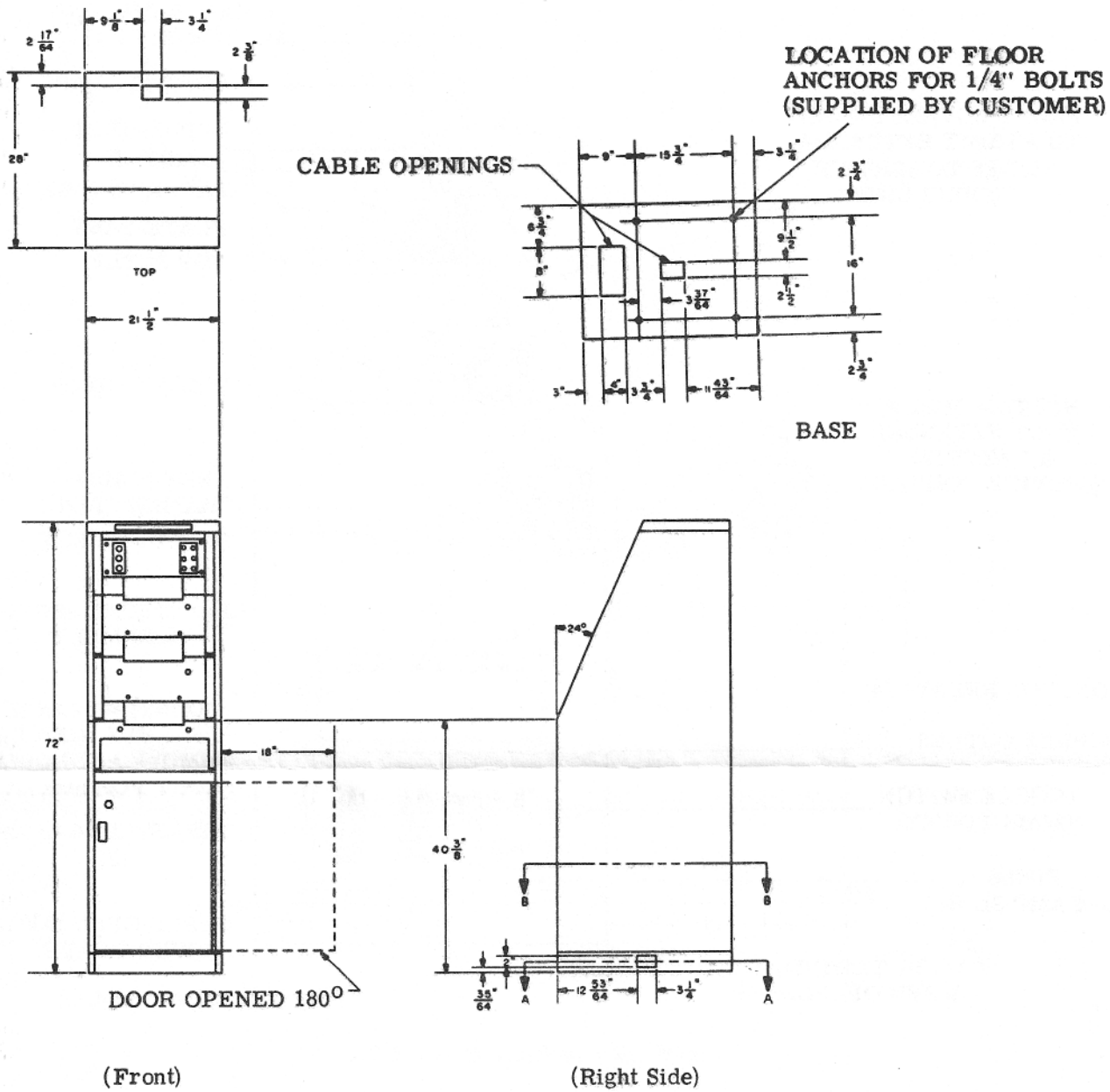


Figure 19 - Multiple Mounted Cabinet Dimensions

Min 0.004 inch---Max 0.008 inch

backlash between the motor pinion and the driven gear. Tighten the four assembly mounting screws.

2.76 Connect the motor power leads of the motor to terminals No. 1 and No. 2 of the terminal block as indicated in the wiring diagram of the set.

2.77 Unfasten the display from the front plate of the typing unit. Loosen the display rack clampscrews. Rotate the rack to approximately a vertical position. Tighten the clampscrews.

