PHOTOVOLTAIC ARRAY PROJECT: 19126

MODULE: Heliene-144HC-M10-SL 540W & 550W
POWER: APPROX. 4.48084 MW DC
UP TO 32 LINKED ROWS

PROJECT NOTES:

1. DESIGN CRITERIA:
   - A. 110 MPH WIND SPEED, ASCE 7-16, CAT I
   - B. 30 PSF GROUND SNOW
   - C. EXPOSURE C
   - D. ISO 9223 C2 CORROSION CONDITIONS
   - E. SEISMIC: S_{DS} = 0.214

2. MODULE SPECIFICATIONS:
   - A. Heliene-144HC-M10-SL 540W & 550W
   - B. 26 IN SERIES
   - C. MOUNTED WITH 400mm Thru-Bolt &1400mm Thru-Bolt CLAMPS

3. TRACKER SPECIFICATIONS:
   - A. 4.0° MAX N-S TILT FROM HORIZONTAL WITHOUT MODIFICATION
   - B. ±52° TRACKER RANGE OF MOTION
   - C. 10.0° MAX E/W SLOPE
   - D. 480V MOTORS

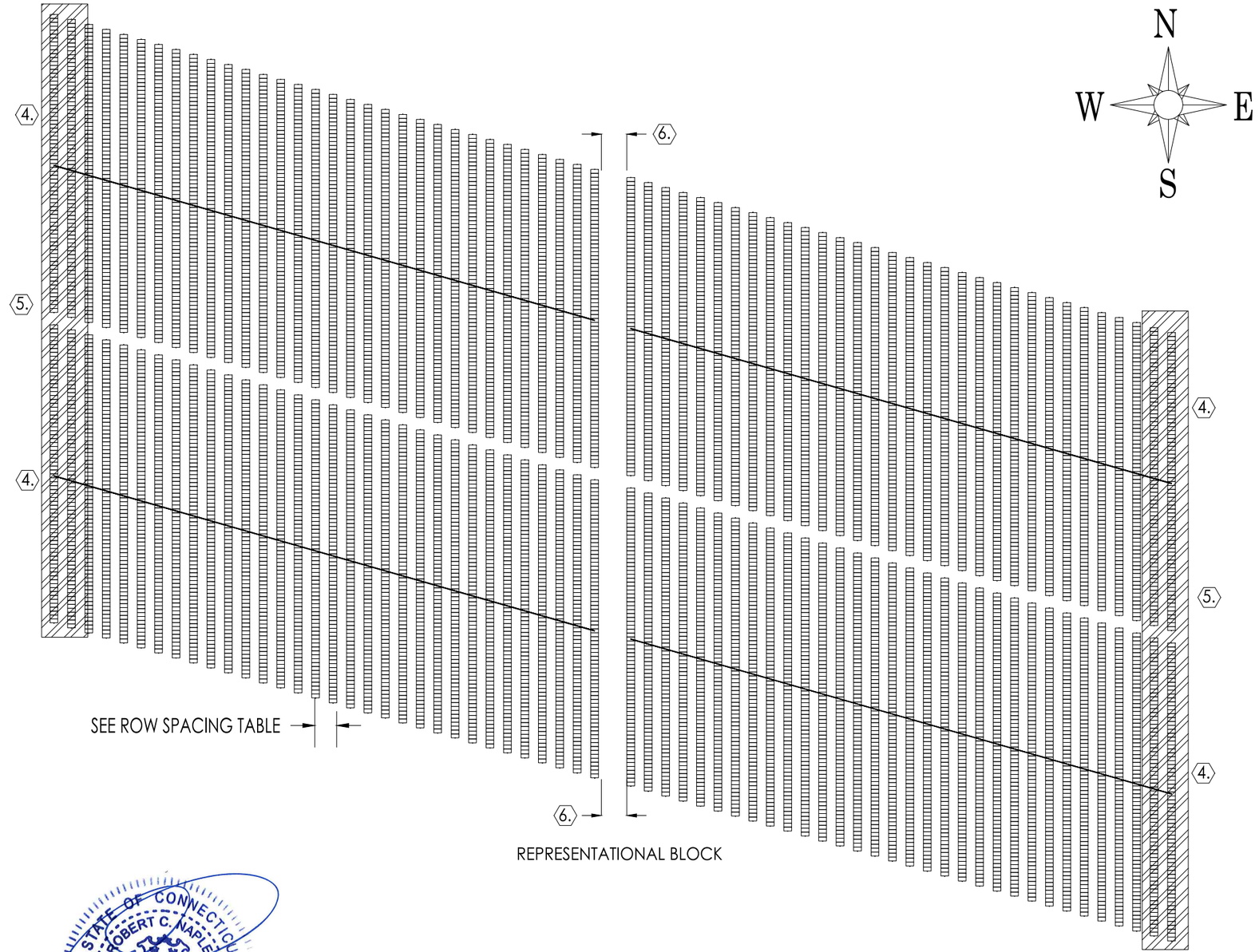
〈4.〉 MOTOR IS INSTALLED AT THE WEST OR EAST SIDE OF THE BLOCK.

〈5.〉 INDICATES E/W EXTERIOR ROW UNLESS ADJACENT TO ANOTHER BLOCK.

〈6.〉 IF THE CLEAR DISTANCE BETWEEN BLOCKS EXCEEDS 2 TIMES THE ROW SPACING, THE FIRST TWO EXPOSED ROWS ARE EXTERIOR.

7. SEE DETAIL A ON SHEET 8 FOR EXTERIOR ROW DESIGNATION DUE TO ELEVATION DIFFERENCES BETWEEN ROWS.

8. MINIMUM SITE DESIGN TEMPERATURE: -14.6°C



ROW SPACING TABLE		
SPACING	BLOCK ANGLE	ROWS/MOTOR
4.88M [16']	0°	32

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	03/10/2026

19126 GreenSkies: Woodbridge Racebrook
Approx. 4.48084 MWDC
Woodbridge, CT 06525
GreenSkies

AMPACITY RENEWABLES
QUANTA
ARRAY TECHNOLOGIES

DRAWING STATUS: Final
PRODUCT STATUS: Final

	NAME	DATE
DRAWN	EO	03/10/2026
CHECKED	Ampacity	03/10/2026
APPROVED	---	---

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE
OmniTrack® HZ Project: 19126 GreenSkies: Woodbridge Racebrook

SIZE	PRODUCT NUMBER	REVISION
B	19126	A

SCALE	DWG NO.	U.S. PATENT NO.	
NTS	19126-901	#8,459,249; # 9,281,778	1 OF 10

NOTES:

1. GEAR RACK COLUMN

2. ALL COLUMNS NOT IDENTIFIED AS "GEAR RACK COLUMN" ARE BEARING COLUMNS.

3. ALL BEAMS SHOULD BE CONSTRUCTED WITH ASTM A992 GRADE 50 STEEL WITH CONSIDERATION FOR CORROSION. REFER TO FOUNDATION DESIGN, BY OTHERS, FOR DETAILS.

4. FOR COLUMN LENGTH, REFERENCE CUSTOMER PROVIDED FOUNDATION DESIGNS.

5. COLUMN TOLERANCES

   A. PILE HEIGHT TOLERANCE ± 1.18" (30mm)FROM NOMINAL Z COORDINATE.
   B. PLAN LOCATION(NSEW)
      1. E/W: ± 0.625" (16mm)
      2. N/S: ± 1.375" (35mm)
   C. ROTATIONAL TWIST GEAR RACK: ±1.5° FROM AXIS BEARING COLUMN: ±5° FROM AXIS
   D. PLUMB:
      1. E/W: ±1.0 °
      2. N/S: ±3.0°

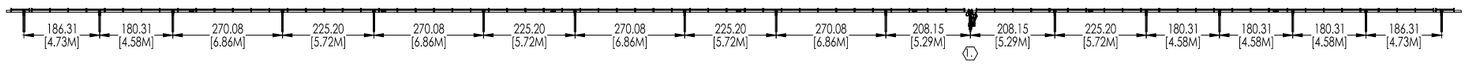
   NOTE: THESE TOLERANCES ARE NOT CUMULATIVE AND ARE DEFINED AT THE TOP OF THE COLUMN RELATIVE TO THE COLUMN PLANE AND PLAN LOCATION.

6. SEE DETAIL B ON SHEET 8 FOR MINIMUM COLUMN HEIGHTS

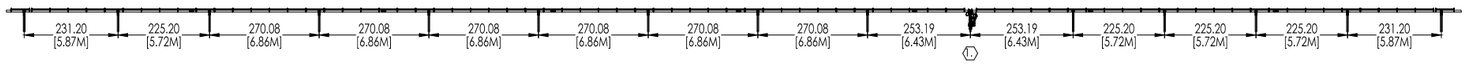
7. ARRAY BRACKETS ARE COMPATIBLE WITH (TBD) I-BEAMS FOR BEARING COLUMNS. IF A DIFFERENT COLUMN SIZE IS REQUIRED, CONTACT ARRAY.

8. SEE FIELD ASSEMBLY DRAWINGS FOR GEAR RACK COLUMN AND BEARING COLUMN HOLE REQUIREMENTS.

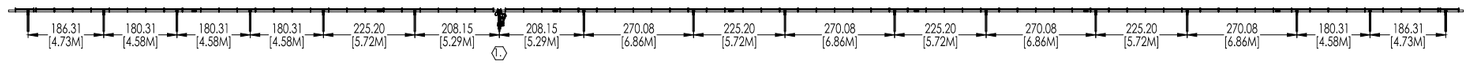
9. COLUMN SPACINGS SHOWN ARE BEARING TO BEARING ALONG TRACKER AXIS, WHICH MATCHES PILE SPACING ON A FLAT PLANE. FOR HIGH-SLOPE TRACKER INSTALLATION, REFER TO CONSTRUCTION SUPPLEMENT 90110-000.



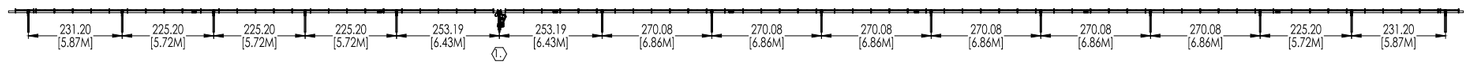
19126-001 78 (52/26) MODULE FULL EXTERIOR ROW



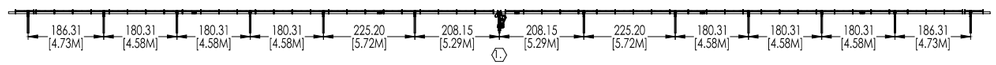
19126-002 78 (52/26) MODULE FULL INTERIOR ROW



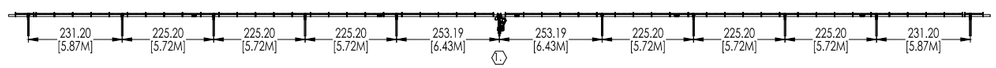
19126-003 78 (26/52) MODULE FULL EXTERIOR ROW



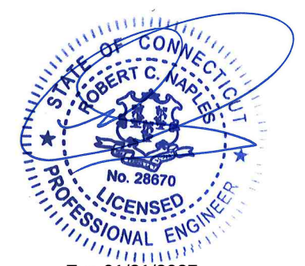
19126-004 78 (26/52) MODULE FULL INTERIOR ROW



19126-005 52 (26/26) MODULE EXTERIOR ROW

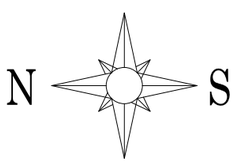


19126-006 52 (26/26) MODULE INTERIOR ROW



Exp 01/31/2027

03/14/2026



BEARING STRENGTH	HOLE DIAMETER	BEARING TYPE
STANDARD	[0.688] 17.5	STEEL

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	03/10/2026

19126 GreenSkies: Woodbridge Racebrook
Approx. 4.48084 MWDC
Woodbridge, CT 06525
GreenSkies

AMPACITY RENEWABLES
QUANTA
ARRAY TECHNOLOGIES

DRAWING STATUS: Final
PRODUCT STATUS: Final

	NAME	DATE
DRAWN	EO	03/10/2026
CHECKED	Ampacity	03/10/2026
APPROVED	---	---

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

ARRAY TECHNOLOGIES

TITLE: **OmniTrack® HZ Project: 19126 GreenSkies: Woodbridge Racebrook Foundation Layout**

SIZE	PRODUCT NUMBER	REVISION	
B	19126	A	
SCALE NTS	DWG NO. 19126-901	U.S. PATENT NO. #8,459,249; # 9,281,778	2 OF 10

NOTES:

1. GEAR RACK COLUMN
2. ALL COLUMNS NOT IDENTIFIED AS "GEAR RACK COLUMN" ARE BEARING COLUMNS.
3. ALL BEAMS SHOULD BE CONSTRUCTED WITH ASTM A992 GRADE 50 STEEL WITH CONSIDERATION FOR CORROSION. REFER TO FOUNDATION DESIGN, BY OTHERS, FOR DETAILS.
4. FOR COLUMN LENGTH, REFERENCE CUSTOMER PROVIDED FOUNDATION DESIGNS.
5. COLUMN TOLERANCES
   - A. PILE HEIGHT TOLERANCE ± 1.18" (30mm)FROM NOMINAL Z COORDINATE.
   - B. PLAN LOCATION(NSEW)
     1. E/W: ± 0.625" (16mm)
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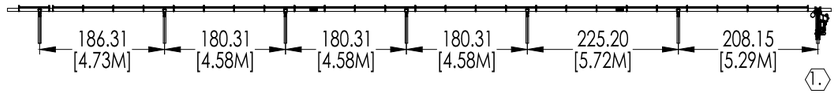
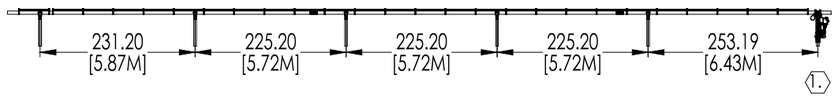
   - D. PLUMB:
     1. E/W: ±1.0 °
     2. N/S: ±3.0°

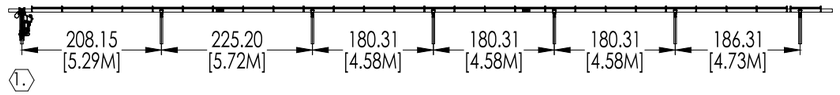
   NOTE: THESE TOLERANCES ARE NOT CUMULATIVE AND ARE DEFINED AT THE TOP OF THE COLUMN RELATIVE TO THE COLUMN PLANE AND PLAN LOCATION.
6. SEE DETAIL B ON SHEET 8 FOR MINIMUM COLUMN HEIGHTS
7. ARRAY BRACKETS ARE COMPATIBLE WITH (TBD) I-BEAMS FOR BEARING COLUMNS. IF A DIFFERENT COLUMN SIZE IS REQUIRED, CONTACT ARRAY.
8. SEE FIELD ASSEMBLY DRAWINGS FOR GEAR RACK COLUMN AND BEARING COLUMN HOLE REQUIREMENTS.
9. COLUMN SPACINGS SHOWN ARE BEARING TO BEARING ALONG TRACKER AXIS, WHICH MATCHES PILE SPACING ON A FLAT PLANE. FOR HIGH-SLOPE TRACKER INSTALLATION, REFER TO CONSTRUCTION SUPPLEMENT 90110-000.



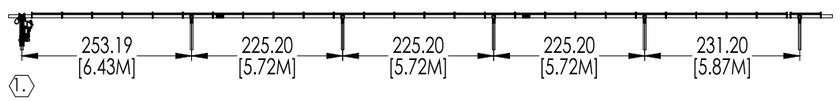
19126-007 26 (26/0) MODULE EXTERIOR ROW



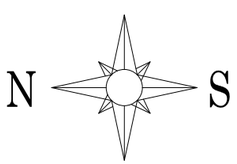
19126-008 26 (26/0) MODULE INTERIOR ROW



19126-009 26 (0/26) MODULE EXTERIOR ROW



19126-010 26 (0/26) MODULE INTERIOR ROW



BEARING STRENGTH	HOLE DIAMETER	BEARING TYPE
STANDARD	[0.688] 17.5	STEEL

Exp 01/31/2027

03/14/2026

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	03/10/2026

19126 GreenSkies: Woodbridge Racebrook
Approx. 4.48084 MWDC
Woodbridge, CT 06525
GreenSkies

AMPACITY RENEWABLES QUANTA ARRAY TECHNOLOGIES

DRAWING STATUS: Final
PRODUCT STATUS: Final

	NAME	DATE
DRAWN	EO	03/10/2026
CHECKED	Ampacity	03/10/2026
APPROVED	---	---

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **OmniTrack® HZ Project: 19126 GreenSkies: Woodbridge Racebrook Foundation Layout**

SIZE	PRODUCT NUMBER	REVISION
B	19126	A

SCALE NTS | DWG NO. 19126-901 | U.S. PATENT NO. #8,459,249; # 9,281,778

NOTES:

1. LOCATION OF DAMPER

2. THERE IS 0.394" (10mm) OF SPACE BETWEEN MODULES WITH 400mm TB AND 0.0.21" (5.4mm) OF SPACE BETWEEN MODULES WITH 1400mm TB CLAMPS.

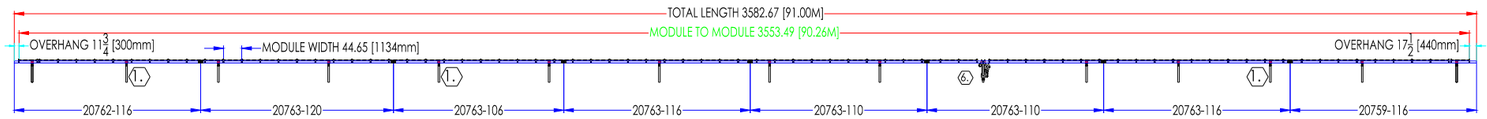
3. DO NOT ATTACH NON- ARRAY SUPPLIED MATERIALS WITHOUT ARRAY APPROVAL.

4. PREGALVANIZED TUBE, PN 30811, MAY BE SUBSTITUTED WITH STRUCTURAL EQUIVALENT HDG, PN 30662/30810

5. OVERHANG IS MEASURED FROM MODULE EDGE. THE DISTANCE BETWEEN MODULE EDGE AND CLAMP EDGE IS APPROX. 0.75".

6. MODULE GAP: BEGIN MODULE INSTALLATION AT CENTER STRUCTURE. FOR CENTER GAP DIMENSIONS SEE DETAIL F ON SHEET 9.

19126-001 78 (52/26) MODULE FULL EXTERIOR ROW

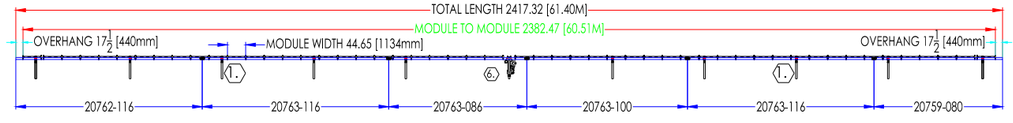


19126-002 78 (52/26) MODULE FULL INTERIOR ROW

19126-003 78 (26/52) MODULE FULL EXTERIOR ROW

19126-004 78 (26/52) MODULE FULL INTERIOR ROW

19126-005 52 (26/26) MODULE EXTERIOR ROW



19126-006 52 (26/26) MODULE INTERIOR ROW

12ga TORQUE TUBE PART N0S. (L CONDITION)					
FT	M	BEAM/ COUPLER	BEAM/ CAP	BEAM/ COUPLER+ CAP	TUBE
19.68	6	20763-060	20762-060	20759-060	30811-060
20.67	6.3	20763-063	20762-063	20759-063	30811-063
21.65	6.6	20763-066	20762-066	20759-066	30811-066
26.25	8	20763-080	20762-080	20759-080	30811-080
27.23	8.3	20763-083	20762-083	20759-083	30811-083
28.21	8.6	20763-086	20762-086	20759-086	30811-086
32.81	10	20763-100	20762-100	20759-100	30811-100
34.78	10.6	20763-106	20762-106	20759-106	30811-106
36.09	11.0	20763-110	20762-110	20759-110	30811-110
38.06	11.6	20763-116	20762-116	20759-116	30811-116
39.37	12.0	20763-120	20762-120	20759-120	30811-120

NOTE: TORQUE TUBE/BEAM ASSEMBLY TABLE FOR INFORMATION PURPOSES ONLY. NOT ALL BEAM CONFIGURATIONS MAY BE REPRESENTED IN ROW LAYOUTS.

N S

19126 GreenSkies: Woodbridge Racebrook
Approx. 4.48084 MWDC
Woodbridge, CT 06525
GreenSkies

AMPACITY RENEWABLES QUANTA ARRAY TECHNOLOGIES

DRAWING STATUS: Final
PRODUCT STATUS: Final

	NAME	DATE
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APPROVED	---	---

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	03/10/2026

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: OmniTrack® HZ Project: 19126 GreenSkies: Woodbridge Racebrook Torque Tube Configurations

SIZE B | PRODUCT NUMBER 19126 | REVISION A

SCALE NTS | DWG NO. 19126-901 | U.S. PATENT NO. #8,459,249; # 9,281,778

STATE OF CONNECTICUT ROBERT C. NAPLES No. 28670 LICENSED PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

NOTES:

1. LOCATION OF DAMPER

2. THERE IS 0.394" (10mm) OF SPACE BETWEEN MODULES WITH 400mm TB AND 0.0.21" (5.4mm) OF SPACE BETWEEN MODULES WITH 1400mm TB CLAMPS.

3. DO NOT ATTACH NON- ARRAY SUPPLIED MATERIALS WITHOUT ARRAY APPROVAL.

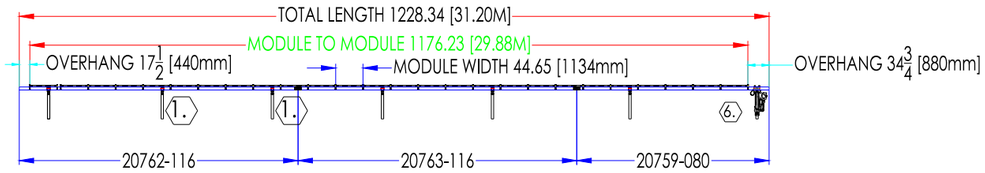
4. PREGALVANIZED TUBE, PN 30811, MAY BE SUBSTITUTED WITH STRUCTURAL EQUIVALENT HDG, PN 30662/30810

5. OVERHANG IS MEASURED FROM MODULE EDGE. THE DISTANCE BETWEEN MODULE EDGE AND CLAMP EDGE IS APPROX. 0.75".

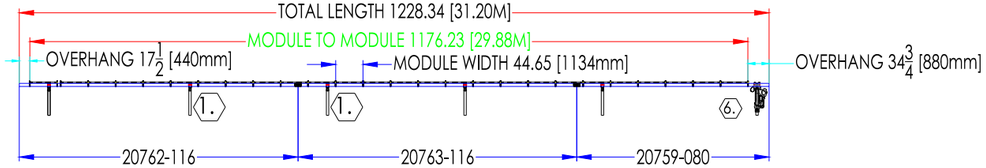
6. MODULE GAP: BEGIN MODULE INSTALLATION AT CENTER STRUCTURE. FOR CENTER GAP DIMENSIONS SEE DETAIL F ON SHEET 9.

12ga TORQUE TUBE PART NOS. (L CONDITION)					
FT	M	BEAM/ COUPLER	BEAM/ CAP	BEAM/ COUPLER+ CAP	TUBE
19.68	6	20763-060	20762-060	20759-060	30811-060
20.67	6.3	20763-063	20762-063	20759-063	30811-063
21.65	6.6	20763-066	20762-066	20759-066	30811-066
26.25	8	20763-080	20762-080	20759-080	30811-080
27.23	8.3	20763-083	20762-083	20759-083	30811-083
28.21	8.6	20763-086	20762-086	20759-086	30811-086
32.81	10	20763-100	20762-100	20759-100	30811-100
34.78	10.6	20763-106	20762-106	20759-106	30811-106
36.09	11.0	20763-110	20762-110	20759-110	30811-110
38.06	11.6	20763-116	20762-116	20759-116	30811-116
39.37	12.0	20763-120	20762-120	20759-120	30811-120

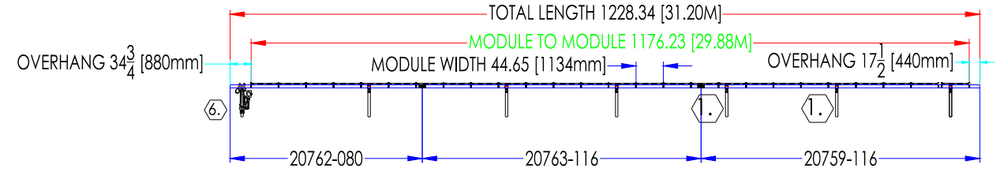
NOTE: TORQUE TUBE/BEAM ASSEMBLY TABLE FOR INFORMATION PURPOSES ONLY. NOT ALL BEAM CONFIGURATIONS MAY BE REPRESENTED IN ROW LAYOUTS.



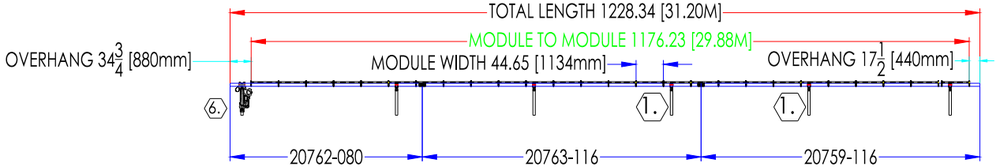
19126-007 26 (26/0) MODULE EXTERIOR ROW



19126-008 26 (26/0) MODULE INTERIOR ROW



19126-009 26 (0/26) MODULE EXTERIOR ROW



19126-010 26 (0/26) MODULE INTERIOR ROW

Exp 01/31/2027

03/14/2026

N S

19126 GreenSkies: Woodbridge
Racebrook
Approx. 4.48084 MWDC
Woodbridge, CT 06525
GreenSkies

AMPACITY RENEWABLES QUANTA ARRAY TECHNOLOGIES

DRAWING STATUS: Final
PRODUCT STATUS: Final

	NAME	DATE
DRAWN	EO	03/10/2026
CHECKED	Ampacity	03/10/2026
APPROVED	---	---

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	03/10/2026

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: OmniTrack® HZ Project:
19126 GreenSkies: Woodbridge Racebrook
Torque Tube Configurations

SIZE	PRODUCT NUMBER	REVISION
B	19126	A

SCALE NTS | DWG NO. 19126-901 | U.S. PATENT NO. #8,459,249; # 9,281,778

NOTES:

1. LOWER NUMBER INDICATES NUMBER OF CLAMPS BETWEEN TWO POINTS(COLUMN TO COLUMN OR COLUMN TO TORQUE BEAM/TUBE END)

2. FOR EASE OF ASSEMBLY, ARRAY RECOMMENDS, BUT DOES NOT REQUIRE, THE FOLLOWING INSTALLATION SEQUENCE:
   A: INSTALLED FIRST
   B : INSTALLED SECOND
   C: INSTALLED LAST

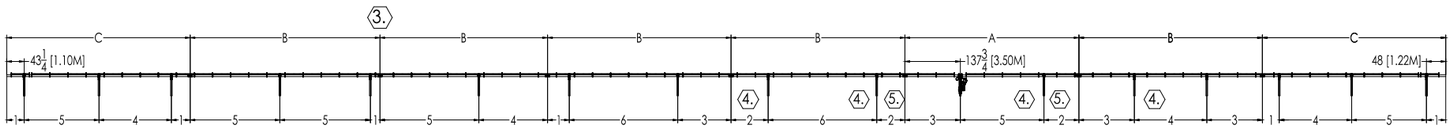
〈3.〉 COUPLER IS LOCATED BETWEEN ALL TORQUE BEAM/TUBES

〈4.〉 LOCATION OF BEARING HOUSING WITH SET SCREWS. REFER 21000-901 FIELD ASSEMBLY DRAWING FOR DETAILS.

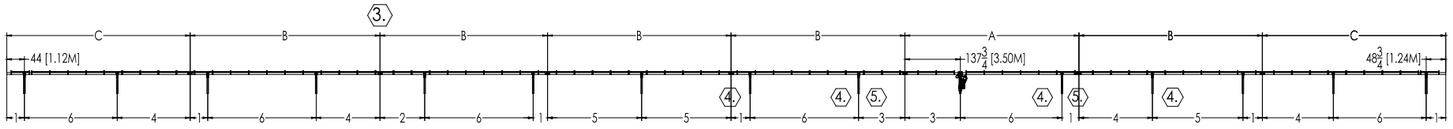
〈5.〉 TRANSLATION CLAMP PAIR LOCATION. CLAMPS TO BE INSTALLED ON NORTH AND SOUTH SIDES OF BEARING POST. REFER 25096-000 FIELD ASSEMBLY DRAWING FOR DETAILS.

〈6.〉 1400mm Thru-Bolt CLAMPS INSTALLED ON FIRST FOUR MODULES ON NORTH AND/OR SOUTH ENDS OF ROWS. USE MOUNTING METHOD "A". REFER TO 20895-901 FIELD ASSEMBLY DRAWING FOR DETAILS. ALL OTHER CLAMPS 400MM TB.

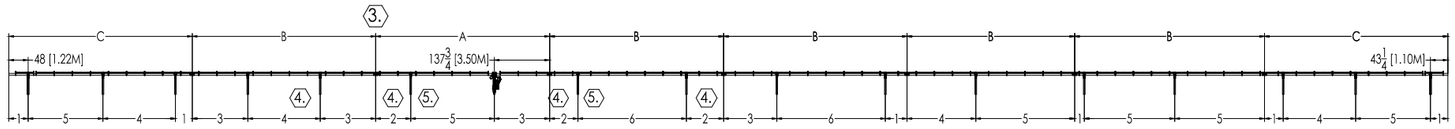
7. NIGHT SNOW STOW SYSTEM SETTING MUST BE TURNED ON UPON COMMISSIONING.



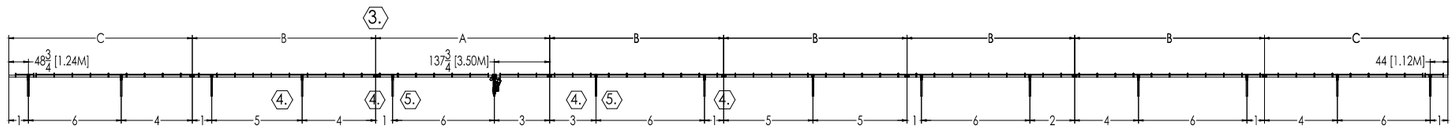
19126-001 78 (52/26) MODULE FULL EXTERIOR ROW
82 CLAMPS



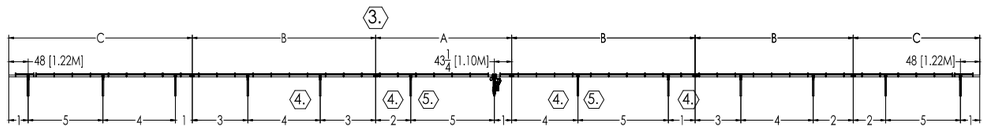
19126-002 78 (52/26) MODULE FULL INTERIOR ROW
82 CLAMPS



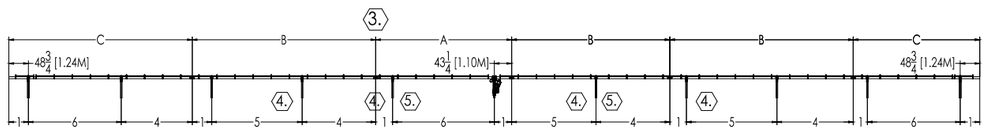
19126-003 78 (26/52) MODULE FULL EXTERIOR ROW
82 CLAMPS



19126-004 78 (26/52) MODULE FULL INTERIOR ROW
82 CLAMPS



19126-005 52 (26/26) MODULE EXTERIOR ROW
56 CLAMPS



19126-006 52 (26/26) MODULE INTERIOR ROW
56 CLAMPS

Exp 01/31/2027
03/14/2026

N S

19126 GreenSkies: Woodbridge Racebrook
Approx. 4.48084 MWDC
Woodbridge, CT 06525
GreenSkies

AMPACITY RENEWABLES
QUANTA
ARRAY TECHNOLOGIES

DRAWING STATUS: Final
PRODUCT STATUS: Final

	NAME	DATE
DRAWN	EO	03/10/2026
CHECKED	Ampacity	03/10/2026
APPROVED	---	---

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	03/10/2026

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **OmniTrack® HZ Project: 19126 GreenSkies: Woodbridge Racebrook Assembly Sequence**

SIZE	PRODUCT NUMBER	REVISION	
B	19126	A	
SCALE NTS	DWG NO. 19126-901	U.S. PATENT NO. #8,459,249; # 9,281,778	6 OF 10

NOTES:

1. LOWER NUMBER INDICATES NUMBER OF CLAMPS BETWEEN TWO POINTS(COLUMN TO COLUMN OR COLUMN TO TORQUE BEAM/TUBE END)

2. FOR EASE OF ASSEMBLY, ARRAY RECOMMENDS, BUT DOES NOT REQUIRE, THE FOLLOWING INSTALLATION SEQUENCE:
   A: INSTALLED FIRST
   B : INSTALLED SECOND
   C: INSTALLED LAST

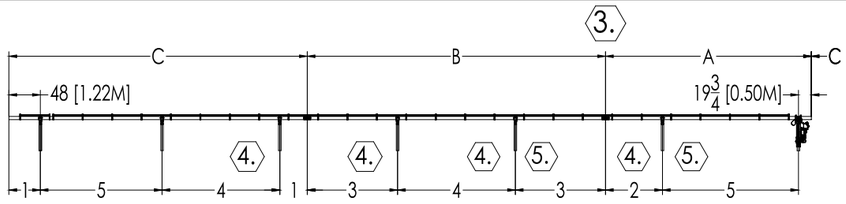
⟨3.⟩ COUPLER IS LOCATED BETWEEN ALL TORQUE BEAM/TUBES

⟨4.⟩ LOCATION OF BEARING HOUSING WITH SET SCREWS. REFER 21000-901 FIELD ASSEMBLY DRAWING FOR DETAILS.

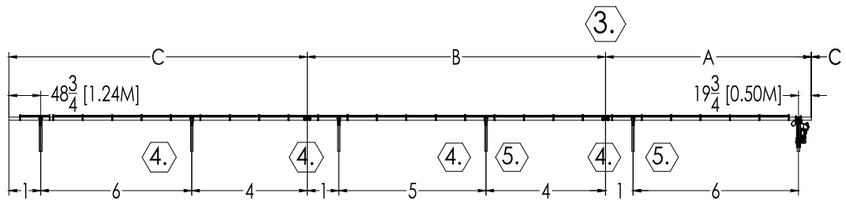
⟨5.⟩ TRANSLATION CLAMP PAIR LOCATION. CLAMPS TO BE INSTALLED ON NORTH AND SOUTH SIDES OF BEARING POST. REFER 25096-000 FIELD ASSEMBLY DRAWING FOR DETAILS.

⟨6.⟩ 1400mm Thru-Bolt CLAMPS INSTALLED ON FIRST FOUR MODULES ON NORTH AND/OR SOUTH ENDS OF ROWS. USE MOUNTING METHOD "A". REFER TO 20895-901 FIELD ASSEMBLY DRAWING FOR DETAILS. ALL OTHER CLAMPS 400MM TB.

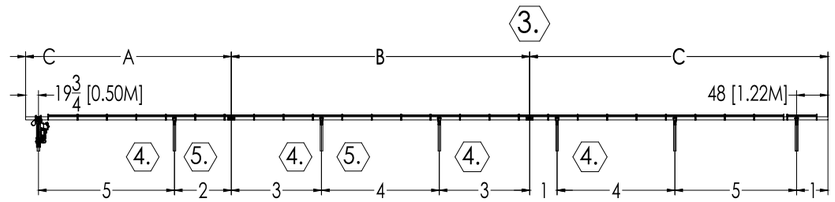
7. NIGHT SNOW STOW SYSTEM SETTING MUST BE TURNED ON UPON COMMISSIONING.



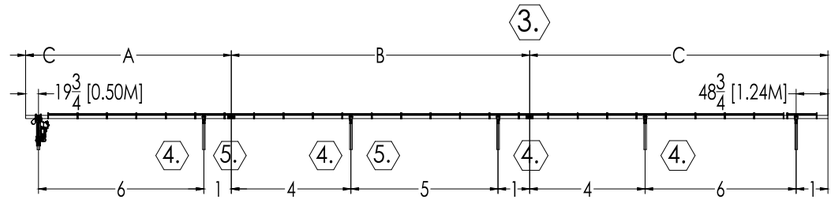
19126-007 26 (26/0) MODULE EXTERIOR ROW
28 CLAMPS



19126-008 26 (26/0) MODULE INTERIOR ROW
28 CLAMPS



19126-009 26 (0/26) MODULE EXTERIOR ROW
28 CLAMPS



19126-010 26 (0/26) MODULE INTERIOR ROW
28 CLAMPS

Exp 01/31/2027
03/14/2026

N S

19126 GreenSkies: Woodbridge Racebrook
Approx. 4.48084 MWDC
Woodbridge, CT 06525
GreenSkies

AMPACITY RENEWABLES
QUANTA
ARRAY TECHNOLOGIES

DRAWING STATUS: Final
PRODUCT STATUS: Final

	NAME	DATE
DRAWN	EO	03/10/2026
CHECKED	Ampacity	03/10/2026
APPROVED	---	---

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	03/10/2026

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **OmniTrack® HZ Project:**
19126 GreenSkies: Woodbridge Racebrook
Assembly Sequence

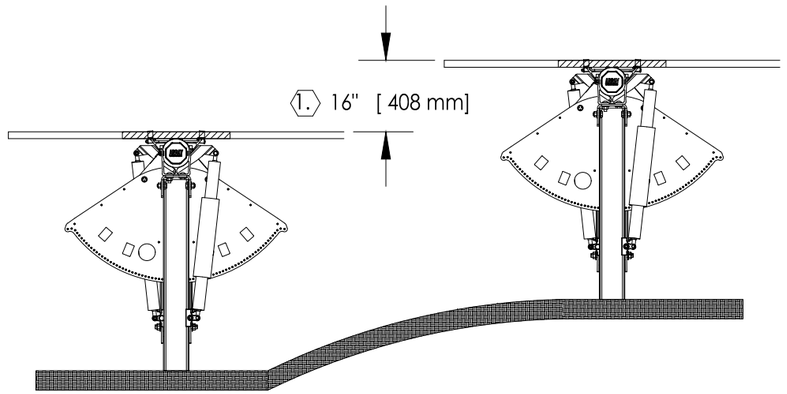
SIZE	PRODUCT NUMBER	REVISION
B	19126	A

SCALE: NTS | DWG NO. 19126-901 | U.S. PATENT NO. #8,459,249; # 9,281,778

NOTE:

EXTERIOR ROW HEIGHT PARAMETER

1. IF THE HEIGHT DIFFERENCE AVERAGED AT ROW EXTREMITIES EXCEEDS THE DISTANCE NOTED, ROW ON HIGHER PLANE IS AN EXTERIOR ROW.

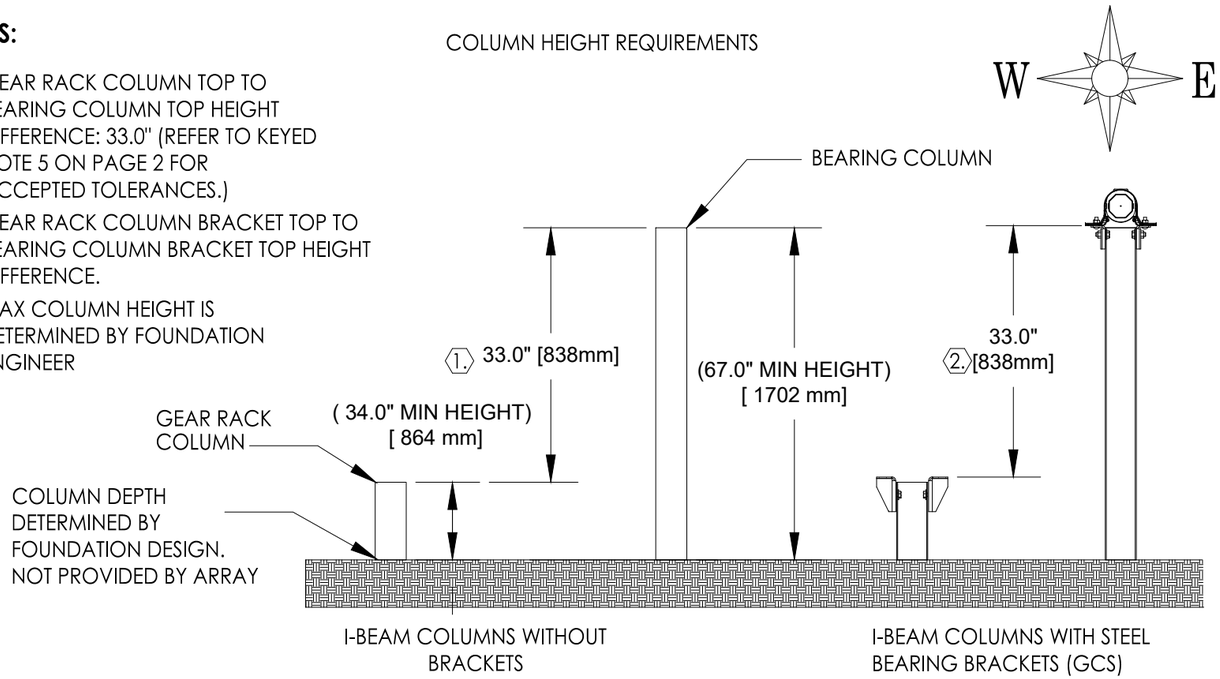


DETAIL A

NOTES:

COLUMN HEIGHT REQUIREMENTS

1. GEAR RACK COLUMN TOP TO BEARING COLUMN TOP HEIGHT DIFFERENCE: 33.0" (REFER TO KEYED NOTE 5 ON PAGE 2 FOR ACCEPTED TOLERANCES.)
2. GEAR RACK COLUMN BRACKET TOP TO BEARING COLUMN BRACKET TOP HEIGHT DIFFERENCE.
3. MAX COLUMN HEIGHT IS DETERMINED BY FOUNDATION ENGINEER

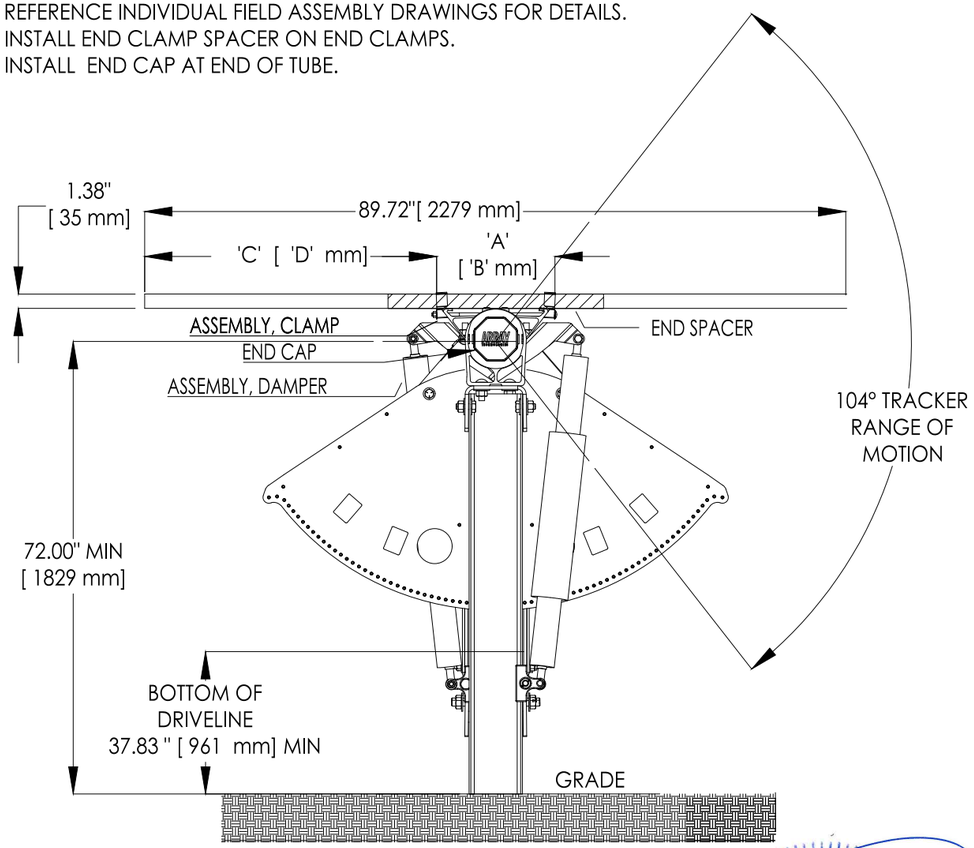


DETAIL B

NOTE:

MINIMUM DISTANCES AND MODULE DATA

1. REFERENCE INDIVIDUAL FIELD ASSEMBLY DRAWINGS FOR DETAILS.
   INSTALL END CLAMP SPACER ON END CLAMPS.
   INSTALL END CAP AT END OF TUBE.



MODULE WIDTH = 44.65"[1134 mm]

DETAIL C

CLAMP TYPE	DIM 'A' [IN]	DIM 'B' [mm]	DIM 'C' [IN]	DIM 'D' [mm]
400mm THRU BOLT	17.02	432.3	36.33	922.8
1400mm THRU BOLT	56.97	1447.0	16.36	415.5

STATE OF CONNECTICUT · ROBERT C. NAPLES · No. 28670 · LICENSED PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	03/10/2026

19126 GreenSkies: Woodbridge Racebrook
Approx. 4.48084 MWDC
Woodbridge, CT 06525
GreenSkies

AMPACITY RENEWABLES · QUANTA · ARRAY TECHNOLOGIES

DRAWING STATUS: Final
PRODUCT STATUS: Final

	NAME	DATE
DRAWN	EO	03/10/2026
CHECKED	Ampacity	03/10/2026
APPROVED	---	---

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **OmniTrack® HZ Project: 19126 GreenSkies: Woodbridge Racebrook Detail Views**

SIZE	PRODUCT NUMBER	REVISION
B	19126	A

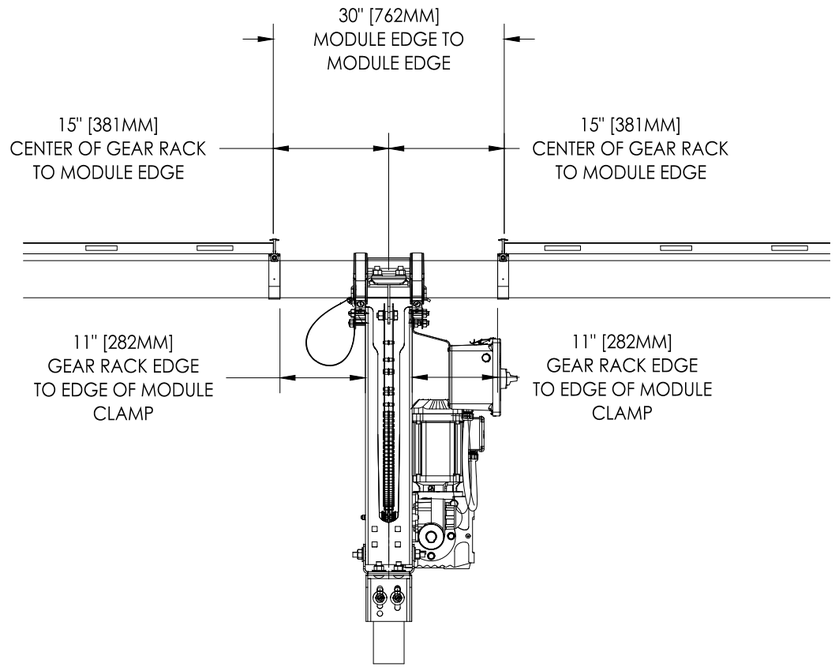
SCALE	DWG NO.	U.S. PATENT NO.	
NTS	19126-901	#8,459,249; # 9,281,778	8 OF 10

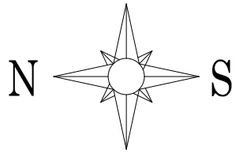
NOTES:

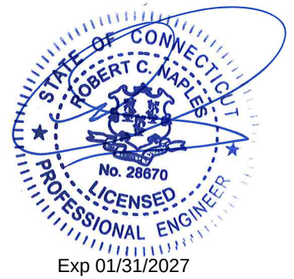
1. THE GLOBAL CENTER STRUCTURE MOTOR IS MOUNTED OPPOSITE OF CAB SYSTEM.

2. THE GLOBAL CENTER STRUCTURE MOTOR CAN BE MOUNTED ON EITHER WEST SIDE OR EAST SIDE OF GEAR RACK.

MODULE GAP CLEARANCE







Exp 01/31/2027

03/14/2026

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	03/10/2026

19126 GreenSkies: Woodbridge Racebrook
Approx. 4.48084 MWDC
Woodbridge, CT 06525
GreenSkies

AMPACITY RENEWABLES
QUANTA
ARRAY TECHNOLOGIES

DRAWING STATUS: Final
PRODUCT STATUS: Final

	NAME	DATE
DRAWN	EO	03/10/2026
CHECKED	Ampacity	03/10/2026
APPROVED	---	---

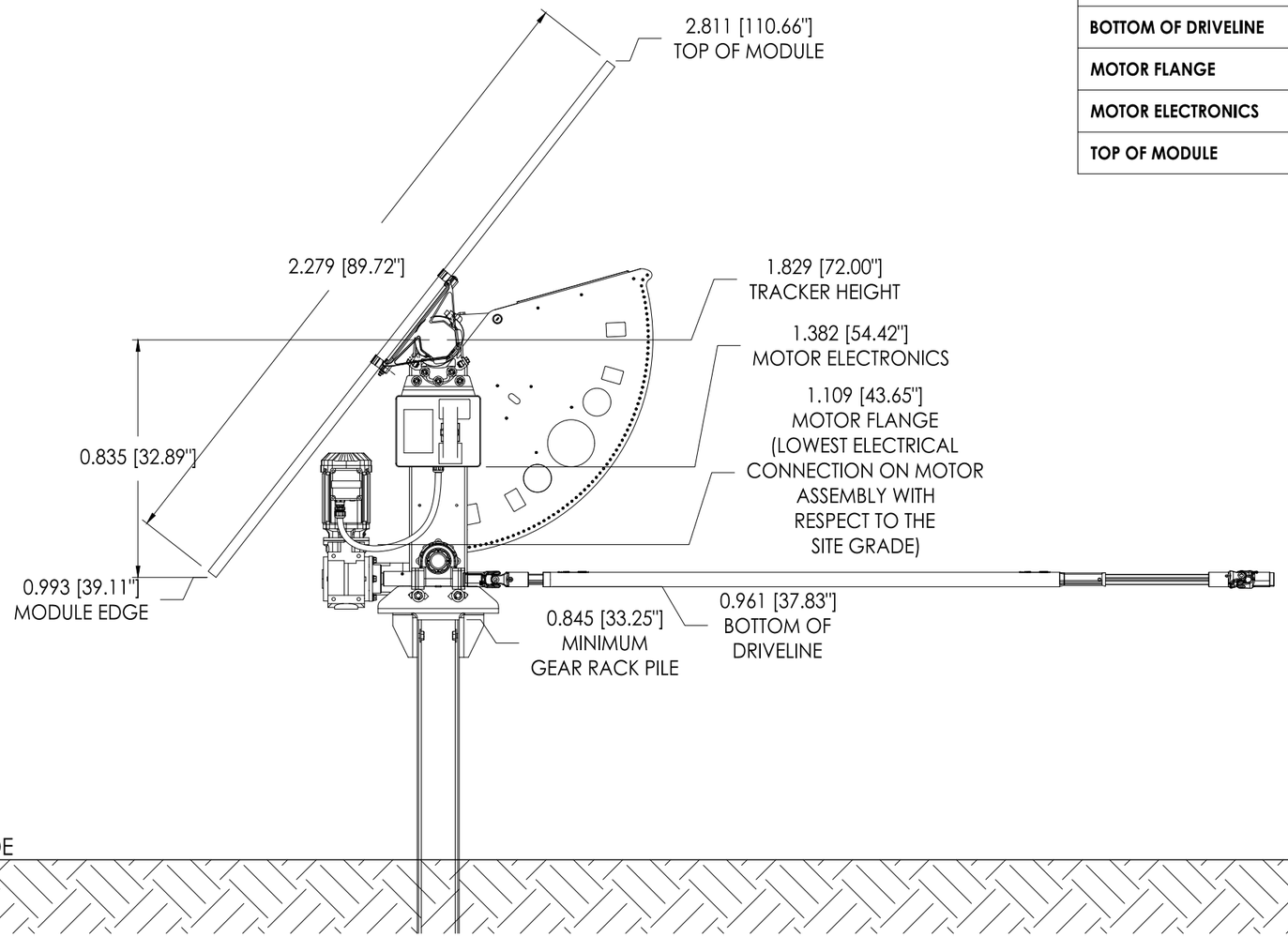
ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **OmniTrack® HZ Project: 19126 GreenSkies: Woodbridge Racebrook Detail Views**

SIZE	PRODUCT NUMBER	REVISION
B	19126	A

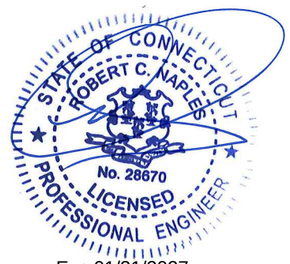
SCALE	DWG NO.	U.S. PATENT NO.	
NTS	19126-901	#8,459,249; # 9,281,778	9 OF 10

1. DIMENSIONS PROVIDED IN TABLE ARE FOR REFERENCE ONLY. REFER TO DETAILS A, B AND C ON SHEET 8 FOR PILE REVEAL MINIMA.



DETAIL F
72.00" TRACKER HEIGHT

GCS DIMENSIONS FROM GRADE - 2279mm										
TRACKER HEIGHT	72.00" [1.829 m]		84.00" [2.134 m]		96.00" [2.438 m]		108.00" [2.743 m]		120.00" [3.048 m]	
MODULE EDGE TO GRADE	39.11	0.993m	51.11"	1.298m	63.11"	1.603m	75.11"	1.908m	87.11"	2.212m
GEAR RACK PILE	33.25"	0.845m	45.25"	1.149m	57.25"	1.454m	69.25"	1.759m	81.25"	2.064m
BOTTOM OF DRIVELINE	37.83"	0.961m	49.83"	1.266m	61.83"	1.570m	73.83"	1.875m	85.83"	2.180m
MOTOR FLANGE	43.57"	1.107m	55.57"	1.411m	67.57"	1.716m	79.57"	2.021m	91.57"	2.326m
MOTOR ELECTRONICS	54.42"	1.382m	66.42"	1.687m	78.42"	1.992m	90.4"	2.297m	102.42"	2.601m
TOP OF MODULE	110.66	2.811	122.66"	3.115m	134.66"	3.420m	146.66"	3.725m	158.66"	4.030m



Exp 01/31/2027
03/14/2026

W E

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	03/10/2026

19126 GreenSkies: Woodbridge Racebrook
Approx. 4.48084 MWDC
Woodbridge, CT 06525
GreenSkies

AMPACITY RENEWABLES
QUANTA
ARRAY TECHNOLOGIES

DRAWING STATUS: Final
PRODUCT STATUS: Final

	NAME	DATE
DRAWN	EO	03/10/2026
CHECKED	Ampacity	03/10/2026
APPROVED	---	---

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: OmniTrack® HZ Project:
19126 GreenSkies: Woodbridge Racebrook
Detail Views

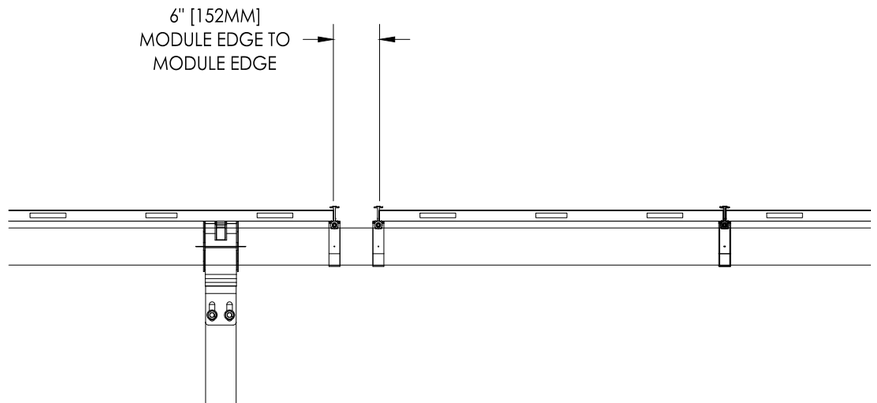
SIZE	PRODUCT NUMBER	REVISION
B	19126	A

SCALE	DWG NO.	U.S. PATENT NO.	
NTS	19126-901	#8,459,249; # 9,281,778	10 OF 10

NOTES:

1. THE NOMINAL GAP SHOWN MAY BE ALTERED +/- 6IN.

OMNITRACK NOMINAL
MODULE GAP CLEARANCE



STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027
03/14/2026

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	03/10/2026

N S

19126 GreenSkies: Woodbridge Racebrook
Approx. 4.48084 MWDC
Woodbridge, CT 06525
GreenSkies

AMPACITY RENEWABLES
QUANTA
ARRAY TECHNOLOGIES

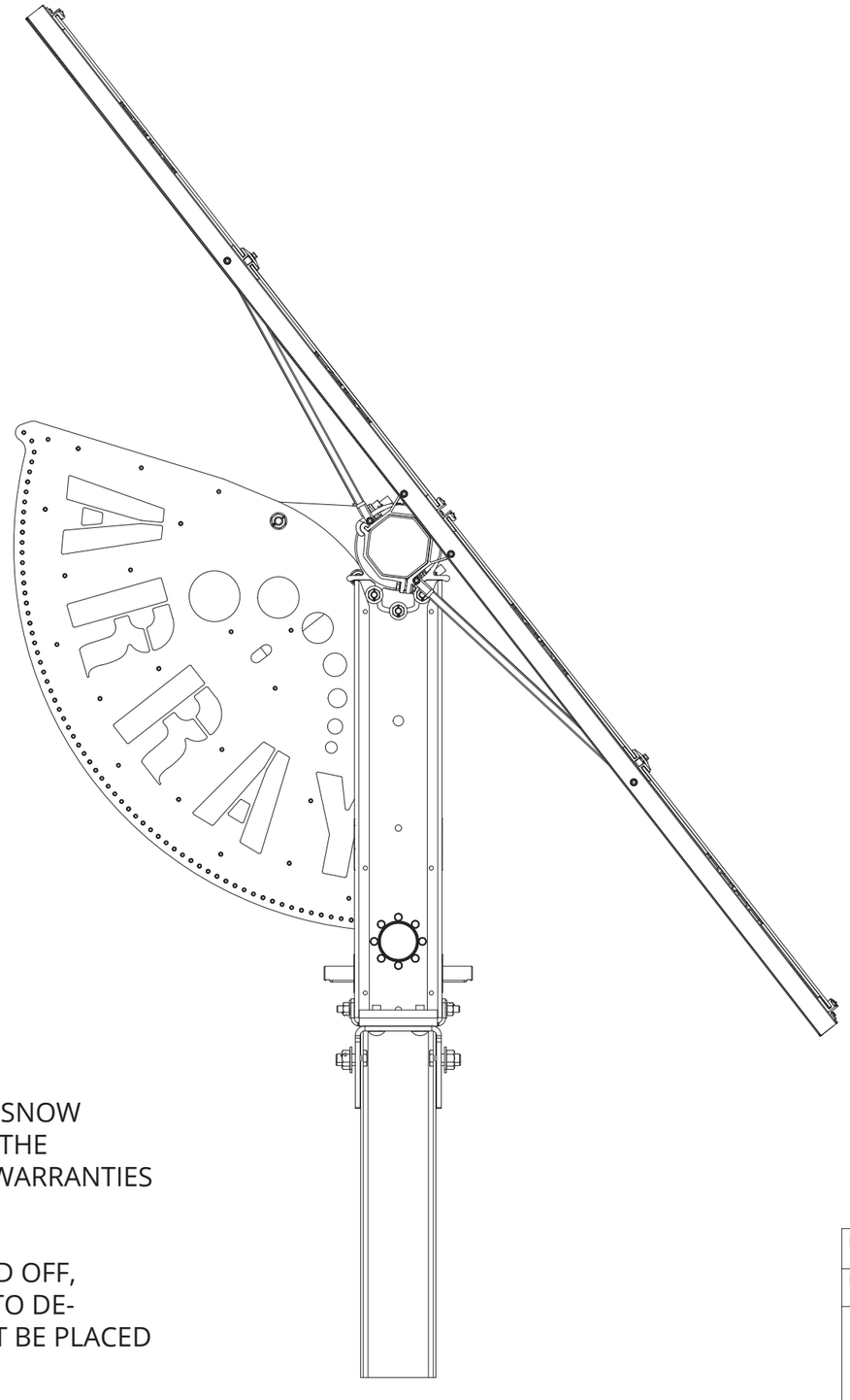
DRAWING STATUS: Final
PRODUCT STATUS: Final

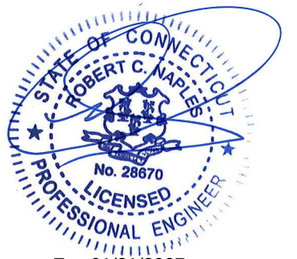
	NAME	DATE
DRAWN	EO	03/10/2026
CHECKED	Ampacity	03/10/2026
APPROVED	---	---

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE
OmniTrack® HZ Project:
19126 GreenSkies: Woodbridge Racebrook
Detail Views

SIZE	PRODUCT NUMBER	REVISION	
B	19126	A	
SCALE NTS	DWG NO. 19126-901	U.S. PATENT NO. #8,459,249; # 9,281,778	10B OF 10





Exp 01/31/2027

03/14/2026

TO PROTECT MODULES FROM DAMAGE DURING A HEAVY SNOW EVENT, THE TRACKER SYSTEM HAS BEEN ENGINEERED AND DESIGNED TO BE STOWED AT NIGHT IN A MAXIMUM TILT POSITION CALLED NIGHT SNOW STOW. THE TRACKER IS REQUIRED TO BE PLACED AND REMAIN IN NIGHT SNOW STOW POSITION AT TIME OF MODULE MOUNTING AND MUST REMAIN IN SUCH POSITION UNTIL SYSTEM COMMISSIONING. PROGRAMMING OF AUTOMATED NIGHT SNOW STOW WILL OCCUR AT TIME OF COMMISSIONING.

FAILURE TO PLACE THE SYSTEM INTO NIGHT SNOW STOW COULD RESULT IN DAMAGE TO BOTH THE MODULES AND TRACKER SYSTEM, VOIDING WARRANTIES OF EACH RESPECTIVELY.

IF AT ANY TIME THE SYSTEM IS TO BE TURNED OFF, IT IS EXPRESSLY UNDERSTOOD THAT PRIOR TO DE-ENERGIZING THE SYSTEM, THE SYSTEM MUST BE PLACED IN NIGHT SNOW STOW.

REV		DATE
B	CHANGED MATERIAL GRADE PER ECR 17124	10/31/2017
A	INITIAL RELEASE	10/11/2017

DRAWING STATUS: FINAL

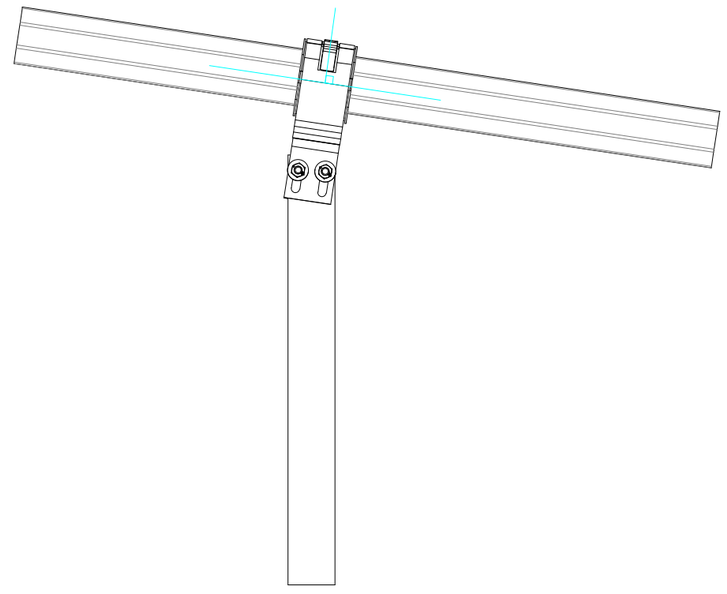
PRODUCT STATUS: FINAL

ARRAY TECHNOLOGIES
3901 MIDWAY PLACE NE, ALBUQUERQUE, NM 87109
(505)881-7567

SIZE	PRODUCT NUMBER	REVISION	SAVED v24	SHEET
B		B	11/6/2017	1 OF 1

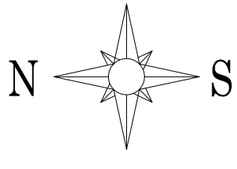
NOTES:

1. ENSURE PERPENDICULARITY BETWEEN TORQUE TUBE AND BEARING HOUSING.



Exp 01/31/2027

03/14/2026



AMPACITY RENEWABLES QUANTA ARRAY TECHNOLOGIES

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	01/24/2025

DRAWING STATUS: Final

PRODUCT STATUS: Final

	NAME	DATE
DRAWN	TH	01/24/2025
CHECKED	RPCS	01/24/2025
APPROVED	---	---

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

ARRAY TECHNOLOGIES

TITLE: DuraTrack® HZ

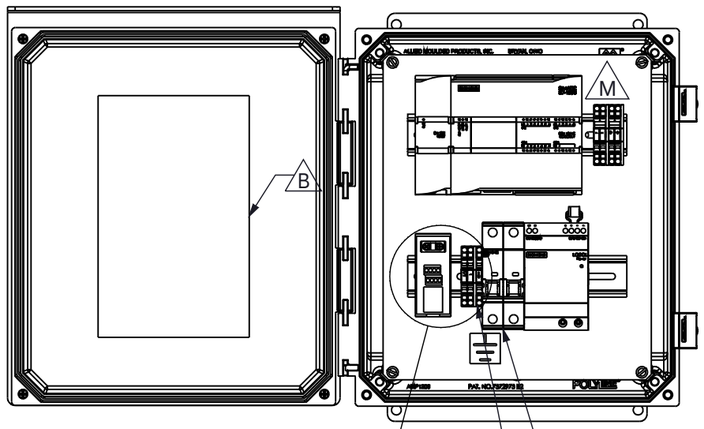
SIZE	PRODUCT NUMBER	REVISION
B		A

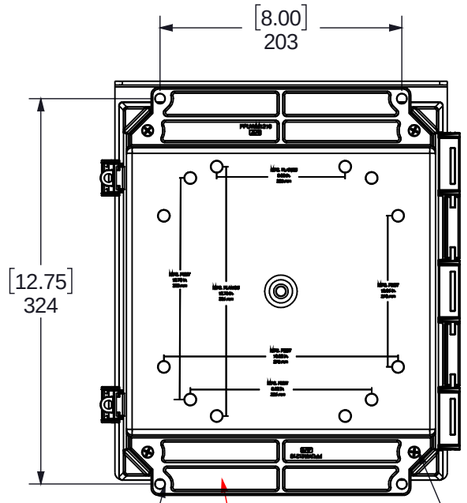
SCALE	DWG NO.	U.S. PATENT NO.	
NTS	---	#8,459,249; # 9,281,778	1 OF 1

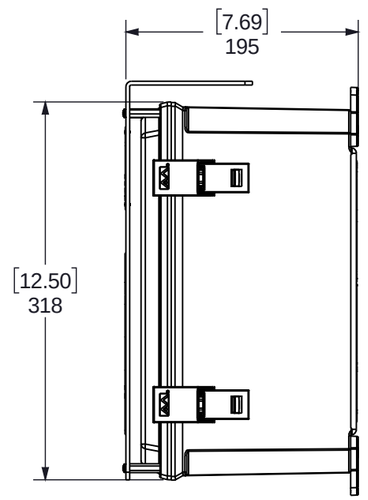
NOTES:

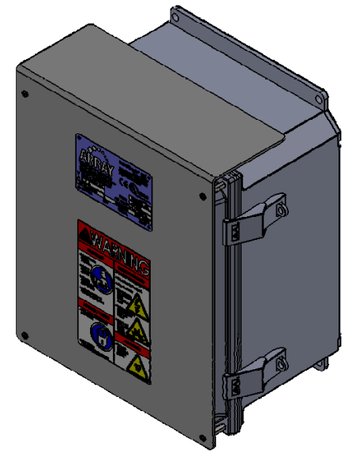
1. REFER TO DURATRACK INSTALLATION GUIDE
2. NORMALLY JUMPERED, CAN BE REMOVED AND OPTIONAL STOW INSTALLED. JUMPER CAN BE USED FOR TESTING.
3. CONNECTION FOR GPS ANTENNA, DO NOT INSERT DEVICE OTHER THAN ARRAY GPS ANTENNA. (I.E. ETHERNET)

WIRE GAUGE AND TORQUE SPECIFICATIONS		
COMPONENT DESCRIPTION	WIRE GAUGE MAX/MIN	TORQUE SPECIFICATIONS
CIRCUIT BREAKER	5.2/1.6 ∅ mm [4/14 AWG]	2.48 to 2.93 N-m [22 to 26 IN-LBS]









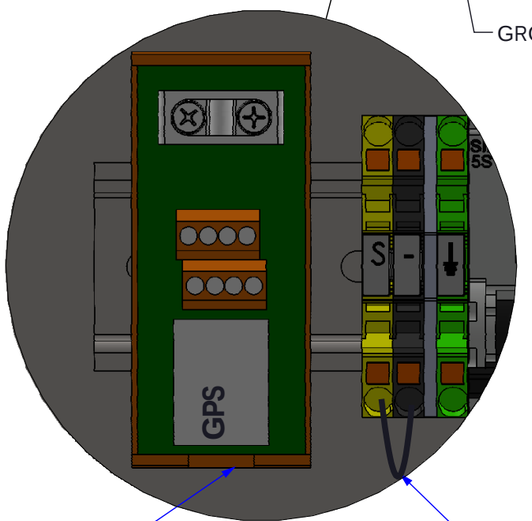
120/240 V SINGLE PHASE

GROUND

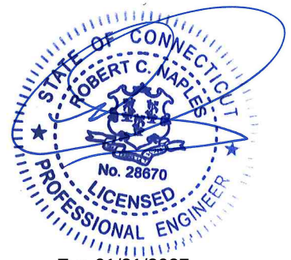
USE 5/16-18 NUT/BOLT FOR FOOT MOUNT (OPTIONAL)

MOUNT ATTACHED TO ENCLOSURE WITH #10-32 SCREWS.

ALL PENETRATIONS INTO THE ENCLOSURE TO BE IN BOTTOM SIDE AND MUST BE PLUGGED WITH COMPONENTS WHICH MAINTAIN THE 4X RATING OF THE ENCLOSURE.



DETAIL A



Exp 01/31/2027

03/14/2026

REV	DESCRIPTION	DATE
M	REMOVED COMPONENT PER ECR 18116	7/29/2018
L	MATCH ASSY REV PER ECR 18072	5/31/2018
K	MATCH ASSY REV PER ECR 17057	11/1/2017
J	REPLACED COMPONENTS PER ECR 17057	7/19/2017
H	MATCH ASSY REV PER ECR 16178	12/22/2016
G	MATCH ASSY REV PER ECR 16171	11/23/2016
F	MATCH ASSY REV PER 15075	11/5/2015
E	MATCH ASSY REV PER 15027	6/9/2015
D	EDITED PER ECR 15034	5/21/2015
C	MATCH ASSY REV PER 14073	3/5/2015
B	EDIT PER ECR #14073	2/10/2015
A	INITIAL RELEASE	11/14/2014

UNLESS OTHERWISE SPECIFIED DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES, mm [in]:
X = ±1.25 [±0.050"]
.X = ±0.4 [±0.015"]
.XX = ±0.1 [±0.004"]

TOLERANCES, m [in]:
X.XX = ±0.013 [±0.5"]
X.XXX = ±0.006 [±0.25"]

ANGULAR:
X = ±1.0°
.X = ±.1°

DRAWING STATUS: Final

PRODUCT STATUS: Final

	NAME	DATE
DRAWN	AM	09/24/2014
CHECKED	AB	7/30/2018
APPROVED	SR	7/30/2018

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

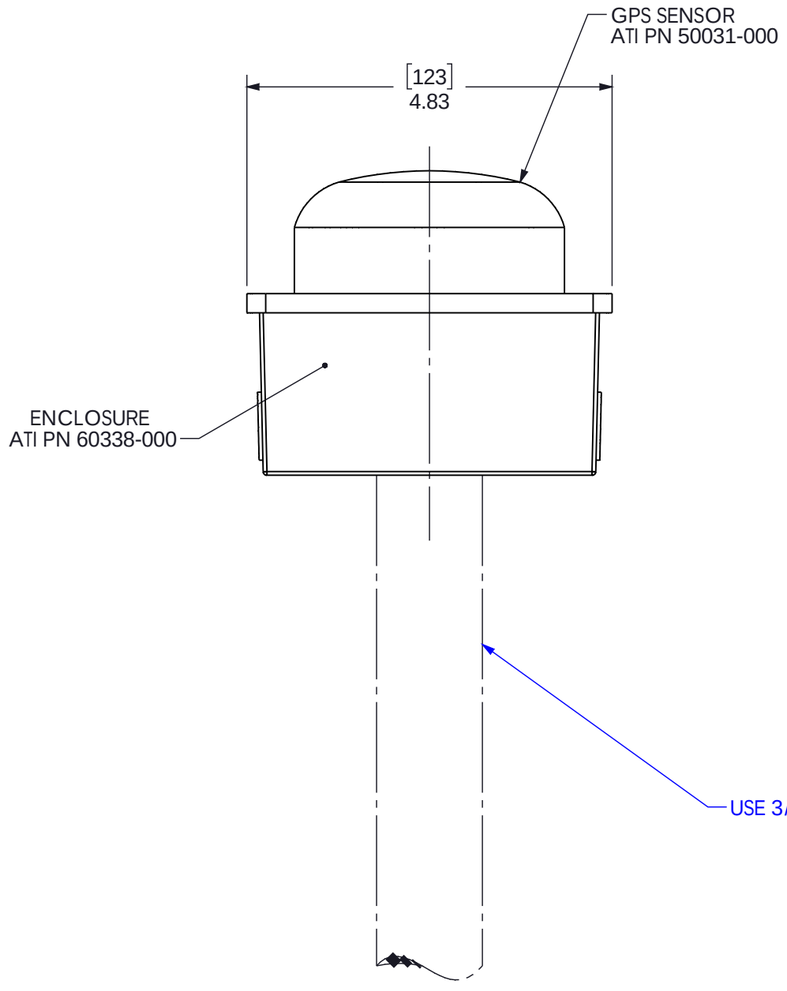
TITLE: **Assembly, Site Data Controller, V3, 100-240 V, w/ ethernet**

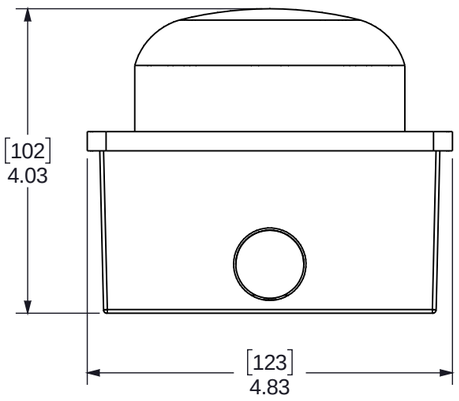
SIZE	PRODUCT NUMBER	REVISION	SAVED v63
B	20264-000	M	7/29/2018

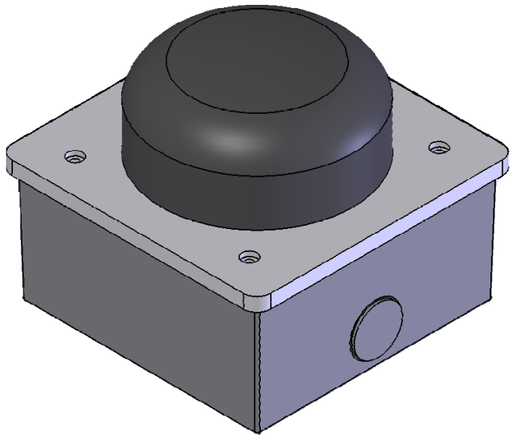
SCALE	DWG NO.		SHEET
1:5	20264-901	WT: 3.465 KG [7.70LB]	1 OF 1

NOTES:

1. THE GPS ANTENNA IS PRE-ROUTED WITH A 15' [4.6 M] WIRE THAT IS PLUGGED INTO THE SITE DATA ASSEMBLY.
2. REFER TO PROVIDED INSTALLATION GUIDE FOR ADDITIONAL INSTALLATION INSTRUCTIONS.
3. MODIFY ASSEMBLY AS NEEDED TO MEET LOCAL INSPECTION CRITERIA.







Exp 01/31/2027
03/14/2026

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	3/12/2015

DRAWING STATUS: Final

DRAWN — INITIALS: AM DATE: 03/12/2015	DRAWING CHECK — INITIALS: KT DATE: 4/7/2015
ENG. CHECK — INITIALS: DATE:	FINAL APPROVAL — INITIALS: CB DATE: 4/7/2015

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: INCH [MILLIMETER]

TOLERANCES UNLESS OTHERWISE SPECIFIED

INCHES [MM]: .X = ±0.250 [6.00] .XX = ±0.050 [1.25] .XXX = ±0.015 [0.40]

ANGULAR: .X = ±1.0° .X = ±0.1°

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Assembly, GPS

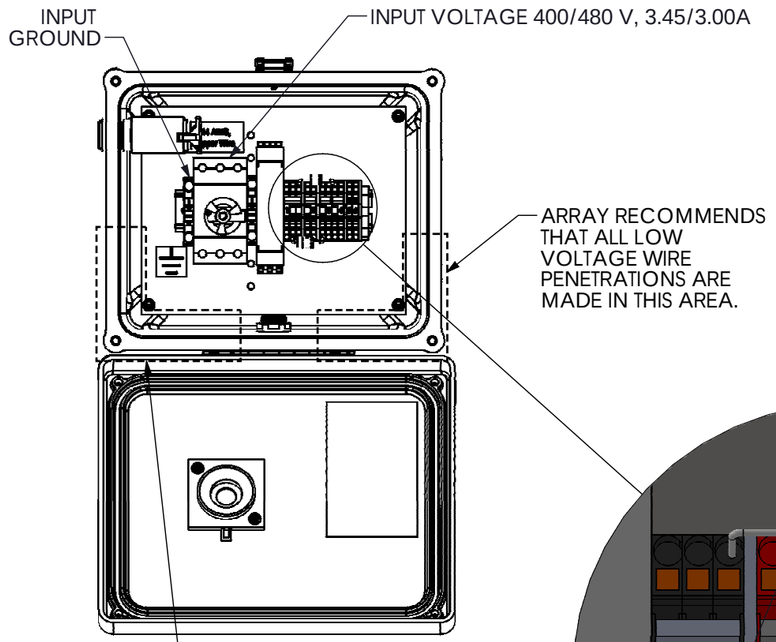
SIZE	DRAWING NUMBER	REVISION	SAVED v13
B	20436-901	A	7/25/2019

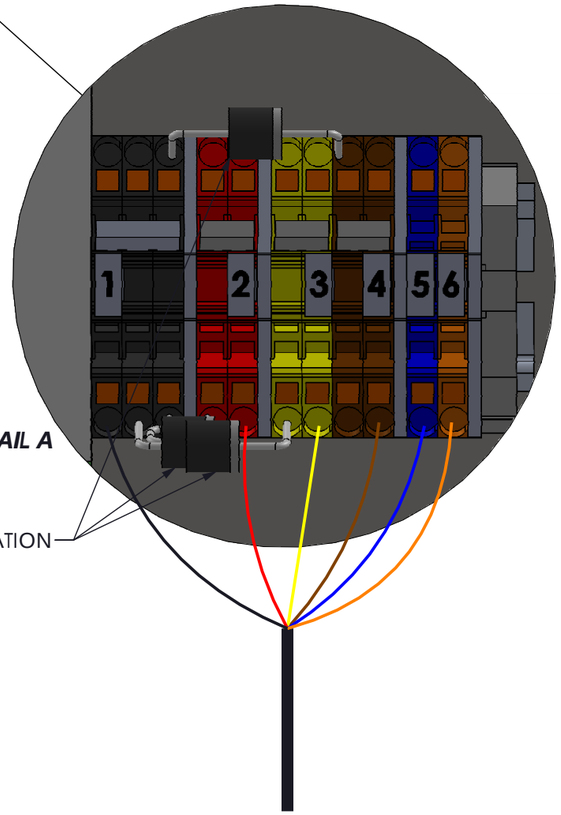
SCALE 1:2 | WT: 0.96 KG] | SHEET 1 OF 1

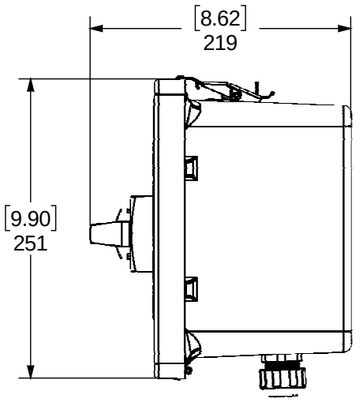
NOTES:

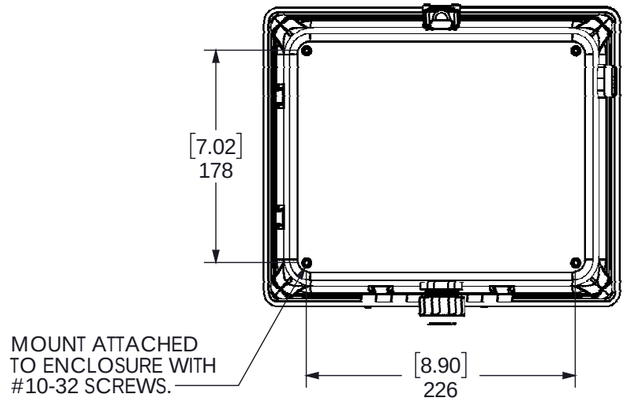
1. REFER TO DURATRACK INSTALLATION GUIDE.
2. ALL PENETRATIONS DONE IN FIELD MUST BE PLUGGED WITH COMPONENT WHICH MAINTAINS THE IP RATING OF THE ENCLOSURE.

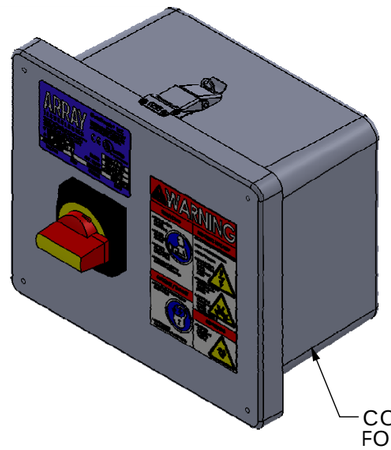
WIRE GAUGE AND TORQUE SPECS		
COMPONENT DESCRIPTION	**WIRE GAUGE MAX/MIN**	**TORQUE SPECIFICATIONS**
Manual Motor Protector	1.63 to 2.59 ∅ mm [14 to 10 AWG]	0.8 to 1.2 N-m [7 to 10.3 IN-LBS]

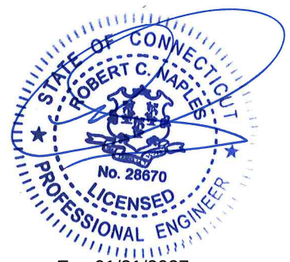












Exp 01/31/2027

03/14/2026

CONFIGURATION TABLE	
PART NUMBER	**DESCRIPTION**
20583-000	Assembly, DTHZ Motor Electronics, V3, Dual Voltage, VMS, IEC
20583-001	Assembly, DTHZ Motor Electronics, V3, Dual Voltage, VMS, IEC, Snow Mode

REV	DESCRIPTION	DATE
N	MATCH ASSY REV PER ECR 20180	3/19/2020
M	MATCH ASSY REV, REFERENCE (-903) PER ECR-19137	11/19/2019
L	ADDED IEC TO DESCRIPTION PER ECR 18123 REMOVED FINGER GUARD PER ECR 19005 ADDED STOP BLOCK PER ECR 19038	3/4/2019

DRAWING STATUS: **Final**

DRAWN INITIALS: AM DATE: 11/02/2016	DRAWING CHECK INITIALS: RM DATE: 4/17/2020
ENG. CHECK INITIALS: DO DATE: 04/17/2020	FINAL APPROVAL INITIALS: SB DATE: 4/22/2020

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.050] .X = ±0.4 [0.015] .XX = ±0.1 [0.004]	X.XX = ±0.013 [0.500] X.XXX = ±0.006 [0.250]	X = ±1.0° .X = ±0.1°

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **Assembly, DTHZ Motor Electronics, V3, Dual Voltage, VMS, IEC**

SIZE	DRAWING NUMBER	REVISION	SAVED v108
B	20583-901	N-01	4/7/2020

SCALE 1:5 | WT: 13.1kg [lb] | SHEET 1 OF 1

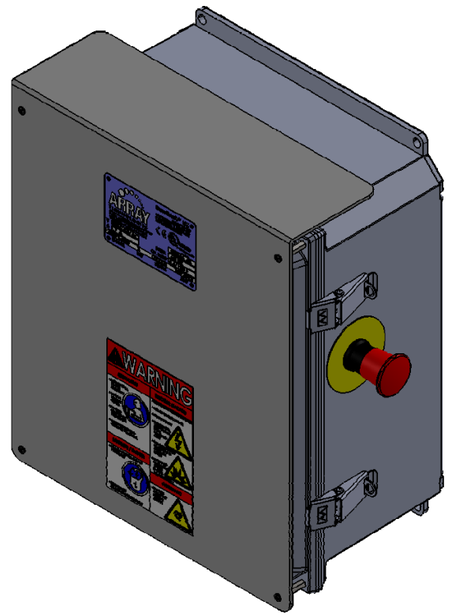
NOTES:

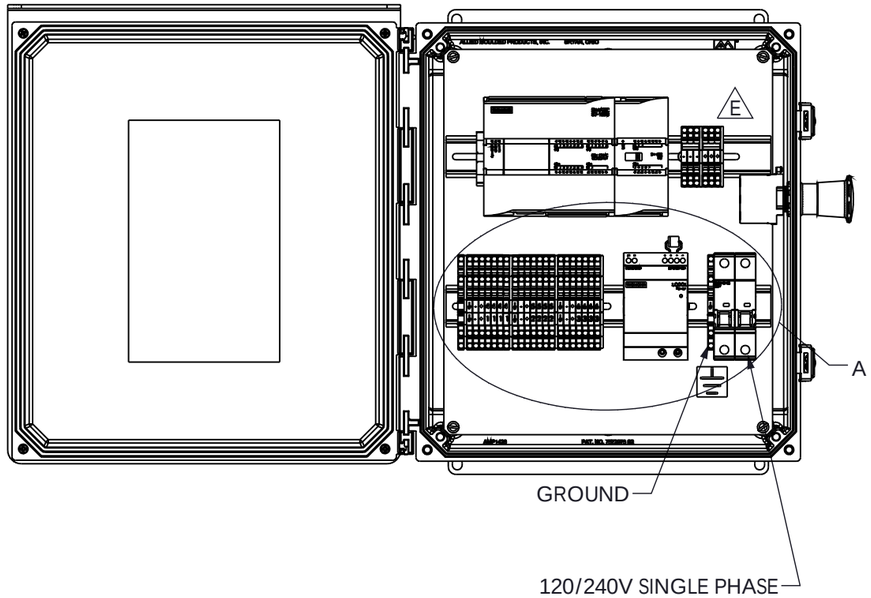
1. REFER TO DURATRACK INSTALLATION GUIDE

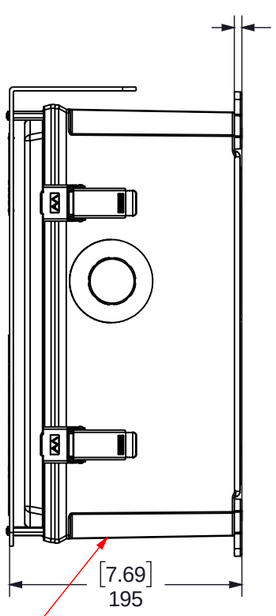
2. NORMALLY JUMPERED, SHOULD ONLY BE REMOVED IF OPTIONAL STOW DEVICE INSTALLED.

