

INSTALLATION GUIDE

NEXSPAN2™

F SERIES

2	F Series Installation & Disclaimer
3-4	T-Bolt Installation
5-8	Angle Bracket Installation
8-12	Flat Plate Installation
13-15	Post Base Installation

NexSpan2™ F Series Assembly Installation Instructions

1. Install members in accordance with manufacturer supplied assembly drawings, or EOR supplied assembly drawings, if applicable.
2. Connection components are designed to be installed in specific orientations. Refer to assembly drawings and manufacturer literature for correct orientations.
3. Connection components are designed to be installed using one T-bolt in every T-bolt slot, with specific exceptions noted in the manufacturer literature for designed connections. Omit only those T-bolts noted in manufacturer literature or assembly drawings based on intended connection design.
4. Ensure members are installed square, plumb and flush.
5. If tube members are field cut but assembly drawings aren't applicable, maintain cut lengths of tube in increments of 4", such that cuts are centered between T-bolt slots. The tube end connection components are designed such that the T-bolt slots will align with tubes cut at 4" increments. Other tube lengths can be used, but fit-up considerations must be accounted for, so that the T-bolts are able to be inserted and installed in all locations required. T-bolts are not intended for use in open-ended slots, or slots where the clear distance from the slot to the end of the tube is less than ¼".

Post Base Anchorage Instructions

1. Install post base anchorage per anchor manufacturer's or design professional's specifications and instructions.

Galvanization

1. NexSpan2 is galvanized per ASTM A123/A123M Standard.
2. Chipping or slight bulging of the galvanization around the annular ring washer may occur when torquing the fastener due to excess galvanization on the part. No action is needed for bulging galvanization unless chipped. Chipped galvanization may be removed and cold galvanization applied.
3. In locations where welding is required or where material has been field-cut, and in locations where galvanization has been damaged during handling or assembly, cold galvanizing compound shall be applied.
4. Recommended products include AF1000 Cold Galvanizing Compound, which is a brushed on 95% zinc rich coating conforming to ASTM A780-01, AF3000 Cold Spray Galvanizing Coating, which is a 65% zinc rich spray paint conforming to ASTM A780-92A, and AF3001 Cold Spray Galvanizing Coating, which is a 93% zinc rich spray paint conforming to MIL-P-26915C, MIL-P-46105 and DOD-P-21035A. Equivalent products are also acceptable.



Legal Disclaimer

NexSpan2™ assemblies must be installed in strict accordance with the instructions and specifications provided in this guide. All performance data and load ratings are based on compliant installations only.

Any deviation from these guidelines—including, without limitation, improper assembly, alteration of T-bolt placement, component substitution, unauthorized modification, misuse, or installation under conditions outside the stated specifications—may result in system failure and voids any and all warranties, express or implied, to the maximum extent permitted by applicable law. Any modification to the prescribed T-bolt location or configuration requires independent engineering analysis to verify that required load capacities and performance criteria are maintained.

To the maximum extent permitted by applicable law, Allfasteners and its affiliates disclaim all liability, including, without limitation, direct, indirect, incidental, special, consequential, exemplary, or punitive damages, whether based in contract, tort, or product liability, arising from non-compliant installations. Responsibility for installation rests solely with the installer.

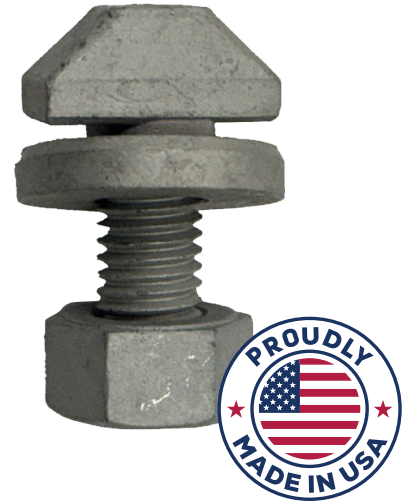
This document is provided for general informational purposes only and does not constitute engineering, legal, or other professional advice. Project-specific conditions, including but not limited to load requirements, substrate conditions, tolerances, and environmental factors, must be evaluated by a qualified design professional. The engineer of record is solely responsible for verifying suitability for the intended application.

PART# 2TBN12138-USA

The AF T-Bolt assembly is intended for use with the NexSpan2™ F Series product line, allowing for easy installation utilizing the members' slotted design. The T-bolt's toothed head design and grip washer prevents movement and loosening once fully tightened.

Engineered for efficiency in the field, the assembly helps reduce install time while maintaining consistent, reliable performance across a wide range of applications. Its robust construction is designed to withstand demanding jobsite conditions, ensuring long-term durability and secure connections.

Patent pending, the AF T-Bolt represents an innovative fastening solution built to enhance both speed and confidence during installation.



TECHNICAL DETAILS

PACK QTY	200
BOLT MATERIAL	ASTM A490 Equivalent
FINISH	Magni Coated
ALLOWABLE BOLT TENSION	11,094 lbs.
ALLOWABLE BOLT PULL-OUT	1,000 lbs.
ALLOWABLE BOLT SHEAR	6,676 lbs.
ALLOWABLE BOLT SLIP IN SHEAR	2,000 lbs.
ALLOWABLE BOLT BEARING PERPENDICULAR TO SLOT	2,610 lbs.
TIGHTENING TORQUE	140 ft-lbs.
DIAMETER	0.5 in.
BOLT LENGTH	1.47 in.
OVERALL LENGTH	2.00 in.
HEAD WIDTH	1.125 in.
WASHER DIAMETER	1.250 in.
WASHER THICKNESS	0.250 in.
NUT	7/8 in. WAF Heavy Hex

***Note:** All loads have a factor of safety of 2.0. The loads for Bearing and Pull-Out are based on the NexSpan2™ F Series product line tube members. Allowable Bolt Tension and Shear capacities provided for reference. Pullout, Slip and Bearing typically govern the design.

T-Bolt (2TBN12138-USA) Installation Instructions

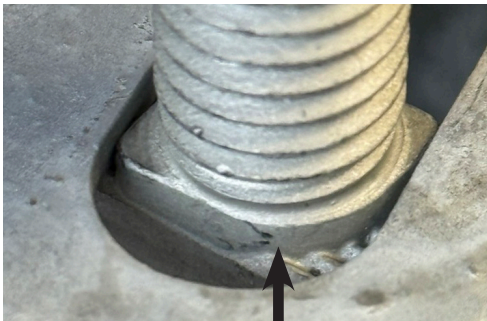
***Note:** Once the T-bolt has been tightened, it cannot be re-used.