2.78 Mount the typing unit on the base over its locating studs. Rotate the motor fan by hand to insure meshing of the gears. Secure the typing unit to the base with four TP25123



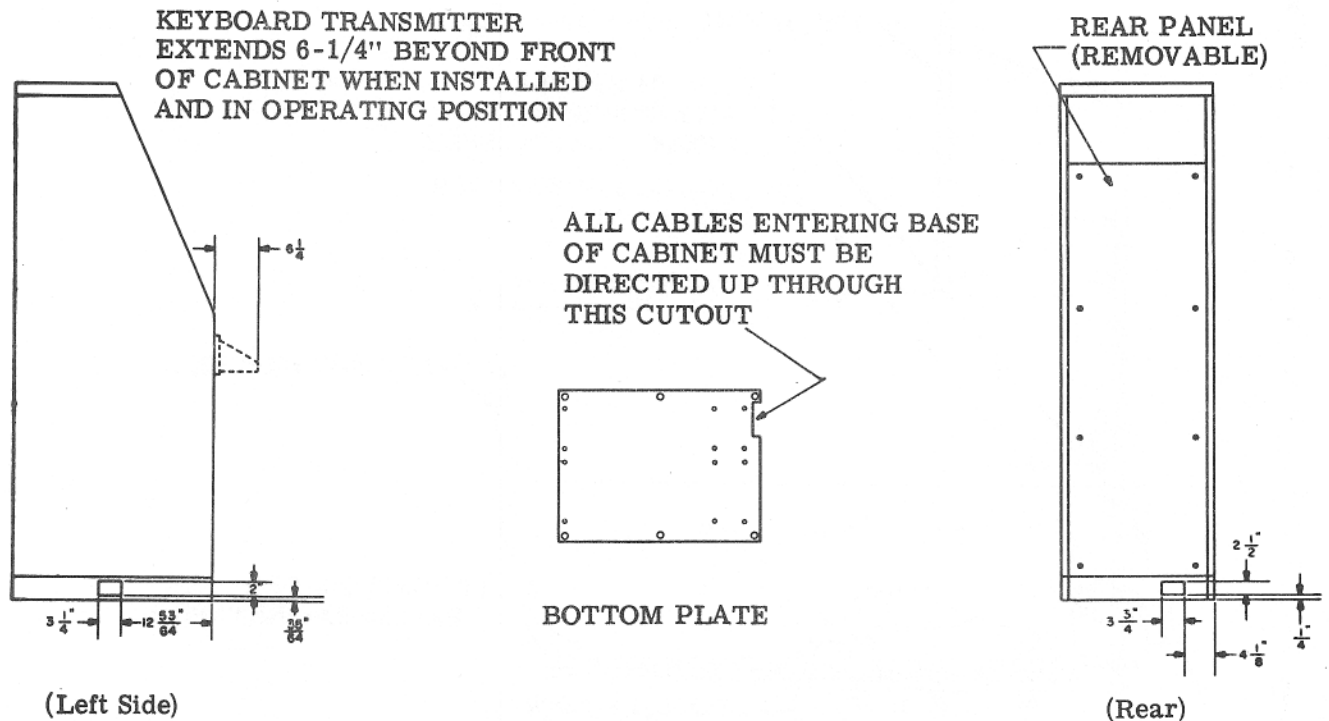


Figure 20 - Multiple Mounted Cabinet Dimensions (continued)

screws, four TP2449 lockwashers, and four TP2846 flat washers.

2.79 Adjust the typing unit gear and the intermediate gear to provide a barely perceptible amount of backlash. To adjust, loosen clampscrew at the front of the intermediate gear assembly. Raise or lower the intermediate gear assembly by means of the adjusting screw until the proper backlash is obtained. Tighten the clampscrew. Recheck the motor pinion to driven gear backlash. (For further information, refer to Section 573-116-700TC.)

2.80 Loosen the five screws which mount the paper winder assembly. Center the paper winder with the paper supply roll on the typing unit. Tighten the mounting screws.

2.81 It may be necessary to reposition the copy display rack on the upper typing unit to provide adequate clearance between it and the edge of the top cover. If so, proceed as follows:

- (a) With the top pair of slides in their closed position, loosen the eight slide mounting screws and pull the slides to their most forward position.

