



Manufactured by:  
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# 16x12 STRATFORD, ASHFORD, HAWTHORNE PERGOLA

Models #'s : 2105027B, 2105034B, 2105041B

The assembly manual must be retained  
since it contains important information



## WARNING

Cancer and Reproductive Harm  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



2105027B  
STRATFORD (BLACK)



2105034B  
ASHFORD (BROWN)



Electrical enclosure available  
only in North America



2105041 HAWTHORNE  
(WHITE)

Please visit [www.backyarddiscovery.com](http://www.backyarddiscovery.com)

For the most up to date assembly manual, to register your product, or to order  
replacement parts *Para obtener instrucciones en español, visite*  
[www.backyarddiscovery.com](http://www.backyarddiscovery.com)



EASY STEP-BY-STEP  
3D INTERACTIVE INSTRUCTIONS  
DOWNLOAD THE FREE APP



ONLY AVAILABLE IN NORTH AMERICA



INSTALLATION  
SERVICES  
AVAILABLE!

See inside for details

ONLY AVAILABLE IN U.S.

Made in China

INS-2105027B, 2105034B, 2105041B-A-16X12 PERGOLA-ENG 09-22-2021



**It is critically important that you start with square and level footings, concrete pad or deck to attach your structure**

- Pay close attention to the items needed for each step. Make sure you are using the correct hardware for each step. Using incorrect hardware may result in improper assembly
- Remember to double check for underground utilities and overhead electrical lines

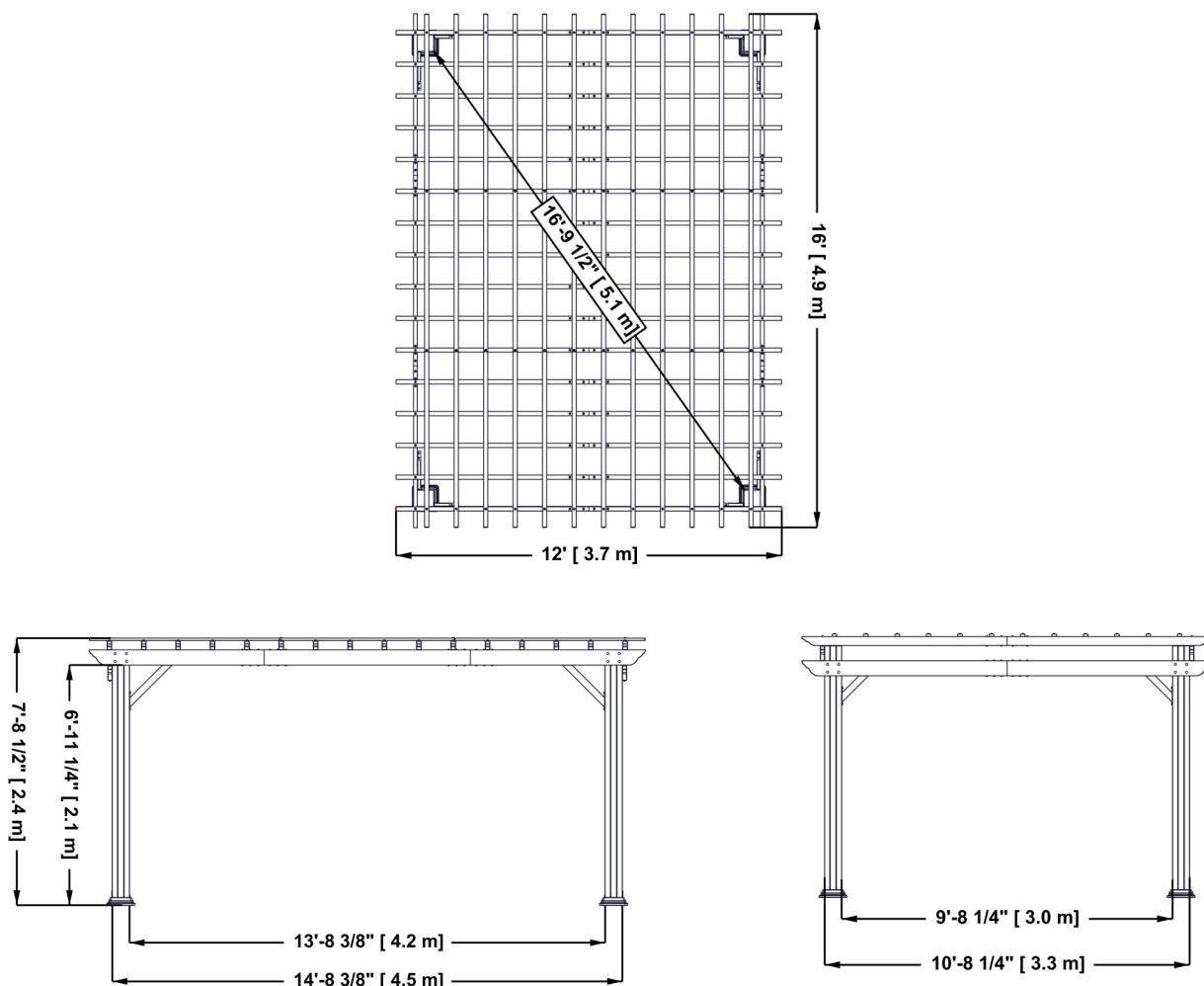
**Post mounts are provided with your structure which allows you to permanently install your structure to a pre-existing or new wood or concrete surface.**

- The hardware to attach the post mounts to the structure is included.
- The hardware to mount the structure permanently to a concrete surface is NOT included.
- The hardware to mount the structure permanently to a wood deck is NOT included and will need to be purchased separately. **You must ensure there is ample structural support under the deck before permanently attaching.**

### Metal Roof Assembly

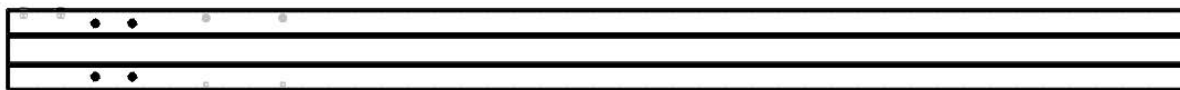
Remove plastic covering from metal roof panels before installing each piece. Place roofing materials on a nonabrasive, flat surface before and after assembly as it could bend, dent or scratch

#### Overall Dimensions

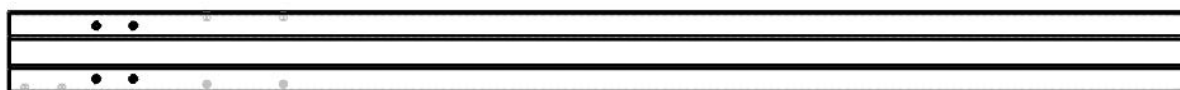




### Metal Components (Not to Scale)



**A1 POST - A4M01565**  
(2) 6"x6"x88" (152x152x2235)



**A2 POST - A4M01566**  
(2) 6"x6"x88" (152x152x2235)



**B1 JOIST END - A4M01610**  
(2) 1 3/8"x5 1/4"x60 1/2" (36x134x1537)



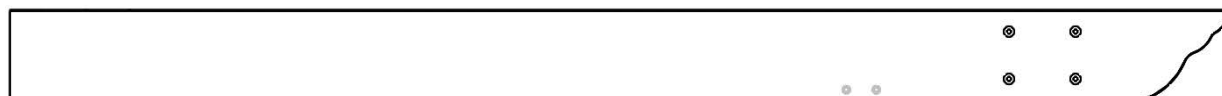
**B2 JOIST END - A4M01611**  
(2) 1 3/8"x5 1/4"x60 1/2" (36x134x1537)



**B3 JOIST - A4M01596**  
(2) 1 3/8"x5 1/4"x71 1/4" (36x134x1811)



**C1 JOIST END - A4M01612**  
(2) 1 3/8"x5 1/4"x72 1/8" (36x134x1831)



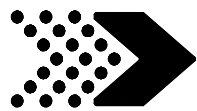
**C2 JOIST END - A4M01613**  
(2) 1 3/8"x5 1/4"x72 1/8" (36x134x1831)



**D1 JOIST END - A4M01614**  
(8) 1 5/8"x3 1/8"x72 1/8" (40x80x1831)



**D2 JOIST END - A4M01615**  
(24) 1 5/8"x3 1/8"x72 1/8" (40x80x1831)



### Metal Components (Not to Scale)



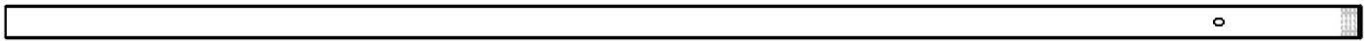
**J1 | SPLICE BRACKET - A4M01269**  
(4) 1 1/4"x5 1/8"x19 5/8" (33x131x500)



**J2 | SPLICE BRACKET - A4M01270**  
(2) 1 1/4"x5 1/8"x15 3/4" (33x131x400)



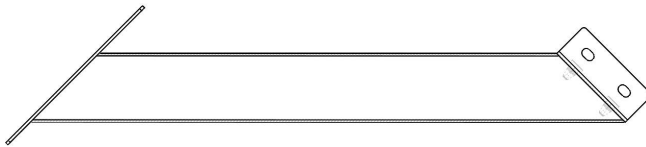
**J3 | SPLICE BRACKET - A4M01271**  
(16) 1 1/2"x3"x15 3/4" (37x77x400)



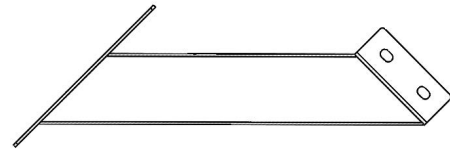
**E1 | PURLIN END - A4M01272**  
(24) 3/4"x1 5/8"x65 3/4" (20x40x1670)



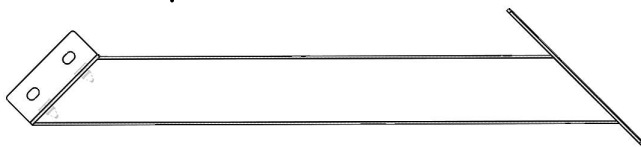
**E2 | PURLIN - A4M01277**  
(12) 3/4"x1 5/8"x60 3/8" (20x40x1534)



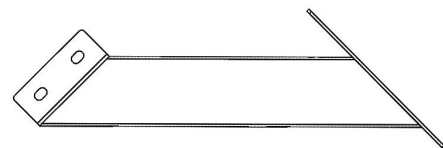
**F1 | LONG ANGLE BRACE - A4M01273**  
(2) 1 1/8"x4"x21 1/2" (30x101x546)



