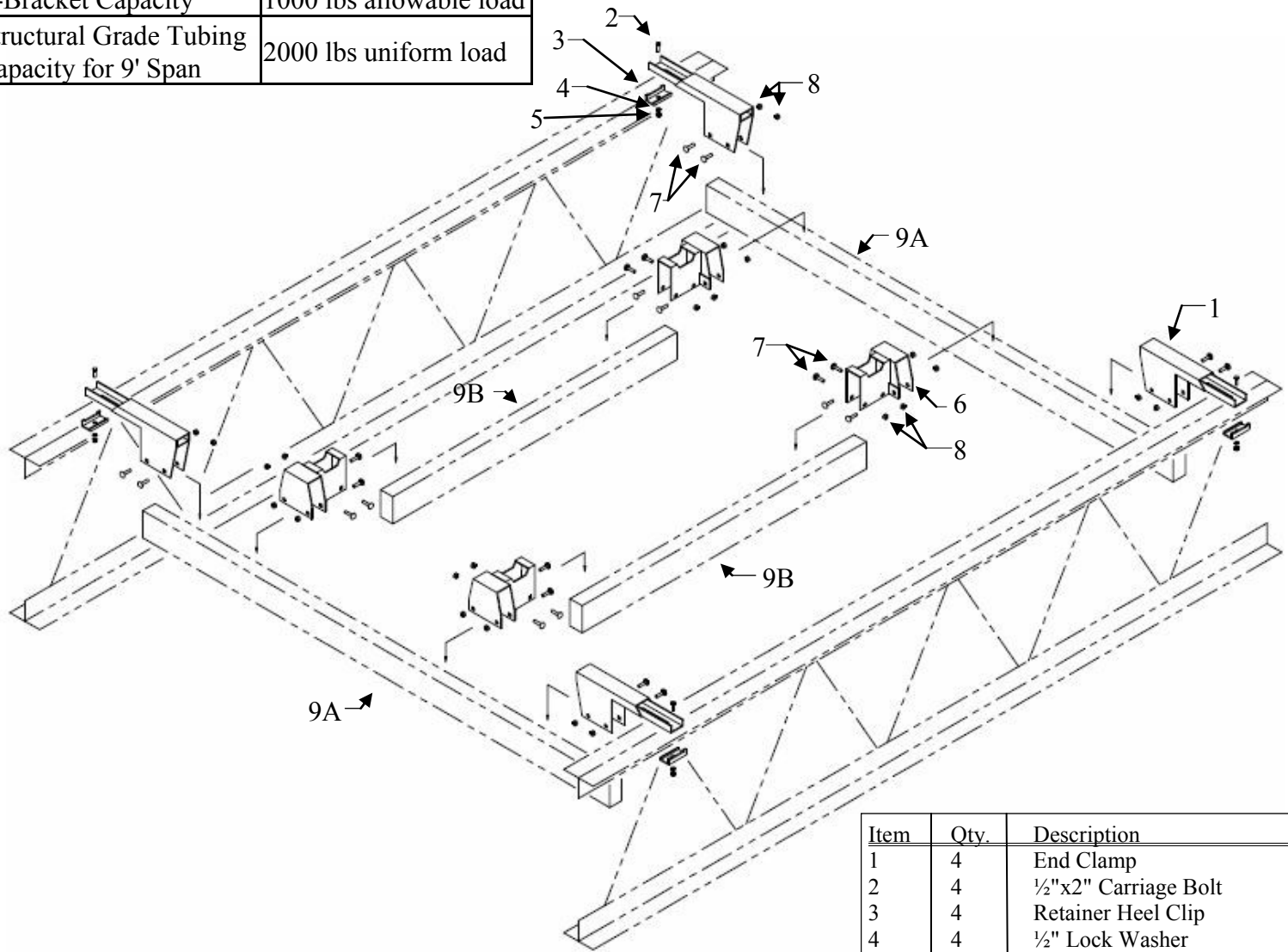


Tube Framing Clamp System Installation Guide

For use with Joists and Corrugated Roofs

End Clamp Capacity	750 lbs allowable load
T-Bracket Capacity	1000 lbs allowable load
Structural Grade Tubing Capacity for 9' Span	2000 lbs uniform load



