

ERECTING FRAMES
ACCESSORIES - END GUARDS, GUARD RAILS, ETC.

CONTENTS

1. **GENERAL**
 - 1.1 **Scope**

This section covers general installing procedures for the assembly of Frame Accessories, such as End Guards, Guard Rails, etc.
2. **ASSOCIATED INFORMATION**
 - 2.1 Sections 1A and 1B covering "General Safety Precautions" and "General Requirements and Information".
3. **INSTALLATION EQUIPMENT**
 - 3.1 The tools and equipment required for the operations covered in this section are contained in the General Tool Kits, and are normally available on the job.
4. **ACCESSORIES - BULB ANGLE AND CHANNEL TYPE FRAMES**
 - 4.1 **End Guards - Cabinet Type**
 - 4.11 Crossbar frame end guards are furnished for installation at both ends of a row of crossbar frames, relay racks, line distributing frames or isolated individual frames. No end guard is required on the end of a frame or rack located a distance of 8" or less from wall or column.
 - 4.12 In Crossbar Offers when fuse holders or cover plates are to be mounted on the inside of the lower cover of the end guard, they must be assembled before the cover is mounted on the frame, since the nuts securing these parts are on the inside of the cover.
 - 4.13 The mounting of the P-449643 cable bracket on the line distributing frame, as shown on ED-91519-01, should be left for performance as a cabling operation.
 - 4.14 Delaying the installation of the cabinet type end guards as long as possible will reduce the possibility of their finish becoming marred or otherwise damaged.
 - 4.15 A number of details which are to be mounted on the rear plate of the end guard assembly can be more conveniently mounted before the plate is secured to the frame upright. The end guard drawings should be analyzed to determine which of the details fall in this class.
 - 4.151 Before mounting the end guards, the leads serving aisle pilot lamps, lighting switches, emergency alarm station boxes and other required leads must be run in.
 - 4.16 In Step-By-Step Offices, end guards are furnished per drawing ED-31231-70.
 - 4.17 In Step-By-Step Offices, brackets, bars, lamp mounting assemblies and supports, emergency alarm station boxes and other equipment, as provided, should be mounted as required on the end guard covers before the covers are mounted. The end guard and job floor plan drawings should be analyzed, for locating and mounting information.
 - 4.2 **Guard Rails - Applique Sheet Metal and Detachable Angle Type**
 - 4.21 On relay racks (channel and bulb angle-type), fuse bays, and message register racks equipped with applique sheet metal guard rails, mount the guard rails before aligning the frames. This will permit obtaining proper mutual alignment between adjacent bays. The mounting holes may not be so located as to obtain the proper alignment if the guard rails are mounted after the bays are junctioned and aligned.
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4.22 Do not assemble angle-type guard rails until frames or racks are permanently aligned and secured, so as not to interfere with aligning of the frames.

(a) Assemble all the parts loosely on all frames in the lineup before tightening any of the screws or bolts.

(b) Only one support per relay rack, repeater and similar bays is required for angle-type guard rails, except for the bay at the originating end of a lineup or a single isolated bay where two supports are to be used. See the framework assembly drawings.

4.23 Assemble the detachable sheet metal guard rails on the front and rear sides of the frames as shown on assembly drawings furnished the job. Adjust the height (top surface) of the guard rails to as near 6" from the bottom of the floor angles as possible and securely tighten the mounting screws using the R-1324, 8" screwdriver.

4.3 Mounting Casings

4.31 Mount casings on Message Register Frames with cable slots to rear of frame.

4.32 Glass doors are mounted in front casings and metal doors in rear casings.

4.33 Assemble doors and adjust door tracks as follows:

(a) Remove upper aluminum facing strip and upper track.

(b) Hold doors together and place them in the center of casing with top tipped outward and lower rollers in place in lower tracks.

(c) Place upper track on top of doors and track into position in casing.

(d) Replace upper track mounting screws.

(e) Adjust tracks for proper operation of doors by means of the three adjusting screws in each end of the inverted channels.

(f) Replace the aluminum facing strip.

(g) Doors which are found to be out of square can be corrected by tapping on the proper corners with a block of wood.

