



Sky-Rack Pole Mount System (12, 15, 18, 21, 24 Panels)

MECHANICAL INSTALLATION GUIDE



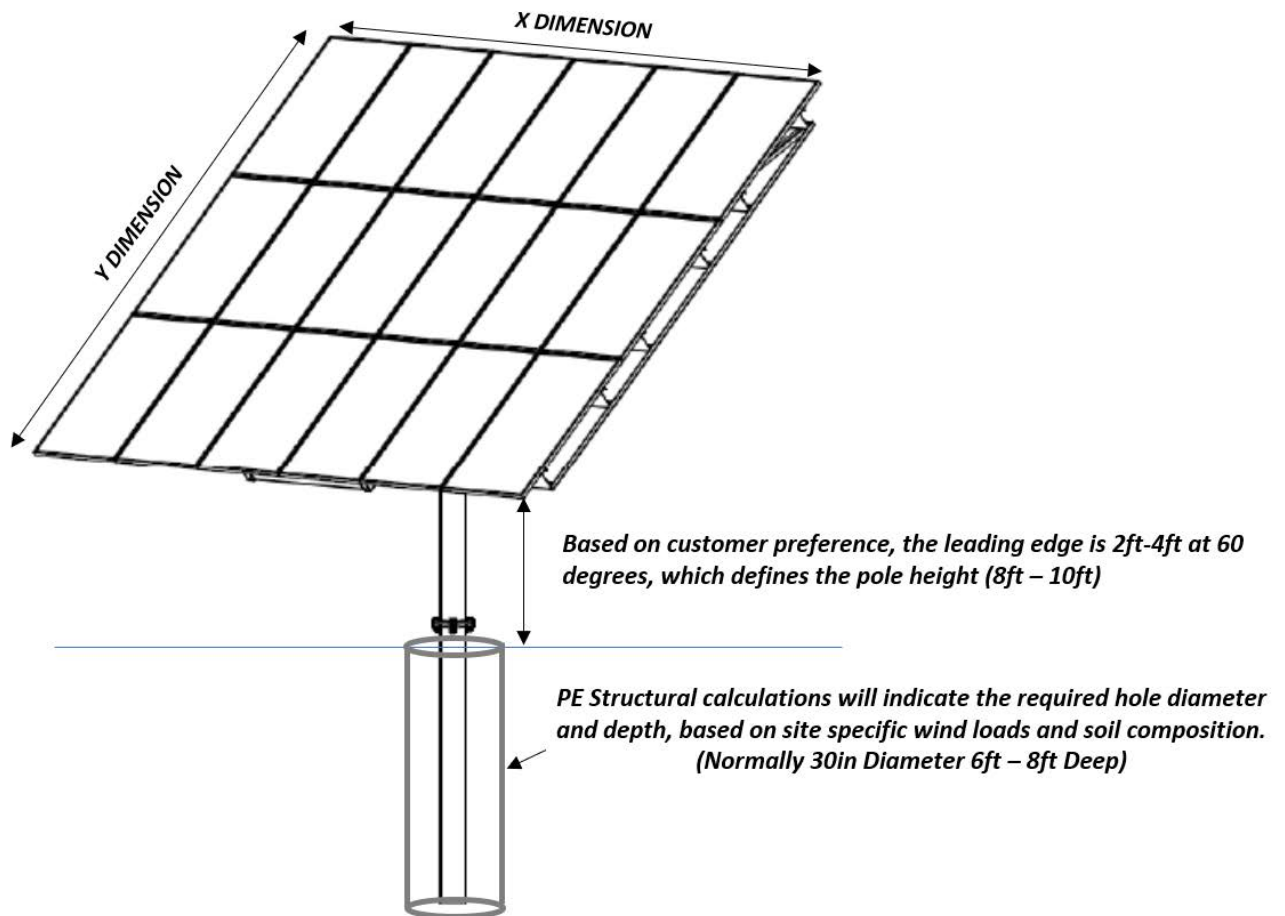
For more information contact:

Sinclair Design and Engineering
1104 Industrial Avenue
Albion, Michigan, 49224 USA
Tel: (01) 877.517.0311
www.sinclair-designs.com
info@sinclair-designs.net



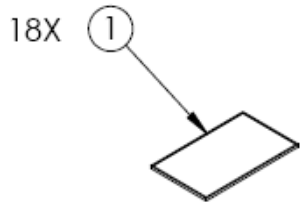
Sky-Rack Pole Mount System (12, 15, 18, 21, 24 Panels)

Dimension Overview

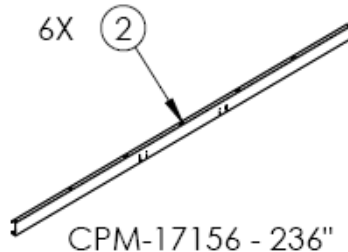


POLE MOUNT (72 CELL)	X DIMENSION - INCHES	Y DIMENSION - INCHES
12 PANEL SYSTEM	240	160
15 PANEL SYSTEM	240	200
18 PANEL SYSTEM	240	240
21 PANEL SYSTEM	240	280
24 PANEL SYSTEM	240	320

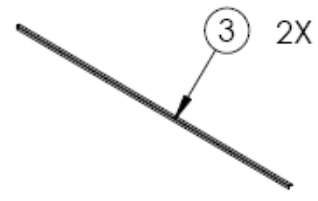
Included Parts List



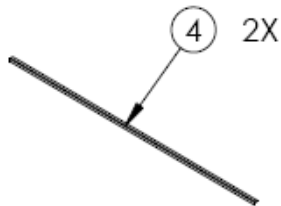
300 W 60 CELL PANEL



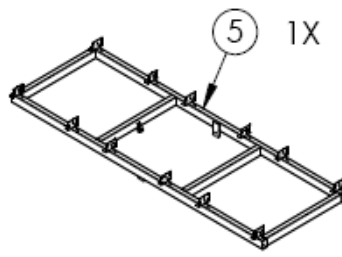
CPM-17156 - 236"