(b) Loosen the two screws and two nuts which mount the copy display rack to the typing unit side frame. Position the rack up or down to provide approximately 1/16 inch between the roller of the top display rack and the bottom edge of the top fixed cover when the closed slides are pushed toward the rear to bring the rack and cover in line. Make sure there is at least 0.030 inch clearance between the leading edge of the paper fingers of the copy display assembly and the ribbon guides of the typebox on the typing unit when the typebox is in its uppermost position. Tighten all mounting screws and nuts.

#### Keyboard

2.82 Install the TP179294 bracket on the TP179293 keyboard panel with four TP151631 screws, four TP7002 flat washers, four TP2191 lockwashers, and two TP179304 nut plates. Leave the screws friction tight. See Figure 21.

2.83 Remove the two upper screws which mount the rubber keyboard seal. Mount the panel and brackets on the base with two shoulder screws and two TP84579 flat washers. Leave screws friction tight.

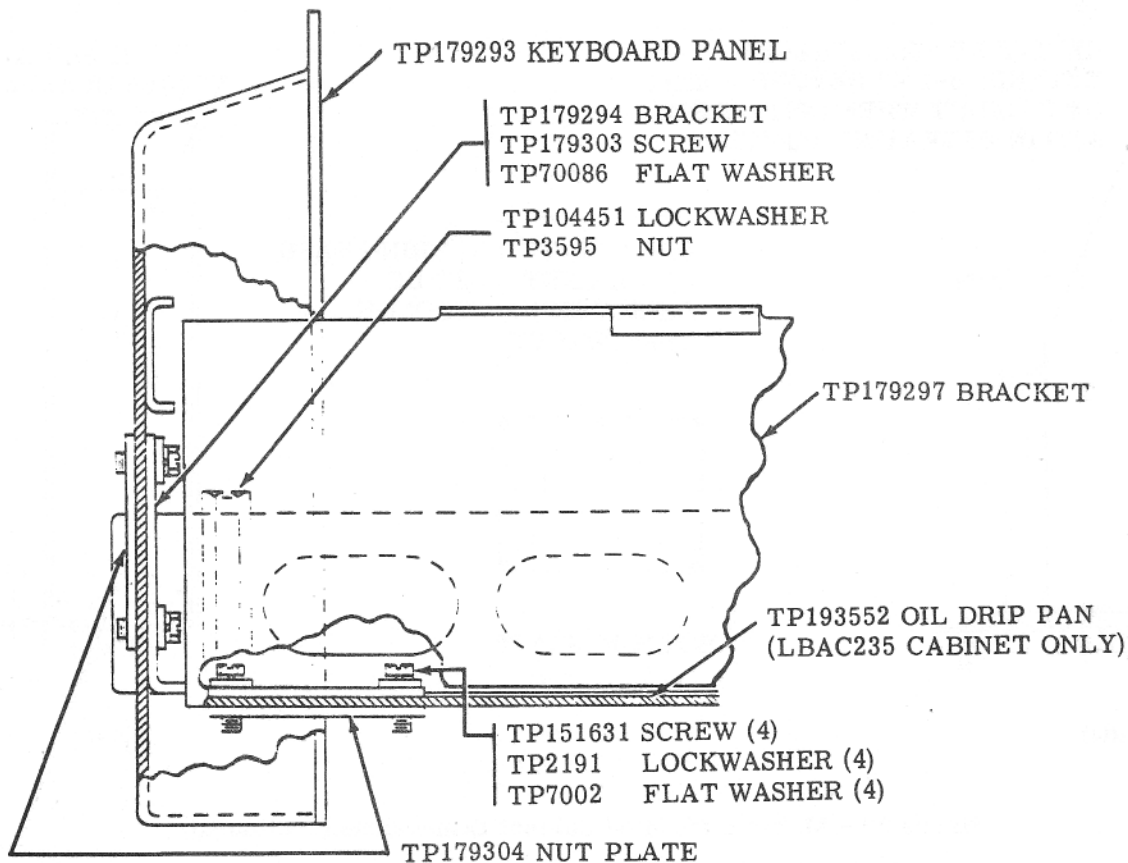


Figure 21 - Keyboard Panel Installation

- 2.84 Mount the TP179298 mounting bracket on the left side of the base with the oil drip pan between the base and bracket so that the leading edge of the bracket is inside the returns of the keyboard panel. Mount with two TP179303 screws, two TP2449 lockwashers, two TP2846 flat washers, and two TP3595 nuts. Leave screws friction tight.
- 2.85 Mount the TP179297 bracket on the right side of the keyboard in the same manner as the left bracket was mounted.
- 2.86 Solder the TP171158 ground strap to pin No. 19 of the base connector. Place the other end of the strap under a connector mounting screw.
- 2.87 Mount the paper winder (if it is not already mounted) on the mounting brackets behind the keyboard with four TP153442 screws, six TP111516 flat washers, four TP45815 lockwashers, and four TP125231 nuts.
