

INDUSTRIAL SHELVING DETAILS

IMPORTANT: To reduce the risk of serious injury, read and understand this entire guide before beginning any installation.

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BEFORE YOU BEGIN:

1. Check your inventory to be sure you received your entire order. If there are any missing or damaged parts, contact your **Dealer** or **Borroughs Corporation Customer Service Manager**.
2. Read and understand the entire installation instructions prior to beginning the install.

SAFETY WARNINGS:



This symbol is used to address practices not related to personal injury.



A potentially hazardous condition exists that may result in death or serious injury, property damage, or destruction if instructions are not strictly observed.

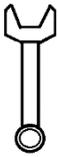


This symbol is used to address practices not related to physical injury.

Once installation is completed, a copy of the installation instruction booklet **MUST** remain with the customer.

Hardware: *Refer to page 51-53 for complete list.*

Tools Required:



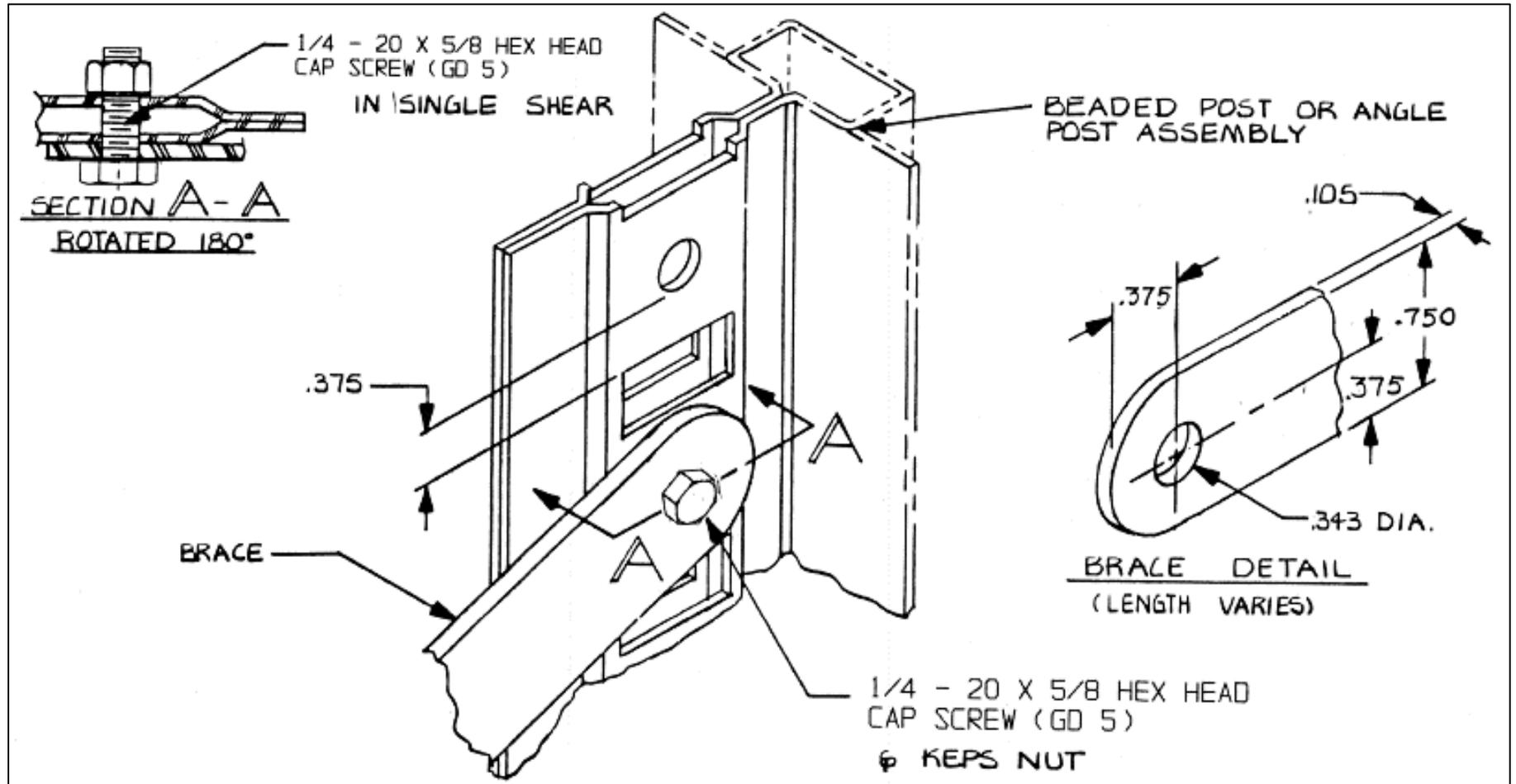
7/16"
9/16"



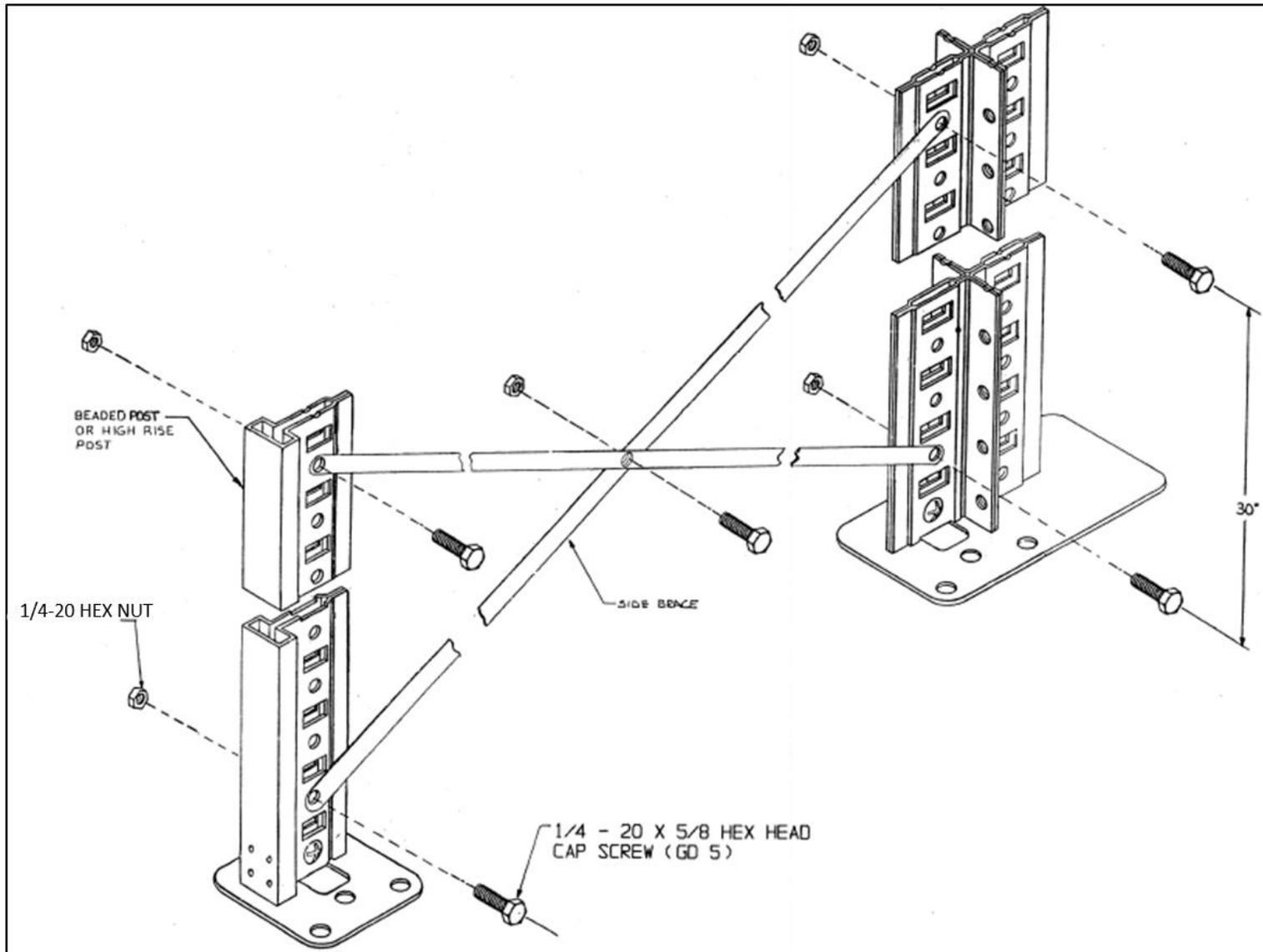
Socket Sizes
7/16", 9/16"



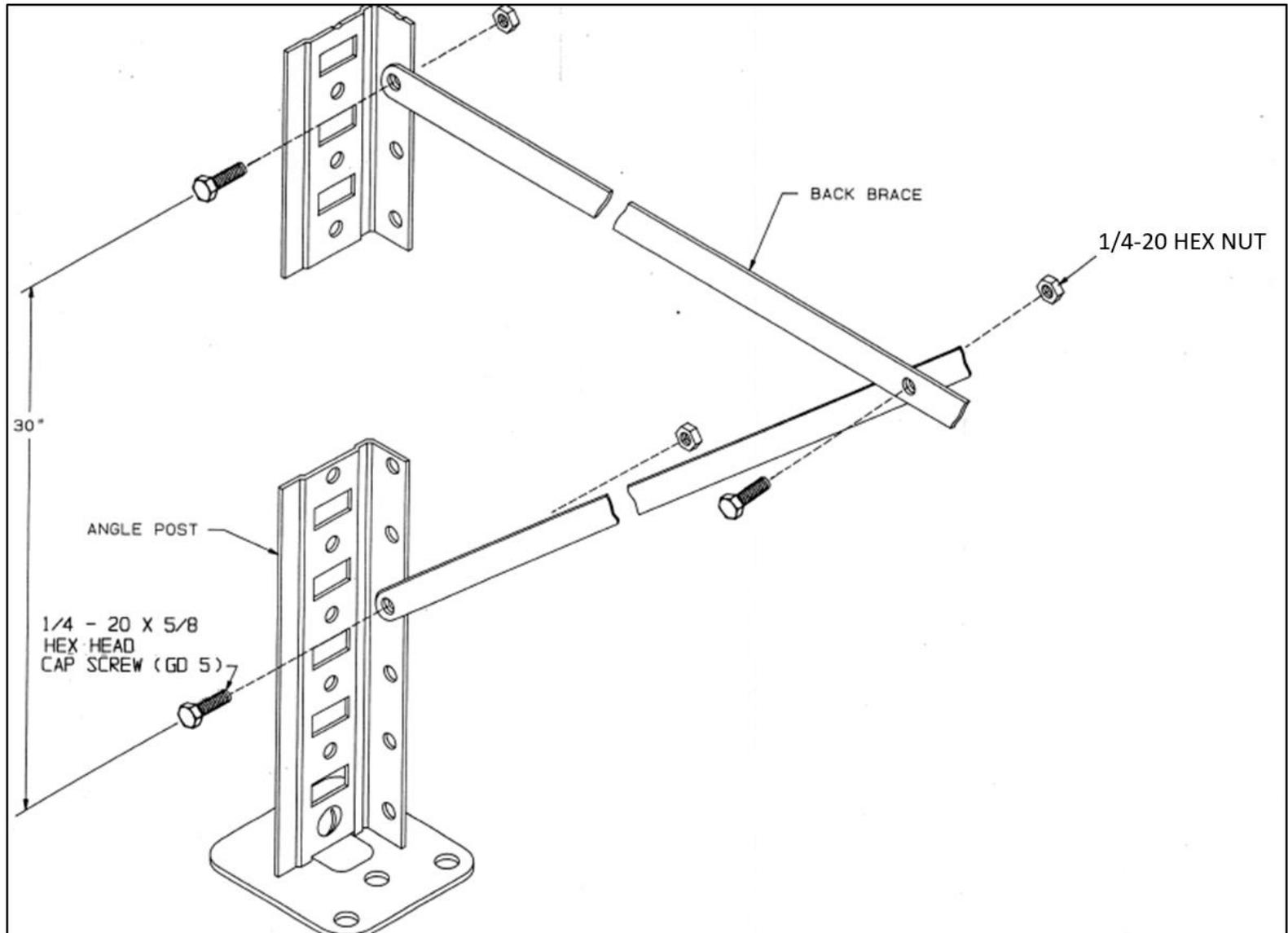
BRACE ASSEMBLY



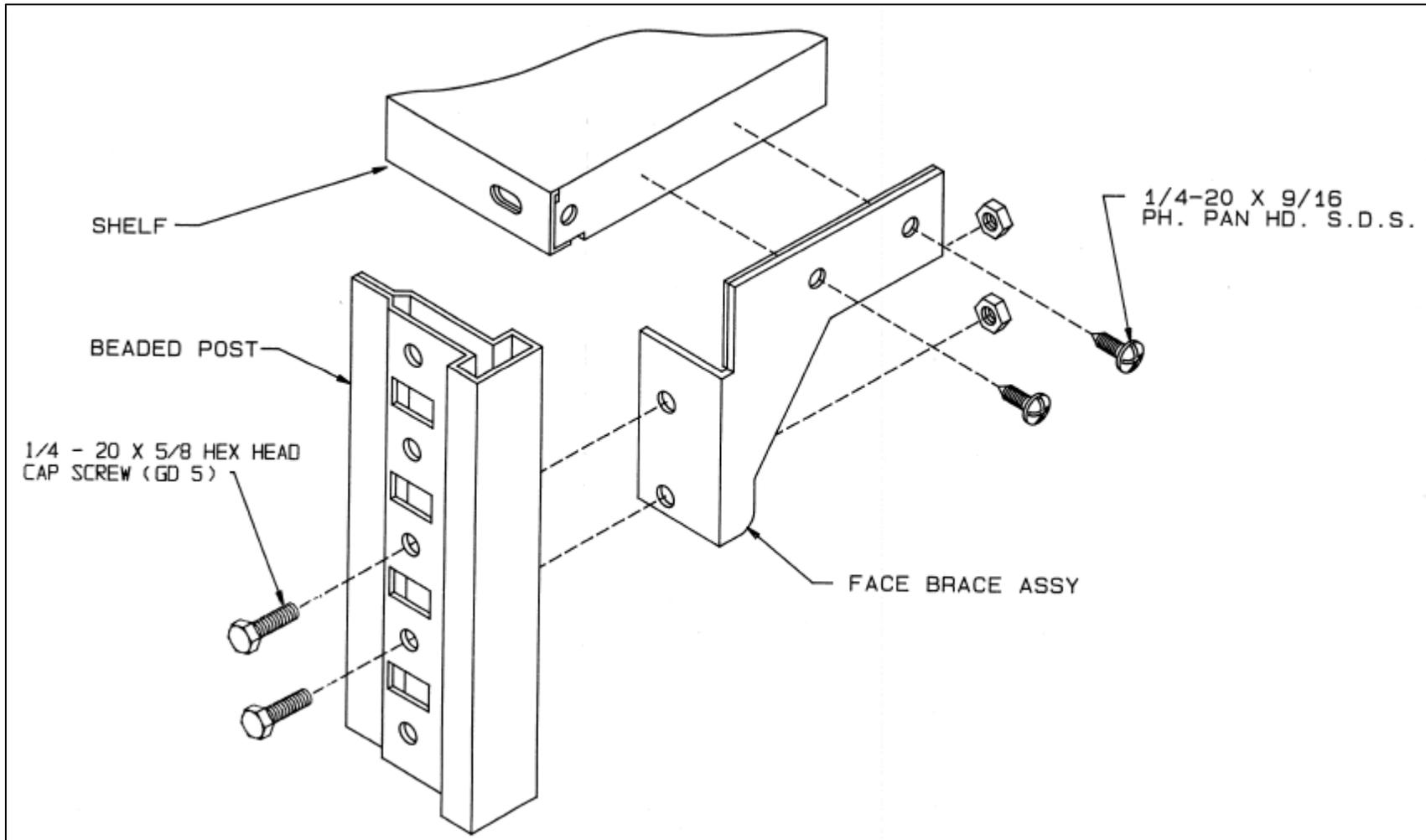
ANGLE POST/BEADED POST SIDE BRACE



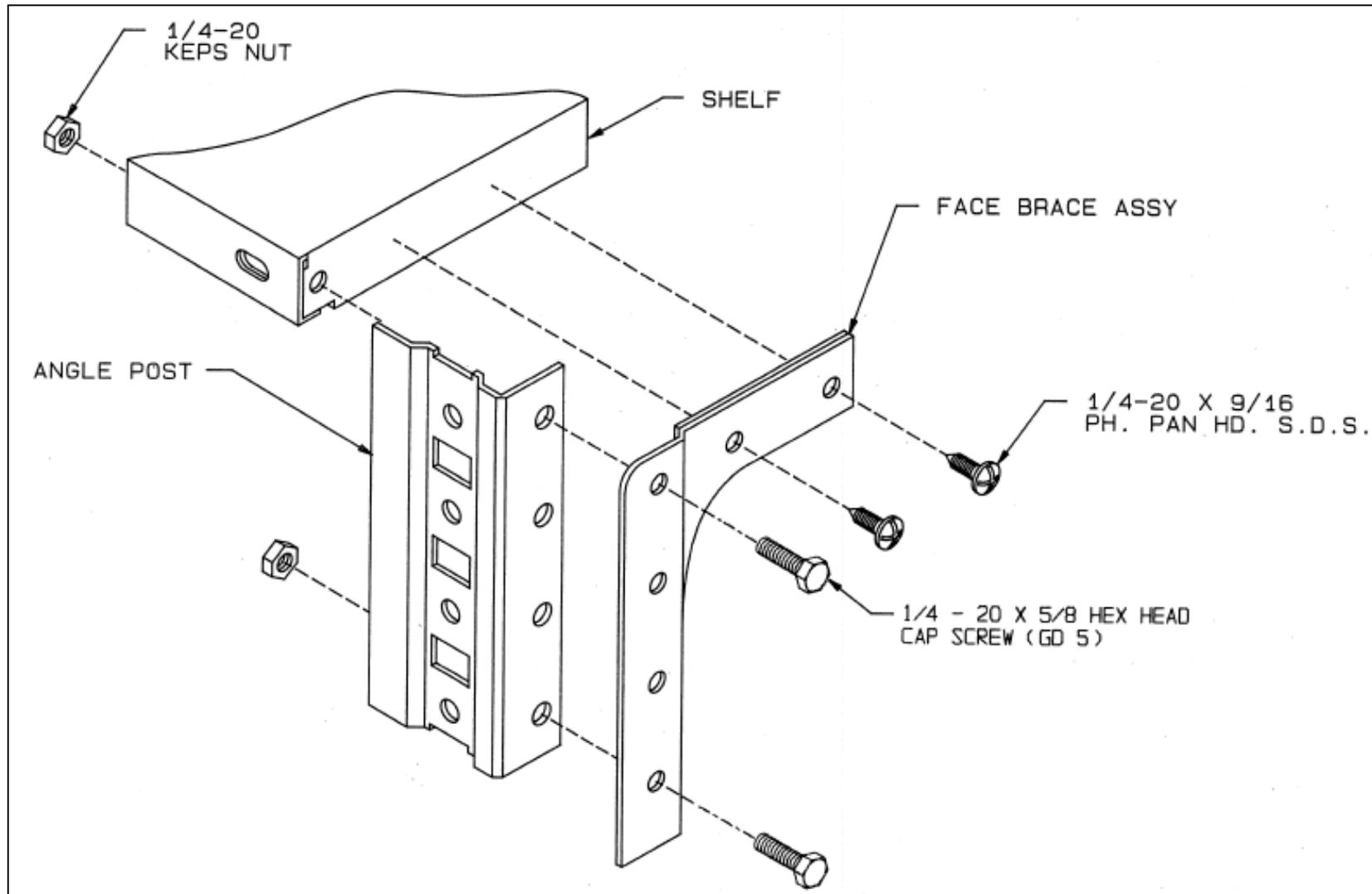
ANGLE POST BACK BRACE



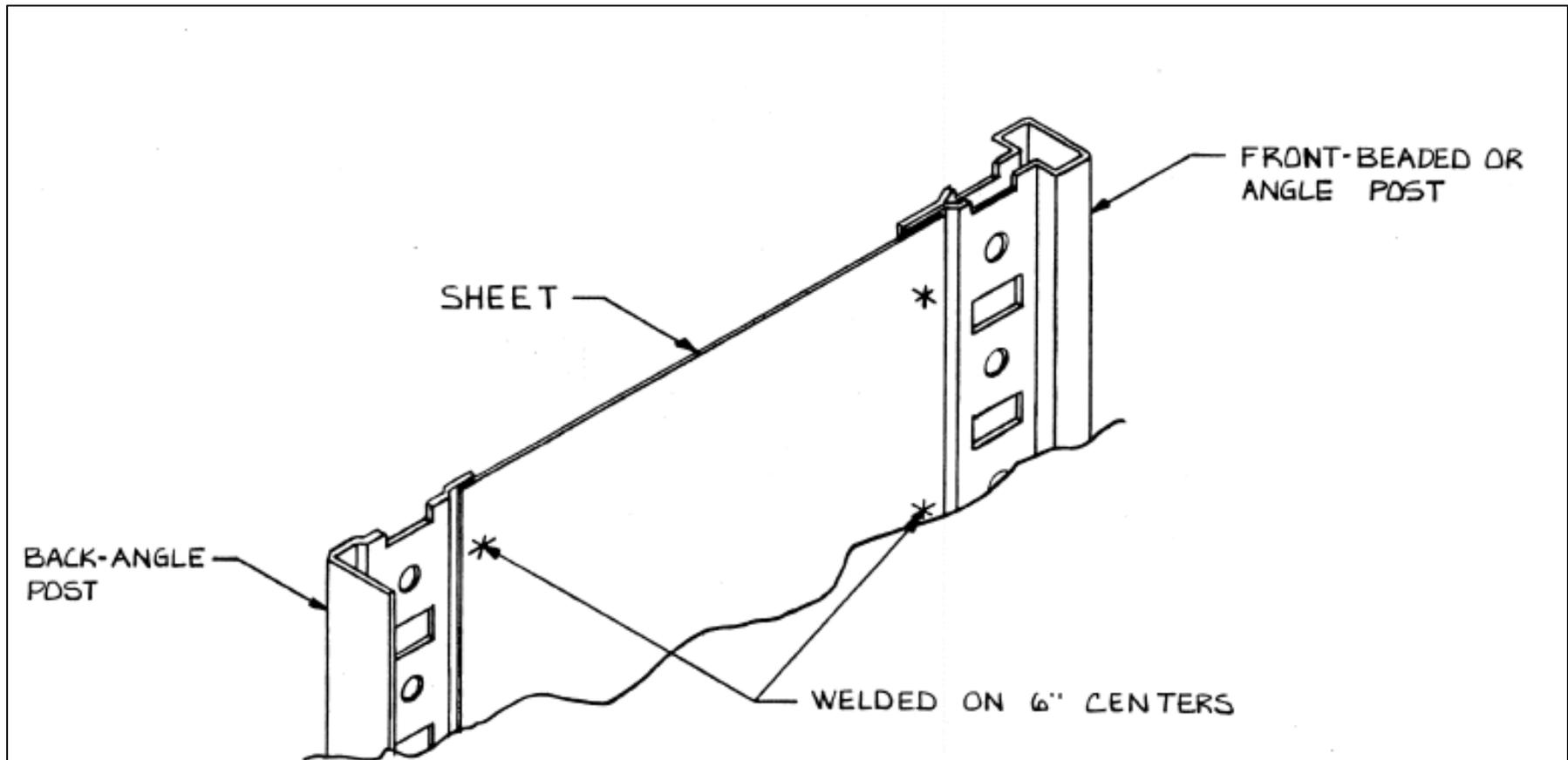
FACE BRACE W/BEADED POST & BOX EDGE SHELF