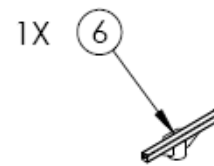
STRONG BACK 192 IN



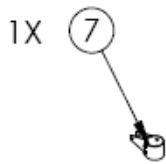
STRONG BACK 172.5 IN



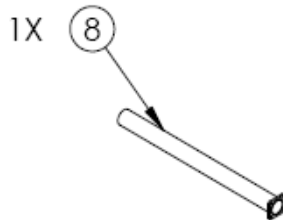
WELDMENT - H FRAME



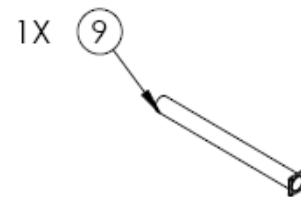
WELDMENT - MNT HEAD



WELDMENT - JACK COLLAR



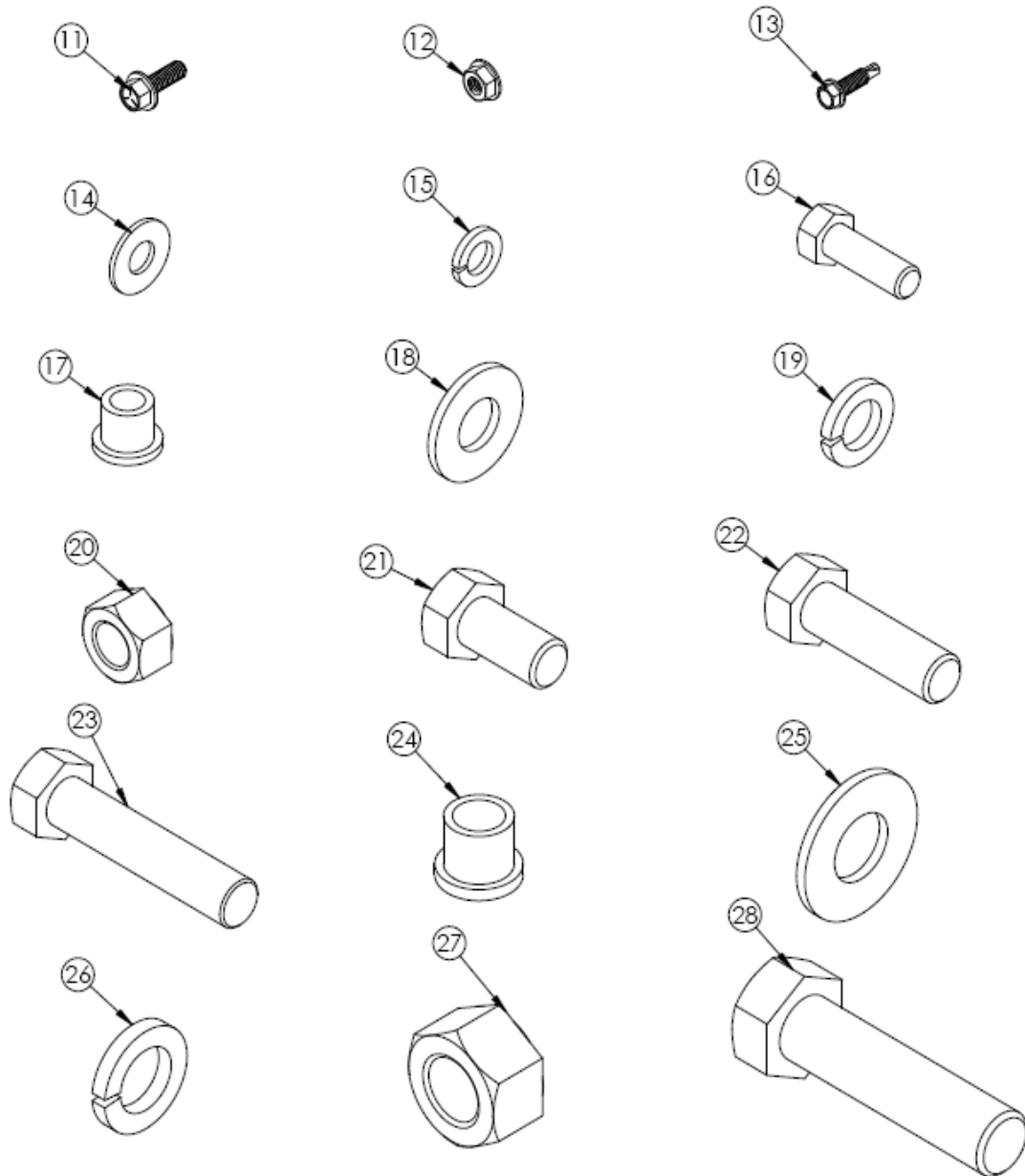
8 5/8 POST 108 IN, TOP



8 5/8 POST 96 IN, LOWER

ITEM NO.	DESCRIPTION	QTY
1	300 W 60 CELL PANEL	18
2	CPM-17156 - 236"	6
3	STRONG BACK 192 IN	2
4	STRONG BACK 172.5 IN	2
5	WELDMENT - H FRAME	1
6	WELDMENT - MNT HEAD	1
7	WELDMENT - JACK COLLAR	1
8	8 5/8 POST 108 IN, TOP	1
9	8 5/8 POST 96 IN, LOWER	1
10	26 INCH JACK	1

Included Hardware List



ITEM NO.	DESCRIPTION	QTY
11	1/4-20 X 0.75" SERRATED, FLANGED HEX HEAD BOLT	144
12	1/4-20 SERRATED FLANGED NUT	144
13	1/4-20 X .75 IN SELF TAPPING SCREW	24
14	1/2" FLAT WASHER	2
15	1/2" LOCK WASHER	2
16	1/2-13 X 1.5" GRADE 8 HHCS	2
17	1/2" HIGH LOAD FLANGED BEARING	2
18	3/4" FLAT WASHER	6
19	3/4" LOCK WASHER	3
20	3/4-10 GRADE 8 HEX NUT	1
21	3/4-10 X 1.50" HHCS	8
22	3/4-10 X 2.5" 1.75" THD GRADE 8 HHCS	2
23	3/4-10 X 3.5" 1.75 THD GRADE 8 HHCS	1
24	3/4" HIGH LOAD FLANGED BEARING	2
25	1.0" HEAVY FLAT WASHER	8
26	1.0" LOCK WASHER	4
27	1.0-8 HEAVY DUTY HEX NUT	4
28	1.0-8 X 4.00" 2.25" THD HD HEX BOLT	4

Safety Information



IMPORTANT

It is highly recommended that system installation and any subsequent modifications, disassembly, or reassembly be conducted by a factory authorized representative. Contact SDE for additional information.



