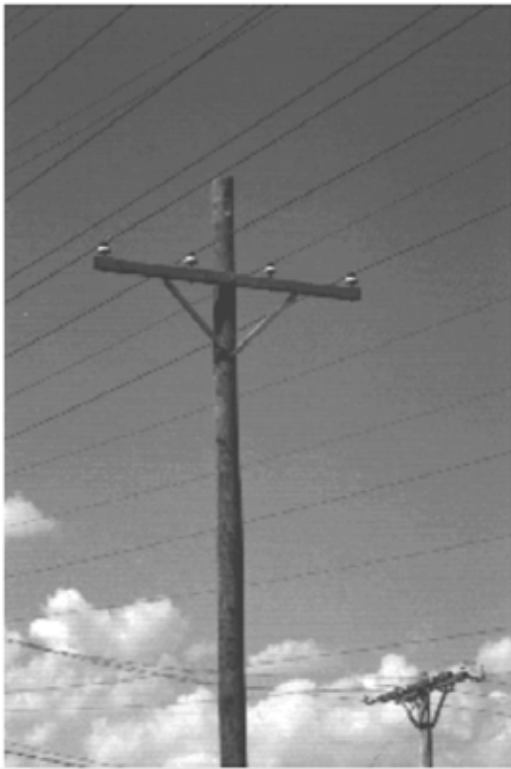
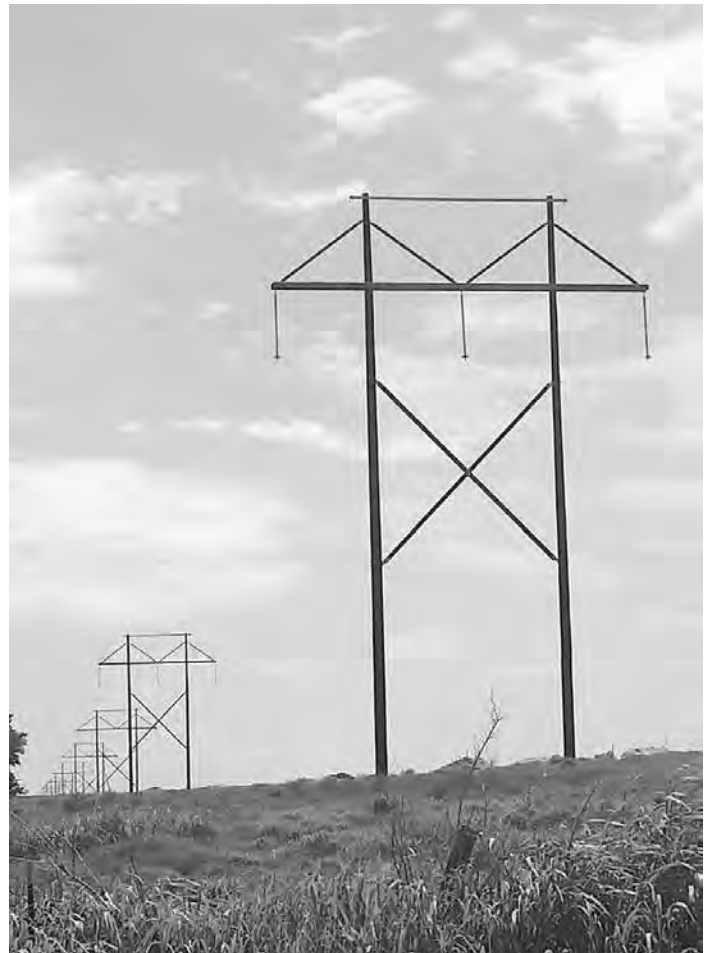


Structure Applications & Designs

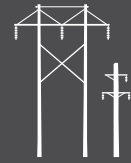
BROOKS Manufacturing Co. is much more than a manufacturer of quality distribution crossarms and braces. For over 60 years, BROOKS has been designing and manufacturing transmission products including individual components, structure framing kits and complete structures up through 345kV construction. The cornerstone of BROOKS product design is proper application of sound engineering principles, verified by full scale testing, and backed by many years of successful field installations. BROOKS engineers will match products to your existing framing designs, or work with you designing custom products that meet your specific requirements.



