

FASTENING FRAMES
AT TOP OF FRAME
ANGLE AND CHANNEL TYPE

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| <u>1. GENERAL</u> | <u>3. ISOLATED OR EXTENDING 2'-6" BEYOND
AUXILIARY FRAMING</u> |
| <u>1.1 Scope</u> | |
| 1.11 This section covers requirements and information for fastening the tops of angle and channel type frames to auxiliary framing as well as for isolated frames and frames extending more than 2'-6" beyond auxiliary framing. It also covers fastening of frames with single top angles in Crossbar and Step-by-Step offices. | 3.1 In general high type auxiliary framing should be used for the support of isolated frames. However, isolated frames and frames that extend more than 2'-6" beyond a pair of regular framing bars or channels shall be supported with short pairs of framing bars or channels from cable racks as shown in Figures 14, 15, 62K, 63B, and 63C. Refer to Figure 5 for the method of fastening auxiliary framing to cable rack. |
| <u>2. FASTENING FRAMES TO AUXILIARY FRAMING</u> | |
| 2.1 In Step-By-Step System offices with 11'-8" framing over channel-type switch frames, support ladder-type cable racks over the line-up of frames as shown in Figure 63B and 63C. The arrangement shown in Figures 63B and 62K are rated A&M Only. | 3.11 When short pieces of channel or framing bars are used for the support of frames, the bars or channels should be cut so that the ends projecting to the outside of the cable rack stringers approximately + 1/4" from the edges of the supporting saddle clips as shown in Figures 14 and 15. This would also apply to Figures 62K, 63B and 63C when short pieces of channel or bars are used instead of the regular auxiliary framing. |
| 2.11 In manual toll, Crossbar, and No. 4 Toll Switching System offices with 11'-8" framing over channel-type frames, support over-frame bar-type cable racks as shown in Figure 62R. This applies mainly to combined exchange and toll offices. | 3.12 When frames are added to a lineup, the short pieces of channel or framing bars that support the end of the existing frame need not be removed. |
| 2.12 Cable rack are fastened to the frame uprights by means of U-shaped brackets as shown in Figure 63. | |

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3.2 Where frames are isolated only in the initial installation but will be in line with and adjacent to other frames in the ultimate, they shall be supported by high-type auxiliary framing only so long as they are isolated. When the adjacent frames are installed, the high-type framing shall be removed and low framing used for all of the frames.

4. WITH SINGLE TOP ANGLES

4.1 In Crossbar Offices

4.11 Where frames with single top angles are installed in crossbar offices having auxiliary framing at the 11'-8" level, the frames shall be attached to the framing using 1/2" V-bolts, clips and channel spacer, as shown in Figures 7A or 7C.

4.2 In Step-by-Step Offices

4.21 Where frames having top angles are installed in step-by-step offices with 11'-8" high auxiliary framing the arrangement shown in Figures 7A or 7C shall be used.

4.211 11'-8" framing over channel type switch frames in step-by-step offices is rated A&M only. In such offices support ladder-type cable racks over relay racks, message register racks, and similar type frames as shown in this section.

4.212 In step-by-step offices, with 11'-8" framing over bulb angle-type switch frames, support ladder-type cable racks over relay racks, message register racks, and similar type frames as shown in Figure 62G.

4.22 This paragraph is rated A&M Only. Where frames having top angles are installed in step-by-step offices with 11'-6" high auxiliary framing the arrangement shown in Figure 6 shall be used except for top angle frames in line with step-by-step frames. In the latter case, the cable racks over the frames interfere, and the attachment shown in Figure 6A shall be used.

4.221 This paragraph is rated A&M Only. Support ladder-type cable rack over relay racks, message register racks, and similar frames in step-by-step offices as shown in Figure 62C.

4.3 No. 5 Crossbar Offices

4.31 Where frames with single top angles are installed in No. 5 crossbar offices having auxiliary framing at the usual 11'-9-1/2" level, the frames shall be attached to the framing using V-bolts, clips, etc., as shown in Figures 7B or 7E. Where auxiliary framing is directly over the frame upright, the V-bolt shall be connected as shown in Figure 7D.