1. Align T-bolt head with slots in NexSpan2™ components and tube. Note that the vertical line on the end of the T-bolt is parallel to the slots in this orientation.

2. Insert the T-bolt into the slots, with the vertical line still parallel.

3. Turn the T-bolt 90 degrees so that the T-bolt head is perpendicular to the slots, and the positioning lip is engaged in the slot to prevent further rotation.



3. Positioning Lip

4. Tighten the nut to its final torque of 140 ft-lbs. **Note:** proper adherence to the 140-ft-lb torque requirement is critical for proper system performance.

5. Structures that are assembled prior to delivery - upon delivery perform a visual T-Bolt inspection and replace/tighten any T-Bolts that show signs of loosening.

Recommended Best Practices

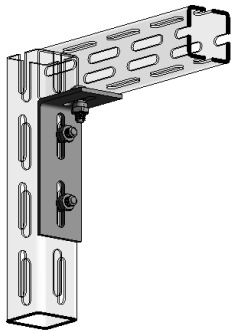
For added verification after installation, it is recommended to apply a torque seal paint once the T-bolt assembly has been properly tightened to the specified torque. Apply a visible line of torque seal across the nut and onto the adjoining surface of the member.

This mark provides a quick visual indicator during inspection—if the line becomes misaligned or disturbed, it may indicate that the connection has been altered and should be checked.

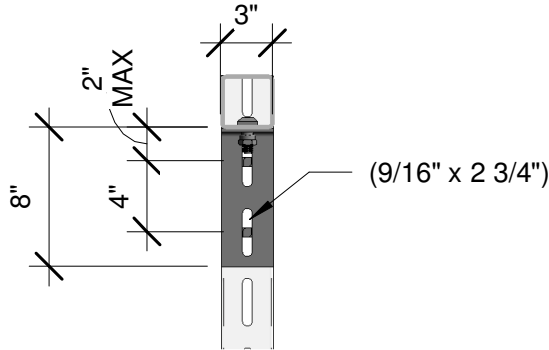


NexSpan2™ F Series "-A" Angle Installation Details

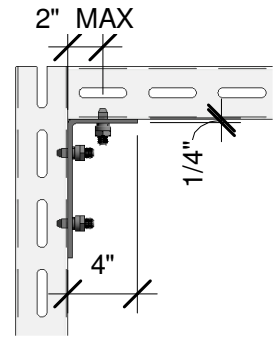
1. T-bolts shall be installed per installation instructions on the T-bolt installation instruction sheet.
2. The bolt spacing is relative to the dimensions of the connector pieces, but can be anywhere in the slots on the tube pieces. The slots in the connector pieces do not need to align with the slots in the tube pieces. The bolt spacing requirements are shown in the following diagrams.
3. Calculations are based on T-bolt location in drawings; any deviation will affect load capacities.



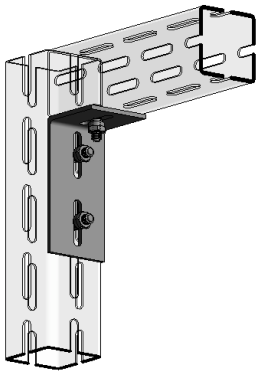
14NSF-A63 3D VIEW



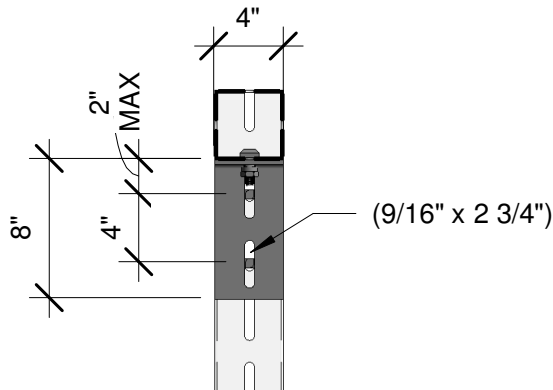
14NSF-A63 FRONT VIEW



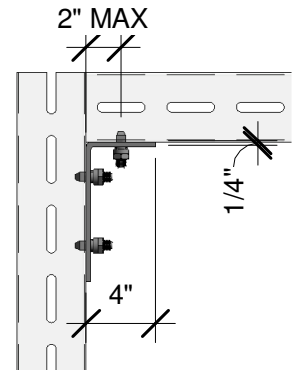
14NSF-A63 SIDE VIEW



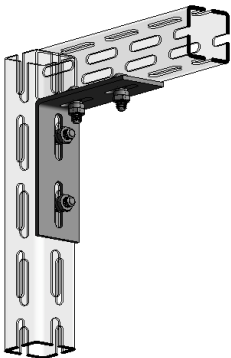
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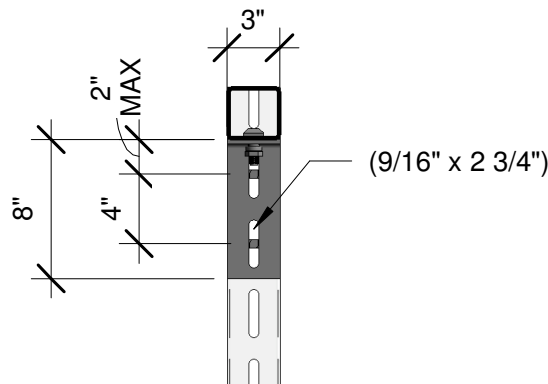
14NSF-A64 FRONT VIEW