**F3 | SHORT ANGLE BRACE - A4M01275**  
(2) 1 1/8"x4"x14" (30x101x355)



**F2 | LONG ANGLE BRACE - A4M01274**  
(2) 1 1/8"x4"x21 1/2" (30x101x546)

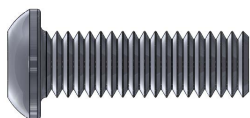


**F4 | SHORT ANGLE BRACE - A4M01276**  
(2) 1 1/8"x4"x14" (30x101x355)

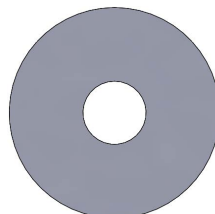




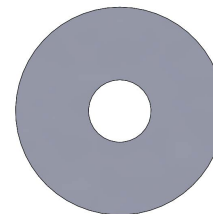
### Hardware Components



**H101101 | TORX PAN HEAD**  
(242) | 1/4-20x3/4"



**H101053 | STEEL WASHER**  
(322) | 6x20



**H101054 | SEALANT WASHER**  
(322)



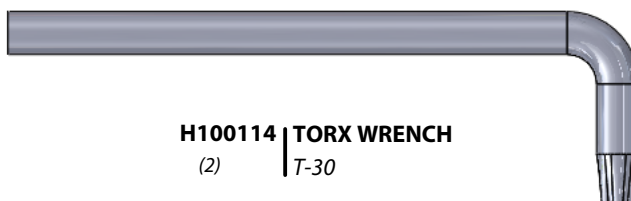
**H101107 | TORX PAN HEAD**  
(50) | 1/4-20x1 1/2"



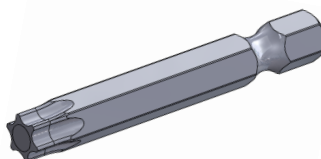
**H101102 | TORX PAN HEAD**  
(34) | 1/4-20x4"



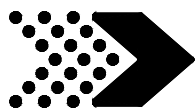
**H101103 | TORX SOCKET SCREW**  
(34) | 1/4-20



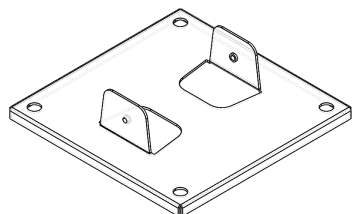
**H100114 | TORX WRENCH**  
(2) | T-30



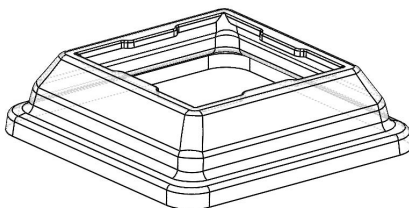
**H100147 | TORX BIT**  
(2) | T-30



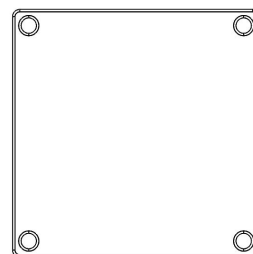
### Accessory Components (Not to Scale)



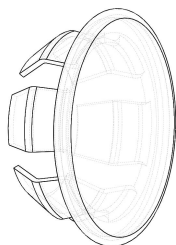
**G1** | POST FOOT PLATE - A4M01278  
(4) | 2 1/8"x8 3/8"x8 3/8" (54x213x213)



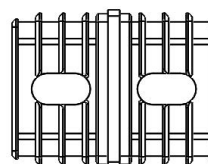
**G2** | POST FOOT - A4M01279  
(4) | 2 5/8"x9 7/8"x9 7/8" (68x250x250)



**G3** | FOOT PLASTIC PLATE - A6P00464  
(4) | 3/8"x8 1/8"x8 1/8" (11x207x207)



**H1** | HOLE COVER - A4M01352  
(32)



**H2** | 2-WAY SQUARE PLUG- A6P00465  
(24) | 3/4"x1 5/8"x2" (20x40x52)



**9205413** | ELECTRICAL ENCLOSURE  
(x1)



## PRE-ASSEMBLY STEP 1

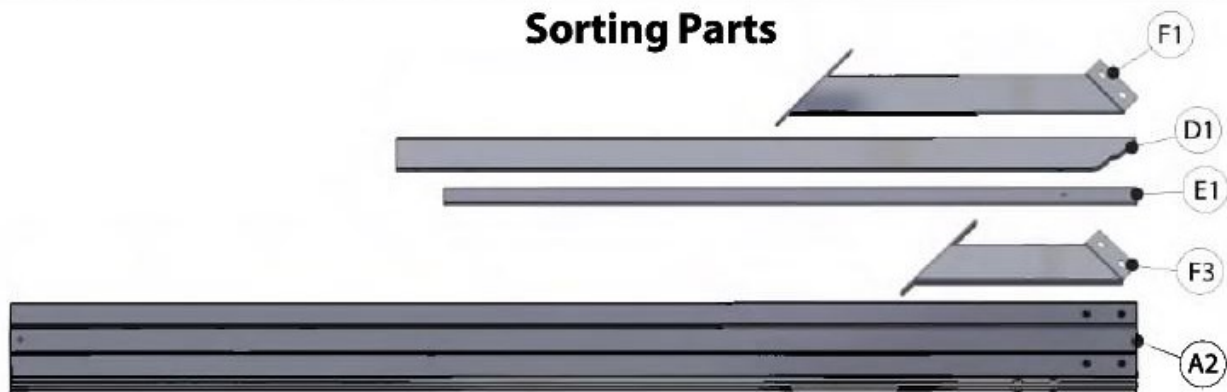
### SORTING PARTS



#### ASSEMBLY TIP:

Keep an eye out for these boxes which will contain helpful pictures and information making the assembly process as quick and painless as possible.

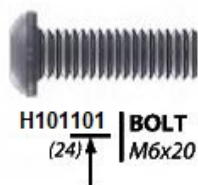
### Sorting Parts



When removing the parts from the boxes we recommend arranging them by part number before you begin assembly. This will allow for faster assembly and easily identify any parts that may be missing or damaged.

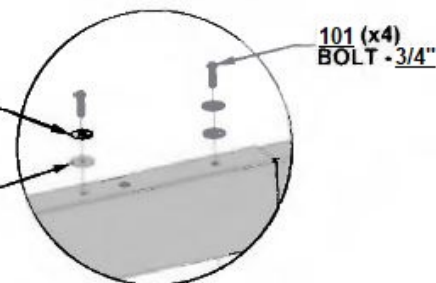
Hardware is identified with a seven digit alpha-numeric part number. During assembly you only need to reference the last three digits of the part number as noted in each step. This will make finding the correct hardware easier.

### Hardware Identification



053 (x4)  
STEEL WASHER - 6x20

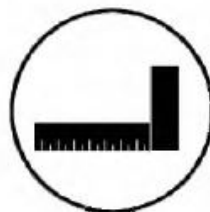
054 (x4)  
RUBBER WASHER - 6x20



### Tools Required



Some steps in the assembly process will require a second set of hands. Make sure you have a helper available.



You will need to make sure that your assembly is square before fully tightening your bolts.



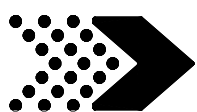
For proper assembly you will need to ensure that your structure is level before proceeding to the next step.



A tape measure may be needed to check overall dimensions to ensure structure is square.



A ladder will be needed for assembly. DO NOT stand or climb on any part of the structure at any point. Doing so may result in injury.



## PRE-ASSEMBLY STEP 2 CHOOSE YOUR ASSEMBLY METHOD

There are several types of assembly instructions available to you.

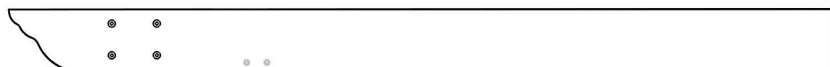
1. Printed Assembly Manual included with your set
2. BILT APP - 3D interactive instructions
3. Combination of the Printed Manual and BILT APP (Note: Step numbers can differ between the two methods)





# PERGOLA ASSEMBLY

## STEP 1



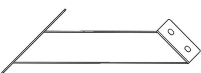
**C1 JOIST END - A4M01612**

(2) 1 3/8"x5 1/4"x72 1/8" (36x134x1831)



**J2 SPLICE BRACKET - A4M01270**

(2) 1 1/4"x5 1/8"x15 3/4" (33x131x400)



**F3 SHORT ANGLE BRACE - A4M01275**

(2) 1 1/8"x4"x14" (30x101x355)



**H101101 TORX PAN HEAD**

(16) 1/4-20x3/4"



**H101053 STEEL WASHER**

(16) 6x20



**H101054 SEALANT WASHER**

(16)



**DO NOT FULLY TIGHTEN BOLTS AT THIS STEP.**

**J2 (x1)  
SPLICE BRACKET**

**C1 (x1)  
JOIST END**

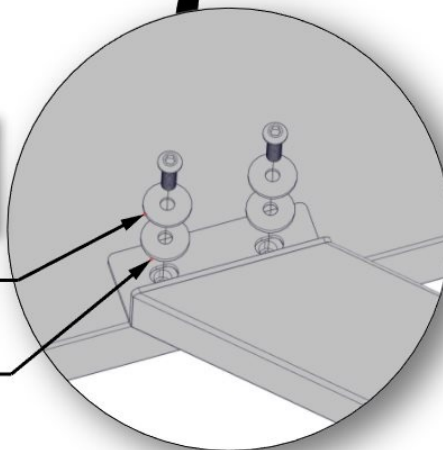
**101 (x8)  
BOLT - 3/4"**

**F3 (x1)  
SHORT ANGLE BRACE**

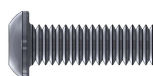
J2 SLIDES INTO C1. LINE UP THREE HOLES ON J2 WITH THREE HOLES ON C1 AND INSERT BOLTS TOP AND BOTTOM.

**053 (x8)  
STEEL WASHER - 6x20**

**054 (x8)  
SEALANT WASHER**



**COMPLETE THIS STEP TWICE.**



**H101101 | TORX PAN HEAD**  
(16) 1/4-20x3/4"



**H101053 | STEEL WASHER**  
(16) 6x20



**H101054 | SEALANT WASHER**  
(16)

**C2 | JOIST END - A4M01613**

(2) 1 3/8"x5 1/4"x72 1/8" (36x134x1831)



**F4 | SHORT ANGLE BRACE - A4M01276**

(2) 1 1/8"x4"x14" (30x101x355)

SLIDE C2 ONTO SPLICE BRACKET. STAND UP ASSEMBLY ON END WITH PACKAGING CARDBOARD ON GROUND. TAP UNTIL GAP IS GONE THEN TIGHTEN ALL BOLTS ON JOIST.

