

USER INSTALLATION REFERENCE GUIDE

Rev. 0, 6/2021

Introduction

Thank you for choosing Tate Duo. The purpose of this guide is to provide you with a reference for typical installation situations. We would be interested in hearing any comments you have on this installation manual, product, or overall experience. Please call or email Technical Services:

Phone: 410-799-4200 Email: TateInfo@tateinc.com

Safety

- 2 or more people are required for handling some of the pieces for this system.
- Wear personal protective equipment (PPE) when drilling, cutting, or installing. PPE includes gloves, safety eyeglasses, hardhats, etc.
- Do not put a load on the system until the installation is complete.
- Be sure all bolts, nuts, and threaded rods are properly tightened down as described in this guide.

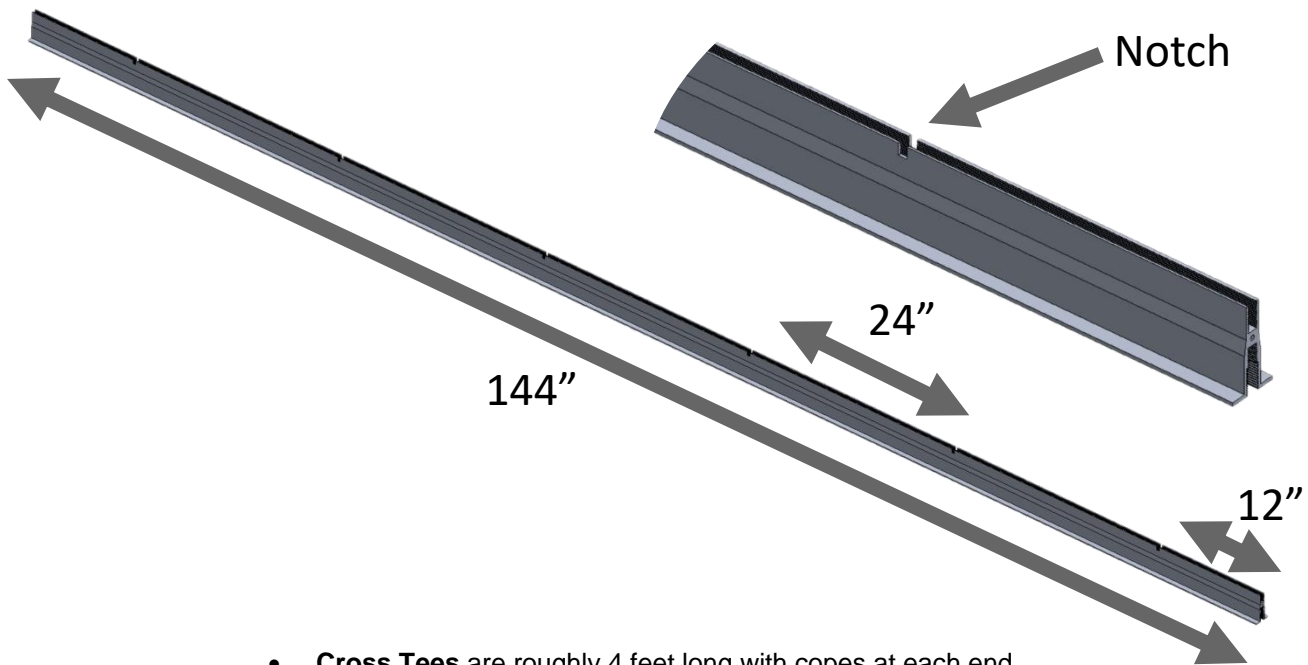
Cleaning

To clean Tate Duo components please use a common non-abrasive mild detergent containing less than 0.5% phosphate and water, applied using a sponge. The components should be dried using a soft towel. If solvents are required to remove materials not soluble in water such as petroleum products, the following solvents can be used: Isopropyl alcohol, denatured alcohol, mineral spirits or methanol.