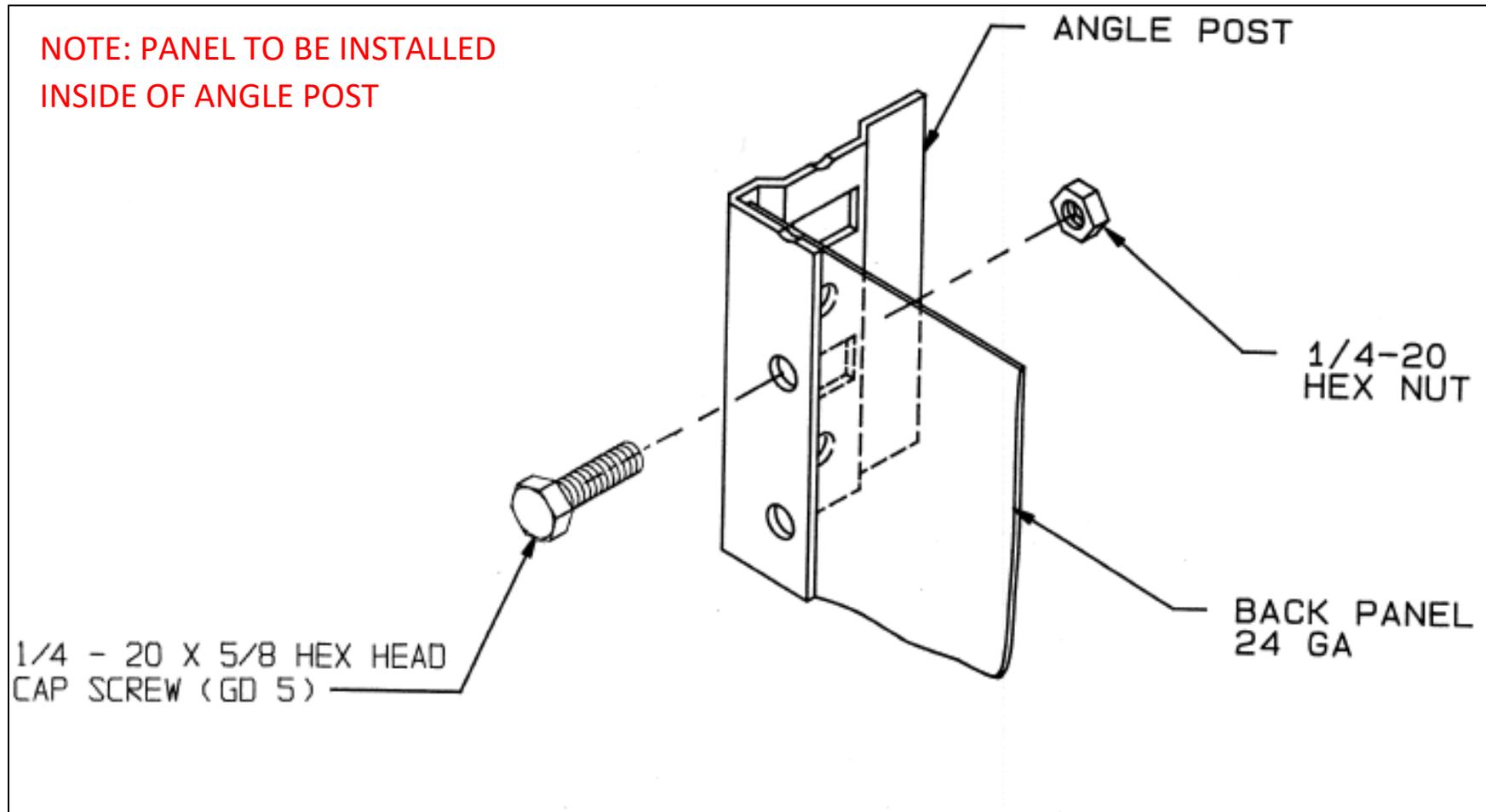
FACE BRACE W/ANGLE POST & BOX EDGE SHELF