Item	Qty.	Description
1	4	End Clamp
2	4	1/2"x2" Carriage Bolt
3	4	Retainer Heel Clip
4	4	1/2" Lock Washer
5	4	1/2" Hex Nut
6	4	T-Bracket Clamp
7	24	1/2"x3" Bolt Grade 5 (yellow)
8	24	1/2" Locknut
9A	2	Tube – Main
9B	2	Tube – Cross

WARNING:

Any modification to or additional loading of a joist must be reviewed by a structural engineer. Each Chicago Clamp System® application must be selected under the supervision of a structural engineer. Chicago Clamp Systems® do NOT increase the load capacity of any structure. Chicago Clamp Company takes no responsibility for the load capacity of any existing structure.



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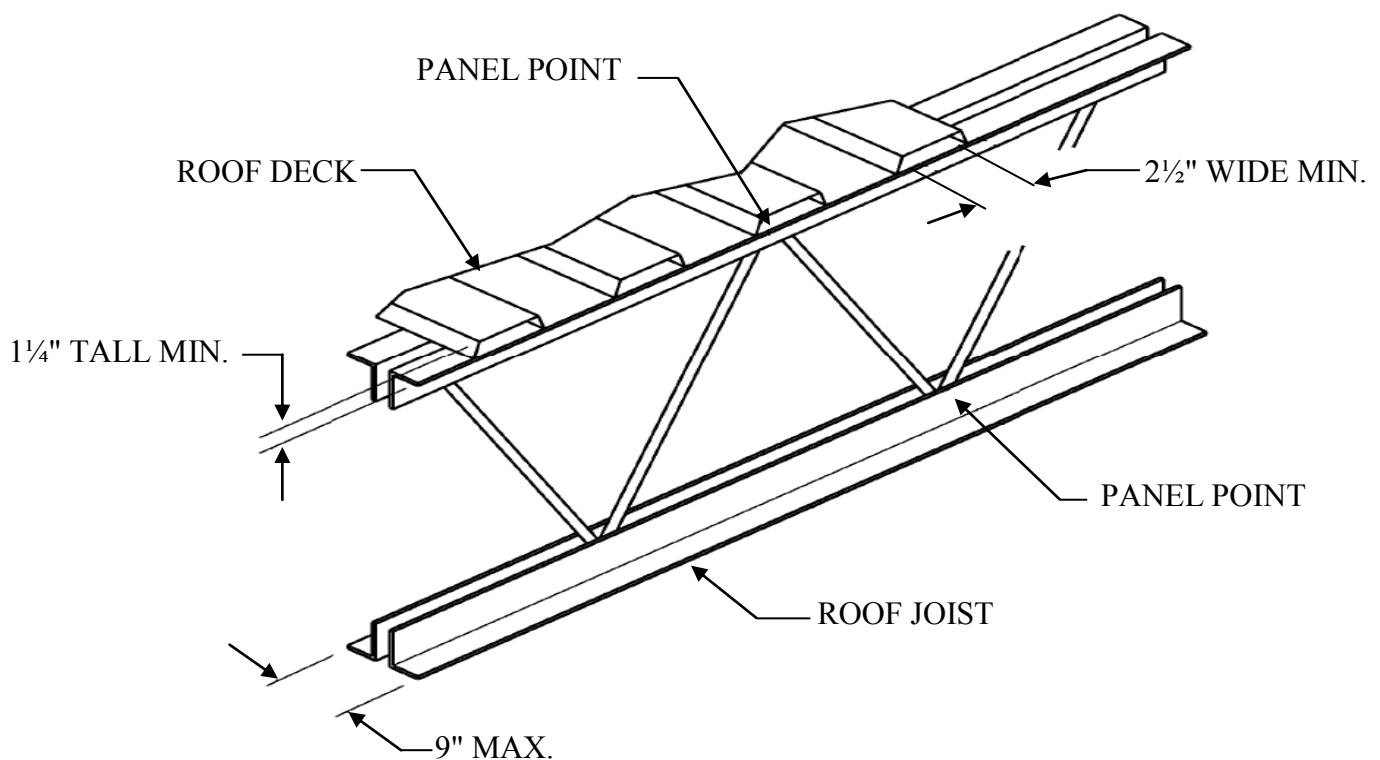
Tube Framing Clamp System Installation Guide Continued

FIRST STEPS:

Check with a Structural Engineer for: Additional joist loading; or relocation of existing loads.