**101 (x8)  
BOLT - 3/4"**

**C2 (x1)  
JOIST END**

**F4 (x1)  
SHORT ANGLE BRACE**

**053 (x8)  
STEEL WASHER - 6x20**

**054 (x8)  
SEALANT WASHER**



DO NOT FULLY TIGHTEN BOLTS ON ANGLE BRACES AT THIS STEP.

COMPLETE THIS STEP TWICE.



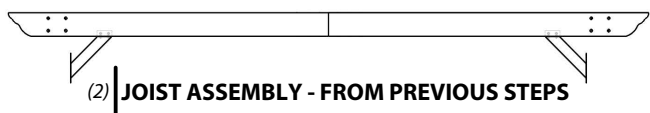


**A1 POST - A4M01565**

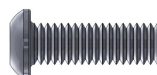
(2) 6"x6"x88" (152x152x2235)

**A2 POST - A4M01566**

(2) 6"x6"x88" (152x152x2235)



(2) **JOIST ASSEMBLY - FROM PREVIOUS STEPS**



**H101101 TORX PAN HEAD**  
(8) 1/4-20x3/4"



**H101053 STEEL WASHER**  
(8) 6x20



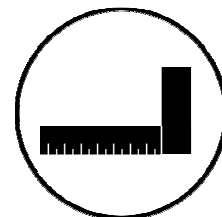
**H101103 TORX SOCKET SCREW**  
(16) 1/4x20



**H101054 SEALANT WASHER**  
(8)



LAY PARTS ON GROUND OR SAW HORSES FOR EASE OF ASSEMBLY.



**103 (x8)  
BOLT - 1/4x20**

ENSURE UPPER BOLT HOLES  
ARE FACING OUT ON POSTS.

**JOIST ASSEMBLY (x1)**

**101 (x4)  
BOLT - 3/4"**

**053 (x4)  
STEEL WASHER - 6x20**

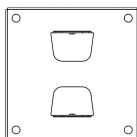
**A1 (x1)  
POST**

**A2 (x1)  
POST**

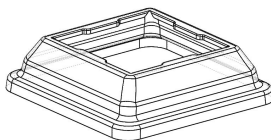
SQUARE UP POSTS TO JOIST AND  
FULLY TIGHTEN ALL BOLTS.

**054 (x4)  
SEALANT WASHER**

REPEAT THIS STEP FOR OTHER UPRIGHT ASSEMBLY.



**G1** | POST FOOT PLATE - A4M01278  
(4) | 2 1/8"x8 3/8"x8 3/8" (54x213x213)



**G2** | POST FOOT - A4M01279  
(4) | 2 5/8"x9 7/8"x9 7/8" (68x250x250)



**H101101** | TORX PAN HEAD  
(8) | 1/4-20x3/4"



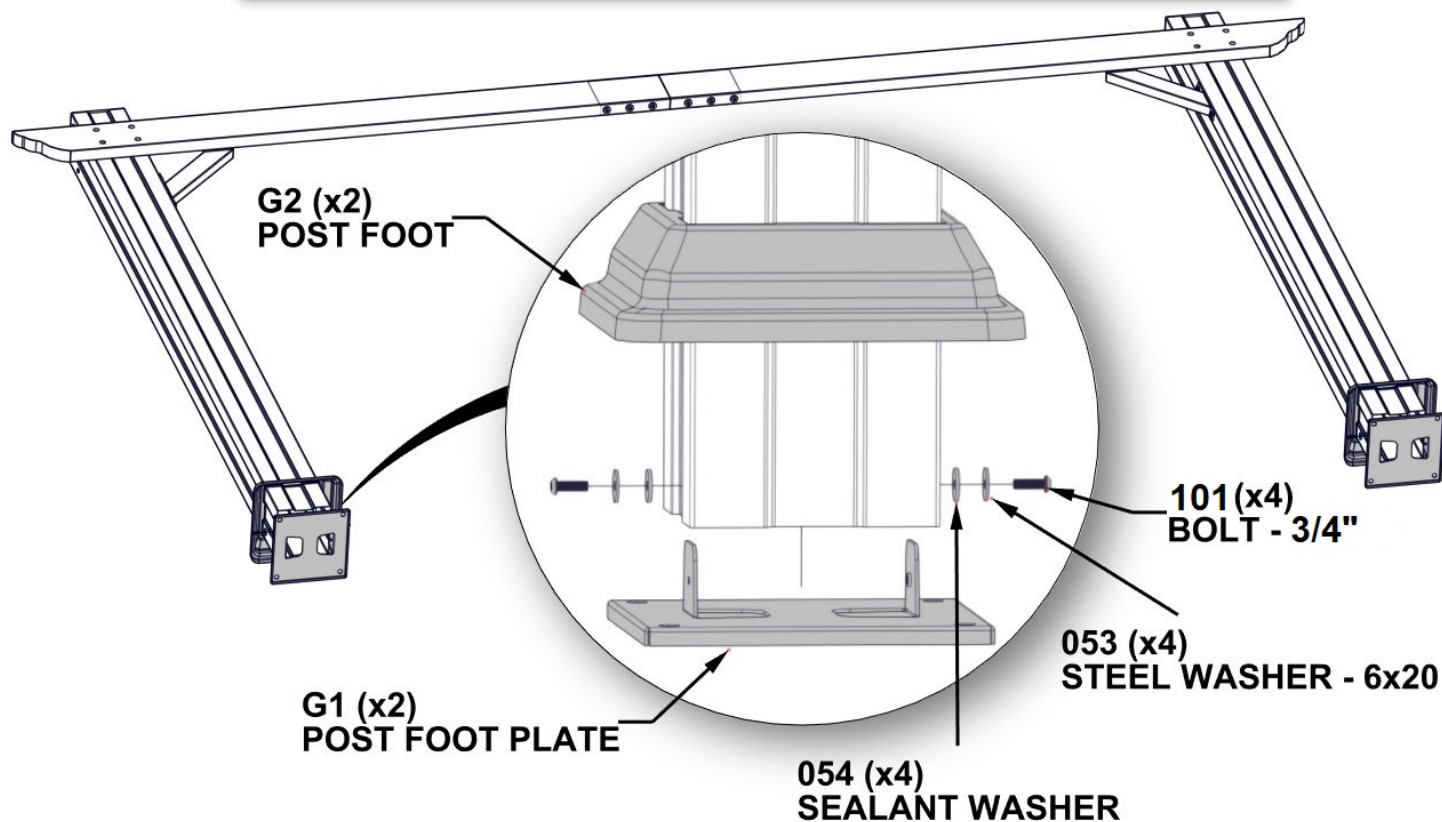
**H101053** | STEEL WASHER  
(8) | 6x20



**H101054** | SEALANT WASHER  
(8)



SLIDE A POST FOOT ONTO EACH POST THEN BOLT ON POST FOOT PLATES TO EACH POST. VERTICAL TAB ON POST FOOT PLATE LINES UP WITH HOLES ON SIDE OF POST.



REPEAT THIS STEP FOR OTHER UPRIGHT ASSEMBLY.

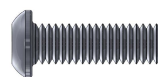




**B3 JOIST - A4M01596**  
(2) 1 3/8"x5 1/4"x71 1/4" (36x134x1811)



**J1 SPLICE BRACKET - A4M01269**  
(4) 1 1/4"x5 1/8"x19 5/8" (33x131x500)



**H101101 TORX PAN HEAD**  
(24) 1/4-20x3/4"



**H101053 STEEL WASHER**  
(24) 6x20



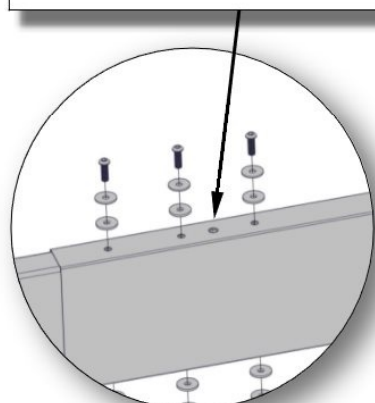
**H101054 SEALANT WASHER**  
(24)



DO NOT FULLY TIGHTEN BOLTS AT THIS STEP.



DO NOT INSERT A BOLT INTO THE LARGER HOLE ON EITHER END.



053 (x12)

STEEL WASHER - 6x20

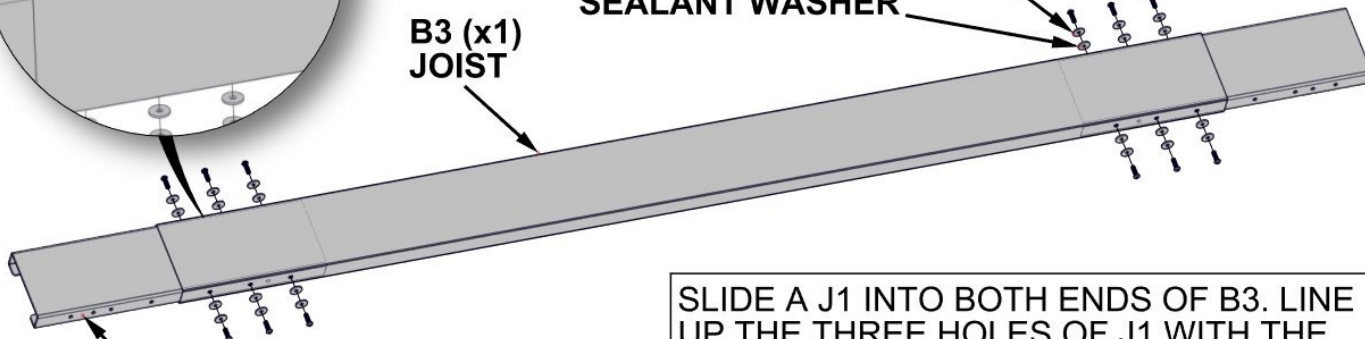
101 (x12)

BOLT - 3/4"

054 (x12)

SEALANT WASHER

B3 (x1)  
JOIST



J1 (x2)

SPLICE BRACKET

SLIDE A J1 INTO BOTH ENDS OF B3. LINE UP THE THREE HOLES OF J1 WITH THE THREE HOLES OF B3 AND INSERT BOLTS.

REPEAT THIS STEP FOR OTHER JOIST.