3. USE GROUND WIRE FROM 50001-000, AS SHOWN. DO NOT CONNECT GROUND WIRE IN MOTOR CONTROL BOX.

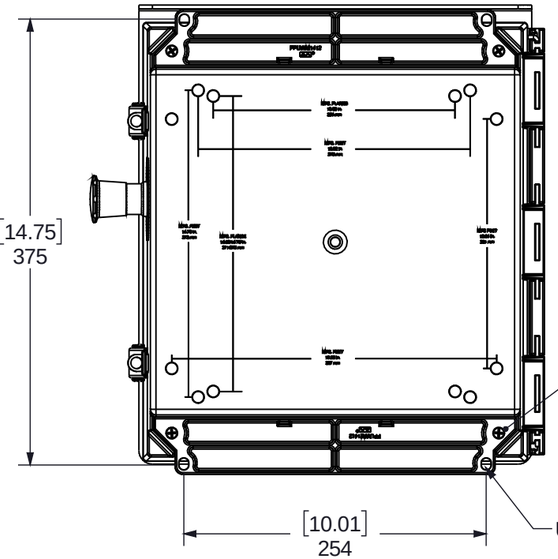
WIRE GAUGE AND TORQUE SPECIFICATIONS		
COMPONENT DESCRIPTIONS	WIRE GAUGE MAX/MIN	TORQUE SPECIFICATIONS
CIRCUIT BREAKER	4/14 AWG [5.2/1.6 ∅ mm]	22 to 26 IN-LBS[2.48 to 2.93 N-m]







ALL PENETRATIONS INTO THE ENCLOSURE TO BE IN BOTTOM SIDE AND MUST BE PLUGGED WITH COMPONENTS WHICH MAINTAIN THE 4X RATING OF THE ENCLOSURE.



STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

CONFIGURATION TABLE	
PART NUMBER	DESCRIPTION
20591-000	Assembly, 6X Motor Controller, V3, 100-240 V, w/ ethernet
20591-001	Assembly, 6X Motor Controller, V3, 100-240 V, w/ ethernet, Snow Mode

REV	DESCRIPTION	DATE
G	MATCH ASSY REV PER ECR 20180	3/19/2020
F	ADDED SNOW MODE PER ECR 18124	3/28/2019
E	REMOVED COMPONENT PER ECR 18116	7/29/2018

DRAWING STATUS: Final

DRAWN: INITIALS: AM DATE: 01/18/2017

DRAWING CHECK: INITIALS: RM DATE: 4/17/2020

ENG. CHECK: INITIALS: DO DATE: 04/20/2020

FINAL APPROVAL: INITIALS: SB DATE: 4/22/2020

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES UNLESS OTHERWISE SPECIFIED

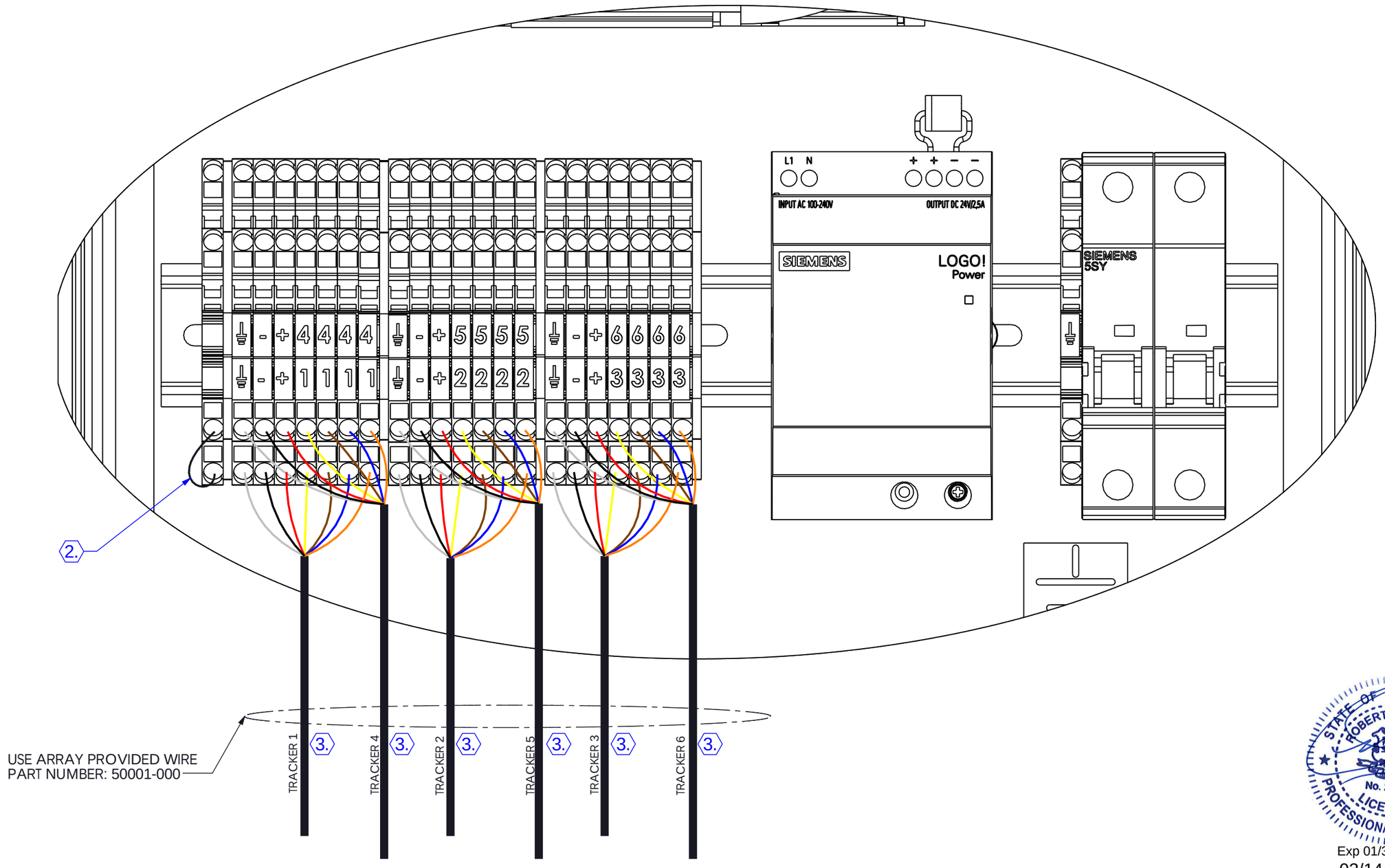
MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.050]	X.XX = ±0.013 [0.500]	X = ±1.0°
.X = ±0.4 [0.015]	X.XXX = ±0.006 [0.250]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Assembly, 6X Motor Controller, V3, 100-240 V, w/ ethernet

SIZE	DRAWING NUMBER	REVISION	SAVED v55
B	20591-901	H-01	4/6/2020

SCALE 1:5 | WT: 5.67 KG [12.5874 LB] | SHEET 1 OF 2



DETAIL A

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027

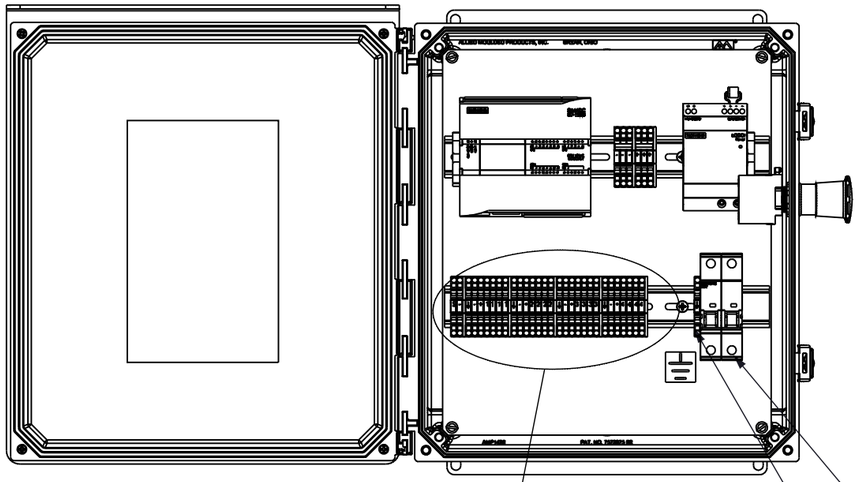
03/14/2026

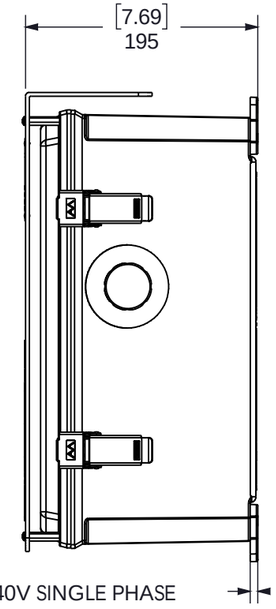
SIZE	DRAWING NUMBER	REVISION	SAVED v55
B	20591-901	H-01	4/6/2020
SCALE 1:5	WT: 5.67 KG [12.5874 LB]	SHEET	2 OF 2

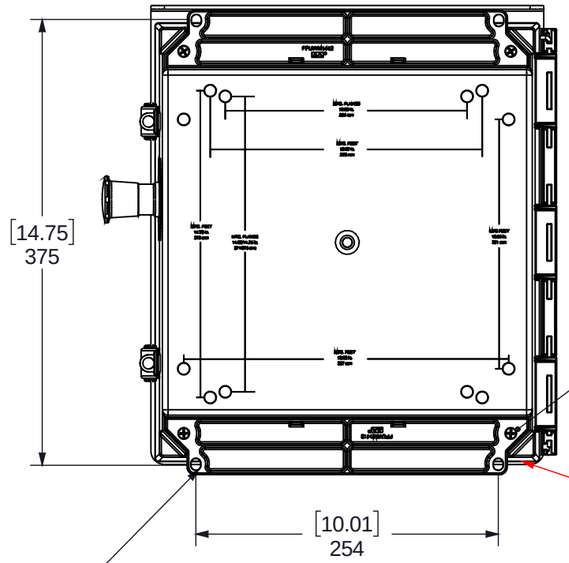
NOTES:

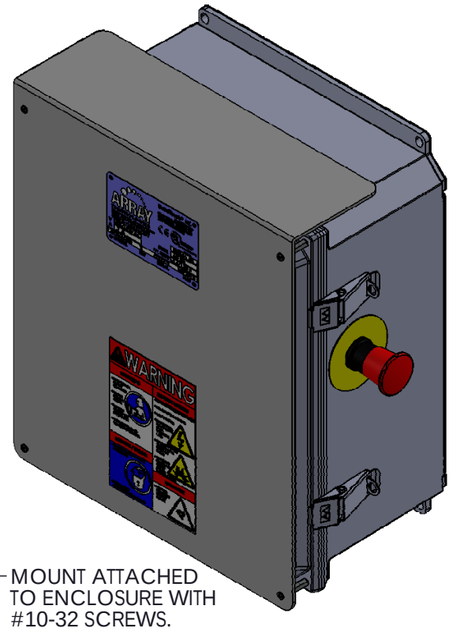
1. REFER TO DURATRACK INSTALLATION GUIDE.
2. NORMALLY JUMPERED, SHOULD ONLY BE REMOVED IF OPTIONAL WINDSTOW INSTALLED.
3. USE GROUND WIRE FROM 50001-000, AS SHOWN. DO NOT CONNECT GROUND WIRE IN MOTOR CONTROL BOX.

WIRE GAUGE AND TORQUE SPECIFICATIONS		
COMPONENT DESCRIPTIONS	WIRE GAUGE MAX/MIN	TORQUE SPECIFICATIONS
CIRCUIT BREAKER	4/14 AWG [5.2/1.6 ∅ mm]	22 to 26 IN-LBS[2.48 to 2.93 N-m]









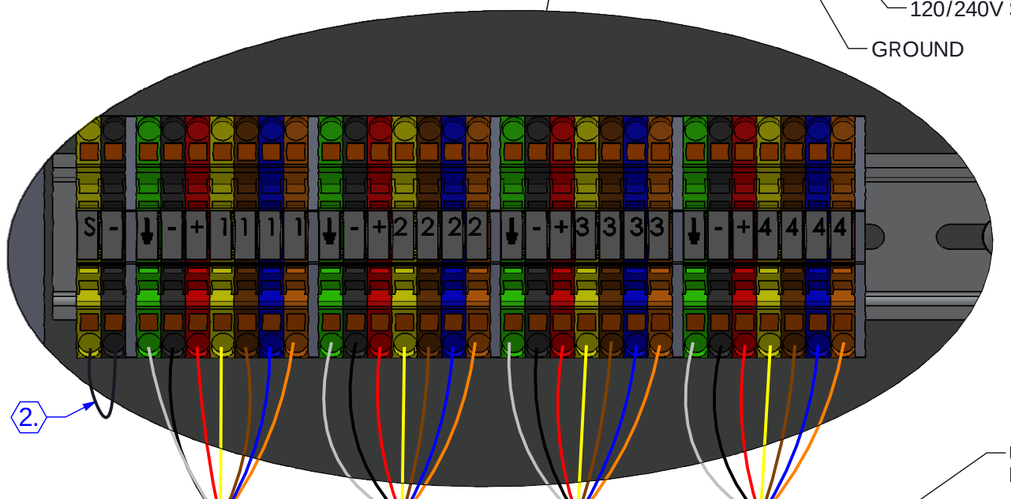
MOUNT ATTACHED TO ENCLOSURE WITH #10-32 SCREWS.

ALL PENETRATIONS INTO THE ENCLOSURE TO BE IN BOTTOM SIDE AND MUST BE PLUGGED WITH COMPONENTS WHICH MAINTAIN THE 4X RATING OF THE ENCLOSURE.

120/240V SINGLE PHASE

GROUND

USE 5/16-18 NUT/BOLT FOR FOOT MOUNT (OPTIONAL)



USE ARRAY PROVIDED WIRE PART NUMBER: 50001-000

N

CONFIGURATION TABLE	
PART NUMBER	DESCRIPTION
20262-000	Assembly, 4X Motor Controller, V3, 100-240 V, w/ ethernet
20262-001	Assembly, 4X Motor Controller, V3, 100-240 V, w/ ethernet, Snow Stow

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

REV	DESCRIPTION	DATE
N	ADDED SNOW STOW PER ECR 18124	3/19/2019
M	REMOVED COMPONENT PER ECR 18116	7/28/2018
L	MATCH ASSY REV PER ECR 18072	5/31/2018

DRAWING STATUS: Final

DRAWN	AM 09/24/2014	DRAWING CHECK	RA 6/13/2019
ENG. CHECK		FINAL APPROVAL	SB 6/14/2019

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.050]	X.XX = ±0.013 [0.500]	X = ±1.0°
.X = ±0.4 [0.015]	X.XXX = ±0.006 [0.250]	.X = ±0.1°
.XX = ±0.1 [0.004]		

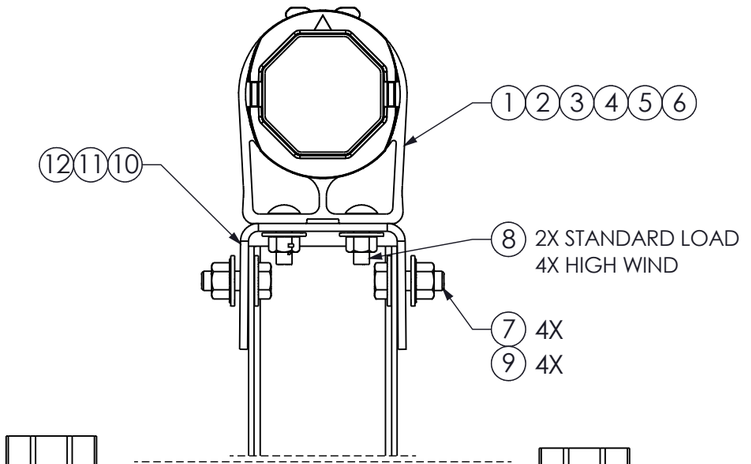
ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

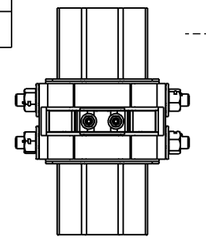
TITLE: Assembly, 4X Motor Controller, V3, 100-240 V, w/ ethernet

SIZE	DRAWING NUMBER	REVISION	SAVED v82
B	20262-901	O-01	4/16/2019

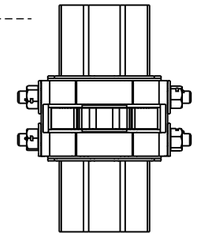
SCALE 1:5 | WT: 0.00 KG [0 LB] | SHEET 1 OF 1

ITEM NO.	PART NUMBER	DESCRIPTION	STANDARD	STANDARD (SET SCREWS)	HIGH WIND - RADIAL BRKT	HIGH WIND - RADIAL BRKT (SET SCREWS)	HIGH WIND - STRAIGHT SLOT BRKT	HIGH WIND - STRAIGHT SLOT BRKT (SET SCREWS)
1	20936-XXX	Assembly, Center Stop Bearing, 6.142" ID, XXX Finish	1	-	-	-	-	-
2	20937-XXX	Assembly, Center Stop Bearing, Set Screws, 6.142" ID, XXX Finish	-	1	-	-	-	-
3	20938-XXX	Assembly, Center Stop Bearing, High Wind, 6.142" ID, XXX Finish	-	-	1	-	-	-
4	20939-XXX	Assembly, Center Stop Bearing, High Wind, Set Screws, 6.142" ID, XXX Finish	-	-	-	1	-	-
5	20956-XXX	Assembly, Center Stop Bearing, Radial Slots, HW, 6.142" ID, XXX Finish	-	-	-	-	1	-
6	20957-XXX	Assembly, Center Stop Bearing, Radial Slots, HW, Set Screws, 6.142" ID, XXX Finish	-	-	-	-	-	1
7	25050-001	Kit, 0.625"-11 x 2" Structural Bolt, Large Washers, Pin Lock Nut, HDG	4	4	-	-	-	-
8	25056-001	Kit, 0.625"-11 x 2" Carriage Bolt, Large Washers, Pin Lock Nut, HDG	2	2	4	4	4	4
9	25123-001	Kit, 0.75"-10 x 2.25" Structural Bolt, Large Washers, Pin Lock Nut, HDG	-	-	4	4	4	4
10	30959-XXX	Bracket, I-Beam Bushing Housing, Std Load, 8 mm, HDG, WX x XX, XXX mm	1	1	-	-	-	-
11	30960-XXX	Bracket, I-Beam Bushing Housing, HW Radial Slots, 9.5 mm, HDG, WX x XX, XXX mm	-	-	1	1	-	-
12	30961-XXX	Bracket, I-Beam Bushing Housing, HW Straight Slots, 8 mm, HDG, WX x XX, XXX mm	-	-	-	-	1	1

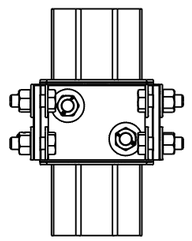




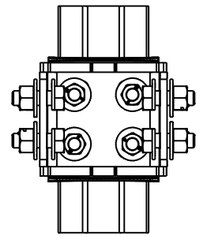
TOP VIEW
WITH SET SCREWS



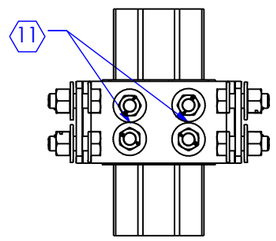
TOP VIEW
WITHOUT SET SCREWS



BOTTOM VIEW - STANDARD LOAD
PILE HIDDEN FOR CLARITY



BOTTOM VIEW
HIGH WIND - RADIAL BRACKET
PILE HIDDEN FOR CLARITY



BOTTOM VIEW
HIGH WIND - STRAIGHT SLOT BRACKET
PILE HIDDEN FOR CLARITY

NOTES:

1. REFER TO INSTALLATION MANUAL FOR DETAILS.
2. LOOSEN JAM NUT ON SET SCREWS PRIOR TO TORQUING. ENSURE THAT THE SET SCREWS DO NOT PROTRUDE FROM THE CENTER STOP PRIOR TO SLIDING ON TORQUE TUBE.
3. TORQUE SPECIFICATION:
   - (3A.) SET SCREWS TORQUED TO 12±1.5 N-M [9±1 FT-LBS] [108±12 IN-LBS] BOTH TORQUED TWICE WITH ALTERNATING PATTERN.
   - (3B.) JAM NUTS TORQUED TO 16±1.5 N-M [12±1 FT-LBS] [144±12 IN-LBS] BOTH TORQUED TWICE WITH ALTERNATING PATTERN.
   - (3C.) 108±14 N-M [80±10 FT-LBS]
   - (3D.) 169±14 N-M [125±10 FT-LBS]
   - (3E.) 285±14 N-M [210±10 FT-LBS]
4. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
5. CARRIAGE BOLTS ARE 0.625" DIAMETER, SAE GRADE 5, HDG PER ASTM F2329.
6. HOUSING IS MADE FROM ALUMINUM ALLOY 6005A/T61 PER ASTM B221 OR EQUIVALENT PER ARRAY DOCUMENT #90050-000. IF PROVIDED, POWDER COAT IS 27419 POLYESTER SD. TEFLON GREY OR ARRAY APPROVED ALTERNATE.
7. STOP IS MADE FROM ALUMINUM ALLOY 6005A/T61 PER ASTM B221 OR EQUIVALENT PER ARRAY DOCUMENT #90050-000 WITH PLAIN FINISH.
8. SET SCREW BEARING HOUSING ASSEMBLY TO BE USED ON FIRST BEARING COLUMN NORTH AND SOUTH OF GEAR RACK CENTER STRUCTURE AT MINIMUM. REFER TO ADP FOR LAYOUT OF BEARING HOUSING WITH SET SCREWS PER ROW.
9. ALIGN BOLT HEAD FLAT EDGE AND CLIPPED WASHER FLAT EDGE TO THE WEB DURING INSTALLATION.
10. REFER TO I-BEAM DRAWING 33XXX-XX-901 INCLUDED IN ADP FOR DIMENSIONAL REQUIREMENTS OF NON-STANDARD PILE SIZES: W6X7, W6X7.75, W6X10.4, W6X10.5.
11. ENSURE WASHERS ARE NOT OVERLAPPING IN HIGH WIND APPLICATIONS.
12. IF BRACKET GAP EXCEEDS 4mm [0.15 in] A SHIM MUST BE INSTALLED. BRACKET GAP TO BE MEASURED ACROSS FROM TOP OF PILE.

Exp 01/31/2027
03/14/2026

ZONE	REV	ECR #	DESCRIPTION	DATE
A3	D	US-23015	ADDED APPLICABLE TRACKER SYSTEMS	2/10/2023
B1, B2, C3, C4, C5, 2-A5, 2-C1, 2-C3, 2-C5, 2-D5	C	22189	RENAMED COLUMN HEADERS IN THE BOM, ADDED DESCRIPTIONS TO VIEWS AND 30959-176, UPDATED SELECTION CRITERIA DESCRIPTIONS IN BEARING ASSY CONFIG TABLE AND BEARING BRKT CONFIG TABLE	12/19/2022
A4, 2-A2, 2-A4	B	22168	ADDED NOTE 12 AND PILE/BRACKET VIEWS	11/4/2022

APPLICABLE TRACKER SYSTEMS:
DuraTrack
OmniTrack

D

DRAWING STATUS: Final

DRAWN: INITIALS: NC DATE: 04/08/2022
DRAWING CHECK: INITIALS: DS DATE: 2/13/2023
ENG. CHECK: INITIALS: MK DATE: 02/14/2023
FINAL APPROVAL: INITIALS: SB DATE: 2/14/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Field Assembly, Bearing & Bracket, STD/HW, w/wo Set Screw, XXX Finish

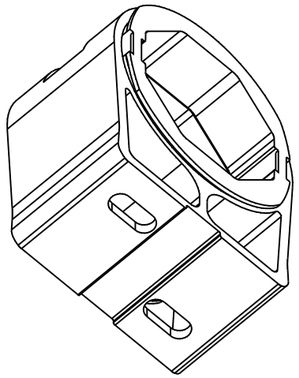
SIZE	DRAWING NUMBER	REVISION	SAVED v43
B	21000-901	D	2/10/2023

SCALE 1:20 SHEET 1 OF 3

Template_CF Drawing_mm_v6

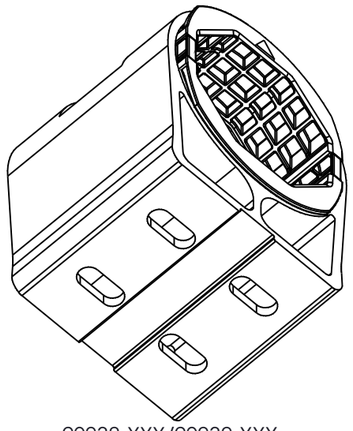
IMPORTANT!
ENSURE BEARING AND BRACKETS ARE CORRECTLY PAIRED.
ALL BEARING AND BRACKET SLOTS MUST BE UTILIZED.

STANDARD LOAD
BEARING ASSEMBLY



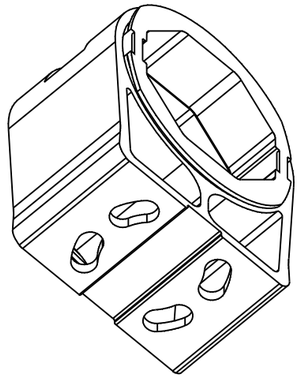
20936-XXX/20937-XXX

W6 HIGH WIND
BEARING ASSEMBLY



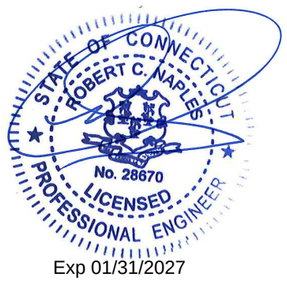
20938-XXX/20939-XXX

HIGH WIND
BEARING ASSEMBLY



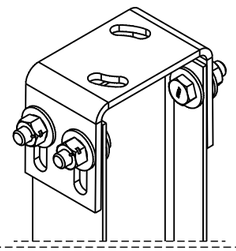
20956-XXX/20957-XXX

BEARING BRACKET CONFIGURATION TABLE		SELECTION CRITERIA	
BRACKET PART NUMBER	BRACKET DESCRIPTION	STANDARD/ HIGH WIND	COMPATIBLE PILE SIZE
30959-150	Bracket, I-Beam Bushing Housing, Std Load, 8 mm, HDG, W6 x 7, W6 x 7.75, W6 x 8.5, 150 mm	STANDARD LOAD	W6X7, W6X7.75, W6X8.5
30959-152	Bracket, I-Beam Bushing Housing, Std Load, 8 mm, HDG, W6 x 9, W6 x 10.4, 152 mm	STANDARD LOAD	W6X9, W6X10.4
30959-155	Bracket, I-Beam Bushing Housing, Std Load, 8 mm, HDG, W6 x 10.5, W6 x 12, W6 x 15, 155 mm	STANDARD LOAD	W6X10.5, W6X12, W6X15
30959-161	Bracket, I-Beam Bushing Housing, Std Load, 8 mm, HDG, W6 x 16, W6 x 20, 161 mm	STANDARD LOAD	W6X16, W6X20
30959-176	Bracket, I-Beam Bushing Housing, Std Load, 8 mm, HDG, 176 mm	STANDARD LOAD	180UB16.1, 180UB18.1
30959-204	Bracket, I-Beam Bushing Housing, Std Load, 8 mm, HDG, W8 x 10, W8 x 13, 204 mm	STANDARD LOAD	W8X10, W8X13, 200UB18.2, 200UB22.3, 200UB25.4
30959-209	Bracket, I-Beam Bushing Housing, Std Load, 8 mm, HDG, W8 x 15, W8 x 18, 209 mm	STANDARD LOAD	W8X15, W8X18, 200UB29.8
30959-213	Bracket, I-Beam Bushing Housing, Std Load, 8 mm, HDG, W8 x 21, 213 mm	STANDARD LOAD	W8X21
30960-150	Bracket, I-Beam Bushing Housing, HW Radial Slots, 9.5 mm, HDG, W6x7, W6x7.75, W6x8.5, 150mm	HIGH WIND	W6X7, W6X7.75, W6X8.5
30960-152	Bracket, I-Beam Bushing Housing, HW Radial Slots, 9.5 mm, HDG, W6x9, W6x10.4, 152mm	HIGH WIND	W6X9, W6X10.4
30960-155	Bracket, I-Beam Bushing Housing, HW Radial Slots, 9.5 mm, HDG, W6x10.5, W6x12, W6x15, 155mm	HIGH WIND	W6X10.5, W6X12, W6X15
30960-161	Bracket, I-Beam Bushing Housing, HW Radial Slots, 9.5 mm, HDG, W6x16, W6x20, 161mm	HIGH WIND	W6X16, W6X20
30961-204	Bracket, I-Beam Bushing Housing, HW Straight Slots, 8 mm, HDG, W8 x 10, W8 x 13, 204 mm	HIGH WIND	W8X10, W8X13, 200UB18.2, 200UB22.3, 200UB25.4
30961-209	Bracket, I-Beam Bushing Housing, HW Straight Slots, 8 mm, HDG, W8 x 15, W8 x 18, 209 mm	HIGH WIND	W8X15, W8X18, 200UB29.8
30961-213	Bracket, I-Beam Bushing Housing, HW Straight Slots, 8 mm, HDG, W8 x 21, 213 mm	HIGH WIND	W8X21



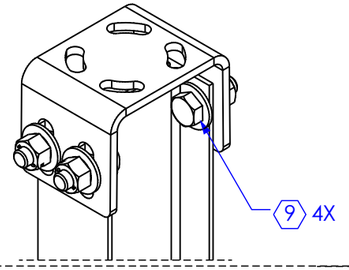
Exp 01/31/2027
03/14/2026

STANDARD LOAD
BRACKET INSTALLATION



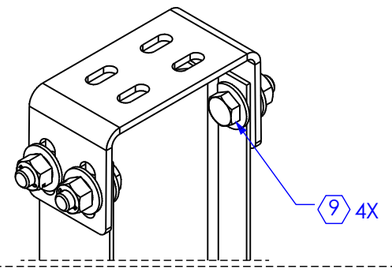
30959-XXX

HIGH WIND - RADIAL
BRACKET INSTALLATION



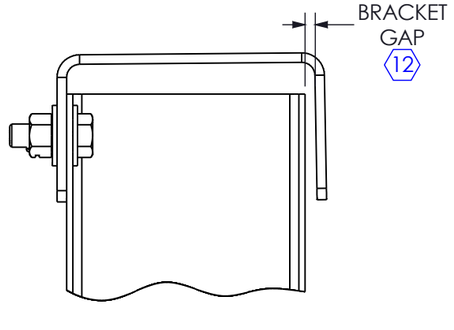
30960-XXX

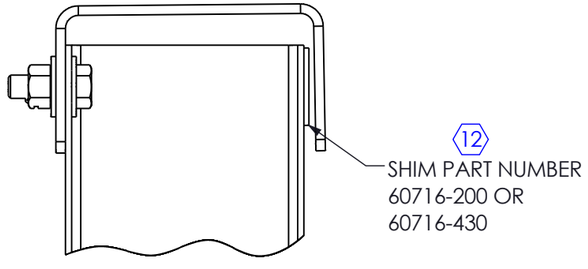
HIGH WIND - STRAIGHT SLOT
BRACKET INSTALLATION



30961-XXX

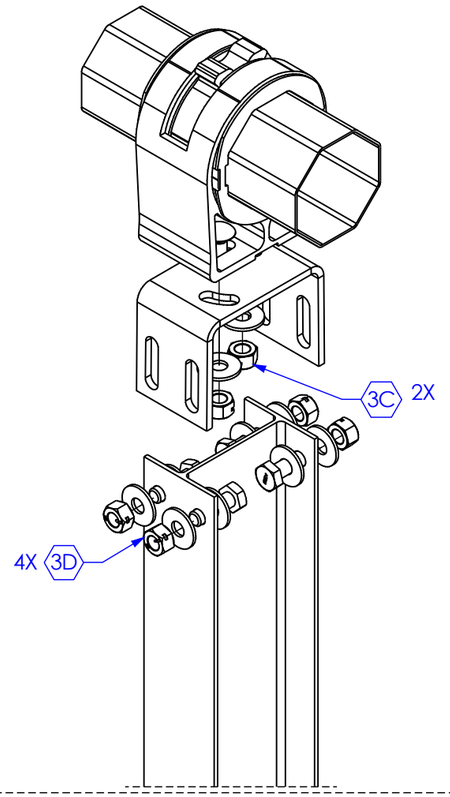
BEARING ASSEMBLY CONFIGURATION TABLE		SELECTION CRITERIA
BEARING PART NUMBER	BRACKET DESCRIPTION	STANDARD/HIGH LOAD
20936-000	Assembly, Center Stop Bearing, 6.142" ID, Powder Coat	STANDARD LOAD
20936-001	Assembly, Center Stop Bearing, 6.142" ID, Uncoated	STANDARD LOAD
20937-000	Assembly, Center Stop Bearing, Set Screws, 6.142" ID, Powder Coat	STANDARD LOAD
20937-001	Assembly, Center Stop Bearing, Set Screws, 6.142" ID, Uncoated	STANDARD LOAD
20938-000	Assembly, Center Stop Bearing, High Wind, 6.142" ID, Powder Coat	HIGH WIND - RADIAL BRKT
20938-001	Assembly, Center Stop Bearing, High Wind, 6.142" ID, Uncoated	HIGH WIND - RADIAL BRKT
20939-000	Assembly, Center Stop Bearing, High Wind, Set Screws, 6.142" ID, Powder Coat	HIGH WIND - RADIAL BRKT
20939-001	Assembly, Center Stop Bearing, High Wind, Set Screws, 6.142" ID, Uncoated	HIGH WIND - RADIAL BRKT
20956-000	Assembly, Center Stop Bearing, Radial Slots, HW, 6.142" ID, Powder Coat	HIGH WIND - STRAIGHT SLOT BRKT
20956-001	Assembly, Center Stop Bearing, Radial Slots, HW, 6.142" ID, Uncoated	HIGH WIND - STRAIGHT SLOT BRKT
20957-000	Assembly, Center Stop Bearing, Radial Slots, HW, Set Screws, 6.142" ID, Powder Coat	HIGH WIND - STRAIGHT SLOT BRKT
20957-001	Assembly, Center Stop Bearing, Radial Slots, HW, Set Screws, 6.142" ID, Uncoated	HIGH WIND - STRAIGHT SLOT BRKT





SIZE	DRAWING NUMBER	REVISION	SAVED v43
B	21000-901	D	2/10/2023
SCALE 1:96		SHEET	2 OF 3

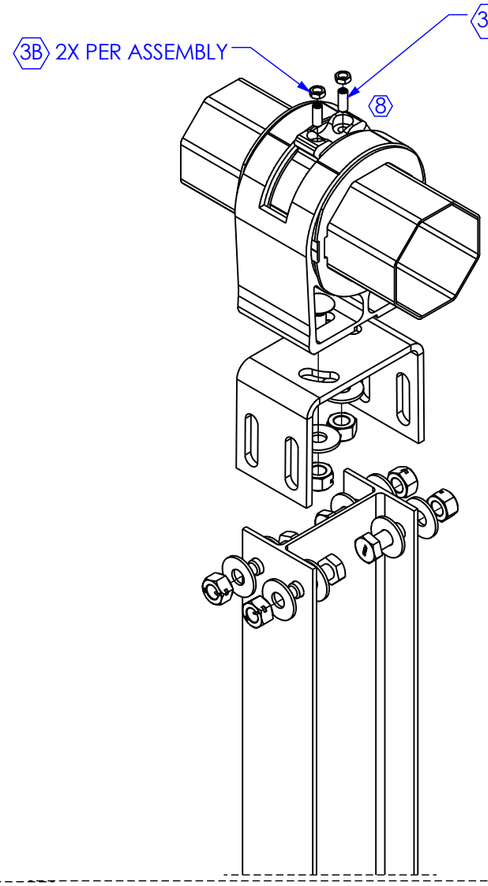
Template_CF Drawing_mm_v6



3C 2X

4X 3D

STANDARD LOAD

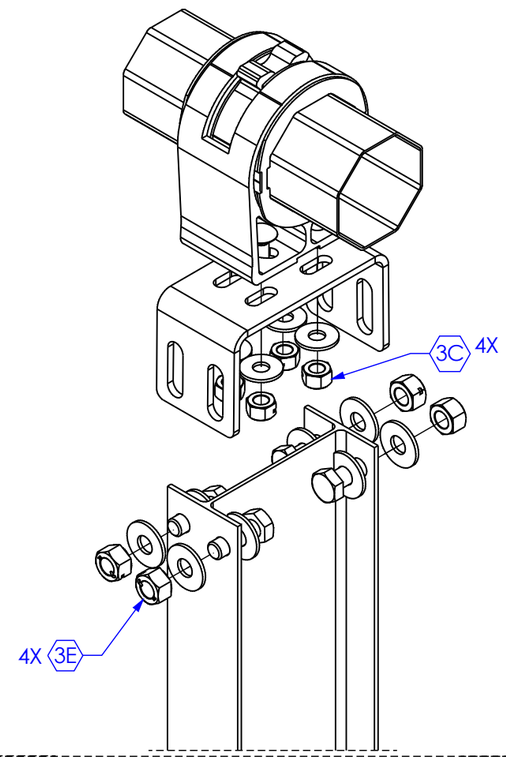


3B 2X PER ASSEMBLY

3A 2X PER ASSEMBLY

8

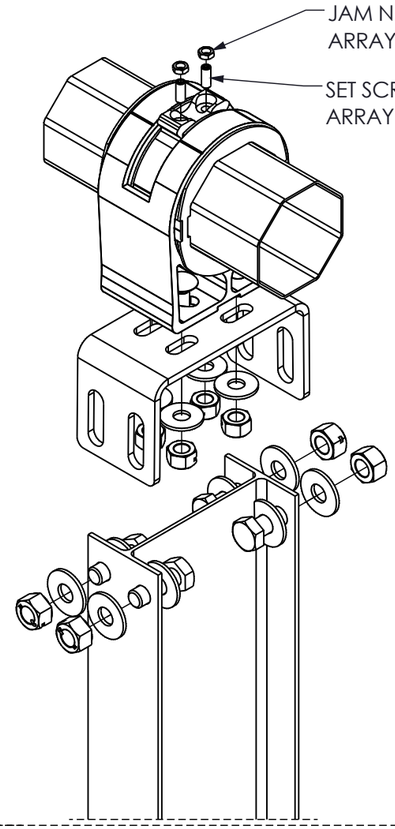
STANDARD LOAD WITH SET SCREWS



3C 4X

4X 3E

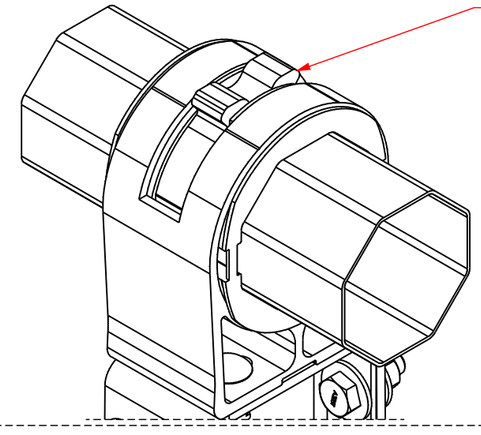
HIGH WIND



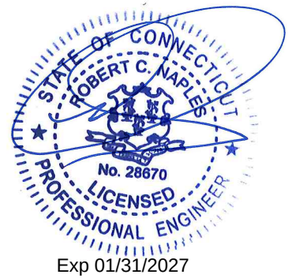
JAM NUT
ARRAY PN 60586-000

SET SCREW
ARRAY PN 60585-000

HIGH WIND WITH SET SCREWS



CAUTION!
BEARING HOUSING STOP MUST BE IN PLANE WITH MODULE CLAMPS WHEN INSTALLED ONTO TORQUE TUBE. INCORRECT INSTALLATION CAN RESULT IN DAMAGE TO TRACKER COMPONENTS



Exp 01/31/2027

03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v43
B	21000-901	D	2/10/2023
SCALE 1:2		SHEET	3 OF 3

Template_CF Drawing_mm_v6

NOTES:

1. REFER TO INSTALLATION MANUAL FOR DETAILS.
2. TORQUE SPECIFICATION:

   2A. 108 ±14 N-M [80 ±10 FT-LBS]

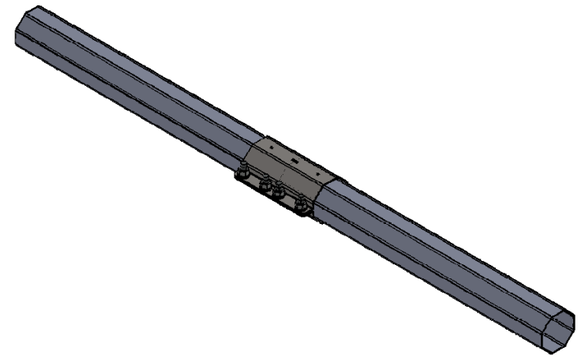
3. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
4. THE RECOMMENDED SEQUENCE FOR PROPER TIGHTENING OF BOLTS IS A CRISS-CROSS PATTERN STARTING IN THE CENTER AND WORKING OUT.
5. CARRIAGE BOLTS ARE 0.625" DIAMETER, GRADE 5, SAE J429-2011, HDG.
6. REFER TO PROJECT ADP.
7. REFER TO SHIPMENT MANIFEST.

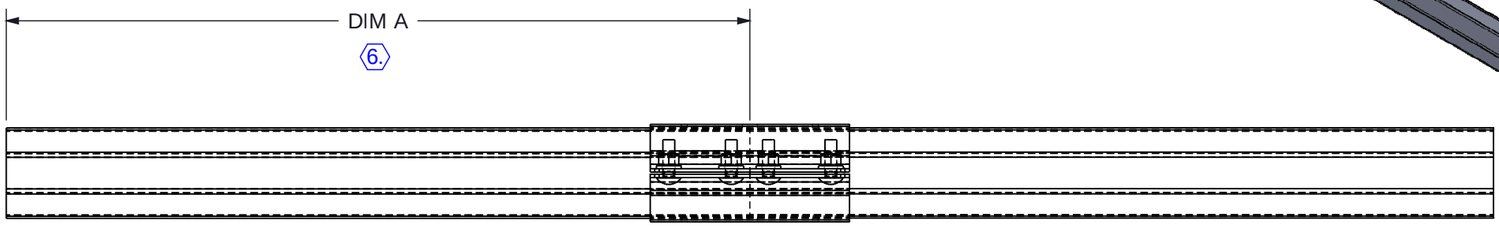
ARRAY PART NUMBER DESIGNATION

20613-XXX

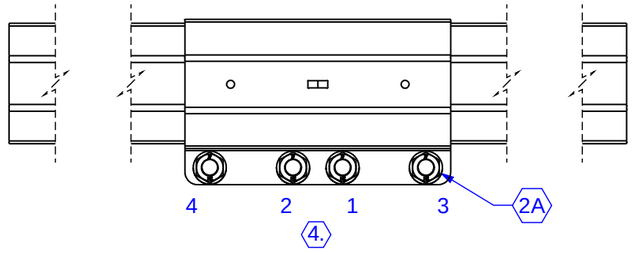
ARRAY PART NUMBER EXTENSION
NUMBER INDICATES LENGTH OF DIM "A" IN METERS

ARRAY PART NUMBER

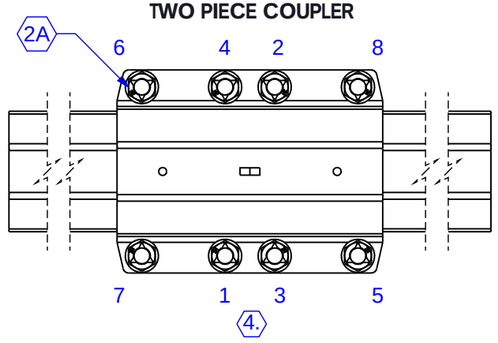




SINGLE PIECE COUPLER



TWO PIECE COUPLER



PART NUMBER	DESCRIPTION	MATERIAL	SURFACE COAT	WEIGHT
25031-000	Kit, Coupler, Octagonal Tube	Steel, ASTM A572	HDG, ASTM A123	6.24 KG [14.25 LBS]
25052-000	Kit, Coupler, Octagonal Tube, 1 Piece	Steel, ASTM A572	Pre-Galv, G-90, ASTM A653	4.83 KG [10.72 LBS]
25084-000	Kit, Coupler, Octagonal Tube	Steel, ASTM A572	Pre-Galv, G-90, ASTM A653	6.02 KG [13.36 LBS]
25145-000	Kit, Coupler, Octagon Tube Adaptor, Single Piece, HDG	Steel, ASTM A572	HDG, ASTM A123	4.66 KG [10.35 LBS]
25158-000	Kit, Coupler, Octagon Tube Adaptor, Single Piece, ZAM	Steel, EN 10346 S350GD	ZAM, ZM310, EN 10346	4.66 KG [10.35 LBS]
30301-XXX	Tube, 121.5mm, Octagon, 10 Ga.	Steel, ASTM A500C	ZT50 Galv, ASTM 1057	9.94 KG/M [6.68 LB/FT]
30302-XXX	Tube, 121.5mm, Octagon, 10 Ga.	Steel, ASTM A500C	HDG, Grade 65, ASTM A123	9.94 KG/M [6.68 LB/FT]
30502-XXX	Tube, 121.5mm, Octagon, 11 Ga.	Steel, ASTM A500C	ZT50 Galv, ASTM 1057	9.94 KG/M [6.68 LB/FT]
30503-XXX	Tube, 121.5mm, Octagon, 10 Ga.	Steel, ASTM A500C	Pre-Galv, G-115, ASTM A653	9.94 KG/M [6.68 LB/FT]
30526-XXX	Tube, 121.5mm, Octagon, 11 Ga.	Steel, ASTM A500C	Pre-Galv, G-115, ASTM A653	8.81 KG/M [5.92 LB/FT]
30527-XXX	Tube, 121.5mm, Octagon, 11 Ga.	Steel, ASTM A500C	HDG, Grade 65, ASTM A123	8.81 KG/M [5.92 LB/FT]
30548-XXX	Tube, 121.5mm, Octagon, 9 Ga.	Steel, ASTM A500C	HDG, Grade 65, ASTM A123	12.05 KG/M [8.09 LB/FT]
30661-XXX	Tube, 121.5mm, Octagon, 12 Ga.	Steel, ASTM A500C	Pre-Galv, G-115, ASTM A653	7.59 KG/M [5.10 LB/FT]
30662-XXX	Tube, 121.5mm, Octagon, 12 Ga.	Steel, ASTM A500C	HDG, Grade 65, ASTM A123	7.59 KG/M [5.10 LB/FT]
30810-XXX	Tube, 121.5mm, Octagon, 12 Ga.	Steel, ASTM A500C	HDG, Grade 45, ASTM A123	7.59 KG/M [5.10 LB/FT]
30811-XXX	Tube, 121.5mm, Octagon, 12 Ga.	Steel, ASTM A500C	Pre-Galv, G-90, ASTM A653	7.93 KG/M [5.33 LB/FT]

7.

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027
03/14/2026

REV	DESCRIPTION	DATE
E	REMOVE LABLES PER ECR 20201	4/28/2020
D	ADDED TUBES PER ECR 18114	4/18/2019
C	ADDED ZAM SINGLE PIECE COUPLER AND OCTAGONAL TUBES PER ECR 17086	10/3/2017

DRAWING STATUS: Final

DRAWN	INITIALS: MB DATE: 02/24/2017	DRAWING CHECK	INITIALS: MK DATE: 4/28/2020
ENG. CHECK	INITIALS: DO DATE: 05/07/2020	FINAL APPROVAL	INITIALS: SB DATE: 5/7/2020

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.050]	X.XX = ±0.013 [0.500]	X = ±1.0°
.X = ±0.4 [0.015]	X.XXX = ±0.006 [0.250]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Field Assembly, Torque Tube and Coupler

SIZE	DRAWING NUMBER	REVISION	SAVED v36
B	20613-901	E-01	4/28/2020

SCALE 1:96 | WT: 20.35kg [45.177lb] | SHEET 1 OF 1

NOTES:

1. REFER TO INSTALLATION MANUAL FOR DETAILS.
2. TORQUE SPECIFICATION:

   (2A.) 169 ±14 N-M [125 ±10 FT-LBS]

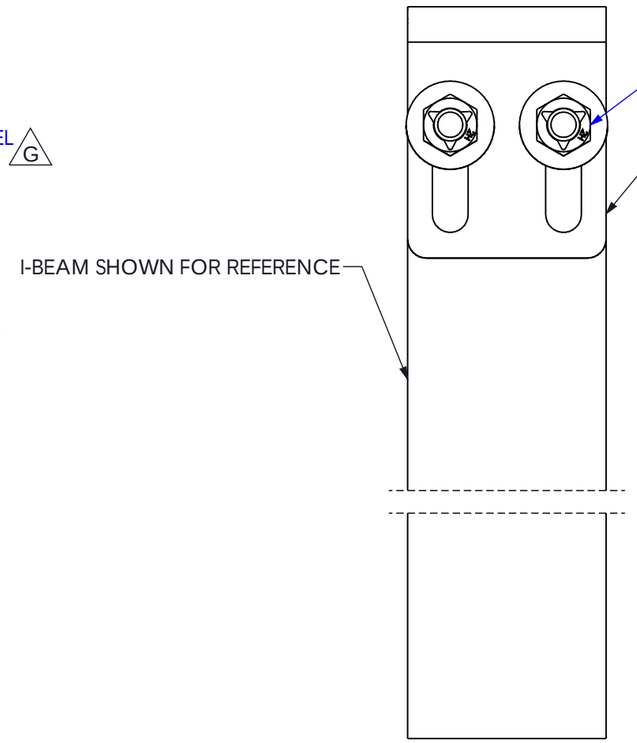
3. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
4. ALL STRUCTURAL BOLTS ARE 0.625" DIAMETER, ASTM A325, HDG PER ASTM F2329.
5. I-BEAM BRACKET IS MADE FROM GRADE 80 STEEL PER ASTM A656 AND HDG PER ASTM A123. (G)
6. IF THE MOUNTING HOLE PROXIMITY TO I-BEAM WEB CAUSES THE INTERIOR FLAT WASHERS TO DEFORM DURING INSTALL, ALIGN BOLT HEAD FLAT EDGE TO THE WEB AND USE CLIPPED WASHERS, ARRAY PN 60590-000.
7. 25159-000 MAY BE SUPPLIED AS 30770-XXX AND EITHER 25050-000, 25191-000, OR 25191-001.

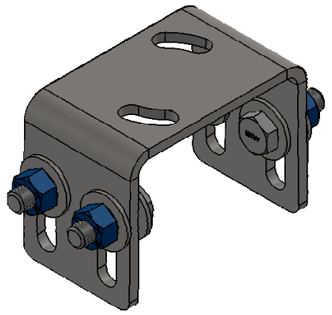
ARRAY PART NUMBER DESIGNATION

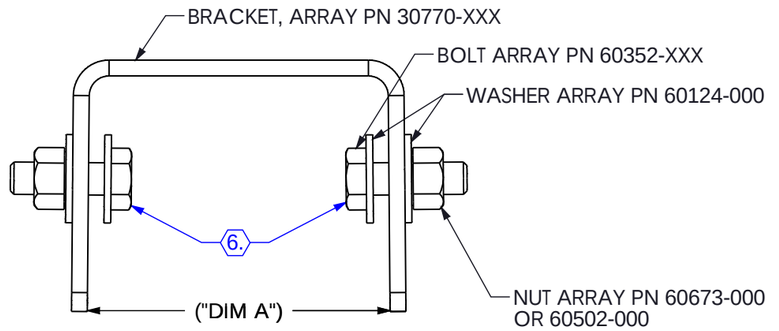
20721-152

ARRAY PART NUMBER EXTENSION
NUMBER INDICATES APPROXIMATE LENGTH OF DIM "A" IN MM

ARRAY PART NUMBER







General Table

CONFIGURATION TABLE

ASSEMBLY EXTENSION	PART DESCRIPTION	PART CONFIGURATION	COMPATIBLE I-BEAM SIZE	DIM "A" mm ["]	WEIGHT KG [LB]
20721-149	Field Assembly, Column Bracket, 8 mm, 149 mm	25159-149	W6X7	151 [5.93]	2.61 [5.76]
20721-152	Field Assembly, Column Bracket, 8 mm, 152 mm	25159-152	W6X8.5, W6X9	153 [6.01]	2.61 [5.76]
20721-156	Field Assembly, Column Bracket, 8 mm, 156 mm	25159-156	W6X12, W6X15	158 [6.21]	2.61 [5.76]
20721-162	Field Assembly, Column Bracket, 8 mm, 162 mm	25159-162	W6X16, W6X20, W6X25	164 [6.46]	2.61 [5.76]
20721-203	Field Assembly, Column Bracket, 8 mm, 203 mm	25159-203	W8X10	205 [8.07]	2.94 [6.48]
20721-209	Field Assembly, Column Bracket, 8 mm, 209 mm	25159-209	W8X13, W8X15	211 [8.30]	2.94 [6.48]

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	25159-XXX	Kit, Bracket, 8 mm, I-beam Bushing Housing, XXX	1

(7)

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

REV	DESCRIPTION	DATE
G	MODIFIED NOTE PER ECR-19070	5/15/2019
F	CLARIFIED NOTE PER ECR 19068	5/6/2019
E	MODIFIED NOTE PER ECR 19043	3/19/2019
D	CHANGED KITS PER ECR 19026	2/22/2019
C	CHANGED NUT PER ECR 18118	9/4/2018

DRAWING STATUS: Final

DRAWN	DRAWING CHECK
INITIALS: MB DATE: 10/11/2017	INITIALS: CD DATE: 5/15/2019
ENG. CHECK	FINAL APPROVAL
INITIALS: DATE:	INITIALS: AH DATE: 5/15/2019

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.050]	X.XX = ±0.013 [0.500]	X = ±1.0°
.X = ±0.4 [0.015]	X.XXX = ±0.006 [0.250]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Field Assembly, Column Bracket, 8 mm, XXX mm

SIZE	DRAWING NUMBER	REVISION	SAVED v60
B	20721-901	G-01	7/29/2019

SCALE 1:96 | WT: 17.43 KG [38.6946 LB] | SHEET 1 OF 1

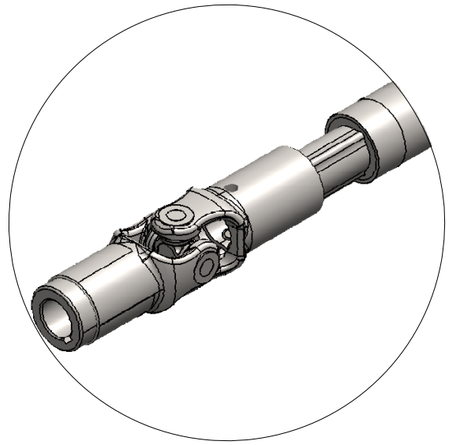
CONFIGURATION TABLE (STANDARD)			
DESCRIPTION: FIELD ASSEMBLY, DRIVELINE, DTHZ v3, HDG			
ASSEMBLY NUMBER	**DIM "A" IN mm ['']**	**EXTENDED OPERATING LENGTH**	**ROW SPACING IN M ['] @ NOMINAL LENGTH**
20504-XXX	XXXX [XXX.XX]	XXXX [XXX.XX]	X.XX [XX.X]
20504-287	2870 [113.00]	3251.2 [128.0]	3.05 [10.0]
20504-318	3175 [125.00]	3556.0 [140.0]	3.35 [11.0]
20504-348	3480 [137.00]	3860.8 [152.0]	3.66 [12.0]
20504-378	3785 [149.00]	4165.6 [164.0]	3.96 [13.0]
20504-409	4089 [161.00]	4470.4 [176.0]	4.27 [14.0]
20504-439	4394 [173.00]	4775.2 [188.0]	4.57 [15.0]
20504-470	4699 [185.00]	5080.0 [200.0]	4.88 [16.0]
20504-500	5004 [197.00]	5384.8 [212.0]	5.18 [17.0]
20504-531	5309 [209.00]	5689.6 [224.0]	5.49 [18.0]
20504-561	5613 [221.00]	5994.4 [236.0]	5.79 [19.0]
20504-592	5918 [233.00]	6299.2 [248.0]	6.10 [20.0]
20504-622	6223 [245.00]	6604.0 [260.0]	6.40 [21.0]
20504-652	6528 [257.00]	6908.8 [272.0]	6.71 [22.0]
20504-683	6833 [269.00]	7213.6 [284.0]	7.01 [23.0]
20504-714	7137 [281.00]	7518.4 [296.0]	7.32 [24.0]
20504-744	7442 [293.00]	7823.2 [308.0]	7.62 [25.0]

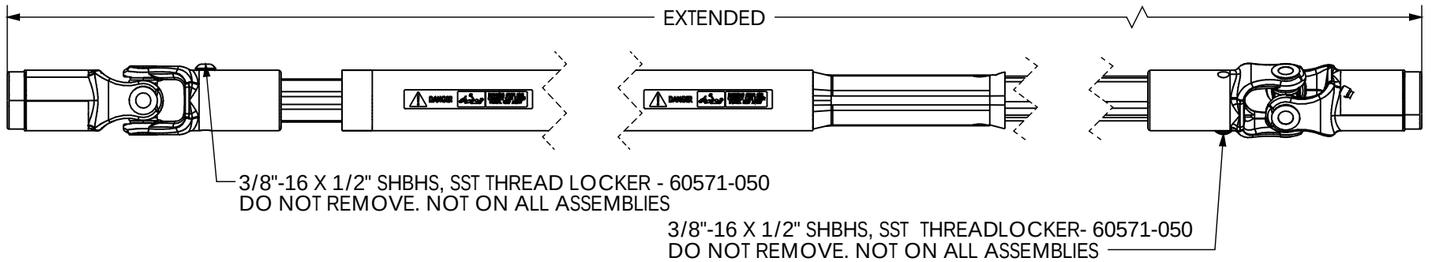
ARRAY PART NUMBER DESIGNATION

20504 - XXX

ARRAY PART NUMBER EXTENSION NUMBER INDICATES DIM "A"

ARRAY PART NUMBER





NOTES:

1. ARRAY TORQUE SPECIFICATIONS:

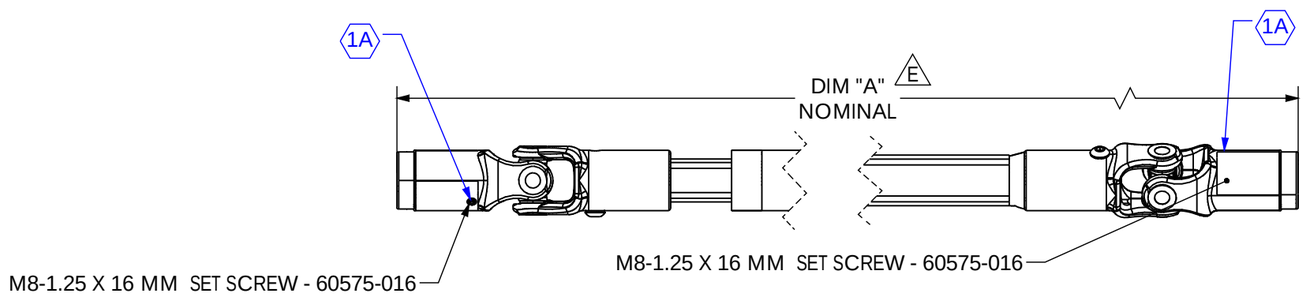
   1A M8 SET SCREW 16 ±1 N-M [12 ±1 FT-LB][144 ±12 IN-LB]

2. ALL SET SCREWS WILL HAVE NYLON THREAD LOCKER TO BE ND INDUSTRIES ND PATCH OR ARRAY APPROVED EQUIVALENT. THREAD LOCKER TO BE APPLIED TO HALF ROUND OF SCREW FOR 4-6 THREADS.

3. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.

4. ROW SPACING IS BASED ON LEVEL GRADE BETWEEN ROWS AND CENTER STRUCTURES IN ALIGNMENT.

5. REFER TO SHIPPING MANIFEST FOR PART NUMBER.



STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027
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E	20504-XXX FIELD ASSEMBLY INTERCHANGEABILITY 5.	
	PART NUMBER	**DESCRIPTION**
	20420-XXX	ASSEMBLY, DRIVELINE, WELDED PTO 1000 SERIES, (XXXXMM)
	20509-XXX	ASSEMBLY, DRIVELINE, FULL PTO TUBE, (XXXXmm), STAKE PLUG

REV	DESCRIPTION	DATE
E	NOMINAL LENGTH PER ECR 18046	9/19/2018
D	CHANGED SET SCREW PER ECR 16144	10/20/2016
C	CORRECT SET SCREW PART NUMBER AND CONFIG TABLE PER ECR 16001	3/2/2016

DRAWING STATUS: Final

DRAWN INITIALS: CG DATE: 11/23/2015	DRAWING CHECK INITIALS: KB DATE: 9/21/2018
ENG. CHECK INITIALS: DATE:	FINAL APPROVAL INITIALS: SR DATE: 9/21/2018

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.050]	X.XX = ±0.013 [0.500]	X = ±1.0°
.X = ±0.4 [0.015]	X.XXX = ±0.006 [0.250]	.X = ±0.1°
.XX = ±0.1 [0.004]		

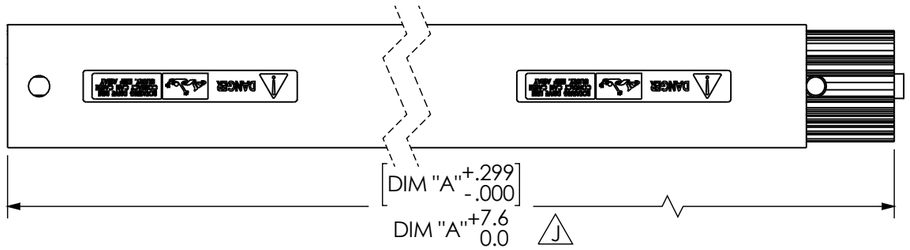
ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Field Assembly, Driveline, DTHZ, Telescoping, HDG

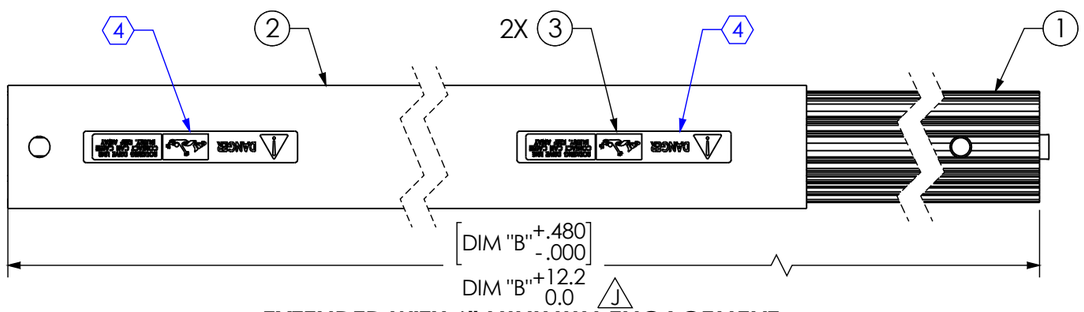
SIZE	DRAWING NUMBER	REVISION	SAVED v52
B	20504-901	E	7/25/2019
SCALE 1:33.3	WT: 12.99 KG [28.8378 LB]	SHEET	1 OF 1

CONFIGURATION TABLE (STANDARD)

ASSEMBLY NUMBER	DESCRIPTION	DIM "A" mm [in]	DIM "B" mm [in]	FEMALE TUBE PART NUMBER	DRIVELINE LENGTH M [ft]	WEIGHT kg [Lbs]
20722-251	Assembly, Driveline, Aluminum, Tube, 2508mm	2120 [83.46]	2889 [113.75]	30774-208	3.05 [10.0]	4.3 [9.53]
20722-281	Assembly, Driveline, Aluminum, Tube, 2813mm	2425 [95.47]	3194 [125.75]	30774-238	3.35 [11.0]	4.7 [10.43]
20722-312	Assembly, Driveline, Aluminum, Tube, 3118mm	2730 [107.48]	3499 [137.75]	30774-269	3.66 [12.0]	5.1 [11.32]
20722-342	Assembly, Driveline, Aluminum, Tube, 3423mm	3035 [119.49]	3804 [149.75]	30774-299	3.96 [13.0]	5.5 [12.22]
20722-373	Assembly, Driveline, Aluminum, Tube, 3727mm	3339[131.46]	4108 [161.75]	30774-330	4.27 [14.0]	5.9 [13.11]
20722-403	Assembly, Driveline, Aluminum, Tube, 4032mm	3644 [143.46]	4413 [173.75]	30774-360	4.57 [15.0]	6.4 [14.01]
20722-434	Assembly, Driveline, Aluminum, Tube, 4337mm	3949 [155.47]	4718 [185.75]	30774-391	4.88 [16.0]	6.8 [14.91]
20722-464	Assembly, Driveline, Aluminum, Tube, 4642mm	4254[167.48]	5023 [197.75]	30774-421	5.18 [17.0]	7.2 [15.80]
20722-495	Assembly, Driveline, Aluminum, Tube, 4947mm	4559 [179.49]	5328 [209.75]	30774-452	5.49 [18.0]	7.6 [16.70]
20722-525	Assembly, Driveline, Aluminum, Tube, 5251mm	4863 [191.46]	5632 [221.75]	30774-482	5.79 [19.0]	8.0 [17.60]
20722-556	Assembly, Driveline, Aluminum, Tube, 5556mm	5168 [203.46]	5937 [233.75]	30774-512	6.10 [20.0]	8.4 [18.49]
20722-586	Assembly, Driveline, Aluminum, Tube, 5861mm	5473 [215.47]	6242 [245.75]	30774-543	6.40 [21.0]	8.8 [19.39]
20722-617	Assembly, Driveline, Aluminum, Tube, 6166mm	5778 [227.48]	6547 [257.75]	30774-573	6.71 [22.0]	9.2 [20.29]
20722-647	Assembly, Driveline, Aluminum, Tube, 6471mm	6083 [239.49]	6852 [269.75]	30774-604	7.01 [23.0]	9.6 [21.18]
20722-678	Assembly, Driveline, Aluminum, Tube, 6775mm	6387 [251.46]	7156 [281.75]	30774-634	7.32 [24.0]	10.0 [22.08]
20722-708	Assembly, Driveline, Aluminum, Tube, 7080mm	6692 [263.46]	7461 [293.75]	30774-665	7.62 [25.0]	10.4 [22.98]
20722-739	Assembly, Driveline, Aluminum, Tube, 7385mm	6997 [275.47]	7766 [305.75]	30774-695	7.92 [26.0]	10.8 [23.81]
20722-769	Assembly, Driveline, Aluminum, Tube, 7690mm	7302 [287.48]	8071 [317.75]	30774-726	8.23 [27.0]	11.2 [24.77]
20722-800	Assembly, Driveline, Aluminum, Tube, 7995mm	7607 [299.49]	8376 [329.75]	30774-756	8.54 [28.0]	11.7 [25.79]



FULLY COLLAPSED



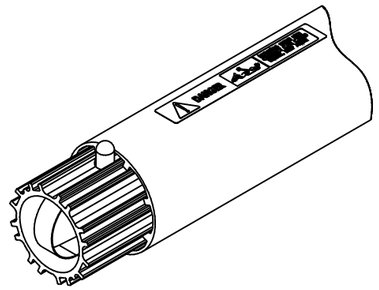
EXTENDED WITH 6" MINIMUM ENGAGEMENT

ITEM NO.	PART NUMBER	DESCRIPTION	
1	30773-100	Tube, Aluminum Driveline Tube, Male, 1000mm, Service Part	1
2	30774-XXX	Tube, Aluminum Driveline Tube, Female, 7258 mm, Service Part	1
3	60568-000	Sticker, Driveline Danger, 4.25" X 0.625", English	2
4	60683-000	Snap Button, Aluminum Driveline, Service Part	1

ARRAY PART NUMBER DESIGNATION

20722 - XXX

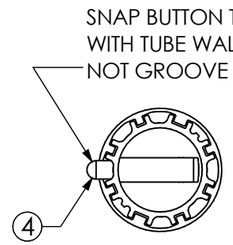
- XXX: ARRAY PART NUMBER EXTENSION INDICATES NOMINAL LENGTH
- 20722: ARRAY PART NUMBER



ARRAY PN: 20722-XXX

NOTES:

1. OVERALL SHAFT LENGTH TELESCOPES 769mm [30"] RANGE.
2. PARTS ARE TO BE CLEARLY MARKED WITH PART NUMBER. MARKING TO LAST AT LEAST 6 MONTHS IN OUTSIDE ENVIRONMENT. MARKINGS MUST BE APPROVED BY ARRAY ENGINEERING AND QUALITY.
3. DRIVELINE TUBES SHOULD BE ABLE TO SLIDE FREELY WITH RESPECT TO EACH OTHER WHEN APPLYING FORCE BY HAND.
4. CAUTION STICKER TO BE PLACED ON OPPOSITE ENDS OF FEMALE DRIVELINE.
5. HOLES FOR SNAP BUTTONS TO BE ON THE SAME SIDE.
6. SUPPLIER IDENTIFICATION MARK REQUIRED. ARRAY TO APPROVE LOCATION AND DESIGN AT TIME OF ORDER.
7. MUST MEET SPECIFICATION 90118-000 AND PASS TESTING WITH DRIVELINE U-JOINTS, ACCORDING TO AOS-45-TP-0003. IF VENDOR CANNOT PERFORM TESTING, TESTING MAY BE COORDINATED WITH THE ARRAY DESIGN VALIDATION TESTING LABORATORY.



Exp 01/31/2027

03/14/2026

ZONE	REV	ECR #	DESCRIPTION	DATE
A6, B6	J	22180	ADDED TOLERANCE TO DIM "A" AND DIM "B"	12/2/2022
A6, B2, B6, C2, D3, D5, D6, D7	H	22129	UPDATED NOTES 1 AND 2, ADDED NEW VIEW AND NOTE 7, CHANGED DIM "A" TO DIM "B" AND COLUMNS IN TABLE	8/24/2022
A3, A6, C1	G	21082	UPDATED VIEWS FOR NEW HOLE LOCATIONS IN TUBES	5/4/2021

DRAWING STATUS: **Final**

DRAWN	INITIALS: AH DATE: 01/09/2018	DRAWING CHECK	INITIALS: DS DATE: 12/5/2022
ENG. CHECK	INITIALS: CP DATE: 12/05/2022	FINAL APPROVAL	INITIALS: SB DATE: 12/5/2022

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Assembly, Driveline, Aluminum, Tube, XXXXmm

SIZE	DRAWING NUMBER	REVISION	SAVED v115
B	20722-901	J	12/5/2022

SCALE 1:3 | WT: 4.330kg [9.546lb] | SHEET 1 OF 1

Template_Drawing_mm_v5

NOTES:

1. DIM "A" IS MINIMUM USABLE LENGTH. OVERALL SHAFT LENGTH TELESCOPES 660mm [26"].

2. FORCE NECESSARY FOR MOVEMENT MUST NOT EXCEED 4.5 KGF [10 LBF].

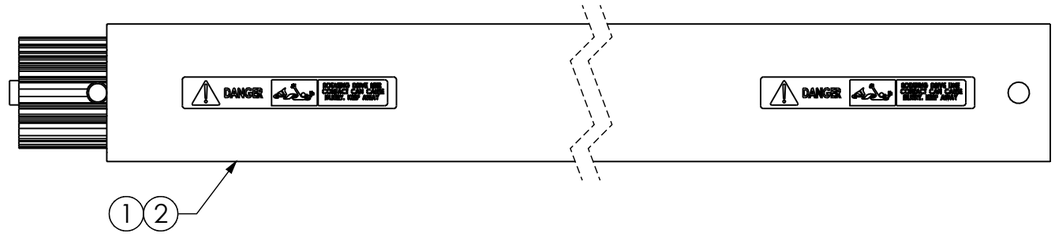
〈3〉 M8 SET SCREW 16±1 N-M [12±1 FT-LB] [144±12 IN-LB]

4. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.

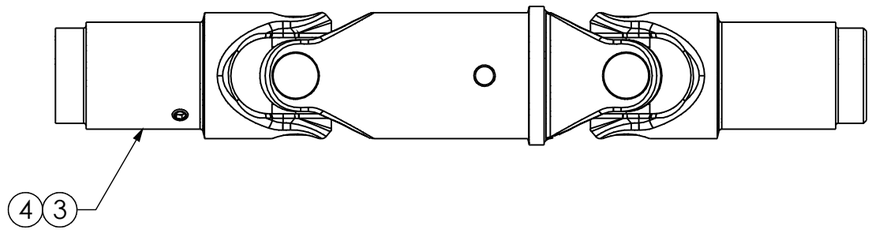
5. ROW SPACING IS BASED ON LEVEL GRADE BETWEEN ROWS AND CENTER STRUCTURE IN ALIGNMENT.

〈6〉 WHEN MOUNTING DRIVELINE ONTO SHAFT, TRAP KEY INTO SLOTS AND TIGHTEN SET SCREW ONTO FLAT REGION OF DRIVESHAFT.

〈7〉 ROW PITCH IS THE COMBINED DRIVELINE LENGTH, PLUS ASSOCIATED GEARBOX DISTANCES, TO CREATE A CENTER TO CENTER NOMINAL ROW SPACING DISTANCE, AT A 0 DEGREE ANGLE.



SHIPPING CONFIGURATION



ITEM NO.	PART NUMBER	DESCRIPTION	STANDARD DIAMETER	LARGE DIAMETER
1	20722-XXX	Assembly, Driveline, Aluminum, Tube, XXXmm	1	-
2	20984-XXX	Assembly, Driveline, Aluminum, Tube, XXXXmm, 69.3mm OD	-	1
3	25236-000	Kit, U-Joint, Driveline, Aluminum, Single Slot	1	-
4	25237-000	Kit, U-Joint, Driveline, Aluminum, Large OD, Single Slot	-	1

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

ZONE	REV	ECR #	DESCRIPTION	DATE
	A		INITIAL RELEASE	8/2/2022

DRAWING STATUS: Final

DRAWN	DRAWING CHECK
INITIALS: DS DATE: 08/01/2022	INITIALS: NC DATE: 8/1/2022
ENG. CHECK	FINAL APPROVAL
INITIALS: CP DATE: 08/01/2022	INITIALS: SB DATE: 8/2/2022

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

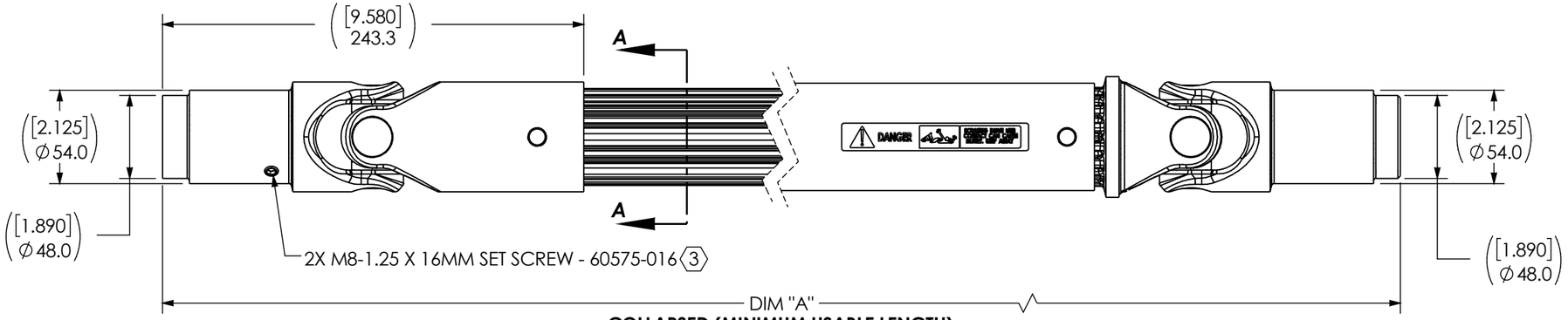
ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **Field Assembly, Full Driveline Tube, Aluminum, Single Slot**

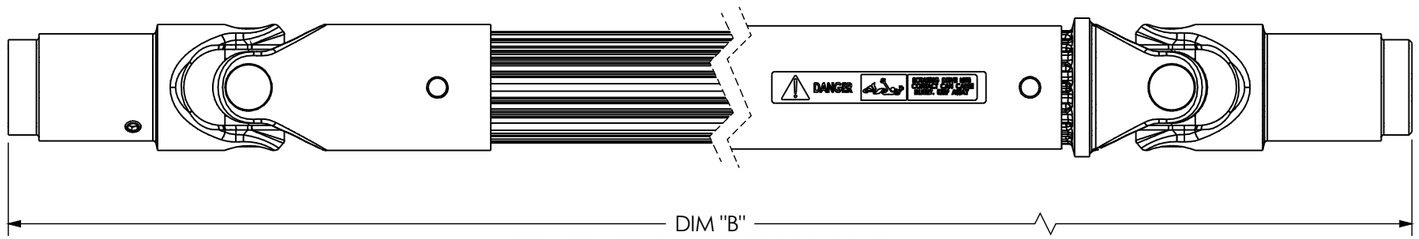
SIZE	DRAWING NUMBER	REVISION	SAVED v10
B	21013-901	A	8/19/2022

SCALE 1:3 SHEET 1 OF 2

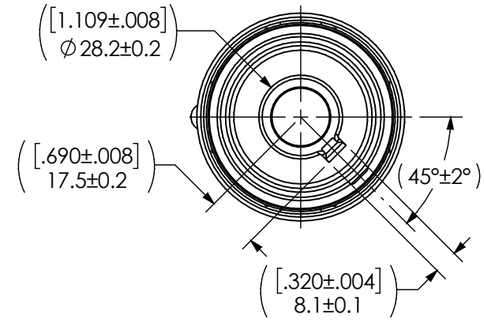
Template_CF Drawing_mm_v5



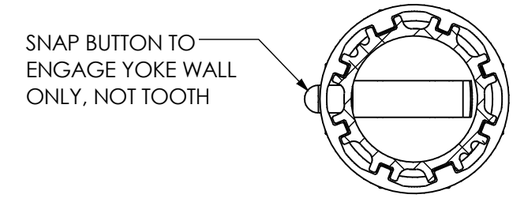
COLLAPSED (MINIMUM USABLE LENGTH)



EXTENDED WITH 6" MIN ENGAGEMENT



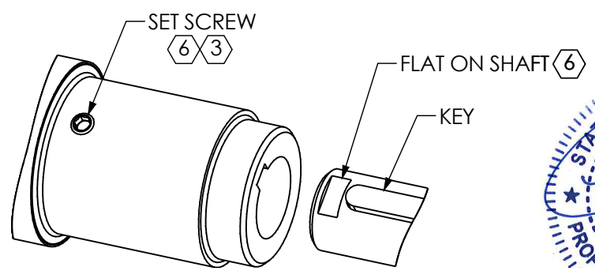
END VIEW
DIMENSIONS APPLY TO BOTH ENDS



SECTION A-A

DRIVELINE ASSEMBLY CONFIGURATION TABLE

ASSEMBLY NUMBER	DESCRIPTION	ROW PITCH M [ft] 7	STANDARD DIAMETER	LARGE DIAMETER	DIM "A" mm [in]	DIM "B" mm [in]
20722-251	Assembly, Driveline, Aluminum, Tube, 2508mm	3.05 [10.0]	X		2591 [102.00]	3251 [128.00]
20722-281	Assembly, Driveline, Aluminum, Tube, 2813mm	3.35 [11.0]	X		2896 [114.00]	3556 [140.00]
20722-312	Assembly, Driveline, Aluminum, Tube, 3118mm	3.66 [12.0]	X		3200 [126.00]	3861 [152.00]
20722-342	Assembly, Driveline, Aluminum, Tube, 3423mm	3.96 [13.0]	X		3505 [138.00]	4166 [164.00]
20722-373	Assembly, Driveline, Aluminum, Tube, 3727mm	4.27 [14.0]	X		3810 [150.00]	4470 [176.00]
20722-403	Assembly, Driveline, Aluminum, Tube, 4032mm	4.57 [15.0]	X		4115 [162.00]	4775 [188.00]
20722-434	Assembly, Driveline, Aluminum, Tube, 4337mm	4.88 [16.0]	X		4420 [174.00]	5080 [200.00]
20722-464	Assembly, Driveline, Aluminum, Tube, 4642mm	5.18 [17.0]	X		4724 [186.00]	5385 [212.00]
20722-495	Assembly, Driveline, Aluminum, Tube, 4947mm	5.49 [18.0]	X		5029 [198.00]	5690 [224.00]
20722-525	Assembly, Driveline, Aluminum, Tube, 5251mm	5.79 [19.0]	X		5334 [210.00]	5994 [236.00]
20722-556	Assembly, Driveline, Aluminum, Tube, 5556mm	6.10 [20.0]	X		5639 [222.00]	6299 [248.00]
20722-586	Assembly, Driveline, Aluminum, Tube, 5861mm	6.40 [21.0]	X		5944 [234.00]	6604 [260.00]
20722-617	Assembly, Driveline, Aluminum, Tube, 6166mm	6.71 [22.0]	X		6248 [246.00]	6909 [272.00]
20722-647	Assembly, Driveline, Aluminum, Tube, 6471mm	7.01 [23.0]	X		6553 [258.00]	7214 [284.00]
20722-678	Assembly, Driveline, Aluminum, Tube, 6775mm	7.32 [24.0]	X		6858 [270.00]	7518 [296.00]
20722-708	Assembly, Driveline, Aluminum, Tube, 7080mm	7.62 [25.0]	X		7163 [282.00]	7823 [308.00]
20722-739	Assembly, Driveline, Aluminum, Tube, 7385mm	7.92 [26.0]	X		7468 [294.00]	8128 [320.00]
20722-769	Assembly, Driveline, Aluminum, Tube, 7690mm	8.23 [27.0]	X		7772 [306.00]	8433 [332.00]
20722-800	Assembly, Driveline, Aluminum, Tube, 7995mm	8.54 [28.0]	X		8077 [318.00]	8738 [344.00]
20984-868	Assembly, Driveline, Aluminum, Tube, 8680mm, 69.3 ODmm	8.84 [29.0]		X	8382 [330.00]	9042 [356.00]
20984-899	Assembly, Driveline, Aluminum, Tube, 8985mm, 69.3 ODmm	9.14 [30.0]		X	8687 [342.00]	9347 [368.00]



DRIVELINE TO DRIVESHAFT ASSEMBLY

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027

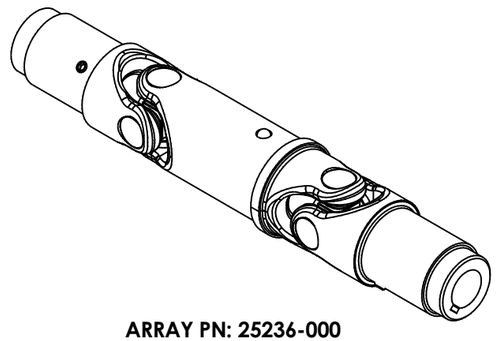
03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v10
B	21013-901	A	8/19/2022
SCALE 1:5		SHEET	2 OF 2

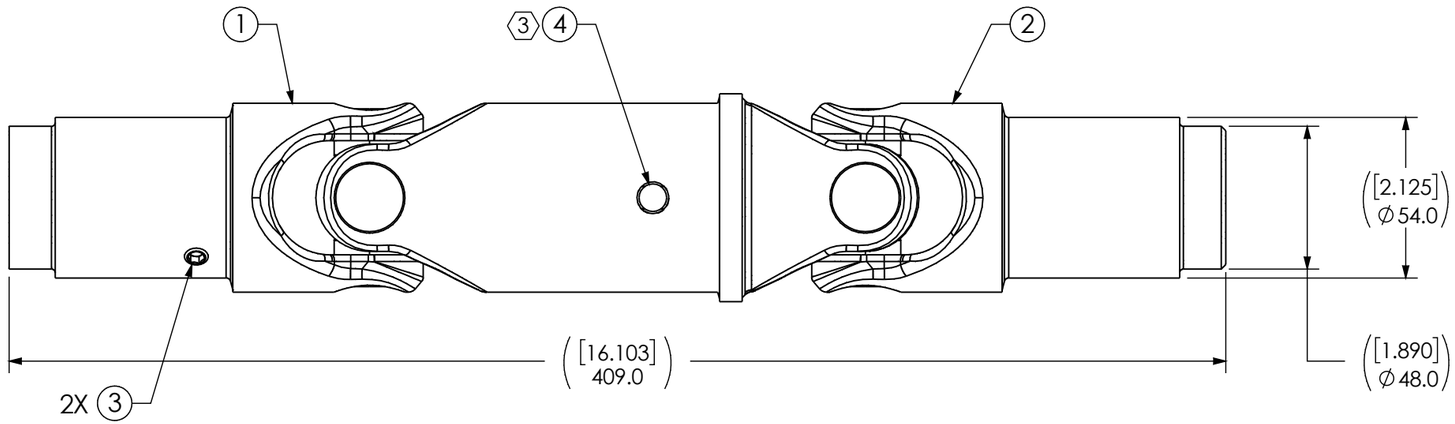
Template_CF Drawing_mm_v5

NOTES:

1. FORCE NECESSARY FOR MOVEMENT MUST NOT EXCEED 4.5 KGF [10 LBF]
2. ALL SET SCREWS WILL HAVE NYLON THREAD LOCKER TO BE ND PATCH OR ARRAY APPROVED EQUIVALENT. THREAD LOCKER TO BE APPLIED TO HALF ROUND OF SCREW FOR 4-6 THREADS.
3. SNAP BUTTON TO ENGAGE YOKE WALL ONLY, NOT TOOTH.



ARRAY PN: 25236-000



ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	40228-000	U-Joint, Aluminum, Single Slot, Female	1
2	40229-000	U-Joint, Aluminum, Single Slot, Male	1
3	60575-016	Set Screw, Dog Point, Hex Socket, Nylon Patch, SS M8-1.25 x 16	2
4	60683-000	Snap Button, Aluminum Driveline, Service Part	1

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

ZONE	REV	ECR #	DESCRIPTION	DATE
	A		INITIAL RELEASE	8/1/2022

DRAWING STATUS: **Final**

DRAWN INITIALS: DS DATE: 07/28/2022		DRAWING CHECK INITIALS: NC DATE: 8/1/2022	
ENG. CHECK INITIALS: CP DATE: 08/01/2022		FINAL APPROVAL INITIALS: SB DATE: 8/1/2022	
THIRD ANGLE PROJECTION		ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.	