Distribution



Transmission



Typical Tangent Structures

BROOKS has standard designs or will work with you on creating custom designs for complete structures or structure components for application from distribution through 345kV construction.

Single Pole Structures



SPT-1 Distribution to 115kV

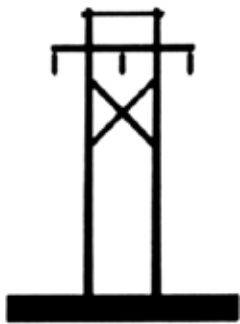


SPT-2 Distribution to 138kV

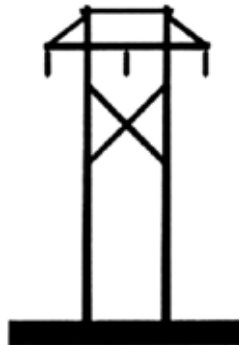


SPT-3 Distribution to 138kV

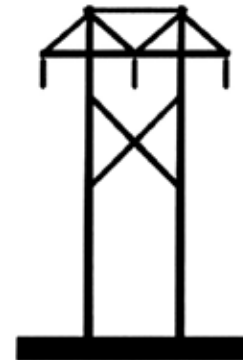
H-Frame Structures - 69kV to 230kV



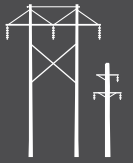
HT-1



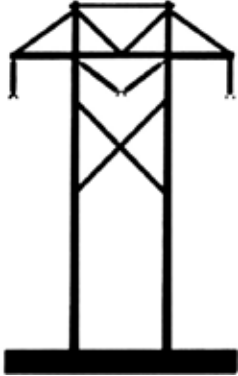
HT-2



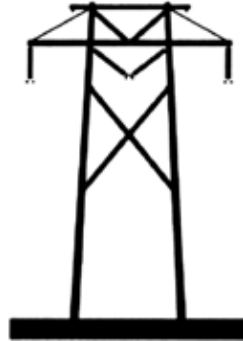
HT-3



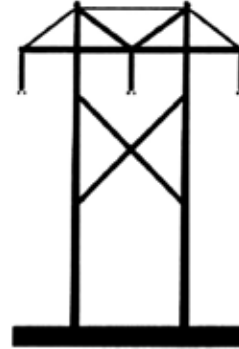
H-Frame Structures - 345kV



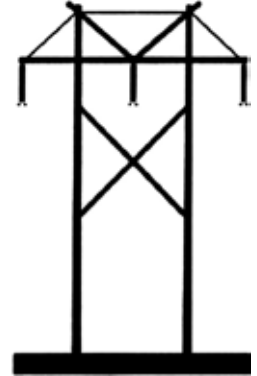
HT-4



HT-5



HT-6



HT-7

Double Circuit Structures



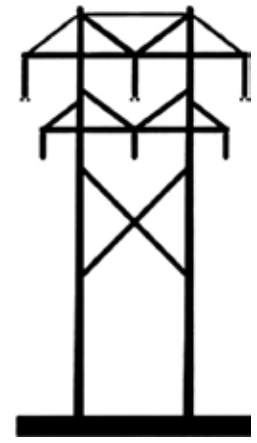
Distribution to 69kV
SPT-DC-1



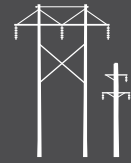
Distribution to 115kV
SPT-DC-2



34.5kV to 230kV
HT-DC-1



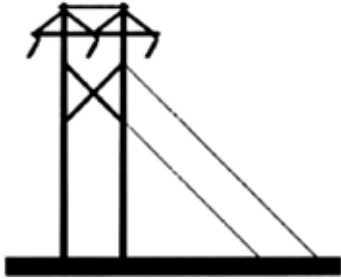
69/34.5kV to 345/230kV
HT-DC-2



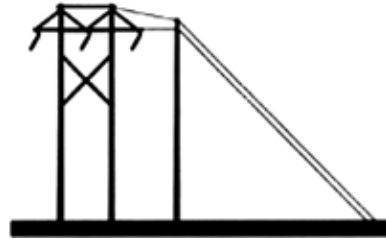
Angle & Dead End Structures

BROOKS offers structure designs and framing kits for a complete range of angle structures and dead end structures.