5. ACCESSORIES SHEET METAL BOX TYPE FRAMES

5.1 End Guards Cabinet Type

5.11 End guards are furnished per the Engineering Notes on ED-25769-70, and also ED-27011-70 which is used where toggle switches for controlling aisle fixtures are located in the end guard.

These Notes indicate that the general practice is to furnish end guards for installation at both ends of a row of frames and at the ends of each isolated frame. The Notes on ED-25769-70 also point out the particular conditions where end guards are omitted from frames.

NOTE: End guards must be mounted before power can be supplied to a lineup. Before mounting the end guards, the leads serving the fuse cabinet and the aisle pilot mounting must be run in. This should be done in the early stages of the cabling operations in order that power will be available on the frames when required.

5.12 The end guards are fastened to the frame as shown on ED-25769-70, or ED-27011-70 if the lighting switch is located in the end guard. The angle brackets should be fastened to the end guards as shown on the above drawings, before the end guards are mounted on the frames. End guard mountings per ED-27011-70 are attached to the frame upright with two 3/4"-10 x 1-1/4" H.H. Cap Screws. The R-2652 Thin Monkey Wrench, included in the R-2792 General Use Wrench Set in the 102 Kit, can be used to tighten these cap screws.

5.121 Where a frame is to be located within one foot or less of a wall or column and is to be equipped with an end guard, it should be installed before the frame is moved into place.

5.13 To attach the end guard to the stile assembly, mark the five holes in the stile assembly through the holes in the end guard using a nail or soft pencil. Remove the stile assembly and punch the five holes with the R-3183 11/64" Hand Punch, if available, or drill the holes with an R-1940 No. 19 drill (.166").

5.2 Transparent Plastic Covers

5.21 Care of Plastic Covers

5.211 Transparent plastic covers shall be opened or removed from the frame only when access to the equipment under the cover is required or when the gummed paper is removed from those covers which are not polystyrene molded plastic. In order to minimize the chances of the surfaces of the covers which are protected by a layer of gummed paper from becoming marred, it is advisable that the paper be removed late in the installing period. See Section 70 of this handbook for method of removing the paper and method of keeping covers clean.

5.212 Plastic covers for 26-1/2" frames are now made of molded polystyrene and are not covered with gummed paper. Extra care must be exercised to prevent marring of these covers.