# PERGOLA ASSEMBLY

## STEP 6



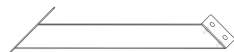
**B1 JOIST END - A4M01610**

(2) 1 3/8"x5 1/4"x60 1/2" (36x134x1537)



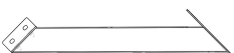
**B2 JOIST END - A4M01611**

(2) 1 3/8"x5 1/4"x60 1/2" (36x134x1537)



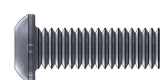
**F1 LONG ANGLE BRACE - A4M01273**

(2) 1 1/8"x4"x21 1/2" (30x101x546)



**F2 LONG ANGLE BRACE - A4M01274**

(2) 1 1/8"x4"x21 1/2" (30x101x546)



**H101101 TORX PAN HEAD**  
(32) 1/4-20x3/4"



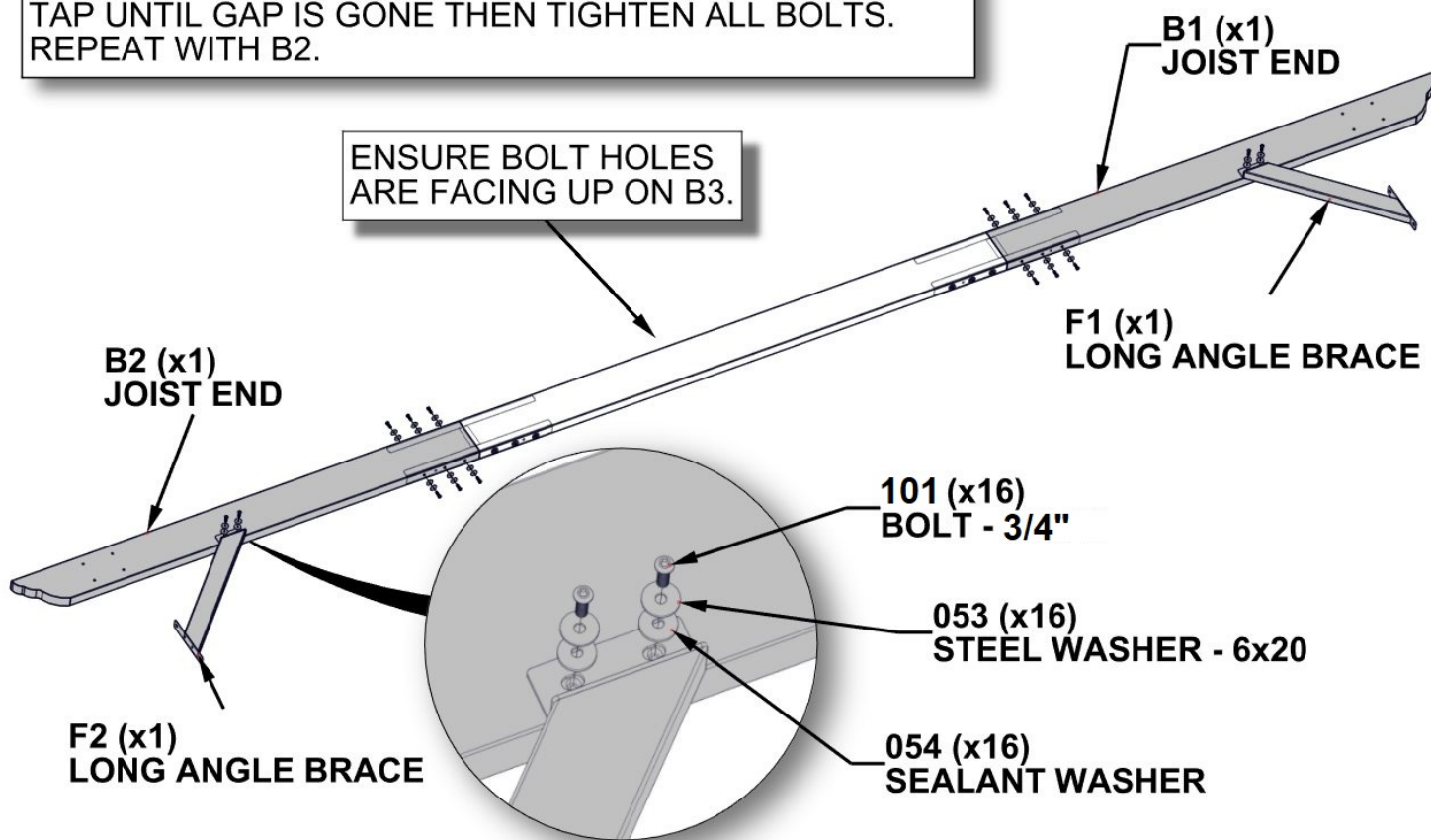
**H101053 STEEL WASHER**  
(32) 6x20



**H101054 SEALANT WASHER**  
(32)

SLIDE B1 ONTO SPLICE BRACKET. STAND UP ASSEMBLY ON END WITH PACKAGING CARDBOARD ON GROUND. TAP UNTIL GAP IS GONE THEN TIGHTEN ALL BOLTS. REPEAT WITH B2.

ENSURE BOLT HOLES ARE FACING UP ON B3.



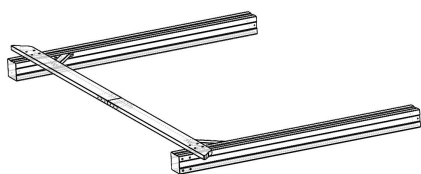
DO NOT FULLY TIGHTEN BOLTS ON ANGLE BRACES AT THIS STEP.

REPEAT THIS STEP FOR OTHER JOIST ASSEMBLY.

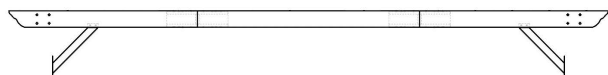


# PERGOLA ASSEMBLY

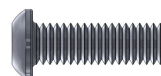
## STEP 7



(2) UPRIGHT ASSEMBLY - FROM PREVIOUS STEPS



(2) JOIST ASSEMBLY - FROM PREVIOUS STEPS



H101101 TORX PAN HEAD  
(8) 1/4-20x3/4"



H101103 TORX SOCKET SCREW  
(16) 1/4-20

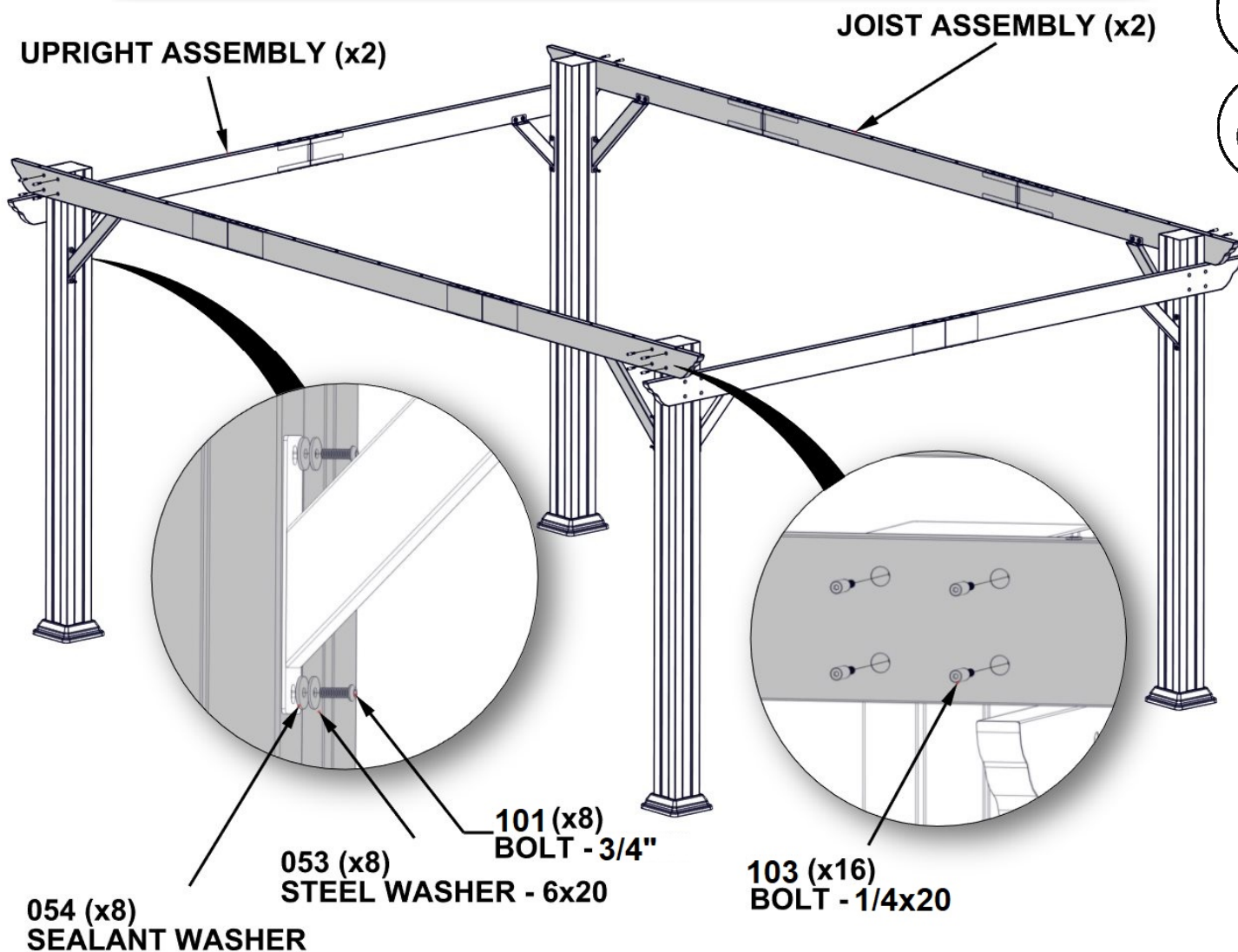


H101053 STEEL WASHER  
(8) 6x20



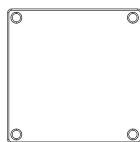
H101054 SEALANT WASHER  
(8)

WITH BOTH UPRIGHT ASSEMBLIES STANDING, ONE JOIST ASSEMBLY IS BOLTED ON WITHOUT FULLY TIGHTENING BOLTS. ONCE ONE JOIST ASSEMBLY IS BOLTED ON, BOLT ON SECOND JOIST ASSEMBLY.