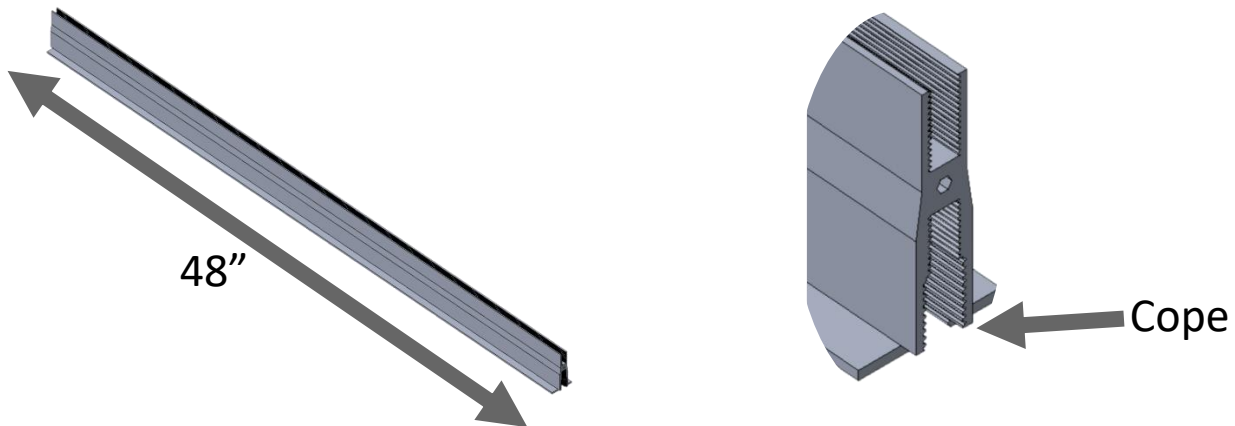
Part Identification

The Tate Duo structural ceiling grid system consists of ~12 ft main runners, ~4 ft cross tees and ~2 ft cross tees (used only for 2x2 grids). The mains are notched every ~2 ft to help with alignment of the cross tees. For 2x2 grids, the 4 ft tees will have a notch in the middle.

- **Main Runners** are roughly 12 feet long with notches along the length

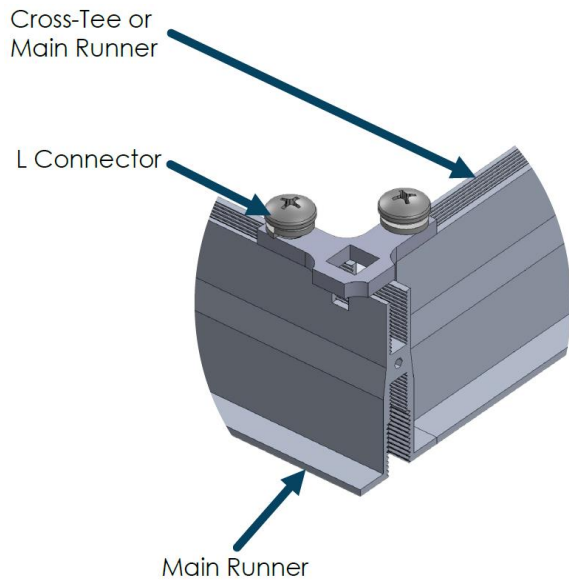
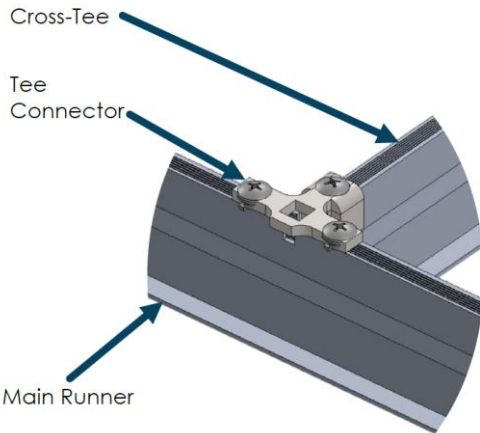
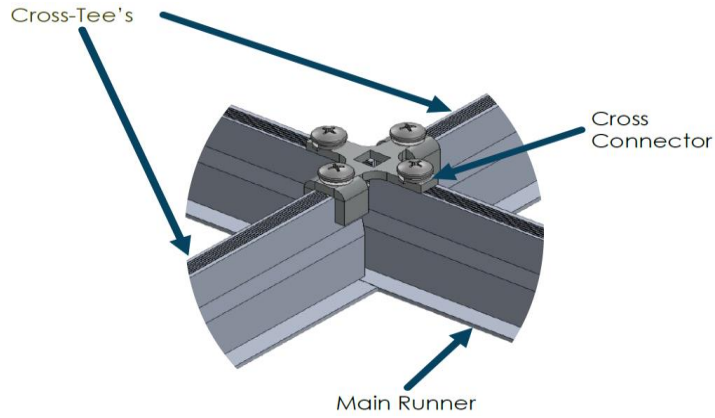