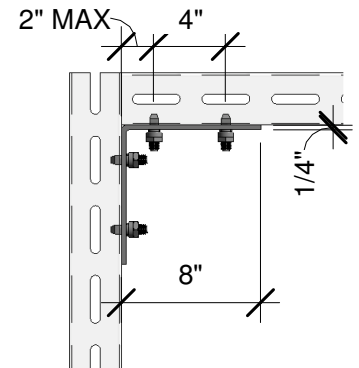
14NSF-A64 SIDE VIEW



14NSF-A83 3D VIEW



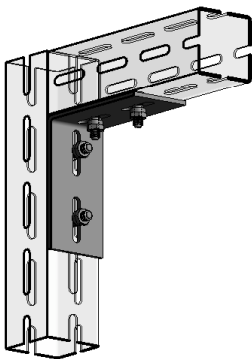
14NSF-A83 FRONT VIEW



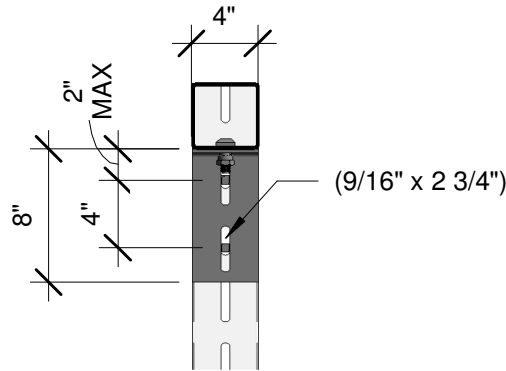
14NSF-A83 SIDE VIEW

NexSpan2™ F Series "-A" Angle Installation Details

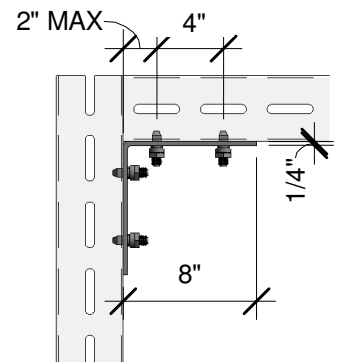
1. T-bolts shall be installed per installation instructions on the T-bolt installation instruction sheet.
2. The bolt spacing is relative to the dimensions of the connector pieces, but can be anywhere in the slots on the tube pieces. The slots in the connector pieces do not need to align with the slots in the tube pieces. The bolt spacing requirements are shown in the following diagrams.
3. Calculations are based on T-bolt location in drawings; any deviation will affect load capacities.



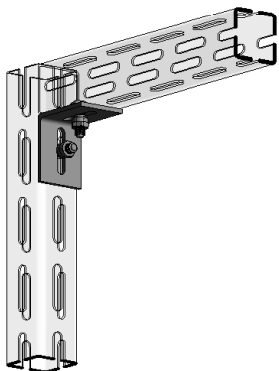
14NSF-A84 3D VIEW



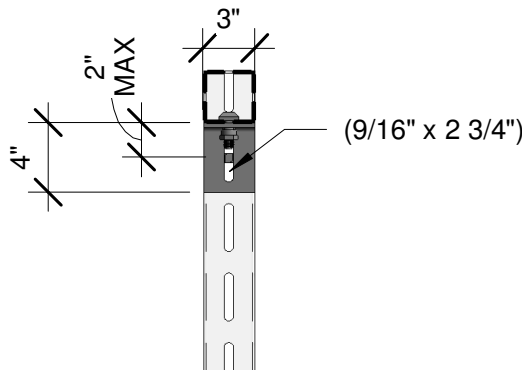
14NSF-A84 FRONT VIEW



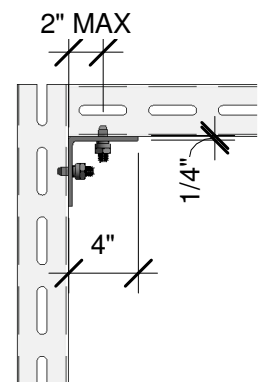
14NSF-A84 SIDE VIEW



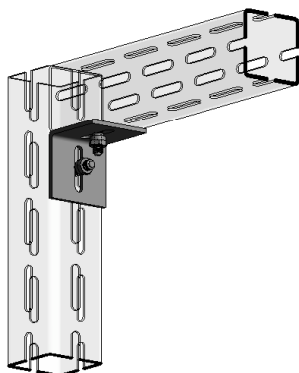
14NSF-A93 3D VIEW



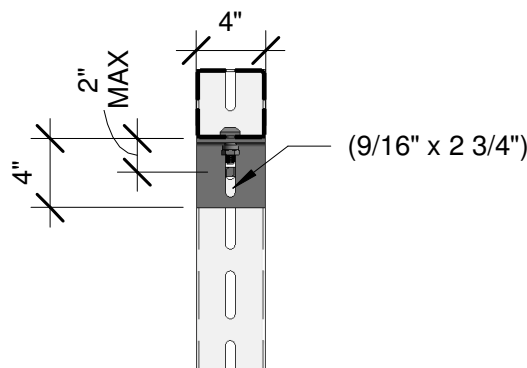
14NSF-A93 FRONT VIEW



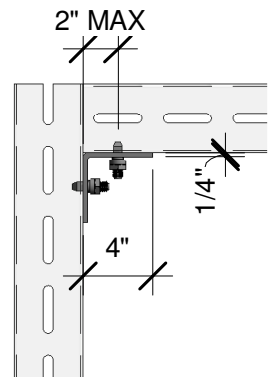
14NSF-A93 SIDE VIEW



14NSF-A94 3D VIEW



14NSF-A94 FRONT VIEW



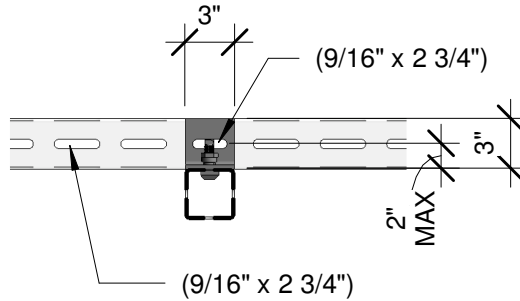
14NSF-A94 SIDE VIEW

NexSpan2™ F Series "-A" Angle Installation Details

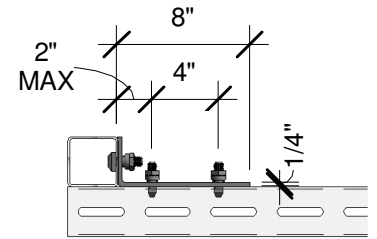
1. T-bolts shall be installed per installation instructions on the T-bolt installation instruction sheet.
2. The bolt spacing is relative to the dimensions of the connector pieces, but can be anywhere in the slots on the tube pieces. The slots in the connector pieces do not need to align with the slots in the tube pieces. The bolt spacing requirements are shown in the following diagrams.
3. Calculations are based on T-bolt location in drawings; any deviation will affect load capacities.