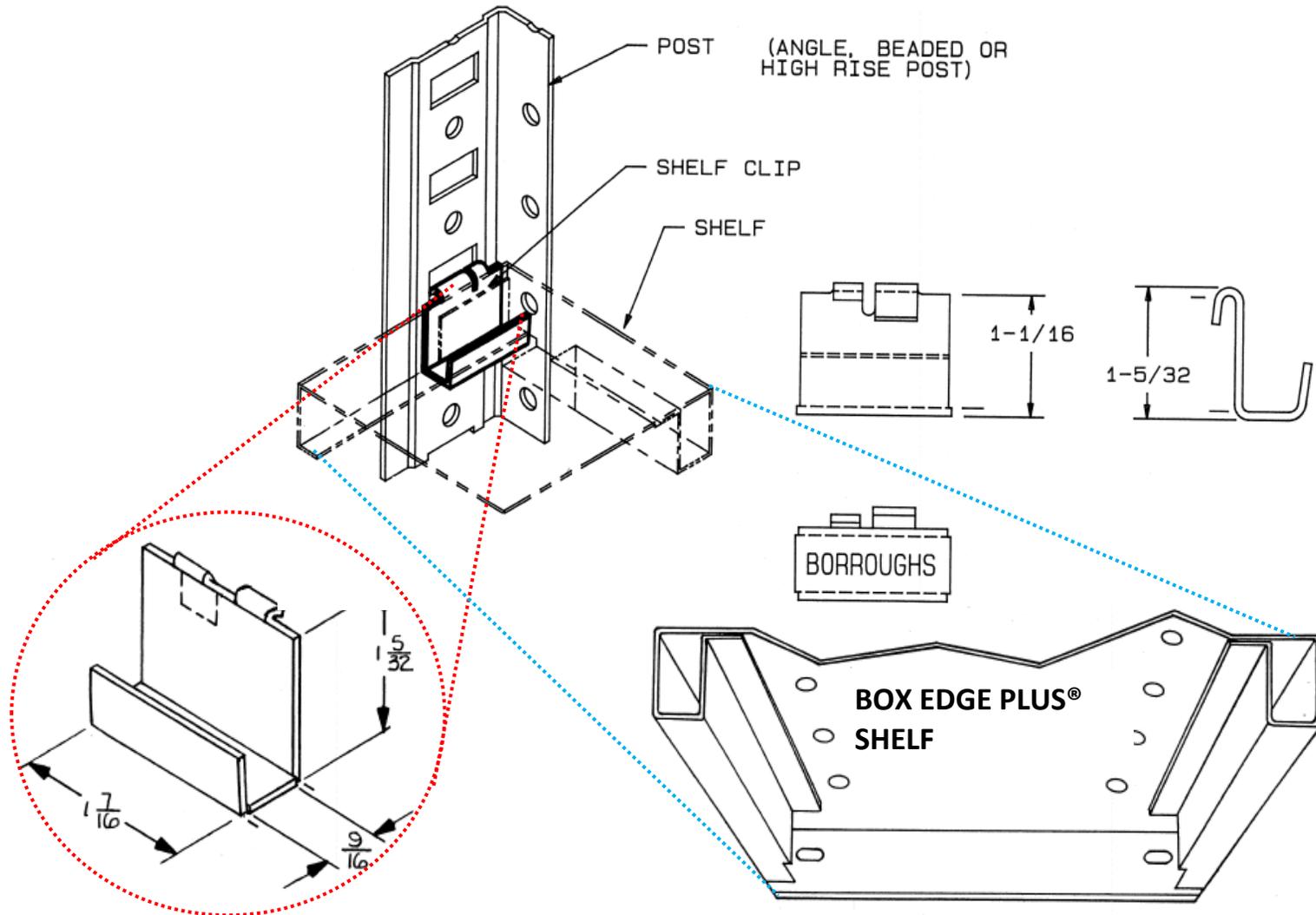
CLOSED SIDE ASSEMBLY



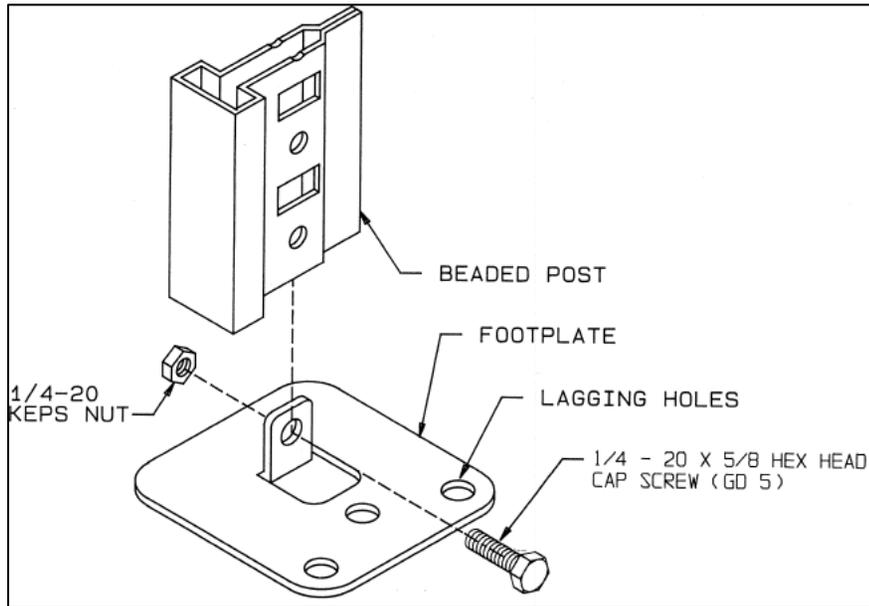
ANGLE POST W/BACK PANEL



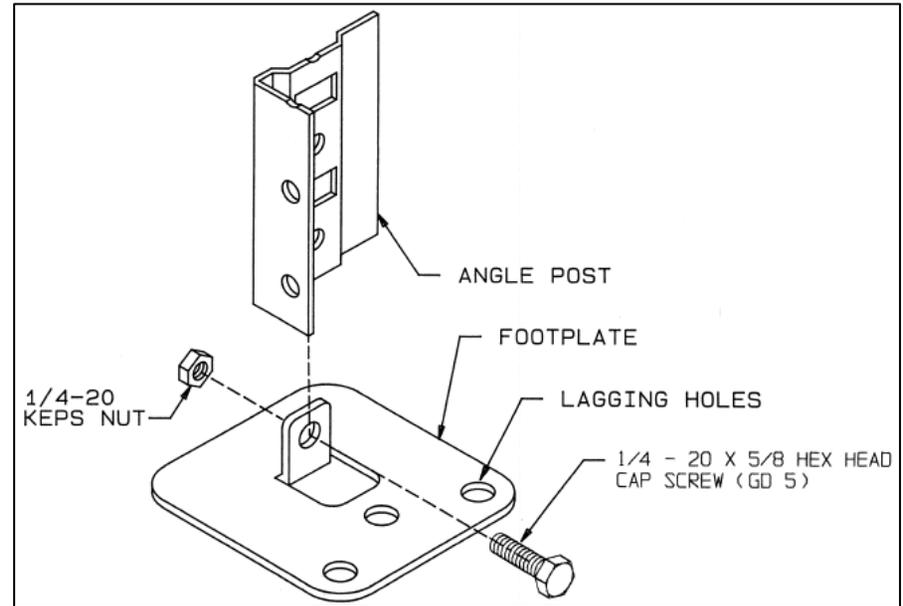
SHELF CLIP



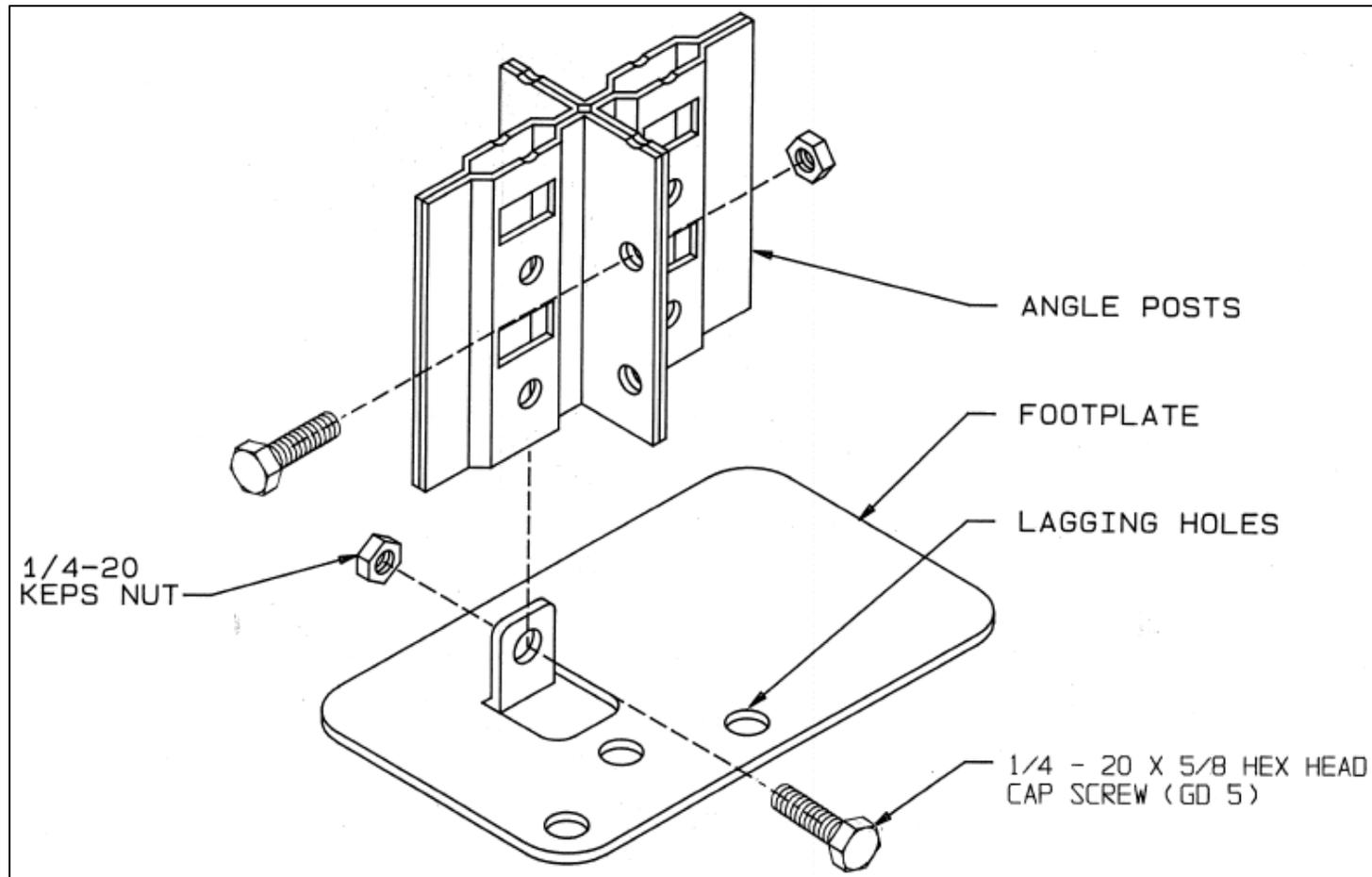
FOOTPLATE W/BEADED POST



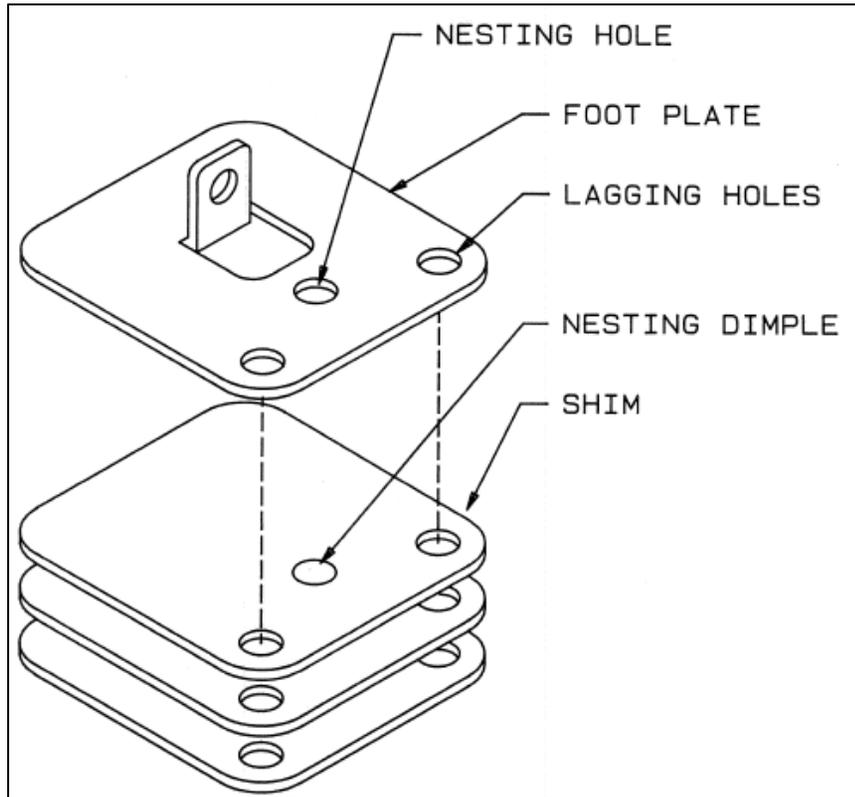
FOOTPLATE W/ANGLE POST



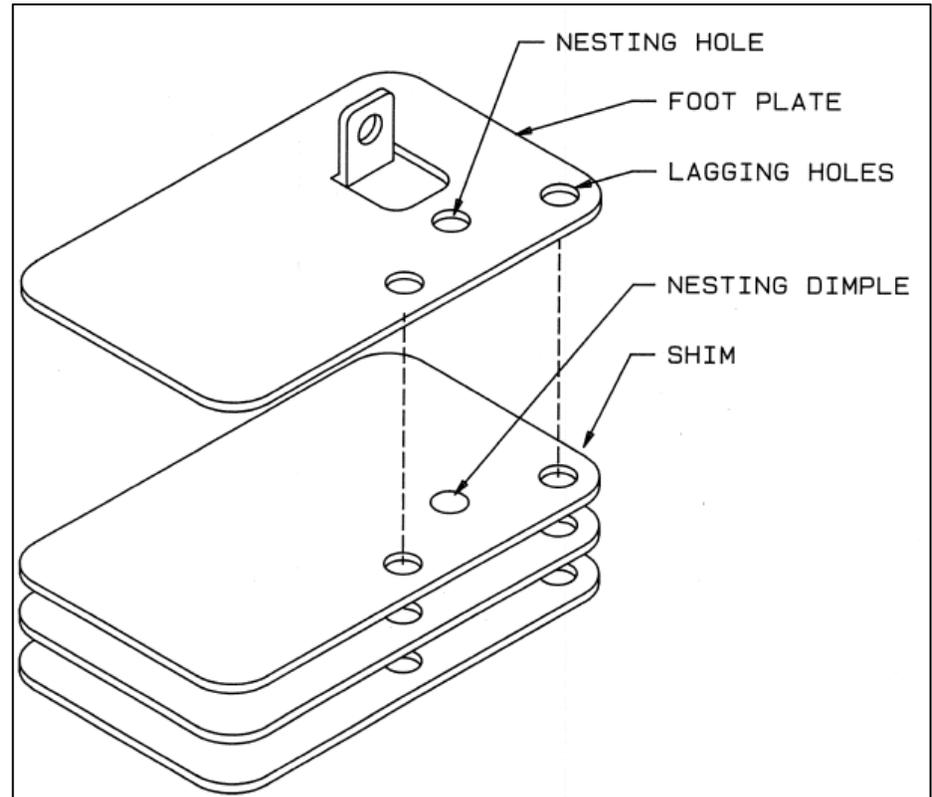
FOOTPLATE – BACK-TO-BACK W/ANGLE POSTS



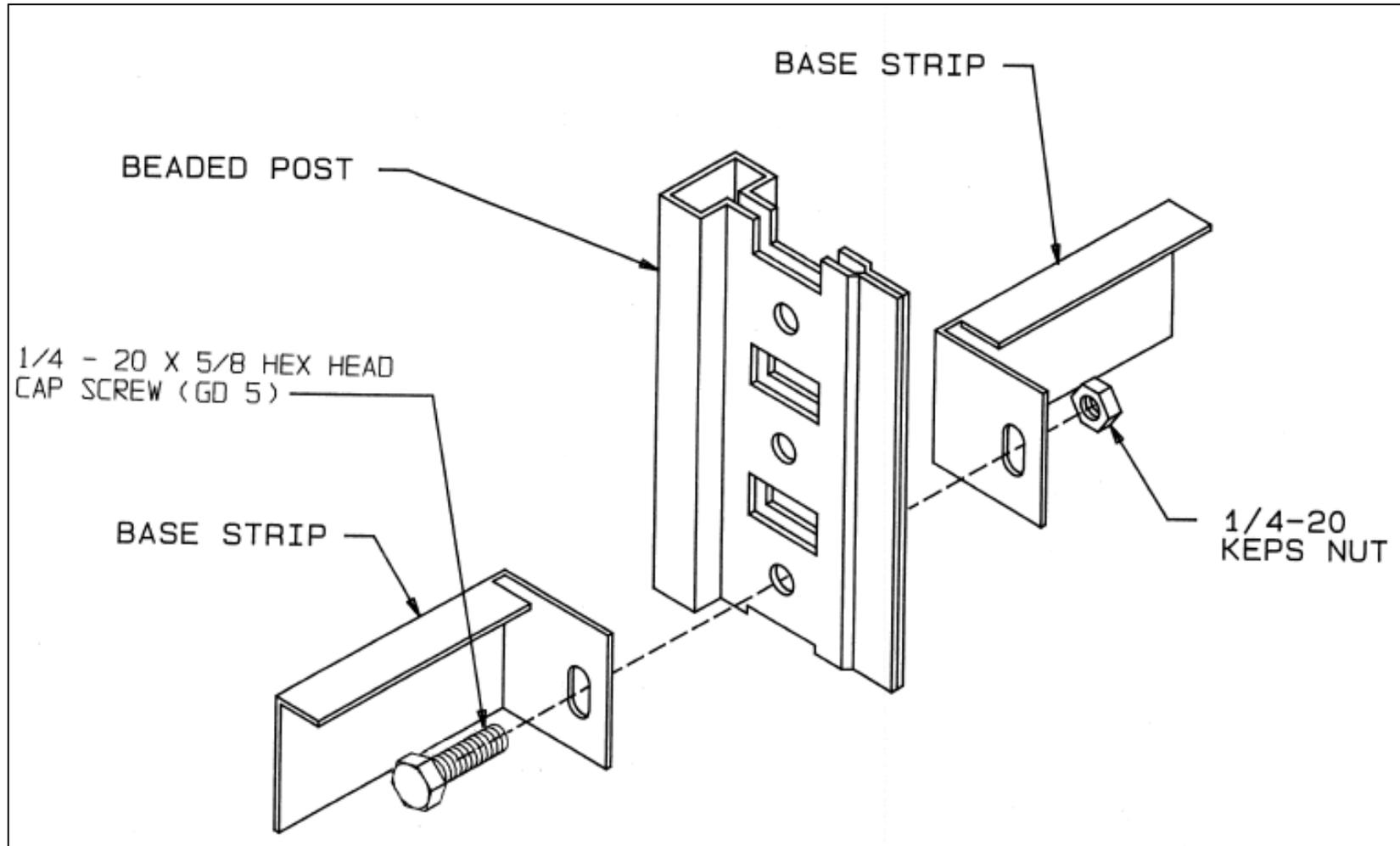
FOOTPLATE W/SHIM



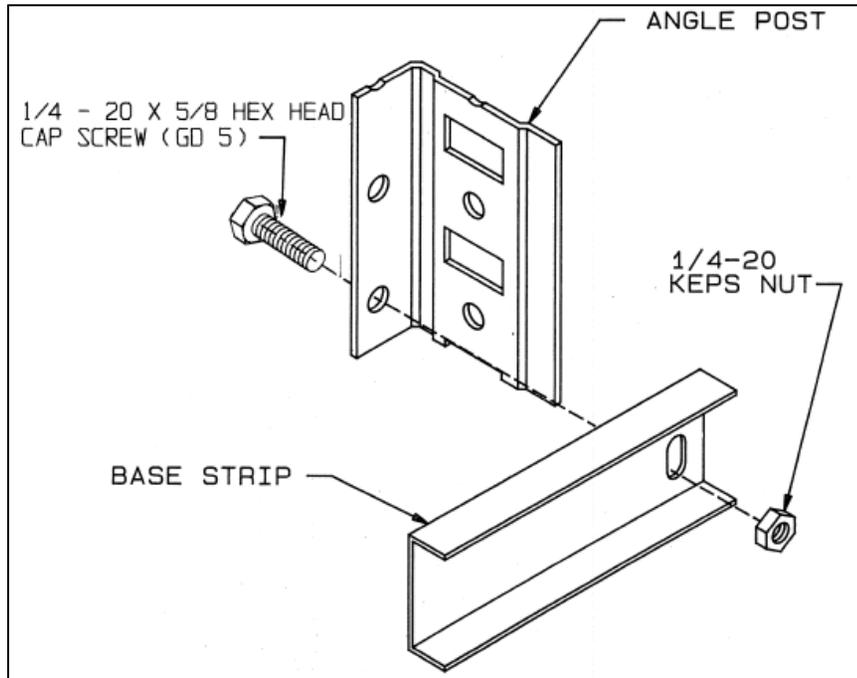
FOOTPLATE W/SHIM – BACK-TO-BACK



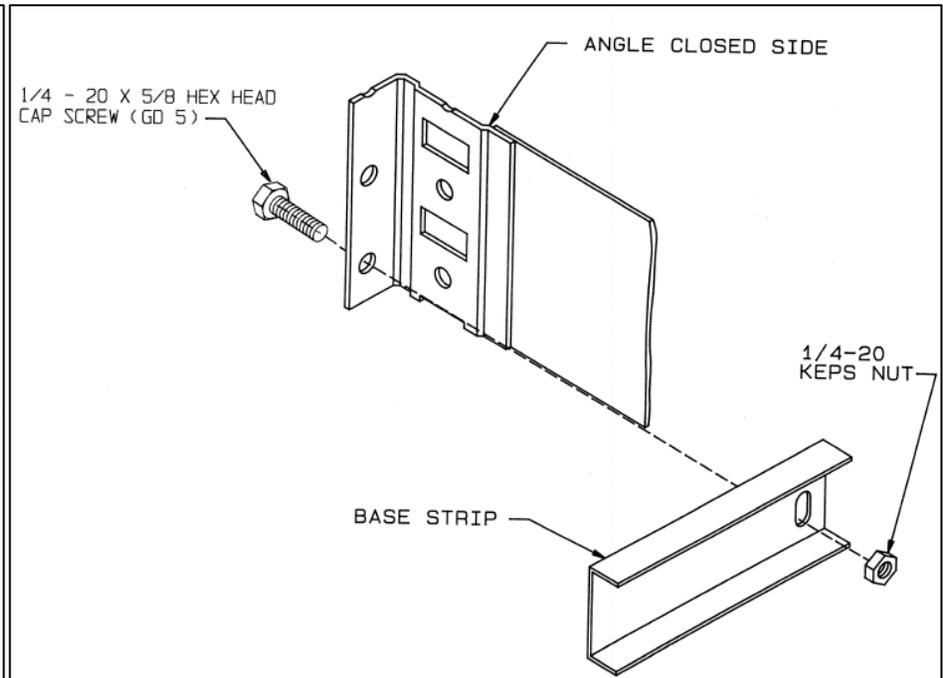
BASE STRIP W/BEADED POST



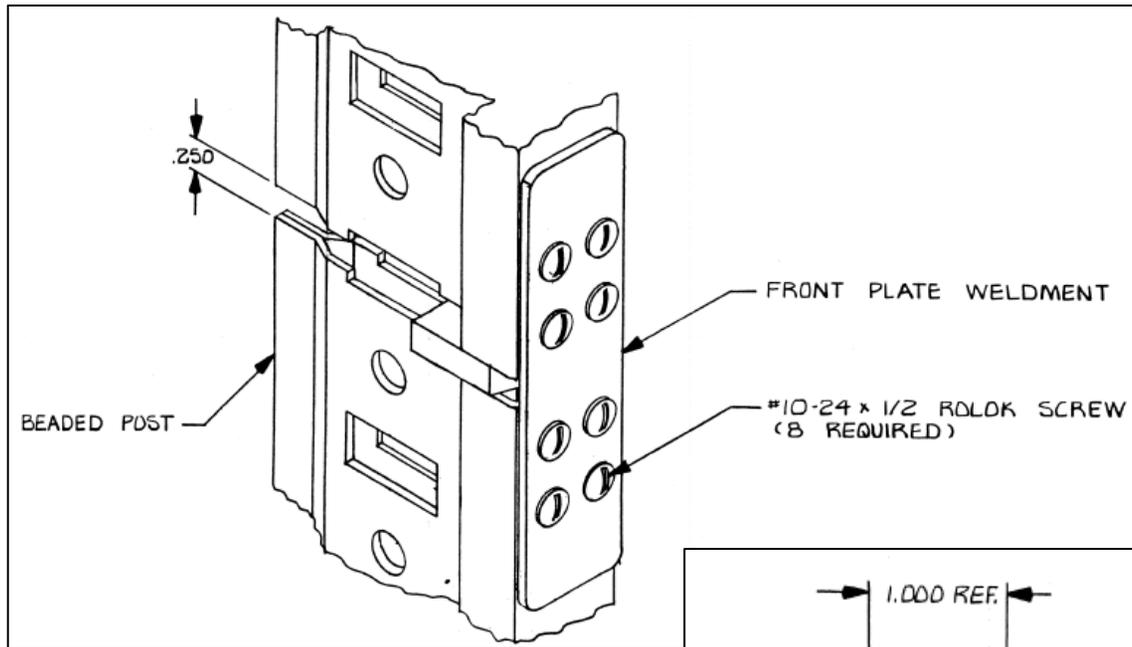
BASE STRIP W/ANGLE POST



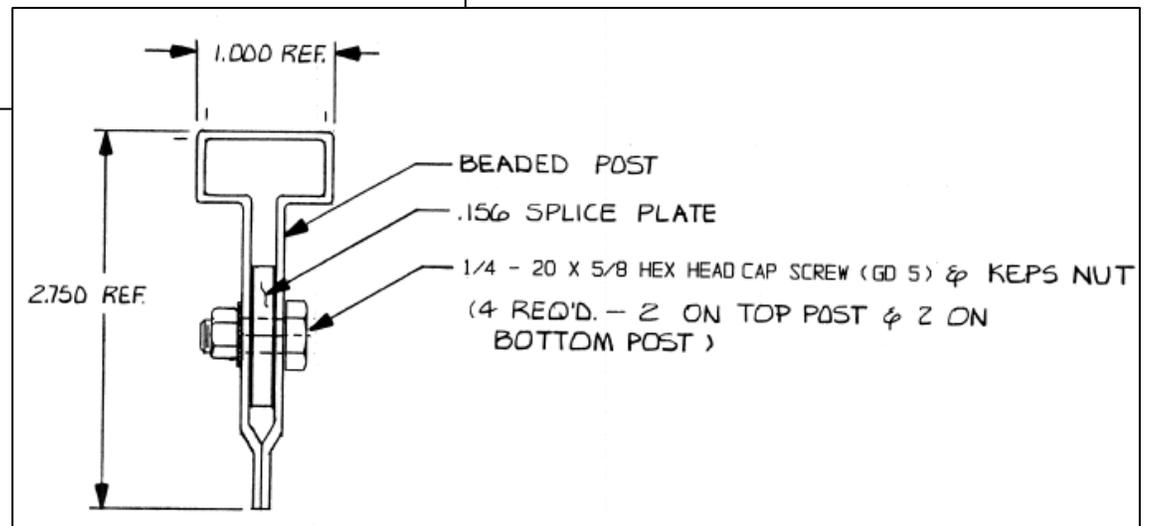
BASE STRIP W/ANGLE CLOSED SIDE



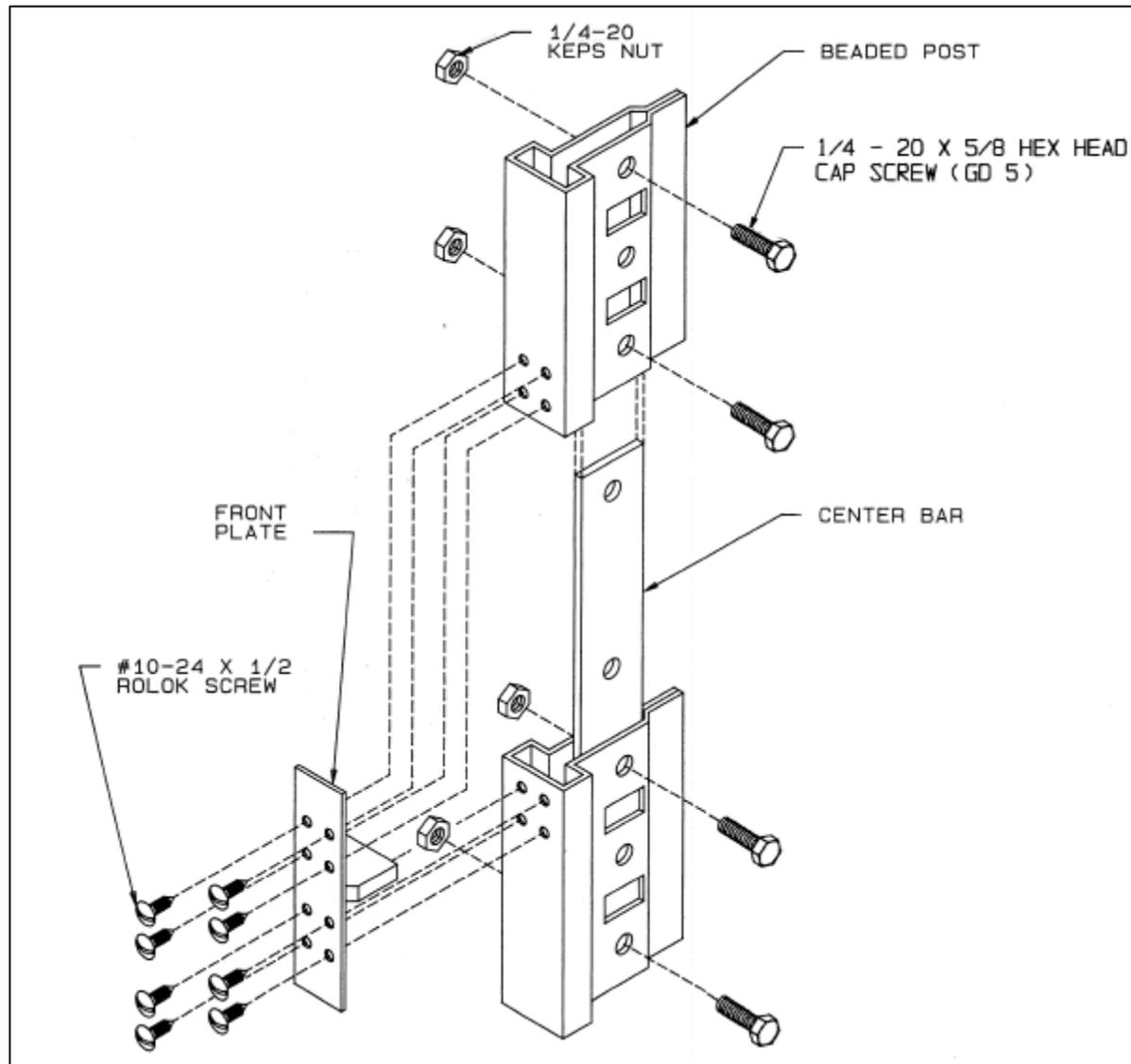
FRONT PLATE WELDMENT & BEADED POST ASSEMBLY