- **Cross Tees** are roughly 4 feet long with copes at each end



Cross Connectors

There are three different types of cross connectors; 4-way (standard), 3 way (tee) and 2 way (corner):

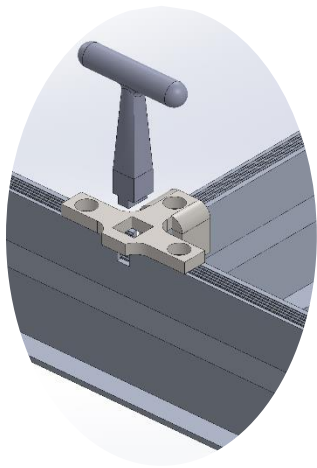


Cross Tee Alignment

For 2'x2' grid systems, the 4 ft tees should first be installed between the main runners and oriented such that the witness notches at the ends of the 4 ft tees are all oriented in the same direction. This will ensure that the 2 ft tees will align properly and parallel to the mains.

Tee Alignment Tools

Alignment tools are provided with the Tate Duo system to assist with aligning the connectors with the notches in the mains and tees. The tool should be inserted through the square hole in the connector and into the notch to hold the tee in place, then insert and tighten the screws and lock washers before removing the tool and moving to the next connector.



Bolt Torque

All bolt connections to the top slot of the grid should be tightened flush to a washer with a maximum torque value of 30 in-lb, using a torque limiting screw gun or ratchet similar to:



All bolt or nut connections to the bottom slot of the grid should be tightened flush to a washer or mounting bracket with a maximum torque value of 30 in-lb, using a torque limiting screw gun or wrench similar to:



Thread Engagement

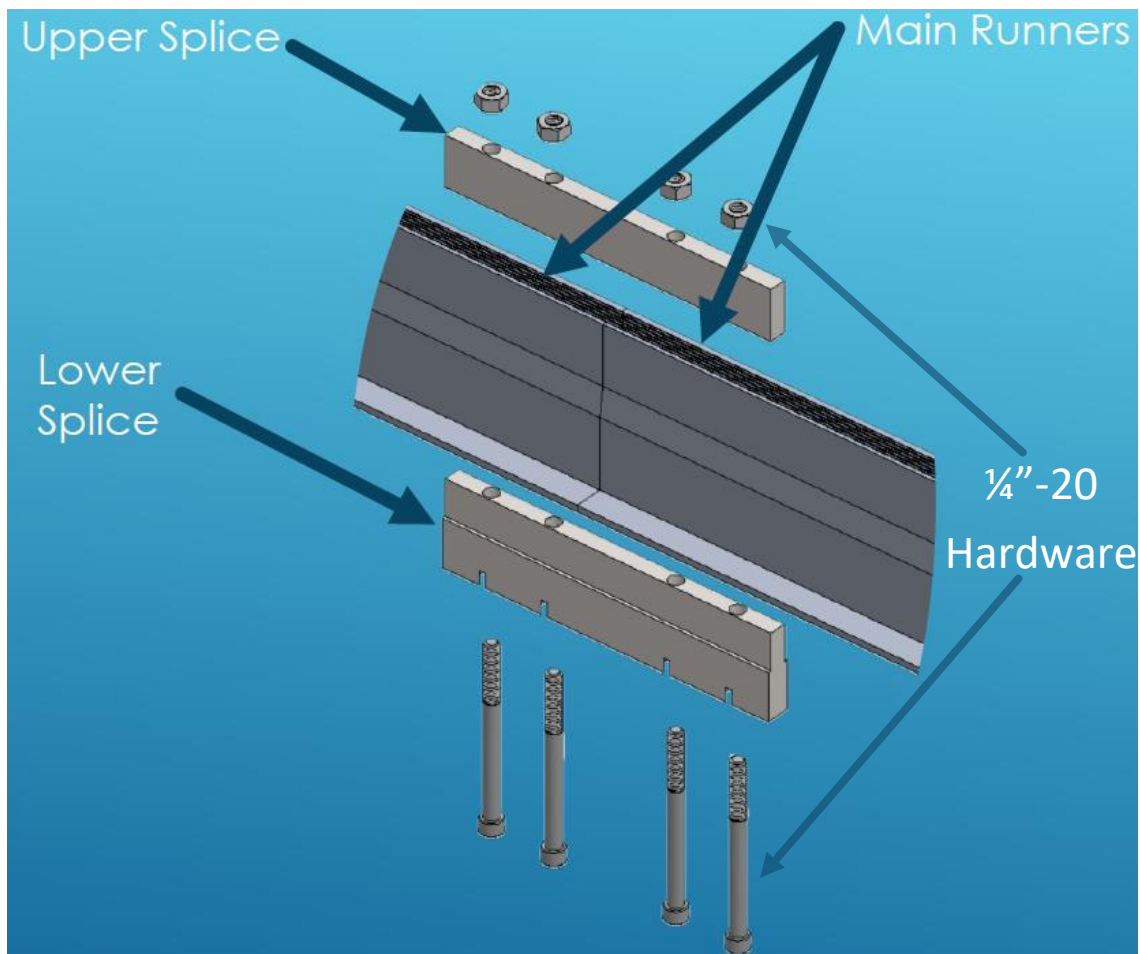
When threading bolts or threaded rod into bottom slot to hang equipment, ensure that the bolt or rod is long enough to fully engage the depth of the slot entirely or thread tear-out could be possible. Any less than 75% engagement could cause thread tear-out at less than rated loads for the system.

Lock Washers

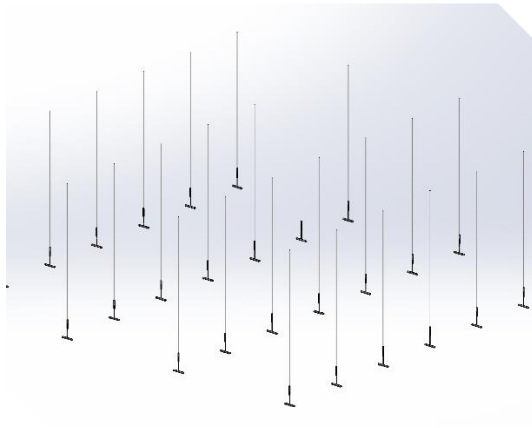
When threading bolts or threaded rod into bottom slot to hang equipment, ensure that the bolt or rod is secured in place with a nut and lock washer to prevent loosening due to vibration over time.