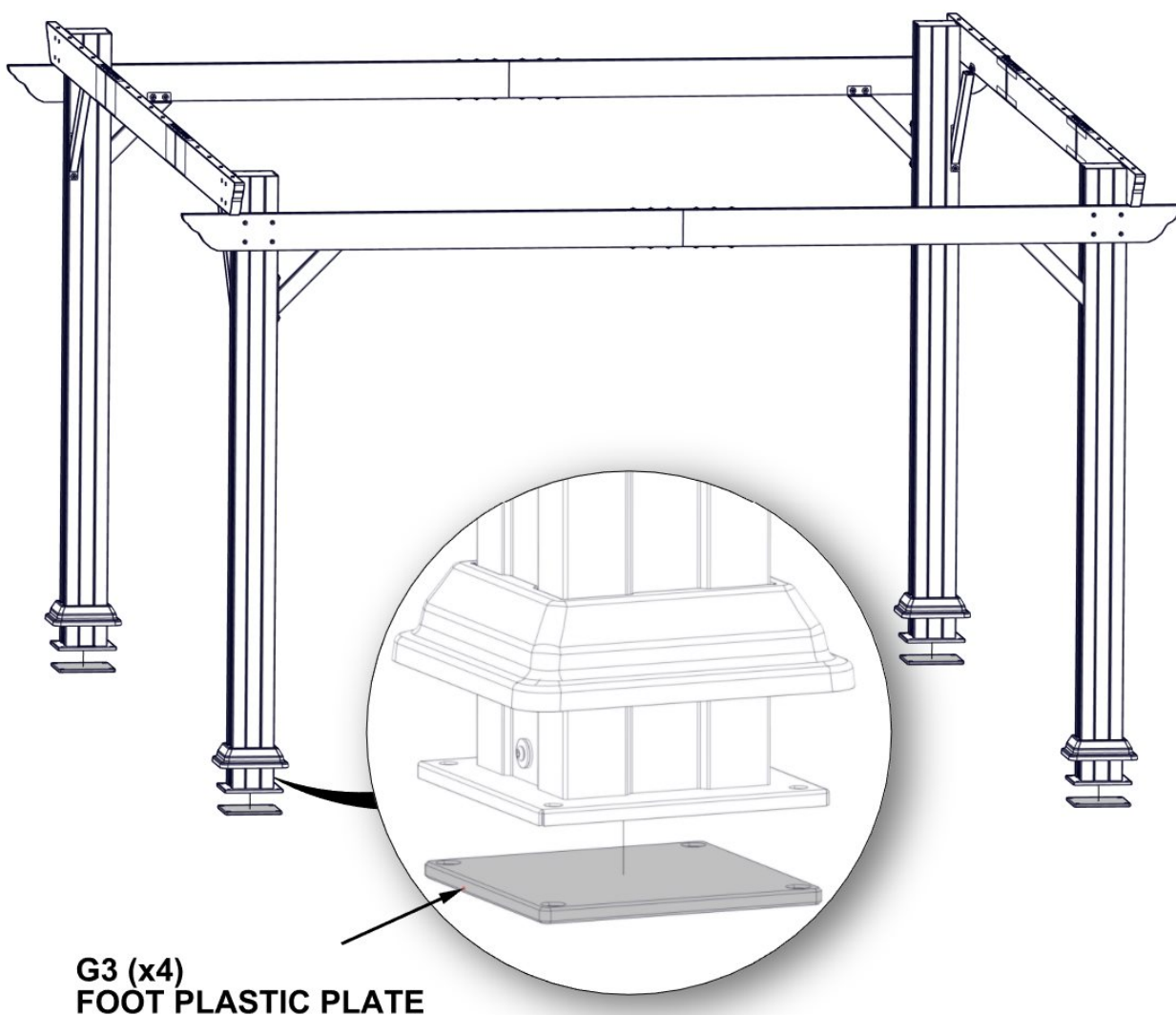
SQUARE UP ALL POSTS TO JOIST ASSEMBLIES AND FULLY TIGHTEN ALL BOLTS.

NOTE: A THIRD PERSON IS HELPFUL FOR THIS STEP.



**G3** FOOT PLASTIC PLATE - A6P00464  
(4) 3/8"x8 1/8"x8 1/8" (11x207x207)

LIFT UP EACH POST AND SLIDE A FOOT PLASTIC PLATE UNDER EACH POST FOOT PLATE.





### D1 JOIST END - A4M01614

(4) 1 5/8"x3 1/8"x72 1/8" (40x80x1831)

### J3 SPLICE BRACKET - A4M01271

(4) 1 1/2"x3"x15 3/4" (37x77x400)



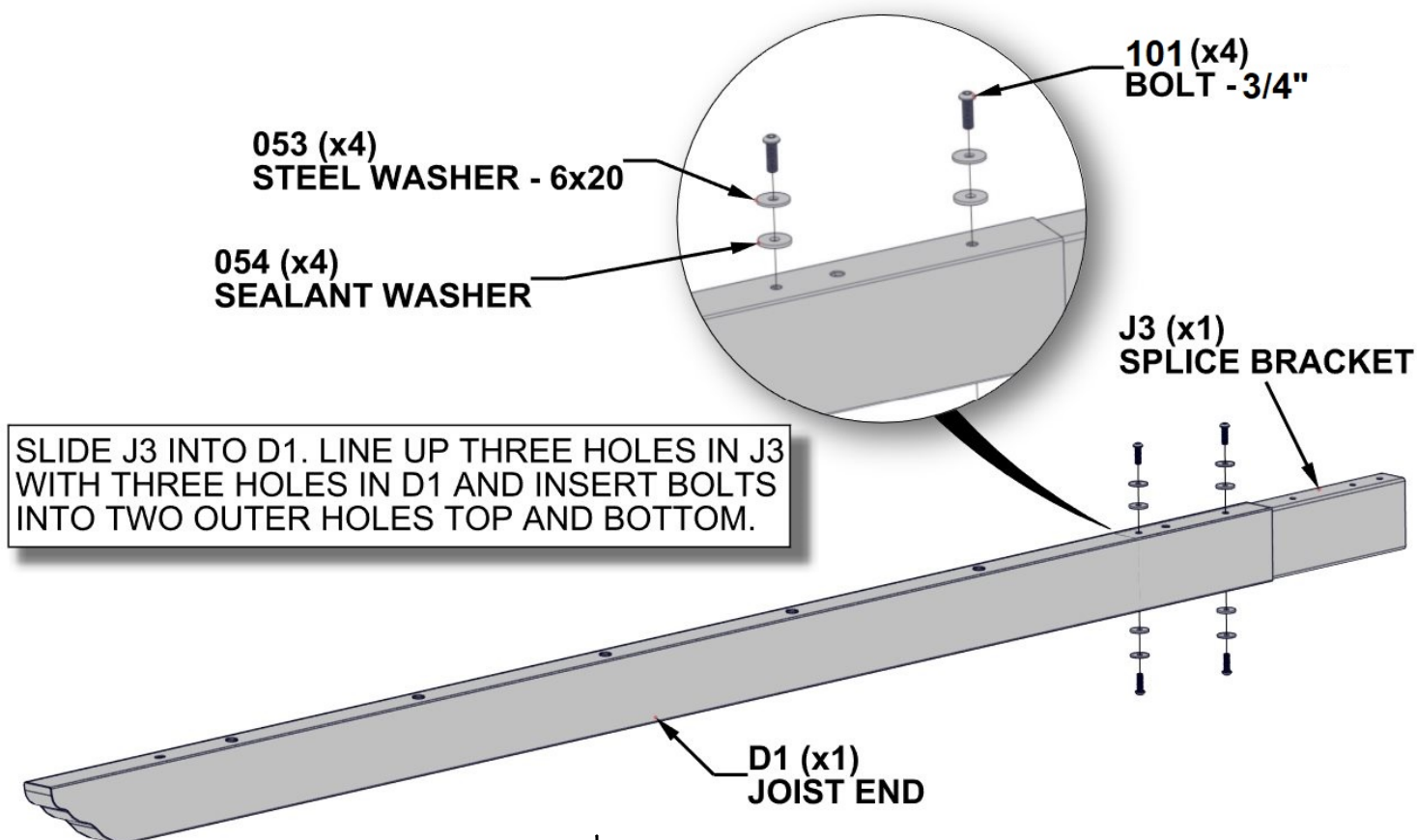
H101101 TORX PAN HEAD  
(16) 1/4-20x3/4"



H101053 STEEL WASHER  
(16) 6x20



H101054 SEALANT WASHER  
(16)



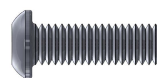
DO NOT FULLY TIGHTEN BOLTS AT THIS STEP.

COMPLETE THIS STEP FOUR TIMES.





**D1 JOIST END - A4M01614**  
(4) 1 5/8"x3 1/8"x72 1/8" (40x80x1831)



**H101101 TORX PAN HEAD**  
(16) 1/4-20x3/4"

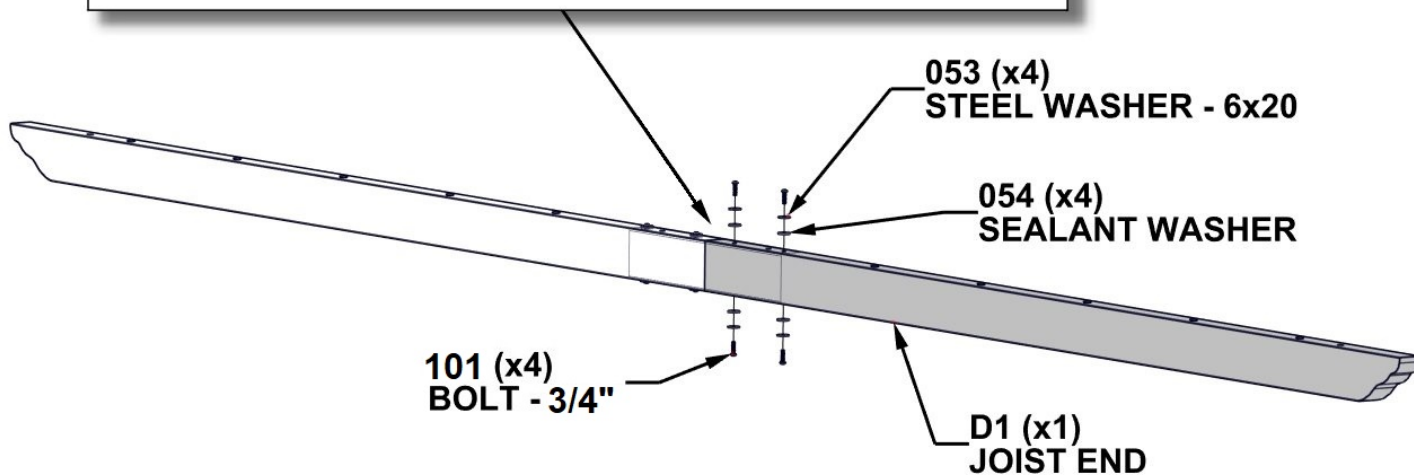


**H101053 STEEL WASHER**  
(16) 6x20

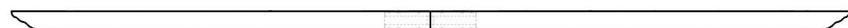


**H101054 SEALANT WASHER**  
(16)

SLIDE D1 ONTO SPLICE BRACKET. STAND UP ASSEMBLY ON END WITH PACKAGING CARDBOARD ON GROUND. TAP UNTIL GAP IS GONE THEN TIGHTEN ALL BOLTS ON JOIST.