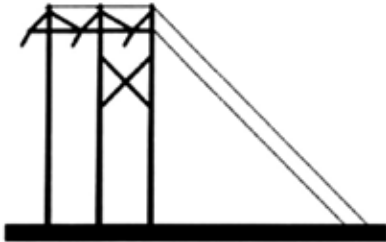
Single Conductor Structures - 34.5kV to 230kV



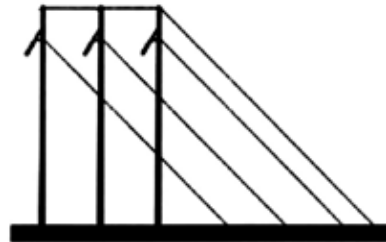
SA-1 Small Angle



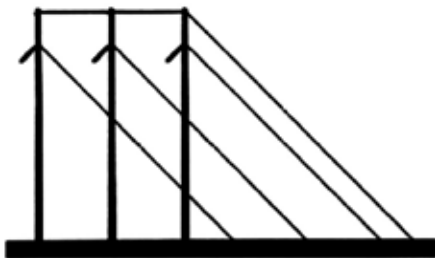
SA-2 Small Angle



SA-3 Small Angle



MA-1 Medium Angle



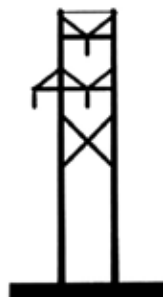
LA-1 Large Angle



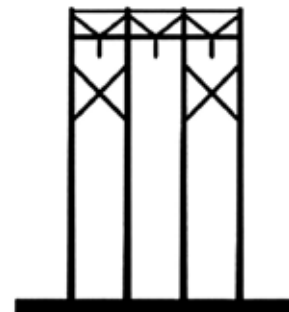
LADE-1 Large Angle Dead End



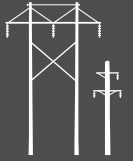
DET-1 Tangent Dead End



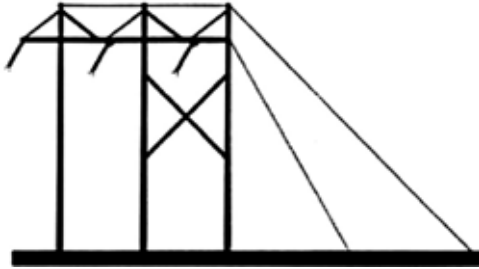
TRAN-1 Transposition



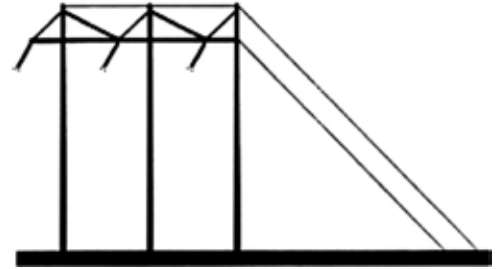
LSHT-1 Long Span Tangent



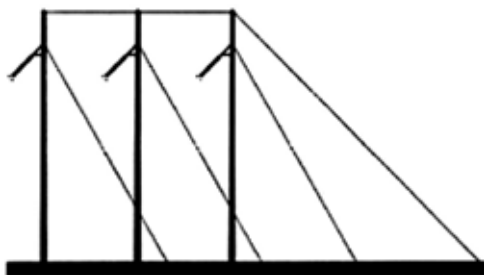
Bundled Conductor Structures - 115kV to 345kV



