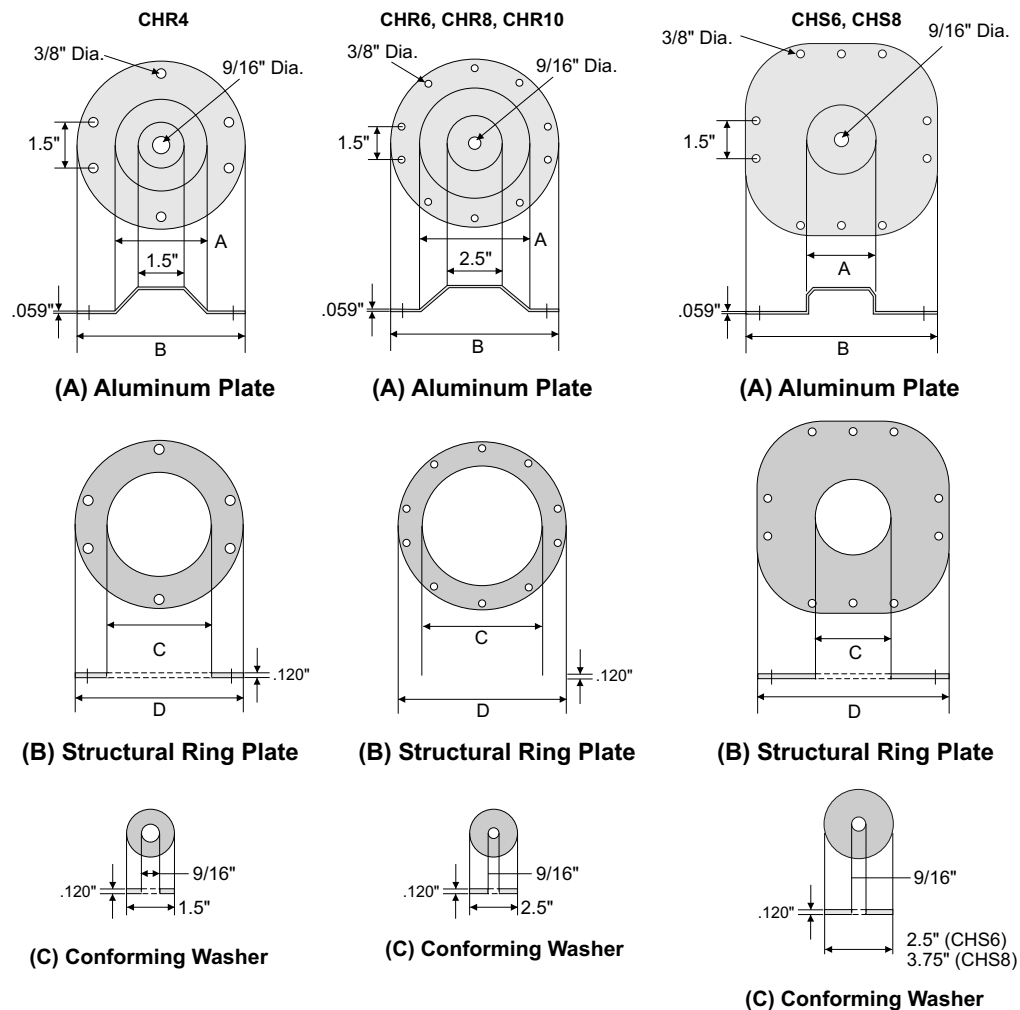
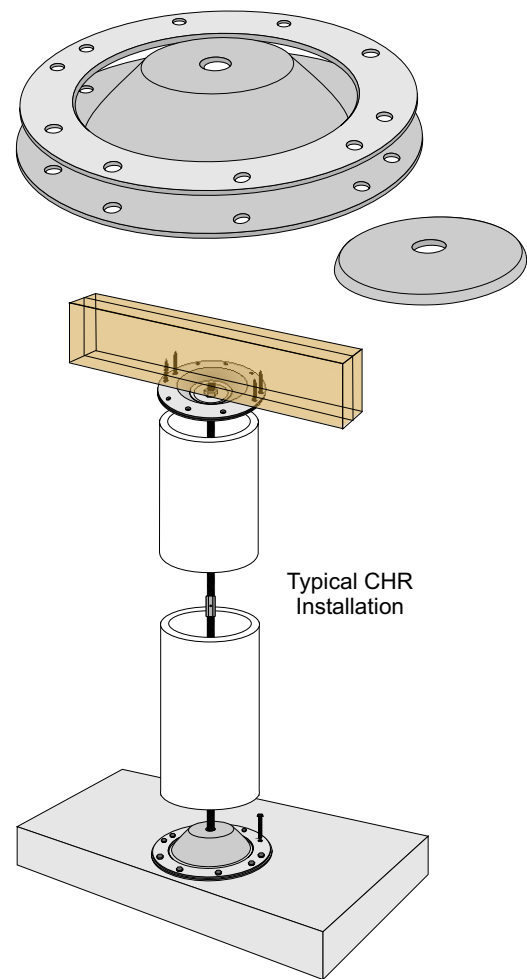
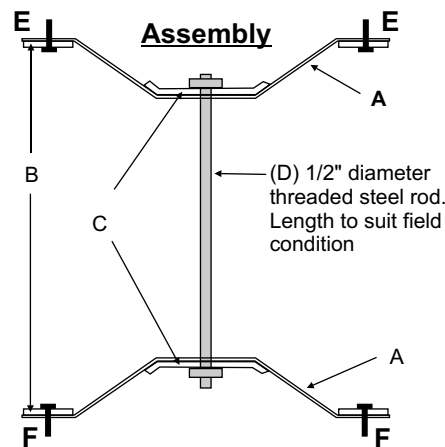
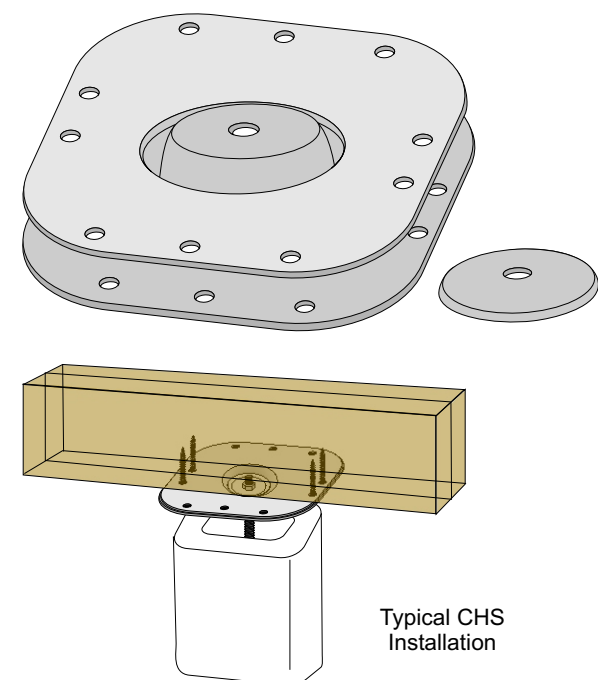