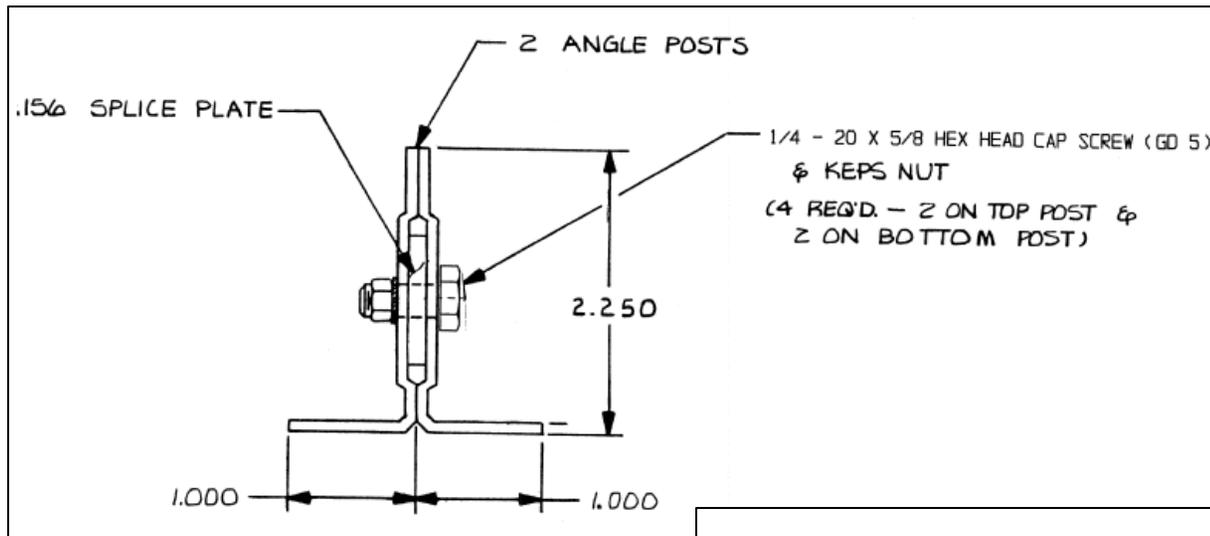
BEADED POST SPLICE



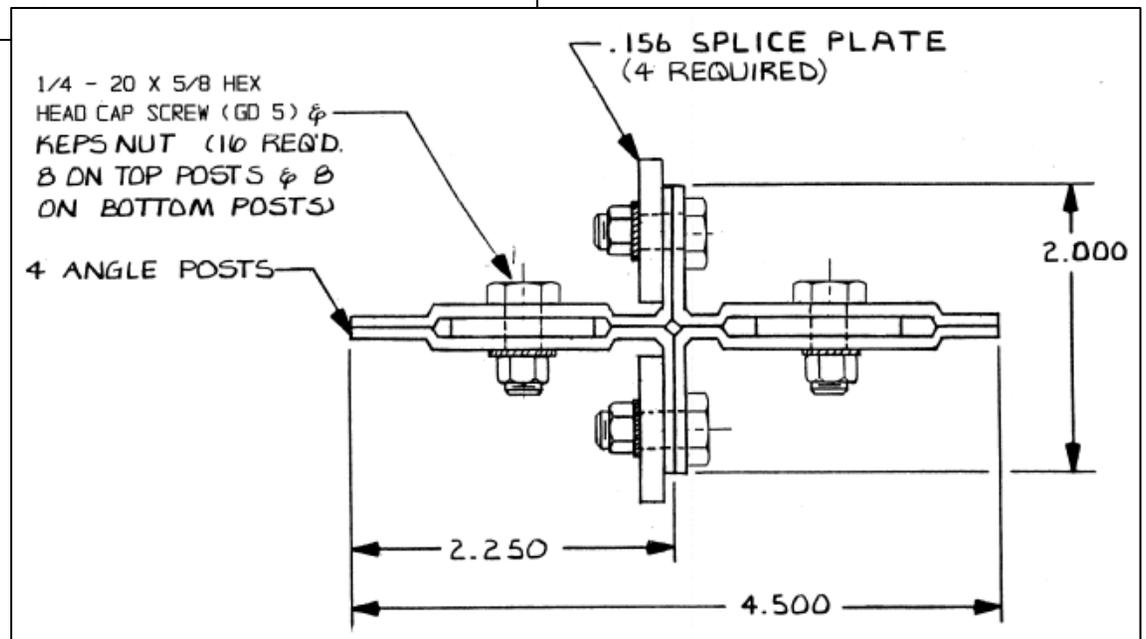
SPLICER KIT W/BEADED POSTS



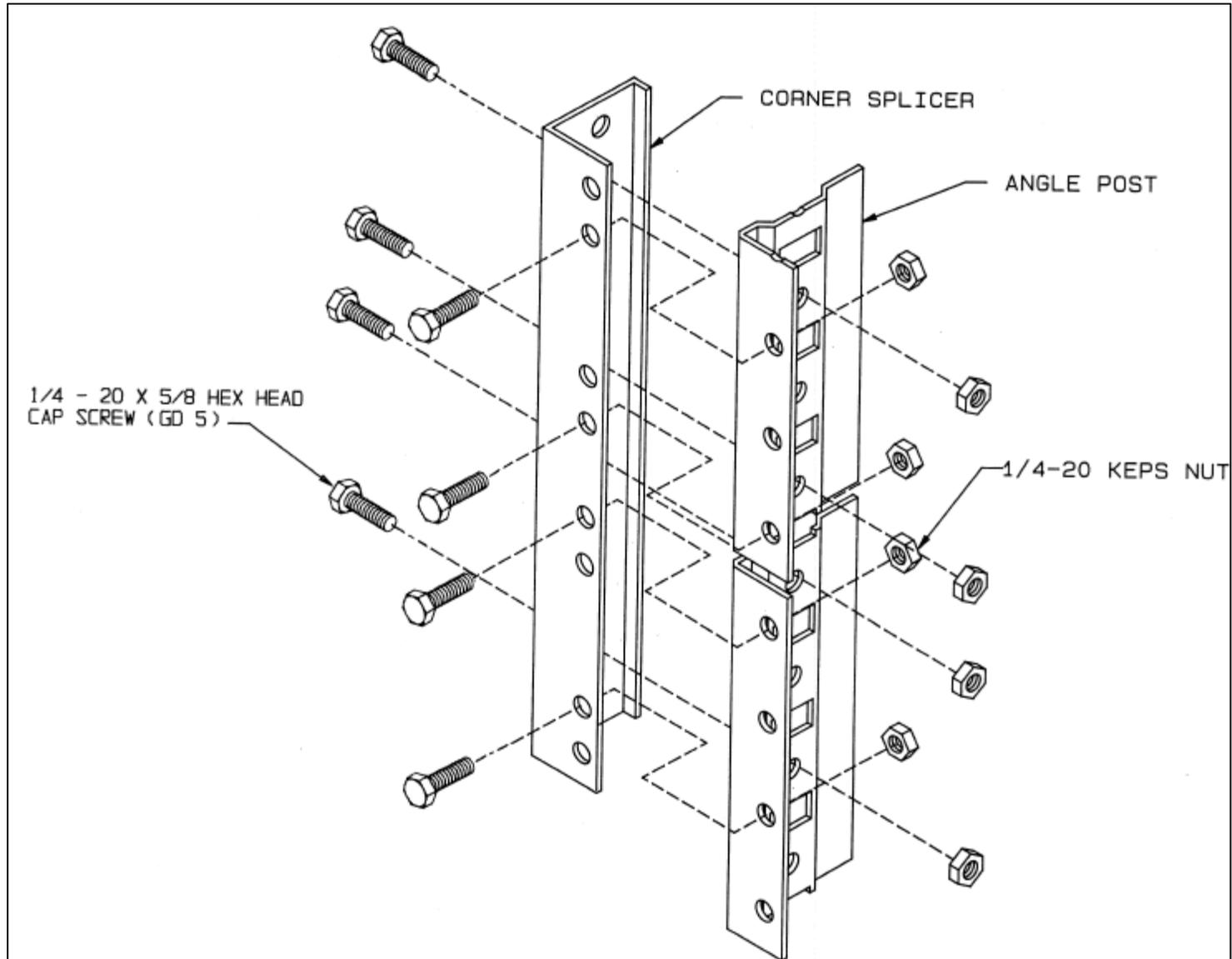
ANGLE POST



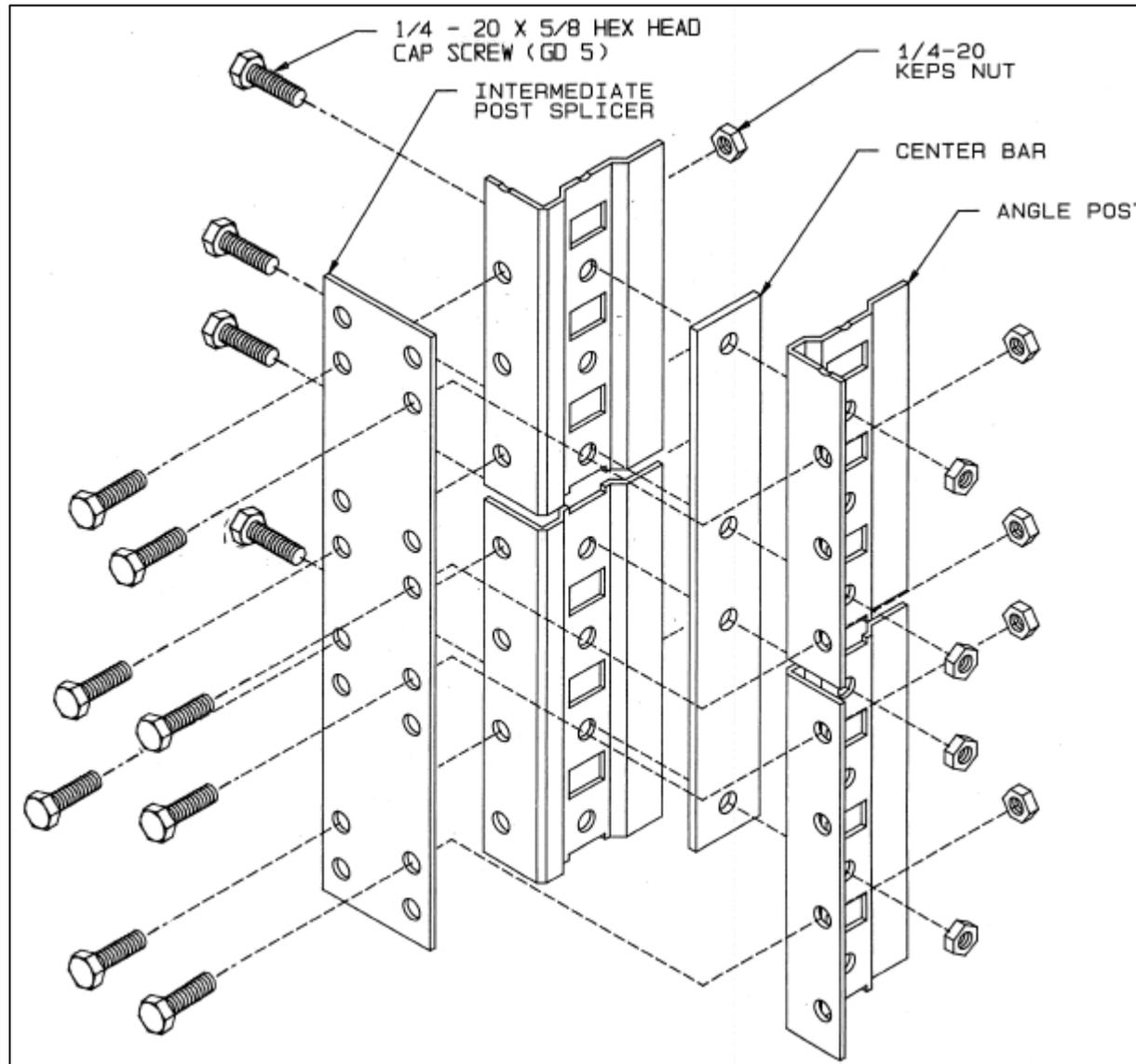
ANGLE POST SPLICE



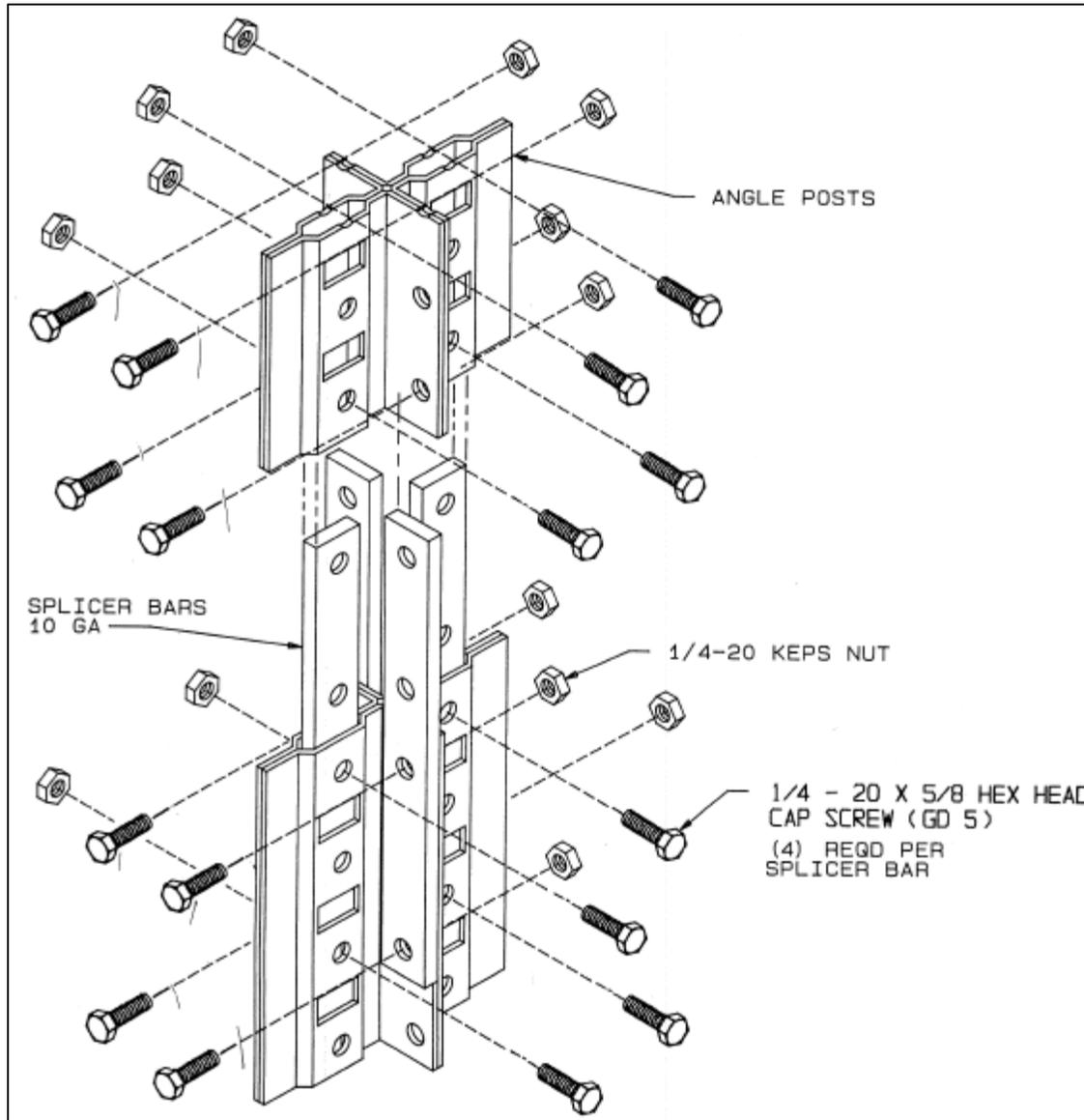
CORNER SPLICER



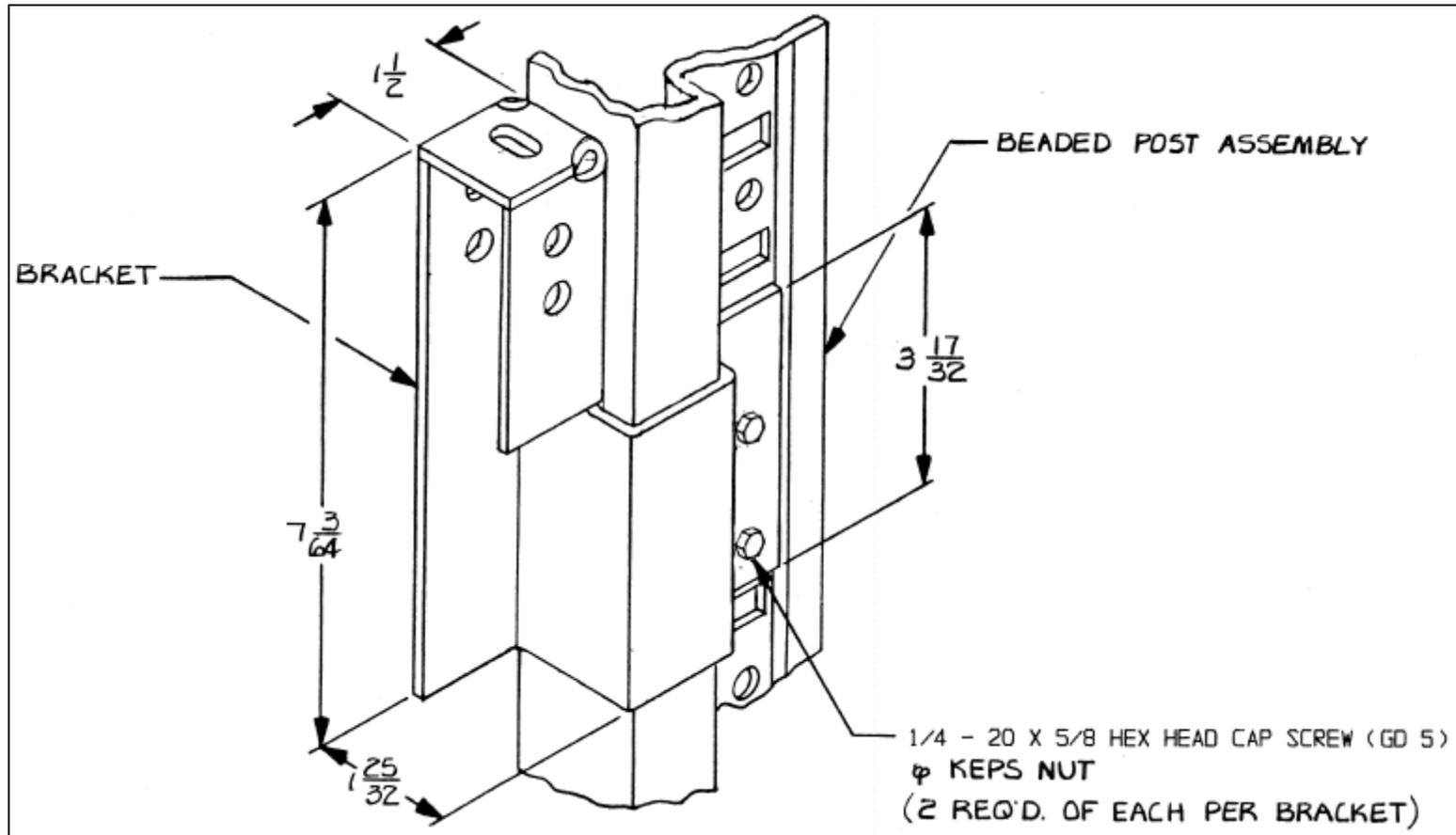
SPLICER BARS W/BACK-TO-BACK ANGLE POSTS (2)



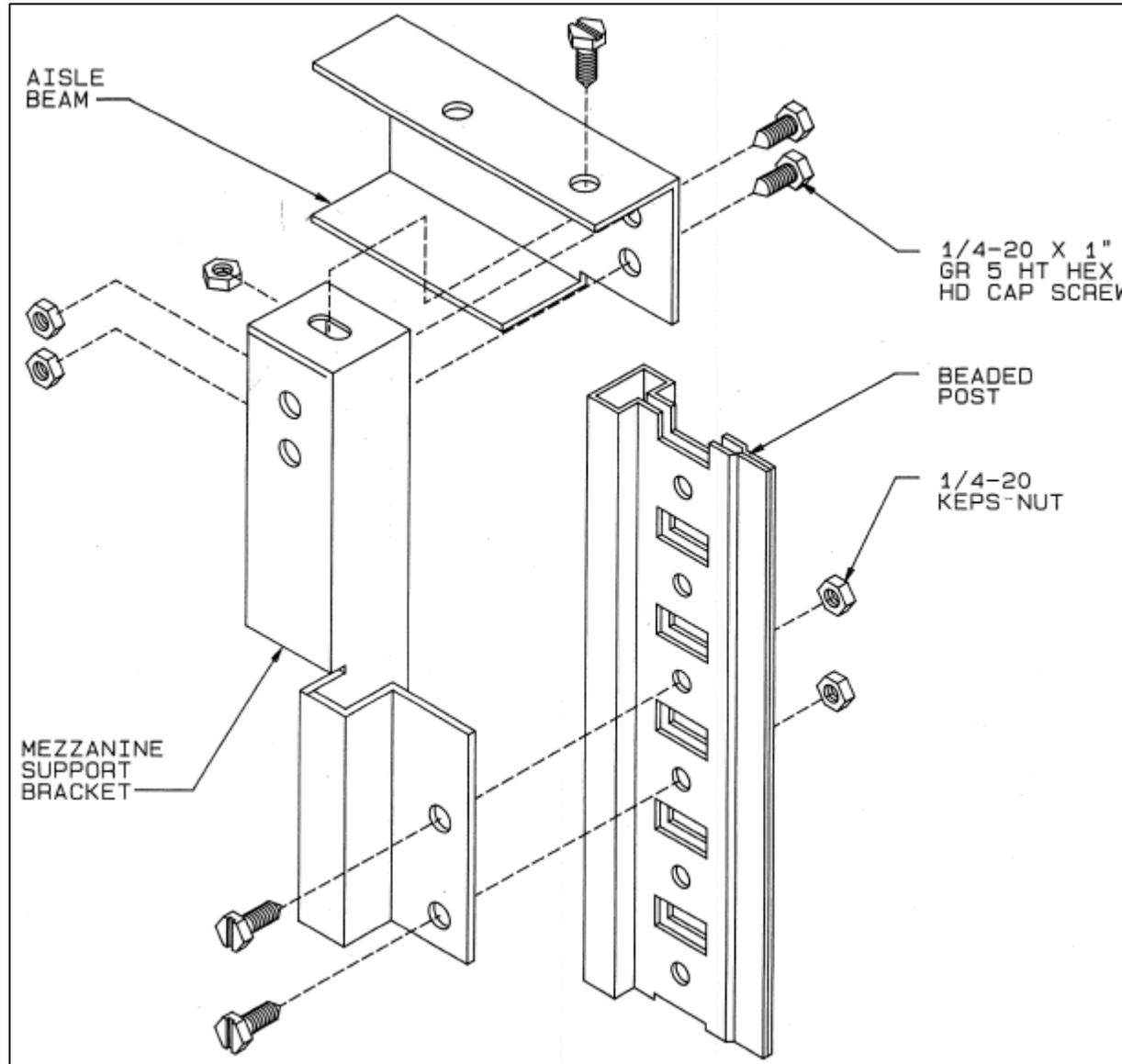
SPLICER BARS W/BACK-TO-BACK ANGLE POSTS (4)