CAUTION: WATCH FOR WIRES!

Extreme caution should be taken when installing near power lines. For your own personal protection, the following safety steps should be taken:

- Perform as many functions as possible on the ground.
- Watch out for overhead power lines. Check the distance to the power lines before starting installation.
- Recommended minimum distance of 6 meters (20 feet) from all power lines.
- Do not use metal ladders.
- Do not install assembly on a windy day.
- If assembly slips, move away from it and let it fall.
- If any part of the assembly comes in contact with a power line, call your local power company. DO NOT TRY TO REMOVE IT YOURSELF! They will remove it safely.
- Make sure that the assembly is properly grounded.



WARNING

Assembling on windy days can be dangerous. Additional precautions should be taken when assembling in high wind areas. The modules surface, even in slight winds, create strong forces. Be prepared to safely handle these forces at unexpected moments. Do not attempt to assemble, move or mount assembly on windy days or serious, even fatal accidents may occur.

SDE is not responsible or liable for damage or injury resulting from antenna installations.



WARNING

Units improperly installed or installed to an inadequate structure can be susceptible to wind damage. This damage can be very serious and even life threatening. The owner and installer assumes full responsibility that the installation is structurally sound to support all loads (weight, wind and ice) and properly sealed against leaks. SDE will not accept liability for any damage caused due to the many unknown variable applications.

1.0 System Set-up Procedure

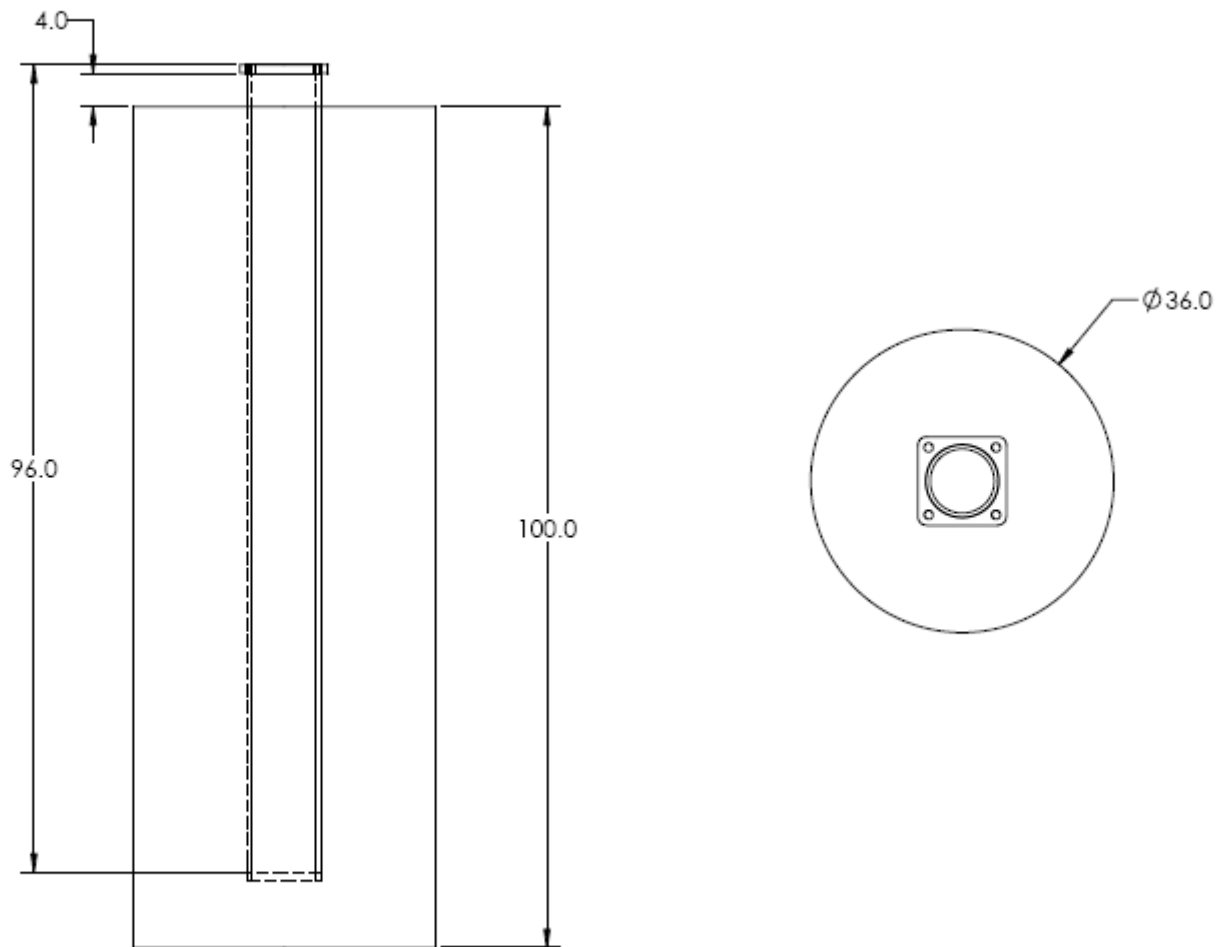


Warning: Extreme care must be taken for this setup procedure to avoid bodily injury and/or equipment damage.

1.1.0 Pole Mount Foundation Option

Choose a site that is as level as possible. Foundation type will be determined by many factors, such as region and local regulations.

NOTE: The mount structure has a maximum range of $-45/+45$ degrees but the stability will be improved against wind forces when the solar array is pointed parallel with the ground.