**CHR Series  
for Round Columns**



**CHS Series  
for Square Columns**



**DESIGN FEATURES:** CHR and CHS are designed to resist uplift loads at roof overhangs and/or floor loads and transfer them to concrete foundations thru 1/2" diameter threaded steel rod acting as a tension transfer device.

**MATERIAL:**  
 Aluminum Plate t = 0.059" - 5052-0 Alloy  
 Structural Ring Plate t = 0.120" - A 653 grade 50  
 Conforming Washer t = 0.120"  
 1/2" Steel Rod - A36 & A588

(E) SDS 1/4" X 3" Wood screws by KC Metals or equivalent for Assembly 1  
 (F) 1/4" Tapcon Concrete anchor, 1-3/4" Concrete embedment

ITEM ID	COLUMN SIZE	ALUMINUM PLATE			STEEL RING PLATE			ALLOWABLE LOADS (LBS)		
		A	B	THKS	C	D	THKS	ASSEMBLY #1	ASSEMBLY #2	
									A36 1/2" ROD	A588 1/2" ROD
CHR4	4"	3"	5.5"	.059"	3.25"	5.25"	.120"	3750	3750	4530
CHR6	6"	5"	7.625"	.059"	5.25"	7.375"	.120"	3130	3750	4530
CHR8	8"	6.625"	9"	.059"	6.75"	9"	.120"	2310	3750	4530
CHR10	10"	8"	11.5"	.059"	9"	11.25"	.120"	1730	3750	4530
CHS6	6"	2.75"	7.5"	.059"	3"	7.5"	.120"	3130	3750	4530
CHS8	8"	4"	9"	.059"	4.25"	9"	.120"	2310	3750	4530

