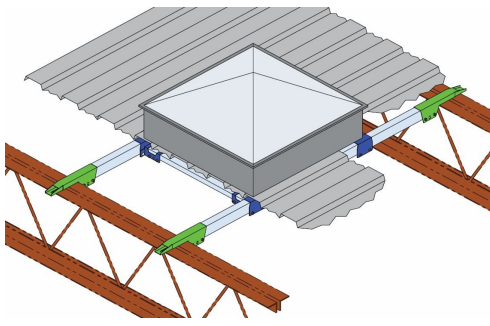
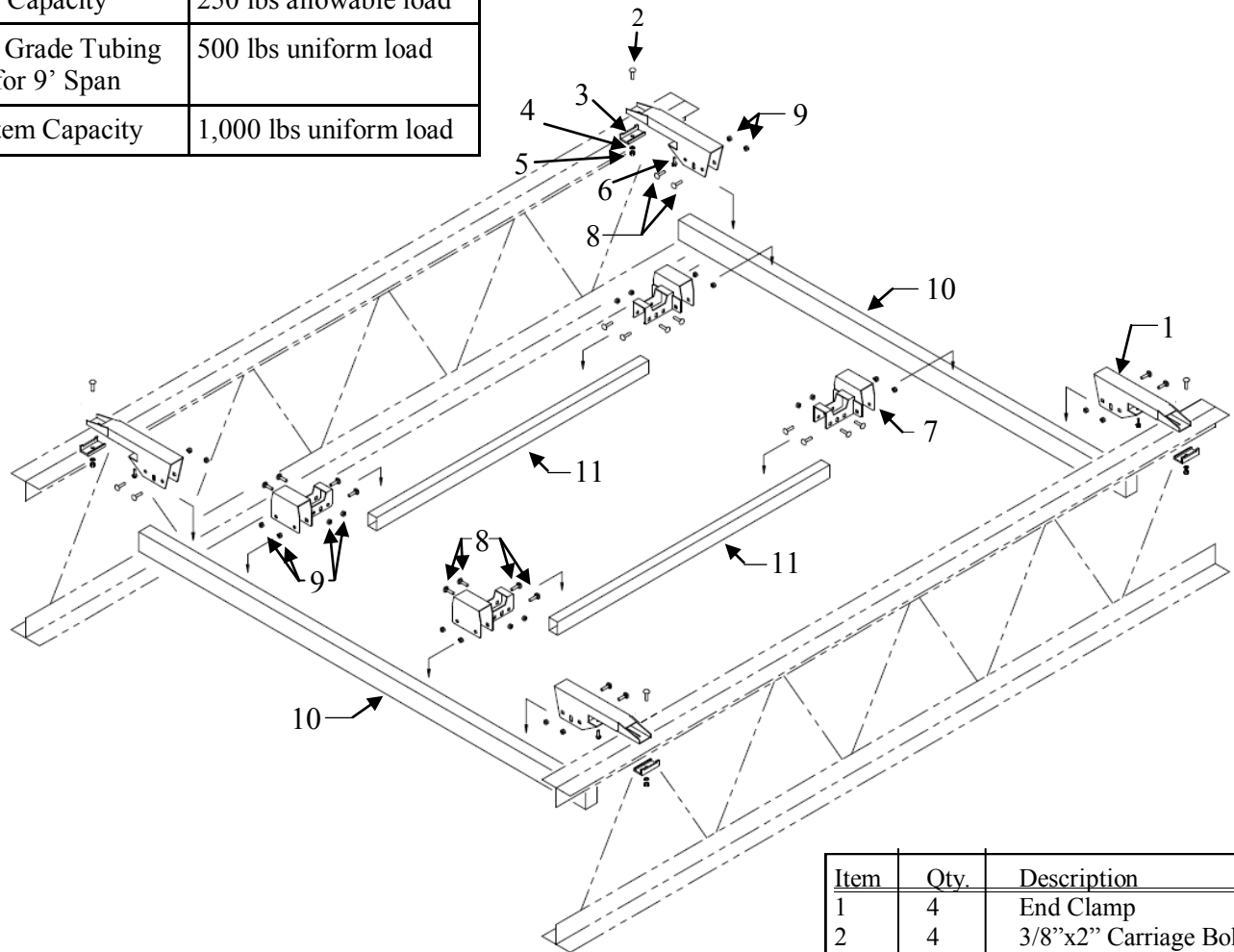


