

# INDUSTRIAL SHELVING INSTALL INSTRUCTIONS

**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:



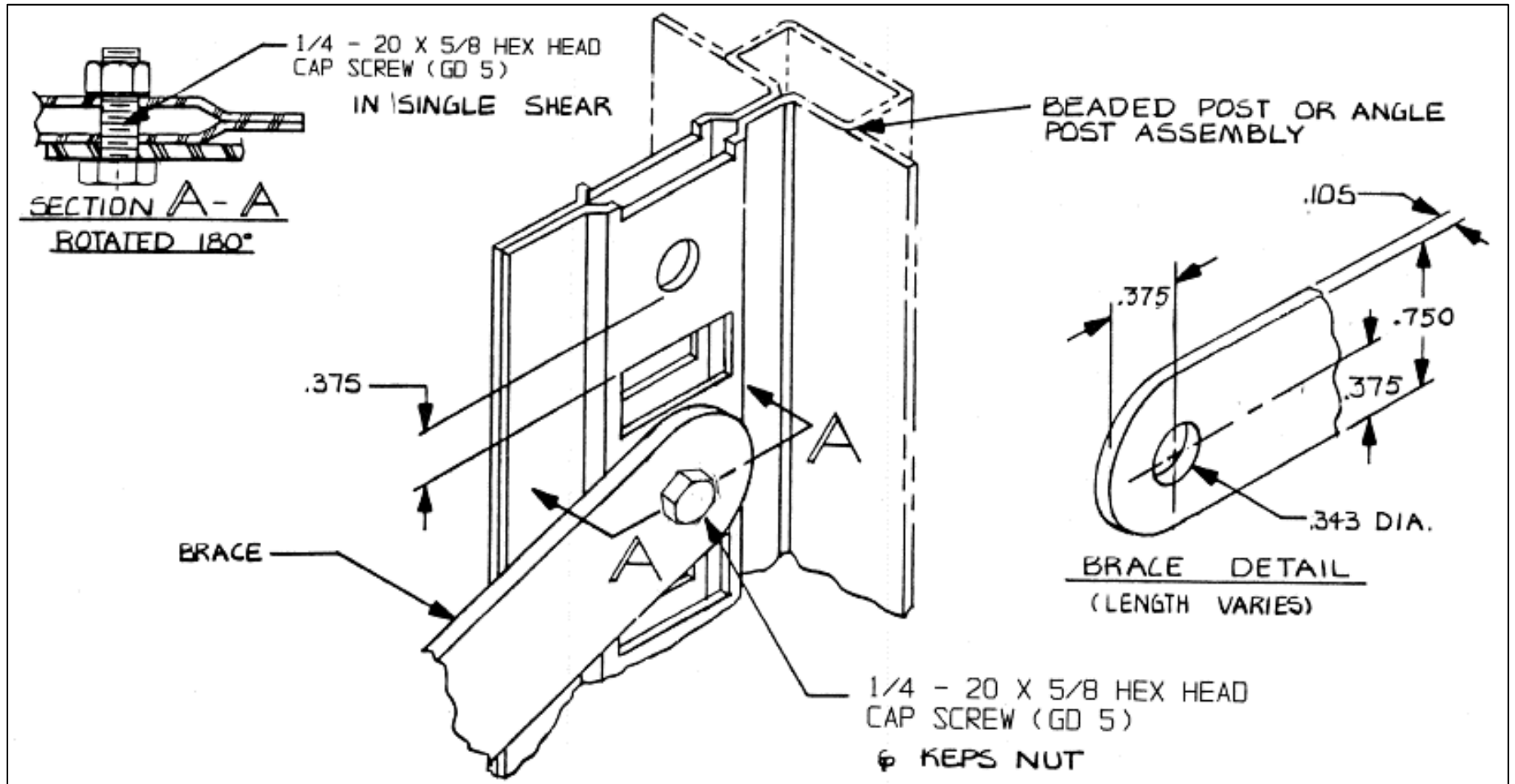
7/16"  
9/16"



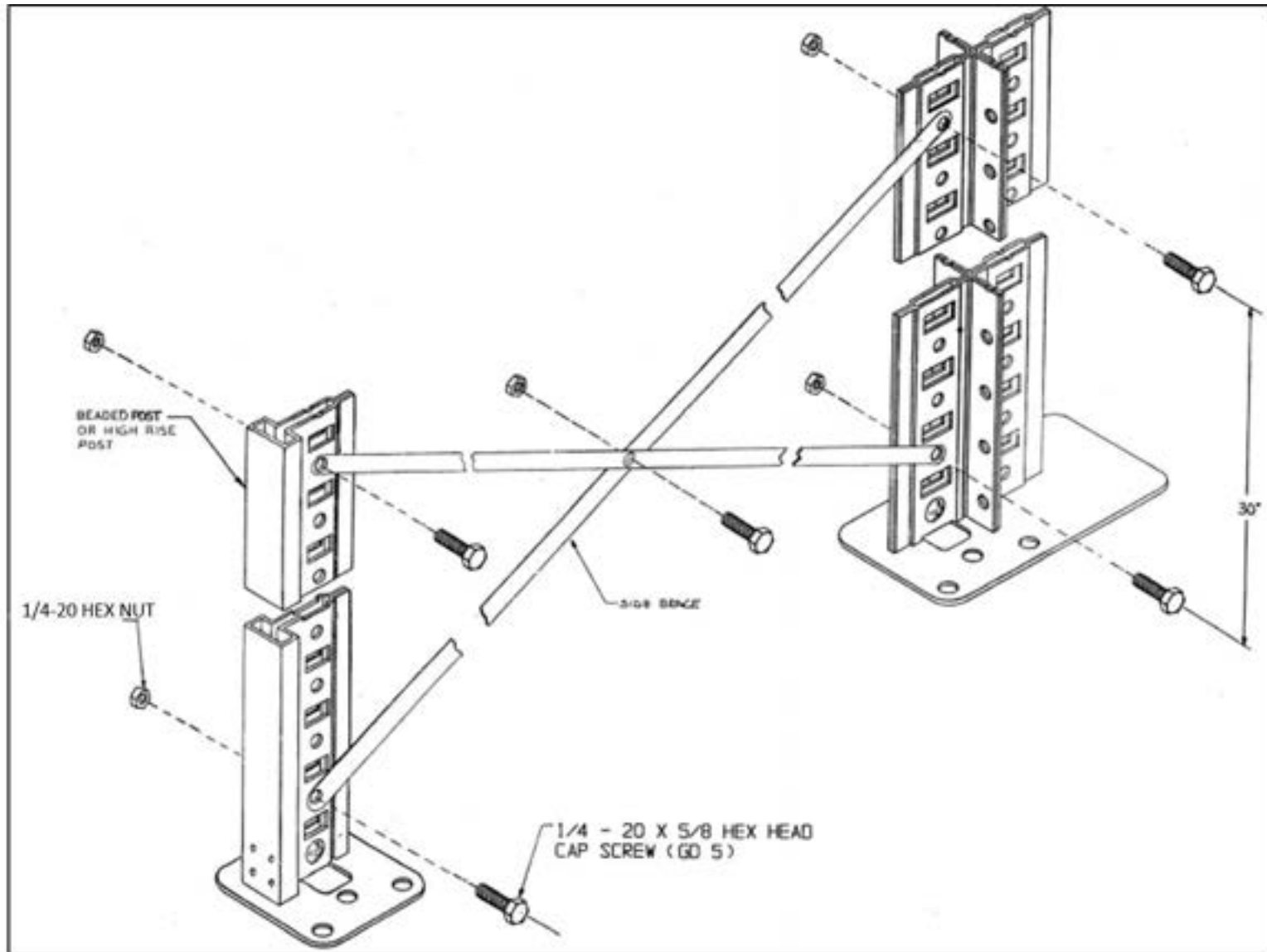
Socket Sizes  
7/16", 9/16"



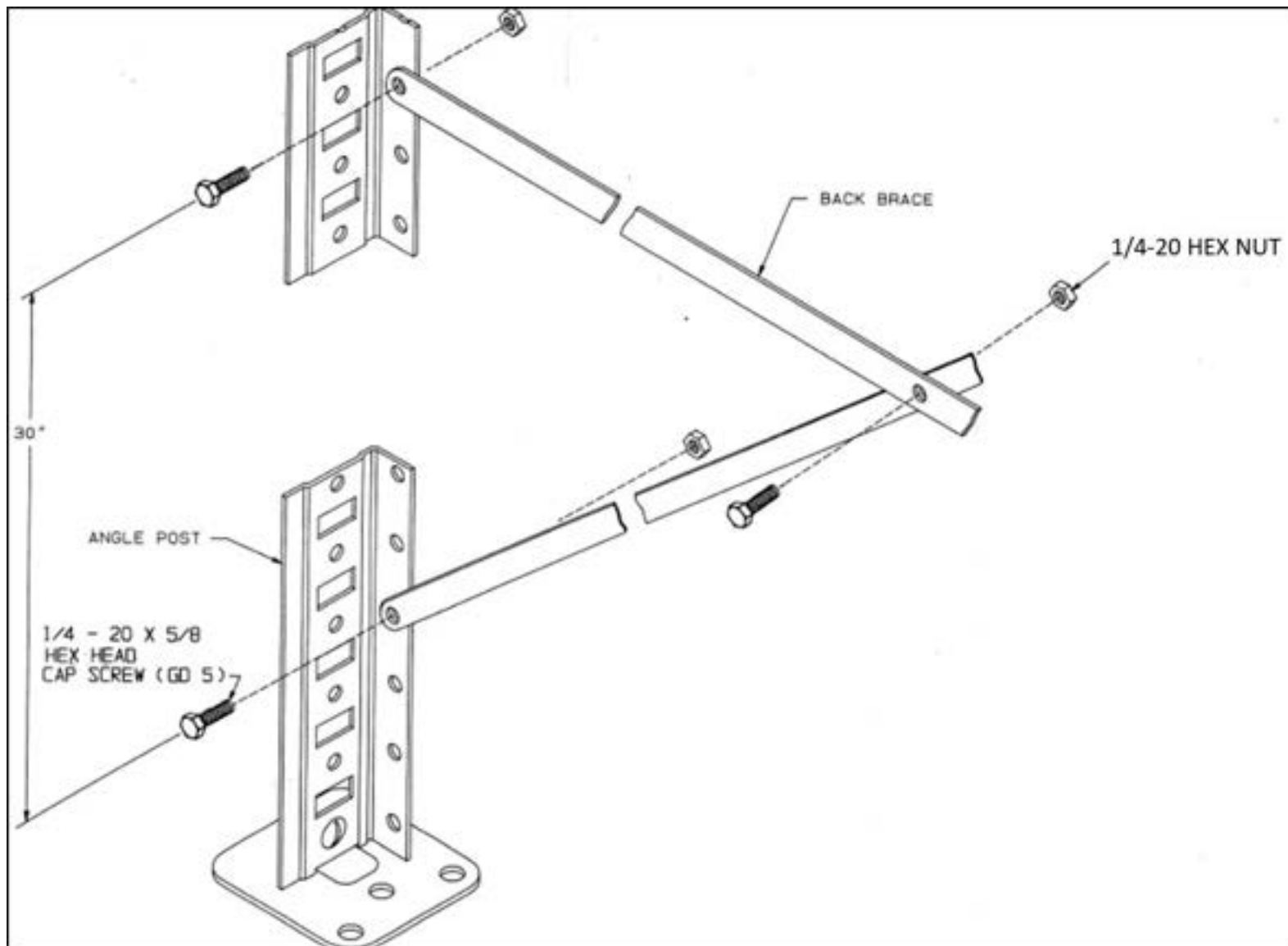
**BRACE ASSEMBLY**



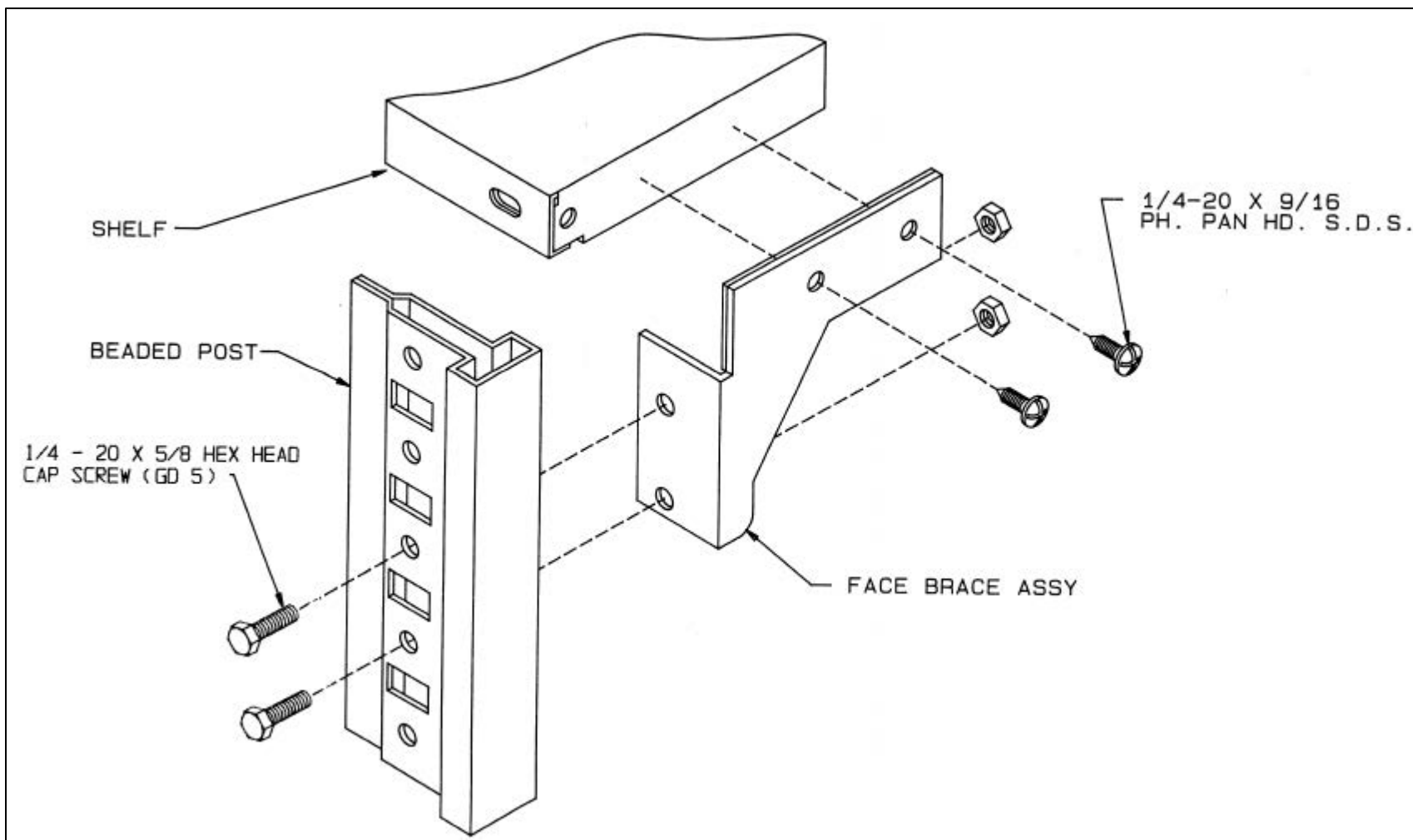
ANGLE POST/BEADED POST SIDE BRACE



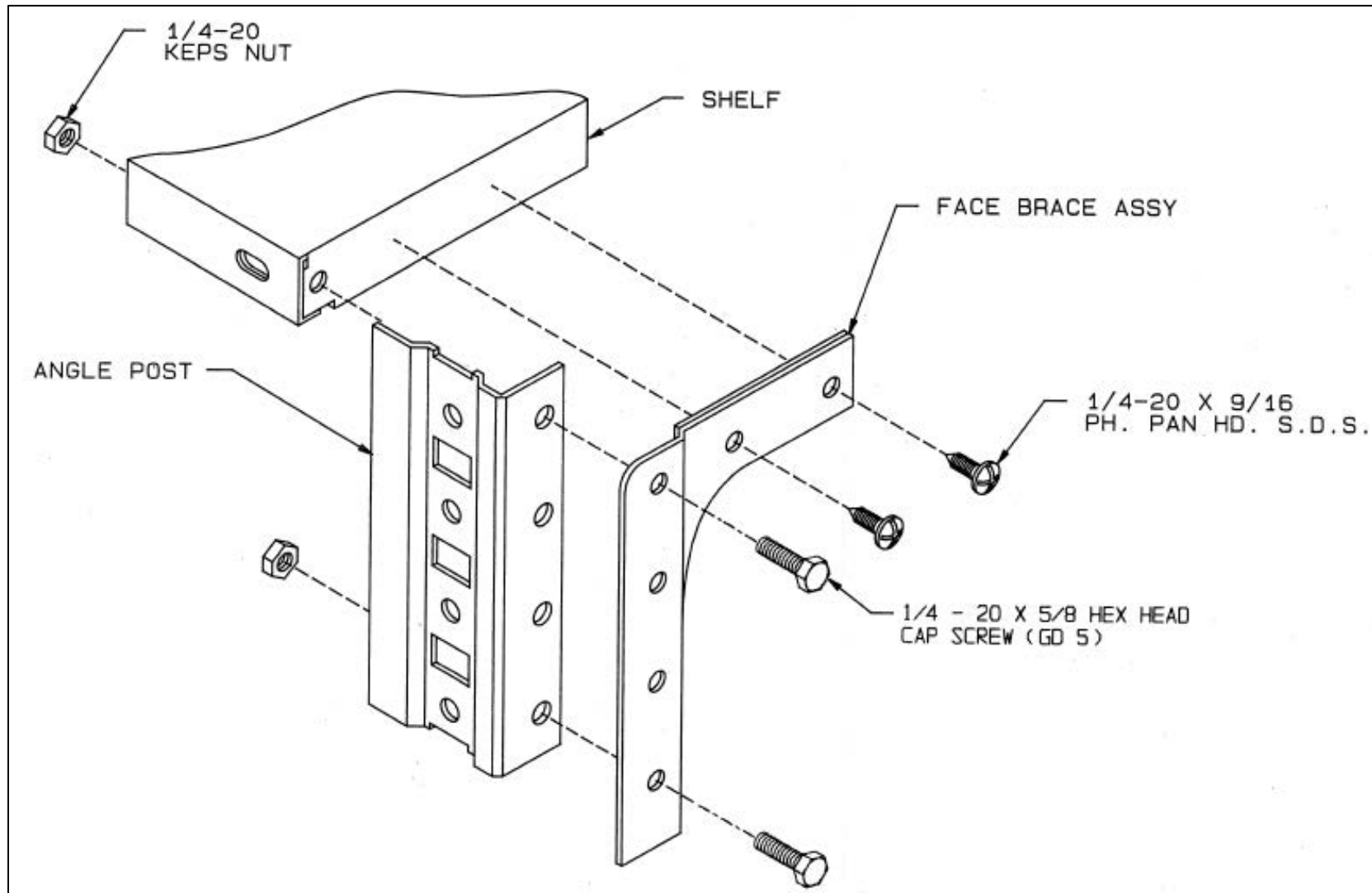
**ANGLE POST BACK BRACE**



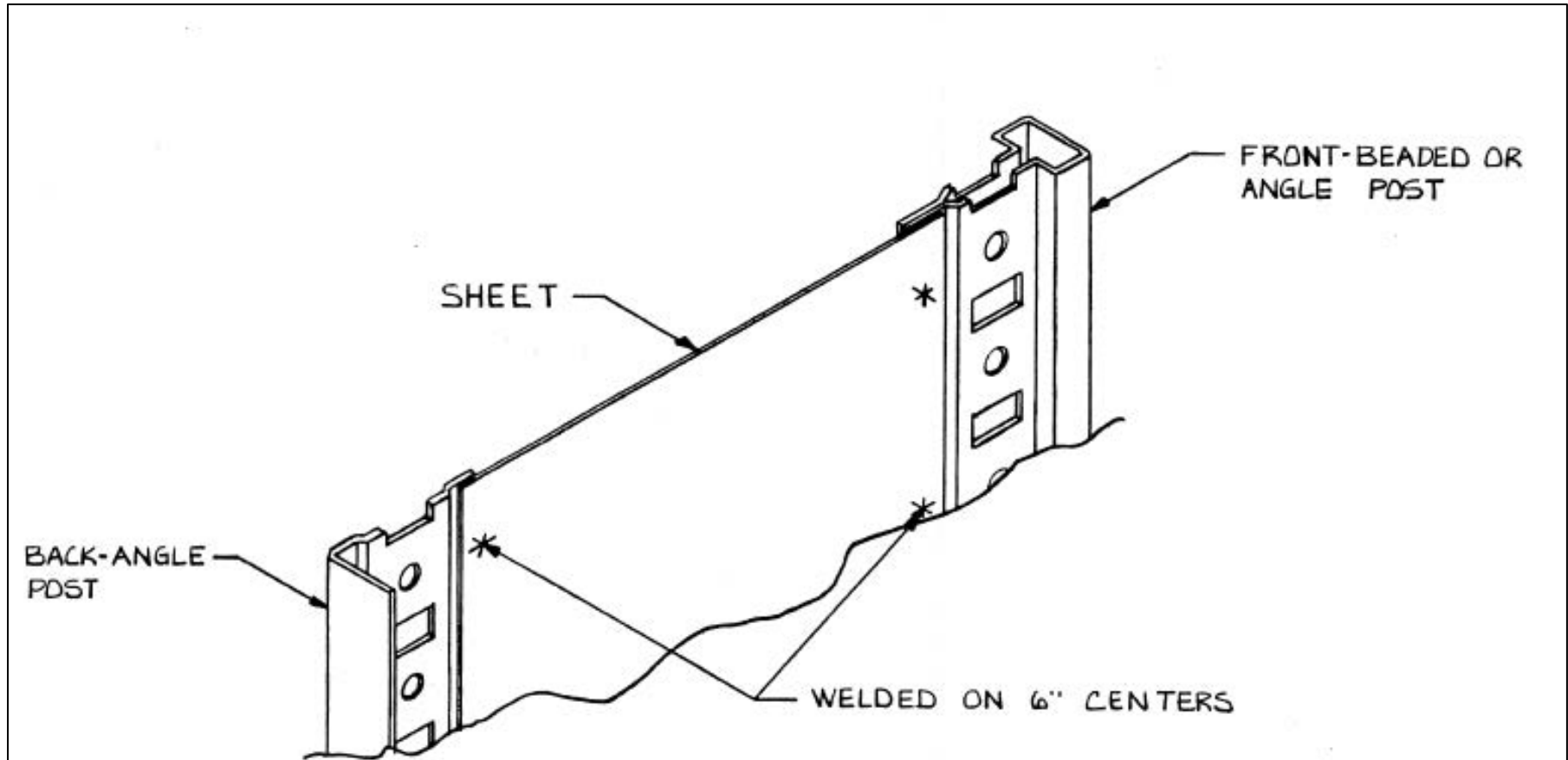
**FACE BRACE W/BEADED POST & BOX EDGE SHELF**