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049] .X = ±0.4 [0.016] .XX = ±0.1 [0.004]	X.XX = ±0.013 [0.512] X.XXX = ±0.006 [0.236]	X = ±1.0° .X = ±0.1°

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **Kit, U-Joint, Driveline, Aluminum, Single Slot**

SIZE	DRAWING NUMBER	REVISION	SAVED v10
B	25236-901	A	8/1/2022

SCALE 1:2 | WT: 2.37kg [5.2614lb] | SHEET 1 OF 1

Template_Drawing_mm_v5

CONFIGURATION TABLE

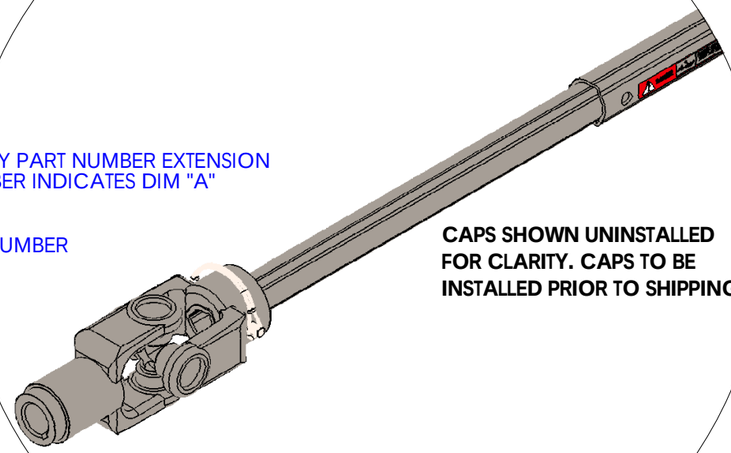
ASSEMBLY NUMBER	DESCRIPTION	DIM "A" IN mm ["]	DIM "B" IN mm ["]	FEMALE ASSEMBLY NUMBER	WEIGHT KG [LB]	ROW SPACING IN M [']
20745-XXX	Field Assembly, Full Driveline Tube, Steel, Detachable, XXXXmm	XXXX [XXX.XX]	XXXX [XXX.XX]	20773-XXX	XX.X [XX.XX]	X.XX M [XX.X']
20745-287	Field Assembly, Full Driveline Tube, Steel, Detachable, 2870mm	2870 [113.00]	3277 [129.00]	20773-202	17.72 [39.24]	3.05 M [10.0']
20745-318	Field Assembly, Full Driveline Tube, Steel, Detachable, 3175mm	3175 [125.00]	3581 [141.00]	20773-232	18.65 [41.29]	3.35 M [11.0']
20745-348	Field Assembly, Full Driveline Tube, Steel, Detachable, 3480mm	3480 [137.00]	3886 [153.00]	20773-262	19.58 [43.34]	3.66 M [12.0']
20745-378	Field Assembly, Full Driveline Tube, Steel, Detachable, 3785mm	3785 [149.00]	4191 [165.00]	20773-293	20.51 [45.39]	3.96 M [13.0']
20745-409	Field Assembly, Full Driveline Tube, Steel, Detachable, 4089mm	4089 [161.00]	4496 [177.00]	20773-323	21.44 [47.44]	4.27 M [14.0']
20745-439	Field Assembly, Full Driveline Tube, Steel, Detachable, 4394mm	4394 [173.00]	4801 [189.00]	20773-354	22.37 [49.50]	4.57 M [15.0']
20745-470	Field Assembly, Full Driveline Tube, Steel, Detachable, 4699mm	4699 [185.00]	5105 [201.00]	20773-384	23.30 [51.55]	4.88 M [16.0']
20745-500	Field Assembly, Full Driveline Tube, Steel, Detachable, 5004mm	5004 [197.00]	5410 [213.00]	20773-415	24.23 [53.60]	5.18 M [17.0']
20745-531	Field Assembly, Full Driveline Tube, Steel, Detachable, 5309mm	5309 [209.00]	5715 [225.00]	20773-445	25.16 [55.65]	5.49 M [18.0']
20745-561	Field Assembly, Full Driveline Tube, Steel, Detachable, 5613mm	5613 [221.00]	6020 [237.00]	20773-476	26.09 [57.70]	5.79 M [19.0']
20745-592	Field Assembly, Full Driveline Tube, Steel, Detachable, 5918mm	5918 [233.00]	6325 [249.00]	20773-506	27.02 [59.75]	6.10 M [20.0']
20745-622	Field Assembly, Full Driveline Tube, Steel, Detachable, 6223mm	6223 [245.00]	6629 [261.00]	20773-537	27.95 [61.80]	6.40 M [21.0']
20745-652	Field Assembly, Full Driveline Tube, Steel, Detachable, 6528mm	6528 [257.00]	6934 [273.00]	20773-567	28.88 [63.85]	6.71 M [22.0']
20745-683	Field Assembly, Full Driveline Tube, Steel, Detachable, 6833mm	6833 [269.00]	7239 [285.00]	20773-598	29.81 [65.90]	7.01 M [23.0']
20745-714	Field Assembly, Full Driveline Tube, Steel, Detachable, 7137mm	7137 [281.00]	7544 [297.00]	20773-628	30.74 [67.95]	7.32 M [24.0']
20745-744	Field Assembly, Full Driveline Tube, Steel, Detachable, 7442mm	7442 [293.00]	7849 [309.00]	20773-659	31.67 [70.00]	7.62 M [25.0']

ARRAY PART NUMBER DESIGNATION

20745 - XXX

ARRAY PART NUMBER EXTENSION NUMBER INDICATES DIM "A"

ARRAY PART NUMBER



CAPS SHOWN UNINSTALLED FOR CLARITY. CAPS TO BE INSTALLED PRIOR TO SHIPPING

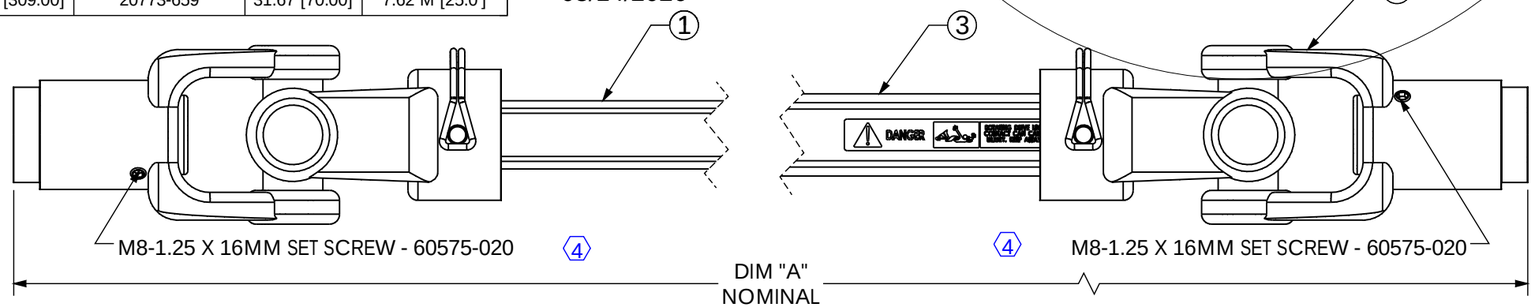
STATE OF CONNECTICUT · ROBERT C. NAPLES · No. 28670 · LICENSED PROFESSIONAL ENGINEER

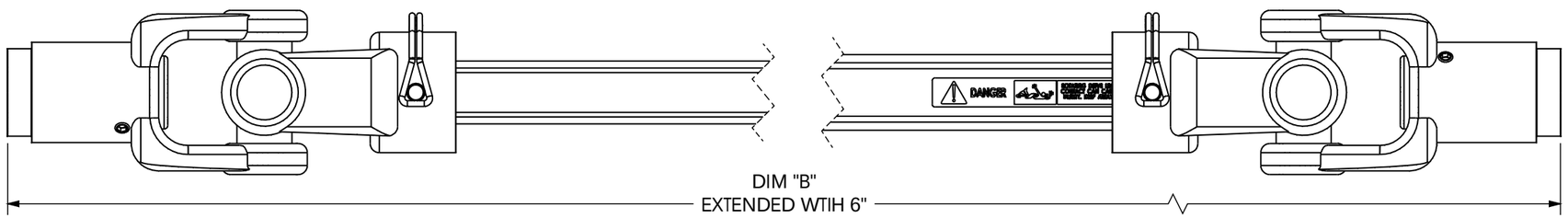
Exp 01/31/2027

03/14/2026

NOTES:

1. DIM "A" IS A NOMINAL DIMENSION. OVERALL SHAFT LENGTH TELESCOPES ±406.4MM [±16"]
2. PARTS ARE TO BE CLEARLY MARKED WITH PART NUMBER EXTENSION, I.E. 531. MARKING TO LAST AT LEAST 6 MONTHS IN OUTSIDE ENVIRONMENT. MARKINGS MUST BE APPROVED BY ARRAY ENGINEERING AND QUALITY.
3. FORCE NECESSARY FOR MOVEMENT MUST NOT EXCEED 4.5 KGF [10 LBF].
4. M8 SET SCREW 16±1 N-M [12±1 FT-LB][144±12 IN-LB].
5. MARK ALL TORQUED CONNECTIONS USING PAINT MARKERS OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
6. ROW SPACING IS BASED ON LEVEL GRADE BETWEEN ROWS AND CENTER STRUCTURES IN ALIGNMENT.





STEEL DRIVELINE SPECIFICATIONS

OPERATING TORQUE	515 N-M [380 FT-LB]
MAXIMUM TORQUE	712 N-M [525 FT-LB]
MAX. OPERATING ANGLE	45°
U-JOINT LIFETIME	30 years min
OPERATING SPEED	30 rpm
ENVIRONMENTAL CONDITION	Severe Weather
MAINTENANCE	None Required
MAX. ANGULAR BACKLASH	5°
TORSIONAL DEFLECTION AT 325 FT-LBS	10.2° @ 125" OAL W/ 14" ENGAGEMENT. ADD .65° PER FOOT FOR LONGER LENGTHS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	20744-000	Assembly, Driveline, Steel, Detachable, Male	1
2	20772-000	Assembly, U-Joint, Steel, Female, Detachable	1
3	20773-XXX	Assembly, Tube, Driveline, Steel, Female, XXXX mm	1

REV	DESCRIPTION	DATE
A	INITIAL RELEASE	8/20/2018

DRAWING STATUS: Final

DRAWN: AH 8/6/2018 | DRAWING CHECK: KB 8/20/2018

ENG. CHECK: | FINAL APPROVAL: SR 9/10/2018

THIRD ANGLE PROJECTION | ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]: X = ±1.25 [0.050], .X = ±0.4 [0.015], .XX = ±0.1 [0.004]

METER [INCH]: X.XX = ±0.013 [0.500], X.XXX = ±0.006 [0.250]

ANGULAR: X = ±1.0°, .X = ±0.1°

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Field Assembly, Full Driveline Tube, Steel, Detachable, XXXXmm

SIZE	DRAWING NUMBER	REVISION	SAVED v14
B	20745-901	A	4/1/2019
SCALE 1:3	WT: SEE CONFIG. TABLE	SHEET	1 OF 1

NOTES: (F)

1. CARRIAGE BOLTS ARE 0.625" DIAMETER, GRADE 5 SAE J429-2011, HDG.

(2) TORQUE SPECIFICATIONS:
TIGHTEN NO MORE THAN 1/2 TURN PAST INITIAL LOCKING FEATURE ENGAGEMENT.

3. CLAMP ASSEMBLY (OR USE JIG) FOR WELDING. COUPLER AND TUBE SURFACES MUST BE PARALLEL AND FLUSH WHEN COUPLER IS IN CLOSED POSITION.

4. INTERPRET WELD SYMBOLS PER AWS A2.4:2007, STANDARD SYMBOLS FOR WELDING.

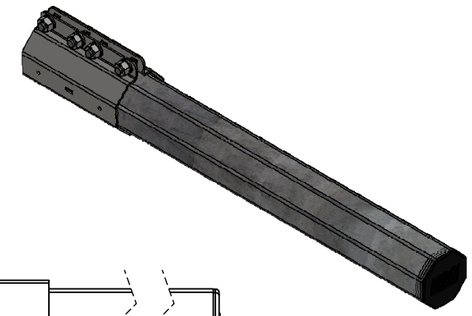
5. VISUALLY INSPECT COMPLETED WELDS FOR SOUNDNESS, SIZE, LENGTH, AND LOCATION PER AWS D1.1:2008, CLAUSE 6.9 AND TABLE 6.1.

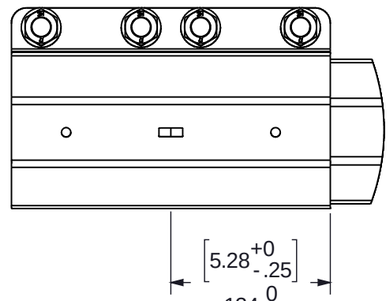
6. FINISH:
AFTER ANY SECONDARY OPERATIONS SUCH AS MACHINING, PUNCHING, GRINDING, OR WELDING, REPAIR AFFECTED AREA PER ASTM A780 AT MANUFACTURER OR PER ATIWI-07-02-28.

(7) 25052-000 MAY BE REPLACED WITH 25158-000 OR 25145-000

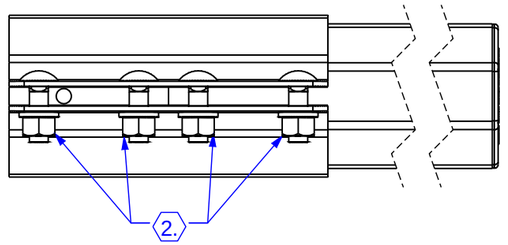
(8) 30811-XXX MAY BE REPLACED WITH 30662-XXX OR 30810-XXX

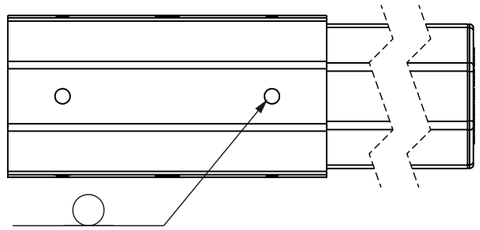
ARRAY PART NUMBER DESIGNATION
20759-XXX
- ARRAY PART NUMBER EXTENSION
NUMBER INDICATES LENGTH OF DIM "A" IN XX.X METERS
- ARRAY PART NUMBER FOR OCTAGONAL TORQUE TUBE

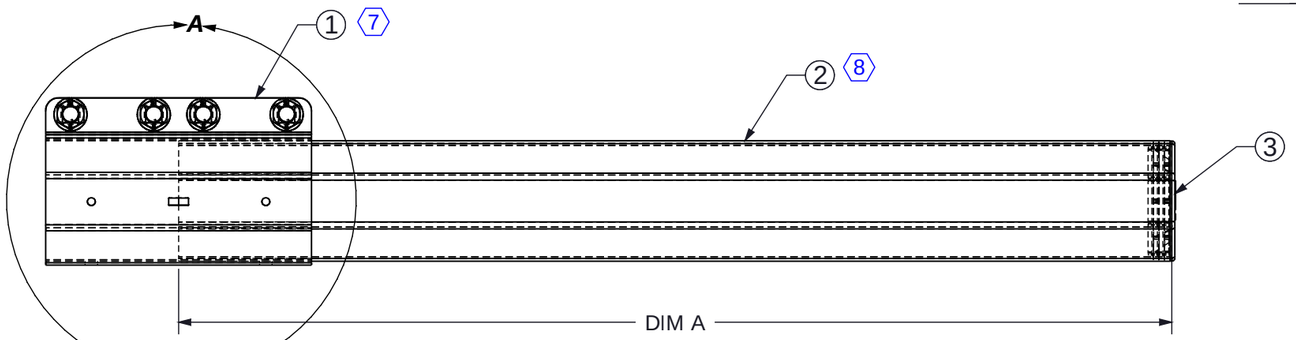




DETAIL A







ITEM NO.	PART NUMBER	DESCRIPTION	QTY	WEIGHT
1	25052-000	Kit, Coupler, Octagon Tube Adaptor, Single Piece	1	4.83 KG [10.72 LB]
2	30811-XXX	Tube, 121.5mm Octagon, 12ga, A500 65 KSI, G90 Pre-Galv, (xx.x m)	1	7.52 KG/M [5.05 LB/FT]
3	60459-000	Plug, End, Torque Tube, Octagon, Polyethylene	1	0.17 KG [0.37 LB]

STATE OF CONNECTICUT
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Exp 01/31/2027
03/14/2026

REV	DESCRIPTION	DATE
F	UPDATED NOTES PER ECR 20201	4/28/2020
E	ADJUSTED CORROSION REFERENCE PER ECR-20195	4/15/2020
D	DELETED NOTE AND CHANGED WELD SYMBOL PER ECR 18154	11/15/2018

DRAWING STATUS: Final
DRAWN: MB 07/30/2018
DRAWING CHECK: MK 4/28/2020
ENG. CHECK: DO 04/29/2020
FINAL APPROVAL: SB 5/7/2020
THIRD ANGLE PROJECTION
ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]
TOLERANCES UNLESS OTHERWISE SPECIFIED
MM [INCH]: X = ±1.25 [0.050], .X = ±0.4 [0.015], .XX = ±0.1 [0.004]
METER [INCH]: X.XX = ±0.013 [0.500], X.XXX = ±0.006 [0.250]
ANGULAR: X = ±1.0°, .X = ±0.1°

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

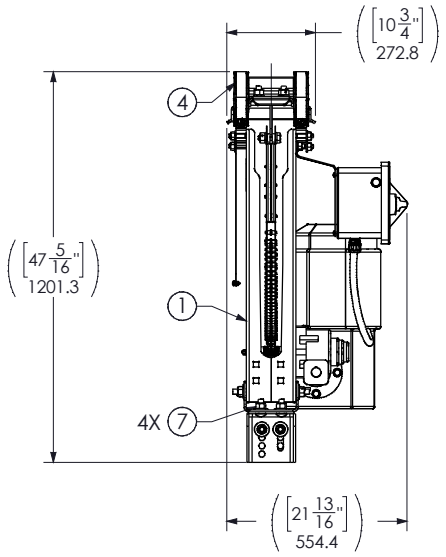
TITLE: Assembly, Torque Beam, Single Piece Coupler, End Cap L, XX.Xm

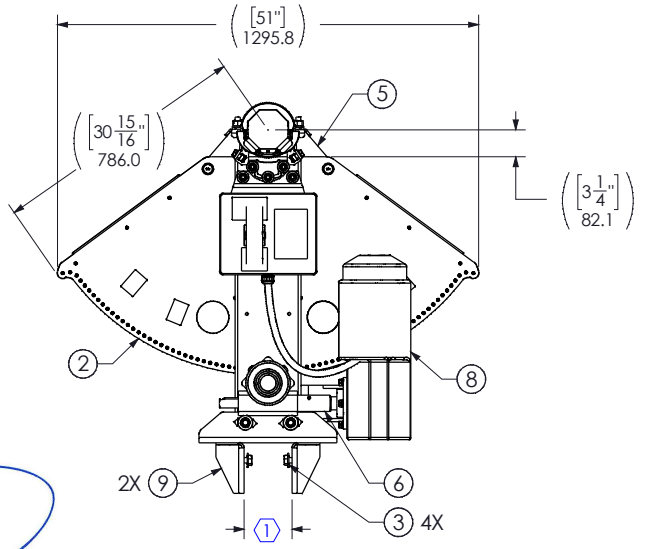
SIZE	DRAWING NUMBER	REVISION	SAVED v43
B	20759-901	F-01	4/28/2020

SCALE 1:6 | WT: 12.91kg [28.6602lb] | SHEET 1 OF 1

NOTES:

1. DIMENSION ADJUSTABLE BASED UPON I-BEAM USED.
2. SEE PAGE 3 & 4 FOR TORQUE SPECIFICATIONS AND HARDWARE IDENTIFICATION.
3. CAB AND THE MOTOR MUST ALWAYS BE MOUNTED ON OPPOSITE SIDES OF THE CENTER STRUCTURE.
4. ALTERNATE LOGO GEAR RACK ASSEMBLY 20728-XXX MAY BE USED IN PLACE OF 20878-XXX WITH EQUIVALENT CORROSION LEVEL. (T)
5. UNDER CERTAIN CIRCUMSTANCES, 20729-XX-XXX MAY BE SUBSTITUTED FOR 25215-XX-XXX.





ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	20725-XXX	Assembly, Center Structure, Drive Column, GCS, L/M/H, Gearbox XX	1
2	20878-XXX	Assembly, Gear Rack, No Logo, GCS 52 deg, 14 Gauge, 90 Flange, L/M/H	1
3	25050-001	Kit, 0.625"-11 x 2" Structural Bolt, Large Washers, Pin Lock Nut, HDG	4
4	25162-000	Kit, Center Structure Bearing, GCS	1
5	25163-000	Kit, Weldment, Gear Rack Coupler, GCS	1
6	25164-000	Kit, Motor Assembly, Drive Column, GCS, 345.4mm Shaft	1
7	25165-001	Kit, 0.625"-11 x 1.75" Carriage Bolt, Large Washers, Pin Lock Nut, HDG	4
8	25215-XX-XXX	Kit, Motor Assembly, Dual Voltage, 6.3A, GCS, Motor XX, M/H, Controller XX	1
9	30698-000	Bracket I-beam, GCS	2

STATE OF CONNECTICUT
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No. 28670
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PROFESSIONAL ENGINEER

Exp 01/31/2027
03/14/2026

ZONE	REV	ECR #	DESCRIPTION	DATE
A5, D5, 2-C1, 2-C6, 2-D6, 2-D7, 5-C2, 5-C4, 5-C5, 5-D4, 5-D5	T	21100 21103 21114	REMOVED CONFIGURATIONS 20729-XX-X04 THRU 20729-XX-X06, ADDED WIRE MANAGEMENT HOLE DIMENSIONS, REPLACED GEAR RACK 20728 WITH 20878, ADJUSTED GEAR RACK CONFIG TABLE, UPDATED NOTE 4	6/16/2021
2-C6	S	21093	REMOVED CONFIGURATIONS 20729-02-401 THRU 20729-02-406	5/21/2021
B7, D5, 2-A1, 5-A3, 5-A5, 5-B3	R	21033 21073	ADDED NOTE 5, BOM AND SHEET 2 (INTEGRATED -906), REMOVED NOTE 2, UPDATED FLOOD INFORMATION	4/30/2021

DRAWING STATUS: Final
DRAWN: KB 01/03/2018
DRAWING CHECK: NC 6/29/2021
ENG. CHECK: JS 07/12/2021
FINAL APPROVAL: SB 7/13/2021
THIRD ANGLE PROJECTION
ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH], DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.050] .X = ±0.4 [0.015] .XX = ±0.1 [0.004]	X.XX = ±0.013 [0.500] X.XXX = ±0.006 [0.250]	X = ±1.0° .X = ±0.1°

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Field Assembly, GCS, Motorized, XX Deg, L/M/H, Motor XX, Gearbox XX

SIZE	DRAWING NUMBER	REVISION	SAVED v203
B	20726-XX-901	T	7/12/2021

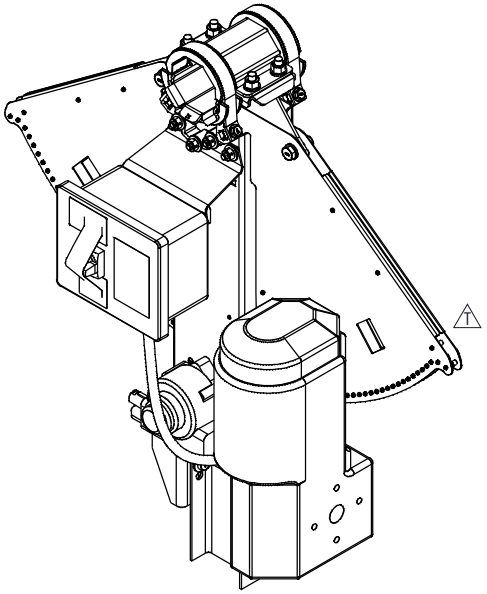
SCALE 1:15 SHEET 1 OF 6

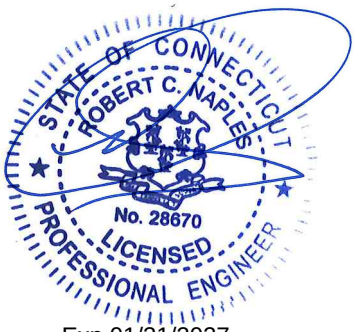
Template_CF Drawing_mm_v4

GEAR RACK CONFIGURATION TABLE	
GEAR RACK PART NUMBER	**DESCRIPTION**
20878-002	Assembly, Gear Rack, No Logo, GCS 52 deg, 14 Gauge, 90 Flange, L
20878-004	Assembly, Gear Rack, No Logo, GCS 52 deg, 14 Gauge, 90 Flange, M/H

MOTOR KIT CONFIGURATION TABLE	
MOTOR KIT PART NUMBER	**MOTOR KIT DESCRIPTION**
20729-01-301	Assembly, Dual Voltage, GCS, Motor 01, M, Controller 01
20729-01-302	Assembly, Dual Voltage, GCS, Motor 01, M, Controller 02
20729-01-303	Assembly, Dual Voltage, GCS, Motor 01, M, Controller 03
20729-01-311	Assembly, Dual Voltage, GCS, Motor 01, M, Controller 01
20729-01-401	Assembly, Dual Voltage, GCS, Motor 01, H, Controller 01
20729-01-402	Assembly, Dual Voltage, GCS, Motor 01, H, Controller 02
20729-01-403	Assembly, Dual Voltage, GCS, Motor 01, H, Controller 03
20729-03-401	Assembly, Dual Voltage, GCS, Motor 03, H, Controller 01
20729-03-402	Assembly, Dual Voltage, GCS, Motor 03, H, Controller 02
20729-03-403	Assembly, Dual Voltage, GCS, Motor 03, H, Controller 03

MOTOR KIT CONFIGURATION TABLE	
MOTOR KIT PART NUMBER	**MOTOR KIT DESCRIPTION (6.3A)**
25215-01-301	Kit, Motor Assembly, GCS, 6.3A, SEW Motor, L/M, IEC STD
25215-01-302	Kit, Motor Assembly, GCS, 6.3A, SEW Motor, L/M, IEC EUR
25215-01-303	Kit, Motor Assembly, GCS, 6.3A, SEW Motor, L/M, IEC AUS
25215-01-311	Kit, Motor Assembly, GCS, 6.3A, SEW Motor, M/H, IEC STD, PP
25215-01-401	Kit, Motor Assembly, GCS, 6.3A, SEW Motor, H, IEC STD
25215-01-402	Kit, Motor Assembly, GCS, 6.3A, SEW Motor, H, IEC EUR
25215-01-403	Kit, Motor Assembly, GCS, 6.3A, SEW Motor, H, IEC AUS
25215-02-401	Kit, Motor Assembly, GCS, 6.3A, Regal Motor, H, IEC STD
25215-02-402	Kit, Motor Assembly, GCS, 6.3A, Regal Motor, H, IEC EUR
25215-02-403	Kit, Motor Assembly, GCS, 6.3A, Regal Motor, H, IEC AUS
25215-03-401	Kit, Motor Assembly, GCS, 6.3A, Bonfiglioli Motor, H, IEC STD
25215-03-402	Kit, Motor Assembly, GCS, 6.3A, Bonfiglioli Motor, H, IEC EUR
25215-03-403	Kit, Motor Assembly, GCS, 6.3A, Bonfiglioli Motor, H, IEC AUS





Exp 01/31/2027

03/14/2026

CENTER STRUCTURE CONFIGURATION TABLE		SELECTION CRITERIA	
CENTER STRUCTURE PART NUMBER	**DESCRIPTION**	**GEARBOX SELECTION**	**CORROSION REQUIREMENTS**
20725-201	Assembly, Center Structure, Drive Column, GCS, L, Gearbox 01	REGAL	L
20725-202	Assembly, Center Structure, Drive Column, GCS, L, Gearbox 02	KMI	L
20725-301	Assembly, Center Structure, Drive Column, GCS, M, Gearbox 01	REGAL	M
20725-302	Assembly, Center Structure, Drive Column, GCS, M, Gearbox 02	KMI	M
20725-401	Assembly, Center Structure, Drive Column, GCS, H, Gearbox 01	REGAL	H
20725-402	Assembly, Center Structure, Drive Column, GCS, H, Gearbox 02	KMI	H

SIZE	DRAWING NUMBER	REVISION	SAVED v203
B	20726-XX-901	T	7/12/2021
SCALE 1:10		SHEET	2 OF 6

NOTES:

1. SEE 20999-901 FOR BOM AND CONFIGURATION TABLES.
2. ARRAY TORQUE SPECIFICATIONS:

   ⟨2A.⟩ ∅5/8" HEX BOLT 169 ±14 N-M [125 ±10 FT-LBS]

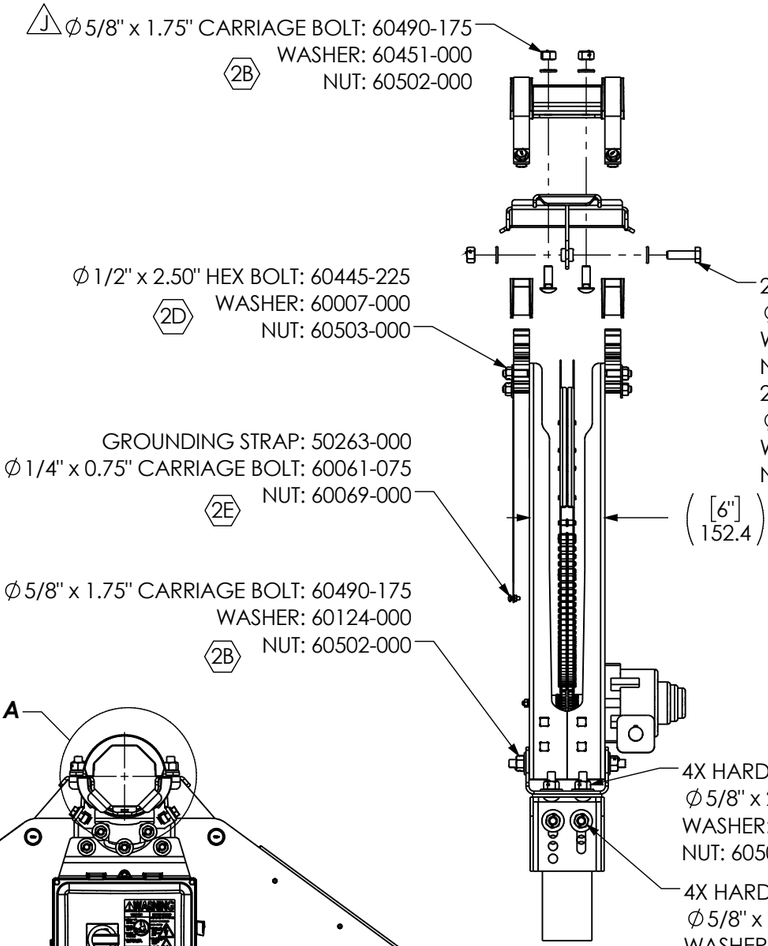
   ⟨2B.⟩ ∅5/8" CARRIAGE BOLT 108 ±14 N-M [80 ±10 FT-LBS]

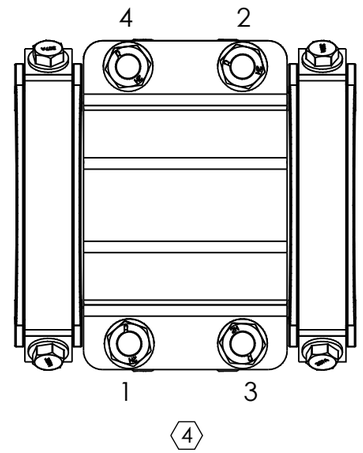
   ⟨2C.⟩ ∅5/8" GEAR RACK HEX BOLT 108 ±14 N-M [80 ±10 FT-LBS]

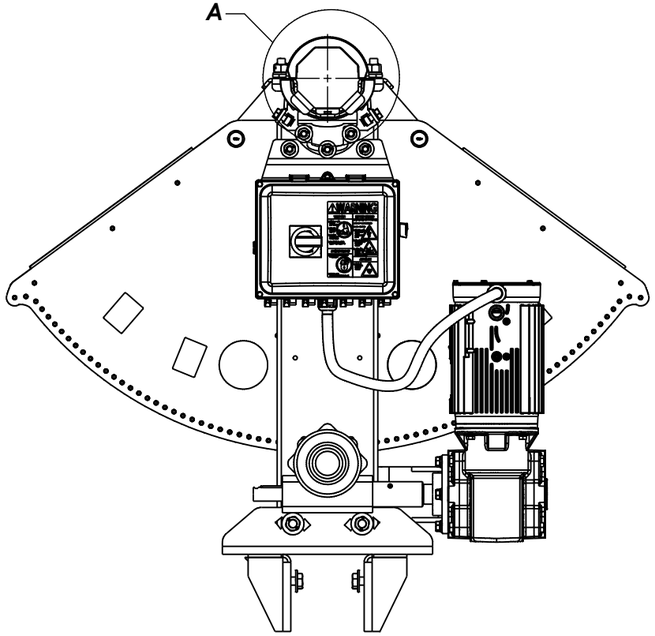
   ⟨2D.⟩ ∅1/2" HEX BOLT 81 ±7 N-M [60 ±5 FT-LBS]

   ⟨2E.⟩ ∅1/4" CARRIAGE BOLT 8.5 ±.5 N-M [75 ±5 IN-LBS]
3. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.

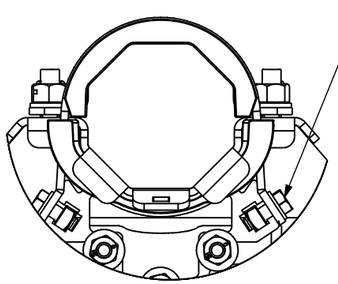
⟨4⟩ THE RECOMMENDED SEQUENCE FOR PROPER TIGHTENING OF BOLTS IS CRISS-CROSS PATTERN.







MOTOR AND ELECTRICAL COMPONENTS REMOVED FOR CLARITY



DETAIL A

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28870
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

ZONE	REV	ECR #	DESCRIPTION	DATE
D6	J	22191	CORRECTED 60490 BOLT LENGTH	12/19/2022
	H	22154	UPDATED TO MATCH ASSEMBLY REVISION	10/12/2022
B3	G	22143	REPLACED 25165-001 WITH 25056-001	9/8/2022

DRAWING STATUS: **Final**

DRAWN: DS, DATE: 04/20/2022	DRAWING CHECK: DS, DATE: 12/19/2022
ENG. CHECK: BL, DATE: 01/04/2023	FINAL APPROVAL: SB, DATE: 1/4/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **Field Assembly, GCS, Motorized, XX Motor, L/M/H, STD Wiring, Gearbox XX, Regal**

SIZE	DRAWING NUMBER	REVISION	SAVED v69
B	20999-903	J	12/19/2022
SCALE 1:15		SHEET	1 OF 4

Template_CF Drawing_mm_v5

NOTES:

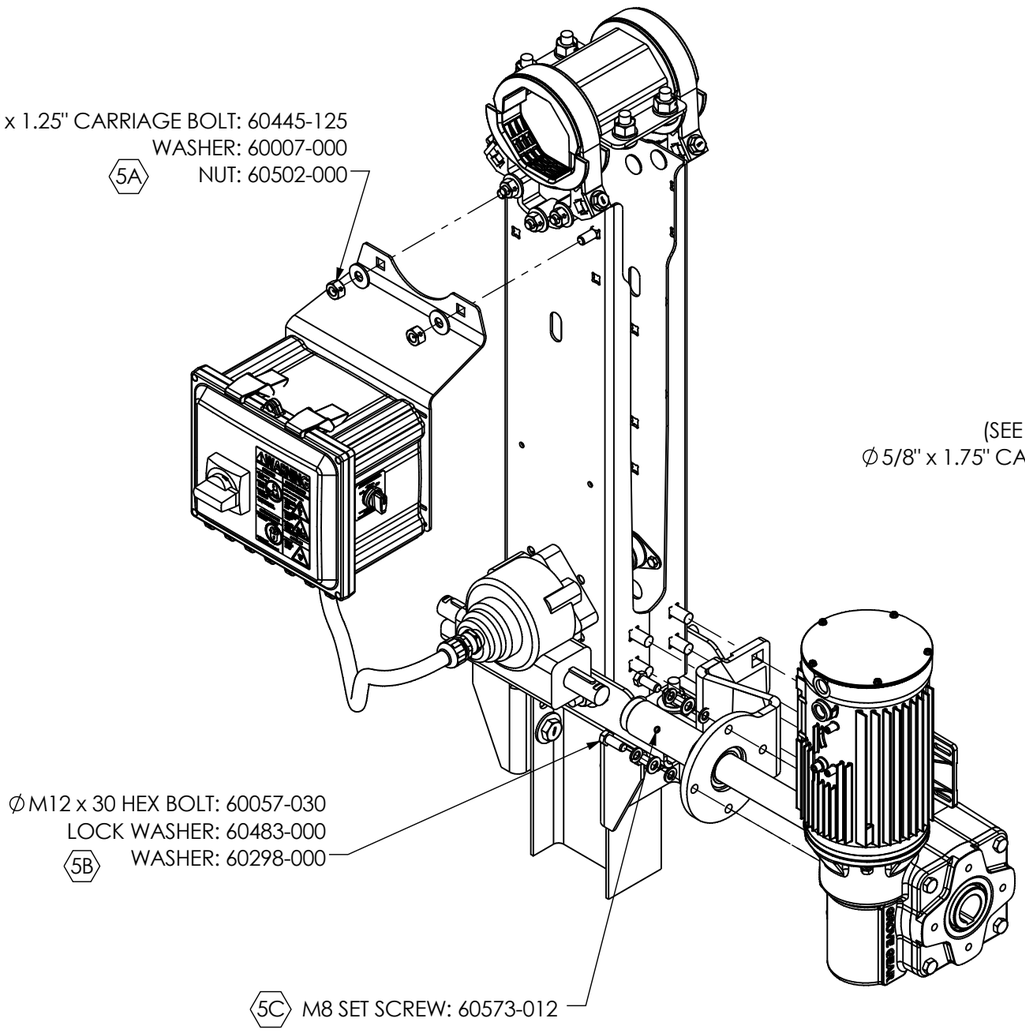
5. ARRAY TORQUE SPECIFICATIONS:

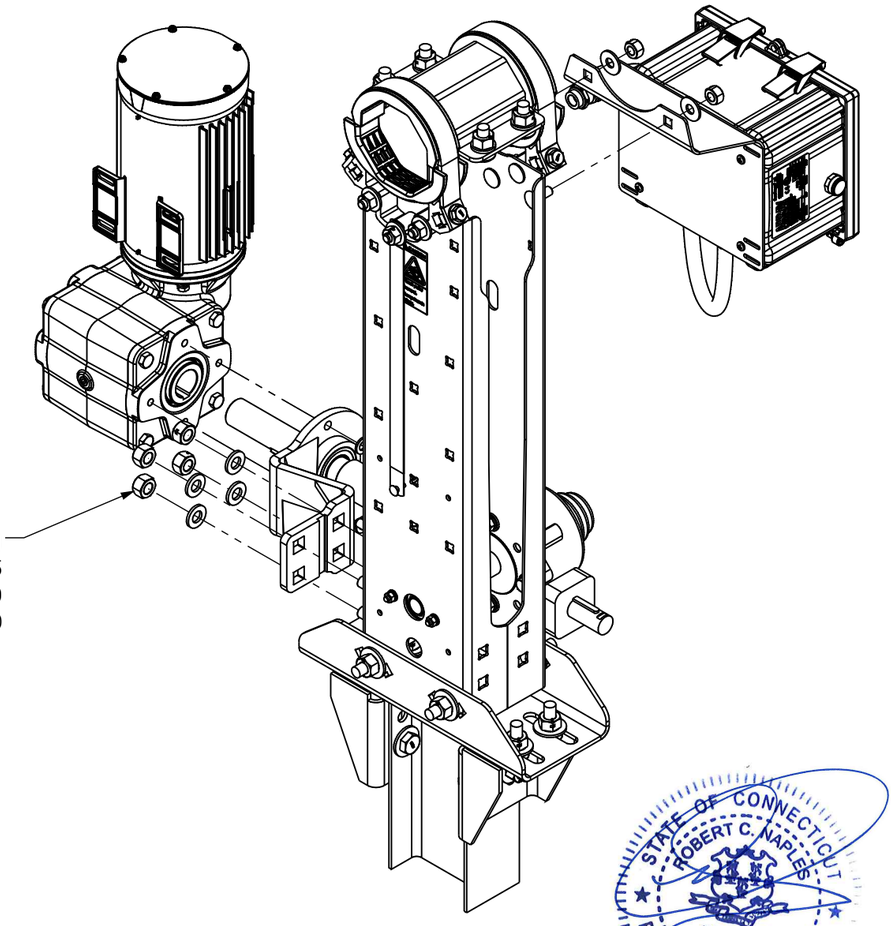
   ⟨5A.⟩ 1/2" CARRIAGE BOLT 60 ±7 N-M [45 ±5 FT-LBS]

   ⟨5B.⟩ M12 HEX BOLT 81 ±7 N-M [60 ±5 FT-LBS]

   ⟨5C.⟩ M8 SET SCREW 16 ±1 N-M [12 ±1 FT-LBS][144 ±12 IN-LBS]

6. GEAR RACK AND WELDMENT NOT SHOWN FOR CLARITY





Exp 01/31/2027

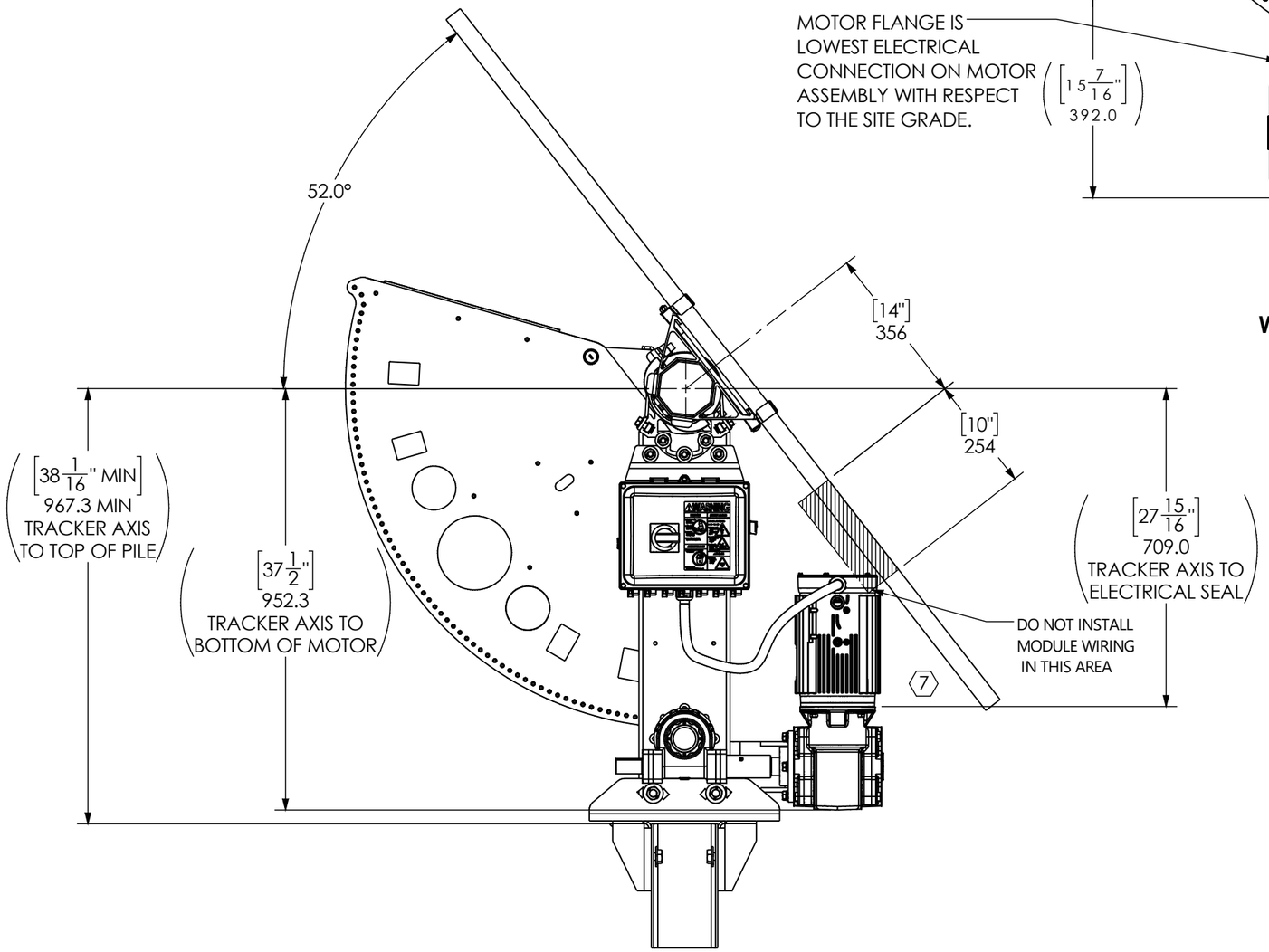
03/14/2026

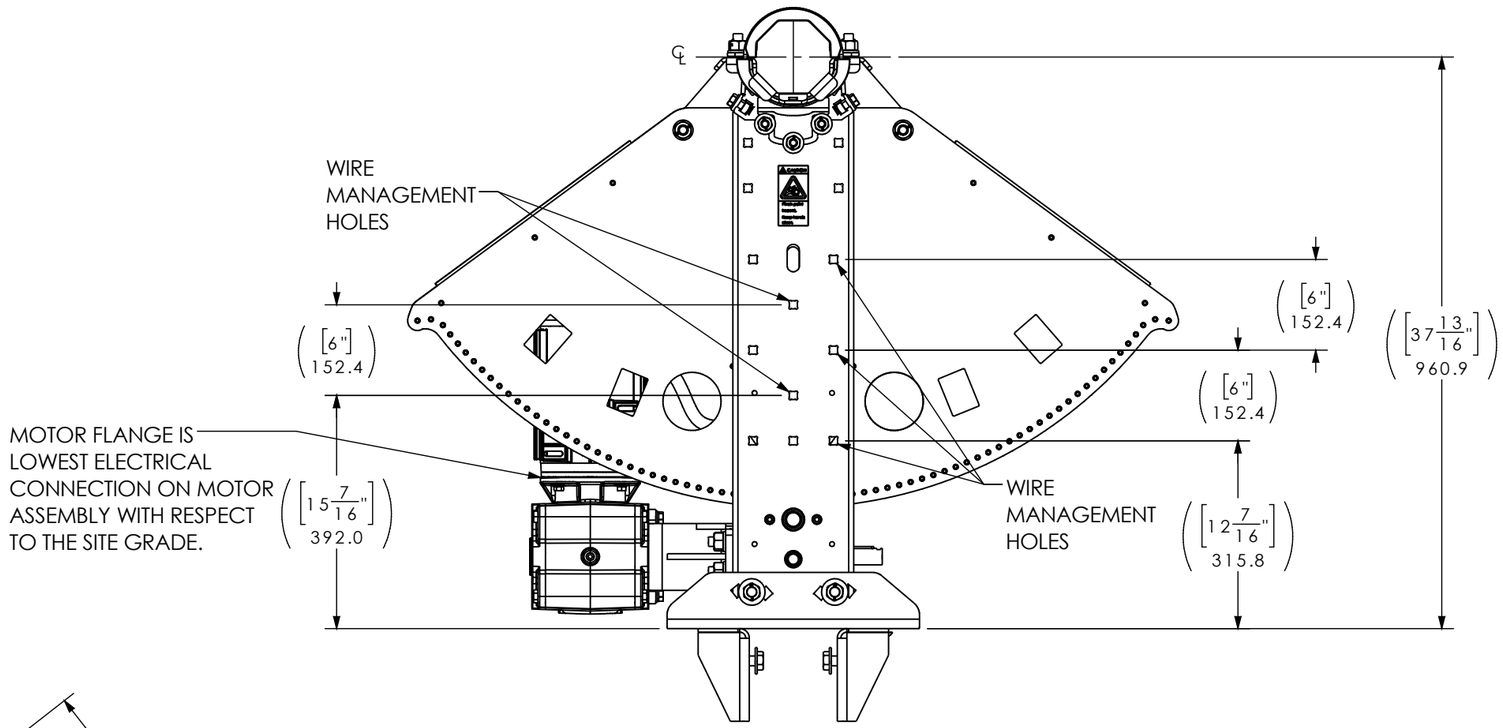
SIZE	DRAWING NUMBER	REVISION	SAVED v69
B	20999-903	J	12/19/2022
SCALE 1:16		SHEET	2 OF 4

Template_CF Drawing_mm_v5

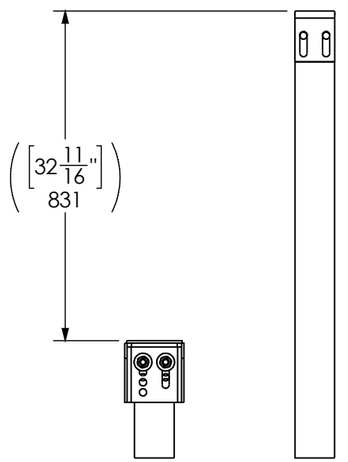
NOTES:

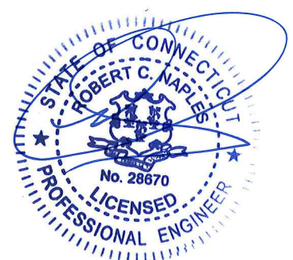
7. LEADING EDGE OF THE MODULE AT 52° TILT IS LOWER THAN TRACKER ELECTRICAL CONNECTION.





WIRE MANAGEMENT SYSTEM AND THE MOTOR MUST ALWAYS BE MOUNTED ON OPPOSITE SIDES OF THE CENTER STRUCTURE





Exp 01/31/2027

03/14/2026

GEAR RACK COLUMN BRACKET TOP TO BEARING COLUMN BRACKET TOP

SIZE	DRAWING NUMBER	REVISION	SAVED v69
B	20999-903	J	12/19/2022
SCALE 1:16		SHEET	3 OF 4

Template_CF Drawing_mm_v5

NOTES:

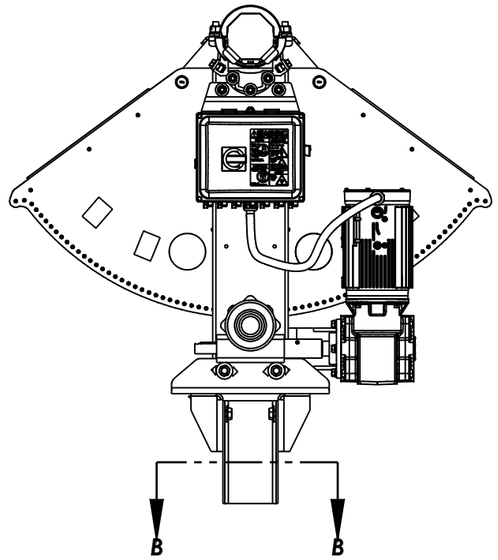
8. DIMENSIONS FROM CENTER OF I-BEAM ACCOUNT FOR VARIATIONS IN WEB THICKNESS.

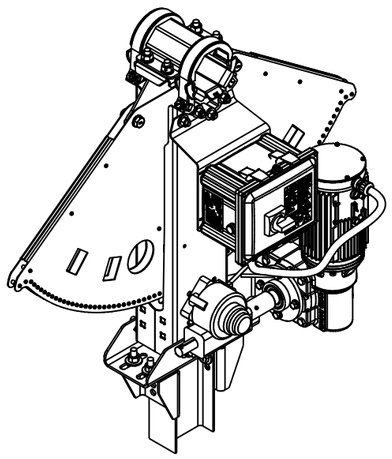
9. ALL PENETRATIONS DONE IN FIELD MUST BE PLUGGED WITH COMPONENT WHICH MAINTAINS THE 4X RATING OF THE ENCLOSURE.

10. ONCE CONDUIT AND CABLING IS INSTALLED MOTOR ENCLOSURES MUST BE SEALED TO PREVENT INFESTATION.

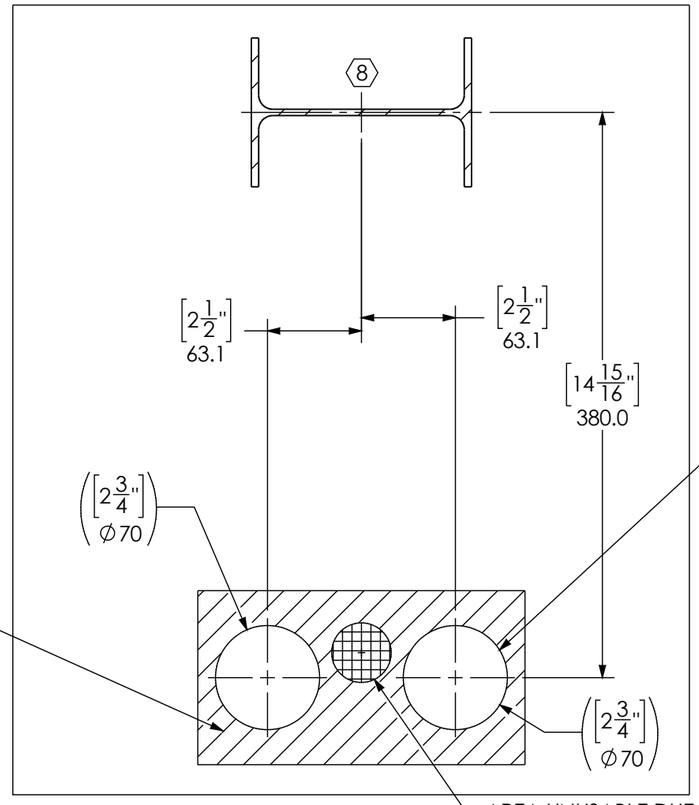
11. HATCHED AREA REPRESENTS USABLE SURFACE ON BOTTOM OF MOTOR ENCLOSURE IN REFERENCE TO CONDUIT STUB-UPS.

12. ENSURE TO LEAVE ENOUGH CLEARANCE AT STUB-UP LOCATIONS FOR INTERNAL NUTS ON ENCLOSURE.





LOCATIONS FOR CONDUIT STUB-UPS



SECTION B-B

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v69
B	20999-903	J	12/19/2022
SCALE 1:16		SHEET	4 OF 4

Template_CF Drawing_mm_v5

NOTES:

6. ARRAY TORQUE SPECIFICATIONS:

   6A. Ø5/8" HEX BOLT 169±14 N-M [125±10 FT-LBS]

   6B. Ø5/8" CARRIAGE BOLT 108±14 N-M [80±10 FT-LBS]

   6C. Ø5/8" GEAR RACK HEX BOLT 108±14 N-M [80±10 FT-LBS]

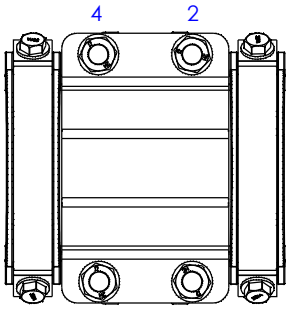
   6D. Ø1/2" HEX BOLT 81 ±7 N-M [60 ±5 FT-LBS]

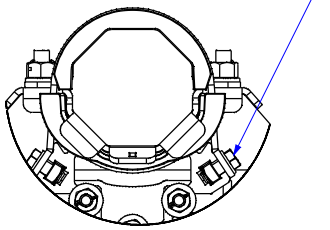
   6E. Ø1/4" CARRIAGE BOLT 8.5 ±.5 N-M [75 ±5 IN-LBS]

7. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.

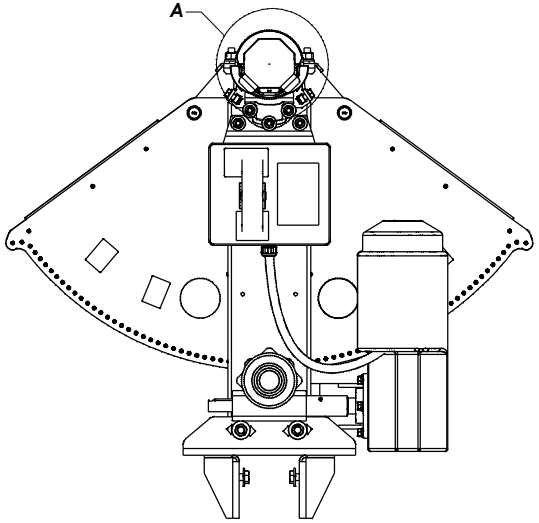
8. THE RECOMMENDED SEQUENCE FOR PROPER TIGHTENING OF BOLTS IS CRISS-CROSS PATTERN.

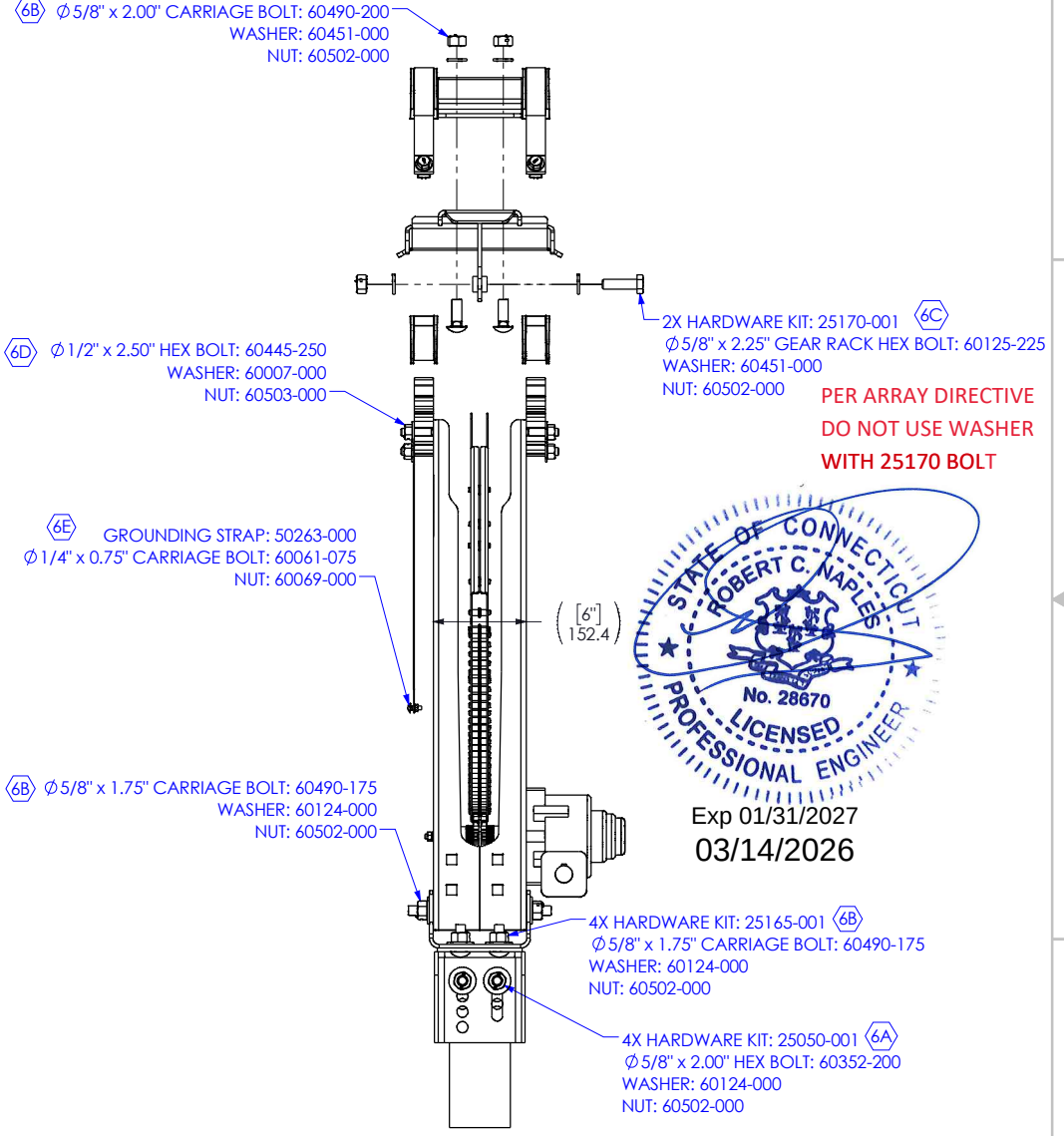
9. CARRIAGE BOLTS ARE SAE GRADE 5 MATERIAL.
   FINISH - HDG





DETAIL A





Exp 01/31/2027

03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v203
B	20726-XX-901	T	7/12/2021
SCALE 1:16		SHEET	3 OF 6

Template_CF Drawing_mm_v4

NOTES:

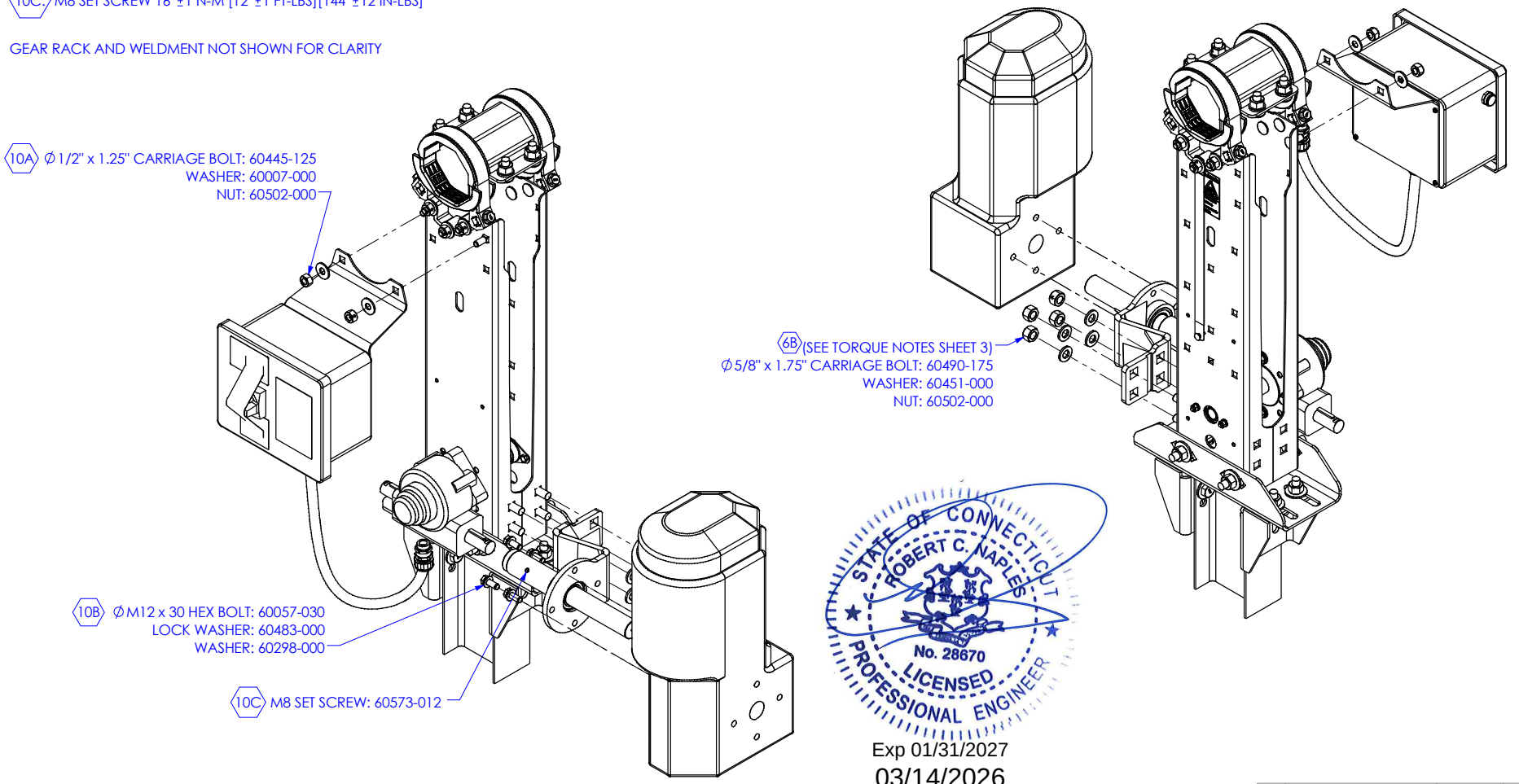
10. ARRAY TORQUE SPECIFICATIONS:

    10A. 1/2" CARRIAGE BOLT 60 ±7 N-M [45 ±5 FT-LBS]

    10B. M12 HEX BOLT 81 ±7 N-M [60 ±5 FT-LBS]

    10C. M8 SET SCREW 16 ±1 N-M [12 ±1 FT-LBS][144 ±12 IN-LBS]

11. GEAR RACK AND WELDMENT NOT SHOWN FOR CLARITY



STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

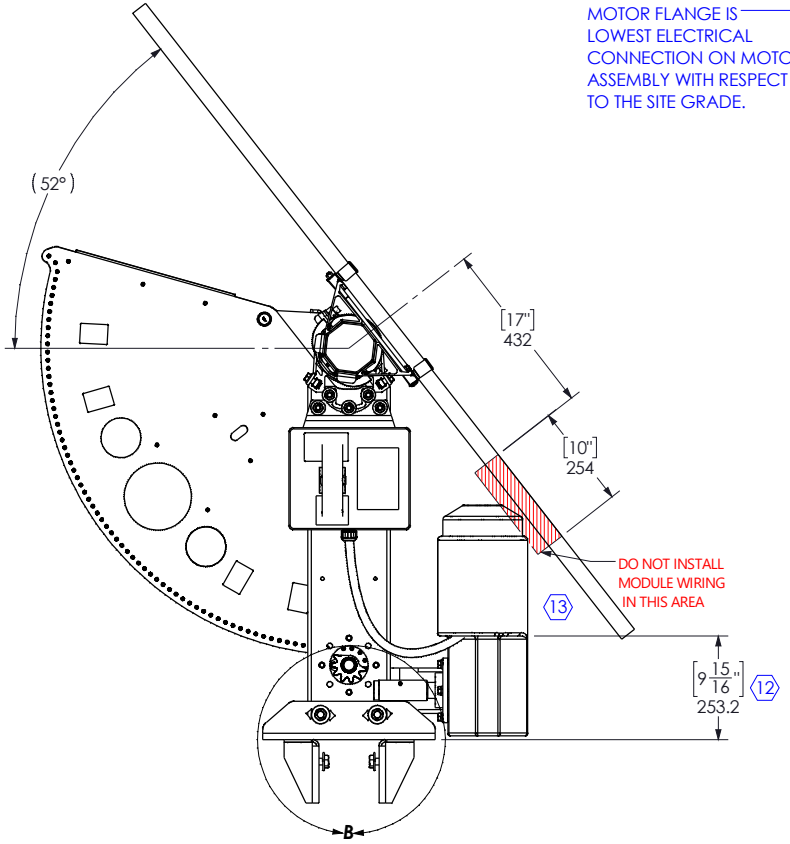
SIZE	DRAWING NUMBER	REVISION	SAVED v203
B	20726-XX-901	T	7/12/2021
SCALE 1:16		SHEET	4 OF 6

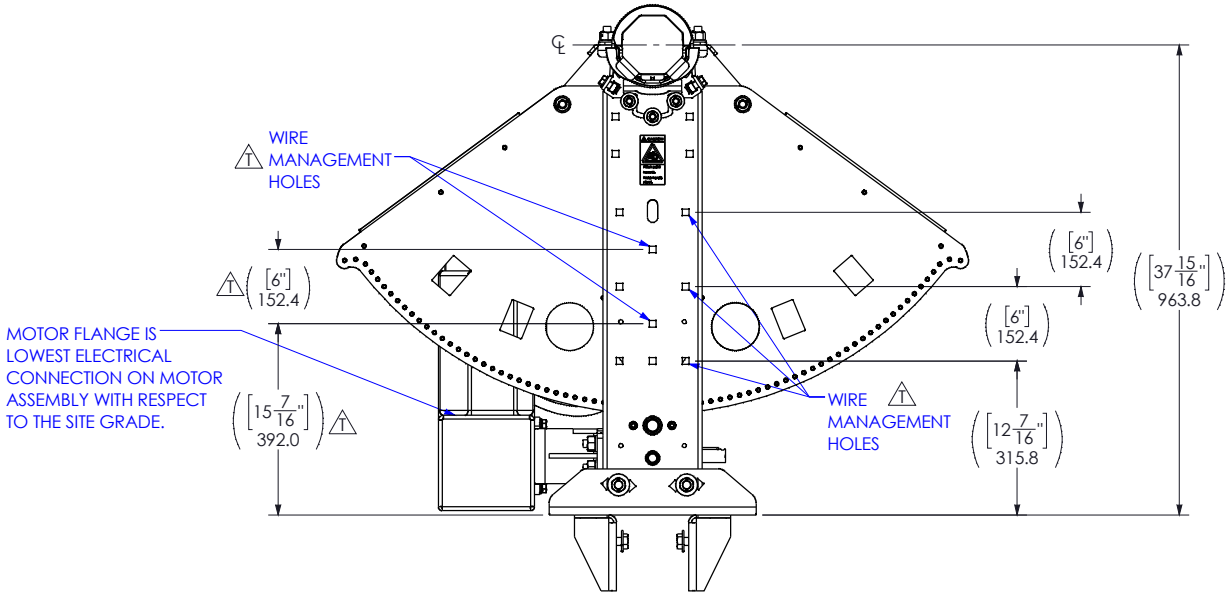
Template_CF Drawing_mm_v4

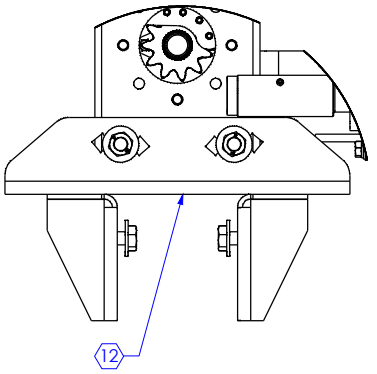
NOTES:

12. THE MAXIMUM FLOOD DEPTH BELOW BOTTOM FACE OF GCS BASE.

13. LEADING EDGE OF THE MODULE AT 52° TILT IS LOWER THAN TRACKER ELECTRICAL CONNECTION.







DETAIL B

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v203
B	20726-XX-901	T	7/12/2021
SCALE 1:16		SHEET	5 OF 6

Template_CF Drawing_mm_v4

NOTES:

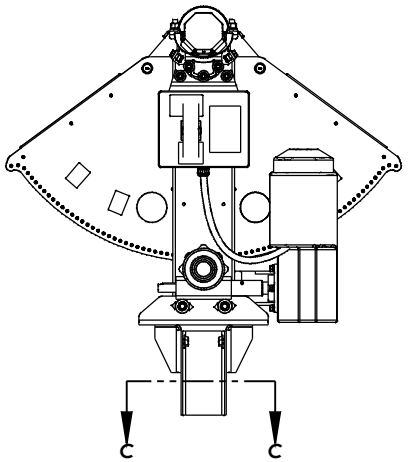
14. DIMENSIONS FROM CENTER OF I-BEAM ACCOUNT FOR VARIATIONS IN WEB THICKNESS.

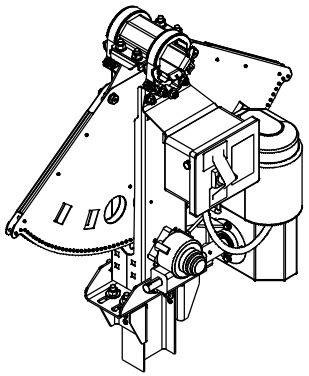
15. ALL PENETRATIONS DONE IN FIELD MUST BE PLUGGED WITH COMPONENT WHICH MAINTAINS THE 4X RATING OF THE ENCLOSURE.

16. ONCE CONDUIT AND CABLING IS INSTALLED MOTOR ENCLOSURES MUST BE SEALED TO PREVENT INFESTATION.

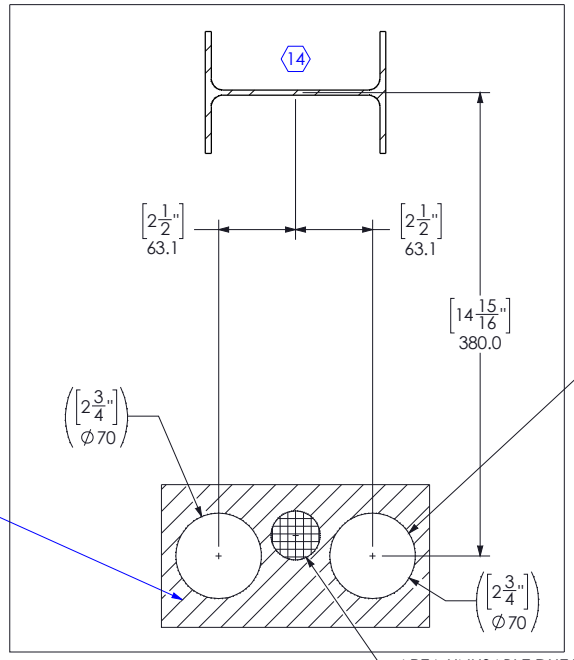
17. HATCHED AREA REPRESENTS USABLE SURFACE ON BOTTOM OF MOTOR ENCLOSURE IN REFERENCE TO CONDUIT STUB-UPS.

18. ENSURE TO LEAVE ENOUGH CLEARANCE AT STUB-UP LOCATIONS FOR INTERNAL NUTS ON ENCLOSURE.





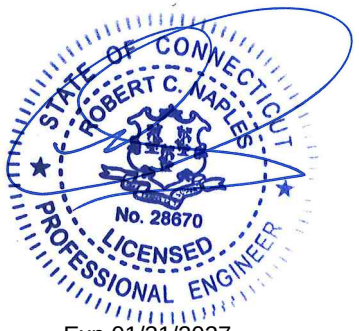
LOCATIONS FOR CONDUIT STUB-UPS



LOCATE STUB-UP FOR CONTROL CABLE WITHIN THIS AREA. SIZE DETERMINED BY LOCAL SITE REQUIREMENTS.

AREA UNUSABLE DUE TO PRE-EXISTING CONDUIT ON ARRAY ENCLOSURE.

SECTION C-C



Exp 01/31/2027

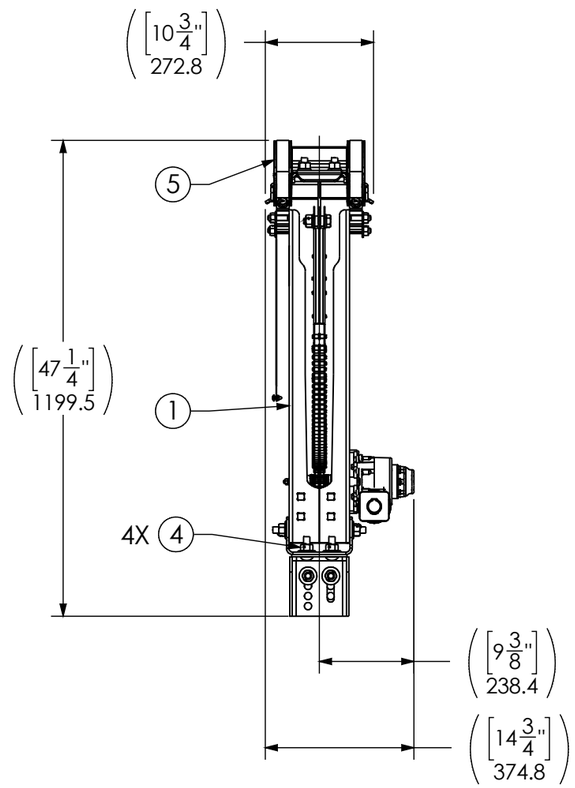
03/14/2026

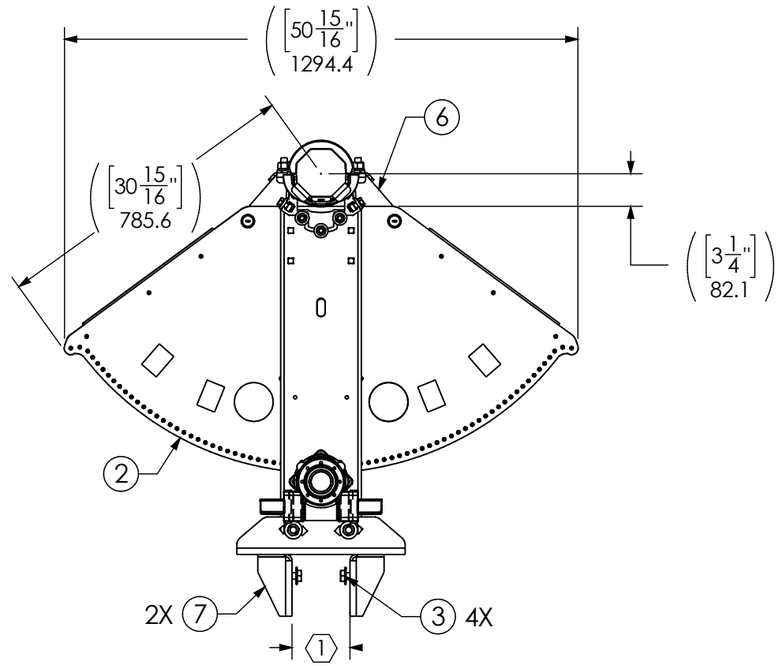
SIZE	DRAWING NUMBER	REVISION	SAVED v203
B	20726-XX-901	T	7/12/2021
SCALE 1:16		SHEET	6 OF 6

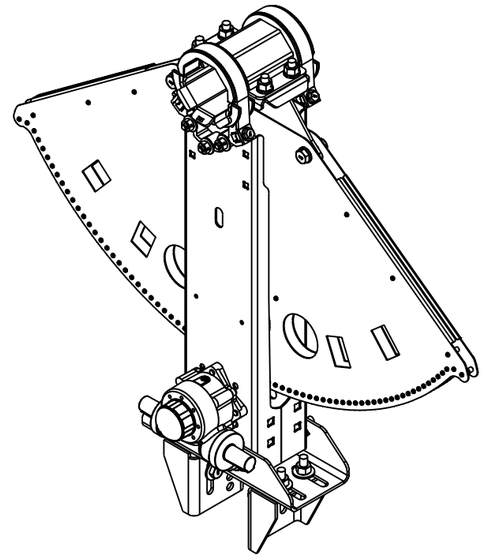
Template_CF Drawing_mm_v4

NOTES:

1. DIMENSION ADJUSTABLE BASED UPON I-BEAM USED.
2. SEE PAGE 3 FOR TORQUE SPECIFICATIONS.
3. SEE SHEET 4 FOR HARDWARE IDENTIFICATION.
4. ALTERNATE LOGO GEAR RACK ASSEMBLY 20728-XXX MAY BE USED IN PLACE OF 20878-XXX WITH EQUIVALENT CORROSION LEVEL.







STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

ITEM NO.	PART NUMBER	DESCRIPTION	
1	20725-XXX	Assembly, Center Structure, Drive Column, GCS, L/M/H, Gearbox XX	1
2	20878-XXX	Assembly, Gear Rack, No Logo, GCS 52 deg, 14 Gauge, 90 Flange, L/M/H	1
3	25050-001	Kit, 0.625"-11 x 2" Structural Bolt, Large Washers, Pin Lock Nut, HDG	4
4	25056-001	Kit, 0.625"-11 x 2" Carriage Bolt, Large Washers, Pin Lock Nut, HDG	4
5	25162-000	Kit, Center Structure Bearing, GCS	1
6	25163-XXX	Kit, Weldment, Gear Rack Coupler, XXX, GCS	1
7	30698-000	Bracket I-beam, GCS	2

ZONE	REV	ECR #	DESCRIPTION	DATE
4-D2	W	22191	CORRECTED 60490 BOLT LENGTH	12/19/2022
A6, B6, 4-B3	V	22143	REPLACED 25165-001 WITH 25056-001, UPDATED BOM	9/28/2022
A5, 2-B7, 3-C2, 3-C6, 4-C2	U	22106	UPDATED 25163 FOR -XXX, ADDED WELDMENT CONFIG TABLE AND NOTE 8	7/27/2022

DRAWING STATUS: **Final**

DRAWN: KB, DATE: 01/03/2018	DRAWING CHECK: DS, DATE: 12/19/2022
ENG. CHECK: BL, DATE: 01/04/2023	FINAL APPROVAL: SB, DATE: 1/4/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES

3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

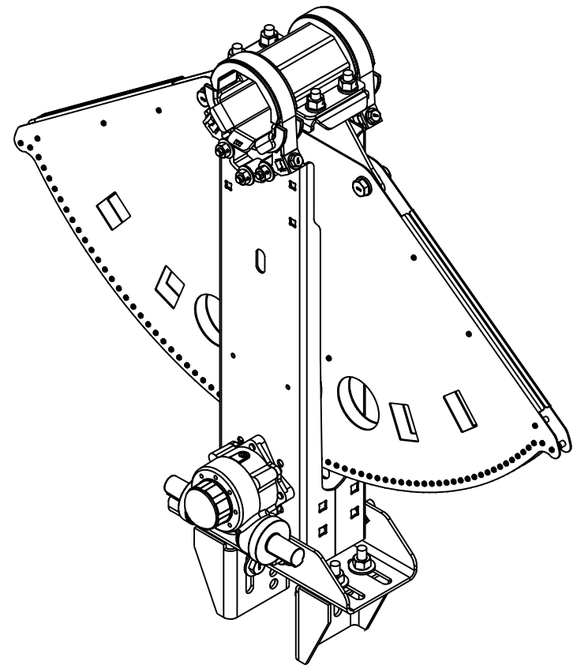
ARRAY TECHNOLOGIES

TITLE: **Field Assembly, GCS, XX Deg, L/M/H, Gearbox XX**

SIZE	DRAWING NUMBER	REVISION	SAVED v181
B	20727-901	W	12/19/2022

SCALE 1:10 — SHEET 1 OF 4

Template_CF Drawing_mm_v5



WELDMENT KIT CONFIGURATION TABLE	
WELDMENT KIT PART NUMBER	**WELDMENT KIT DESCRIPTION**
25163-000	Kit, Weldment, Gear Rack Coupler, Washers, GCS
25163-001	Kit, Weldment, Gear Rack Coupler, W/O Washers, GCS

GEAR RACK CONFIGURATION TABLE	
GEAR RACK PART NUMBER	**DESCRIPTION**
20878-002	Assembly, Gear Rack, No Logo, GCS 52 deg, 14 Gauge, 90 Flange, L
20878-004	Assembly, Gear Rack, No Logo, GCS 52 deg, 14 Gauge, 90 Flange, M/H

CENTER STRUCTURE CONFIGURATION TABLE		SELECTION CRITERIA	
CENTER STRUCTURE PART NUMBER	**DESCRIPTION**	**GEARBOX SELECTION**	**CORROSION REQUIREMENTS**
20725-201	Assembly, Center Structure, Drive Column, GCS, L, Gearbox 01	REGAL	L
20725-202	Assembly, Center Structure, Drive Column, GCS, L, Gearbox 02	KMI	L
20725-301	Assembly, Center Structure, Drive Column, GCS, M, Gearbox 01	REGAL	M
20725-302	Assembly, Center Structure, Drive Column, GCS, M, Gearbox 02	KMI	M
20725-401	Assembly, Center Structure, Drive Column, GCS, H, Gearbox 01	REGAL	H
20725-402	Assembly, Center Structure, Drive Column, GCS, H, Gearbox 02	KMI	H

STATE OF CONNECTICUT
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Exp 01/31/2027

03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v181
B	20727-901	W	12/19/2022
SCALE 1:25		SHEET	2 OF 4

Template_CF Drawing_mm_v5

NOTES:

5. ARRAY TORQUE SPECIFICATIONS:

   ⟨5A.⟩ 5/8" HEX BOLT 169 ±14 N-M [125 ±10 FT-LBS]

   ⟨5B.⟩ 5/8" CARRIAGE BOLT 108 ±14 N-M [80 ±10 FT-LBS]

   ⟨5C.⟩ 5/8" GEAR RACK HEX BOLT 108 ±14 N-M [80 ±10 FT-LBS]

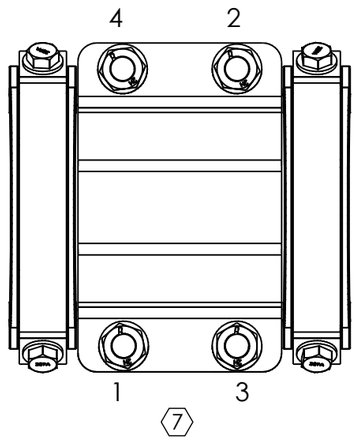
   ⟨5D.⟩ 1/2" HEX BOLT 81 ±7 N-M [60 ±5 FT-LBS]

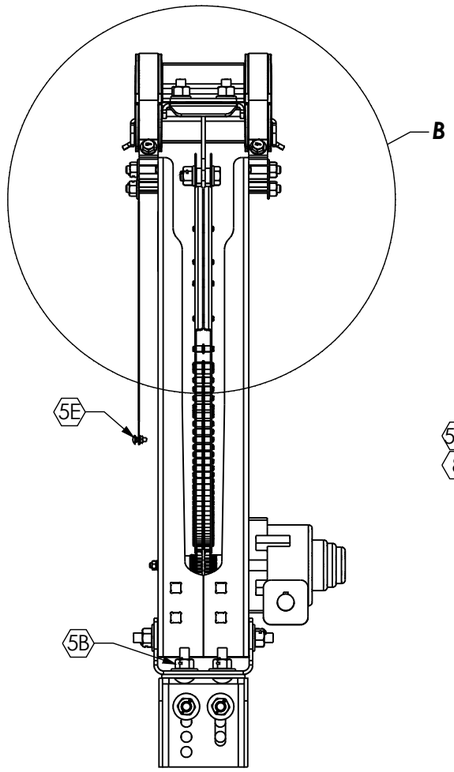
   ⟨5E.⟩ 1/4" CARRIAGE BOLT 8.5 ±0.5 N-M [75 ±5 IN-LBS]

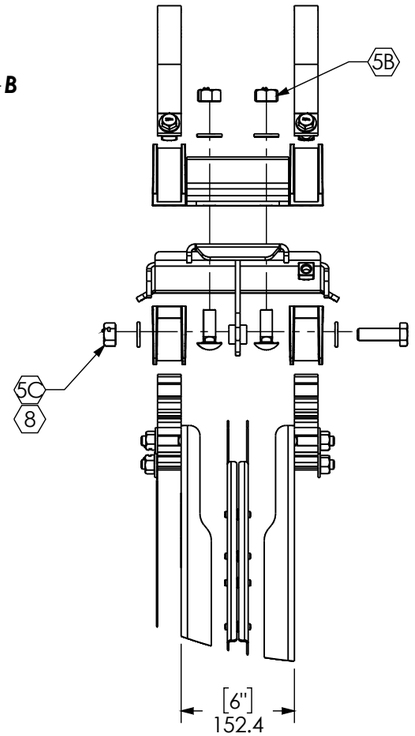
6. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.

⟨7⟩ THE RECOMMENDED SEQUENCE FOR PROPER TIGHTENING OF BOLTS IS CRISS-CROSS PATTERN.

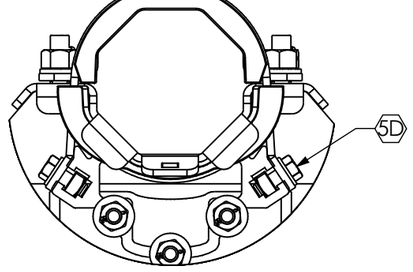
⟨8⟩ HARDWARE KIT CAN BE SUBSTITUTED WITH ALTERNATIVE HARDWARE KIT 25170-002 FOR USE W/O WASHERS.



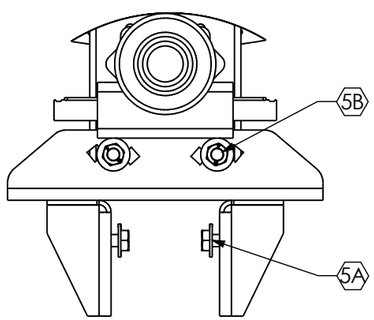




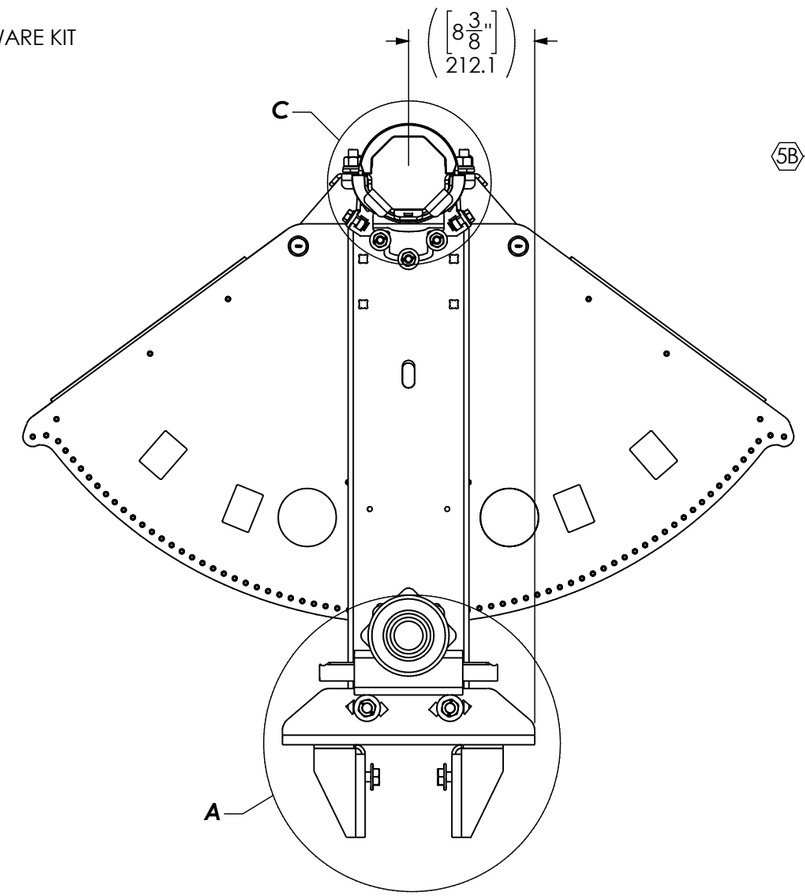
DETAIL B

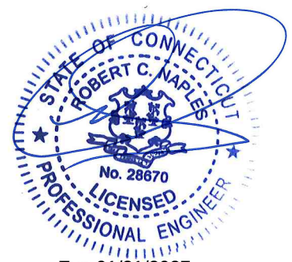


DETAIL C



DETAIL A





Exp 01/31/2027

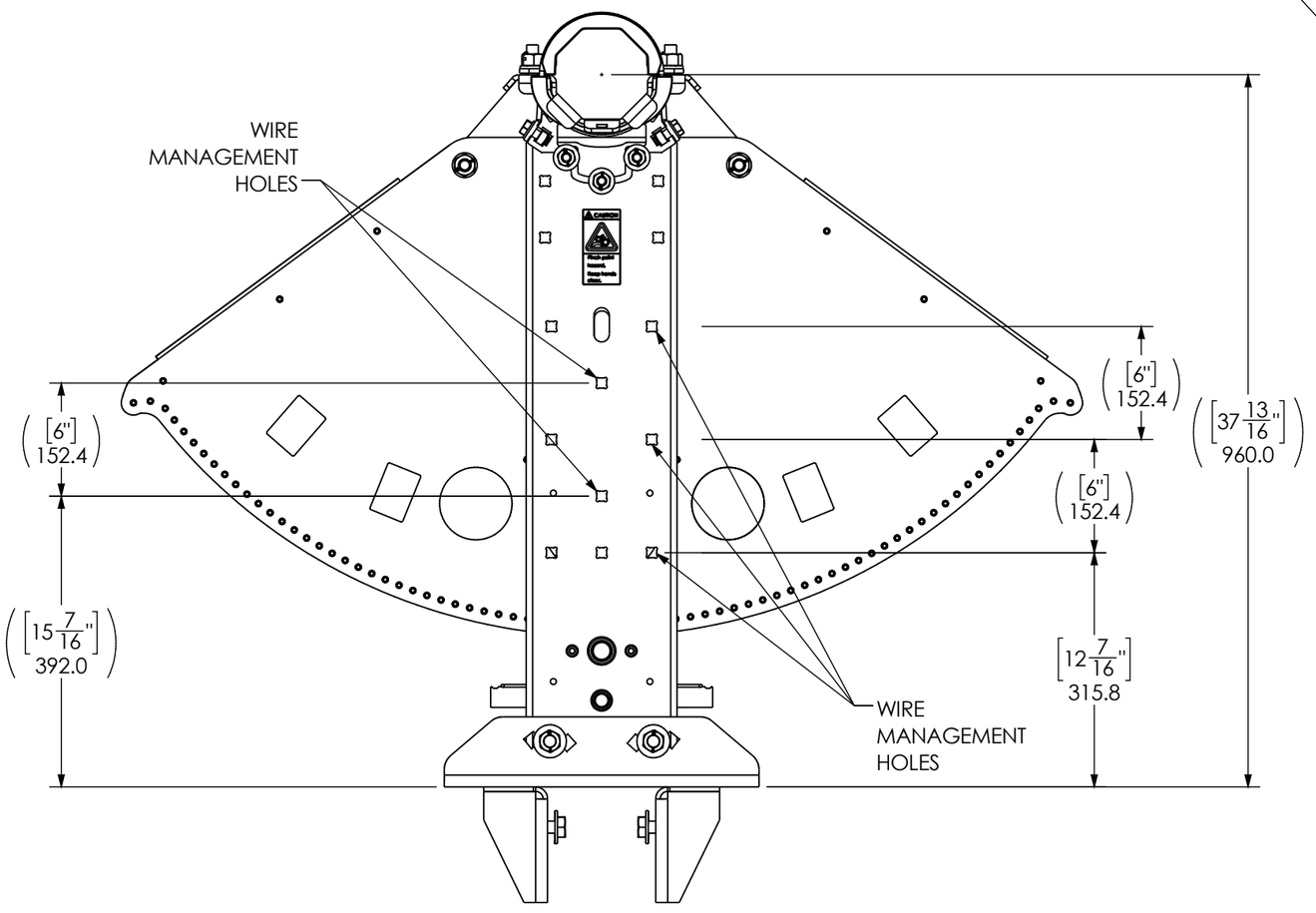
03/14/2026

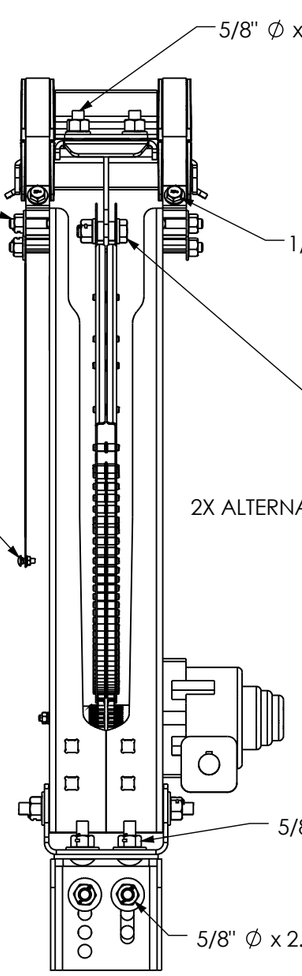
SIZE	DRAWING NUMBER	REVISION	SAVED v181
B	20727-901	W	12/19/2022
SCALE 1:10		SHEET	3 OF 4

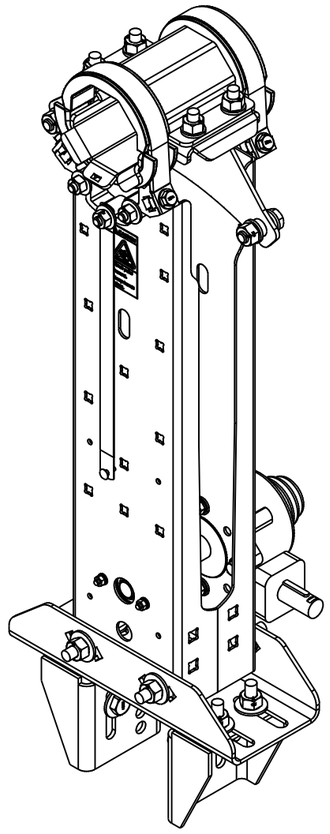
Template_CF Drawing_mm_v5

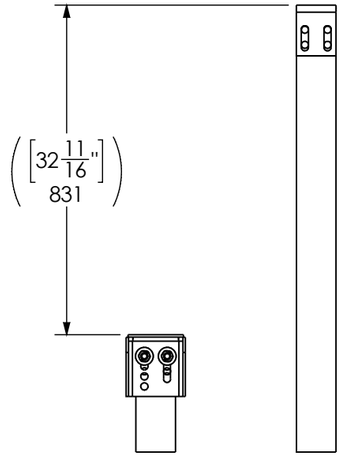
NOTES:

9. CARRIAGE BOLTS ARE SAE GRADE 5 MATERIAL.
FINISH - HDG









STATE OF CONNECTICUT
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No. 28670
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

GEAR RACK COLUMN BRACKET TOP TO BEARING COLUMN BRACKET TOP

SIZE	DRAWING NUMBER	REVISION	SAVED v181
B	20727-901	W	12/19/2022
SCALE 1:8		SHEET	4 OF 4

Template_CF Drawing_mm_v5

MOUNTING BRACKET CONFIGURATION TABLE					
ASSEMBLY NUMBER	DESCRIPTION	PART CONFIG	DIM "A" MM [IN]	COMPATIBLE I-BEAM SIZE	METRIC EQ BEAM
20837-XX-X01	Field Assembly, Center Structure, XX Degrees, L/M/H, Pile 01-151	25188-01-151	153.3 [6.035]	W6 x 8.5	[W150 x 13]
20837-XX-X02	Field Assembly, Center Structure, XX Degrees, L/M/H, Pile 01-156	25188-01-156	158.3 [6.232]	W6 x 9, W6 x 12, W6 x 15	[W150 x 18]
20837-XX-X03	Field Assembly, Center Structure, XX Degrees, L/M/H, Pile 01-162	25188-01-162	164.6 [6.480]	W6 x 16, W6 x 20, W6 x 25	[W150 x 24]
20837-XX-X04	Field Assembly, Center Structure, XX Degrees, L/M/H, Pile 01-203	25188-01-203	205.5 [8.091]	W8 x 10	[W200 x 15]
20837-XX-X05	Field Assembly, Center Structure, XX Degrees, L/M/H, Pile 01-209	25188-01-209	210.7 [8.295]	W8 x 13, W8 x 15	[W200 x 22.5]
20837-XX-X06	Field Assembly, Center Structure, XX Degrees, L/M/H, Pile 02-162	25188-02-162	164.6 [6.480]	IPE 160	-
20837-XX-X07	Field Assembly, Center Structure, XX Degrees, L/M/H, Pile 02-182	25188-02-182	184.6 [7.268]	IPE 180	-

C

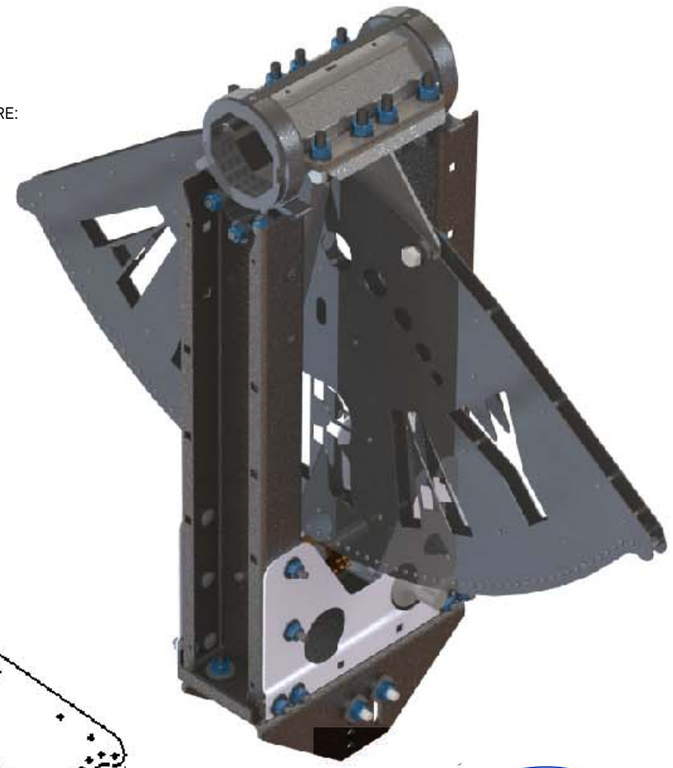
ARRAY PART NUMBER DESIGNATION

20837-WX-YZZ 6.

C

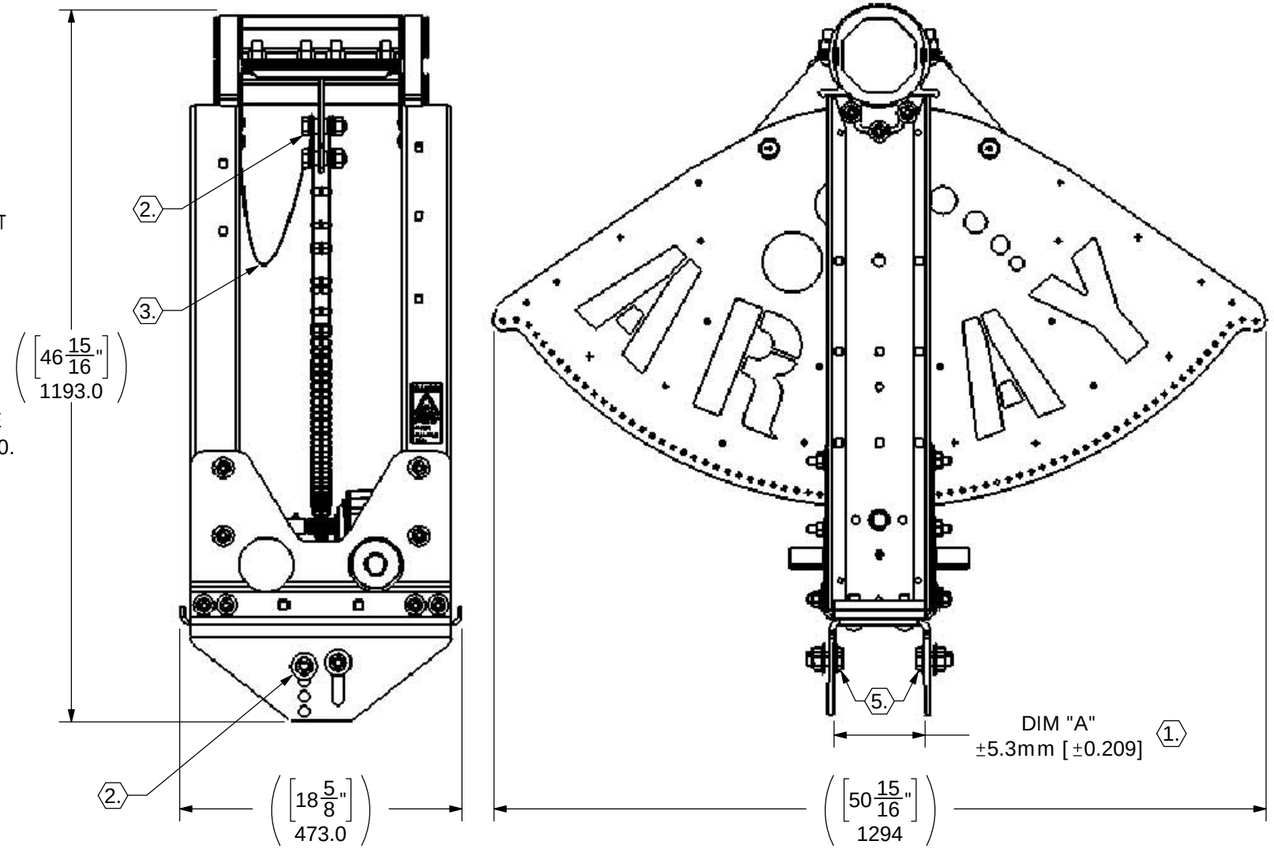
ARRAY PART NUMBER EXTENSION WHERE:
W INDICATES DEGREES
X INDICATES CORROSION GROUP
Y INDICATES UPRIGHT ASSEMBLY
ZZ INDICATES BRACKET KIT

ARRAY PART NUMBER



NOTES:

1. CONFIGURATION BASED ON I-BEAM REQUIREMENT. ONLY ONE CONFIGURATION TO BE USED PER ASSEMBLY.
2. SEE PAGE 3 FOR TORQUE SPECIFICATIONS.
3. GROUNDING STRAP TO BE ATTACHED TO CENTER BOLT OF GEAR RACK AND BEARING HOUSING.
4. SEE SHEET 4 FOR HARDWARE IDENTIFICATION.
5. IF THE MOUNTING HOLE PROXIMITY TO I-BEAM WEB CAUSES THE INTERIOR FLAT WASHERS TO DEFORM DURING INSTALL, ALIGN BOLT HEAD FLAT EDGE TO THE WEB AND USE CLIPPED WASHERS, ARRAY PN 60590-000.
6. FOR CONFIGURATION NUMBERING SPECIFICS, REFER TO ARRAY DOCUMENT ATI-41-RT-0001.



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ZONE	REV	ECR #	DESCRIPTION	DATE
A2, D4, D5, 2-B8, 4-D6	C	20195	UPDATED CORROSION REFERENCE	4/15/2020
2-C7	B	19086	ADD NOTE 4, SHEET 2	6/20/2019
	A	19023	INITIAL RELEASE	3/25/2019

DRAWING STATUS: Final

DRAWN INITIALS: KB DATE: 03/05/2019	DRAWING CHECK INITIALS: DO DATE: 4/15/2020
ENG. CHECK INITIALS: DATE:	FINAL APPROVAL INITIALS: SB DATE: 4/15/2020

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.050]	X.XX = ±0.013 [0.500]	X = ±1.0°
.X = ±0.4 [0.015]	X.XXX = ±0.006 [0.250]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Field Assembly, Center Structure, XX Degrees, L/M/H, Pile XX

SIZE	DRAWING NUMBER	REVISION	SAVED v39
B	20837-XX-901	C-01	4/15/2020
SCALE 1:10	WT: 79.76 KG [175.84 LB]	SHEET	1 OF 4

NOTES:

1. 25188-XX-XXX MAY BE SUPPLIED AS:

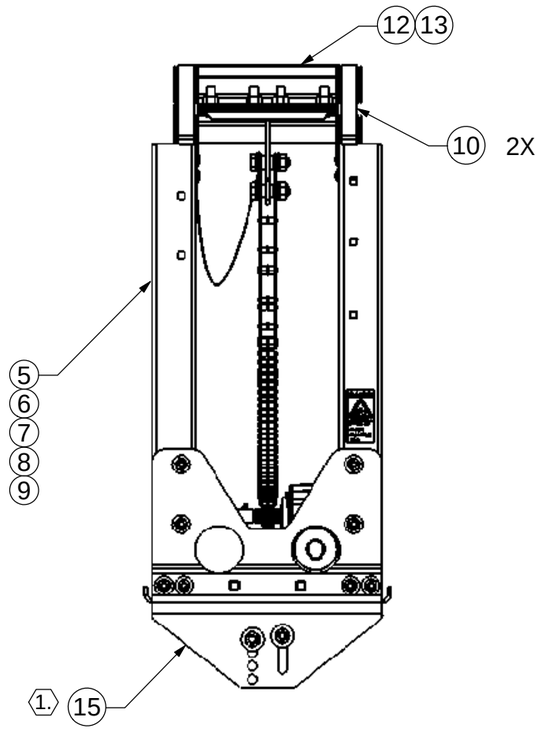
   PILE 01: 4X 25050-000 AND 1X 30292-XXX.

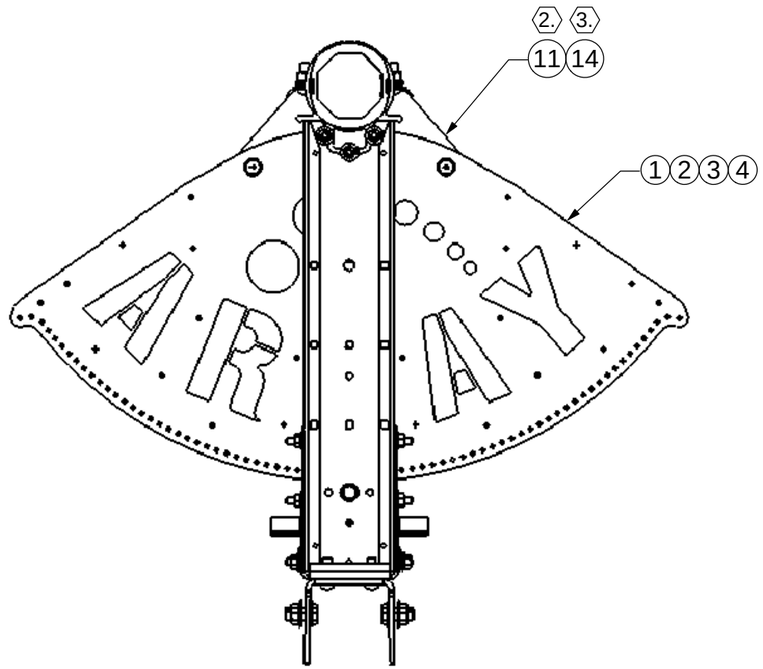
   PILE 02: 4X 25140-000 AND 1X 30677-XXX.

2. 25089-000 MAY BE SUPPLIED AS 1X 20270-000, 3X 25075-000, AND 1X 50218-000.

3. 25149-000 MAY BE SUPPLIED AS 1X 20690-000, 3X 25075-000, AND 1X 50218-000.

4. UNDER CERTAIN CIRCUMSTANCES, 25198-00 MAY BE SUBSTITUTED FOR 25110-000.





			52 DEGREE					62 DEGREE				
			L		M		H	L		M		H
ITEM NO.	PART NUMBER	DESCRIPTION	-52-1XX	-52-2XX	-53-3XX	-53-4XX	-54-5XX	-62-1XX	-62-2XX	-63-3XX	-63-4XX	-64-5XX
1	20383-000	Assembly, Gear Rack, Logo	1	1	-	-	-	-	-	-	-	-
2	20568-000	Assembly, Gear Rack, Logo, ZnAlMg	-	-	1	1	1	-	-	-	-	-
3	20632-110	Assembly, Gear Rack, Logo, 62 deg, L	-	-	-	-	-	1	1	-	-	-
4	20632-210	Assembly, Gear Rack, Logo, 62 deg, M/H	-	-	-	-	-	-	-	1	1	1
5	20828-201	Assembly, Center Structure, Drive Column, L, Gearbox 01	1	-	-	-	-	1	-	-	-	-
6	20828-202	Assembly, Center Structure, Drive Column, L, Gearbox 02	-	1	-	-	-	-	1	-	-	-
7	20828-301	Assembly, Center Structure, Drive Column, M, Gearbox 01	-	-	1	-	-	-	-	1	-	-
8	20828-302	Assembly, Center Structure, Drive Column, M, Gearbox 02	-	-	-	1	-	-	-	-	1	-
9	20828-401	Assembly, Center Structure, Drive Column, H, Gearbox 01	-	-	-	-	1	-	-	-	-	1
10	25078-000	Kit, Bearing Housing, Center Structure, Assembly Arms	2	2	2	2	2	2	2	2	2	2
11	25089-000	Kit, Weldment, Gear Rack Coupler	1	1	1	1	1	-	-	-	-	-
12	25110-000	Kit, Center Structure Assembly	1	1	-	-	-	1	1	-	-	-
13	25111-000	Kit, Center Structure Assembly, L/M/H	-	-	1	1	1	-	-	1	1	1
14	25149-000	Kit, Weldment, Gear Rack Coupler, 62 Deg	-	-	-	-	-	1	1	1	1	1
15	25188-XX-XXX	Kit, Bracket, Mounting, Center, Pile XX, XXXmm	1	1	1	1	1	1	1	1	1	1

STATE OF CONNECTICUT
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SIZE	DRAWING NUMBER	REVISION	SAVED v39
B	20837-XX-901	C-01	4/15/2020
SCALE 1:10	WT: 79.76 KG [175.84 LB]	SHEET	2 OF 4

NOTES:

1. ARRAY TORQUE SPECIFICATIONS:

   (1A.) 5/8" HEX BOLT 169 ± 14 N-M [125 ± 10 FT-LBS]

   (1B.) 5/8" CARRIAGE BOLT 108 ± 14 N-M [80 ± 10 FT-LBS]

   (1C.) 1/4" SCREW 7 ± 1 N-M [60 ± 8 IN-LBS]

   (1D.) 5/8" GEAR RACK HEX BOLT 108 ± 14 N-M [80 ± 10 FT-LBS]

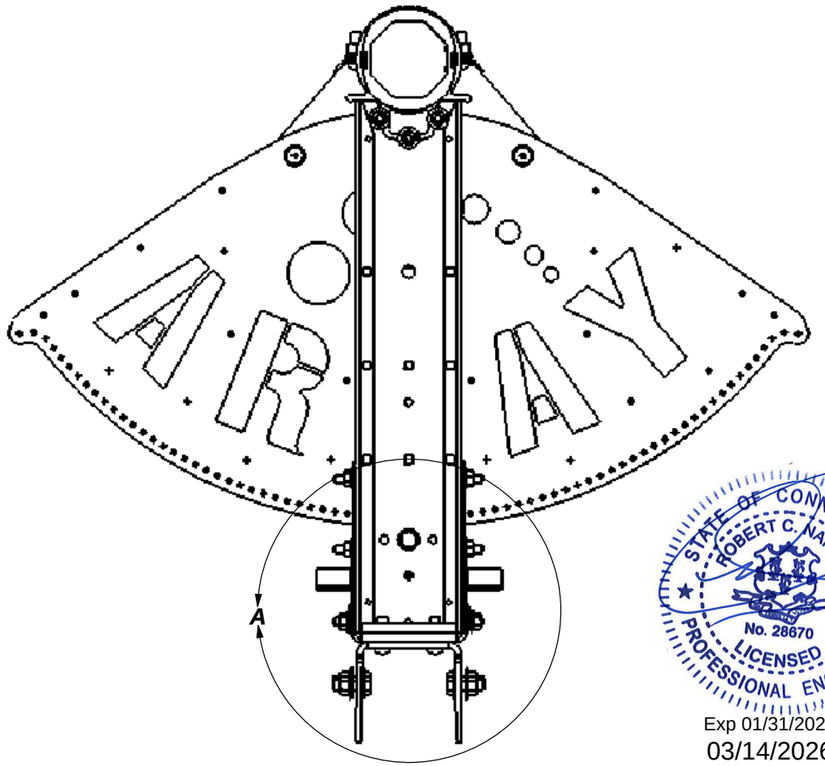
   (1E.) 1/2" CARRIAGE BOLT 81 ± 7 N-M [60 ± 5 FT-LBS]

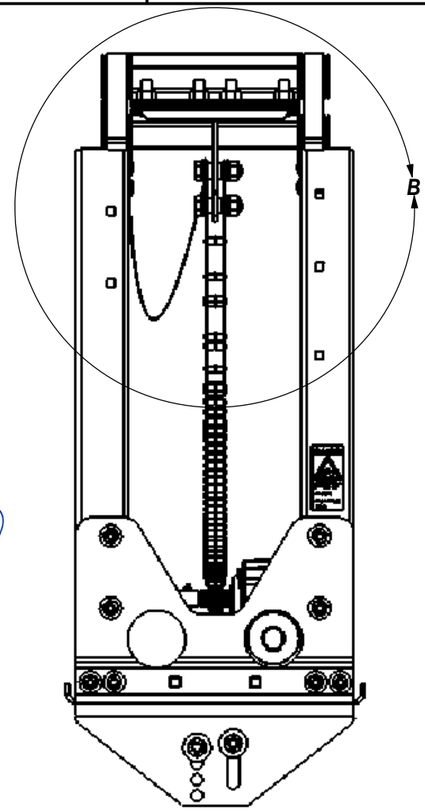
2. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.

(3.) THE RECOMMENDED SEQUENCE FOR PROPER TIGHTENING OF BOLTS IS A CRISS-CROSS PATTERN STARTING IN THE CENTER AND WORKING OUTWARD.

4. BUSHING FITS INSIDE HOUSING. BOTH SURFACES SHOULD BE FREE OF DEBRIS AND SLIDE EASILY.

(5.) 62° TRACKER - BOLT HEAD MUST BE ORIENTED UP TO PREVENT INTERFERENCE.





STATE OF CONNECTICUT
ROBERT C. NAPLES
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PROFESSIONAL ENGINEER
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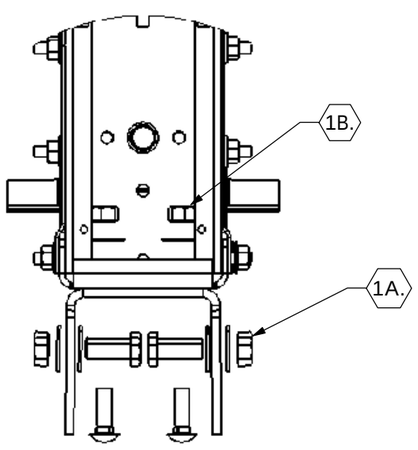
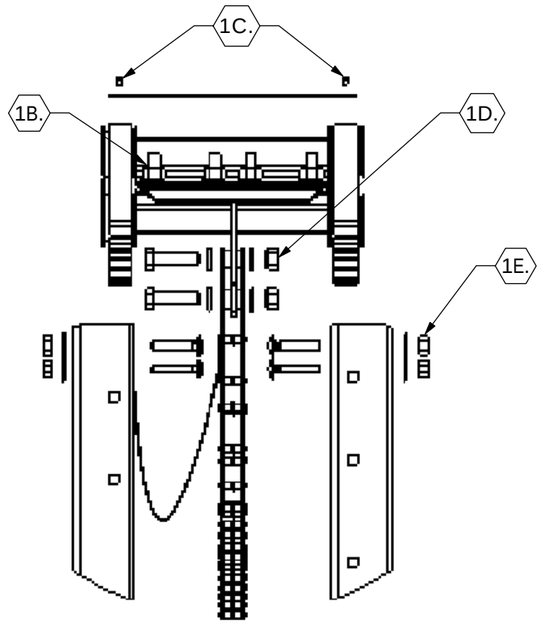
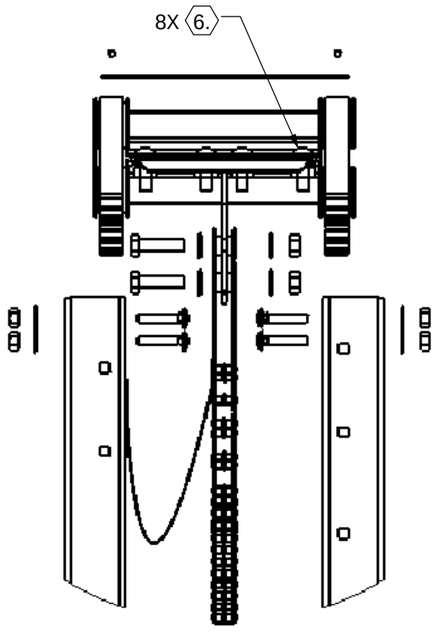
03/14/2026



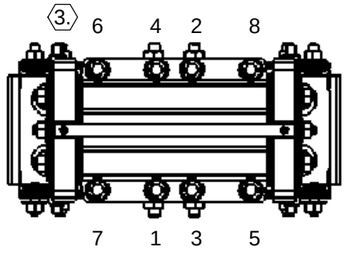
DETAIL A



DETAIL B - 52 DEGREE



DETAIL B - 62 DEGREE



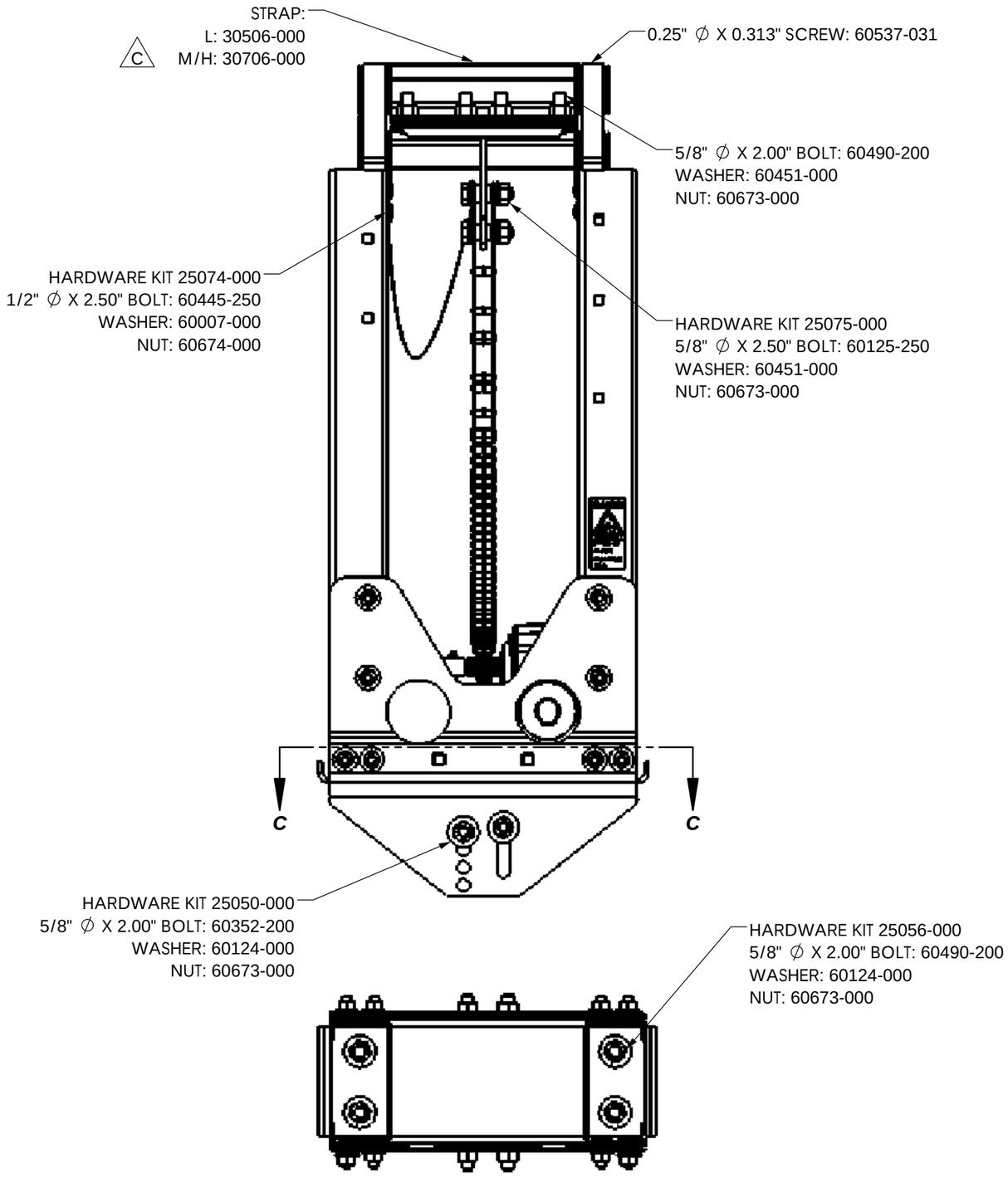
SIZE	DRAWING NUMBER	REVISION	SAVED v39
B	20837-XX-901	C-01	4/15/2020
SCALE 1:10	WT: 79.76 KG [175.84 LB]	SHEET	3 OF 4

NOTES:

1. CARRIAGE BOLTS ARE SAE GRADE 5 MATERIAL.
   FINISH - HDG

2. STRUCTURAL BOLTS ARE ASTM A325 OR A325M.
   FINISH - HDG

3. ALTERNATE LOCKNUT: ARRAY PN 60502-000 MAY BE USED IN PLACE OF 60673-000, AND 60503-000 MAY BE USED IN PLACE OF 60674-000.



SECTION C-C

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v39
B	20837-XX-901	C-01	4/15/2020
SCALE 1:10	WT: 79.76 KG [175.84 LB]	SHEET	4 OF 4

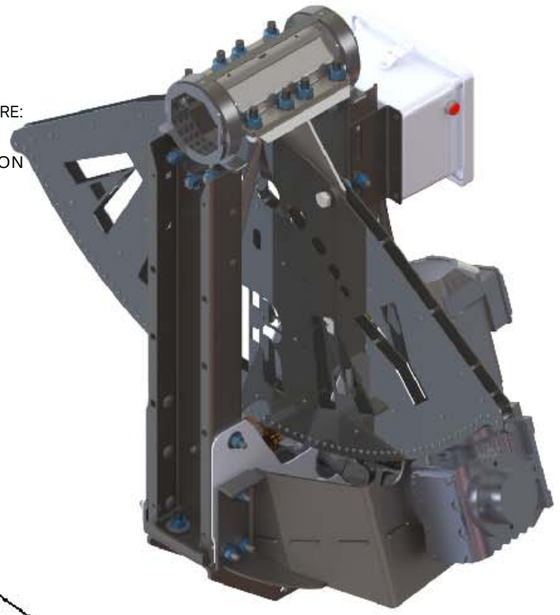
MOUNTING BRACKET CONFIGURATION TABLE					
ASSEMBLY NUMBER	DESCRIPTION	PART CONFIG	DIM "A" MM [IN]	COMPATIBLE I-BEAM SIZE	METRIC EQ BEAM
20838-XX-X01	Field Assembly, Center Structure, Motorized, 52 Degrees, Motor XX, L/M/H, Pile 01-151	25188-01-151	153.3 [6.035]	W6 x 8.5	[W150 x 13]
20838-XX-X02	Field Assembly, Center Structure, Motorized, 52 Degrees, Motor XX, L/M/H, Pile 01-156	25188-01-156	158.3 [6.232]	W6 x 9, W6 x 12, W6 x 15	[W150 x 18]
20838-XX-X03	Field Assembly, Center Structure, Motorized, 52 Degrees, Motor XX, L/M/H, Pile 01-162	25188-01-162	164.6 [6.480]	W6 x 16, W6 x 20, W6 x 25	[W150 x 24]
20838-XX-X04	Field Assembly, Center Structure, Motorized, 52 Degrees, Motor XX, L/M/H, Pile 01-203	25188-01-203	205.5 [8.091]	W8 x 10	[W200 x 15]
20838-XX-X05	Field Assembly, Center Structure, Motorized, 52 Degrees, Motor XX, L/M/H, Pile 01-209	25188-01-209	210.7 [8.295]	W8 x 13, W8 x 15	[W200 x 22.5]
20838-XX-X06	Field Assembly, Center Structure, Motorized, 52 Degrees, Motor XX, L/M/H, Pile 02-162	25188-02-162	164.6 [6.480]	IPE 160	-
20838-XX-X07	Field Assembly, Center Structure, Motorized, 52 Degrees, Motor XX, L/M/H, Pile 02-182	25188-02-182	184.6 [7.268]	IPE 180	-

ARRAY PART NUMBER DESIGNATION

20838-XX-YZZ (6.)

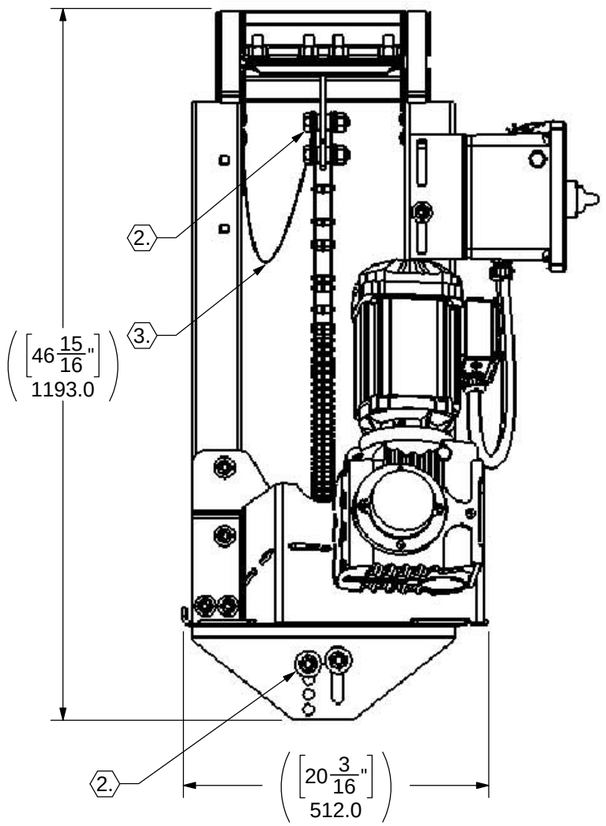
- ARRAY PART NUMBER EXTENSION WHERE:
  - XX INIDICATES MOTOR KIT
  - Y INDICATES UPRIGHT ASSEMBLY
  - ZZ INDICATES BRACKET CONFIGURATION
- ARRAY PART NUMBER

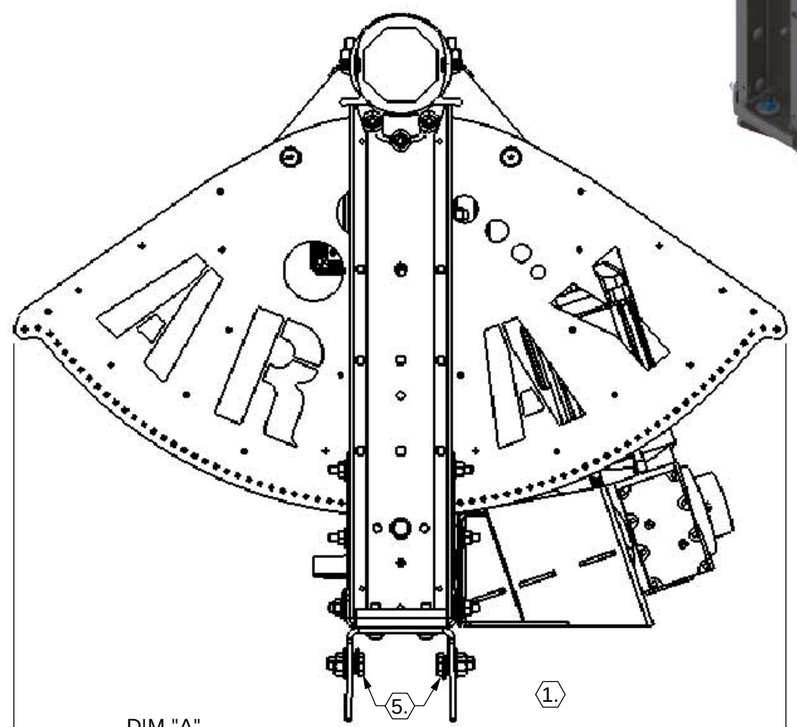
(C)



NOTES:

1. CONFIGURATION BASED ON I-BEAM REQUIREMENT. ONLY ONE CONFIGURATION TO BE USED PER ASSEMBLY.
2. SEE PAGE 6 FOR TORQUE SPECIFICATIONS.
3. GROUNDING STRAP TO BE ATTACHED TO CENTER BOLT OF GEAR RACK AND BEARING HOUSING.
4. SEE SHEET 8 FOR HARDWARE IDENTIFICATION.
5. IF THE MOUNTING HOLE PROXIMITY TO I-BEAM WEB CAUSES THE INTERIOR FLAT WASHERS TO DEFORM DURING INSTALL, ALIGN BOLT HEAD FLAT EDGE TO THE WEB AND USE CLIPPED WASHERS, ARRAY PN 60590-000.
6. FOR CONFIGURATION NUMBERING SPECIFICS, REFER TO ARRAY DOCUMENT ATI-41-RT-0001.





STATE OF CONNECTICUT · ROBERT C. NAPLES · No. 28870 · LICENSED PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

ZONE	REV	ECR #	DESCRIPTION	DATE
A2, D4	C	20195	UPDATED CORROSION REFERENCE	4/15/2020
	B	19086	ADD NOTES TO SHEET 2 AND 9	6/20/2019
	A	19023	INITIAL RELEASE	3/25/2019

DRAWING STATUS: Final

DRAWN: KB 03/18/2019

DRAWING CHECK: DO 4/15/2020

ENG. CHECK:

FINAL APPROVAL: SB 4/15/2020

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]: X = ±1.25 [0.050], .X = ±0.4 [0.015], .XX = ±0.1 [0.004]

METER [INCH]: X.XX = ±0.013 [0.500], X.XXX = ±0.006 [0.250]

ANGULAR: X = ±1.0°, .X = ±0.1°

ARRAY TECHNOLOGIES

3901 Midway Place NE, Albuquerque, NM 87109

(505) 881-7567

TITLE: Field Assembly, Center Structure, Motorized, 52 Degrees, Motor XX, L/M/H, Pile XX

SIZE	DRAWING NUMBER	REVISION	SAVED v37
B	20838-XX-901	C-01	4/15/2020

SCALE 1:10 | WT: 190.16 KG [419.231 LB] | SHEET 1 OF 10

NOTES:

1. REFER TO SHEET 3 FOR BOM CALLOUTS.
2. UNDER CERTAIN CIRCUMSTANCES, 25198-00 MAY BE SUBSTITUTED FOR 25110-000.

			DEFAULT CONFIGURATIONS																	
		MOTOR KIT:	01				02				03				07	08	09	13	14	15
		CORROSION:	L		M		L		M		L		M		H					
ITEM NO.	PART NUMBER	DESCRIPTION	-01-1XX	-01-2XX	-01-3XX	-01-4XX	-02-1XX	-02-2XX	-02-3XX	-02-4XX	-03-1XX	-03-2XX	-03-3XX	-03-4XX	-07-5XX	-08-5XX	-09-5XX	-13-5XX	-14-5XX	-15-5XX
1	20383-000	Assembly, Gear Rack, Logo	1	1	-	-	1	1	-	-	1	1	-	-	-	-	-	-	-	-
2	20568-000	Assembly, Gear Rack, Logo, ZnAlMg	-	-	1	1	-	-	1	1	-	-	1	1	1	1	1	1	1	1
3	20828-201	Assembly, Center Structure, Drive Column, L, Gearbox 01	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-
4	20828-202	Assembly, Center Structure, Drive Column, L, Gearbox 02	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-
5	20828-301	Assembly, Center Structure, Drive Column, M, Gearbox 01	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-
6	20828-302	Assembly, Center Structure, Drive Column, M, Gearbox 02	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-
7	20828-401	Assembly, Center Structure, Drive Column, H, Gearbox 01	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
8	25078-000	Kit, Bearing Housing, Center Structure, Assembly Arms	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	25089-000	Kit, Weldment, Gear Rack Coupler	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	25110-000	Kit, Center Structure Assembly	1	1	-	-	1	1	-	-	1	1	-	-	-	-	-	-	-	-
11	25111-000	Kit, Center Structure Assembly, M/H	-	-	1	1	-	-	1	1	-	-	1	1	1	1	1	1	1	1
12	25188-XX-XXX	Kit, Bracket, Mounting, Center, Pile XX, XXXmm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	25189-01-301	Kit, Drive Column, Motor 01, M, Controller 01	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	25189-01-302	Kit, Drive Column, Motor 01, M, Controller 02	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-
15	25189-01-303	Kit, Drive Column, Motor 01, M, Controller 03	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-
16	25189-01-401	Kit, Drive Column, Motor 01, H, Controller 01	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
17	25189-01-402	Kit, Drive Column, Motor 01, H, Controller 02	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
18	25189-01-403	Kit, Drive Column, Motor 01, H, Controller 03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
19	25189-02-401	Kit, Drive Column, Motor 02, H, Controller 01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
20	25189-02-402	Kit, Drive Column, Motor 02, H, Controller 02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
21	25189-02-403	Kit, Drive Column, Motor 02, H, Controller 03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

B

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v37
B	20838-XX-901	C-01	4/15/2020
SCALE 1:10	WT: 190.16 KG [419.231 LB]	SHEET	2 OF 10

NOTES:

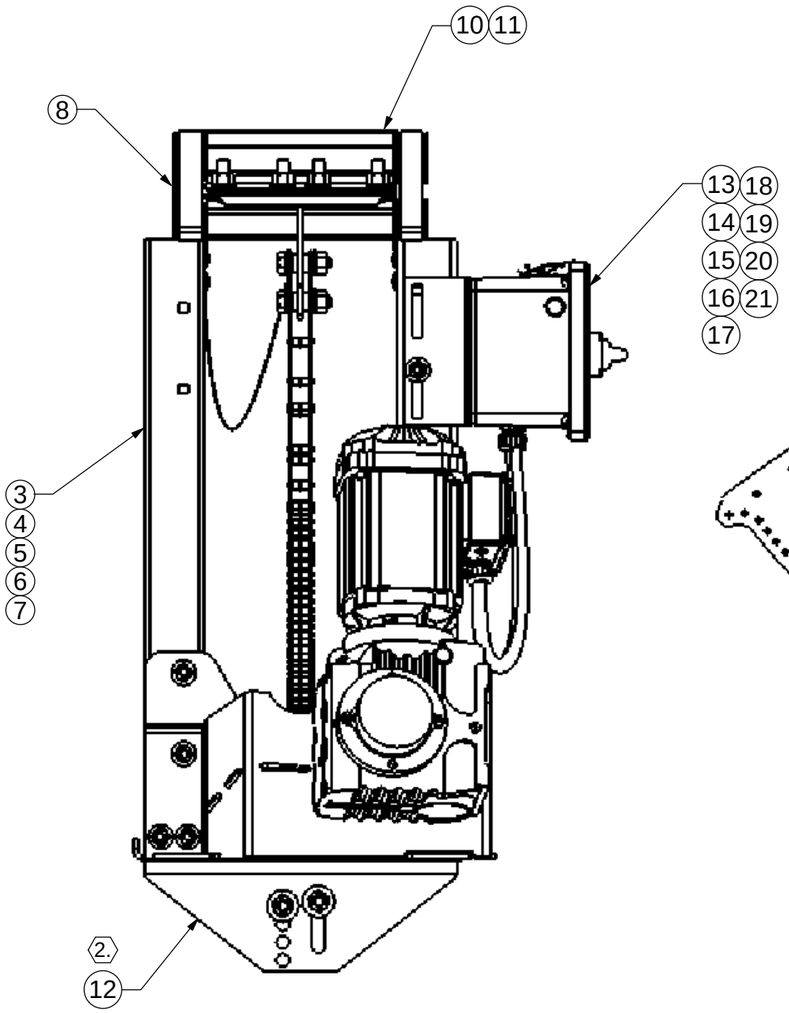
1. CALLOUTS ON THIS SHEET REFER TO BOM ON SHEET 2.

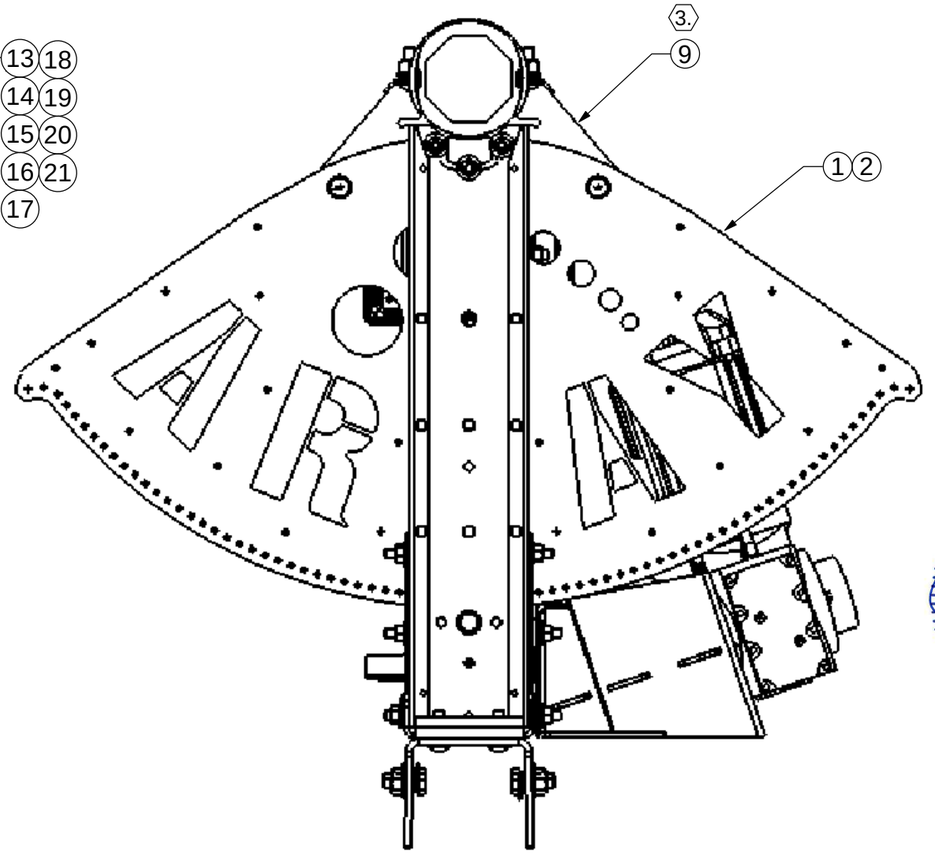
2. 25188-XX-XXX MAY BE SUPPLIED AS:

   PILE 01: 4X 25050-000 AND 1X 30292-XXX.

   PILE 02: 4X 25140-000 AND 1X 30677-XXX.

3. 25089-000 MAY BE SUPPLIED AS 1X 20270-000, 3X 25075-000, AND 1X 50218-000.





STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
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Exp 01/31/2027

03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v37
B	20838-XX-901	C-01	4/15/2020
SCALE 1:10	WT: 190.16 KG [419.231 LB]	SHEET	3 OF 10

NOTES:

1. REFER TO SHEET 5 FOR BOM CALLOUTS.

			SNOW STOW CONFIGURATIONS																	
		MOTOR KIT:	04				05				06				10	11	12	16	17	18
		CORROSION:	L		M		L		M		L		M		H					
ITEM NO.	PART NUMBER	DESCRIPTION	-04-1XX	-04-2XX	-04-3XX	-04-4XX	-05-1XX	-05-2XX	-05-3XX	-05-4XX	-06-1XX	-06-2XX	-06-3XX	-06-4XX	-10-5XX	-11-5XX	-12-5XX	-16-5XX	-17-5XX	-18-5XX
1	20383-000	Assembly, Gear Rack, Logo	1	1	-	-	1	1	-	-	1	1	-	-	-	-	-	-	-	-
2	20568-000	Assembly, Gear Rack, Logo, ZnAlMg	-	-	1	1	-	-	1	1	-	-	1	1	1	1	1	1	1	1
3	20828-201	Assembly, Center Structure, Drive Column, L, Gearbox 01	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-
4	20828-202	Assembly, Center Structure, Drive Column, L, Gearbox 02	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-
5	20828-301	Assembly, Center Structure, Drive Column, M, Gearbox 01	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-
6	20828-302	Assembly, Center Structure, Drive Column, M, Gearbox 02	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-
7	20828-401	Assembly, Center Structure, Drive Column, H, Gearbox 01	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
8	25078-000	Kit, Bearing Housing, Center Structure, Assembly Arms	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	25089-000	Kit, Weldment, Gear Rack Coupler	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	25110-000	Kit, Center Structure Assembly	1	1	-	-	1	1	-	-	1	1	-	-	-	-	-	-	-	-
11	25111-000	Kit, Center Structure Assembly, M/H	-	-	1	1	-	-	1	1	-	-	1	1	1	1	1	1	1	1
12	25188-XX-XXX	Kit, Bracket, Mounting, Center, Pile XX, XXXmm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	25189-01-304	Kit, Drive Column, Motor 01, M, Controller 04	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	25189-01-305	Kit, Drive Column, Motor 01, M, Controller 05	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-
15	25189-01-306	Kit, Drive Column, Motor 01, M, Controller 06	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-
16	25189-01-404	Kit, Drive Column, Motor 01, H, Controller 04	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
17	25189-01-405	Kit, Drive Column, Motor 01, H, Controller 05	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
18	25189-01-406	Kit, Drive Column, Motor 01, H, Controller 06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
19	25189-02-404	Kit, Drive Column, Motor 02, H, Controller 04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
20	25189-02-405	Kit, Drive Column, Motor 02, H, Controller 05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
21	25189-02-406	Kit, Drive Column, Motor 02, H, Controller 06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027
03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v37
B	20838-XX-901	C-01	4/15/2020
SCALE 1:10	WT: 190.16 KG [419.231 LB]	SHEET	4 OF 10

NOTES:

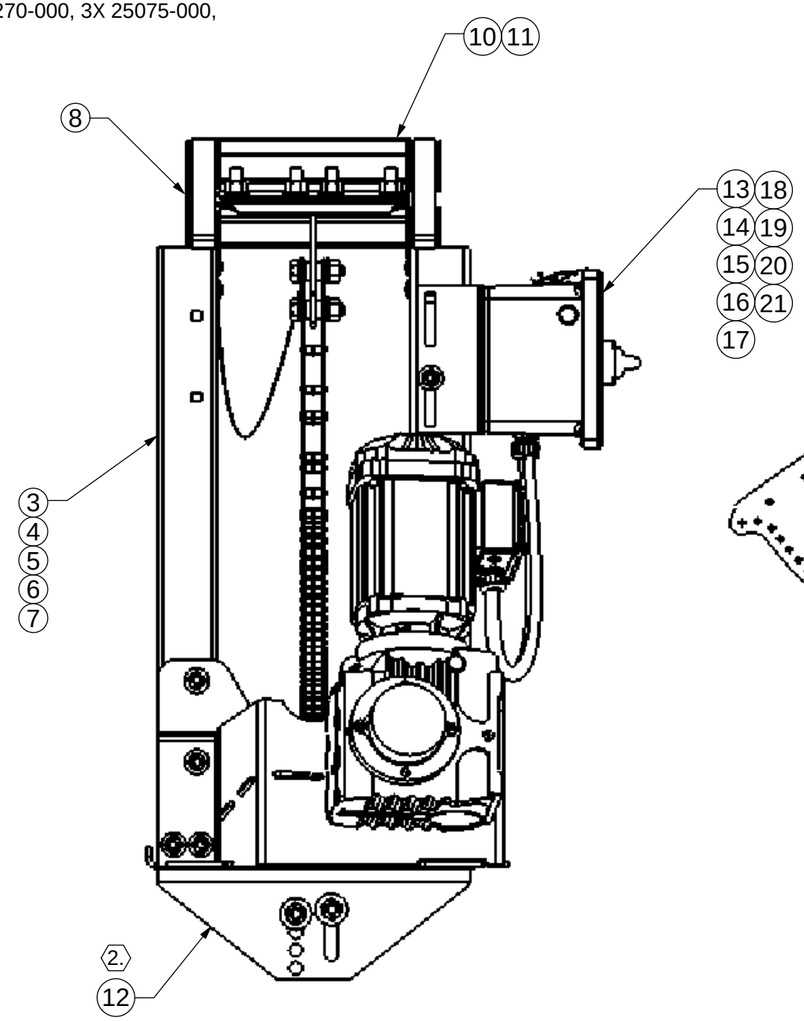
1. CALLOUTS ON THIS SHEET REFER TO SNOW STOW BOM ON SHEET 4.

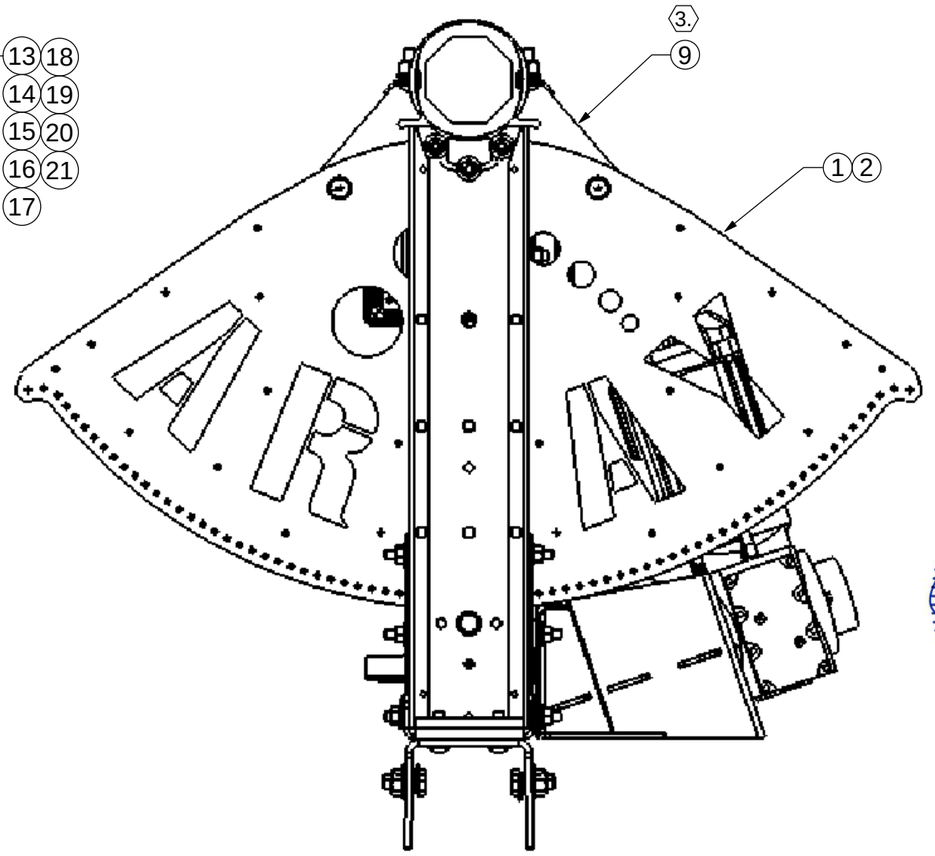
2. 25188-XX-XXX MAY BE SUPPLIED AS:

   PILE 01: 4X 25050-000 AND 1X 30292-XXX.

   PILE 02: 4X 25140-000 AND 1X 30677-XXX.

3. 25089-000 MAY BE SUPPLIED AS 1X 20270-000, 3X 25075-000, AND 1X 50218-000.





STATE OF CONNECTICUT
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LICENSED
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03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v37
B	20838-XX-901	C-01	4/15/2020
SCALE 1:10	WT: 190.16 KG [419.231 LB]	SHEET	5 OF 10

NOTES:

1. ARRAY TORQUE SPECIFICATIONS:

   ⟨1A.⟩ 5/8" HEX BOLT 169 ± 14 N-M [125 ± 10 FT-LBS]

   ⟨1B.⟩ 5/8" CARRIAGE BOLT 108 ± 14 N-M [80 ± 10 FT-LBS]

   ⟨1C.⟩ 1/4" SCREW 7 ± 1 N-M [60 ± 8 IN-LBS]

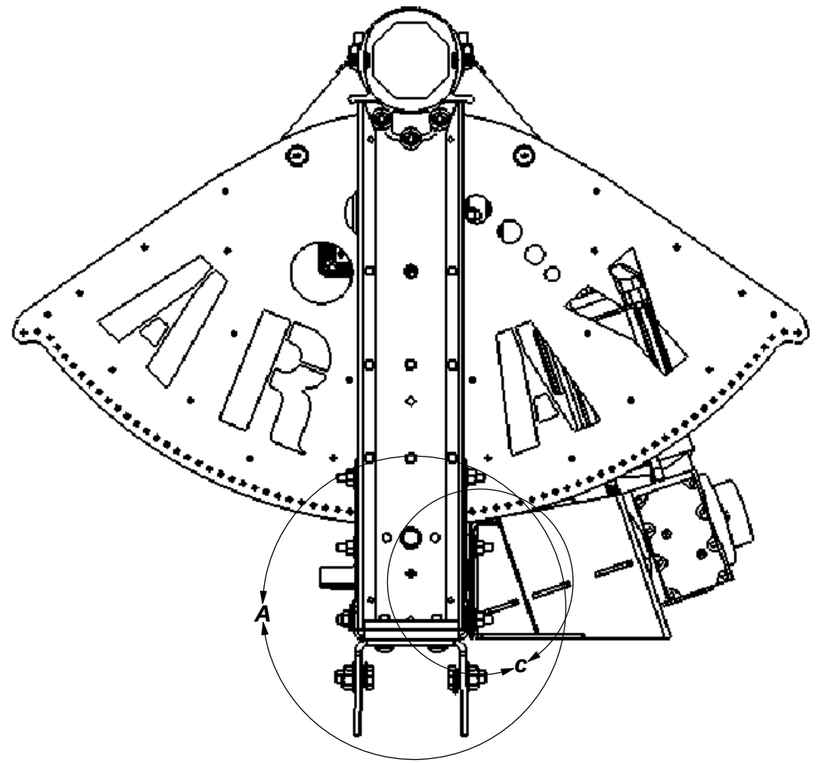
   ⟨1D.⟩ 5/8" GEAR RACK HEX BOLT 108 ± 14 N-M [80 ± 10 FT-LBS]

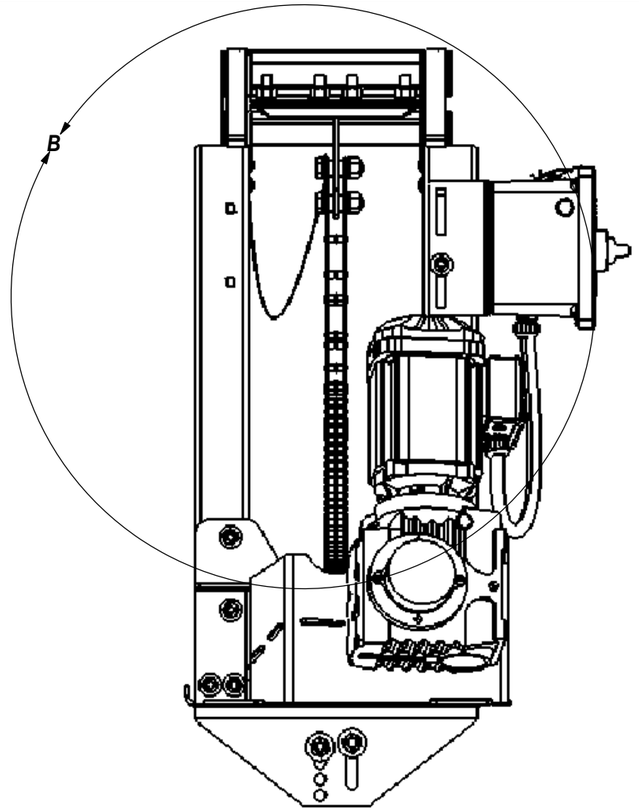
   ⟨1E.⟩ 1/2" CARRIAGE BOLT 81 ± 7 N-M [60 ± 5 FT-LBS]

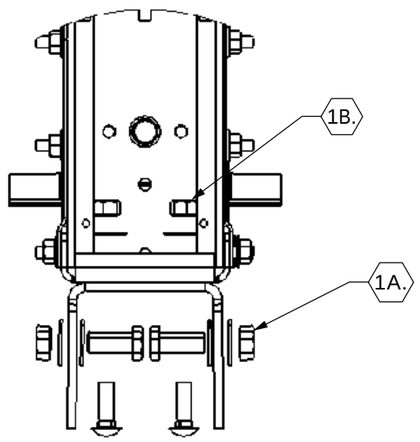
2. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.

⟨3.⟩ THE RECOMMENDED SEQUENCE FOR PROPER TIGHTENING OF BOLTS IS A CRISS-CROSS PATTERN STARTING IN THE CENTER AND WORKING OUTWARD.

4. BUSHING FITS INSIDE HOUSING. BOTH SURFACES SHOULD BE FREE OF DEBRIS AND SLIDE EASILY.

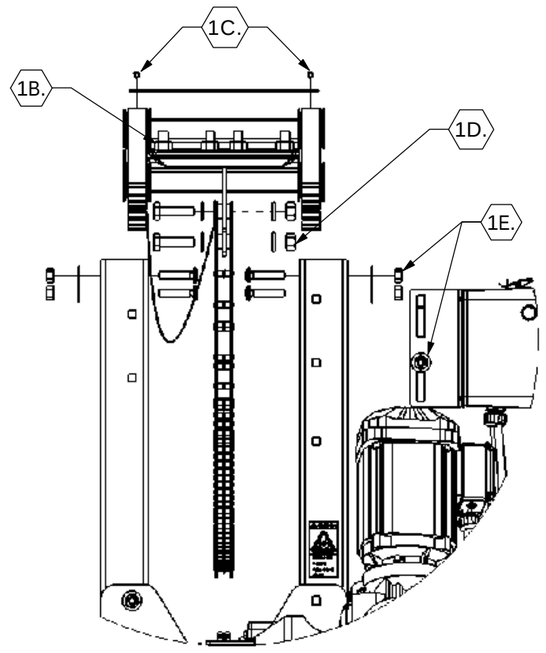




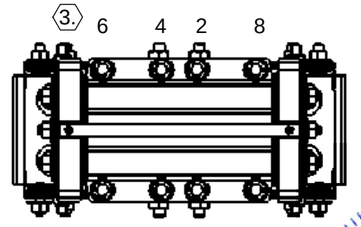


DETAIL A

MOTOR NOT SHOWN FOR CLARITY.



DETAIL B



Exp 01/31/2027

03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v37
B	20838-XX-901	C-01	4/15/2020
SCALE 1:10	WT: 190.16 KG [419.231 LB]	SHEET	6 OF 10

NOTES:

1. ARRAY TORQUE SPECIFICATIONS:

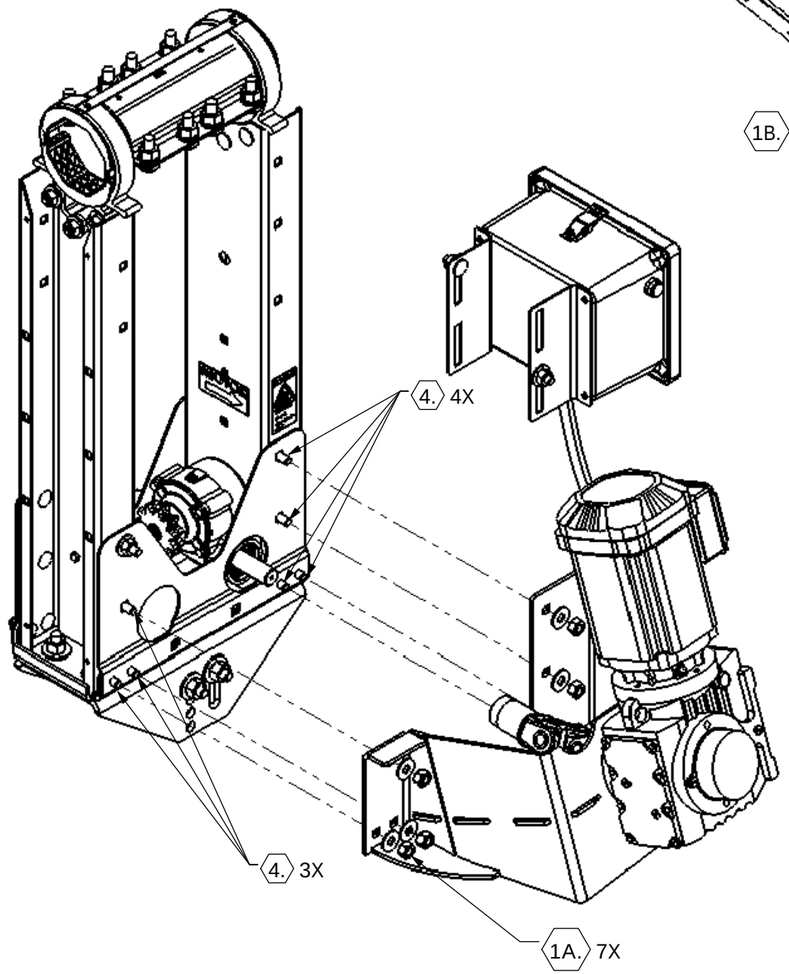
   (1A.) 1/2" CARRIAGE BOLT 81 ±7 N-M [60 ±5 FT-LBS]

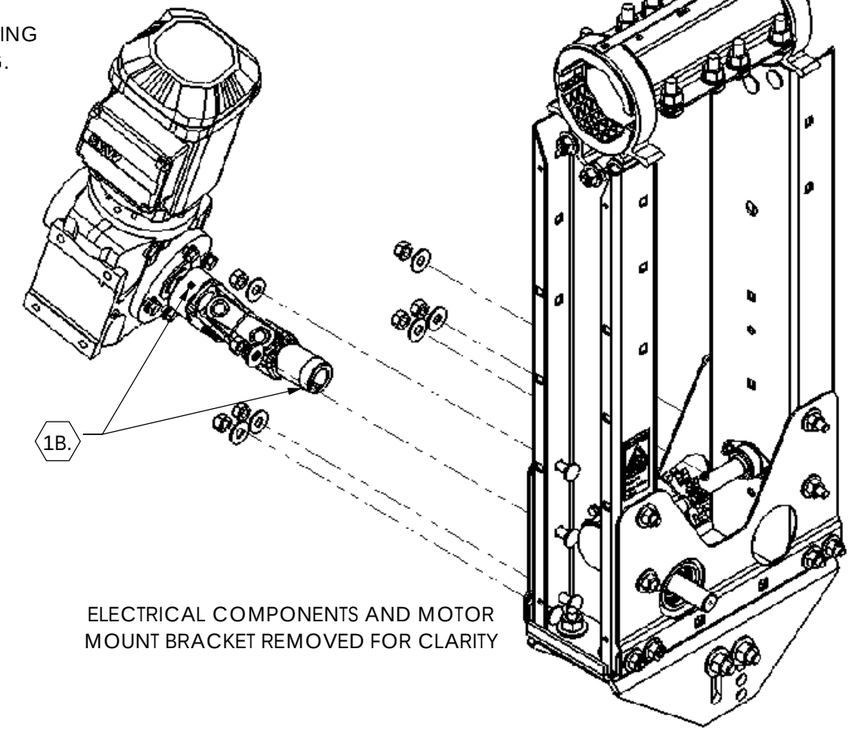
   (1B.) M8 SET SCREW 16 ±1 N-M [12 ±1 FT-LBS] [144 ±12 IN-LBS]

2. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.

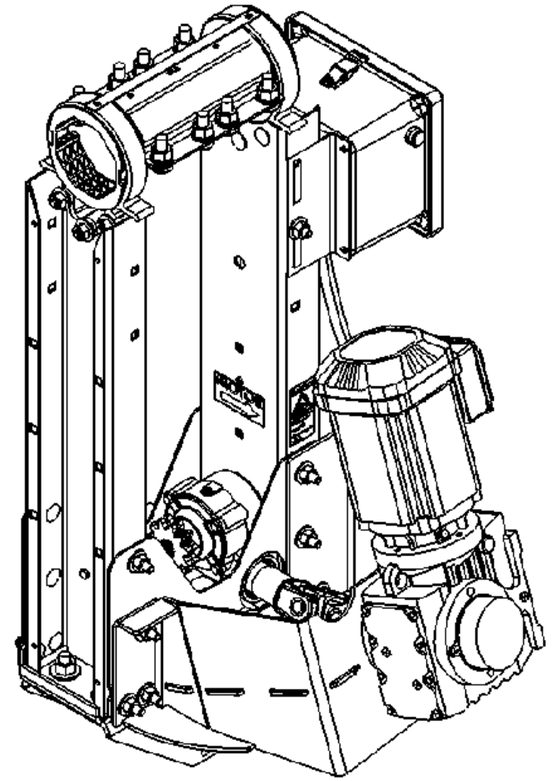
3. GEAR RACK AND WELDMENT NOT SHOWN FOR CLARITY.

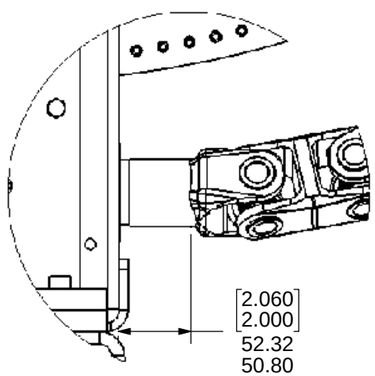
(4.) REMOVE AND DISCARD INDICATED CENTER STRUCTURE HARDWARE AND REPLACE WITH MOTOR MOUNTING KIT HARDWARE.





ELECTRICAL COMPONENTS AND MOTOR MOUNT BRACKET REMOVED FOR CLARITY





DIMENSION FROM FACE TO CENTER OF SET SCREW WHEN PROPERLY SEATED IN FLAT. DETAIL FROM SHEET 6

DETAIL C

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

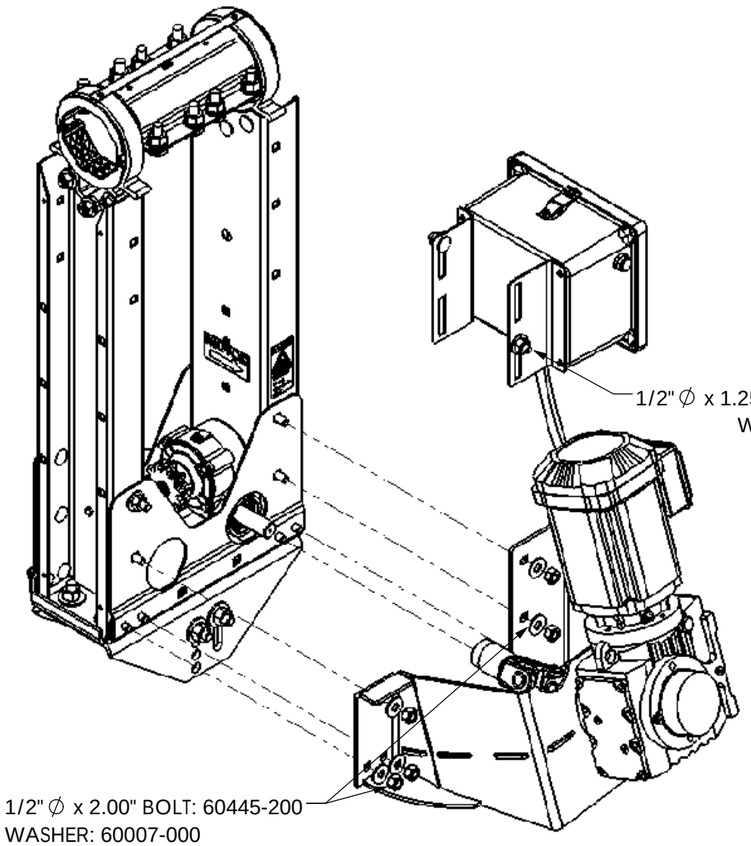
SIZE	DRAWING NUMBER	REVISION	SAVED v37
B	20838-XX-901	C-01	4/15/2020
SCALE 1:10	WT: 190.16 KG [419.231 LB]	SHEET	7 OF 10

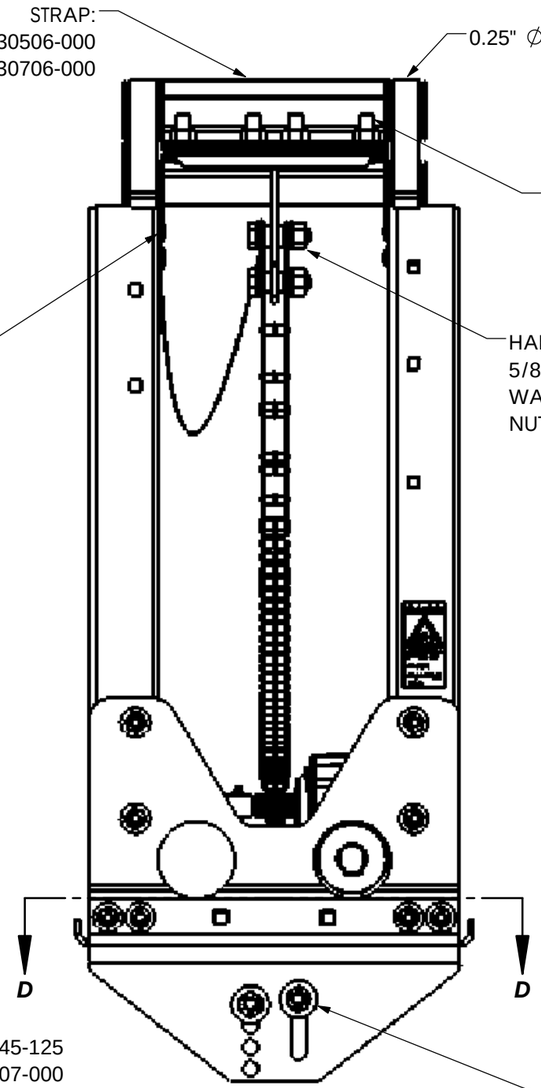
NOTES:

1. CARRIAGE BOLTS ARE SAE GRADE 5 MATERIAL.
   FINISH - HDG

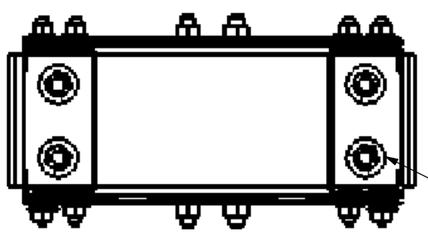
2. STRUCTURAL BOLTS ARE ASTM A325 OR A325M.
   FINISH - HDG

3. ALTERNATE LOCKNUT: ARRAY PN 60502-000 MAY BE USED IN PLACE OF 60673-000, AND 60503-000 MAY BE USED IN PLACE OF 60674-000.

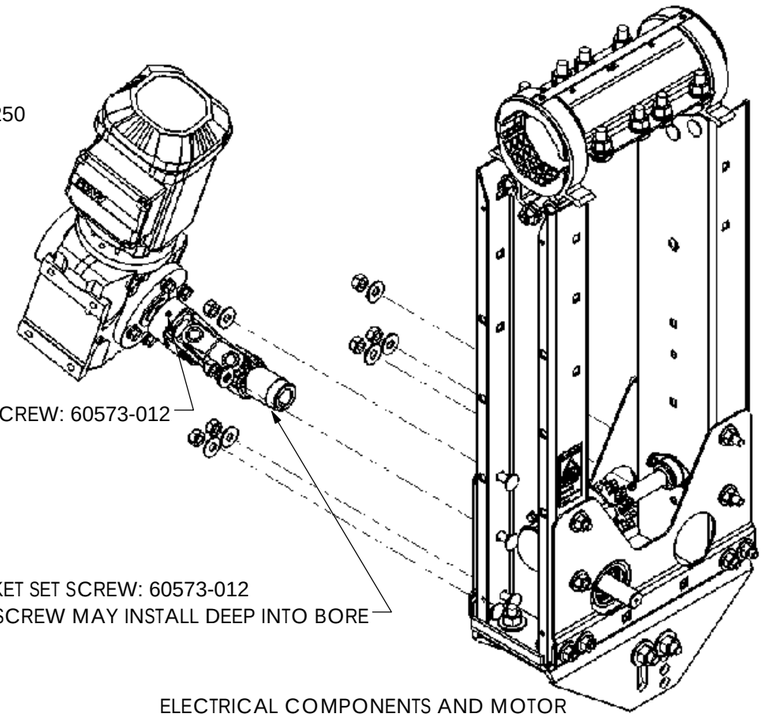




MOTOR NOT SHOWN FOR CLARITY.



SECTION D-D



ELECTRICAL COMPONENTS AND MOTOR MOUNT BRACKET REMOVED FOR CLARITY.

STATE OF CONNECTICUT
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LICENSED PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

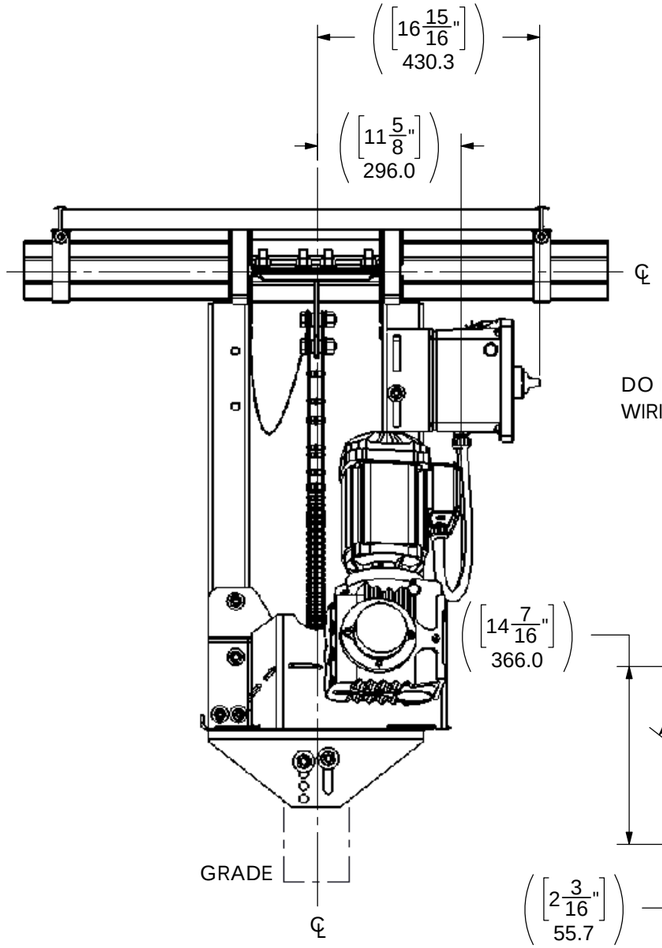
SIZE	DRAWING NUMBER	REVISION	SAVED v37
B	20838-XX-901	C-01	4/15/2020
SCALE 1:10	WT: 190.16 KG [419.231 LB]	SHEET	8 OF 10

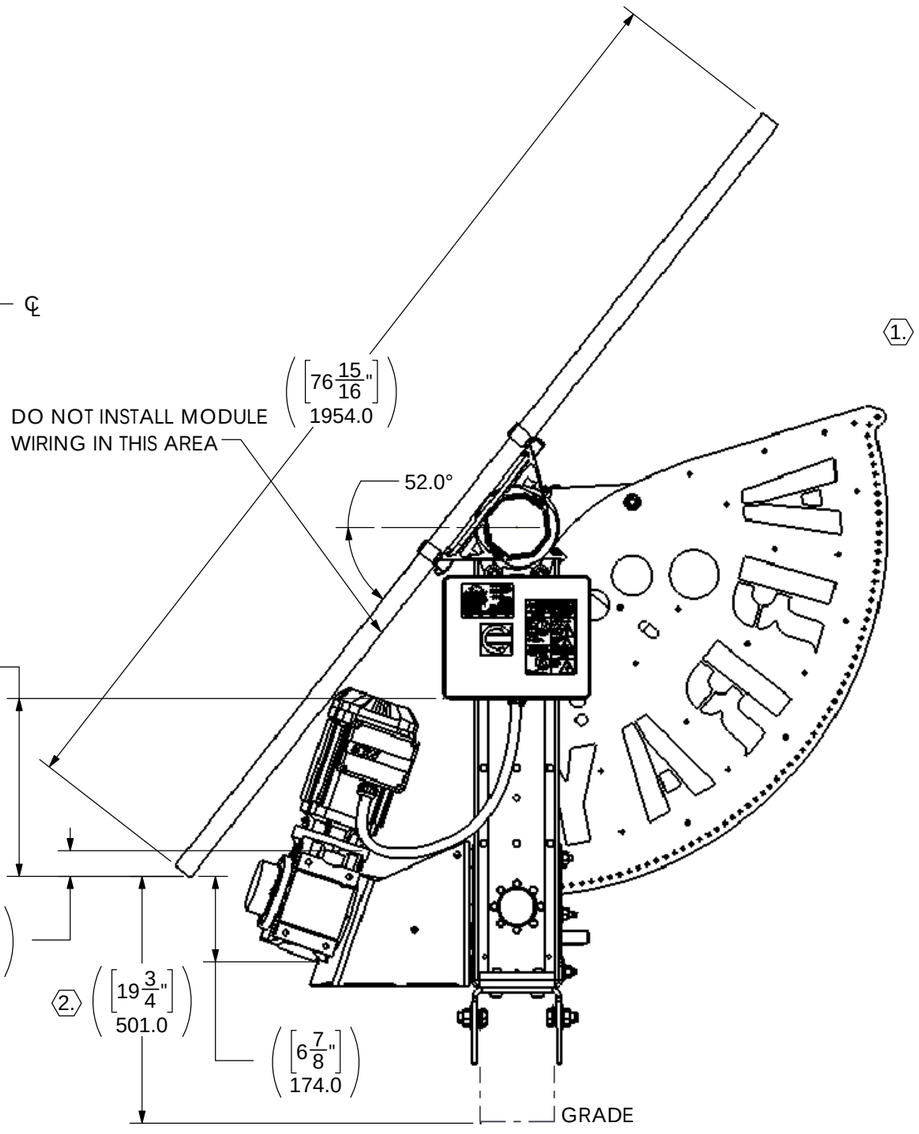
NOTES:

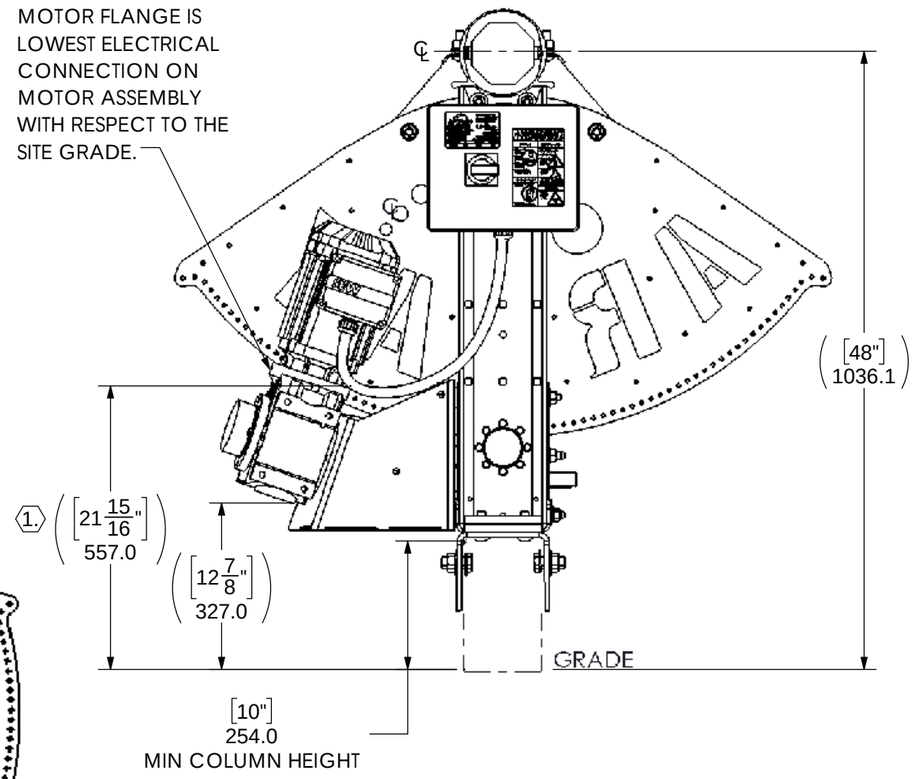
1. THE MAXIMUM FLOOD DEPTH IS $21\frac{15}{16}$" (557 MM) FROM GRADE AT MINIMUM COLUMN HEIGHT.

2. LEADING EDGE OF THE MODULE AT 52° TILT IS LOWER THAN TRACKER ELECTRICAL CONNECTION.

3. DIMENSIONS SHOWN IN PARENTHESES ARE FOR REFERENCE ONLY.







STATE OF CONNECTICUT
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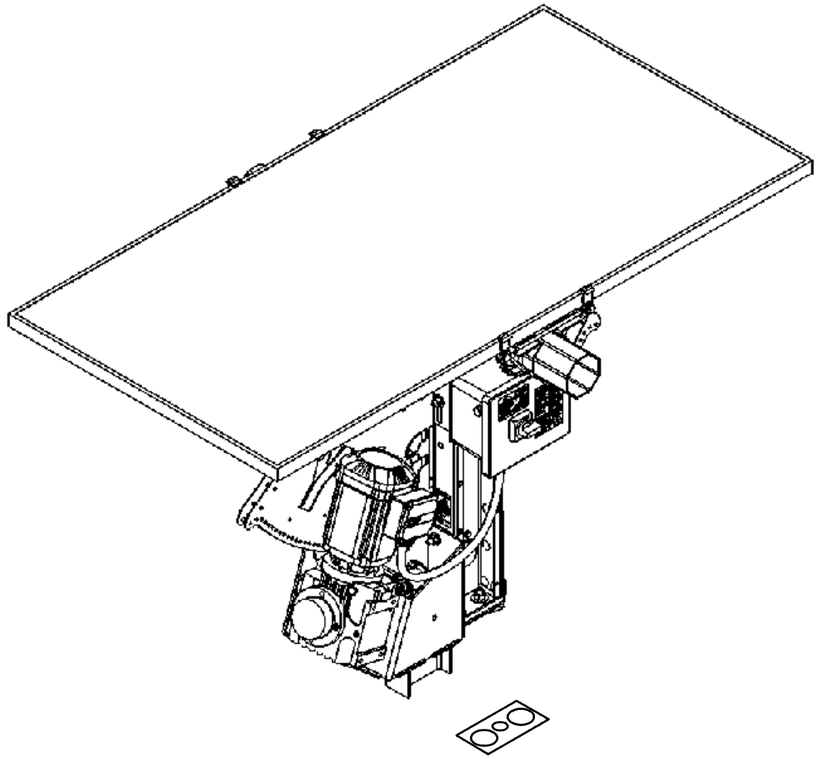
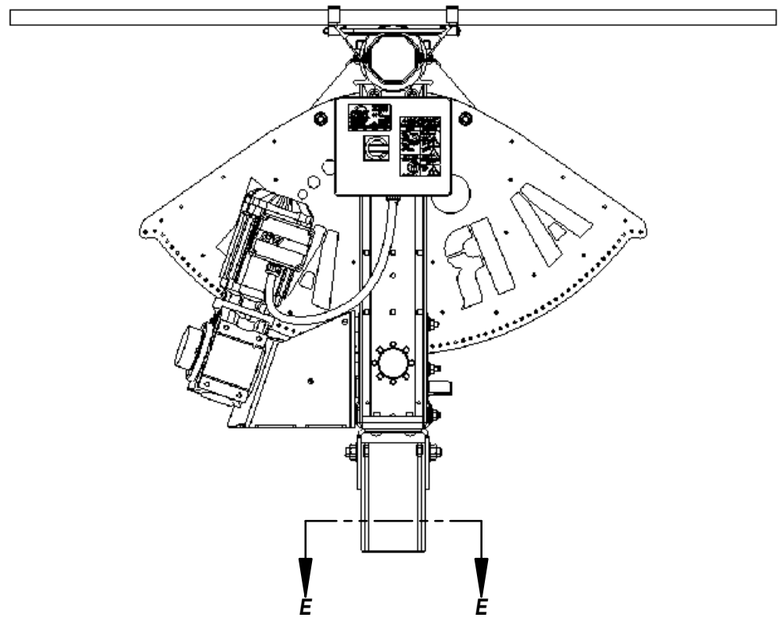
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

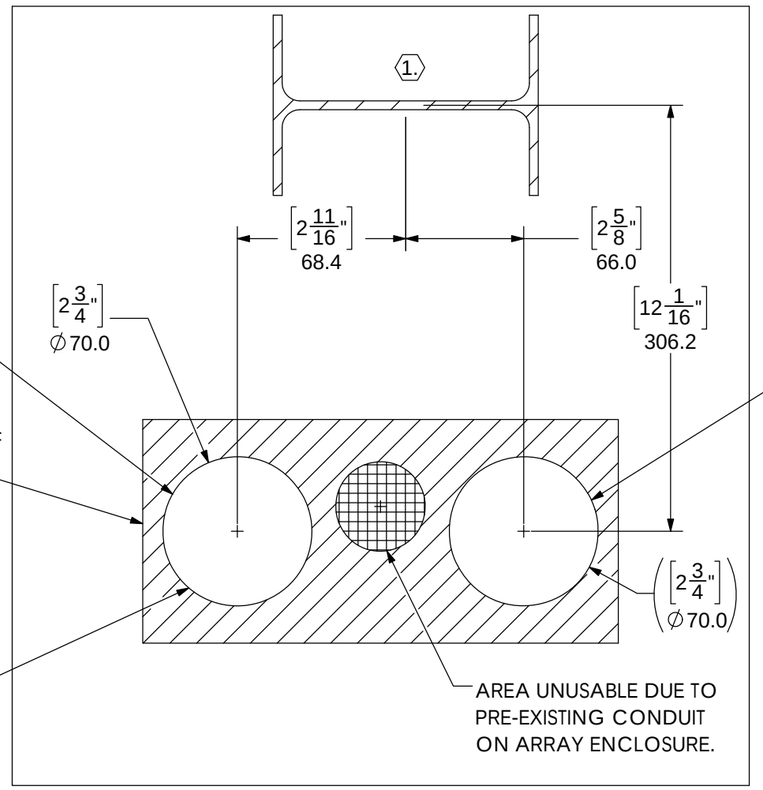
SIZE	DRAWING NUMBER	REVISION	SAVED v37
B	20838-XX-901	C-01	4/15/2020
SCALE 1:10	WT: 190.16 KG [419.231 LB]	SHEET	9 OF 10





NOTES:

1. DIMENSIONS FROM CENTER OF I-BEAM. ACCOUNT FOR VARIATIONS IN WEB THICKNESS.
2. ALL PENETRATIONS DONE IN FIELD MUST BE PLUGGED WITH COMPONENT WHICH MAINTAINS THE 4X RATING OF THE ENCLOSURE.
3. ONCE CONDUIT AND CABLING IS INSTALLED MOTOR ENCLOSURES MUST BE SEALED TO PREVENT INFESTATION.
4. HATCHED AREA REPRESENTS USABLE SURFACE ON BOTTOM OF MOTOR ENCLOSURE IN REFERENCE TO CONDUIT STUB-UPS.
5. ENSURE TO LEAVE ENOUGH CLEARANCE AT STUB-UP LOCATIONS FOR INTERNAL NUTS ON ENCLOSURE.DIMENSIONS FROM CENTER OF I-BEAM. ACCOUNT FOR VARIATIONS IN WEB THICKNESS.



SECTION E-E

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v37
B	20838-XX-901	C-01	4/15/2020
SCALE 1:10	WT: 190.16 KG [419.231 LB]	SHEET	10 OF 10

NOTES: △D

1. REFER TO INSTALLATION MANUAL FOR DETAILS.
2. TORQUE SPECIFICATION:

   2A. 22 ±3 N-M [16 ±2 FT-LBS]

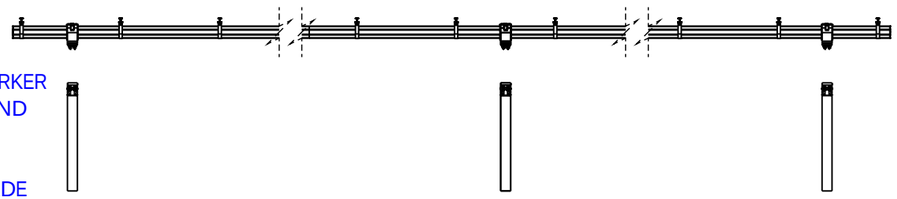
3. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
4. CARRIAGE BOLT FOR CLAMP IS 0.375" DIAMETER, GRADE 2, SAE J429-2011, HDG.
5. CLAMP BRACKETS, EARS, AND END CLAMP SPACERS ARE MADE FROM ALUMINUM ALLOY 6005A/T61 PER ASTM B221 (OR EQUIVALENT PER ARRAY DOCUMENT #90050-000) WITH PLAIN FINISH.
6. TORQUE TUBE END PLUGS MADE FROM LDPE, PE100LD-2M ARE OPTIONAL.
7. REFER TO SHIPPING MANIFEST FOR CORRECT END CLAMP SPACER PART NUMBER.

ARRAY PART NUMBER DESIGNATION

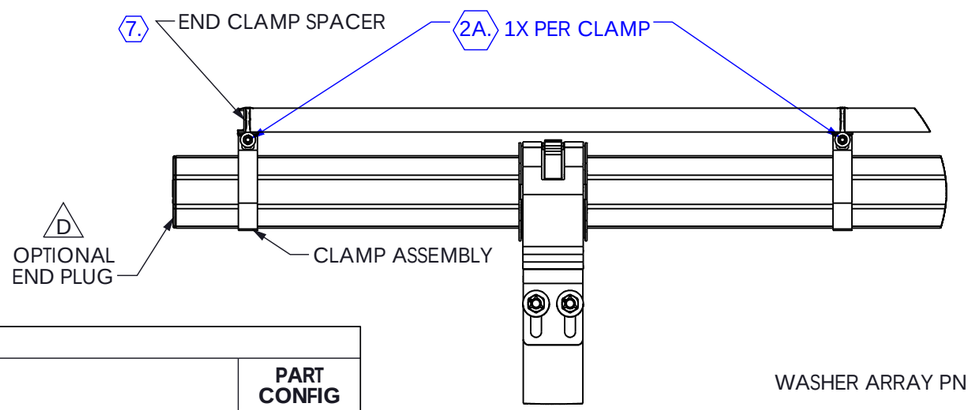
20844-XXX

ARRAY PART NUMBER EXTENSION
NUMBER INDICATES MODULE THICKNESS IN MM

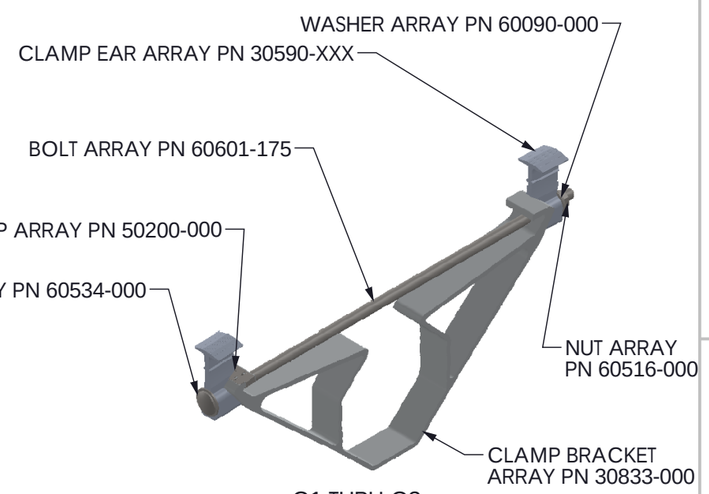
ARRAY PART NUMBER



EXPLODED VIEW

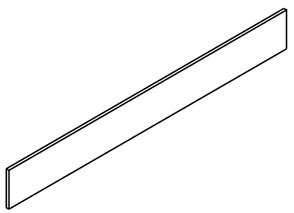


INSTALLED DETAIL



C1 THRU C3
CLAMP ASSEMBLY
ARRAY PN 20834-XXX

C4
CLAMP ASSEMBLY
ARRAY PN 20849-XXX



7. END CLAMP SPACER

△D OPTIONAL
END PLUG
ARRAY PN 60459-000

CONFIGURATION TABLE

ASSEMBLY EXTENSION	PART DESCRIPTION	PART CONFIG
20844-025	Field Assembly, Octagonal Clamp, Thin, 400mm High Rises x 21-25mm Wide Range Module Ear, Grounded	20834-025
20844-030	Field Assembly, Octagonal Clamp, Thin, 400mm High Rises x 26-30mm Wide Range Module Ear, Grounded	20834-030
20844-035	Field Assembly, Octagonal Clamp, Thin, 400mm High Rises x 31-35mm Wide Range Module Ear, Grounded	20834-035
20844-040	Field Assembly, Octagonal Clamp, Thin, 400mm High Rises x 36-40mm Wide Range Module Ear, Grounded	20834-040
20844-045	Field Assembly, Octagonal Clamp, Thin, 400mm High Rises x 41-45mm Wide Range Module Ear, Grounded	20834-045
20844-050	Field Assembly, Octagonal Clamp, Thin, 400mm High Rises x 46-50mm Wide Range Module Ear, Grounded	20834-050
20844-055	Field Assembly, Octagonal Clamp, Thin, 400mm HIgh Rises x 51-55mm Wide Range Module Ear, Grounded	20834-055
20844-125	Field Assembly, Octagonal Clamp, Thin, 400mm High Rises x 21-25mm Wide Range Module Ear, Grounded, C4	20849-025
20844-130	Field Assembly, Octagonal Clamp, Thin, 400mm High Rises x 26-30mm Wide Range Module Ear, Grounded, C4	20849-030
20844-135	Field Assembly, Octagonal Clamp, Thin, 400mm High Rises x 31-35mm Wide Range Module Ear, Grounded, C4	20849-035
20844-140	Field Assembly, Octagonal Clamp, Thin, 400mm High Rises x 36-40mm Wide Range Module Ear, Grounded, C4	20849-040
20844-145	Field Assembly, Octagonal Clamp, Thin, 400mm High Rises x 41-45mm Wide Range Module Ear, Grounded, C4	20849-045
20844-150	Field Assembly, Octagonal Clamp, Thin, 400mm High Rises x 46-50mm Wide Range Module Ear, Grounded, C4	20849-050
20844-155	Field Assembly, Octagonal Clamp, Thin, 400mm HIgh Rises x 51-55mm Wide Range Module Ear, Grounded, C4	20849-055

ITEM NO.	PART NUMBER	DESCRIPTION	20844-0XX	20844-1XX
1	60459-000	Plug, End, Torque Tube, Octagon, Polyethylene (Optional)	1	1
2	20834-XXX	Assembly, Octagonal Clamp, Thin, 400mm Hi Rise, x XXmm Wide Range Module Ear, Grounded	1	
3	20849-XXX	Assembly, Octagonal Clamp, Thin, 400mm Hi Rise, x XXmm Wide Range Module Ear, Grounded, C4		1

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

ZONE	REV	ECR #	DESCRIPTION	DATE
A2, B3, B4	D	19154	END PLUG OPTIONAL	1/20/2020
A3	C	19092	CORRECTED CONFIGS C4 125 THRU 155	7/25/2019
A1, A3	B	19057	ADDED CONFIGURATION C4	4/25/2019
	A	19040	INITIAL RELEASE	3/13/2019

DRAWING STATUS: Final
DRAWN: KM 03/12/2019
DRAWING CHECK: DO 1/29/2020
ENG. CHECK:
FINAL APPROVAL: SB 1/29/2020
THIRD ANGLE PROJECTION
ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]
TOLERANCES UNLESS OTHERWISE SPECIFIED
MM [INCH]: X = ±1.25 [0.050], .X = ±0.4 [0.015], .XX = ±0.1 [0.004]
METER [INCH]: X.XX = ±0.013 [0.500], X.XXX = ±0.006 [0.250]
ANGULAR: X = ±1.0°, .X = ±0.1°

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Field Assembly, Octagonal Clamp, 400mm, x XXmm Wide Range Module Ear, Grounded

SIZE	DRAWING NUMBER	REVISION	SAVED v41
B	20844-901	D-01	1/20/2020
SCALE 1:96	WT: 545.06 KG [1210.03 LB]	SHEET	1 OF 1

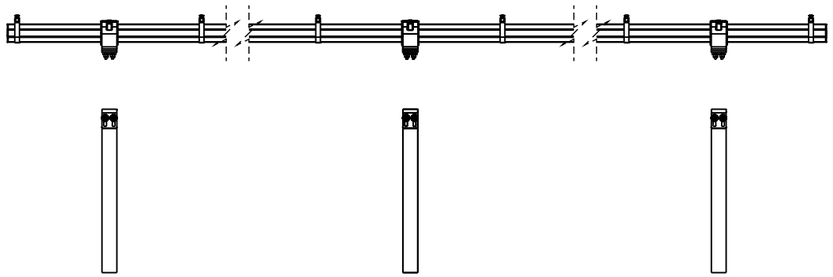
NOTES:

1. REFER TO INSTALLATION MANUAL FOR DETAILS.
2. TORQUE SPECIFICATION:

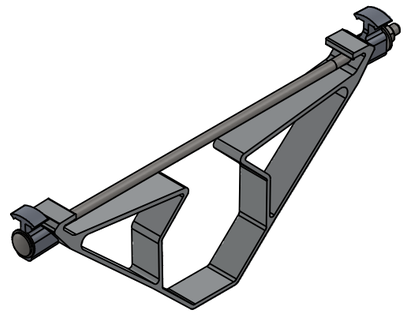
   (2A.) 22 ±3 N-M [16 ±2 FT-LBS]

3. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
4. CARRIAGE BOLT FOR CLAMP IS 0.375" DIAMETER, GRADE 2, SAE J429-2011.
5. CLAMP BRACKETS AND RAPIDCLAMP EARS ARE MADE FROM ALUMINUM ALLOY 6005A/T61 PER ASTM B221 (OR EQUIVALENT PER ARRAY DOCUMENT #90050-000) WITH PLAIN FINISH.
6. REFER TO ARRAY DOCUMENT 90103-000 FOR ADDITIONAL MODULE INSTALLATION INSTRUCTIONS.

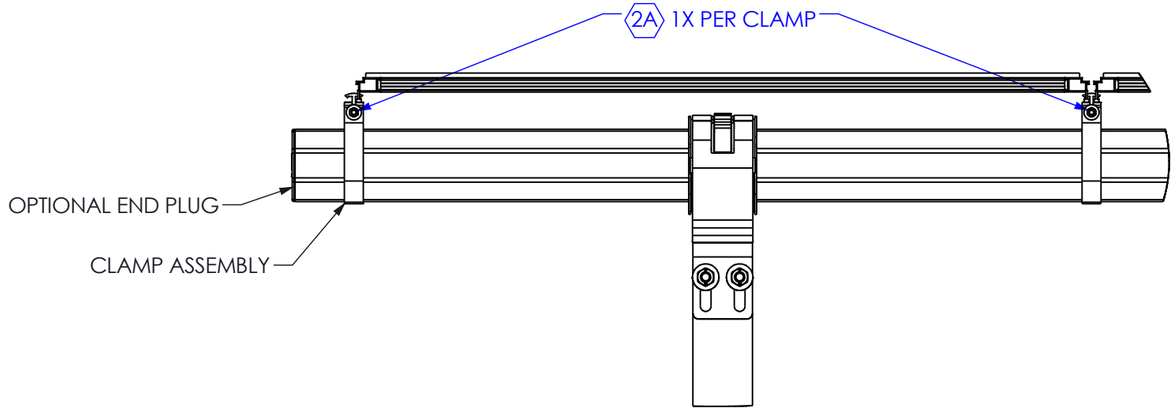
**Rapid Clamps do NOT require a Grounding Clip



EXPLODED VIEW



RAPIDCLAMP ASSEMBLY
ARRAY PN 20871-XXX (L/M/H)



INSTALLED DETAIL

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

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03/14/2026

CONFIGURATION TABLE	
PART NUMBER	**DESCRIPTION**
20871-300	Assembly, Octagonal RapidClamp, 400mm Hi Rise, FS6, L/M
20871-400	Assembly, Octagonal RapidClamp, 400mm Hi Rise, FS6, H

ZONE	REV	ECR #	DESCRIPTION	DATE
2-A1	D	21131	ADDED SHEET 2 AND ALL NEW VIEWS	8/24/2021
A4	C	20160 20264	WASHER REPLACED IN SUBASSEMBLY. END PLUG PN REMOVED. MODULE CORRECTED	11/23/2020
A1, A3	B	20220	CORROSION DESIGNATION UPDATE	5/20/2020

DRAWING STATUS: **Final**

DRAWN INITIALS: RM DATE: 01/24/2020	DRAWING CHECK INITIALS: NC DATE: 9/2/2021
ENG. CHECK INITIALS: DO DATE: 10/05/2021	FINAL APPROVAL INITIALS: SB DATE: 10/5/2021

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049] .X = ±0.4 [0.016] .XX = ±0.1 [0.004]	X.XX = ±0.013 [0.512] X.XXX = ±0.006 [0.236]	X = ±1.0° .X = ±0.1°

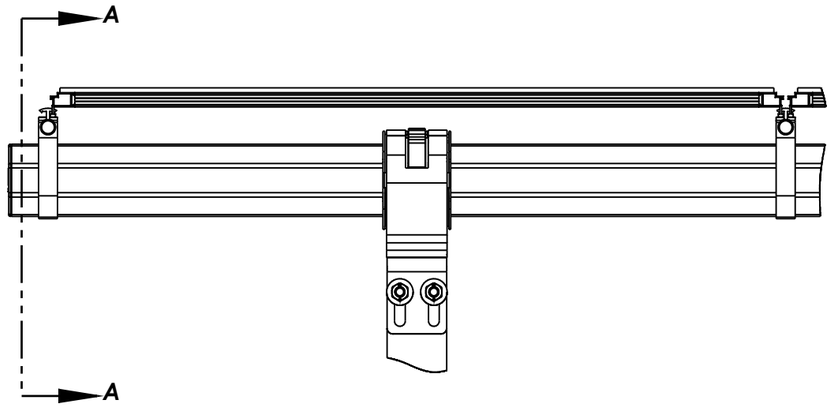
ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

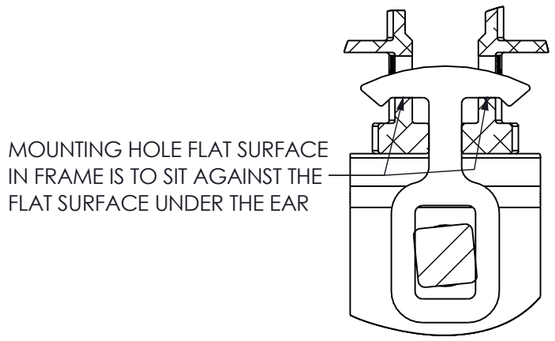
TITLE: **Field Assembly, Octagonal RapidClamp, 400mm Hi Rise, FS6, L/M/H**

SIZE	DRAWING NUMBER	REVISION	SAVED v40
B	20872-901	D	9/22/2021

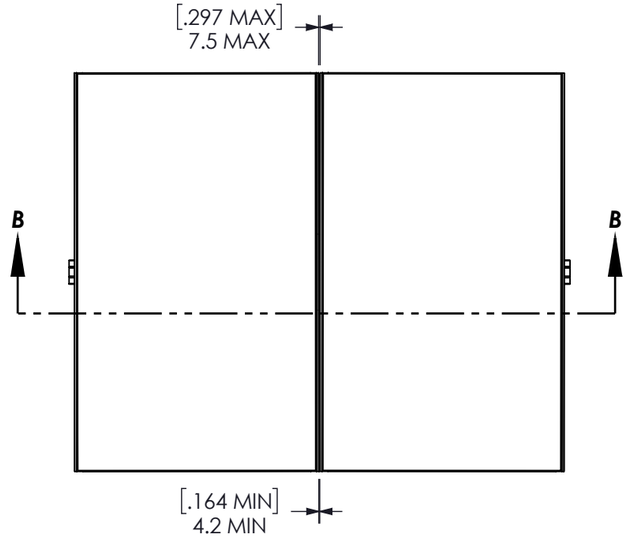
SCALE 1:96 — SHEET 1 OF 2

Template_CF Drawing_mm_v5

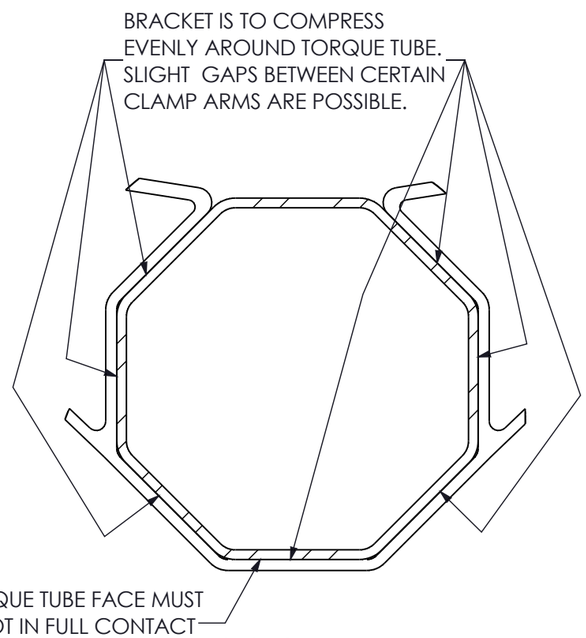




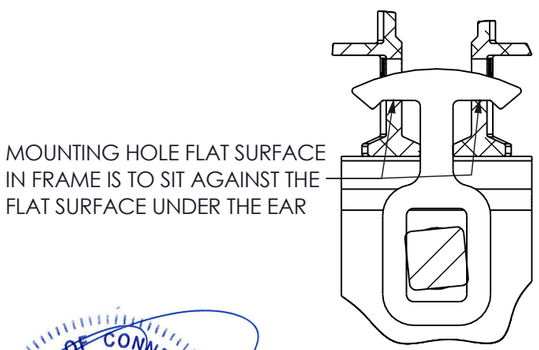
SECTION B-B



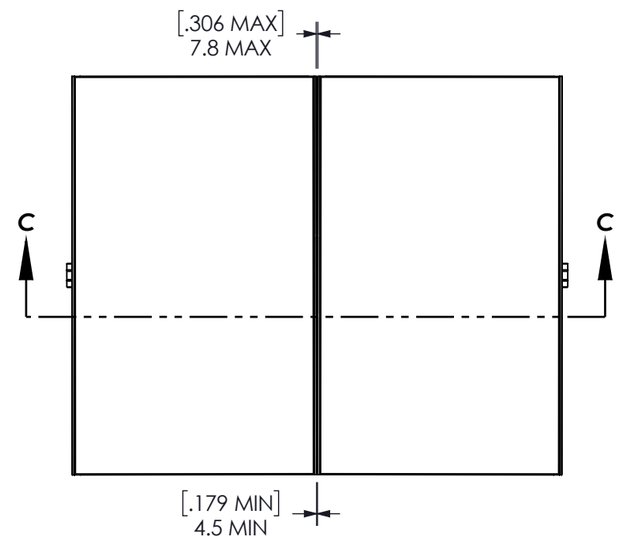
FS6 MODULE FRAME
NON-PARALLEL MOUNTING ALLOWANCE



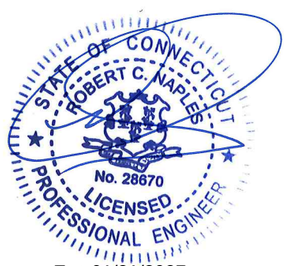
SECTION A-A
COMPONENTS REMOVED FOR CLARITY



SECTION C-C



FS6+ MODULE FRAME
NON-PARALLEL MOUNTING ALLOWANCE



Exp 01/31/2027
03/14/2026

D

SIZE	DRAWING NUMBER	REVISION	SAVED v40
B	20872-901	D	9/22/2021
SCALE 1:30		SHEET	2 OF 2

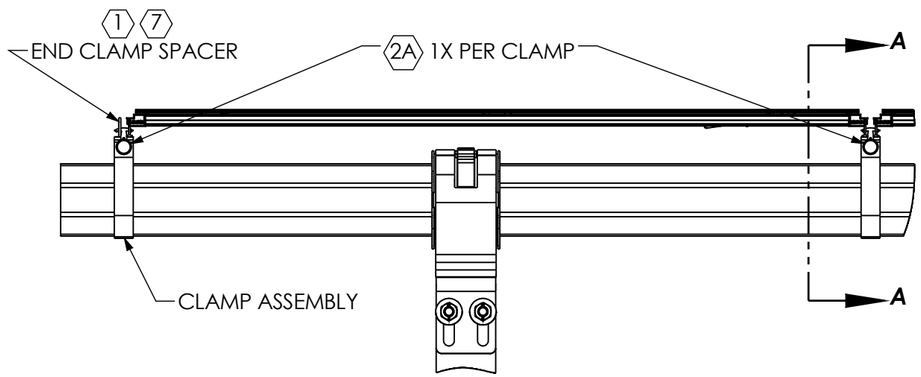
Template_CF Drawing_mm_v5

NOTES:

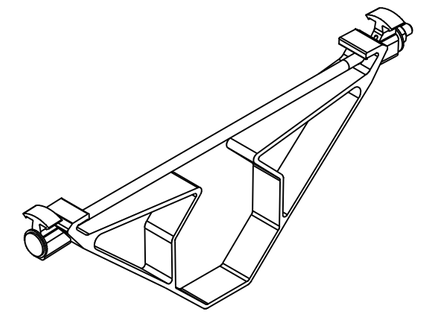
1. REFER TO INSTALLATION MANUAL ADDENDUM 90129-000 FOR ADDITIONAL DETAILS.
2. TORQUE SPECIFICATION:

   2A. INSTALLATION TORQUE: 19.0 +/- 1.5 N-M [14.0 +/- 1.0 FT-LBS]

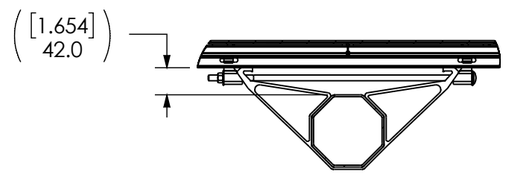
   INSPECTION TORQUE: MUST STAY ABOVE 12.2 N-M [9.0 FT-LBS]
   TORQUE INSPECTION MUST OCCUR 24 HRS (MINIMUM) AFTER INITIAL INSTALLATION.
3. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
4. CARRIAGE BOLT FOR CLAMP IS 0.375" DIAMETER, GRADE 2, SAE J429-2011.
5. CLAMP BRACKETS AND EARS ARE MADE FROM ALUMINUM ALLOY 6005A/T61 PER ASTM B221 (OR EQUIVALENT PER ARRAY DOCUMENT #90050-000) WITH PLAIN FINISH.
6. THE EAR IS DESIGNED TO HOLD FS6, FS6+ INTERIOR, AND FS6+ EXTERIOR MODULES.
7. END CLAMP SPACER REQUIRED AT THE ENDS OF EVERY ROW AND AT ANY MODULE GAPS WITHIN THE ROW.



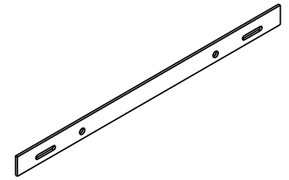
INSTALLED DETAIL



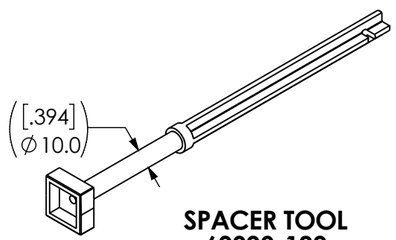
RAPIDCLAMP ASSEMBLY (L/M/H)
20992-XXX



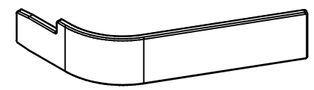
SECTION A-A
42mm DESIGN OFFSET



END CLAMP SPACER
30956-XXX



SPACER TOOL
60909-100



RAPID CLAMP ALIGNMENT TOOL
60868-000

STATE OF CONNECTICUT
ROBERT C. NAPIER
No. 28670
LICENSED PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

END CLAMP SPACER CONFIGURATION TABLE		
PART NUMBER	DESCRIPTION	SELECTION CRITERIA / CORROSION GROUP
30956-200	Plate, End Clamp Spacer, RapidClamp, L	L
30956-400	Plate, End Clamp Spacer, RapidClamp, M/H	M/H

MODULE CLAMP CONFIGURATION TABLE		
PART NUMBER	DESCRIPTION	SELECTION CRITERIA / CORROSION GROUP
20992-300	Assembly, Octagonal Clamp, RapidClamp, 400mm Hi Rise, 10mm, L/M	L/M
20992-400	Assembly, Octagonal Clamp, RapidClamp, 400mm Hi Rise, 10mm, H	H

ZONE	REV	ECR #	DESCRIPTION	ENGR	DATE
2-A2, 2-C2, 2-C3	G	US-24171	UPDATED DIMS ON SHEET 2	MK	12/16/2024
A7, B1, B4, B8, C6	F	US-24039	UPDATED NOTE 6 AND TABLE, ADDED VIEWS AND TABLE	MK	04/09/2024
2-A2, 2-C2, 2-C3	E	US-23015	ADDED APPLICABLE TRACKER SYSTEM, ADDED TRACKER SYSTEM SPECIFIC MODULE MOUNTING ALLOWANCE VALUES		2/14/2023

APPLICABLE TRACKER SYSTEMS:
DuraTrack
OmniTrack

DRAWING STATUS: **Final**

DRAWN	DRAWING CHECK
INITIALS: DS DATE: 03/18/2022	INITIALS: DS DATE: 3/7/2023
ENG. CHECK	FINAL APPROVAL
INITIALS: DS DATE: 03/08/2023	INITIALS: SB DATE: 3/7/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

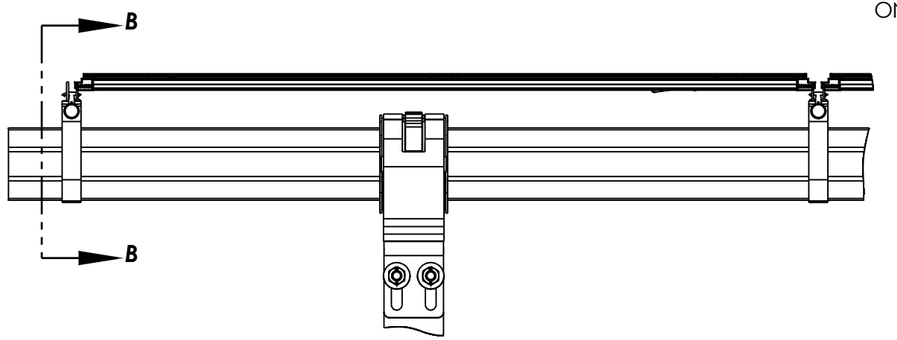
MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

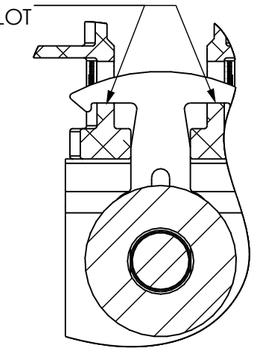
TITLE: **Field Assembly, Octagonal Clamp, RapidClamp, 400mm Hi Rise, 10mm, L/M/H**

SIZE	DRAWING NUMBER	REVISION	SAVED v72
B	20993-901	G	12/16/2024
SCALE 1:96		SHEET	1 OF 2

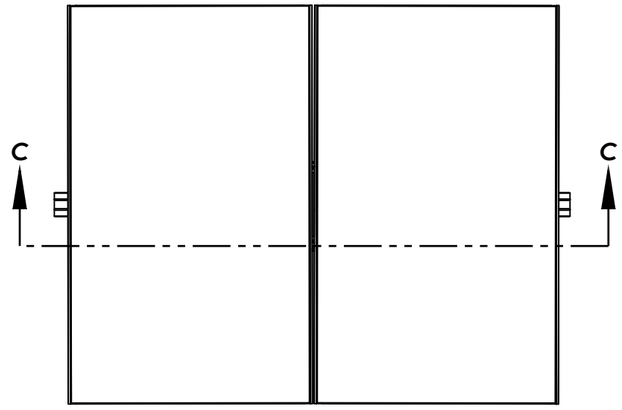
Template_CF Drawing_mm_v6



CLAMP EAR FLAT MUST FULLY SIT
ON THE FLAT OF THE MODULE SLOT
1 6



SECTION C-C

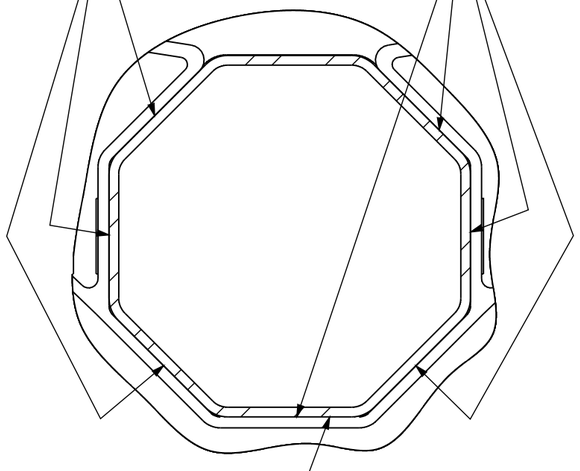


FS6 MODULE FRAME
NON-PARALLEL MOUNTING ALLOWANCE

G

TRACKER SYSTEM	DIM "A" MIN mm [in]
DURATRACK	5.0 [0.197]
OMNITRACK	7.0 [0.276]

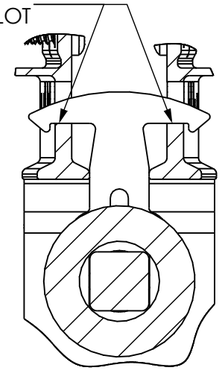
BRACKET IS TO COMPRESS
EVENLY AROUND TORQUE TUBE.
SLIGHT GAPS BETWEEN CERTAIN
CLAMP ARMS ARE POSSIBLE.



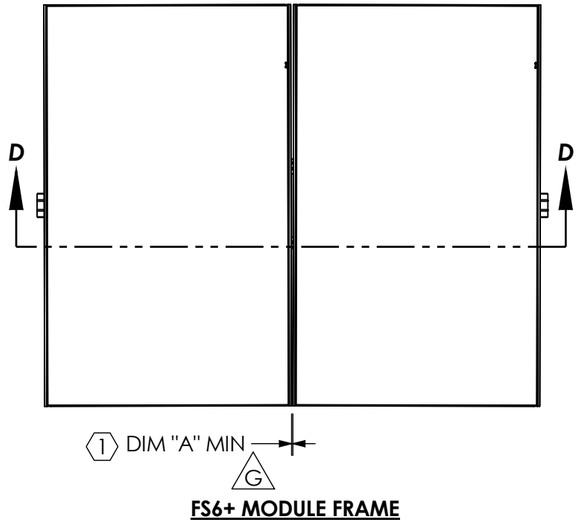
CLAMP AND TORQUE TUBE FACE MUST
BE PARALLEL IF NOT IN FULL CONTACT

SECTION B-B
COMPONENTS REMOVED FOR CLARITY

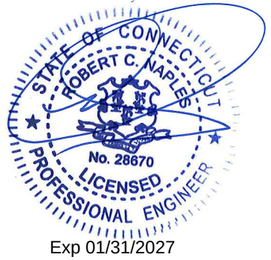
CLAMP EAR FLAT MUST FULLY SIT
ON THE FLAT OF THE MODULE SLOT
1 6



SECTION D-D



FS6+ MODULE FRAME
NON-PARALLEL MOUNTING ALLOWANCE



Exp 01/31/2027
03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v72
B	20993-901	G	12/16/2024
SCALE 1:30		SHEET	2 OF 2

Template_CF Drawing_mm_v6

NOTES:

1. REFER TO INSTALLATION MANUAL FOR DETAILS.
2. TORQUE SPECIFICATION:

   ⟨2A.⟩ 25.8 ± 1.5 N-M [19.0 ± 1.0 FT-LBS]

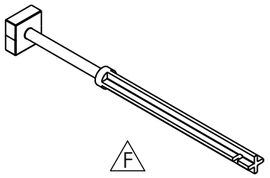
   ⟨2B.⟩ 17.5 ± 1.5 N-M [12.9 ± 1.0 FT-LBS]

3. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
4. REFER TO ARRAY INSTALLATION ADDENDUM 90140-000 FOR ADDITIONAL MODULE INSTALLATION INSTRUCTIONS.

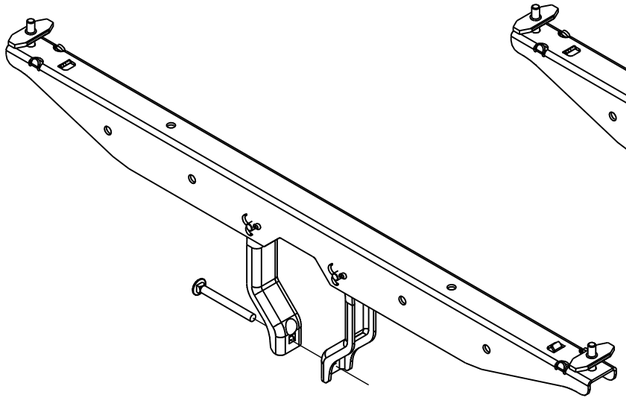
⟨5.⟩ THE EAR IS DESIGNED TO HOLD FS6 AND FS6+ EXTERIOR MODULES.

⟨6.⟩ END CLAMP SPACER 30976-XXX REQUIRED AT THE ENDS OF EVERY ROW AND AT ANY MODULE GAPS WITHIN THE ROW; REFER TO INSTALLATION ADDENDEUM 90140-000 FOR INSTALLATION.

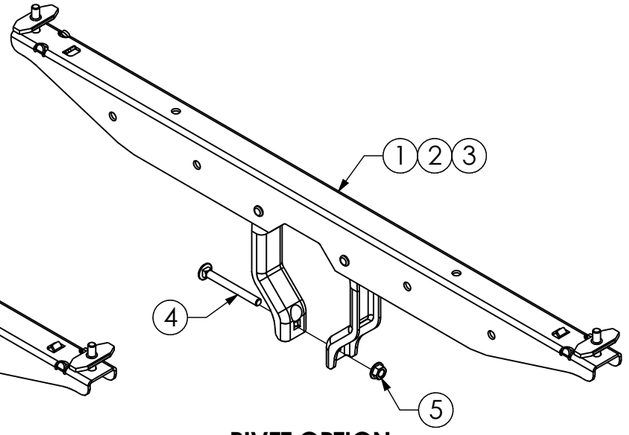
⟨7.⟩ REFER TO INSTALLATION ADDENDUM 90140-000 FOR INFORMATION ON MODULE GAP ALIGNMENT TOOLS AND THEIR USAGE.



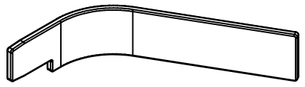
△F
SPACER TOOL
ARRAY P/N: 60909-100
⟨7⟩



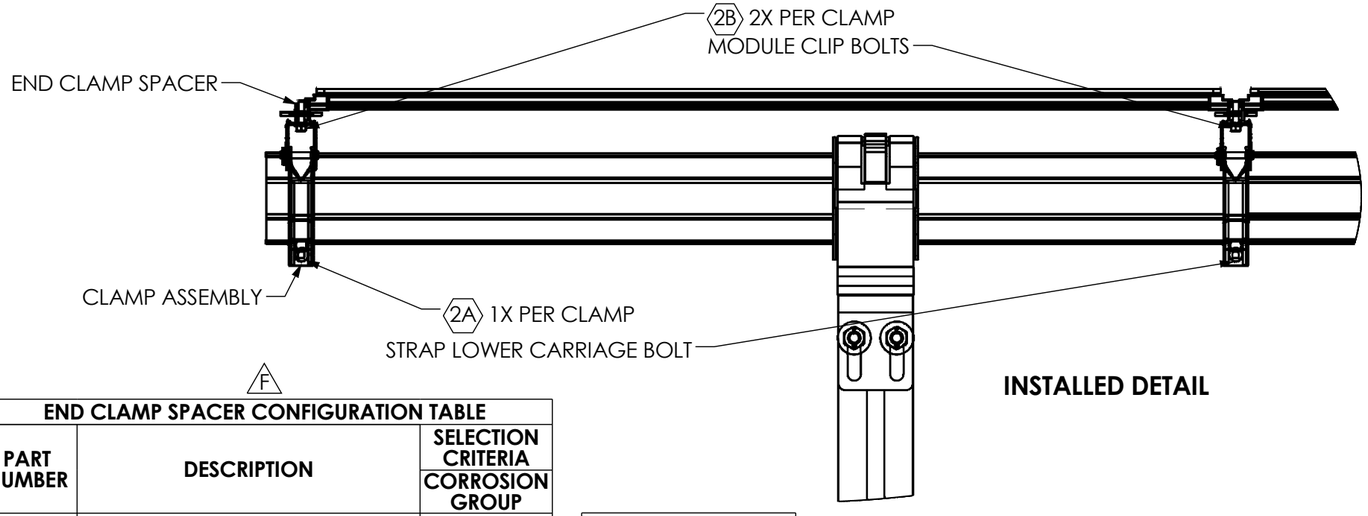
CLEVIS/COTTER PIN OPTION



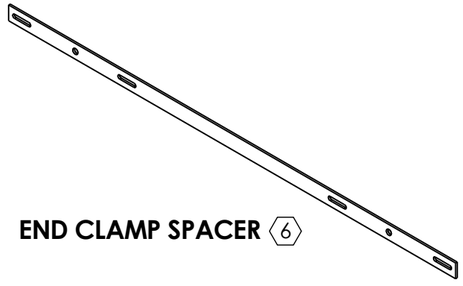
RIVET OPTION



RAPID CLAMP ALIGNMENT TOOL
ARRAY P/N: 60868-000
△F ⟨7⟩



△F
INSTALLED DETAIL



END CLAMP SPACER ⟨6⟩

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

END CLAMP SPACER CONFIGURATION TABLE

PART NUMBER	DESCRIPTION	SELECTION CRITERIA: CORROSION GROUP
30976-200	Plate, End CLMP, 800mm, 3-Bolt Slot, L	L
30976-400	Plate, End CLMP, 800mm, 3-Bolt Slot, M/H	M/H

△F

ITEM NO.	PART NUMBER	DESCRIPTION	SELECTION CRITERIA: CORROSION GROUP L	M	H
1	21024-200	ASSY, Clamp, 3-Bolt, 800mm, Slot, L	1	-	-
2	21024-300	ASSY, Clamp, 3-Bolt, 800mm, Slot, M	-	1	-
3	21024-400	ASSY, Clamp, 3-Bolt, 800mm, Slot, H	-	-	1
4	60825-300	Bolt, Carriage, Grade 8, 5/16-18 x 3.000, H	1	1	1
5	60852-000	Nut, Serrated Hex Flange, Grade 8, 5/16-18, H	1	1	1

ZONE	REV	ECR #	DESCRIPTION	ENGR	DATE
A7, B8, C4, C5, 2-A3, 2-C3	F	US-25037	REMOVED L/M HDW FROM CONFIGS, UPDATED VIEW LABELS, ADDED SPACER CONFIGURATION TABLE	MK	04/24/2025
A8	E	US-24037	REMOVED REV COLUMN IN BOM	AD	04/05/2024
A2, A7, C2, C3, C4, C6, 2-A2, 2-B2	D	US-24011	ADDED BOM, NOTE 8, TEXT TO VIEWS, 60824-300, 60825-300, 60851-000, 60852-000, UPDATED NOTE 5 AND 7, VIEWS, TITLE, REMOVED END CAP VIEW AND CONFIGURATION TABLE	SB	02/02/2024

APPLICABLE TRACKER SYSTEMS:
Duratrack
OmniTrack

PROPRIETARY AND CONFIDENTIAL:
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ARRAY TECHNOLOGIES. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION FROM ARRAY TECHNOLOGIES IS PROHIBITED.

DRAWING STATUS: **Final**

DRAWN	DRAWING CHECK
INITIALS: NC DATE: 12/13/2022	INITIALS: DS DATE: 7/27/2023
ENG. CHECK	FINAL APPROVAL
INITIALS: SB DATE: 09/05/2023	INITIALS: SB DATE: 9/5/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH], DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

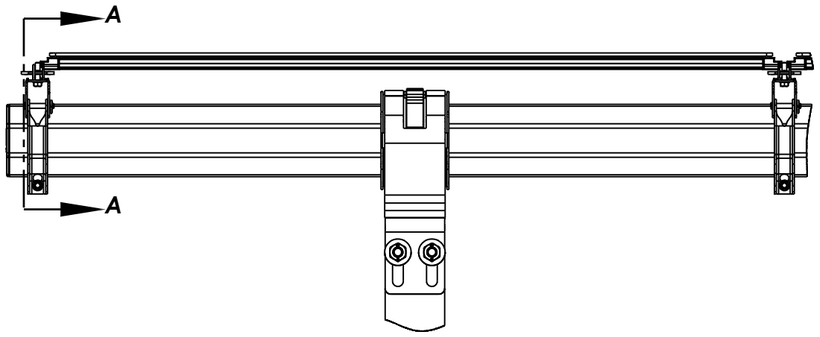
mm [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

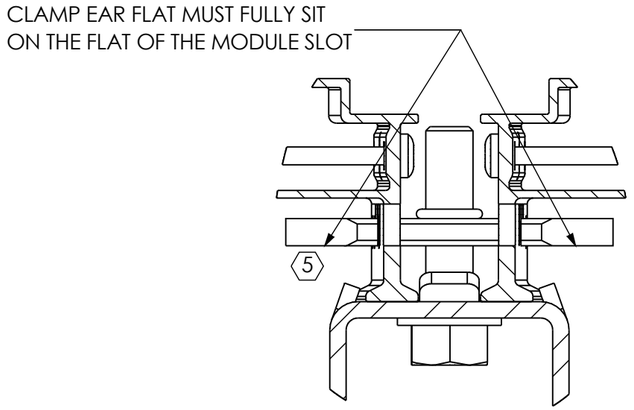
ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **Field Assembly, Clamp, 3-Bolt Slot, 800mm, L/M/H**

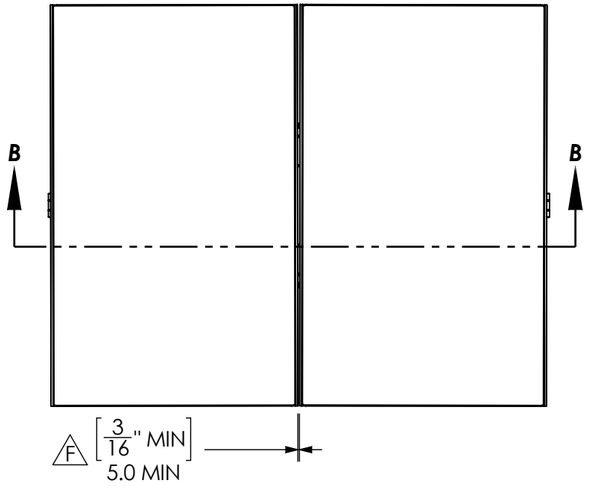
SIZE	DRAWING NUMBER	REVISION	SAVED v70
B	21025-901	F	4/24/2025
SCALE 1:96		SHEET	1 OF 2

Template_Drawing_mm_v6

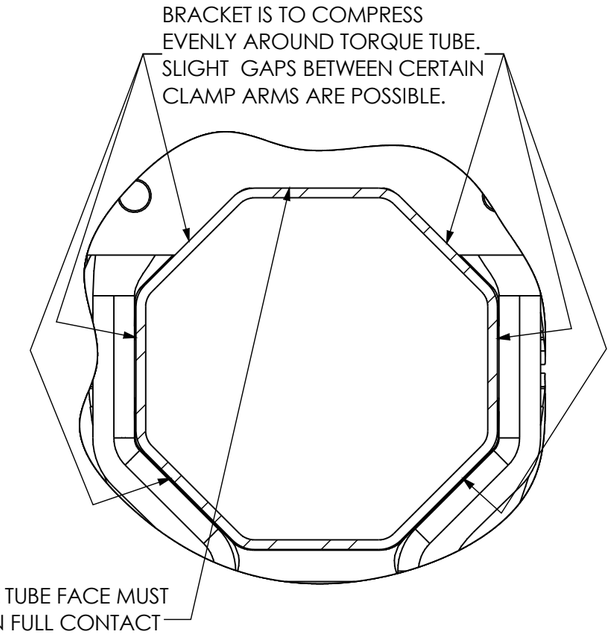




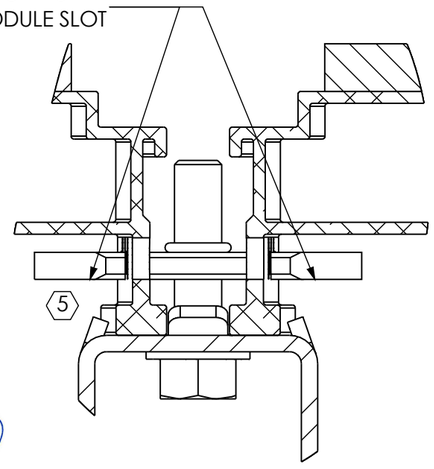
SECTION B-B



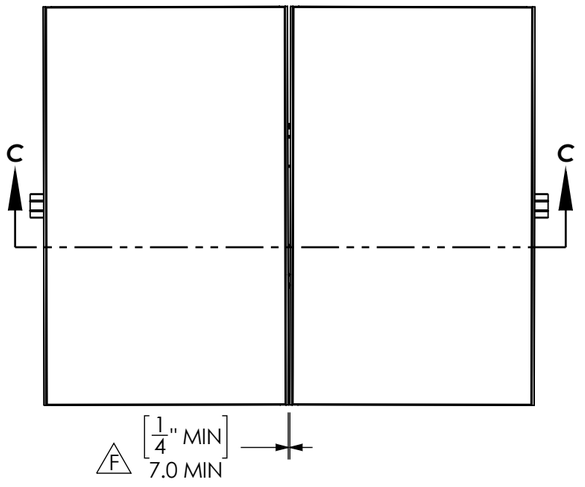
FS6/FS6+ MODULE FRAME
NON-PARALLEL MOUNTING ALLOWANCE
FOR DURATRACK



SECTION A-A
COMPONENTS REMOVED FOR CLARITY



SECTION C-C



FS6/FS6+ MODULE FRAME
NON-PARALLEL MOUNTING ALLOWANCE (7)
FOR OMNITRACK

Exp 01/31/2027
03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v70
B	21025-901	F	4/24/2025
SCALE 1:30		SHEET	2 OF 2

Template_CF Drawing_mm_v6

NOTES: △D

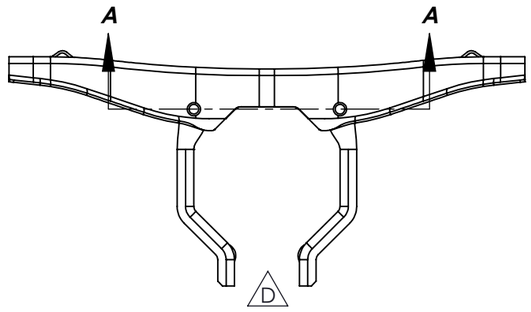
① FORM PAN HEAD BY ORBITAL RIVETING PROCESS. HINGE MUST PIVOT FREELY BY HAND AFTER ASSEMBLY.

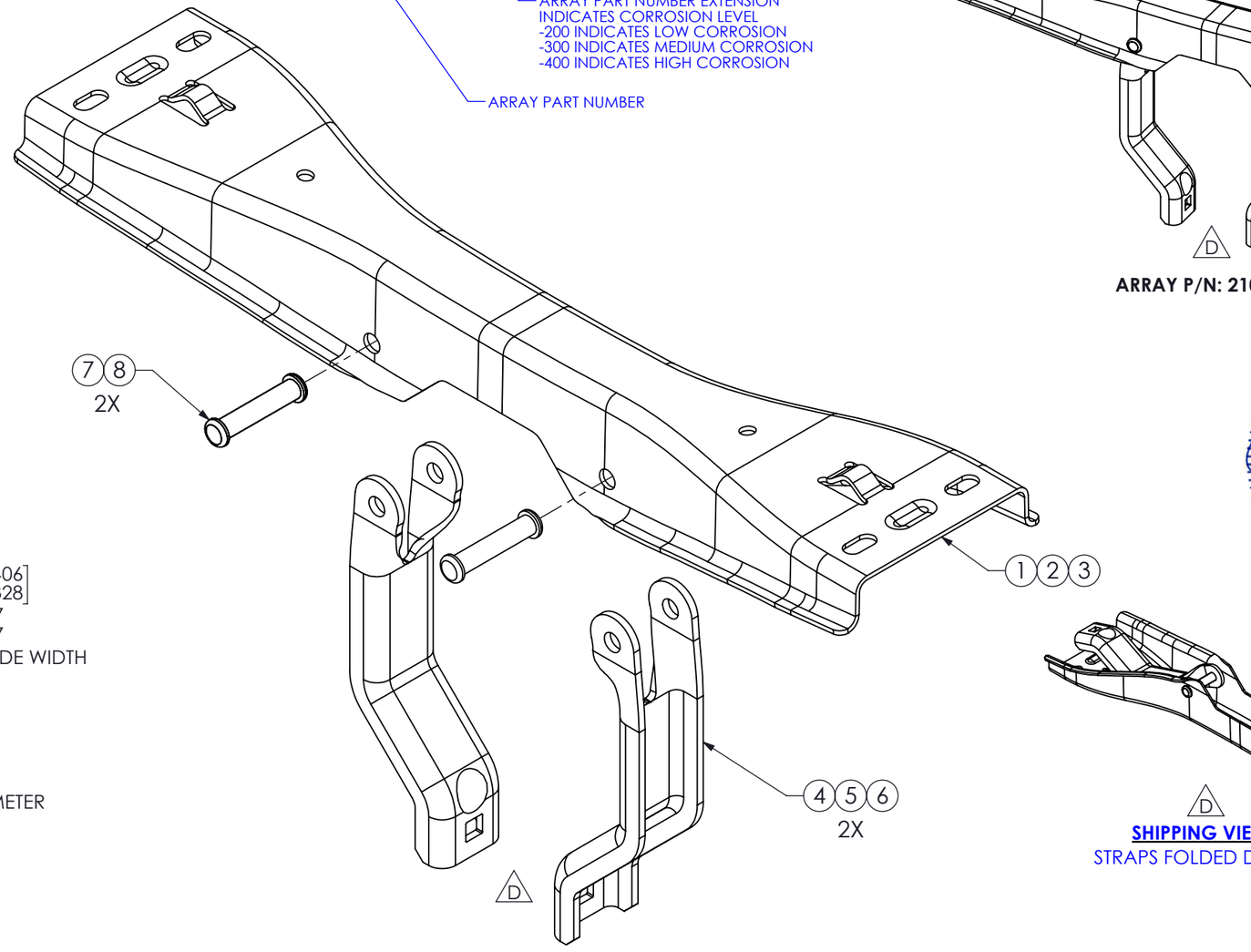
ARRAY PART NUMBER DESIGNATION

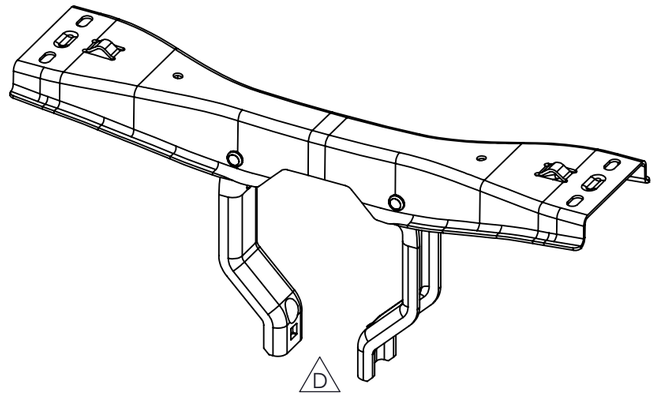
21011-XXX

ARRAY PART NUMBER EXTENSION
INDICATES CORROSION LEVEL
-200 INDICATES LOW CORROSION
-300 INDICATES MEDIUM CORROSION
-400 INDICATES HIGH CORROSION

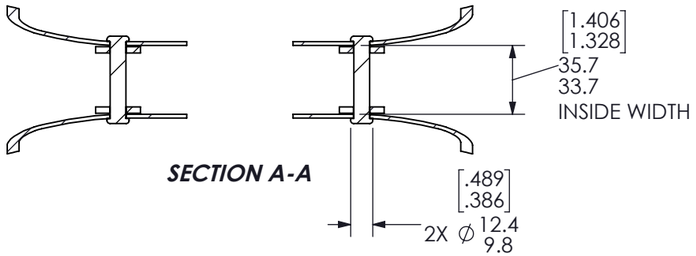
ARRAY PART NUMBER

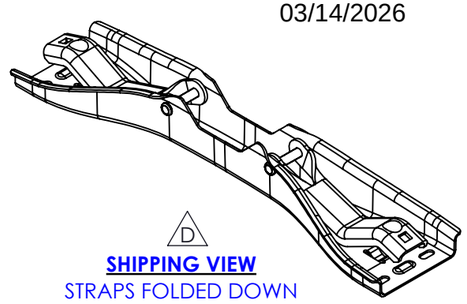






ARRAY P/N: 21011-XXX





SHIPPING VIEW
STRAPS FOLDED DOWN

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

ITEM NO.	PART NUMBER	DESCRIPTION	-200	-300	-400
1	30962-200	Rail, Stamped, 400mm Thru-Bolt Clamp, 14Ga, L	1	-	-
2	30962-300	Rail, Stamped, 400mm Thru-Bolt Clamp, 14Ga, M	-	1	-
3	30962-400	Rail, Stamped, 400mm Thru-Bolt Clamp, 14Ga, H	-	-	1
4	30963-200	Strap, Stamped, 400mm Thru-Bolt Clamp, 11Ga, L	2	-	-
5	30963-300	Strap, Stamped, 400mm Thru-Bolt Clamp, 11Ga, M	-	2	-
6	30963-400	Strap, Stamped, 400mm Thru-Bolt Clamp, 11Ga, H	-	-	2
7	60874-170	Rivet, Pan Head, Steel, 0.313", 1.70, L/M	2	2	-
8	60875-170	Rivet, Pan Head, Stainless, 0.313", 1.70, H	-	-	2

ZONE	REV	ECR #	DESCRIPTION	DATE
B2, B4, C2, C7, D8	D	US-23118	REMOVED HARDWARE AND NOTE 2, ADDED SHIPPING VIEW	8/24/2023
A6	C	US-23112	ADDED L/M RIVET TO L/M CONFIGS	7/27/2023
C6	B	US-23054	CHANGED DIMENSION TO INSIDE WIDTH	4/4/2023

APPLICABLE TRACKER SYSTEMS:

DRAWING STATUS: Final

DRAWN: INITIALS: RM DATE: 07/19/2022
DRAWING CHECK: INITIALS: RM DATE: 8/31/2023
ENG. CHECK: INITIALS: BCDF DATE: 08/14/2023
FINAL APPROVAL: INITIALS: SB DATE: 8/14/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

mm [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Assembly, Thru-Bolt Clamp, 400mm, L/M/H

SIZE	DRAWING NUMBER	REVISION	SAVED v45
B	21011-901	D	10/9/2023
SCALE 1:3	WT: 1.325kg [2.921Lbs]	SHEET	1 OF 1

Template_Drawing_mm_v6

NOTES:

1. BOM FASTENER QUANTITY IS PER MODULE.

(2) PREFERRED BOLT ORIENTATION IS DROPPING DOWN FROM TOP OF HOLE.

3. TORQUE SPECIFICATIONS:
   (3A.) 12.2 ± 1.4 N-M [9 ± 1 FT-LBS]
   (3B.) 25.5 ± 2.7 N-M [19 ± 2 FT-LBS]

4. MARK ALL TORQUED CONNECTIONS USING A PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.

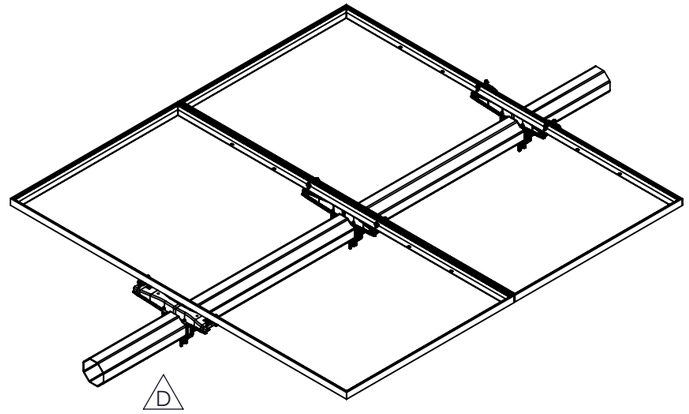
(5) MODULE INTERFACE HOLE TO EDGE OF MODULE DISTANCE LESS THAN 17.5mm WILL RESULT IN A MODULE GAP OF GREATER THAN 10mm.

△D

6. MODULE ATTACHMENT METHODS: SELECT APPROPRIATE HARDWARE BOM - CARBON STEEL HARDWARE (TABLE 1), OR ALUMINUM SWAGE HARDWARE (TABLE 2). MIXING HARDWARE TYPES IS NOT ALLOWED.

(6.1) SWAGE FASTENERS REQUIREMENTS:
SWAGE FASTENERS REQUIRE SWAGING TOOL TO INSTALL. SWAGE FASTENERS CAN BE INSTALLED ON MODULES WHERE THE PROFILE HEIGHT IS 30mm OR GREATER. FOR MODULES WHERE THE HEIGHT IS LESS THAN 30mm, THE DISTANCE BETWEEN THE GLASS AND THE MODULE FLANGE MUST BE CHECKED TO ENSURE A MINIMUM OF 20mm.

(7) REFER TO 90133-000 INSTALLATION ADDENDUM FOR DURATRACK AND OMNITRACK INSTALLATION PROCEDURES USING THE REQUIRED 60909-000 INSTALLATION TOOL TO IMPROVE ALIGNMENT AND GAP OF THE MODULES.



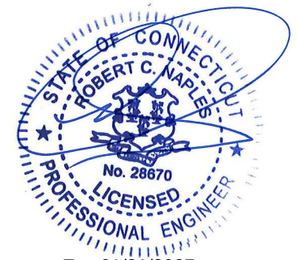
MOUNT CONFIGURATION TABLE	
21011-200	Assembly, Thru-Bolt Clamp, 400mm, L
21011-300	Assembly, Thru-Bolt Clamp, 400mm, M
21011-400	Assembly, Thru-Bolt Clamp, 400mm, H

TABLE 1: CARBON STEEL HARDWARE BOM

ITEM NO	PART NUMBER	DESCRIPTION	QTY	
1	21011-XXX	Assembly, Thru-Bolt Clamp, 400mm, L/M/H	1	
2	60816-000	Nut, Serrated Hex Flange, 1/4"-20, H	4	
3	60819-063	Bolt, Serrated Hex Flange, IFI 111, SAE J429, Steel, H, 1/4"-20, 0.63"	4	
4	60825-300	Bolt, Carriage, Grade 8, 5/16-18 x 3.000, H	1	△D
5	60852-000	Nut, Serrated Hex Flange, Grade 8, 5/16-18, H	1	△D

TABLE 2: ALUMINUM SWAGE HARDWARE BOM (6.1) △D

ITEM NO.	PART NUMBER	DESCRIPTION	QTY	
1	21011-XXX	Assembly, Thru-Bolt Clamp, 400mm, L/M/H	1	
4	60825-300	Bolt, Carriage, Grade 8, 5/16-18 x 3.000, H	1	△D
5	60852-000	Nut, Serrated Hex Flange, Grade 8, 5/16-18, H	1	△D
6	60881-875	Bolt, Huck, Bobtail, 0.25" x 0.875", Aluminum	4	
7	60882-000	Collar, Huck, 6061 Al, 0.25"	4	



Exp 01/31/2027
03/14/2026

ZONE	REV	ECR #	DESCRIPTION	ENGR	DATE
A6, B4, D5, 2-A5, 2-A6, 3-A5	D	US-23118	ADDED 60825-300 AND 60852-000, MOVED VIEWS TO NEW SHEET 2, UPDATED NOTES	JM	11/03/2023
A7, B7, C4, C5, 2-B2, 3-A1	C	US-23075	ADDED NOTES 7 AND 8, ADDED SWAGE HARDWARE BOM, ADDED SHEET 2, ADDED LABEL FOR SECTION VIEWS		5/10/2023
A3	B	US-23015	ADDED APPLICABLE TRACKER SYSTEMS		2/14/2023

APPLICABLE TRACKER SYSTEMS: DuraTrack, OmniTrack

DRAWING STATUS: Final

DRAWN: INITIALS: NC DATE:

DRAWING CHECK: INITIALS: NC DATE: 9/20/2023

ENG. CHECK: INITIALS: BCDF DATE: 05/24/2023

FINAL APPROVAL: INITIALS: SB DATE: 5/24/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

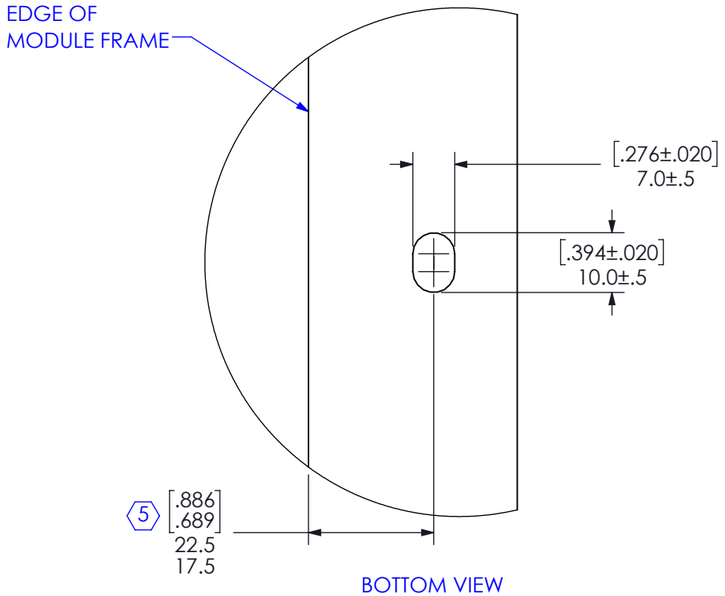
ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Field Assembly, 400mm Thru-Bolt Clamp, L/M/H

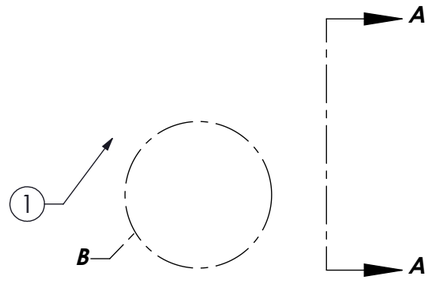
SIZE	DRAWING NUMBER	REVISION	SAVED v50
B	21016-901	D	11/3/2023

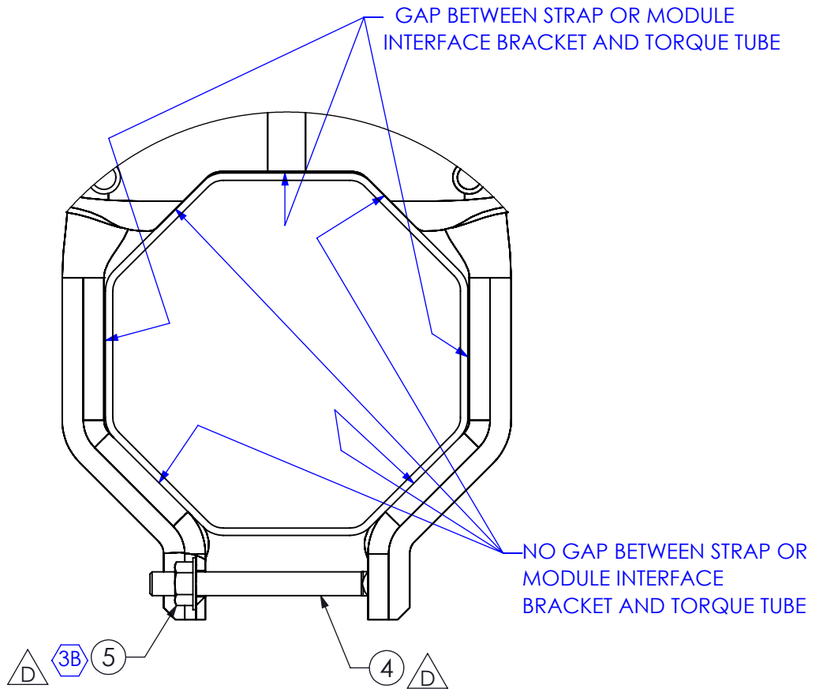
SCALE 1:25 SHEET 1 OF 3

Template_CF Drawing_mm_v6

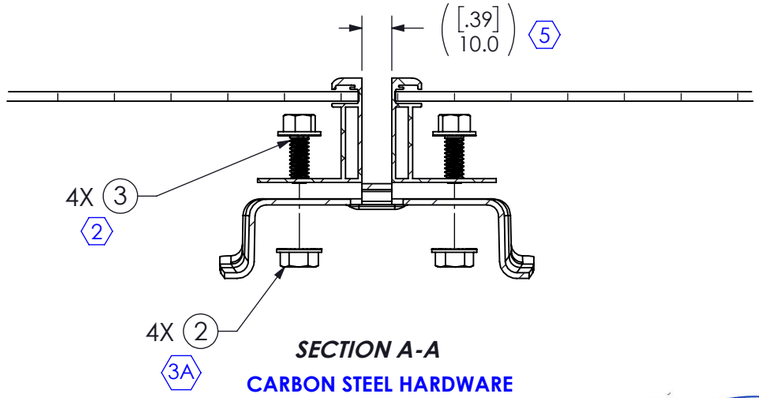


BOTTOM VIEW
MODULE INTERFACE CRITERIA





DETAIL B



SECTION A-A

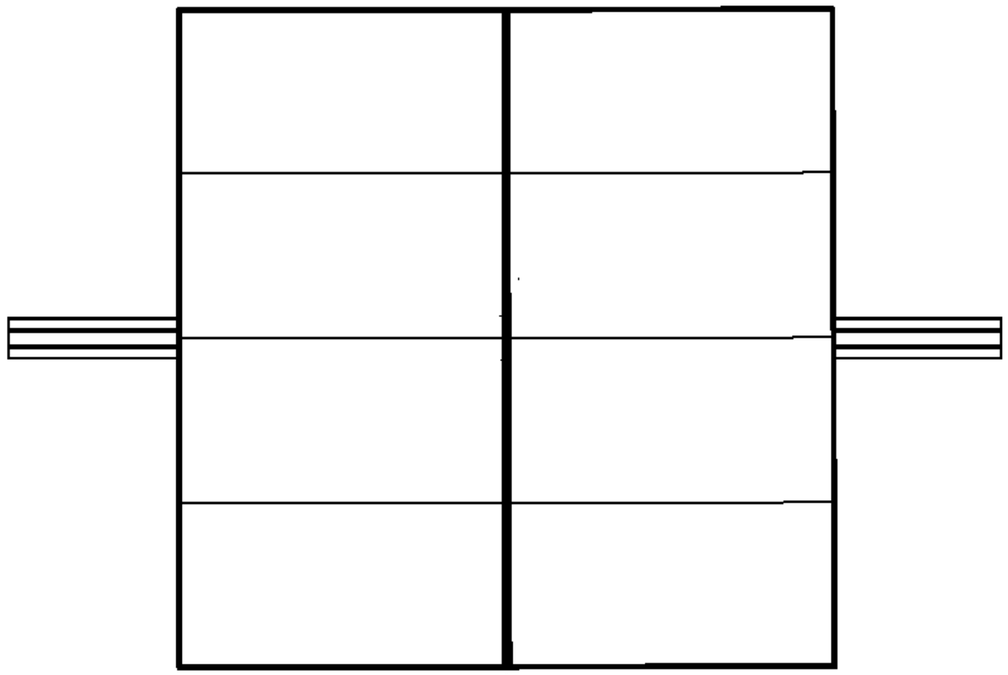
CARBON STEEL HARDWARE

Exp 01/31/2027

03/14/2026

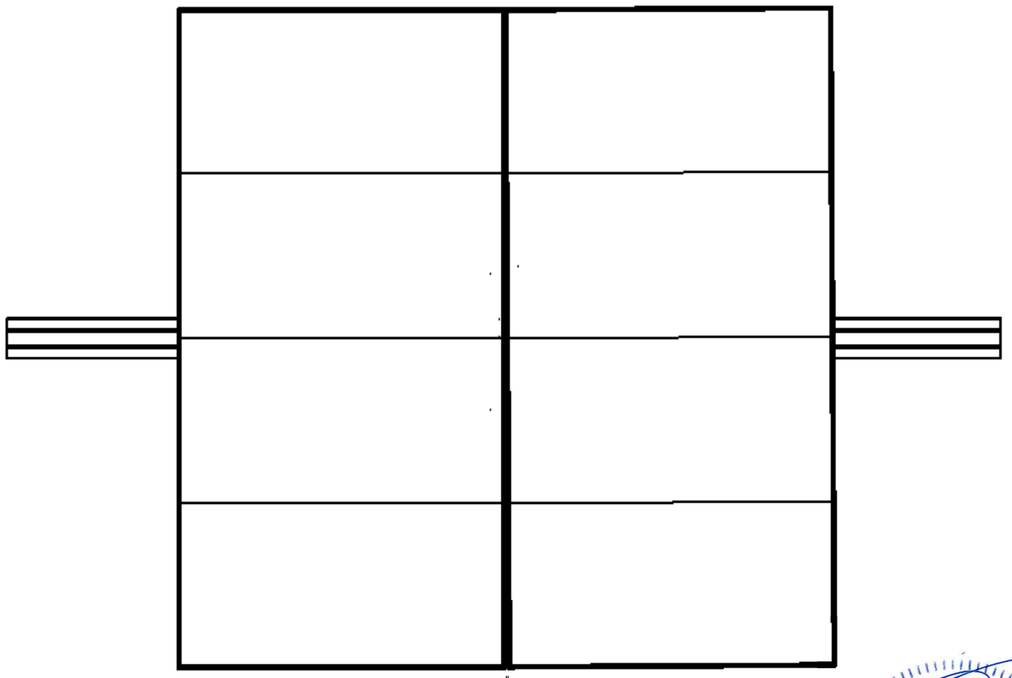
SIZE	DRAWING NUMBER	REVISION	SAVED v50
B	21016-901	D	11/3/2023
SCALE 1:25		SHEET	2 OF 3

Template_CF Drawing_mm_v6



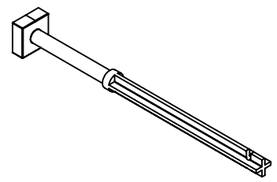
[.197 MIN]
5.0 MIN

MINIMUM CORNER ALLOWANCE FOR DURATRACK

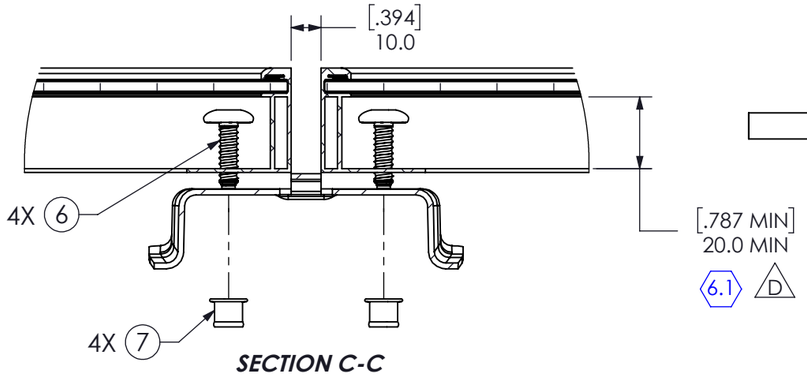


[.276 MIN]
7.0 MIN

MINIMUM CORNER ALLOWANCE FOR OMNITRACK

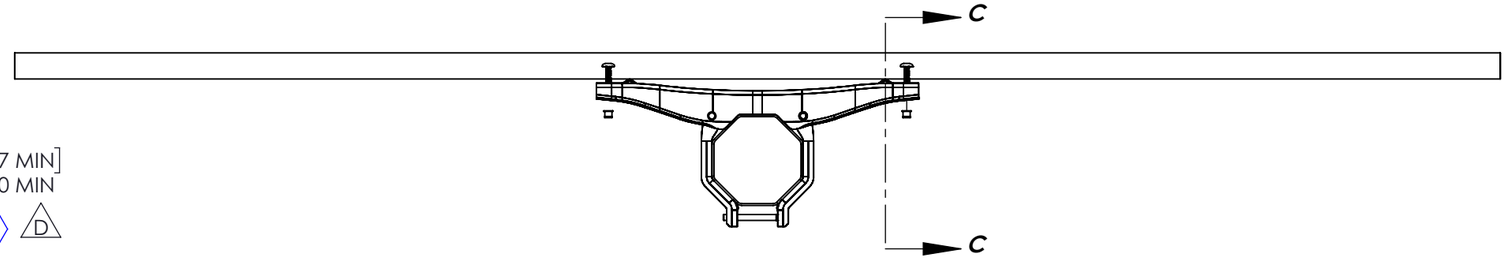


ARRAY P/N: 60909-000
7



SECTION C-C

ALUMINUM SWAGE HARDWARE



Exp 01/31/2027

03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v50
B	21016-901	D	11/3/2023
SCALE 1:18		SHEET	3 OF 3

Template_CF Drawing_mm_v6

NOTES:

1. ARRAY TORQUE SPECIFICATIONS

1A. 1/4" HEX BOLT 12 ± 1 N-M [9 ± 1 FT-LBS]

1B. HAND TIGHTEN UNTIL 2 THREADS SHOWING BELOW NUT. NUTS TO BE RESTRAINED DURING SHIPPING. RESTRAINING METHOD MUST BE APPROVED BY ARRAY.

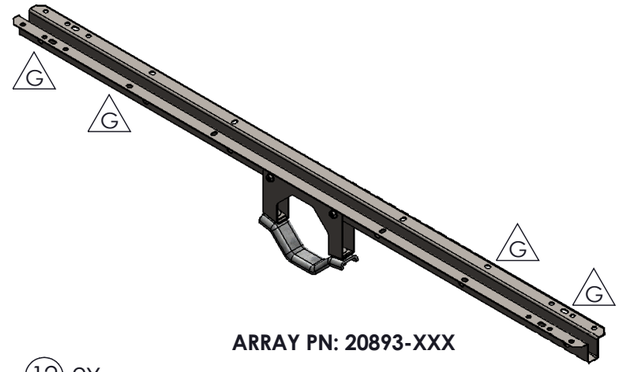
2. GRADE 5 HIGHER CORROSION COMPONENTS MAY BE USED IN -002 AND -003 CONFIGURATIONS; GRADE 8 HIGHER CORROSION COMPONENTS MAY BE USED IN -102 AND -103 CONFIGURATIONS GRADE 8 COMPONENTS MAY BE USED IN PLACE OF GRADE 5 COMPONENTS.

ARRAY PART NUMBER DESIGNATION

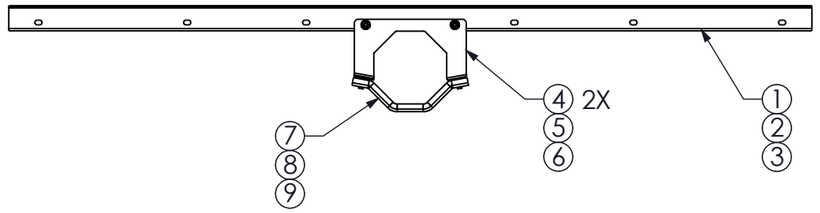
20893-YXX

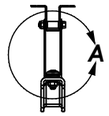
ARRAY PART NUMBER

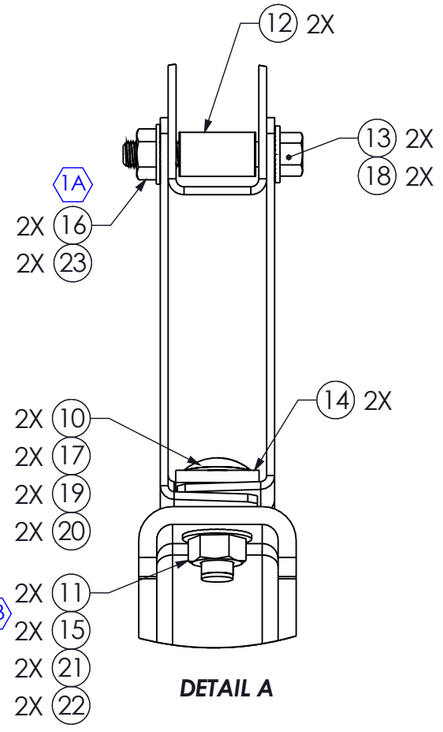
ARRAY PART NUMBER EXTENSION WHERE:
Y INDICATES HARDWARE SELECTION
0: GRADE 5 HARDWARE
1: GRADE 8 HARDWARE
XX INDICATES CORROSION GROUP



ARRAY PN: 20893-XXX







DETAIL A

ITEM NO.	PART NUMBER	DESCRIPTION	-002	-003	-004	-102	-103	-104
1	30882-002	Rail, Thru-Bolt Mount, 1300 mm, 14 Ga, L	1	-	-	1	-	-
2	30882-003	Rail, Thru-Bolt Mount, 1300 mm, 14 Ga, M	-	1	-	-	1	-
3	30882-004	Rail, Thru-Bolt Mount, 1300 mm, 14 Ga, H	-	-	1	-	-	1
4	30884-002	Bracket, Thru-Bolt Mount, 2 Piece, Steel Gr80, 14 Ga, L	2	-	-	2	-	-
5	30884-003	Bracket, Thru-Bolt Mount, 2 Piece, Steel Gr80, 14 Ga, M	-	2	-	-	2	-
6	30884-004	Bracket, Thru-Bolt Mount, 2 Piece, Steel Gr80, 14 Ga, H	-	-	2	-	-	2
7	30906-002	Strap, Thru-Bolt Mount, Steel Gr80, .179", L	1	-	-	1	-	-
8	30906-003	Strap, Thru-Bolt Mount, Steel Gr80, .179", M	-	1	-	-	1	-
9	30906-004	Strap, Thru-Bolt Mount, Steel Gr80, .179", H	-	-	1	-	-	1
10	60693-100	Bolt, Carriage, Grade 5, H, .313-18 x 1.00	-	-	2	-	-	-
11	60696-000	Nut, Serrated Flange, H .313"-18"	-	-	2	-	-	-
12	60797-000	Collar, 1300mm Purlin, 19.3mm, H	2	2	2	2	2	2
13	60803-150	Bolt, Serrated Hex Flange, IFI 111, SAE J429, Steel, ASTM F1941M Zn-Ni 5C, 1/4"-20, 1.50"	2	2	-	2	2	-
14	60807-000	Plate, Carriage Bolt, 9mm Square, H	2	2	2	2	2	2
15	60815-000	Nut, Serrated Hex Flange, 5/16-18, L/M	2	2	-	-	-	-
16	60816-000	Nut, Serrated Hex Flange, 1/4"-20, H	-	-	2	-	-	2
17	60817-100	Bolt, Carriage, Grade 5, L/M, 5/16-18 x 1.000	2	2	-	-	-	-
18	60819-150	Bolt, Serrated Hex Flange, IFI 111, SAE J429, Steel, H, 1/4"-20, 1.50"	-	-	2	-	-	2
19	60824-100	Bolt, Carriage, Grade 8, 5/16-18 x 1.000, L/M	-	-	-	2	2	-
20	60825-100	Bolt, Carriage, Grade 8, 5/16-18 x 1.000, H	-	-	-	-	-	2
21	60851-000	Nut, Serrated Hex Flange, Grade 8, 5/16-18, L/M	-	-	-	2	2	-
22	60852-000	Nut, Serrated Hex Flange, Grade 8, 5/16-18, H	-	-	-	-	-	2
23	60860-000	Nut, Serrated Hex Flange, Grade 5, 1/4"-20, L/M	2	2	-	2	2	-

Exp 01/31/2027
03/14/2026

ZONE	REV	ECR #	DESCRIPTION	DATE
D1, D2, D3	G	21141	UPDATED REVISION OF 30882-XXX, ALTERED HOLES TO BE SLOTS	10/1/2021
A4, C2, C3, D5	F	21092	REMOVED 60854-000, 60855-000, 60856-000 AND 60857-000; ADDED 60803-150 AND 60860-000; ADJUSTED BOM QUANTITIES; UPDATED NOTE 2	8/23/2021
A4, B3, C2, C3, D5	E	21092	ADDED 60815-000, 60817-100, 60824-100, 60825-100, 60851-000, 60852-000, 60854-000, 60855-000, 60856-150 & 60857-150; UPDATED NOTE 2	6/10/2021

DRAWING STATUS: **Final**

DRAWN	MK 07/14/2020	DRAWING CHECK	NC 10/3/2021
ENG. CHECK	SB 10/05/2021	FINAL APPROVAL	SB 10/4/2021

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **Assembly, Thru-Bolt Mount, 1300 mm, 14 Ga, Gr X HW, L/M/H**

SIZE	DRAWING NUMBER	REVISION	SAVED v75
B	20893-901	G	10/14/2021
SCALE 1:10	WT: 3.977kg [8.768lb]	SHEET	1 OF 1

Template_Drawing_mm_v5

NOTES:

1. ARRAY TORQUE SPECIFICATIONS

1A. 1/4" HEX BOLT 12 ± 1 N-M [9 ± 1 FT-LBS]

1B. HAND TIGHTEN UNTIL 2 THREADS SHOWING BELOW NUT. NUTS TO BE RESTRAINED DURING SHIPPING. RESTRAINING METHOD MUST BE APPROVED BY ARRAY.

2. GRADE 5 HIGHER CORROSION COMPONENTS MAY BE USED IN -002 AND -003 CONFIGURATIONS; GRADE 8 HIGHER CORROSION COMPONENTS MAY BE USED IN -102 AND -103 CONFIGURATIONS; GRADE 8 COMPONENTS MAY BE USED IN PLACE OF GRADE 5 COMPONENTS. D

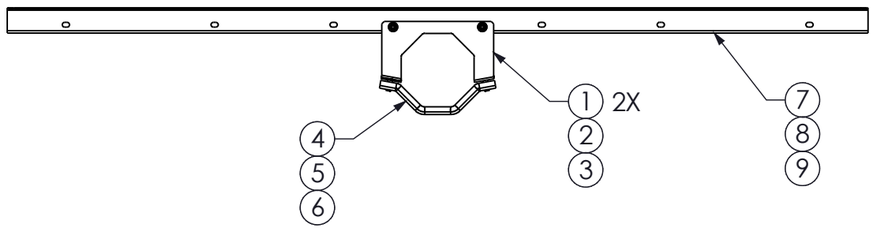
ARRAY PART NUMBER DESIGNATION D

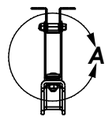
20916-YXX

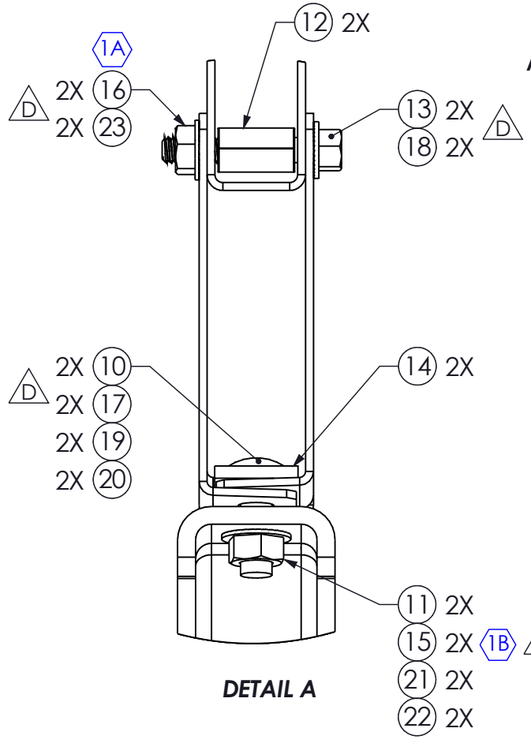
ARRAY PART NUMBER

ARRAY PART NUMBER EXTENSION WHERE:
Y INDICATES HARDWARE SELECTION
0: GRADE 5 HARDWARE
1: GRADE 8 HARDWARE
XX INDICATES CORROSION GROUP

ARRAY PN: 20916-XXX







DETAIL A

ITEM NO.	PART NUMBER	DESCRIPTION	-002	-003	-004	-102 D	-103 D	-104 D
1	30884-002	Bracket, Thru-Bolt Mount, 2 Piece, Steel Gr80, 14 Ga, L	2	-	-	2	-	-
2	30884-003	Bracket, Thru-Bolt Mount, 2 Piece, Steel Gr80, 14 Ga, M	-	2	-	-	2	-
3	30884-004	Bracket, Thru-Bolt Mount, 2 Piece, Steel Gr80, 14 Ga, H	-	-	2	-	-	2
4	30906-002	Strap, Thru-Bolt Mount, Steel Gr80, .179", L	1	-	-	1	-	-
5	30906-003	Strap, Thru-Bolt Mount, Steel Gr80, .179", M	-	1	-	-	1	-
6	30906-004	Strap, Thru-Bolt Mount, Steel Gr80, .179", H	-	-	1	-	-	1
7	30908-002	Rail, Thru-Bolt Mount, 1400 mm, 14 Ga, L	1	-	-	1	-	-
8	30908-003	Rail, Thru-Bolt Mount, 1400 mm, 14 Ga, M	-	1	-	-	1	-
9	30908-004	Rail, Thru-Bolt Mount, 1400 mm, 14 Ga, H	-	-	1	-	-	1
10	60693-100	Bolt, Carriage, Grade 5, H, .313-18 x 1.00	-	-	2	-	-	- D D
11	60696-000	Nut, Serrated Flange, H .313"-18"	-	-	2	-	-	-
12	60797-000	Collar, 1300mm Purlin, 19.3mm, H	2	2	2	2	2	2
13	60803-150	Bolt, Serrated Hex Flange, IFI 111, SAE J429, Steel, ASTM F1941M Zn-Ni 5C, 1/4"-20, 1.50"	2	2	-	2	2	- D
14	60807-000	Plate, Carriage Bolt, 9mm Square, H	2	2	2	2	2	2
15	60815-000	Nut, Serrated Hex Flange, 5/16-18, L/M	2	2	-	-	-	- D D
16	60816-000	Nut, Serrated Hex Flange, 1/4"-20, H	-	-	2	-	-	2
17	60817-100	Bolt, Carriage, Grade 5, L/M, 5/16-18 x 1.000	2	2	-	-	-	- D D
18	60819-150	Bolt, Serrated Hex Flange, IFI 111, SAE J429, Steel, H, 1/4"-20, 1.50"	-	-	2	-	-	2
19	60824-100	Bolt, Carriage, Grade 8, 5/16-18 x 1.000, L/M	-	-	-	2	2	- D D
20	60825-100	Bolt, Carriage, Grade 8, 5/16-18 x 1.000, H	-	-	-	-	-	2
21	60851-000	Nut, Serrated Hex Flange, Grade 8, 5/16-18, L/M	-	-	-	2	2	- D D
22	60852-000	Nut, Serrated Hex Flange, Grade 8, 5/16-18, H	-	-	-	-	-	2
23	60860-000	Nut, Serrated Hex Flange, Grade 5, 1/4"-20, L/M	2	2	-	2	2	- D

ZONE	REV	ECR #	DESCRIPTION	DATE
A1, A4, B2, B4, C2, C4, C5, D4, D5	D	21092	ADDED CONFIGURATIONS -102, -103, -104, COMPONENT 60693-100, 60803-150, 60815-000, 60817-100, 60824-100, 60851-000, 60852-000, 60860-000; UPDATED NOTE 2, TITLE AND PART NUMBER DESIGNATION; ADJUSTED BOM QUANTITIES	7/6/2021
D5	C	21052	UPDATED NOTE 1B	3/30/2021
A2, B6	B	20301	M CONFIGURATION ADDED. DESCRIPTION MODIFIED	11/5/2020

DRAWING STATUS: Final

DRAWN	MK 09/09/2020	DRAWING CHECK	NS 9/22/2021
ENG. CHECK	BCDF 04/06/2021	FINAL APPROVAL	SB 9/22/2021

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **Assembly, Thru-Bolt Mount, 1400 mm, 14 Ga, Gr X, L/M/H** D

SIZE	DRAWING NUMBER	REVISION	SAVED v51
B	20916-901	D	9/16/2021

SCALE 1:10 | WT: 4.148kg [9.145lb] | SHEET 1 OF 1

STATE OF CONNECTICUT ROBERT C. NAPLES No. 28870 LICENSED PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

Template_Drawing_mm_v5

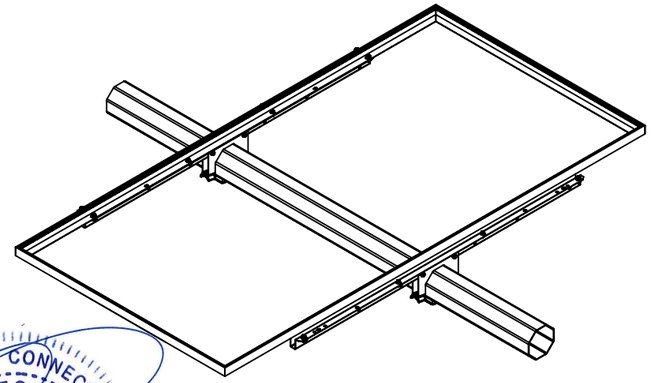
NOTES:

1. BOM FASTENER QTY IS PER MODULE
2. PREFERRED BOLT ORIENTATION IS DROPPING DOWN FROM TOP OF HOLE
3. TORQUE SPECIFICATIONS
   - 3A. 12.2±1.4 N-M [9±1 ft-Lbs]
   - 3B. 25.5±1.5 N-M [19±1 ft-Lbs]
   - 3C. 25.5±1.5 N-M [19±1 ft-Lbs]

     TIGHTEN NUTS PROGRESSIVELY ON EACH SIDE OF STRAP TO ENSURE UNIFORM CLOSING OF GAP BETWEEN MATING PARTS. GAP MEASUREMENT ON EACH SIDE MUST BE WITHIN 1mm [.04"] OF EACH OTHER.
4. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
5. USE MODULE APPROVAL LISTINGS TO DETERMINE REQUIRED MOUNT AND ATTACHMENT METHOD
6. USE THE CONFIGURATION TABLE TO SELECT THE MOUNT WITH THE APPROPRIATE LENGTH, MATERIAL, AND CORROSION CLASS

MOUNT CONFIGURATION TABLE	
20893-002	Assembly, Thru-Bolt Mount, 1300 mm, 14 Ga, G5 HW, L
20893-003	Assembly, Thru-Bolt Mount, 1300 mm, 14 Ga, G5 HW, M
20893-004	Assembly, Thru-Bolt Mount, 1300 mm, 14 Ga, G5 HW, H
20893-102	Assembly, Thru-Bolt Mount, 1300 mm, 14 Ga, G8 HW, L
20893-103	Assembly, Thru-Bolt Mount, 1300 mm, 14 Ga, G8 HW, M
20893-104	Assembly, Thru-Bolt Mount, 1300 mm, 14 Ga, G8 HW, H
20916-002	Assembly, Thru-Bolt Mount, 1400 mm, 14 Ga, G5, L
20916-003	Assembly, Thru-Bolt Mount, 1400 mm, 14 Ga, G5, M
20916-004	Assembly, Thru-Bolt Mount, 1400 mm, 14 Ga, G5, H
20916-102	Assembly, Thru-Bolt Mount, 1400 mm, 14 Ga, G8, L
20916-103	Assembly, Thru-Bolt Mount, 1400 mm, 14 Ga, G8, M
20916-104	Assembly, Thru-Bolt Mount, 1400 mm, 14 Ga, G8, H

SEE NOTE 7 FOR HARDWARE SPECIFICATION



Exp 01/31/2027

03/14/2026 G

TABLE 3: ALUMINUM SWAGE HARDWARE BOM			MODULE ATTACHMENT METHODS							
ITEM NO.	PART NUMBER	DESCRIPTION	A	B	C	D	E	F	G	H
1	MOUNT	Assembly, Thru-Bolt Mount, XXXX mm, 14 Ga, Gr X HW, L/M/H	1	1	1	1	1	1	1	1
11	60881-875	Bolt, Huck, Bobtail, 0.25" x 0.875", Aluminum	-	-	-	-	-	-	-	8
12	60882-000	Collar, Huck, 6061 Al, 0.25"	-	-	-	-	-	-	-	8

TABLE 1: CARBON STEEL HARDWARE BOM			MODULE ATTACHMENT METHODS							
ITEM NO.	PART NUMBER	DESCRIPTION	A	B	C	D	E	F	G	H
1	MOUNT	Assembly, Thru-Bolt Mount, XXXX mm, 14 Ga, Gr X HW, L/M/H	1	1	1	1	1	1	1	1
2	50291-000	Washer, Grounding, SST, 5/16"	-	-	-	1	1	1	-	-
7	60696-000	Nut, Serrated Flange, H .313"-18"	4	4	8	4	4	8	4	-
8	60816-000	Nut, Serrated Hex Flange, 1/4"-20, H	4	-	-	4	-	-	4	-
9	60818-063	Bolt, Serrated Hex Flange, IFI 111, SAE J429, 5/16"-18, 0.63", H	4	4	8	4	4	8	4	-
10	60819-063	Bolt, Serrated Hex Flange, IFI 111, SAE J429, Steel, H, 1/4"-20, 0.63"	4	-	-	4	-	-	4	-

TABLE 2: STAINLESS STEEL HARDWARE BOM			MODULE ATTACHMENT METHODS							
ITEM NO.	PART NUMBER	DESCRIPTION	A	B	C	D	E	F	G	H
1	MOUNT	Assembly, Thru-Bolt Mount, XXXX mm, 14 Ga, Gr X HW, L/M/H	1	1	1	1	1	1	1	1
2	50291-000	Washer, Grounding, SST, 5/16"	-	-	-	1	1	1	-	-
3	60069-000	Nut, Serrated Flange .250-20, SST	4	-	-	4	-	-	4	-
4	60137-063	Screw, Hex Serrated, 304 SS, .250-20 x .625	4	-	-	4	-	-	4	-
5	60159-000	Nut, Lock Serrated SS 304, 0.3125"-18	4	4	8	4	4	8	4	-
6	60166-063	Screw, Hex Serrated, 304SS, 0.3125"-18 x 0.625"	4	4	8	4	4	8	4	-

ZONE	REV	ECR #	DESCRIPTION	DATE
C3, 2-A3, 2-A7, 2-B1, 2-B5, 2-C6, 2-D5, 2-D8, 3-B6, 4-B6, 5-B6, 5-C3, 6-A1	G	22061	UPDATED NOTE 7 AND NAMES OF DETAIL/SECTION VIEWS, ADDED ATTACHMENT METHOD "H", SHEET 6 AND TABLE 3	10/24/2022
A4, A7, B4, B7, C5, 2-A4, 2-B2, 2-B3, 2-B4, 2-C1, 2-D1, 2-D7, 3-B6, 3-C6, 4-B6, 4-C7, 5-B6, 5-C3, 5-C6, 5-D3	F	22007	ADDED STAINLESS STEEL HARDWARE TABLE 2 AND TITTLE FOR TABLE 1, UPDATED NOTE 7 AND MOVED TO SHEET 2 WITH CLAMP ZONE DEFINITION VIEW	1/14/2022
A5, 2-C6, 5-A1	E	21141	ADDED ATTACHMENT METHOD "G" TO NOTE 7, CONFIGURATION "G" IN TABLE AND SHEET 5	10/28/2021

DRAWING STATUS: Final

DRAWN	DRAWING CHECK
INITIALS: DATE:	INITIALS: NC DATE: 11/14/2022
ENG. CHECK	FINAL APPROVAL
INITIALS: FS DATE: 11/23/2022	INITIALS: SB DATE: 11/23/2022

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Field Assembly, Thru-Bolt Mount, X mm, X Ga, Gr X, L/M/H

SIZE	DRAWING NUMBER	REVISION	SAVED v127
B	20895-901	G	11/23/2022

SCALE 1:20 SHEET 1 OF 6

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NOTES:

7 MODULE ATTACHMENT METHODS: SELECT APPROPRIATE HARDWARE BOM - CARBON STEEL HARDWARE BOM (TABLE 1), STAINLESS-STEEL BOM (TABLE 2), OR ALUMINUM HUCK BOM (TABLE 3).
G NOTE: ONLY ONE HARDWARE BOM CAN BE CHOSEN (TABLE 1, TABLE 2, OR TABLE 3) MIXING CARBON STEEL HARDWARE WITH STAINLESS STEEL HARDWARE OR USING HUCK ALUMINUM HARDWARE WITH CARBON STEEL/ STAINLESS STEEL HARDWARE IS NOT ALLOWED.
NOTE: SWAGE FASTENERS REQUIRE SWAGING TOOL TO INSTALL SWAGE FASTENERS AND SWAGE FASTENERS CAN ONLY BE USED WHERE THE BOTTOM OF THE GLASS OF THE MODULE TO THE MODULE FLANGE SURFACE IS EQUAL TO OR GREATER THAN 17mm

A. ZONE 1: 1/4"-20
ZONE 2: NA
ZONE 3: 5/16"-18

B. ZONE 1: NA
ZONE 2: NA
ZONE 3: 5/16"-18

C. ZONE 1: NA
ZONE 2: 5/16"-18
ZONE 3: 5/16"-18

D. ZONE 1: 1/4"-20
ZONE 2: NA
ZONE 3: 5/16"-18,
WITH GROUNDING WASHER

E. ZONE 1: NA
ZONE 2: NA
ZONE 3: 5/16"-18, WITH GROUNDING WASHER

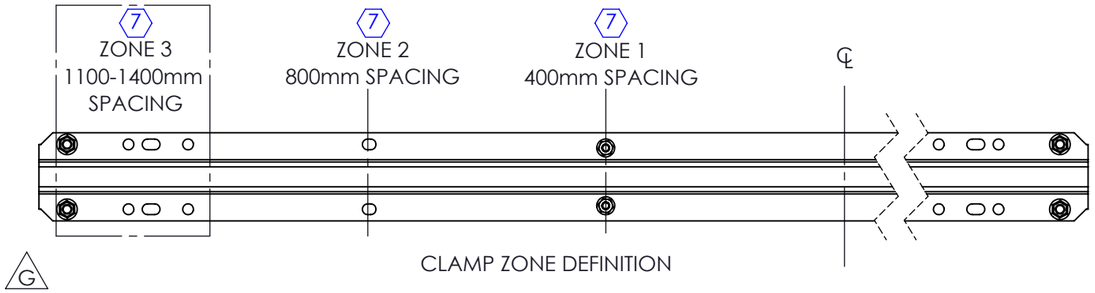
F. ZONE 1: NA
ZONE 2: 5/16"-18
ZONE 3: 5/16"-18, WITH GROUNDING WASHER

G. ZONE 1: 1/4"-20
ZONE 2: 5/16"-18
ZONE 3: NA

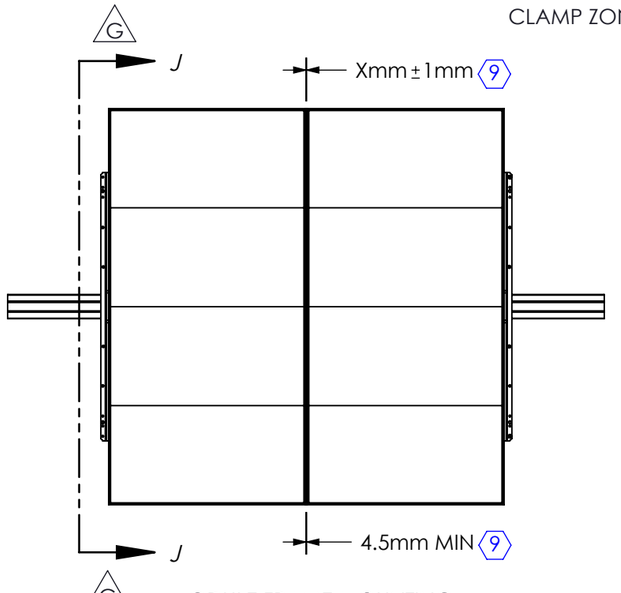
H. ZONE 1: 1/4" SWAGE BOLT
ZONE 2: NA
ZONE 3: 1/4" SWAGE BOLT

8. REFER TO ARRAY DOCUMENT 90115-000 FOR ADDITIONAL MODULE INSTALLATION INSTRUCTIONS.

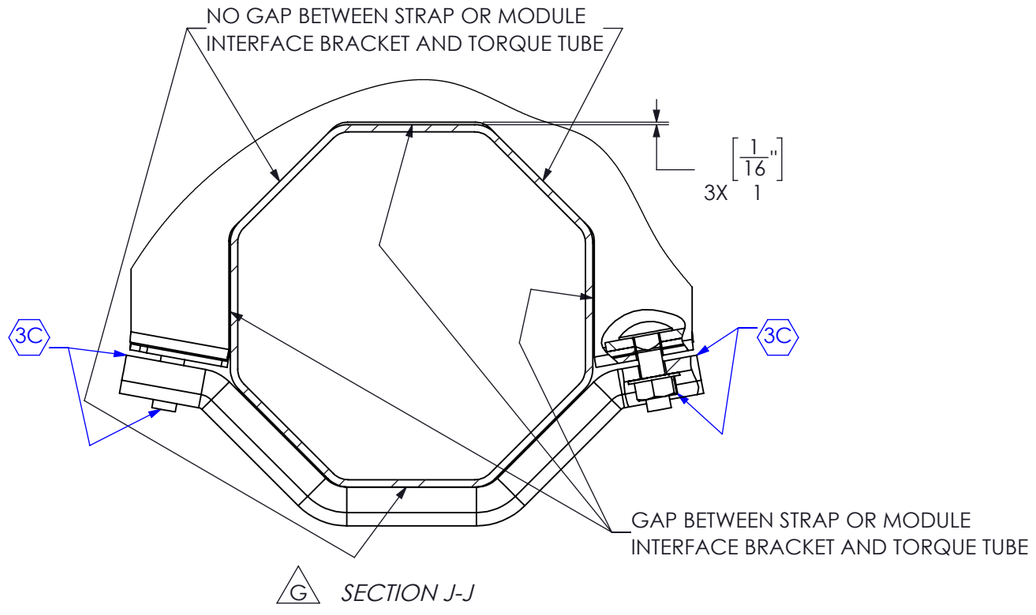
9 WHEN TRACKER IS IN THE HORIZONTAL POSITION, MODULE GAPS ON EITHER SIDE MUST BE EQUAL WITHIN ±1mm.



CLAMP ZONE DEFINITION



MODULE FRAME MOUNTING



Exp 01/31/2027
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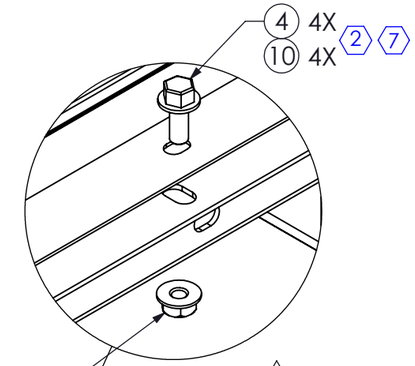

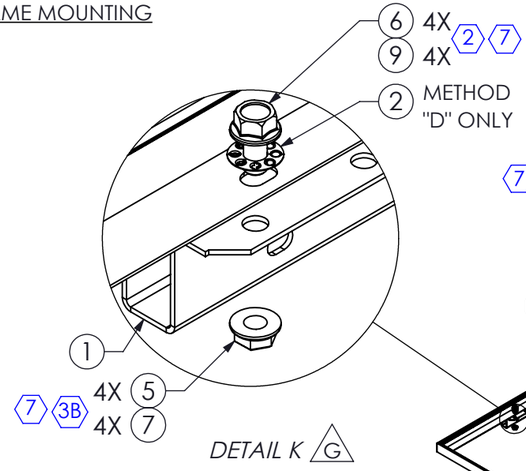

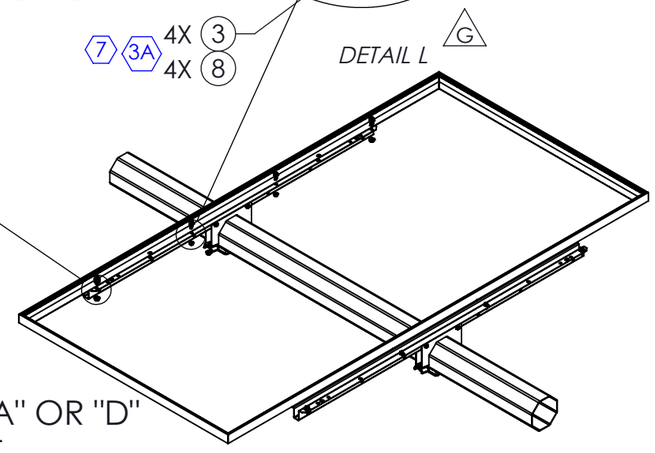

MODULE ATTACHMENT METHODS "A" OR "D"
4 X 5/16"-18 NUT AND BOLT
4 X 1/4"-20 NUT AND BOLT

SIZE	DRAWING NUMBER	REVISION	SAVED v127
B	20895-901	G	11/23/2022
SCALE 1:2		SHEET	2 OF 6

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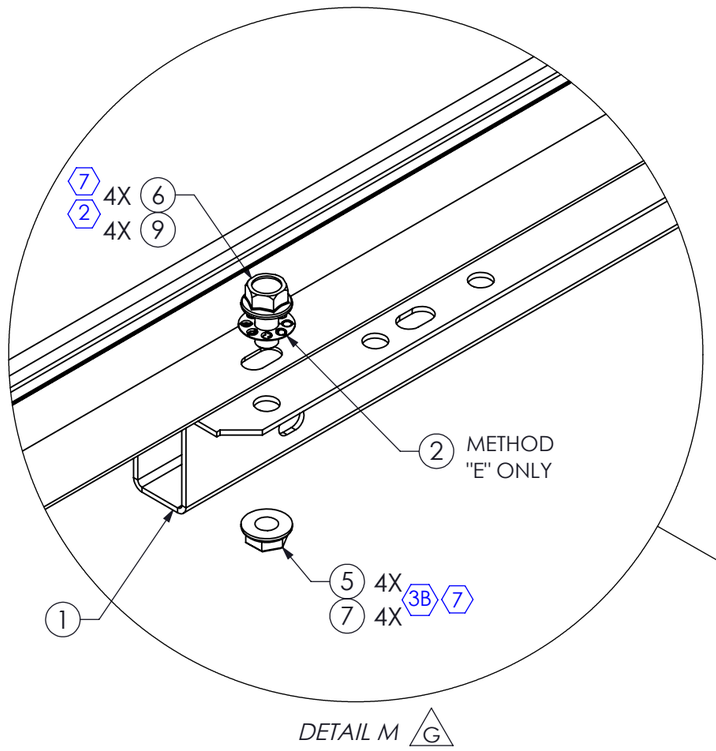
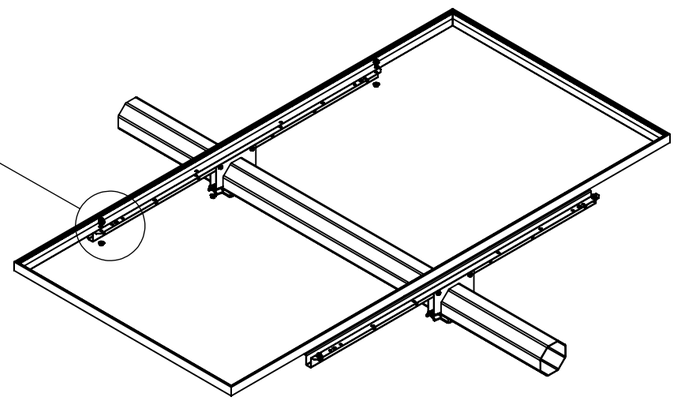


DETAIL M G



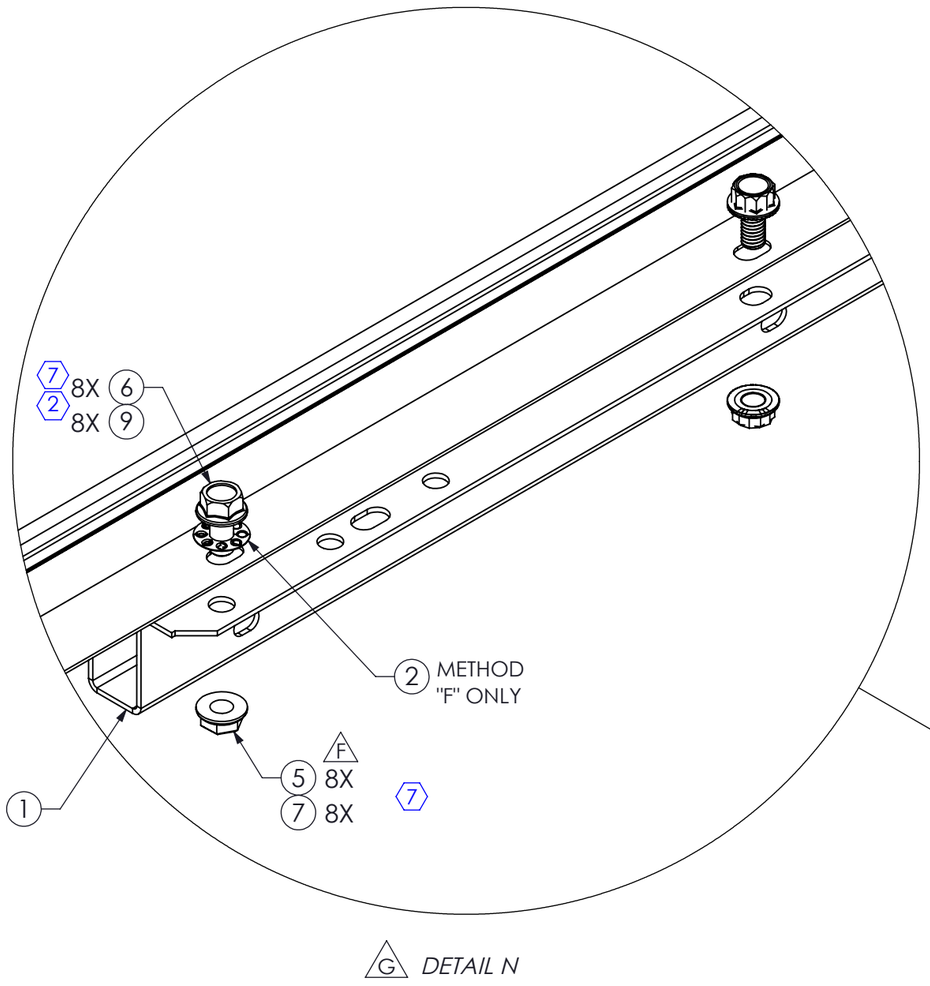
MODULE ATTACHMENT METHODS "B" OR "E"
4 X 5/16"-18 NUT AND BOLT

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

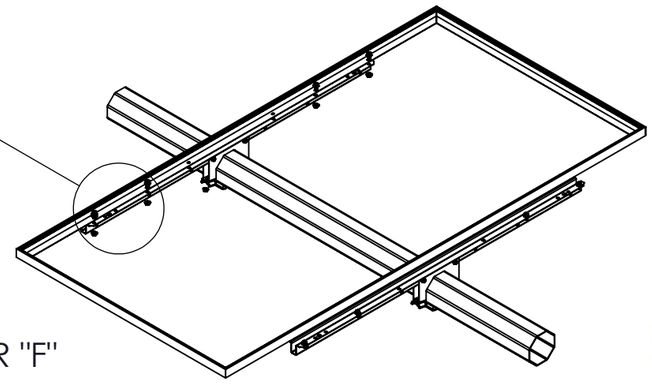
Exp 01/31/2027
03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v127
B	20895-901	G	11/23/2022
SCALE 1:2		SHEET	3 OF 6

Template_CF Drawing_mm_v5



G *DETAIL N*



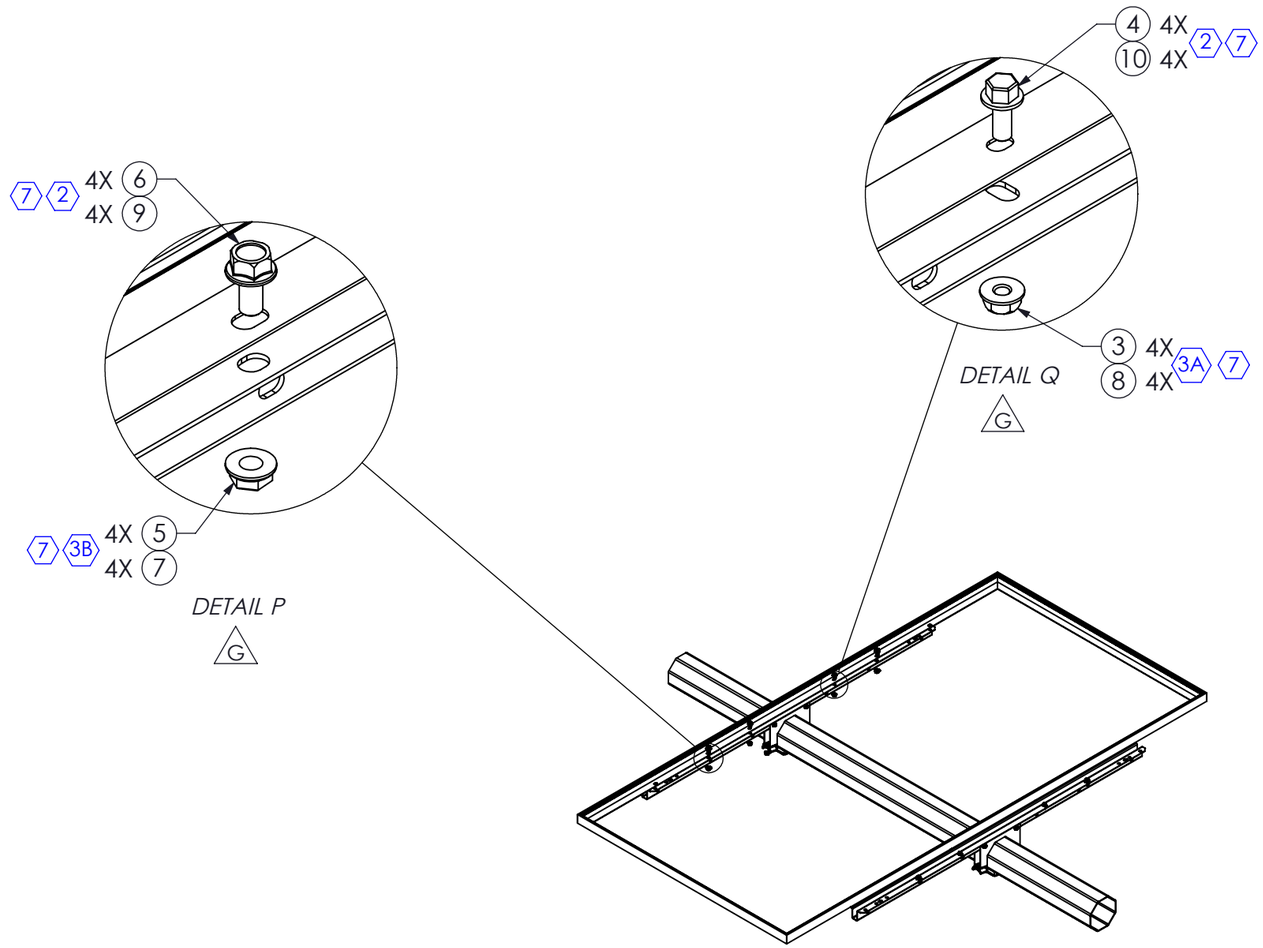
MODULE ATTACHMENT METHODS "C" OR "F"
8 X 5/16"-18 NUT AND BOLT

Exp 01/31/2027

03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v127
B	20895-901	G	11/23/2022
SCALE 1:2		SHEET	4 OF 6

Template_CF Drawing_mm_v5

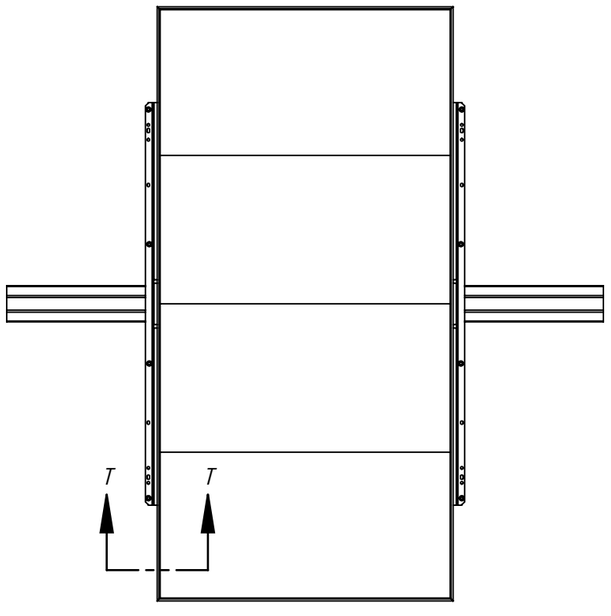


MODULE ATTACHMENT METHODS "G"
4 X 5/16"-18 NUT AND BOLT
4 X 1/4"-20 NUT AND BOLT

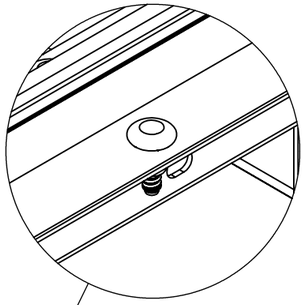
STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v127
B	20895-901	G	11/23/2022
SCALE 1:20		SHEET	5 OF 6

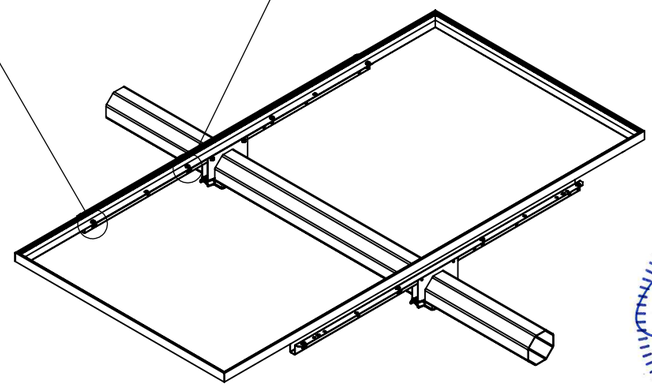
Template_CF Drawing_mm_v5

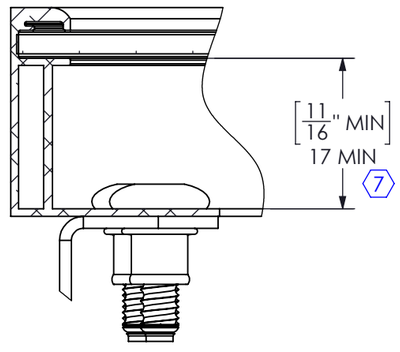


DETAIL R



DETAIL S





SECTION T-T

Exp 01/31/2027

03/14/2026

MODULE ATTACHMENT METHODS "H"
8 X 1/4" SWAGE BOLT AND COLLAR

G

SIZE	DRAWING NUMBER	REVISION	SAVED v127
B	20895-901	G	11/23/2022
SCALE 1:2		SHEET	6 OF 6

Template_CF Drawing_mm_v5

NOTES:

1. REFER TO INSTALLATION MANUAL FOR DETAILS.
2. TORQUE SPECIFICATION:

   2A. 22 ±3 N-M [16 ±2 FT-LBS]

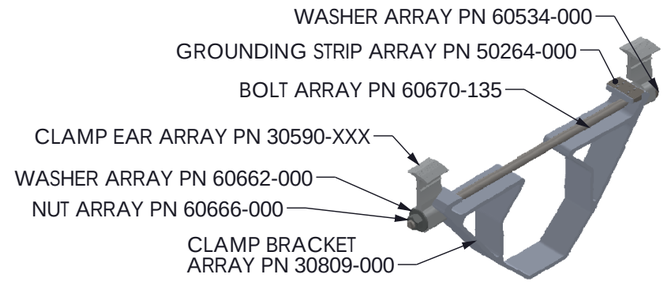
3. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
4. CARRIAGE BOLT FOR CLAMP IS 0.375" DIAMETER, GRADE 2, SAE J429-2011, HDG.
5. CLAMP BRACKETS, EARS, AND END CLAMP SPACERS ARE MADE FROM ALUMINUM ALLOY 6005A/T61 PER ASTM B221 (OR EQUIVALENT PER ARRAY DOCUMENT #90050-000) WITH PLAIN FINISH.
6. TORQUE TUBE END CAPS ARE MADE FROM LDPE, PE100LD-2M.
7. REFER TO SHIPPING MANIFEST FOR CORRECT END CLAMP SPACER PART NUMBER.

ARRAY PART NUMBER DESIGNATION

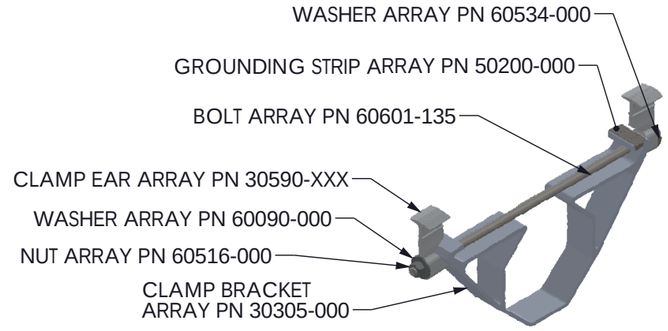
20564-045

ARRAY PART NUMBER EXTENSION
NUMBER INDICATES MODULE THICKNESS IN MM

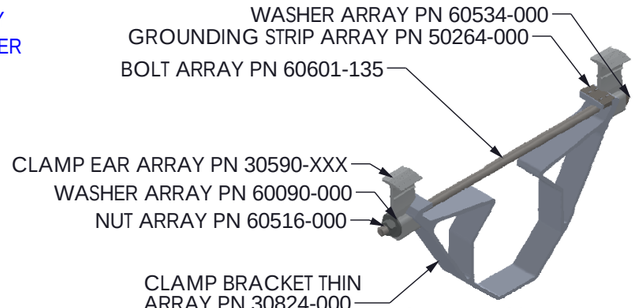
ARRAY PART NUMBER



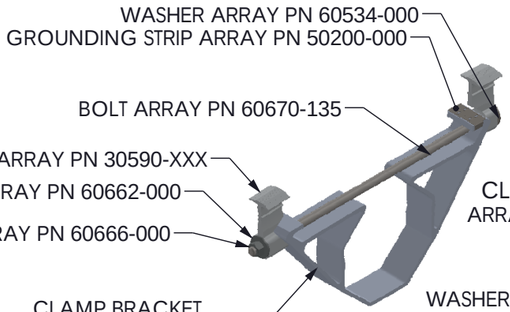
CLAMP ASSEMBLY
ARRAY PN 20788-XXX



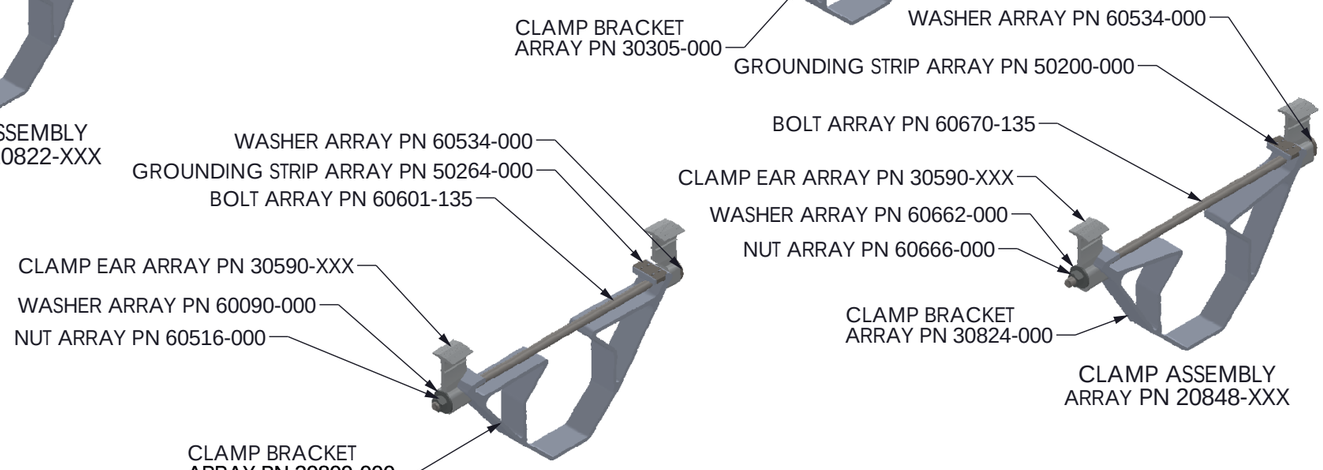
CLAMP ASSEMBLY
ARRAY PN 20563-XXX



CLAMP ASSEMBLY
ARRAY PN 20822-XXX

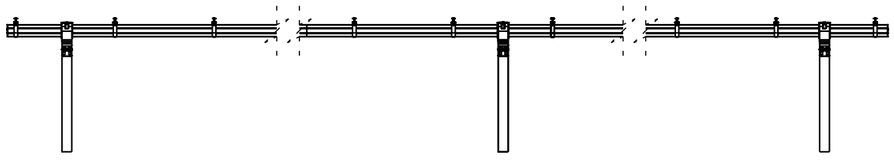


CLAMP ASSEMBLY
ARRAY PN 20664-XXX

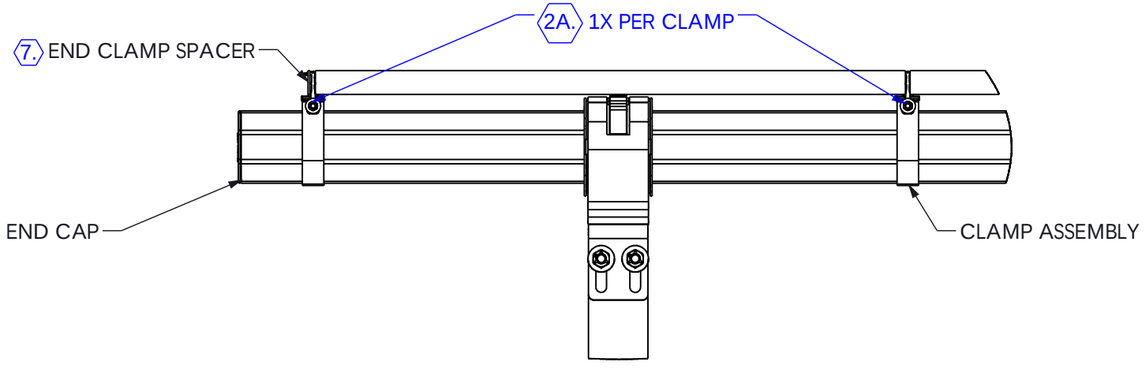


CLAMP ASSEMBLY
ARRAY PN 20751-XXX

CLAMP ASSEMBLY
ARRAY PN 20848-XXX



EXPLODED VIEW



INSTALLED DETAIL

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027
03/14/2026

REV	DESCRIPTION	DATE
E	ADD HI RISE CONFIG PER ECR 19057	4/24/2019
D	ADD CONFIGS PER ECR 19014	3/18/2019
C	HIGH RISE CLAMP ADDED, VIEWS UPDATED AND TABLE UPDATED PER ECR 19014	1/31/2019

DRAWING STATUS: Final

DRAWN INITIALS: KT DATE: 08/25/2016	DRAWING CHECK INITIALS: RM DATE: 4/25/2019
ENG. CHECK INITIALS: DATE:	FINAL APPROVAL INITIALS: AH DATE: 4/25/2019

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: INCH [MILLIMETER]

TOLERANCES UNLESS OTHERWISE SPECIFIED

INCHES [MM]: .X = ±0.250 [6.00] .XX = ±0.050 [1.25] .XXX = ±0.015 [0.40]

ANGULAR: .X = ±1.0° .X = ±0.1°

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Field Assembly, Octagonal Clamp, 300mm, x XXmm Wide Range Module Ear, Grounded, CX

SIZE	DRAWING NUMBER	REVISION	SAVED v45
B	20564-901	E-01	7/25/2019

SCALE 1:96 | WT: 3.3966 LB [1.53 KG] | SHEET 1 OF 2

CONFIGURATION TABLE

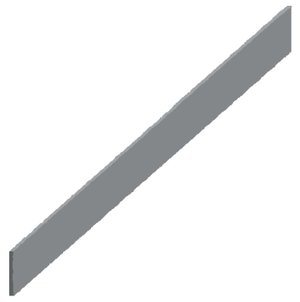
ASSEMBLY EXTENSION	PART DESCRIPTION	PART CONFIGURATION
20564-025	Field Assembly, Octagonal Clamp, 300mm x 21-25mm Wide Range Module Ear, Grounded	20563-025
20564-030	Field Assembly, Octagonal Clamp, 300mm x 26-30mm Wide Range Module Ear, Grounded	20563-030
20564-035	Field Assembly, Octagonal Clamp, 300mm x 31-35mm Wide Range Module Ear, Grounded	20563-035
20564-040	Field Assembly, Octagonal Clamp, 300mm x 36-40mm Wide Range Module Ear, Grounded	20563-040
20564-045	Field Assembly, Octagonal Clamp, 300mm x 41-45mm Wide Range Module Ear, Grounded	20563-045
20564-050	Field Assembly, Octagonal Clamp, 300mm x 46-50mm Wide Range Module Ear, Grounded	20563-050
20564-055	Field Assembly, Octagonal Clamp, 300mm x 51-55mm Wide Range Module Ear, Grounded	20563-055
20564-125	Field Assembly, Octagonal Clamp, 300mm, x21-25mm Wide Range Module Ear, Grounded, C4	20664-025
20564-130	Field Assembly, Octagonal Clamp, 300mm, x26-30mm Wide Range Module Ear, Grounded, C4	20664-030
20564-135	Field Assembly, Octagonal Clamp, 300mm, x31-35mm Wide Range Module Ear, Grounded, C4	20664-035
20564-140	Field Assembly, Octagonal Clamp, 300mm, x36-40mm Wide Range Module Ear, Grounded, C4	20664-040
20564-145	Field Assembly, Octagonal Clamp, 300mm, x41-45mm Wide Range Module Ear, Grounded, C4	20664-045
20564-150	Field Assembly, Octagonal Clamp, 300mm, x46-50mm Wide Range Module Ear, Grounded, C4	20664-050
20564-155	Field Assembly, Octagonal Clamp, 300mm, x51-55mm Wide Range Module Ear, Grounded, C4	20664-055
20564-225	Field Assembly, Octagonal Clamp, Thin, 300mm x 21-25mm Wide Range Module Ear, Grounded	20751-025
20564-230	Field Assembly, Octagonal Clamp, Thin, 300mm x 26-30mm Wide Range Module Ear, Grounded	20751-030
20564-235	Field Assembly, Octagonal Clamp, Thin, 300mm x 31-35mm Wide Range Module Ear, Grounded	20751-035
20564-240	Field Assembly, Octagonal Clamp, Thin, 300mm x 36-40mm Wide Range Module Ear, Grounded	20751-040
20564-245	Field Assembly, Octagonal Clamp, Thin, 300mm x 41-45mm Wide Range Module Ear, Grounded	20751-045
20564-250	Field Assembly, Octagonal Clamp, Thin, 300mm x 46-50mm Wide Range Module Ear, Grounded	20751-050
20564-255	Field Assembly, Octagonal Clamp, Thin, 300mm x 51-55mm Wide Range Module Ear, Grounded	20751-055
20564-325	Field Assembly, Octagonal Clamp, Thin, 300mm x 21-25mm Wide Range Module Ear, Grounded, C4	20788-025
20564-330	Field Assembly, Octagonal Clamp, Thin, 300mm x 26-30mm Wide Range Module Ear, Grounded, C4	20788-030
20564-335	Field Assembly, Octagonal Clamp, Thin, 300mm x 31-35mm Wide Range Module Ear, Grounded, C4	20788-035
20564-340	Field Assembly, Octagonal Clamp, Thin, 300mm x 36-40mm Wide Range Module Ear, Grounded, C4	20788-040
20564-345	Field Assembly, Octagonal Clamp, Thin, 300mm x 41-45mm Wide Range Module Ear, Grounded, C4	20788-045
20564-350	Field Assembly, Octagonal Clamp, Thin, 300mm x 46-50mm Wide Range Module Ear, Grounded, C4	20788-050
20564-355	Field Assembly, Octagonal Clamp, Thin, 300mm x 51-55mm Wide Range Module Ear, Grounded, C4	20788-055
20564-425	Field Assembly, Octagonal Clamp, Thin, Hi Rise, 300mm x 21-25mm Wide Range Module Ear, Grounded	20822-025
20564-430	Field Assembly, Octagonal Clamp, Thin, Hi Rise, 300mm x 26-30mm Wide Range Module Ear, Grounded	20822-030
20564-435	Field Assembly, Octagonal Clamp, Thin, Hi Rise, 300mm x 31-35mm Wide Range Module Ear, Grounded	20822-035
20564-440	Field Assembly, Octagonal Clamp, Thin, Hi Rise, 300mm x 36-40mm Wide Range Module Ear, Grounded	20822-040
20564-445	Field Assembly, Octagonal Clamp, Thin, Hi Rise, 300mm x 41-45mm Wide Range Module Ear, Grounded	20822-045
20564-450	Field Assembly, Octagonal Clamp, Thin, Hi Rise, 300mm x 46-50mm Wide Range Module Ear, Grounded	20822-050
20564-455	Field Assembly, Octagonal Clamp, Thin, Hi Rise, 300mm x 51-55mm Wide Range Module Ear, Grounded	20822-055

CONFIGURATION TABLE

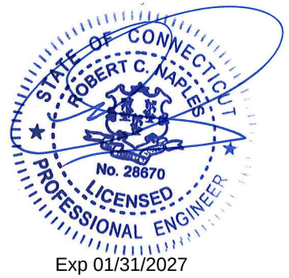
ASSEMBLY EXTENSION	PART DESCRIPTION	PART CONFIG
20564-525	Field Assembly, Octagonal Clamp, Thin, Hi Rise, 300mm x 21-25mm Wide Range Module Ear, Grounded, C4	20848-025
20564-530	Field Assembly, Octagonal Clamp, Thin, Hi Rise, 300mm x 26-30mm Wide Range Module Ear, Grounded, C4	20848-030
20564-535	Field Assembly, Octagonal Clamp, Thin, Hi Rise, 300mm x 31-35mm Wide Range Module Ear, Grounded, C4	20848-035
20564-540	Field Assembly, Octagonal Clamp, Thin, Hi Rise, 300mm x 36-40mm Wide Range Module Ear, Grounded, C4	20848-040
20564-545	Field Assembly, Octagonal Clamp, Thin, Hi Rise, 300mm x 41-45mm Wide Range Module Ear, Grounded, C4	20848-045
20564-550	Field Assembly, Octagonal Clamp, Thin, Hi Rise, 300mm x 46-50mm Wide Range Module Ear, Grounded, C4	20848-050
20564-555	Field Assembly, Octagonal Clamp, Thin, Hi Rise, 300mm x 51-55mm Wide Range Module Ear, Grounded, C4	20848-055

ITEM NO.	PART NUMBER	DESCRIPTION	20564-0XX	20564-1XX	20564-2XX	20564-3XX	20564-4XX	20848-5XX
1	20563-XXX	Assembly, Octagonal Clamp, 300mm, x XXmm Wide Range Module Ear, Grounded	1	-	-	-	-	-
2	20664-XXX	Assembly, Octagonal Clamp, 300mm, x XXmm Wide Range Module Ear, Grounded, C4	-	1	-	-	-	-
3	20751-XXX	Assembly, Octagonal Clamp, Thin, 300mm, x XXmm Wide Range Module Ear, Grounded	-	-	1	-	-	-
4	20788-XXX	Assembly, Octagonal Clamp, Thin, 300mm, x XXmm Wide Range Module Ear, Grounded, C4	-	-	-	1	-	-
5	20822-XXX	Assembly, Octagonal Clamp, Thin, 300mm Hi Rise, x XXmm Wide Range Module Ear, Grounded	-	-	-	-	1	-
6	20848-XXX	Assembly, Octagonal Clamp, Thin, 300mm Hi Rise, x XXmm Wide Range Module Ear, Grounded, C4	-	-	-	-	-	1
7	60459-000	Plug, End, Torque Tube, Octagon, Polyethylene	1	1	1	1	1	1

END CAP
ARRAY PN 60459-000



7. END CLAMP SPACER



Exp 01/31/2027
03/14/2026

REV	DESCRIPTION	DATE
E	ADD HI RISE CONFIG PER ECR 19057	4/24/2019
D	ADD CONFIGS PER ECR 19014	3/18/2019
C	HIGH RISE CLAMP ADDED, VIEWS UPDATED AND TABLE UPDATED PER ECR 19014	1/31/2019

SIZE	DRAWING NUMBER	REVISION	SAVED v45
B	20564-901	E-01	7/25/2019
SCALE 1:96	WT: 1.53 LB [0.6885 KG]	SHEET	2 OF 2

NOTES:

1. REFER TO INSTALLATION MANUAL FOR DETAILS.
2. TORQUE SPECIFICATION:

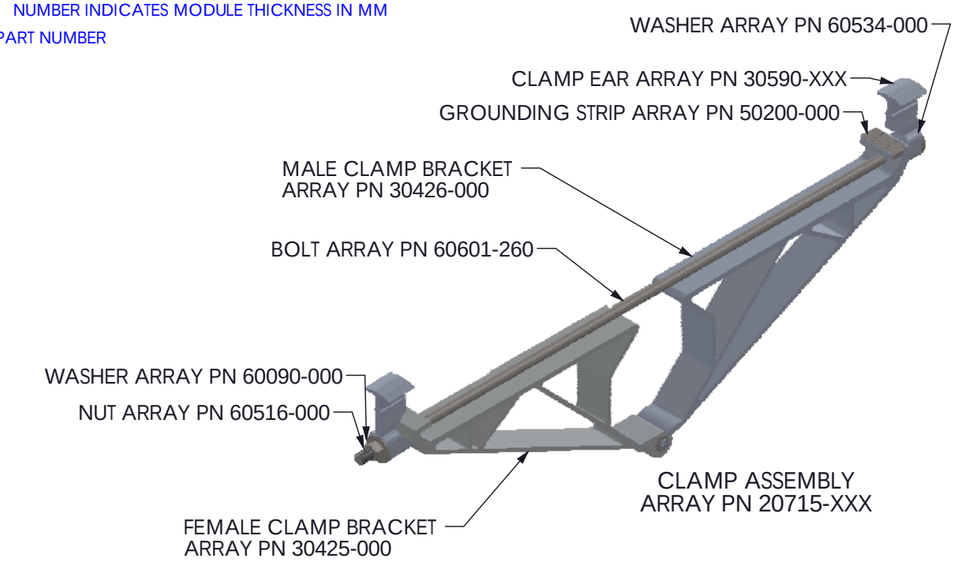
   2A. 20 ±1 N-M [15 ±1 FT-LBS]

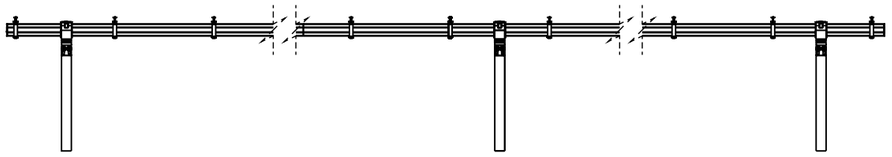
3. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
4. CARRIAGE BOLT FOR CLAMP IS 0.375" DIAMETER, GRADE 2, SAE J429-2011, HDG.
5. CLAMP BRACKETS, EARS, AND END CLAMP SPACERS ARE MADE FROM ALUMINUM ALLOY 6005A/T61 PER ASTM B221 (OR EQUIVALENT PER ARRAY DOCUMENT #90050-000) WITH PLAIN FINISH.
6. TORQUE TUBE END PLUGS MADE FROM LDPE, PE100LD-2M ARE OPTIONAL.
7. REFER TO SHIPPING MANIFEST FOR CORRECT END CLAMP SPACER PART NUMBER.

ARRAY PART NUMBER DESIGNATION

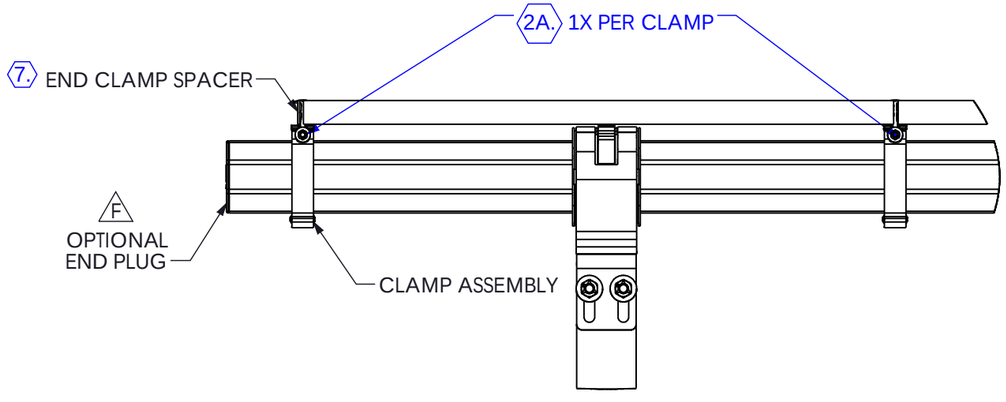
20716-XXX

- ARRAY PART NUMBER EXTENSION NUMBER INDICATES MODULE THICKNESS IN MM
- ARRAY PART NUMBER



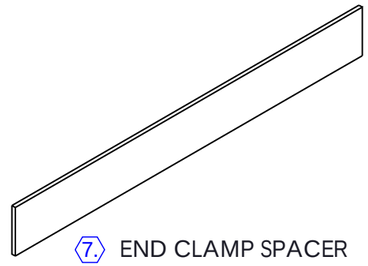


EXPLODED VIEW



INSTALLED DETAIL

OPTIONAL F
END PLUG
ARRAY PN 60459-000



7. END CLAMP SPACER

Exp 01/31/2027
03/14/2026

REV	DESCRIPTION	DATE
F	END PLUG OPTIONAL PER ECR 19154	1/20/2020
E	CORRECTED TORQUE PER ECR 19042	4/26/2019
D	REMOVE CLAMP CONFIG PER ECR 19042	4/9/2019
C	ADD CLAMP CONFIG PER ECR 19042	4/3/2019
B	ADD CONFIG PER ECR 19014	2/28/2019
A	INITIAL RELEASE	8/24/2017

DRAWING STATUS: Final

DRAWN INITIALS: AH DATE: 08/24/2017	DRAWING CHECK INITIALS: DO DATE: 1/29/2020
ENG. CHECK INITIALS: DATE:	FINAL APPROVAL INITIALS: SB DATE: 1/29/2020

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.050]	X.XX = ±0.013 [0.500]	X = ±1.0°
.X = ±0.4 [0.015]	X.XXX = ±0.006 [0.250]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Field Assembly, Octagonal Clamp, 600mm, x XXmm Wide Range Module Ear, Grounded

SIZE	DRAWING NUMBER	REVISION	SAVED v64
B	20716-901	G-01	1/20/2020

SCALE 1:96 | WT: 3507.02 KG [7785.58 LB] | SHEET 1 OF 2

CONFIGURATION TABLE

ASSEMBLY EXTENSION	PART DESCRIPTION	PART CONFIGURATION
20716-025	Field Assembly, Octagonal Clamp, 600mm x 21-25mm Wide Range Module Ear, Grounded	20715-025
20716-030	Field Assembly, Octagonal Clamp, 600mm x 26-30mm Wide Range Module Ear, Grounded	20715-030
20716-035	Field Assembly, Octagonal Clamp, 600mm x 31-35mm Wide Range Module Ear, Grounded	20715-035
20716-040	Field Assembly, Octagonal Clamp, 600mm x 36-40mm Wide Range Module Ear, Grounded	20715-040
20716-045	Field Assembly, Octagonal Clamp, 600mm x 41-45mm Wide Range Module Ear, Grounded	20715-045
20716-050	Field Assembly, Octagonal Clamp, 600mm x 46-50mm Wide Range Module Ear, Grounded	20715-050
20716-055	Field Assembly, Octagonal Clamp, 600mm x 51-55mm Wide Range Module Ear, Grounded	20715-055

Exp 01/31/2027

03/14/2026

ITEM NO.	PART NUMBER	DESCRIPTION	20716-0XX
1	20715-XXX	Assembly, Octagonal Clamp, 600mm, x XXmm Wide Range Module Ear, Grounded	1
2	60459-000	Plug, End, Torque Tube, Octagon, Polyethylene (Optional)	1

SIZE	DRAWING NUMBER	REVISION	SAVED v64
B	20716-901	G-01	1/20/2020
SCALE 1:96	WT: 3.12 KG [6.9264 LB]	SHEET	2 OF 2

CONFIGURATION TABLE

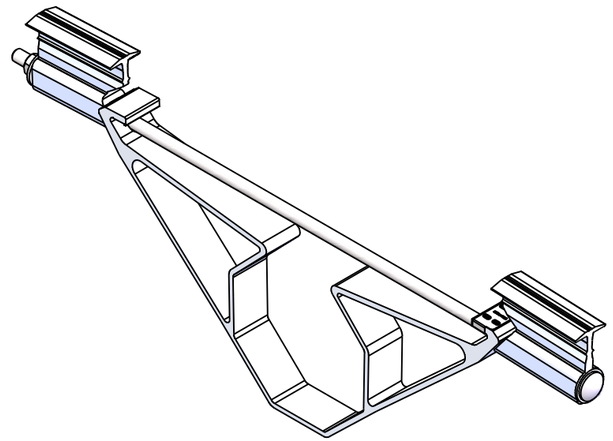
PART NUMBER	DESCRIPTION	DIM "A" IN MM ["]	ITEM 2 CONFIGURATION	APPROX WEIGHT
20857-025	Assembly, Octagonal Clamp, 400mm Hi Rise, Grounded, 80mm x 21-25mm Module Ear	25.8mm [1.016]	30855-025	.975KG [2.15LBS]
20857-030	Assembly, Octagonal Clamp, 400mm Hi Rise, Grounded, 80mm x 26-30mm Module Ear	30.8mm [1.213]	30855-030	.984KG [2.17LBS]
20857-035	Assembly, Octagonal Clamp, 400mm Hi Rise, Grounded, 80mm x 31-35mm Module Ear	35.8mm [1.409]	30855-035	.997KG [2.20LBS]
20857-040	Assembly, Octagonal Clamp, 400mm Hi Rise, Grounded, 80mm x 36-40mm Module Ear	40.8mm [1.606]	30855-040	1.011KG [2.23LBS]
20857-045	Assembly, Octagonal Clamp, 400mm Hi Rise, Grounded, 80mm x 41-45mm Module Ear	45.8mm [1.803]	30855-045	1.020KG [2.25LBS]
20857-050	Assembly, Octagonal Clamp, 400mm Hi Rise, Grounded, 80mm x 46-50mm Module Ear	50.8mm [2.000]	30855-050	1.029KG [2.27LBS]
20857-055	Assembly, Octagonal Clamp, 400mm Hi Rise, Grounded, 80mm x 51-55mm Module Ear	55.8mm [2.197]	30855-055	1.043KG [2.30LBS]

ARRAY PART NUMBER DESIGNATION

20857-XXX

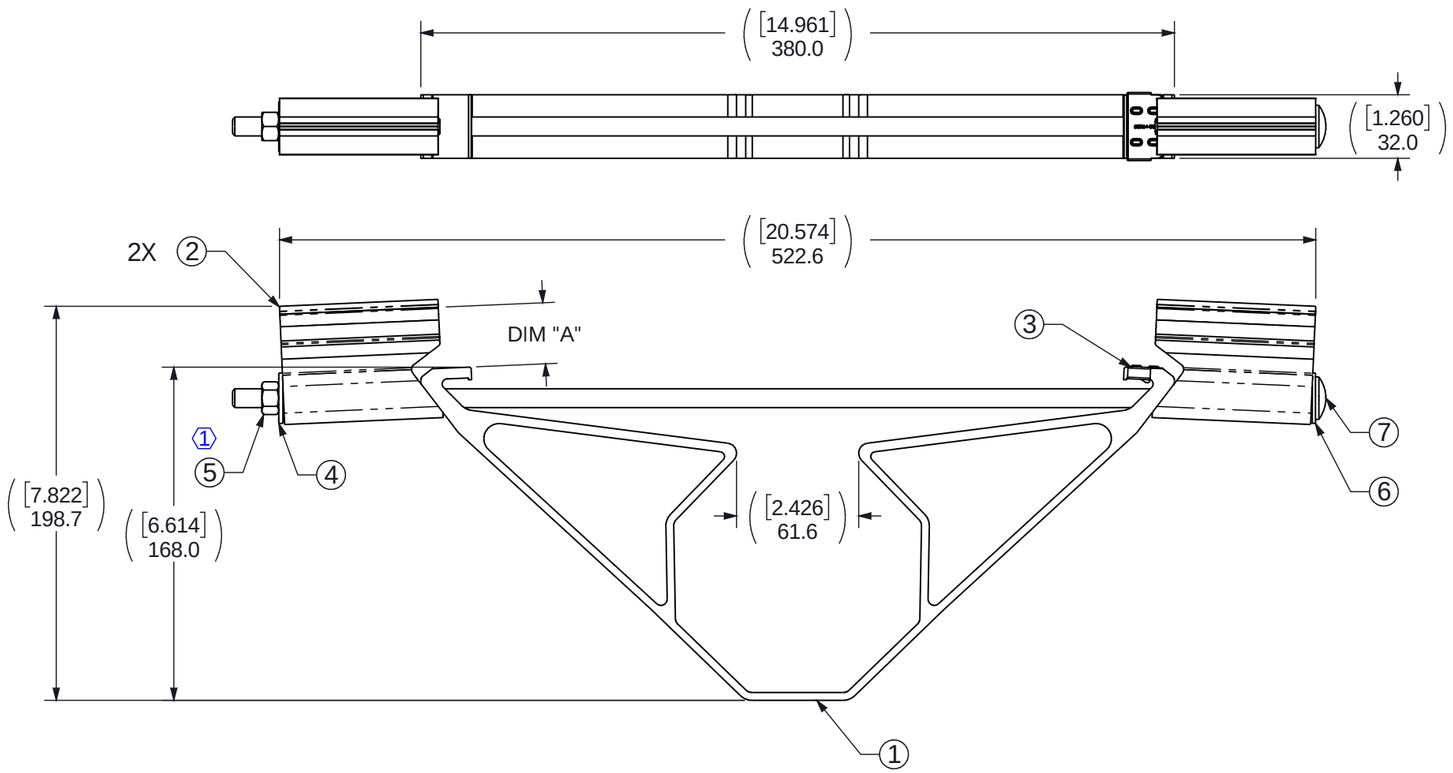
ARRAY PART NUMBER EXTENSION
NUMBER INDICATES MODULE EAR HEIGHT

ARRAY PART NUMBER



NOTES:

1. TIGHTEN ASSEMBLY UNTIL THERE IS TENSION IN THE BOLT



ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	30833-000	Bracket, Thin, Module Mounting, 121.5mm Octagon, M400, Hi Rise	1
2	30855-XXX	Ear, 80mm, Clamp, Aluminum, 55deg angle, XXXmm Module Height	2
3	50264-000	Grounding Strip, Thin, Octagonal Clamp, SST	1
4	60090-000	Washer, Flat USS HDG, 0.375"	1
5	60516-000	Nut, Hex A563 HDG, 0.375"-16, Dry Lubricated	1
6	60534-000	Washer, Flat, Type B Narrow, SS, .500	1
7	60601-215	Bolt, Carriage, J429, Grade 2, HDG, 0.375-16 x (21.5"), Extended Neck	1

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

ZONE	REV	ECR #	DESCRIPTION	DATE
D6	B	19120	ADD CONFIG TABLE	10/16/2019
	A	19087	INITIAL RELEASE	1/31/2019

DRAWING STATUS: Final

DRAWN	INITIALS: NK DATE: 06/18/2019	DRAWING CHECK	INITIALS: CD DATE: 12/4/2019
ENG. CHECK	INITIALS: DATE:	FINAL APPROVAL	INITIALS: SB DATE: 12/4/2019

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.050] .X = ±0.4 [0.015] .XX = ±0.1 [0.004]	X.XX = ±0.013 [0.500] X.XXX = ±0.006 [0.250]	X = ±1.0° .X = ±0.1°

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Assembly, Octagonal Clamp, 400mm Hi Rise, Grounded, 80mm x XXXmm Module Ear

SIZE	DRAWING NUMBER	REVISION	SAVED v26
B	20857-901	B-01	12/4/2019

SCALE 1:1 | WT: SEE CONFIG TABLE | SHEET 1 OF 1

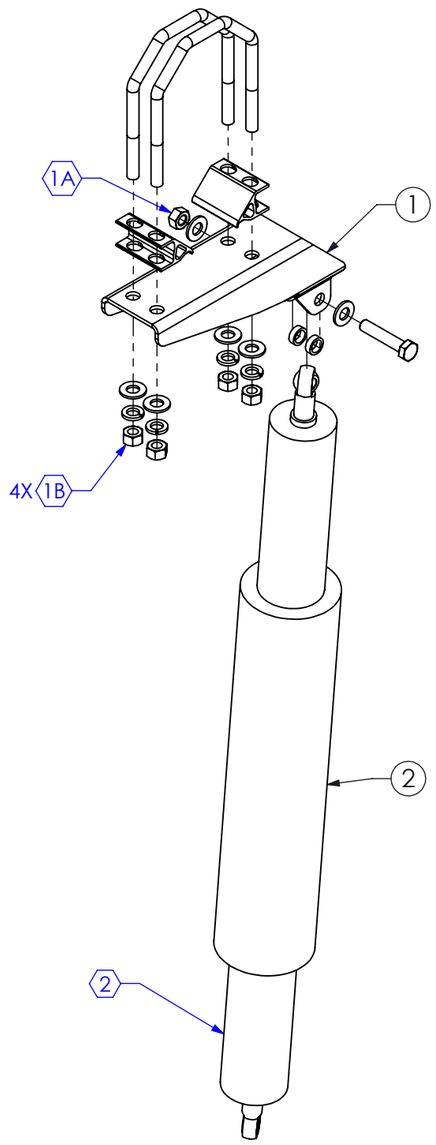
NOTES:

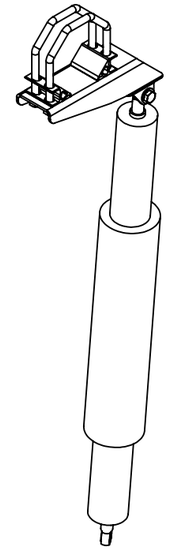
1. TORQUE SPECIFICATION:

   ⟨1A⟩ 61 ±7 N-M [45 ±5 FT-LBS]

   ⟨1B⟩ UPPER BRACKET ASSEMBLY AND FIT CHECK TO BE PERFORMED PER WORK INSTRUCTION AOS-53-WI-0021 ON 71005-000.

⟨2⟩ SUPPLIER IDENTIFICATION MARK TO BE LOCATED ON THIS SIDE OF THE ASSEMBLY FOR PROPER OPERATION.





ARRAY PN: 21030-000

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	25242-000	Kit, Coil Over Damper, Upper Bracket, Hardware, Wedged, L/M	1
2	40195-000	Harmonic, Coil Over Damper, 381 mm Stroke, Rod End, L/M	1

STATE OF CONNECTICUT ROBERT C. NAPLES No. 28670 LICENSED PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

ZONE	REV	ECR #	DESCRIPTION	ENGR	DATE
	A		INITIAL RELEASE	MK	10/27/2023

APPLICABLE TRACKER SYSTEMS:

PROPRIETARY AND CONFIDENTIAL:

DRAWING STATUS: **Final**

DRAWN — INITIALS: RM DATE: 02/23/2023

DRAWING CHECK — INITIALS: RM DATE: 8/28/2023

ENG. CHECK — INITIALS: MK DATE: 09/26/2023

FINAL APPROVAL — INITIALS: SB DATE: 10/27/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Assembly, Coil Over Damper, w/ Upper Bracket Kit, Wedged, L/M

SIZE	DRAWING NUMBER	REVISION	SAVED v14
B	21030-901	A	10/27/2023

SCALE 1:6 — WT: 8.519kg [18.781lb] — SHEET 1 OF 1

Template_Drawing_mm_v6

NOTES:

1. ARRAY TORQUE SPECIFICATIONS:

   ⟨1A⟩ 108 ±7 N-M [80 ±5 FT-LBS.]
   FOR TULLOCH ROUND PILE ADAPTER - 149 ±7 N-M [110 ±5 FT-LBS] △F
   TORQUE MUST BE APPLIED TO THE NUT.

   ⟨1B⟩ 61 ±7 N-M [45 ±5 FT-LBS.]

   ⟨1C⟩ 41 ±3 N-M [30 ±2.5 FT-LBS.] EACH STEP MUST BE DONE BY TIGHTENING EACH BOLT IN THE 1,2,3,4 SEQUENCE INDICATED

2. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.

⟨3.⟩ SUPPLIER IDENTIFICATION MARK TO BE LOCATED AT THE BOTTOM OF THE DAMPER DURING INSTALLATION FOR PROPER OPERATION.

⟨4.⟩ DAMPER ASSEMBLIES ON THE SAME ROW ARE TO ALTERNATE EAST/WEST STARTING AT THE END OF THE ROW.

⟨5.⟩ OCTAGONAL U-BOLTS MUST BE TIGHTENED EVENLY DURING INSTALLATION TO PROVIDE FLUSH AND EVEN CONTACT BETWEEN THE DAMPER BRACKET AND TORQUE TUBE.

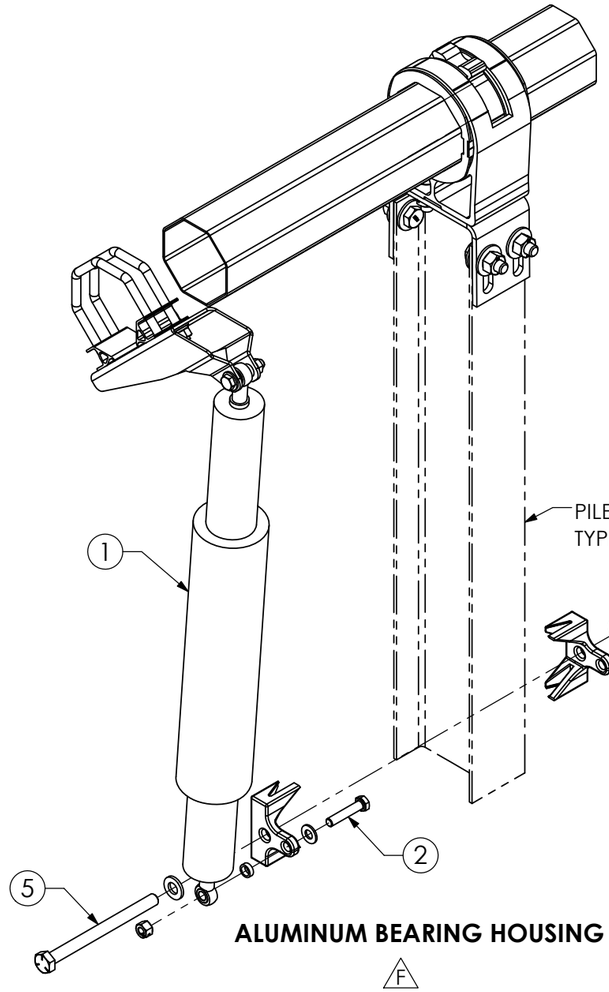
⟨6.⟩ THE POSITION OF THE UPPER DAMPER BRACKET IS MEASURED RELATIVE TO THE OUTERMOST SURFACE OF THE BEARING PILE ASSEMBLY, WHICH MAY BE THE PILE ITSELF, THE BRACKET OR THE BEARING. TOLERANCE SHOWN APPLIES TO INITIAL INSTALLATION. FOR QC, O&M OR COMMISSIONING PURPOSES THE PERMISSIBLE DISTANCE IS BETWEEN 13mm(MIN) AND 64mm(MAX) DUE TO THERMAL EXPANSION/CONTRACTION. △F

⟨7.⟩ MEASUREMENT MUST BE TAKEN WHILE TORQUE TUBE IS IN THE ZERO DEGREE (FLAT) POSITION.

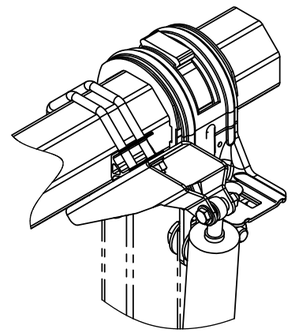
⟨8.⟩ INSTALL DAMPER ASSEMBLY ON DOWNHILL SIDE OF THE PILE WHEN THE NORTH/SOUTH SLOPE OF THE TORQUE TUBE EXCEEDS 1.5 DEGREES (3.0%).

⟨9.⟩ USE DIGITAL ANGLE FINDER TO DETERMINE ANGLE "A" ON THE TORQUE TUBE. ANGLE "A" IS MEASURED FROM TORQUE TUBE TO HORIZONTAL. MAX ANGLE IS 15 DEGREES.

10. FOR PROPER INSTALLATION INSTRUCTIONS REFER TO THE TRACKER INSTALLATION GUIDE.



ALUMINUM BEARING HOUSING
△F



STEEL BEARING HOUSING
△F

HARDWARE CONFIGURATION TABLE	
PILE SIZE	**BOLT PN**
W6 X 7	60811-080
W6 X 7.75	
W6 X 8.5	
W6 X 9	
APA 1.0	
W6 X 10.4	
W6 X 10.5	
W8 X 10	
W8 X 13	
180UB16.1	
180UB18.1	
200UB18.2	
W6 X 12	60811-090
W6 X 16	
W8 X 15	
W6 X 15	60811-100
W8X18	
W8 X 21	
200UB22.3	
200UB25.4	
200UB29.8	
W6 X 20	60811-105
TULLOCH ROUND PILE	60811-110

ITEM NO.	PART NUMBER	DESCRIPTION	W, UB, TULLOCH, APA 1.0	APA 2.0
1	21030-000	Assembly, Coil Over Damper, w/ Upper Bracket Kit, Wedged, L/M	1	1
2	25233-001	Kit, COD, Universal, Lower, M12 Pinlock Nut	1	-
3	25270-000	Kit, COD, Lower BRKT, HDWR, APA	-	1
4	30836-000	Bracket, Lower, Coil Over Damper, Universal I Beam	2	-
5	60811-XXX	Screw, Heavy Hex, Grade 5, HDG, Partial Thread, .625-11 x (XX.X)	1	-

ZONE	REV	ECR #	DESCRIPTION	ENGR	DATE
B2, C1, C5, D6, 2-A1, 2-A3, 2-A7, 2-B3, 2-B4, 3-A6	F	US-25095	ADDED STEEL BEARING AND VIEWS FOR CLARITY, UPDATED NOTE 6, ADDED TORQUE SPEC 1A FOR TULLOCH ADAPTER.	RK	06/25/2025
A5, B2, B5, 2-B1, 3-B7	E	US-24153	ADDED CONFIGURATIONS, VIEW AND 25270-000, REPLACED 25233-000 WITH 25233-001, REMOVE APA 2.0 FROM TABLE, UPDATED CALLOUTS.	RK	01/13/2025
A5, B5, C1, 2-A2, 2-A8	D	US-24084	UPDATED NOTE 8, PILE VIEWS SHOWN FOR REFERENCE ONLY, ADDED TO HARDWARE CONFIG TABLE	RK	06/06/2024

APPLICABLE TRACKER SYSTEMS: DuraTrack, OmniTrack

DRAWING STATUS: **Final**

DRAWN: INITIALS: RM DATE: 02/27/2023
DRAWING CHECK: INITIALS: MK DATE: 10/18/2023
ENG. CHECK: INITIALS: DATE:
FINAL APPROVAL: INITIALS: SB DATE: 10/26/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

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X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

PROPRIETARY AND CONFIDENTIAL:
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ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **Field Assembly, Coil Over Damper, Wedged, L/M**

SIZE	DRAWING NUMBER	REVISION	SAVED v96
B	21032-901	F	6/25/2025
SCALE 1:10		SHEET	1 OF 4

STATE OF CONNECTICUT · ROBERT C. NAPLES · No. 28670 · LICENSED PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

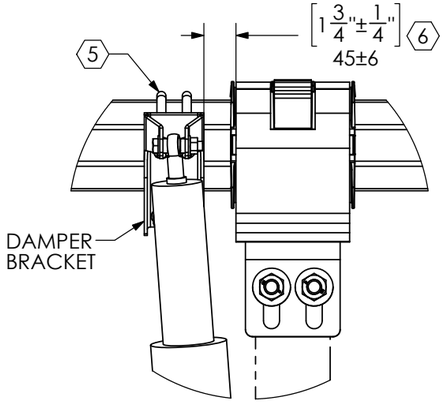
Template_CF Drawing_mm_v6

NOTES:

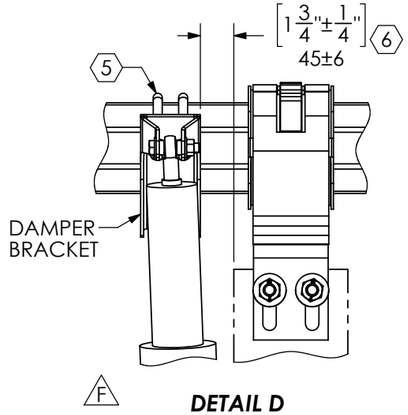
11. CAUTION: INCORRECT INSTALLATION OF THE FOLLOWING ITEMS CAN RESULT IN DAMAGE TO TRACKER COMPONENTS:

    (11.1) BEARING HOUSING STOP MUST BE IN PLANE WITH MODULE CLAMPS.

    (11.2) INDICATED FACE OF DAMPER BRACKET MUST BE IN PLANE WITH BEARING HOUSING STOP.

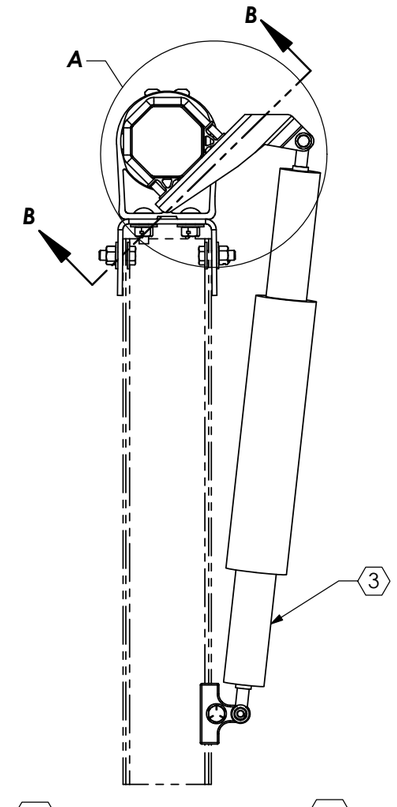


DETAIL D
HIGH-WIND ALUMINUM BEARING

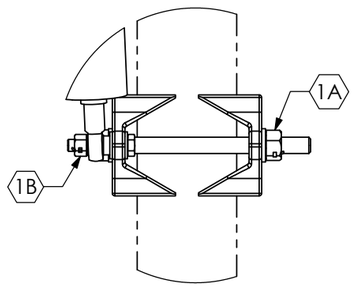


F

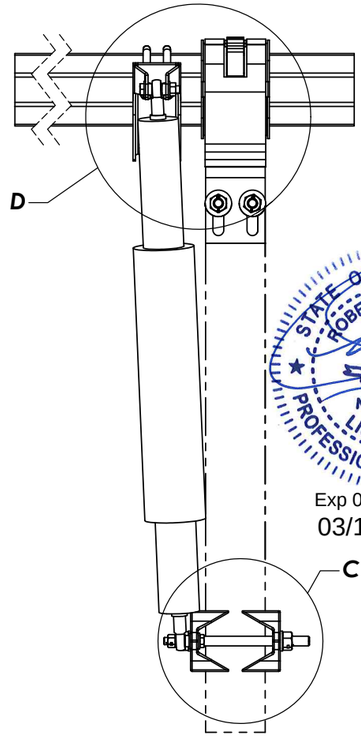
DETAIL D
STANDARD ALUMINUM BEARING WIDER PILE



DETAIL A

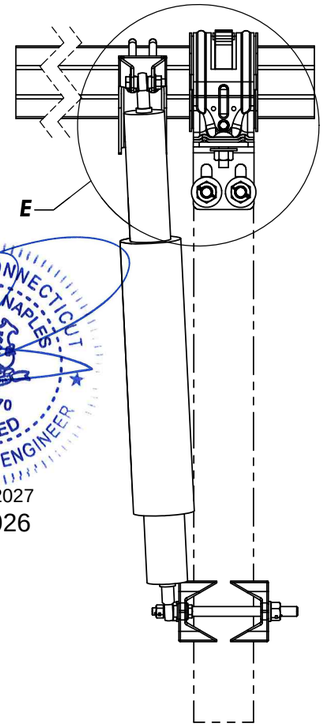


DETAIL C



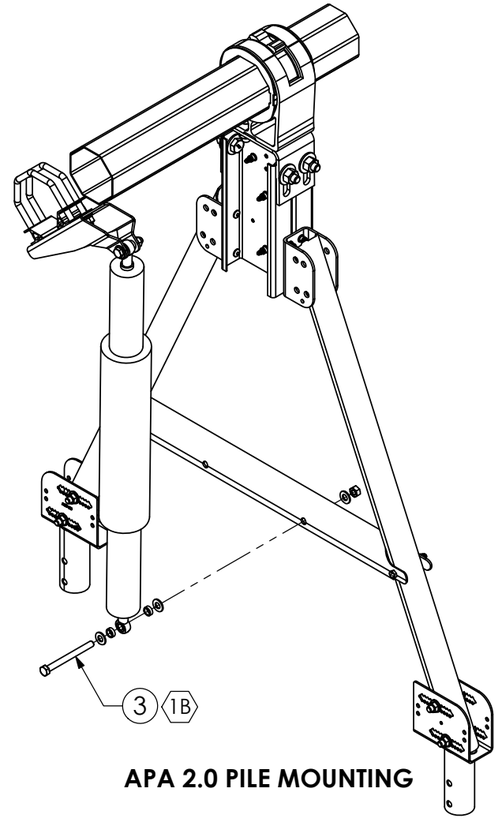
ALUMINUM BEARING HOUSING

F



STEEL BEARING HOUSING

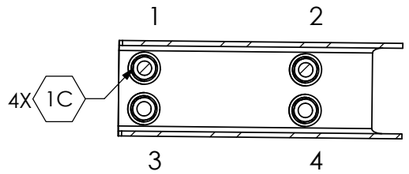
F



APA 2.0 PILE MOUNTING

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

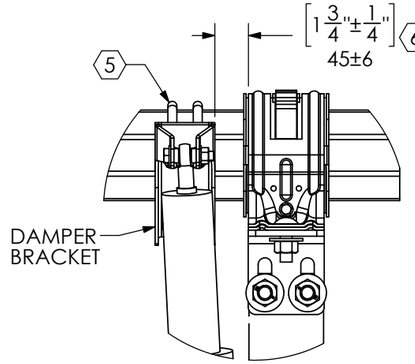
TORQUE SEQUENCE FOR EACH TIGHTENING STEP



SECTION B-B

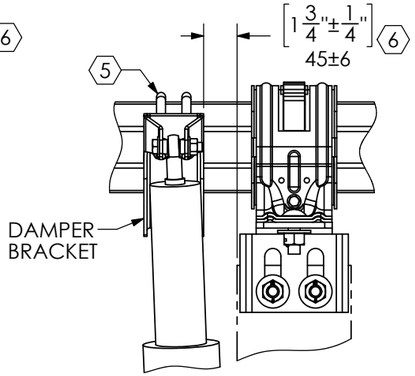
(1C)

TIGHTENING STEP	TORQUE LEVEL
0	SNUG TIGHT
1	10 N-m [7.5 ft-lbs]
2	20 N-m [15 ft-lbs]
3	31 N-m [22.5 ft-lbs]
4	41 N-m [30 ft-lbs]



DETAIL E
STANDARD STEEL BEARING

F

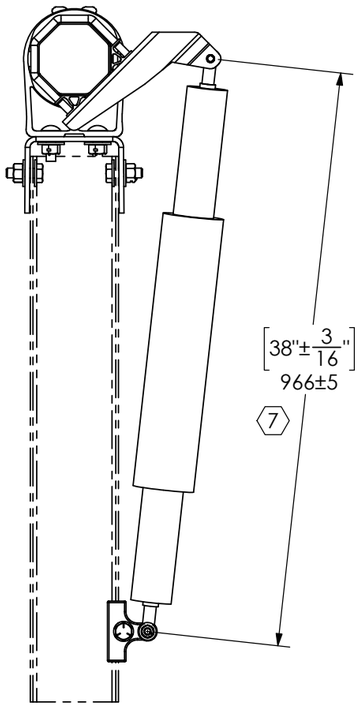


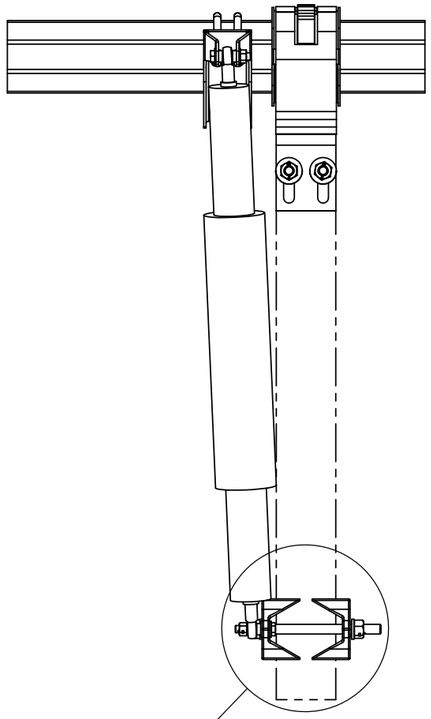
DETAIL E
HIGH-WIND STEEL BEARING WIDER PILE

F

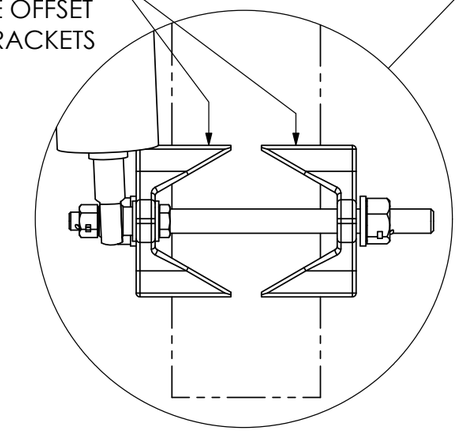
SIZE	DRAWING NUMBER	REVISION	SAVED v96
B	21032-901	F	6/25/2025
SCALE 1:10		SHEET	2 OF 4

Template_CF Drawing_mm_v6



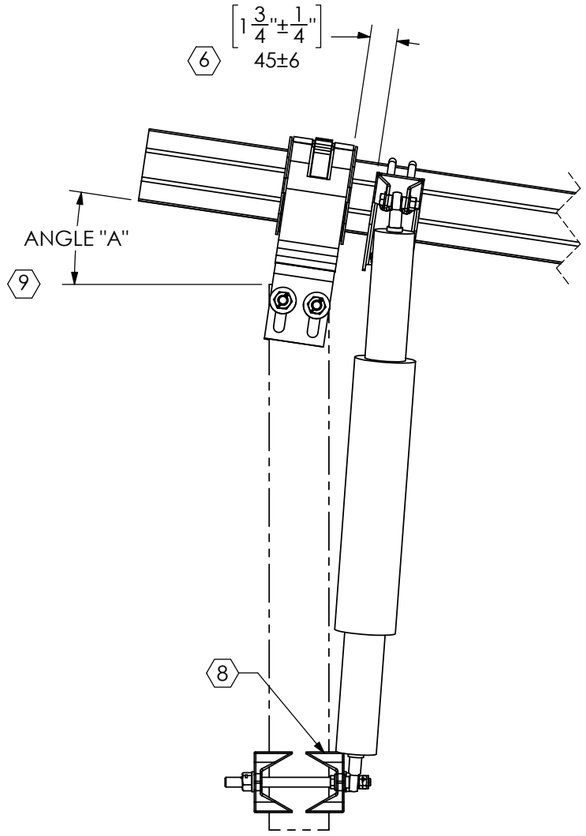


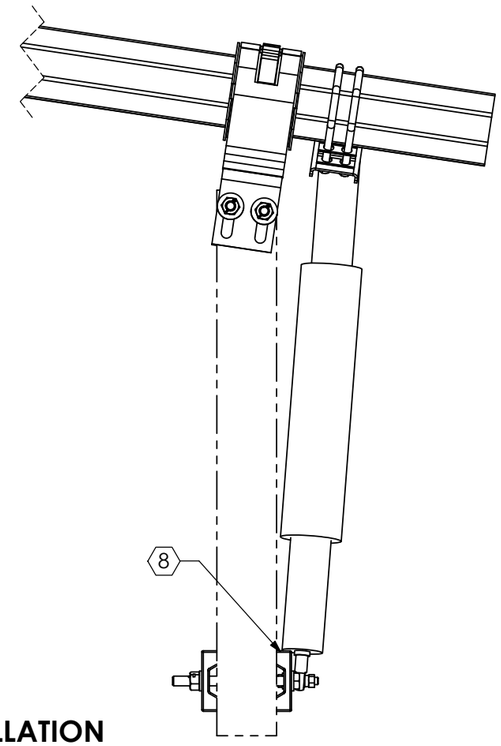
THESE BRACKET SURFACES TO BE LEVEL WITH EACH OTHER. ALLOWABLE OFFSET BETWEEN THESE SURFACES OF BRACKETS SHALL NOT EXCEED 3.2mm.



DETAIL F

F





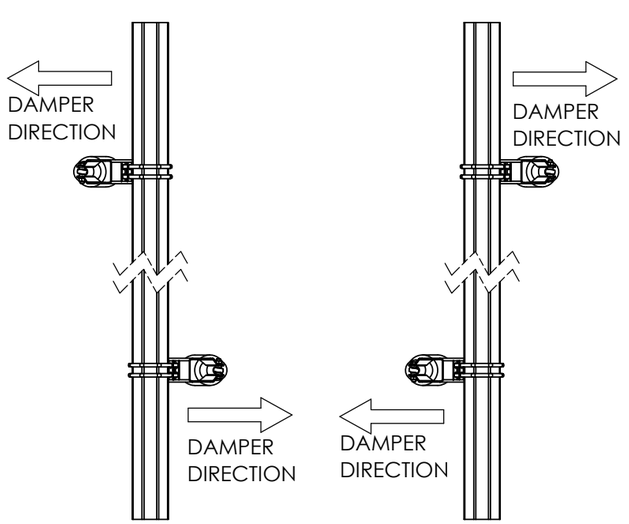
ANGLE INSTALLATION

Exp 01/31/2027

03/14/2026

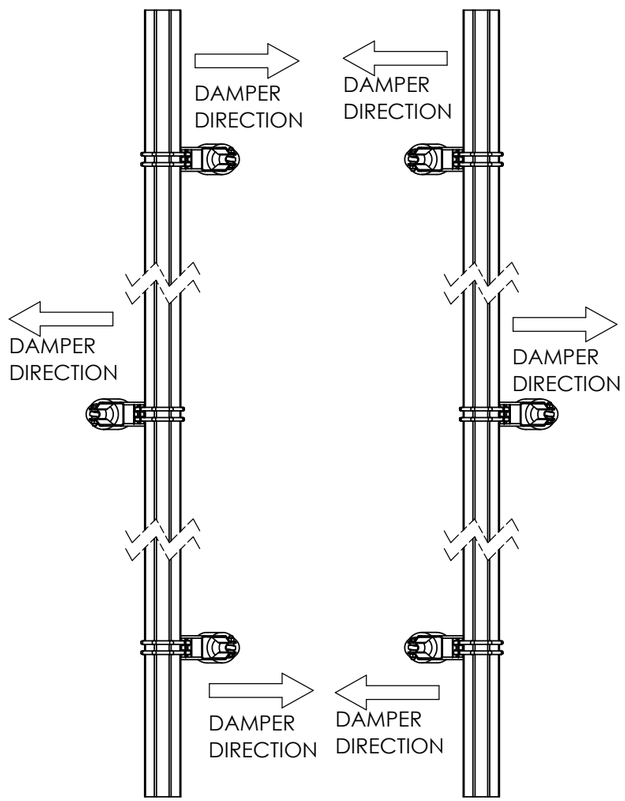
SIZE	DRAWING NUMBER	REVISION	SAVED v96
B	21032-901	F	6/25/2025
SCALE 1:15		SHEET	3 OF 4

Template_CF Drawing_mm_v6



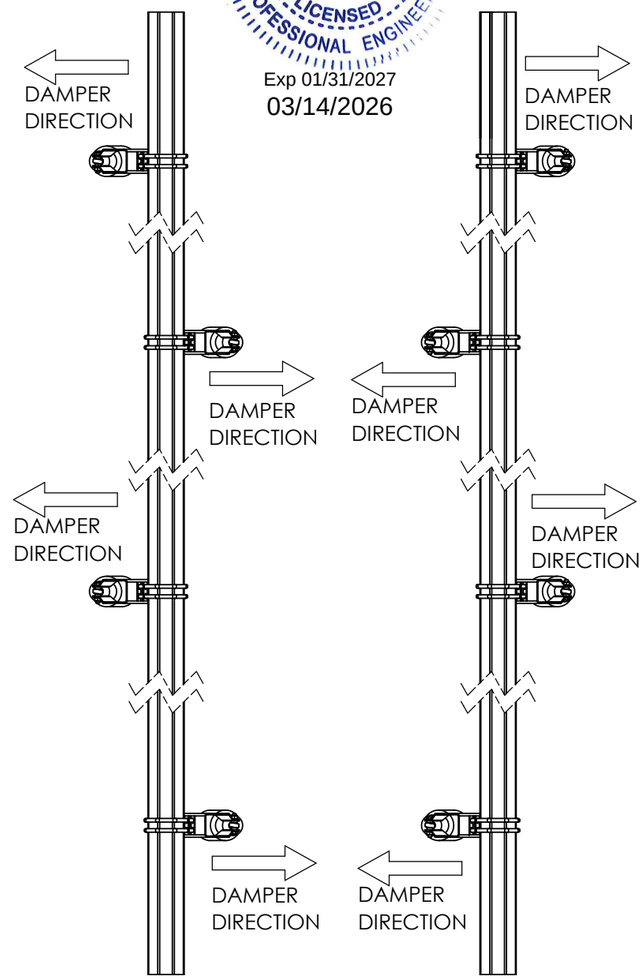
2 DAMPER ROW DEMONSTRATION PILES AND BEARINGS REMOVED

4



3 DAMPER ROW DEMONSTRATION PILES AND BEARINGS REMOVED

4



4 DAMPER ROW DEMONSTRATION PILES AND BEARINGS REMOVED

4

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED PROFESSIONAL ENGINEER

Exp 01/31/2027

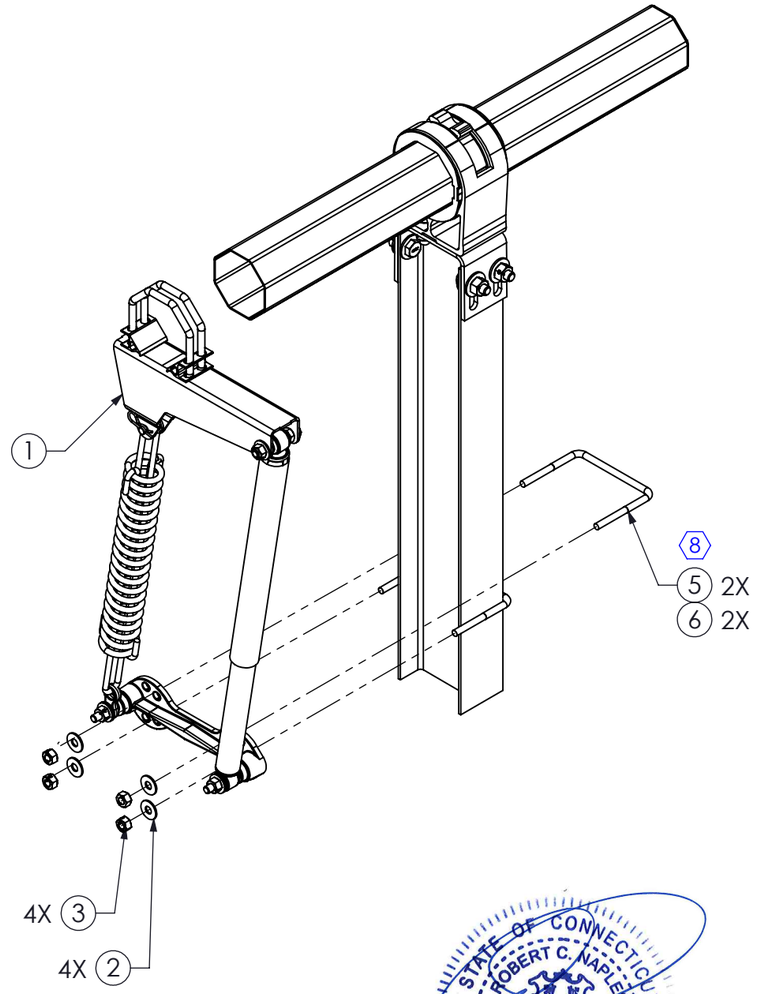
03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v96
B	21032-901	F	6/25/2025
SCALE 1:75		SHEET	4 OF 4

Template_CF Drawing_mm_v6

NOTES:

1. ARRAY TORQUE SPECIFICATIONS:
   - (1A) TORQUING SEQUENCE: TIGHTEN BOLTS EVENLY UNTIL BRACKET IS SNUG AGAINST THE I BEAM. TORQUE NUTS TO 61 ±7 N-M [45 ±5 FT-LBS.] IN THE SEQUENCE SHOWN.
   - (1B) 41 ±7 N-M [30 ±5 FT-LBS.] EACH STEP MUST BE DONE BY TIGHTENING EACH BOLT IN THE 1,2,3,4 SEQUENCE INDICATED.
   - (1C) 61 ±7 N-M [45 ±5 FT-LBS.] THIS TORQUE MUST BE APPLIED AFTER DAMPER BRACKET IS SECURED TO THE I-BEAM.
2. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
3. ENSURE THE ROD END OR DUST TUBE OF THE DAMPER IS MOUNTED TO THE TOP BRACKET FOR PROPER OPERATION.
4. SPRING & DAMPER ASSEMBLY MAYBE INSTALLED ON EITHER NORTH/SOUTH FACE OF THE PILE. DAMPER ORIENTATION ALONG THE SAME ROW TO ALTERNATE EAST/WEST STARTING AT THE END OF THE ROW.
5. OCTAGONAL U-BOLTS MUST BE TIGHTENED EVENLY DURING INSTALLATION TO PROVIDE FLUSH AND EVEN CONTACT BETWEEN THE DAMPER BRACKET AND TORQUE TUBE.
6. TOLERANCE SHOWN APPLIES TO INITIAL INSTALLATION. FOR QC, O&M OR COMMISSIONING PURPOSES THE PERMISSIBLE DISTANCE IS BETWEEN 13mm(MIN) AND 64mm(MAX) DUE TO THERMAL EXPANSION/CONTRACTION.
7. ADJUST LOWER BRACKET LOCATION WITHIN MIN/MAX TO REDUCE SPRING PLAY AT ZERO DEGREES. SPRING PLAY MAY STILL EXIST. IF THE SPRING LINK CAN ROTATE MORE THAN 60 DEGREES ONCE SET, NOTIFY ARRAY.
8. REFER TO I-BEAM DRAWING 33XXX-XX-901 INCLUDED IN ADP FOR DIMENSIONAL REQUIREMENTS OF NON-STANDARD PILE SIZES: W6X7, W6X7.75, W6X10.4, W6X10.5.
9. FOR PROPER INSTALLATION INSTRUCTIONS REFER TO THE TRACKER INSTALLATION GUIDE.
10. MEASUREMENT MUST BE TAKEN WHILE TORQUE TUBE IS IN THE ZERO DEGREE (FLAT) POSITION.



SPRING AND DAMPER CONFIGURATION TABLE	
PART NUMBER	**DESCRIPTION**
21065-210	Assembly, Spring and Damper, Wedged, STD, L
21065-220	Assembly, Spring and Damper, Wedged, HW, L
21065-310	Assembly, Spring and Damper, Wedged, STD, M
21065-320	Assembly, Spring and Damper, Wedged, HW, M
21065-410	Assembly, Spring and Damper, Wedged, STD, H
21065-420	Assembly, Spring and Damper, Wedged, HW, H

ITEM NO.	PART NUMBER	DESCRIPTION	6" Wide	8" Wide
1	21065-XXX	Assembly, Spring and Damper, Wedged, STD/HW, L/M/H	1	1
2	60007-000	Washer, Flat F436 USS, HDG, .500	4	4
3	60503-000	Nut, Pin Lock, Heavy Hex Grade 2H HDG, Lubricated, 0.5"-13	4	4
4	60791-XXX	U-bolt, Square Grade 5 HDG, .500-13 x 8.438 x X.XX, 2.75-3.00 Thread Length	-	2
5	60792-XXX	U-bolt, Square Grade 5 HDG, .500-13 x 6.438 x X.XX, 2.75 - 3.00 Thread Length	2	-

STATE OF CONNECTICUT · ROBERT C. NAPLES · No. 28670 · LICENSED PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

ZONE	REV	ECR #	DESCRIPTION	ENGR	DATE
	A		INITIAL RELEASE	MK	10/27/2023

APPLICABLE TRACKER SYSTEMS:
DuraTrack
OmniTrack

PROPRIETARY AND CONFIDENTIAL:

DRAWING STATUS: Final

DRAWN	DRAWING CHECK
INITIALS: RM DATE: 02/27/2023	INITIALS: MK DATE: 10/3/2023
ENG. CHECK	FINAL APPROVAL
INITIALS: DATE:	INITIALS: SB DATE: 10/27/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X =±1.25 [0.049]	X.XX =±0.013 [0.512]	X =±1.0°
.X =±0.4 [0.016]	X.XXX =±0.006 [0.236]	.X =±0.1°
.XX =±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Field Assembly, Spring and Damper, Wedged, L/M/H

SIZE	DRAWING NUMBER	REVISION	SAVED v27
B	21033-901	A	10/27/2023

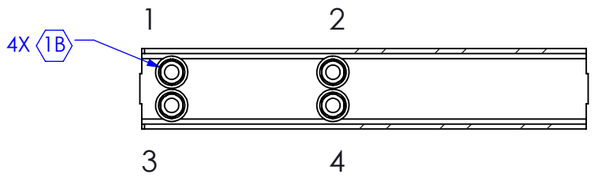
SCALE 1:10 SHEET 1 OF 4

Template_CF Drawing_mm_v6

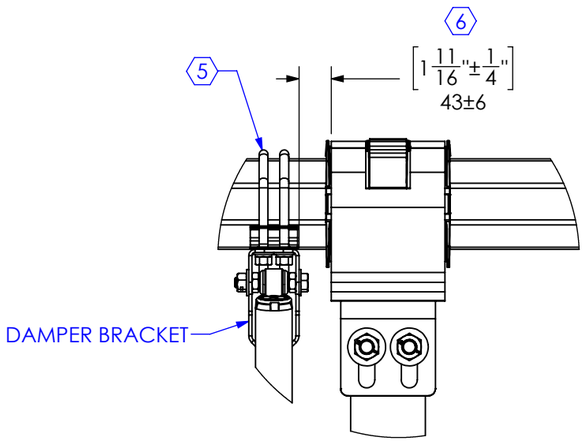
TIGHTENING STEP	TORQUE LEVEL
0	SNUG TIGHT
1	10 N-M [7.5 FT-LBS]
2	20 N-M [15 FT-LBS]
3	31 N-M [22.5 FT-LBS]
4	41 N-M [30 FT-LBS]

(1B)

TORQUE SEQUENCE FOR EACH TIGHTENING STEP



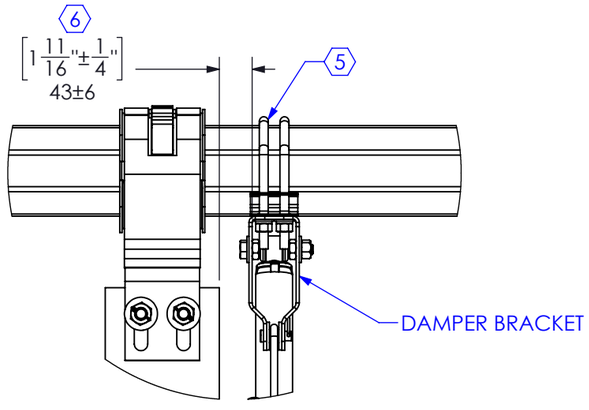
SECTION A-A



HIGH-WIND BUSHING HOUSING VIEW

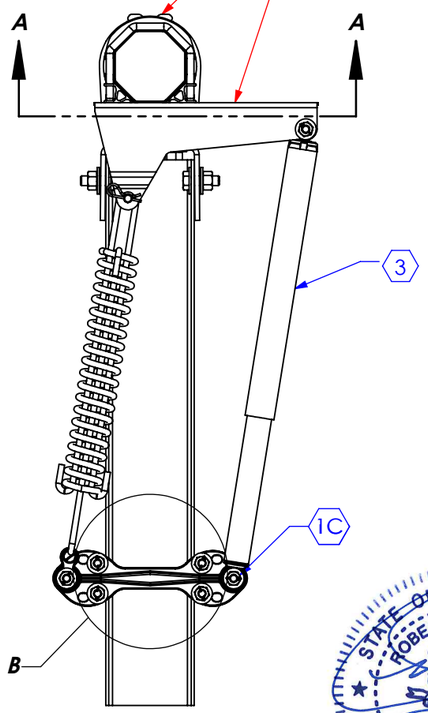
(8)

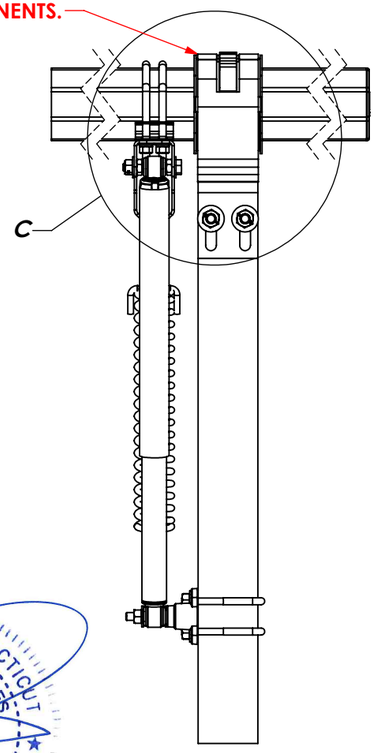
U-BOLT CONFIGURATION TABLE	
PILE SIZE	**REQUIRED U-BOLT**
W6 X 7	60792-600
W6 X 7.75	
W6 X 8.5	60792-650
W6 X 9	
W6 X 10.4	
W6 X 10.5	
W6 X 12	
W6 X 16	
W6 X 15	60792-850
W6 X 20	
W6 X 25	
W8 X 10	60791-550
W8 X 13	
W8 X 15	
W8 X 18	60791-700
W8 X 21	



LARGER I-BEAM VIEW

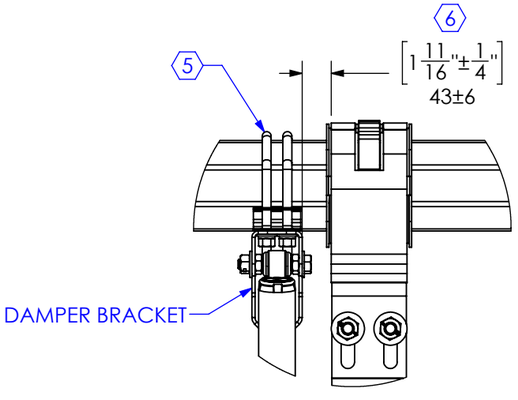
CAUTION:
BEARING HOUSING STOP MUST BE IN PLANE WITH MODULE CLAMP AND DAMPER BRACKET WHEN INSTALLING DAMPER.
INCORRECT INSTALLATION CAN RESULT IN DAMAGE TO TRACKER COMPONENTS.





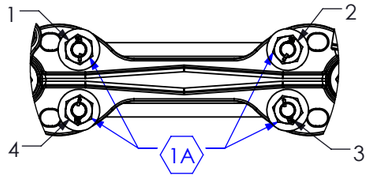
Exp 01/31/2027

03/14/2026



DETAIL C

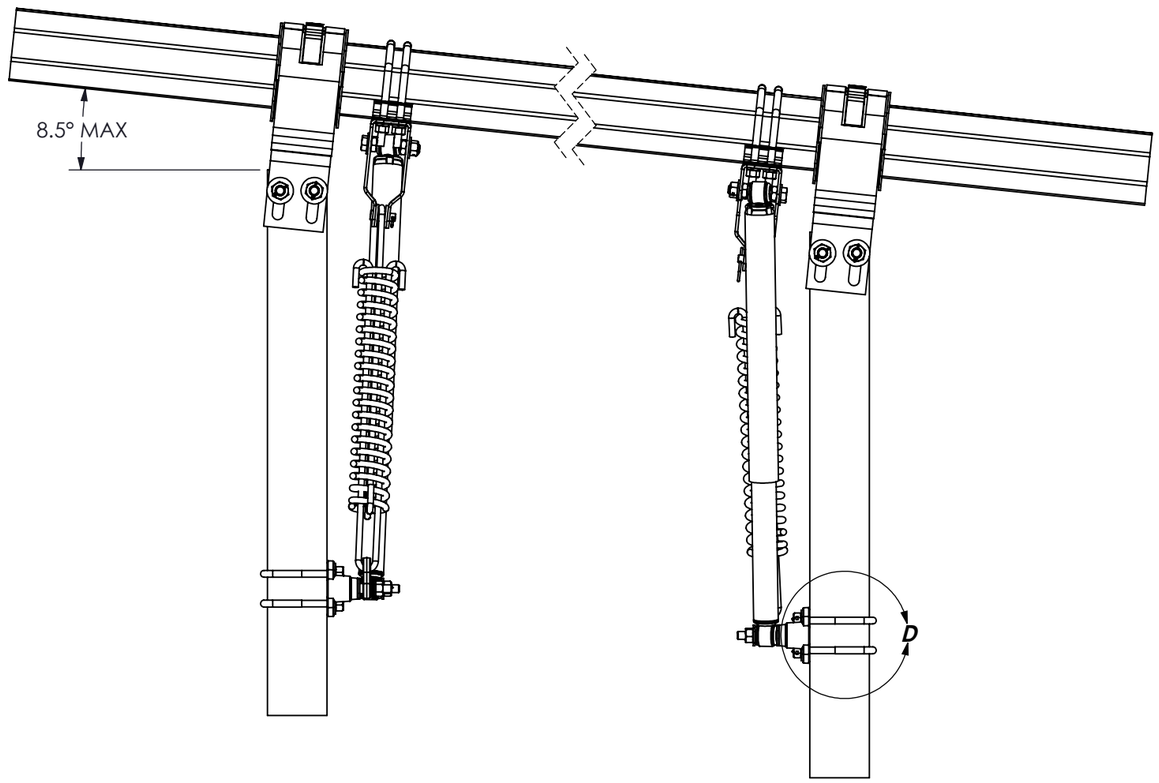
TORQUE SEQUENCE

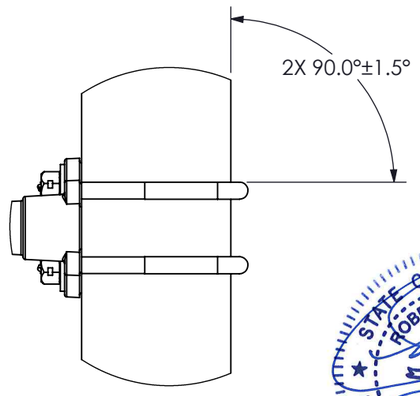


DETAIL B

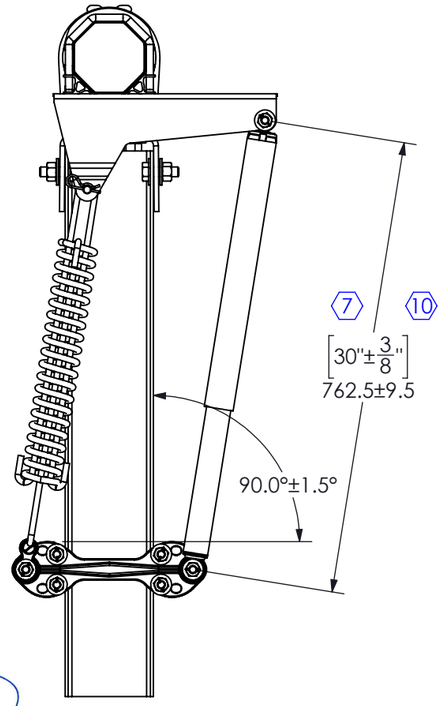
SIZE	DRAWING NUMBER	REVISION	SAVED v27
B	21033-901	A	10/27/2023
SCALE 1:10		SHEET	2 OF 4

Template_CF Drawing_mm_v5





DETAIL D



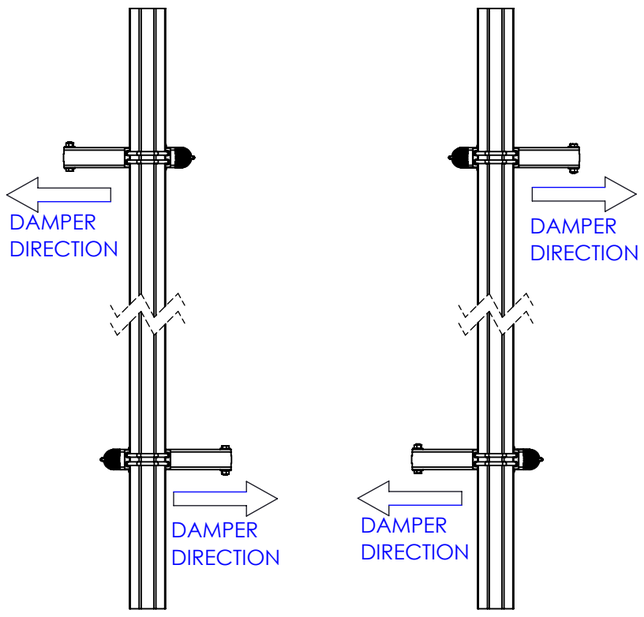
STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER

Exp 01/31/2027

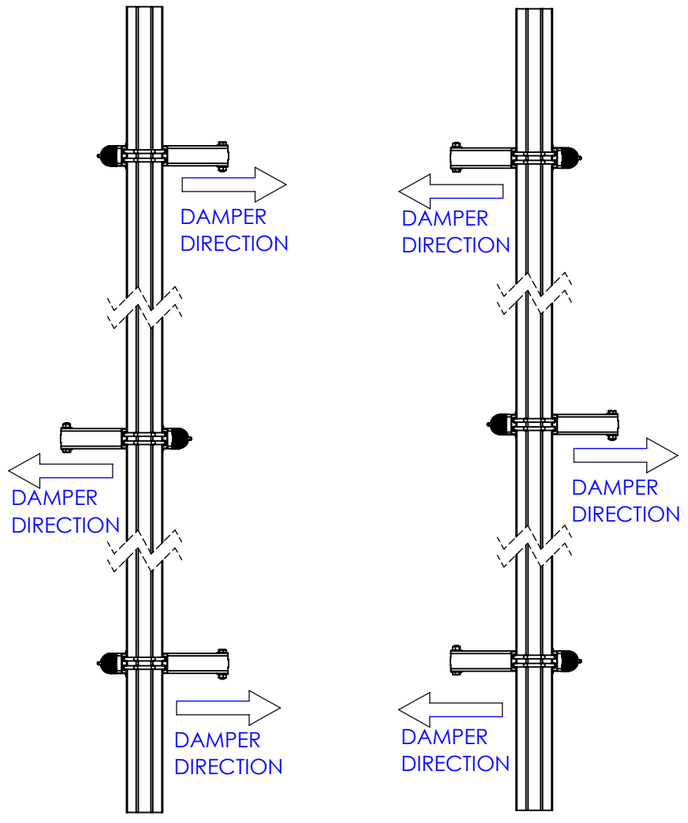
03/14/2026

SIZE	DRAWING NUMBER	REVISION	SAVED v27
B	21033-901	A	10/27/2023
SCALE 1:10		SHEET	3 OF 4

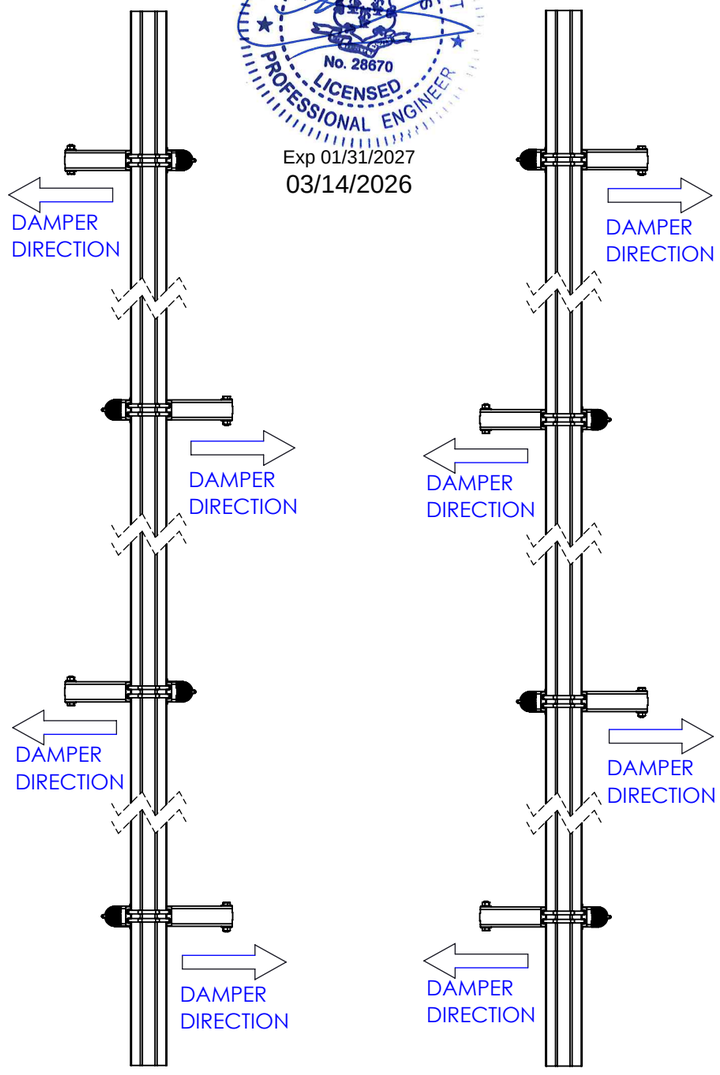
Template_CF Drawing_mm_v5



2 DAMPER ROW
DEMONSTRATION
PILES AND BEARINGS REMOVED
4



3 DAMPER ROW
DEMONSTRATION
PILES AND BEARINGS REMOVED
4



4 DAMPER ROW
DEMONSTRATION
PILES AND BEARINGS REMOVED
4

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

SIZE	DRAWING NUMBER	REVISION	
B	21033-901	A	10/27/2023
SCALE 1:20		SHEET	4 OF 4

Template_Drawing_mm_v6

NOTES:

1. ARRAY TORQUE SPECIFICATIONS:

   (1A) TIGHTEN UNTIL LOCKING FEATURE IS FULLY ENGAGED ONTO BOLT THREAD AND NO AIR GAPS EXIST ON OUTSIDE OF BRACKET. DO NOT EXCEED 9.5 ± 3 N-M [7 ± 2 FT-LBS, 84 ± 24 IN-LBS].

   (1B) 34 ± 7 N-M [25 ± 5 FT-LBS].

   (1C) UPPER BRACKET ASSEMBLY AND FIT CHECK TO BE PERFORMED PER WORK INSTRUCTION AOS-53-WI-0021 ON 71005-000.

2. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.

3. ENSURE THE ROD END OR DUST TUBE OF THE DAMPER IS MOUNTED TO THE TOP BRACKET FOR PROPER OPERATION.

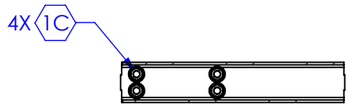
4. NUTS TO BE USED AS SPACERS FOR -220, -320, AND -420 CONFIGURATIONS.

5. ALTERNATE BRACKET: 30673-000 MAY BE USED IN PLACE OF 30660-000.

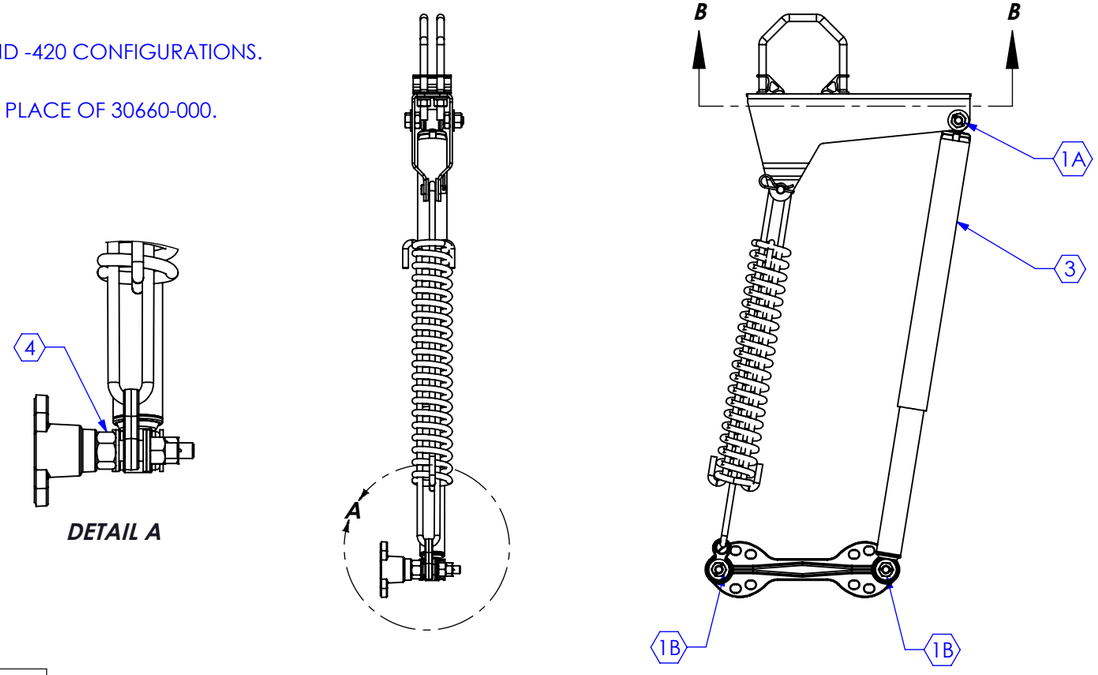
ARRAY PART NUMBER DESIGNATION

21065-XXX

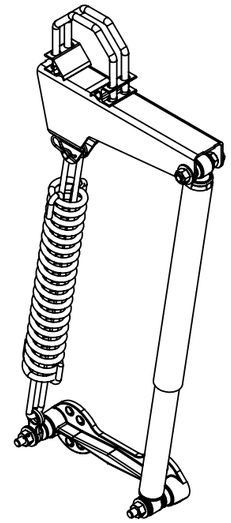
- ARRAY PART NUMBER EXTENSION WHERE
  - -2YY INDICATES LOW CORROSION
  - -3YY INDICATES MEDIUM CORROSION
  - -4YY INDICATES HIGH CORROSION
  - -X1Y INDICATES STANDARD (STD)
  - -X2Y INDICATES HIGH WIND (HW)
- ARRAY PART NUMBER



SECTION B-B



DETAIL A



ARRAY P/N: 21065-XXX

Exp 01/31/2027

03/14/2026

CONFIGURATION TABLE		
PART NUMBER	**DESCRIPTION**	**WEIGHT kg [Lbs]**
21065-210	Assembly, Spring and Damper, Wedged, STD, L	15.23 [33.58]
21065-220	Assembly, Spring and Damper, Wedged, HW, L	15.36 [33.86]
21065-310	Assembly, Spring and Damper, Wedged, STD, M	15.37 [33.89]
21065-320	Assembly, Spring and Damper, Wedged, HW, M	15.50 [34.17]
21065-410	Assembly, Spring and Damper, Wedged, STD, H	16.98 [37.43]
21065-420	Assembly, Spring and Damper, Wedged, HW, H	17.12 [37.74]

ZONE	REV	ECR #	DESCRIPTION	ENGR	DATE
	A		INITIAL RELEASE	MK	10/27/2023

APPLICABLE TRACKER SYSTEMS:
DuraTrack
OmniTrack

DRAWING STATUS: **Final**

DRAWN INITIALS: RM DATE: 08/14/2023	DRAWING CHECK INITIALS: MK DATE: 10/3/2023
ENG. CHECK INITIALS: MK DATE: 09/26/2023	FINAL APPROVAL INITIALS: SB DATE: 10/27/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

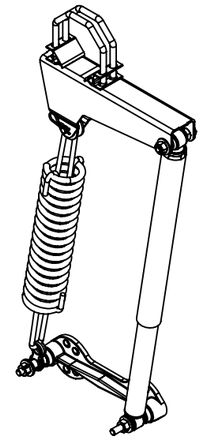
ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

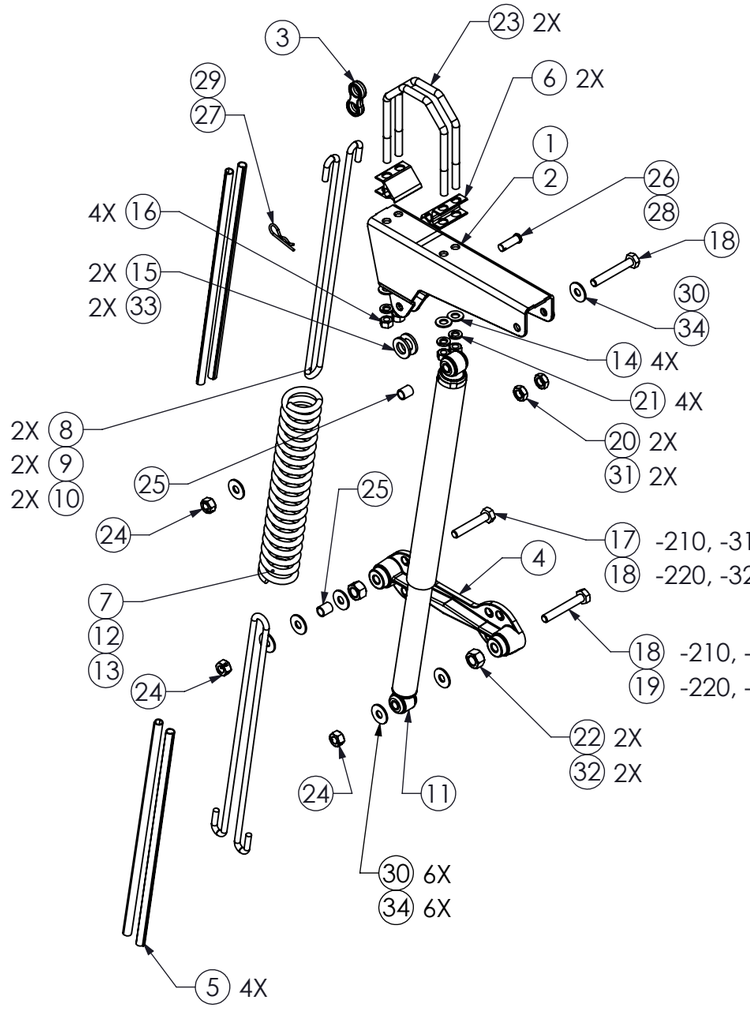
TITLE: **Assembly, Spring and Damper, Wedged, STD/HW, L/M/H**

SIZE	DRAWING NUMBER	REVISION	SAVED v25
B	21065-901	A	10/27/2023
SCALE 1:10	WT: SEE CONFIGURATION TABLE	SHEET	1 OF 2

Template_Drawing_mm_v6

ITEM NO.	PART NUMBER	DESCRIPTION	-210	-220	-310	-320	-410	-420
1	30660-000	Bracket, Spring and Damper, Upper, A653, 14.6" x 2.6" x 7.1" x .164 "	1	1	-	-	-	-
2	30673-000	Bracket, Spring and Damper, Upper, HDG, 14.6" x 2.6" x 7.1" x .164"	-	-	1	1	1	1
3	30692-000	Link, Spring, Lower Mount, High Angle	1	1	1	1	1	1
4	30710-000	Bracket, 4140, Lower Spring and Damper	1	1	1	1	1	1
5	30783-000	Sleeve, Drawbar, ID-.472", Thickness-.051", Length-19", LDPE	-	-	4	4	-	-
6	30978-000	Wedge, Upper Damper Bracket, Aluminum	2	2	2	2	2	2
7	40150-000	Spring, Compression, 302 Stainless Steel, 14.5" x .500"	-	-	-	-	1	1
8	40160-200	Drawbar, Compression Spring, 1018 Steel, 19.78" x .375", L	2	2	-	-	-	-
9	40160-300	Drawbar, Compression Spring, 1018 Steel, 19.78" x .375", M	-	-	2	2	-	-
10	40164-000	Drawbar, Compression Spring, 302 Stainless Steel, 19.7" x .375"	-	-	-	-	2	2
11	40172-000	Harmonic Damper, 10 kN, Symmetrical Damping, 17.53" Stroke Length, Dust Cover	1	1	1	1	1	1
12	40177-200	Spring, Compression, A227, 16.1", L	1	1	-	-	-	-
13	40177-300	Spring, Compression, A227, 16.1", M	-	-	1	1	-	-
14	60006-000	Washer, Flat, F436, HDG, .500" x 1.063"	4	4	4	4	4	4
15	60008-000	Washer, Flat SAE F436 HDG, 0.75"	2	2	2	2	-	-
16	60010-000	Nut, Hex, Grade 5, HDG, .500-13	4	4	4	4	4	4
17	60013-300	Screw, Structural Hex A325 HDG, .500-13 X 3.00	1	-	1	-	1	-
18	60013-350	Screw, Structural Hex A325 HDG, .500-13 X 3.50	2	2	2	2	2	2
19	60013-400	Screw, Structural Hex A325 HDG, .500-13 X 4.00	-	1	-	1	-	1
20	60015-000	Nut, Jam, HDG, .625-11	2	2	2	2	-	-
21	60017-000	Washer, Split Lock HDG, .500	4	4	4	4	4	4
22	60131-000	Nut, Heavy Hex A563 DH HDG, Lubricated, 0.625"-11	-	2	-	2	-	-
23	60448-650	U-bolt, Octagon, Grade 5 HDG, .500-13 x 6.50	2	2	2	2	2	2
24	60503-000	Nut, Pin Lock, Heavy Hex Grade 2H HDG, Lubricated, 0.5"-13	3	3	3	3	3	3
25	60630-000	Spacer, 18-8 Stainless Steel, .688" OD x .525" ID x .800"	2	2	2	2	2	2
26	60631-000	Pin, Clevis, Steel, Zinc Coated, 1.50" x .5"	1	1	-	-	-	-
27	60632-000	Pin, Cotter, Steel, Reusable, .125" Thick	1	1	-	-	-	-
28	60643-000	Pin, Clevis, SST, 1.50" x .5"	-	-	1	1	1	1
29	60644-000	Pin, Cotter, SST, Reusable, .125" Thick	-	-	1	1	1	1
30	60657-000	Washer, Flat, SST, 0.500"	-	-	-	-	7	7
31	60661-000	Nut, Jam, SST, .625-11	-	-	-	-	2	2
32	60663-000	Nut, Heavy Hex, SST, 0.625"-11	-	-	-	-	-	2
33	60678-000	Washer, Flat, SST, 2" OD, 0.75"	-	-	-	-	2	2
34	60757-000	Washer, Flat F436, HDG, .500, .536 x 1.375	7	7	7	7	-	-





Exp 01/31/2027

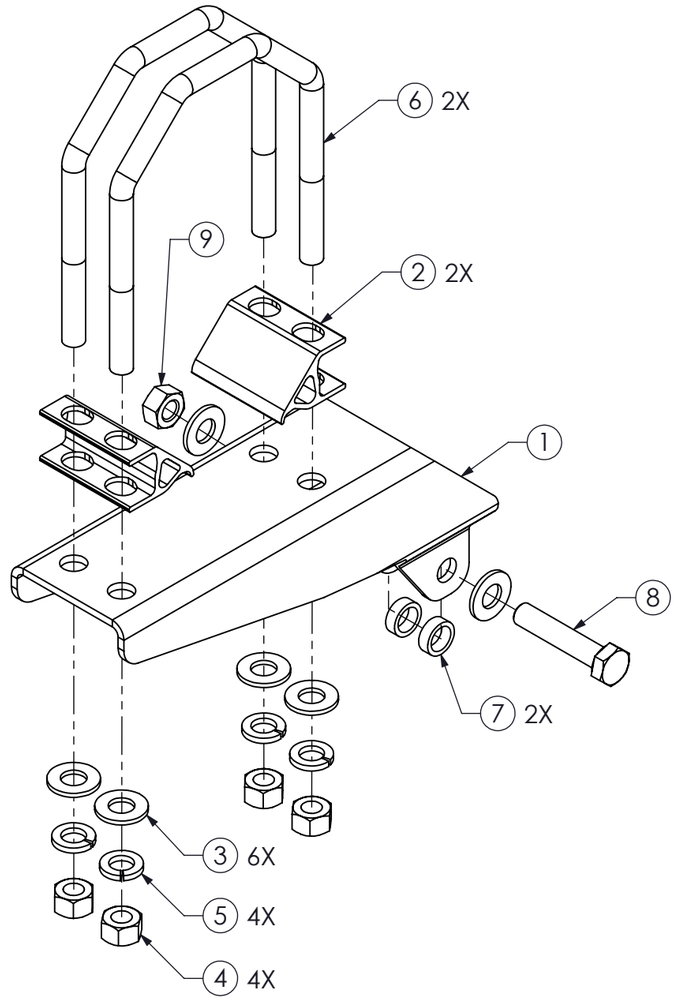
03/14/2026

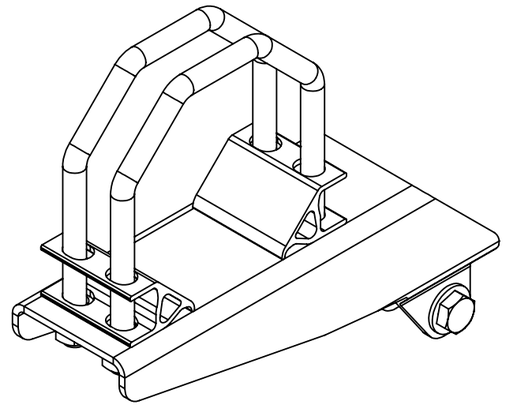
SIZE	DRAWING NUMBER	REVISION	
B	21065-901	A	10/27/2023
SCALE 1:10		SHEET	2 OF 2

Template_Drawing_mm_v6

NOTES:

1. HARDWARE TO BE PACKAGED SEPARATELY.





ARRAY PN: 25242-000

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	30835-000	Bracket, Coil Over Damper, Upper, HDG, .164"	1
2	30978-000	Wedge, Upper Damper Bracket, Aluminum	2
3	60006-000	Washer, Flat SAE F436 HDG, .500	6
4	60010-000	Nut, Hex, Grade 5, HDG, .500-13	4
5	60017-000	Washer, Split Lock HDG, .500	4
6	60448-575	U-bolt, Octagon, Grade 5 HDG, .500-13 x 5.75	2
7	60655-000	Spacer, 18-8 Stainless Steel, 0.75" OD X 0.25"	2
8	60782-060	Screw, Structural Hex Head, DIN 931, Grade 10.9, Fe/Zn-Ni 5C, M12-1.75 x 60	1
9	60783-000	Nut, Hex, DIN 934, Fe/Zn-Ni 5C, M12-1.75, Lubricated	1

Exp 01/31/2027

03/14/2026

ZONE	REV	ECR #	DESCRIPTION	ENGR	DATE
	A		INITIAL RELEASE	MK	10/27/2023

APPLICABLE TRACKER SYSTEMS:

DRAWING STATUS: **Final**

DRAWN: INITIALS: RM DATE: 02/23/2023

DRAWING CHECK: INITIALS: DS DATE: 5/12/2023

ENG. CHECK: INITIALS: MK DATE: 08/30/2023

FINAL APPROVAL: INITIALS: SB DATE: 10/27/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]: X = ±1.25 [0.049], .X = ±0.4 [0.016], .XX = ±0.1 [0.004]

METER [INCH]: X.XX = ±0.013 [0.512], X.XXX = ±0.006 [0.236]

ANGULAR: X = ±1.0°, .X = ±0.1°

ARRAY TECHNOLOGIES

3901 Midway Place NE, Albuquerque, NM 87109

(505) 881-7567

TITLE: **Kit, Coil Over Damper, Upper Bracket, Hardware, Wedged, L/M**

SIZE	DRAWING NUMBER	REVISION	SAVED v15
B	25242-901	A	10/27/2023

SCALE 1:3 | WT: 2.414kg [5.322lb] | SHEET 1 OF 1

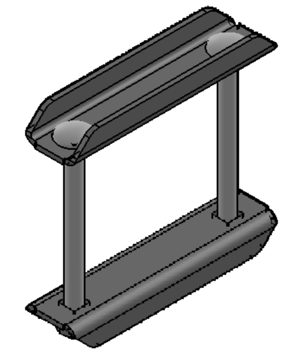
Template_Drawing_mm_v6

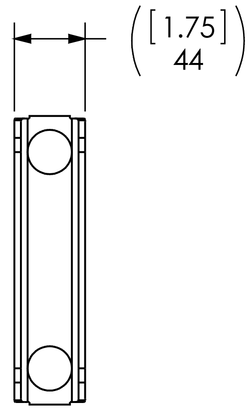
NOTES:

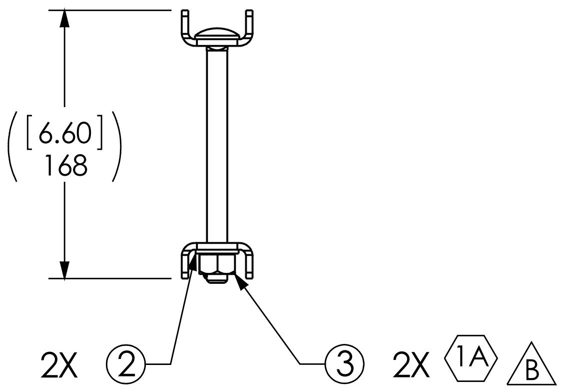
1. TORQUE SPECIFICATION:

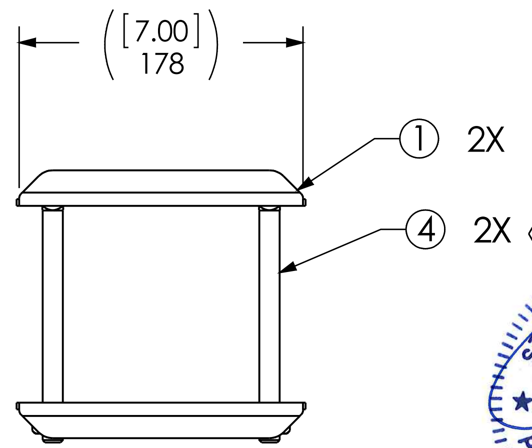
   1A 51.5±3N-M [38(±)3 FT-LBS]

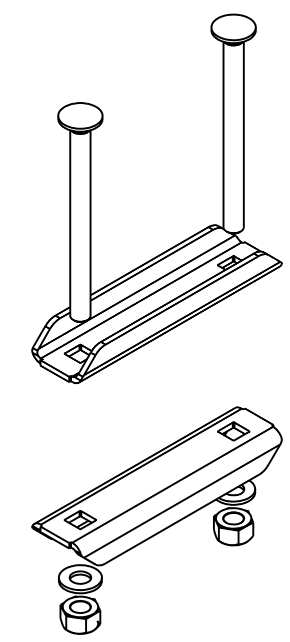
2. ALTERNATE CARRIAGE BOLT USAGE:
   60572-650 BOLT, CARRIAGE, HDG, .500-13, GRADE 2, 6.50"
   60445-650 BOLT, CARRIAGE, HDG, .500-13, GRADE 5, 6.50" B
   60445-600 BOLT, CARRIAGE, HDG, .500-13, GRADE 5, 6.00

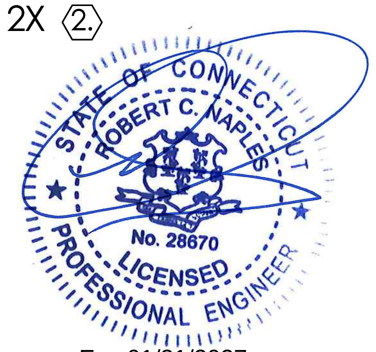












Exp 01/31/2027
03/14/2026

REV	DESCRIPTION	DATE
B	ALT BOLTS ADDED HW UPDATED PER ECR-16004	1/28/2016
A	INITIAL RELEASE	1/14/2016

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	30540-000	Channel, Torque Tube Clamp, A653, G90, 1.75" x 0.875" x 0.164"	2
2	60006-000	Washer, Flat SAE F436 HDG, .500	2
3	60503-000	Nut, Pin Lock, Heavy Hex Grade 2H HDG, Lubricated, 0.5"-13	2
4	60572-600	Bolt, Carriage, HDG, .500-13, Grade 2, 6.00"	2

B

PROPRIETARY AND CONFIDENTIAL

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ARRAY TECHNOLOGIES. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION FROM ARRAY TECHNOLOGIES IS PROHIBITED.

UNLESS OTHERWISE SPECIFIED DIMS ARE DUAL UNITS: MILLIMETER [INCH]
TOLERANCES, mm [in]:
X = ±1.25 [±0.050"]
.X = ±0.4 [±0.015"]
.XX = ±0.1 [±0.004"]
TOLERANCES, m [in]:
X.XX = ±0.013 [±0.5"]
X.XXX = ±0.006 [±0.25"]
ANGULAR:
X = ±1.0°
.X = ±.1°

DRAWING STATUS: Retire - Superseded
PRODUCT STATUS: Review

	NAME	DATE
DRAWN	KT	01/15/2016
CHECKED	JW	2/5/2016
APPROVED	CB	2/4/2016

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

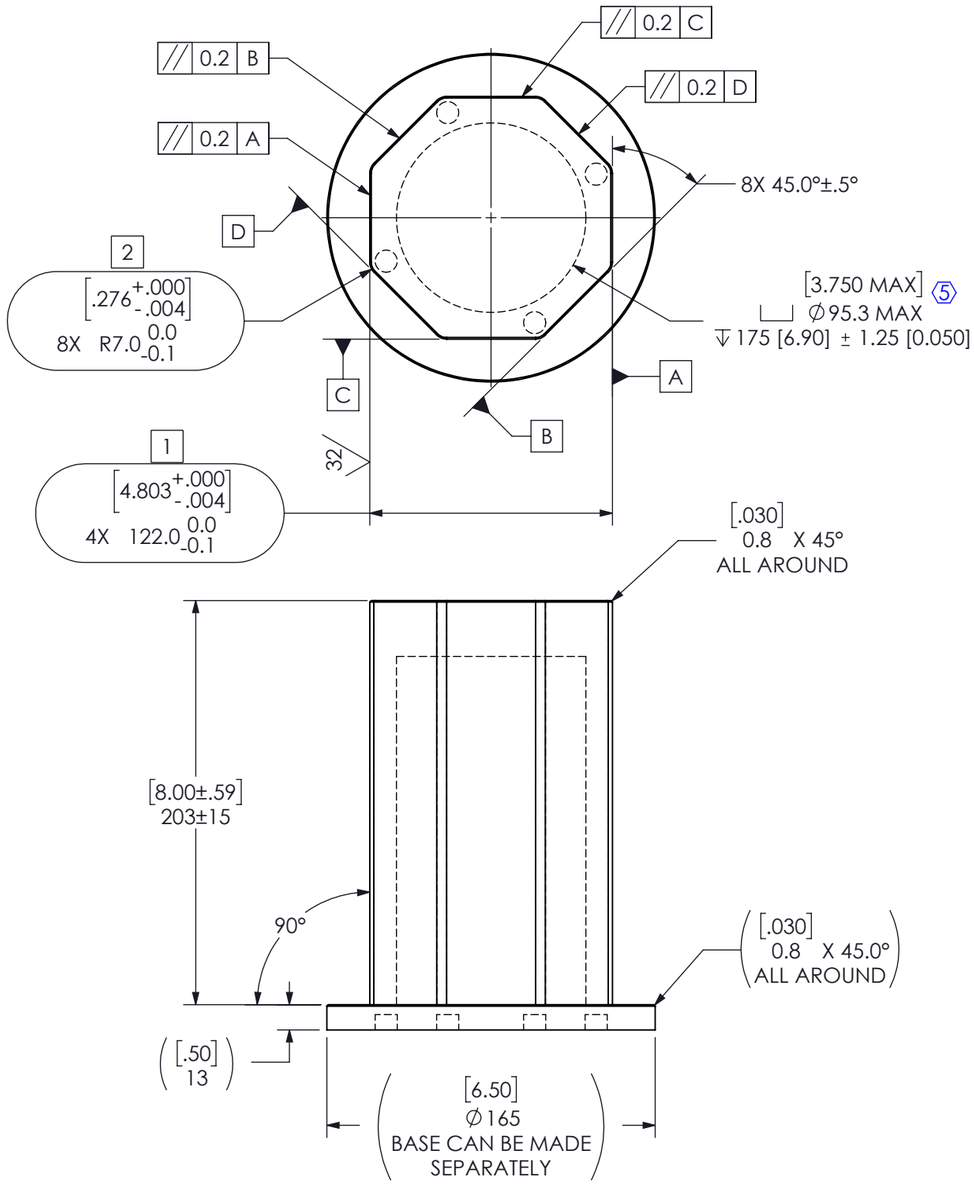
TITLE: **Kit, Clamp, Torque Tube, Octagon, Standard**

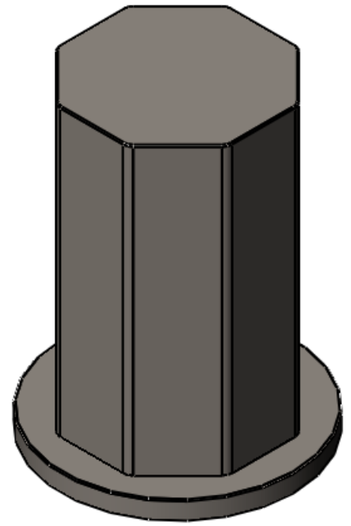
SIZE	PRODUCT NUMBER	REVISION	SAVED v18
B	25096-000	B	2/5/2016
SCALE 1:10	DWG NO. 25096-901	WT: 1.25 KG [2.775LB]	SHEET 1 OF 1

NOTES:

1. MATERIAL: D2 TOOL STEEL, RC 60 OR AISI 4140 STEEL OR EQUIVALENT. HEAT TREAT AND OIL QUENCH HARDENING MIN HRC 60.
   ALTERNATE MATERIAL OF RC/HRC 60 MAY BE APPROVED, CONSULT WITH ARRAY FOR APPROVAL.
2. FINISH: PLAIN
3. TEXT CONTAINED WITHIN THIS SYMBOL (⬭) ARE CRITICAL DIMENSIONS, REQUIRING SPC ([#]) AT ARRAY'S DISCRETION. MINIMUM INSPECTION FREQUENCY 6 MONTHS.
4. REMOVE ALL BURRS IN EXCESS OF .25mm [.010"]

⟨5⟩ NON-CRITICAL DIMENSION FOR WEIGHT SAVINGS ONLY. NOT REQUIRED FOR INSPECTION OF THE GAUGE.





ARRAY P/N: 71005-000

Exp 01/31/2027

03/14/2026

ZONE	REV	ECR #	DESCRIPTION	ENGR	DATE
	A		INITIAL RELEASE	MK	10/27/2023

APPLICABLE TRACKER SYSTEMS:

DRAWING STATUS: **Final**

DRAWN — INITIALS: MK DATE: 04/07/2023	DRAWING CHECK — INITIALS: NC DATE: 7/31/2023
ENG. CHECK — INITIALS: MK DATE: 10/03/2023	FINAL APPROVAL — INITIALS: SB DATE: 10/27/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

mm [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **Test Fixture, Damper Assembly, Go Gauge**

SIZE	DRAWING NUMBER	REVISION	SAVED v13
B	71005-901	A	10/27/2023

SCALE 1:3 — WT: 11.98kg [26.411Lbs] — SHEET 1 OF 1

Template_Drawing_mm_v6

NOTES:

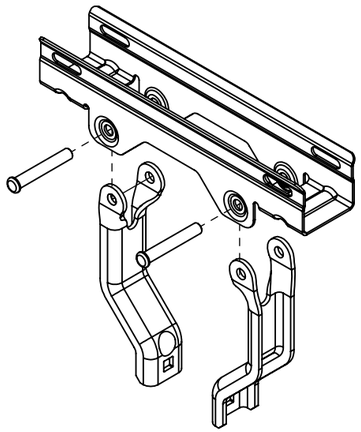
1. FORM RIVET HEAD BY ORBITAL RIVETING PROCESS. RIVET HEAD SHAPE TO BE APPROVED BY ARRAY. HINGE MUST PIVOT FREELY BY HAND AFTER FORMING.

2. OPTIONAL ASSEMBLY DATE MARKING WHERE SHOWN.

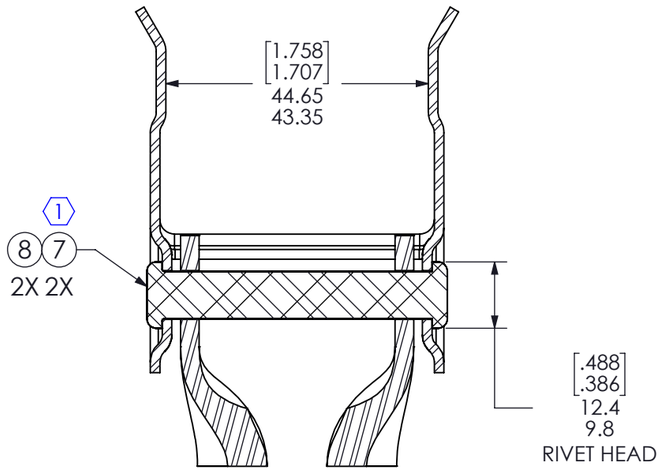
ARRAY PART NUMBER DESIGNATION

21014-XXX

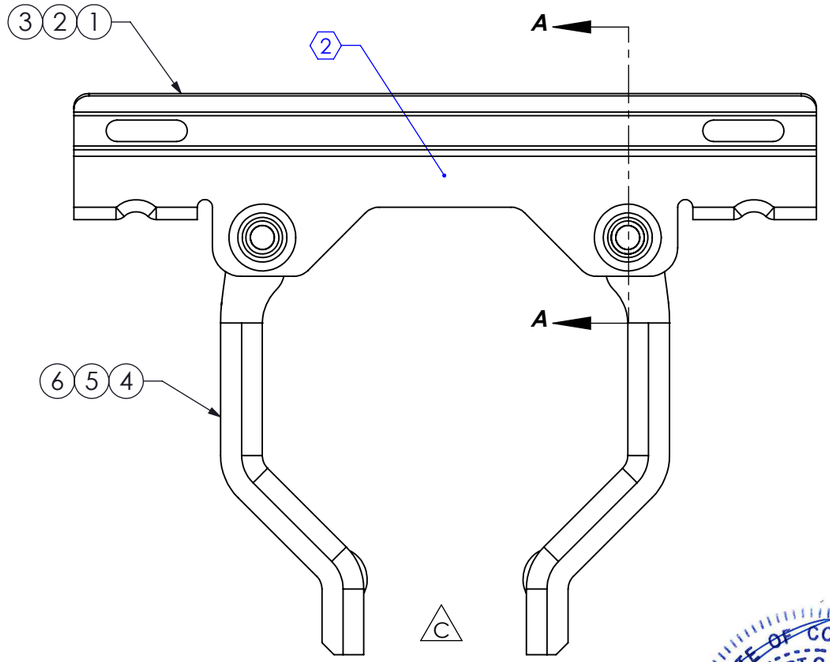
- ARRAY PART NUMBER EXTENSION INDICATES CORROSION GROUP
  - -200 INDICATES LOW CORROSION
  - -300 INDICATES MEDIUM CORROSION
  - -400 INDICATES HIGH CORROSION
- ARRAY PART NUMBER

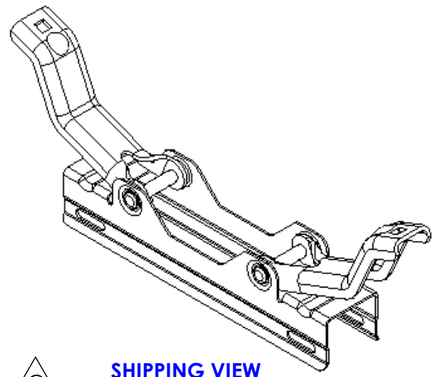


ARRAY P/N: 21014-XXX



SECTION A-A

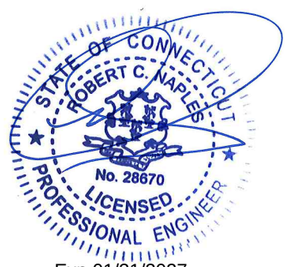




C

SHIPPING VIEW
STRAPS FOLDED DOWN

ITEM NO.	PART NUMBER	DESCRIPTION	-200	-300	-400
1	30938-200	Rail, Stamped, 200mm FS7 Clamp, 16Ga, L	1	-	-
2	30938-300	Rail, Stamped, 200mm FS7 Clamp, 16Ga, M	-	1	-
3	30938-400	Rail, Stamped, 200mm FS7 Clamp, 16Ga, H	-	-	1
4	30939-200	Strap, Stamped, Short, 11Ga, L	2	-	-
5	30939-300	Strap, Stamped, Short, 11Ga, M	-	2	-
6	30939-400	Strap, Stamped, Short, 11Ga, H	-	-	2
7	60874-202	Rivet, Pan Head, Steel, 0.313", 2.02, L/M	2	2	-
8	60875-202	Rivet, Pan Head, Stainless, 0.313", 2.02, H	-	-	2



Exp 01/31/2027
03/14/2026

ZONE	REV	ECR #	DESCRIPTION	DATE
B3, B5	C	US-23125	REMOVED NOTE 2, 60825-300 AND 60852-000, ADDED SHIPPING VIEW	8/25/2023
A6, C7, C8	B	US-23112	ADDED L/M RIVETS TO L/M CONFIGS, ADJUSTED DIMENSIONS	7/27/2023
	A		INITIAL RELEASE	12/12/2022

APPLICABLE TRACKER SYSTEMS:

DRAWING STATUS: Final

DRAWN	DRAWING CHECK
INITIALS: RM DATE: 09/20/2022	INITIALS: RM DATE: 9/1/2023
ENG. CHECK	FINAL APPROVAL
INITIALS: SB DATE: 09/01/2023	INITIALS: SB DATE: 9/1/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH], DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

mm [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: **Assembly, FS7 Clamp, 200mm, L/M/H**

SIZE	DRAWING NUMBER	REVISION	SAVED v31
B	21014-901	C	9/1/2023
SCALE 1:2	WT: 0.751kg [1.656Lbs]	SHEET	1 OF 1

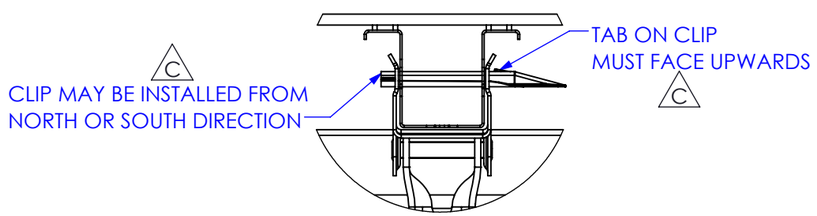
Template_Drawing_mm_v6

NOTES: C

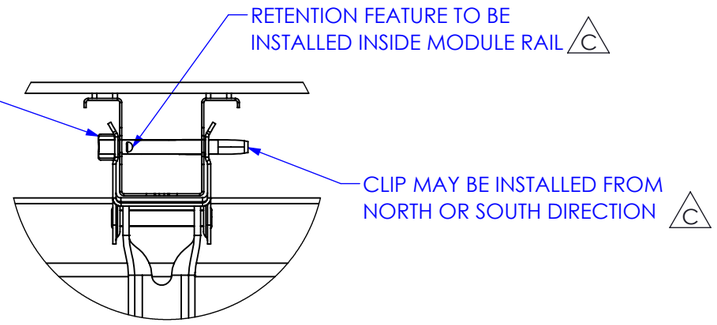
1. QUANTITY OF COMPONENTS SHOWN IN BOM IS PER MODULE.
2. REFER TO 90139-000 INSTALLATION ADDENDUM FOR DETAILS.
3. TORQUE SPECIFICATION:

   3A 23±1.5 N-M [17±2 FT-LBS]

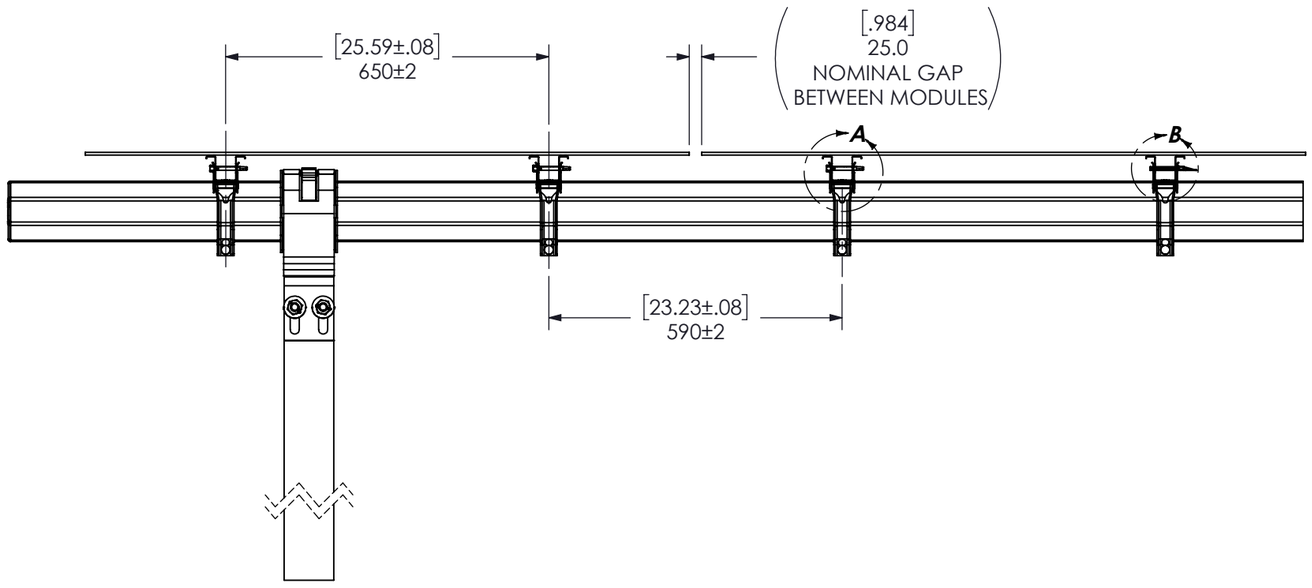
4. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
5. STRAP HARDWARE ARE SHIPPED SEPARATELY.
6. ALTERNATE PART # 60877-000 MAY BE SUBSTITUTED FOR 60956-XXX.

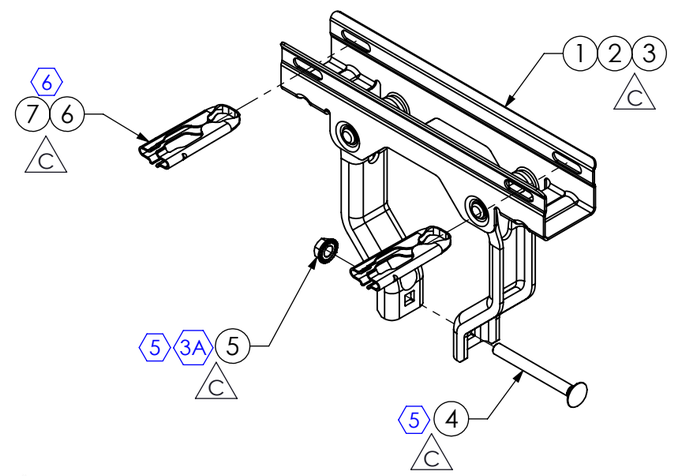


6 ***DETAIL B***
60877-000 CLIP



DETAIL A
60956-XXX CLIP





1
EXPLODED VIEW
SEE BOM FOR QUANTITY C

1

ITEM NO.	PART NUMBER	DESCRIPTION	-200	-300	-400	
1	21014-200	Assembly, FS7 Clamp, 200mm, L	2	-	-	
2	21014-300	Assembly, FS7 Clamp, 200mm, M	-	2	-	
3	21014-400	Assembly, FS7 Clamp, 200mm, H	-	-	2	
4	60825-300	Bolt, Carriage, Grade 8, 5/16-18 x 3.000, H	2	2	2	5 C
5	60852-000	Nut, Serrated Hex Flange, Grade 8, 5/16-18, H	2	2	2	5 C
6	60956-300	Clip, Stamped, FS7 Clamp, L/M	4	4	-	6 C
7	60956-400	Clip, Stamped, FS7 Clamp, H	-	-	4	6 C

Exp 01/31/2027
03/14/2026

ZONE	REV	ECR #	DESCRIPTION	DATE
A6, B2, B3, C1, C3, D1, D4, D5, D8	C	US-23125	UPDATED NOTES, REMOVED DESIGNATION, REPLACED CLIP, ADDED HARDWARE AND PREV CLIP VIEW	8/25/2023
A3	B	US-23015	ADDED APPLICABLE TRACKER SYSTEM	2/14/2023
	A		INITIAL RELEASE	1/26/2023

APPLICABLE TRACKER SYSTEMS:
DuraTrack
OmniTrack

DRAWING STATUS: Final

DRAWN	DRAWING CHECK
INITIALS: RM DATE: 10/25/2022	INITIALS: DS DATE: 9/7/2023
ENG. CHECK	FINAL APPROVAL
INITIALS: SB DATE: 09/07/2023	INITIALS: SB DATE: 9/7/2023

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]. DIMENSIONS IN BRACKETS ARE FOR REFERENCE ONLY.

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.049]	X.XX = ±0.013 [0.512]	X = ±1.0°
.X = ±0.4 [0.016]	X.XXX = ±0.006 [0.236]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: Field Assembly, FS7 Clamp, 200mm, L/M/H

SIZE	DRAWING NUMBER	REVISION	SAVED v35
B	21015-901	C	9/7/2023
SCALE 1:12		SHEET	1 OF 1

Template_CF Drawing_mm_v6

CONFIGURATION TABLE

PART NUMBER	DESCRIPTION	DIM B MM [IN]	DIM C MM [IN]	DIM D MM [IN]	DIM E MM [IN]	WEIGHT KG/M [LB/FT]
33000-01-XXX	I-Beam, W6 X 7, STD Bearing, X.XXm (XXX")	147.1 [5.790]	3.4 [0.135]	99.2 [3.905]	4.1 [0.160]	10.4 [7.000]
33000-02-XXX	I-Beam, W6 X 7.75, STD Bearing, X.XXm (XXX")	147.8 [5.820]	3.8 [0.151]	99.6 [3.921]	4.5 [0.177]	11.5 [7.750]
33000-03-XXX	I-Beam, W6 X 8.5, STD Bearing, X.XXm (XXX")	148.1 [5.830]	4.3 [0.170]	100.1 [3.940]	5.0 [0.195]	12.6 [8.500]
33000-04-XXX	I-Beam, W6 X 9, STD Bearing, X.XXm (XXX")	149.9 [5.900]	4.3 [0.170]	100.1 [3.940]	5.5 [0.215]	13.4 [9.000]
33000-05-XXX	I-Beam, W6 X 10.4, STD Bearing, X.XXm (XXX")	151.4 [5.960]	5.1 [0.200]	100.8 [3.970]	6.3 [0.247]	15.5 [10.400]
33000-06-XXX	I-Beam, W6 X 12, STD Bearing, X.XXm (XXX")	153.2 [6.030]	5.8 [0.230]	101.6 [4.000]	7.1 [0.280]	17.9 [12.000]
33000-07-XXX	I-Beam, W6 X 15, STD Bearing, X.XXm (XXX")	152.1 [5.990]	5.8 [0.230]	152.1 [5.990]	6.6 [0.260]	22.3 [15.000]
33000-08-XXX	I-Beam, W6 X 16, STD Bearing, X.XXm (XXX")	159.5 [6.280]	6.6 [0.260]	102.4 [4.030]	10.3 [0.405]	23.8 [16.000]
33000-09-XXX	I-Beam, W6 X 20, STD Bearing, X.XXm (XXX")	157.5 [6.200]	6.6 [0.260]	152.9 [6.020]	9.3 [0.365]	29.8 [20.000]
33000-10-XXX	I-Beam, W6 X 25, STD Bearing, X.XXm (XXX")	162.1 [6.380]	8.1 [0.320]	154.4 [6.080]	11.6 [0.455]	37.2 [25.000]
33000-11-XXX	I-Beam, W8 X 10, STD Bearing, X.XXm (XXX")	200.4 [7.890]	4.3 [0.170]	100.1 [3.940]	5.2 [0.205]	14.9 [10.000]
33000-12-XXX	I-Beam, W8 X 13, STD Bearing, X.XXm (XXX")	202.9 [7.990]	5.8 [0.230]	101.6 [4.000]	6.5 [0.255]	19.3 [13.000]
33000-13-XXX	I-Beam, W8 X 15, STD Bearing, X.XXm (XXX")	206.0 [8.110]	6.2 [0.245]	102.1 [4.020]	8.0 [0.315]	22.3 [15.000]
33000-14-XXX	I-Beam, W8 X 18, STD Bearing, X.XXm (XXX")	206.8 [8.140]	5.8 [0.230]	133.4 [5.250]	8.4 [0.330]	26.8 [18.000]
33000-15-XXX	I-Beam, W6 X 10.5, STD Bearing, X.XXm (XXX")	151.6 [5.970]	4.6 [0.181]	101.6 [4.000]	6.4 [0.250]	15.6 [10.500]

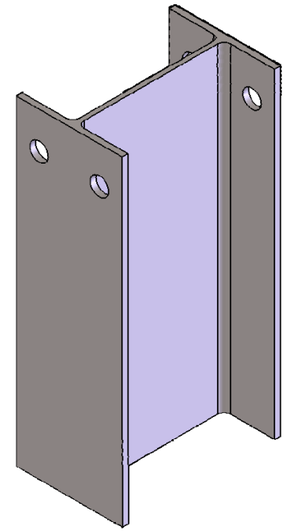
NOTES:

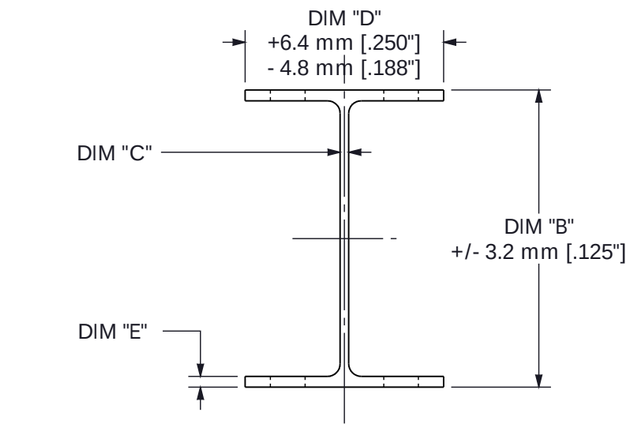
1. ALL FABRICATION AND OVERALL DIMS POST FINISH.
2. MATERIAL:
   STEEL, ASTM A572 GRADE 50 OR ASTM A992 GRADE 50 OR WITH EQUAL/GREATER STRUCTURAL PROPERTIES.
3. FINISH:
   REMOVE MILL SCALE, HOT DIP GALVANIZE (HDG), MIN GRADE 65 PER ASTM A123, OR OTHER APPROVED COATING BY THE FOUNDATION ENGINEER OF RECORD. REPAIR ANY DAMGED AREA PER ASTM A780.
4. ALL UNSPECIFED TOLERANCES AND QUALITY REQUIREMENTS PER ASTM A6 OR EQUIVALENT STANDARD.
5. REMOVE ALL BURRS AND SHARP EDGES PRIOR TO HOT DIP GALVANIZING.
6. ALL FABRICATION SHALL BE PERFORMED PRIOR TO HOT DIP GALVANIZING.
7. HOLE PATTERN DIMENSIONS REMAIN THE SAME REGARDLESS OF COLUMN HEIGHT.
8. ARRAY MUST BE NOTIFIED OF ALL CHANGES TO PILES FROM ORIGINAL SPEC.
9. SUPPLIER IDENTIFICATION MARK REQUIRED. ARRAY TO APPROVE LOCATION AND DESIGN AT TIME OF ORDER.

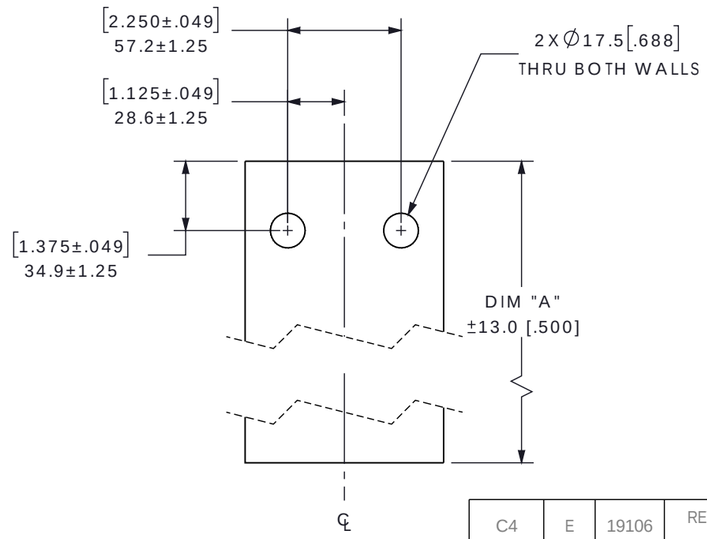
ARRAY PART NUMBER DESIGNATION

33000-XX-XXX

- INDICATES LENGTH OF DIM "A" IN X.XX METERS
  EXAMPLE: W6 X 9, 2.51M ARRAY PN: 33000-04-251
- INDICATES CONFIGURATION NUMBER
- ARRAY PART NUMBER







ACTUAL I-BEAM SIZE AND LENGTH TO BE DETERMINED BY FOUNDATION ENGINEER.

Exp 01/31/2027

03/14/2026

ZONE	REV	ECR #	DESCRIPTION	DATE
C4	E	19106	REVISED CONFIG TABLE; ADDED 33000-15-XXX	9/6/2019
	D	19050	REVISED TOLERANCE AND NOTE	04/03/2019
	C	19011	REVISED HOLE TOLERANCE	02/26/2019

DRAWING STATUS: Final

DRAWN: KB 07/24/2018

DRAWING CHECK: RM 9/10/2019

ENG. CHECK:

FINAL APPROVAL: SB 9/10/2019

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]: X = ±1.25 [0.050], .X = ±0.4 [0.015], .XX = ±0.1 [0.004]

METER [INCH]: X.XX = ±0.013 [0.500], X.XXX = ±0.006 [0.250]

ANGULAR: X = ±1.0°, .X = ±0.1°

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: I-beam, XXX, STD Bearing, X.XXm (XXX")

SIZE	DRAWING NUMBER	REVISION	SAVED v47
B	33000-XX-901	E-01	9/10/2019

SCALE 1:3 | SEE CONFIG. TABLE | SHEET 1 OF 1

CONFIGURATION TABLE

PART NUMBER	DESCRIPTION	DIM B MM [IN]	DIM C MM [IN]	DIM D MM [IN]	DIM E MM [IN]	WEIGHT KG/M [LB/FT]
33002-01-XXX	I-Beam, W6 X 7, LRG Bearing, X.XXm (XXX")	147.1 [5.790]	3.4 [0.135]	99.2 [3.905]	4.1 [0.160]	10.4 [7.000]
33002-02-XXX	I-Beam, W6 X 7.75, LRG Bearing, X.XXm (XXX")	147.8 [5.820]	3.8 [0.151]	99.6 [3.921]	4.5 [0.177]	11.5 [7.750]
33002-03-XXX	I-Beam, W6 X 8.5, LRG Bearing, X.XXm (XXX")	148.1 [5.830]	4.3 [0.170]	100.1 [3.940]	5.0 [0.195]	12.6 [8.500]
33002-04-XXX	I-Beam, W6 X 9, LRG Bearing, X.XXm (XXX")	149.9 [5.900]	4.3 [0.170]	100.1 [3.940]	5.5 [0.215]	13.4 [9.000]
33002-05-XXX	I-Beam, W6 X 10.4, LRG Bearing, X.XXm (XXX")	151.4 [5.960]	5.1 [0.200]	100.8 [3.970]	6.3 [0.247]	15.5 [10.400]
33002-06-XXX	I-Beam, W6 X 12, LRG Bearing, X.XXm (XXX")	153.2 [6.030]	5.8 [0.230]	101.6 [4.000]	7.1 [0.280]	17.9 [12.000]
33002-07-XXX	I-Beam, W6 X 15, LRG Bearing, X.XXm (XXX")	152.1 [5.990]	5.8 [0.230]	152.1 [5.990]	6.6 [0.260]	22.3 [15.000]
33002-08-XXX	I-Beam, W6 X 16, LRG Bearing, X.XXm (XXX")	159.5 [6.280]	6.6 [0.260]	102.4 [4.030]	10.3 [0.405]	23.8 [16.000]
33002-09-XXX	I-Beam, W6 X 20, LRG Bearing, X.XXm (XXX")	157.5 [6.200]	6.6 [0.260]	152.9 [6.020]	9.3 [0.365]	29.8 [20.000]
33002-10-XXX	I-Beam, W6 X 25, LRG Bearing, X.XXm (XXX")	162.1 [6.380]	8.1 [0.320]	154.4 [6.080]	11.6 [0.455]	37.2 [25.000]
33002-11-XXX	I-Beam, W8 X 10, LRG Bearing, X.XXm (XXX")	200.4 [7.890]	4.3 [0.170]	100.1 [3.940]	5.2 [0.205]	14.9 [10.000]
33002-12-XXX	I-Beam, W8 X 13, LRG Bearing, X.XXm (XXX")	202.9 [7.990]	5.8 [0.230]	101.6 [4.000]	6.5 [0.255]	19.3 [13.000]
33002-13-XXX	I-Beam, W8 X 15, LRG Bearing, X.XXm (XXX")	206.0 [8.110]	6.2 [0.245]	102.1 [4.020]	8.0 [0.315]	22.3 [15.000]
33002-14-XXX	I-Beam, W8 X 18, LRG Bearing, X.XXm (XXX")	206.8 [8.140]	5.8 [0.230]	133.4 [5.250]	8.4 [0.330]	26.8 [18.000]

NOTES:

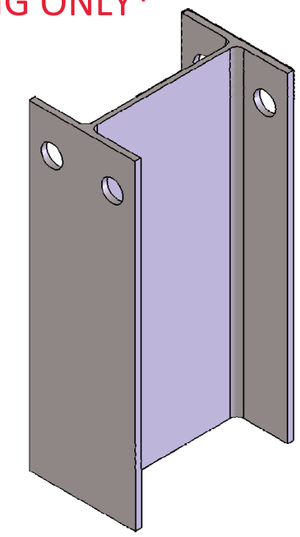
1. ALL FABRICATION AND OVERALL DIMS POST FINISH.
2. MATERIAL:
   STEEL, ASTM A572 GRADE 50 OR ASTM A992 GRADE 50 OR WITH EQUAL/GREATER STRUCTURAL PROPERTIES.
3. FINISH:
   REMOVE MILL SCALE, HOT DIP GALVANIZE (HDG), MIN GRADE 65 PER ASTM A123, OR OTHER APPROVED COATING BY THE FOUNDATION ENGINEER OF RECORD. REPAIR ANY DAMGED AREA PER ASTM A780.
4. ALL UNSPECIFED TOLERANCES AND QUALITY REQUIREMENTS PER ASTM A6 OR EQUIVALENT STANDARD. (C)
5. REMOVE ALL BURRS AND SHARP EDGES PRIOR TO HOT DIP GALVANIZING.
6. ALL FABRICATION SHALL BE PERFORMED PRIOR TO HOT DIP GALVANIZING.
7. HOLE PATTERN DIMENSIONS REMAIN THE SAME REGARDLESS OF COLUMN HEIGHT.
8. ARRAY MUST BE NOTIFIED OF ALL CHANGES TO PILES FROM ORIGINAL SPEC.
9. SUPPLIER IDENTIFICATION MARK REQUIRED. ARRAY TO APPROVE LOCATION AND DESIGN AT TIME OF ORDER.
10. THIS PAGE APPLIES TO HIGH WIND BEARINGS ONLY

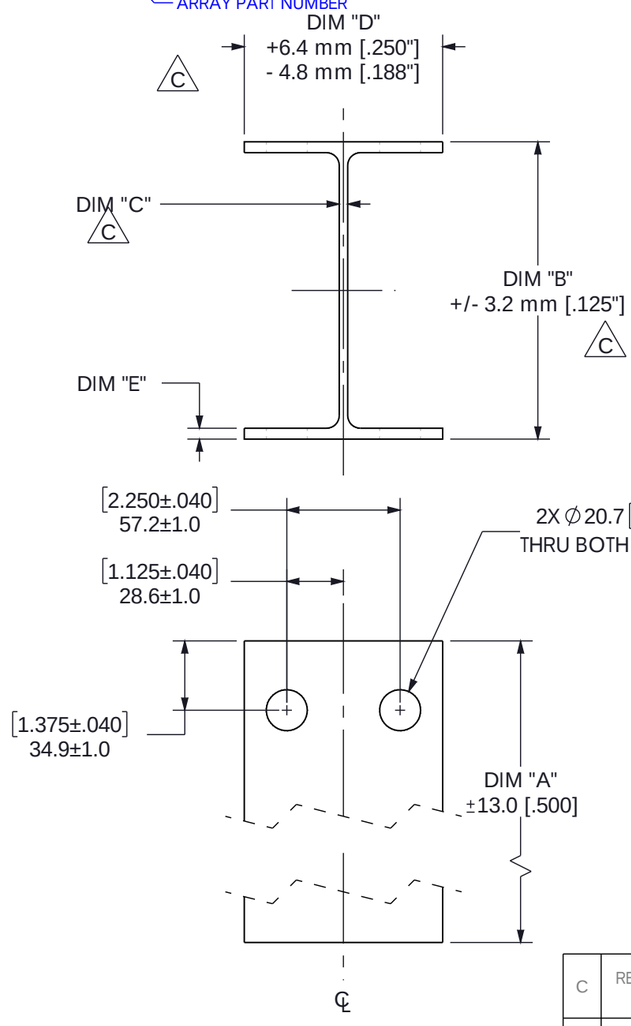
ARRAY PART NUMBER DESIGNATION

33002-XX-XXX

- ARRAY PART NUMBER
- INDICATES CONFIGURATION NUMBER
- INDICATES LENGTH OF DIM "A" IN X.XX METERS
  EXAMPLE: W6 X 9, 2.51M ARRAY PN: 33002-04-251

HIGH WIND BEARING ONLY





ACTUAL I-BEAM SIZE AND LENGTH TO BE DETERMINED BY FOUNDATION ENGINEER.

STATE OF CONNECTICUT · ROBERT C. NAPLES · No. 28670 · LICENSED PROFESSIONAL ENGINEER

Exp 01/31/2027

03/14/2026

REV	DESCRIPTION	DATE
C	REVISED TOLERANCE AND NOTE PER ECR 19050	4/3/2019
B	CHANGED LENGTH TO METERS AND CHANGED DESCRIPTION PER ECR 18096	8/21/2018
A	INITIAL RELEASE	7/27/2018

DRAWING STATUS: Final

DRAWN	DRAWING CHECK
INITIALS: KB DATE: 07/24/2018	INITIALS: CD DATE: 4/3/2019
ENG. CHECK	FINAL APPROVAL
INITIALS: DATE:	INITIALS: AH DATE: 4/3/2019

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.050]	X.XX = ±0.013 [0.500]	X = ±1.0°
.X = ±0.4 [0.015]	X.XXX = ±0.006 [0.250]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES
3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: I-beam, XXX, LRG Bearing, X.XXm (XXX")

SIZE	DRAWING NUMBER	REVISION	SAVED v25
B	33002-XX-901	C-01	7/30/2019

SCALE 1:3 — WT: 4.08 KG ["weight - convert kg@30712.000SLDPRT LB]

SHT 1 OF 1

CONFIGURATION TABLE

PART NUMBER	DESCRIPTION	DIM B MM [IN]	DIM C MM [IN]	DIM D MM [IN]	DIM E MM [IN]	WEIGHT KG/M [LB/FT]
33001-01-XXX	I-Beam, W6 X 7, Center Structure, X.XXm (XXX")	147.1 [5.790]	3.4 [0.135]	99.2 [3.905]	4.1 [0.160]	10.4 [7.000]
33001-02-XXX	I-Beam, W6 X 7.75, Center Structure, X.XXm (XXX")	147.8 [5.820]	3.8 [0.151]	99.6 [3.921]	4.5 [0.177]	11.5 [7.750]
33001-03-XXX	I-Beam, W6 X 8.5, Center Structure, X.XXm (XXX")	148.1 [5.830]	4.3 [0.170]	100.1 [3.940]	5.0 [0.195]	12.6 [8.500]
33001-04-XXX	I-Beam, W6 X 9, Center Structure, X.XXm (XXX")	149.9 [5.900]	4.3 [0.170]	100.1 [3.940]	5.5 [0.215]	13.4 [9.000]
33001-05-XXX	I-Beam, W6 X 10.4, Center Structure, X.XXm (XXX")	151.4 [5.960]	5.1 [0.200]	100.8 [3.970]	6.3 [0.247]	15.5 [10.400]
33001-06-XXX	I-Beam, W6 X 12, Center Structure, X.XXm (XXX")	153.2 [6.030]	5.8 [0.230]	101.6 [4.000]	7.1 [0.280]	17.9 [12.000]
33001-07-XXX	I-Beam, W6 X 15, Center Structure, X.XXm (XXX")	152.1 [5.990]	5.8 [0.230]	152.1 [5.990]	6.6 [0.260]	22.3 [15.000]
33001-08-XXX	I-Beam, W6 X 16, Center Structure, X.XXm (XXX")	159.5 [6.280]	6.6 [0.260]	102.4 [4.030]	10.3 [0.405]	23.8 [16.000]
33001-09-XXX	I-Beam, W6 X 20, Center Structure, X.XXm (XXX")	157.5 [6.200]	6.6 [0.260]	152.9 [6.020]	9.3 [0.365]	29.8 [20.000]
33001-10-XXX	I-Beam, W6 X 25, Center Structure, X.XXm (XXX")	162.1 [6.380]	8.1 [0.320]	154.4 [6.080]	11.6 [0.455]	37.2 [25.000]
33001-11-XXX	I-Beam, W8 X 10, Center Structure, X.XXm (XXX")	200.4 [7.890]	4.3 [0.170]	100.1 [3.940]	5.2 [0.205]	14.9 [10.000]
33001-12-XXX	I-Beam, W8 X 13, Center Structure, X.XXm (XXX")	202.9 [7.990]	5.8 [0.230]	101.6 [4.000]	6.5 [0.255]	19.3 [13.000]
33001-13-XXX	I-Beam, W8 X 15, Center Structure, X.XXm (XXX")	206.0 [8.110]	6.2 [0.245]	102.1 [4.020]	8.0 [0.315]	22.3 [15.000]
33001-14-XXX	I-Beam, W8 X 18, Center Structure, X.XXm (XXX")	206.8 [8.140]	5.8 [0.230]	133.4 [5.250]	8.4 [0.330]	26.8 [18.000]
33001-15-XXX	I-Beam, W6 X 10.5, Center Structure, X.XXm (XXX"]	151.6 [5.970]	4.6 [0.181]	101.6 [4.000]	6.4 [0.250]	15.6 [10.500]

E

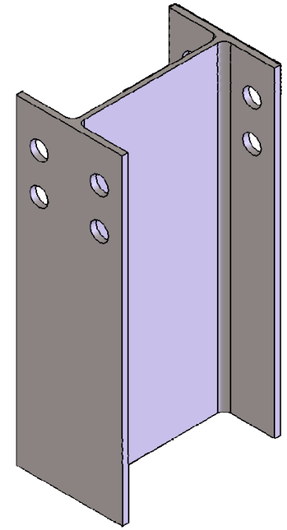
NOTES:

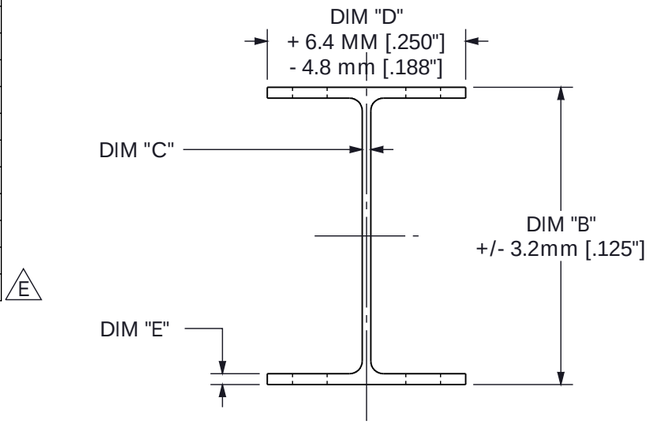
1. ALL FABRICATION AND OVERALL DIMS POST FINISH.
2. MATERIAL:
   STEEL, ASTM A572 GRADE 50 OR ASTM A992 GRADE 50 OR WITH EQUAL/GREATER STRUCTURAL PROPERTIES.
3. FINISH:
   REMOVE MILL SCALE, HOT DIP GALVANIZE (HDG), MIN GRADE 65 PER ASTM A123, OR OTHER APPROVED COATING BY THE FOUNDATION ENGINEER OF RECORD. REPAIR ANY DAMGED AREA PER ASTM A780.
4. ALL UNSPECIFED TOLERANCES AND QUALITY REQUIREMENTS PER ASTM A6 OR EQUIVALENT STANDARD.
5. REMOVE ALL BURRS AND SHARP EDGES PRIOR TO HOT DIP GALVANIZING.
6. ALL FABRICATION SHALL BE PERFORMED PRIOR TO HOT DIP GALVANIZING.
7. HOLE PATTERN DIMENSIONS REMAIN THE SAME REGARDLESS OF COLUMN HEIGHT.
8. ARRAY MUST BE NOTIFIED OF ALL CHANGES TO PILES FROM ORIGINAL SPEC.
9. SUPPLIER IDENTIFICATION MARK REQUIRED. ARRAY TO APPROVE LOCATION AND DESIGN AT TIME OF ORDER.
10. THIS HOLE PATTERN CAN ALSO BE USED ON STANDARD BEARING POSTS

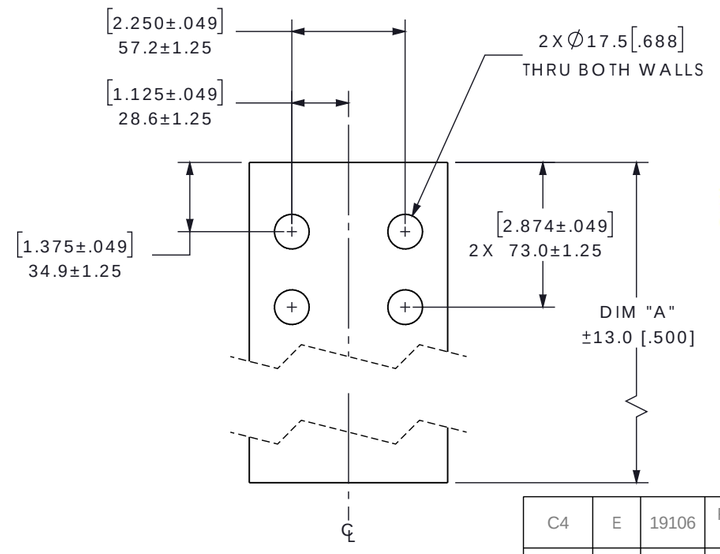
ARRAY PART NUMBER DESIGNATION

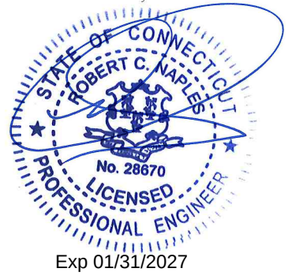
33001-XX-XXX

- INDICATES LENGTH OF DIM "A" IN X. XX METERS
  EXAMPLE: W6 X 9, 2.51M ARRAY PN: 33001-04-251
- INDICATES CONFIGURATION NUMBER
- ARRAY PART NUMBER









Exp 01/31/2027

03/14/2026

ACTUAL I-BEAM SIZE AND LENGTH TO BE DETERMINED BY FOUNDATION ENGINEER.

ZONE	REV	ECR #	DESCRIPTION	DATE
C4	E	19106	REVISED CONFIG TABLE; ADDED 33001-15-XXX	9/6/2019
	D	19050	REVISED TOLERANCE AND NOTE	04/03/2019
	C	19011	REVISED HOLE TOLERANCE	2/26/2019

DRAWING STATUS: Final

DRAWN INITIALS: KB DATE: 07/24/2018	DRAWING CHECK INITIALS: RM DATE: 9/10/2019
ENG. CHECK INITIALS: DATE:	FINAL APPROVAL INITIALS: SB DATE: 9/10/2019

THIRD ANGLE PROJECTION

ALL DIMS ARE DUAL UNITS: MILLIMETER [INCH]

TOLERANCES UNLESS OTHERWISE SPECIFIED

MM [INCH]:	METER [INCH]:	ANGULAR:
X = ±1.25 [0.050]	X.XX = ±0.013 [0.500]	X = ±1.0°
.X = ±0.4 [0.015]	X.XXX = ±0.006 [0.250]	.X = ±0.1°
.XX = ±0.1 [0.004]		

ARRAY TECHNOLOGIES

3901 Midway Place NE, Albuquerque, NM 87109
(505) 881-7567

TITLE: I-beam, XXX, Center Structure, X.XXm (XXX")

SIZE	DRAWING NUMBER	REVISION	SAVED v42
B	33001-XX-901	E-01	9/10/2019
SCALE 1:3	SEE CONFIG. TABLE	SHEET	1 OF 1

ITEM NO.	PART NUMBER	DESCRIPTION	SPI STD	SPI STD (SET SCREW)	SPI HW	SPI HW (SET SCREW)
1	21022-XXX	ASSY, STL BRG, SSCR, L/M/H	-	1	-	1
2	21023-XXX	ASSY, STL BRG, L/M/H	1	-	1	-
3	25244-000	Kit, 0.625"-11 x 2" Carriage Bolt, SAE Washer, Pin Lock Nut, HDG	2	2	2	2
4	25245-000	Kit, 0.625"-11 x 2" Bracket to Pile Hardware, HDG, SPI	4	4	-	-
5	25279-000	Kit, 0.625"-11x2" BRKT-Pile, GR8, SPI, H	-	-	4	4
6	30968-000	BRKT, STL BRG HSG, 48.0mm, 5/8", STD	2	2	-	-
7	31071-000	BRKT, STL BRG HSG, 48.0mm, 5/8", HW	-	-	2	2

NOTES:

1. REFER TO APPROPRIATE INSTALLATION MANUAL FOR ADDITIONAL INSTALL PROCEDURE DETAILS AND GUIDANCE.
2. LOOSEN JAM NUT ON SET SCREWS PRIOR TO TORQUING. ENSURE THAT THE SET SCREWS DO NOT PROTRUDE FROM THE CENTER STOP PRIOR TO SLIDING ON TORQUE TUBE.
3. TORQUE SPECIFICATION:

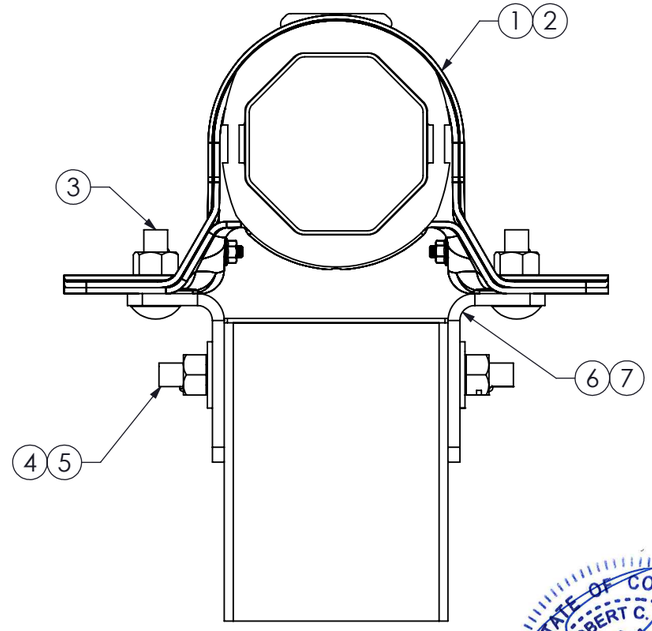
   (3A.) SET SCREWS TORQUED TO 12±1.5 N-M [9±1 FT-LBS] [108±12 IN-LBS]
   BOTH TORQUED TWICE WITH ALTERNATING PATTERN.

   (3B.) JAM NUTS TORQUED TO 16±1.5 N-M [12±1 FT-LBS] [144±12 IN-LBS]
   BOTH TORQUED TWICE WITH ALTERNATING PATTERN.

   (3C.) 169±14 N-M [125±10 FT-LBS]

   (3D.) 237±14 N-M [175±10 FT-LBS]

4. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
5. SET SCREW BEARING HOUSING ASSEMBLY TO BE USED ON FIRST BEARING COLUMN NORTH AND SOUTH OF GEAR RACK CENTER STRUCTURE AT MINIMUM. REFER TO ADP FOR LAYOUT OF BEARING HOUSING WITH SET SCREWS PER ROW.
6. RECOMMENDED SEQUENCE FOR PROPER TIGHTENING OF SET SCREW AND NUT; STARTING WITH THE SET SCREWS TORQUE TO SPECIFICATION. NEXT TORQUE NUT TO SPECIFICATION UNTIL ALL HARDWARE IS MAINTAINING TORQUE IN THE REQUIRED RANGE. 2 TO 3 PASSES ARE OFTEN REQUIRED.
7. PILE CAP PROVIDED BY SPI AND NOT PART OF ARRAY BOM.



STEEL BEARING ASSEMBLY CORROSION CONFIGURATION TABLE		SELECTION CRITERIA	
STEEL BEARING ASSEMBLY PART NUMBER	DESCRIPTION	SET SCREWS	CORROSION REQUIREMENTS
21022-200	Assembly, Steel Bearing, Set Screws, L	YES	L
21022-300	Assembly, Steel Bearing, Set Screws, M	YES	M
21022-400	Assembly, Steel Bearing, Set Screws, H	YES	H
21023-200	Assembly, Steel Bearing, L	NO	L
21023-300	Assembly, Steel Bearing, M	NO	M
21023-400	Assembly, Steel Bearing, H	NO	H

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

ZONE	REV	ECR #	DESCRIPTION	ENGR	DATE
	A		INITIAL RELEASE	JS	11/18/2024

APPLICABLE TRACKER SYSTEMS:
DuraTrack
OmniTrack

PROPRIETY AND CONFIDENTIAL:
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ARRAY TECHNOLOGIES. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION FROM ARRAY TECHNOLOGIES IS PROHIBITED.

THIRD ANGLE PROJECTION
ALL DIMS ARE IN MILLIMETERS

DRAWING STATUS: Final
DRAWN: INITIALS: DS DATE: 10/29/2024
ENGR APPROVAL: INITIALS: JS DATE: 11/14/2024

TOLERANCES UNLESS OTHERWISE SPECIFIED
GEOMETRICAL SPECIFICATIONS PER ISO 8015 AND 22081. GENERAL LINEAR AND ANGULAR TOLERANCING PER THE TABLE BELOW:
LINEAR TOL: (±12Ⓔ) | ANGLE TOL: (±13)

NOMINAL DIMS	d<=6	6<d<=10	10<d<=25	25<d<=50	50<d<=100	100<d<=250	250<d<=500	d>500
12(mm)	±0.1	±0.2	±0.3	±0.4	±0.5	±0.75	±1	±2
13(°)	±1	±1	±0.5	±0.5	±0.5	±0.25	±0.25	±0.25

DIMENSIONS IN ( ) ARE FOR REFERENCE ONLY

ARRAY TECHNOLOGIES
3901 Midway Place NE
Albuquerque, NM 87109 | (505) 881-7567

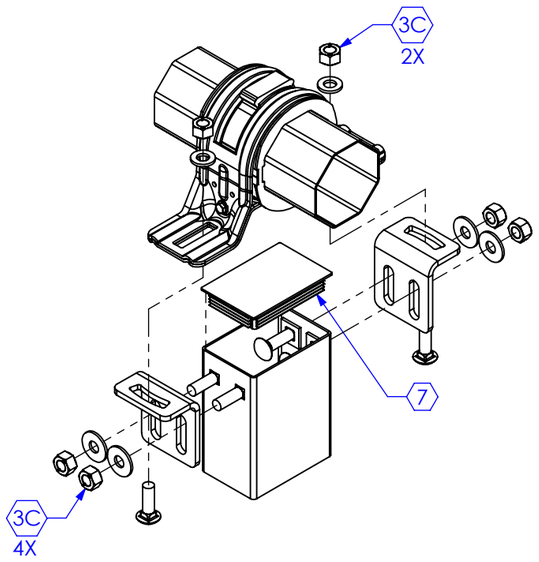
TITLE: Field Assembly, Steel Bearing & Bracket, SPI, L/M/H

SIZE	DRAWING NUMBER	CODE	REVISION	SAVED v23
B	21131-901		A	12/3/2024

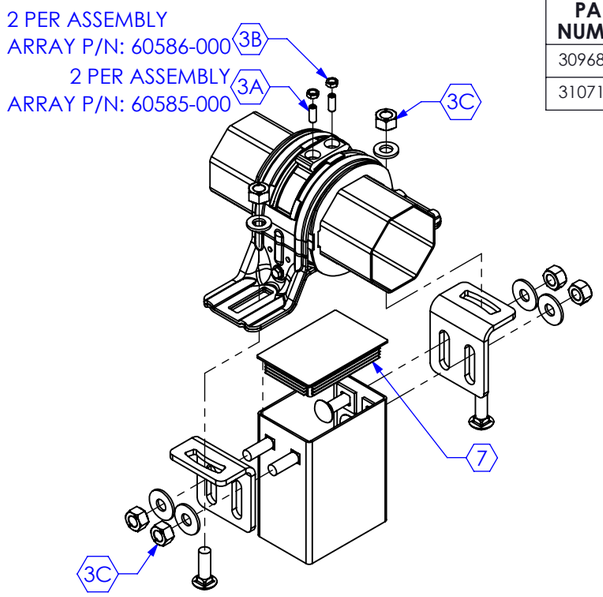
SCALE 1:10
SHEET 1 OF 3

FA_W4

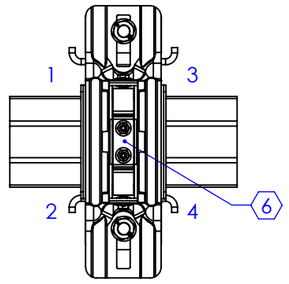
STEEL BEARING HOUSING BRACKET CONFIGURATION TABLE		SELECTION CRITERIA			
PART NUMBER	DESCRIPTION	STANDARD/ HIGH WIND	COMPATIBLE PILE TYPE	DIM "A" mm [in]	DIM "B" mm [in]
30968-000	Bracket, Steel Bearing Housing, 48mm, Std	STANDARD LOAD	SPI BEAM	90 MIN [3.54 MIN]	145 - 220 [5.71 - 8.66]
31071-000	Bracket, Steel Bearing Housing, 48mm, HW	HIGH WIND LOAD	SPI BEAM	90 MIN [3.54 MIN]	145 - 220 [5.71 - 8.66]

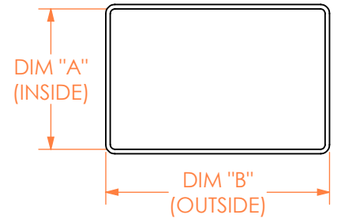


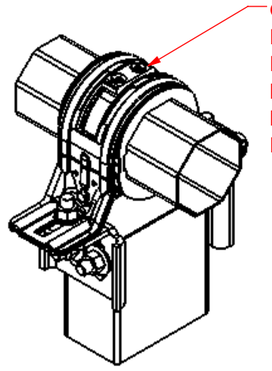
STANDARD BRACKETS
WITHOUT SET SCREW ASSEMBLY



STANDARD BRACKETS
WITH SET SCREW ASSEMBLY
5







CAUTION!
BEARING HOUSING STOP MUST BE IN PLANE WITH MODULE CLAMPS WHEN INSTALLED ONTO TORQUE TUBE. INCORRECT INSTALLATION CAN RESULT IN DAMAGE TO TRACKER COMPONENTS.

Exp 01/31/2027
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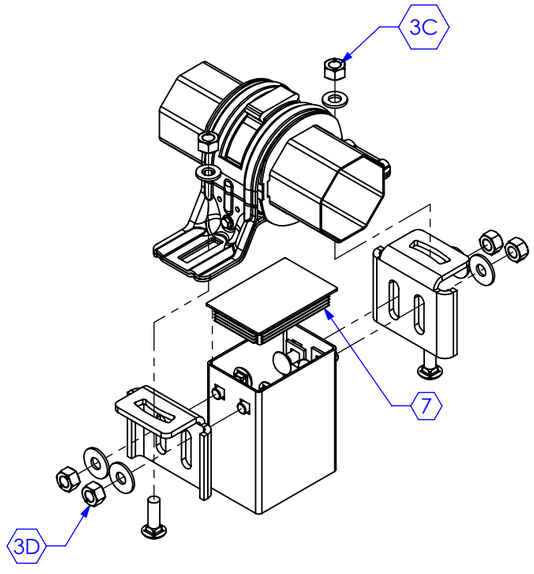
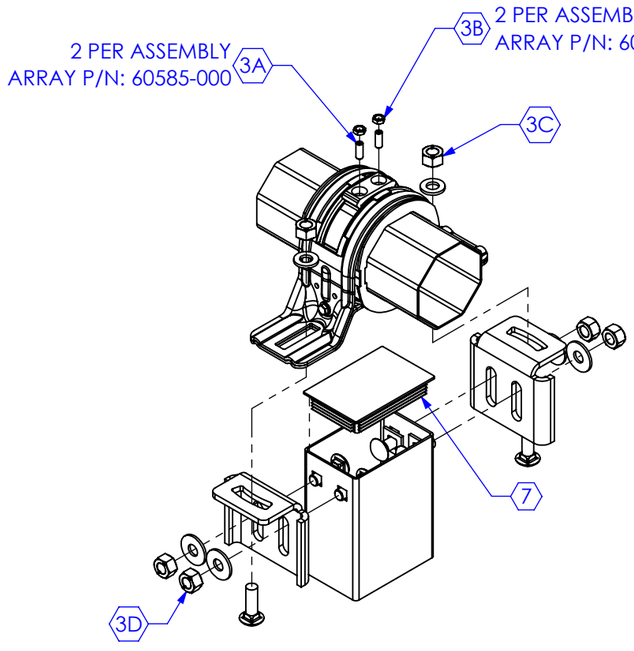
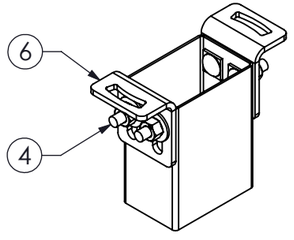


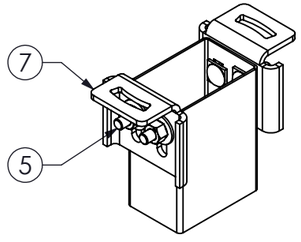
HIGH WIND BRACKETS
WITHOUT SET SCREW ASSEMBLY



HIGH WIND BRACKETS WITH
SET SCREW ASSEMBLY
5



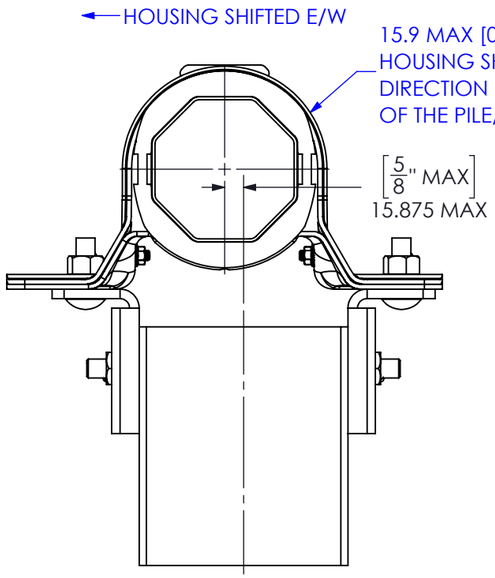
SPI STANDARD LOAD
BRACKET INSTALLATION

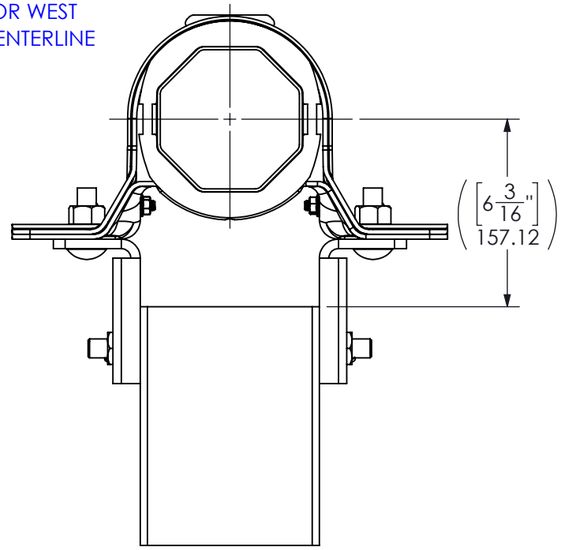


SPI HIGH WIND
BRACKET INSTALLATION

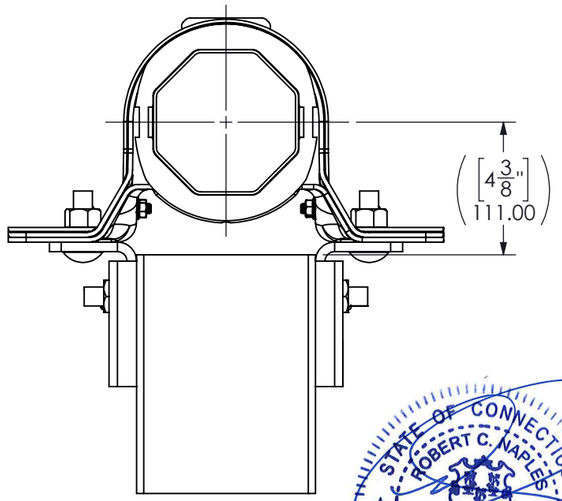
SIZE	DRAWING NUMBER	REVISION	SAVED v23
B	21131-901	A	12/3/2024
SCALE 1:10		SHEET	2 OF 3

Sheet2+_w4

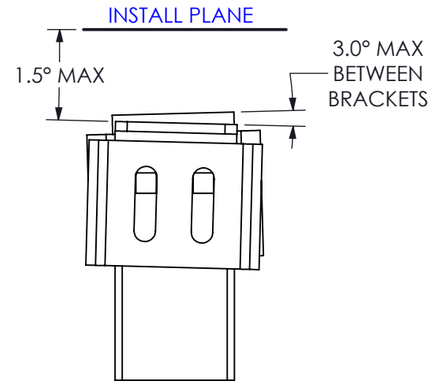




BEARING HOUSING EXTENDS UP



BEARING HOUSING EXTENDS DOWN

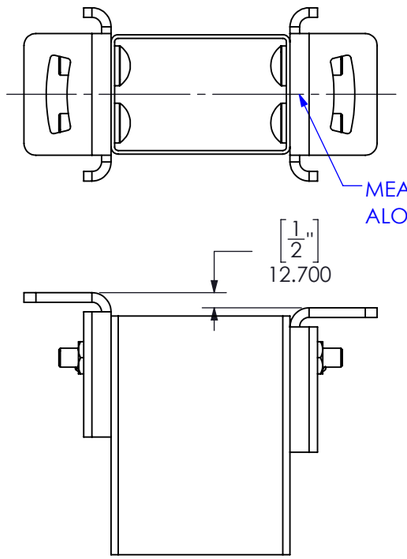


OFFSET
BRACKET ANGLE ±1.5° FROM INSTALL PLANE
(UP TO 3.0° MAX OFFSET BETWEEN BRACKETS)

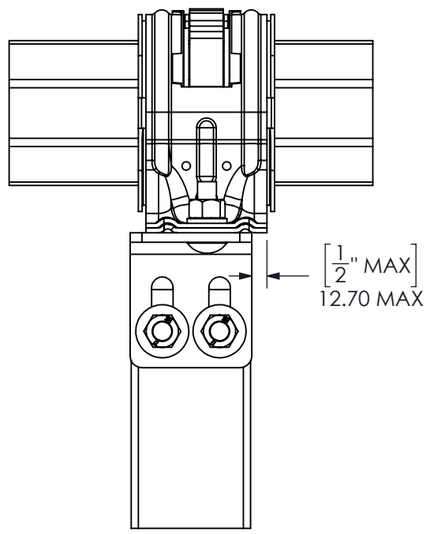
STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED PROFESSIONAL ENGINEER

Exp 01/31/2027

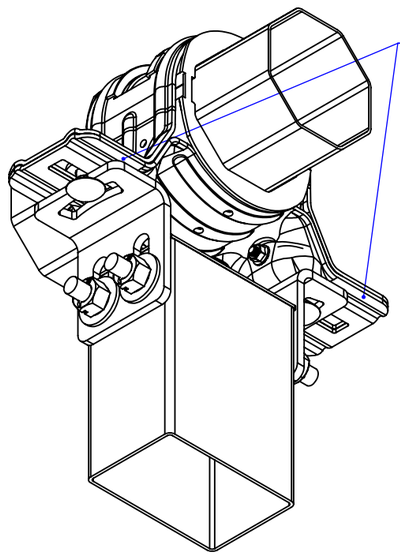
03/14/2026

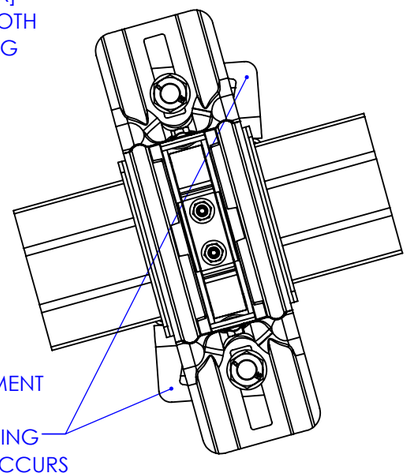


OFFSET BRACKET HEIGHT



HOUSING OVERHANG





ROTATIONAL OVERHANG

SIZE	DRAWING NUMBER	REVISION	SAVED v23
B	21131-901	A	12/3/2024
SCALE 1:10		SHEET	3 OF 3

Sheet2+_w4

ITEM NO.	PART NUMBER	DESCRIPTION	W/UB STD	W/UB STD (SET SCREW)	W/UB HW	W/UB HW (SET SCREW)	IPE STD	IPE STD (SET SCREW)	IPE HW	IPE HW (SET SCREW)
1	21022-XXX	ASSY, STL BRG, SSCR, L/M/H	-	1	-	1	-	1	-	1
2	21023-XXX	ASSY, STL BRG, L/M/H	1	-	1	-	1	-	1	-
3	25050-001	Kit, 0.625"-11 x 2" Structural Bolt, Large Washers, Pin Lock Nut, HDG	4	4	-	-	-	-	-	-
4	25123-001	Kit, 0.75"-10 x 2.25" Structural Bolt, Large Washers, Pin Lock Nut, HDG	-	-	4	4	-	-	-	-
5	25140-001	Kit, 0.625"-11 x 2" Structural Bolt, Clipped Washers, Pin Lock Nut, HDG	-	-	-	-	4	4	-	-
6	25244-000	Kit, 0.625"-11 x 2" Carriage Bolt, Large Washers, Pin Lock Nut, HDG	2	2	2	2	2	2	2	2
7	25267-000	Kit, .75-10x2.25, STRL, CLPD WSHRS, PL, HDG	-	-	-	-	-	-	4	4
8	30966-000	BRKT, STL BRG HSG, 57.2mm, 5/8", STD	2	2	-	-	-	-	-	-
9	30967-000	BRKT, STL BRG HSG, 57.2mm, 3/4", HW	-	-	2	2	-	-	-	-
10	30968-000	BRKT, STL BRG HSG, 48.0mm, 5/8", STD	-	-	-	-	2	2	-	-
11	30969-000	BRKT, STL BRG HSG, 48.0mm, 3/4", HW	-	-	-	-	-	-	2	2

NOTES:

1. REFER TO APPROPRIATE INSTALLATION MANUAL FOR ADDITIONAL INSTALL PROCEDURE DETAILS AND GUIDANCE. C
2. LOOSEN JAM NUT ON SET SCREWS PRIOR TO TORQUING. ENSURE THAT THE SET SCREWS DO NOT PROTRUDE FROM THE CENTER STOP PRIOR TO SLIDING ON TORQUE TUBE.
3. TORQUE SPECIFICATION:

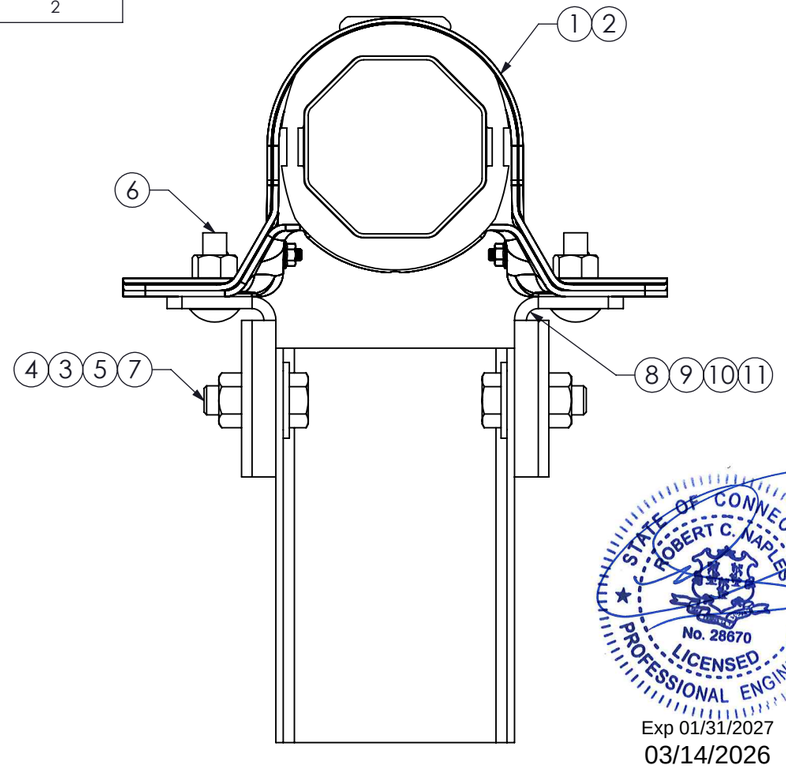
   3A. SET SCREWS TORQUED TO 12±1.5 N-M [9±1 FT-LBS] [108±12 IN-LBS]
   BOTH TORQUED TWICE WITH ALTERNATING PATTERN.

   3B. JAM NUTS TORQUED TO 16±1.5 N-M [12±1 FT-LBS] [144±12 IN-LBS]
   BOTH TORQUED TWICE WITH ALTERNATING PATTERN.

   3C. 169±14 N-M [125±10 FT-LBS]

   3D. 285±14 N-M [210±10 FT-LBS]

4. MARK ALL TORQUED CONNECTIONS USING PAINT MARKER OF CONTRASTING COLOR ACROSS IMMOBILE BASE AND ALL PARTS SUBJECT TO LOOSENING.
5. SET SCREW BEARING HOUSING ASSEMBLY TO BE USED ON FIRST BEARING COLUMN NORTH AND SOUTH OF GEAR RACK CENTER STRUCTURE AT MINIMUM. REFER TO ADP FOR LAYOUT OF BEARING HOUSING WITH SET SCREWS PER ROW.
6. ALIGN BOLT HEAD FLAT EDGE AND CLIPPED WASHER FLAT EDGE TO THE WEB DURING INSTALLATION FOR THE INTERIOR WASHERS. ALIGN CLIPPED WASHER FLAT EDGES TO THE INSIDE FOR THE EXTERIOR WASHERS TO AVOID POTENTIAL OVERLAP. C
7. RECOMMENDED SEQUENCE FOR PROPER TIGHTENING OF SET SCREW AND NUT; STARTING WITH THE SET SCREWS TORQUE TO SPECIFICATION. NEXT TORQUE NUT TO SPECIFICATION UNTIL ALL HARDWARE IS MAINTAINING TORQUE IN THE REQUIRED RANGE. 2 TO 3 PASSES ARE OFTEN REQUIRED.



STEEL BEARING HOUSING CORROSION CONFIGURATION TABLE		SELECTION CRITERIA	
STEEL BEARING HOUSING PART NUMBER	DESCRIPTION	SET SCREWS	CORROSION REQUIREMENTS
21022-200	Assembly, Steel Bearing, Set Screws, 2-Piece, L	YES	L
21022-300	Assembly, Steel Bearing, Set Screws, 2-Piece, M	YES	M
21022-400	Assembly, Steel Bearing, Set Screws, 2-Piece, H	YES	H
21023-200	Assembly, Steel Bearing, 2-Piece, L	NO	L
21023-300	Assembly, Steel Bearing, 2-Piece, M	NO	M
21023-400	Assembly, Steel Bearing, 2-Piece, H	NO	H

STATE OF CONNECTICUT
ROBERT C. NAPLES
No. 28670
LICENSED
PROFESSIONAL ENGINEER
Exp 01/31/2027
03/14/2026

ZONE	REV	ECR #	DESCRIPTION	ENGR	DATE
A2, B4, C5, D3, 2-A1, 2-A2, 2-A3, 2-C1, 2-D1, 2-D2, 2-D5, 3-A5, 3-A7, 3-B5, 3-D1, 3-D2	C	US-24068	UPDATED AND REMOVED NOTES, UPDATED TITLE, BRACKET CONFIG TABLE, VIEW CALLOUTS, COLUMN HEADERS, ADDED 25267-000	JS	07/25/2024
	B	US-23115	WEAR SLEEVE DESIGN UPDATE		8/14/2023
	A		INITIAL RELEASE		6/26/2023

APPLICABLE TRACKER SYSTEMS: DuraTrack, OmniTrack

DRAWING STATUS: Final

DRAWN: INITIALS: RM DATE: 07/19/2023
DRAWING CHECK: INITIALS: NC DATE: 7/31/2023
ENG. CHECK: INITIALS: JS DATE: 08/14/2023
FINAL APPROVAL: INITIALS: SB DATE: 8/13/2023

THIRD ANGLE PROJECTION
ALL DIMS ARE IN MILLIMETERS

TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLE AND LINEAR TOLERANCES PER: ISO 2768-m
GEOMETRIC TOLERANCES PER: ISO 2768-K

ARRAY TECHNOLOGIES
3901 Midway Place NE
Albuquerque, NM 87109 | (505) 881-7567

TITLE: C Field Assembly, Steel Bearing Housing, Standard/High Wind Brackets, w/wo Set Screws, L/M/H

SIZE	DRAWING NUMBER	CODE	REVISION	SAVED v50
B	21020-901		C	7/25/2024

SCALE 1:10 SHEET 1 OF 3

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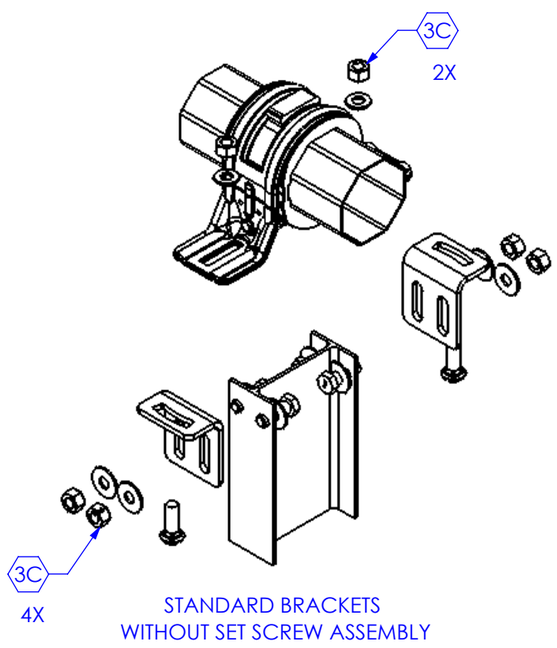
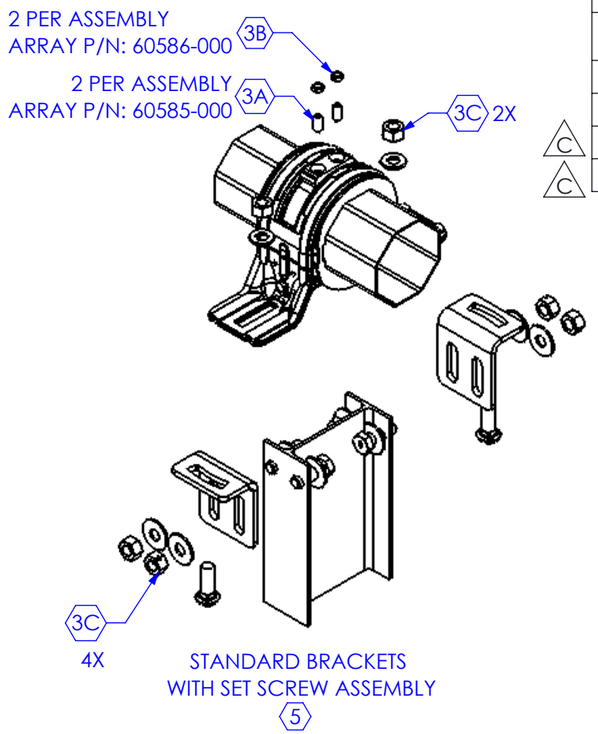
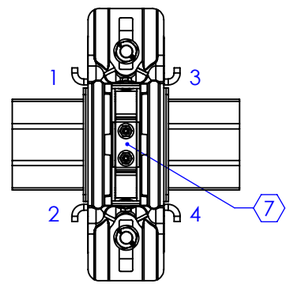
STEEL BEARING HOUSING BRACKET CONFIGURATION TABLE		SELECTION CRITERIA			
PART NUMBER	DESCRIPTION	STANDARD/ HIGH WIND	COMPATIBLE PILE TYPE	DIM "A" mm [in]	DIM "B" mm [in]
30966-000	Bracket, I-Beam Steel Bearing Housing, 57.2mm, Std	STANDARD LOAD	W/UB BEAMS	90 MIN [3.54 MIN]	145 - 220 [5.71 - 8.66]
30967-000	Bracket, I-Beam Steel Bearing Housing, 57.2mm, HW	HIGH WIND LOAD	W/UB BEAMS	90 MIN [3.54 MIN]	145 - 220 [5.71 - 8.66]
30968-000	Bracket, I-Beam Steel Bearing Housing, 48.0mm, Std	STANDARD LOAD	IPE BEAMS	80 MIN [3.15 MIN]	145 - 220 [5.71 - 8.66]
30969-000	Bracket, I-Beam Steel Bearing Housing, 48.0mm, HW	HIGH WIND LOAD	IPE BEAMS	80 MIN [3.15 MIN]	145 - 220 [5.71 - 8.66]

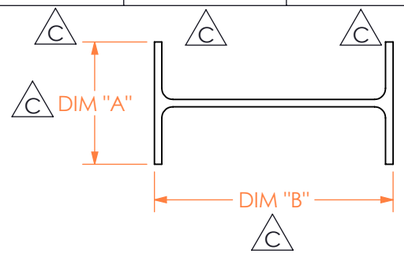


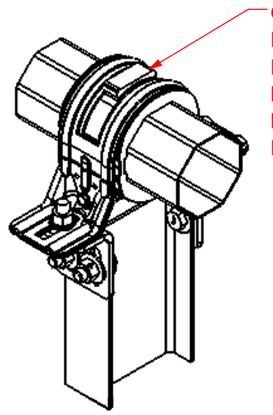
STANDARD BRACKETS
WITHOUT SET SCREW ASSEMBLY



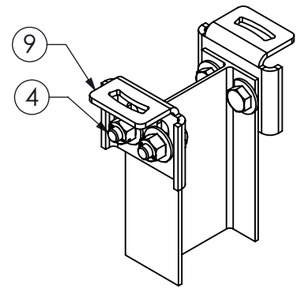
STANDARD BRACKETS
WITH SET SCREW ASSEMBLY
5



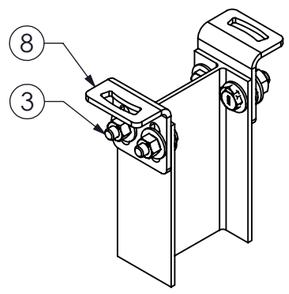




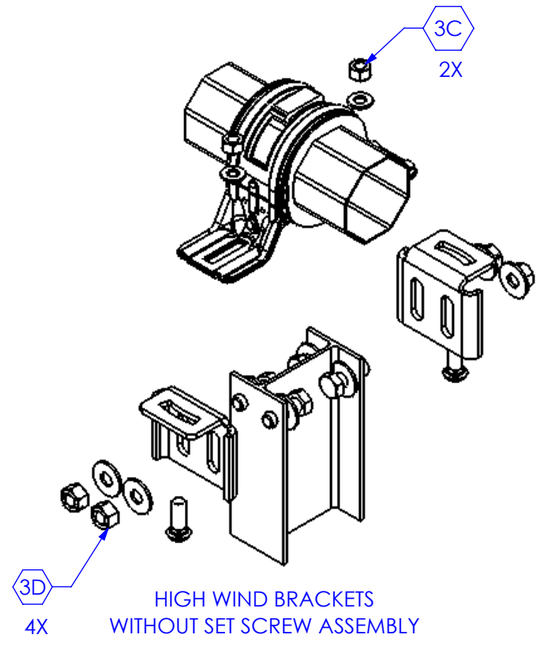
CAUTION!
BEARING HOUSING STOP MUST BE IN PLANE WITH MODULE CLAMPS WHEN INSTALLED ONTO TORQUE TUBE. INCORRECT INSTALLATION CAN RESULT IN DAMAGE TO TRACKER COMPONENTS.



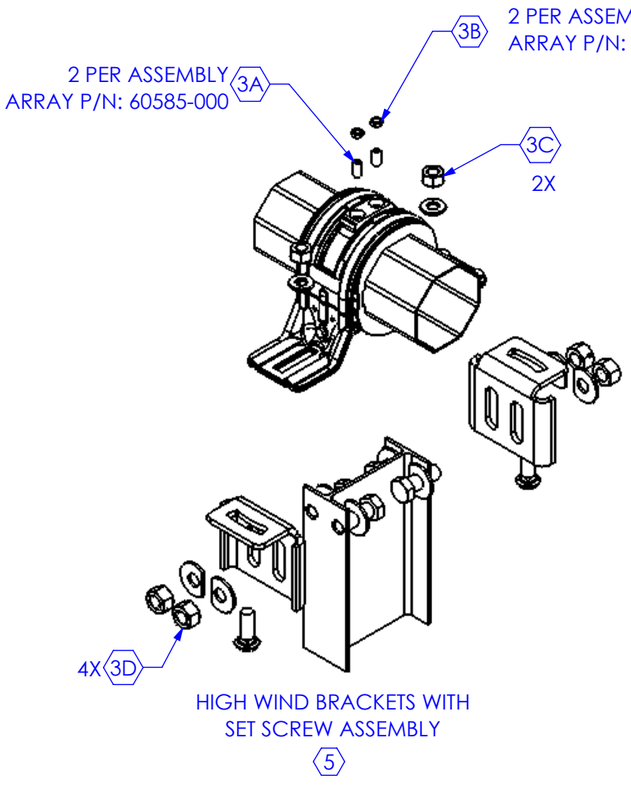
W/UB HIGH WIND
BRACKET INSTALLATION



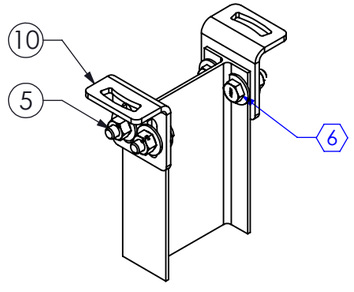
W/UB STANDARD LOAD
BRACKET INSTALLATION



HIGH WIND BRACKETS
WITHOUT SET SCREW ASSEMBLY



HIGH WIND BRACKETS WITH
SET SCREW ASSEMBLY
5



IPE STANDARD LOAD
BRACKET INSTALLATION
C

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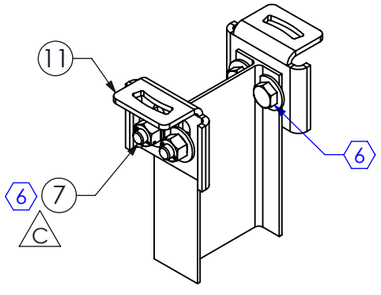

IPE HIGH WIND
BRACKET INSTALLATION
C

SIZE	DRAWING NUMBER	REVISION	SAVED v50
B	21020-901	C	7/25/2024
SCALE 1:10		SHEET	2 OF 3

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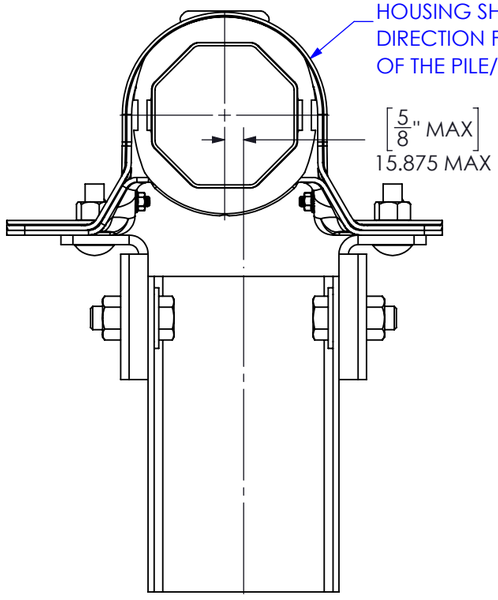

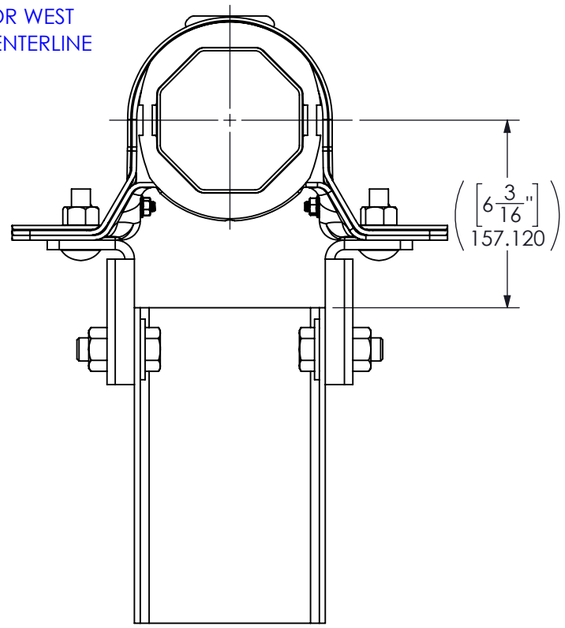

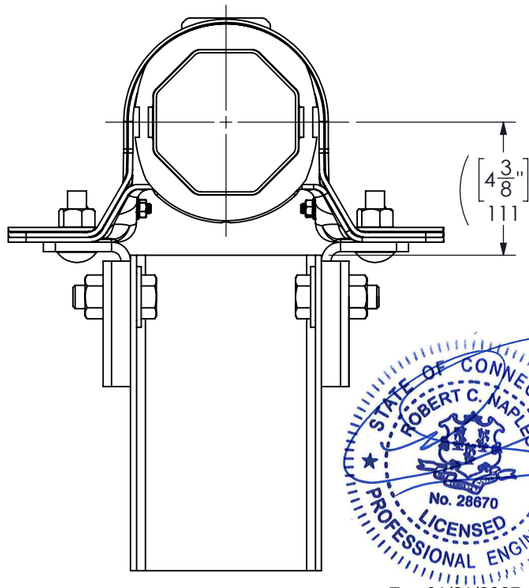

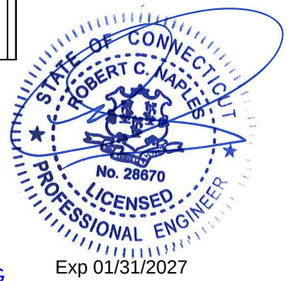

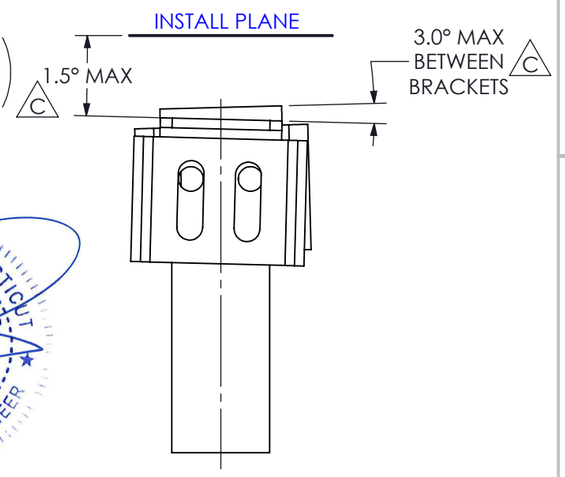

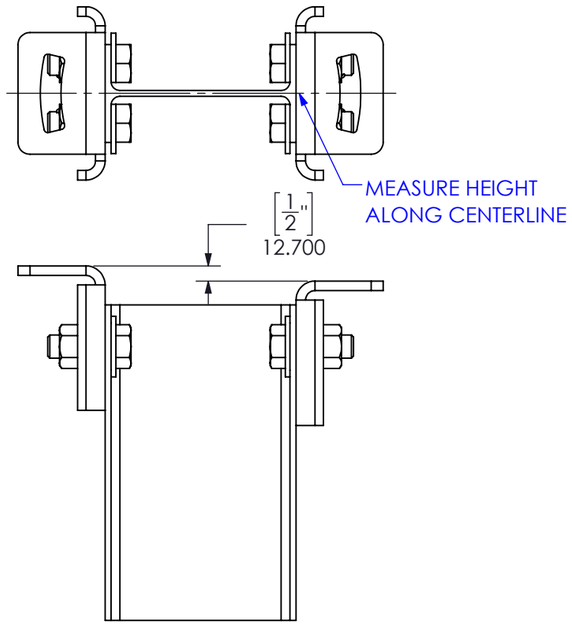

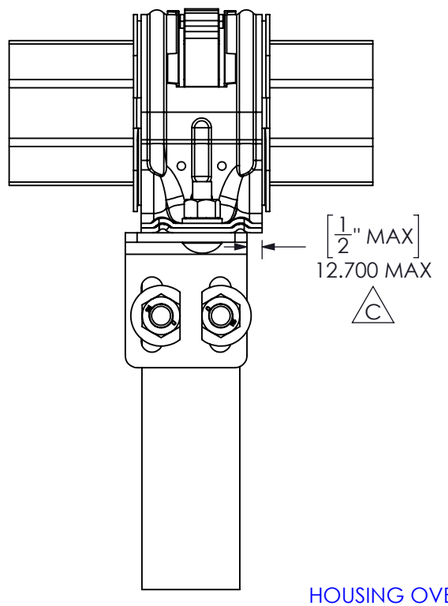

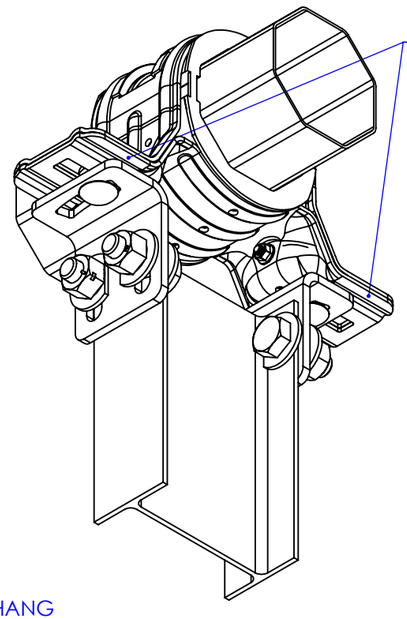

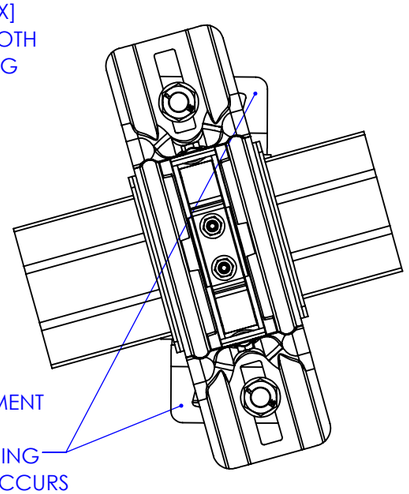

SIZE	DRAWING NUMBER	REVISION	SAVED v50
B	21020-901	C	7/25/2024
SCALE 1:10		SHEET	3 OF 3

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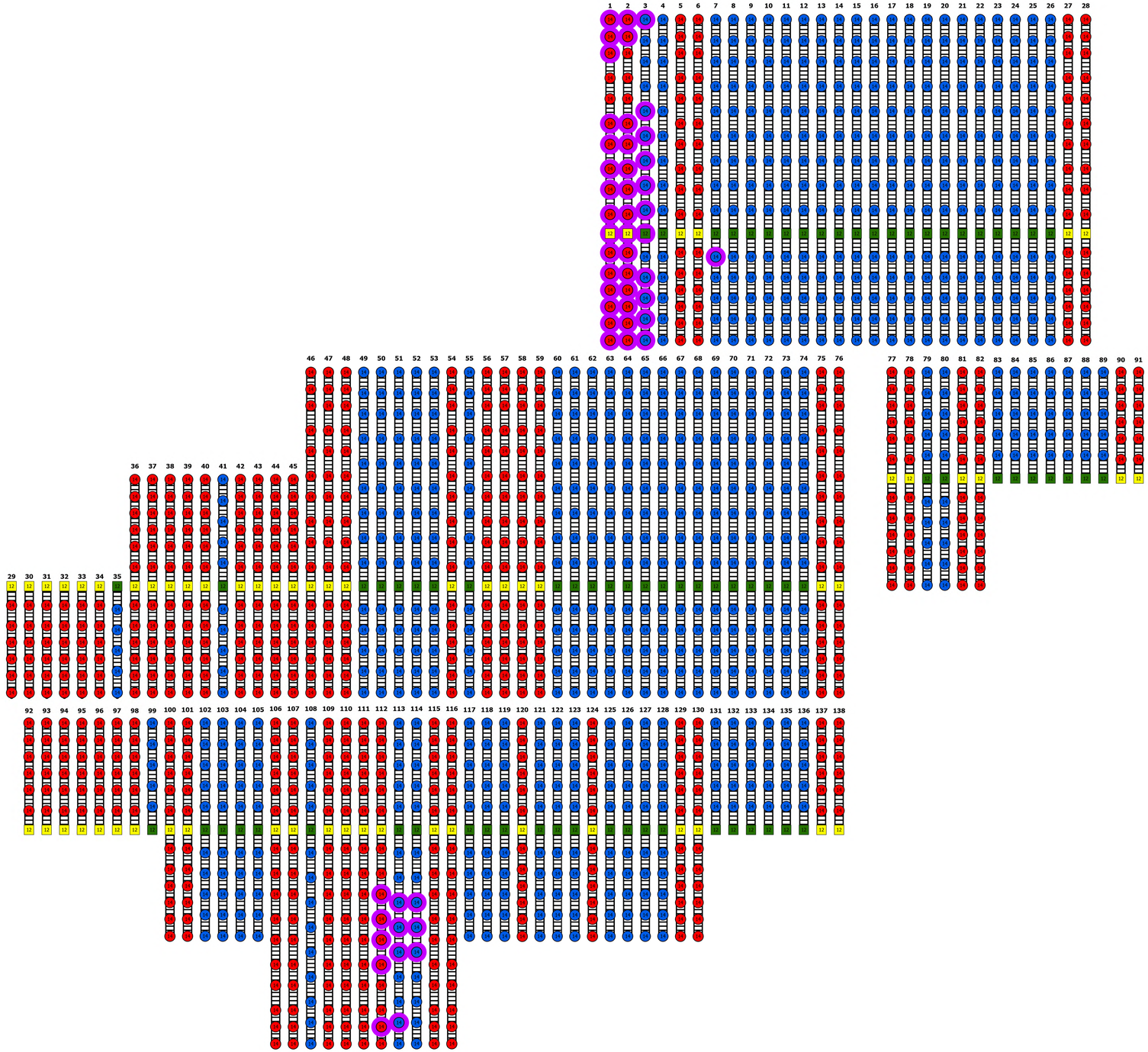
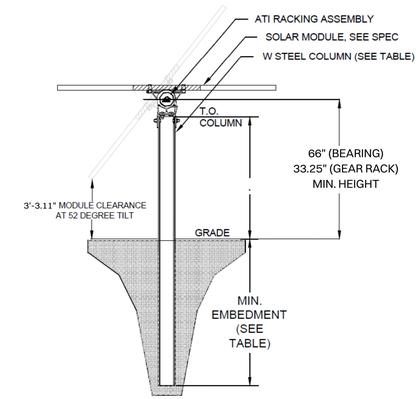


FOUNDATION PILES

SYMBOL	COUNT	PILE SIZE	MAX TTH (FT)	MAX REVEAL	LOCATION	MIN EMBED
	714	W6X10.4X14	7	78"	EXTERIOR	7'-6"
	889	W6X9X14	7	78"	INTERIOR	7'-6"
	60	W6X10.4X12	7	45.25"	EXTERIOR	7'-6"
	78	W6X9X12	7	45.25"	INTERIOR	7'-6"

HIGH WIND SITE: NO

APPROX. MAX NORTH/SOUTH ROW SLOPE ANGLE: X°; APPROX. MAX NORTH/SOUTH SLOPE ANGLE B/T PILES: X°



MINIMUM PILE SIZE AND EMBEDMENT			
MAX TTH (FT)	LOCATION	PILE SIZE	EMBEDMENT
7	EXTERIOR	W6X10.4	7'-6"
7	INTERIOR	W6X9	7'-6"

[53] PILES MAY NEED TO BE SPOT GRADED TO ATTAIN 7' MAX TTH

NOTES:
1. GENERAL
1.1 DRAWING IS DIAGRAMMATIC AS SHOWN AND INTENDED TO COMMUNICATE INTENT.
1.2 REFER TO ARRAY DESIGN PACK FOR PILE SPACING ALONG EACH TRACKER ROW.
1.3 PILE SURVEYING SHALL BE PERFORMED BY LICENSED SURVEYOR USING THE APPLICABLE STATE-PLANE COORDINATE SYSTEM.
1.4 PILE EMBEDMENT AND FOUNDATIONS ARE PER STRUCTURAL CALCULATIONS FOR EACH TORQUE TUBE HEIGHT.
1.5 FOUNDATIONS AND RACKING SHALL BE INSTALLED PER MANUFACTURER&APOS;S INSTALLATION MANUAL AND WITHIN STATED TOLERANCES.
1.6 ALL GRADING AND DRAINAGE SHALL BE PER CIVIL CONSTRUCTION DRAWINGS.
1.7 MODULE DIMENSIONS AND SPACING ARE SHOWN AS FLAT WITH NO APPLIED TILT.
1.8 NORTH-SOUTH RACKING SPACING MAY VARY FROM SHOWN.

2. DESIGN SPECIFICATIONS
2.1 2018 INTERNATIONAL BUILDING CODE (IBC)
2.2 AMERICAN INSTITUTE OF STEEL CONSTRUCTION 360-16 (AISC)
2.3 FOR SOIL INFORMATION, SEE GEOTECHNICAL REPORT PREPARED BY DOWN TO EARTH CONSULTING, LLC, PROJECT NUMBER 0255-014.00 DATED FEB 13, 2025.
2.4 DESIGN LOADS
2.4.1 DEAD LOAD7249 LBS
2.4.2 SNOW LOADS
2.4.2.1 GROUND SNOW LOAD, PG = 30 PSF
2.4.3 WIND LOADS
2.4.3.1 3-SECOND GUST, VULT = 110MPH
2.4.3.2 RISK CATEGORY I
2.4.3.3 EXPOSURE CATEGORY C
2.4.4 SEISMIC LOADS
2.4.4.1 RISK CATEGORY I
2.4.4.2 SEISMIC IMPORTANCE FACTOR, IE = 1.00
2.4.4.3 SS = 0.201 G
2.4.4.4 S1 = 0.054 G
2.4.4.5 SITE CLASS C
2.4.4.6 SDS = 0.174 G
2.4.4.7 SD1 = 0.054 G
2.4.4.8 SEISMIC DESIGN CATEGORY B
2.4.4.9 DESIGN BASE SHEAR, VS = 0.5 KIP
2.5 DESIGN LIFE OF 30 YEARS

02/02/26

3. STRUCTURAL STEEL
3.1 WIDE FLANGE ROLLED SECTIONS SHALL CONFORM TO ASTM A992 WITH A MINIMUM YIELD STRESS OF 50 KSI.
3.2 ALL STEEL SHALL BE HOT DIP GALVANIZED PER ASTM A123, MINIMUM THICKNESS OF 3 MIL.

4. SPECIAL INSPECTIONS
4.1 THE FOLLOWING INSPECTIONS OF DRIVEN STEEL PILE FOUNDATIONS ARE PERIODIC
4.1.1 VERIFY ELEMENT MATERIAL, SIZE, AND LENGTH COMPLY WITH THE REQUIREMENTS.
4.1.2 INSPECT DRIVING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT.
4.1.3. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT ANY DAMAGE TO FOUNDATION ELEMENT.

N W E S

REV	DATE	BY	CHECKED	APPROVED	DESCRIPTION
0	02/02/26	KMM	MC	MC	ISSUED FOR CONSTRUCTION

AMPACITY

GREENSKIES

WOODBRIDGE RACEBROOK - OMNI
WOODBRIDGE, CT

COORDINATES
73.0247292°W 41.3147390°N

FOUNDATION PLAN

0 45 90 180 Feet

REV 0

APPROVED ALTERNATE METHODS OF PILE INSTALLATIONS:

ALTERNATIVE INSTALLATION METHODS MAY BE DESIRABLE OR REQUIRED WHERE APPROPRIATE DUE TO OBSERVED OR UNFORESEEN SOIL CONDITIONS.
DEPENDING ON THE NATURE OF THE INSTALLATION DIFFICULTY OR DEVIATION, THE FOLLOWING METHODS ARE ACCEPTABLE. IF NONE ARE APPROPRIATE, CONTACT THE EOR FOR REDESIGN OF THE AFFECTED PILE.

A. **CUT-OFF PILES:** THIS METHOD MAY BE USED IF REFUSAL IS ENCOUNTERED DURING PILE DRIVING. PILES MAY BE CUT TO A SHORTER LENGTH AND LOAD TESTED TO SHOW THAT THE DESIGN STRENGTH IS OBTAINED. THIS METHOD SHOULD ONLY BE USED FOR PILES DRIVEN DIRECTLY INTO NATIVE SOIL THAT ENCOUNTER REFUSAL.

1. INSTALL THE PILE TO REFUSAL DEPTH. REFUSAL IS DEFINED AS LESS THAN 2 INCHES OF MOVEMENT OVER 30 SECONDS OF HAMMERING.
2. IF THE REFUSAL DEPTH IS LESS THAN 4 FEET, REMOVE THE PILE AND UTILIZE A DIFFERENT REMEDIATION METHOD. DO NOT CUT OFF THE PILE, AS 4 FEET IS THE MINIMUM DEPTH REQUIRED TO UTILIZE THIS METHOD.
3. TEST THE PILE PER THE TESTING MEMORANDUM PROVIDED BY THE EOR. IF THE PILE FAILS ANY OF THE TESTS, REMOVE THE PILE AND UTILIZE AN ALTERNATE REMEDIATION METHOD.
4. IF THE PILE PASSES ALL THE TESTS, CUT THE PILE TO THE CORRECT HEIGHT, RE-DRILL BRACKET MOUNTING HOLES AT THE TOP OF THE PILE, AND APPLY SPRAY GALVANIZATION TO THE CUT END AND DRILLED AREA.

B. **PRE-DRILL A PILOT HOLE**: THIS METHOD MAY BE UTILIZED FOR PILES THAT ENCOUNTER REFUSAL OR WHERE REFUSAL IS ANTICIPATED.

1. ADVANCE A 4-INCH TO 6-INCH (FOR W6 PILES) OR 6-INCH TO 8-INCH (FOR W8 PILES) DIAMETER AUGER OR DOWN-THE-HOLE HAMMER AT THE PILE LOCATION TO THE EMBEDMENT DEPTH SHOWN ON THE ENGINEERING DRAWINGS.
2. BACKFILL THE HOLE WITH DRILL CUTTINGS, NATIVE SOIL, OR IMPORTED SAND IN 12-INCH LIFTS AND COMPACT USING HAND TAMPING OR MECHANICAL MEANS.
3. TOP THE HOLE WITH SAND OR SIMILAR MATERIAL TO MAKE UP FOR MATERIAL LOST DUE TO COMPACTION.
4. DRIVE THE PILE INTO THE HOLE TO THE EMBEDMENT DEPTH SHOWN ON THE ENGINEERING DRAWINGS UTILIZING THE SAME METHODS AS THE STANDARD INSTALLATION METHOD.
5. TEST THE PILE PER THE TESTING MEMORANDUM PROVIDED BY THE EOR. IF THE PILE FAILS ANY OF THE TESTS, REMOVE THE PILE AND UTILIZE AN ALTERNATE REMEDIATION METHOD.

C. **PRE-DRILL AND BACKFILL WITH ENGINEERED OR NATIVE MATERIALS (SAND, ROAD BASE, NATIVE SOIL)**: THIS METHOD MAY BE UTILIZED FOR PILES THAT ENCOUNTER REFUSAL, WHERE REFUSAL IS ANTICIPATED, OR WHERE ANY LOAD TESTS FAIL.

1. DRILL AN 8-INCH (FOR W6 PILES) OR 10-INCH (FOR W8 PILES) DIAMETER HOLE AT THE PILE LOCATION TO THE EMBEDMENT DEPTH SHOWN ON THE ENGINEERING DRAWINGS.
2. BACKFILL THE HOLE WITH DRILL CUTTINGS, NATIVE SOIL, OR ROAD BASE. DO NOT USE MATERIALS THAT HAVE PARTICLE SIZES LARGE ENOUGH TO LEAVE VOIDS LARGER THAN ¼".
3. PLACE THE BACKFILL IN TWELVE-INCH (12") LIFTS AND COMPACT WITH THE PILE DRIVER AND A PILE FITTED WITH A 6" DIAMETER (OR LARGER) BASE PLATE.
4. DRIVE THE PILE INTO THE HOLE TO THE EMBEDMENT DEPTH SHOWN ON THE ENGINEERING DRAWINGS UTILIZING THE SAME METHODS AS THE STANDARD INSTALLATION METHOD.
5. TEST THE PILE PER THE TESTING MEMORANDUM PROVIDED BY THE EOR. IF THE PILE FAILS ANY OF THE TESTS, REMOVE THE PILE AND UTILIZE AN ALTERNATE REMEDIATION METHOD.

D. **PRE-DRILL AND BACKFILL WITH ENGINEERED MATERIALS (LEAN CONCRETE OR "CLSM")**: THIS METHOD MAY BE UTILIZED FOR PILES THAT ENCOUNTER REFUSAL, WHERE REFUSAL IS ANTICIPATED, OR WHERE ANY LOAD TESTS FAIL.

1. DRILL AN 8-INCH (FOR W6 PILES) OR 10-INCH (FOR W8 PILES) DIAMETER HOLE AT THE PILE LOCATION TO THE EMBEDMENT DEPTH SHOWN ON THE ENGINEERING DRAWINGS.
2. PLACE THE PILE TO THE PROPER DEPTH BY HAND. IF THE HOLE HAS BEEN OVER-DRILLED, BACKFILL WITH SAND TO BRING THE BOTTOM OF THE HOLE TO THE PROPER HEIGHT AND REPLACE THE PILE.
3. BACKFILL THE HOLE WITH LEAN CONCRETE OR CONTROLLED LOW STRENGTH MATERIAL (CLSM).
4. SUPPORT THE PILE SO THAT IT REMAINS PLUMB UNTIL THE BACKFILL HAS HARDENED, AT LEAST 48 HOURS.

E**. PRE-DRILL WITH LARGE DIAMETER AUGER AND BACKFILL WITH ENGINEERED MATERIALS (LEAN CONCRETE, OR CLSM)**: THIS METHOD MAY BE UTILIZED FOR PILES THAT ENCOUNTER REFUSAL DUE TO BEDROCK, BOULDERS, LARGE COBBLE, OR OTHER OBSTRUCTIONS DISCOVERED UNDERGROUND DURING THE INSTALLATION, OR WHERE ANY LOAD TESTS FAIL.

1. DRILL A 12-INCH DIAMETER HOLE AT THE PILE LOCATION TO THE EMBEDMENT DEPTH SHOWN ON THE ENGINEERING DRAWINGS.
2. PLACE THE PILE TO THE PROPER DEPTH BY HAND. IF THE HOLE HAS BEEN OVER-DRILLED, BACKFILL WITH SAND TO BRING THE BOTTOM OF THE HOLE TO THE PROPER HEIGHT AND REPLACE THE PILE.
3. INSTALL A SPACER NEAR THE TOP OF THE HOLE TO HOLD THE PILE PLUMB.
4. BACKFILL THE PILE WITH LEAN CONCRETE OR CLSM UP TO THE SPACER.
5. REMOVE THE SPACER AND BACKFILL THE REMAINING DEPTH.

F. **EXCAVATE TO REMOVE OBSTRUCTION AND BACKFILL WITH NATIVE OR ENGINEERED MATERIALS (NATIVE SOIL, SAND, ROAD BASE):** THIS METHOD MAY BE UTILIZED FOR PILES THAT ENCOUNTER REFUSAL DUE TO BOULDERS, LARGE COBBLE, OR OTHER OBSTRUCTIONS DISCOVERED UNDERGROUND DURING THE INSTALLATION, OR WHERE ANY LOAD TESTS FAIL.

1. EXCAVATE AROUND THE PILE TO THE DEPTH NECESSARY TO REMOVE THE OBSTRUCTION AND REMOVE THE OBSTRUCTION.
2. BACKFILL THE HOLE WITH EXCAVATED MATERIAL, IMPORTED SAND OR ROAD BASE IN 12-INCH LIFTS UP TO FINISHED GRADE. DO NOT USE MATERIALS THAT HAVE PARTICLE SIZES LARGE ENOUGH TO LEAVE VOIDS LARGER THAN ¼". COMPACT THE BACKFILL AFTER EACH LIFT USING HAND TAMPING OR OTHER MECHANICAL MEANS. BACKFILL MUST BE COMPACTED TO THE SAME DENSITY AS IN-SITU SOIL.
3. DRIVE THE PILE AT THE REQUIRED LOCATION TO THE EMBEDMENT DEPTH SHOWN ON THE ENGINEERING DRAWINGS UTILIZING THE SAME METHODS AS THE STANDARD INSTALLATION METHOD.
4. TEST THE PILE PER THE TESTING MEMORANDUM PROVIDED BY THE EOR. IF THE PILE FAILS ANY OF THE TESTS, REMOVE THE PILE AND UTILIZE AN ALTERNATE REMEDIATION METHOD.

G. **PILE ISOLATION WITH YELLOW JACKET SLEEVE IN REFUSAL CONDITIONS**: THIS METHOD MAY BE UTILIZED FOR PILES THAT REQUIRE PILE ISOLATION FOR FROST HEAVE MITIGATION AND SHALLOW ROCK WOULD PREVENT EMBEDMENT.

1. DRILL A 10-INCH OR 12-INCH DIAMETER HOLE AT THE PILE LOCATION TO THE EMBEDMENT DEPTH SHOWN ON THE ENGINEERING DRAWINGS.
2. BACKFILL THE BOTTOM OF THE HOLE UP TO THE FROST DEPTH WITH DRILL CUTTINGS, NATIVE SOIL, IMPORTED SAND OR ROAD BASE. DO NOT USE MATERIALS THAT HAVE PARTICLE SIZES LARGE ENOUGH TO LEAVE VOIDS LARGER THAN ¼".
3. PLACE THE BACKFILL IN 12-INCH LIFTS AND COMPACT WITH THE PILE DRIVER AND A PILE FITTED WITH AN 8-INCH DIAMETER (OR LARGER) BASE PLATE.
4. PLACE THE PILE IN THE HOLE, RESTING ON THE BACKFILL AT THE BOTTOM OF THE FROST DEPTH.
5. INSTALL YELLOW JACKET SLEEVE AROUND THE PILE PER MANUFACTURER'S INSTRUCTIONS AND SLIDE DOWN INTO THE HOLE TO THE FROST DEPTH.
6. BACKFILL THE TOP OF THE HOLE AROUND THE PILE AND SLEEVE WITH DRILL CUTTINGS, NATIVE SOIL, IMPORTED SAND OR ROAD BASE. TAMP THE BACKFILL AS BEST AS POSSIBLE WITH HAND TAMPING OR OTHER MECHANICAL MEANS. ALTERNATIVELY, BACKFILL THE TOP OF THE HOLE WITH LEAN CONCRETE OR CLSM. COMPACTION OF LEAN CONCRETE OR CLSM IS NOT REQUIRED.
7. DRIVE THE PILE INTO THE HOLE TO THE EMBEDMENT DEPTH SHOWN ON THE ENGINEERING DRAWINGS UTILIZING THE SAME METHODS AS THE STANDARD INSTALLATION METHOD.

*NOTE: ALTERNATIVE MEANS AND METHODS FOR INSTALLING THE YELLOW JACKET SLEEVE ARE ACCEPTABLE SO LONG AS THE SLEEVE ENCLOSES THE PILE THROUGH THE ENTIRE FROST DEPTH.

8. TEST THE PILE PER THE TESTING MEMORANDUM PROVIDED BY THE EOR. IF LEAN CONCRETE OR CLSM IS USED AS BACKFILL, DO NOT LOAD TEST UNTIL THE BACKFILL HAS HARDENED, AT LEAST 48 HOURS.

H. **PILE ISOLATION WITH YELLOW JACKET SLEEVE:** THIS METHOD MAY BE UTILIZED FOR PILES THAT REQUIRE PILE ISOLATION FOR FROST HEAVE MITIGATION AND PILES CAN BE DRIVEN TO DESIGN EMBEDMENT.

1. DRILL AN 8-INCH TO 12-INCH DIAMETER HOLE AT THE PILE LOCATION TO THE DESIGN FROST DEPTH.
2. PLACE THE PILE IN THE HOLE, SUPPORTING IT PLUMB.
3. INSTALL YELLOW JACKET SLEEVE AROUND THE PILE PER MANUFACTURER'S INSTRUCTIONS AND SLIDE DOWN INTO THE HOLE TO THE FROST DEPTH.
4. BACKFILL THE HOLE AROUND THE PILE AND SLEEVE WITH DRILL CUTTINGS, NATIVE SOIL, IMPORTED SAND OR ROAD BASE. TAMP THE BACKFILL AS BEST AS POSSIBLE WITH HAND TAMPING OR OTHER MECHANICAL MEANS. ALTERNATIVELY, BACKFILL THE TOP OF THE HOLE WITH LEAN CONCRETE OR CLSM. COMPACTION OF LEAN CONCRETE OR CLSM IS NOT REQUIRED.
5. DRIVE THE PILE TO THE EMBEDMENT DEPTH SHOWN ON THE ENGINEERING DRAWINGS UTILIZING THE SAME METHODS AS THE STANDARD INSTALLATION METHOD.
6. IF DESIGN EMBEDMENT IS ACHIEVED WITHOUT REFUSAL, LOAD TESTING IS NOT NEEDED.

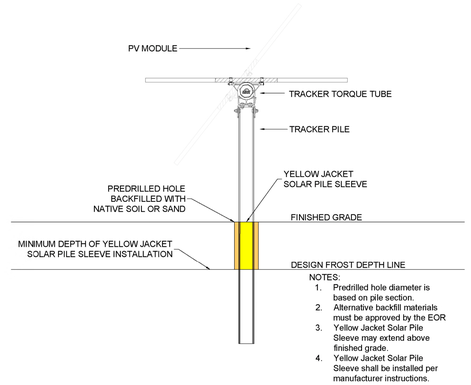
*NOTE: ALTERNATIVE MEANS AND METHODS FOR INSTALLING THE YELLOW JACKET SLEEVE ARE ACCEPTABLE SO LONG AS THE SLEEVE ENCLOSES THE PILE THROUGH THE ENTIRE FROST DEPTH

PRODUCTION PILE VERIFICATION LOAD TESTING:
THE EQUIPMENT, SETUP, SEQUENCE OF OPERATIONS, TEST LOADS, MEASUREMENT AND REPORTING REQUIREMENTS WILL BE PROVIDED BY THE EOR IN A SITE-SPECIFIC TESTING MEMORANDUM. THIS MEMORANDUM IS TO BE FOLLOWED IF REQUIRED DUE TO PILE DRIVING REFUSAL, OR ABNORMAL DRIVING, AND REMEDIATED THROUGH CORRECTIVE ACTIONS DESCRIBED ABOVE.

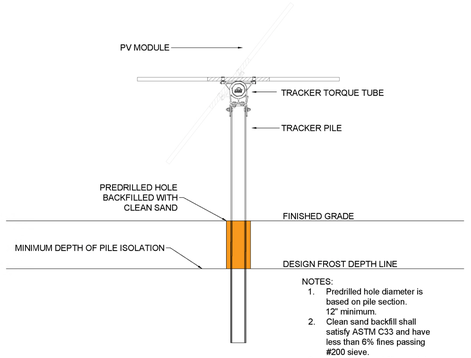
THE NUMBER OF PILES TO BE LOAD TESTED DEPENDS ON THE NUMBER OF PILES THAT ENCOUNTERED REFUSAL AND WERE REMEDIATED WITH ONE OF THE APPROVED METHODS DETAILED ABOVE. SEE TABLE BELOW. THE PILES TO BE TESTED SHALL BE CHOSEN AT RANDOM AND DISTRIBUTED EVENLY AMONG ALL THE REFUSED PILES. DUE TO THE NATURE OF THE GEAR RACK PILES, ONLY BEARING PILES CAN BE LOAD TESTED. IF ANY OF THE TESTED PILES FAILS A LOAD TEST, THE FAILED PILES SHALL BE REPLACED, AND AN ADDITIONAL SET OF REFUSED PILES SHALL BE LOAD TESTED.

LINEAR INTERPOLATION MAY BE USED TO DETERMINE THE NUMBER OF TEST PILES FOR NUMBER OF REFUSED PILES NOT SHOWN IN THE TABLE BELOW.

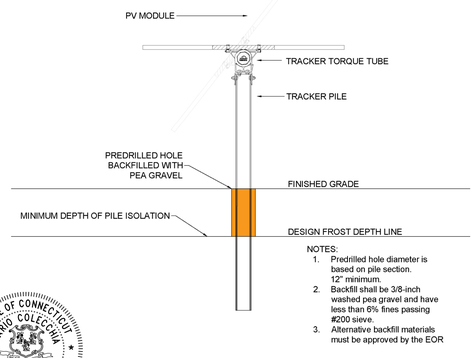
NUMBER OF REFUSED PILES	NUMBER OF TEST PILES
1 – 10	All
50	15
100	20
400	40
1000	60
2000	75
3000	85
4000	90
> 4000	2% OF REFUSED PILES



YELLOW JACKET SLEEVE PILE ISOLATION DETAIL



CLEAN SAND PILE ISOLATION DETAIL



PEA GRAVEL PILE ISOLATION DETAIL

02/02/26

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REV	DATE	BY	CHECKED	APPROVED	DESCRIPTION
0	02/02/26	KMM	MC	MC	ISSUED FOR CONSTRUCTION

AMPACITY

GREENSKIES

WOODBRIDGE RACEBROOK - OMNI
WOODBRIDGE, CT

COORDINATES
73.0247292°W 41.3147390°N

FOUNDATION PLAN

REV
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