14NSF-A73 3D VIEW



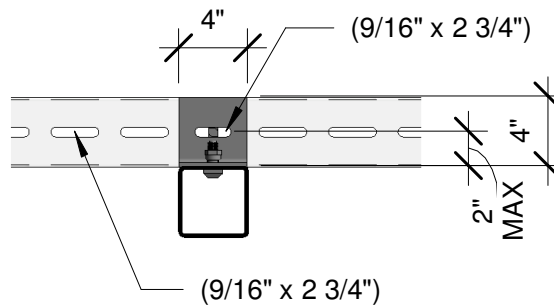
14NSF-A73 FRONT VIEW



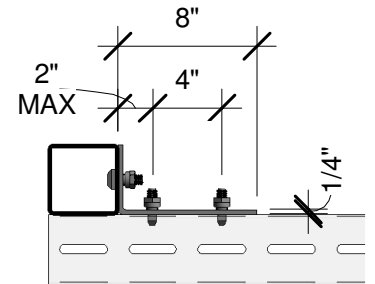
14NSF-A73 SIDE VIEW



14NSF-A74 3D VIEW



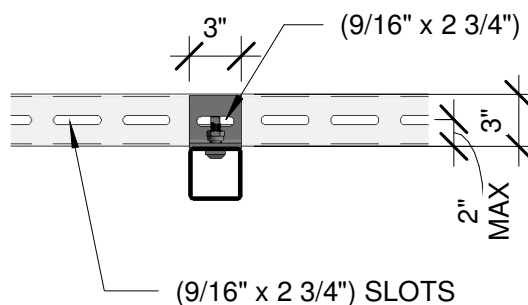
14NSF-A74 FRONT VIEW



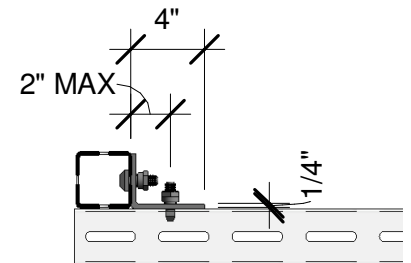
14NSF-A74 SIDE VIEW



14NSF-A03 3D VIEW



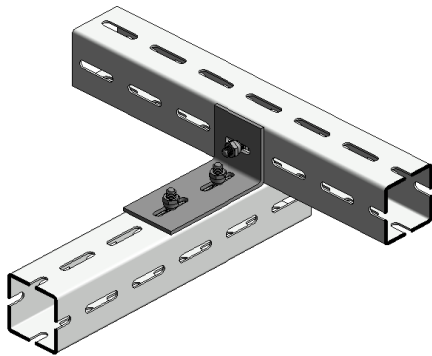
14NSF-A03 FRONT VIEW



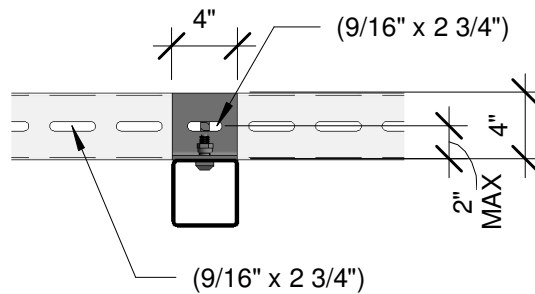
14NSF-A03 SIDE VIEW

NexSpan2™ F Series "-A" Angle Installation Details

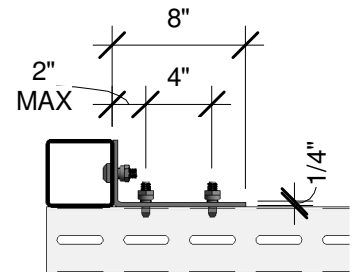
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3. Calculations are based on T-bolt location in drawings; any deviation will affect load capacities.



14NSF-A04 3D VIEW



14NSF-A04 FRONT VIEW



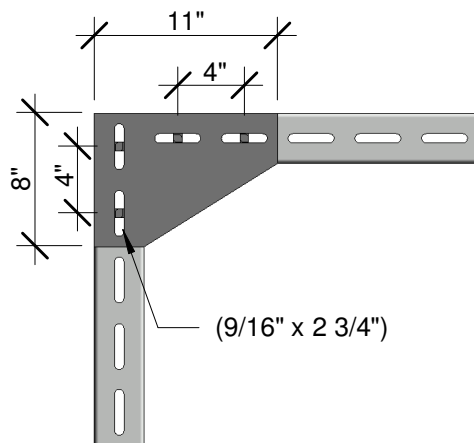
14NSF-A04 SIDE VIEW

NexSpan2™ F Series "-P" Flat Plate Installation Details

1. T-bolts shall be installed per installation instructions on the T-bolt installation instruction sheet.
2. The bolt spacing is relative to the dimensions of the connector pieces, but can be anywhere in the slots on the tube pieces. The slots in the connector pieces do not need to align with the slots in the tube pieces. The bolt spacing requirements are shown in the following diagrams.
3. Calculations are based on T-bolt location in drawings; any deviation will affect load capacities.



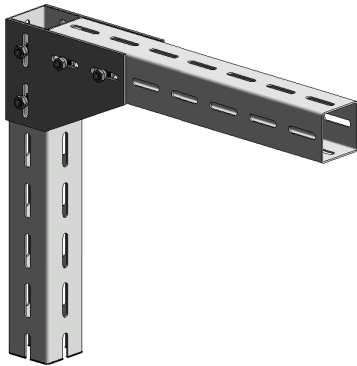
14NSF-P63 3D VIEW



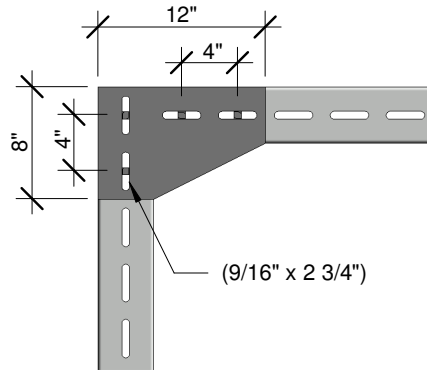
14NSF-P63 FRONT VIEW

NexSpan2™ F Series "-P" Flat Plate Installation Details

1. T-bolts shall be installed per installation instructions on the T-bolt installation instruction sheet.
2. The bolt spacing is relative to the dimensions of the connector pieces, but can be anywhere in the slots on the tube pieces. The slots in the connector pieces do not need to align with the slots in the tube pieces. The bolt spacing requirements are shown in the following diagrams.
3. Calculations are based on T-bolt location in drawings; any deviation will affect load capacities.