5.22 Mounting Plastic Covers

5.211 Although polystyrene covers are mounted in the shop, it may be necessary on occasion for the

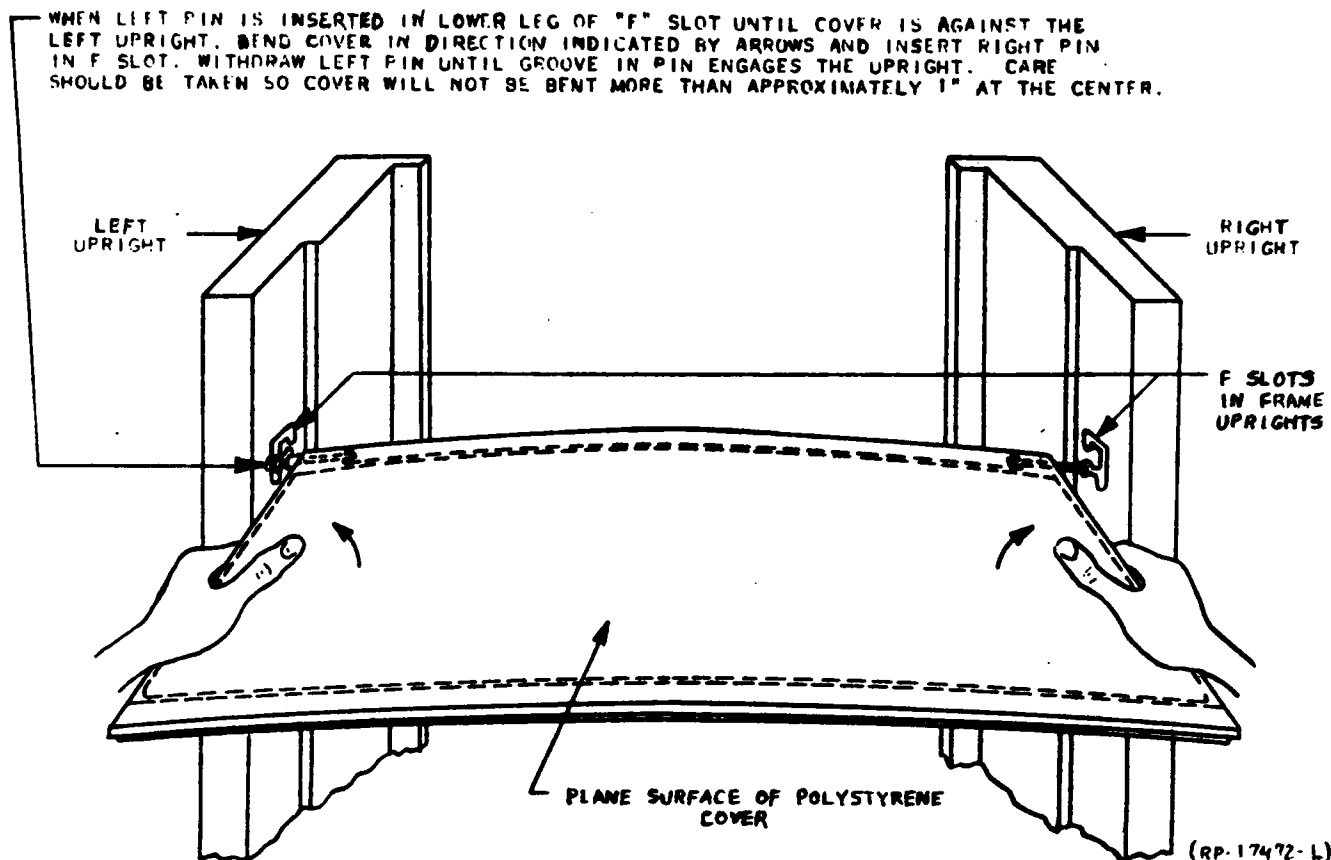


FIG. 1 METHOD OF MOUNTING MOLDED PLASTIC COVERS
(PAR. 5.222)

installer to mount or remove some covers. The following procedure should be used when inserting, and the reverse procedure when removing covers of No. 5 Crossbar frames.

NOTE: The clip inserted in the "F" slot immediately above the hinge pin on frames equipped with molded polystyrene covers is a shipping detail and is to be removed after the frames are in place.

5.222 With the plane surface of the cover toward the installer, and the hinge pins up, the cover should be held with the left side in the left hand and the right side in the right hand, with the thumbs toward the installer. Next the projecting end of the left hinge pin should be inserted in the large hole in the lower leg of the F slot of the frame until the polystyrene cover contacts the face of the upright. Now the fingers of each hand should press on the far side of the cover bowing the center of the cover toward the installer, thereby permitting the right hinge pin to be inserted in the F slot in the right upright. The cover should then be moved to the right until the groove in the left hinge pin coincides with the .050" sheet steel of the upright. The cover can then be closed and the hinge pins moved to the top leg of the F slots. See Figure 1.

5.223 The cover is designed so that a maximum bow of approximately 1" is required to insert or remove a maximum sized cover from a frame having a minimum opening. Care should be taken to avoid bowing the cover more than necessary since excessive bowing will cause it to break.

5.3 Front Metal Moulding

5.31 Place "Tinnerman" tubular clips in 1/4" x 1" oblong holes located along the front base of the frame. Use a wooden block and hammer, if necessary, to drive the clips in until the flanges are in contact with front surface of the base member. Place the P-388493 .216" - 24 x 5/8" Pan Head Self Tapping Screws through holes in moulding and push into clip deep enough for the end thread to engage the clip. Turn screw in with screwdriver until tight.

5.4 Rear Covers and Stiles

5.41 The vertical stiles, which mount on the cable brackets (or Baffle Slide Assemblies) on the rear of the frame, and the rear covers should be installed after the cabling operations have been completed and before the frames are pressure cleaned. See Figure 2.