COMPLETE THIS STEP FOUR TIMES.



(4) JOIST ASSEMBLY - FROM PREVIOUS STEPS



H101102 TORX PAN HEAD  
(8) 1/4-20x4"

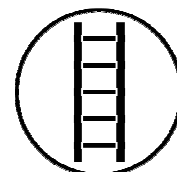


H101053 STEEL WASHER  
(8) 6x20



H101054 SEALANT WASHER  
(8)

BOLT ONE SIDE OF JOISTS FIRST THEN BOLT OTHER SIDE. DO NOT FULLY TIGHTEN BOLTS AT THIS STEP.



JOIST ASSEMBLY (x4)

102 (x8)  
BOLT - 4"

053 (x8)  
STEEL WASHER - 6x20

054 (x8)  
SEALANT WASHER

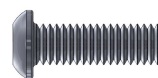
ENSURE JOIST ASSEMBLIES ARE SPACED OUT CORRECTLY AS PLACEMENT IS CRITICAL FOR PURLIN ATTACHMENT.



**D2** | JOIST END - A4M01615  
(12) | 1 5/8"x3 1/8"x72 1/8" (40x80x1831)



**J3** | SPLICE BRACKET - A4M01271  
(12) | 1 1/2"x3"x15 3/4" (37x77x400)



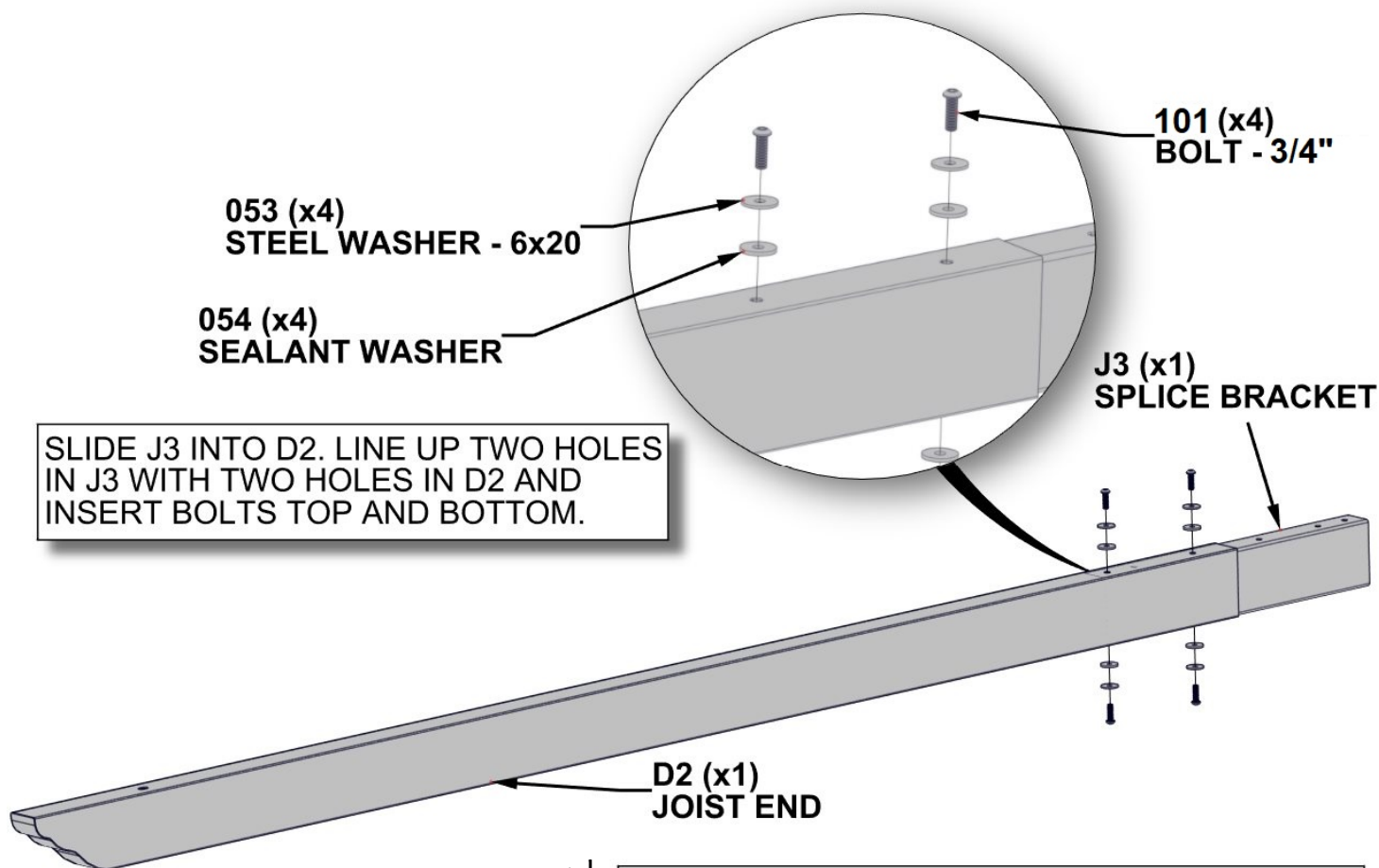
**H101101** | TORX PAN HEAD  
(48) | 1/4-20x3/4"



**H101053** | STEEL WASHER  
(48) | 6x20



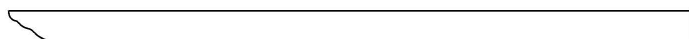
**H101054** | SEALANT WASHER  
(48)



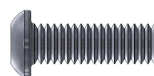
DO NOT FULLY TIGHTEN BOLTS AT THIS STEP.

COMPLETE THIS STEP TWELVE TIMES.





**D2** JOIST END - A4M01615  
(12) 1 5/8"x3 1/8"x72 1/8" (40x80x1831)



**H101101** TORX PAN HEAD  
(48) 1/4-20x3/4"

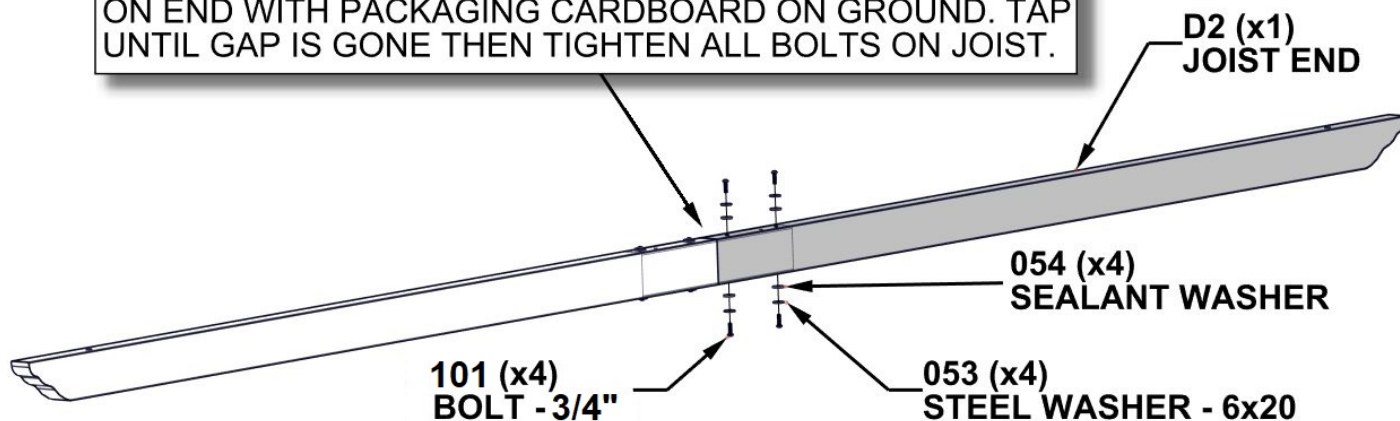


**H101053** STEEL WASHER  
(48) 6x20

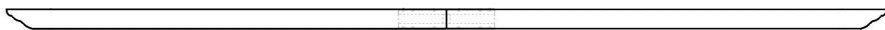


**H101054** SEALANT WASHER  
(48)

SLIDE D2 ONTO SPLICE BRACKET. STAND UP ASSEMBLY ON END WITH PACKAGING CARDBOARD ON GROUND. TAP UNTIL GAP IS GONE THEN TIGHTEN ALL BOLTS ON JOIST.



COMPLETE THIS STEP TWELVE TIMES.