Check Roof Deck Opening for Clamp Clearance:

1 ¼" Min. Height, 2 ½" Min. Width, 9" Max. Chord Width



Check that the area is clear for the Framing Clamp System.

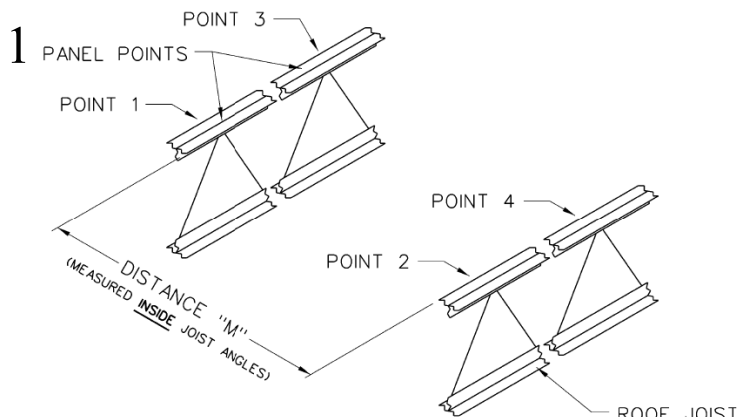
Example: Ensure area is free from electric conduit piping.

WARNING: Use only HSS 4"x 2"x ⅛" that is A500, Grade B or better tubing.

WARNING:

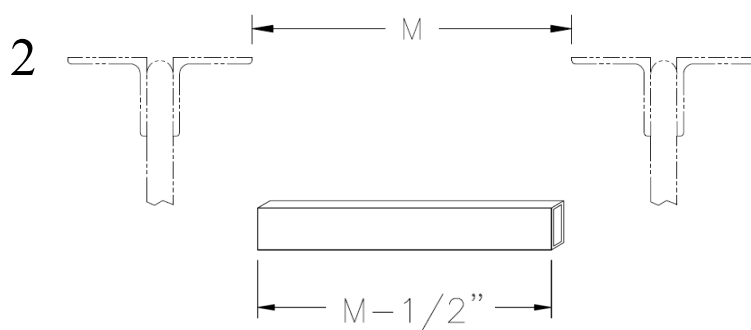
Use only hardware supplied with Tube Framing Clamp System kit. ½" x 3" Carriage Bolts supplied are Grade 5. Using Carriage Bolts less than Grade 5 will drastically reduce capacity of Framing System. Always install the square head of carriage bolt into square slot. Grade 5 Carriage Bolts supplied are dyed yellow for easy identification.

Tube Framing Clamp System Installation Guide Continued



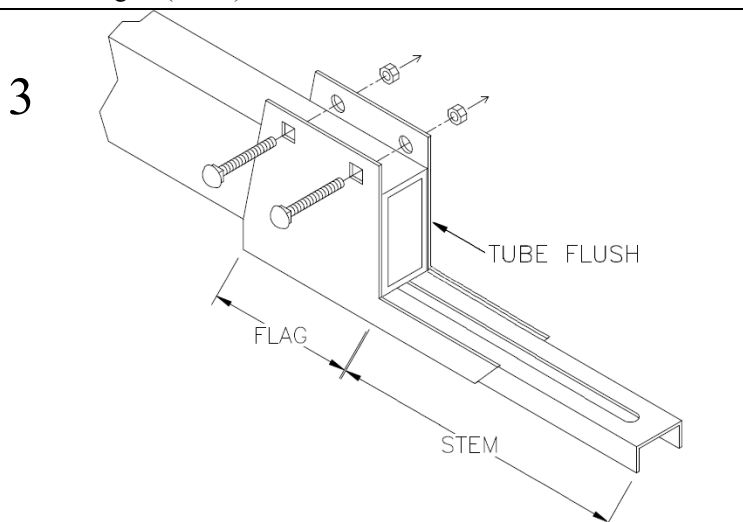
Identify four points in roof deck pockets on two parallel Bar Joists that form a rectangle. Check with Structural Engineer to see if End Clamps must be over Panel Points.