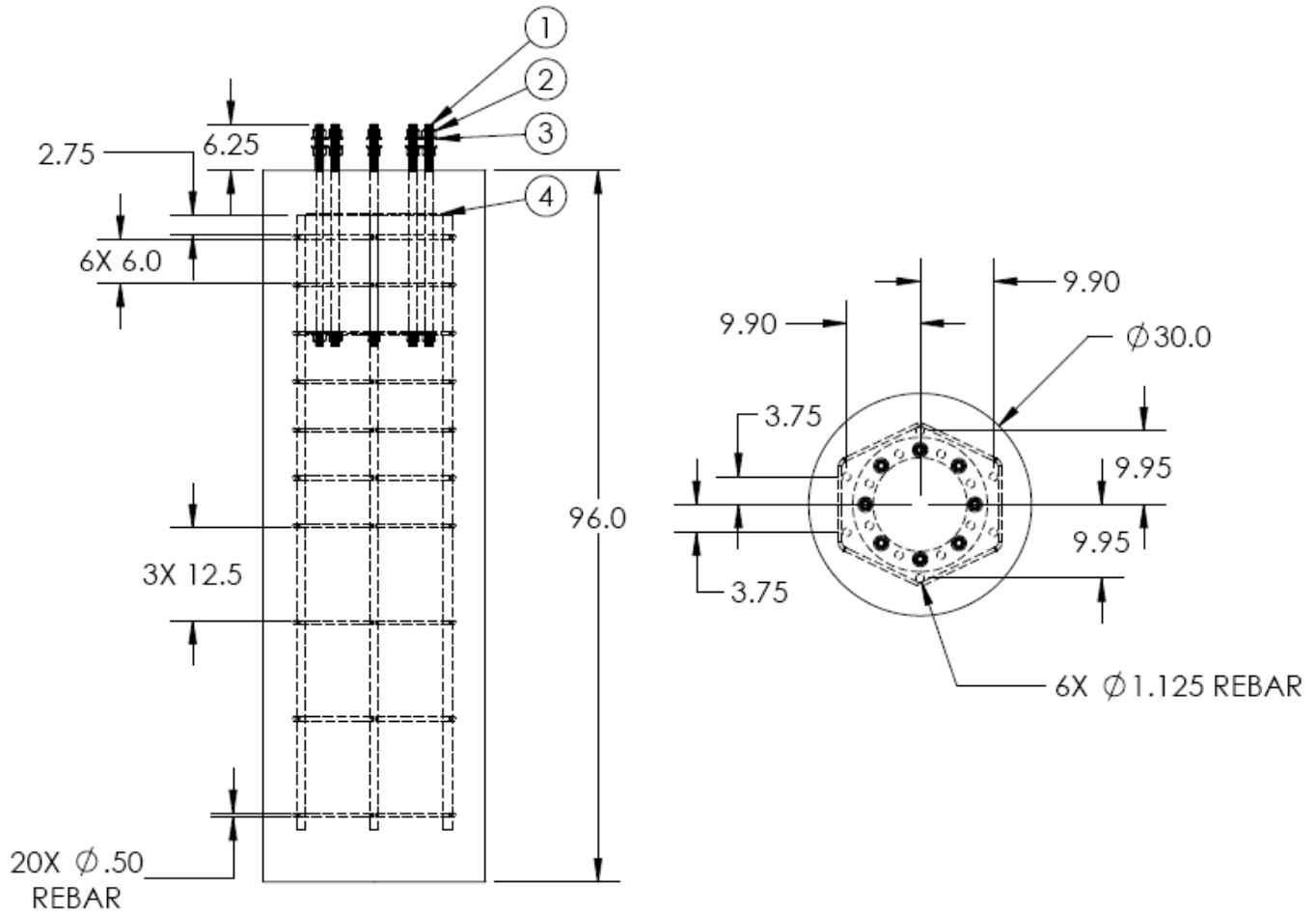
Use approximately 60 cubic feet of cement

1.0 System Set-up Procedure



Warning: Extreme care must be taken for this setup procedure to avoid bodily injury and/or equipment damage.

1.1.1 Hexagon Rebar Foundation Option



ITEM NO.	DESCRIPTION	QTY
1	30in DBL THD ROD	8
2	1-8 GRADE 8 NUT	24
3	1.0 FLAT WASHER	24
4	BOLT SPACER	2
5	REBAR SUPPORT	1

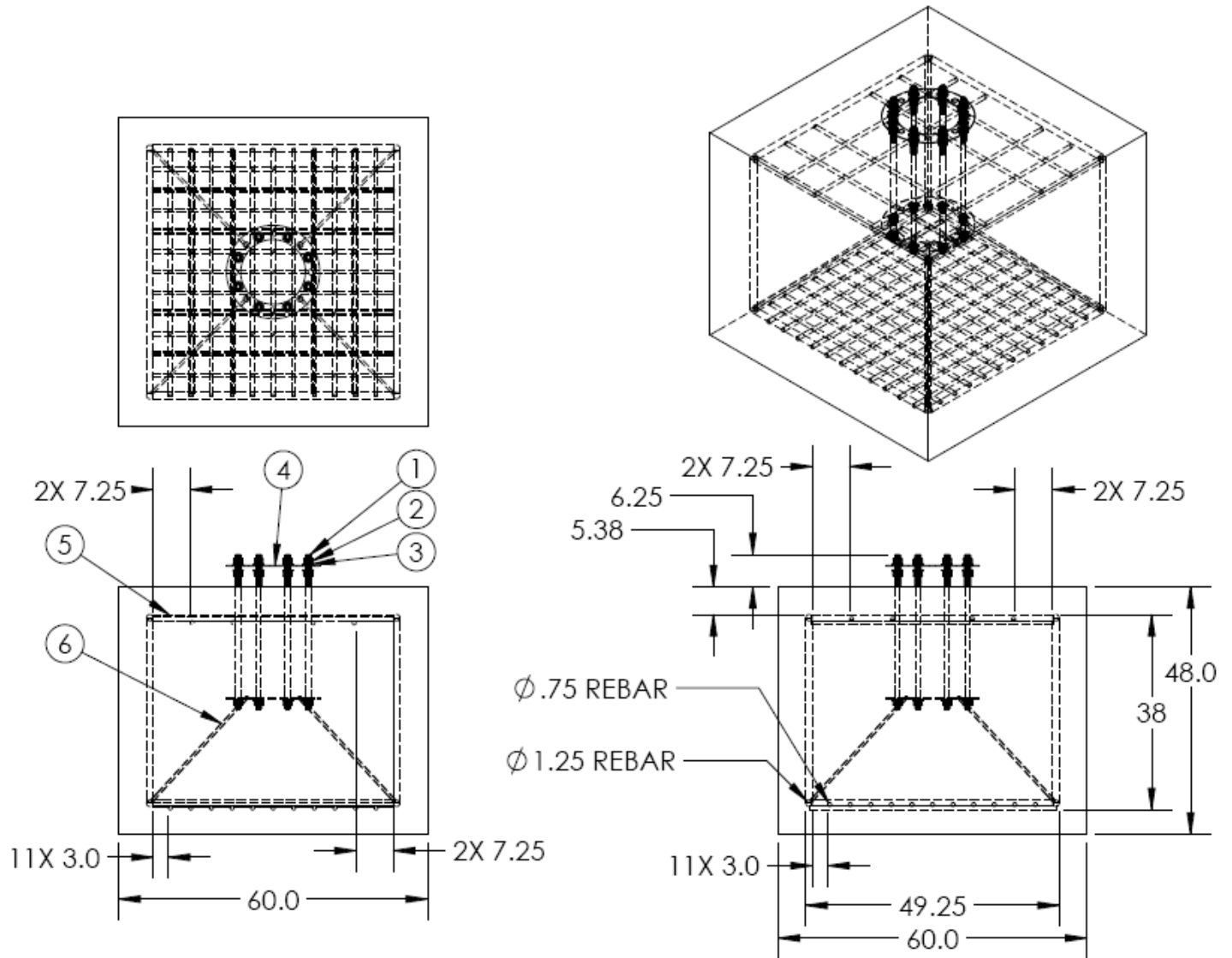
Use approximately 40 cubic feet of cement