(12) JOIST ASSEMBLY - FROM PREVIOUS STEPS



H101102 TORX PAN HEAD  
(24) 1/4-20x4"

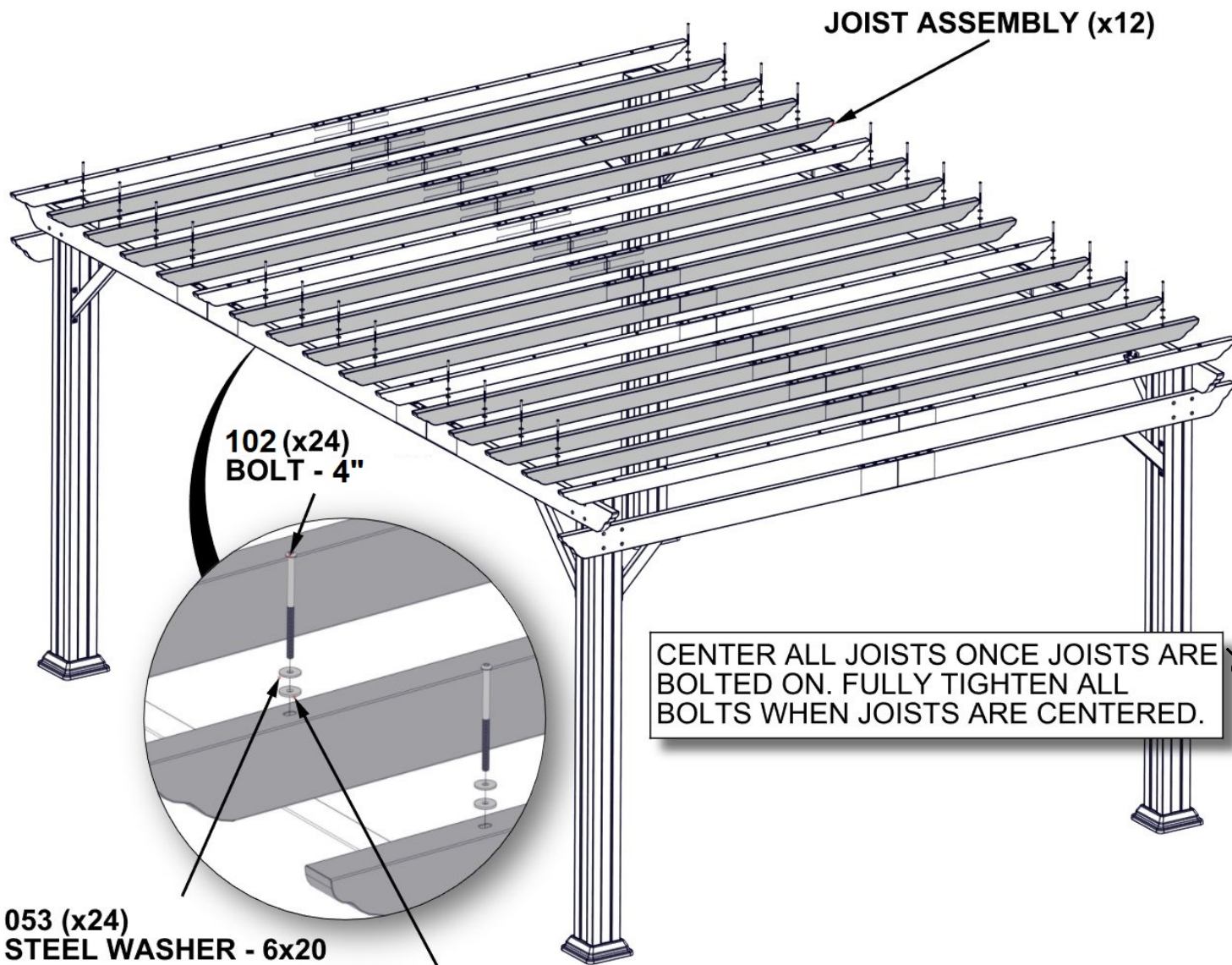
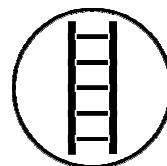


H101053 STEEL WASHER  
(24) 6x20



H101054 SEALANT WASHER  
(24)

BOLT ONE SIDE OF JOISTS FIRST THEN BOLT OTHER SIDE. DO NOT FULLY TIGHTEN BOLTS YET.



JOIST ASSEMBLY (x12)

102 (x24)  
BOLT - 4"

CENTER ALL JOISTS ONCE JOISTS ARE BOLTED ON. FULLY TIGHTEN ALL BOLTS WHEN JOISTS ARE CENTERED.

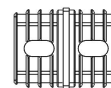


053 (x24)  
STEEL WASHER - 6x20

054 (x24)  
SEALANT WASHER



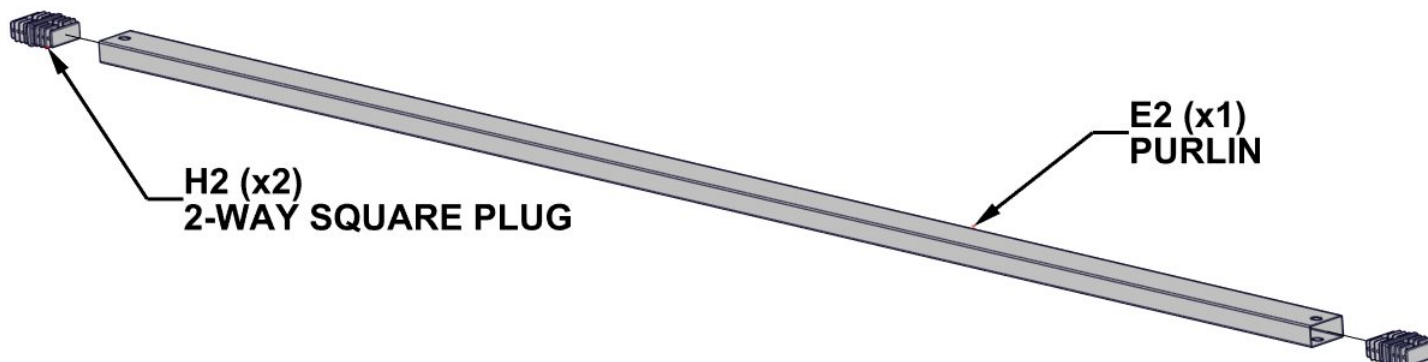
**E2 PURLIN - A4M01277**  
(12) 3/4"x1 5/8"x60 3/8" (20x40x1534)



**H2 2-WAY SQUARE PLUG- A6P00465**  
(24) 3/4"x1 5/8"x2" (20x40x52)



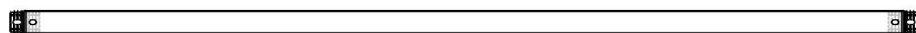
SLIDE A 2-WAY SQUARE PLUG INTO EACH END OF PURLIN.



COMPLETE THIS STEP TWELVE TIMES.

NOTE: A RUBBER MALLET MAY BE HELPFUL TO GET THE 2-WAY SQUARE PLUGS INTO THE ENDS OF THE PURLIN.





(12) PURLIN ASSEMBLY - FROM PREVIOUS STEPS



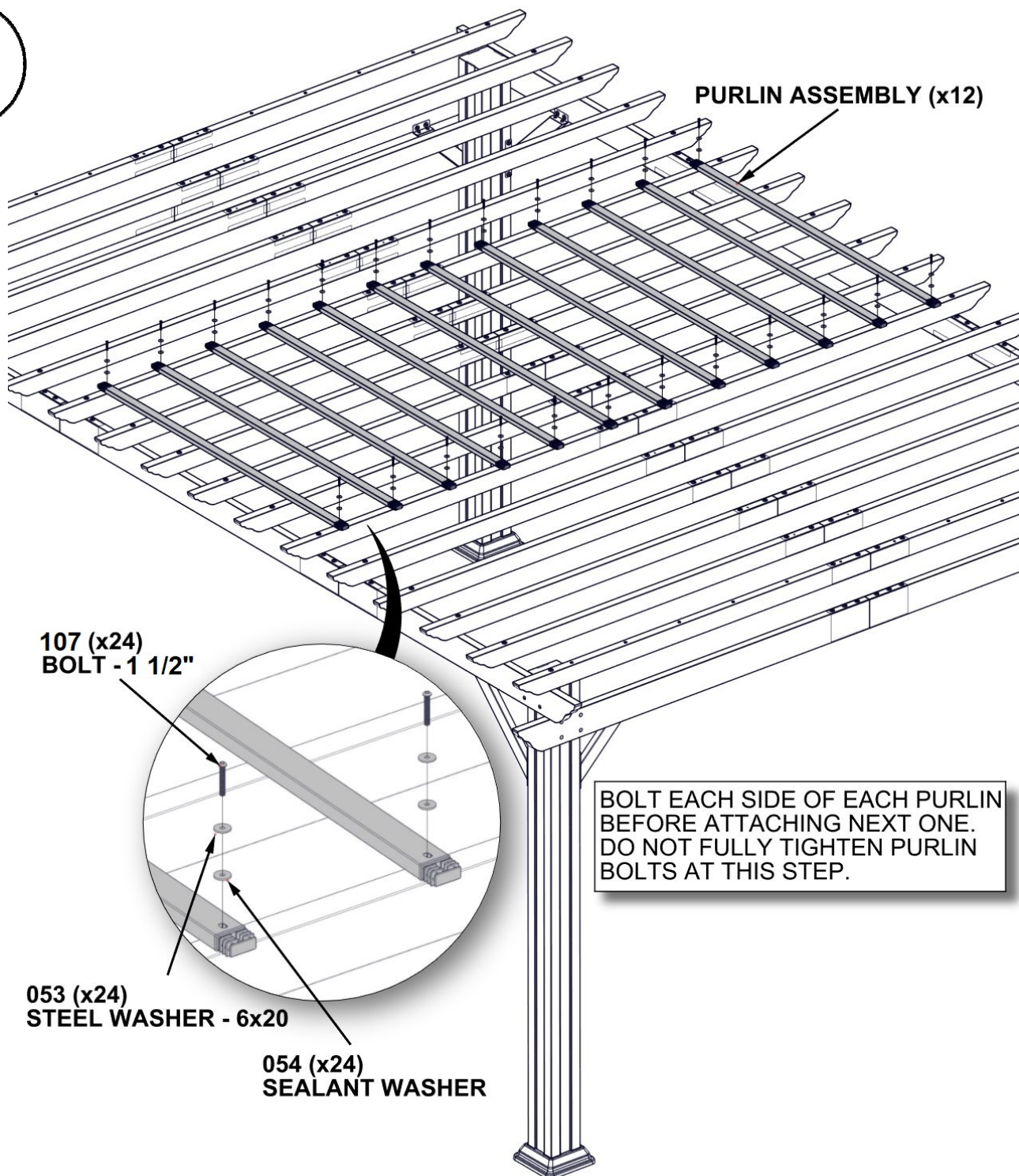
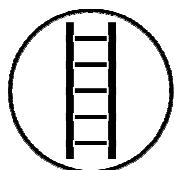
H101107 | TORX PAN HEAD  
(24) | 1/4-20x1 1/2"



H101053 | STEEL WASHER  
(24) | 6x20



H101054 | SEALANT WASHER  
(24)



PURLIN ASSEMBLY (x12)

107 (x24)  
BOLT - 1 1/2"

053 (x24)  
STEEL WASHER - 6x20

054 (x24)  
SEALANT WASHER

BOLT EACH SIDE OF EACH PURLIN  
BEFORE ATTACHING NEXT ONE.  
DO NOT FULLY TIGHTEN PURLIN  
BOLTS AT THIS STEP.