3 Inch Tube Framing Clamp System Installation Guide

For use with Joists and Corrugated Roofs



End Clamp Capacity	250 lbs allowable load
T-Bracket Capacity	250 lbs allowable load
Structural Grade Tubing Capacity for 9' Span	500 lbs uniform load
Total System Capacity	1,000 lbs uniform load



Item	Qty.	Description
1	4	End Clamp
2	4	3/8"x2" Carriage Bolt
3	4	Retainer Heel Clip
4	4	3/8" Lock Washer
5	4	3/8" Hex Nut
6	4	3/8" Jaw Bolt
7	4	T-Bracket Clamp
8	24	3/8"x3" Bolt Grade 5 (yellow)
9	24	3/8" Locknut
10	2	Tube – Main (2" x 3")
11	2	Tube – Cross (2" x 1.5")

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 direction 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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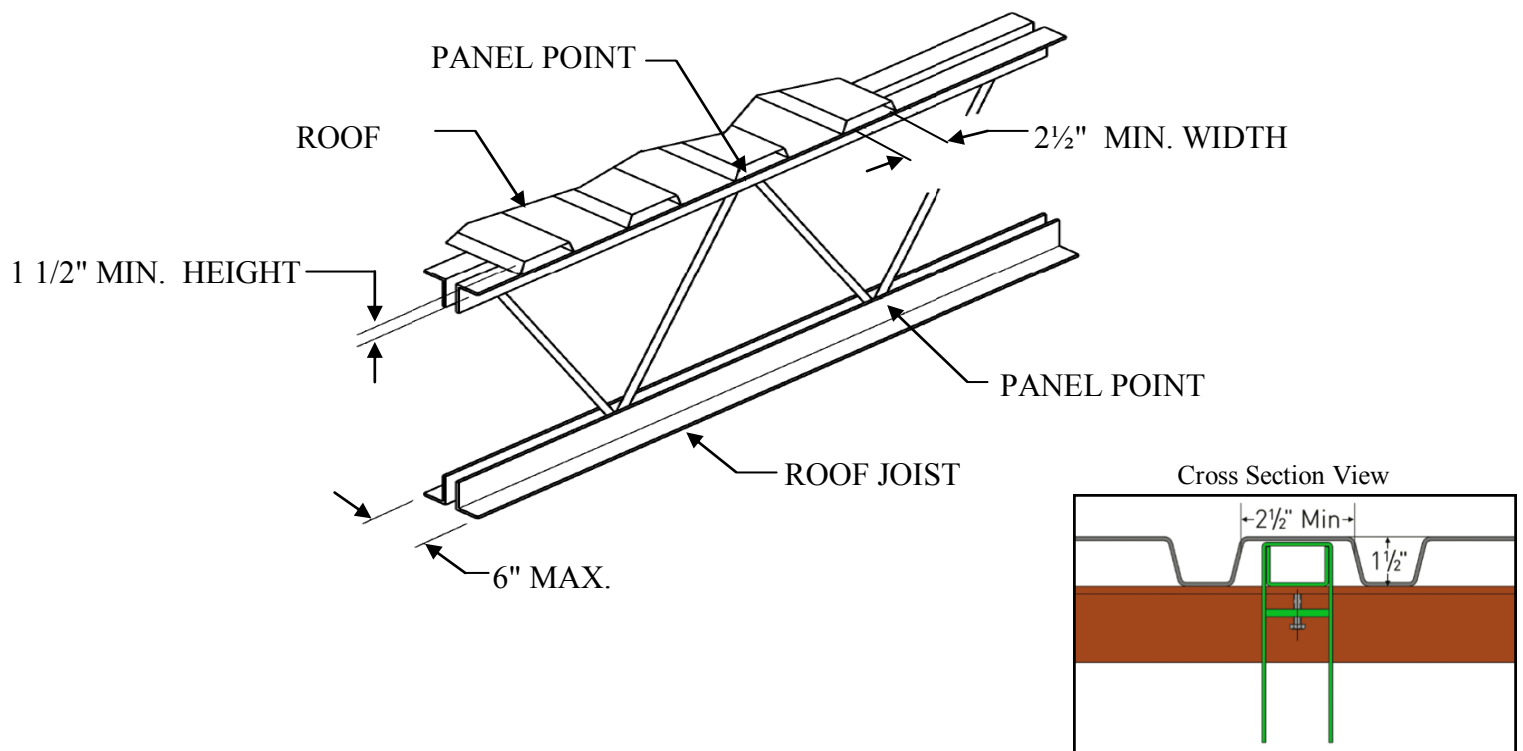
3 Inch Tube Framing Clamp System Installation Guide Continued