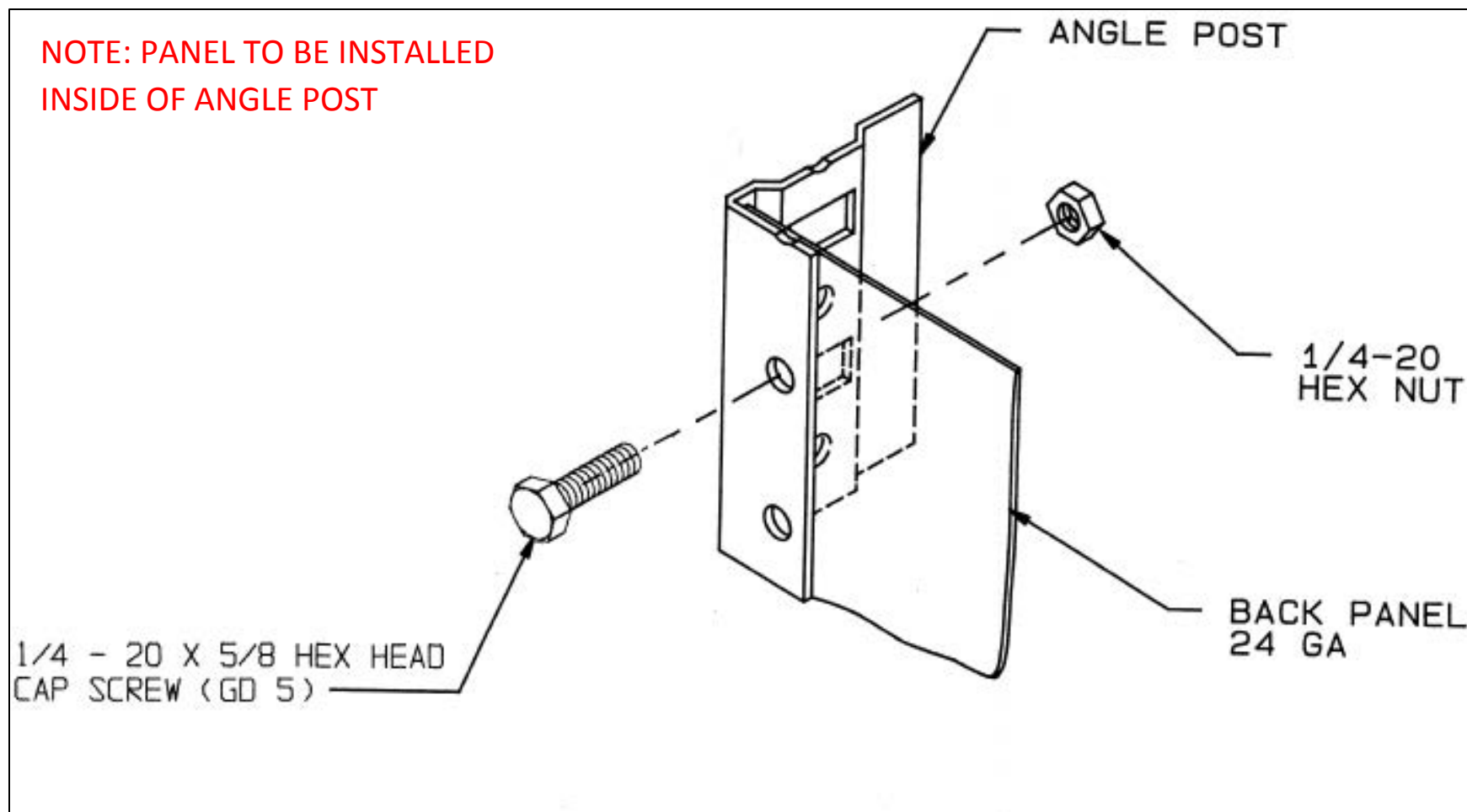
**FACE BRACE W/ANGLE POST & BOX EDGE SHELF**



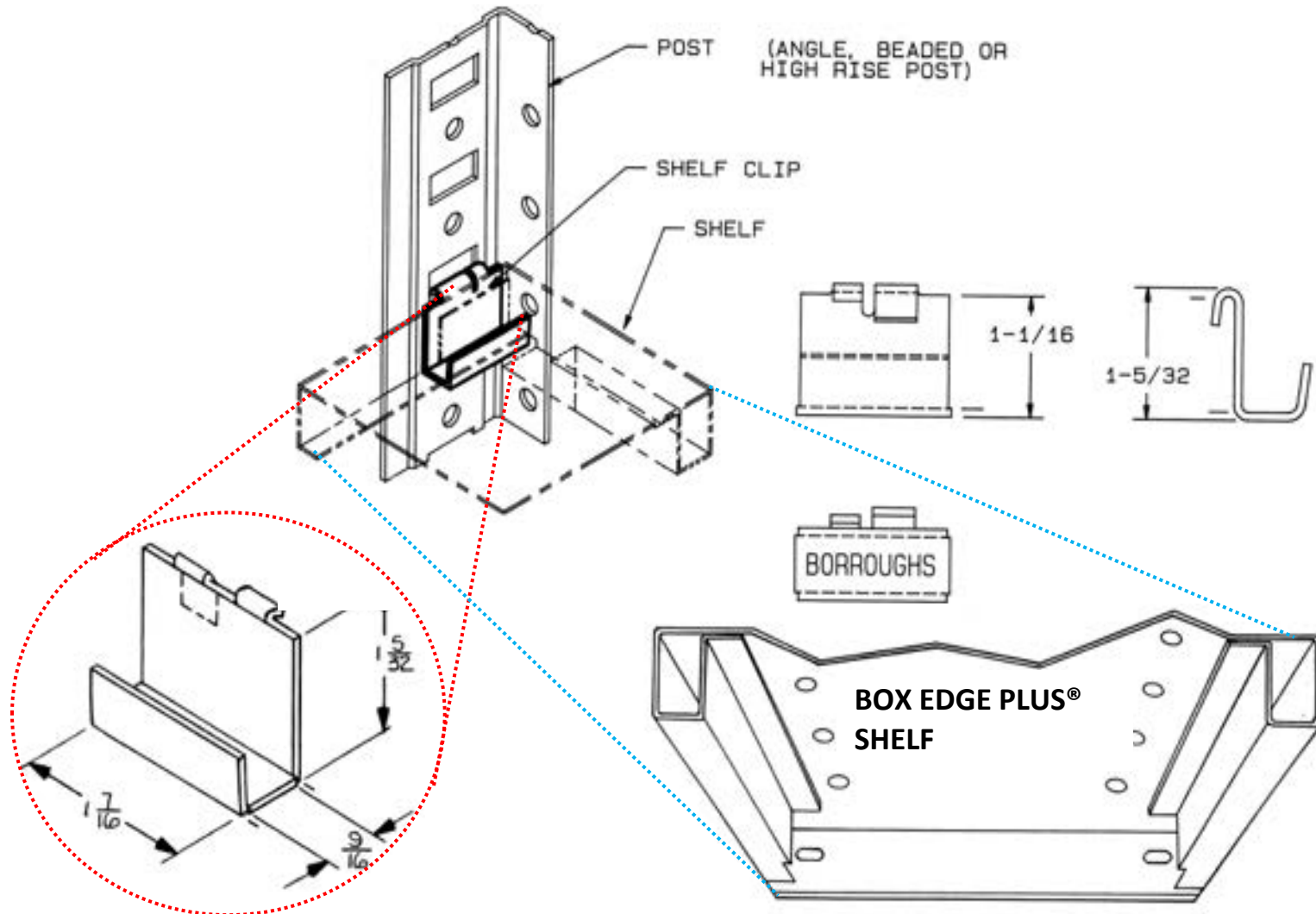
**CLOSED SIDE ASSEMBLY**



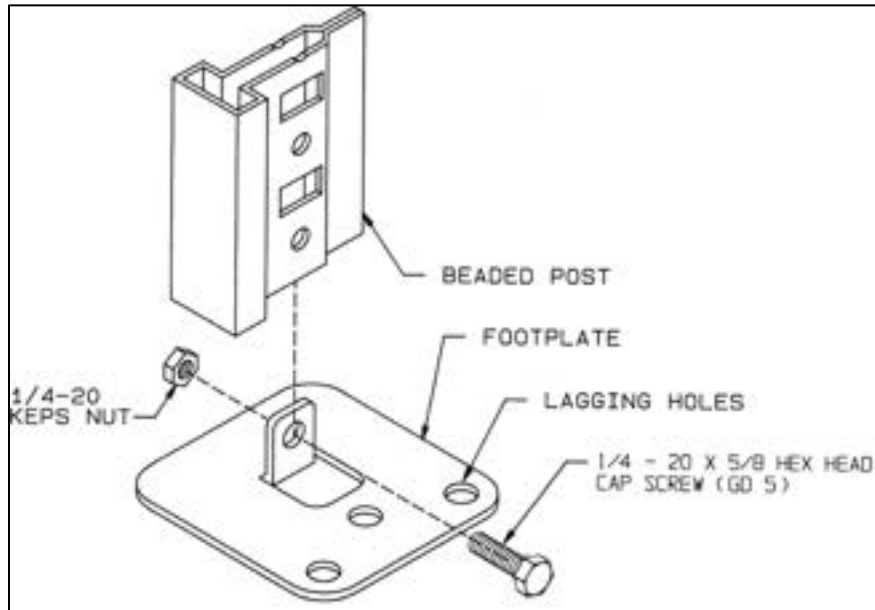
**ANGLE POST W/BACK PANEL**



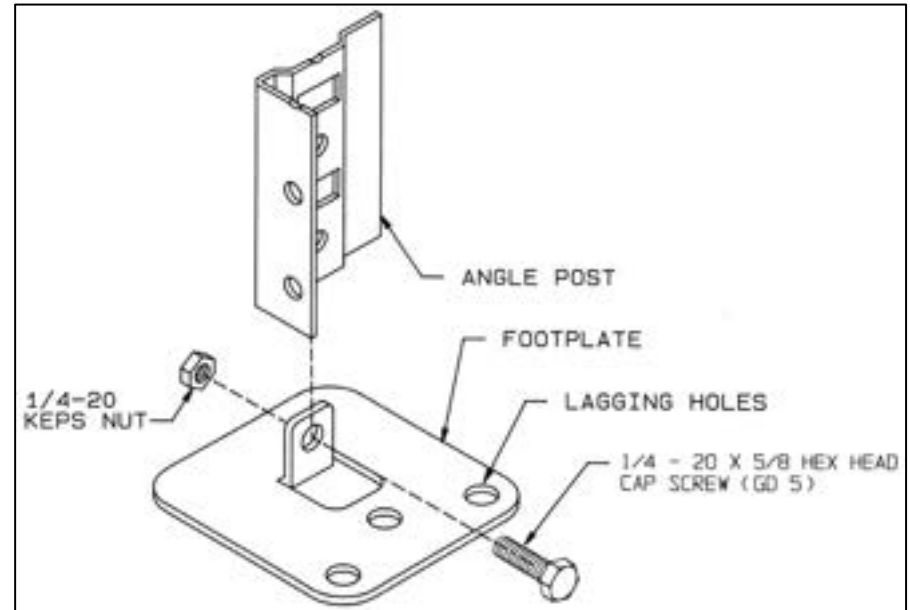
**SHELF CLIP**



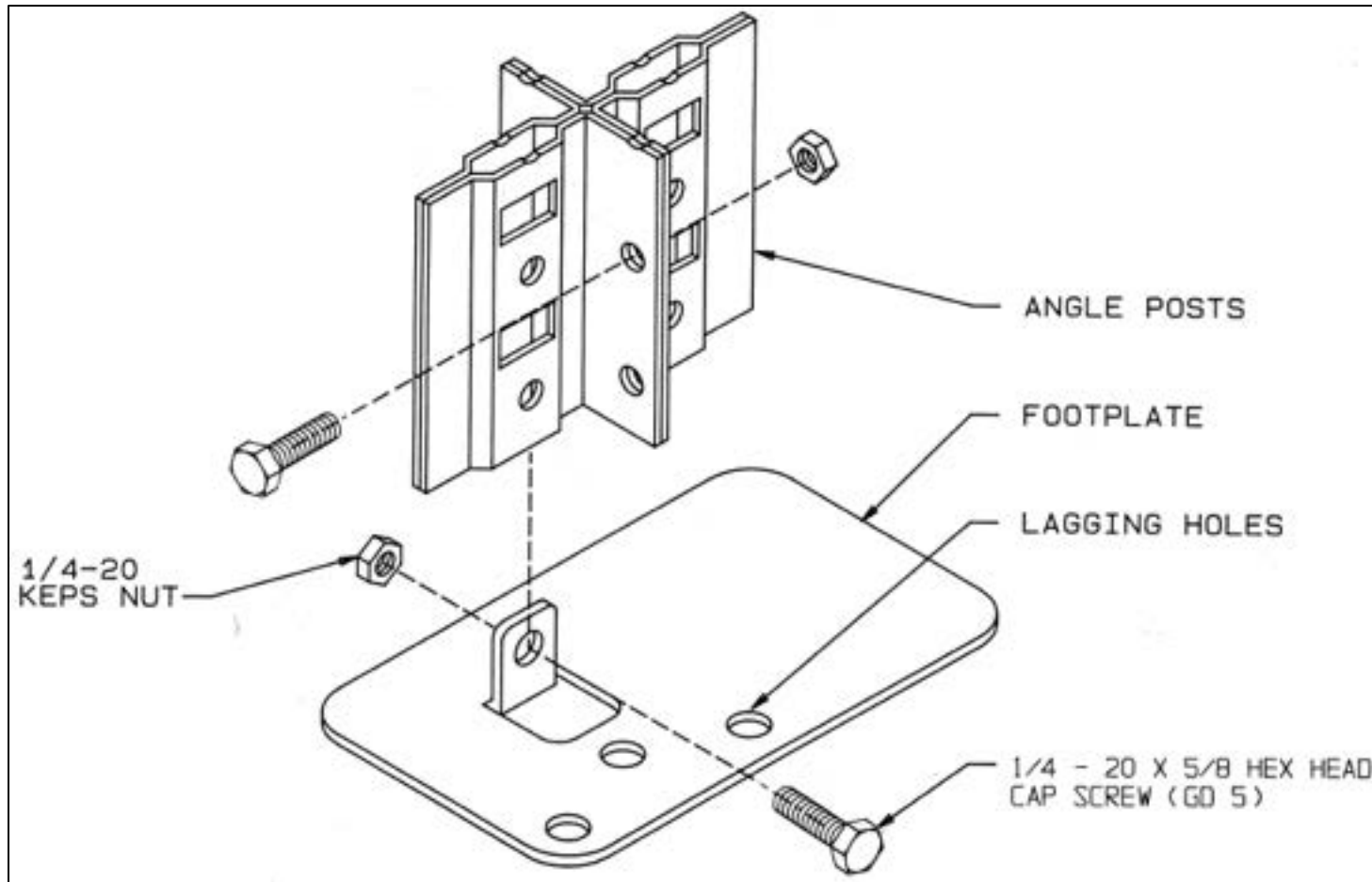
### FOOTPLATE W/BEADED POST



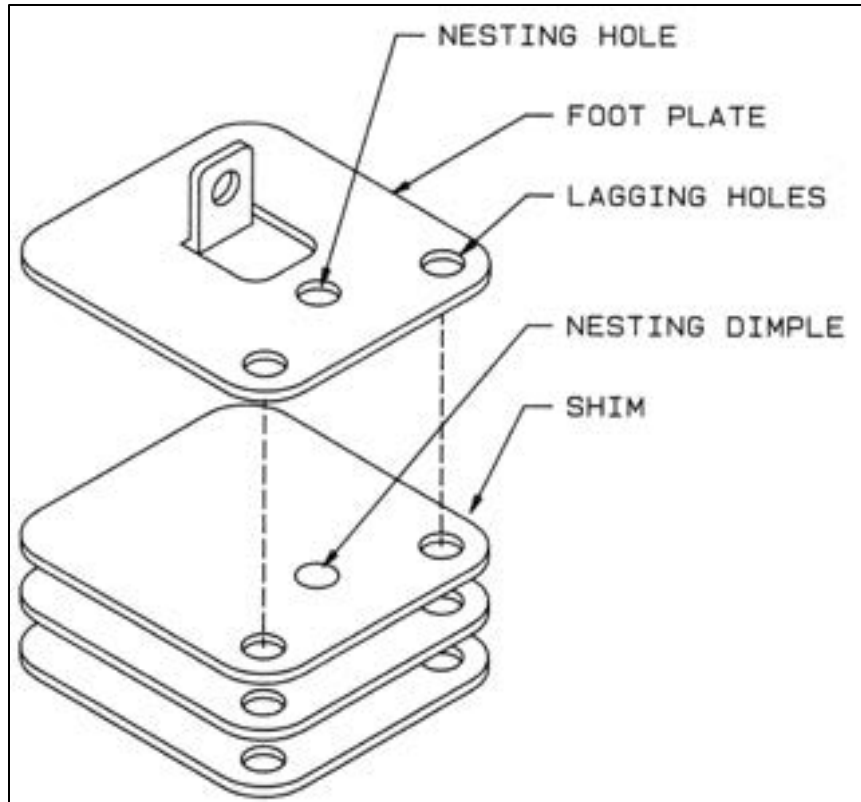
### FOOTPLATE W/ANGLE POST



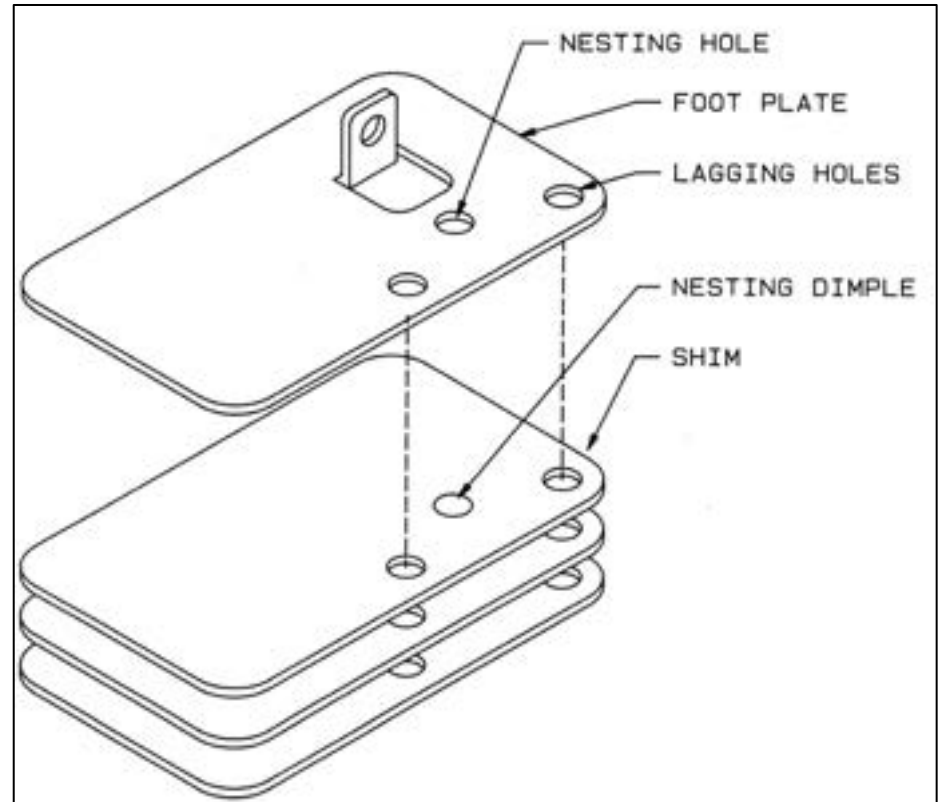
**FOOTPLATE – BACK-TO-BACK W/ANGLE POSTS**