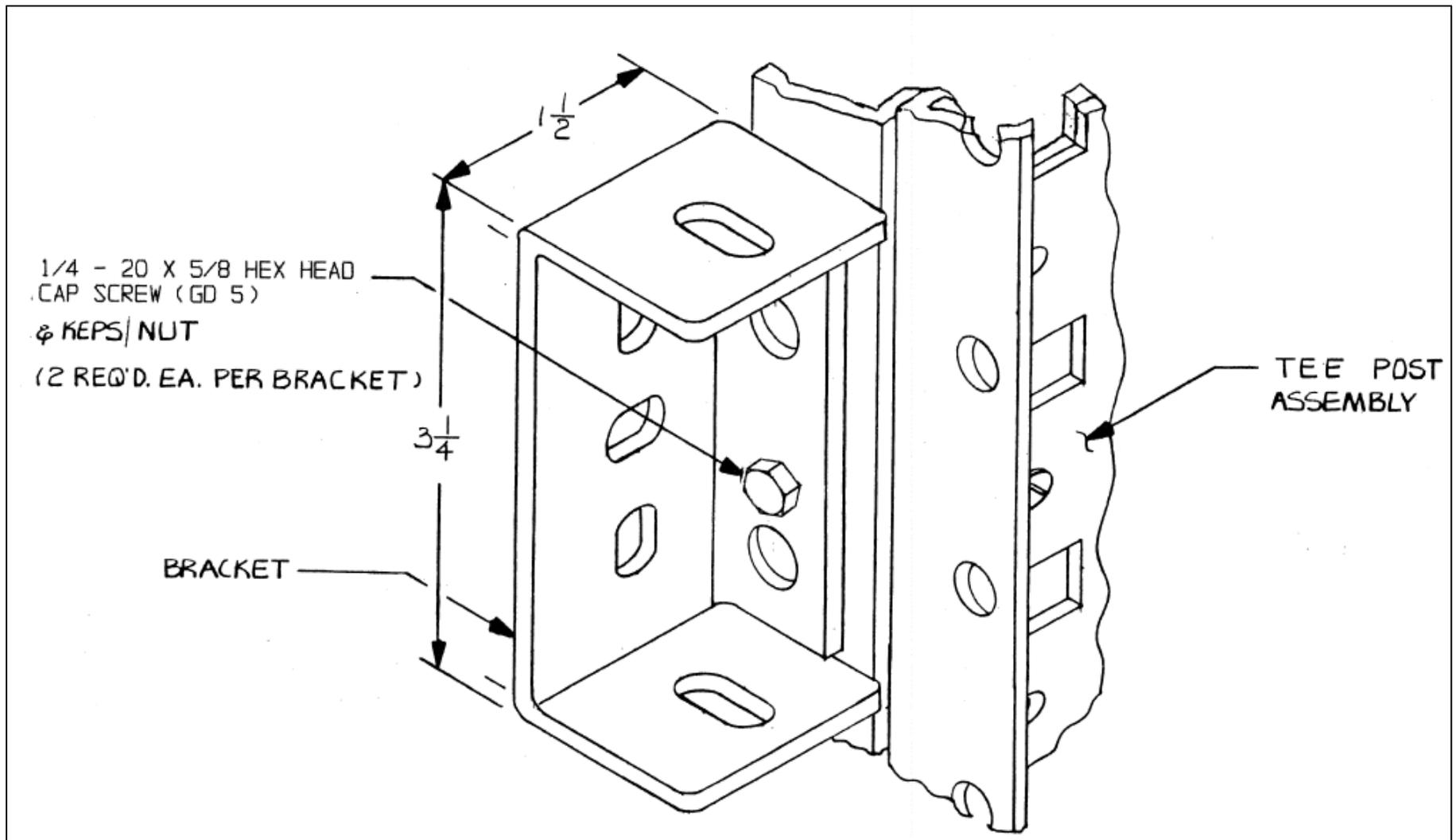
BEADED POST MEZZANINE BRACKET & BEADED POST ASSEMBLY



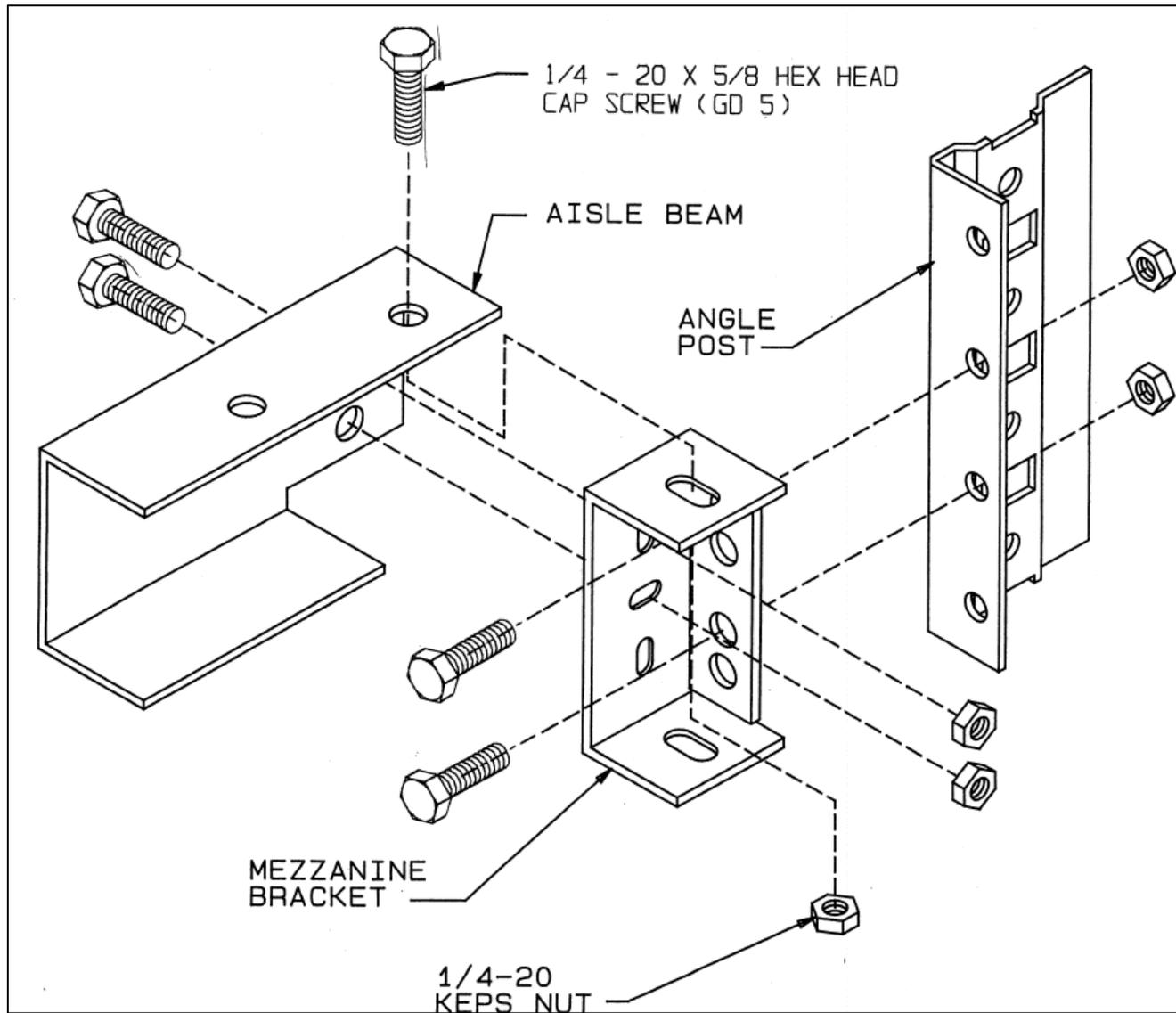
BEADED POST MEZZANINE SUPPORT BEAM & BRACKET W/BEADED POST



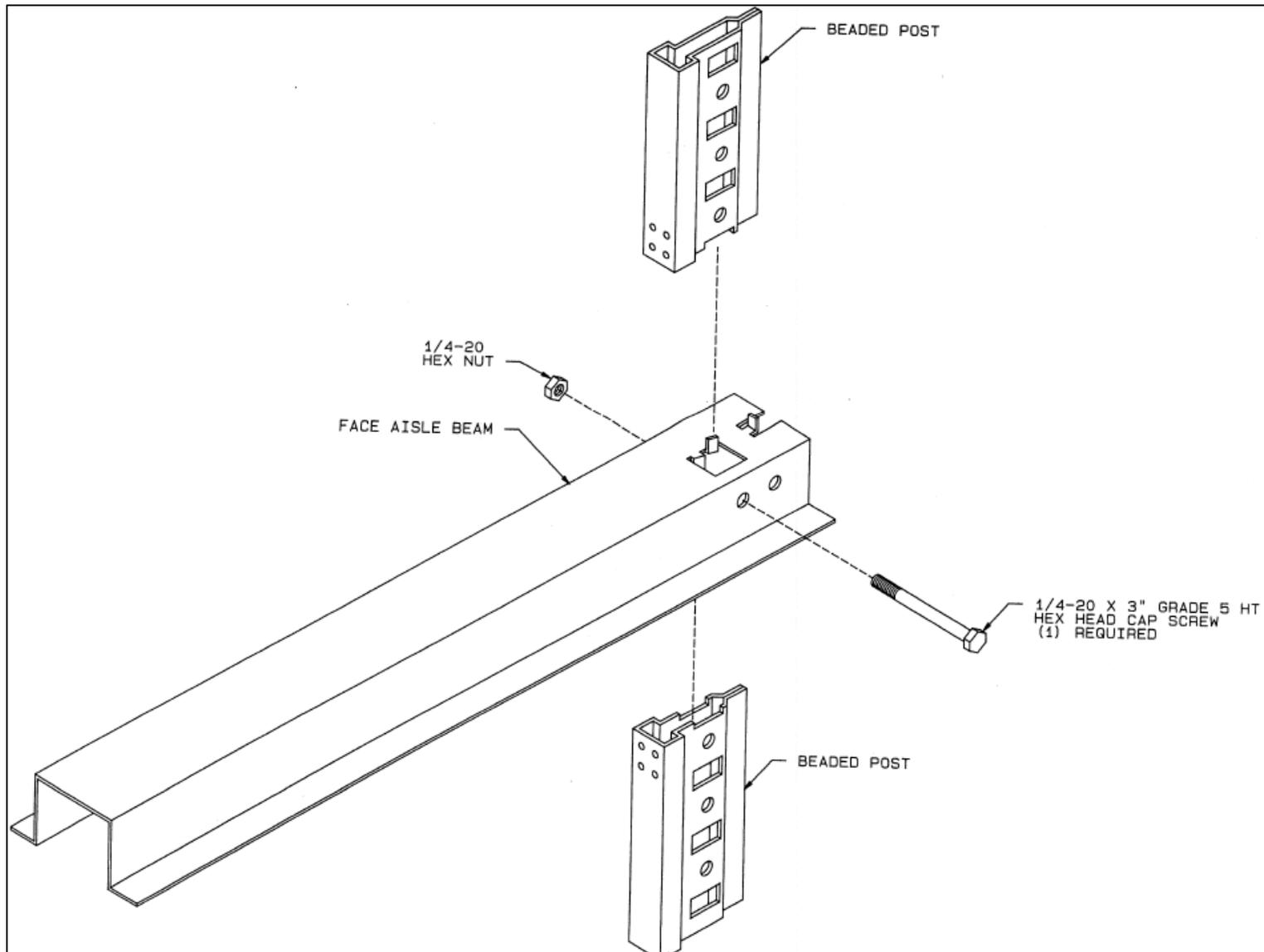
ANGLE POST MEZZANINE BRACKET & ANGLE POST ASSEMBLY



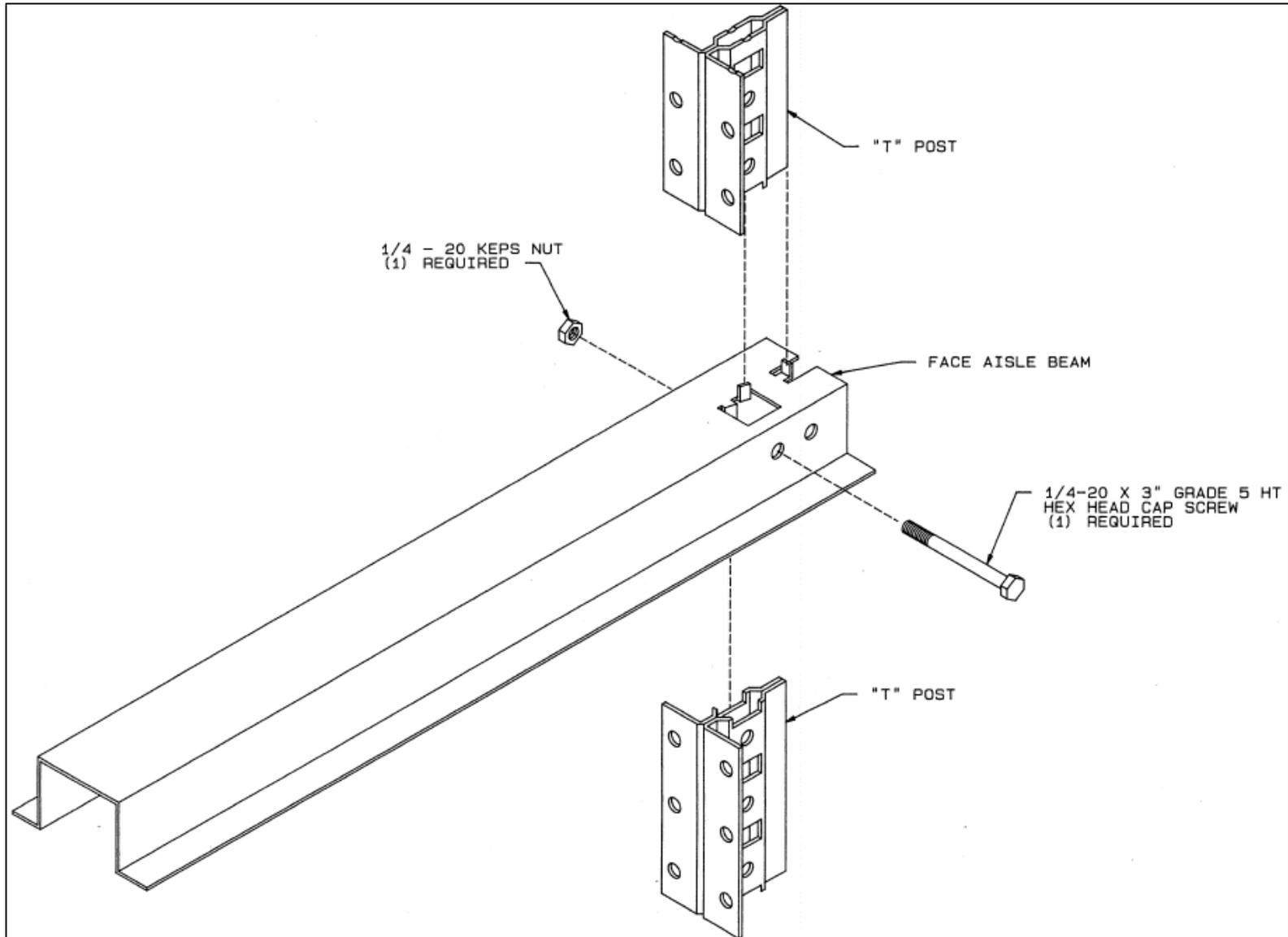
ANGLE POST MEZZANINE SUPPORT BEAM & BRACKET W/ANGLE POST



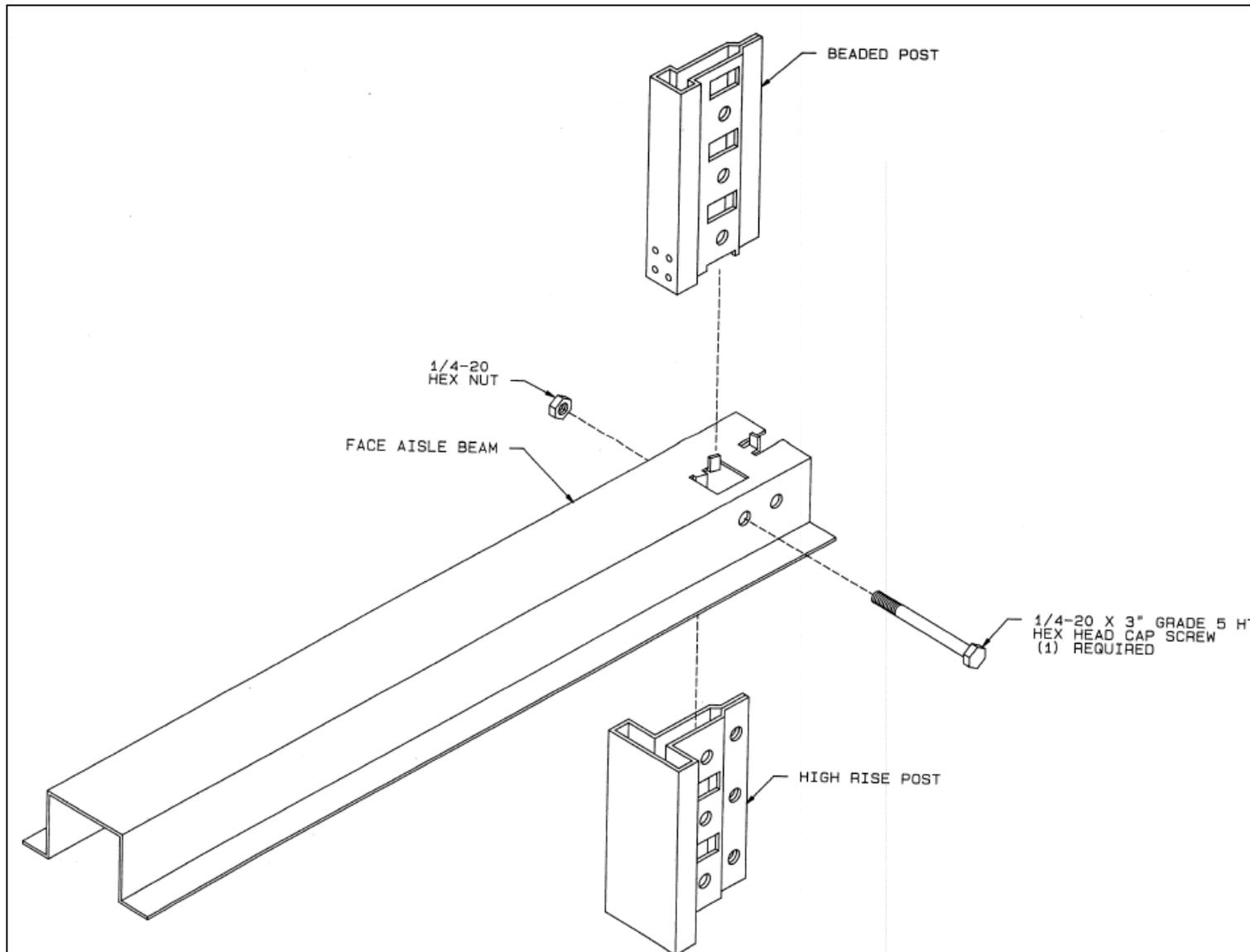
CAP MEZZANINE SYSTEM BEADED POST FACE AISLE BEAM ASSEMBLY



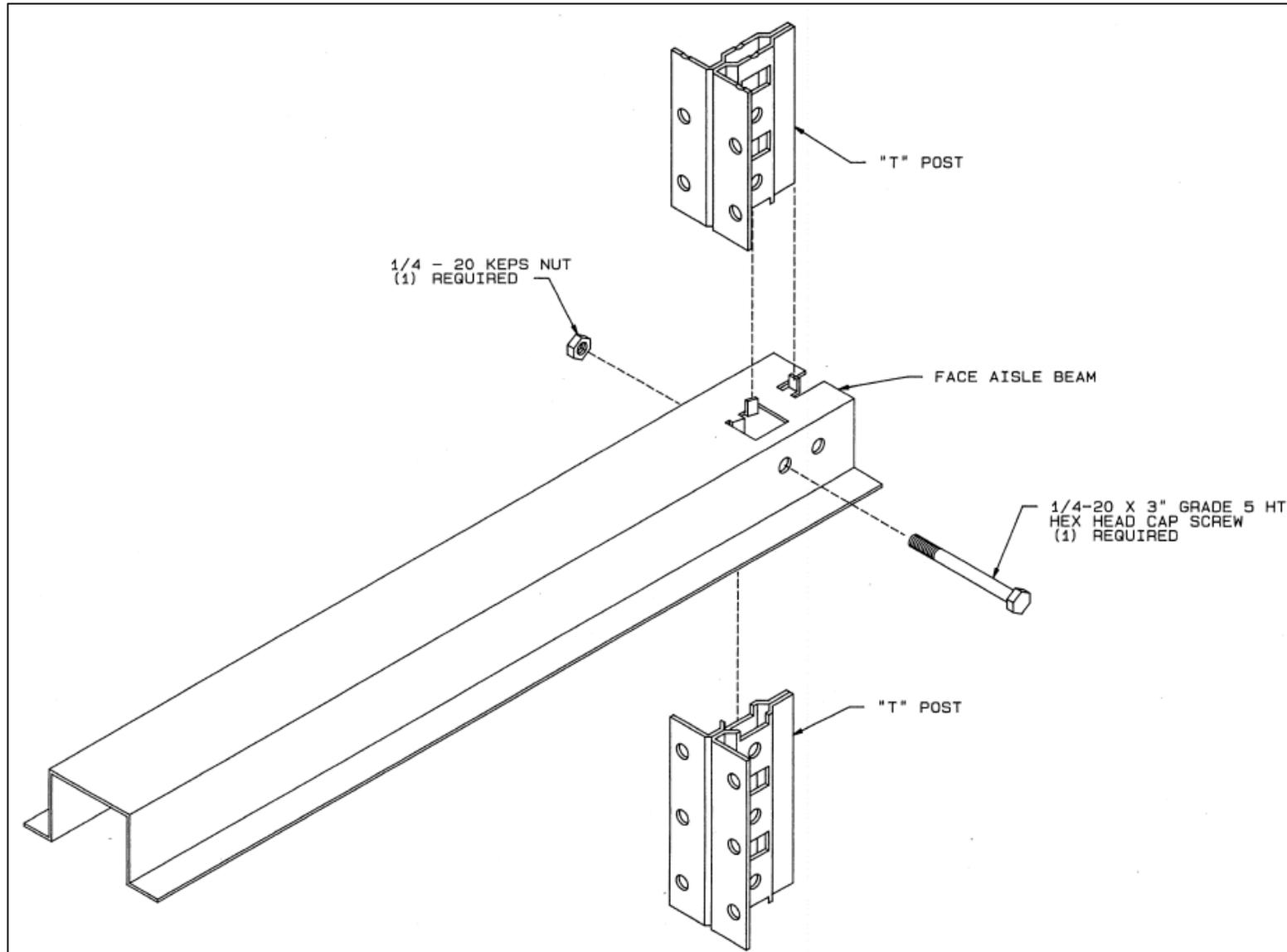
CAP MEZZANINE SYSTEM ANGLE "T" POST FACE AISLE BEAM ASSEMBLY



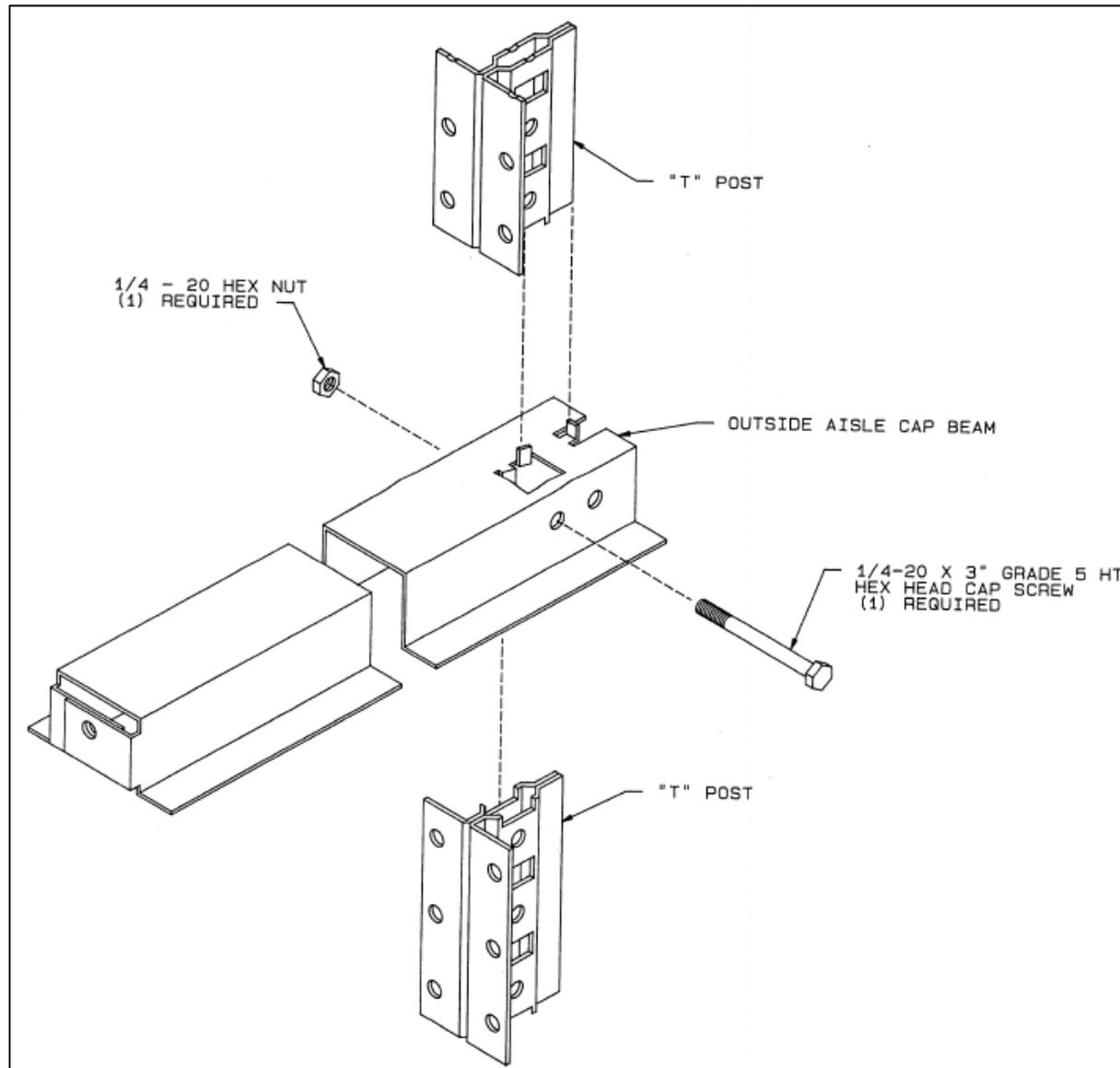
CAP MEZZANINE SYSTEM HIGH RISE – BEADED POST FACE AISLE BEAM ASSEMBLY



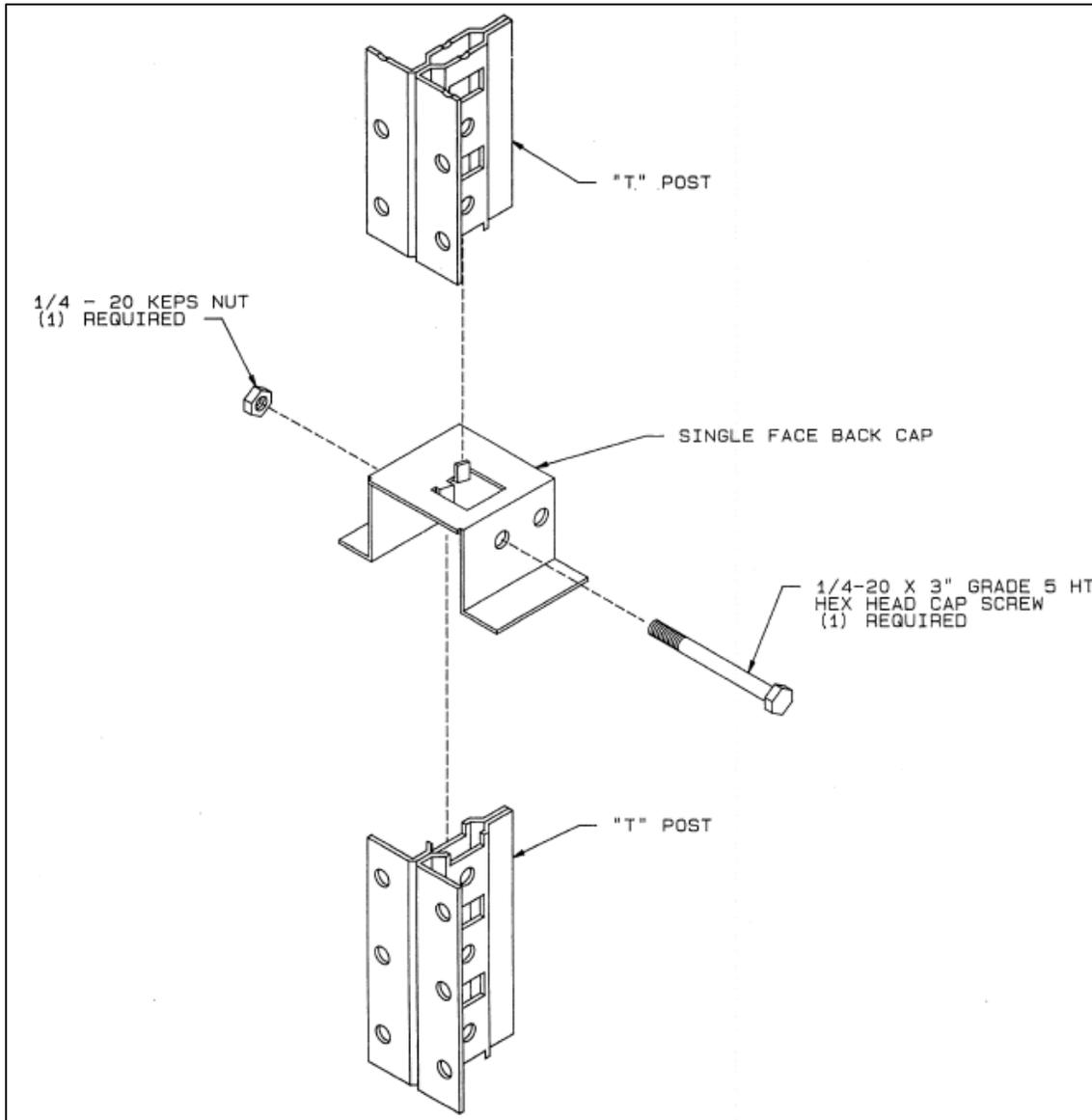
CAP MEZZANINE SYSTEM HIGH RISE – ANGLE “T” POST FACE AISLE BEAM ASSEMBLY



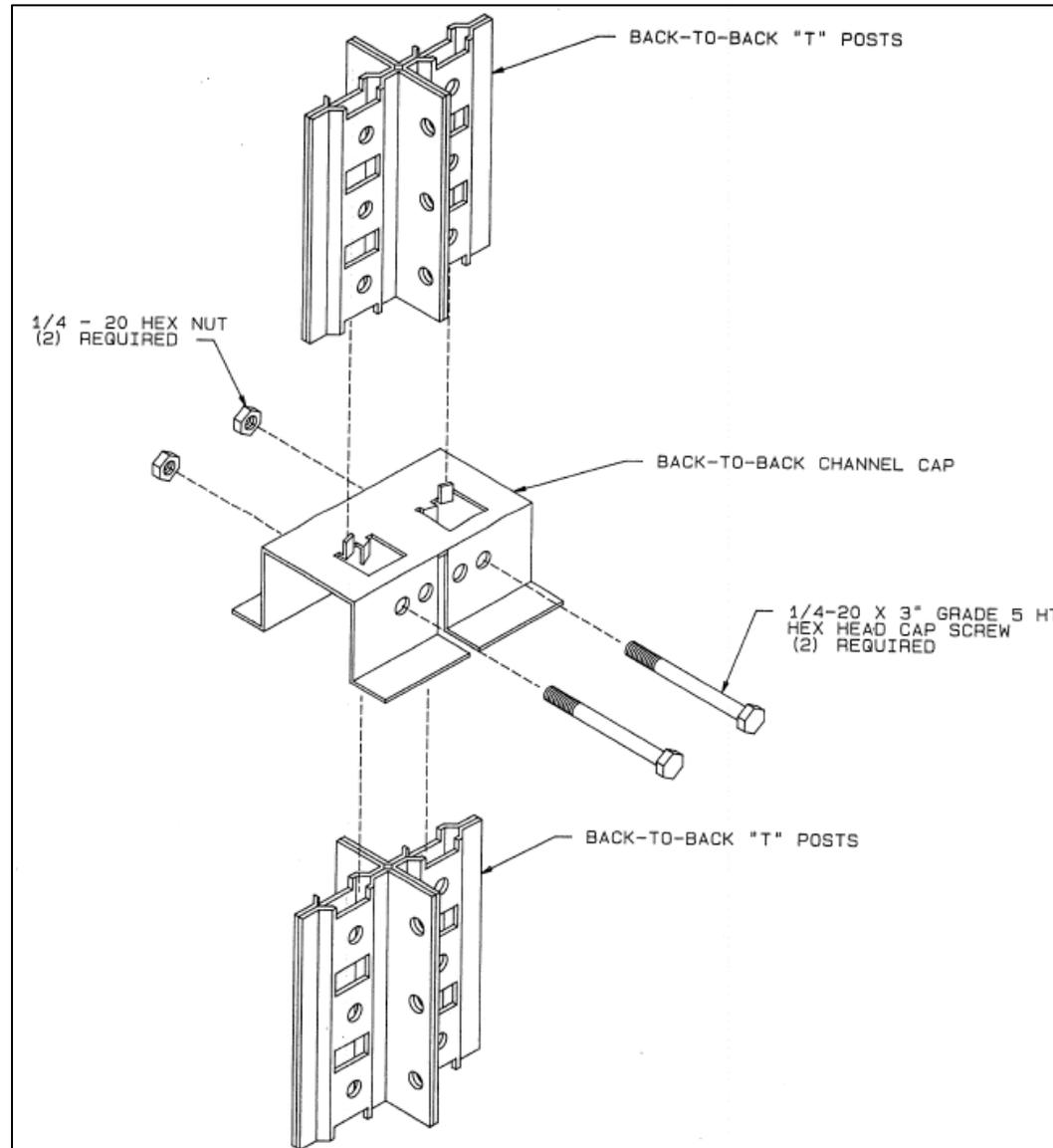
CAP MEZZANINE SYSTEM ANGLE "T" POST - OUTSIDE AISLE BEAM ASSEMBLY



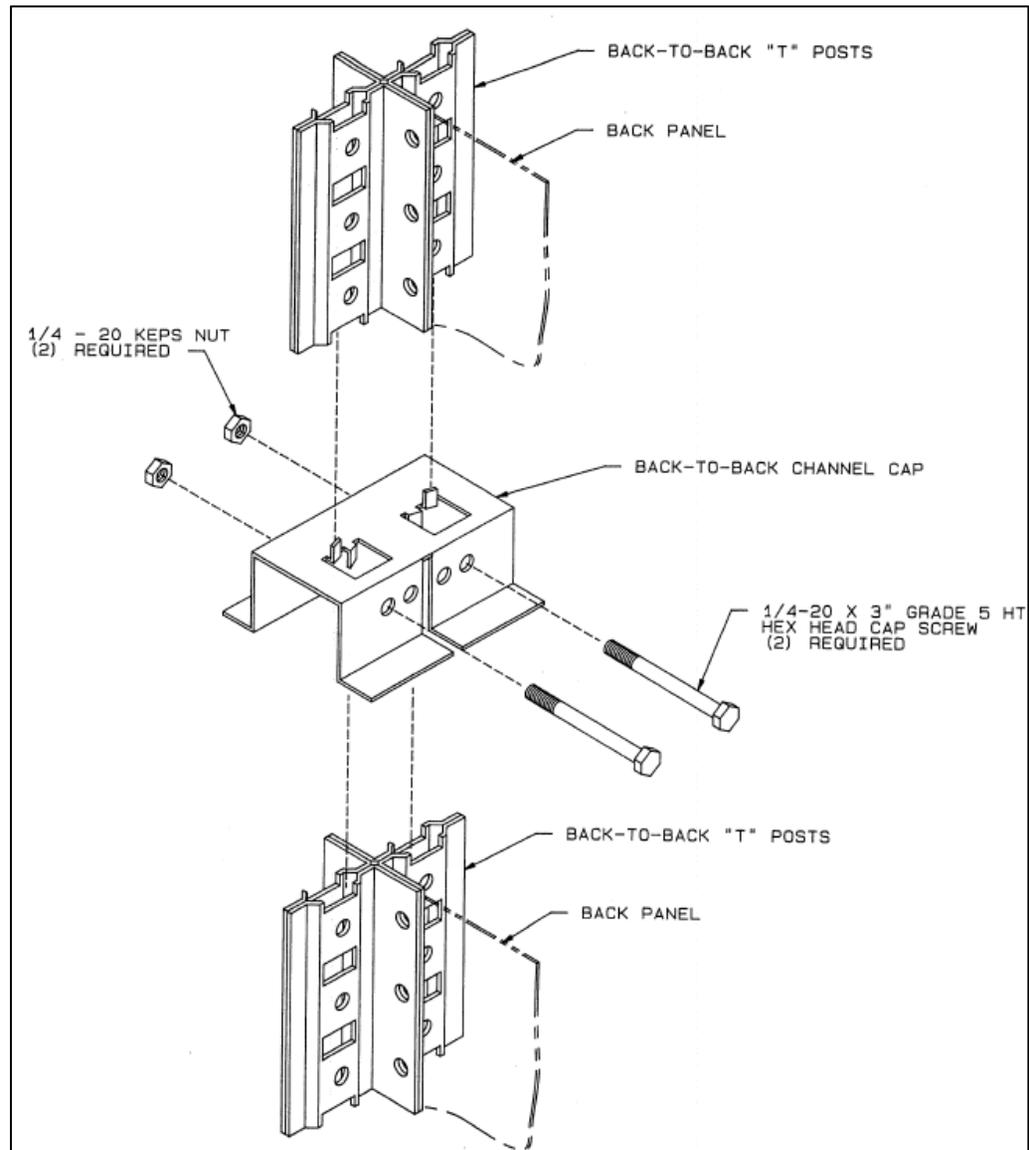
CAP MEZZANINE SYSTEM ANGLE "T" POST – SINGLE FACE BACK CAP ASSEMBLY



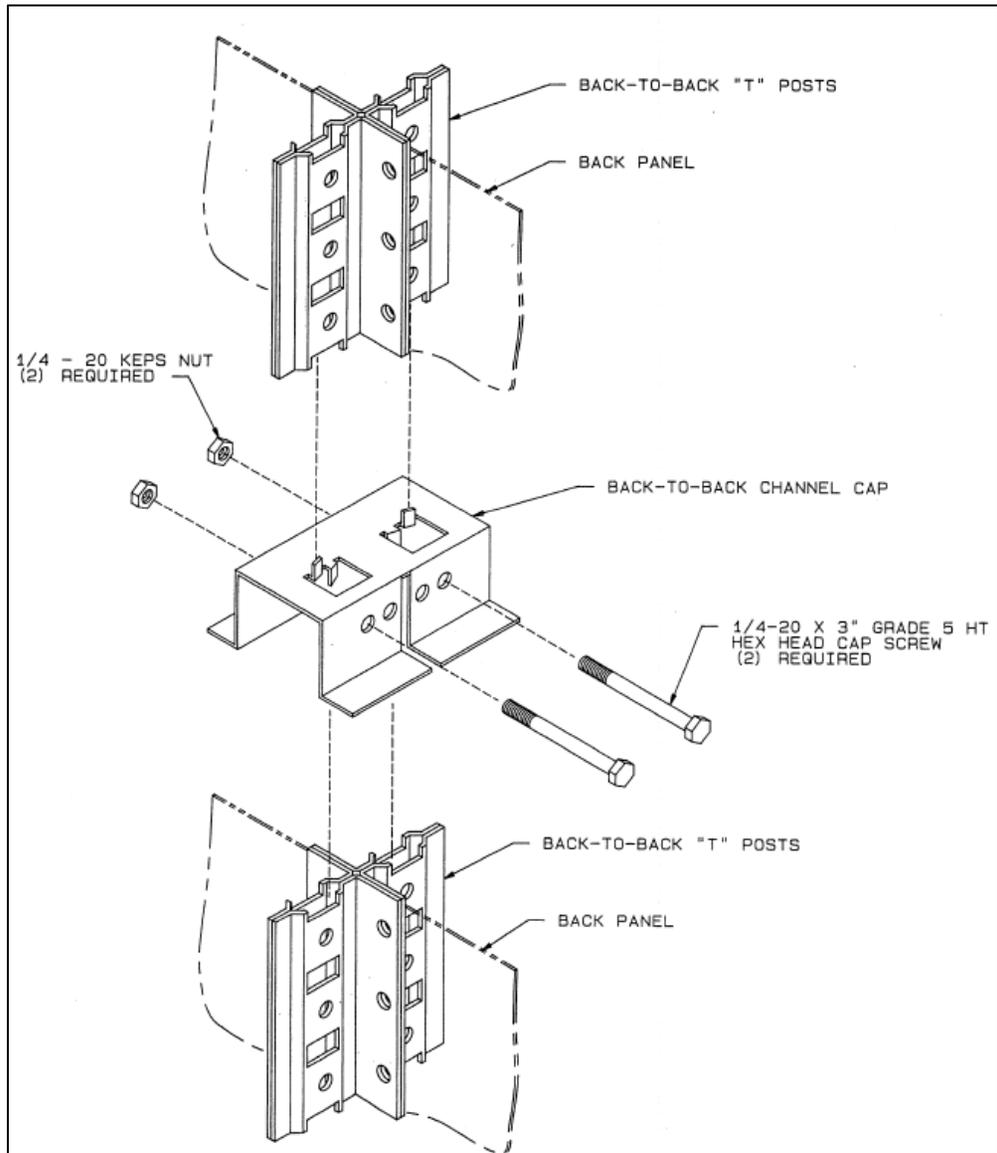
CAP MEZZANINE SYSTEM ANGLE POST – BACK-TO-BACK CAP ASSEMBLY



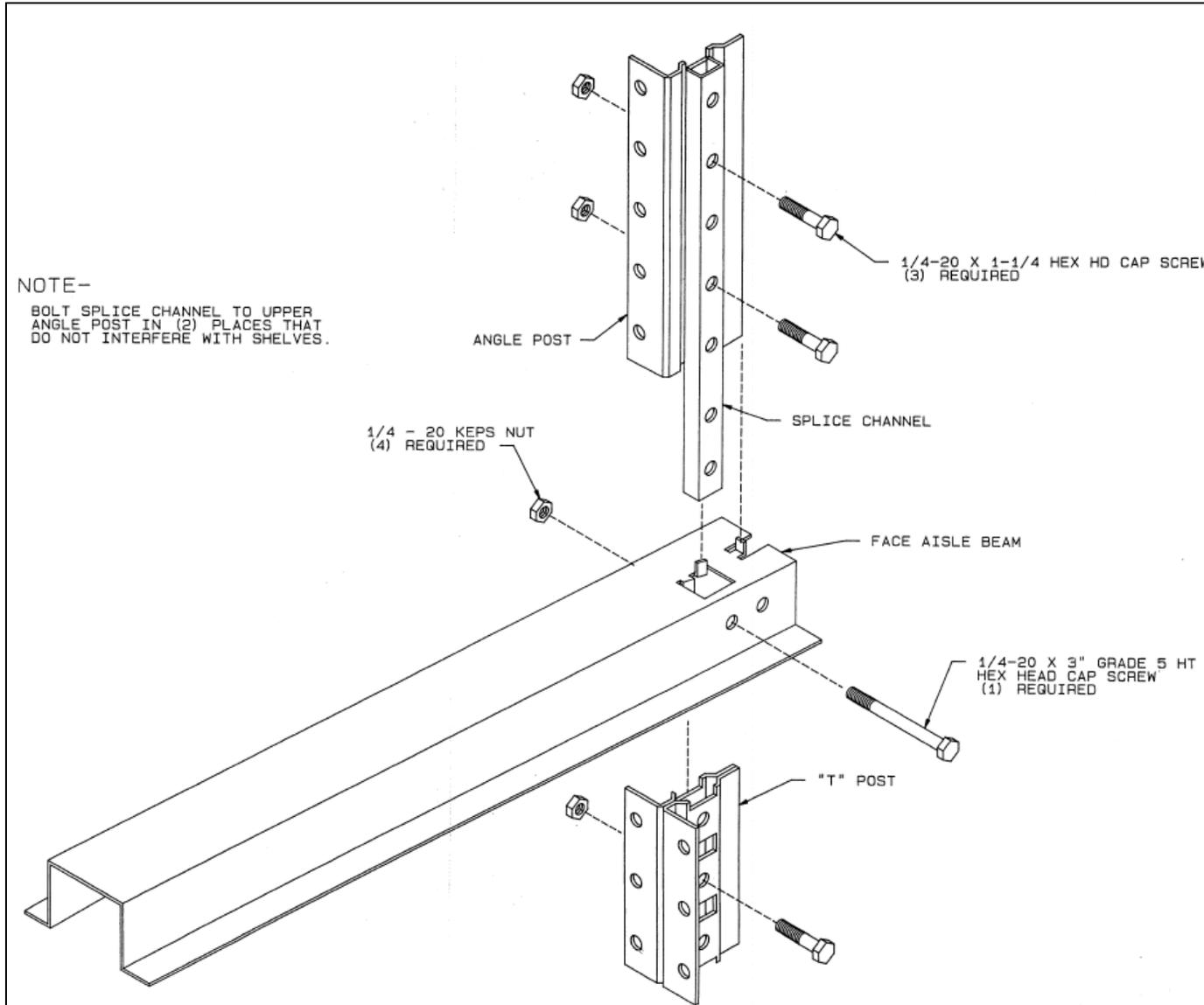
CAP MEZZANINE SYSTEM BACK-TO-BACK CAP ASSEMBLY W/BACK PANELS (ROW END)



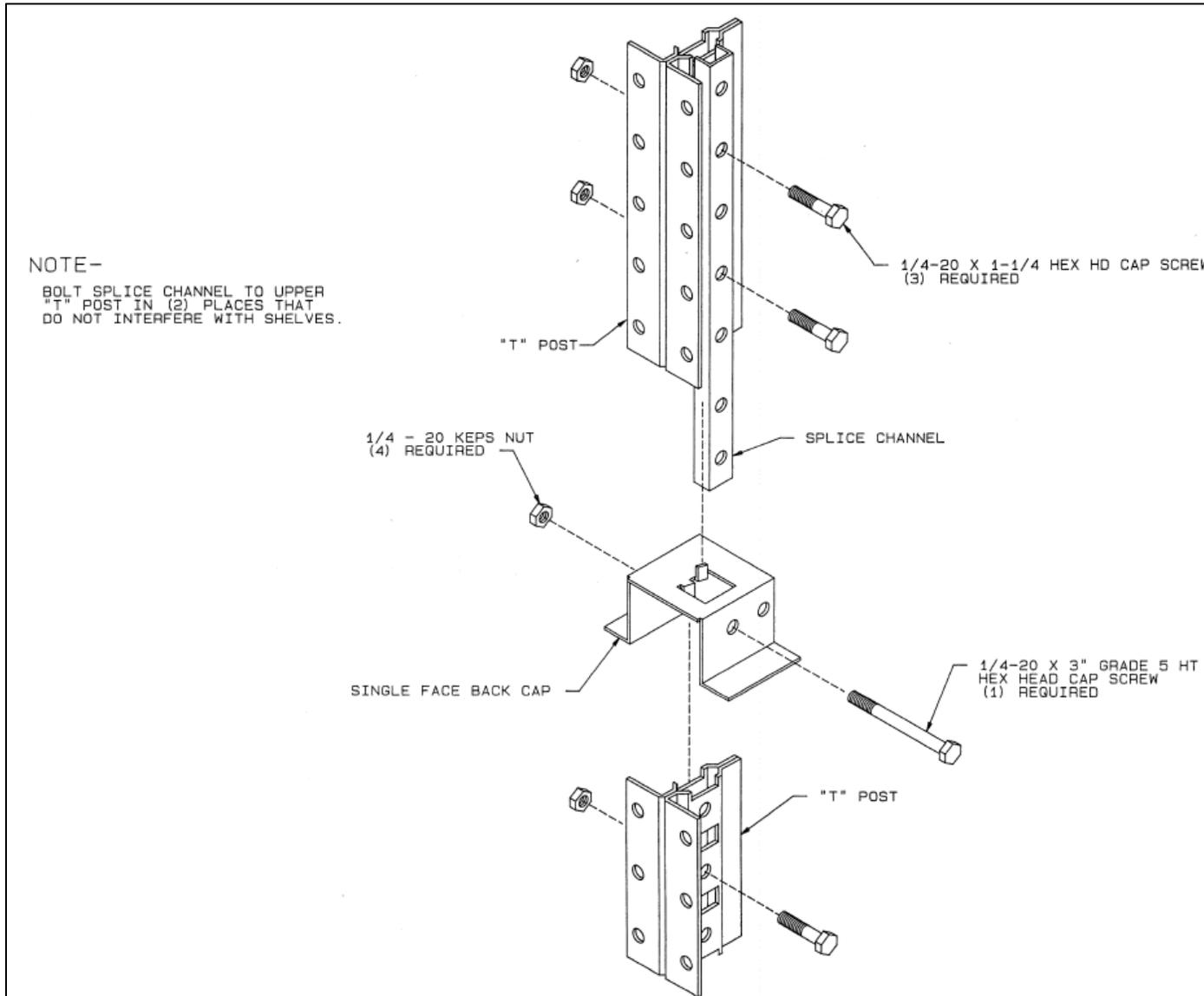
CAP MEZZANINE SYSTEM BACK-TO-BACK CAP ASSEMBLY W/BACK PANELS (INTERMEDIATE)



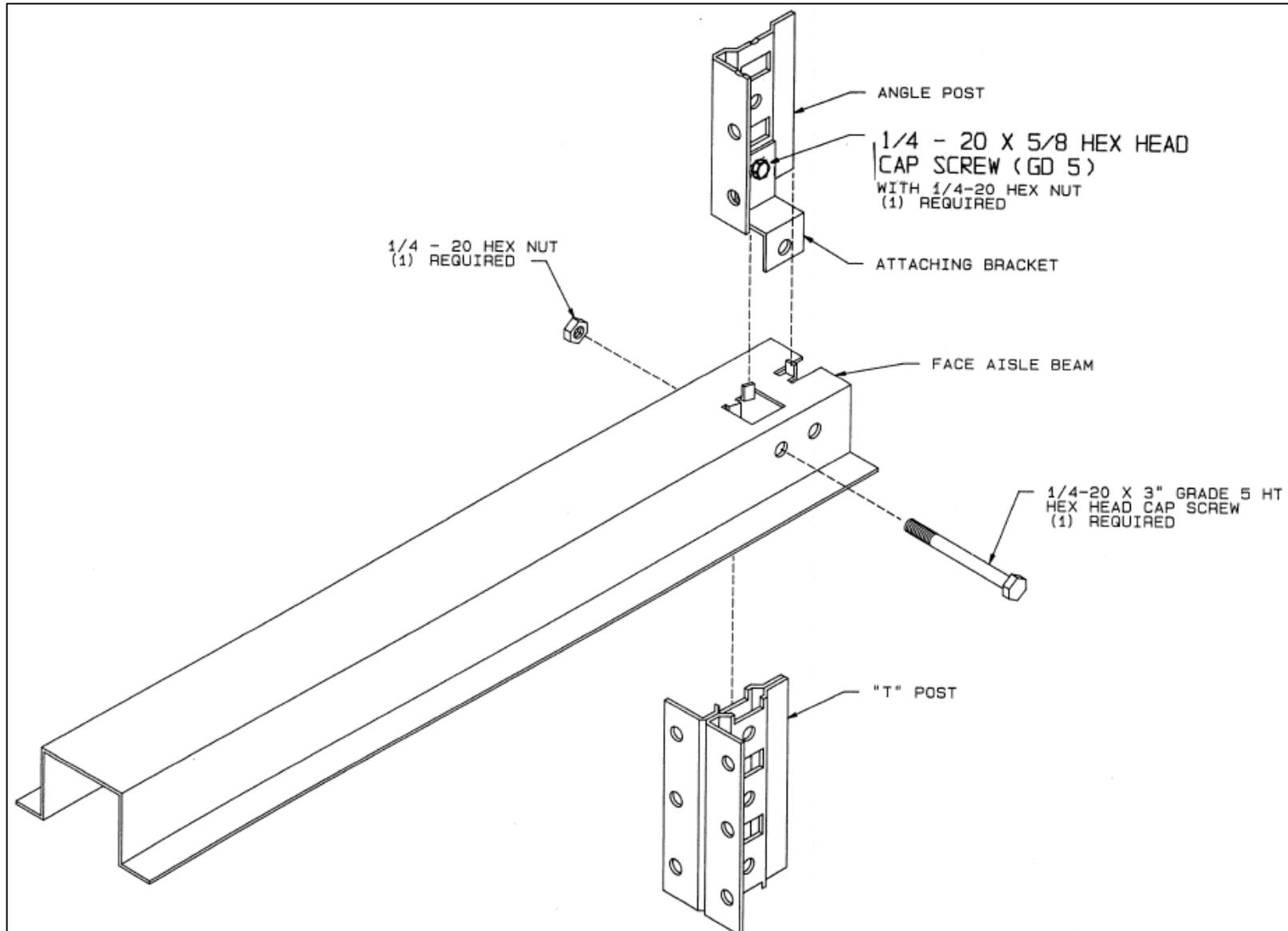
CAP MEZZANINE SYSTEM ANGLE POST FACE AISLE BEAM ASSEMBLY W/ROW END CORNER SPLICE CHANNEL



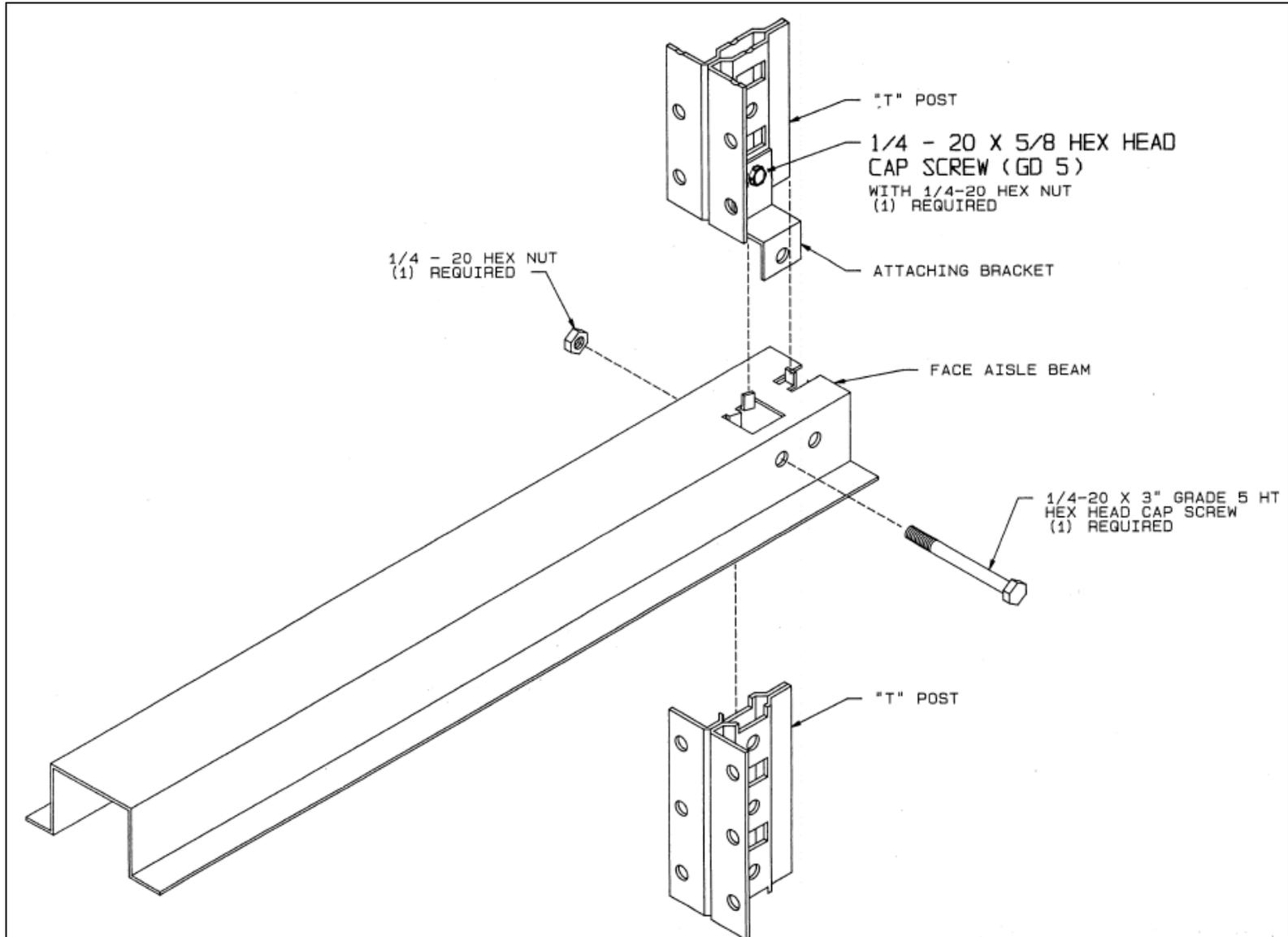
CAP MEZZANINE SYSTEM ANGLE POST SINGLE FACE BACK CAP ASSEMBLY W/ROW END CORNER SPLICE CHANNEL



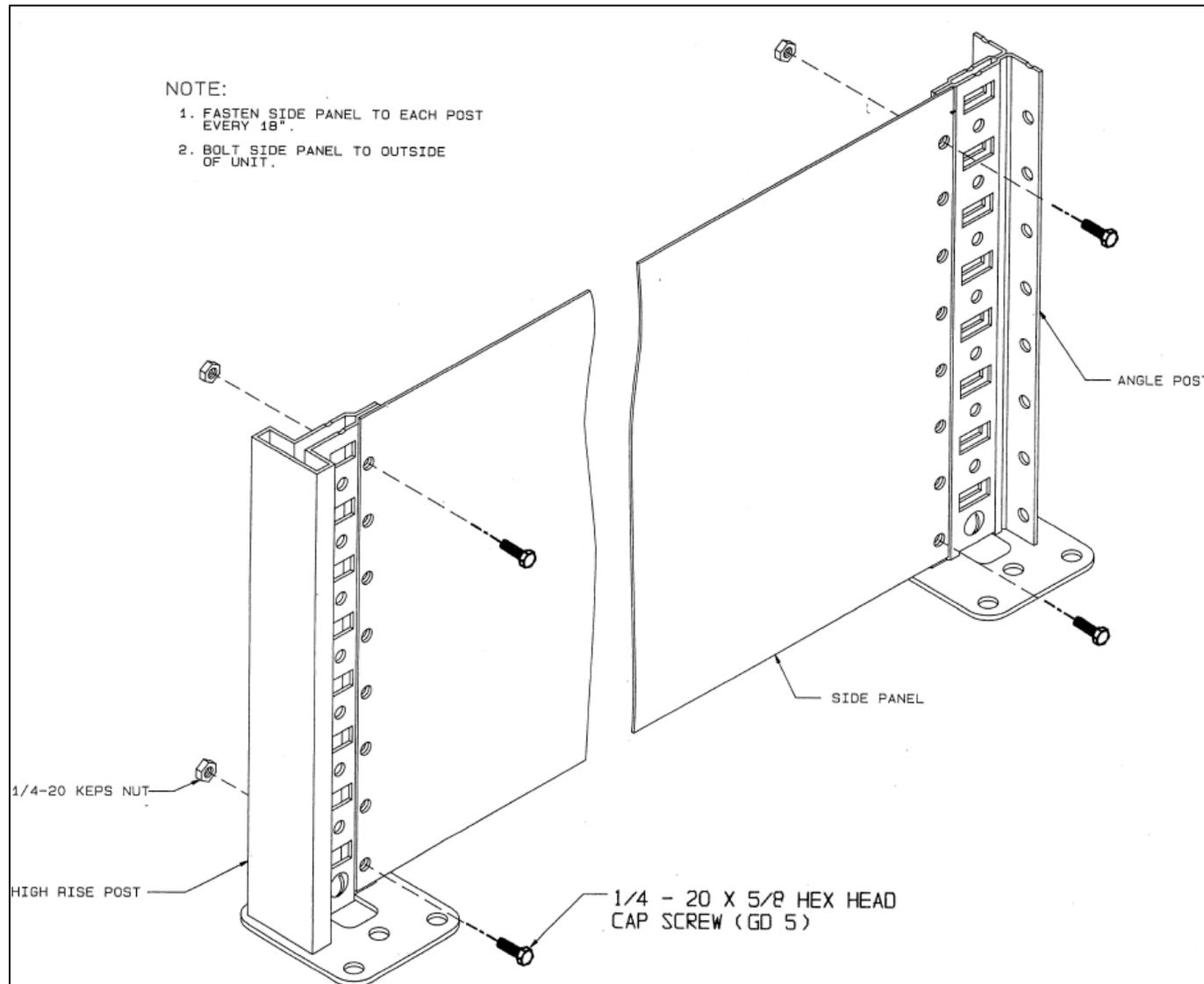
CAP MEZZANINE SYSTEM ANGLE POST FACE AISLE BEAM ASSEMBLY W/SINGLE FACE ATTACHMENT BRACKET



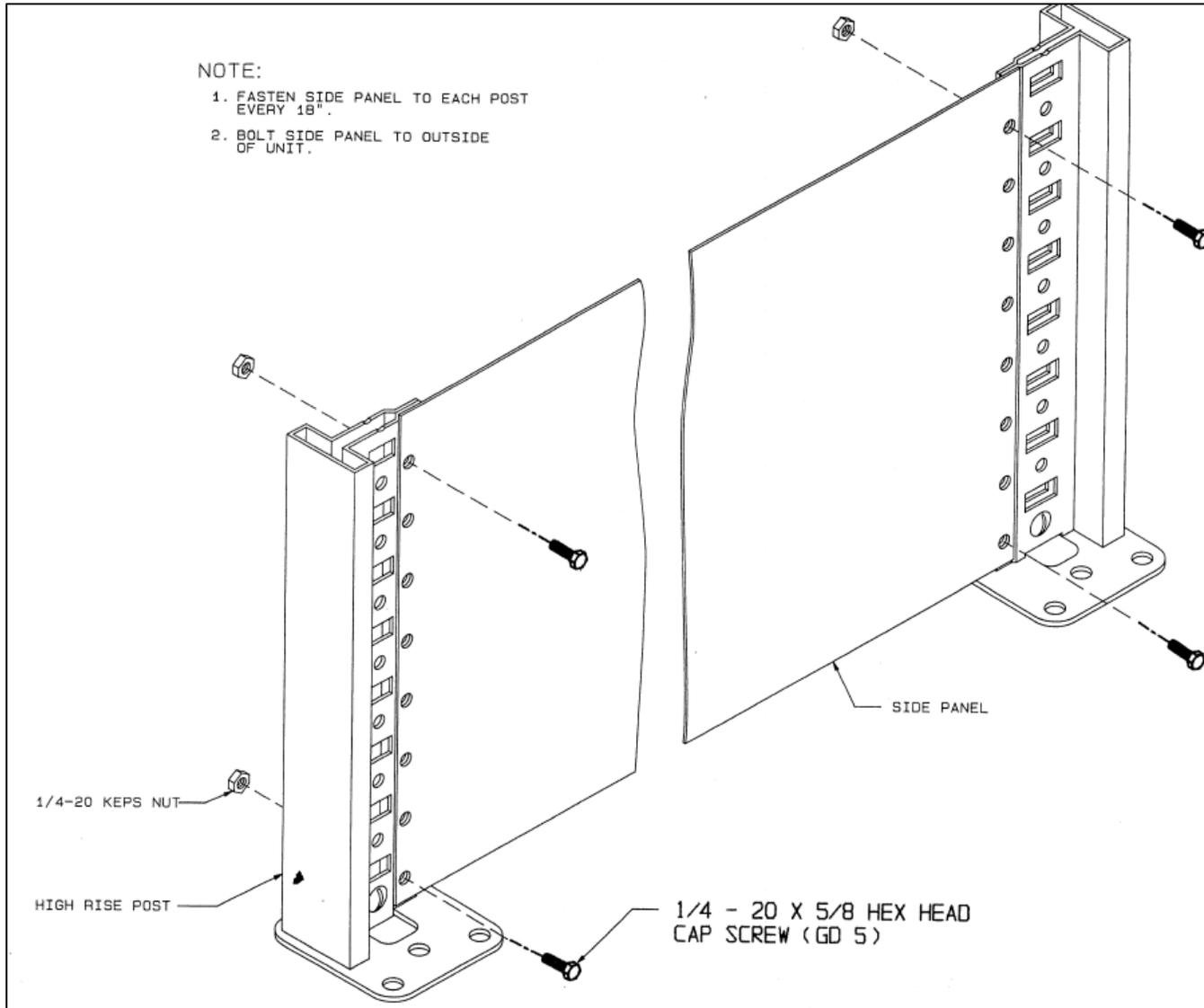
CAP MEZZANINE SYSTEM ANGLE "T" POST FACE AISLE BEAM ASSEMBLY W/SINGLE FACE ATTACHMENT BRACKET



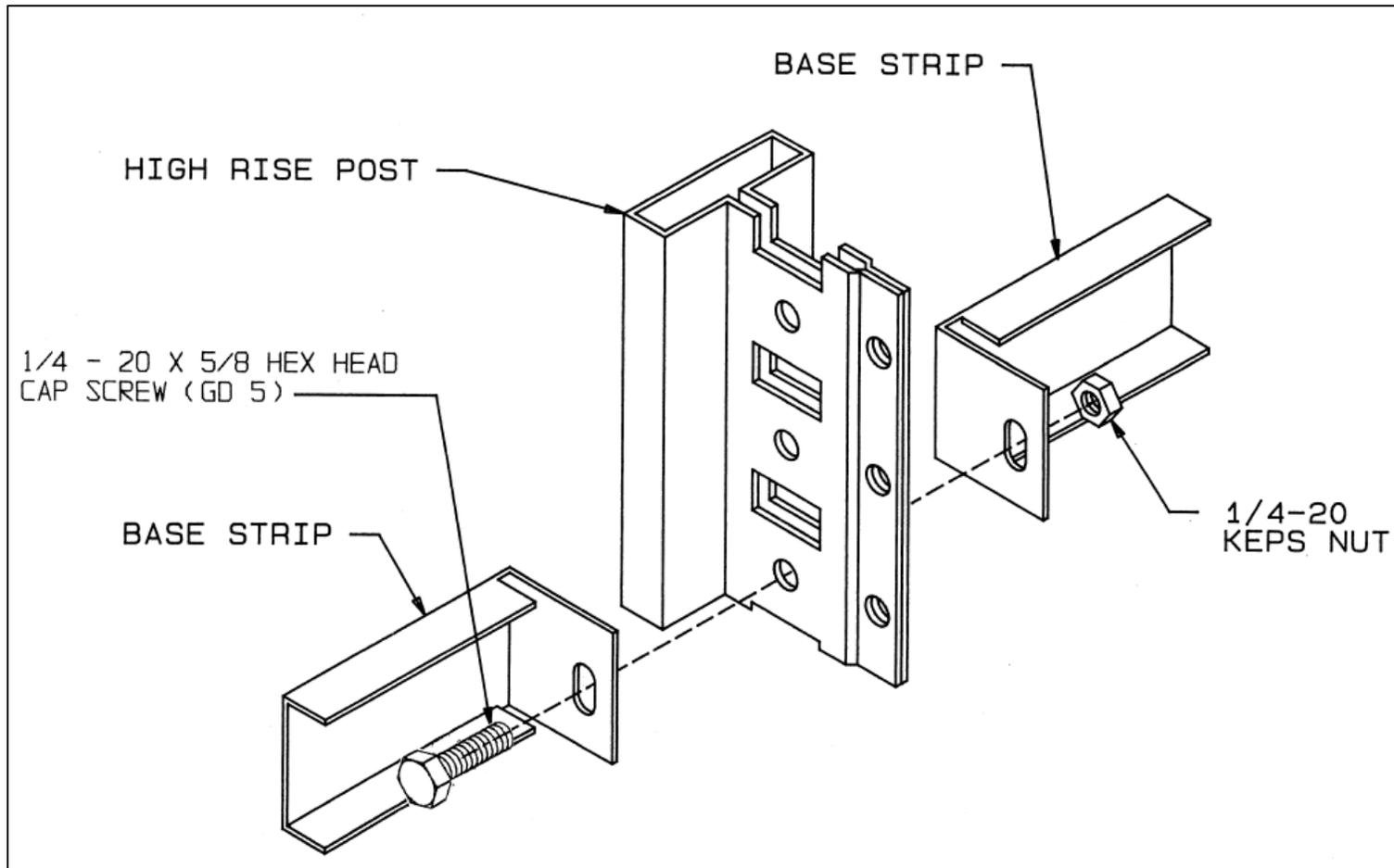
HIGH RISE – ANGLE POST SIDE PANEL INSTALLATION



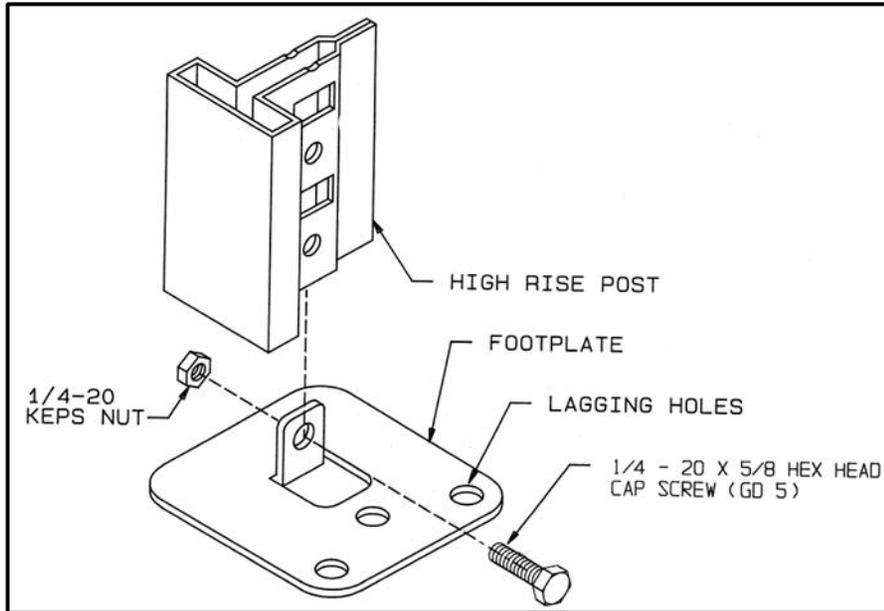
HIGH RISE POST SIDE PANEL INSTALLATION



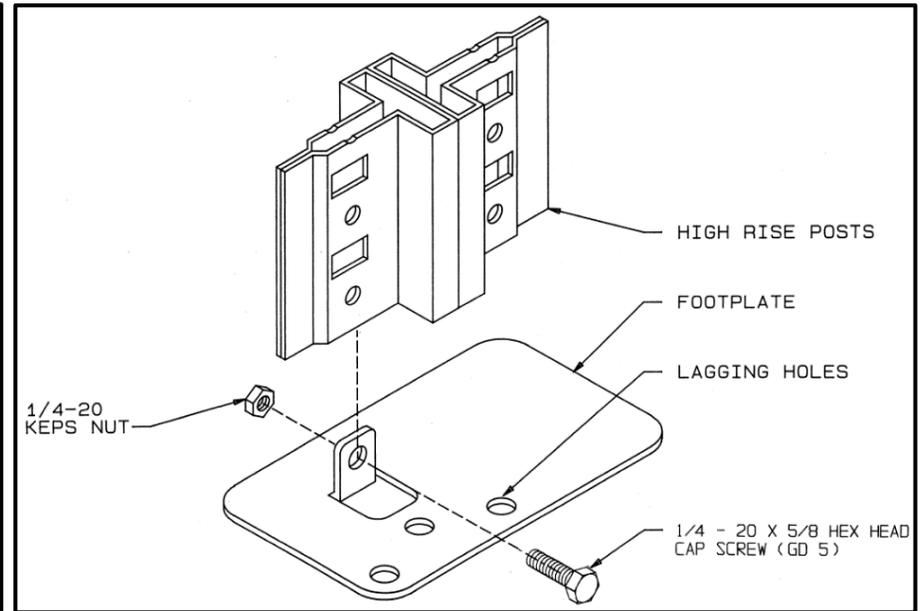
HIGH RISE POST W/BASE STRIP



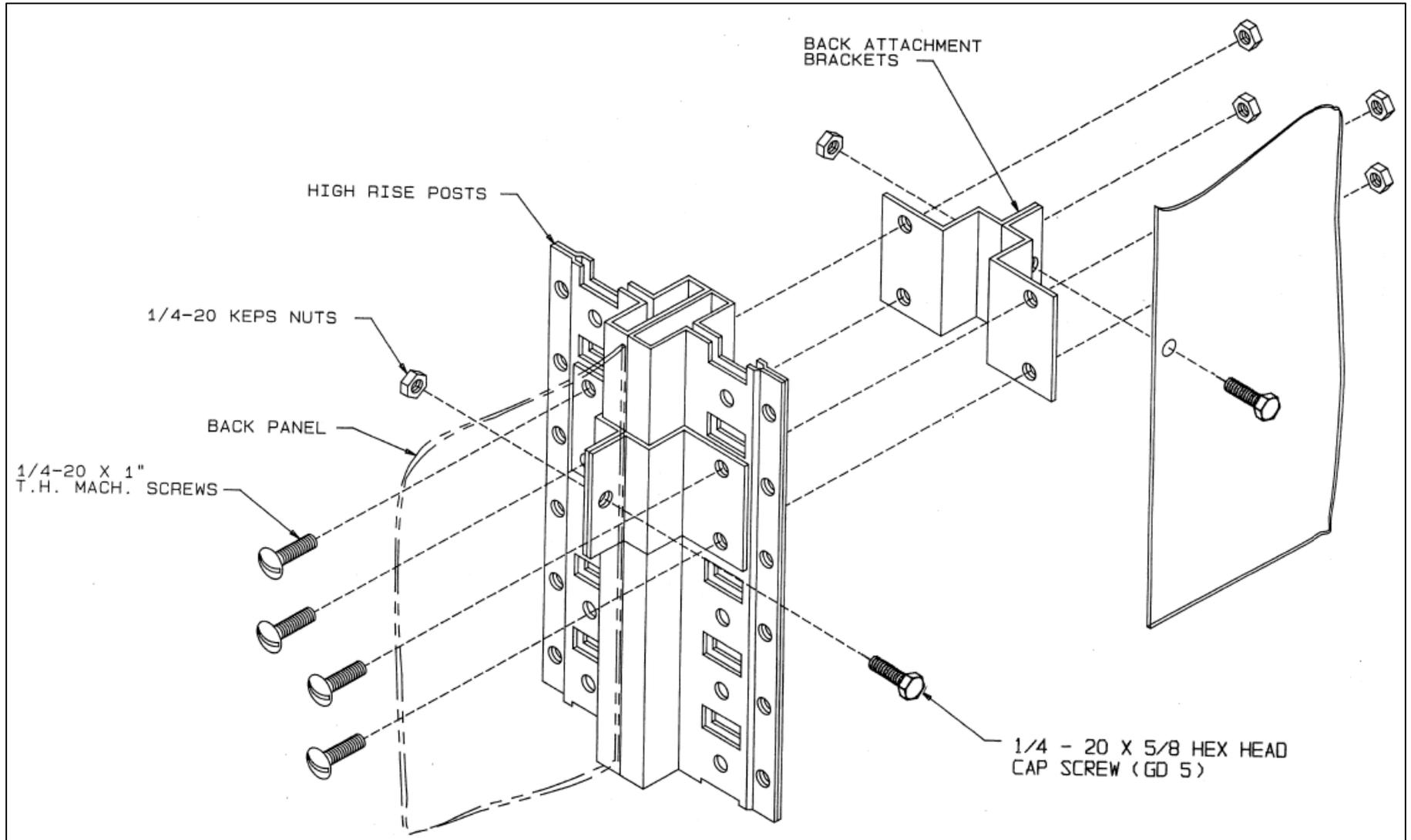
HIGH RISE POST W/FOOTPLATE



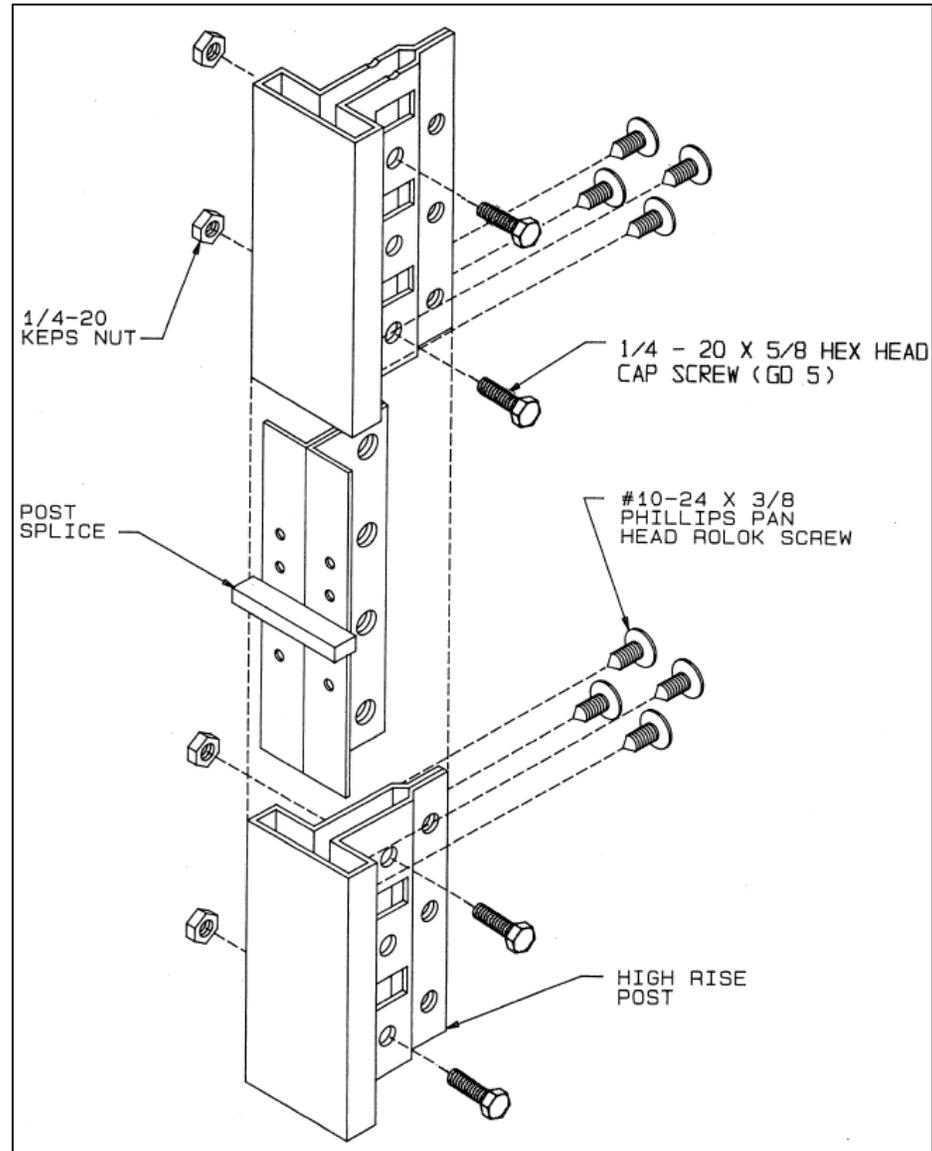
HIGH RISE POST W/FOOTPLATE – BACK-TO-BACK



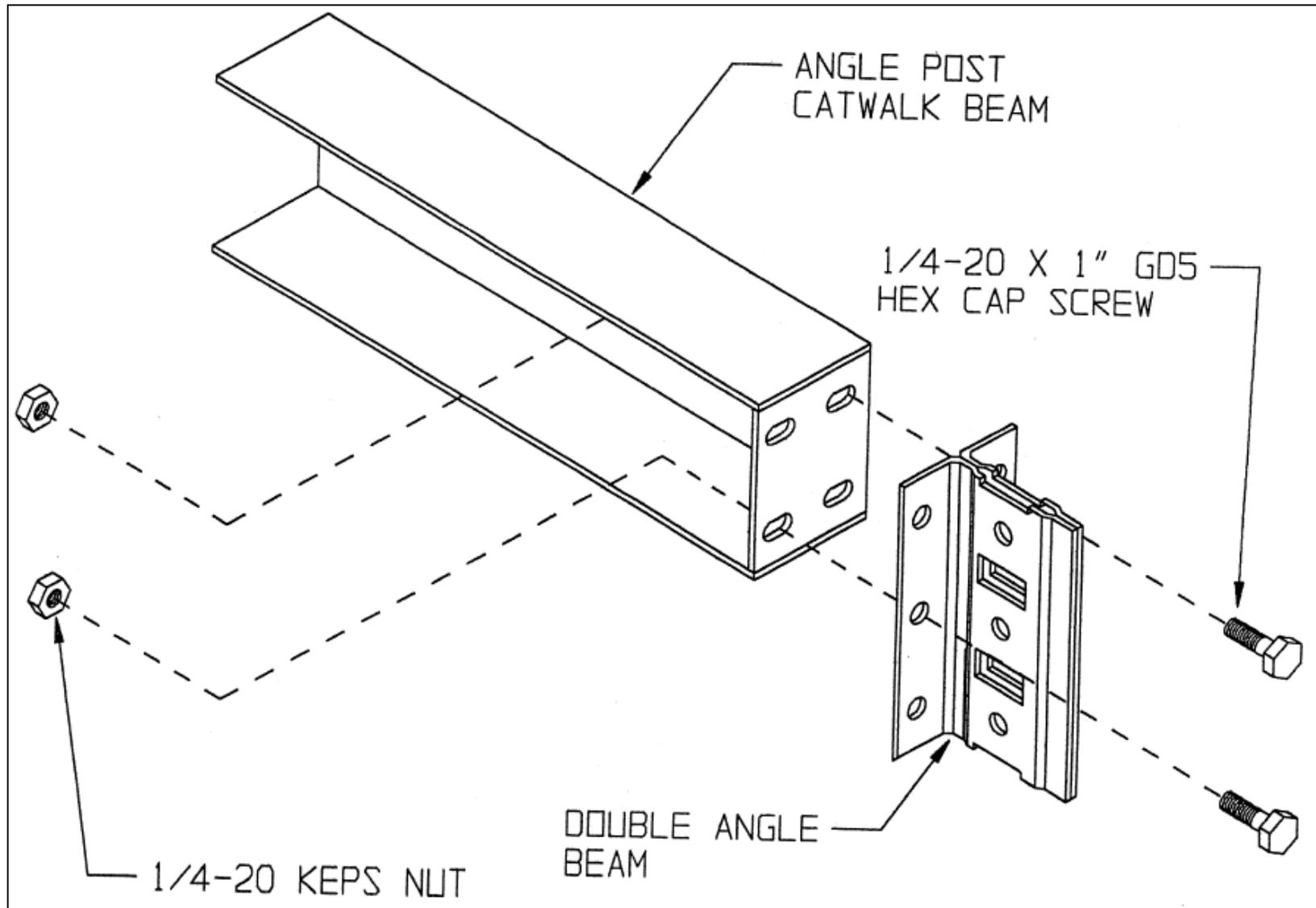
HIGH RISE POST W/BACK ATTACHMENT BRACKETS



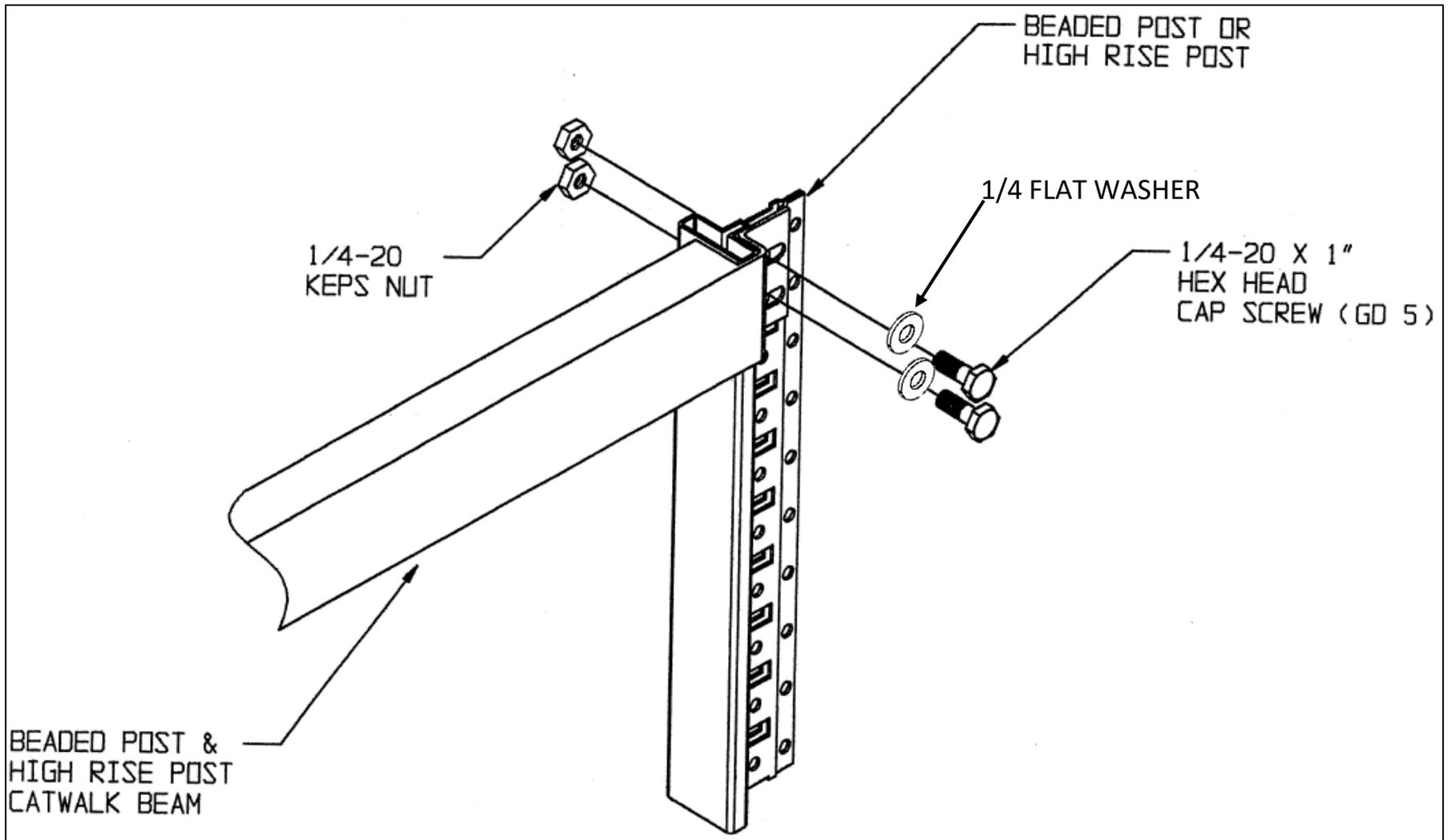
HIGH RISE POST W/SPLICER KIT



CATWALK BEAM – ANGLE POST



CATWALK BEAM – BEADED POST





HARDWARE REQUIREMENTS

<u>Part Name</u>	<u>Hardware Included</u>	<u>Pieces Req'd.</u>	<u>Part Name</u>	<u>Hardware Included</u>	<u>Pieces Req'd.</u>	<u>Part Name</u>	<u>Hardware Included</u>	<u>Pieces Req'd.</u>
Angle Post Std. & Commercial	1/4-20 x 5/8 HHMS Gr. 5 1/4-20 Hex Nut	2 2	Shelf Divider Angle	Divider Clip (nylon) (14761-000)	2	Sliding Door	Hardware Pack #48 includes:	
Beaded Post	None	-	Shelf Divider Fixed	Divider Clip (nylon) (14761-000) Up to 24" deep 36" deep	4 6		Door Pulls (Plated)	2
Closed Side Angle Post	1/4-20 x 5/8 HHMS Gr. 5 1/4-20 Hex Nut	4 4	Shelf Divider Support	None	-		Furniture Lock (Plated)	1
Closed Side Beaded Post	None	-	Label Holder Full Length	Divider Clip (nylon) (14761-000)	3		Lock Catch (Painted)	1
Post Splicer	1/4-20 x 3/4 HHMS Gr. 5 1/4-20 x 5/8 HHMS Gr. 5 1/4-20 Hex Nut	4 4 8	Long Parts Frame	Hardware Pack #334 includes:			Ball Bearing Sheave	4
Post Splicer Bar	1/4-20 x 5/8 HHMS Gr. 5 1/4-20 Keps Nut	6 6		1/4-20 x 1 Slotted THMS	4	Mezzanine Beam	10-24 Hex Nut	8
Post Splicer Plate	1/4-20 x 5/8 HHMS Gr. 5 1/4-20 Keps Nut	8 8		1/4-20 Hex Nut	4		1/4-20 Hex Nut	14
Beaded Post Splice Kit	1/4-20 Keps Nut 1/4-20 x 5/8 HHMS Gr. 5 10-24 x 1/2 Rolok Screw Splicer Bar Beaded Post Splicer	4 4 8 1 1		5/15-18 x 5/8 Hex Head Cap Screw	4 4		10-24 x 3/8 Phillips THMS	8
			Spacer Rods	5/16-18 Square Nut	4		#8 x 3/8 Slotted Oval Head Screw	4
			Boltless Hang Rods	5/16 Shakeproof Washers	4		1/4" Lock Washer Fin. P.	14
			Shelf Box	None	-		1/4-20 x 5/8 THMS Instructions	14 1
				None	-	Mezzanine Bracket Angle & Beaded	None	-
				None	-		1/4-20 x 1 HHMS Gr. 5 1/4-20 Keps Nut	5 5
				None	-	Catwalk Beams Angle & Beaded	1/4-20 Keps Nut 1/4-20 x 1 HHMS Gr. 5	4 4
				None	-	Face Aisle Cap Beam	1/4-20 Keps Nut 1/4-20 x 3" Hex Head Cap Screw	2 2



HARDWARE REQUIREMENTS CON'T

Foot Plate Kits			Box Guide	1/4-20 x 5/8 HHMS Gr. 5	2	Cross Aisle Cap Beam	None	-
Front Foot	1/4-20 Keps Nut	1		1/4-20 Hex Nut	2			
and Back-to-Back Plate	1/4-20 x 5/8 HHMS Gr. 5	1	Bin Front 1-1/2" Angle Post	Bin Front Clip Plated	2	Outside Aisle Cap Beam	1/4-20 Keps Nut	2
				1/4-20 x 5/8 HHMS Gr. 5	2		1/4-20 x 3" Hex Head Cap Screw	2
Shim Plates				1/4-20 Hex Nut	2	Single Face Back Cap	1/4-20 Keps Nut	1
Front	None	-	Bin Front 3" & 6" Angle Post	1/4-20 x 1 Slotted THMS	2		1/4-20 x 3" Hex Head Cap Screw	1
Back	None	-		1/4-20 Hex Nut	2	Back-to-Back Cap	1/4-20 Keps Nut	2
Post Foot Plate	None	-	Bin Front 1-1/2", 3" & 6" Beaded Post	1/4-20 x 5/8 HHMS Gr. 5	2		1/4-20 x 3" Hex Head Cap Screw	2
				1/4-20 Hex Nut	2	Single Face Attachment Bracket	1/4-20 Keps Nut	2
Post Foot Angle	1/4-20 x 5/8 HHMS Gr. 5	2	Bin Front Clip 3" & 6"	1/4-20 x 5/8 HHMS Gr. 5	2		1/4-20 x 5/8 Hex Head Cap Screw	2
	1/4-20 Hex Nut	2		1/4-20 Hex Nut	2	Row End Corner Splice Channel	1/4-20 Keps Nut	3
Post Cover	10-24 Hex Nut	6	Counter Top	None	-		1/4-20 x 1-1/4" HHMS Gr. 5	3
			Ledge Top	None	-	Row End Kick Plate	1/4-20 Keps Nut	4
Back	Back Clip (05088-824-330)	.25	Counter Back	1/4-20 x 5/8 HHMS	8		1/4-20 x 1-1/2" Hex Head Cap Screw	4
	1/4-20 x 5/8 Gr. 5 HHMS	10		1/4-20 Hex Nut	8	Row End Hand Rail	1/4-20 Keps Nut	3
	1/4-20 Hex Nut	10	Tape Reel Hanger Kit	Hardware Pack #342 includes:			1/4-20 x 3/4" THMS	3
Back Brace (pair)	1/4-20 x 5/8 HHMS	5		10-24 Keps Nut	2	Citation 0612	Hardware Pack #251 includes:	
	1/4-20 Hex Nut	5	Print-out Hanger	10-24 x 3/8 Phillips THMS	2			
Side Brace (pair)	1/4-20 x 3/4 HHMS Gr. 5	5						
	1/4-20 Hex Nut	5						
Face Brace	1/4-20 x 5/8 HHMS Gr. 5	6						
Angle & Beaded Post (pair)	1/4-20 x 3/8" Self-Drilling MS	6						
	1/4-20 Keps Nut	6						



HARDWARE REQUIREMENTS CON'T

	Double Face Tape	.075 ft.		10-24 Keps Nut	2		1/4-20 Hex Nut	21
				10-24 x 3/8 Phillips THMS	2		Shelf Brackets	12
Base Strip	1/4-20 x 5/8 HHMS Gr. 5	2					1/4-20 x 5/8 PHMS	21
Angle & Beaded	1/4-20 Hex Nut	2	Single Point Hanger	None	-			
						Citation 0618	Same as Citation 0612	
Box Edge Shelves	Shelf Brackets (09531-099-330)	4	Framed Swing Door	Hardware Pack #414 includes:				
				Handle with Lock and 2 Keys	1			
				Push Clip	1			
				Handle Reinforcement	1			
Shelf Saddle	None	-		Cam Ind. Double Door	1			
				1/4-20 x 5/8 HHMS	6			
Shelf Saddle Support - Boltless (pair)	None	-		1/4-20 Hex Nut	6			
				Saddle Reinforcement	1			
				#8-32 x 5/16 Sems Screw	2			
Shelf Divider Sliding	None	-		Screw #14 x 3/4 Hex				
				Washer Head Self Drilling	6			

SWAY BRACING RECOMMENDATIONS

For Units 99 Inches High and Less

		Single Row						
No. Units	8	7	6	5	4	3	2	1
No. Braces	10	9	8	7	6	5	4	3

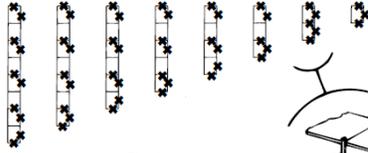


Fig. 1

		Double Row						
No. Units	16	14	12	10	8	6	4	2
No. Braces	16	14	13	11	10	8	6	3

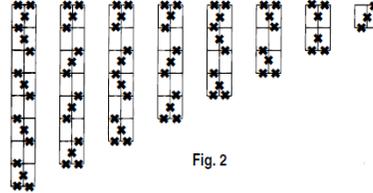


Fig. 2



NOTE:
 FOR CRITICAL SHELF LOCATIONS, MINOR CHANGES
 TO THESE RECOMMENDATIONS ARE ACCEPTABLE.

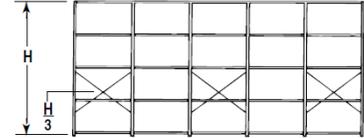


Fig. 3
 Back Brace

Light Loading

Both single and double rows may use sway braces as in Figures 1 and 2. The end and back of the first and last section of each row always contains a sway brace. Every other intermediate and every other back should contain a sway brace. The height location of the sway brace is determined as in Figure 3, where the center line of the cross is "height divider by 3" up from the bottom.

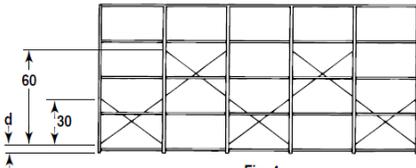


Fig. 4
 Back Brace

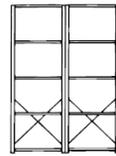


Fig. 4A
 Side Brace

Standard Loading

For rigidity in standard duty applications, a pair of sway braces should be put in every opening at the heights illustrated in Figure 4. Each open end should be braced as illustrated in Figure 4A.

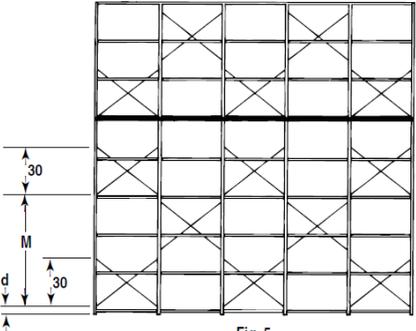


Fig. 5
 Back Brace

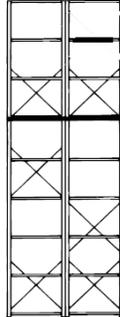


Fig. 5A
 Side Brace

Connection point as close as possible to mezzanine level- may be either above or below level.

M = maximum distance possible - up to and including 30"

d = minimum reasonable distance (e.g. 4.5" - 6.0")

Multi-level Application

For rigidity in mezzanine applications, two sway braces should be put in every other opening at the heights illustrated in Figure 5. The intervening openings should be braced with one pair of sway braces as shown. The term "d" equals the distance for mounting the sway braces to the post from the floor. Bolt the front of the center shelf and the front of the top shelf and the base strip in place. The open ends should be braced as illustrated in Figure 5A.

For Units Over 99 Inches High

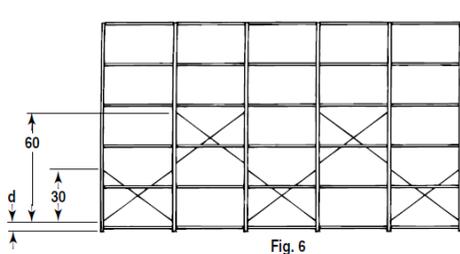


Fig. 6
Back Brace

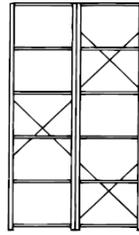


Fig. 6A
Side Brace

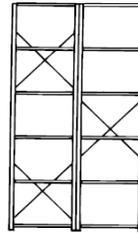


Fig. 6B
Side Brace

NOTE:
FOR CRITICAL SHELF LOCATIONS, MINOR CHANGES TO THESE RECOMMENDATIONS ARE ACCEPTABLE.

Light Loading

For rigidity, Borroughs recommends that one pair of sway braces be installed in each open end and open back. Sway brace height is as shown in Figure 6. Figure 6A and 6B are an end and an intermediate, respectively. The bracing patterns are opposite each other and should alternate from one end of a row down to the other end. Pre-assembly of the two uprights is identical.

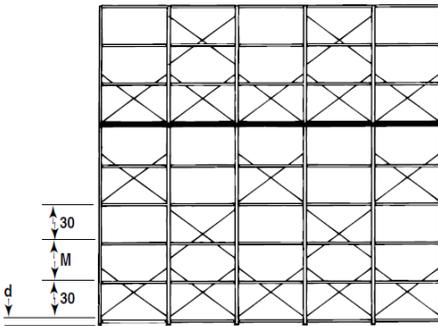


Fig. 7
Back Brace

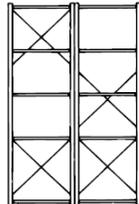


Fig. 7A
Side Brace



Fig. 7B
Side Brace

Connection point as close as possible to mezzanine level may be either above or below level.

M = maximum distance possible - up to and including 30"

d = minimum reasonable distance (e.g. 4.5" - 6.0")

Standard Loading and Multi-level

For rigidity, Borroughs recommends that sway braces be used in open backs as illustrated in Figure 7. Sway brace height is as shown in Figure 7. Bolt the front of the center shelf and the front of the top shelf and the base strip in place. Sway bracing for the ends of sections should be installed as shown in Figure 7A for heavy-duty and Figure 7B for multi-level applications.



FAILURE TO FOLLOW THESE SWAY BRACING RECOMMENDATIONS COULD RESULT IN AN IMPROPER INSTALLATION, SHELVING COLLAPSE, PERSONAL INJURY AND/OR COMMODITY LOSS.

Once installation is completed, a copy of the installation instruction booklet MUST remain with the customer.



WARRANTY

Borroughs Corporation extends to the original purchaser from the date of purchase a limited lifetime warranty for Borroughs' Automotive Workstations and Modular Drawer Cabinets against manufacturing defects in material and workmanship. For all other products Borroughs extends to the original purchaser from the date of purchase a 5-year limited warranty against manufacturing defects in material and workmanship.

If a Borroughs product fails to perform because of a manufacturing defect, Borroughs will examine it. If found defective, it will be repaired or replaced at our option. This warranty applies only to Borroughs products acquired directly from Borroughs Corporation or from Authorized Borroughs Dealers.

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Phone: 1-800-748-0227