1.0 System Set-up Procedure



Warning: Extreme care must be taken for this setup procedure to avoid bodily injury and/or equipment damage.

1.1.2 Square Rebar Foundation Option



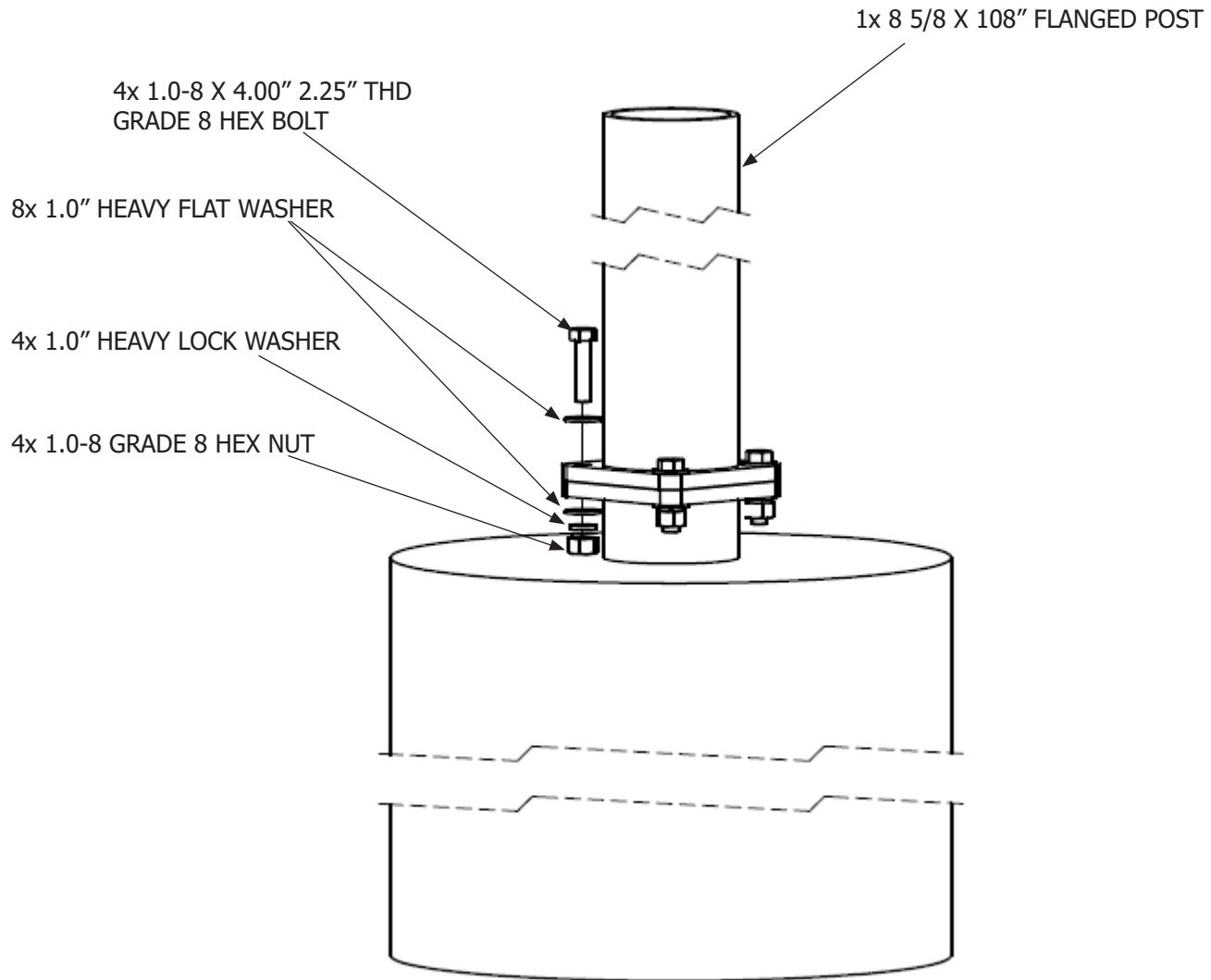
ITEM NO.	DESCRIPTION	QTY
1	30in DBL THD ROD	8
2	1-8 GRADE 8 NUT	24
3	1.0 FLAT WASHER	24
4	BOLT SPACER	2
5	REBAR SUPPORT	1
6	33 IN REBAR SUPPORT	4

1.0 System Set-up Procedure



1.2 Pole Mount to Foundation

Fasten flanged post to flange on foundation post with provided hardware.