Panel Points—where Diagonal Truss members are attached to top or bottom angles (chord).

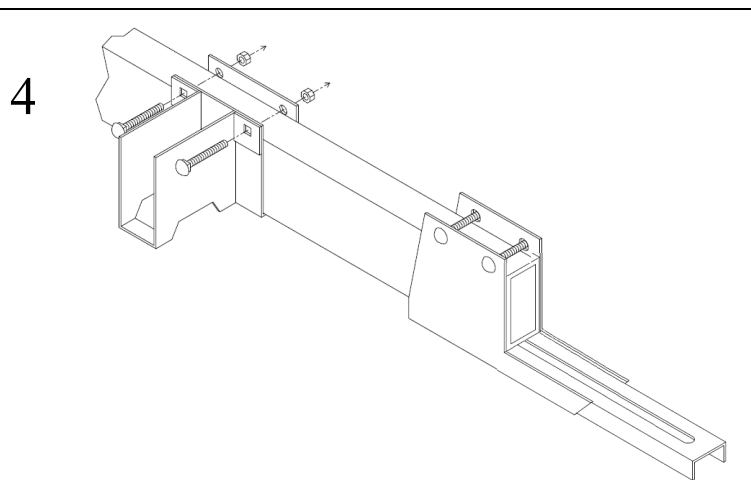


Measure the distance “M” inside joist angles as shown. Take measurement “M” and subtract ½”. Cut Main Tubes to this length.

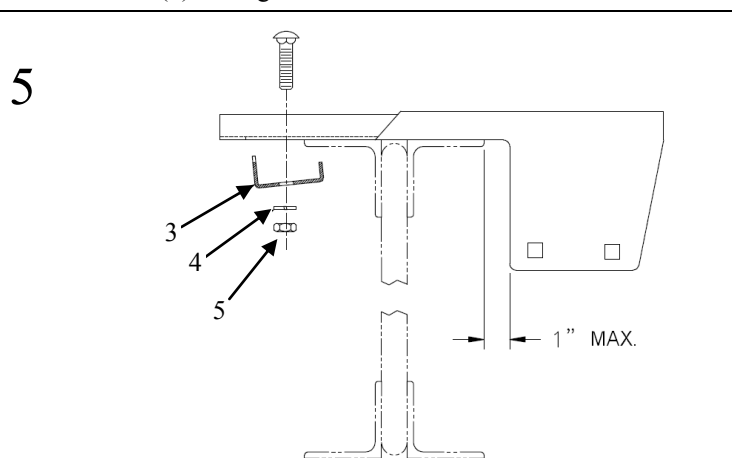
$M - \frac{1}{2} = \text{length of Main Tubes}$



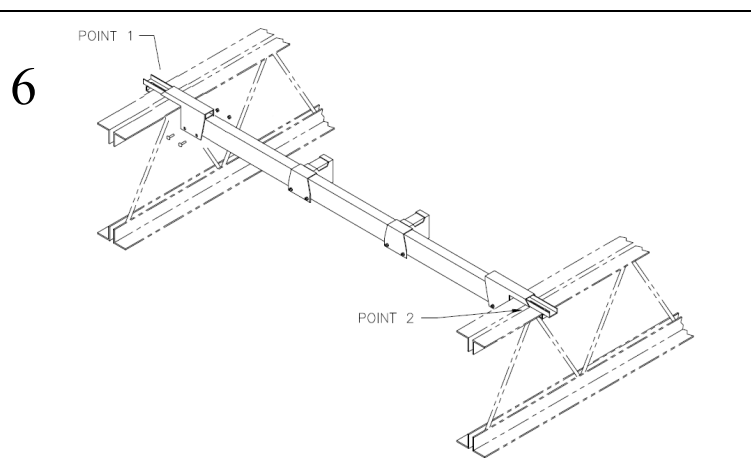
Insert Main Tube (9A) into End Clamp (1) so that tubing is flush with the back of the End Clamp flag as shown. Secure bolts (7) with locknuts (8) and tighten.