5. VERIFICATION ITEMS

BRIEF STATEMENT OF REQUIREMENTS	Reference	
	Par. No.	Fig. No.
5.1 <u>Top Fastening</u>		
5.11 Frames properly attached to auxiliary framings	4.31	7B, 7D
5.12 Frames that extend more than 2'-6" beyond a pair of regular framing bars or channels supported with short bars or channels.	3.1	14, 15 62K, 63B 63C

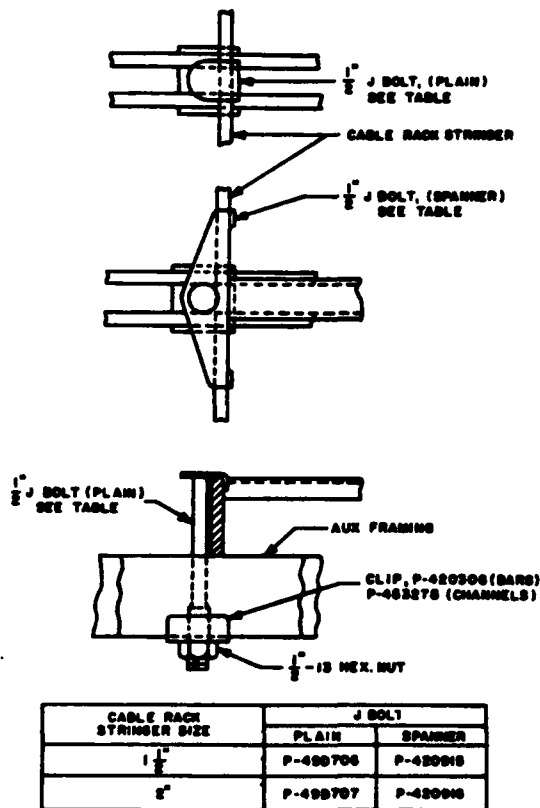


FIG. 5 AUXILIARY FRAMING FASTENED TO UNDER-SIDE OF CABLE RACK (PAR. 3.1)
(BSP 800-614-155, FIG. 5)

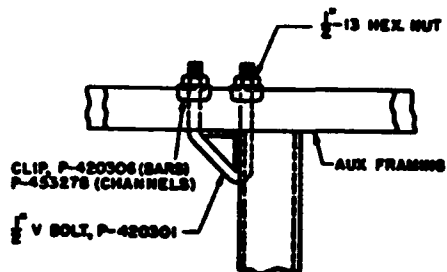
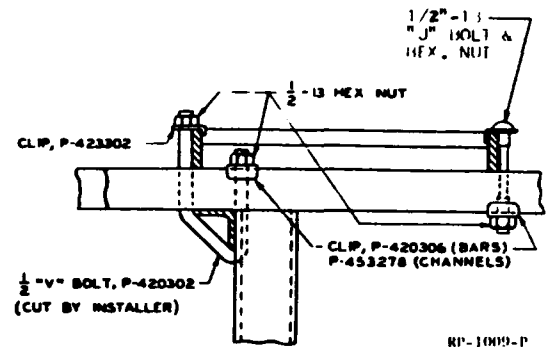
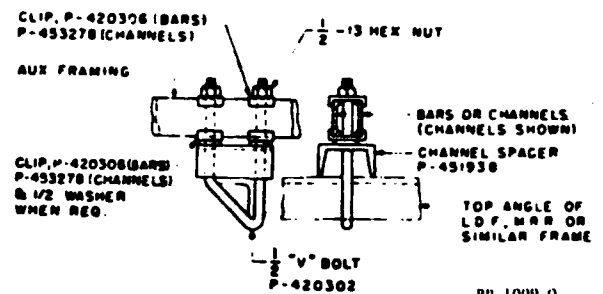


FIG. 6 SUPPORTING FRAME WITH TOP ANGLE DIRECTLY TO AUXILIARY FRAMING (PAR. 4.22)
(BSP 800-614-155, FIG. 6)



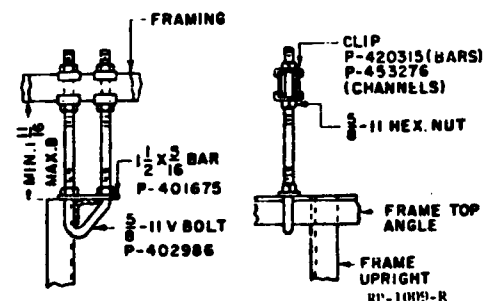
RP-1009-P

FIG. 6A SUPPORTING TOP-ANGLE FRAMES IN LINE WITH STEP-BY-STEP FRAMES FROM AUXILIARY FRAMING 11' -6" FRAMING "A&M ONLY" (PAR. 4.22)
(BSP 800-614-155, FIG. 6A)