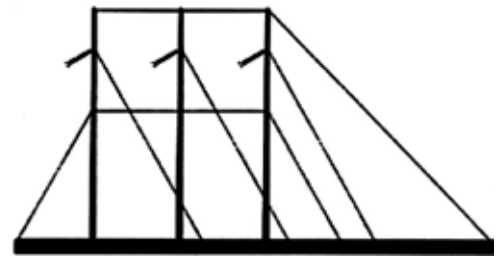
SAB-1 Small Angle



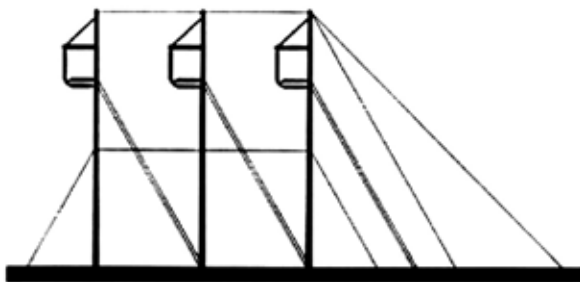
SAB-2 Small Angle



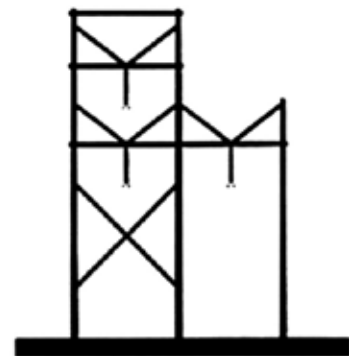
MAB-1 Medium Angle



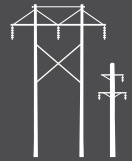
LAB-1 Large Angle



LADEB-1 Large Angle Dead End

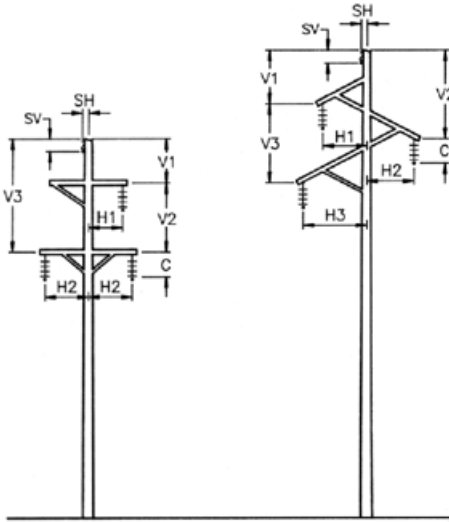


TRANB-1 Transposition



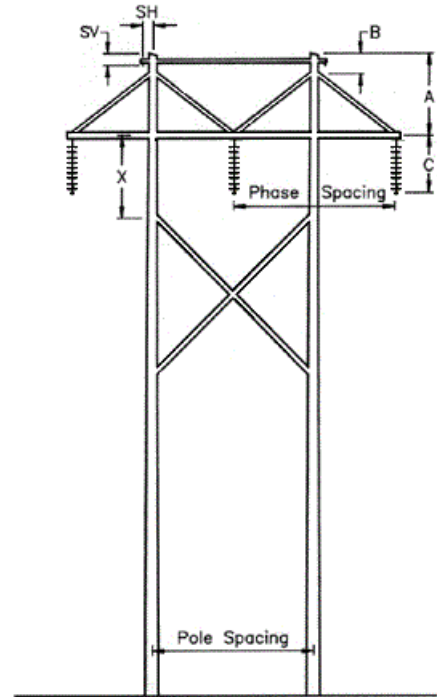
Structure Design Data

This "structure design data" will provide our Engineering Department with the necessary loading and design information to select a standard design or develop a custom design to optimize your construction dollars.