Place T-Bracket (6) over Main Tube, with T-Bracket wing facing the appropriate direction. Insert bolts and secure with locknuts to prevent sliding during installation. Repeat process for each desired cross members.

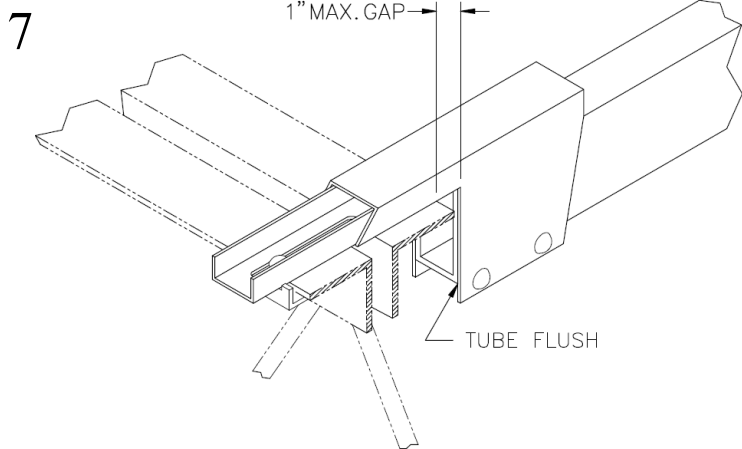


Slide single End Clamp into the deck opening over the joist at Point 1 and center in pocket. Attach this End Clamp with the Heel Clip (3) and tighten. Make sure the End Clamp is within at least 1” of the joist as shown.

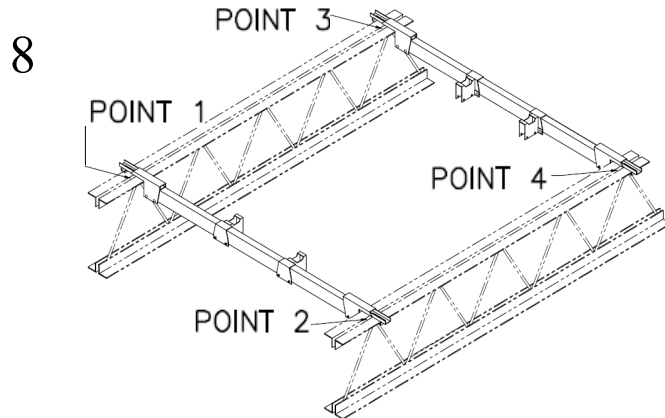


Slide the End Clamp attached to the Main Tube into the deck opening above Point 2. Then, supporting the tube, follow the corrugation across and attach the other end of the tube to the End Clamp at Point 1. Tubing should be fully inserted into the End Clamp and flush with the back of the End Clamp flag.

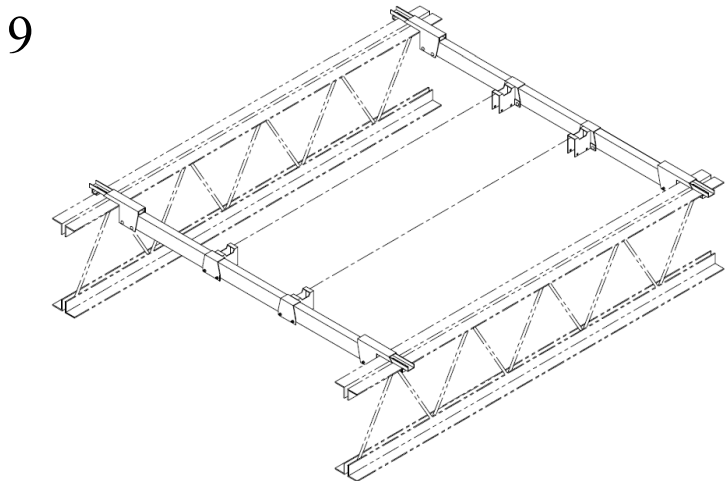
Tube Framing Clamp System Installation Guide Continued