- 2.88 Mount the keyboard and paper winder (if not already mounted) on the lower set of slides. Position the left mounting bracket so that the slide does not bind when pulled out or pushed in. Tighten the mounting screws on the left side.
- 2.89 Check keyboard panel adjustment Paragraph 2.94.
- 2.90 Install the motor on the keyboard with the four screws and lockwashers furnished. Connect motor leads to terminals No. 1 and No. 2 on the terminal block as indicated on the wiring diagram.
- 2.91 Mount the typing unit as outlined in 2.85 and 2.86, but use the four TP151678 screws and four TP2449 lockwashers furnished.
- 2.92 Check slide adjustment as outlined in Section 573-134-700TC.

2.93 Make sure all power switches are in the OFF position and connect all cables with their mating connectors.

D. Adjustments

Keyboard Panel Adjustment (Figure 22)

2.94 Check the following adjustments found in Section 573-134-700TC:

PRINTER COVERS

TOP AND MIDDLE PRINTER COVER DEPTH

PRINTER COVER LATCHES

SLIDE STOPS

CARRIAGE RETURNS AND LINE FEED LEVERS

Requirement

The bottom return of the keyboard panel should be in the line with the formed edge of the TP179300 top front brace assembly. The panel should be centered within the opening of the bottom cover.

To Adjust

Loosen the keyboard panel mounting screws and make them friction tight. Position the keyboard panel to meet the above requirement. Tighten the top mounting screws being sure to draw the panel tight against the rubber gasket on the keyboard or base.

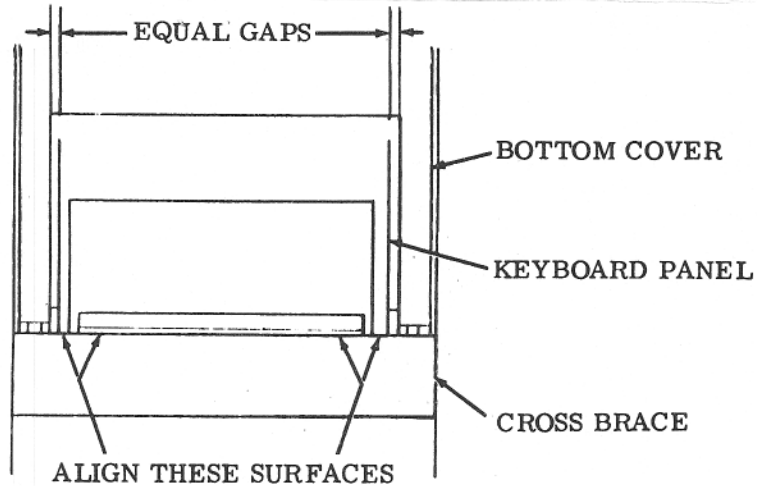
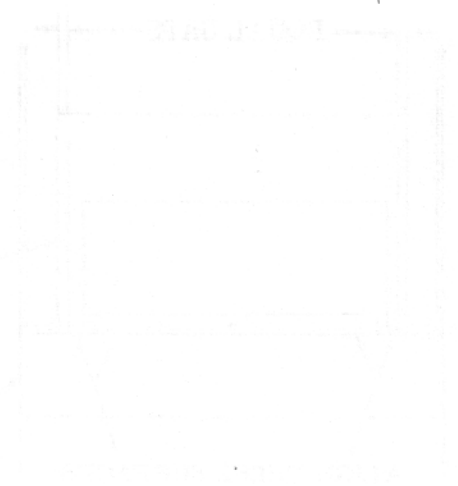


Figure 22 - Keyboard Panel Adjustments

Faint, illegible text, possibly bleed-through from the reverse side of the page. The text is too light to transcribe accurately.



Faint, illegible text at the bottom of the page, possibly bleed-through or a second page of text. The content is not legible.