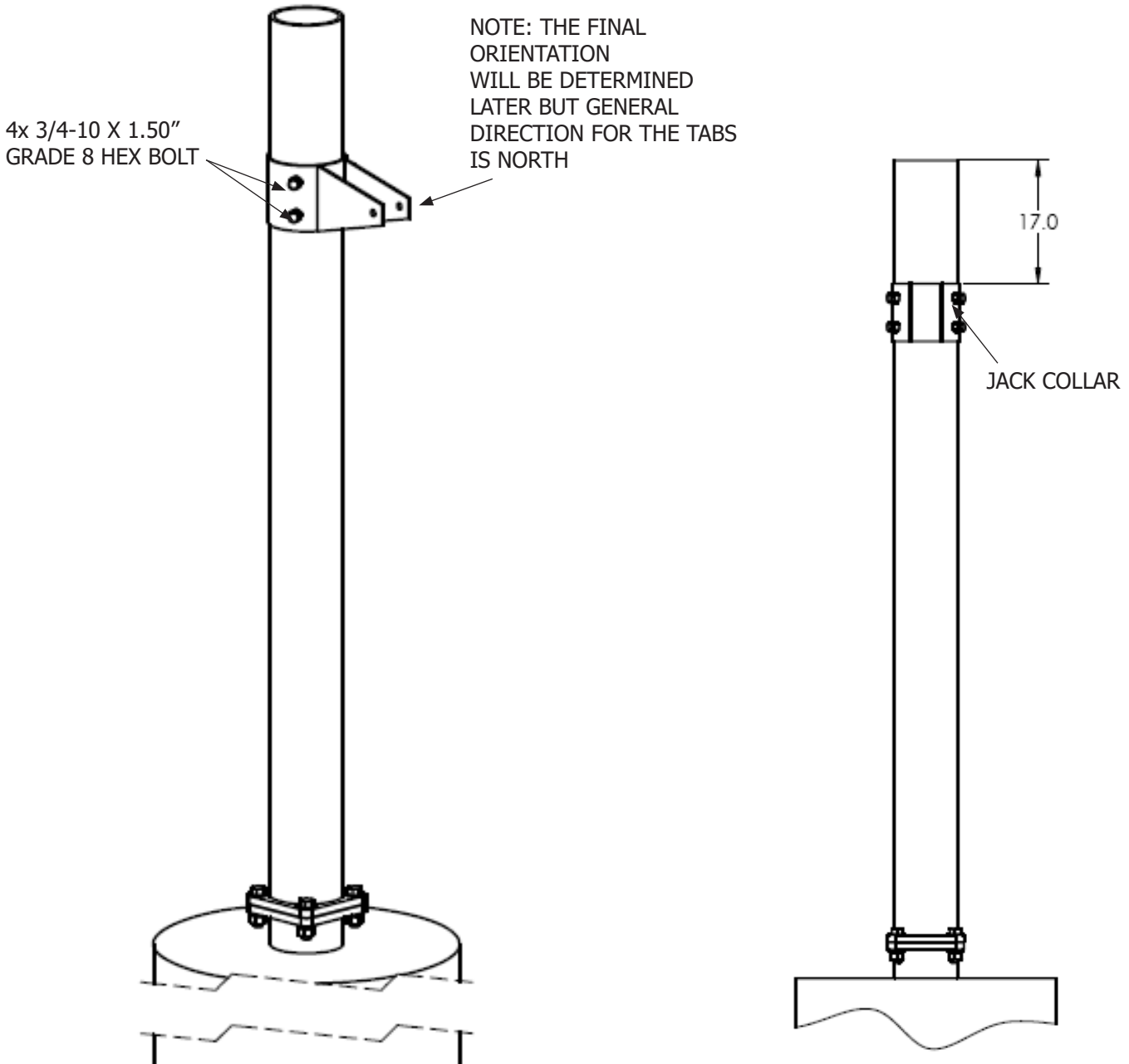


1.0 System Set-up Procedure



1.3 Jack Collar to Pipe

Tighten the 3/4-10 X 1.50" GRADE 8 hex bolts into the pre-welded nuts to fix the position of the jack collar. Mount the jack collar approximately 17.0 inches below the top of the pole as shown.