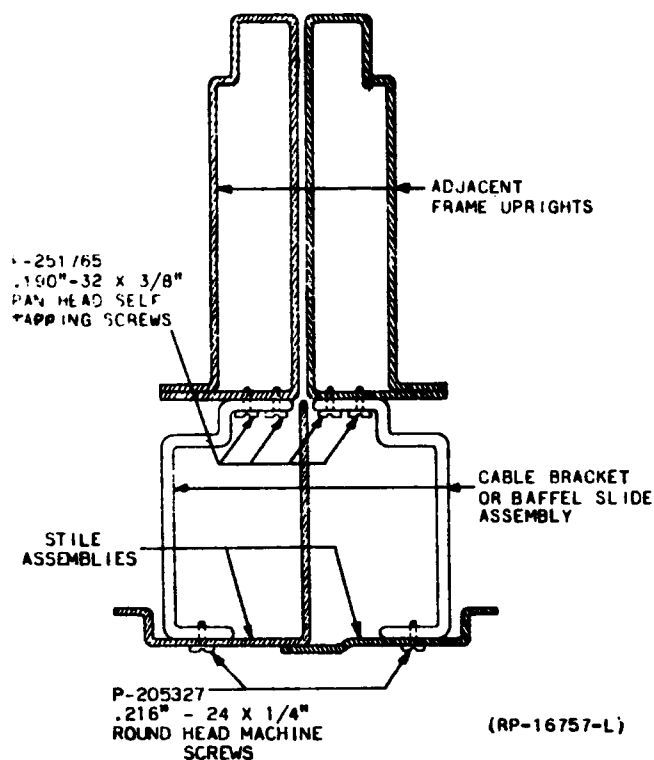
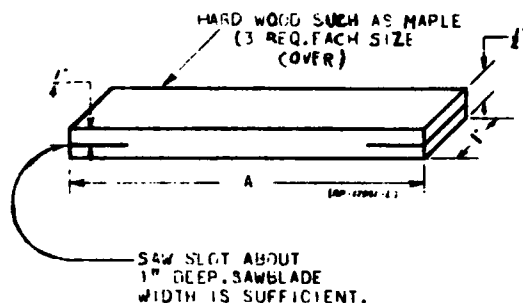


FIG. 2 MOUNTING OF STILE STRIPS
(PAR. 5.41)

5.411 The piece part numbers and widths of the different rear covers used in No. 5 Crossbar frames are given in Figure 3. Determine the different widths of covers used on the particular job and make three spacers per Figure 3 for each different width. It will be noted that dimension "A" in Figure 3 is $1/8$ " more than the width of the associated cover. Thus, when the spacers are used as shown in Figure 4, the stiles will be spaced so that the covers can be inserted and removed without binding.



COVER	WIDTH OF COVER	LENGTH OF SPACER DIM. A
P-252937	18 1/2	18 5/8
P-252938	21	21 1/8
P-252939	28 1/2	28 5/8
P-252940	32 5/8	32 3/4

FIG. 3 METHOD OF MAKING SPACER DETAILS FOR DIFFERENT WIDTH REAR COVERS
(PAR. 5.411)

5.42 Before mounting the stiles, check the cable brackets for straightness and if necessary straighten them. Mount the stiles on the cable brackets, tighten the mounting screws sufficiently to hold the stiles in place but still not tight enough to prevent shifting the stiles without loosening the screws. The P-40B805 cover clamps should also be loosely fastened in place as shown on ED-26564-70 when mounting the stiles.

5.421 Check the bottom stops for the center rear cover to see that they are approximately at right angles with the stiles. The stops can be bent up or down as required, with the R-7880, 6" gas pliers. Locate the spacer details between the stiles as shown in Figure 4. Move the stiles towards each other until the spacer details are snug between the stiles.

(a) Place an R-1370 12" bench level approximately in the center of the middle spacer detail as shown in Figure 4. Be sure that the spacer is resting on the cover stops. Move the stiles up or down until the leveling bubble is in the center of the vial.