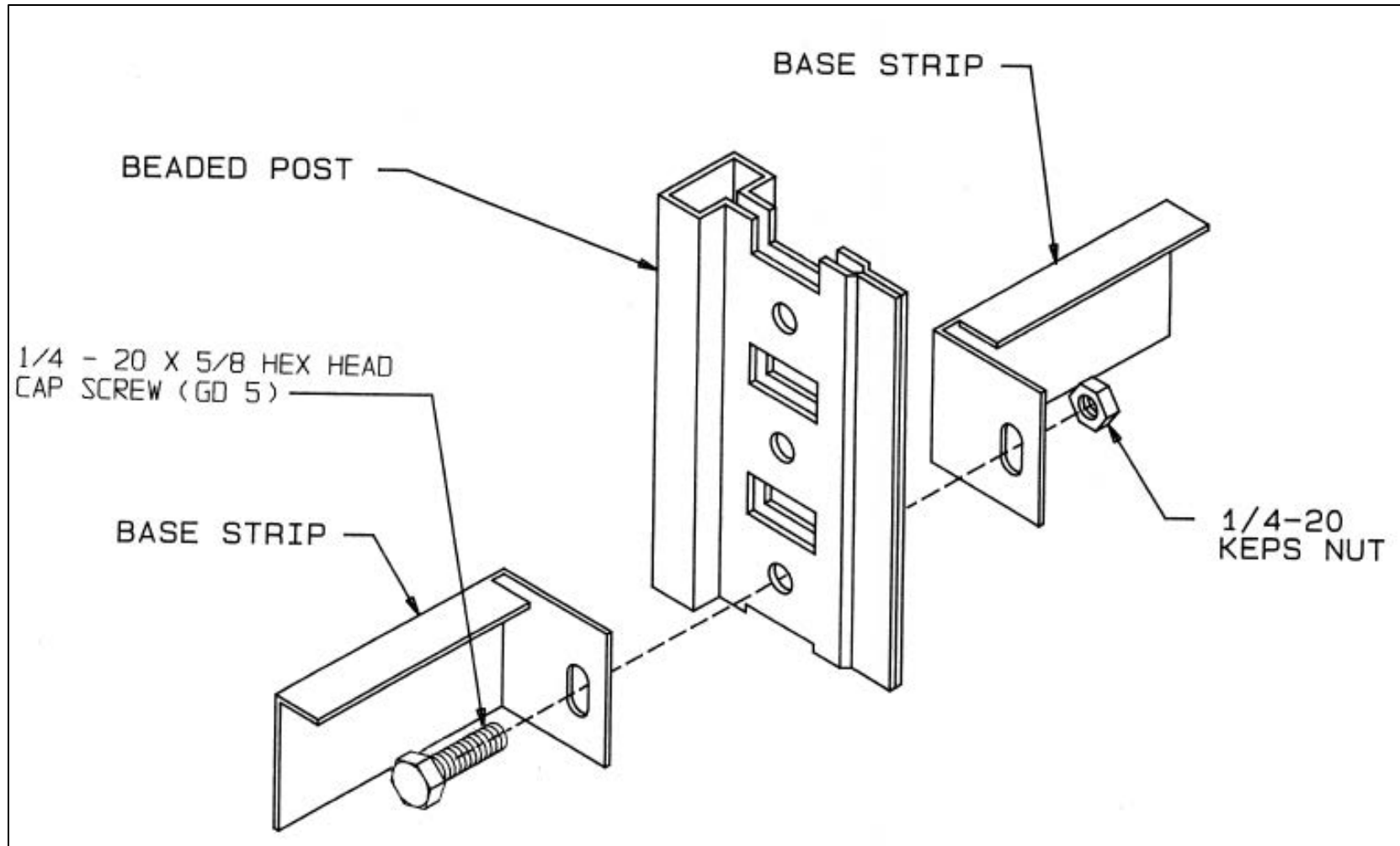
**FOOTPLATE W/SHIM**



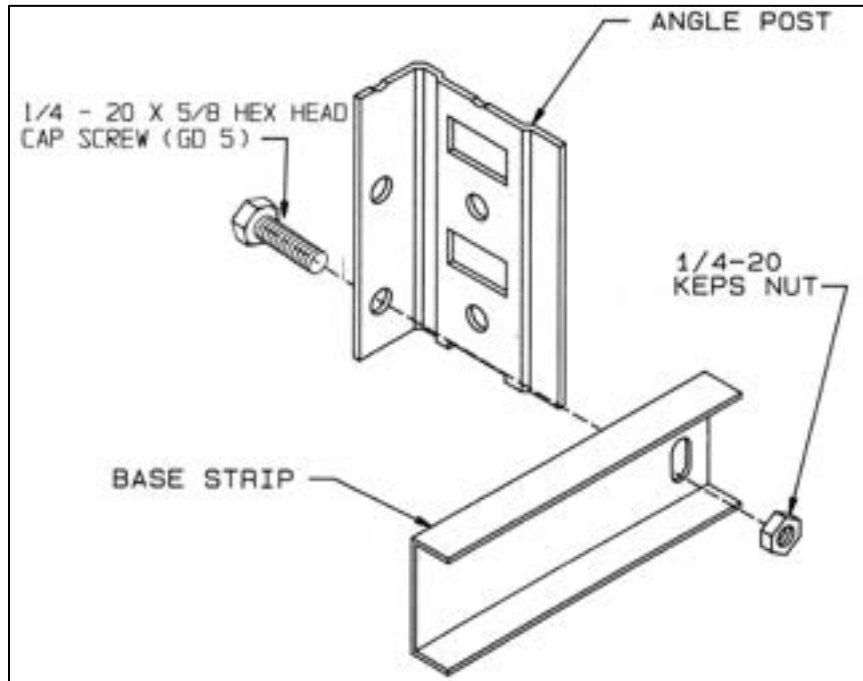
**FOOTPLATE W/SHIM – BACK-TO-BACK**



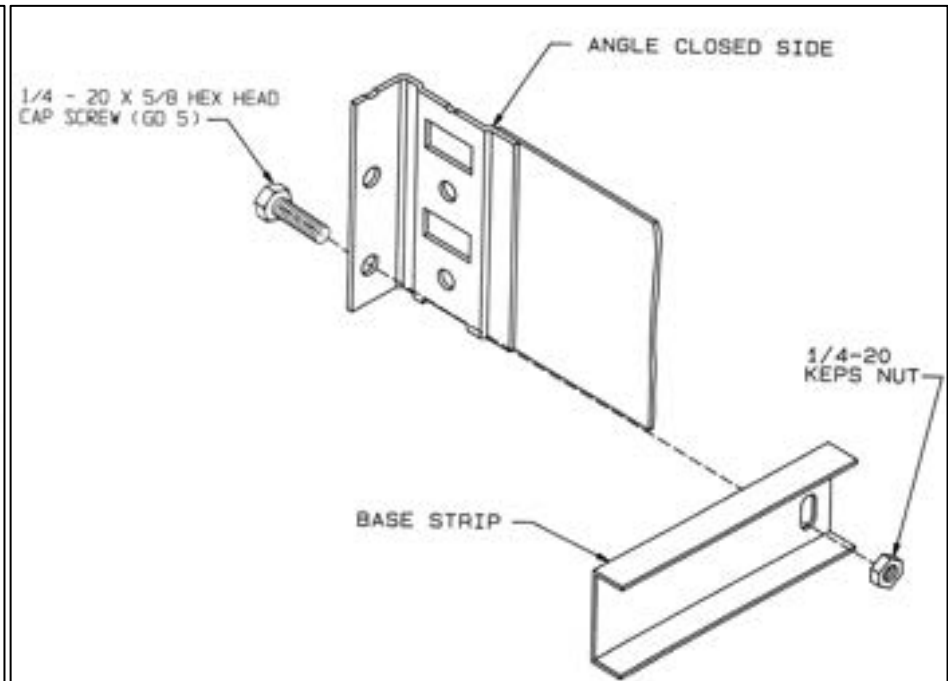
**BASE STRIP W/BEADED POST**



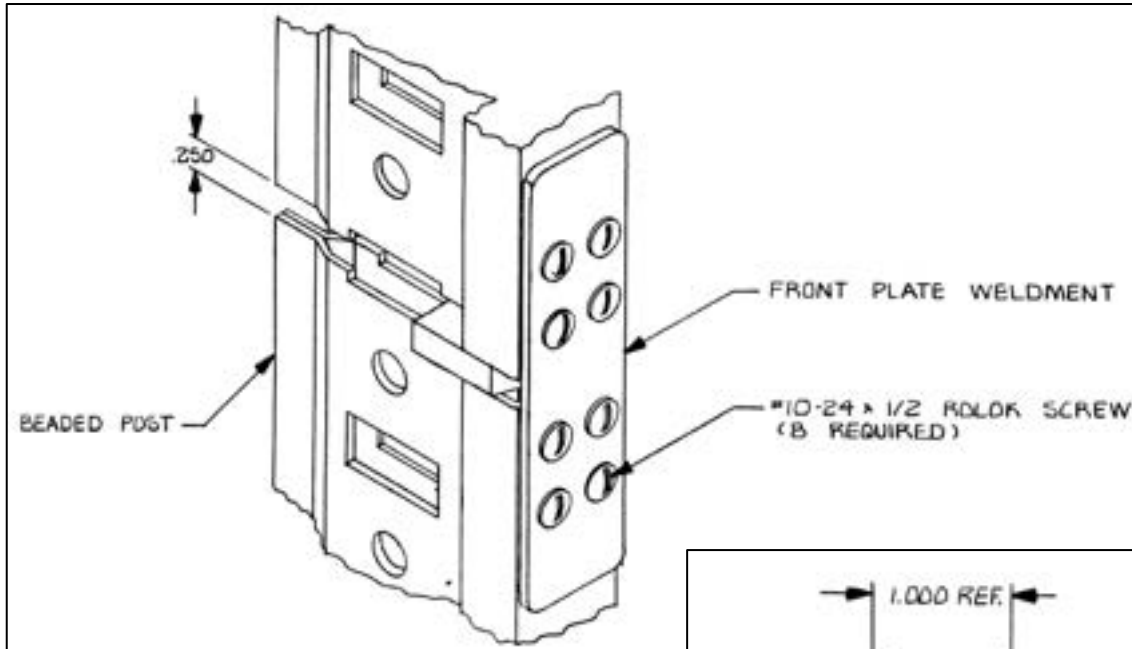
**BASE STRIP W/ANGLE POST**



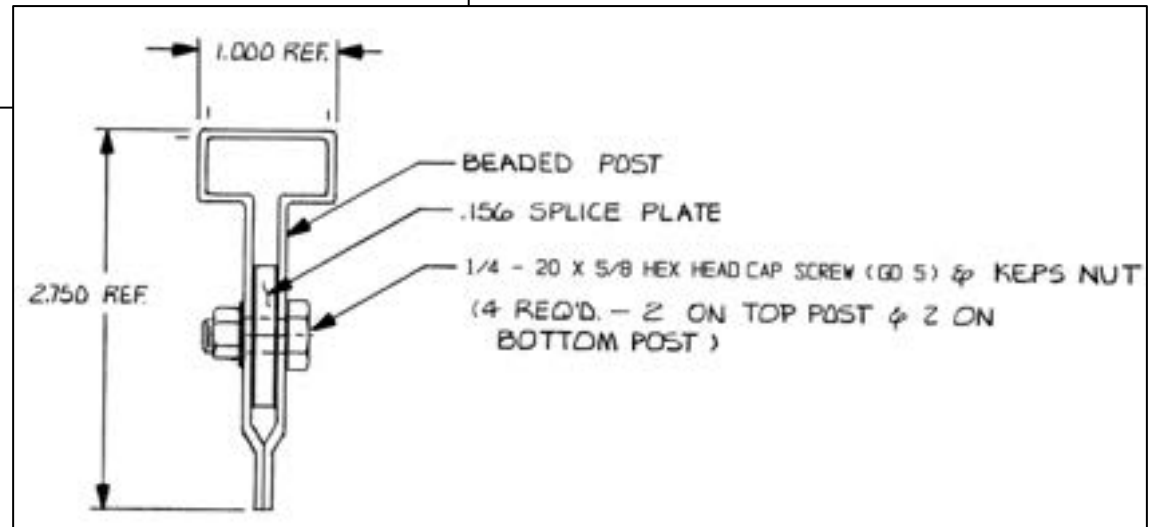
**BASE STRIP W/ANGLE CLOSED SIDE**



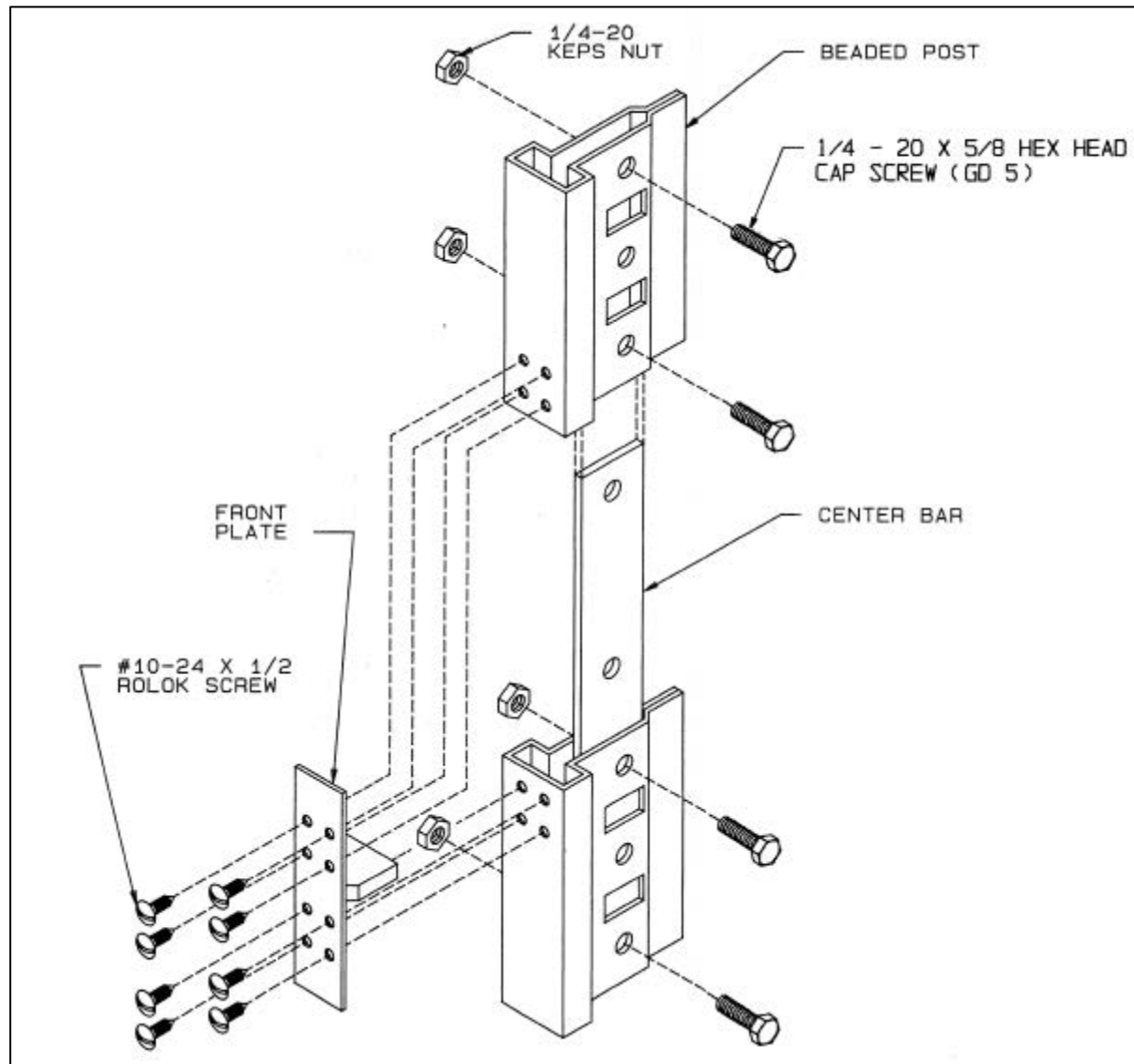
**FRONT PLATE WELDMENT & BEADED POST ASSEMBLY**