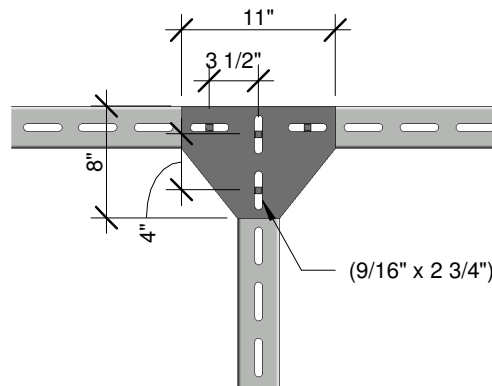
14NSF-P64 3D VIEW



14NSF-P64 FRONT VIEW



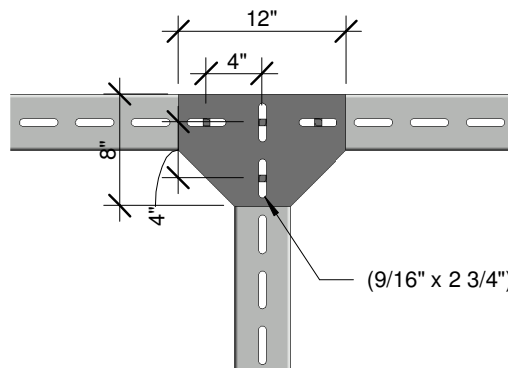
14NSF-P73 3D VIEW



14NSF-P73 FRONT VIEW



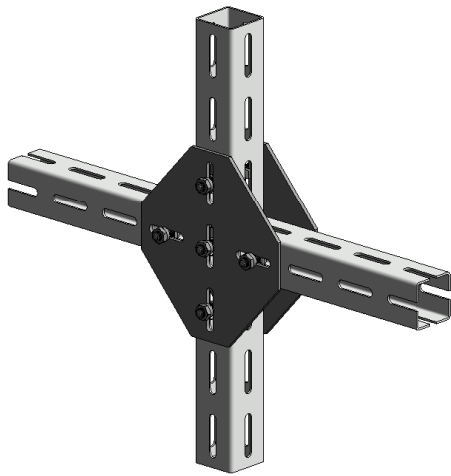
14NSF-P74 3D VIEW



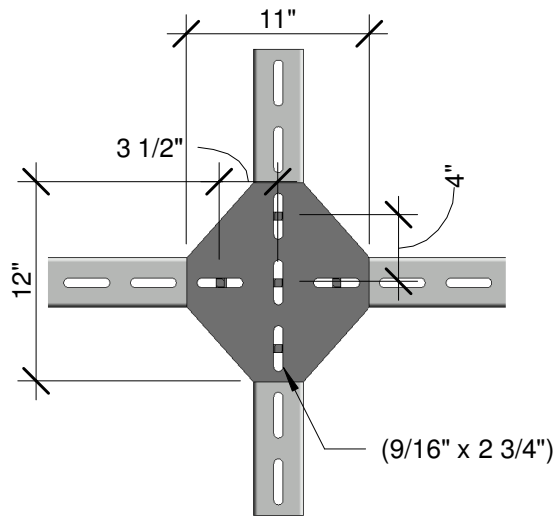
14NSF-P74 FRONT VIEW

NexSpan2™ F Series "-P" Flat Plate Installation Details

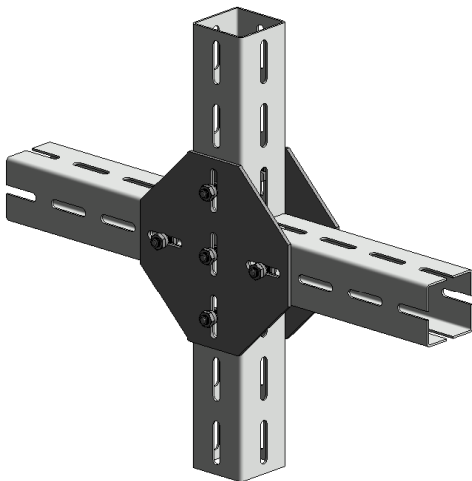
1. T-bolts shall be installed per installation instructions on the T-bolt installation instruction sheet.
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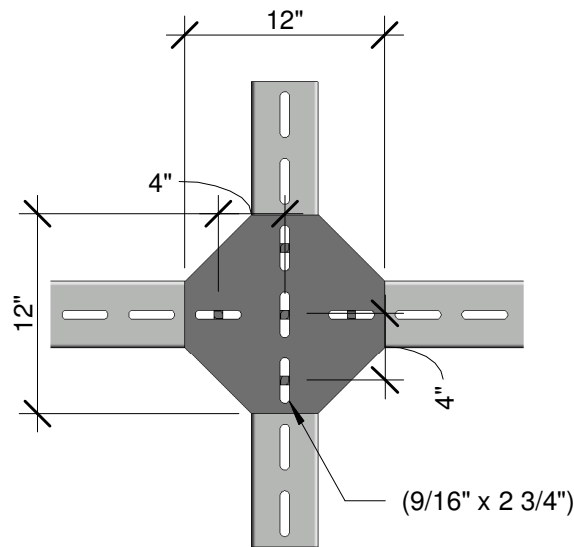
14NSF-P83 3D VIEW



14NSF-P83 FRONT VIEW



14NSF-P84 3D VIEW



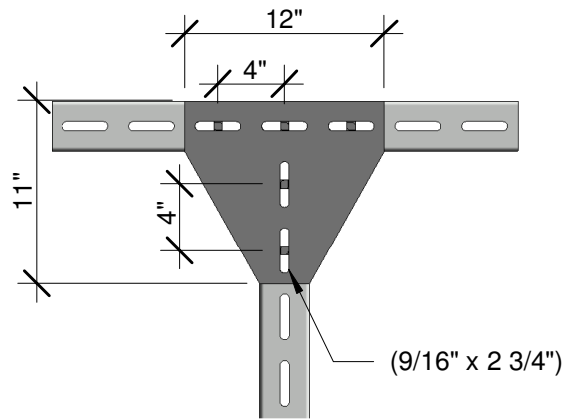
14NSF-P84 FRONT VIEW

NexSpan2™ F Series "-P" Flat Plate Installation Details

1. T-bolts shall be installed per installation instructions on the T-bolt installation instruction sheet.
2. The bolt spacing is relative to the dimensions of the connector pieces, but can be anywhere in the slots on the tube pieces. The slots in the connector pieces do not need to align with the slots in the tube pieces. The bolt spacing requirements are shown in the following diagrams.
3. Calculations are based on T-bolt location in drawings; any deviation will affect load capacities.