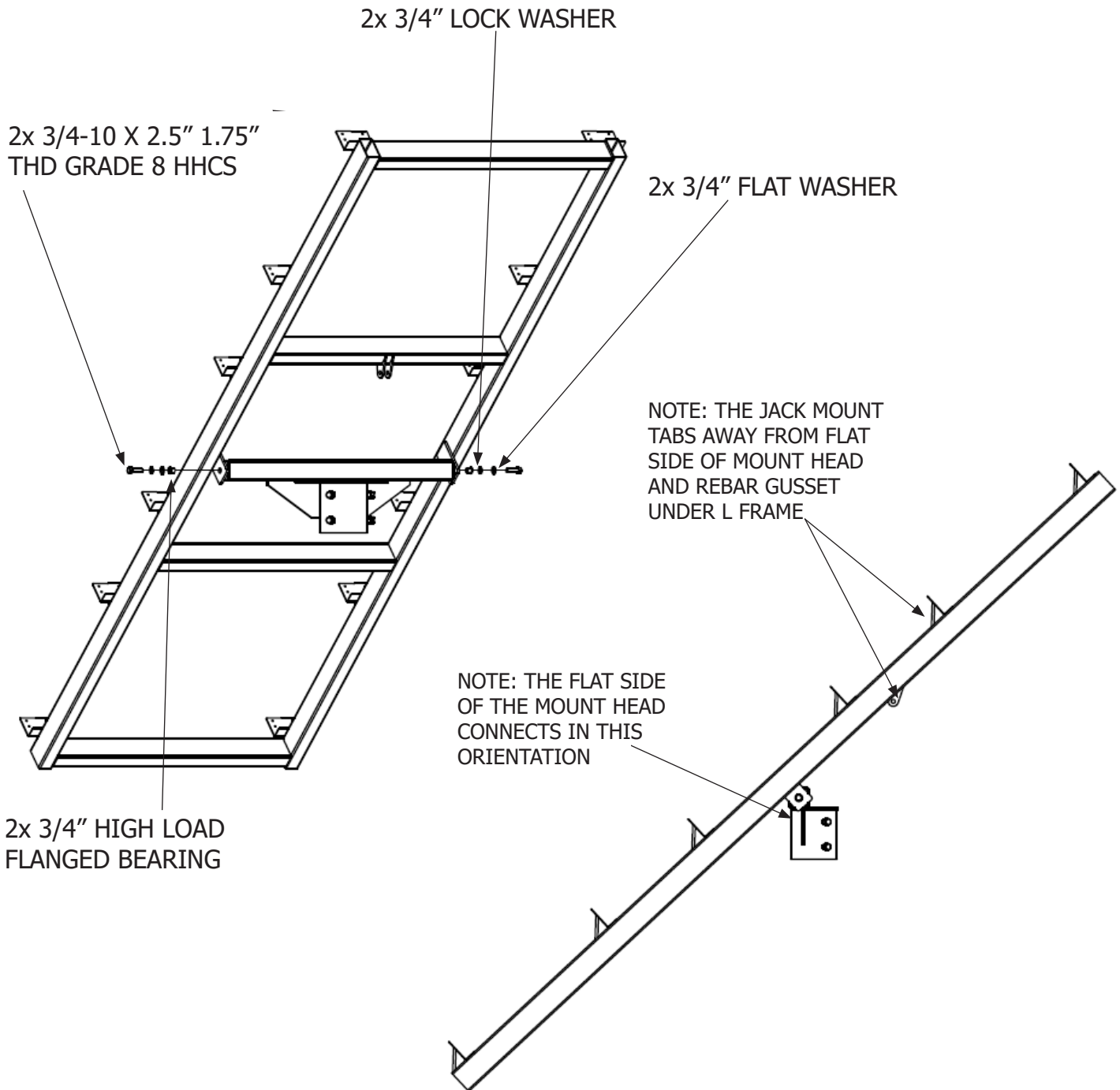


1.0 System Set-up Procedure



1.4 H Frame to Mount Head Pre Assembly

Connect the mount head to the H frame using a 3/4-10 X 2.5" 1.75" THD GRADE 8 HHCS, 3/4" FLAT WASHER, 3/4" LOCK WASHER stack going into a 3/4" HIGH LOAD FLANGED BEARING on each side as shown. Screw threads into pre-welded nut on mount head.

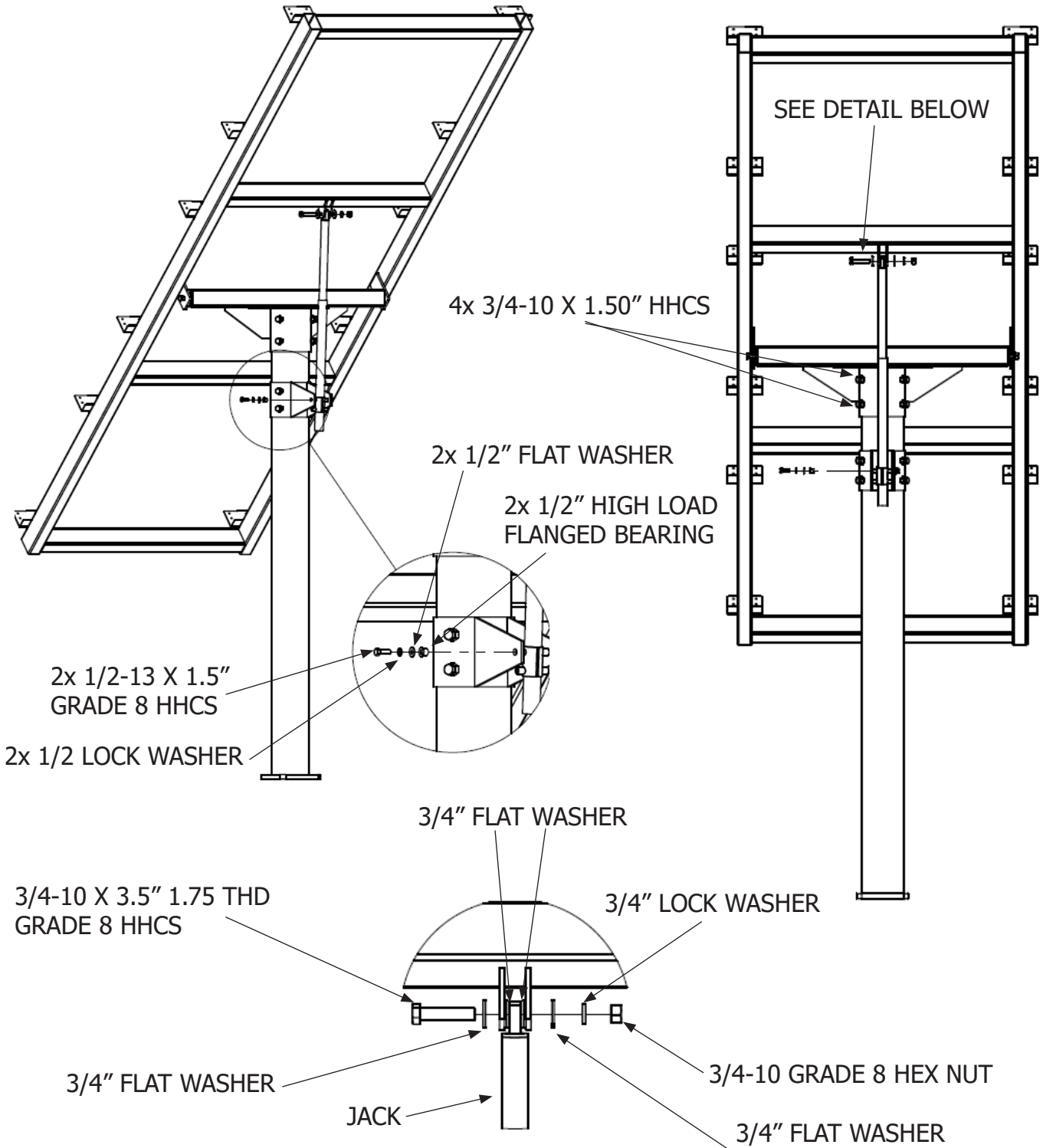


1.0 System Set-up Procedure



1.5 H Frame Pre Assembly to Pipe

Set H Frame pre-assembly onto pipe with the flat side of mount head facing south. Secure with the 3/4-10 x 1.50" hex head cap screws. Install jack with hardware detailed below.