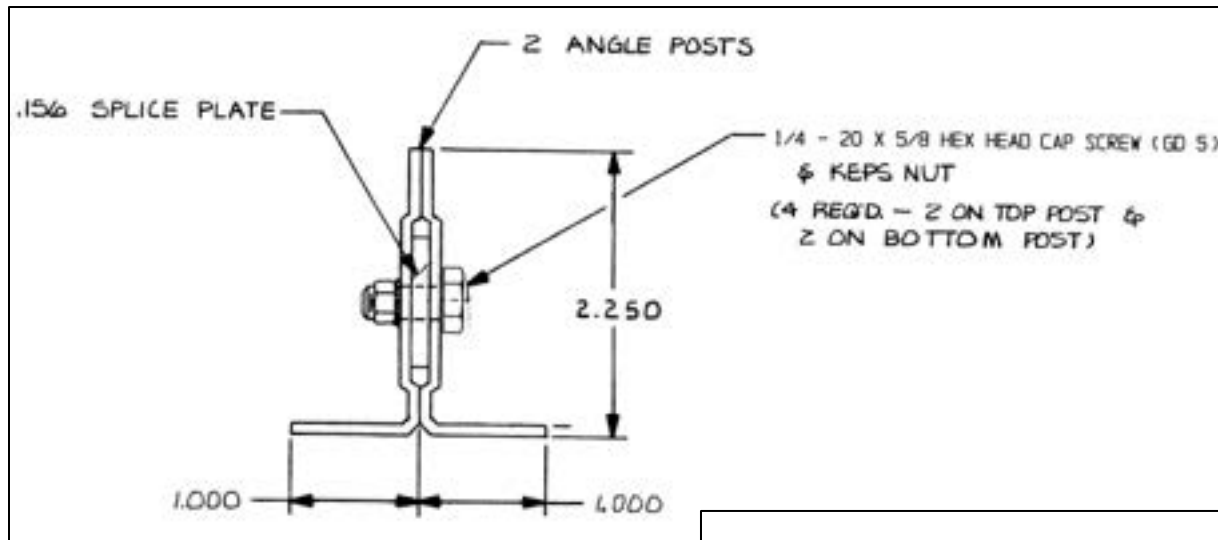
**BEADED POST SPLICE**



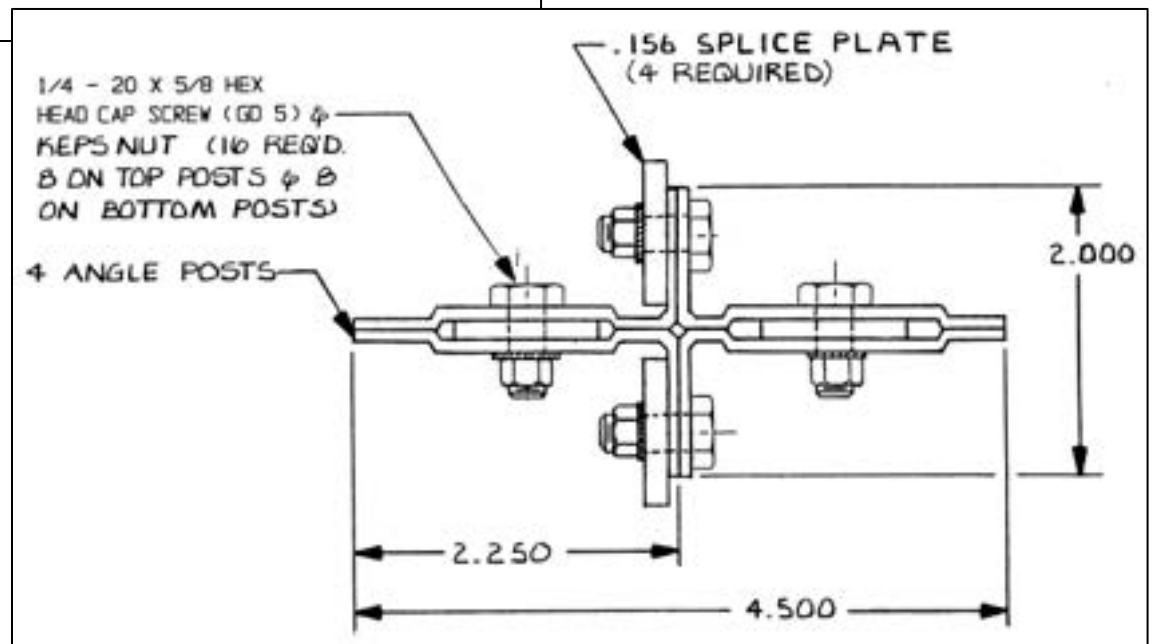
**SPLICER KIT W/BEADED POSTS**



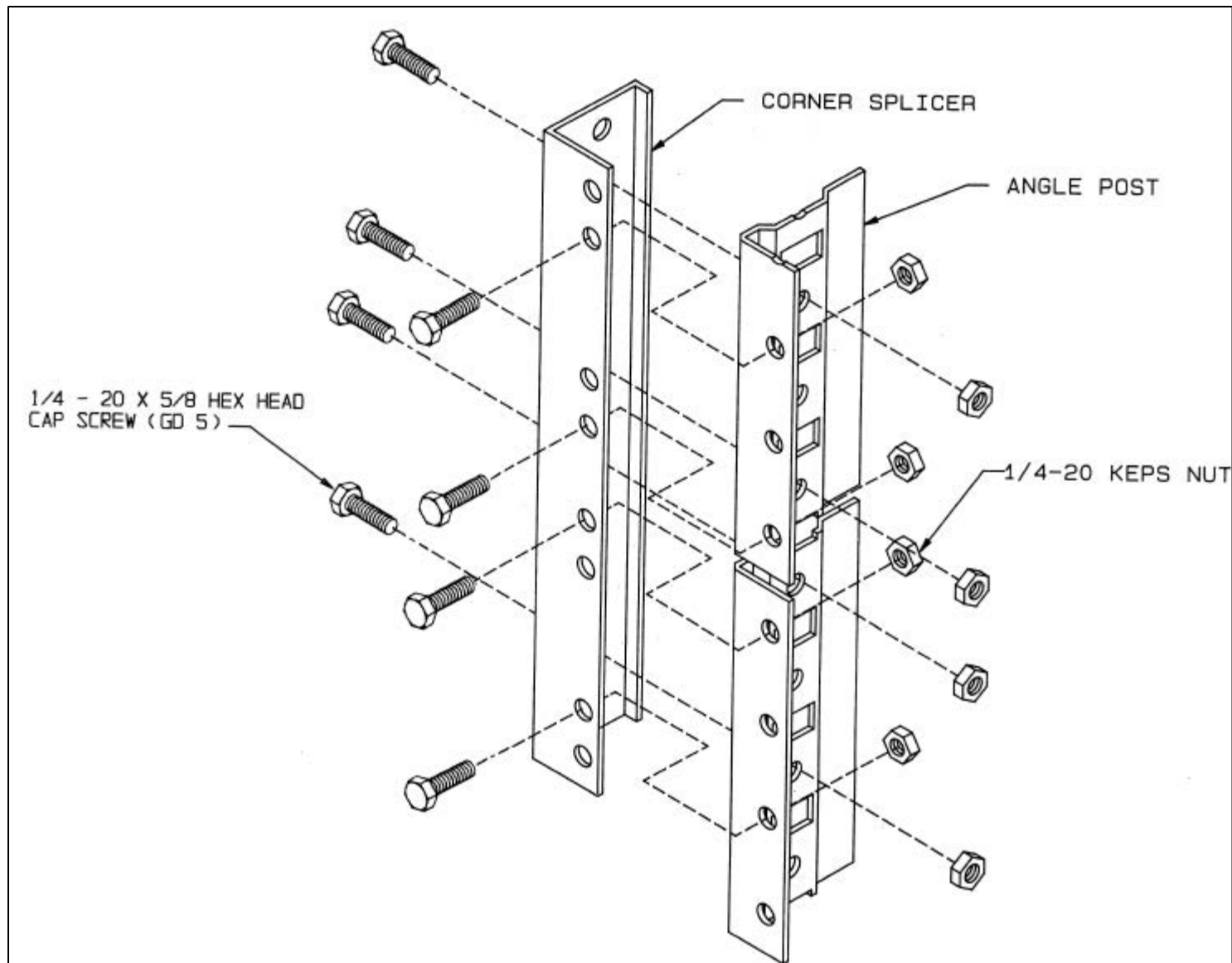
## ANGLE POST



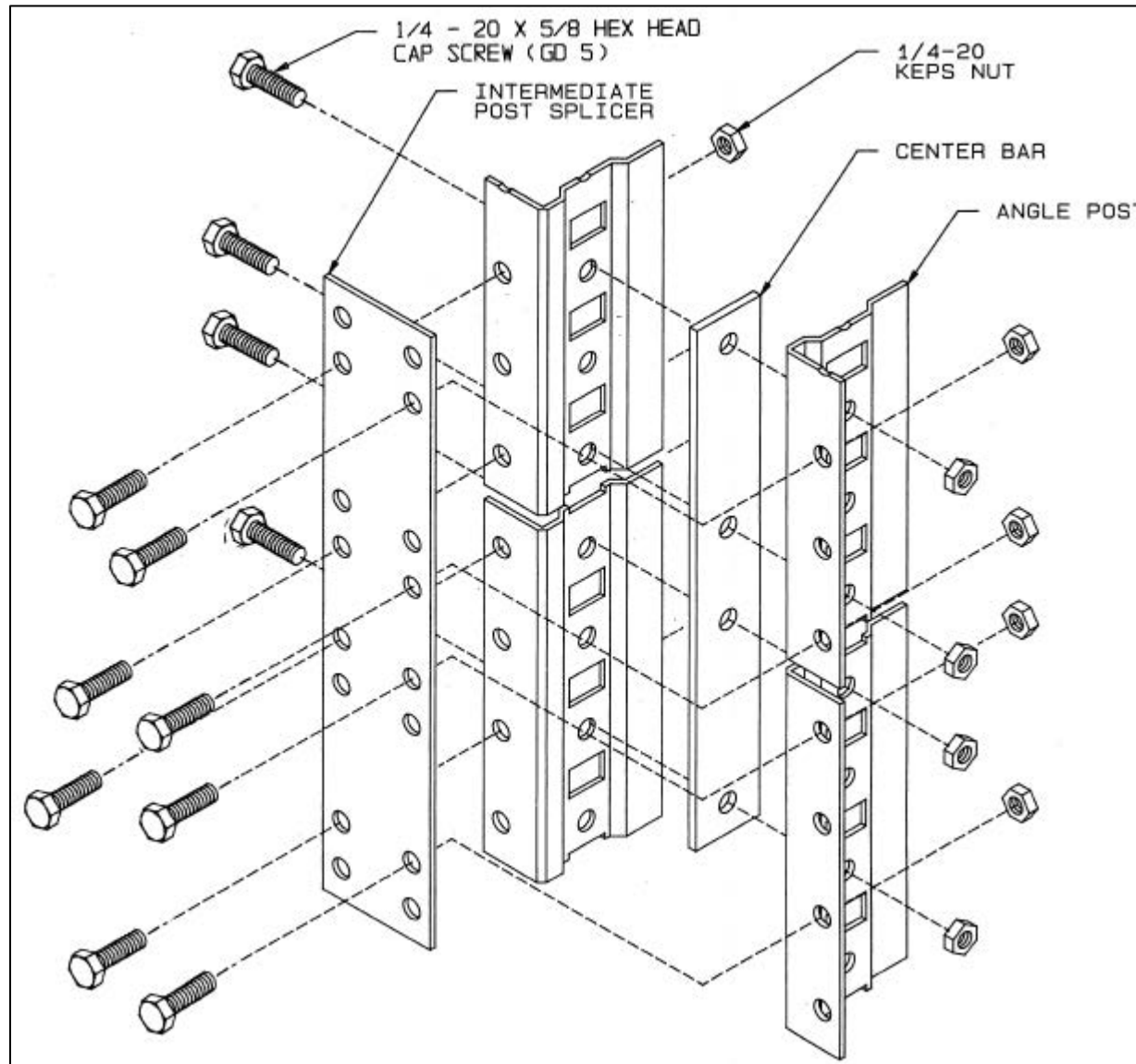
## ANGLE POST SPLICE



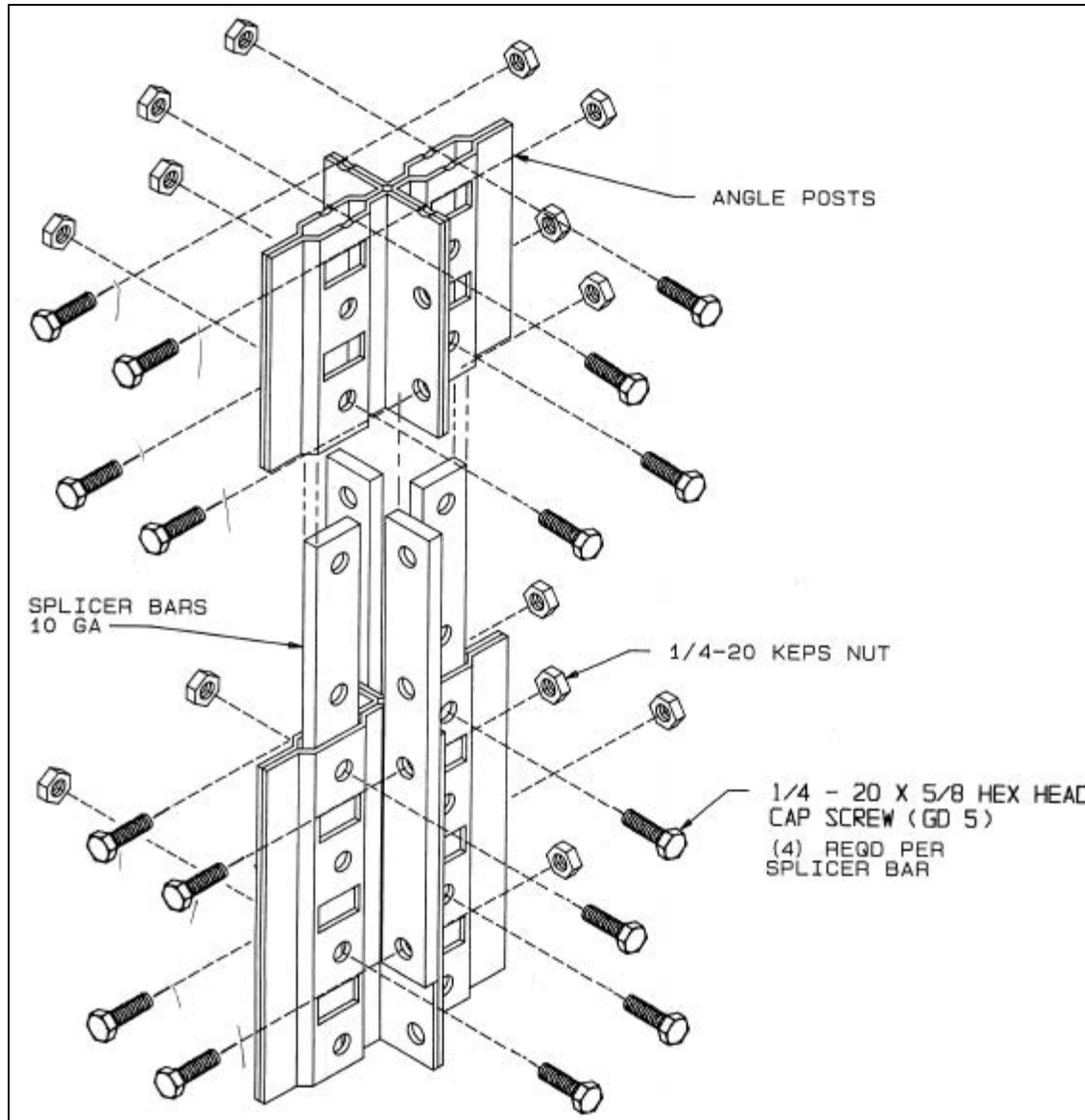
### CORNER SPLICER



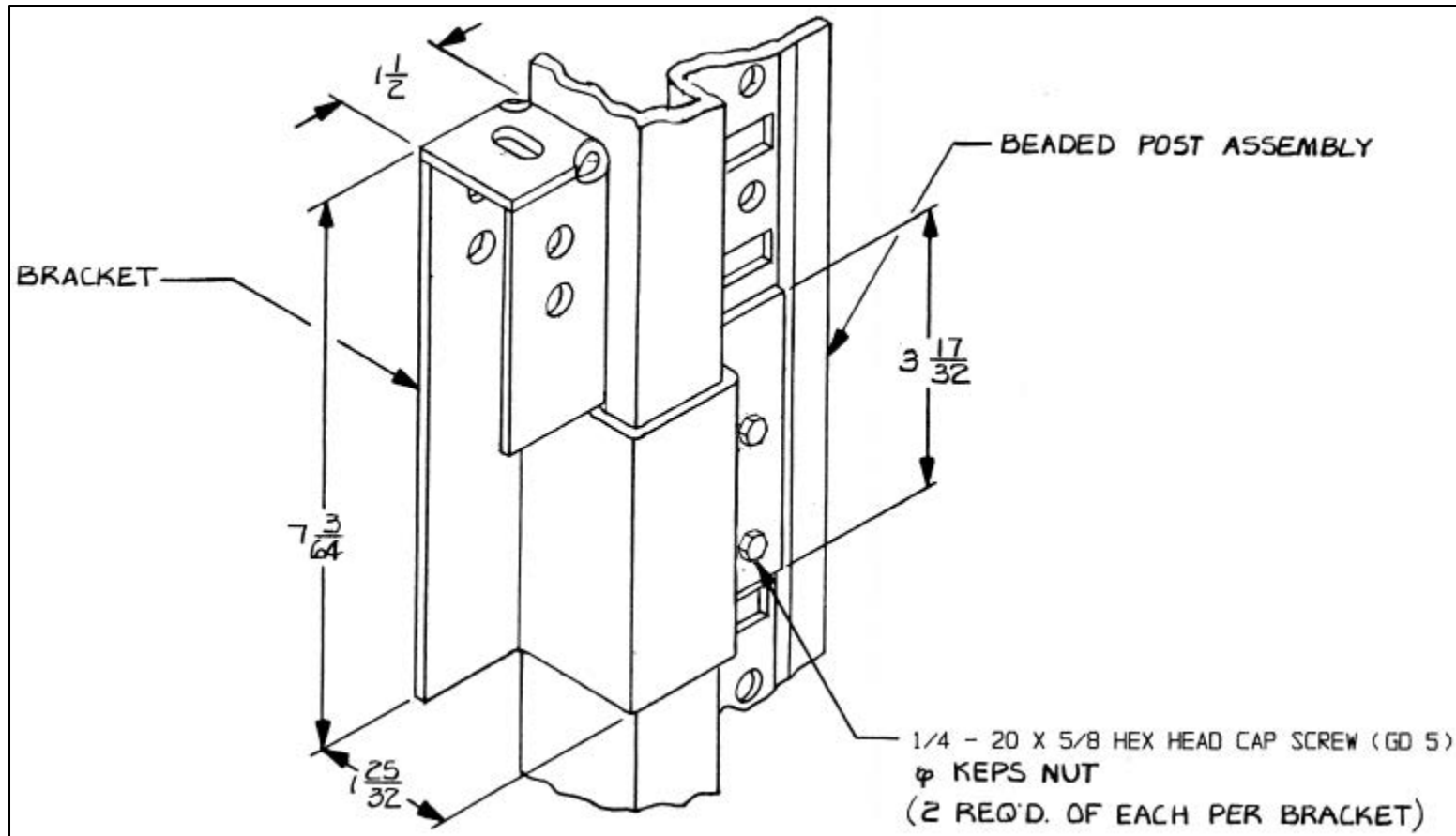
## SPLICER BARS W/BACK-TO-BACK ANGLE POSTS (2)



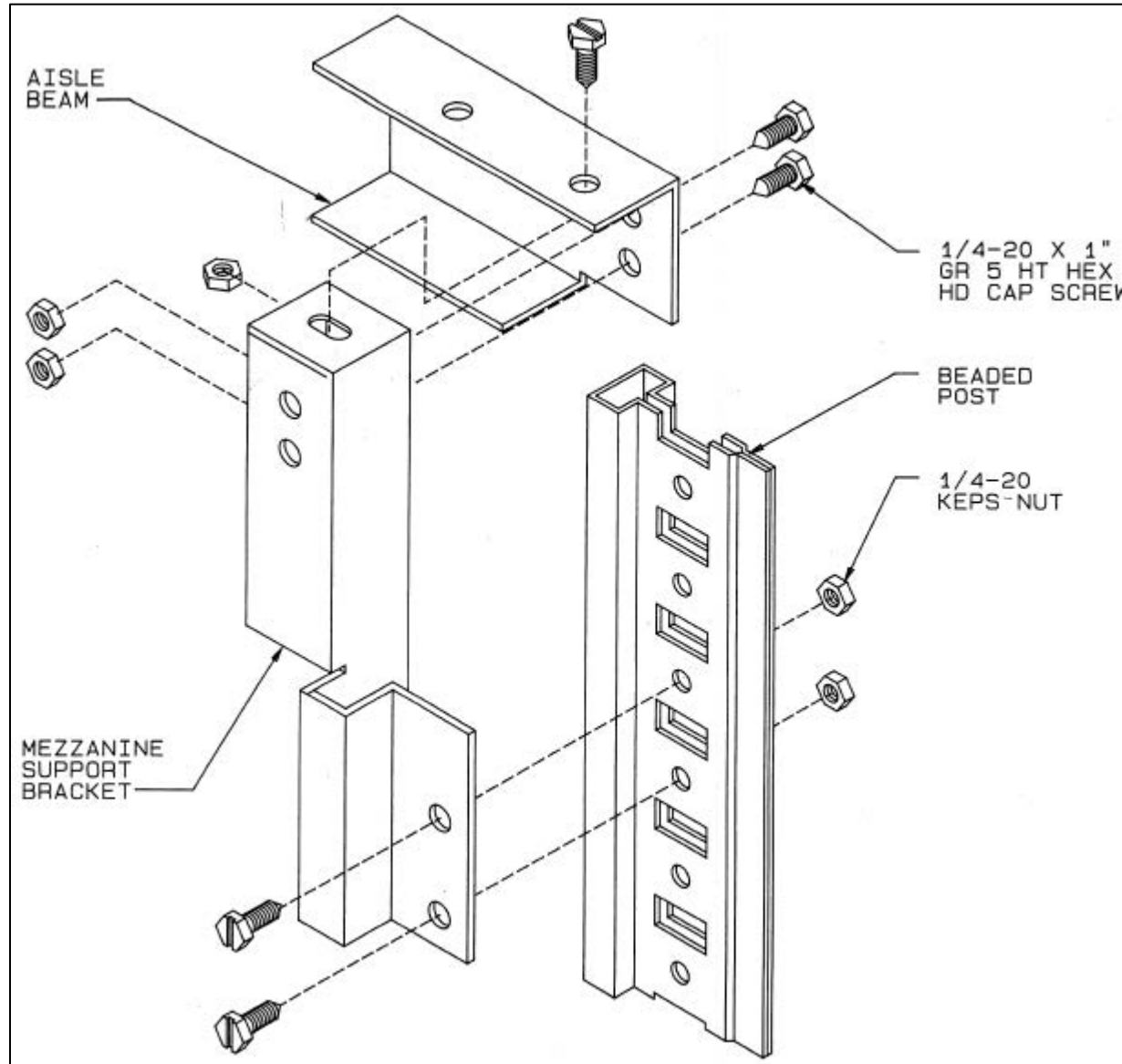
**SPLICER BARS W/BACK-TO-BACK ANGLE POSTS (4)**