FIRST STEPS:

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

Check Roof Deck Opening for Clamp Clearance:

1 ½" Min. Height, 2 ½" Min. Width, 6" Max. Chord Width



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

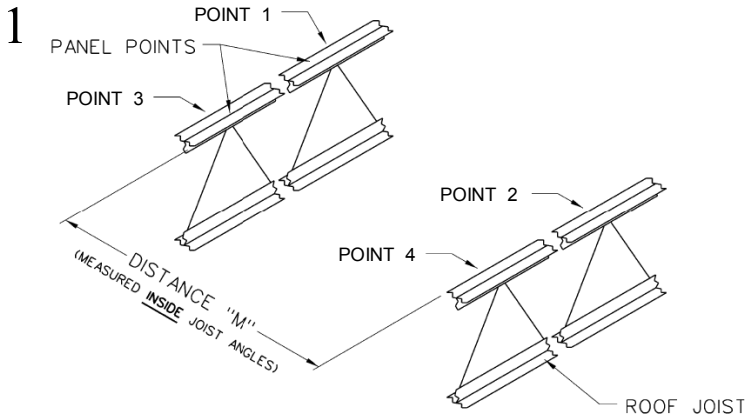
Example: Ensure area is free from electric conduit piping.

WARNING: Use only HSS 3" x 2" x 1/8" (Main Tube) and 2" x 1 1/2" x 1/8" (Cross Tube) that is A500, Grade B or better tubing.

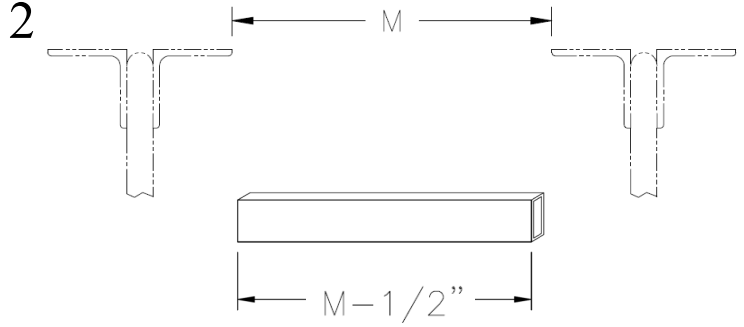
WARNING:

Use only hardware supplied with Tube Framing Clamp System kit. 3/8" x 3" Carriage Bolts supplied are Grade 5. Using Carriage Bolts less than Grade 5 will drastically reduce capacity of Framing System. Grade 5 Carriage Bolts supplied are dyed yellow for easy identification.

3 Inch Tube Framing Clamp System Installation Guide Continued

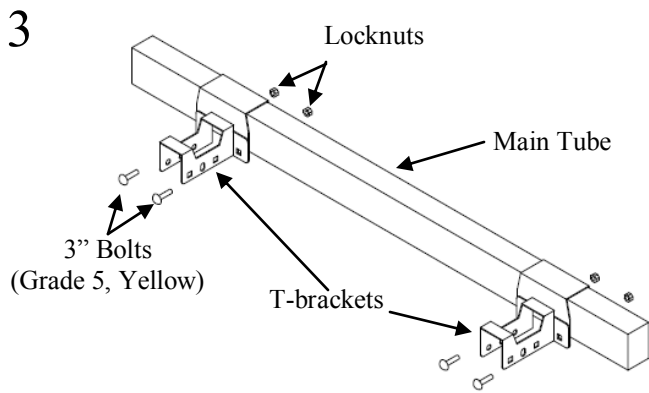


Identify four points in roof deck pockets on two parallel bar joists that form a rectangle. Verify Points 1 & 2 are directly across from one another and share the same corrugation pocket. Verify Points 3 & 4 are directly across from one another and share the same corrugation pocket.



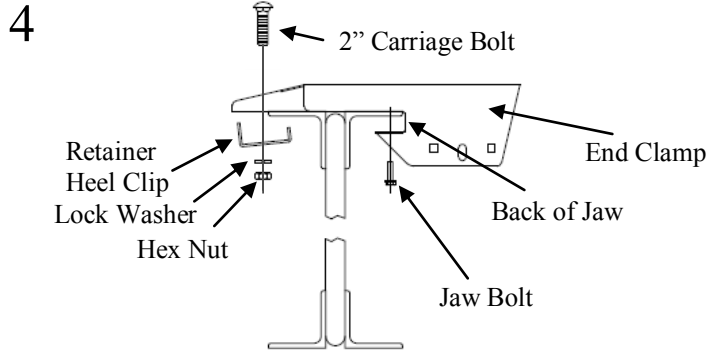
Measure the distance "M" inside joist angles as shown. Take measurement "M" and subtract 1/2". Cut Main Tubes (3" x 2" x 1/8") to this length.