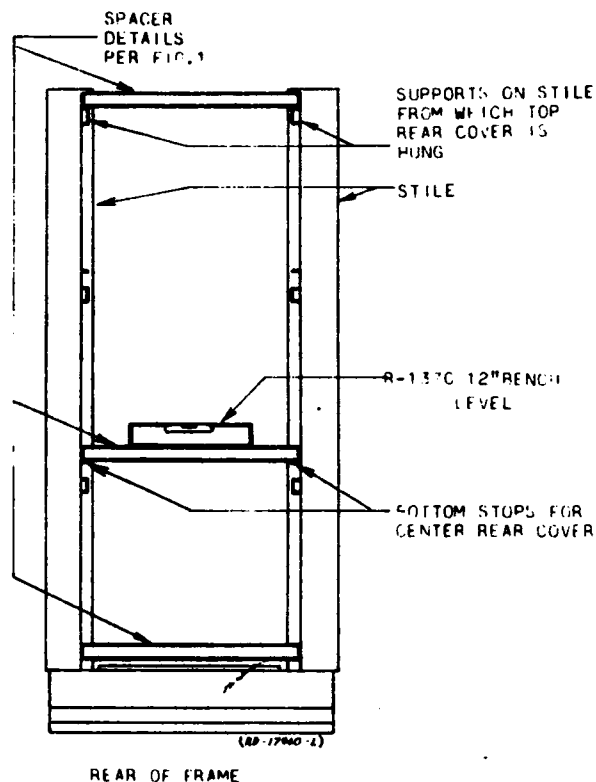


FIG. 4 LOCATION OF SPACER DETAILS AND 12" BENCH LEVEL
(PARS. 5.411, 5.421, 5.421(a))

5.422 Tighten all mounting screws and remove the level and spacer details. When the frames are to be closed in, hand the rear covers taking care to see that the slots in the covers fully engage the cover supports and that the bottom of the covers are seated behind the stops. Turn the P-40B805 cover clamps into the cover holding position.

5.423 If after the rear covers are mounted they do not hang properly, check the cover supports on the stiles to see if they are distorted or if paint is lodged between the supports or stops and the inside edge of the stiles. The supports can be straightened with the R-7880 6" gas pliers and the paint can easily be scraped from behind the supports or stops if necessary.

(a) Occasionally, it may be necessary to remove more than one of these covers at the same time. Since the spacing between the stiles and the size of individual covers may vary, it is desirable that the covers be marked in some temporary manner (for example: frame name, and top, bottom or middle in pencil on inside of cover) in order that they can be remounted on the same frame and in the same location from which they were removed.

5.5 Horizontal Baffles at Top of Line Link and Trunk Link Frames

5.51 On the older codes of line link frames and trunk link frames not equipped with wire spring relays, shop mounted horizontal baffles are provided above and below the relays at the top of the frames. The equipment drawings for these frames show the upper baffles inserted above the top flange of the top mounting plate and the lower baffle inserted above the bottom flange of the bottom mounting plate.

5.52 It may occasionally be found that a baffle is not mounted as indicated above. In such cases the baffle can be properly mounted by partially removing the baffle so that the back edge will clear

the front edge of the mounting plate flange. Grasp the baffle at both ends with the fingers underneath and press upward on the back edge as the baffle is reinserted. By pressing upward on the top baffle as it is reinserted the baffle will be guided so that it will slide into position above the top flange of the upper mounting plate; similarly, the baffle below the relays will be guided between the relay spring pile-up and the lower flange of the bottom mounting plate.

5.521 Removing and reinserting the baffle below the relays will be facilitated by removing the front cover.

6. MISCELLANEOUS PARTS

6.1 Cable Brackets - Partially Equipped Bays

6.11 Cable brackets furnished but not used to support cables in partially equipped bays should be left as a permanent part of the frame or rack. Brackets which are bolted on, should be installed in the specified location. It is preferable to install unused clip-type brackets in partially equipped bays at the top of the upright. These brackets will be rearranged in their final location in connection with the cabling operations.

6.2 Mounting Emergency Alarm Station Boxes

6.21 In certain special cases, the emergency alarm station box is mounted in the cabinet-type end guard. This necessitates cutting a hole in the face of the end guard which may be done with the R-3148 reciprocating power saw if available, or with a key hole hack saw to be purchased locally.

[Vertical line at side of paragraphs indicates requirements.

Engineer of Installation

Reason for Reissue:

- (1) To place information on frame accessories in a separate section.

Replaces information formerly contained in Sections 19A, 19B, 19C and 19G dated 8-20-59, 8-20-59, 5-21-59, 11-15-51, respectively.