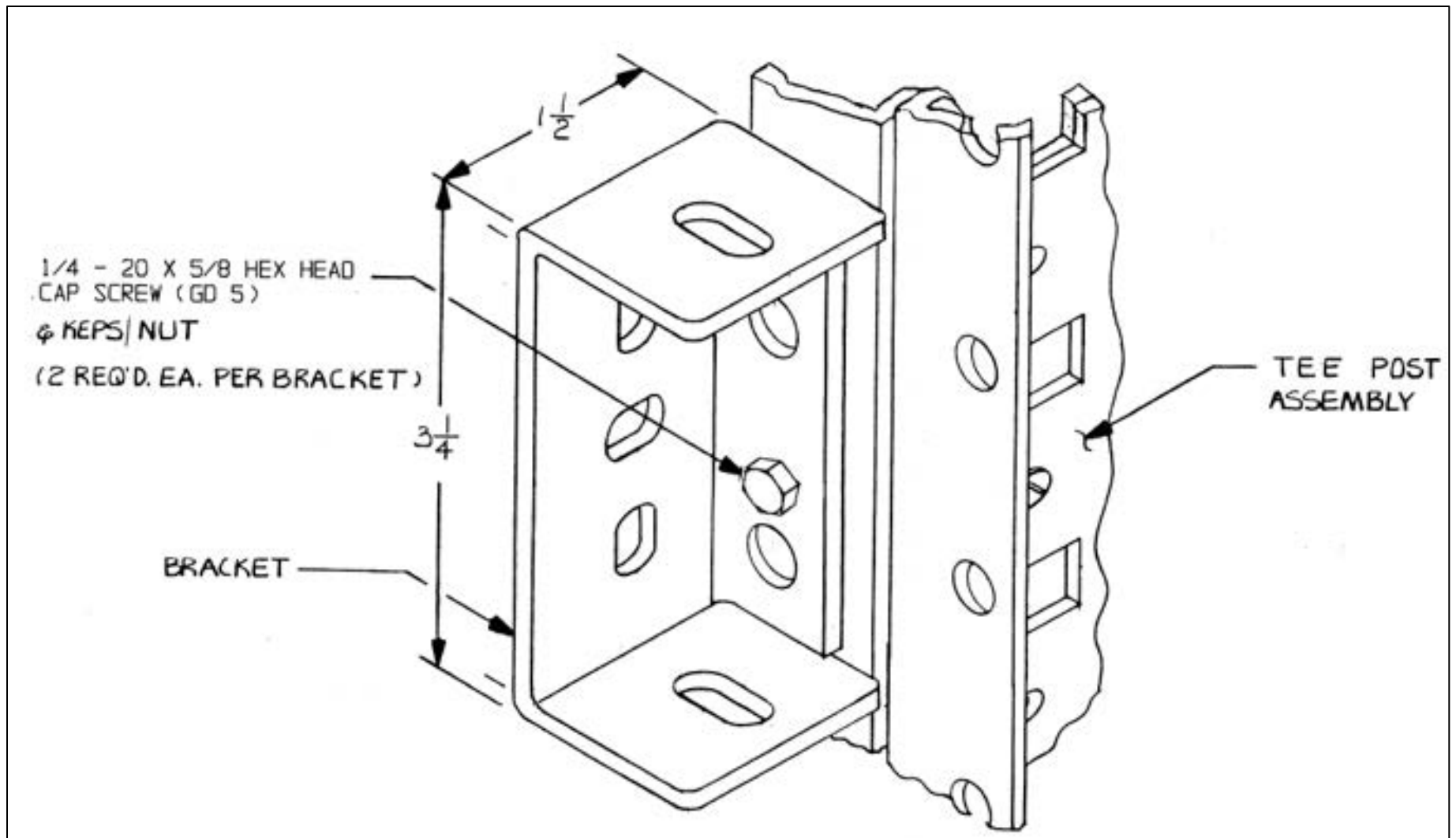
**BEADED POST MEZZANINE BRACKET & BEADED POST ASSEMBLY**



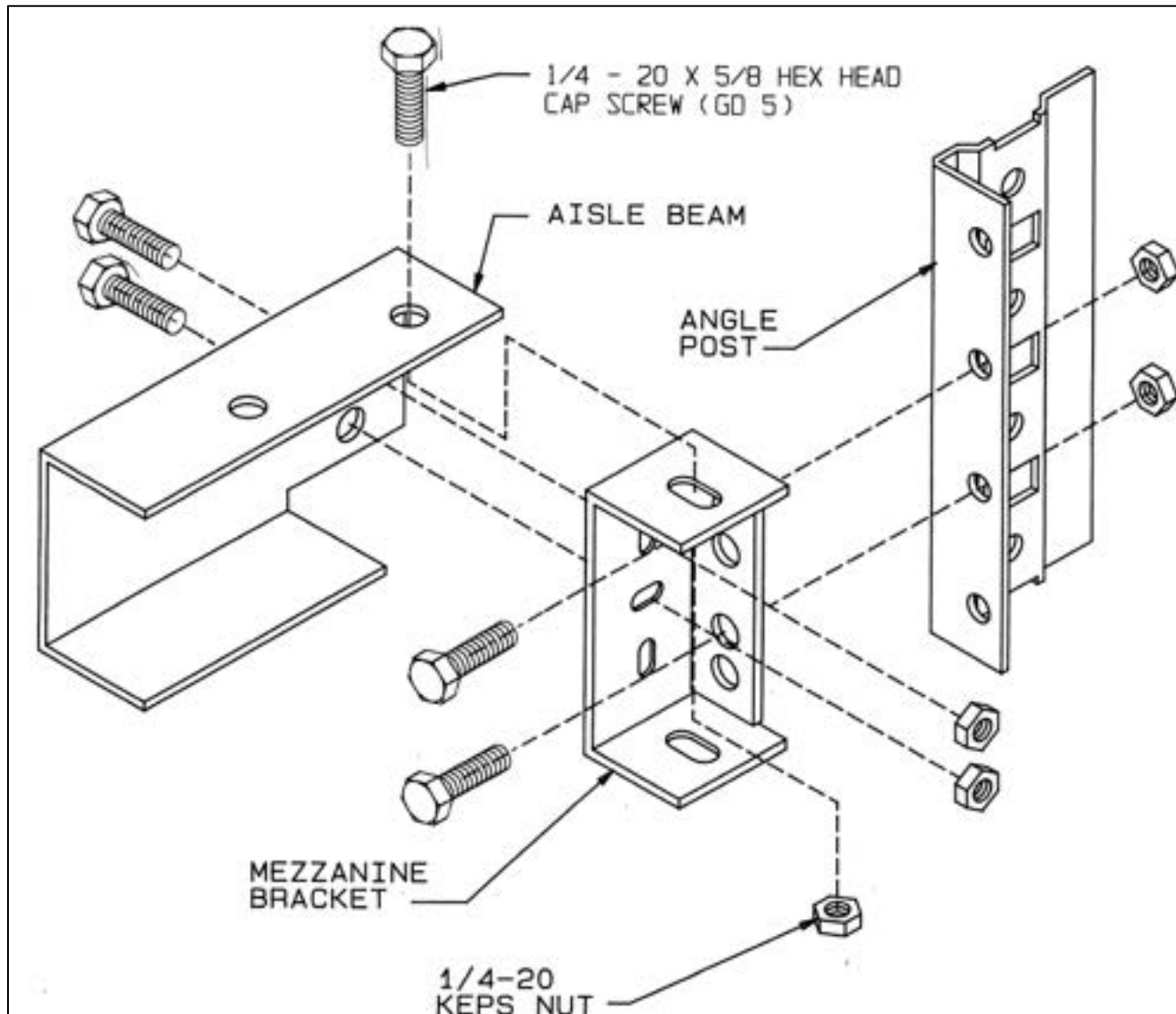
**BEADED POST MEZZANINE SUPPORT BEAM & BRACKET W/BEADED POST**



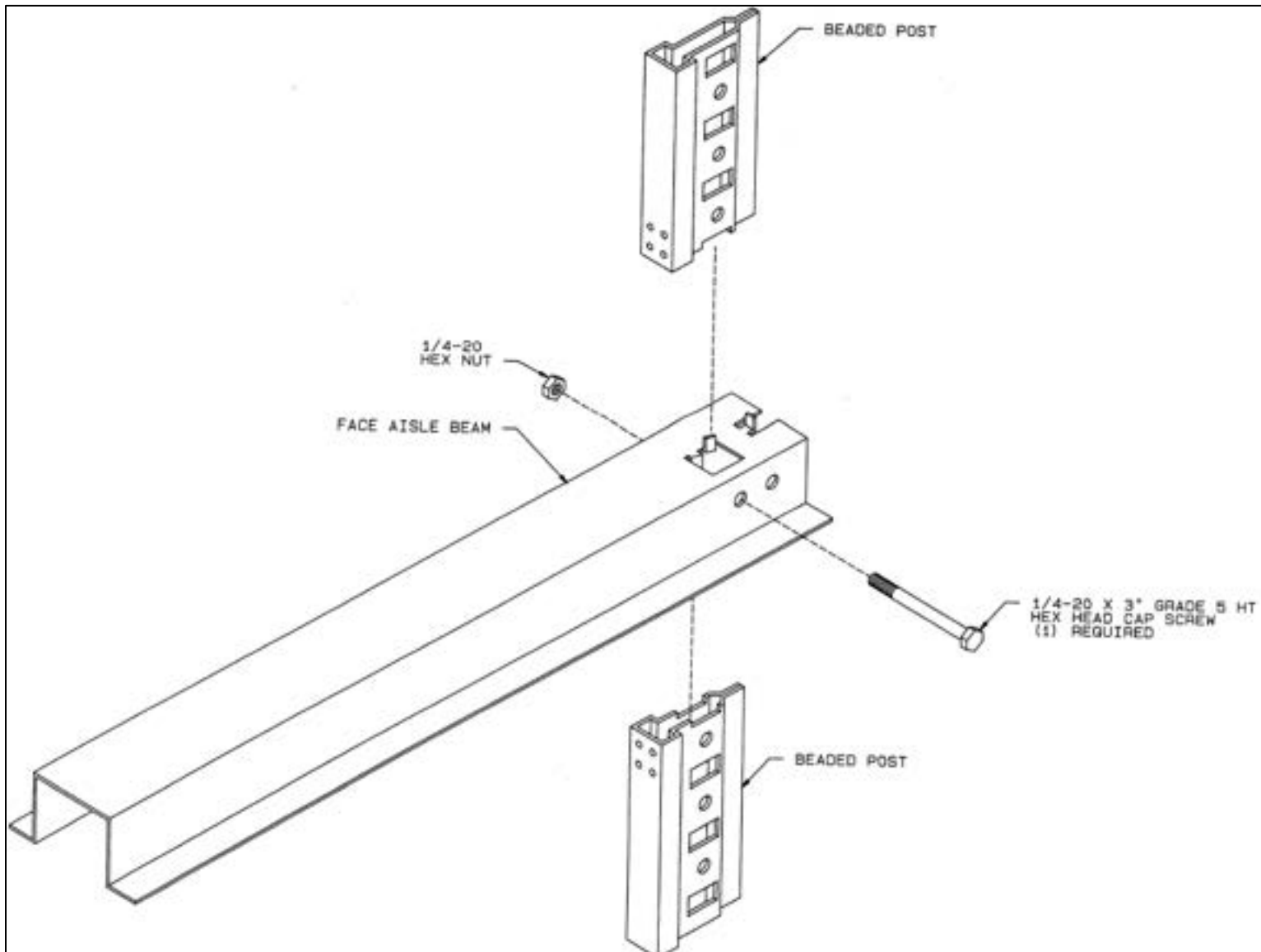
**ANGLE POST MEZZANINE BRACKET & ANGLE POST ASSEMBLY**



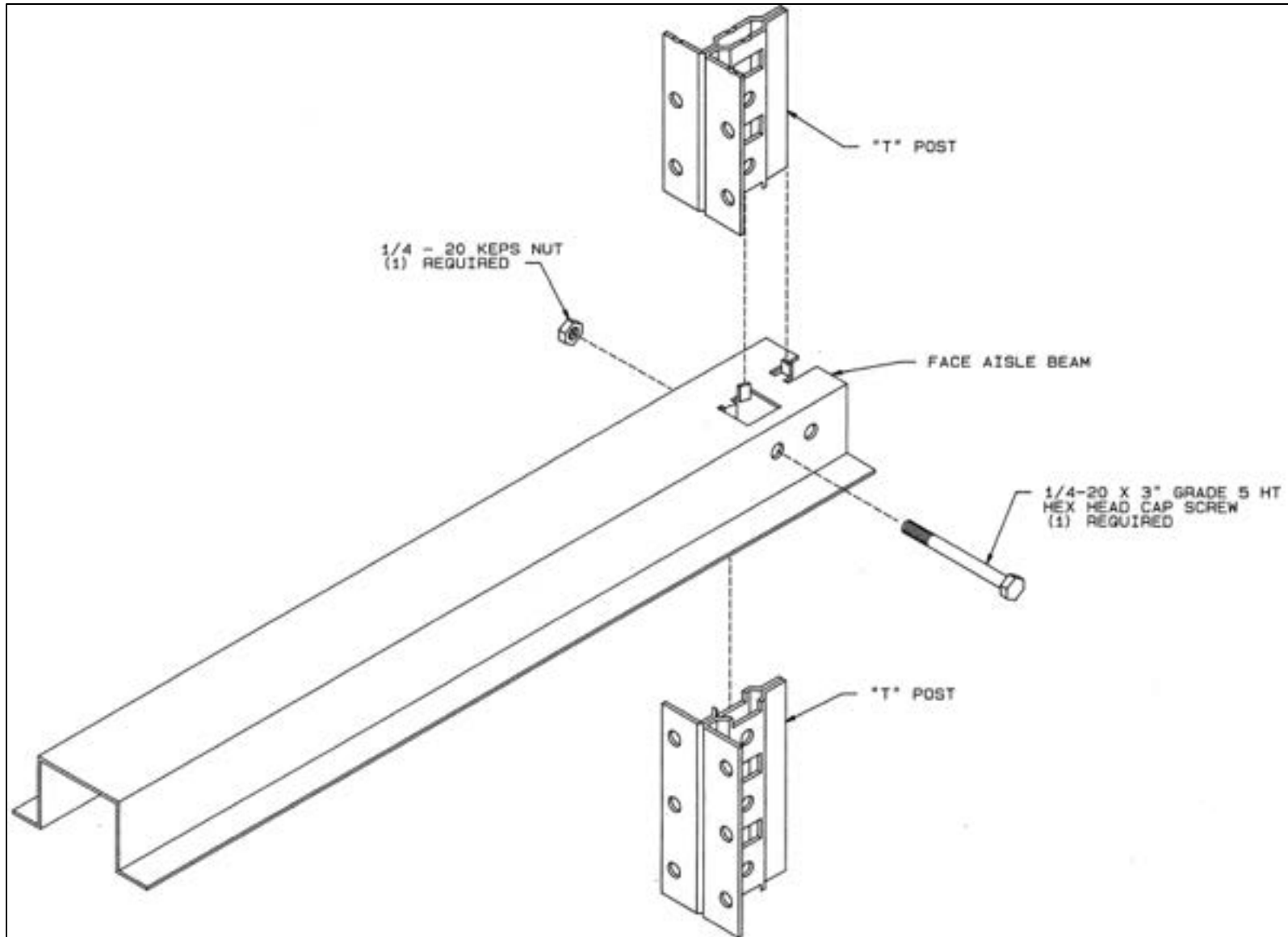
**ANGLE POST MEZZANINE SUPPORT BEAM & BRACKET W/ANGLE POST**



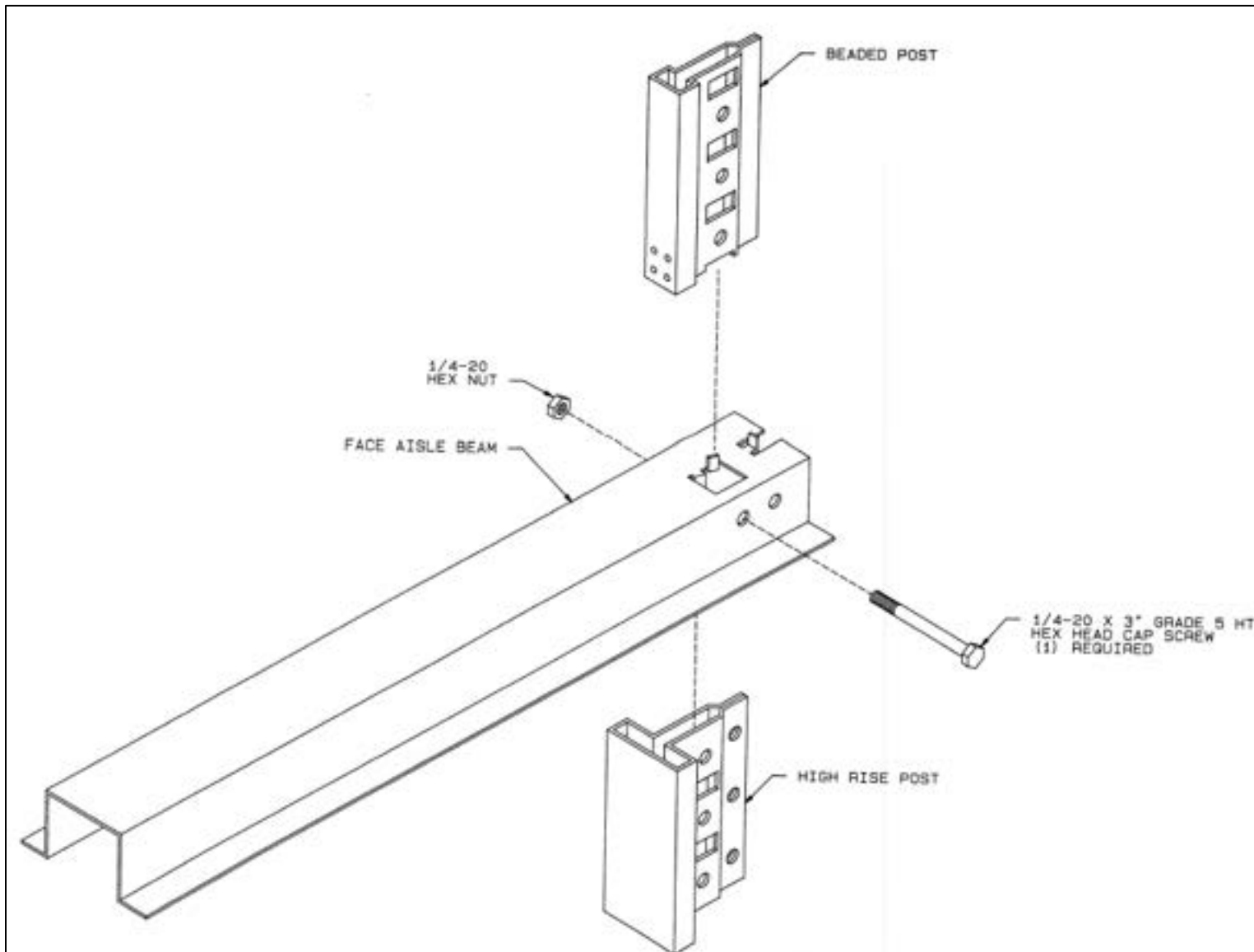
### CAP MEZZANINE SYSTEM BEADED POST FACE AISLE BEAM ASSEMBLY



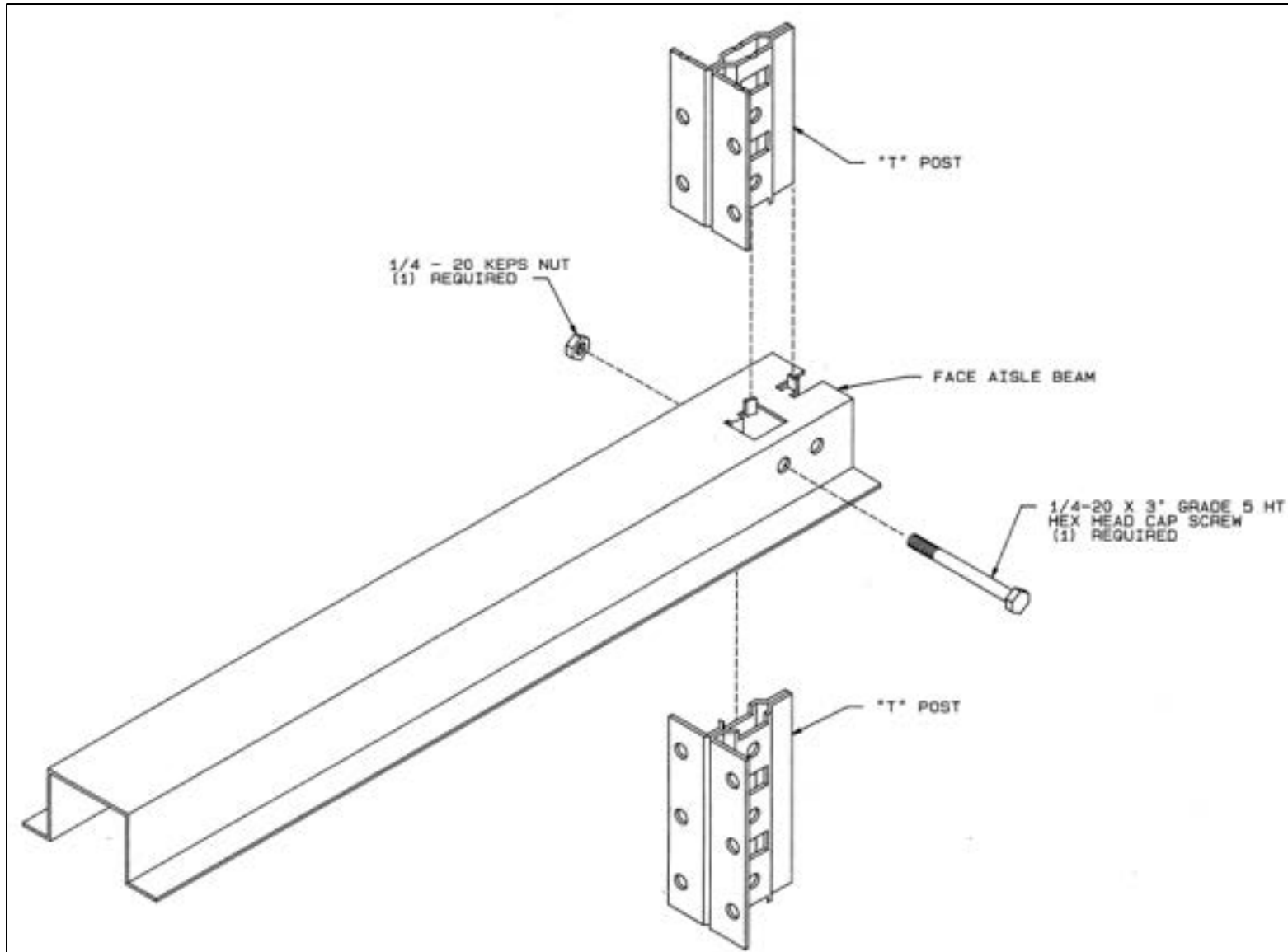
### CAP MEZZANINE SYSTEM ANGLE "T" POST FACE AISLE BEAM ASSEMBLY



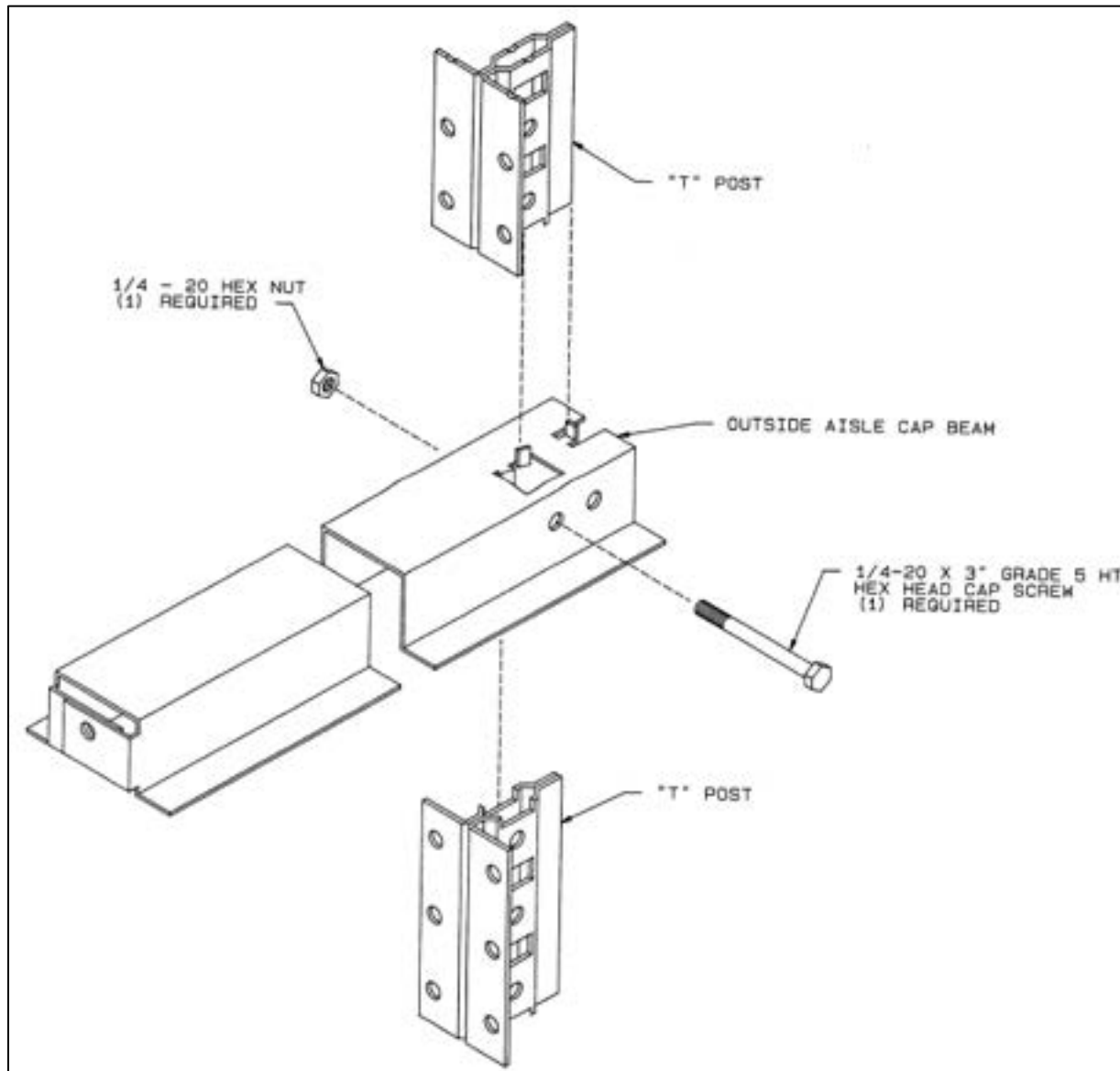