**E1 | PURLIN END - A4M01272**  
(24) 3/4"x1 5/8"x65 3/4" (20x40x1670)



**H101107 | TORX PAN HEAD**  
(24) 1/4-20X1 1/2"



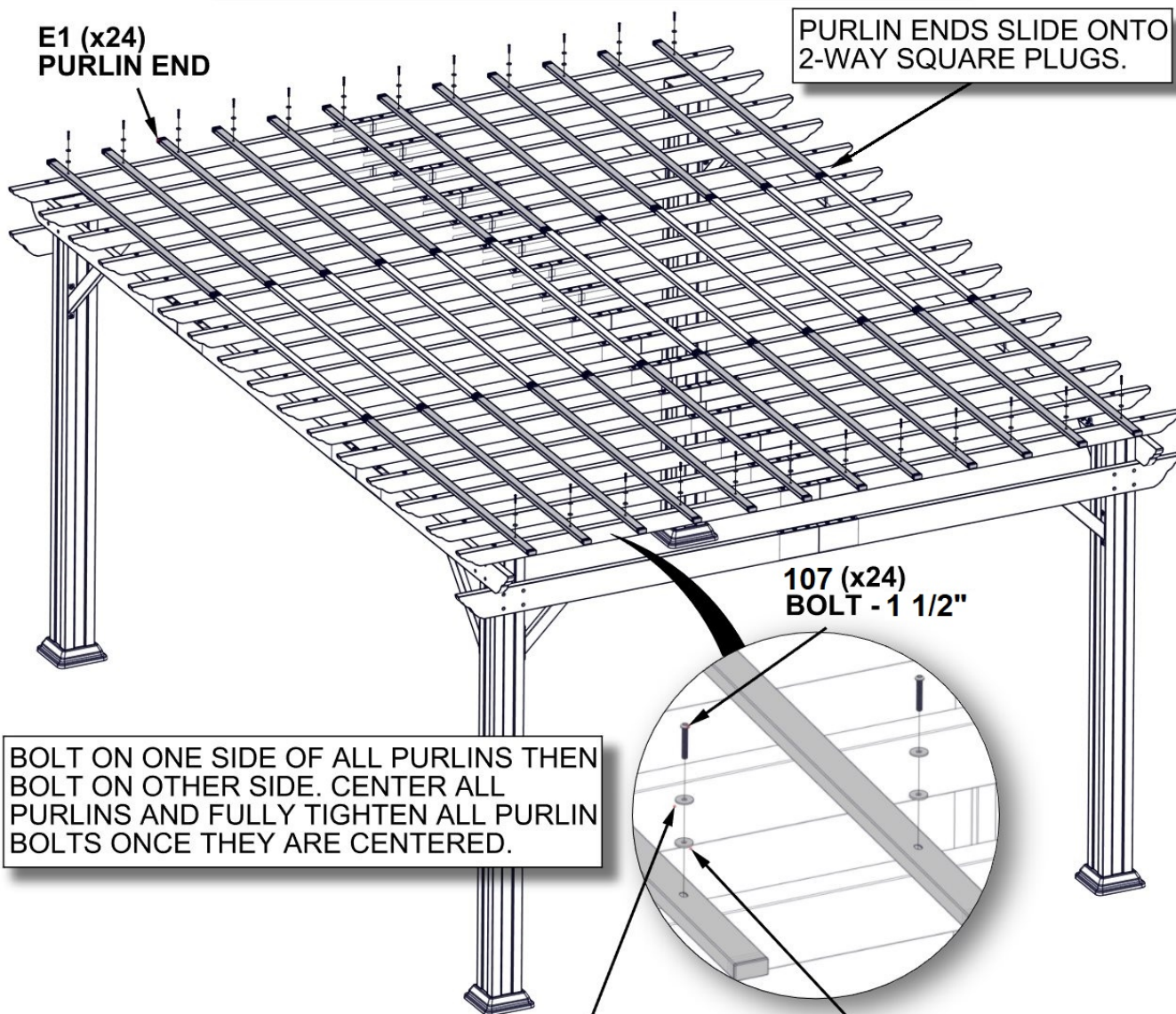
**H101053 | STEEL WASHER**  
(24) 6x20



**H101054 | SEALANT WASHER**  
(24)




NOTE: A RUBBER Mallet MAY BE HELPFUL TO GET THE PURLIN ENDS ONTO THE 2-WAY SQUARE PLUGS.



**E1 (x24)  
PURLIN END**

PURLIN ENDS SLIDE ONTO 2-WAY SQUARE PLUGS.

**107 (x24)  
BOLT - 1 1/2"**

 BOLT ON ONE SIDE OF ALL PURLINS THEN BOLT ON OTHER SIDE. CENTER ALL PURLINS AND FULLY TIGHTEN ALL PURLIN BOLTS ONCE THEY ARE CENTERED.

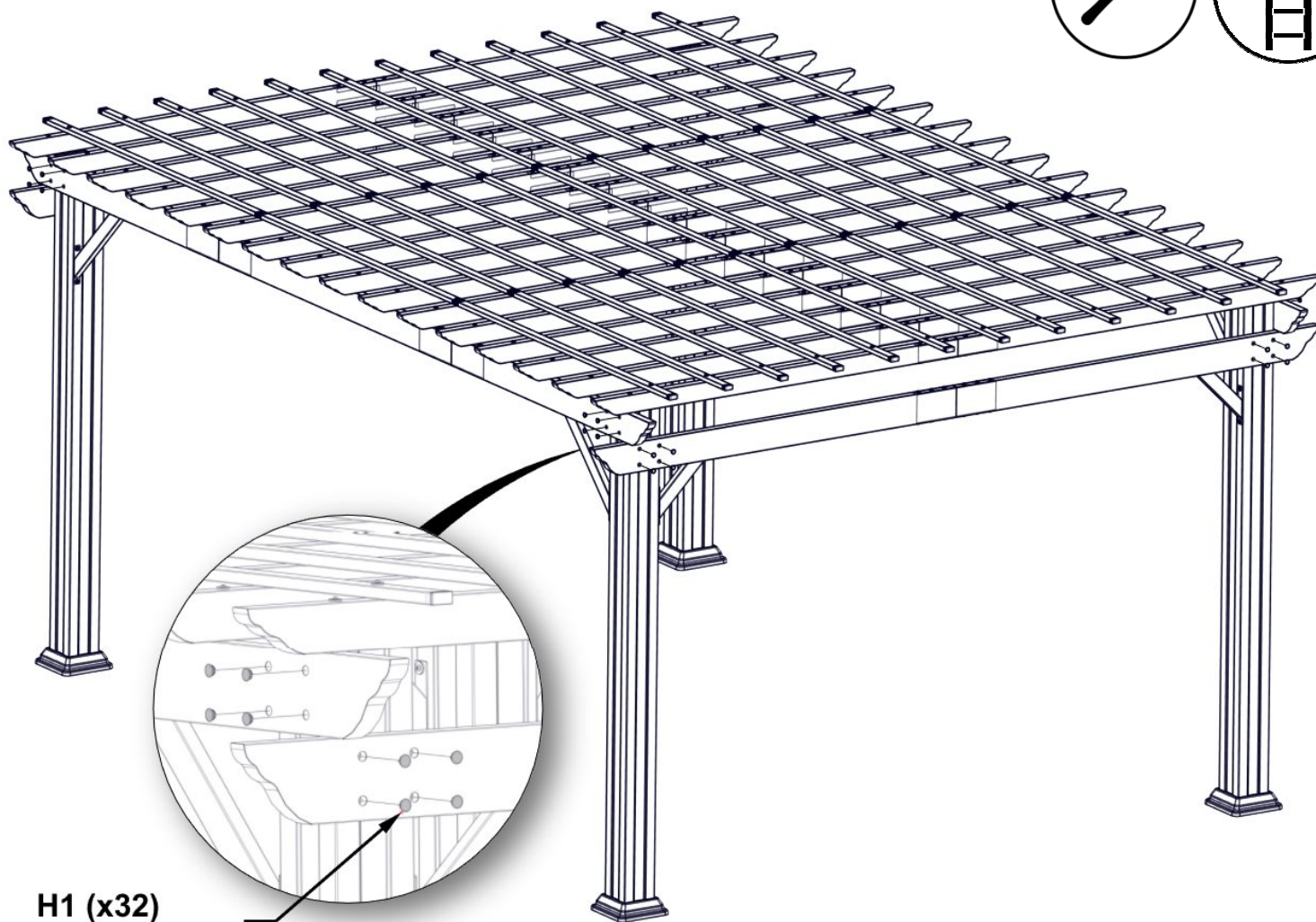
**053 (x24)  
STEEL WASHER - 6x20**

**054 (x24)  
SEALANT WASHER**



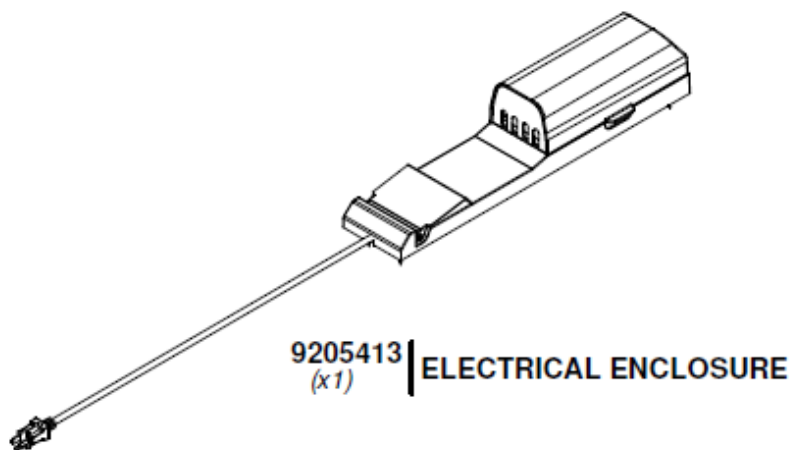


**H1** | HOLE COVER - A4M01352  
(32)



**H1 (x32)**  
**HOLE COVER**

USE A SMALL PIECE OF WOOD TO TAP HOLE COVERS IN WITH A RUBBER Mallet.



FOR ELECTRICAL ENCLOSURE INSTALLATION REFER TO ASSEMBLY INSTRUCTIONS THAT COMES PACKAGED WITH THE ELECTRICAL ENCLOSURE KIT. INSTALL ON ANY POST THAT IS DESIRED. FOLLOW DIRECTIONS FOR PROPER INSTALLATION.