RP-1009-Q

FIG. 7A SINGLE TOP ANGLE FRAMES FASTENED TO AUXILIARY FRAMING 11'-8" FRAMING (PARS. 4.11 and 4.21)
(BSP 800-614-155, FIG. 7A)



RP-1009-R

FIG. 7B V-BOLT FRAME SUPPORT ASSEMBLY (PAR. 4.31)
(BSP 800-614-155, FIG. 7B)

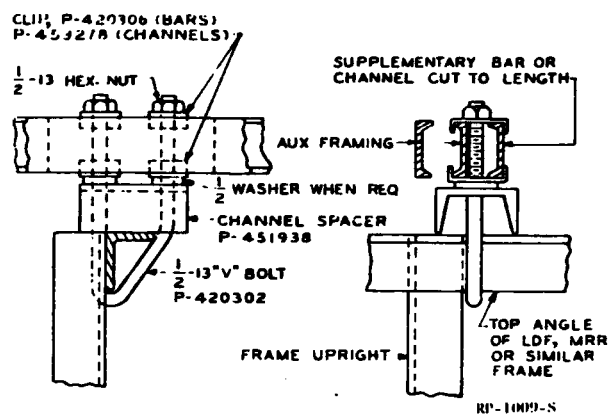


FIG. 7C AUXILIARY FRAMING FASTENED TO SINGLE TOP-ANGLE FRAME 11'-8" FRAMING SUPPORT OFFSET TO CLEAR FRAME UPRIGHT (PARS. 4.11 and 4.21) (BSP 800-614-155, FIG. 7C)

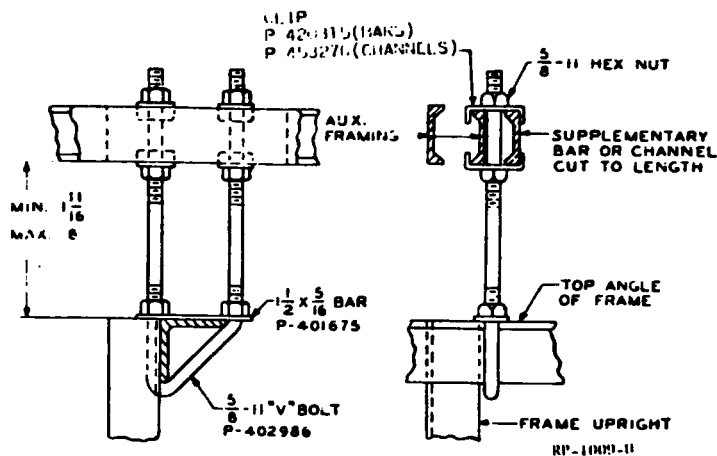


FIG. 7D V-BOLT FRAME SUPPORT OFFSET TO CLEAR FRAME UPRIGHTS (PAR. 4.31) (BSP 800-614-155, FIG. 7D)

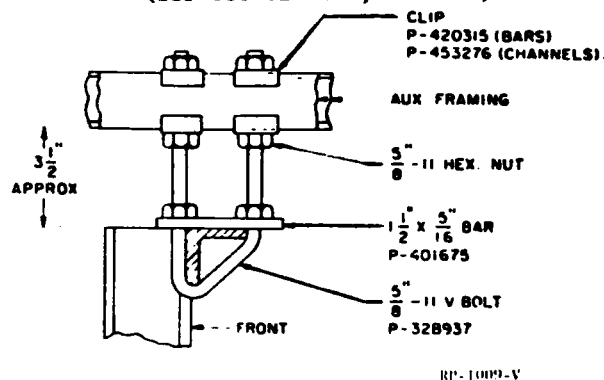


FIG. 7E AUXILIARY FRAMING FASTENED TO SINGLE TOP-ANGLE FRAMES 11'-9-1/2" FRAMING (PAR. 4.31) (BSP 800-614-155, FIG. 7E)

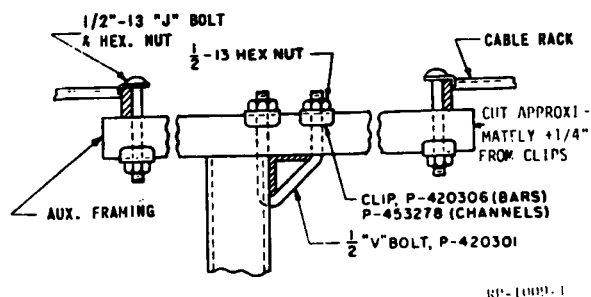


FIG. 14 ISOLATED FRAME SUPPORTED FROM TWO CABLE RACKS (PARS. 3.1 and 3.11) (BSP 800-614-155, FIG. 14)