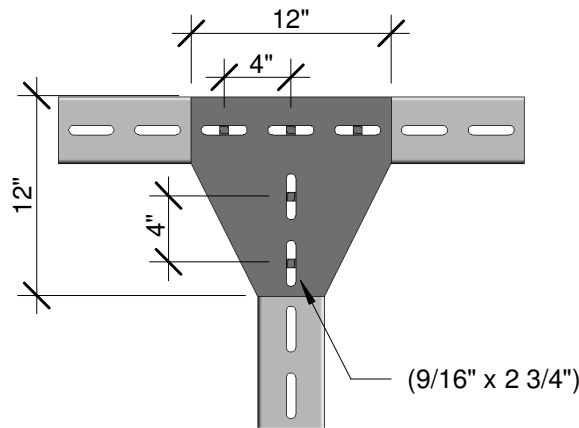
14NSF-P93 3D VIEW



14NSF-P93 FRONT VIEW



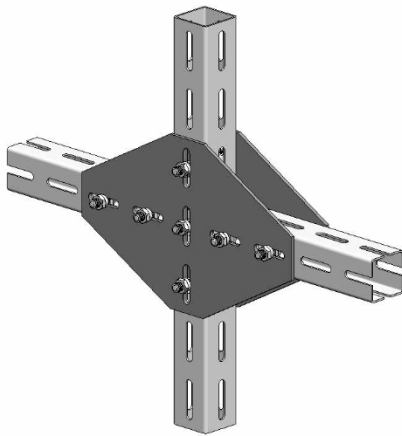
14NSF-P94 3D VIEW



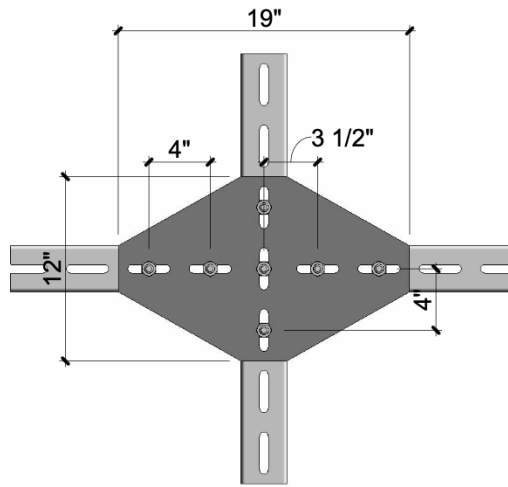
14NSF-P94 FRONT VIEW

NexSpan2™ F Series "-P" Flat Plate Installation Details

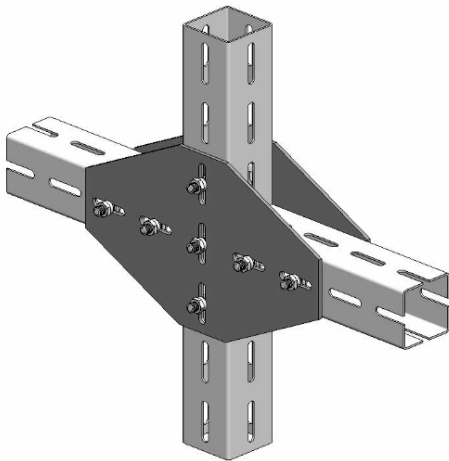
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3. Calculations are based on T-bolt location in drawings; any deviation will affect load capacities.



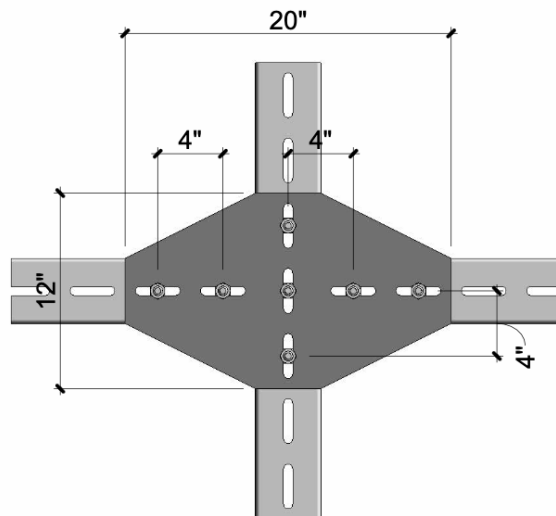
14NSF-P03 3D VIEW



14NSF-P03 FRONT VIEW



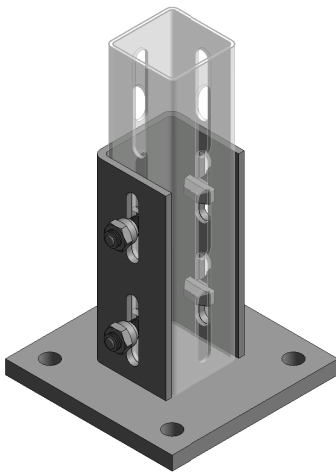
14NSF-P04 3D VIEW



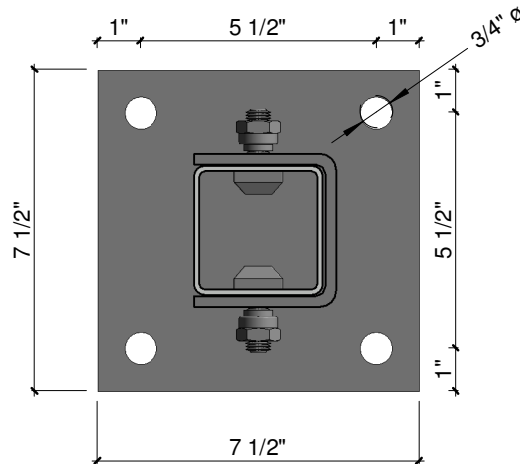
14NSF-P04 FRONT VIEW

NexSpan2™ F Series "-B" Post Base Installation Details

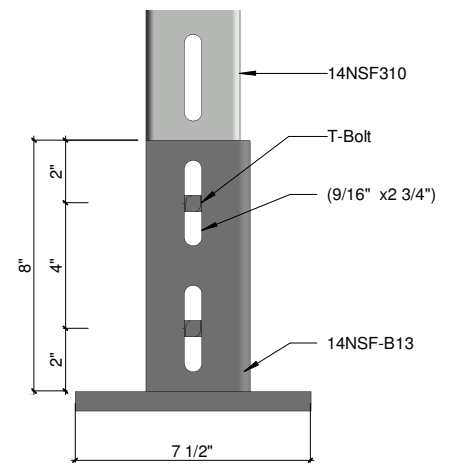
1. T-bolts shall be installed per installation instructions on the T-bolt installation instruction sheet. Base should be installed using anchors based on the dimensions shown in the above drawing.
2. The bolt spacing is relative to the dimensions of the connector pieces, but can be anywhere in the slots on the tube pieces. The slots in the connector pieces do not need to align with the slots in the tube pieces. The bolt spacing requirements are shown in the following diagrams.
3. Calculations are based on T-bolt location in drawings; any deviation will affect load capacities.