**CAP MEZZANINE SYSTEM HIGH RISE – BEADED POST FACE AISLE BEAM ASSEMBLY**



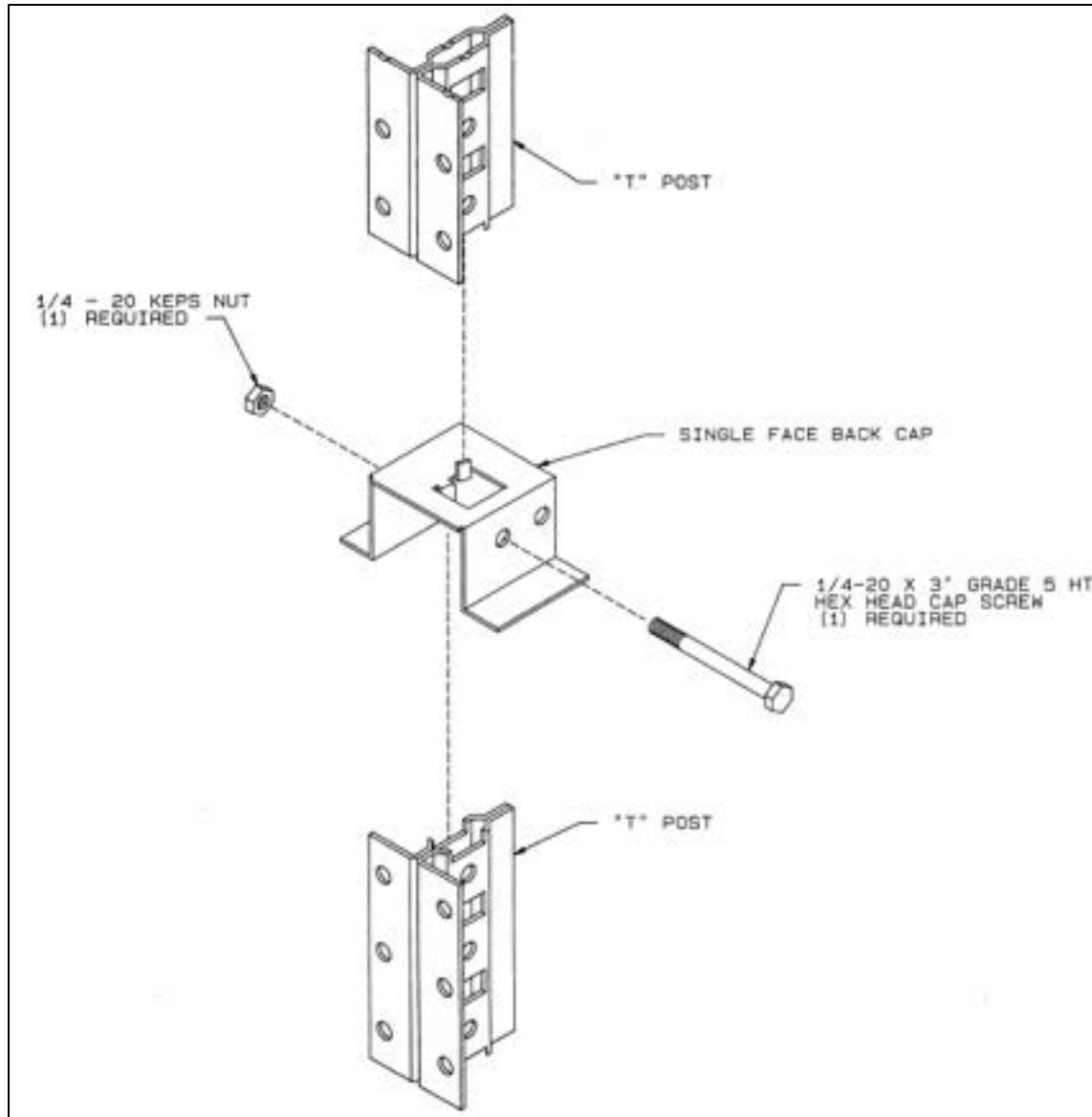
**CAP MEZZANINE SYSTEM HIGH RISE – ANGLE “T” POST FACE AISLE BEAM ASSEMBLY**



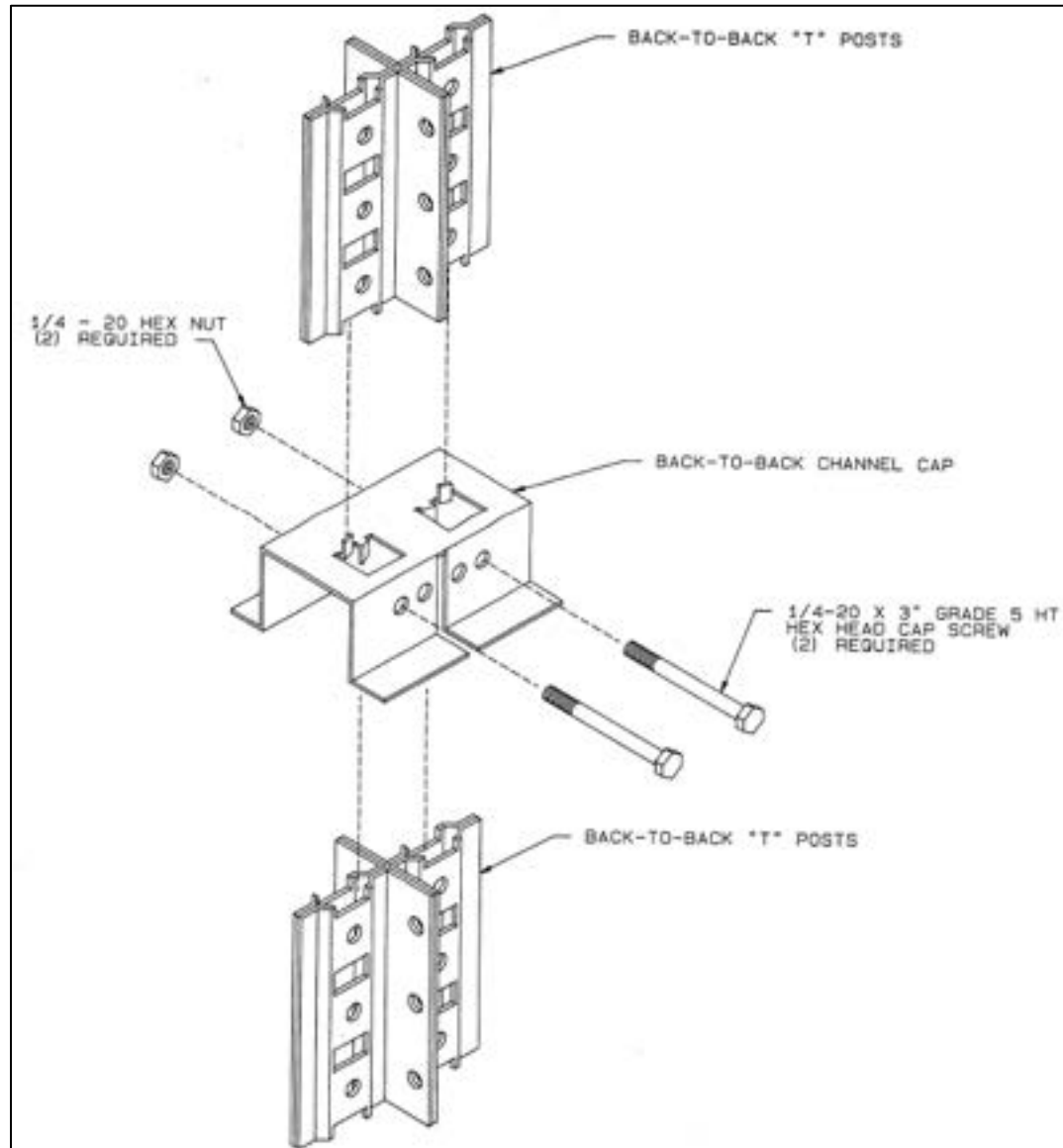
**CAP MEZZANINE SYSTEM ANGLE "T" POST - OUTSIDE AISLE BEAM ASSEMBLY**



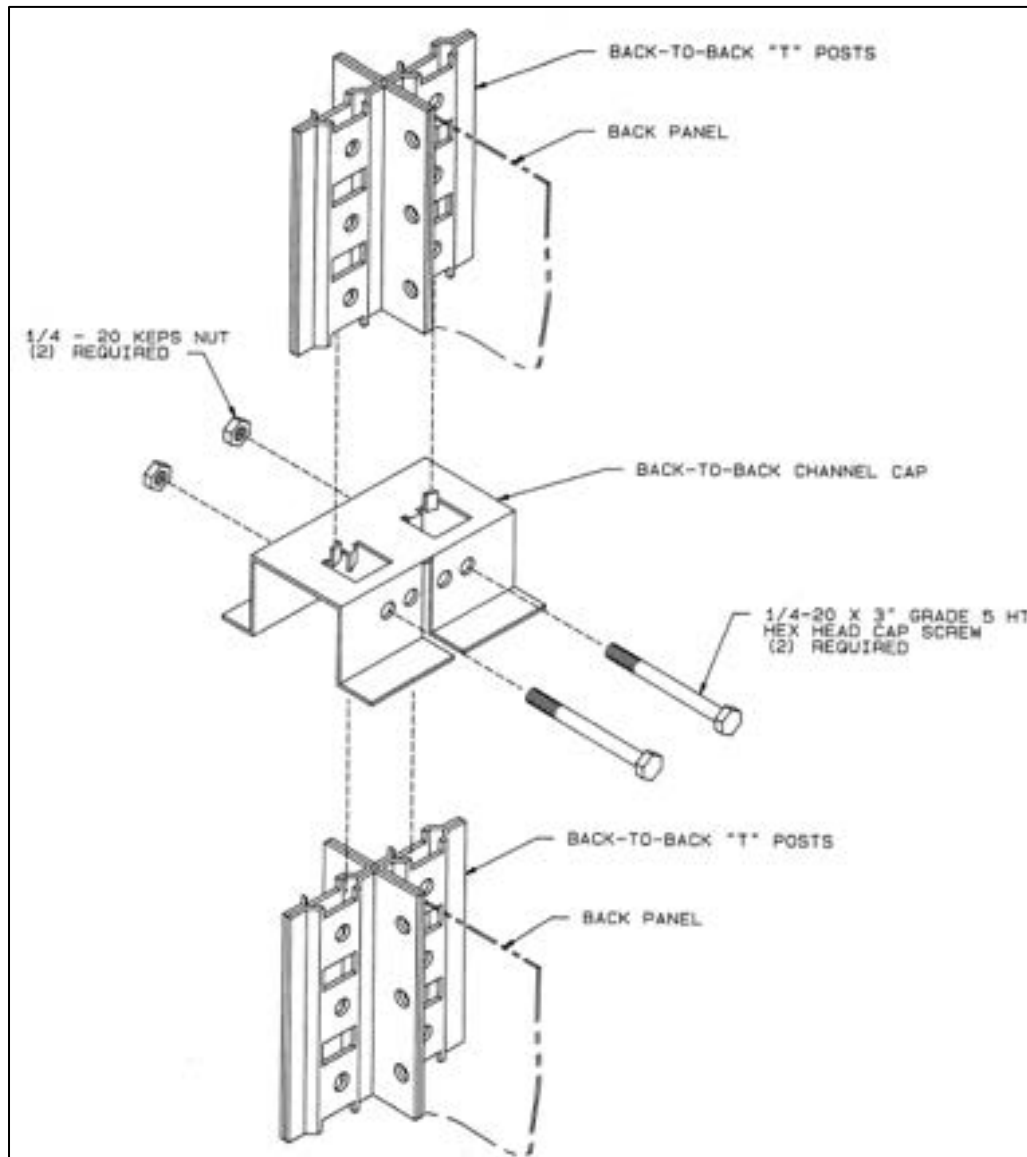
### CAP MEZZANINE SYSTEM ANGLE "T" POST – SINGLE FACE BACK CAP ASSEMBLY



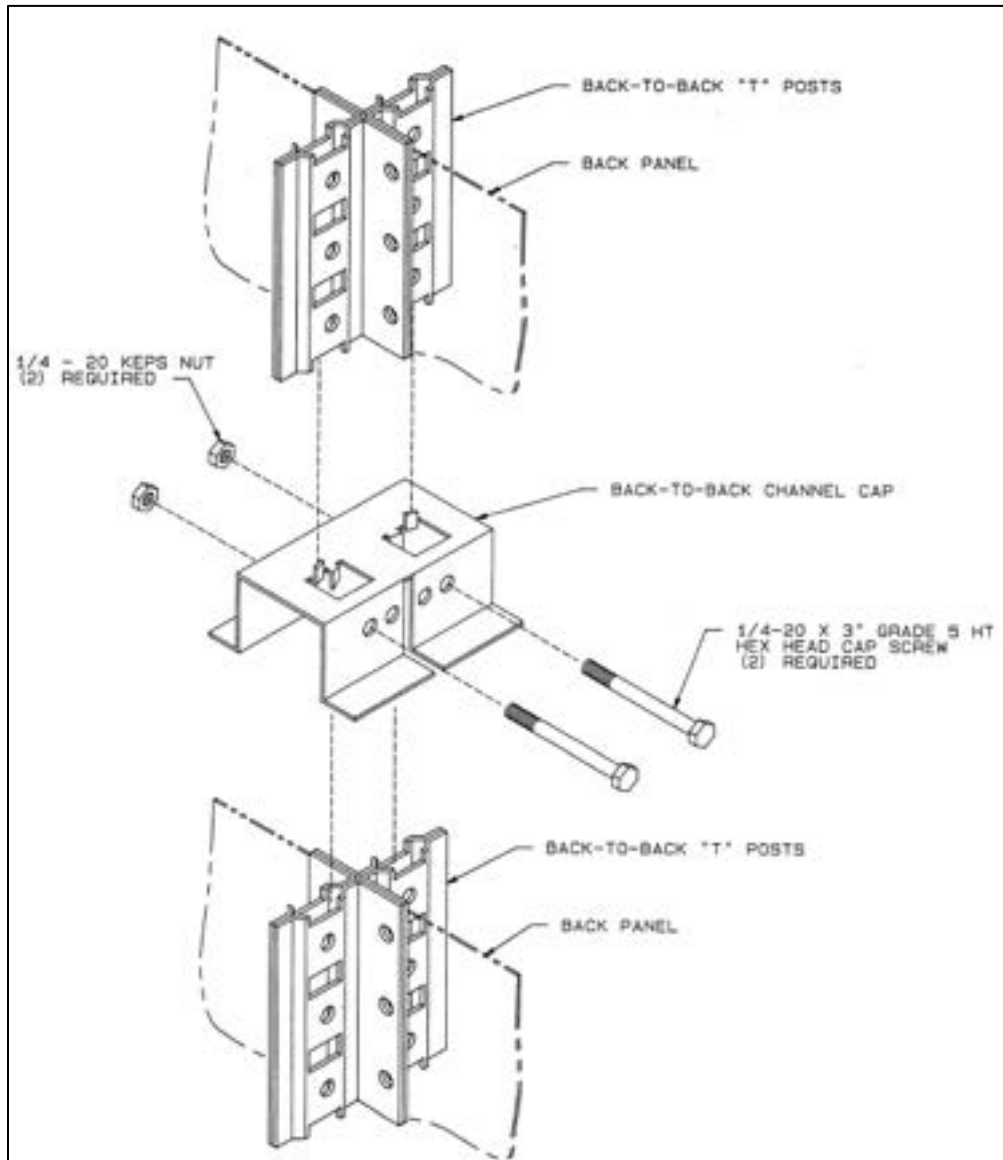
### CAP MEZZANINE SYSTEM ANGLE POST – BACK-TO-BACK CAP ASSEMBLY



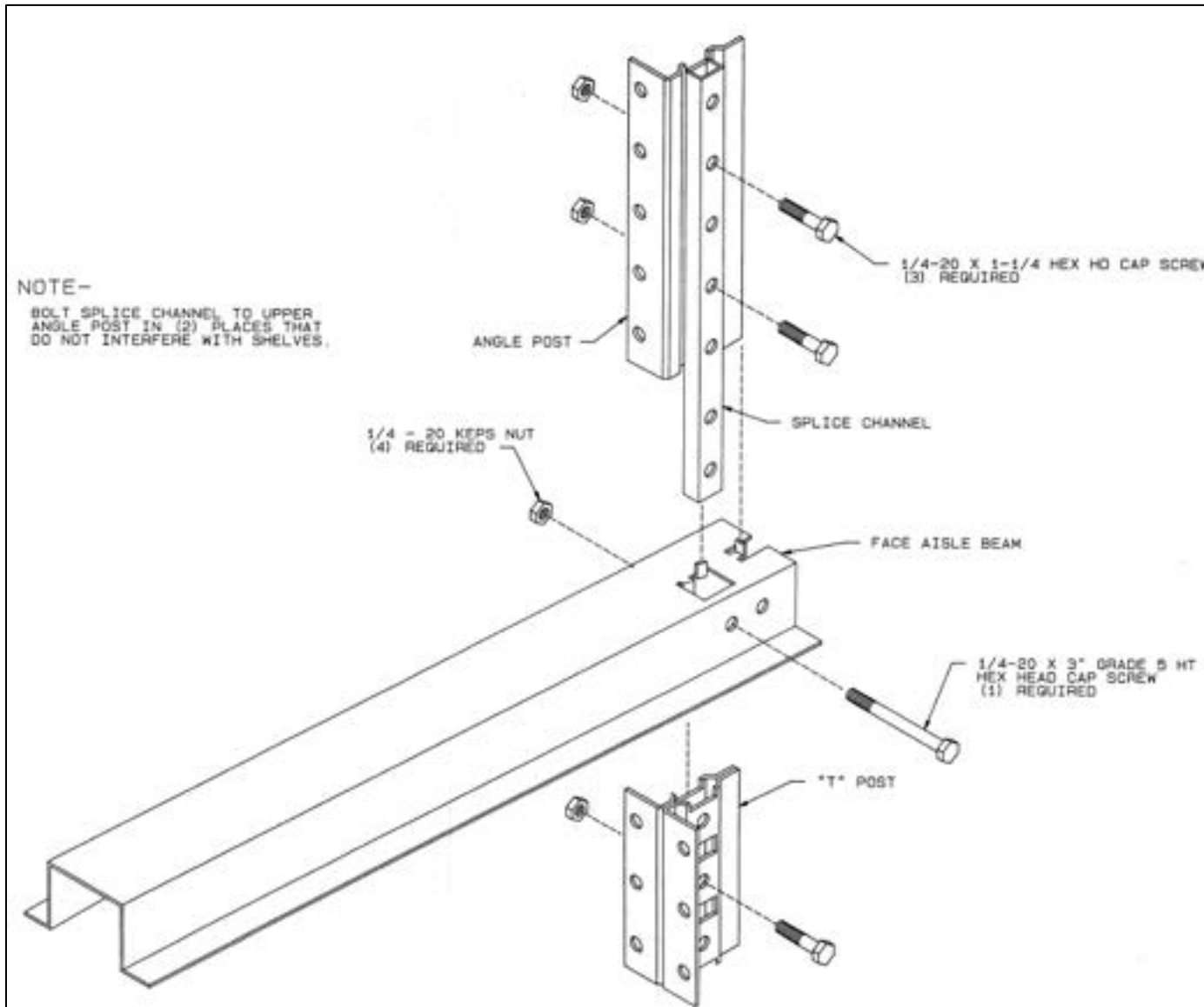
### CAP MEZZANINE SYSTEM BACK-TO-BACK CAP ASSEMBLY W/BACK PANELS (ROW END)