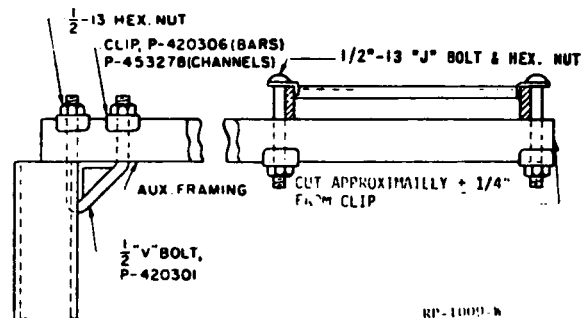


FIG. 15 ISOLATED FRAME WITH TOP ANGLE SUPPORTED FROM ONE CABLE RACK (PARS. 3.1 and 3.11) (BSP 800-614-155, FIG. 15)

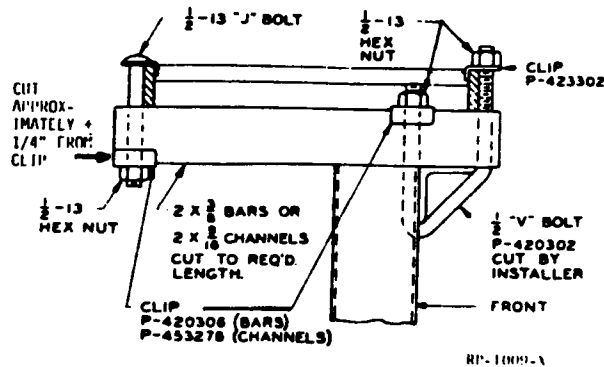


FIG. 62C CHANNEL-TYPE RELAY RACK SUPPORTED FROM CABLE RACK BY AUXILIARY FRAMING - STEP-BY-STEP SYSTEMS - A&M ONLY (PAR. 4.221) (BSP 800-614-157, Fig. 62C)

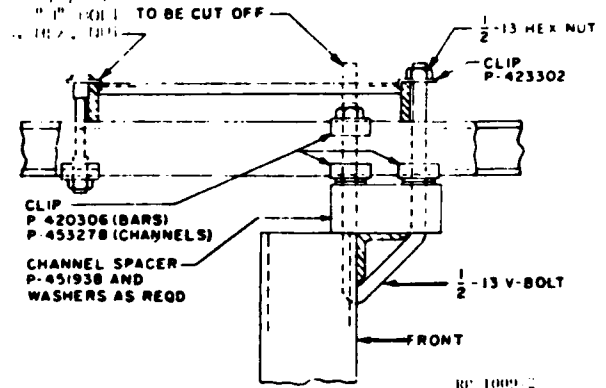
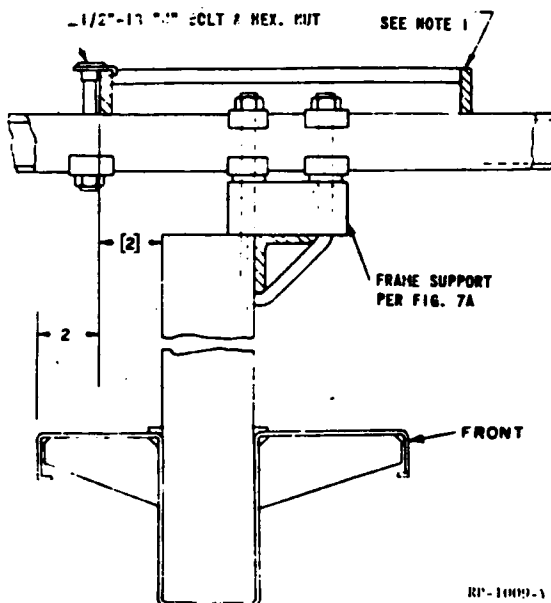
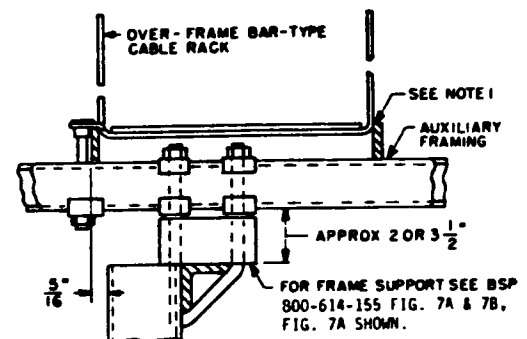