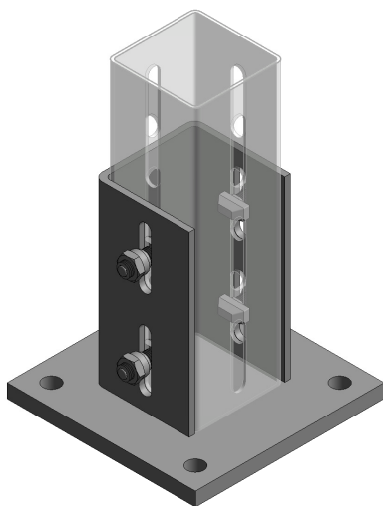
14NSF-B13 3D VIEW



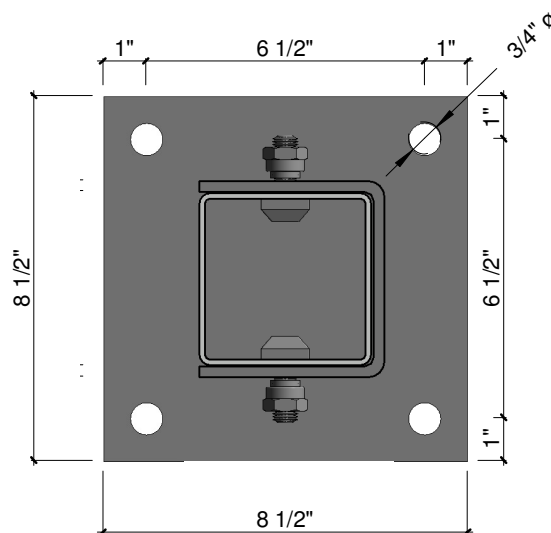
14NSF-B13 PLAN VIEW



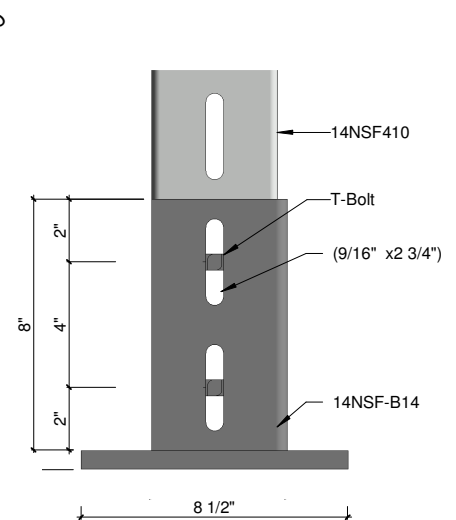
14NSF-B13 FRONT VIEW



14NSF-B14 3D VIEW



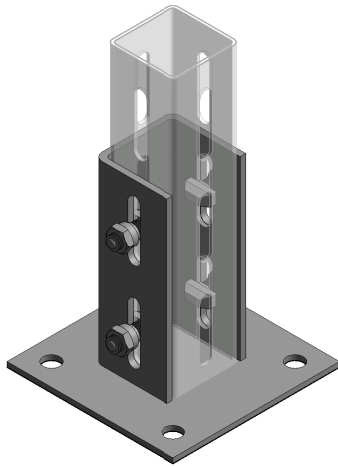
14NSF-B14 PLAN VIEW



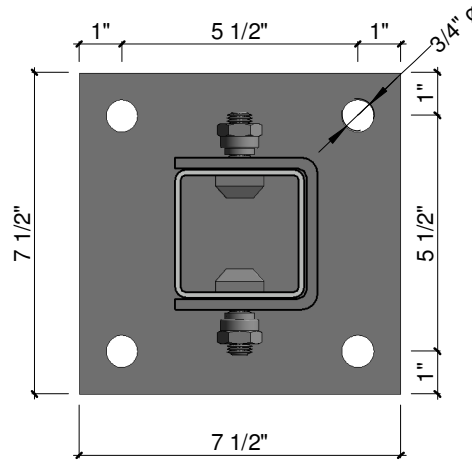
14NSF-B14 FRONT VIEW

NexSpan2™ F Series "-B" Post Base Installation Details

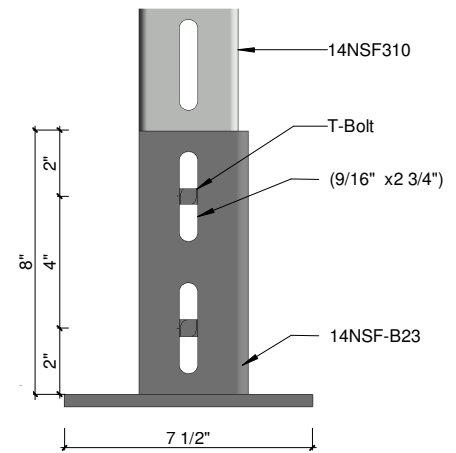
1. T-bolts shall be installed per installation instructions on the T-bolt installation instruction sheet. Base should be installed using anchors based on the dimensions shown in the above drawing.
2. The bolt spacing is relative to the dimensions of the connector pieces, but can be anywhere in the slots on the tube pieces. The slots in the connector pieces do not need to align with the slots in the tube pieces. The bolt spacing requirements are shown in the following diagrams.
3. Calculations are based on T-bolt location in drawings; any deviation will affect load capacities.