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



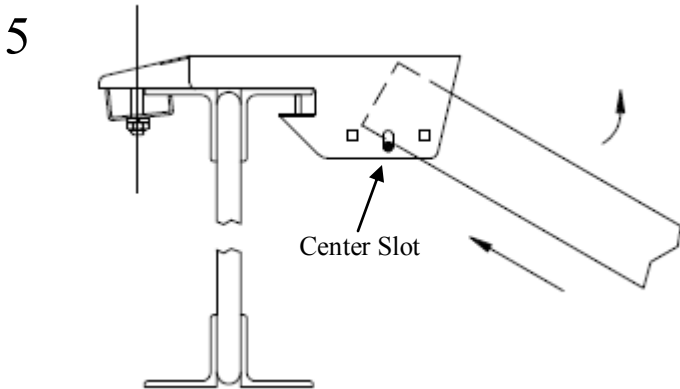
Place two T-brackets over the Main Tube, with T-brackets facing the same direction. Insert Bolts and secure with Locknuts to prevent sliding during initial installation.

WARNING: Always install the square head of the carriage bolt in the square slot of the T-bracket.

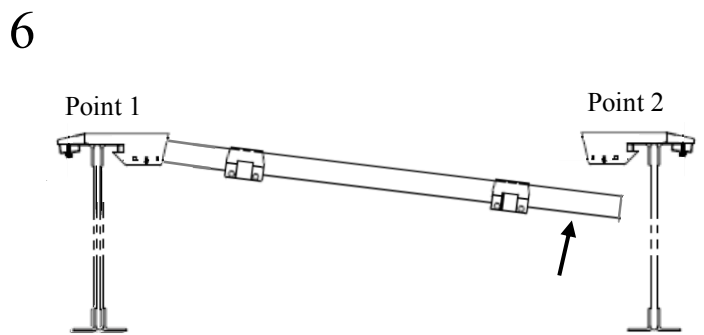


Slide the first End Clamp into the deck pocket over the joist at Point 1 and center it in the pocket. Verify the back of the End Clamp Jaw contacts the joist. Install the Carriage Bolt and secure the End Clamp with the Retainer Heel Clip, Lock Washer, and Hex Nut. Tighten the Hex Nut and Jaw Bolt. Repeat this step for the Second End Clamp at Point 2.

Note: If the End Clamp has to be forced into the deck pocket, do not hammer directly on the clamp. Use a block of wood to protect the End Clamp.



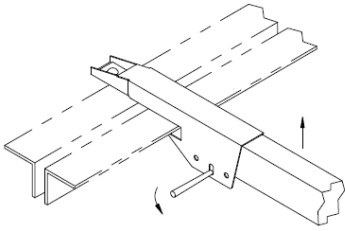
Verify the T-brackets are facing the appropriate direction and insert the Main Tube into the End Clamp at Point 1. Slide a drift pin in the center slot of the End Clamp to temporarily support the Main Tube.



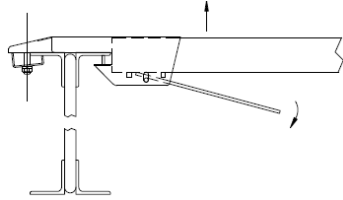
Supporting the Main Tube, follow the corrugation across and insert the other end of the Main Tube into the End Clamp at Point 2. Insert a bolt in the center slot of the End Clamp to temporarily support the Main Tube.

3 Inch Tube Framing Clamp System Installation Guide Continued

7a



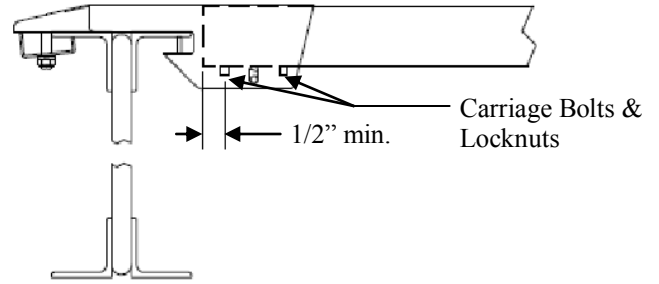
7b



Note: It may be necessary to pry the Main Tubes into position. This can be done by inserting a drift pin, as shown in figure 7a, and then prying against it, as shown in figure 7b.