1.0 System Set-up Procedure

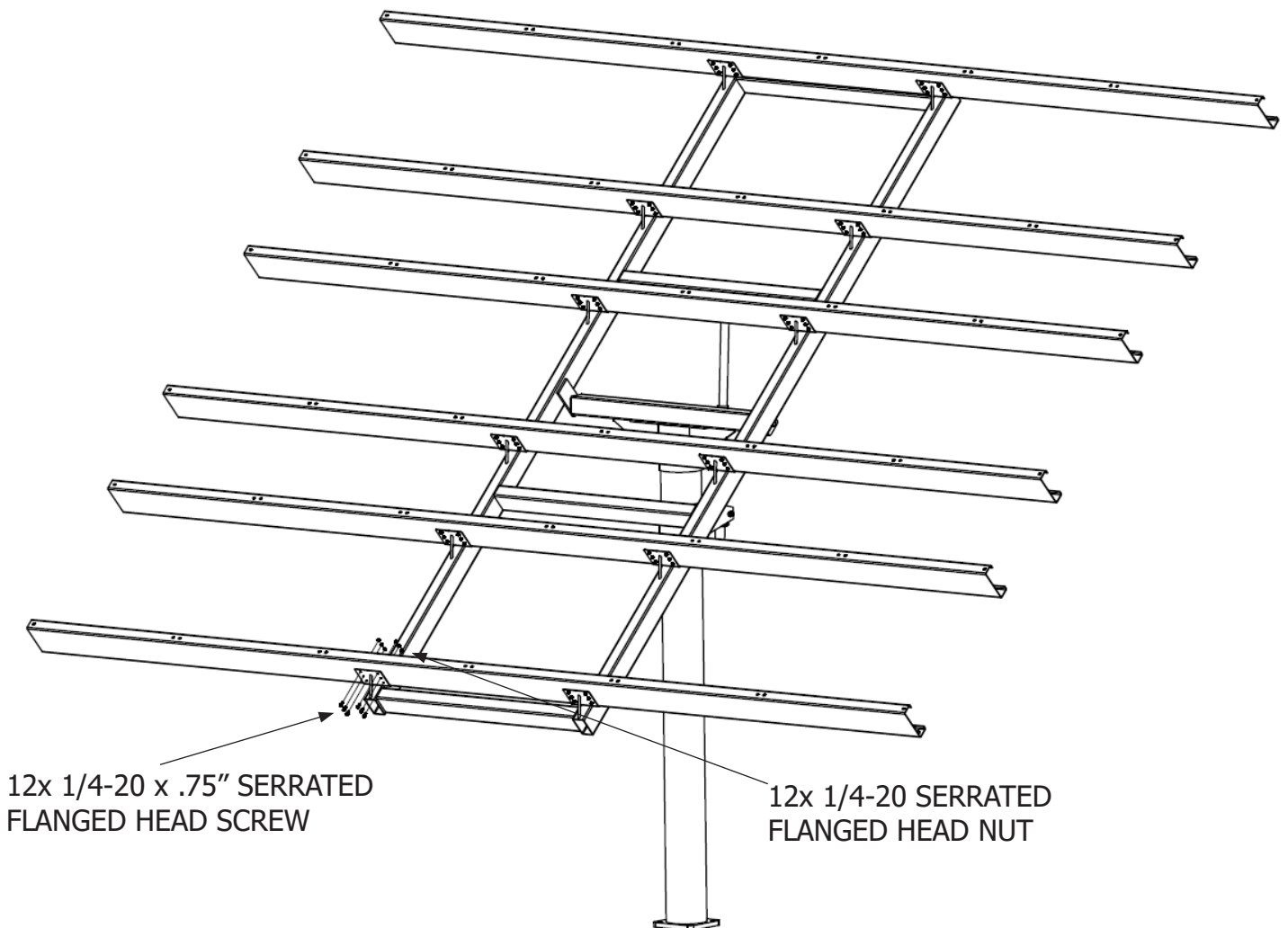


1.6 C-Purlin Install

Line up pre-punched holes in c-purlins with the clearance holes in the L brackets. Fasten with 12x 1/4-20 X .75" serrated flanged head screw into 12x 1/4-20 serrated flanged head nut per c-purlin.

NOTE:

72 SCREWS AND 72 NUTS TOTAL



1.0 System Set-up Procedure



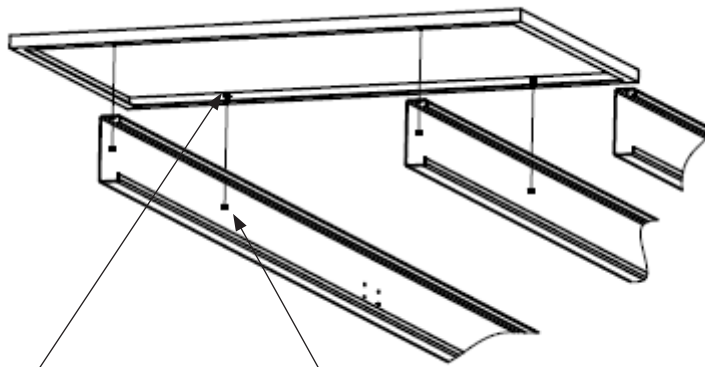
1.7 Panel Install

Line up pre-punched holes in c-purlins with the clearance holes in the panels.

Fasten with 4x 1/4-20 X .75" serrated flanged head screw into 4x 1/4-20 serrated flanged head nut per panel.

NOTE:

72 SCREWS AND 72 NUTS TOTAL



4x 1/4-20 x .75" SERRATED
FLANGED HEAD SCREW

4x 1/4-20 SERRATED
FLANGED HEAD NUT

1.0 System Set-up Procedure



1.8 Strong Back Support Install

Install 2 172 inch long supports on the sides as show. Driving one 1/4-20 x .75" self tapping screw into the center of each purlin, 6 per side. Then install the 192" long supports at an angle as shown, driving one 1/4-20 x .75" self tapping screw into the center of each purlin, 6 per side.

NOTE:

24 SCREWS TOTAL