**Structural Notes:**

- 4", 6", 8" and 10" diameter Column Holdowns are used to resist uplift loads at roof overhangs and transfer them to concrete foundations thru a 1/2" diameter threaded steel rod acting as a tension transfer device.
- For Assembly # 1 the uplift capacity of 4" diameter column holdown is 3750 lbs, of 6" diameter is 3130 lbs, of 8" diameter is 2310 lbs and of 10" diameter column head is 1730 lbs. This capacity is based on tested loads at failure divided by a factor of safety of two. Refer to test reports by PSI Inc. Houston, Texas.
- For assembly # 2, uplift capacity of all sizes 4", 6", 8" and 10" diameter column holdown is 3750 lbs with 1/2" diameter A36 steel rod and 4530 lbs with A588 steel rod. For this assembly, tension capacity of 1/2" rod controls the design and not the tested failure loads divided by two. Refer to test reports by PSI Inc. Houston, Texas.
- Based on tests per ASTM A 370 conducted by PSI inc. Houston, tensile and yield strengths of steel plate designated "B" are 60,100 psi and 48700 psi respectively. ASTM a 653 grade 50 steel conforms to these strengths. Aluminum plate designated "A" conforms to Aluminum Alloy 5052-0.
- 1/2" diameter steel threaded rod shall conform to ASTM A 36 for Assembly # 1 and to A36 or A588 for assembly # 2
- Provide Steel Washer Plate designated "C" at each end of the rod. Steel rod shall be sufficiently tightened to transfer load from top to bottom.
- The upper Aluminum plate "A" and Steel Ring plate "B" are anchored to wood framed structural members of the roof overhang with SDS 1/4" diameter X 3" wood screws for Assembly # 1. For Assembly #2, provide 2 1/2" X 2 1/2" X 1/4" steel washers at the top of wood joists.
- For both assemblies, provide 1/4" diameter machine bolts D thru unused holes to connect Aluminum plate A to Ring plate B
- The lower Aluminum Plate "A" and Steel ring plate "B" are anchored to concrete foundations at all holes with 1/4" diameter Tapcon concrete anchors with 1 3/4" concrete embedment into min. 3000 psi concrete.
- Proprietary Precast Columns wrapping the the aluminum and steel plates are used to resist gravity loads.
- Engineer of Record shall design the roof overhangs and concrete foundations.



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**COLUMN HOLDOWN US PATENT #6,973,755**

DWG #:

**TM-2**

Sheet:

**1 of 2**

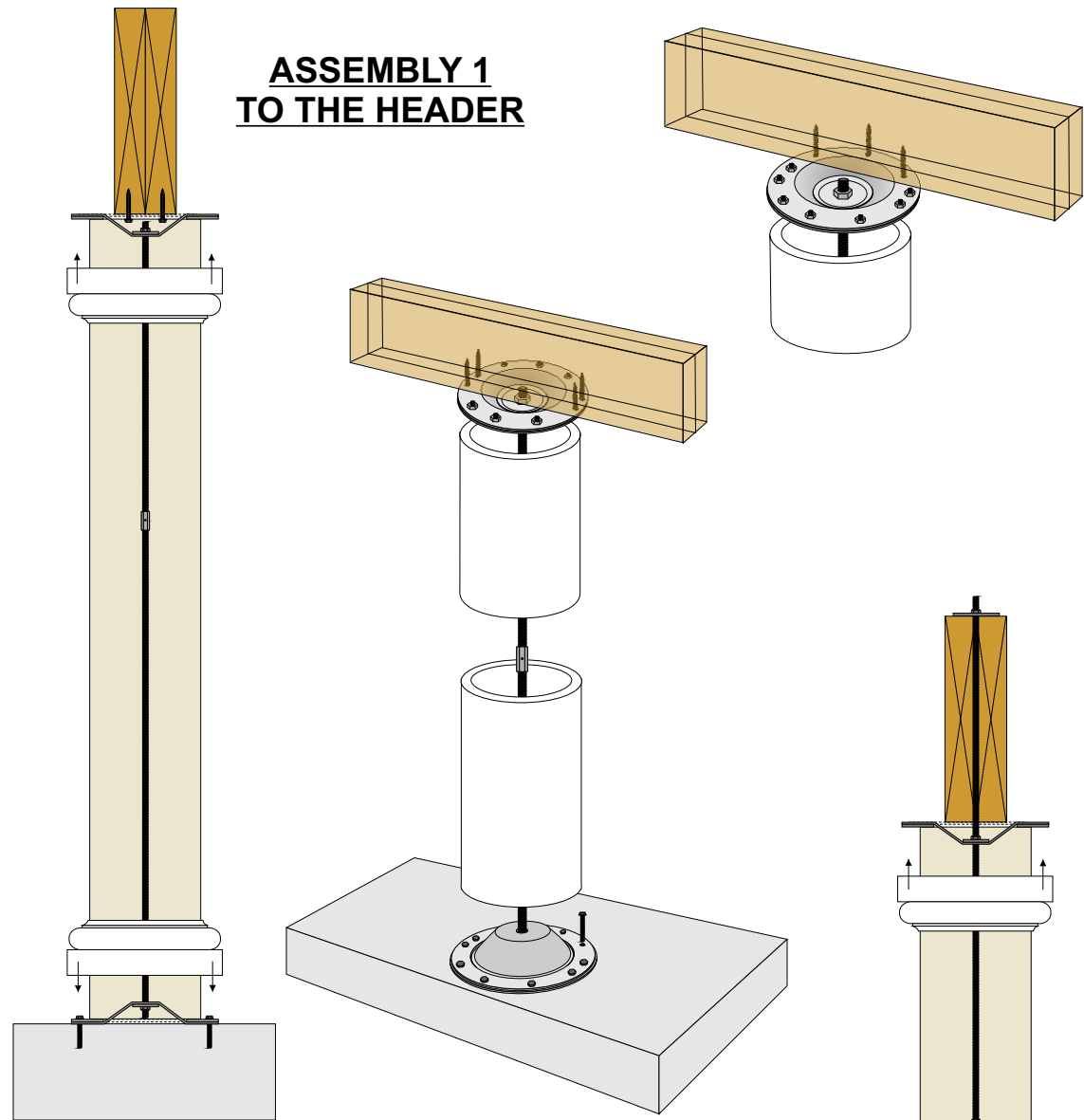
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**4/24/09**