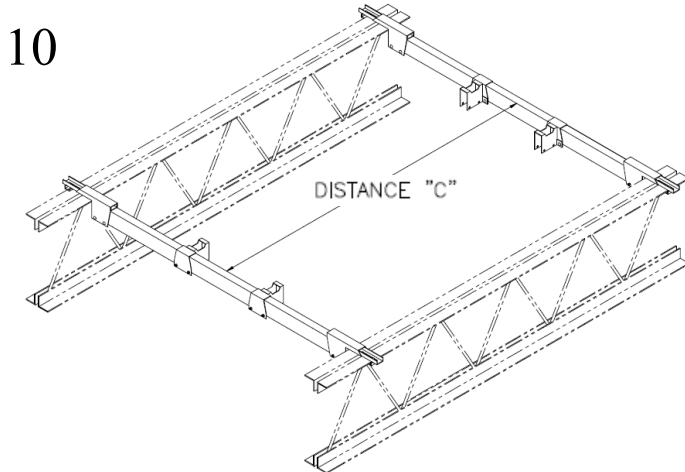
When completely installed, each End Clamp should be attached to joist and tubing as shown above. Space between End Clamp flag and joist angle may be no more than 1".



Repeat steps 3-7 for second Main Tube in roof deck opening above Point 3 and Point 4. Make sure Main Channels and End Clamps are aligned and tight.

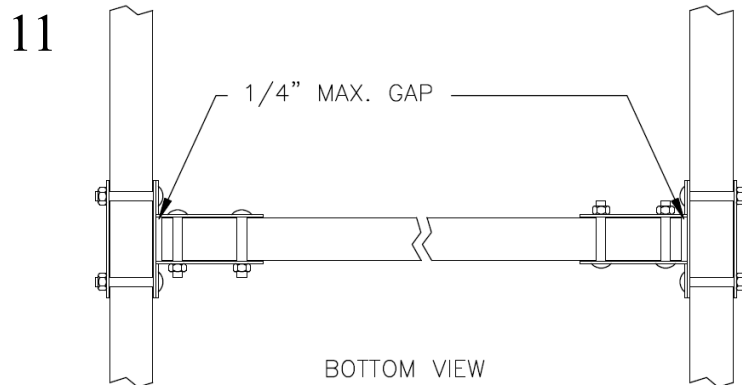


Identify four points that form a rectangle on the Main Tubes. This is where T-Brackets will be installed. Slide T-Brackets to these points. Be sure T-Bracket wings are directly across from each other. Tighten bolts.



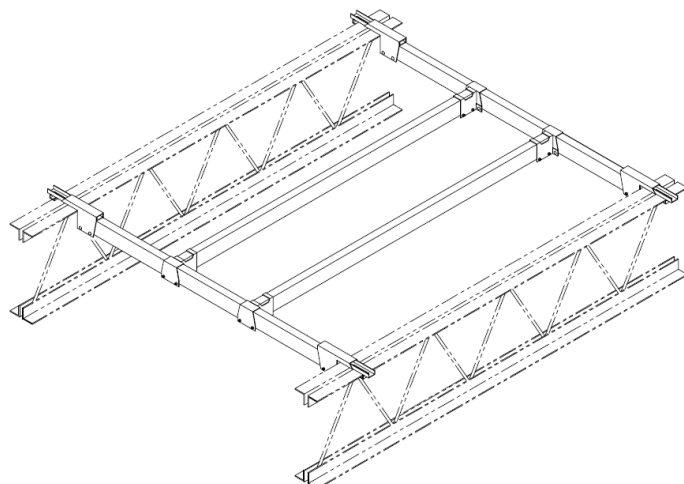
Measure the distance "C" between the two Main Tubes. Subtract 1/2" from measurement "C". Cut Cross Tubes to length.

$$\text{Distance } C - \frac{1}{2}'' = \text{Cross Tube length}$$



Insert Cross Tube into wings of T-Brackets as shown. Be sure tube is within 1/4" of the back of the T-Brackets. Secure with bolts and locknuts. Repeat for second Cross Tube. Tighten everything.

Note: If Structural Engineer calls for additional support, 1 1/2"x 3" tubing may be secured to Cross Tubes with Tube Clips.



Assembly is now complete.