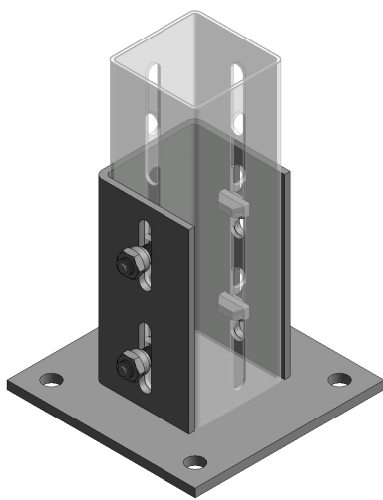
14NSF-B23 3D VIEW



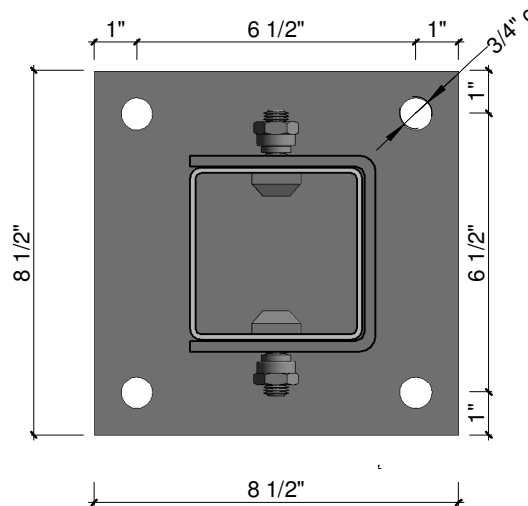
14NSF-B23 PLAN VIEW



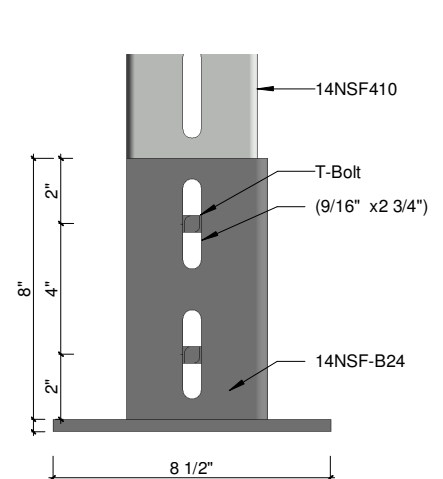
14NSF-B23 FRONT VIEW



14NSF-B24 3D VIEW



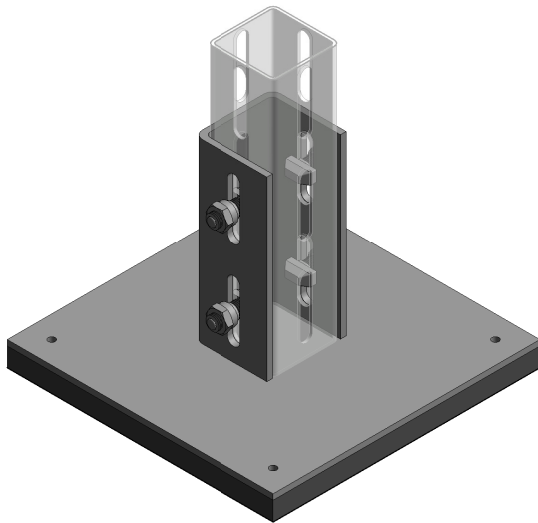
14NSF-B24 PLAN VIEW



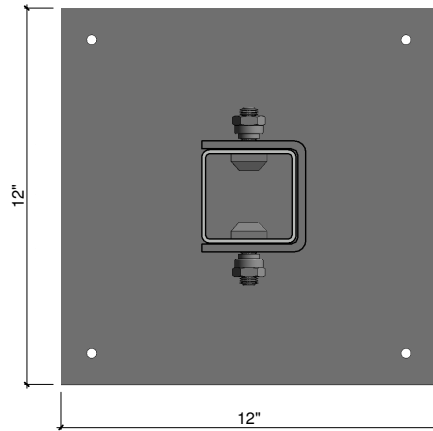
14NSF-B24 FRONT VIEW

NexSpan2™ F Series "B" Post Base Installation Details

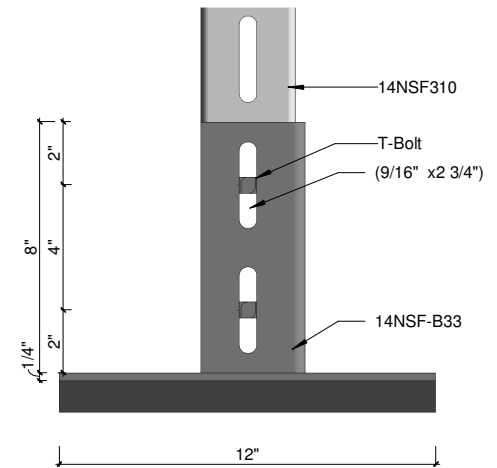
1. T-bolts shall be installed per installation instructions on the T-bolt installation instruction sheet.
2. The bolt spacing is relative to the dimensions of the connector pieces, but can be anywhere in the slots on the tube pieces. The slots in the connector pieces do not need to align with the slots in the tube pieces. The bolt spacing requirements are shown in the following diagrams.
3. Calculations are based on T-bolt location in drawings; any deviation will affect load capacities.



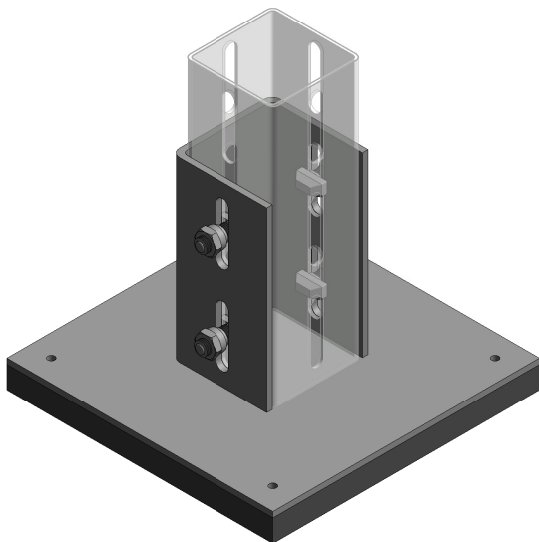
14NSF-B33 3D VIEW



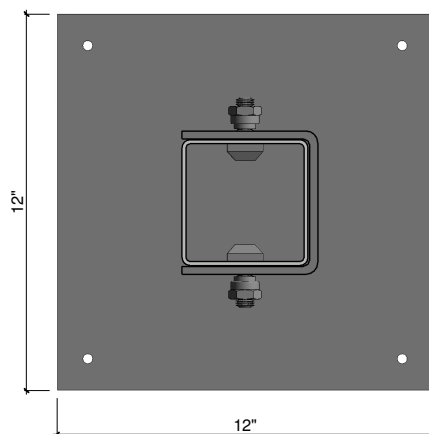
14NSF-B33 PLAN VIEW



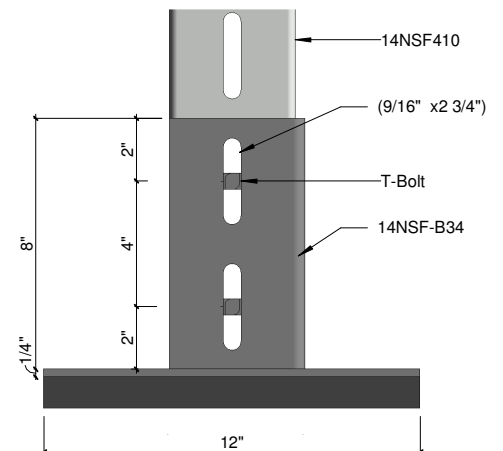
14NSF-B33 FRONT VIEW



14NSF-B34 3D VIEW



14NSF-B34 PLAN VIEW



14NSF-B34 FRONT VIEW

NEXSPAN2™



**NEXSPAN2™ ISN'T JUST A PRODUCT LINE –
IT'S A SHIFT IN HOW SYSTEMS ARE BUILT**

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