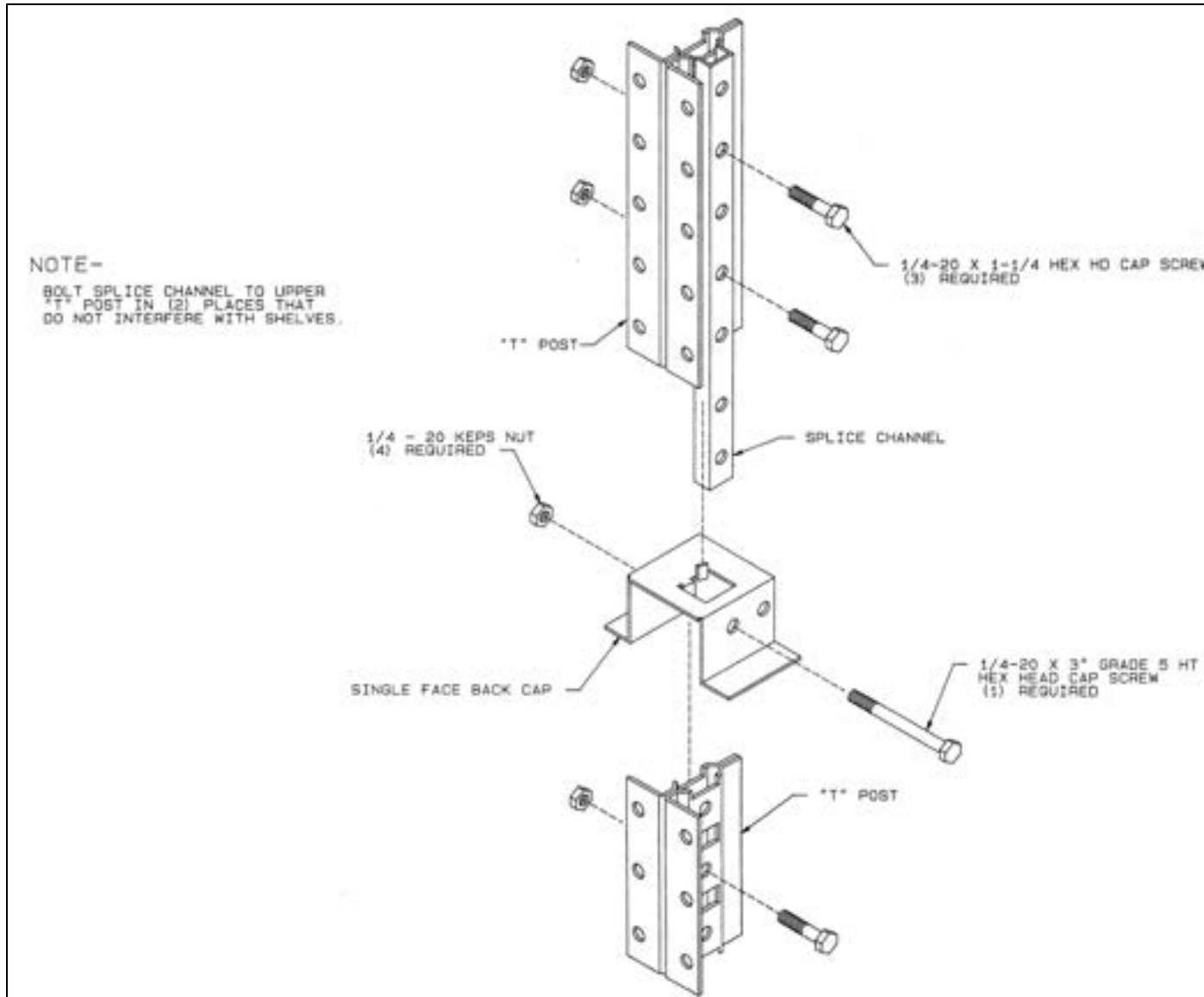
**CAP MEZZANINE SYSTEM BACK-TO-BACK CAP ASSEMBLY W/BACK PANELS (INTERMEDIATE)**



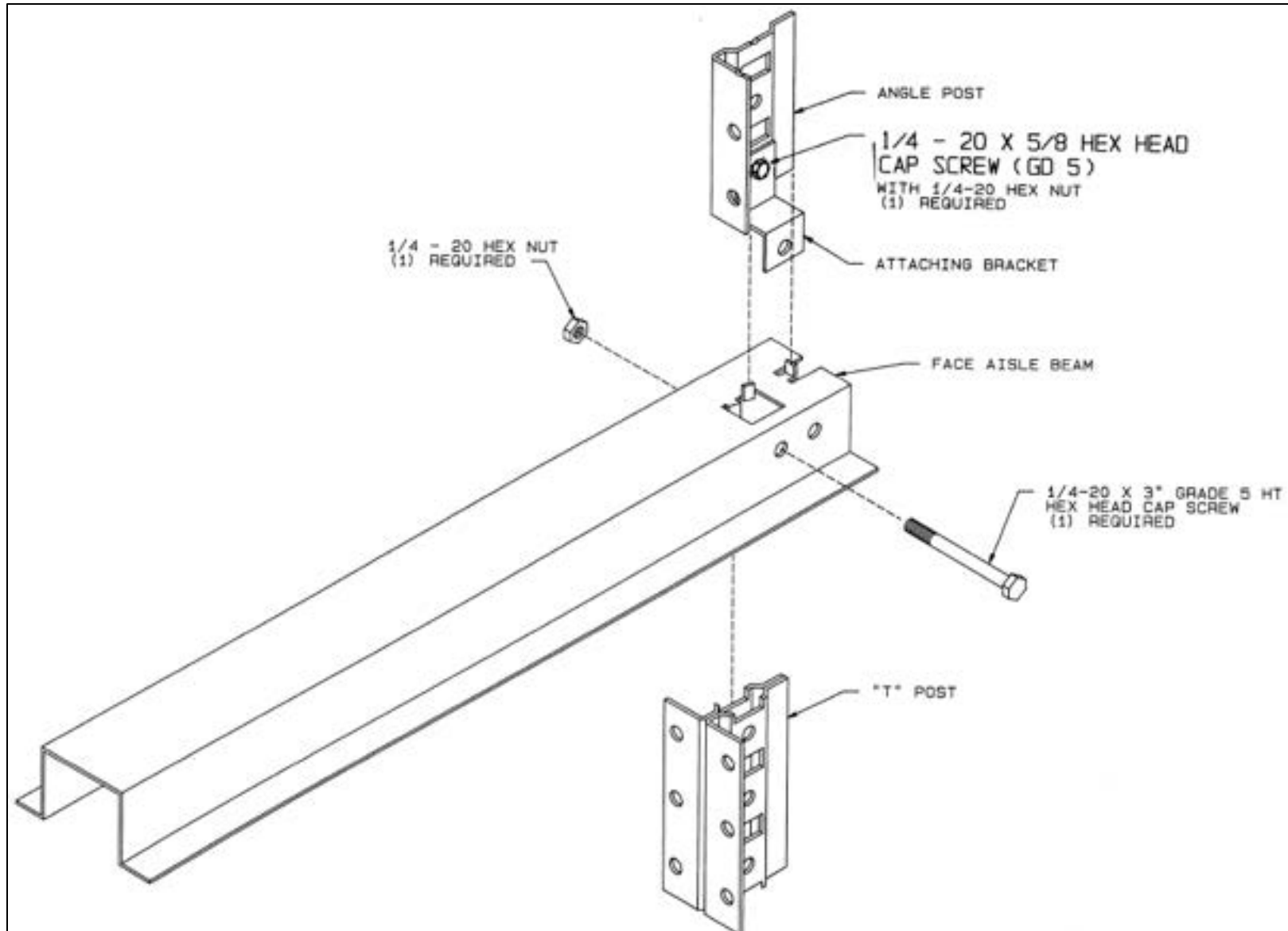
**CAP MEZZANINE SYSTEM ANGLE POST FACE AISLE BEAM ASSEMBLY W/ROW END CORNER SPLICE CHANNEL**



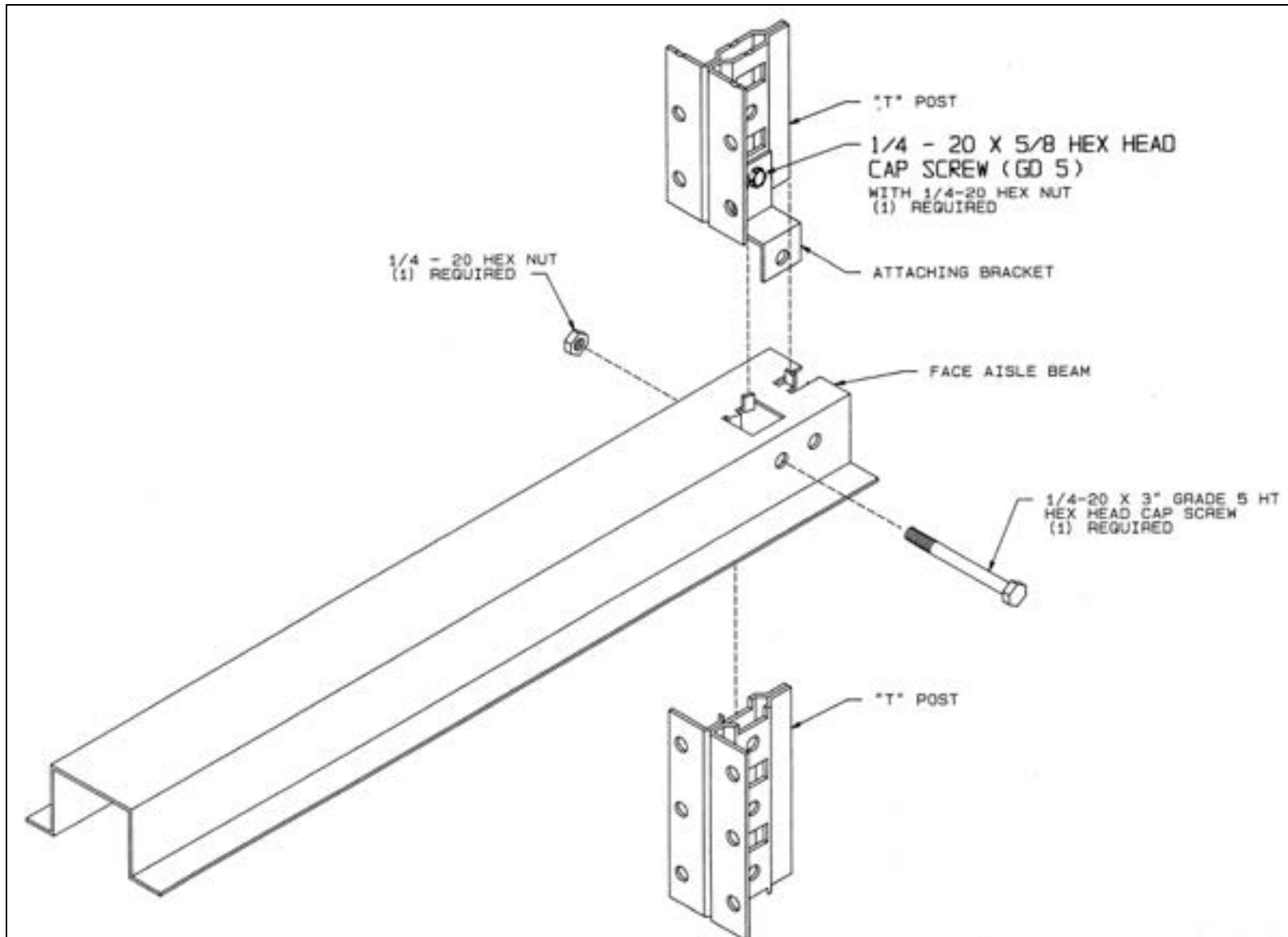
**CAP MEZZANINE SYSTEM ANGLE POST SINGLE FACE BACK CAP ASSEMBLY W/ROW END CORNER SPLICE CHANNEL**



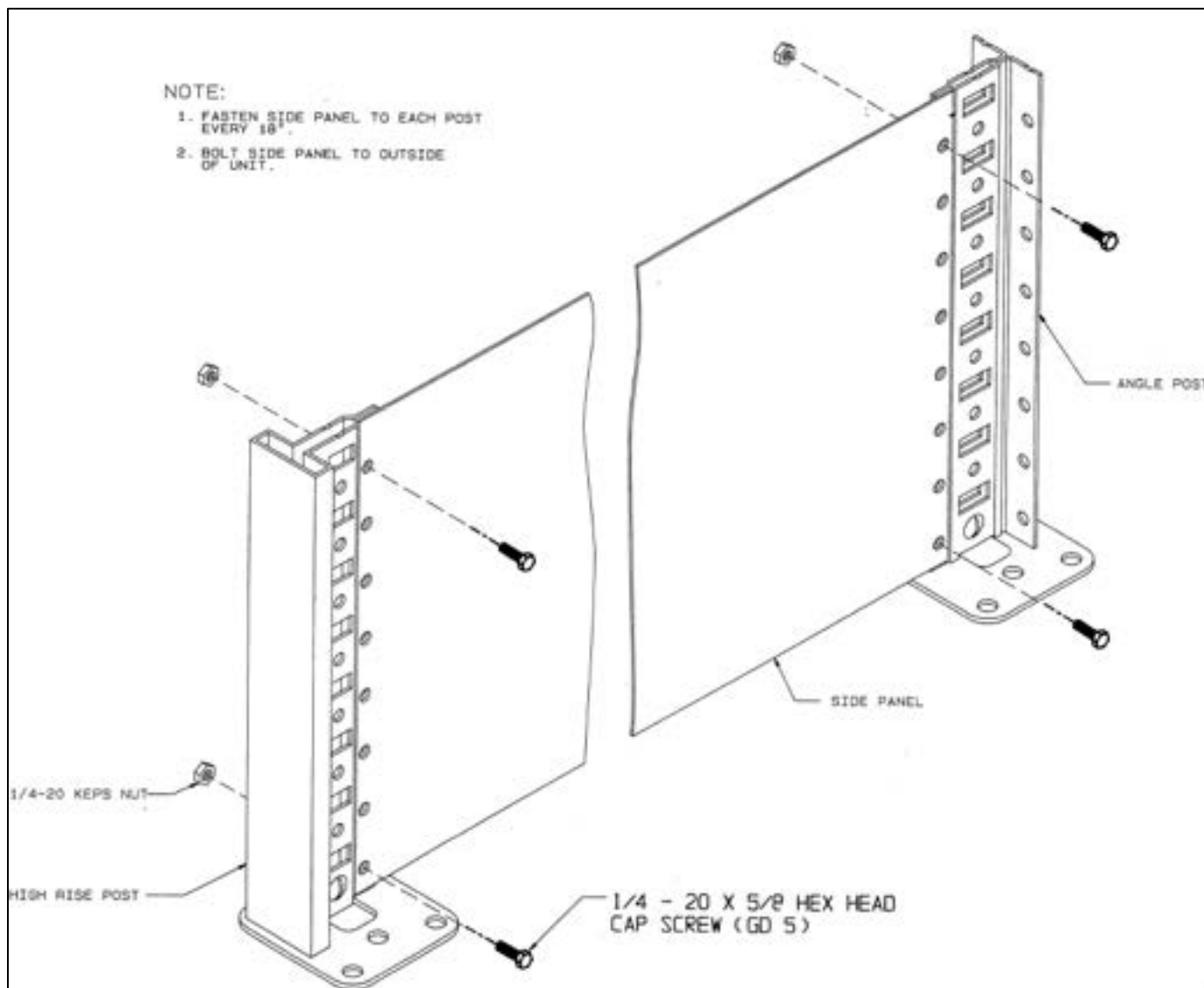
**CAP MEZZANINE SYSTEM ANGLE POST FACE AISLE BEAM ASSEMBLY W/SINGLE FACE ATTACHMENT BRACKET**



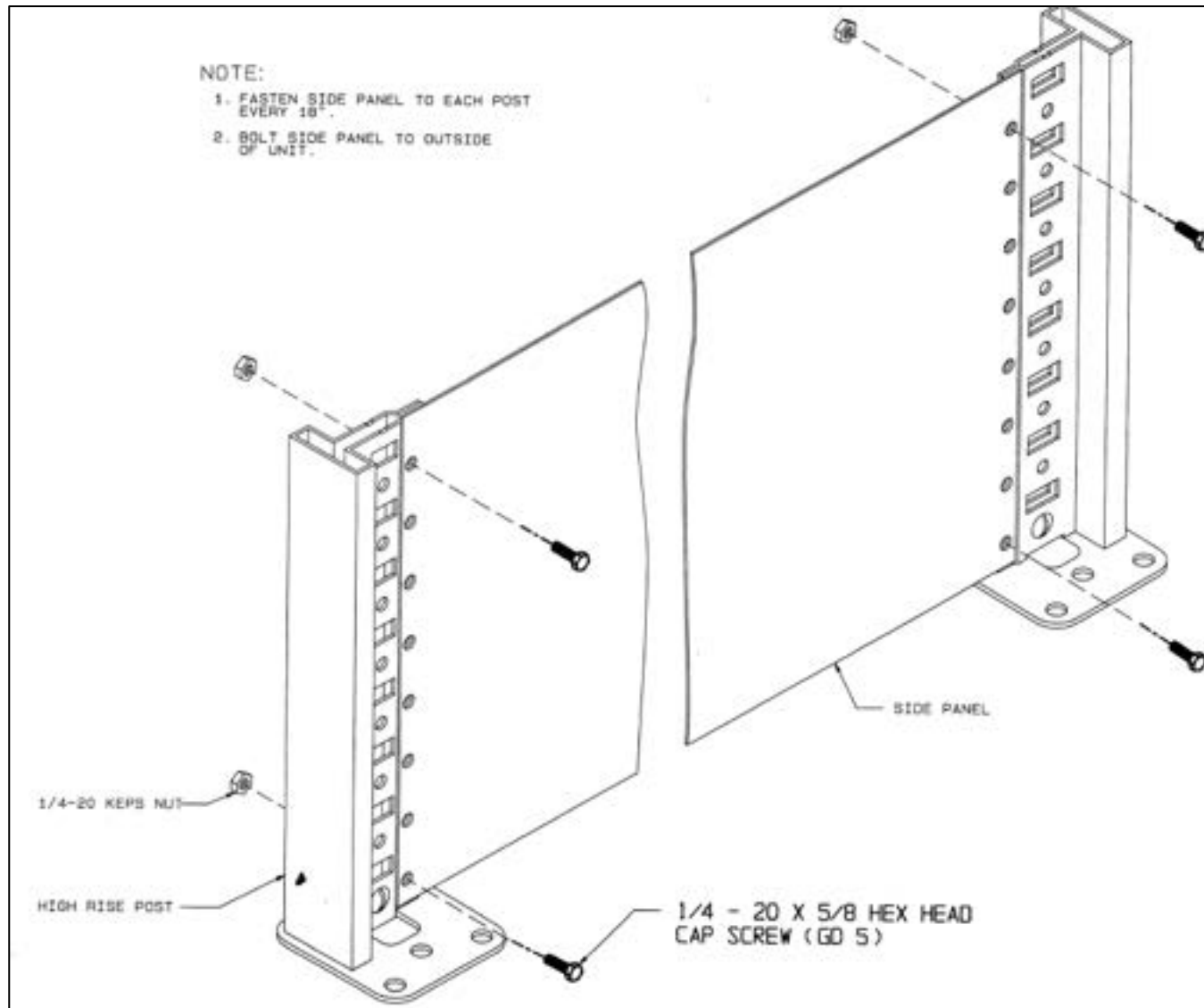
**CAP MEZZANINE SYSTEM ANGLE "T" POST FACE AISLE BEAM ASSEMBLY W/SINGLE FACE ATTACHMENT BRACKET**



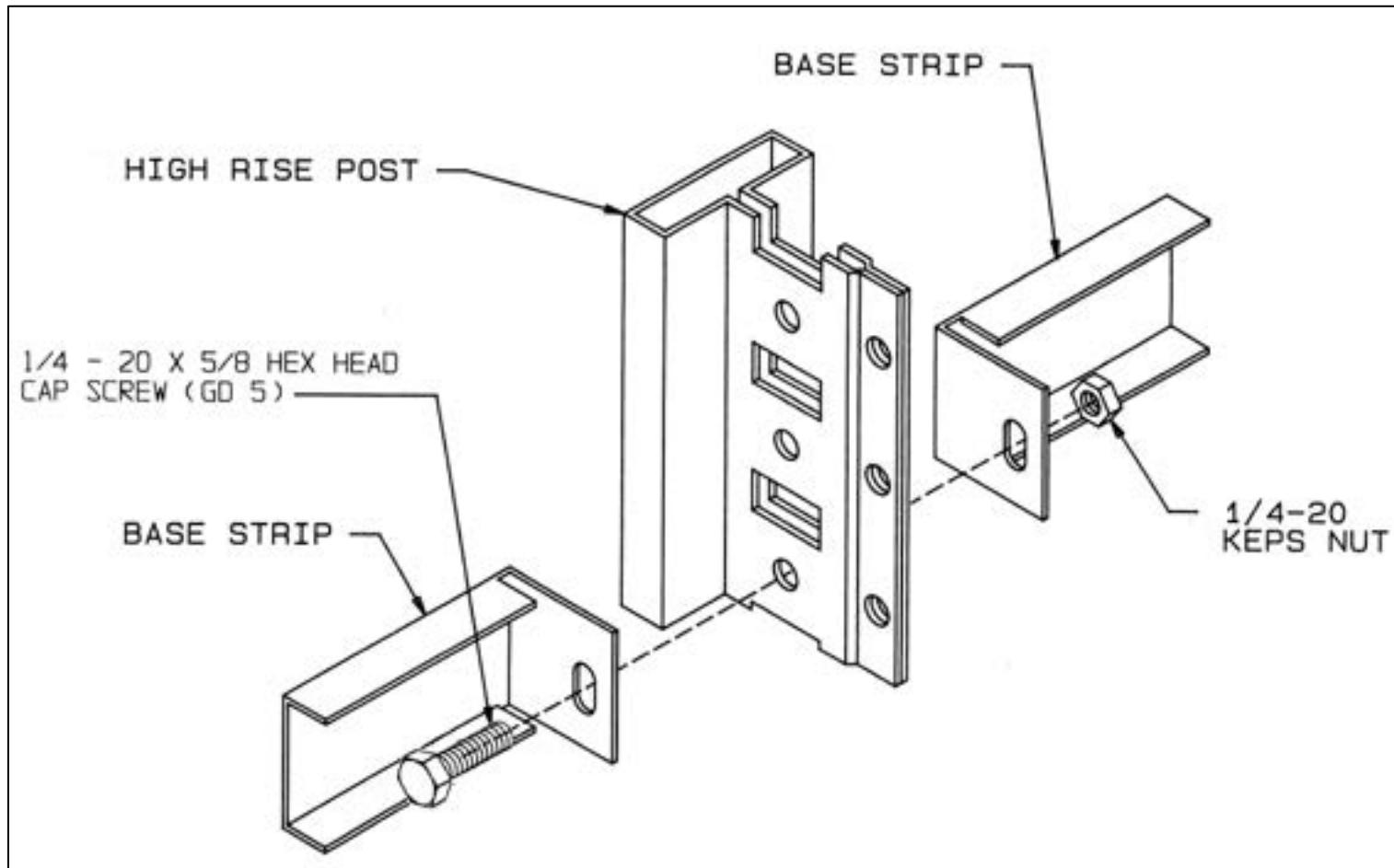
## HIGH RISE – ANGLE POST SIDE PANEL INSTALLATION



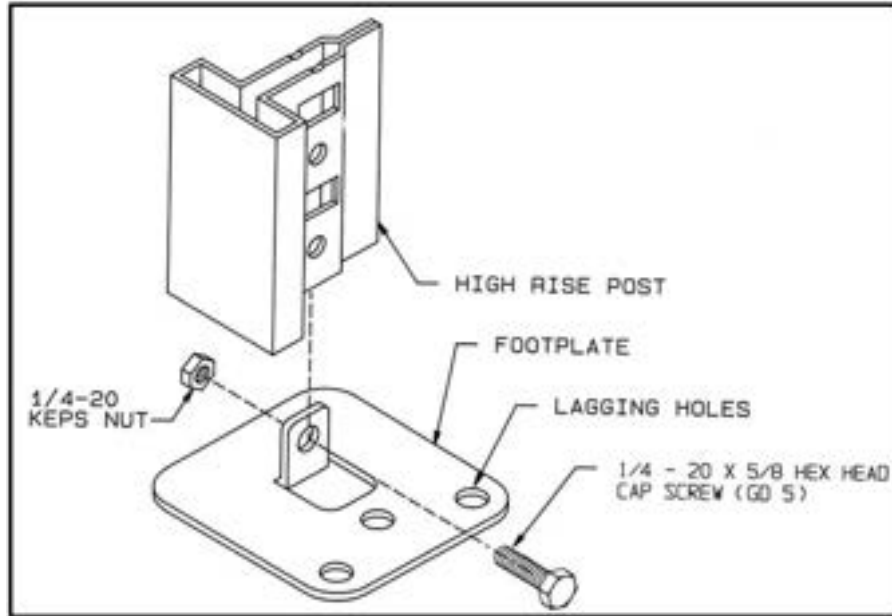
## HIGH RISE POST SIDE PANEL INSTALLATION



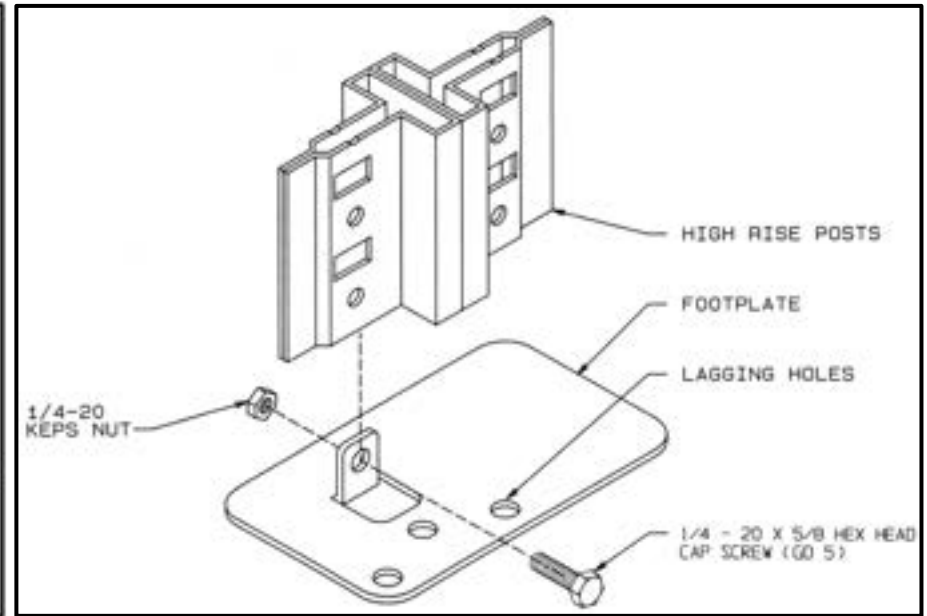
**HIGH RISE POST W/BASE STRIP**



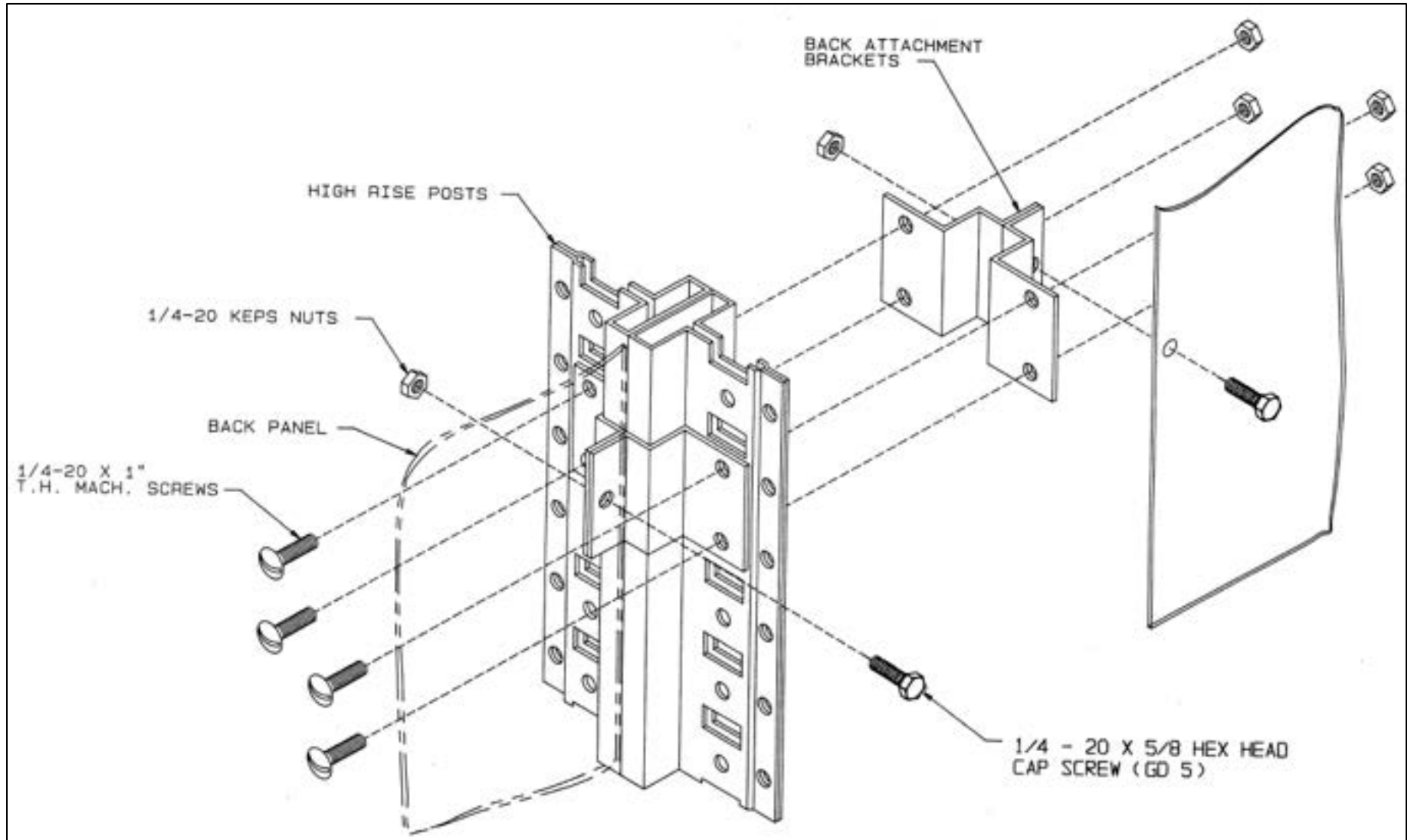
**HIGH RISE POST W/FOOTPLATE**



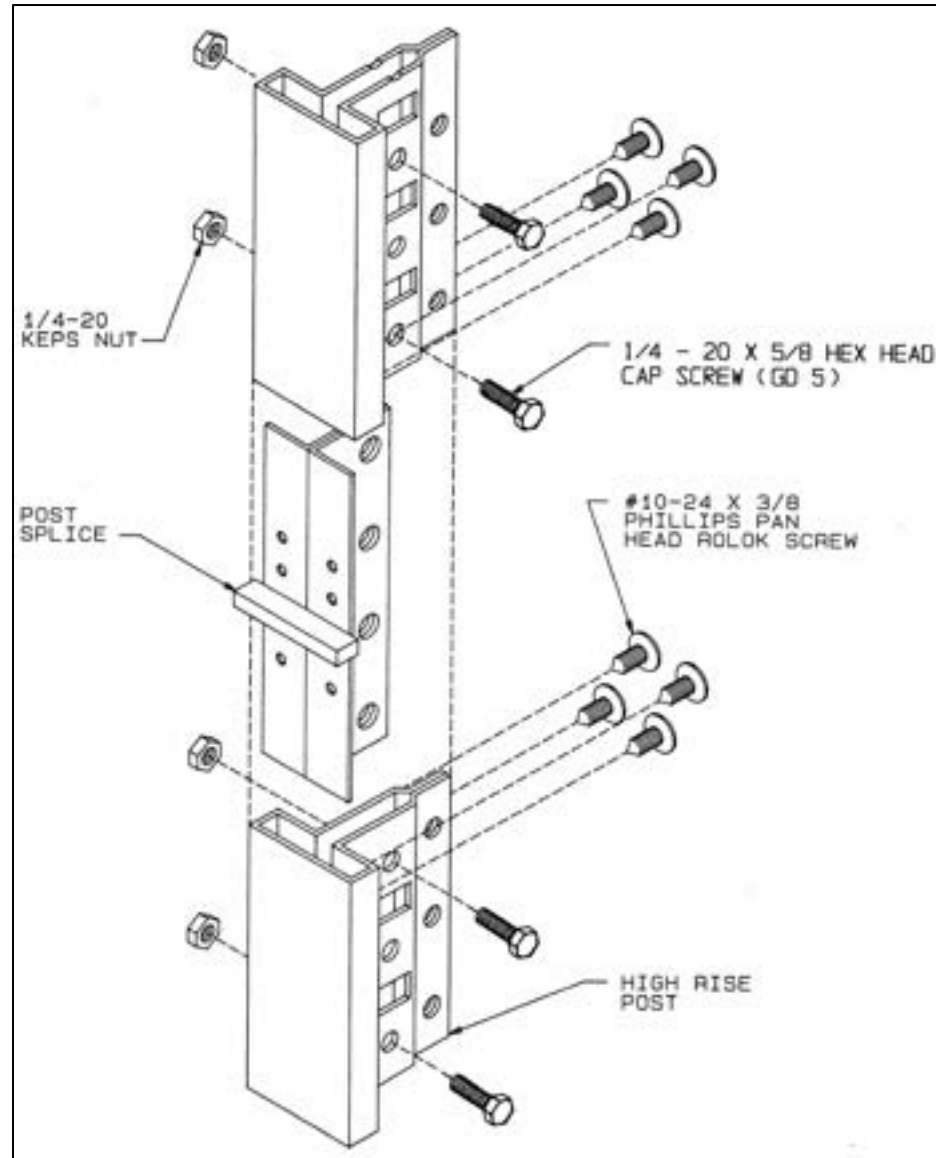
**HIGH RISE POST W/FOOTPLATE – BACK-TO-BACK**



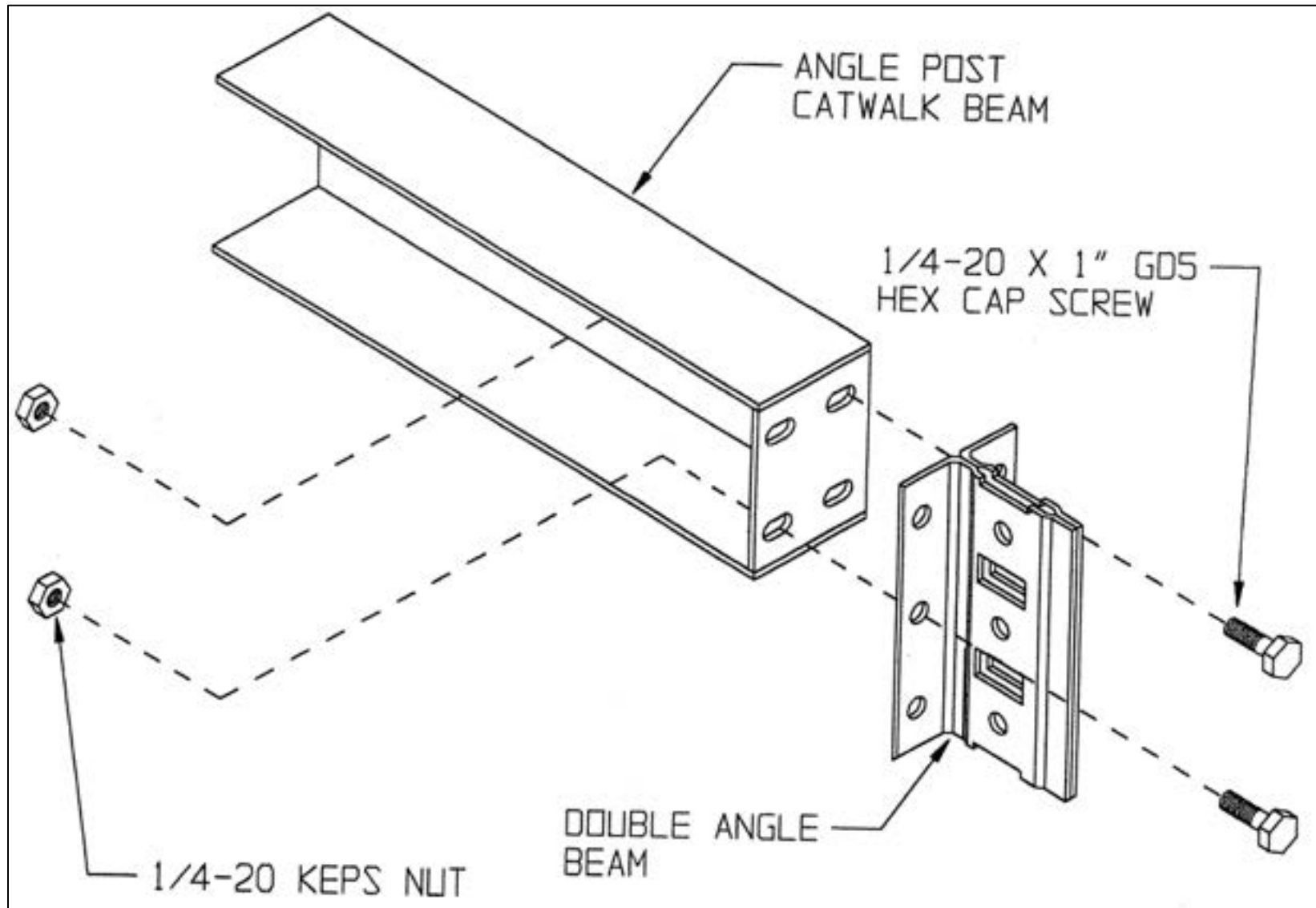
**HIGH RISE POST W/BACK ATTACHMENT BRACKETS**



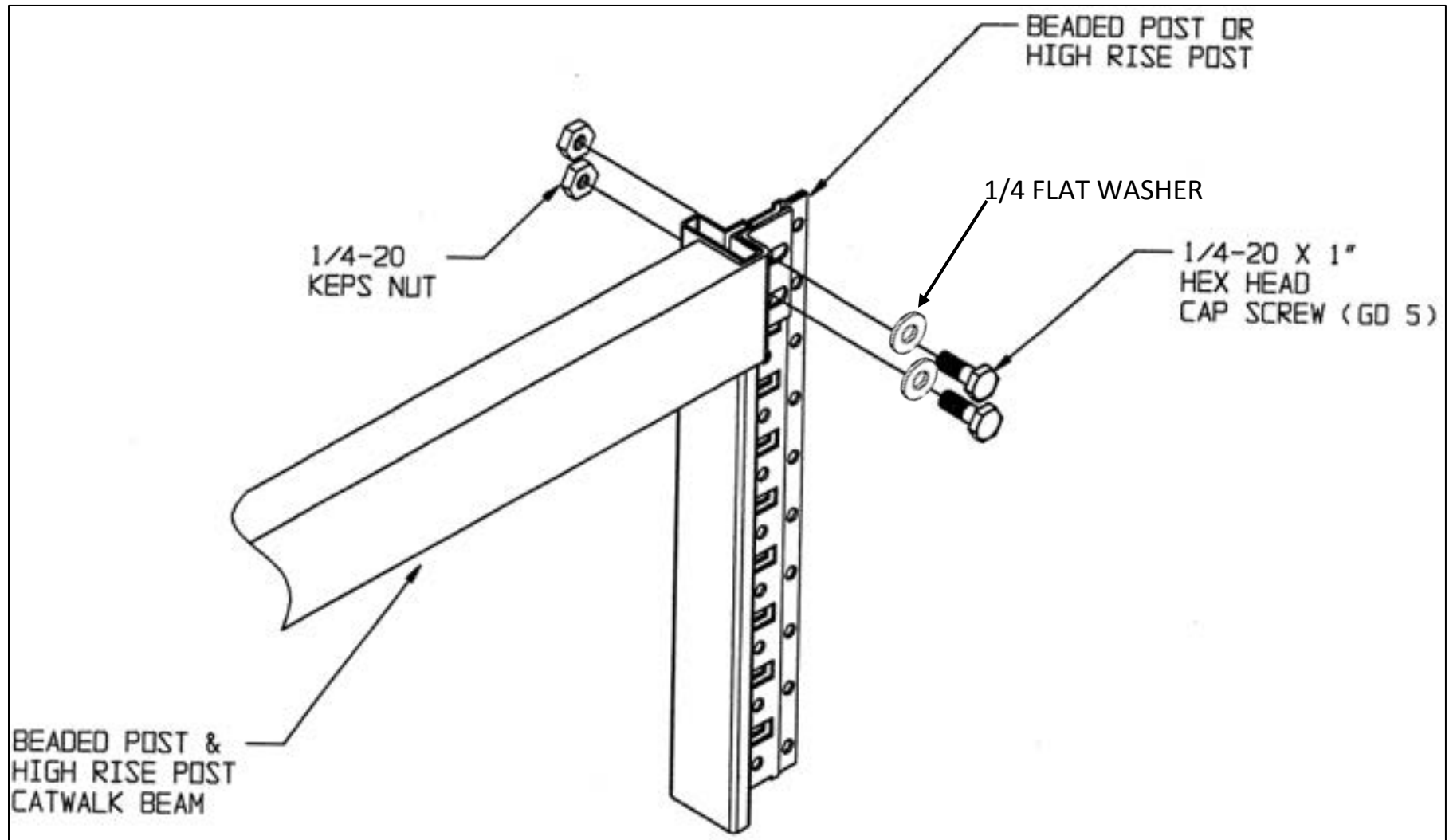
**HIGH RISE POST W/SPLICER KIT**



CATWALK BEAM – ANGLE POST



CATWALK BEAM – BEADED POST





## HARDWARE REQUIREMENTS

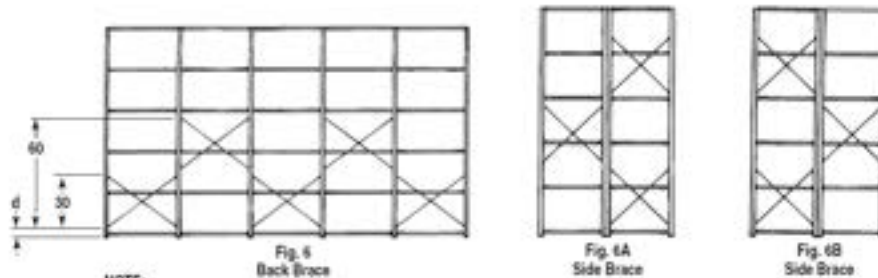
| Part Name                    | Hardware Included   | Pieces Req'd.         | Part Name                | Hardware Included   | Pieces Req'd. | Part Name                        | Hardware Included                                  | Pieces Req'd. |
|------------------------------|---|-----------------------|--------------------------|---|---------------|---------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



## HARDWARE REQUIREMENTS CON'T

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

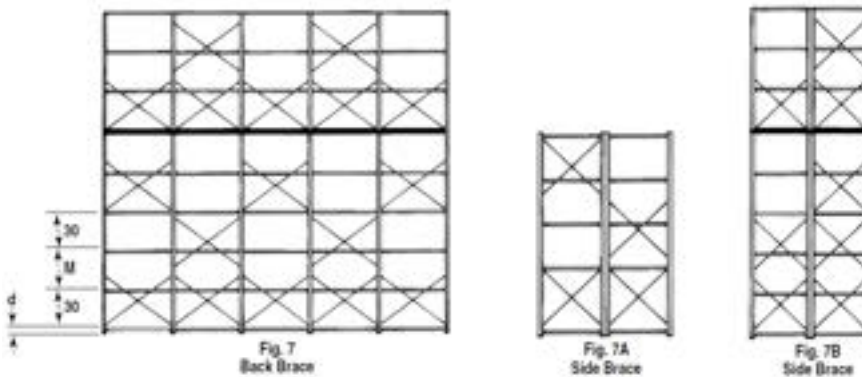
## For Units Over 99 Inches High



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.



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" - 5.0")

### 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.

This warranty does not apply to any product which has been subject to misuse, negligence, or accident; has been damaged in shipment, storage, or installation; has been misapplied or has been modified or repaired by unauthorized persons or been repaired with non-standard Borroughs replacement parts. This warranty specifically excludes claims for indirect, incidental, or consequential damages arising in any way from a product defect. This warranty is exclusive, and exists in lieu of all other warranties, either expressed or implied.

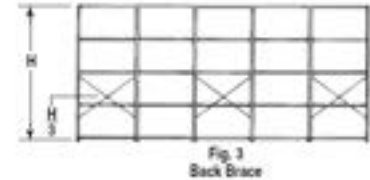
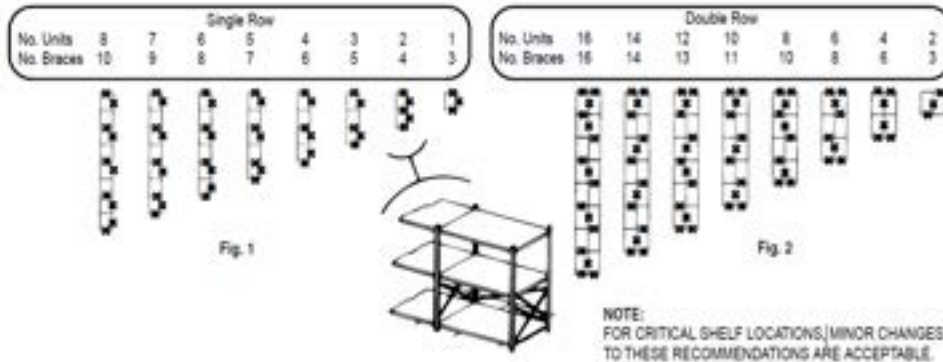
This warranty gives you specific legal rights; you may also have other rights which may vary from state to state.

Contact your Borroughs Selling Dealer, to obtain warranty service. You must make a written claim. Provide a copy of your purchase record and a written description of the warranty problem with your claim.

If you are unable to contact your Dealer, contact:  
**Borroughs Corporation, Customer Service Manager**  
**3002 N. Burdick St., Kalamazoo, MI 49004-3483.**  
**Phone: 1-800-748-0227**

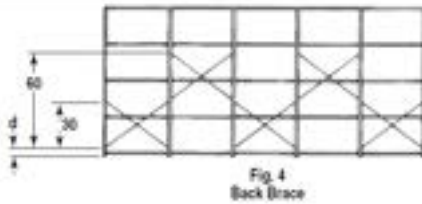
## SWAY BRACING RECOMMENDATIONS

### For Units 99 Inches High and Less



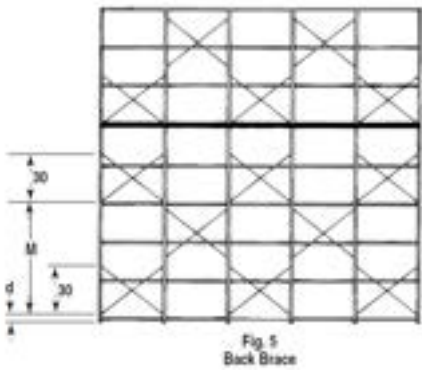
#### Light Loading

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.



#### 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.



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.