Main Runner Splice Connectors

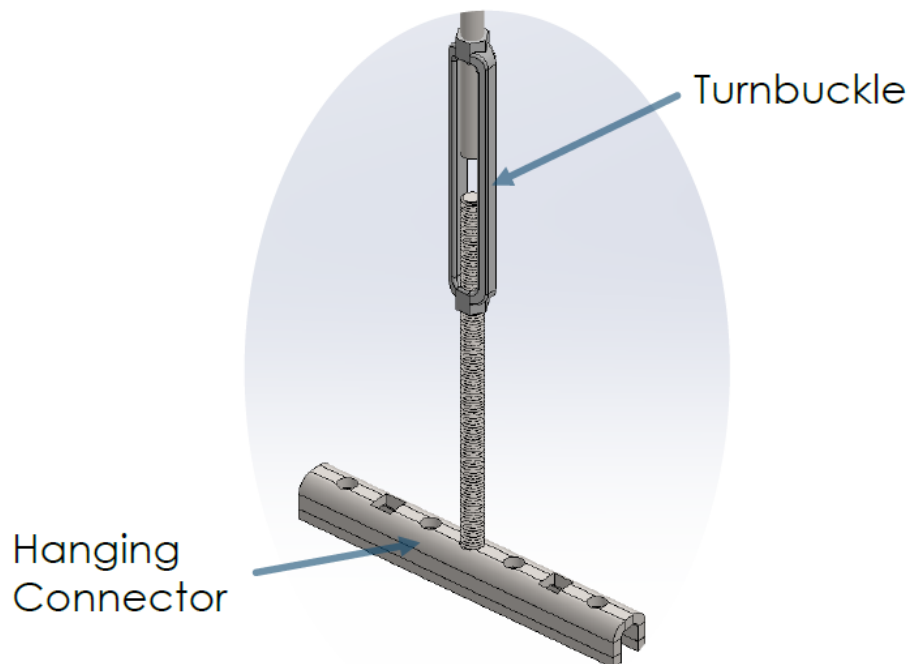
As shown below, the main runners need to be connected with upper and lower steel splice connectors. The ends of each main runner have holes predrilled for the screws that hold the splices in place. Splices are not necessary if the end of main is directly beneath a hanger. The splice connectors should be assembled as shown below:



Step 1: Attach turnbuckles and hangers to threaded rod drops

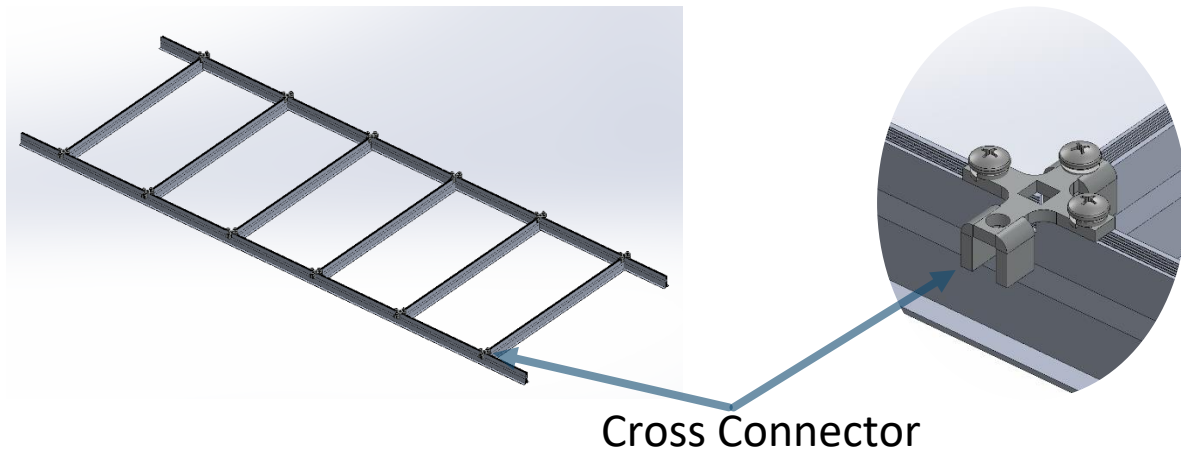


- ▶ Hang turnbuckles and hanging connectors from ceiling at specified increments.