Single Pole Data

V1 ____ Feet H1 ____ Feet
 V2 ____ Feet H2 ____ Feet
 V3 ____ Feet H3 ____ Feet

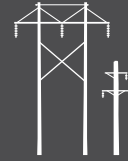


H-Frame Data

A ____ Feet X ____ Feet
 Phase Spacing ____ Feet
 Pole Spacing ____ Feet

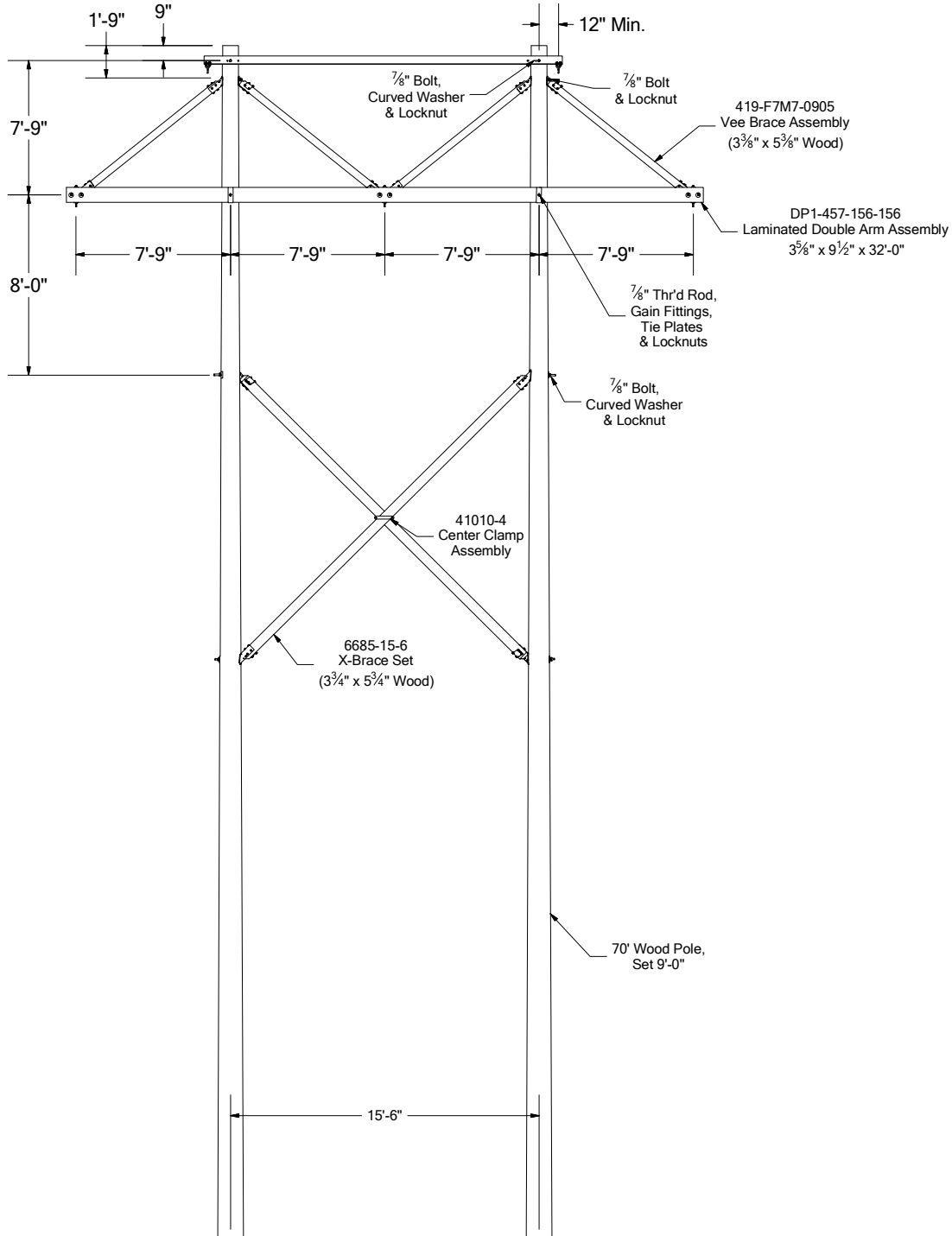
Single Pole & H-Frame Data

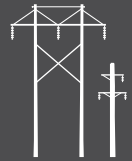
Structure Type Number _____ Line Voltage _____ kV Miles of Line _____
 Quantity of Structures _____ Estimated Deliver Date _____
 Pole Type(s) Douglas Fir Southern Yellow Pine Western Red Cedar Laminated Douglas Fir
 Pole Lengths _____ Feet Through _____ Feet Pole Classes _____ Through _____
 Maximum Weight Span _____ Feet Maximum Wind Span _____ Feet
 Ruling Span _____ Feet
 Conductor Type _____ (Ex: 795 ACSR 26/7) Number of Conductors Per Phase _____
 Shield Wire Type _____ (Ex: 3/8" EHS Steel Strand) Number of Shield Wires (Total) _____
 Structure Line Angle _____ Degrees
 Conductor Maximum Design Tension _____ Pounds
 Shield Wire Maximum Design Tension _____ Pounds
 SH _____ Feet SV _____ Feet C _____ Feet
 Specify your standard NESC loading condition and / or any special loading conditions.
 Case _____ Radical Ice _____ Wind psf _____ Load Factors _____



Typical Design & Structure Drawing

161 kV H-Frame Tangent





Typical Bill of Material

161 kV H-Frame Tangent

BROOKS Manufacturing Co.
 Bill of Material
 Date
 Page 1 of 1

Catalog Number Bill of Material
 XYZ Company, Anywhere, USA
 161kV H-Frame Tangent Structure

Qty.	Catalog No.	Description	Cross Ref. Pages*
Crossarm Shop Assembly & Mounting Hardware			
1	DP1-457-156-156	Double Arm Assembly	B1
2	DP1-457-156-156W	3 ⁵ / ₈ " x 9 ¹ / ₂ " x 32'-0" Laminated Crossarm	B1.1
3	5860-3545	Adjustable Spacer Fitting Assembly, 8 ³ / ₄ " to 12 ³ / ₄ "	C1.1.2
6	W4104-4S	1 ¹ / ₂ " x 10 ¹ / ₂ " Washer Head Bolt w/ Square Nut	C5.4
1	W5050-3S	5 ⁵ / ₈ " x 5" Washer Head Bolt w/ Square Nut	C5.4
2			
1	41058BS-2SL	7 ⁷ / ₈ " x 8" Bent Stud w/ (2) Square Nut, (2) MF Locknut	C1.1.3
2	41058BB-SL	7 ⁷ / ₈ " x 6" Bent Bolt w/ Square Nut & MF Locknut	C1.1.3
2	DE7240-6S2	7 ⁷ / ₈ " x 24" Double End Bolt w/ (2) Square Nut	C5.2
4	6028-094B	3" x 9 ¹ / ₂ " x 1 ¹ / ₄ " Flat Gain Plate	C1.3
4	6029-094B	3" x 9 ¹ / ₂ " x 1 ¹ / ₄ " Ribbed Tie Plate	C1.3
4	MF7	7 ⁷ / ₈ " MF Locknut	C5.5
X-Brace Shop Assembly & Mounting Hardware			
1	6685-15-6-NMC	3 ³ / ₄ " x 5 ³ / ₄ " X-Brace Set, 15'-6" PS	B3.5.4
1	41010-4	Center Clamp Assembly	B3.5.15
2	M7140-6S	7 ⁷ / ₈ " x 14" Machine Bolt w/ Square Nut	C5.1
2	M7160-6S	7 ⁷ / ₈ " x 16" Machine Bolt w/ Square Nut	C5.1
4	SCW7-404	1 ¹ / ₄ " x 4" Square Curved Washer	C5.6
4	MF7	7 ⁷ / ₈ " MF Locknut	C5.5
Vee-Brace & Mounting Hardware			
4	419-F7M7-0905	3 ³ / ₈ " x 5 ³ / ₈ " x 9'-5" MHC, 37 ¹ / ₂ ° & 52 ¹ / ₂ ° Fittings	B3.2.3
2	M7140-6S	7 ⁷ / ₈ " x 14" Machine Bolt w/ Square Nut	C5.1
2	MF7	7 ⁷ / ₈ " MF Locknut	C5.5
Shield Wire Support Assembly & Mounting Hardware			
1	502B156M-126-56	Shield Wire Support Assembly	B4
1	502B156M-126-56A	3" x 3 ¹ / ₂ " x 1 ¹ / ₄ " x 18'-0" Tie Angle	B4.2
2	7754	5 ⁵ / ₈ " Chain Link	C1.8
2	27400	5 ⁵ / ₈ " U-Bolt w/ (4) Hex Nuts & (2) MF Locknuts	C1.8
2	22066	1 ¹ / ₂ " x 1 ³ / ₄ " Bonding Clip Assembly	C1.9
2	M7120-6S	7 ⁷ / ₈ " x 12" Machine Bolt w/ Square Nut	C5.1
2	SCW7-404	1 ¹ / ₄ " x 4" Square Curved Washer	C5.6
2	MF7	7 ⁷ / ₈ " MF Locknut	C5.5

* For catalog only.