FIG. 62K CHANNEL-TYPE RELAY RACK SUPPORTED FROM LADDER-TYPE CABLE RACK BY AUXILIARY FRAMING - STEP-BY-STEP SYSTEMS - 11' - 8" FRAMING - A&M ONLY (PARS. 2.1, 3.1 AND 3.11) (BSP 800-614-157, Fig. 62K)



NOTE:
1. TWO "J" BOLTS, ONE AT EACH STRINGER, SHOULD BE USED WHERE SHORT PAIRS OF FRAMING BARS OR CHANNELS ARE USED TO SUPPORT CABLE RACK EXTENDING BEYOND REGULAR FRAMING OR ARE USED FOR THE SUPPORT OF ISOLATED FRAMES.

FIG. 62G CHANNEL-TYPE RELAY RACK SUPPORTED FROM LADDER-TYPE CABLE RACK BY AUXILIARY FRAMING - STEP-BY-STEP SYSTEMS (PAR. 4.212) (BSP 800-614-157, Fig. 62G)



NOTE
1. TWO J-BOLTS SHOULD BE USED WHERE SHORT PAIRS OF FRAMING BARS OR CHANNELS ARE USED TO SUPPORT CABLE RACK EXTENDING BEYOND REGULAR FRAMING OR ARE USED FOR THE SUPPORT OF AN ISOLATED FRAME.

FIG. 62R LOCATION OF OVER-FRAME BAR-TYPE CABLE RACK OVER CHANNEL-TYPE FRAMES (PAR. 2.11) (BSP 800-614-157, Fig. 62R)

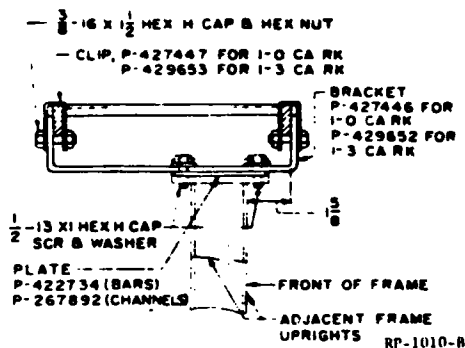


FIG. 63 1-FT. 0-IN. CABLE RACK FASTENED TO STEP-BY-STEP FRAMES WITH U-BRACKETS A&M ONLY (PAR. 2.12) (BSP 800-614-157, Fig. 63)

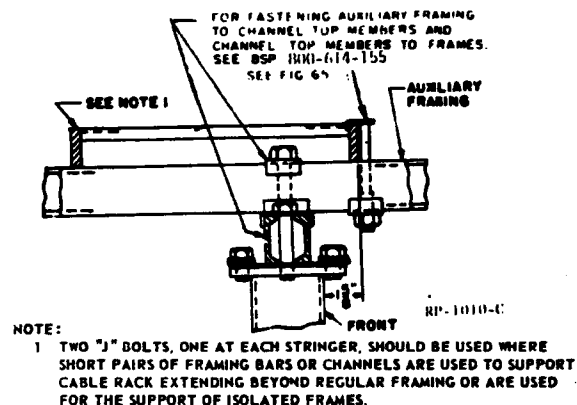


FIG. 63B LADDER-TYPE CABLE RACK OVER REAR OF CHANNEL-TYPE STEP-BY-STEP FRAMES - 11'-8" FRAMING - A&M ONLY (PARS. 2.1, 3.1, AND 3.11) (BSP 800-614-157, Fig. 63B)

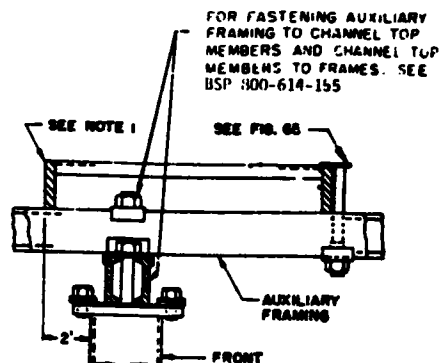


FIG. 63C LADDER-TYPE CABLE RACK OVER FRONT OF CHANNEL-TYPE STEP-BY-STEP FRAMES - 11'-8" FRAMING (PARS. 2.1, 3.1 AND 3.11) (BSP 800-614-157, Fig. 63C)

→No arrows shown due to extensive changes.

Vertical line at side of paragraphs indicate requirement.

Engineering Planning Manager
(Installation)

Reason for Reissue:

- (1) To update BSP reference.
- (2) To remove panel information.