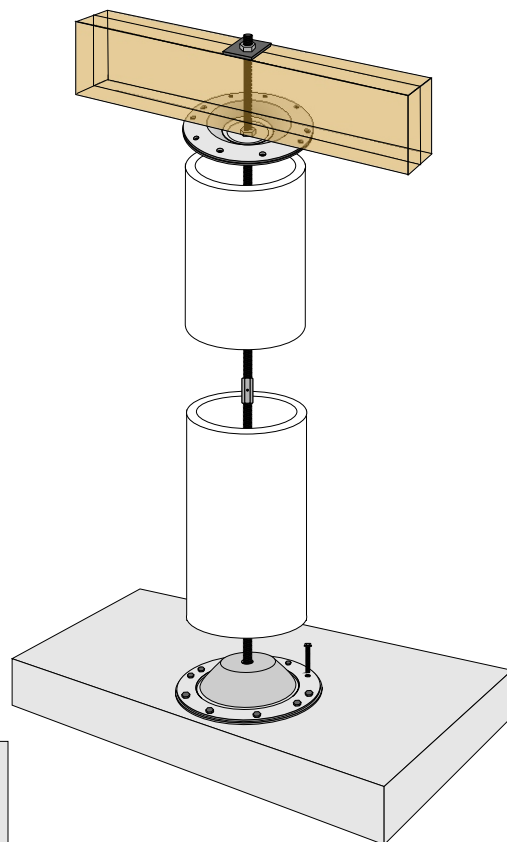
Revisions:

**R1**

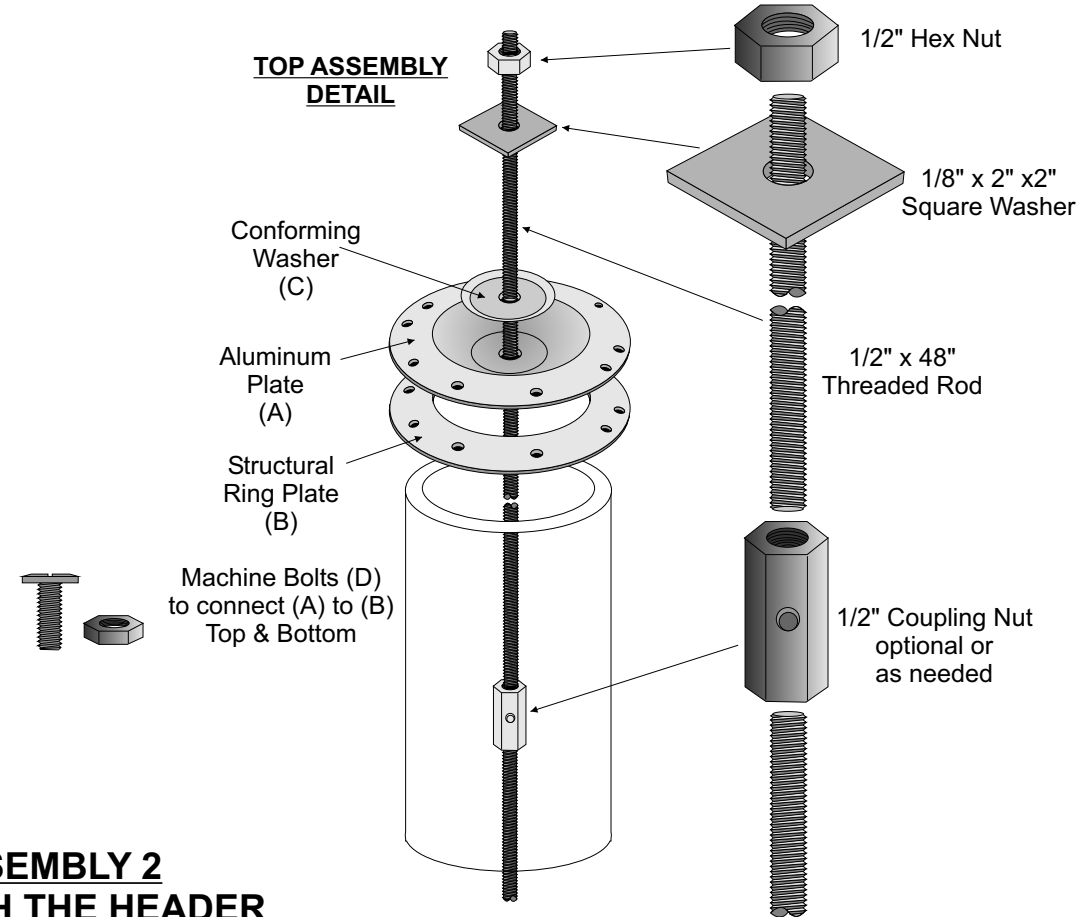
**ASSEMBLY 1  
TO THE HEADER**



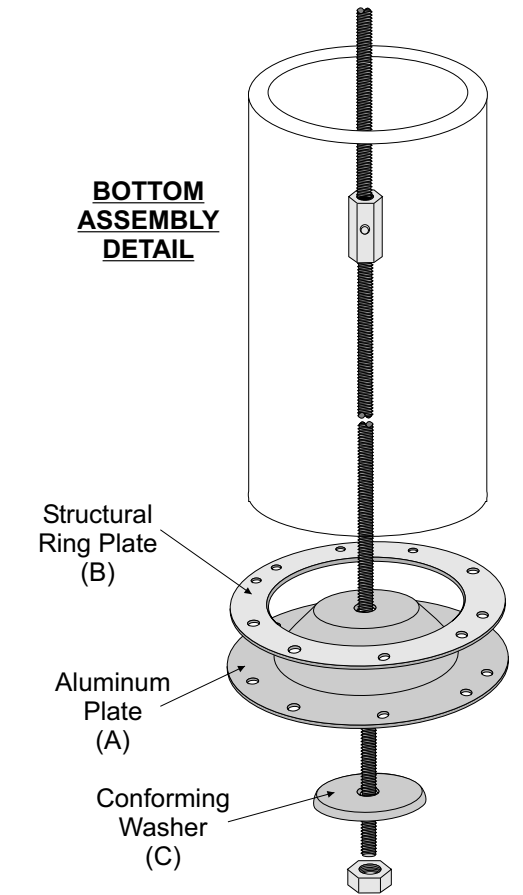
**ASSEMBLY 2  
THROUGH THE HEADER**



**TOP ASSEMBLY  
DETAIL**



**BOTTOM  
ASSEMBLY  
DETAIL**



**ASSEMBLY 1**

- 2 sets of column holddown (top and bottom)
- 3 pieces of 48" x 1/2" threaded steel rod
- 2 coupling nuts
- 1 2" x 2" square plate washer with 9/16" hole
- 2 hex nuts

**ASSEMBLY 2**

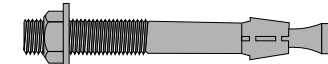
- 2 sets of column holddown (top and bottom)
- 3 pieces of 48" x 1/2" threaded steel rod
- 2 coupling nuts
- 1 2-1/2" x 2-1/2" x 1/4" square plate washer with 9/16" hole
- 3 hex nuts

**RECOMMENDED FASTENERS**

1/4" X 3" Wood screws



1/4" Tapcon concrete anchor



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DWG #:

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Sheet:

**2 of 2**

Date:

**4/24/09**

Revisions:

**R1**