The pry bar pictured in image 7b is an optional tool that can be purchased.

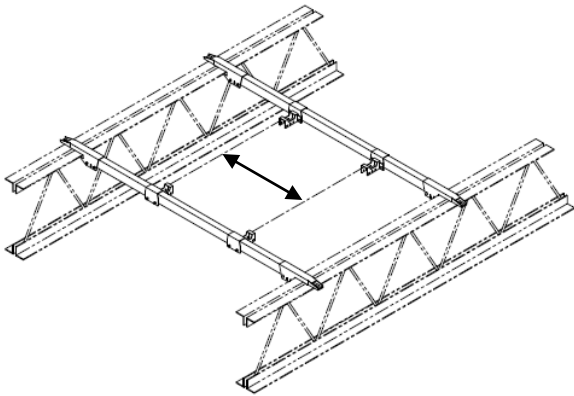
8



Insert the Carriage Bolts and Locknuts on both End Clamps. Verify the Main Tube extends at least 1/2" past the last Carriage Bolt on both End Clamps. Tighten the Locknuts. Repeat steps 3-8 for the second Main Tube at Points 3 & 4. Make sure the Main Tubes and End Clamps are aligned and tight.

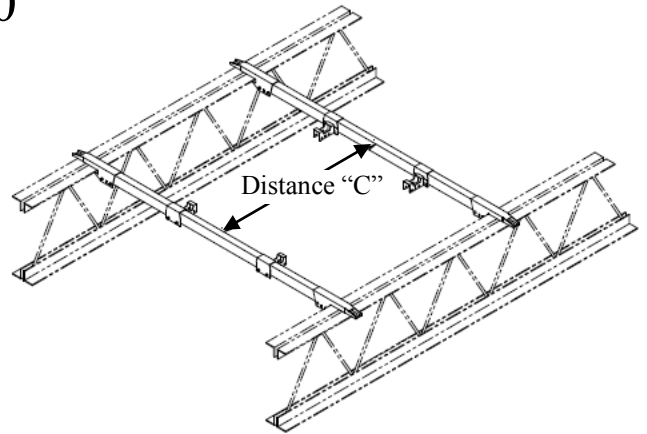
WARNING: Always install the square head of the Carriage Bolt in the square slot of the End Clamp.

9



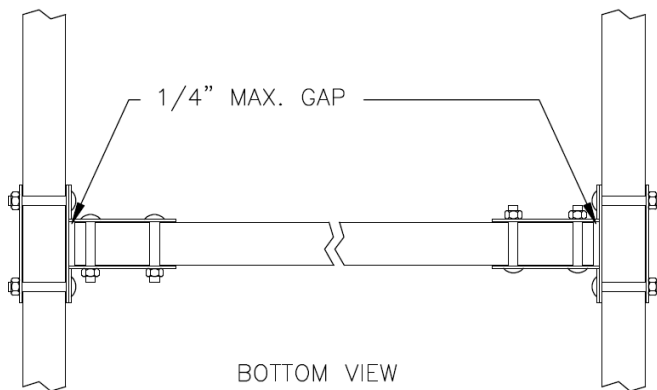
Slide the T-brackets to the position determined by your specific needs. Be sure the T-brackets are directly across from each other. Secure the T-brackets to the Main Tubes by tightening the Bolts.

10



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

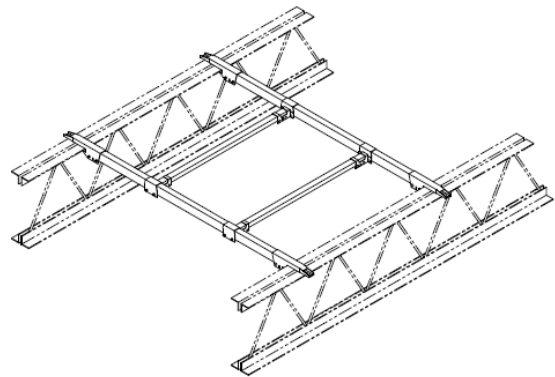
11



Insert the Cross Tube into the T-brackets, as shown. Be sure the Cross Tube is within 1/4" of the back of the T-brackets. Secure with Bolts and Locknuts. Repeat for second Cross Tube. Tighten everything.

WARNING: Always install the square head of the Carriage Bolt in the square slot of the T-bracket.

12



Verify all T-bracket Bolts and all End Clamp Bolts are tight. Verify all Tubes are secure.

Assembly is now complete.