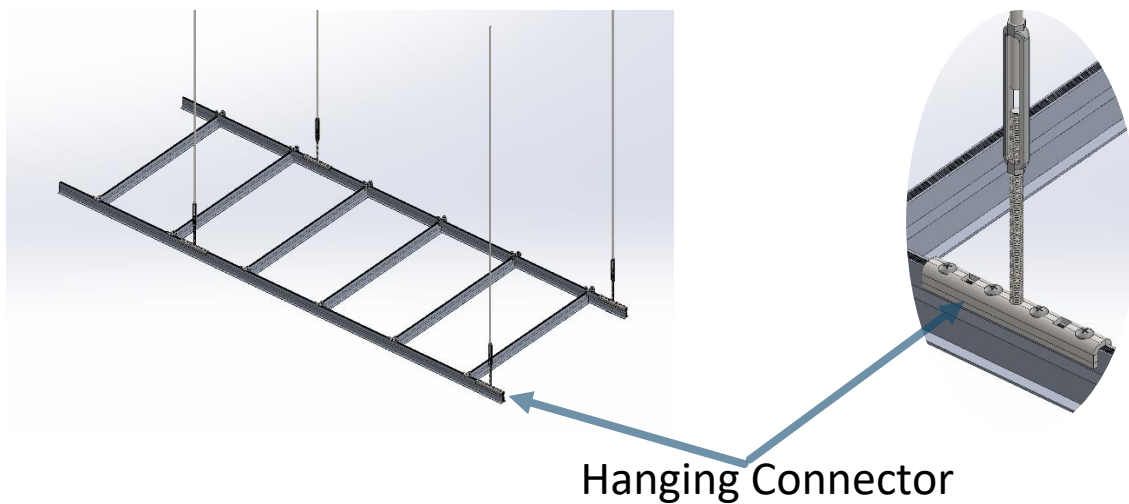
Step 2: Assemble 12 ft x 4 ft Sections

- Attach 2 Main Runners with 6 Cross Tees using 12 Cross Connectors
- Align the connectors to the notches on the Main Runners using the Alignment Tool
- Use fasteners and lock-washers tightened to 30 lb-in to attach Main Runners and Cross Tees
- Do not fully tighten Cross Connectors as they will be used to attach consecutive subassemblies

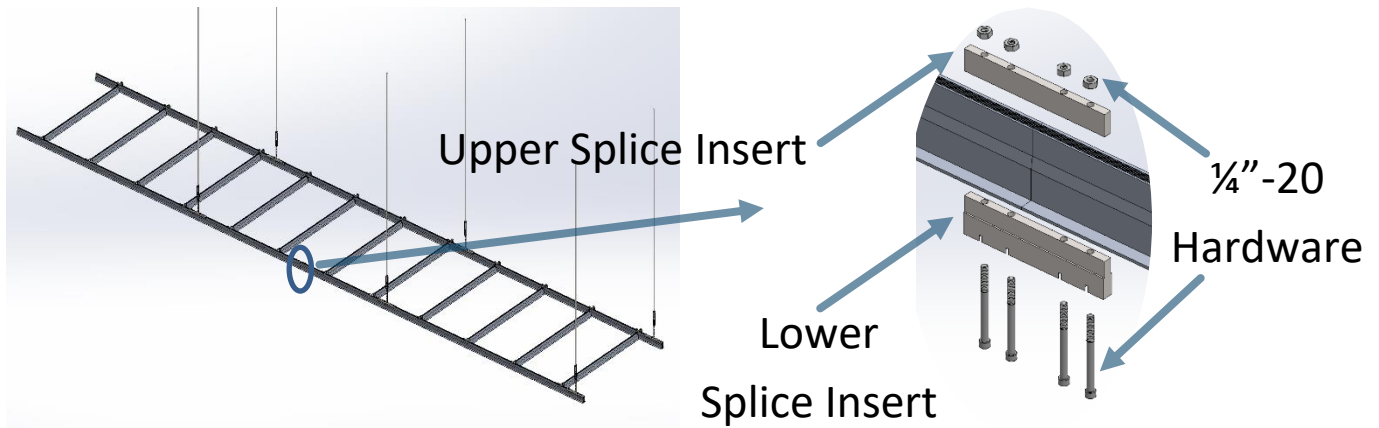


Step 3: Lift and Attach Section

- Lift 12 ft x 4 ft section
- Use fasteners and lock-washers tightened to 30 lb-in to attach Hanging Connectors to Main Runners



Step 4: Lift and Attach Another Section



- Lift another section
- Use fasteners and lock-washers tightened to 30 lb-in to attach Hanging Connectors to Main Runners
- Align colinear Main Runners, insert Splice Connector components and align with predrilled holes in Main Runners, use 1/4"-20 hardware tightened to 30 lb-in to secure connection
- Continue to add sections to build out the grid

Note: If a hanging connector falls at an intersection with a tee, the cross connector should be placed on top of the hanger and longer screws (1.5 in.) should be used to fasten it in place. Spacers are provided to be placed below the connector to prevent the tees from being pulled up when the longer screws are tightened:

