TrusSteel
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The World Leader in Cold-Formed Steel Trusses

Standard Book of Details

June 2022

ALPINE TrusSteel™ Standard Detail Log

See referenced Technical Bulletins for important information on using specific Standard Details

Drawing	Description	Latest Issue	Technical Bulletin
TS001	Truss-To-Truss Connections Using TTC Clips	06/01/22	TB010420
TS001A	Truss-To-Truss Connection Using TTC Clips (1 Ply Girder)	06/01/22	
TS001B	Truss-To-Truss Connection Using TTC Clips (2 Ply Girder)	06/01/22	
TS001C	Truss-To-Truss Connection Using TTC Clips (3 Ply Girder)	06/01/22	
TS001D	Face Mounted Truss-To-Truss Connection Using TTC Clips (1 Ply Girder)	06/01/22	
TS001E	Face Mounted Truss-To-Truss Connection Using TTC Clips (2 Ply Girder)	06/01/22	
TS001F	Face Mounted Truss-To-Truss Connection Using TTC Clips (3 Ply Girder)	06/01/22	
TS002A	TSC2.75 Splices Using The “Tube Only” Splice	06/01/22	
TS002B	TSC2.75 Splices Using The TS68UPS2 Universal Piece	06/01/22	
TS003	Piggyback Uplift Connection (Piggyback Sits On Purlins)	06/01/22	TB981026
TS003A	Roof Deck Support On Piggyback Overhangs	06/01/22	TB981026
TS003B	Piggyback Uplift Connection (Piggyback Sits Directly On Base Truss)	06/01/22	TB981026
TS004	TSC2.75 Pitch Break Connector Fastener Contact Areas	06/01/22	
TS004A	TSC2.75 K-Web Connector Fastener Areas	06/01/22	
TS004B	TSC2.75 Straight Pitch Break Connector Fastener Area	06/01/22	
TS004C	TSC2.75 Welded Pitch Break Connector Fastener Areas	06/01/22	
TS004D	TSC2.75 Clipped and Coped Connection Fastener Areas	06/01/22	
TS004E	TSC2.75 Seat Cut Tube Pitch Break Connector	06/01/22	
TS004F	TSC2.75 Gusset Plate Fastener Placement	06/01/22	
TS006	TSC2.75, TSC3.00 and TSC4.00 Standard Heel Height Detail	06/01/22	
TS007	TSC2.75 Chord Properties	06/01/22	TB010914
TS008	TSC4.00 Chord Properties	06/01/22	TB010914
TS008A	TSC3.00 Chord Properties	06/01/22	TB010914
TS009	TSC2.75 Tube Web Properties	06/01/22	
TS010	TSC3.00 & TSC4.00 C-Web and Tube Web Properties	06/01/22	
TS010A	TSC3.00 & TSC4.00 Z-Web Properties	06/01/22	

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Drawing	Description	Latest Issue	Technical Bulletin
TS011	Tube And C-Web Fastener Placement And Allowable Shear Loads	06/01/22	
TS011A	Z-Web Fastener Placement And Allowable Shear Loads	06/01/22	
TS012B	TSC4.00 Splices Using the TS97UPS4 Universal Piece	06/01/22	
TS012E	TSC4.00 Splices	06/01/22	
TS012F	TSC3.00 Splices Using The “Tube Only” Splice	06/01/22	
TS012G	TSC3.00 To TSC4.00 Splices Using The “Tube Only” Splice	06/01/22	
TS013	3-5/8” C-Stud Gable Framing	06/01/22	
TS014	6” C-Stud Gable Framing	06/01/22	
TS016	TSC3.00 or TSC4.00 Pitch Break Connector Fastener Contact Areas	06/01/22	
TS016A	TSC3.00 or TSC4.00 K-Web Connector Fastener Areas	06/01/22	
TS016B	TSC3.00 or TSC4.00 Straight Pitch Break Connector Fastener Areas	06/01/22	
TS016C	TSC3.00 or TSC4.00 Reinforced Pitch Break Connector #14SDS Fastener Areas	06/01/22	
TS016D	TSC4.00 Welded Pitch Break Connector Fastener Areas	06/01/22	
TS016E	TSC3.00 or TSC4.00 Clipped and Coped Connections Connector Fastener Areas	06/01/22	
TS016F	TSC3.00 or TSC4.00 Seat Cut Tube Pitch Break Connector	06/01/22	
TS016G	TSC3.00 or TSC4.00 Gusset Plate Fastener Placement	06/01/22	
TS019	General Web Reinforcement Guidelines	06/01/22	
TS020	DISCONTINUED		
TS020A	DISCONTINUED		
TS022	TSJH22, 24, and 44 Hanger Application	06/01/22	TB010420
TS022A	TSJH22, 24, and 44 Hanger Application with Reduced Screw Quantities	06/01/22	TB010420
TS023	TSC2.75, TSC3.00 or TSC4.00 Ply-To-Ply Connection When Hangers Are Used To Support Trusses	06/01/22	TB010420
TS023A	Ply-To-Ply Connection For Uplift Connections On 3-Ply Trusses	06/01/22	
TS024	TSC3.00 or TSC4.00 Ply-To-Ply Connections Using Bolts When Hangers Are Used To Support Trusses	06/01/22	
TS025	45° Hipjack, Endjack And Cornerjack Connection Details	06/01/22	

See referenced Technical Bulletins for important information on using specific Standard Details

Drawing	Description	Latest Issue	Technical Bulletin
TS025A	Non 45° Hipjack, Endjack, & Cornerjack Connection Details	06/01/22	
TS025B	45° Connection For Single Ply TSC2.75 Girder (Supported Trusses Have Horizontal and Vertical Reactions)	06/01/22	TB060628
TS025C	45° Connection For Single Ply TSC3.00 or TSC4.00 Girder (Supported Trusses Have Horizontal and Vertical Reactions)	06/01/22	TB060628
TS025D	Multi-ply #1 Hips – Ply-To-Ply Connection Detail	06/01/22	
TS025E	2-Ply Hipjack Connections	06/01/22	
TS026	TrusSteel Valley Truss Connection To Base Truss	06/01/22	
TS026A	TrusSteel Valley Truss Connection To Steel Deck	06/01/22	
TS026B	TrusSteel Valley Truss Connection for Rated Wood Sheathing	06/01/22	
TS027	TS6WTC3 or TS1WTC3 – Welded Truss Clip to Structural Steel Bearing	06/01/22	TB980925 and TB981005
TS027A	TS6WTC5 or TS1WTC5 – Welded Truss Clip to Structural Steel Bearing	06/01/22	TB980925 and TB981005
TS027B	TS6WTC3 or TS1WTC3 – Welded Truss Clip to Cold-Formed Steel Bearing	06/01/22	TB980925 and TB981005
TS027C	TS6WTC5 or TS1WTC5 – Welded Truss Clip to Cold-Formed Steel Bearing	06/01/22	TB980925 and TB981005
TS027D NEW	TS6WTC3 or TS1WTC3 – Welded Truss Clip to Structural Steel Bearing	06/01/22	TB980925 and TB981005
TS027E NEW	TS6WTC5 or TS1WTC5 – Welded Truss Clip to Structural Steel Bearing	06/01/22	TB980925 and TB981005
TS027F NEW	TS6WTC3 or TS1WTC3 – Welded Truss Clip to Cold-Formed Steel Bearing	06/01/22	TB980925 and TB981005
TS027G NEW	TS6WTC5 or TS1WTC5 – Welded Truss Clip to Cold-Formed Steel Bearing	06/01/22	TB980925 and TB981005
TS028	TSUC3 Uplift Attachment to Cold-Formed Steel Using #10SDS	06/01/22	TB980925
TS028A NEW	TSUC3 Uplift Attachment to Cold-Formed Steel Using #14SDS	06/01/22	TB980925
TS029	TSUC5 Uplift Attachment to Cold-Formed Steel Using #10SDS	06/01/22	TB980925
TS029A NEW	TSUC5 Uplift Attachment to Cold-Formed Steel Using #14SDS	06/01/22	TB980925
TS030	TSUC3 Uplift Attachment to Concrete Bearing	06/01/22	TB980925
TS031	TSUC5 Uplift Attachment to Concrete Bearing	06/01/22	TB980925
TS031A	Uplift Attachment to Grout-Filled CMU Bearing	06/01/22	
TS031B	Uplift Attachment To Concrete Bearing	06/01/22	
TS032	TSUC3 Uplift Attachment to Wood Bearing	06/01/22	TB980925

See referenced Technical Bulletins for important information on using specific Standard Details

Drawing	Description	Latest Issue	Technical Bulletin
TS033	TSUC5 Uplift Attachment to Wood Bearing	06/01/22	TB980925
TS034	Simpson META (or equal) Uplift Attachment to Concrete Bearing	06/01/22	TB980925
TS035	Simpson META (or equal) Uplift Attachment Over Top Of Truss Into Concrete Bearing	06/01/22	TB980925
TS039	TSUC3 Uplift Attachment to Structural Steel Bearing Using Hilti Pins (Steel From 3/16” to 1/2” Thick)	06/01/22	TB980925
TS039A	TSUC3 Uplift Attachment to Structural Steel Bearing Using Hilti Pins (Steel Greater Than 1/2” to 3/4” Thick)	06/01/22	TB980925
TS039B	TSUC3 Uplift Attachment to Structural Steel Bearing Using ITW Ramset Pins (Steel From 3/16” to 1/2” Thick)	06/01/22	TB980925
TS039C	TSUC3 Uplift Attachment to Structural Steel Bearing Using ITW Ramset Pins (Steel Greater Than 1/2” to 3/4” Thick)	06/01/22	TB980925
TS040	TSUC5 Uplift Attachment to Structural Steel Bearing Using Hilti Pins (Steel From 3/16” to 1/2” Thick)	06/01/22	TB980925
TS040A	TSUC5 Uplift Attachment to Structural Steel Bearing Using Hilti Pins (Steel Greater Than 1/2” to 3/4” Thick)	06/01/22	TB980925
TS040B	TSUC5 Uplift Attachment to Structural Steel Bearing Using ITW Ramset Pins (Steel From 3/16” to 1/2” Thick)	06/01/22	TB980925
TS040C	TSUC5 Uplift Attachment to Structural Steel Bearing Using ITW Ramset Pins (Steel Greater Than 1/2” to 3/4” Thick)	06/01/22	TB980925
TS041	C-Stud Outlooker Attachment to TrusSteel Trusses	06/01/22	
TS042	Allowable Duct Sizes for TrusSteel Floor Trusses	06/01/22	
TS043	TSUC7 Uplift Attachment to Concrete Bearing	06/01/22	TB980925
TS046	Top Chord Overhang Reinforcement	06/01/22	
TS046A	Chord Reinforcement	06/01/22	
TS047	TSUC3 Attachment to Structural Steel Bearing Using Screws	06/01/22	TB980925
TS048	TSUC5 Attachment to Structural Steel Bearing Using Screws	06/01/22	TB980925
TS049	Bottom Chord Sprinkler Pipe Hanger for 8” (203mm) Maximum Diameter Pipe	06/01/22	TB000901 and TB070920
TS049A	Top Chord Sprinkler Pipe Hanger for 1-1/2” (38mm) Maximum Diameter Pipe	06/01/22	TB000901 and TB070920
TS049B	Top Chord Sprinkler Pipe Hanger for 8” (203mm) Maximum Diameter Pipe	06/01/22	TB000901 and TB070920
TS049C	C-Stud Sprinkler Trapeze at Bottom Chord for 2” (51mm) Maximum Diameter Pipe	06/01/22	TB000901 and TB070920

See referenced Technical Bulletins for important information on using specific Standard Details

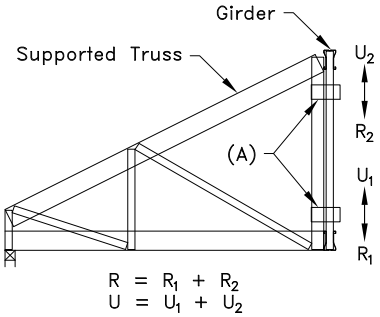
Drawing	Description	Latest Issue	Technical Bulletin
TS049D	TSC Sprinkler Trapeze at Bottom Chord for 2" (51mm) Maximum Diameter Pipe	06/01/22	TB000901 and TB070920
TS049E	C-Stud Sprinkler Trapeze at Top Chord for 2" (51mm) Maximum Diameter Pipe	06/01/22	TB000901 and TB070920
TS049F	TSC Sprinkler Trapeze at Top Chord for 2" (51mm) Maximum Diameter Pipe	06/01/22	TB000901 and TB070920
TS049G	Double C-Stud Sprinkler Trapeze at Bottom Chord for 5" (127mm) Max. Diameter Pipe	06/01/22	TB000901 and TB070920
TS049H	Double C-Stud Sprinkler Trapeze at Top Chord for 5" (127mm) Max. Diameter Pipe	06/01/22	TB000901 and TB070920
TS049I	Double C-Stud Sprinkler Trapeze at Bottom Chord for 8" (203mm) Max. Diameter Pipe	06/01/22	TB000901 and TB070920
TS049J	Double C-Stud Sprinkler Trapeze at TSC2.75 Top Chord for 6" (152mm) Max. Dia. Pipe	06/01/22	TB000901 and TB070920
TS049K	Double C-Stud Sprinkler Trapeze at TSC3.00 or TSC4.00 Top Chord for 8" (203mm) Max. Diameter Pipe	06/01/22	TB000901 and TB070920
TS049L	Bottom Chord Sprinkler Pipe Hanger for 4" (102mm) Max. Diameter Pipe Using Sammys X-Press 35 (XP 35)	06/01/22	TB000901 and TB070920
TS050	DISCONTINUED		
TS051	DISCONTINUED		
TS052	DISCONTINUED		
T5053	DISCONTINUED		
TS054	DISCONTINUED		
TS055	DISCONTINUED		
TS056	Hip Ridge Blocking Framing Detail for 24" (610mm) O.C. Trusses	06/01/22	
TS056A	Hip Ridge Blocking Framing Detail for 48" (1219mm) O.C. Trusses	06/01/22	
TS057	Multiple Member Truss Ply-To-Ply Connections	06/01/22	
TS058	Simpson MTS20 & MTS30 (or equal) Uplift Attachment Over Top Of Truss Into Face Of Concrete Bearing	06/01/22	TB980925
TS058A	Simpson MTS30 (or equal) Uplift Attachment To Truss Vertical Web Into Face Of Concrete Bearing	06/01/22	
TS059	Heavy TSC2.75 Truss-To-Truss Connection (1 Ply Girder)	06/01/22	
TS059A	Heavy TSC2.75 Truss-To-Truss Connection (2 Ply Girder)	06/01/22	
TS059B	Heavy TSC2.75 Truss-To-Truss Connection (3 Ply Girder)	06/01/22	
TS060	Heavy TSC3.00 or TSC4.00 Truss-To-Truss Connection (1 Ply Girder) Tube Webs	06/01/22	

See referenced Technical Bulletins for important information on using specific Standard Details

Drawing	Description	Latest Issue	Technical Bulletin
TS060A	Heavy TSC3.00 or TSC4.00 Truss-To-Truss Connection (2 Ply Girder) Tube Webs	06/01/22	
TS060B	Heavy TSC3.00 or TSC4.00 Truss-To-Truss Connection (3 Ply Girder) Tube Webs	06/01/22	
TS060C	Heavy Duty TSC3.00 or TSC4.00 Truss-To-Truss Conn. Up To 3-Ply Girder – Z-Webs	06/01/22	
TS061	Heavy 2-Ply TSC2.75 Truss-To-Truss Connection (1 Ply Girder) Tube Webs	06/01/22	
TS061A	Heavy 2-Ply TSC2.75 Truss-To-Truss Connection (2 Ply Girder) Tube Webs	06/01/22	
TS061B	Heavy 2-Ply TSC2.75 Truss-To-Truss Connection (3 Ply Girder) Tube Webs	06/01/22	
TS062	Heavy 2-Ply TSC3.00 or TSC4.00 Truss-To-Truss Connection (1 Ply Girder) Tube Webs	06/01/22	
TS062A	Heavy 2-Ply TSC3.00 or TSC4.00 Truss-To-Truss Connection (2 Ply Girder) Tube Webs	06/01/22	
TS062B	Heavy 2-Ply TSC3.00 or TSC4.00 Truss-To-Truss Connection (3 Ply Girder) Tube Webs	06/01/22	
TS062C	Heavy Duty 2-Ply TSC3.00 or TSC4.00 Truss-To-Truss Conn. Up To 3-Ply Girder – Z-Webs	06/01/22	
TS066	Strongback Bridging Guidelines For TrusSteel Floor Trusses	06/01/22	TB070404 and TB971125
TS068	Connection Areas for Clip/Plate to Z-Webs	06/01/22	
TS069	2-Sided Stub Web 90° Connection (Allowable Tie-In Loads)	06/01/22	
TS070	Guidelines For TrusSteel Gable Truss (General Reinforcement Installation)	06/01/22	
TS071	Connection For Truss To CFS Wall Stud	06/01/22	
TS072	TSC2.75 Connection For Chord End Vertical Condition	06/01/22	
TS072A	TSC3.00 Connection For Chord End Vertical Condition	06/01/22	
TS072B	TSC4.00 Connection For Chord End Vertical Condition	06/01/22	
TS073	Generic C-Stud Scab Installation Guide	06/01/22	
TS074 NEW	Chord End Vertical With TS6WTC3 or TS1WTC3 Welded Truss Clip to Structural Steel Bearing	06/01/22	TB981005
TS074A NEW	Chord End Vertical With TS6WTC5 or TS1WTC5 Welded Truss Clip to Structural Steel Bearing	06/01/22	TB981005
TS074B NEW	Chord End Vertical With TS6WTC3 or TS1WTC3 Welded Truss Clip to Cold-Formed Steel Bearing	06/01/22	TB981005
TS074C NEW	Chord End Vertical With TS6WTC5 or TS1WTC5 Welded Truss Clip to Cold-Formed Steel Bearing	06/01/22	TB981005
TS075 NEW	TSC2.75 Chord End Vertical Uplift Attachment to Cold-Formed Steel Using Screws	06/01/22	

See referenced Technical Bulletins for important information on using specific Standard Details

Drawing	Description	Latest Issue	Technical Bulletin
TS075A NEW	TSC3.00 or TSC4.00 Chord End Vertical Uplift Attachment to Cold-Formed Steel Using Screws	06/01/22	
TS075B NEW	TSC2.75 Chord End Vertical Attachment to Structural Steel Bearing Using Screws	06/01/22	
TS075C NEW	TSC3.00 or TSC4.00 Chord End Vertical Attachment to Structural Steel Bearing Using Screws	06/01/22	
TS076 NEW	TSC2.75 Chord End Vertical Uplift Attachment To Structural Steel Bearing Using Hilti Pins (Steel From 3/16” to 3/4” Thick)	06/01/22	
TS076A NEW	TSC3.00 or TSC4.00 Chord End Vertical Uplift Attachment To Structural Steel Bearing Using Hilti Pins (Steel From 3/16” to 3/4” Thick)	06/01/22	
TS076B NEW	TSC2.75 Chord End Vertical Uplift Attachment To Structural Steel Bearing Using ITW Ramset Pins (Steel From 3/16” to 3/4” Thick)	06/01/22	
TS076C NEW	TSC3.00 or TSC4.00 Chord End Vertical Uplift Attachment To Structural Steel Bearing Using ITW Ramset Pins (Steel From 3/16” to 3/4” Thick)	06/01/22	
TS077 NEW	TSC2.75 Chord End Vertical Uplift Attachment To Concrete Bearing	06/01/22	
TS077A NEW	TSC3.00 or TSC4.00 Chord End Vertical Uplift Attachment To Concrete Bearing	06/01/22	



$R = R_1 + R_2$
$U = U_1 + U_2$

Typical Supported Truss to Girder Connection

TTC Clip Sizes and Information

"A" Clips connect the supported truss to the girder truss
"B" Clips are only required for 3-ply girders:

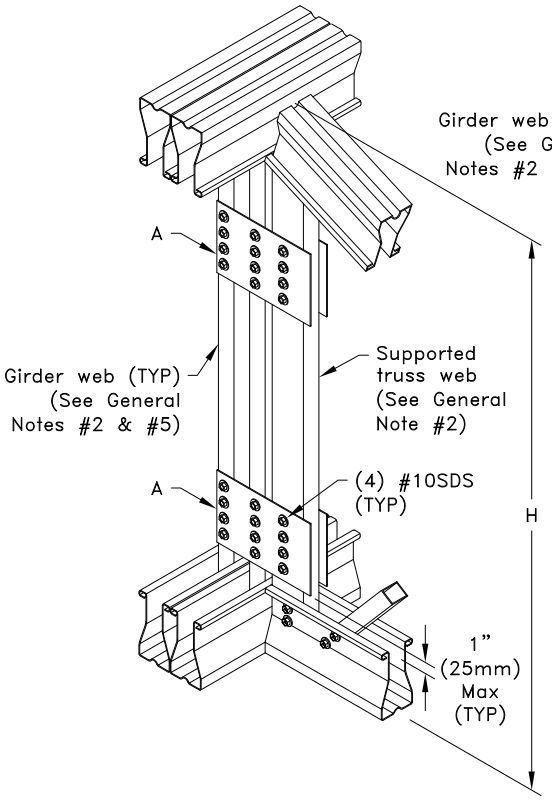
- "B" Clips connect the plies of a 3-ply girder truss together
- One "B" Clip is required for each "A" Clip used

TSC2.75	TSC3.00 or TSC4.00
A = TTC5	A = TTC7
B = TTC5	B = TTC7

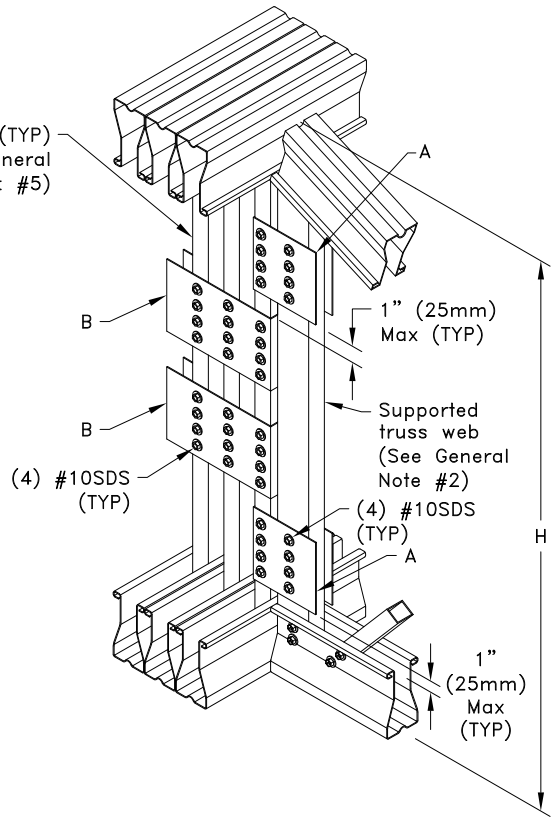
Allowable Values

H_{min} in (mm)[A]		H_{max} in (mm)[A]	Number of "A" Clips	R = U lbs (kN)[A]
TSC2.75	TSC3.00 TSC4.00			
9-1/2 (241)	12 (305)	48 (1219)	1	1730 (7.70)
19 (483)	24 (610)	no max limit	2	2470 (10.99)

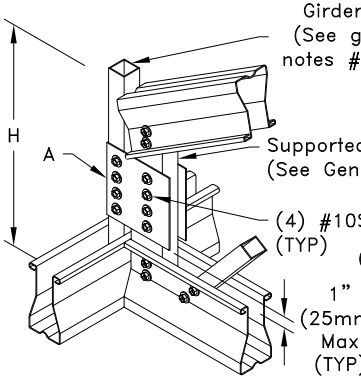
A. R = Allowable Reaction, U = Allowable Uplift and H = Heel height of supported truss.



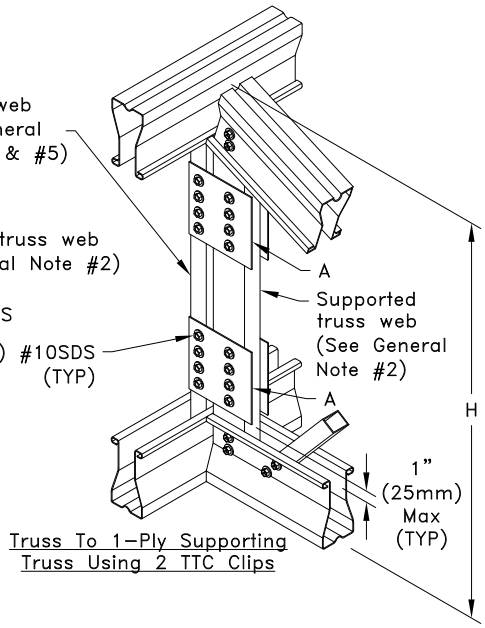
Truss To 2-Ply Supporting Truss Using TTC Clips
(1 or 2 "A" clips may be used. See chart)



Truss To 3-Ply Supporting Truss Using TTC Clips
(1 or 2 "A" Clips may be used. See chart)



Truss To 1-Ply Supporting Truss Using 1 TTC Clip



Truss To 1-Ply Supporting Truss Using 2 TTC Clips

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. If supported truss or girder web is a Z-web, refer to TS068 for connection areas.
3. SDS = Self-Drilling Tapping Screw. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
4. The supported truss must be designed utilizing a clip bearing type. For 2 clip connections, place clips within 1" (25mm) of top and bottom chords as shown. For 1 clip connections, place clip within 1" (25mm) of bottom chord or as analyzed.
5. This detail is to be used when girder web and supported web are the same width. Girder web shall not be a C-Web.
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

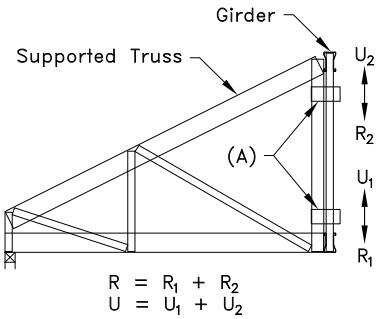
ALPINE TrusSteel™
www.TrusSteel.com
155 Harlem Ave., North Building, 4th Floor / Glenview, IL 60025 / (800) 755-6001

Truss-To-Truss Connections Using TTC Clips

Standard Detail: TS001

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections



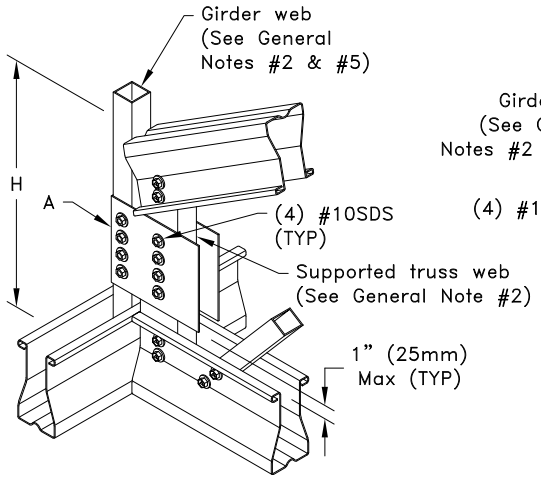
$R = R_1 + R_2$
$U = U_1 + U_2$

Typical Supported Truss to Girder Connection

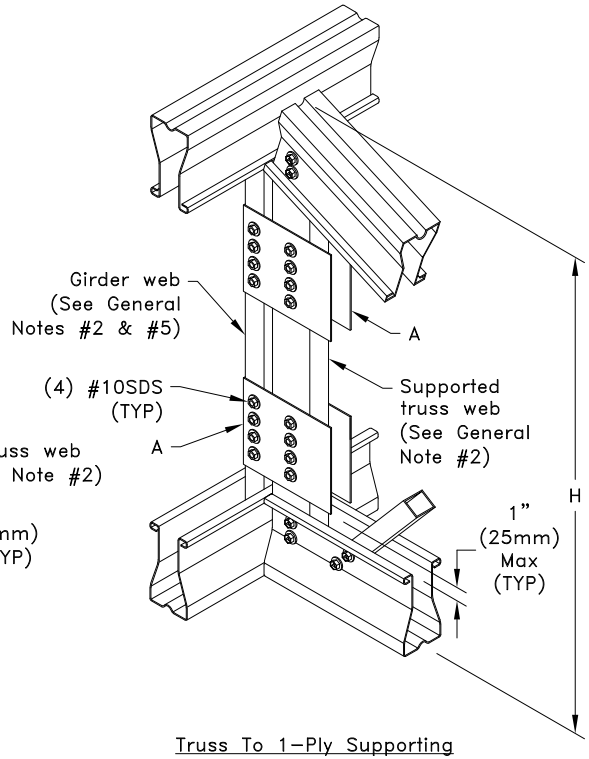
TTC Clip Sizes and Information	
"A" Clips connect the supported truss to the girder truss.	
TSC2.75	TSC3.00 or TSC4.00
A = TTC5	A = TTC7

Allowable Values				
H_{min} in (mm)[A]		H_{max} in (mm)[A]	Number of "A" Clips	R = U lbs (kN)[A]
TSC2.75	TSC3.00 TSC4.00			
9-1/2 (241)	12 (305)	48 (1219)	1	1730 (7.70)
19 (483)	24 (610)	no max limit	2	2470 (10.99)

A. R = Allowable Reaction, U = Allowable Uplift and H = Heel height of supported truss.



Truss To 1-Ply Supporting Truss Using 1 TTC Clip



Truss To 1-Ply Supporting Truss Using 2 TTC Clips

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. If supported truss or girder web is a Z-web, refer to TS068 for connection areas.
3. SDS = Self-Drilling Tapping Screw. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
4. The supported truss must be designed utilizing a clip bearing type. For 2 clip connections, place clips within 1" (25mm) of top and bottom chords as shown. For 1 clip connections, place clip within 1" (25mm) of bottom chord or as analyzed.
5. This detail is to be used when girder web and supported web are the same width. Girder web shall not be a C-Web.
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

ALPINE TrusSteel™

www.TrusSteel.com

155 Harlem Ave., North Building, 4th Floor / Glenview, IL 60025 / (800) 755-6001

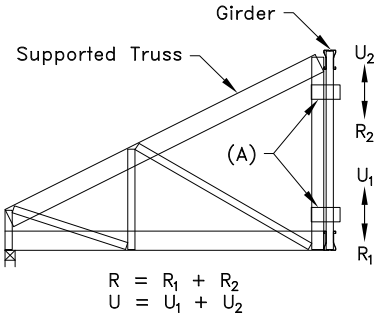
Truss-To-Truss Connection

Using TTC Clips (1 Ply Girder)

Standard Detail:
TS001A

Date:
06/01/22

TrusSteel Detail Category:
Truss-To-Truss Connections

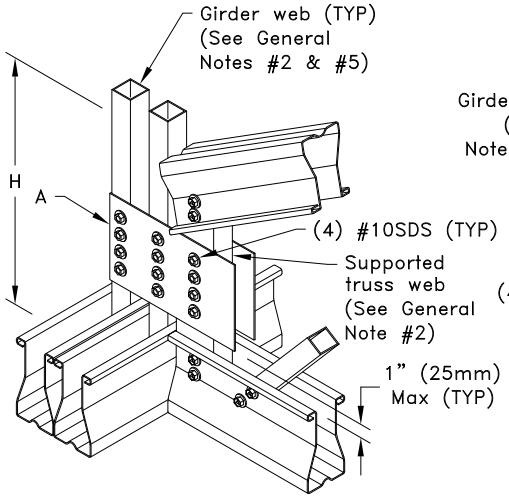


Typical Supported Truss to Girder Connection

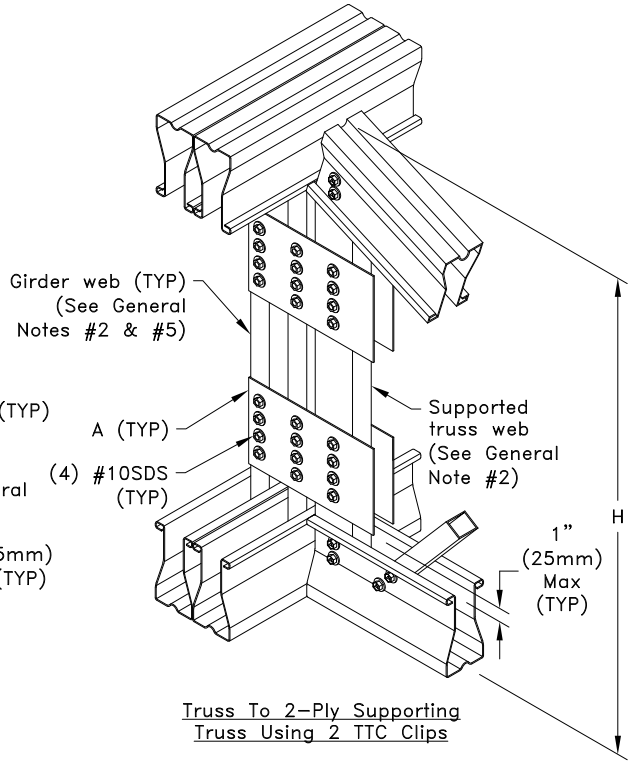
TTC Clip Sizes and Information	
"A" Clips connect the supported truss to the girder truss.	
TSC2.75	TSC3.00 or TSC4.00
A = TTC5	A = TTC7

Allowable Values				
H_{min} in (mm)[A]		H_{max} in (mm)[A]	Number of "A" Clips	R = U lbs (kN)[A]
TSC2.75	TSC3.00 TSC4.00			
9-1/2 (241)	12 (305)	48 (1219)	1	1730 (7.70)
19 (483)	24 (610)	no max limit	2	2470 (10.99)

A. R = Allowable Reaction, U = Allowable Uplift and H = Heel height of supported truss.



Truss To 2-Ply Supporting Truss Using 1 TTC Clip



Truss To 2-Ply Supporting Truss Using 2 TTC Clips

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. If supported truss or girder web is a Z-web, refer to TS068 for connection areas.
3. SDS = Self-Drilling Tapping Screw. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
4. The supported truss must be designed utilizing a clip bearing type. For 2 clip connections, place clips within 1" (25mm) of top and bottom chords as shown. For 1 clip connections, place clip within 1" (25mm) of bottom chord or as analyzed.
5. This detail is to be used when girder web and supported web are the same width. Girder web shall not be a C-Web.
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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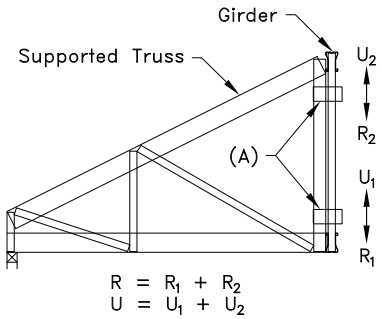
Truss-To-Truss Connection

Using TTC Clips (2 Ply Girder)

Standard Detail:
TS001B

Date:
06/01/22

TrusSteel Detail Category:
Truss-To-Truss Connections



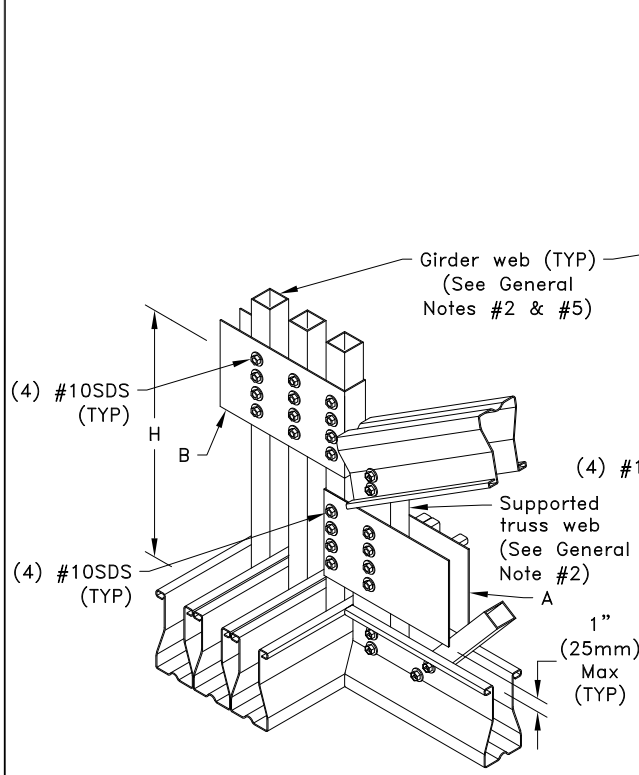
$R = R_1 + R_2$
$U = U_1 + U_2$

Typical Supported Truss to Girder Connection

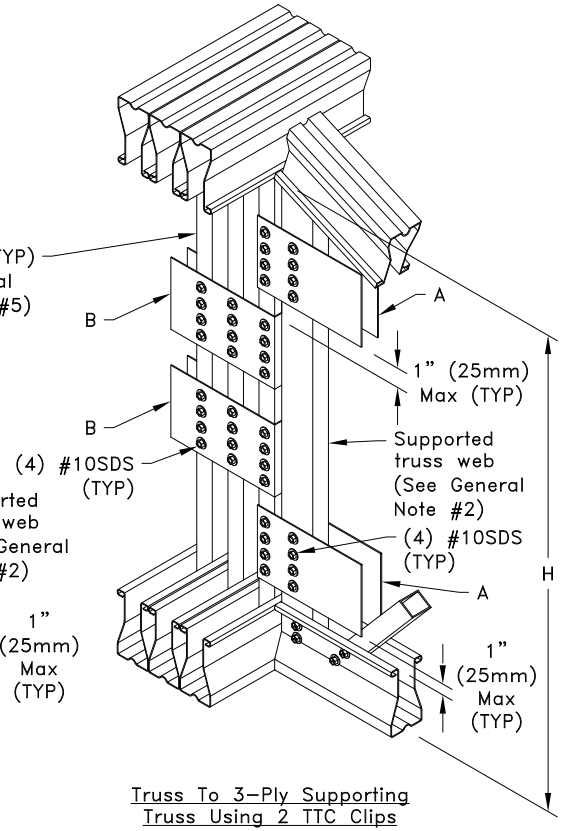
TTC Clip Sizes and Information	
"A" Clips connect the supported truss to the girder truss "B" Clips are only required for 3-ply girders: • "B" Clips connect the plies of a 3-ply girder truss together • One "B" Clip is required for each "A" Clip used	
TSC2.75	TSC3.00 or TSC4.00
A = TTC5	A = TTC7
B = TTC5	B = TTC7

Allowable Values				
H_{min} in (mm)[A]		H_{max} in (mm)[A]	Number of "A" Clips	R = U lbs (kN)[A]
TSC2.75	TSC3.00 TSC4.00			
9-1/2 (241)	12 (305)	48 (1219)	1	1730 (7.70)
19 (483)	24 (610)	no max limit	2	2470 (10.99)

A. R = Allowable Reaction, U = Allowable Uplift and H = Heel height of supported truss.



Truss To 3-Ply Supporting Truss Using 1 TTC Clip



Truss To 3-Ply Supporting Truss Using 2 TTC Clips
(1 "B" Clip is required for each "A" clip used)

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. If supported truss or girder web is a Z-web, refer to TS068 for connection areas.
3. SDS = Self-Drilling Tapping Screw. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
4. The supported truss must be designed utilizing a clip bearing type. For 2 clip connections, place clips within 1" (25mm) of top and bottom chords as shown. For 1 clip connections, place clip within 1" (25mm) of bottom chord or as analyzed.
5. This detail is to be used when girder web and supported web are the same width. Girder web shall not be a C-Web.
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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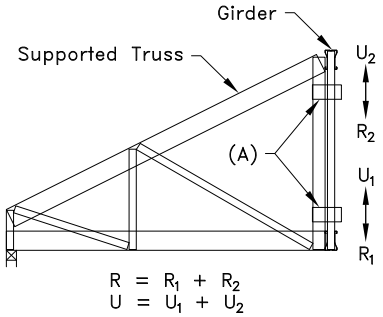
Truss-To-Truss Connection

Using TTC Clips (3 Ply Girder)

Standard Detail:
TS001C

Date:
06/01/22

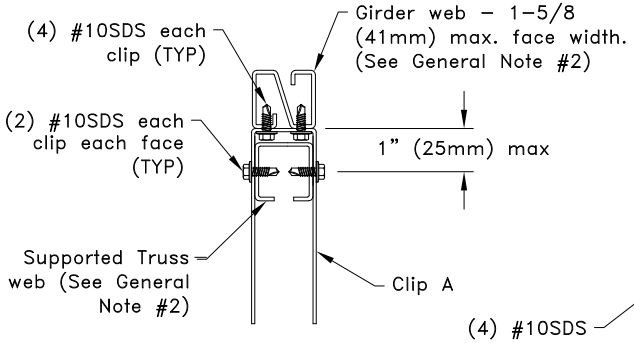
TrusSteel Detail Category:
Truss-To-Truss Connections



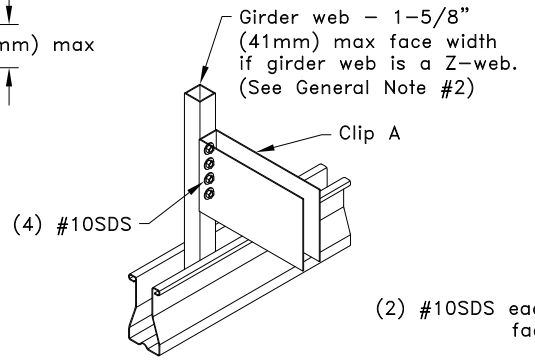
Typical Supported Truss to Girder Connection

Allowable Values						
Supported Truss Chord Size	H_{min} in (mm)[A]	H_{max} in (mm)[A]	Number of "A" Clips	Clip "A" Size		R = U lbs (kN)[A]
				Girder web is tube web	Girder web is Z-web	
TSC2.75	9-1/2 (241)	48 (1219)	1	TTC5	NA	860 (3.83)
TSC3.00 or TSC4.00	12 (305)	48 (1219)	1	TTC7	TTC7	860 (3.83)
TSC2.75	19 (483)	no max limit	2	TTC5	NA	1720 (7.65)
TSC3.00 or TSC4.00	24 (610)	no max limit	2	TTC7	TTC7	1720 (7.65)

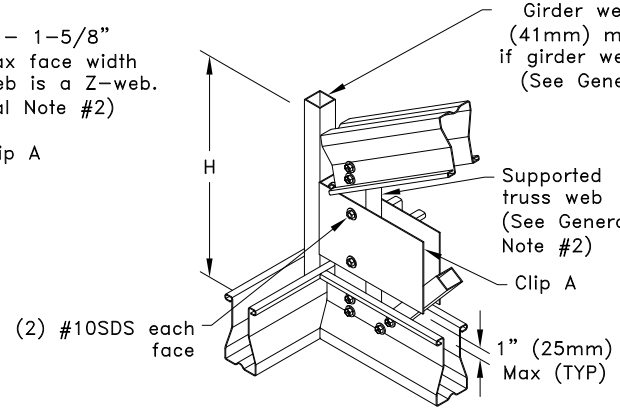
A. R = Allowable Reaction, U = Allowable Uplift and H = Heel height of supported truss.



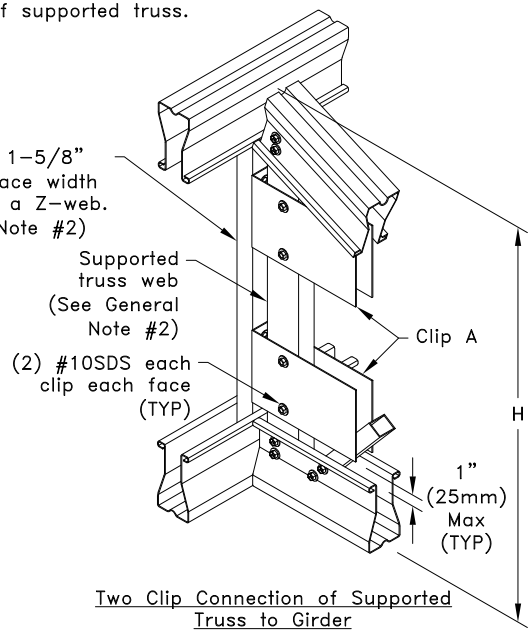
Section View with Z-Web



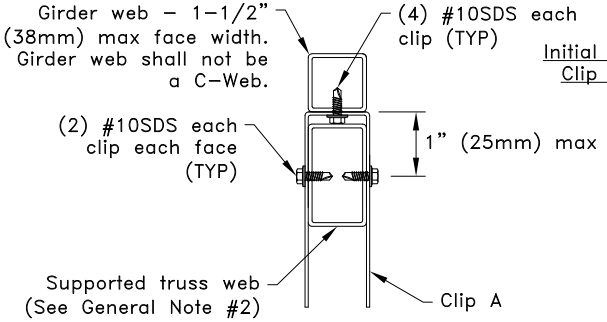
Initial Connection Of Each TTC Clip To Girder Vertical Web



Single Clip Connection of Supported Truss to Girder



Two Clip Connection of Supported Truss to Girder



Section View with Tube Web

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. If supported truss or girder web is a Z-web, refer to TS068 for connection areas.
3. SDS = Self-Drilling Tapping Screw. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
4. The supported truss must be designed utilizing a clip bearing type. For 2 clip connections, place within 1" (25mm) of top and bottom chords as shown. For 1 clip connections, place within 1" (25mm) of bottom chord, or as analyzed.
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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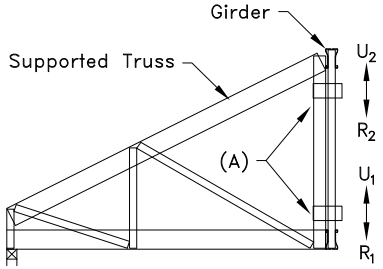
Face Mounted Truss To Truss Connection

Using TTC Clips (1 Ply Girder)

Standard Detail: TS001D

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections

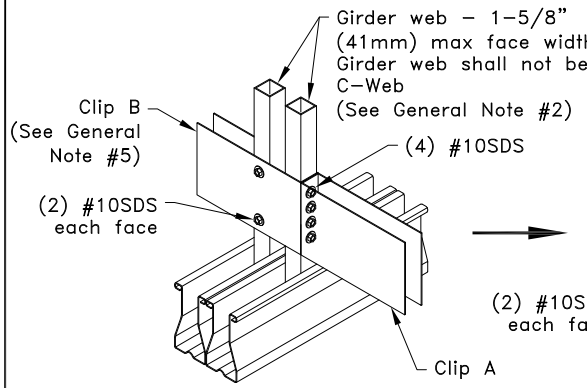


$R = R_1 + R_2$
$U = U_1 + U_2$

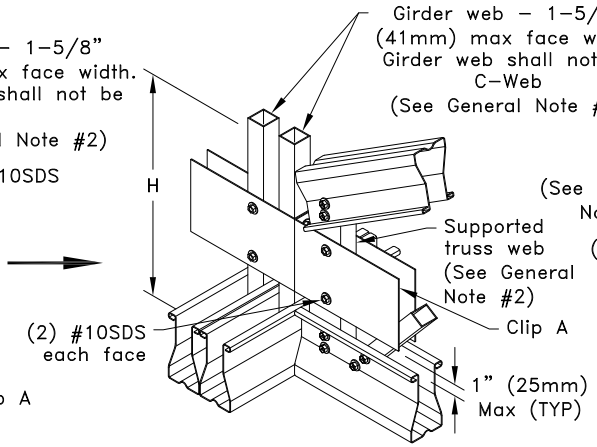
Typical Supported Truss to Girder Connection

Allowable Values						
Supported Truss Chord Size	H_{min} in (mm)[A]	H_{max} in (mm)[A]	Number of "A" Clips	Clip "A" Size		R = U lbs (kN)[A]
				Girder web is tube web	Girder web is Z-web	
TSC2.75	9-1/2 (241)	48 (1219)	1	TTC5	NA	860 (3.83)
TSC3.00 or TSC4.00	12 (305)	48 (1219)	1	TTC7	TTC7	860 (3.83)
TSC2.75	19 (483)	no max limit	2	TTC5	NA	1720 (7.65)
TSC3.00 or TSC4.00	24 (610)	no max limit	2	TTC7	TTC7	1720 (7.65)

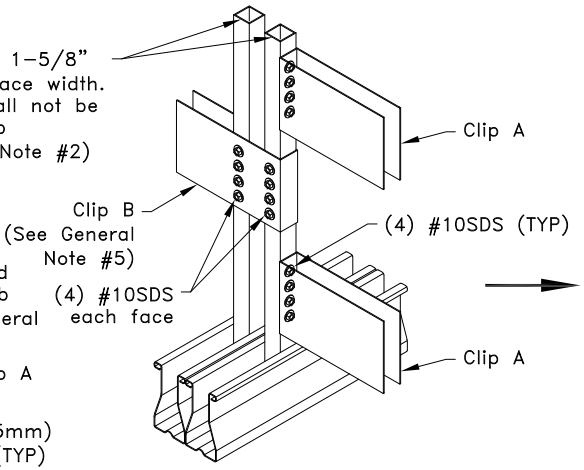
A. R = Allowable Reaction, U = Allowable Uplift and H = Heel height of supported truss.



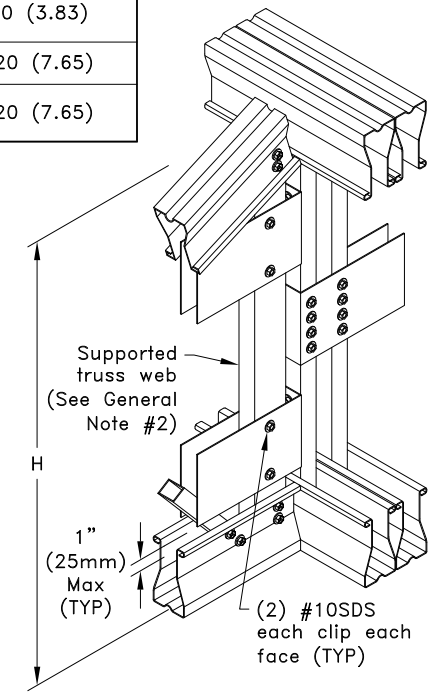
Initial Connection Of Clips To Girder Vertical Webs



Connection of Supported Truss to Girder

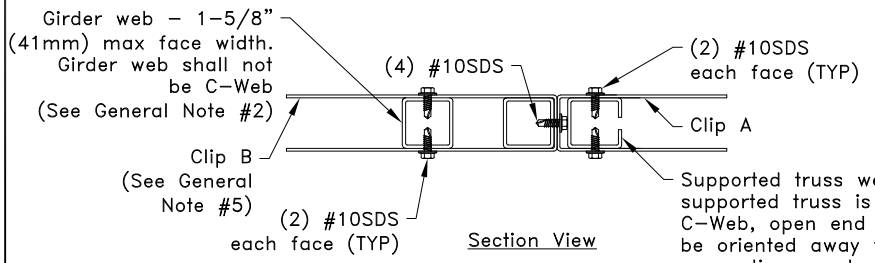


Initial Connection Of Clips To Girder Vertical Webs



Connection of Supported Truss to Girder

SINGLE CLIP TRUSS TO TRUSS CONNECTION



Section View

DOUBLE CLIP TRUSS TO TRUSS CONNECTION

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. If supported truss or girder web is a Z-web, refer to TS068 for connection areas.
3. SDS = Self-Drilling Tapping screw. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
4. The supported truss must be designed utilizing a clip bearing type. For 2 clip connections, place within 1" (25mm) of top and bottom chords as shown. For 1 clip connections, place within 1" (25mm) of bottom chord, or as analyzed.
5. Clip "B" is TTC5 when girder web is W.75x.75 and TTC7 when girder web is W.75x1.5, W1.5x1.5 or Z1.5x1.62. (If girder web is Z1.5x1.62, bend TTC7 to fit.)
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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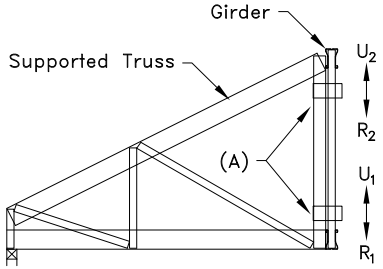
Face Mounted Truss To Truss Connection

Using TTC Clips (2 Ply Girder)

Standard Detail:
TS001E

Date:
06/01/22

TrusSteel Detail Category:
Truss-To-Truss Connections

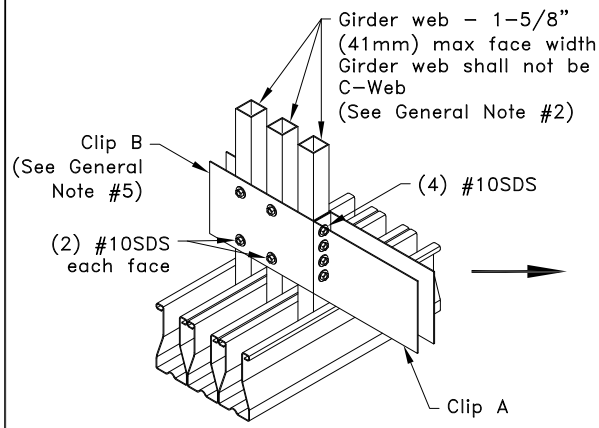


$R = R_1 + R_2$
$U = U_1 + U_2$

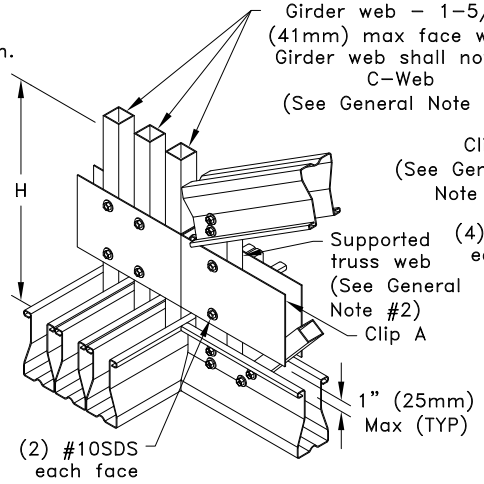
Typical Supported Truss to Girder Connection

Allowable Values						
Supported Truss Chord Size	H_{min} in (mm)[A]	H_{max} in (mm)[A]	Number of "A" Clips	Clip "A" Size		R = U lbs (kN)[A]
				Girder web is tube web	Girder web is Z-web	
TSC2.75	9-1/2 (241)	48 (1219)	1	TTC5	NA	860 (3.83)
TSC3.00 or TSC4.00	12 (305)	48 (1219)	1	TTC7	TTC7	860 (3.83)
TSC2.75	19 (483)	no max limit	2	TTC5	NA	1720 (7.65)
TSC3.00 or TSC4.00	24 (610)	no max limit	2	TTC7	TTC7	1720 (7.65)

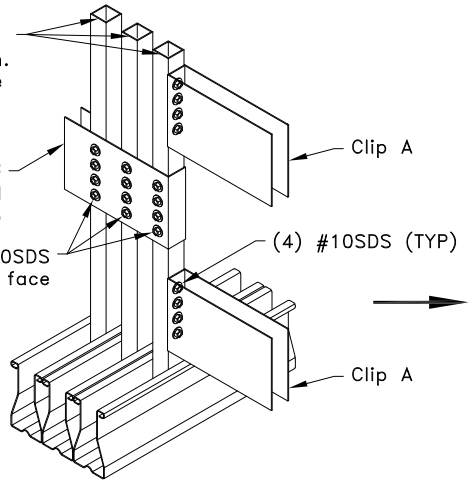
A. R = Allowable Reaction, U = Allowable Uplift and H = Heel height of supported truss.



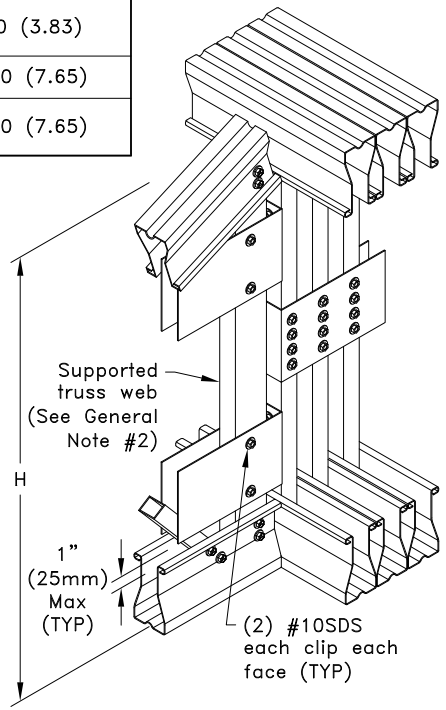
Initial Connection Of Clips To Girder Vertical Webs



Connection of Supported Truss to Girder

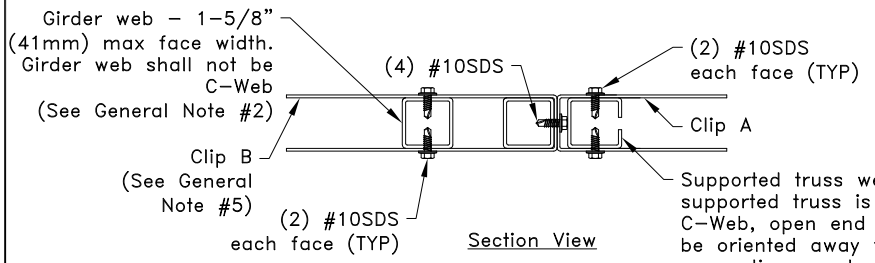


Initial Connection Of Clips To Girder Vertical Webs



Connection of Supported Truss to Girder

SINGLE CLIP TRUSS TO TRUSS CONNECTION



Section View

DOUBLE CLIP TRUSS TO TRUSS CONNECTION

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. If supported truss or girder web is a Z-web, refer to TS068 for connection areas.
3. SDS = Self-Drilling Tapping Screw. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
4. The supported truss must be designed utilizing a clip bearing type. For 2 clip connections, place within 1" (25mm) of top and bottom chords as shown. For 1 clip connections, place within 1" (25mm) of bottom chord, or as analyzed.
5. Clip "B" is TTC5 when girder web is W.75x.75 and TTC7 when girder web is W.75x1.5, W1.5x1.5 or Z1.5x1.62. (If girder web is Z1.5x1.62, bend TTC7 to fit.)
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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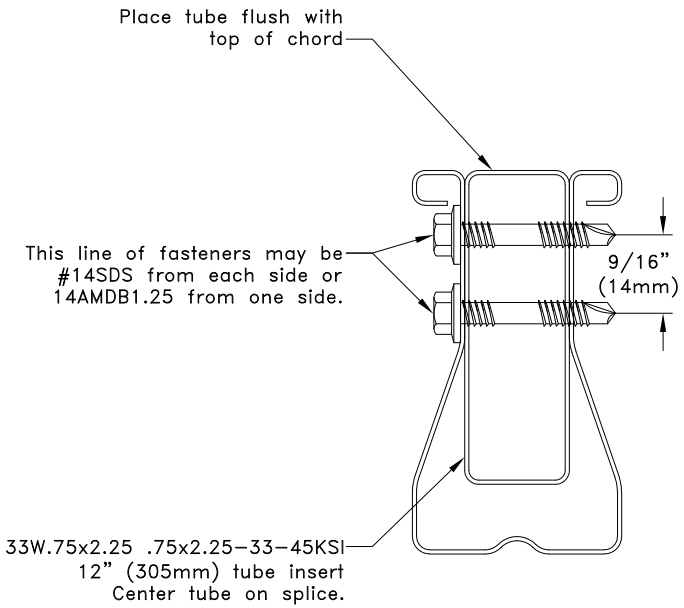
Face Mounted Truss To Truss Connection

Using TTC Clips (3 Ply Girder)

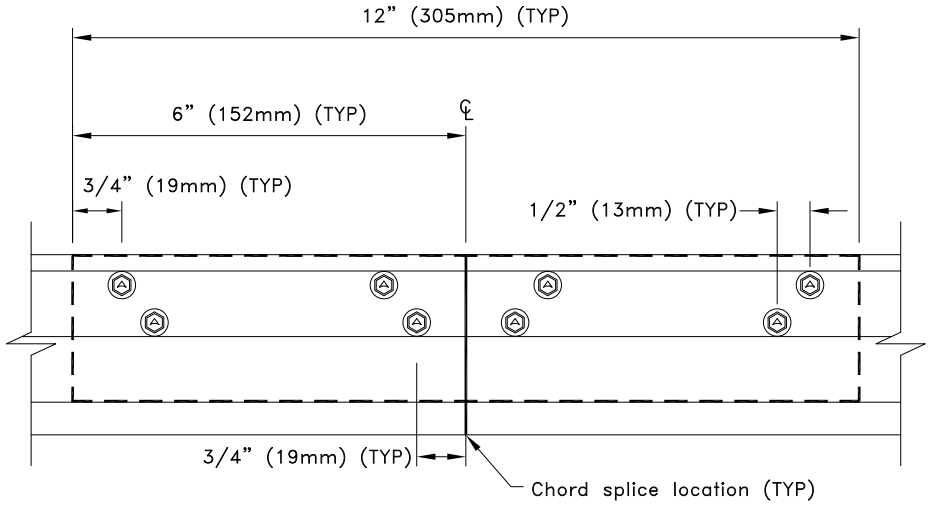
Standard Detail: TS001F

Date: 06/01/22

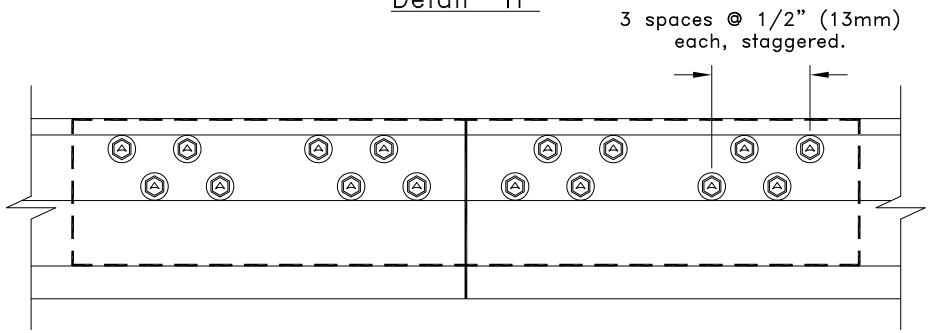
TrusSteel Detail Category: Truss-To-Truss Connections



TSC2.75



Detail "H"



Detail "I"

General Notes:

1. SDS = Self–Drilling Tapping Screw.
2. Fastener spacing and end distance is 3/4" (19mm) minimum.
3. Fasteners may be #14SDS or 14AMDB1.25. Refer to approved truss drawings for fastener type and detail call out.
4. Dimensions are typical for both sides of splice per splice detail.

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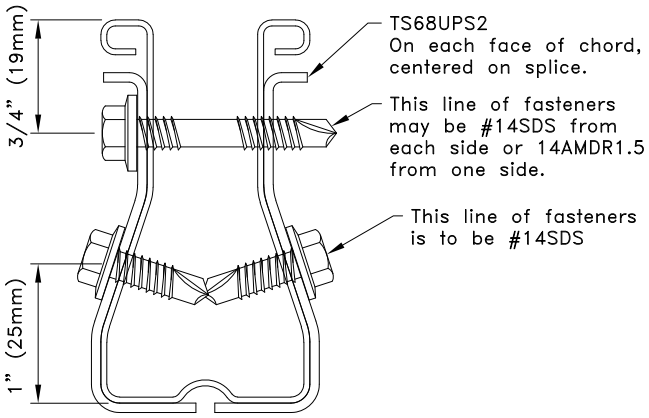
TSC2.75 Splices Using The "Tube Only" Splice

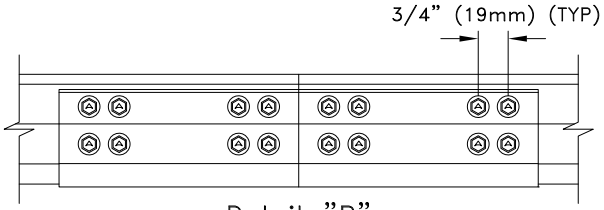
Standard Detail:
TS002A

Date:
06/01/22

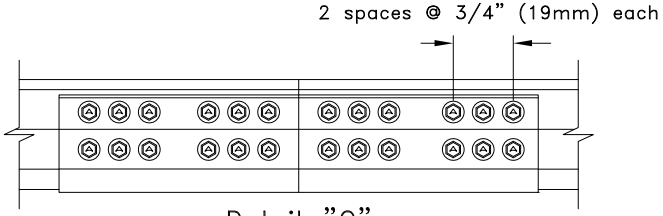
TrusSteel Detail Category:
Chord Splices



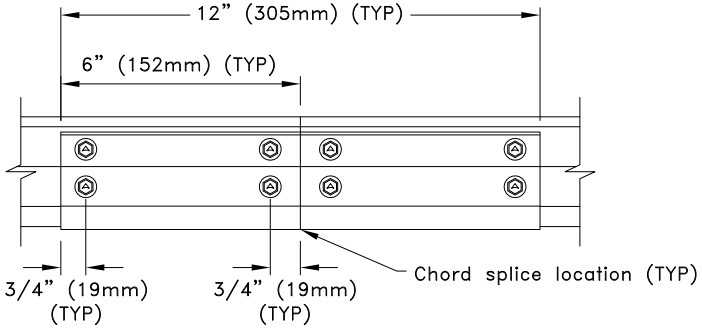
TSC2.75



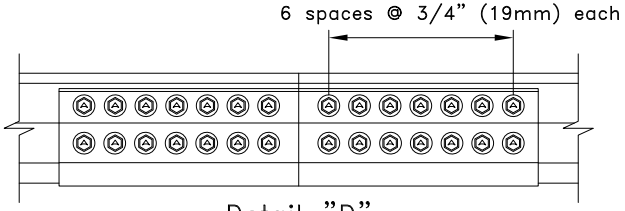
Detail "B"



Detail "C"



Detail "A"



Detail "D"

General Notes:

1. SDS = Self-Drilling Tapping Screw.
2. Fastener spacing and end distance is 3/4" (19mm) minimum.
3. Fasteners may be #14SDS or 14AMDR1.5. Refer to approved truss drawings for fastener type and detail call out.
4. Dimensions are typical for both sides of splice per splice detail.

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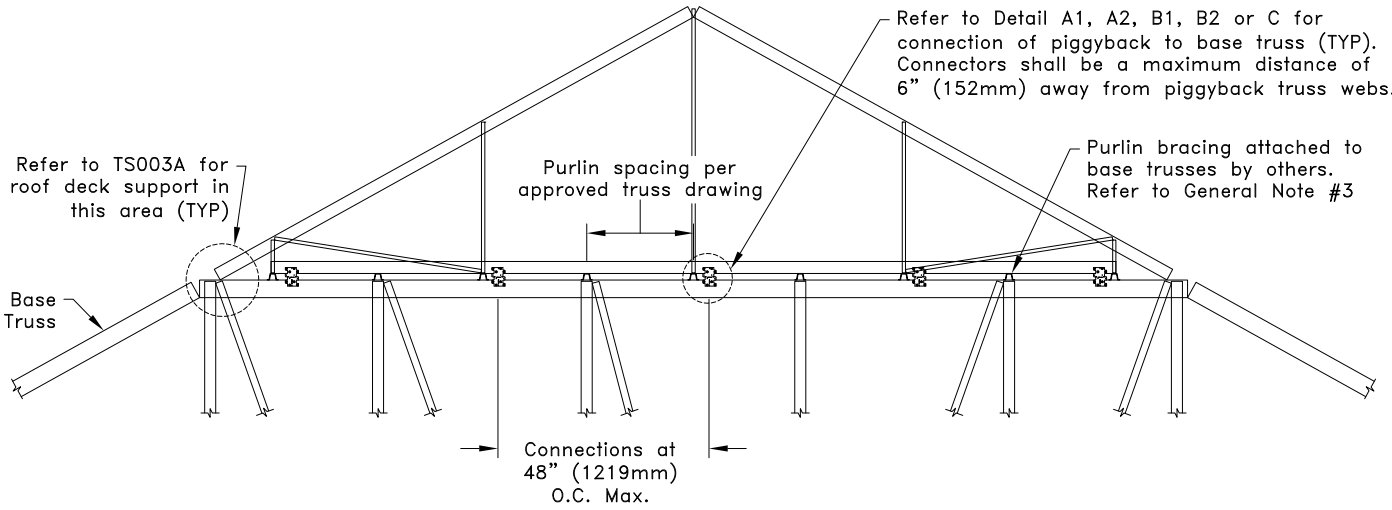
TSC2.75 Splices Using The TS68UPS2 Universal Piece

Standard Detail:
TS002B

Date:
06/01/22

TrusSteel Detail Category:
Chord Splices



General Notes:

1. SDS = Self-Drilling Tapping Screw. Screw spacing, edge distance and end distance for #10SDS is 9/16" (14mm) minimum.
2. X refers to required number of screws at location.
3. Refer to approved bracing design for required bracing material, connections and allowable downward load.
4. Piggyback truss shall be seated directly on top of purlins.
5. Refer to approved truss drawings for piggyback truss designs. Length of bottom chord panels in piggyback trusses shall not exceed 4'-0" (1219mm).
6. Plates shown in Details A2 and B2 shall be made from 20g ASTM A653 SS Grade 33 G60, with a minimum bare metal thickness of 0.0329" (0.84mm).
7. It is permissible to substitute an equal alternative for the Simpson or Alpine hardware specified on this detail.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

NOTICE **Uplifts values given assume that connections do NOT resist any lateral load and trusses are over continuous bearing. Contact a TrusSteel engineer for assistance.**

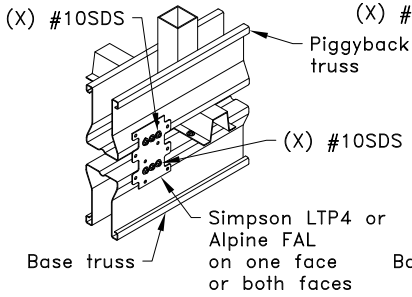
Allowable Uplift lbs (kN) for Details A1 & A2				
X	TSC2.75		TSC3.00 or TSC4.00	
	Clip On One Face	Clip On Both Faces	Clip On One Face	Clip On Both Faces
2	410 (1.82)	820 (3.65)	410 (1.82)	820 (3.65)
3	550 (2.45)	1230 (5.47)	610 (2.71)	1230 (5.47)
4[A]	550 (2.45)	1640 (7.30)	820 (3.65)	1640 (7.30)

A. Only applicable for Detail A2.

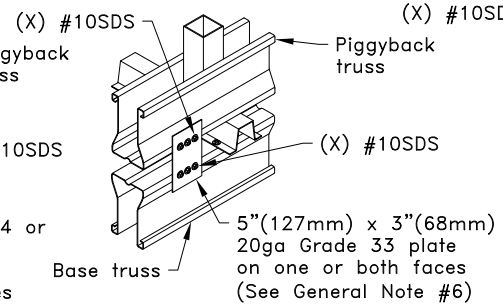
Allowable Uplift lbs (kN) for Details B1 & B2	
X	Clip On One Face
2	410 (1.82)
3	550 (2.45)

Allowable Uplift lbs (kN) for Detail C
820 (3.65)

Detail A1

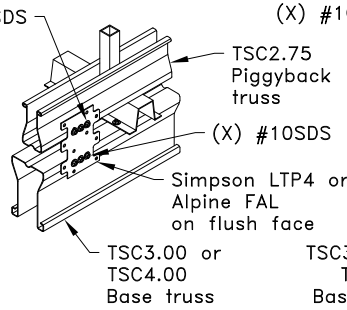


Detail A2

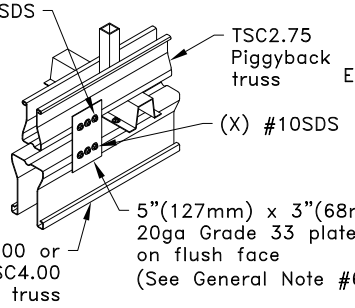


Piggyback and Base Truss Have Same Size Chord

Detail B1

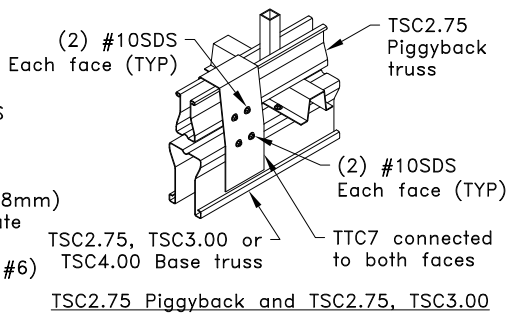


Detail B2



TSC2.75 Piggyback and TSC3.00 or TSC4.00 Base Truss
(Chord faces flush with connector)

Detail C



TSC2.75 Piggyback and TSC2.75, TSC3.00 or TSC4.00 Base Truss
(Piggyback centered over base truss)

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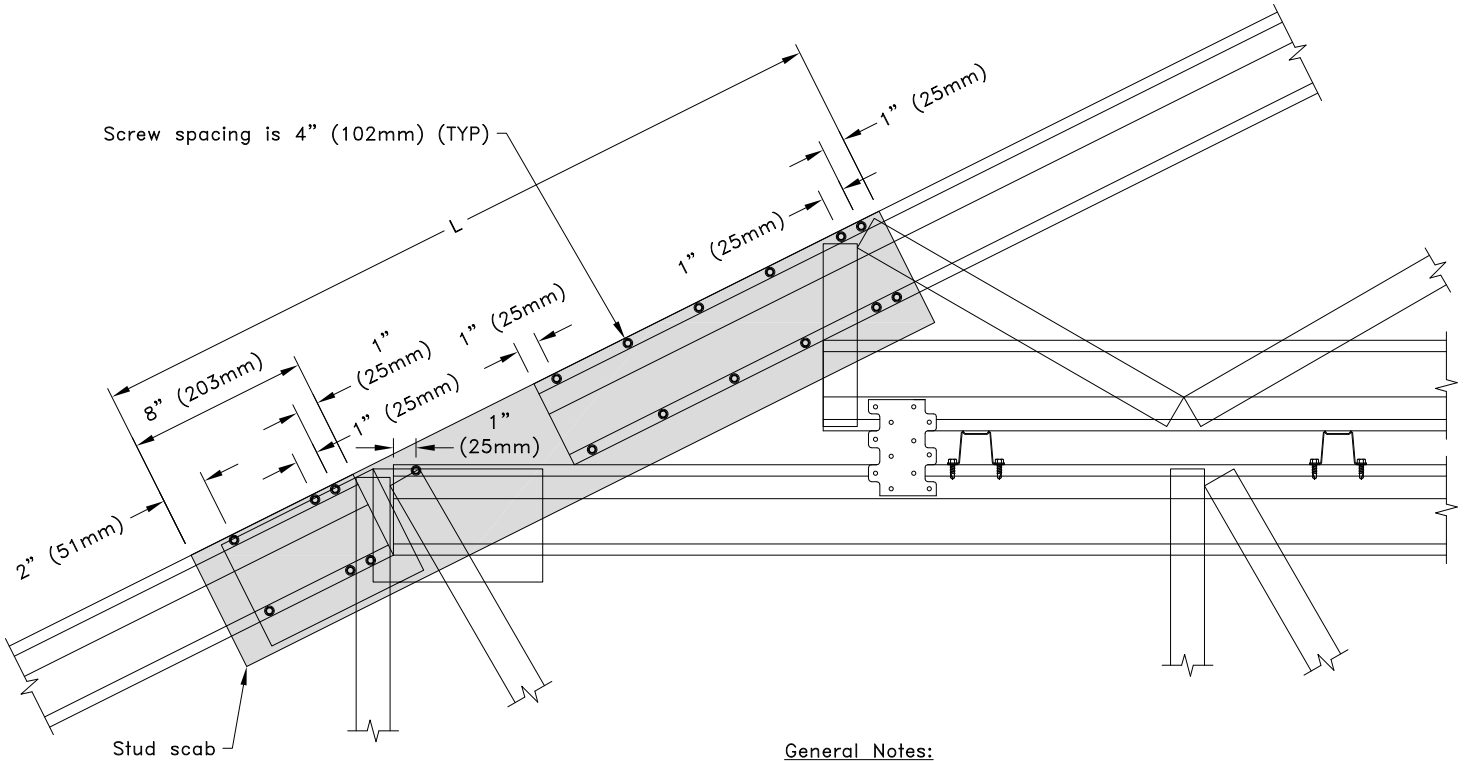
Piggyback Uplift Connection (Piggyback Sits On Purlins)

Standard Detail: TS003

Date: 06/01/22

TrusSteel Detail Category: Piggybacks



Length for Scab		
Pitch	TSC2.75 Piggyback (L) Design in. (mm)	TSC3.00 or TSC4.00 Piggyback (L) Design in. (mm)
3/12 (14.04°)	36 (914)	48 (1219)
4/12 (18.43°)	35 (889)	46 (1168)
5/12 (22.62°)	34 (864)	43 (1092)
6/12 (26.56°)	32 (813)	40 (1016)
7/12 (30.26°)	30 (762)	37 (940)
8/12 (33.69°)	28 (711)	34 (864)
9/12 (36.87°)	26 (660)	31 (787)
10/12 (39.81°)	23 (584)	28 (711)
11/12 (42.51°)	21 (533)	24 (610)
12/12 (45.00°)	18 (457)	21 (533)

General Notes:

1. See detail drawing number TS003 or TS003B and truss design drawing for additional connector requirements.
2. Attach 400S162-33 or 600S162-33 stud to one side of chords as shown. See chart for required stud length (L). No punchouts are allowed in this member.
3. Connect with #10 self-drilling tapping screws as shown.
4. Maximum allowable top chord gravity load for scab is 75 psf (3.59 kN/m^2).
5. Wind load:
   ASCE 7-05, 140 MPH (62 m/s), ASCE 7-10, 180 MPH (80 m/s) or ASCE7-16, 170 MPH (76 m/s), 30' (9144mm) mean height, closed building, Exp C, Category III - IV, K_{zt} = 1.0 and minimum 5 psf (0.24 kN/m^2) top chord dead load to resist wind.
6. Maximum truss spacing is 4'-0" (1219mm) O.C.
7. Piggyback and/or base truss may be either TSC2.75, TSC3.00 or TSC4.00 chord material. See truss design drawings for details.
8. Base truss face and piggyback truss face must be on the same vertical plane to use this detail. See Detail A1, A2, B1 or B2 on TS003 or TS003B.

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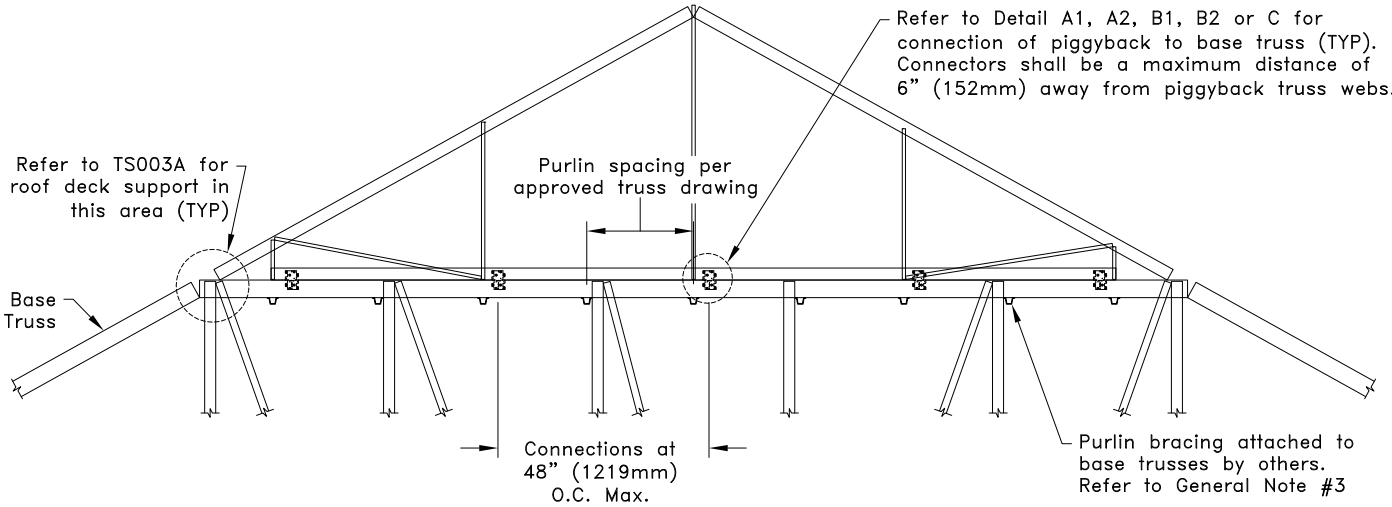
Roof Deck Support On Piggyback Overhangs

Standard Detail:
TS003A

Date:
06/01/22

TrusSteel Detail Category:
Piggybacks



General Notes:

1. SDS = Self-Drilling Tapping Screw. Screw spacing, edge distance and end distance for #10SDS is 9/16" (14mm) minimum.
2. X refers to required number of screws at location.
3. Refer to approved bracing design for required bracing material, connections and allowable downward load.
4. Refer to approved truss drawings for piggyback truss designs. Length of bottom chord panels in piggyback trusses shall not exceed 4'-0" (1219mm).
5. Plates shown in Details A2 and B2 shall be made from 20g ASTM A653 SS Grade 33 G60, with a minimum bare metal thickness of 0.0329" (0.84mm).
6. It is permissible to substitute an equal alternative for the Simpson or Alpine hardware specified on this detail.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

NOTICE **Uplifts values given assume that connections do NOT resist any lateral load and trusses are over continuous bearing. Contact a TrusSteel engineer for assistance.**

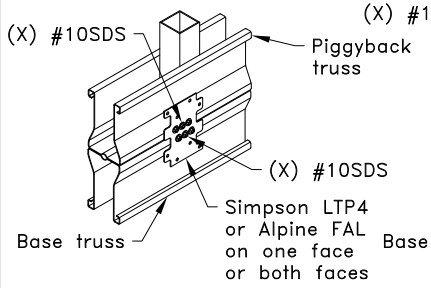
Allowable Uplift lbs (kN) for Details A1 & A2				
X	TSC2.75		TSC3.00 or TSC4.00	
	Clip On One Face	Clip On Both Faces	Clip On One Face	Clip On Both Faces
2	410 (1.82)	820 (3.65)	410 (1.82)	820 (3.65)
3	550 (2.45)	1230 (5.47)	610 (2.71)	1230 (5.47)
4[A]	550 (2.45)	1640 (7.30)	820 (3.65)	1640 (7.30)

A. Only applicable for Detail A2.

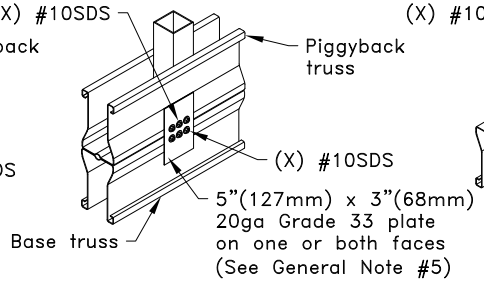
Allowable Uplift lbs (kN) for Details B1 & B2	
X	Clip On One Face
2	410 (1.82)
3	550 (2.45)

Allowable Uplift lbs (kN) for Detail C
820 (3.65)

Detail A1

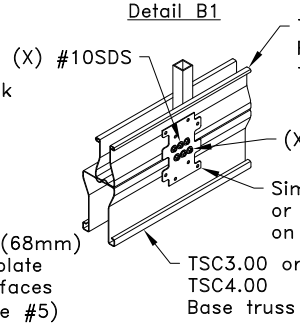


Detail A2

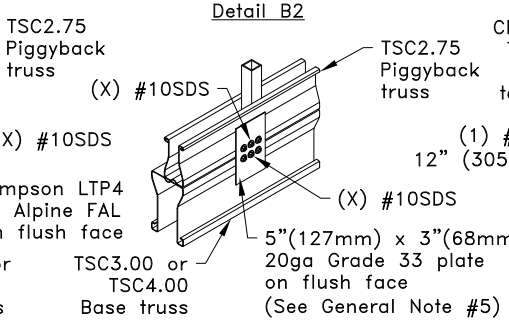


Piggyback and Base Truss Have Same Size Chord

Detail B1

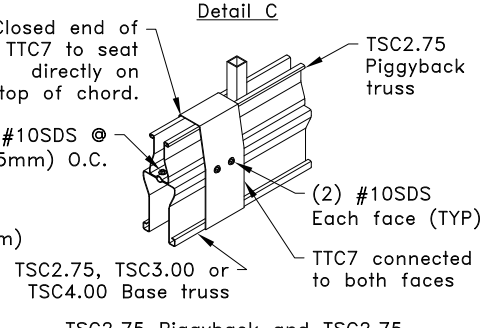


Detail B2



TSC2.75 Piggyback and TSC3.00 or TSC4.00 Base Truss
(Chord faces flush with connector)

Detail C



TSC2.75 Piggyback and TSC2.75, TSC3.00 or TSC4.00 Base Truss
(Piggyback centered over base truss)

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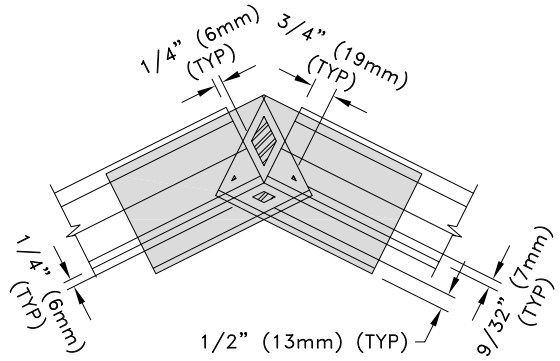
Piggyback Uplift Connection

(Piggyback Sits Directly On Base Truss)

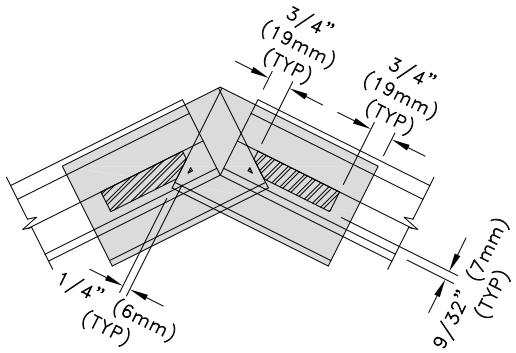
Standard Detail:
TS003B

Date:
06/01/22

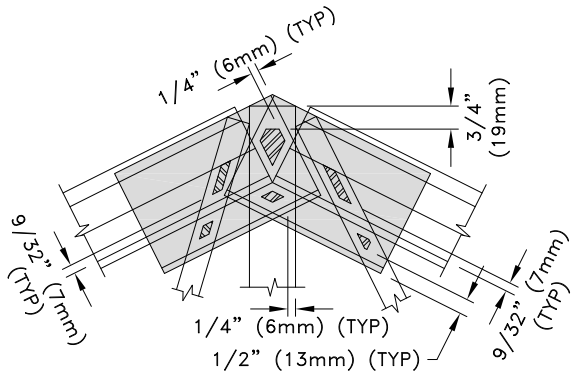
TrusSteel Detail Category:
Piggybacks



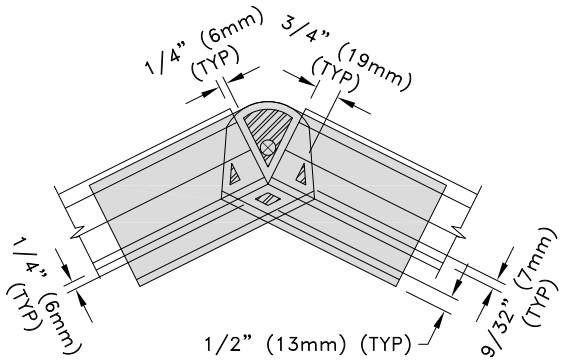
Fasteners Through The Lapped Area
33TSBUC3.5 or 43TSBUC3.5
Bent–U Pitch Break Connector



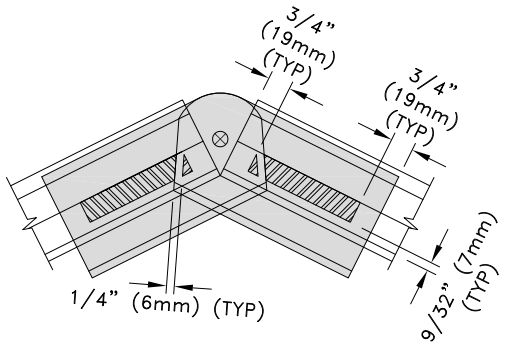
Fasteners Through The Chord Area
33TSBUC3.5 or 43TSBUC3.5
Bent–U Pitch Break Connector



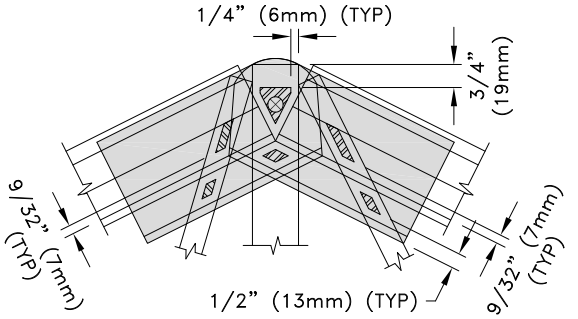
Fasteners Through The Web Area
33TSBUC3.5 or 43TSBUC3.5
Bent–U Pitch Break Connector



Fasteners Through The Lapped Area
33TSHC3.5K or 43TSHC3.5K
Hinged Pitch Break Connector



Fasteners Through The Chord Area
33TSHC3.5K or 43TSHC3.5K
Hinged Pitch Break Connector



Fasteners Through The Web Area
33TSHC3.5K or 43TSHC3.5K
Hinged Pitch Break Connector

General Notes:

1. Fastener spacing and end distance is 3/4" (19mm) minimum, except as shown.
2. Refer to approved truss drawings for required fastener type and quantities for each fastener contact area.
3. Fastener contact areas that coincide with other contact areas may use a common fastener for both areas. This will result in a reduction in the total number of fasteners required at the pitch break joint.
4. = Fastener contact area.

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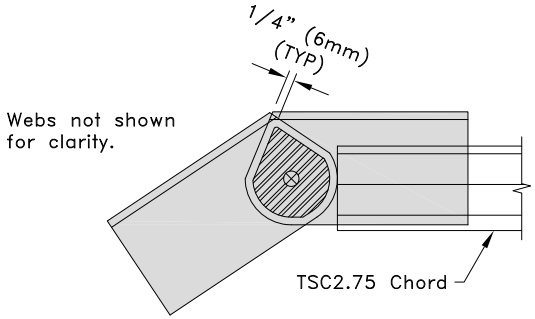
TSC2.75 Pitch Break Connector Fastener Contact Areas

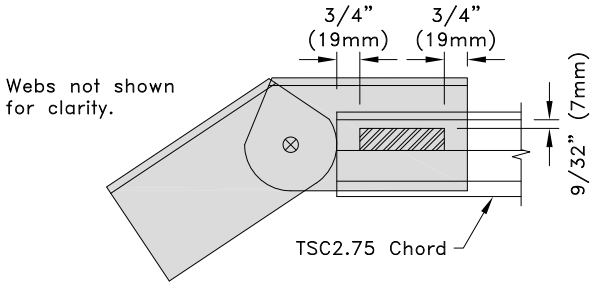
Standard Detail:
TS004

Date:
06/01/22

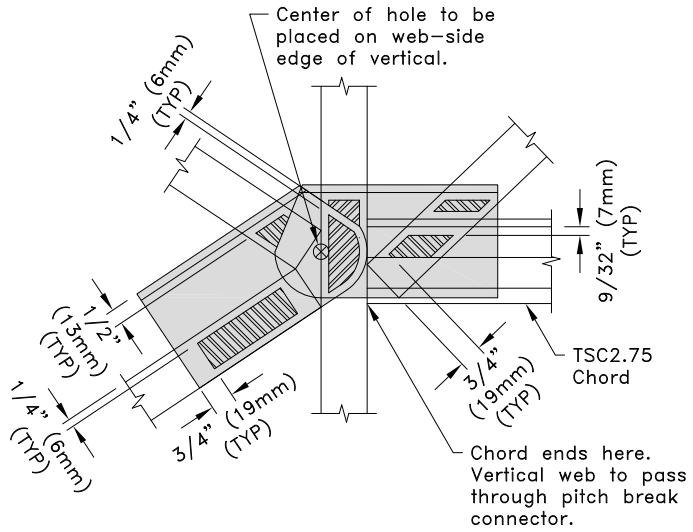
TrusSteel Detail Category:
Pitch Break Connections



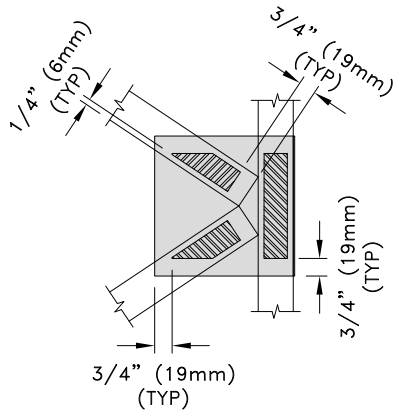
Fasteners Through The Lapped Area
33TSHC3.5K or 43TSHC3.5K
Hinged Pitch Break Connector



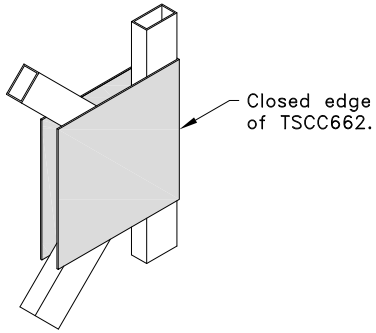
Fasteners Through The Chord Area
33TSHC3.5K or 43TSHC3.5K
Hinged Pitch Break Connector



Fasteners Through The Web Areas
33TSHC3.5K or 43TSHC3.5K
Hinged Pitch Break Connector



Fasteners Through The Web Areas
TSCC662 Clip Used In Web-To-Web
K-Web Connection



3D View Of TSCC662 With Webs
TSCC662 Clip Used In Web-To-Web
K-Web Connection

General Notes:

1. Fastener spacing and end distance is 3/4" (19mm) minimum, except as shown.
2. Refer to approved truss drawings for required fastener type and quantities for each fastener contact area.
3. Fastener contact areas that coincide with other contact areas may use a common fastener for both areas. This will result in a reduction in the total number of fasteners required at the pitch break joint.
4. = Fastener contact area.

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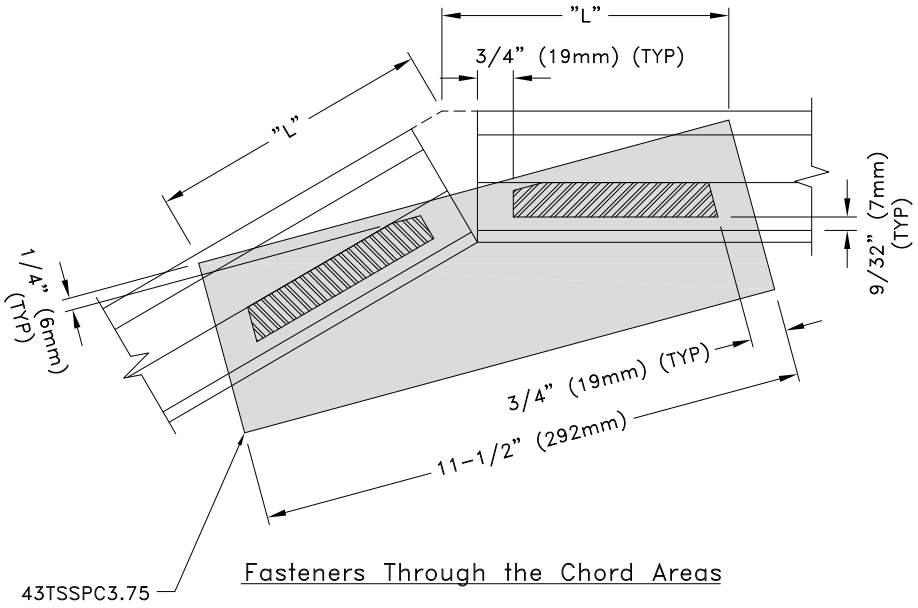
TSC2.75 K-Web Connector Fastener Areas

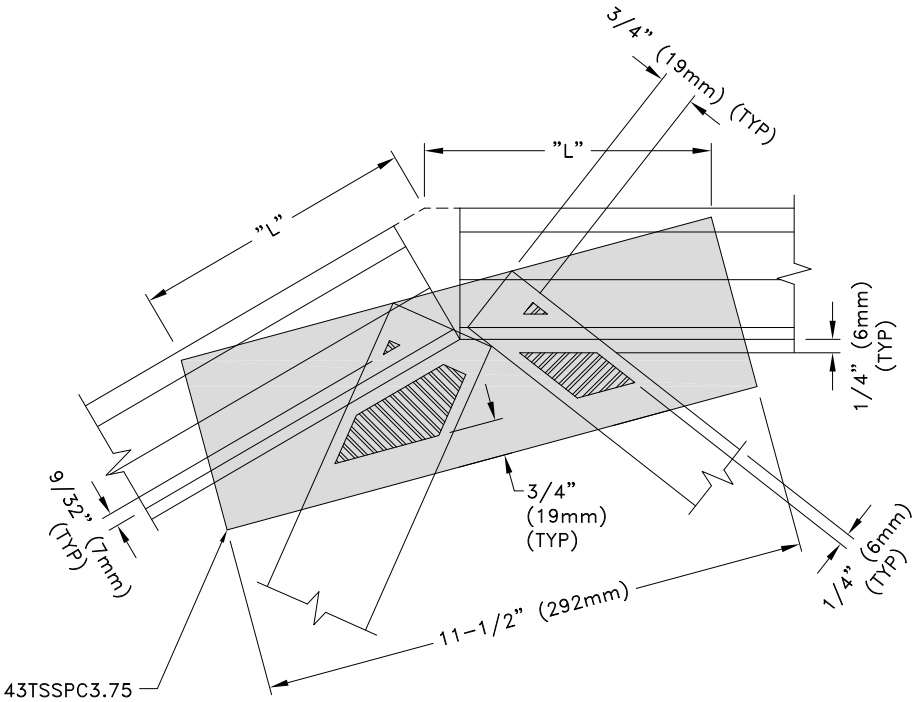
Standard Detail: TS004A

Date: 06/01/22

TrusSteel Detail Category: Pitch Break Connections



Fasteners Through the Chord Areas



Fasteners Through the Web Areas

General Notes:

1. Fastener spacing and end distance is 3/4" (19mm) minimum, except as shown.
2. Refer to approved truss drawings for required fastener type and quantities for each fastener contact area.
3. Fastener contact areas that coincide with other contact areas may use a common fastener for both areas. This will result in a reduction in the total number of fasteners required at the pitch break joint.
4. Lengths "L" are equal.
5. = Fastener contact area.

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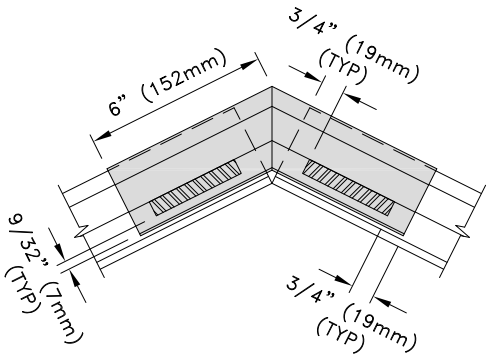
TSC2.75 Straight Pitch Break Connector Fastener Area

Standard Detail:
TS004B

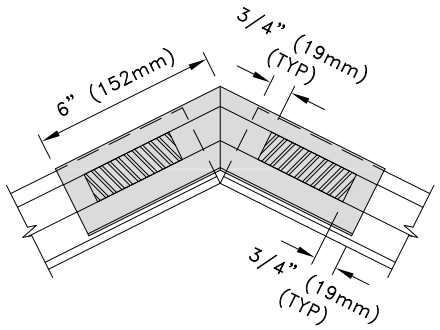
Date:
06/01/22

TrusSteel Detail Category:
Pitch Break Connections

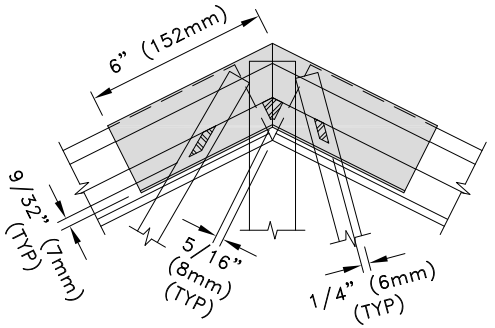
TOP CHORD PITCH BREAKS



Fasteners Through The Flat Chord Area

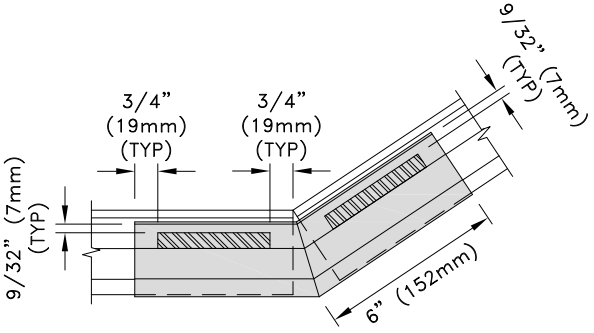


Fasteners Through The Slanted Chord Area

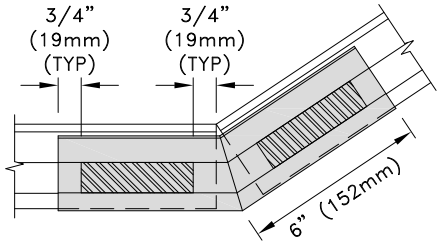


Fasteners Through The Web Area

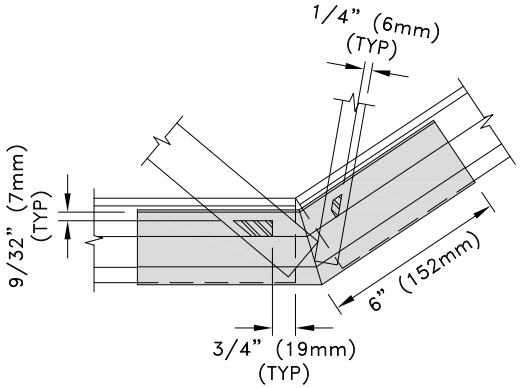
BOTTOM CHORD PITCH BREAKS



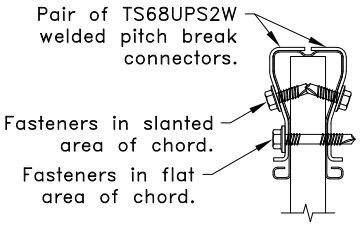
Fasteners Through The Flat Chord Area



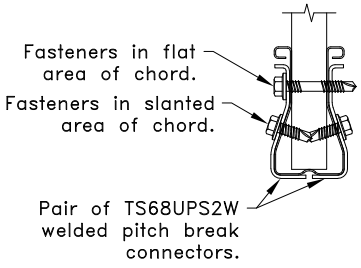
Fasteners Through The Slanted Chord Area



Fasteners Through The Web Area



Section View
Top Chord Pitch Break



Section View
Bottom Chord Pitch Break

General Notes:

1. Fastener spacing and end distance is 3/4" (19mm) minimum, except as shown.
2. Refer to approved truss drawings for required fastener type and quantities for each fastener contact area.
3. Fastener contact areas that coincide with other contact areas may use a common fastener for both areas. This will result in a reduction in the total number of fasteners required at the pitch break joint.
4. = Fastener contact area.

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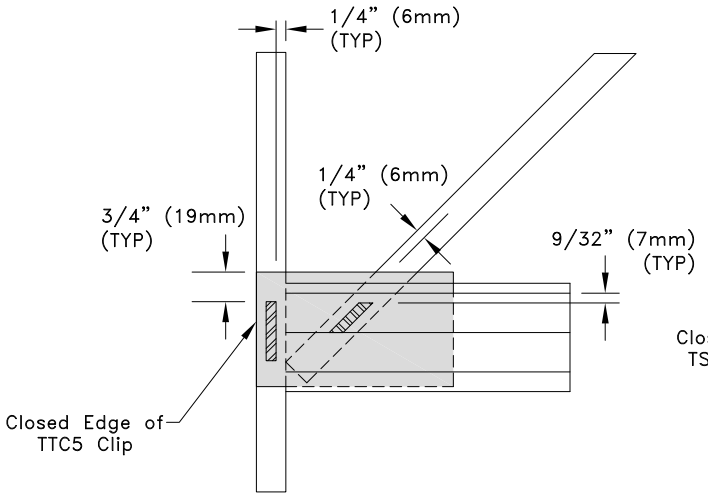
TSC2.75
Welded Pitch Break Connector Fastener Areas

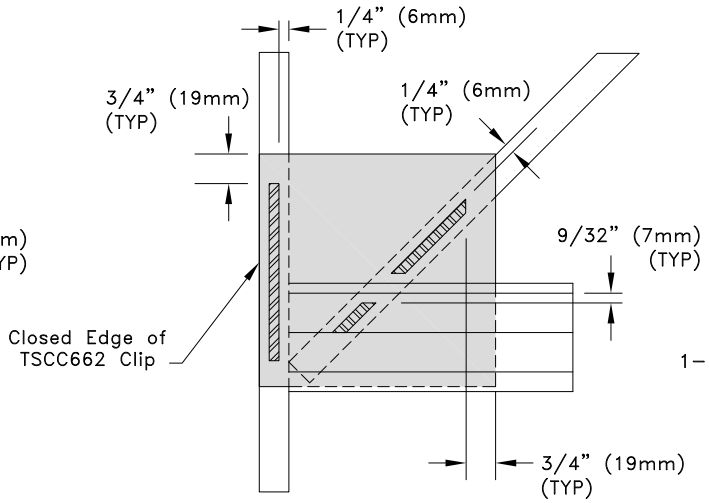
Standard Detail:
TS004C

Date:
06/01/22

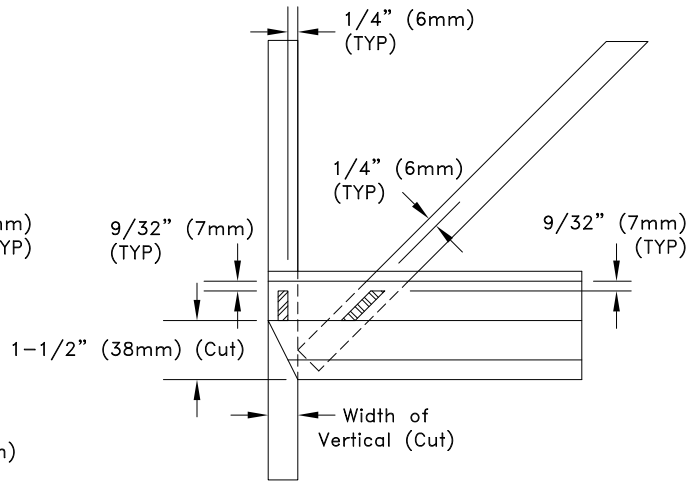
TrusSteel Detail Category:
Pitch Break Connections



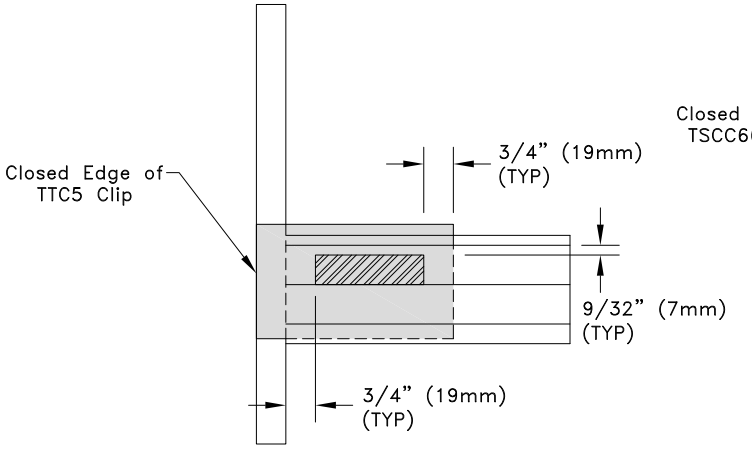
Fasteners Through The Web Area
TTC5 Clip



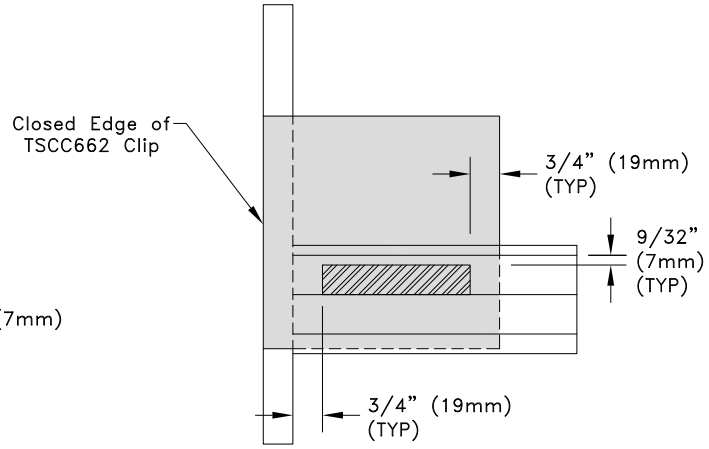
Fasteners Through The Web Area
TSCC662 Clip



Fasteners Through The Web Area
Coped Chord



Fasteners Through The Chord Area
TTC5 Clip



Fasteners Through The Chord Area
TSCC662 Clip

General Notes:

1. Fastener spacing and end distance is 3/4" (19mm) minimum, except as shown.
2. Refer to approved truss drawings for required fastener type and quantities for each fastener contact area.
3. Fastener contact areas that coincide with other contact areas may use a common fastener for both areas. This will result in a reduction in the total number of fasteners required at the pitch break joint.
4. = Fastener contact area.
5. Dashed lines indicate portion of web or clip that is inside clip or chord, respectively.

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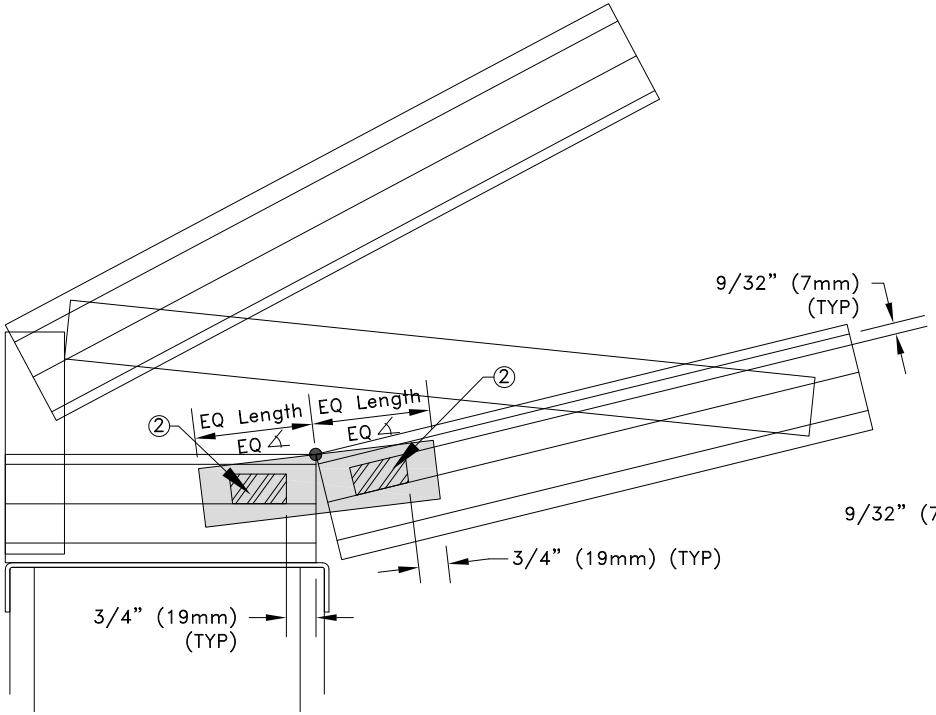
TSC2.75 Clipped and Coped Connection Fastener Areas

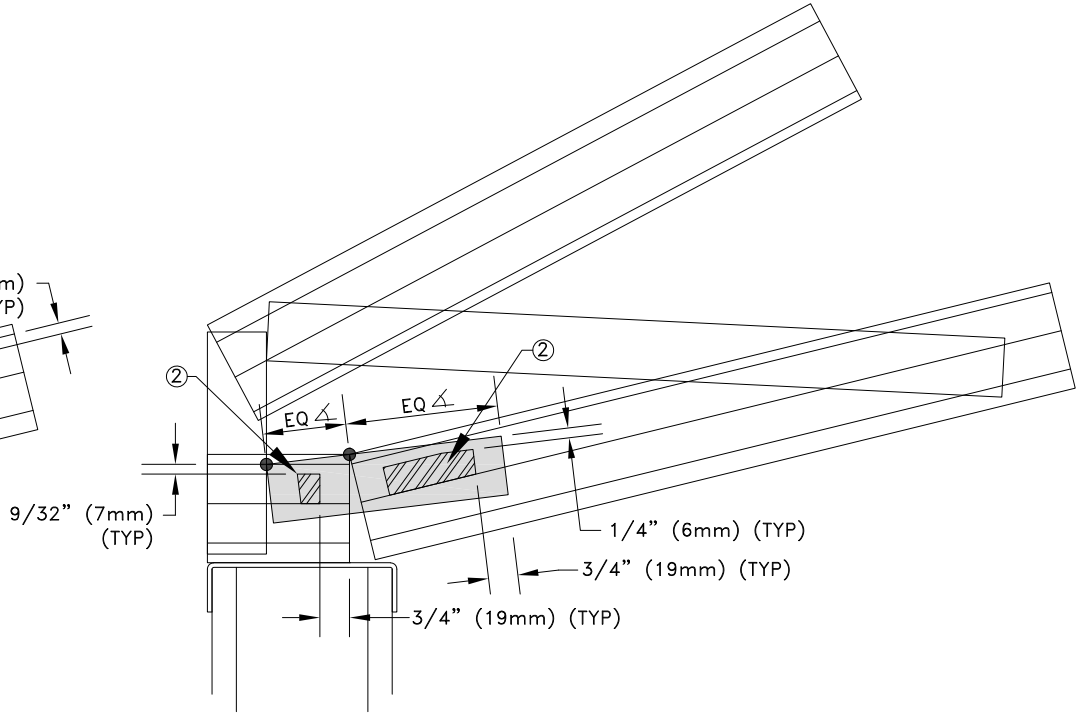
Standard Detail:
TS004D

Date:
06/01/22

TrusSteel Detail Category:
Pitch Break Connections



Fasteners Through The Web Area
Centered Seat Cut Tube and Fastener Placement
Tube Size: 33W.75x1.5x6"(152mm)



Fasteners Through The Web Area
Off-Center Seat Cut Tube and Fastener Placement
Tube Size: 33W.75x1.5x6"(152mm)

General Notes:

1. Circled number represents minimum number of fasteners. Refer to approved truss drawings for fastener size.
2. Fastener spacing is 1-1/4" (32mm) and end distance is 3/4" (19mm) minimum, except as shown.
3. ▨ = Fastener contact area.
4. ● = Contact point between Seat Cut Tube and Chord/Web.
5. ∠ = Angle between top of bottom chord and top of Seat Cut Tube.

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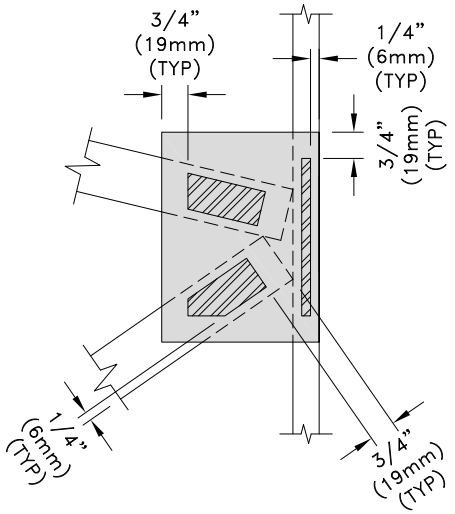
TSC2.75
Seat Cut Tube Pitch Break Connector

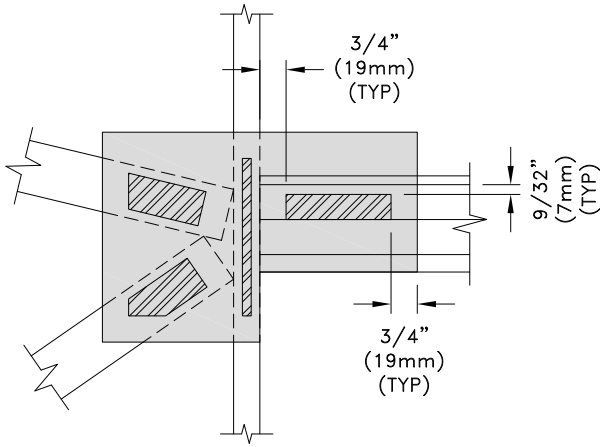
Standard Detail:
TS004E

Date:
06/01/22

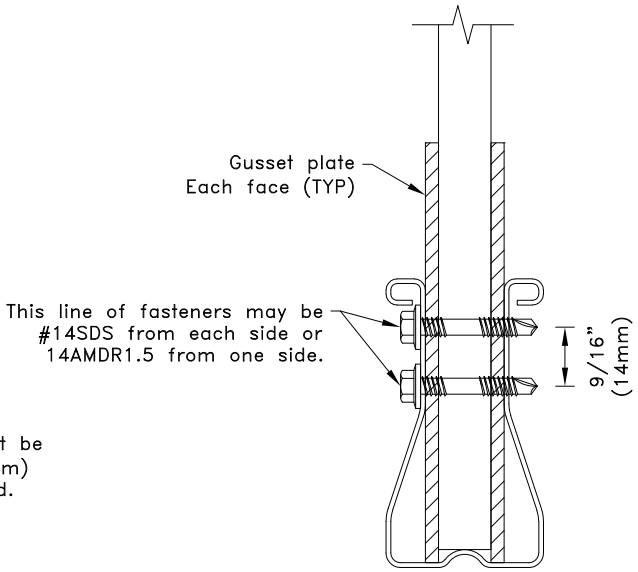
TrusSteel Detail Category:
Pitch Break Connections



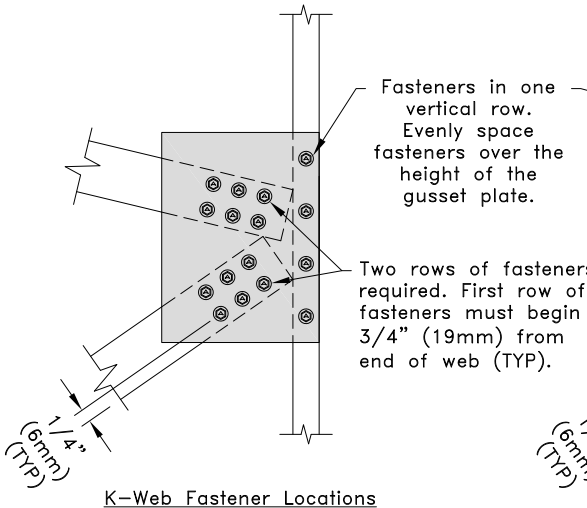
K–Web Fastener Area
Without Chord



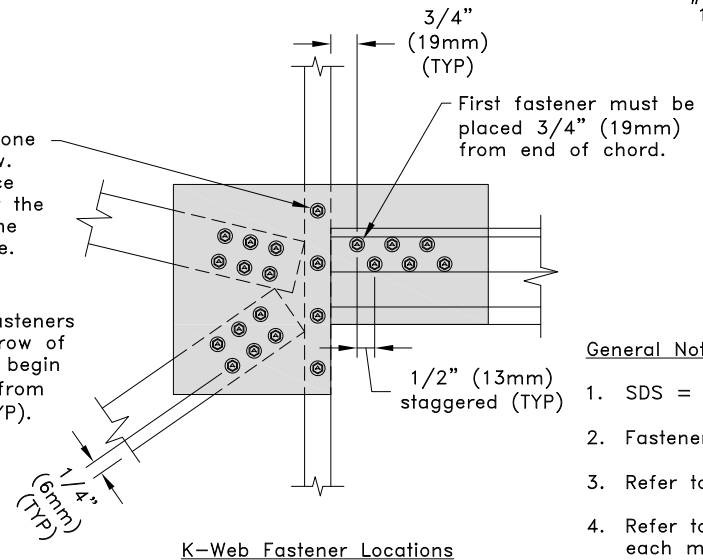
K–Web Fastener Area
With Chord



TSC2.75 Section



K–Web Fastener Locations
Without Chord



K–Web Fastener Locations
With Chord

General Notes:

1. SDS = Self–Drilling Tapping Screw.
2. Fastener spacing and end distance is 3/4" (19mm) minimum except as shown.
3. Refer to approved truss drawing for gusset size, gauge and grade.
4. Refer to approved truss drawings for required fastener type and quantities for each member connected to gusset plate.
5. If K–Web diagonals are 3/4" (19mm) wide, one row of fasteners is adequate.
6. = Fastener contact area.

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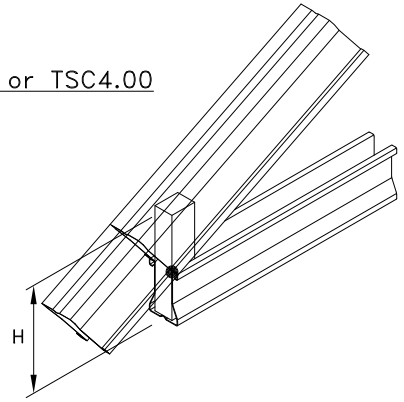
TSC2.75 Gusset Plate Fastener Placement

Standard Detail:
TS004F

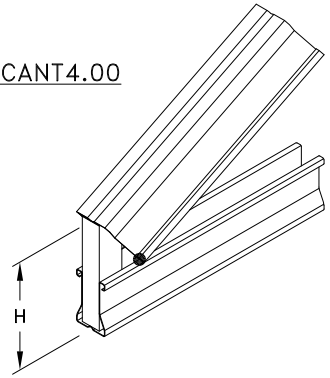
Date:
06/01/22

TrusSteel Detail Category:
Pitch Break Connections

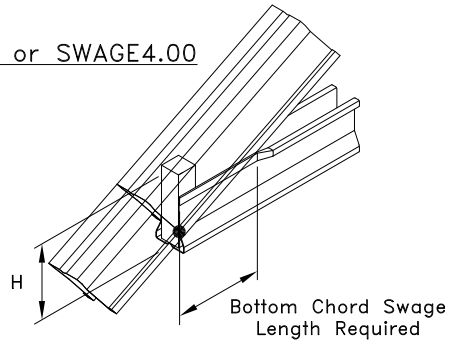
TSC2.75 or TSC4.00



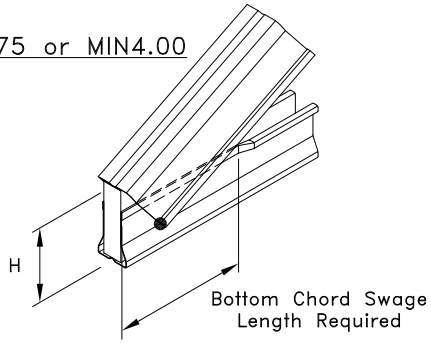
CANT2.75 or CANT4.00



SWAGE2.75 or SWAGE4.00



MIN2.75 or MIN4.00



Heel Height "H" for TSC2.75				
Pitch	TSC2.75	CANT2.75	SWAGE2.75	MIN2.75
2/12 (9.46°)	5-9/16" (141mm)	5-7/16" (138mm)	4-5/16" (110mm)	4-3/16" (106mm)
3/12 (14.04°)	5-9/16" (141mm)	5-7/16" (138mm)	4-5/16" (110mm)	4-3/16" (106mm)
4/12 (18.43°)	5-5/8" (143mm)	5-3/8" (137mm)	4-3/8" (111mm)	4-1/8" (105mm)
5/12 (22.62°)	5-3/4" (146mm)	5-5/16" (135mm)	4-1/2" (114mm)	4-1/16" (103mm)
6/12 (26.56°)	5-13/16" (148mm)	5-3/16" (132mm)	4-9/16" (116mm)	3-15/16" (100mm)
7/12 (30.26°)	5-15/16" (151mm)	5-1/8" (130mm)	4-11/16" (119mm)	3-7/8" (98mm)
8/12 (33.69°)	6-1/16" (154mm)	5-1/16" (129mm)	4-13/16" (122mm)	3-13/16" (97mm)
9/12 (36.87°)	6-3/16" (157mm)	4-15/16" (125mm)	4-15/16" (125mm)	3-11/16" (94mm)
10/12 (39.81°)	6-5/16" (160mm)	4-7/8" (124mm)	5-1/16" (129mm)	3-5/8" (92mm)
11/12 (42.51°)	6-1/2" (165mm)	4-3/4" (121mm)	5-1/4" (133mm)	3-1/2" (89mm)
12/12 (45°)	6-5/8" (168mm)	4-11/16" (119mm)	5-3/8" (137mm)	3-7/16" (87mm)

Heel Height "H" for TSC3.00 or TSC4.00				
Pitch	TSC4.00	CANT4.00	SWAGE4.00	MIN4.00
2/12 (9.46°)	8-1/16" (205mm)	7-15/16" (202mm)	6-3/4" (171mm)[A]	6-3/4" (171mm)[A]
3/12 (14.04°)	8-1/8" (206mm)	7-7/8" (200mm)	6-1/8" (156mm)[A]	6-1/8" (156mm)[A]
4/12 (18.43°)	8-3/16" (208mm)	7-13/16" (198mm)	5-11/16" (144mm)	5-9/16" (141mm)[A]
5/12 (22.62°)	8-5/16" (211mm)	7-11/16" (195mm)	5-13/16" (148mm)	5-3/16" (132mm)
6/12 (26.56°)	8-1/2" (216mm)	7-9/16" (192mm)	6" (152mm)	5-1/16" (129mm)
7/12 (30.26°)	8-5/8" (219mm)	7-7/16" (189mm)	6-1/8" (156mm)	4-15/16" (125mm)
8/12 (33.69°)	8-13/16" (224mm)	7-5/16" (186mm)	6-5/16" (160mm)	4-13/16" (122mm)
9/12 (36.87°)	9" (229mm)	7-3/16" (183mm)	6-1/2" (165mm)	4-11/16" (119mm)
10/12 (39.81°)	9-3/16" (233mm)	7-1/16" (179mm)	6-11/16" (170mm)	4-9/16" (116mm)
11/12 (42.51°)	9-7/16" (240mm)	6-15/16" (176mm)	6-15/16" (176mm)	4-7/16" (113mm)
12/12 (45°)	9-11/16" (246mm)	6-13/16" (173mm)	7-3/16" (183mm)	4-5/16" (110mm)

A. Heel heights that are affected by the 8" (203mm) maximum swage length.

General Notes:

1. Heel names given are as they appear in TrusSteel View.
2. ● = Intersection of the truss top chord and bottom chord.
3. Bottom chord swage length not to exceed 8" (203mm).

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TSC2.75, TSC3.00 And TSC4.00 Standard Heel Height Detail

Standard Detail: TS006

Date: 06/01/22

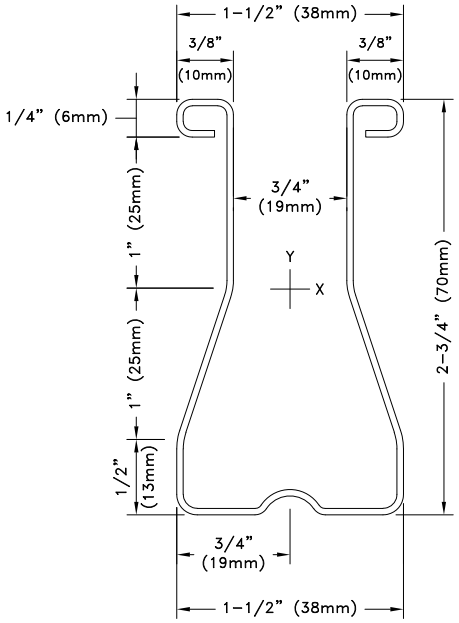
TrusSteel Detail Category: Heels

IMPERIAL CHORD VALUES

SECTION NAME	GAUGE	DESIGN THICKNESS (in)	F_y (ksi)	F_u (ksi)	FULL SECTION PROPERTIES					FULLY BRACED ALLOWABLES			WEIGHT (lbs./ft.)
					A_g (in^2)	I_x (in^4)	S_x (in^3)	I_y (in^4)	S_y (in^3)	T_a (lbs.)	P_a (lbs.)	Ma_x (in-lbs.)	
28TSC2.75	22	0.0299	55	65	0.2510	0.2450	0.1754	0.0709	0.0943	8,158	7,381	5,776	0.85
33TSC2.75	20	0.0346	55	65	0.2888	0.2803	0.2002	0.0813	0.1081	9,386	8,734	6,594	0.98
43TSC2.75	18	0.0451	55	65	0.3716	0.3562	0.2532	0.1040	0.1382	12,077	11,354	8,337	1.26

METRIC CHORD VALUES

SECTION NAME	GAUGE	DESIGN THICKNESS (mm)	F_y (MPa)	F_u (MPa)	FULL SECTION PROPERTIES					FULLY BRACED ALLOWABLES			WEIGHT (kN/m)
					A_g (mm^2)	I_x (mm^4)	S_x (mm^3)	I_y (mm^4)	S_y (mm^3)	T_a (kN)	P_a (kN)	Ma_x (kN-mm)	
28TSC2.75	22	0.7595	379	448	162	101,977	2,874	29,511	1,545	36.29	32.83	653	0.012
33TSC2.75	20	0.8788	379	448	186	116,670	3,281	33,840	1,771	41.75	38.85	745	0.014
43TSC2.75	18	1.1455	379	448	240	148,262	4,149	43,288	2,265	53.72	50.51	942	0.018



TSC2.75 Chord Section

General Notes:

1. All steel is ASTM A653 steel with G90 minimum galvanization. Bare metal thickness is 95% of design thickness.
2. S_x and Ma_x are for positive bending causing compression at the closed end of the section.
3. Ta = Allowable Tension, Pa = Allowable Compression, Ma_x = Allowable Moment
4. The allowable values given in this table do not reflect any strength increase due to cold work of forming.
5. Properties determined according to the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC2.75 Chord Properties

Standard Detail: TS007

Date: 06/01/22

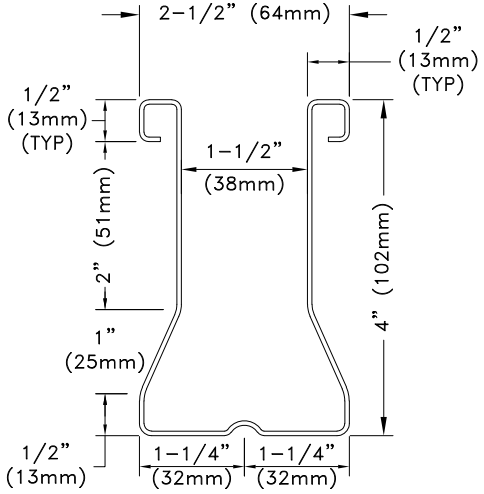
TrusSteel Detail Category: Member Section Properties

IMPERIAL CHORD VALUES

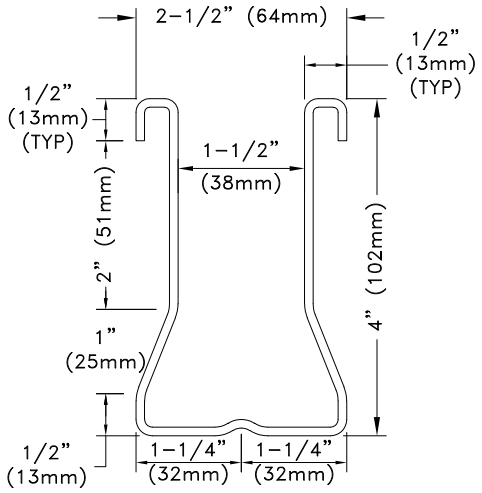
SECTION NAME	GAUGE	DESIGN THICKNESS (in)	F_y (ksi)	F_u (ksi)	FULL SECTION PROPERTIES					FULLY BRACED ALLOWABLES			WEIGHT (lbs./ft.)
					A_g (in^2)	I_x (in^4)	S_x (in^3)	I_y (in^4)	S_y (in^3)	T_a (lbs.)	P_a (lbs.)	Ma_x (in-lbs.)	
28TSC4.00	22	0.0299	55	65	0.3808	0.8080	0.3868	0.3138	0.2506	12,375	8,586	11,284	1.29
33TSC4.00	20	0.0346	55	65	0.4389	0.9282	0.4431	0.3616	0.2887	14,266	10,368	13,299	1.49
43TSC4.00	18	0.0451	55	65	0.5673	1.1900	0.5671	0.4649	0.3716	18,437	14,495	17,879	1.93
54TSC4.00	16	0.0566	55	65	0.7052	1.4660	0.6962	0.5740	0.4597	22,918	19,286	22,240	2.40
68TSC4.00	14	0.0713	50	65	0.8557	1.7450	0.8116	0.6920	0.5531	25,621	22,871	23,839	2.91
97TSC4.00	12	0.1017	50	65	1.1957	2.3780	1.1006	0.9630	0.7704	35,798	33,213	32,952	4.07

METRIC CHORD VALUES

SECTION NAME	GAUGE	DESIGN THICKNESS (mm)	F_y (MPa)	F_u (MPa)	FULL SECTION PROPERTIES					FULLY BRACED ALLOWABLES			WEIGHT (kN/m)
					A_g (mm^2)	I_x (mm^4)	S_x (mm^3)	I_y (mm^4)	S_y (mm^3)	T_a (kN)	P_a (kN)	Ma_x (kN-mm)	
28TSC4.00	22	0.7595	379	448	246	336,314	6,339	130,613	4,107	55.05	38.19	1,275	0.018
33TSC4.00	20	0.8788	379	448	283	386,346	7,273	150,509	4,731	63.46	46.12	1,503	0.022
43TSC4.00	18	1.1455	379	448	366	495,315	9,293	193,506	6,089	82.01	64.48	2,020	0.028
54TSC4.00	16	1.4376	379	448	455	610,195	11,409	238,917	7,533	101.94	85.79	2,513	0.035
68TSC4.00	14	1.8110	345	448	552	726,324	13,300	288,032	9,064	113.97	101.74	2,693	0.042
97TSC4.00	12	2.5832	345	448	771	989,798	18,036	400,831	12,625	159.24	147.74	3,723	0.059



28 to 54TSC4.00 Chord Section



68 and 97TSC4.00 Chord Section

General Notes:

1. All steel is ASTM A653 steel with G90 minimum galvanization. Bare metal thickness is 95% of design thickness.
2. S_x and Ma_x are for positive bending causing compression at the closed end of the section.
3. Ta = Allowable Tension, Pa = Allowable Compression, Ma_x = Allowable Moment
4. The allowable values given in this table do not reflect any strength increase due to cold work of forming.
5. Properties determined according to the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC4.00 Chord Properties

Standard Detail: TS008

Date: 06/01/22

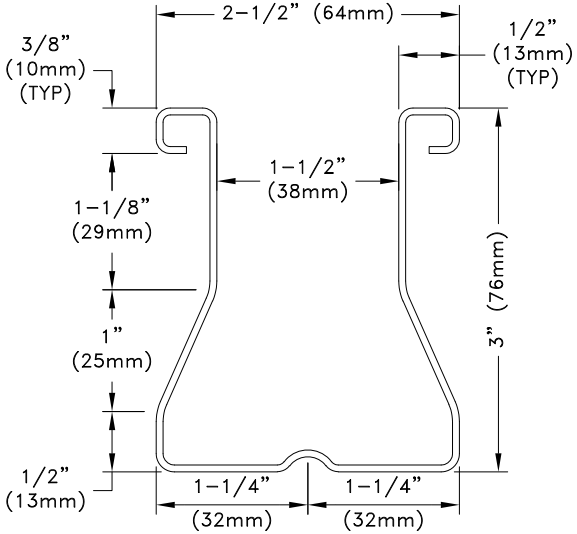
TrusSteel Detail Category: Member Section Properties

IMPERIAL CHORD VALUES

SECTION NAME	GAUGE	DESIGN THICKNESS (in)	F_y (ksi)	F_u (ksi)	FULL SECTION PROPERTIES					FULLY BRACED ALLOWABLES			WEIGHT (lbs./ft.)
					A_g (in^2)	I_x (in^4)	S_x (in^3)	I_y (in^4)	S_y (in^3)	T_a (lbs.)	P_a (lbs.)	Ma_x (in–lbs.)	
28TSC3.00	22	0.0299	55	65	0.3135	0.3914	0.2437	0.2672	0.2134	10,188	8,135	7,267	1.07
33TSC3.00	20	0.0346	55	65	0.3611	0.4489	0.2791	0.3074	0.2453	11,736	9,757	8,589	1.23
43TSC3.00	18	0.0451	55	65	0.4658	0.5733	0.3550	0.3938	0.3148	15,139	13,351	11,204	1.58
54TSC3.00	16	0.0566	55	65	0.5778	0.7031	0.4335	0.4848	0.3880	18,779	16,811	13,874	1.96

METRIC CHORD VALUES

SECTION NAME	GAUGE	DESIGN THICKNESS (mm)	F_y (MPa)	F_u (MPa)	FULL SECTION PROPERTIES					FULLY BRACED ALLOWABLES			WEIGHT (kN/m)
					A_g (mm^2)	I_x (mm^4)	S_x (mm^3)	I_y (mm^4)	S_y (mm^3)	T_a (kN)	P_a (kN)	Ma_x (kN–mm)	
28TSC3.00	22	0.7595	379	448	202	162,913	3,994	111,217	3,497	45	36	821	0.016
33TSC3.00	20	0.8788	379	448	233	186,846	4,574	127,950	4,020	52	43	970	0.018
43TSC3.00	18	1.1455	379	448	301	238,625	5,817	163,912	5,159	67	59	1,266	0.023
54TSC3.00	16	1.4376	379	448	373	292,652	7,104	201,789	6,358	84	75	1,568	0.029



28 to 54TSC3.00 Chord Section

General Notes:

1. All steel is ASTM A653 steel with G90 minimum galvanization. Bare metal thickness is 95% of design thickness.
2. S_x and Ma_x are for positive bending causing compression at the closed end of the section.
3. Ta = Allowable Tension, Pa = Allowable Compression, Ma_x = Allowable Moment
4. The allowable values given in this table do not reflect any strength increase due to cold work of forming.
5. Properties determined according to the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold–Formed Steel Structural Members" (S100–16/S2–20).

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TSC3.00 Chord Properties

Standard Detail: TS008A

Date: 06/01/22

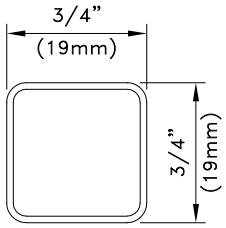
TrusSteel Detail Category: Member Section Properties

IMPERIAL WEB VALUES

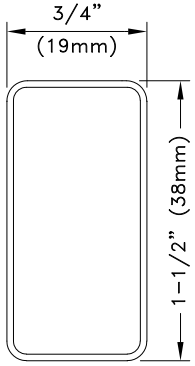
SECTION NAME	GAUGE	DESIGN THICKNESS (in)	F_y (ksi)	F_u (ksi)	FULL SECTION PROPERTIES					FULLY BRACED ALLOWABLES			WEIGHT (lbs./ft.)
					A_g (in^2)	I_x (in^4)	S_x (in^3)	I_y (in^4)	S_y (in^3)	T_a (lbs.)	P_a (lbs.)	Ma_x (in–lbs.)	
33W.75x.75	20	0.0350	45	55	0.0948	0.0078	0.0208	0.0078	0.0208	2,556	2,371	562	0.322
33W.75x1.5	20	0.0350	45	55	0.1473	0.0423	0.0564	0.0145	0.0388	3,970	3,541	1,519	0.501
33W.75x2.25	20	0.0350	45	55	0.1998	0.1182	0.1051	0.0213	0.0567	5,385	3,860	2,831	0.679

METRIC WEB VALUES

SECTION NAME	GAUGE	DESIGN THICKNESS (mm)	F_y (MPa)	F_u (MPa)	FULL SECTION PROPERTIES					FULLY BRACED ALLOWABLES			WEIGHT (kN/m)
					A_g (mm^2)	I_x (mm^4)	S_x (mm^3)	I_y (mm^4)	S_y (mm^3)	T_a (kN)	P_a (kN)	Ma_x (kN–mm)	
33W.75x.75	20	0.8890	310	379	61	3,247	341	3,247	341	11.37	10.55	63.5	0.005
33W.75x1.5	20	0.8890	310	379	95	17,607	924	6,035	636	17.66	15.75	171.6	0.007
33W.75x2.25	20	0.8890	310	379	129	49,199	1722	8,866	929	23.95	17.17	319.9	0.010



W.75x.75



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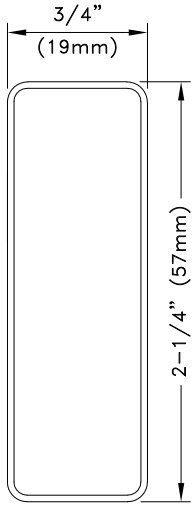

W.75x2.25

General Notes:

1. All tubes to conform to ASTM A500 with G90 minimum galvanization or equal. Bare metal thickness is 95% of design thickness.
2. Ta = Allowable Tension, Pa = Allowable Compression, Ma_x = Allowable Moment
3. The allowable values given in this table do not reflect any strength increase due to cold work of forming.
4. Properties determined according to the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC2.75 Tube Web Properties

Standard Detail: TS009

Date: 06/01/22

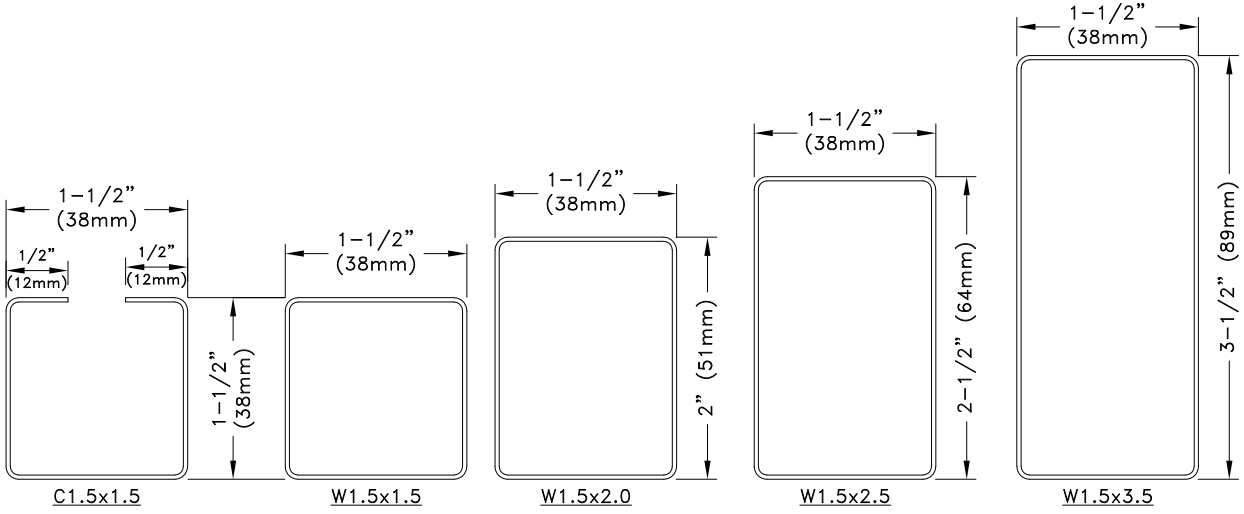
TrusSteel Detail Category: Member Section Properties

IMPERIAL WEB VALUES

SECTION NAME	GAUGE	DESIGN THICKNESS (in)	F_y (ksi)	F_u (ksi)	FULL SECTION PROPERTIES					FULLY BRACED ALLOWABLES			WEIGHT (lbs./ft.)
					A_g (in^2)	I_x (in^4)	S_x (in^3)	I_y (in^4)	S_y (in^3)	T_a (lbs.)	P_a (lbs.)	Ma_x (in–lbs.)	
33C1.5x1.5	20	0.0346	40	55	0.1800	0.0593	0.0723	0.0691	0.0922	4,547	3,747	1,818	0.612
33W1.5x1.5	20	0.0350	45	55	0.1998	0.0705	0.0939	0.0705	0.0939	5,385	4,711	2,451	0.680
33W1.5x2.0	20	0.0350	45	55	0.2348	0.1381	0.1381	0.0893	0.1190	6,328	4,953	3,611	0.798
47W1.5x1.5	18	0.0460	45	48	0.2585	0.0893	0.1191	0.0893	0.1191	6,203	6,461	3,208	0.879
47W1.5x2.5	18	0.0490	45	55	0.3721	0.3179	0.2544	0.1458	01944	10,026	8,351	6,854	1.265
56W1.5x1.5	16	0.0590	45	48	0.3251	0.1096	0.1461	0.1096	0.1461	7,803	8,128	3,937	1.106
63W1.5x3.5	16	0.0650	45	55	0.6150	0.9346	0.5341	0.2522	0.3362	16,571	13,248	14,390	2.091

METRIC WEB VALUES

SECTION NAME	GAUGE	DESIGN THICKNESS (mm)	F_y (MPa)	F_u (MPa)	FULL SECTION PROPERTIES					FULLY BRACED ALLOWABLES			WEIGHT (kN/m)
					A_g (mm^2)	I_x (mm^4)	S_x (mm^3)	I_y (mm^4)	S_y (mm^3)	T_a (kN)	P_a (kN)	Ma_x (kN–mm)	
33C1.5x1.5	20	0.8788	276	379	116	24,683	1,185	28,762	1,511	20.23	16.67	205.4	0.009
33W1.5x1.5	20	0.8890	310	379	129	29,344	1,539	29,344	1,539	23.95	20.96	276.9	0.010
33W1.5x2.0	20	0.8890	310	379	151	57,482	2,263	37,169	1,950	28.15	22.03	408.0	0.012
47W1.5x1.5	18	1.1684	310	330	167	37,169	1,952	37,169	1,952	27.59	28.74	362.5	0.013
47W1.5x2.5	18	1.2446	310	379	240	132,320	4,169	60,687	3,186	44.60	37.15	774.4	0.185
56W1.5x1.5	16	1.4986	310	330	210	45,619	2,394	45,619	2,394	34.71	36.16	444.8	0.016
63W1.5x3.5	16	1.6510	310	379	397	389,010	8,752	104,974	5,509	73.71	58.93	1,626.0	0.305



General Notes:

1. Steel for C1.5x1.5 is ASTM A653 with G90 minimum galvanization. Steel for all other tubes is ASTM A500 with G90 minimum galvanization or equal. Bare metal thickness is 95% of design thickness.
2. S_x and Ma_x are for positive bending causing compression at the closed end of the section.
3. Ta = Allowable Tension, Pa = Allowable Compression, Ma_x = Allowable Moment
4. The allowable values given in this table do not reflect any strength increase due to cold work of forming.
5. Properties determined according to the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold–Formed Steel Structural Members" (S100–16/S2–20).

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TSC3.00 & TSC4.00 C-Web and Tube Web Properties

Standard Detail: TS010

Date: 06/01/22

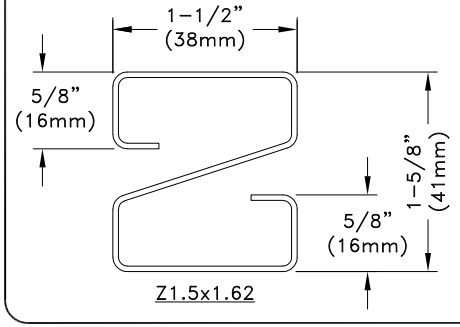
TrusSteel Detail Category: Member Section Properties

IMPERIAL Z-WEB VALUES

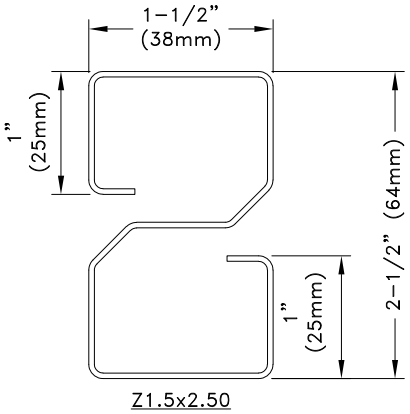
SECTION NAME	GAUGE	DESIGN THICKNESS (in)	F_y (ksi)	F_u (ksi)	FULL SECTION PROPERTIES					FULLY BRACED ALLOWABLES			WEIGHT (lbs./ft.)
					A_g (in^2)	I_x (in^4)	S_x (in^3)	I_y (in^4)	S_y (in^3)	T_a (lbs.)	P_a (lbs.)	Ma_x (in-lbs.)	
33Z1.5X1.62	20	0.0346	40	55	0.2496	0.0851	0.1047	0.0731	0.0974	5,979	5,397	2,474	0.849
43Z1.5X1.62	18	0.0451	40	55	0.3218	0.1087	0.1338	0.0926	0.1235	7,707	7,150	3,204	1.094
33Z1.5X2.50	20	0.0346	40	55	0.3070	0.2333	0.1867	0.1030	0.1374	7,353	6,759	4,416	1.044
43Z1.5X2.50	18	0.0451	40	55	0.3966	0.2998	0.2398	0.1311	0.1748	9,499	8,813	5,744	1.348
43Z1.5X3.62	18	0.0451	40	55	0.4980	0.7437	0.4103	0.1848	0.2464	11,929	10,611	9,796	1.693
54Z1.5X3.62	16	0.0566	50	65	0.6163	0.9157	0.5052	0.2242	0.2990	18,452	16,554	15,078	2.095

METRIC Z-WEB VALUES

SECTION NAME	GAUGE	DESIGN THICKNESS (mm)	F_y (MPa)	F_u (MPa)	FULL SECTION PROPERTIES					FULLY BRACED ALLOWABLES			WEIGHT (kN/m)
					A_g (mm^2)	I_x (mm^4)	S_x (mm^3)	I_y (mm^4)	S_y (mm^3)	T_a (kN)	P_a (kN)	Ma_x (kN-mm)	
33Z1.5X1.62	20	0.8788	276	379	161	35,421	1,716	30,427	1,596	26.60	24.01	279.5	0.012
43Z1.5X1.62	18	1.1455	276	379	208	45,244	2,193	38,543	2,024	34.28	31.80	362.0	0.160
33Z1.5X2.50	20	0.8788	276	379	198	97,107	3,059	42,872	2,252	32.71	30.07	499.0	0.152
43Z1.5X2.50	18	1.1455	276	379	256	124,786	3,930	54,568	2,864	42.25	39.20	649.0	0.197
43Z1.5X3.62	18	1.1455	276	379	321	309,551	6,724	76,920	4,038	53.06	47.20	1,107.0	0.247
54Z1.5X3.62	16	1.4376	345	448	398	381,143	8,279	93,319	4,900	82.08	73.64	1,703.6	0.306



Z1.5x1.62



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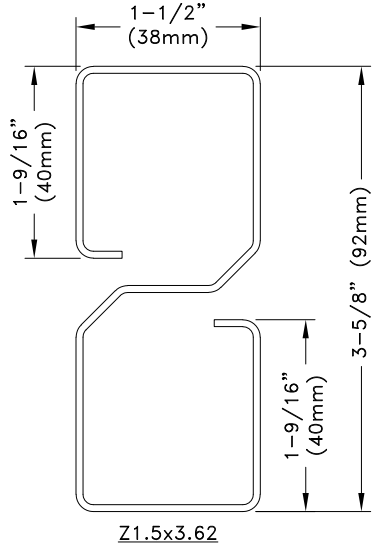

Z1.5x3.62

General Notes:

1. All steel is ASTM A653 steel with G90 minimum galvanization. Bare metal thickness is 95% of design thickness.
2. Ta = Allowable Tension, Pa = Allowable Compression, Ma_x = Allowable Moment
3. The allowable values given in this table do not reflect any strength increase due to cold work of forming.
4. Properties determined according to the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC3.00 & TSC4.00 Z-Web Properties

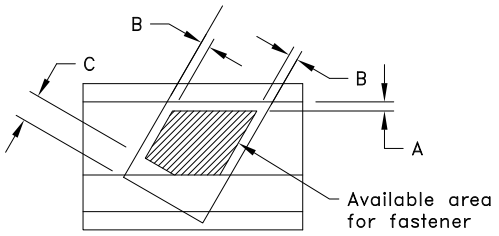
Standard Detail: TS010A

Date: 06/01/22

TrusSteel Detail Category: Member Section Properties

Fastener Placement Detail

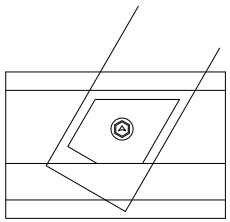
A – Lip clearance = 5/16" (8mm) for TSC3.00 & TSC4.00
Lip clearance = 9/32" (7mm) for TSC2.75
B – Edge distance (1.0 x Fastener Dia.)
C – End distance (3.0 x Fastener Dia.)
S – Minimum fastener spacing (3.0 x Fastener Dia.)



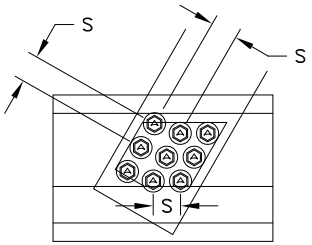
Fastener Dia. in. (mm)	Min. fastener spacing & end distance in. (mm)	Fastener edge. distance in. (mm)
#14 d=1/4 (6)	#14 S=C= 3/4 (19)	#14 B=1/4 (6)

Detail D – Recommended fastener placement for minimum fastener count: Begin placing the fastener in the center of the available area. Fastener quantity shall be specified by the approved truss drawings.

Detail E – Recommended fastener placement for multiple fastener count: Begin placing the fasteners in the center of the available area and expand toward the outer edges. Fastener quantity shall be specified by the approved truss drawings.

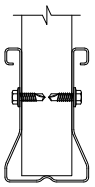


Detail D

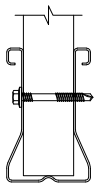


Detail E

Typical Fastener Placement Sections



SDS
Single Shear Fastener



AMD
Double Shear™ Fastener

Allowable shear loads per fastener lbs. (kN) for 14AMD Double Shear™ Fasteners

TrusSteel Web Thickness	TrusSteel Chord Thickness					
	22g–28TSC	20g–33TSC	18g–43TSC	16g–54TSC	14g–68TSC	12g–97TSC
20g–33C	582 (2.59)	688 (3.06)	783 (3.48)	886 (3.94)	886 (3.94)	886 (3.94)
20g–33W	654 (2.91)	722 (3.21)	822 (3.66)	930 (4.14)	930 (4.14)	930 (4.14)
18g–47W	728 (3.24)	914 (4.07)	1181 (5.25)	1264 (5.62)	1264 (5.62)	1264 (5.62)
16g–56W	728 (3.24)	914 (4.07)	1181 (5.25)	1264 (5.62)	1264 (5.62)	1264 (5.62)
16g–63W	728 (3.24)	914 (4.07)	1181 (5.25)	1264 (5.62)	1264 (5.62)	1264 (5.62)

Allowable shear loads per fastener lbs. (kN) for #14SDS Single Shear Fasteners

TrusSteel Web Thickness	TrusSteel Chord Thickness					
	22g–28TSC	20g–33TSC	18g–43TSC	16g–54TSC	14g–68TSC	12g–97TSC
20g–33C	248 (1.10)	248 (1.10)	248 (1.10)	248 (1.10)	248 (1.10)	248 (1.10)
20g–33W	252 (1.12)	252 (1.12)	252 (1.12)	252 (1.12)	252 (1.12)	252 (1.12)
18g–47W	418 (1.86)	418 (1.86)	418 (1.86)	418 (1.86)	418 (1.86)	418 (1.86)
16g–56W	418 (1.86)	418 (1.86)	418 (1.86)	418 (1.86)	418 (1.86)	418 (1.86)
16g–63W	418 (1.86)	418 (1.86)	418 (1.86)	418 (1.86)	418 (1.86)	418 (1.86)

General Notes:

1. 14AMD Double Shear™ Fasteners mentioned above consist of 14AMDB1.25, 14AMDR1.5, 14AMDB2.125, 14AMDR2.375 and 14AMD2.625.
2. 14AMD fastener values were determined by test following guidelines set forth in Chapter K of the American Iron and Steel Institute (AISI), 2020 supplement to AISI 2016 "North American Specification for the Design of Cold–Formed Steel Structural Members" (S100–16/S2–20). #14SDS fastener values were determined by calculations set forth in Chapter J4 of the American Iron and Steel Institute (AISI), 2020 supplement to AISI 2016 "North American Specification for the Design of Cold–Formed Steel Structural Members" (S100–16/S2–20).
3. The AMD fasteners are self–drilling Hex washer head screws made from 1022 carbon steel wire that is case hardened and are designed to drill through and install into TrusSteel chords and webs. The threads are a buttress type with thirteen threads per inch. They are manufactured to perform in accordance with the Society of Automotive Engineers (SAE) J78 standard for steel self–drilling tapping screws and have a zinc plated and chromate finished corrosion protection applied in accordance with ASTM F1941.
4. SDS fasteners are self–drilling tapping screws that shall comply with the American Iron and Steel Institute (AISI), 2020 "North American Standard for Cold–Formed Steel Structural Framing" (S240–20).

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Tube And C-Web Fastener Placement And Allowable Shear Loads

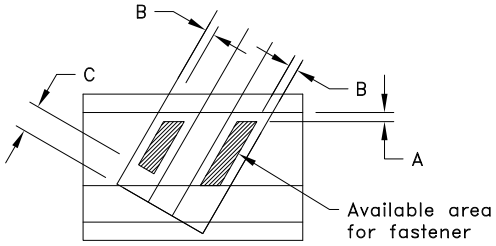
Standard Detail:
TS011

Date:
06/01/22

TrusSteel Detail Category:
Fastener Placement

Fastener Placement Detail

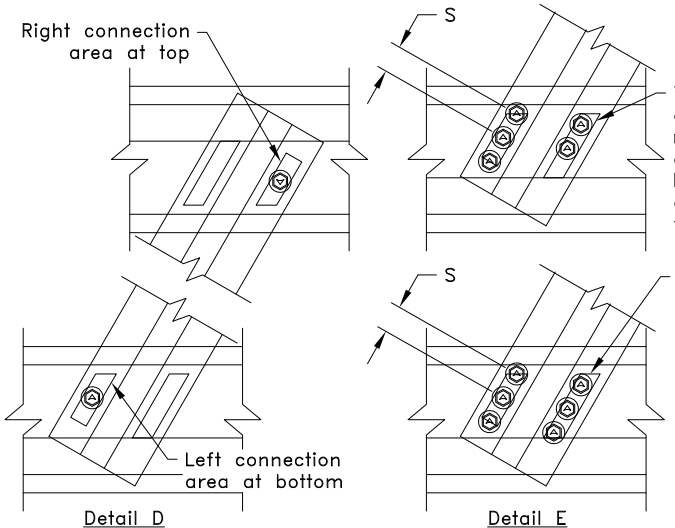
A – Lip clearance = 5/16" (8mm) for TSC3.00 & TSC4.00
B – Edge distance (1.0 x Fastener Dia.)
C – End distance (3.0 x Fastener Dia.)
S – Minimum fastener spacing (3.0 x Fastener Dia.)



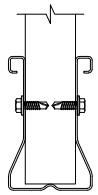
Fastener Dia. in. (mm)	Min. fastener spacing & end distance in. (mm)	Fastener edge. distance in. (mm)
#14 d=1/4 (6)	#14 S=C= 3/4 (19)	#14 B=1/4 (6)

Detail D – Fastener placement when only one fastener is required for connection: Fasteners at top and bottom of connection must be placed in opposite sides of web as shown.

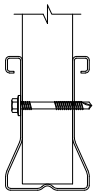
Detail E – Fastener placement when multiple fasteners are required for connection: Begin placing the fasteners in the center of the available areas and expand toward the outer edges. Fastener quantity shall be specified by the approved truss drawing.



Typical Fastener Placement Sections



SDS
Single Shear Fastener



AMD
Double Shear ™ Fastener

Allowable shear loads per fastener lbs. (kN) for 14AMD Double Shear™ Fasteners

TrusSteel Web Thickness	TrusSteel Chord Thickness					
	22g–28TSC	20g–33TSC	18g–43TSC	16g–54TSC	14g–68TSC	12g–97TSC
20g–33Z	582 (2.59)	688 (3.06)	783 (3.48)	886 (3.94)	886 (3.94)	886 (3.94)
18g–43Z	728 (3.24)	914 (4.07)	1089 (4.84)	1166 (5.19)	1166 (5.19)	1166 (5.19)
16g–54Z	728 (3.24)	914 (4.07)	1181 (5.25)	1264 (5.62)	1264 (5.62)	1264 (5.62)

Allowable shear loads per fastener lbs. (kN) for #14SDS Single Shear Fasteners

TrusSteel Web Thickness	TrusSteel Chord Thickness					
	22g–28TSC	20g–33TSC	18g–43TSC	16g–54TSC	14g–68TSC	12g–97TSC
20g–33Z	248 (1.10)	248 (1.10)	248 (1.10)	248 (1.10)	248 (1.10)	248 (1.10)
18g–43Z	369 (1.64)	369 (1.64)	369 (1.64)	369 (1.64)	369 (1.64)	369 (1.64)
16g–54Z	437 (1.94)	437 (1.94)	437 (1.94)	437 (1.94)	437 (1.94)	437 (1.94)

General Notes:

1. 14AMD Double Shear™ Fasteners mentioned above consist of 14AMDB2.125, 14AMDR2.375 and 14AMD2.625.
2. 14AMD fastener values were determined by test following guidelines set forth in Chapter K of the American Iron and Steel Institute (AISI), 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20). #14SDS fastener values were determined by calculations set forth in Chapter J4 of the American Iron and Steel Institute (AISI), 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).
3. The AMD fasteners are self-drilling Hex washer head screws made from 1022 carbon steel wire that is case hardened and are designed to drill through and install into TrusSteel chords and webs. The threads are a buttress type with thirteen threads per inch. They are manufactured to perform in accordance with the Society of Automotive Engineers (SAE) J78 standard for steel self-drilling tapping screws and have a zinc plated and chromate finished corrosion protection applied in accordance with ASTM F1941.
4. SDS fasteners are self-drilling tapping screws that shall comply with the American Iron and Steel Institute (AISI), 2020 "North American Standard for Cold-Formed Steel Structural Framing" (S240-20).

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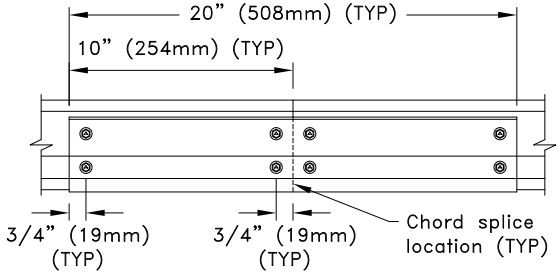
Z-Web Fastener Placement And Allowable Shear Loads

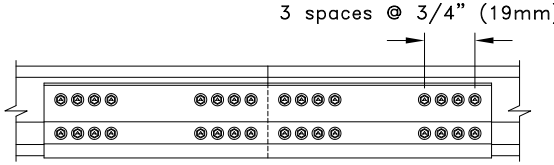
Standard Detail:
TS011A

Date:
06/01/22

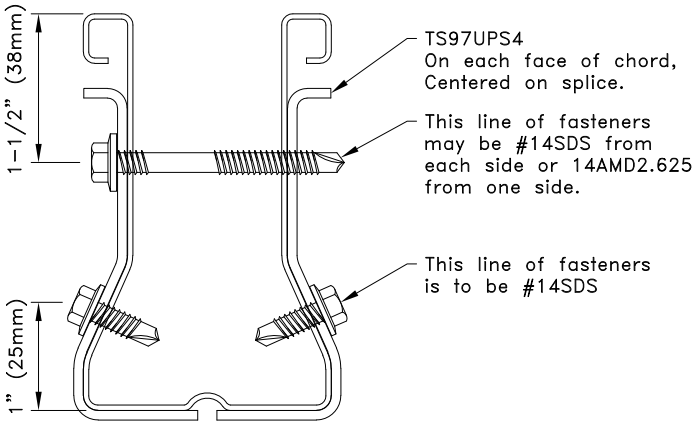
TrusSteel Detail Category:
Fastener Placement



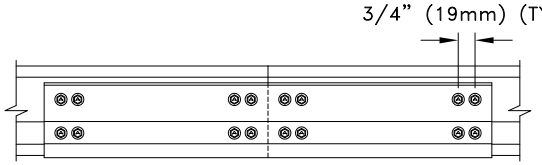
Detail "A"



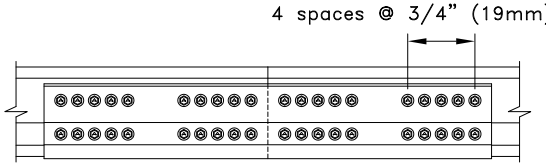
Detail "D"



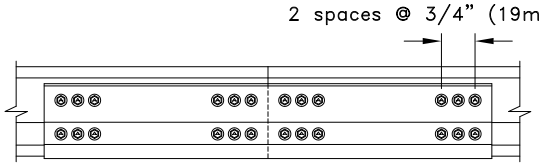
TSC4.00



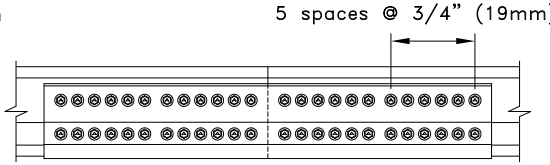
Detail "B"



Detail "E"



Detail "C"



Detail "F"

General Notes:

1. SDS = Self-Drilling Tapping Screw.
2. Fastener spacing and end distance is 3/4" (19mm) minimum.
3. Fasteners may be #14SDS or 14AMD2.625. Refer to approved truss drawings for fastener type and detail call out.
4. Dimensions are typical for both sides of splice per splice detail.

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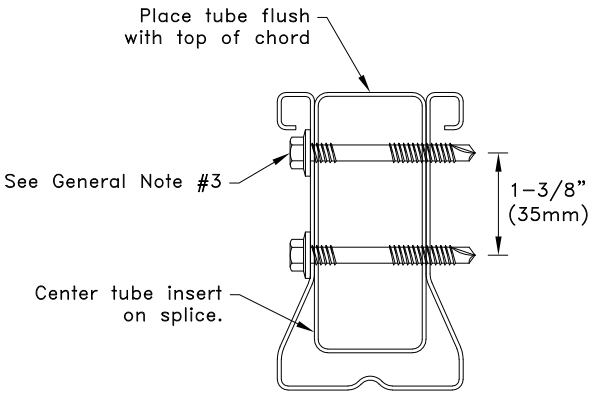
TSC4.00 Splices Using The TS97UPS4 Universal Piece

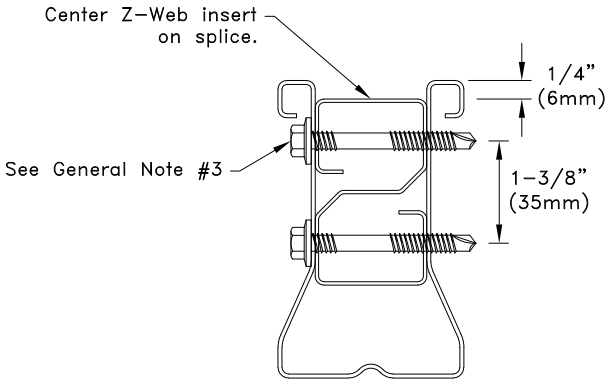
Standard Detail:
TS012B

Date:
06/01/22

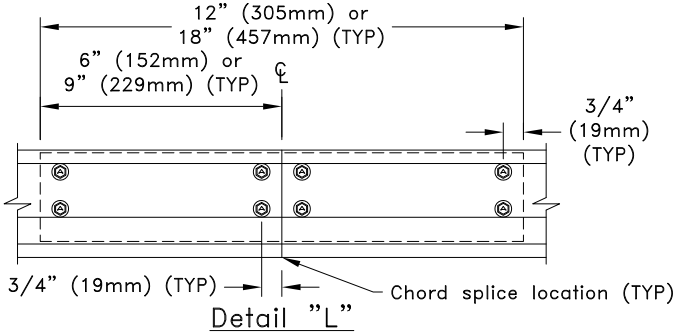
TrusSteel Detail Category:
Chord Splices



TSC4.00 With 47W1.5x2.5 or
63W1.5x3.5 Tube Splice

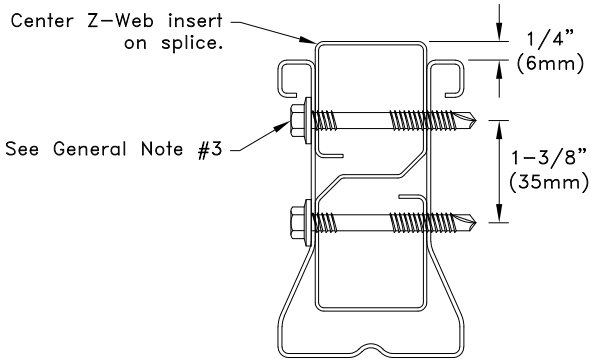


TSC4.00 With Z1.5x2.50
Z-Web Splice

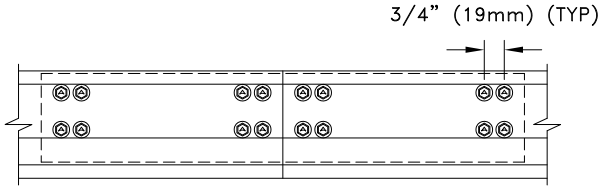


Detail "L"

12" (305mm) or 18" (457mm) Splice

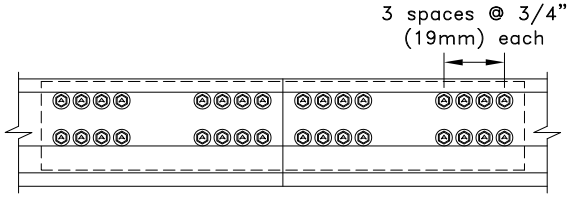


TSC4.00 With Z1.5x3.62
Z-Web Splice



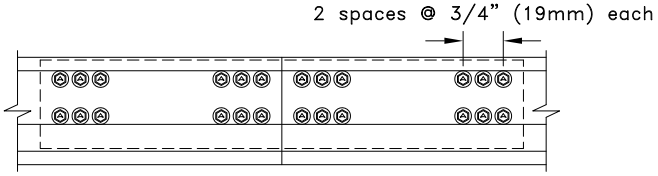
Detail "M"

12" (305mm) or 18" (457mm) Splice



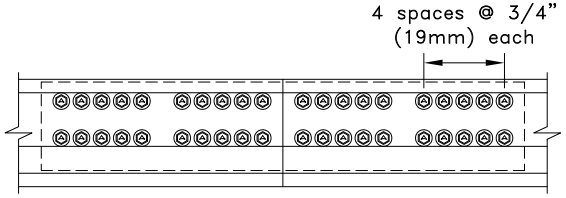
Detail "O"

18" (457mm) Splice Only



Detail "N"

12" (305mm) or 18" (457mm) Splice



Detail "P"

18" (457mm) Splice Only

General Notes:

1. SDS = Self-Drilling Tapping Screw.
2. Fastener spacing and end distance is 3/4" (19mm) minimum.
3. Fasteners may be #14SDS from each side or 14AMDR2.375 from one side (14AMDB2.125 fasteners may be substituted for 14AMDR2.375 fasteners when the chord is 22g, 20g, 18g, or 16g). Refer to approved truss drawings for fastener type, splice member length, splice member type and detail call out.
4. Dimensions are typical for both sides of splice per splice detail.

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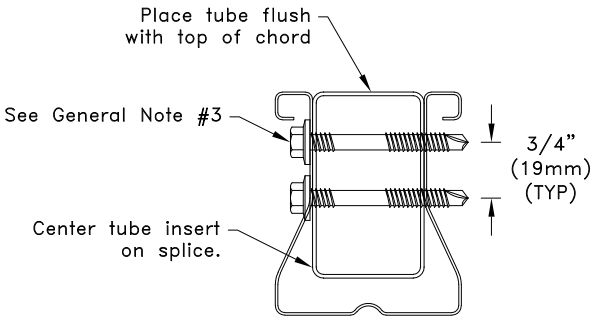
TSC4.00 Splices

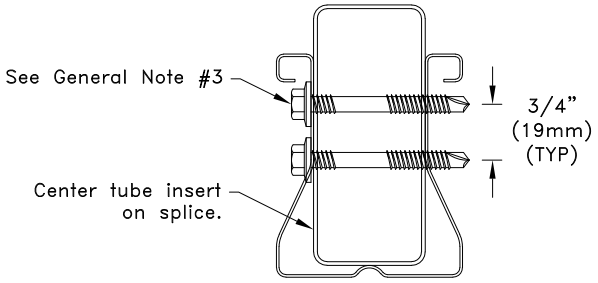
Standard Detail:
TS012E

Date:
06/01/22

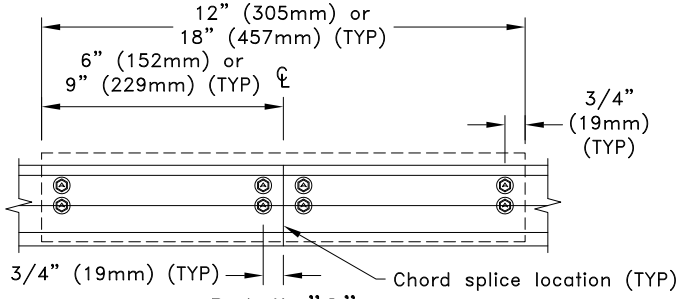
TrussSteel Detail Category:
Chord Splices



TSC3.00 With 47W1.5x2.5
Tube Splice

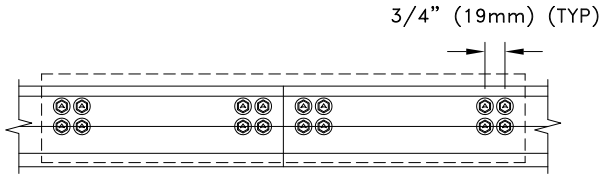


TSC3.00 With 63W1.5x3.5
Tube Splice



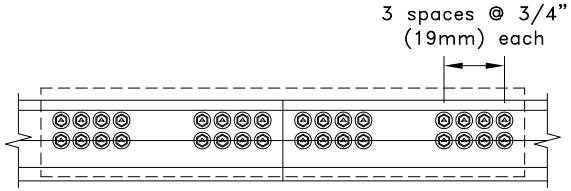
Detail "Q"

12" (305mm) or 18" (457mm) Splice



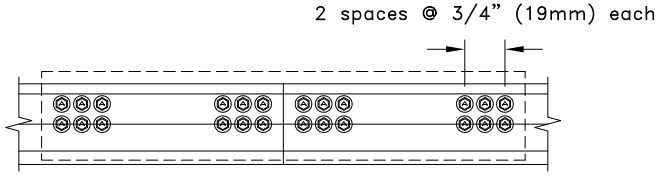
Detail "R"

12" (305mm) or 18" (457mm) Splice



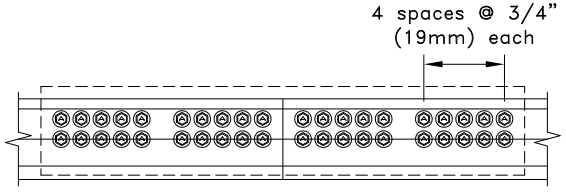
Detail "T"

18" (457mm) Splice Only



Detail "S"

12" (305mm) or 18" (457mm) Splice



Detail "U"

18" (457mm) Splice Only

General Notes:

1. SDS = Self-Drilling Tapping Screw.
2. Fastener spacing and end distance is 3/4" (19mm) minimum.
3. Fasteners may be #14SDS from each side or 14AMDR2.375 from one side (14AMDB2.125 fasteners may be substituted for 14AMDR2.375 fasteners when the chord is 22g, 20g, 18g, or 16g). Refer to approved truss drawings for fastener type, splice member length, splice member type and detail call out.
4. Dimensions are typical for both sides of splice per splice detail.

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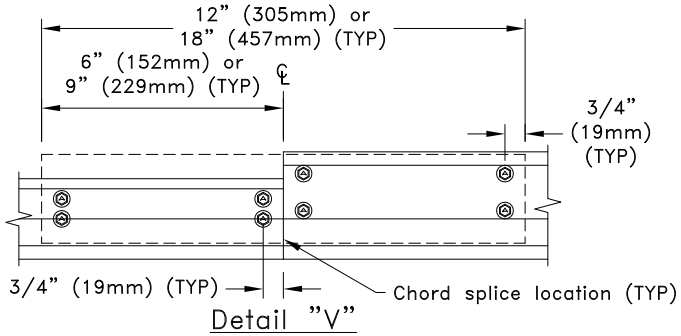
TSC3.00 Splices Using The "Tube Only" Splice

Standard Detail:
TS012F

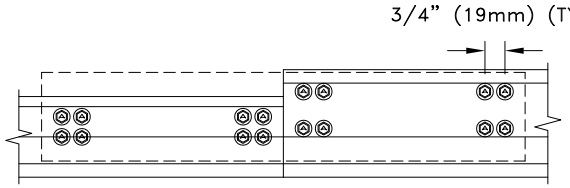
Date:
06/01/22

TrusSteel Detail Category:
Chord Splices



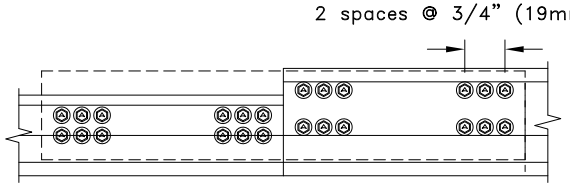
Detail "V"

12" (305mm) or 18" (457mm) Splice



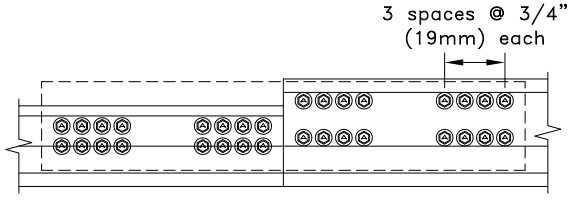
Detail "W"

12" (305mm) or 18" (457mm) Splice



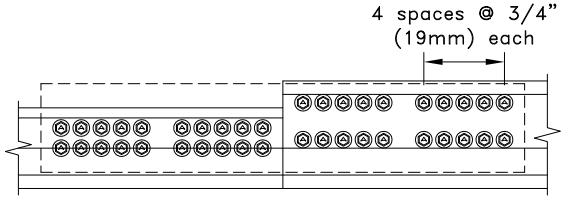
Detail "X"

12" (305mm) or 18" (457mm) Splice



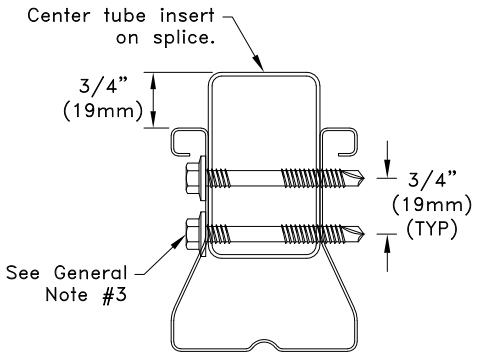
Detail "Y"

18" (457mm) Splice Only

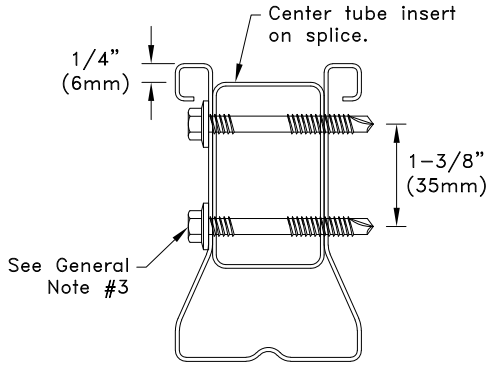


Detail "Z"

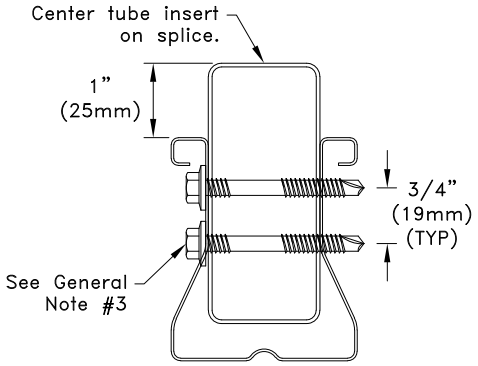
18" (457mm) Splice Only



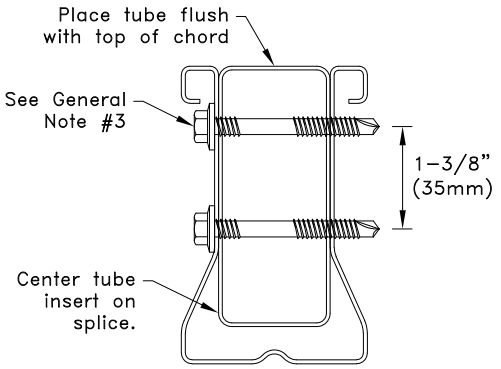
TSC3.00 With 47W1.5x2.5 Tube Splice



TSC4.00 With 47W1.5x2.5 Tube Splice



TSC3.00 With 63W1.5x3.5 Tube Splice



TSC4.00 With 63W1.5x3.5 Tube Splice

General Notes:

1. SDS = Self-Drilling Tapping Screw.
2. Fastener spacing and end distance is 3/4" (19mm) minimum.
3. Fasteners may be #14SDS from each side or 14AMDR2.375 from one side (14AMDB2.125 fasteners may be substituted for 14AMDR2.375 fasteners when the chord is 22g, 20g, 18g, or 16g). Refer to approved truss drawings for fastener type, splice member length, splice member type and detail call out.
4. Dimensions are typical for both sides of splice per splice detail.

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TSC3.00 To TSC4.00 Splices Using The "Tube Only" Splice

Standard Detail: TS012G

Date: 06/01/22

TrusSteel Detail Category: Chord Splices

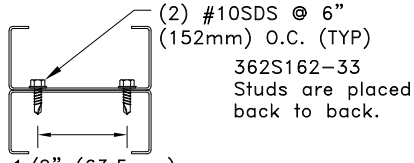
Wind Criteria:
ASCE 7-05, ASCE 7-10 or ASCE 7-16
Enclosed building
30' (9144mm) mean height
CAT III & IV, EXP C
No speed-up increase factor taken for topographic effects; K_{zt} = 1.0

Max Loading:
Top chord live load = 40 psf (1.92 kN/m^2)
Top chord dead load = 10 psf (0.48 kN/m^2)
Wind dead load = 5 psf (0.24 kN/m^2)
Soffit load on overhang off of gable face = 10 psf (0.48 kN/m^2)
Max weight on face of gable = 10 psf (0.48 kN/m^2)

362S162-33 Stud Maximum Lengths				
Windspeed:	ASCE 7-05 - 110 MPH (49 m/s) ASCE 7-10 - 140 MPH (62 m/s) ASCE 7-16 - 140 MPH (62 m/s)		ASCE 7-05 - 150 MPH (67 m/s) ASCE 7-10 - 190 MPH (85 m/s) ASCE 7-16 - 190 MPH (85 m/s)	
Gable Stud Spacing:	16" (407mm) O.C.	24" (610mm) O.C.	16" (407mm) O.C.	24" (610mm) O.C.
Unbraced Single Stud	6'6" (1981mm)	5'6" (1676mm)	4'9" (1448mm)	3'0" (914mm)
Diagonally Braced Single Stud	13'3" (4039mm)	11'6" (3505mm)	10'6" (3200mm)	8'0" (2438mm)
Unbraced Double Stud	8'6" (2591mm)	7'6" (2286mm)	7'0" (2134mm)	6'0" (1829mm)

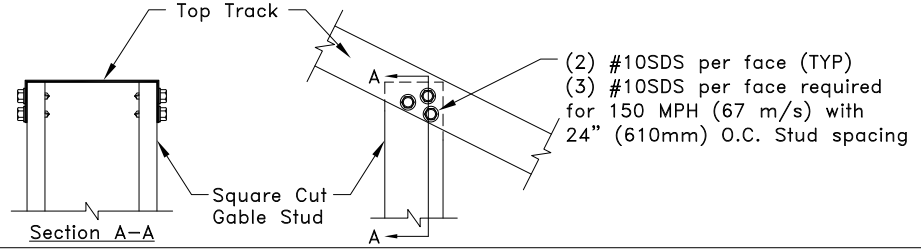
Deflection Criteria Note: Unbraced Single Stud values meet L/450 max,
Diagonally Braced Single Stud values meet L/2100 max
Unbraced Double Stud values meet L/390 max.

Double Stud Cross Section

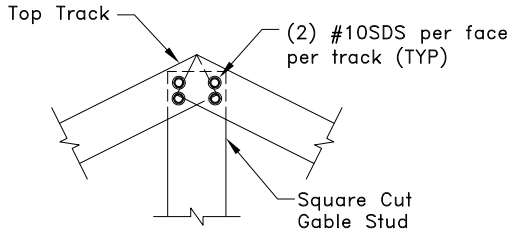


Stud to Track Connections

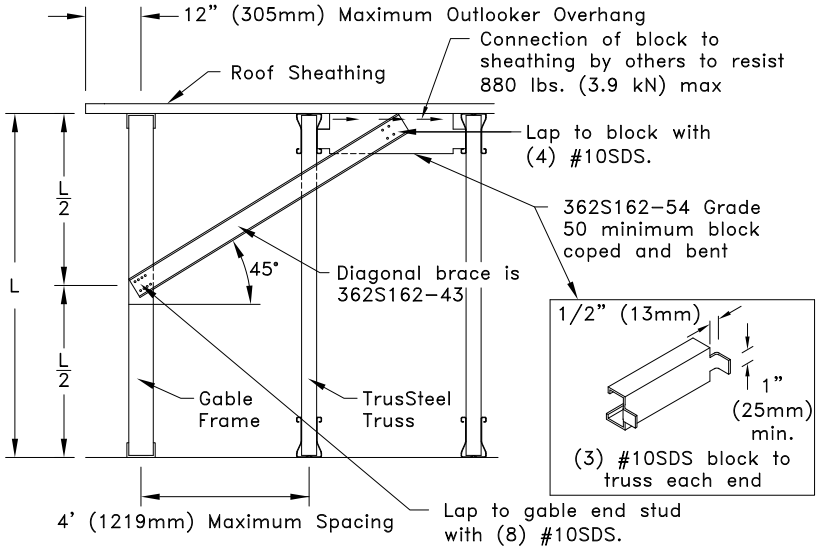
Detail A



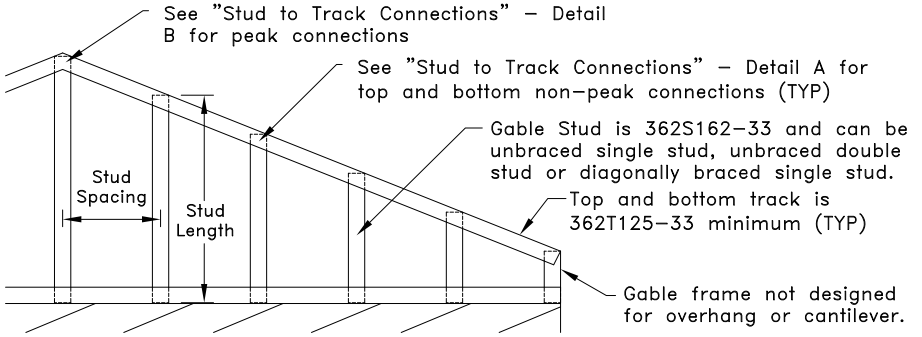
Detail B



Diagonally Braced Single Stud



C-Stud Gable Frame



General Notes:
1. SDS = Self-Drilling Tapping Screw
2. Screw spacing is 9/16" (14.3mm) minimum.
3. Screw edge distance is 1/4" (6.4mm) and end distance is 3/8" (9.5mm) minimum.
4. The gable end frame is assumed to be supported vertically, horizontally and laterally along its entire length. The building designer is responsible for the design of the support wall, the ceiling and roof diaphragm, connection of the gable frame to these supports, and transfer of in-plane shear loads.
5. Intended for use with TrusSteel roof truss systems only.
6. Gable stud web is perpendicular to the length of the track.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20) and AISI 2020 "North American Standard for Cold-Formed Steel Structural Framing" (S240-20).

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3-5/8" C-Stud Gable Framing

Standard Detail: TS013

Date: 06/01/22

TrusSteel Detail Category: Gable Framing

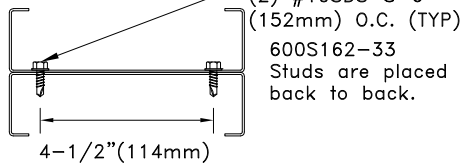
Wind Criteria:
ASCE 7-05, ASCE 7-10 or ASCE 7-16
Enclosed building
30' (9144mm) mean height
CAT III & IV, EXP C
No speed-up increase factor taken for topographic effects; K_{zt} = 1.0

Max Loading:
Top chord live load = 40 psf (1.92 kN/m^2)
Top chord dead load = 10 psf (0.48 kN/m^2)
Wind dead load = 5 psf (0.24 kN/m^2)
Soffit load on overhang off of gable face = 10 psf (0.48 kN/m^2)
Max weight on face of gable = 10 psf (0.48 kN/m^2)

600S162-33 Stud Maximum Lengths				
Windspeed:	ASCE 7-05 - 110 MPH (49 m/s) ASCE 7-10 - 140 MPH (62 m/s) ASCE 7-16 - 140 MPH (62 m/s)		ASCE 7-05 - 150 MPH (67 m/s) ASCE 7-10 - 190 MPH (85 m/s) ASCE 7-16 - 190 MPH (85 m/s)	
Gable Stud Spacing:	16" (407mm) O.C.	24" (610mm) O.C.	16" (407mm) O.C.	24" (610mm) O.C.
Unbraced Single Stud	7'9" (2362mm)	5'6" (1676mm)	4'3" (1295mm)	2'9" (838mm)
Diagonally Braced Single Stud	15'9" (4801mm)	14'0" (4267mm)	12'0" (3658mm)	8'0" (2438mm)
Unbraced Double Stud	9'9" (2972mm)	8'9" (2667mm)	8'3" (2515mm)	6'0" (1829mm)

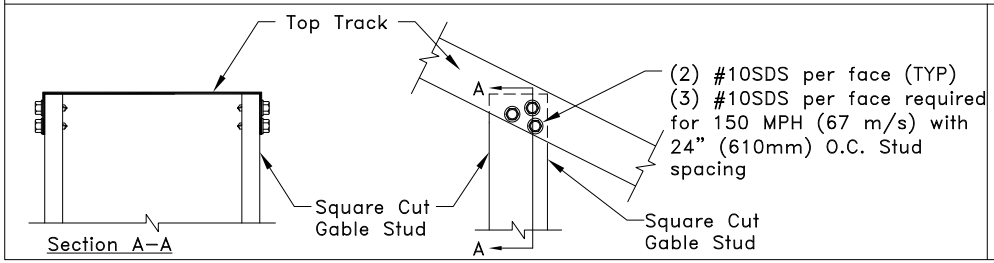
Deflection Criteria Note: Unbraced Single Stud values meet L/870 max,
Diagonally Braced Single Stud values meet L/4200 max
Unbraced Double Stud values meet L/780 max.

Double Stud Cross Section

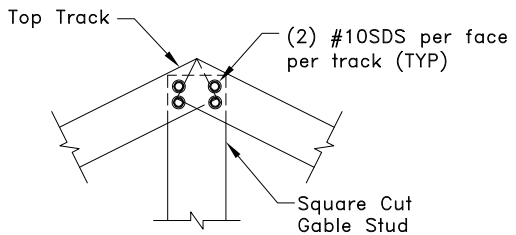


Stud to Track Connections

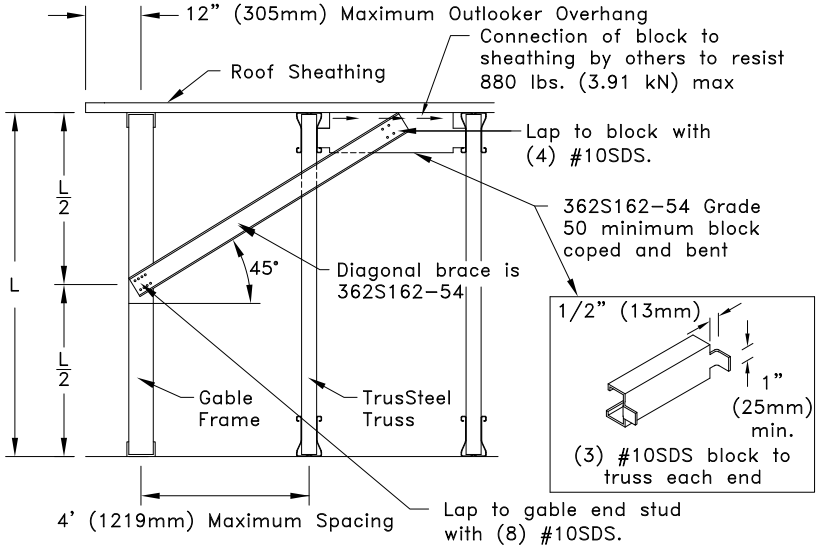
Detail A



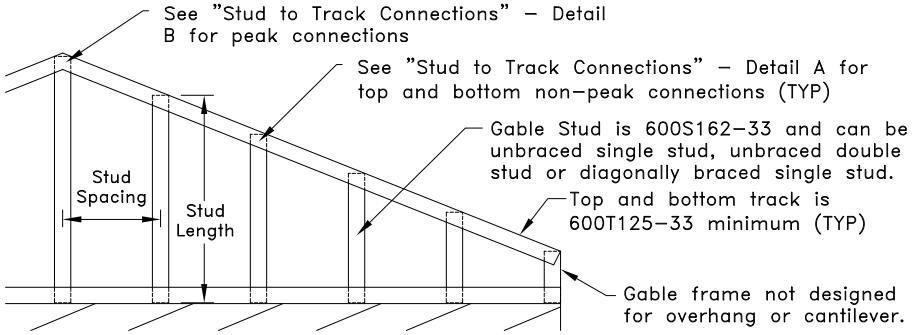
Detail B



Diagonally Braced Single Stud



C-Stud Gable Frame



General Notes:
1. SDS = Self-Drilling Tapping Screw
2. Screw spacing is 9/16" (14.3mm) minimum.
3. Screw edge distance is 1/4" (6.4mm) and end distance is 3/8" (9.5mm) minimum.
4. The gable end frame is assumed to be supported vertically, horizontally and laterally along its entire length. The building designer is responsible for the design of the support wall, the ceiling and roof diaphragm, connection of the gable frame to these supports, and transfer of in-plane shear loads.
5. Intended for use with TrusSteel roof truss systems only.
6. Gable stud web is perpendicular to the length of the track.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20) and AISI 2020 "North American Standard for Cold-Formed Steel Structural Framing" (S240-20).

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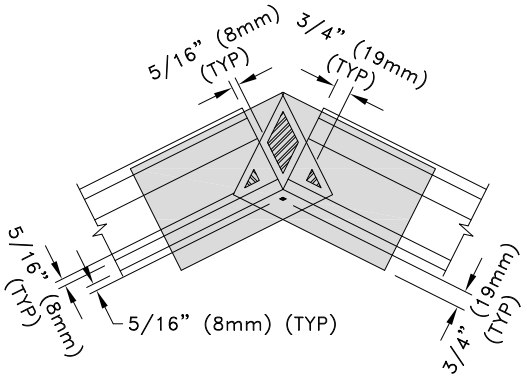
6" C-Stud Gable Framing

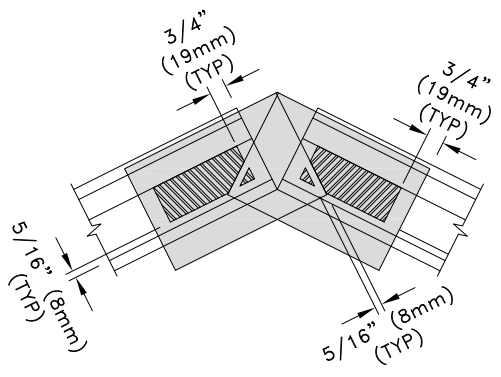
Standard Detail: TS014

Date: 06/01/22

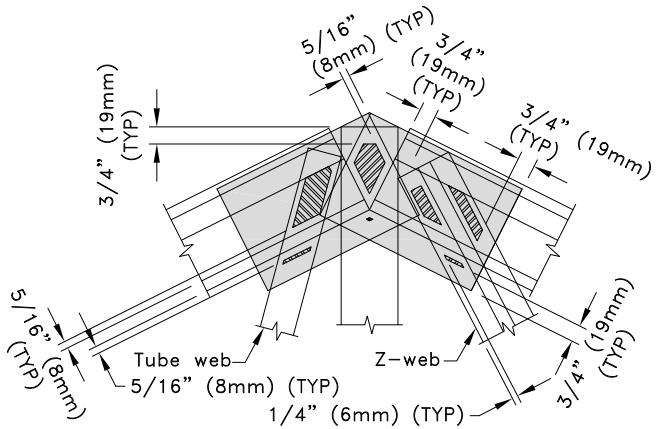
TrusSteel Detail Category: Gable Framing



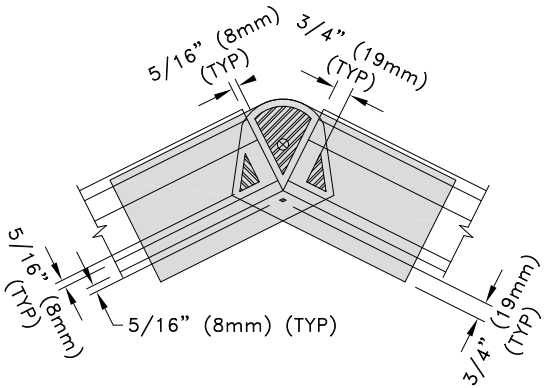
Fasteners Through The Lapped Area
43TSBUC5.0 or 54TSBUC5.0
Bent–U Pitch Break Connector



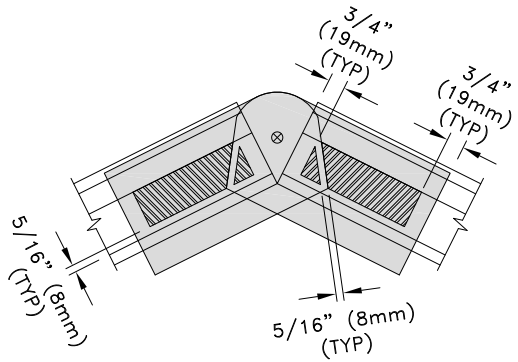
Fasteners Through The Chord Area
43TSBUC5.0 or 54TSBUC5.0
Bent–U Pitch Break Connector



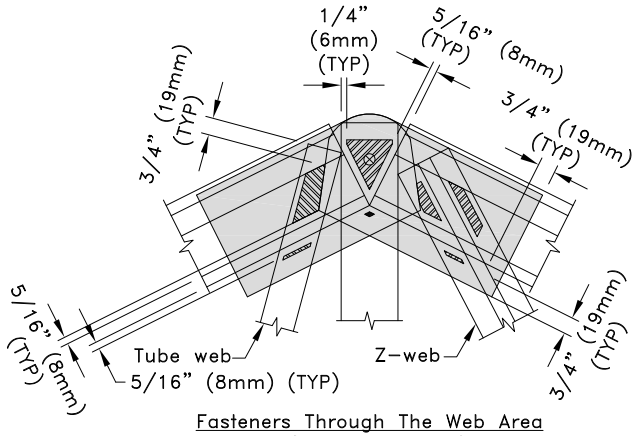
Fasteners Through The Web Area
43TSBUC5.0 or 54TSBUC5.0
Bent–U Pitch Break Connector



Fasteners Through The Lapped Area
43TSHC5.0K or 54TSHC5.0K
Hinged Pitch Break Connector



Fasteners Through The Chord Area
43TSHC5.0K or 54TSHC5.0K
Hinged Pitch Break Connector



Fasteners Through The Web Area
43TSHC5.0K or 54TSHC5.0K
Hinged Pitch Break Connector

General Notes:

1. Fastener spacing and end distance is 3/4" (19mm) minimum, except as shown.
2. Refer to approved truss drawings for required fastener type and quantities for each fastener contact area.
3. Fastener contact areas that coincide with other contact areas may use a common fastener for both areas. This will result in a reduction in the total number of fasteners required at the pitch break joint.
4. ▨ = Fastener contact area.

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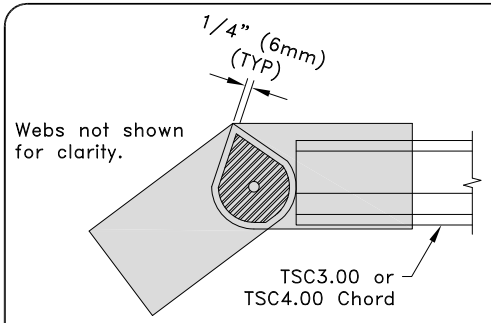
TSC3.00 or TSC4.00 Pitch Break Connector Fastener Contact Areas

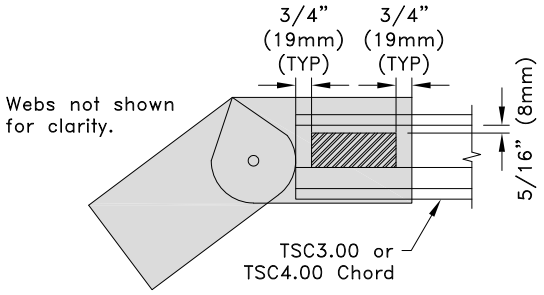
Standard Detail:
TS016

Date:
06/01/22

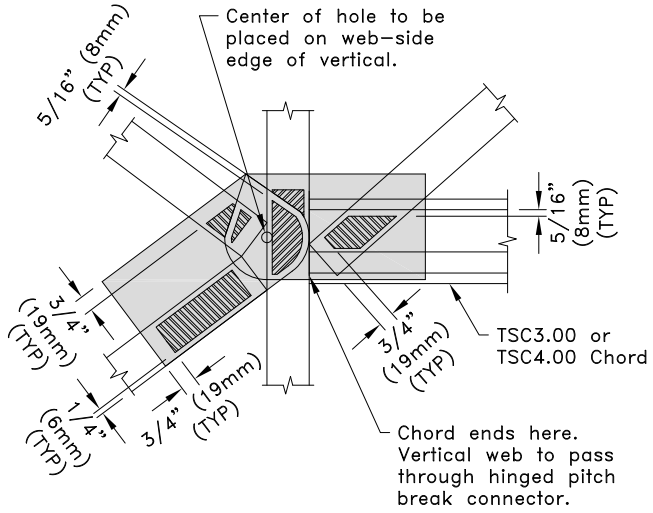
TrusSteel Detail Category:
Pitch Break Connections



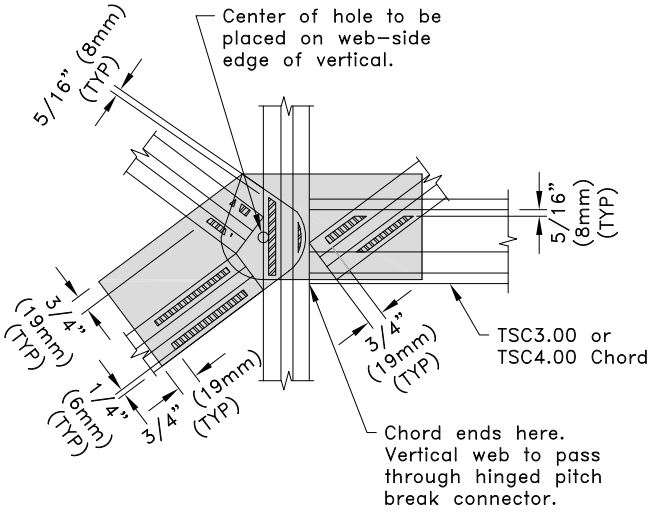
Fasteners Through The Lapped Area
43TSHC5.0K or 54TSHC5.0K
Hinged Pitch Break Connector



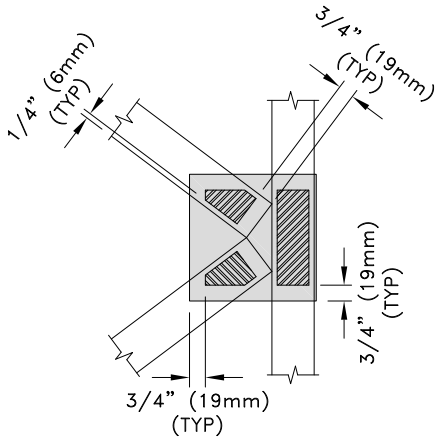
Fasteners Through The Chord Area
43TSHC5.0K or 54TSHC5.0K
Hinged Pitch Break Connector



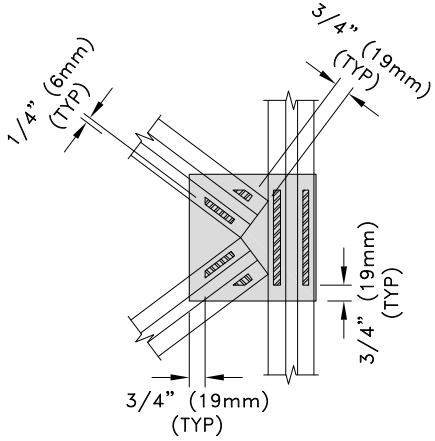
Fasteners Through The Tube Web Areas
43TSHC5.0K or 54TSHC5.0K
Hinged Pitch Break Connector



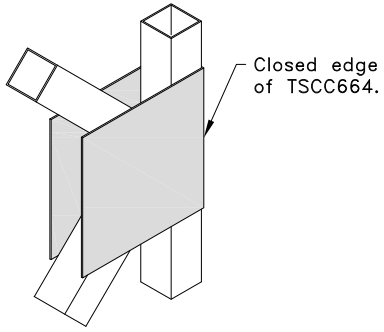
Fasteners Through The Z-Web Areas
43TSHC5.0K or 54TSHC5.0K
Hinged Pitch Break Connector



Fasteners Through The Tube Web Areas
TSCC664 Clip Used In Web-To-Web
K-Web Connection



Fasteners Through The Z-Web Areas
TSCC664 Clip Used In Web-To-Web
K-Web Connection



3D View Of TSCC664 With Webs
TSCC664 Clip Used In Web-To-Web
K-Web Connection

General Notes:

1. Fastener spacing and end distance is 3/4" (19mm) minimum, except as shown.
2. Refer to approved truss drawings for required fastener type and quantities for each fastener contact area.
3. Fastener contact areas that coincide with other contact areas may use a common fastener for both areas. This will result in a reduction in the total number of fasteners required at the pitch break joint.
4. = Fastener contact area.

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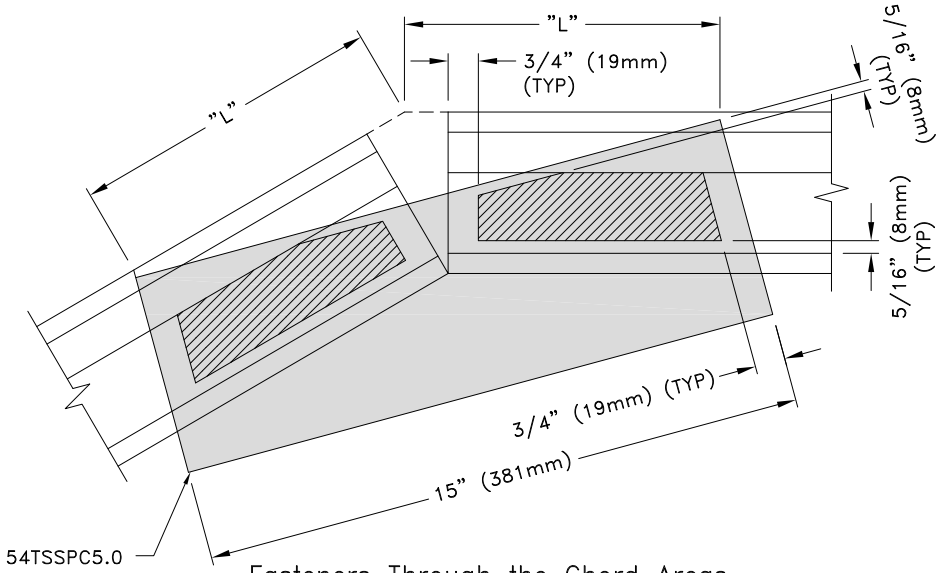
TSC3.00 or TSC4.00 K-Web Connector Fastener Areas

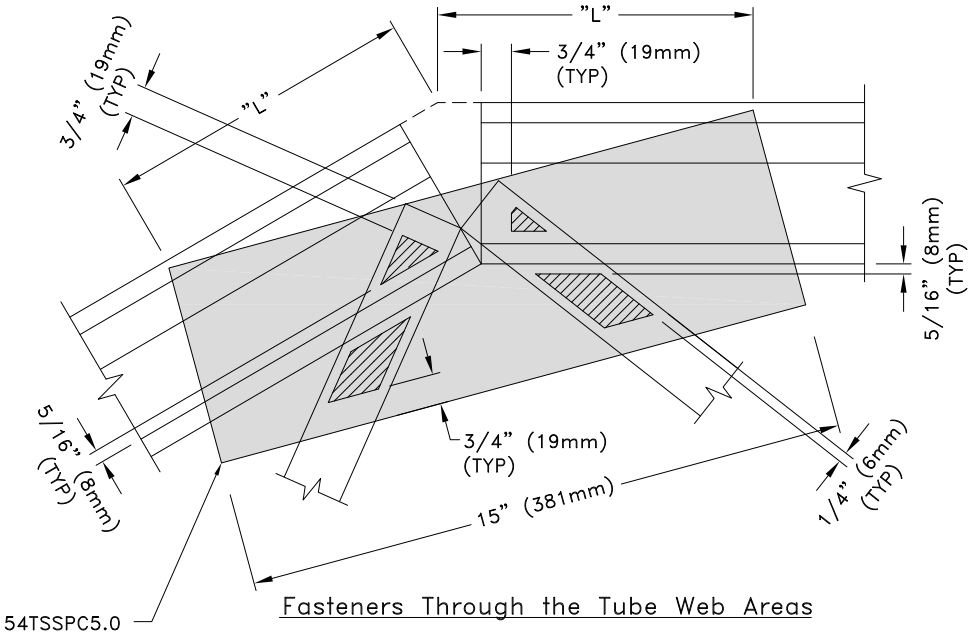
Standard Detail: TS016A

Date: 06/01/22

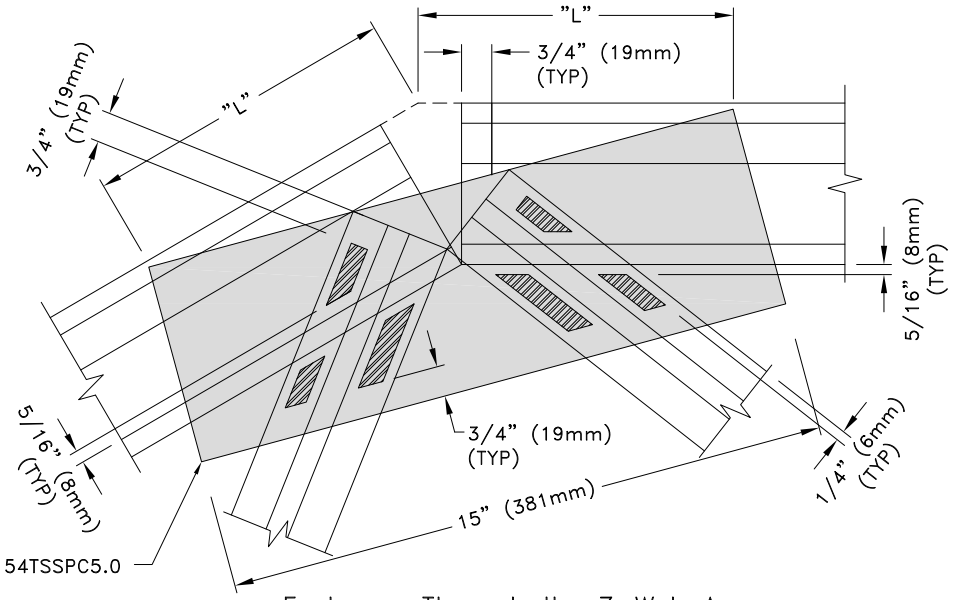
TrusSteel Detail Category: Pitch Break Connections



Fasteners Through the Chord Areas



Fasteners Through the Tube Web Areas



Fasteners Through the Z–Web Areas

General Notes:

1. Fastener spacing and end distance is 3/4" (19mm) minimum, except as shown.
2. Refer to approved truss drawings for required fastener type and quantities for each fastener contact area.
3. Fastener contact areas that coincide with other contact areas may use a common fastener for both areas. This will result in a reduction in the total number of fasteners required at the pitch break joint.
4. Lengths "L" are equal.
5. ▨ = Fastener contact area.

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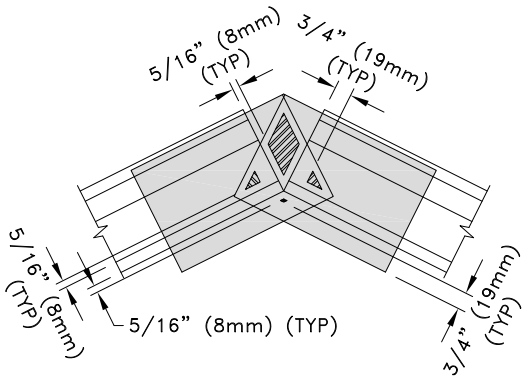
TSC3.00 or TSC4.00 Straight Pitch Break Connector Fastener Areas

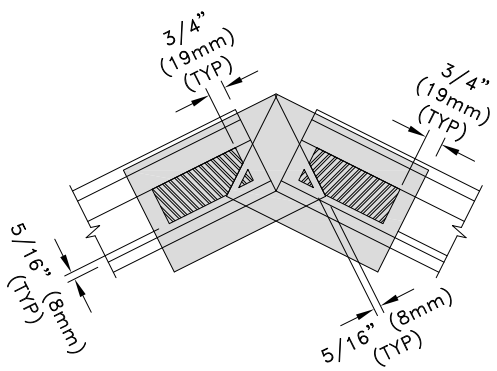
Standard Detail: TS016B

Date: 06/01/22

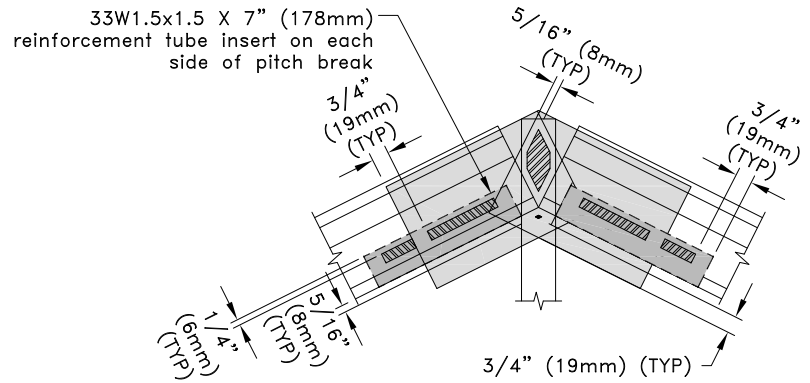
TrusSteel Detail Category: Pitch Break Connections



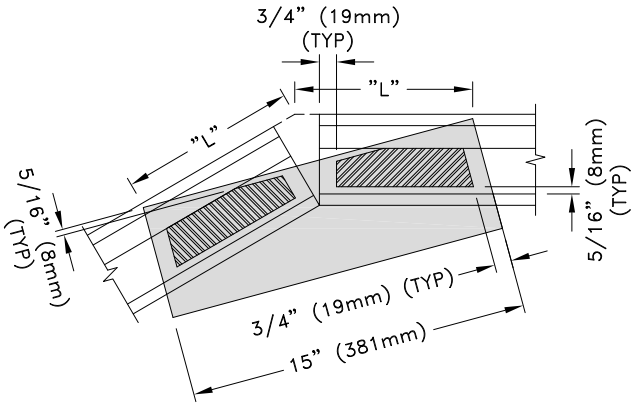
Fasteners Through The Lapped Area
43TSBUC5.0 or 54TSBUC5.0
Bent–U Pitch Break Connector



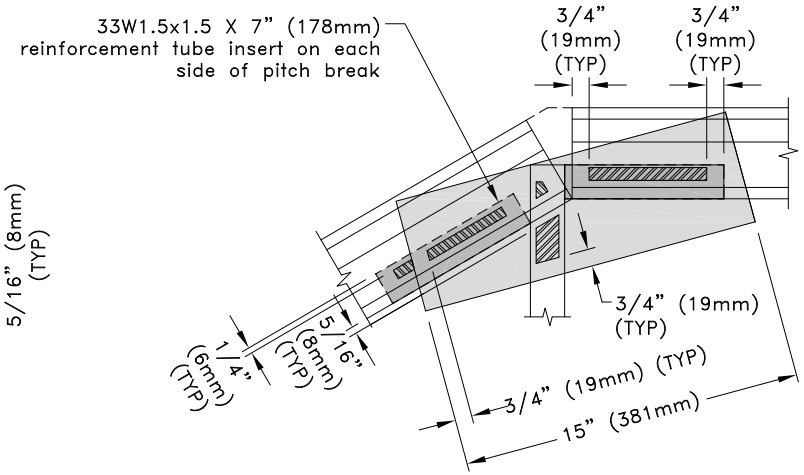
Fasteners Through The Chord Area
43TSBUC5.0 or 54TSBUC5.0
Bent–U Pitch Break Connector



Fasteners Through The Web Area
43TSBUC5.0 or 54TSBUC5.0
Bent–U Pitch Break Connector



Fasteners Through The Chord Area
54TSSPC5.0
Straight Pitch Break Connector



Fasteners Through The Web Area
54TSSPC5.0
Straight Pitch Break Connector

General Notes:

1. SDS = Self–Drilling Tapping Screw.
2. Fastener spacing and end distance is 3/4" (19mm) minimum, except as shown.
3. Refer to approved truss drawings for required fastener type and quantities for each fastener contact area.
4. Fastener contact areas that coincide with other contact areas may use a common fastener for both areas. This will result in a reduction in the total number of fasteners required at the pitch break joint.
5. Reinforcement tube to be attached to the chord with a minimum of (4) #14SDS fasteners from each face. See approved truss drawing for total quantity of fasteners to be applied into chord area.
6. Lengths "L" are equal.
7. = Fastener contact area.

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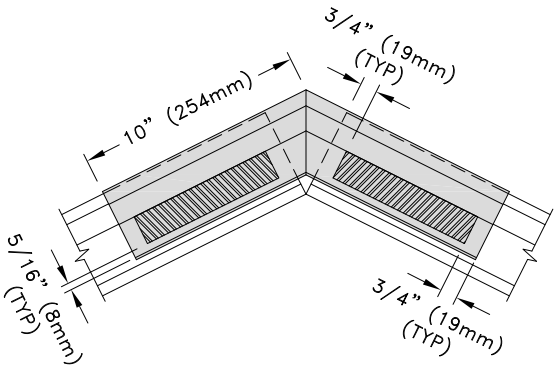
TSC3.00 or TSC4.00 Reinforced Pitch Break Connector #14SDS Fastener Areas

Standard Detail: TS016C

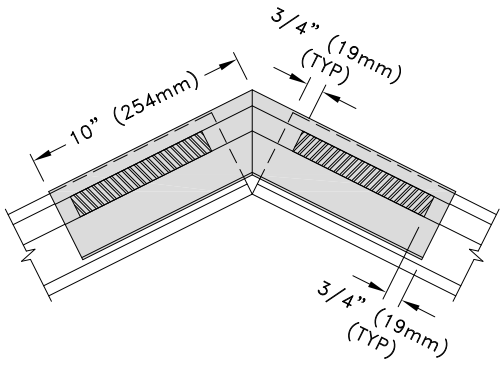
Date: 06/01/22

TrusSteel Detail Category: Pitch Break Connections

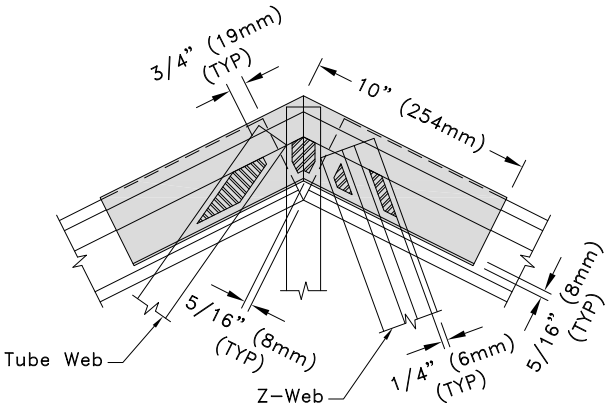
Top Chord Pitch Break



Fasteners Through The Flat Chord Area

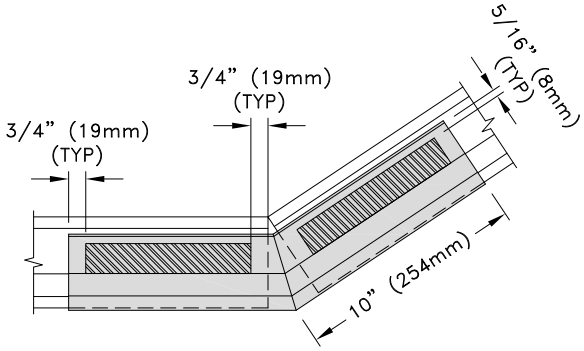


Fasteners Through The Slanted Chord Area

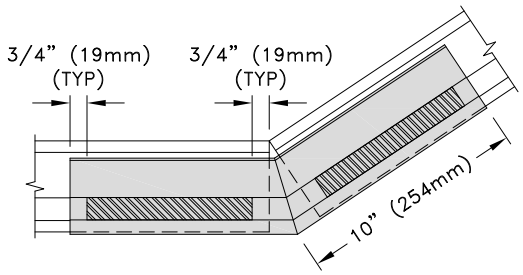


Fasteners Through The Web Area

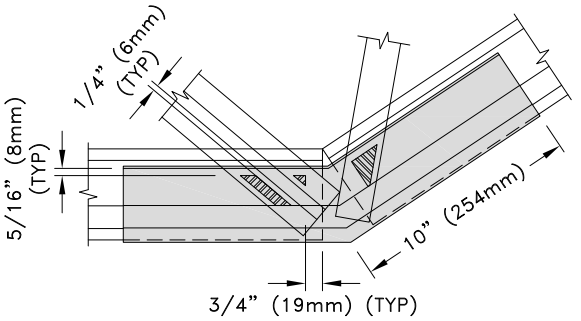
Bottom Chord Pitch Break



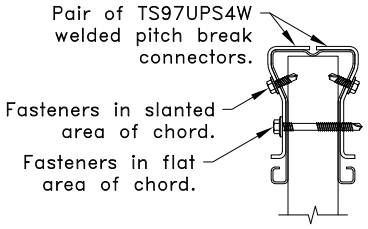
Fasteners Through The Flat Chord Area



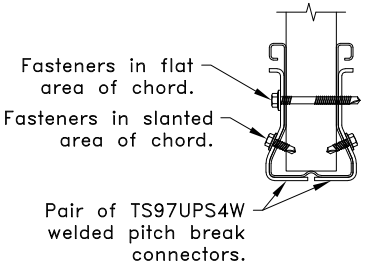
Fasteners Through The Slanted Chord Area



Fasteners Through The Web Area



Section View
Top Chord Pitch Break



Section View
Bottom Chord Pitch Break

General Notes:

1. Fastener spacing and end distance is 3/4" (19mm) minimum, except as shown.
2. Refer to approved truss drawings for required fastener type and quantities for each fastener contact area.
3. Fastener contact areas that coincide with other contact areas may use a common fastener for both areas. This will result in a reduction in the total number of fasteners required at the pitch break joint.
4. = Fastener contact area.

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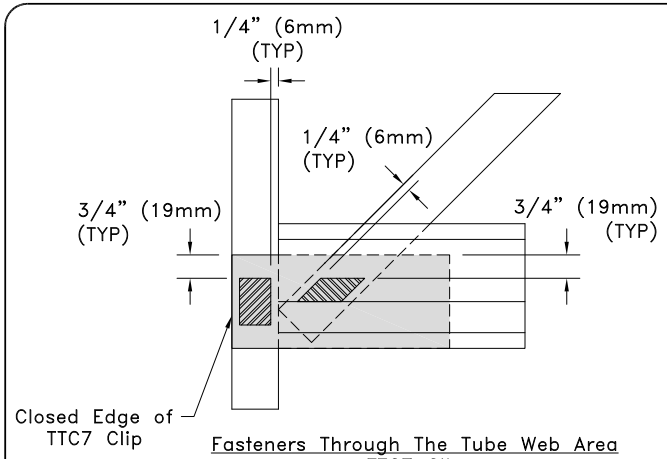
TSC4.00
Welded Pitch Break Connector
Fastener Areas

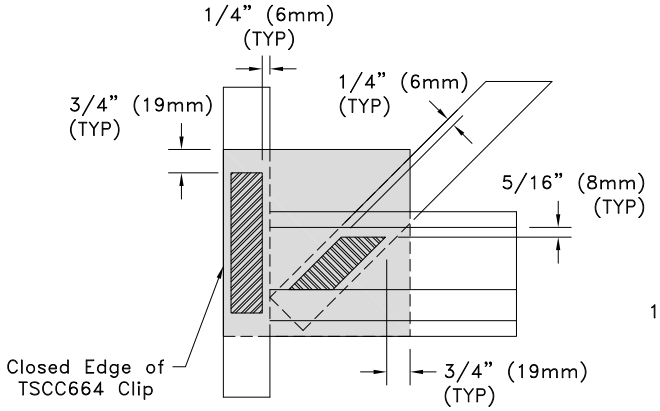
Standard Detail:
TS016D

Date:
06/01/22

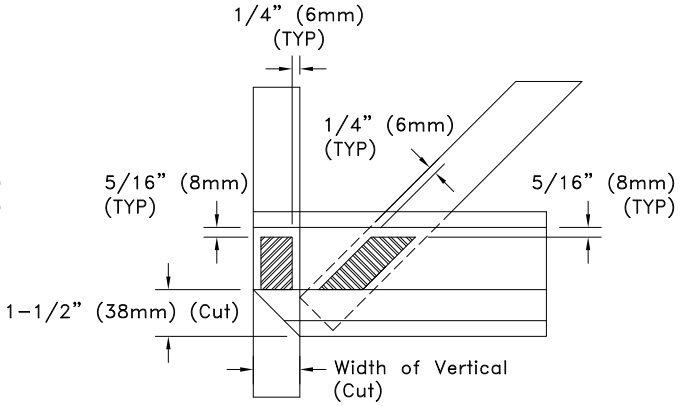
TrusSteel Detail Category:
Pitch Break Connections



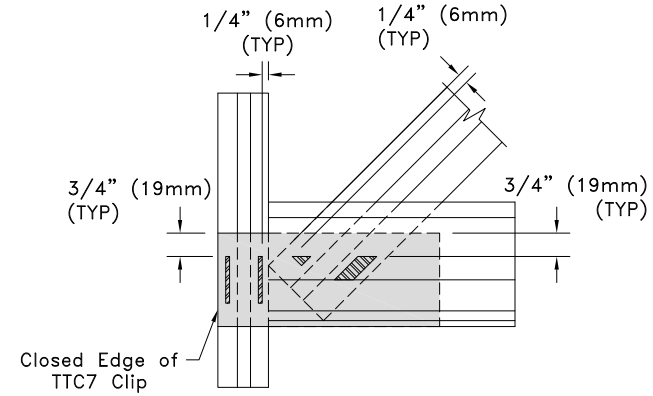
Fasteners Through The Tube Web Area
TTC7 Clip



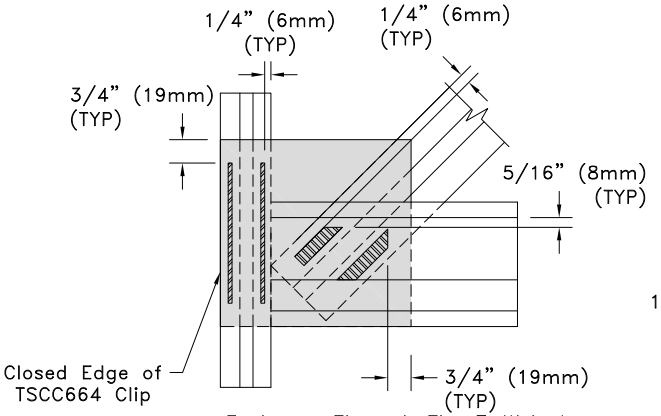
Fasteners Through The Tube Web Area
TSCC664 Clip



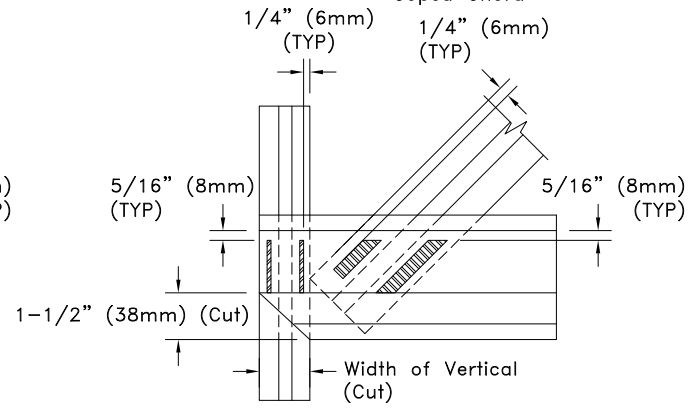
Fasteners Through The Tube Web Area
Coped Chord



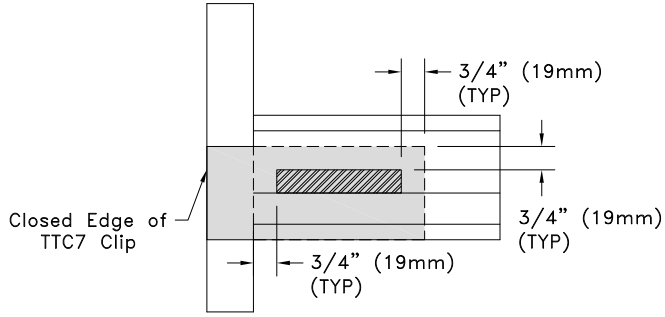
Fasteners Through The Z-Web Area
TTC7 Clip



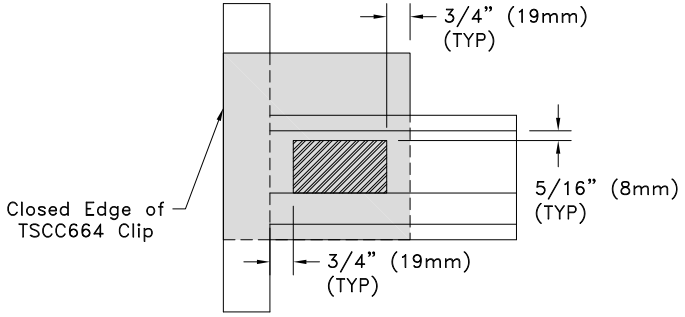
Fasteners Through The Z-Web Area
TSCC664 Clip



Fasteners Through The Z-Web Area
Coped Chord



Fasteners Through The Chord Area
TTC7 Clip



Fasteners Through The Chord Area
TSCC664 Clip

General Notes:

1. Fastener spacing and end distance is 3/4" (19mm) minimum, except as shown.
2. Refer to approved truss drawings for required fastener type and quantities for each fastener contact area.
3. Fastener contact areas that coincide with other contact areas may use a common fastener for both areas. This will result in a reduction in the total number of fasteners required at the pitch break joint.
4. = Fastener contact area.
5. Dashed lines indicate portion of web or clip that is inside clip or chord, respectively.

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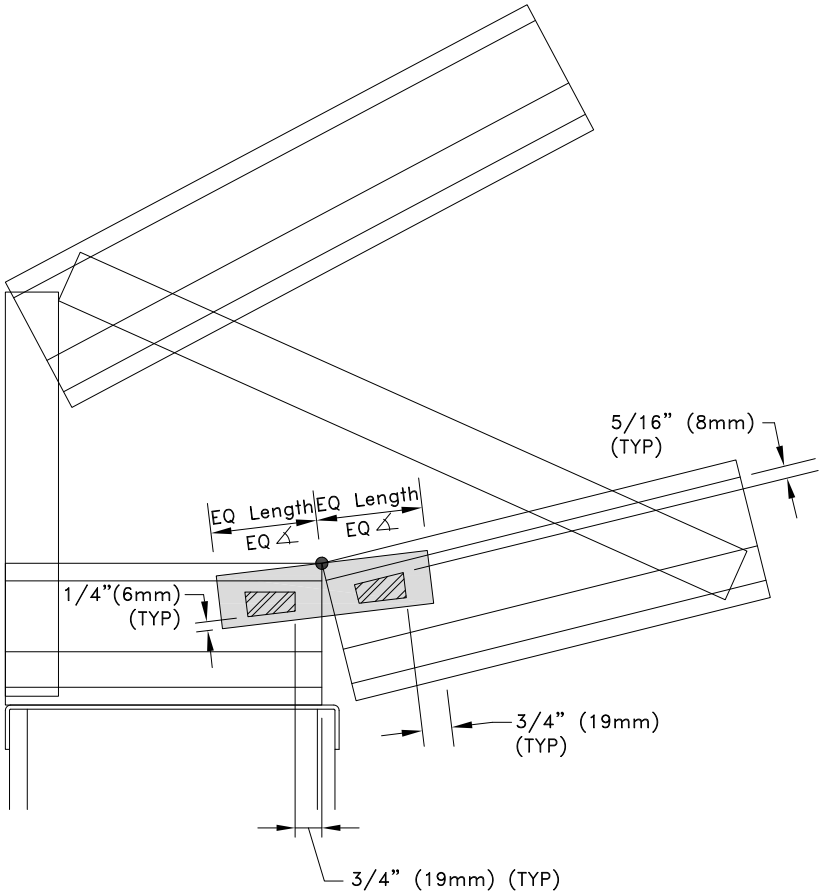
TSC3.00 or TSC4.00 Clipped and Coped Connections Connector Fastener Areas

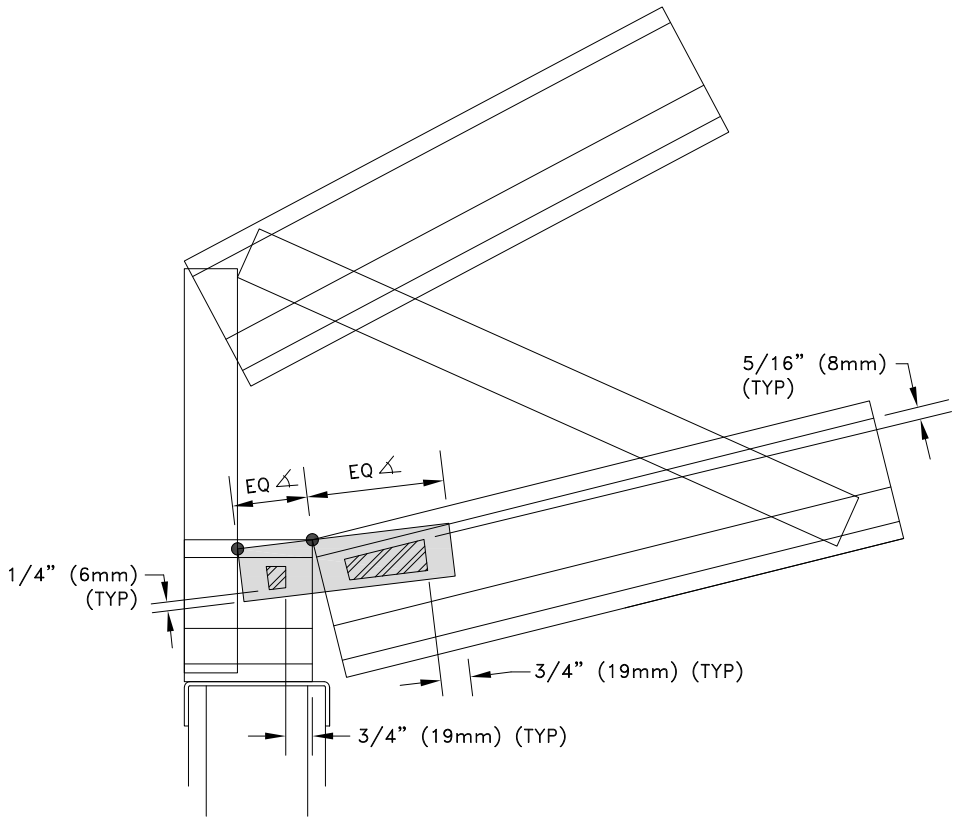
Standard Detail:
TS016E

Date:
06/01/22

TrusSteel Detail Category:
Pitch Break Connections



Fasteners Through The Web Area
Centered Seat Cut Tube and Fastener Placement
Tube Size: 33W1.5x1.5x6"(152mm)



Fasteners Through The Web Area
Off-Center Seat Cut Tube and Fastener Placement
Tube Size: 33W1.5x1.5x6"(152mm)

General Notes:

1. Refer to approved truss drawings for required fastener type and quantities for each fastener contact area.
2. Fastener spacing is 1-1/4" (32mm) and end distance is 3/4" (19mm) minimum, except as shown.
3. ▨ = Fastener contact area.
4. ● = Contact point between Seat Cut Tube and Chord/Web.
5. ∠ = Angle between top of bottom chord and top of Seat Cut Tube.

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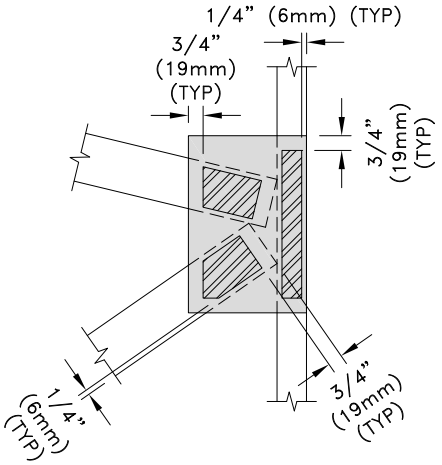
TSC3.00 or TSC4.00 Seat Cut Tube Pitch Break Connector

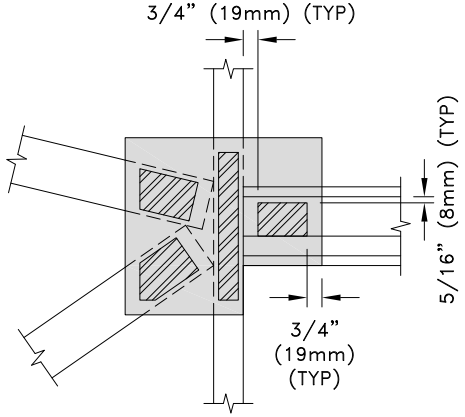
Standard Detail: TS016F

Date: 06/01/22

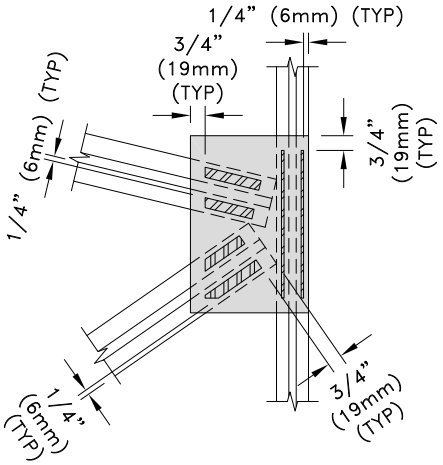
TrusSteel Detail Category: Pitch Break Connections



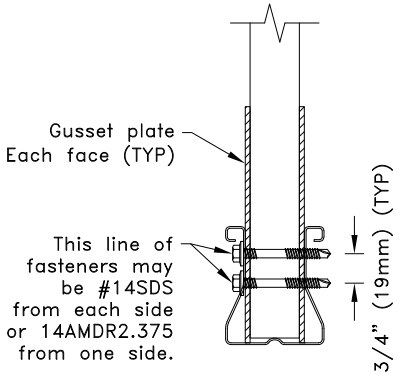
K–Web Fastener Area For Tube Webs Without Chord



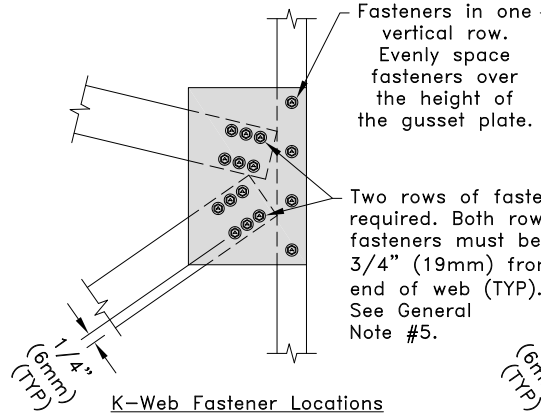
K–Web Fastener Area For Tube Webs With Chord



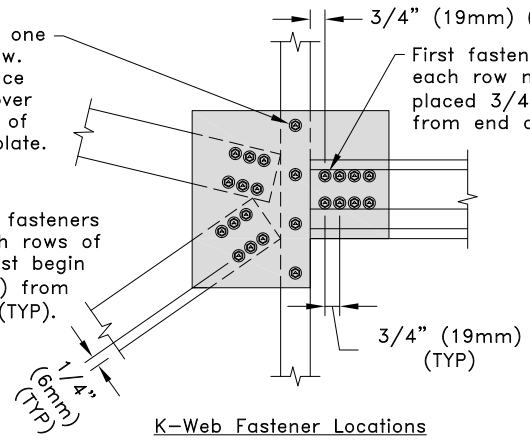
K–Web Fastener Area For Z–Webs Without Chord



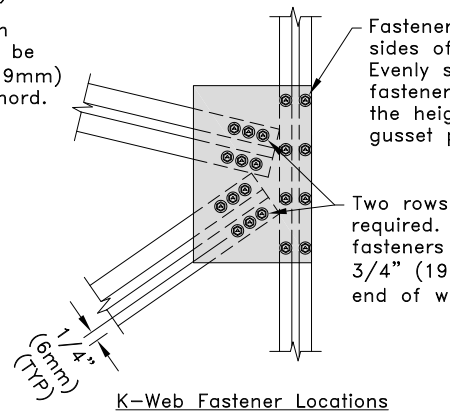
TSC3.00 Section



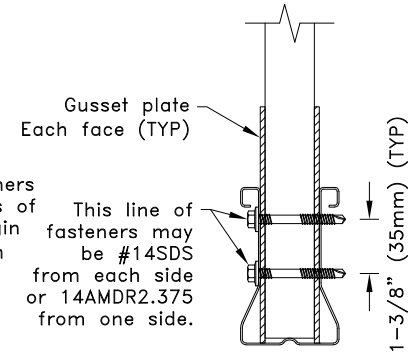
K–Web Fastener Locations For Tube Webs Without Chord



K–Web Fastener Locations For Tube Webs With Chord



K–Web Fastener Locations For Z–Webs Without Chord



TSC4.00 Section

General Notes:

1. SDS = Self–Drilling Tapping Screw.
2. Fastener spacing and end distance is 3/4" (19mm) minimum except as shown.
3. Refer to approved truss drawing for gusset size, gauge and grade.
4. Refer to approved truss drawings for required fastener type and quantities for each member connected to gusset plate.
5. If K–Web diagonals are 3/4" (19mm) wide, one row of fasteners is adequate.
6. If any web is 3–1/2" (89mm) wide three rows of fasteners are allowed.
7. = Fastener contact area.

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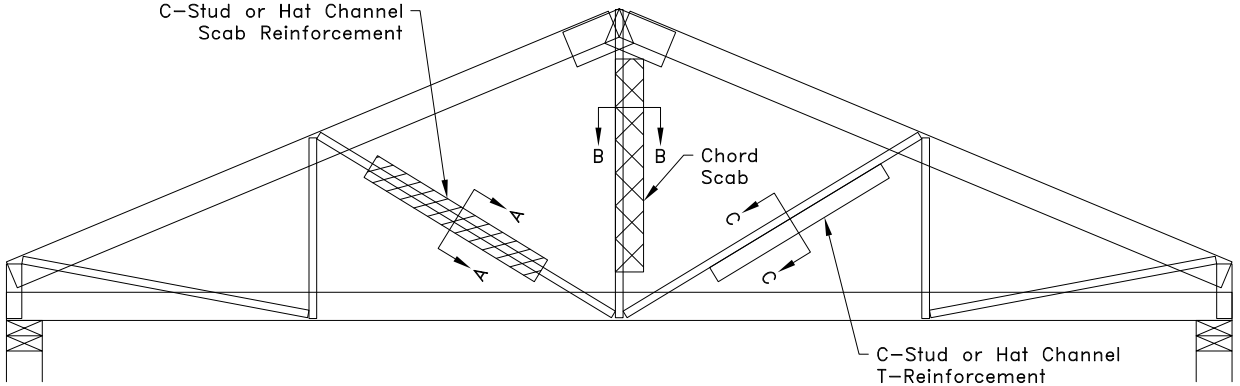
TSC3.00 or TSC4.00 Gusset Plate Fastener Placement

Standard Detail: TS016G

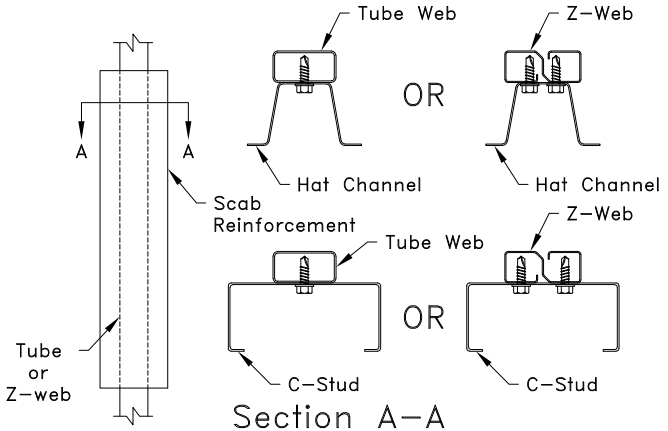
Date: 06/01/22

TrusSteel Detail Category: Pitch Break Connections

Different Types of Web Reinforcements Shown on TrusSteel Drawings



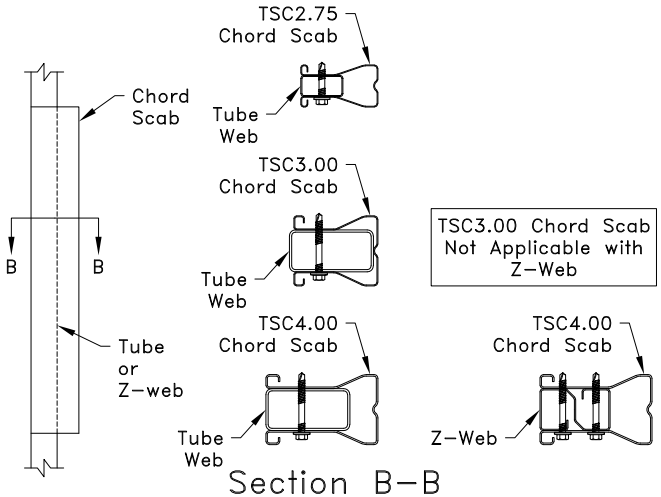
C-Stud or Hat Channel Scab Reinforcement



Section A-A

Minimum C-Stud = 362S162-33
Minimum Hat Channel = 150F125-33

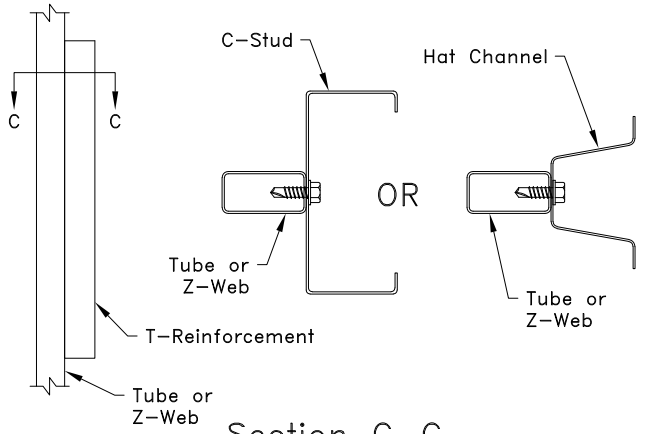
Chord Scab



Section B-B

Minimum chord scab = 28TSC2.75 for .75" (19mm) wide webs
Minimum chord scab = 28TSC3.00 or 28TSC4.00 for 1.5" (38mm) wide webs

C-Stud or Hat Channel T-Reinforcement



Section C-C

Minimum C-Stud = 362S162-33
Minimum Hat Channel = 150F125-33

NOTICE **The details on this page are generic installation guides only. See approved truss drawings for specific reinforcement material, size and connection requirements per ply. Web reinforcements called out on the approved truss drawings shall NOT be substituted for a different reinforcement type unless approved by a TrusSteel engineer.**

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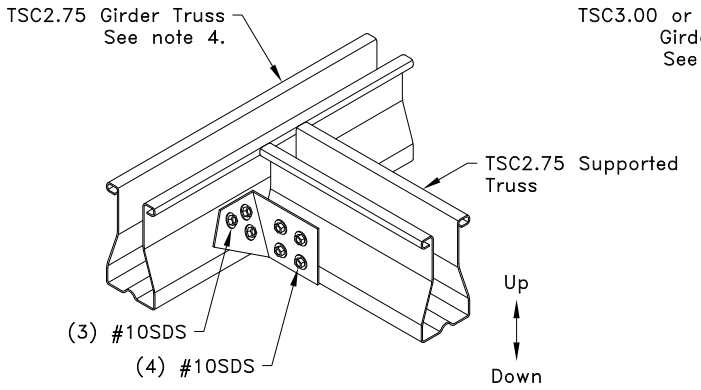
General Web Reinforcement Guidelines

Standard Detail:
TS019

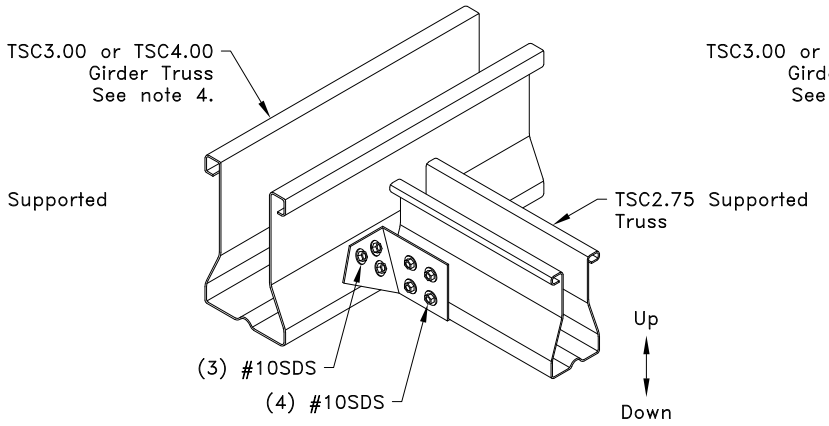
Date:
06/01/22

TrusSteel Detail Category:
Reinforcement

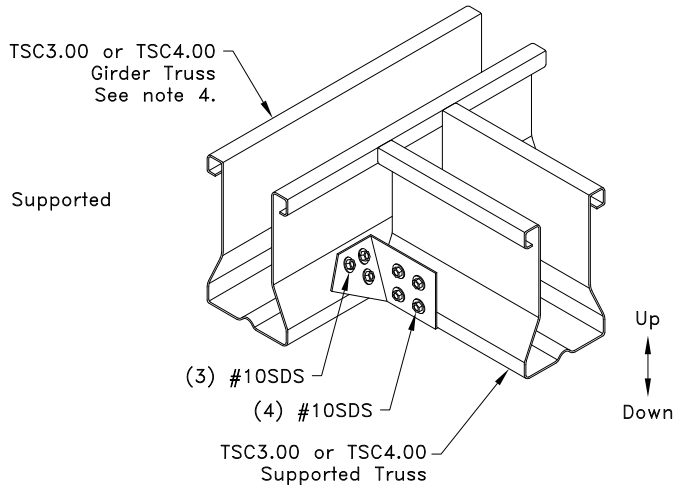
TSJH22



TSJH24



TSJH44



TSJH22 Allowable Loads Up and Down lbs (kN)			
Load Direction	Girder Truss		
	28TSC 22ga	33TSC 20ga	43TSC 18ga
Down	730 (3.25)	910 (4.05)	1360 (6.05)
Up – Gravity & Wind	670 (2.98)	760 (3.38)	1000 (4.45)

TSJH24 And TSJH44 Allowable Loads Up and Down lbs (kN)						
Load Direction	Girder Truss					
	28TSC 22ga	33TSC 20ga	43TSC 18ga	54TSC 16ga	68TSC 14ga	97TSC 12ga
Down	1090 (4.85)	1130 (5.03)	1330 (5.92)	1340 (5.96)	1340 (5.96)	1340 (5.96)
Up – Gravity & Wind	550 (2.45)	770 (3.43)	990 (4.40)	1200 (5.34)	1200 (5.34)	1200 (5.34)

General Notes:

1. SDS = Self-Drilling Tapping Screw. Screws to be applied through the pre-drilled holes in hanger into the TrusSteel chord. The same quantity of screws is to be applied on the side of the hanger that is not visible.
2. Do not overdrive screws. Overdriven screws may strip out of TrusSteel chord.
3. Hangers may be located anywhere along girder chords.
4. Refer to TrusSteel detail drawings TS023 or TS024 for ply-to-ply connections for multi-ply girders.
5. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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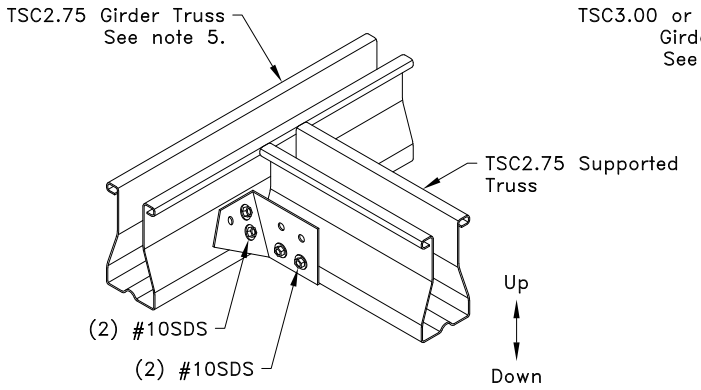
TSJH22, TSJH24 And TSJH44 Hanger Application

Standard Detail: TS022

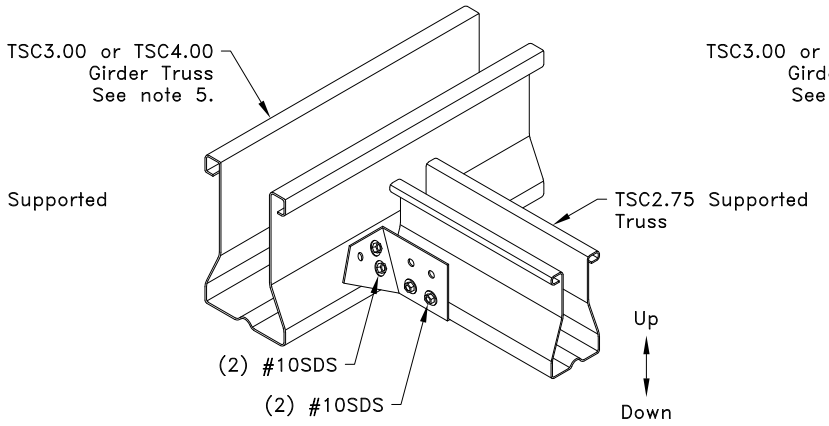
Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections

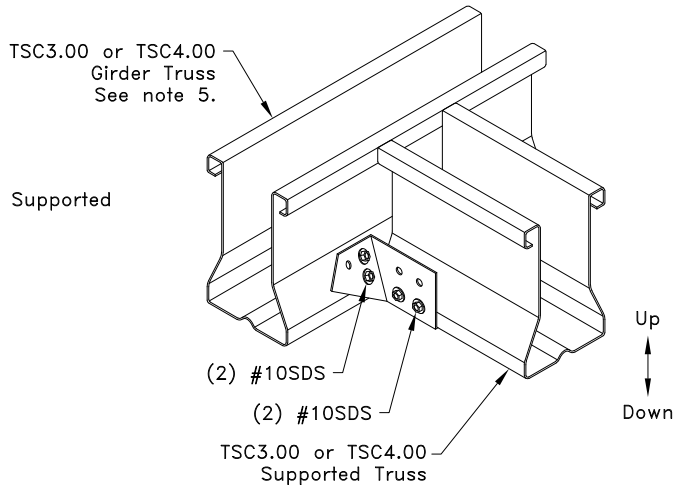
TSJH22



TSJH24



TSJH44



TSJH22 Allowable Loads Up and Down lbs (kN)			
Load Direction	Girder Truss		
	28TSC 22ga	33TSC 20ga	43TSC 18ga
Down	370 (1.65)	460 (2.05)	630 (2.80)
Up – Gravity & Wind	340 (1.51)	380 (1.69)	410 (1.82)

TSJH24 And TSJH44 Allowable Loads Up and Down lbs (kN)						
Load Direction	Girder Truss					
	28TSC 22ga	33TSC 20ga	43TSC 18ga	54TSC 16ga	68TSC 14ga	97TSC 12ga
Down	370 (1.65)	460 (2.05)	630 (2.80)	630 (2.80)	630 (2.80)	630 (2.80)
Up – Gravity & Wind	340 (1.51)	380 (1.69)	410 (1.82)	410 (1.82)	410 (1.82)	410 (1.82)

General Notes:

1. SDS = Self-Drilling Tapping Screw. Screws to be applied through the pre-drilled holes in hanger into the TrusSteel chord. The same quantity of screws is to be applied on the side of the hanger that is not visible.
2. Screws must be located in the holes as shown in the figures above. Screws shall not be placed differently than shown above.
3. Do not overdrive screws. Overdriven screws may strip out of TrusSteel chord.
4. Hangers may be located anywhere along girder chords.
5. Refer to TrusSteel detail drawings TS023 or TS024 for ply-to-ply connections for multi-ply girders.
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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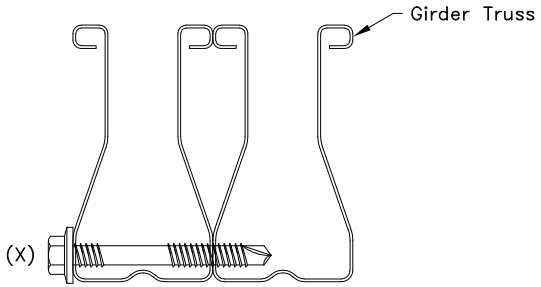
TSJH22, TSJH24 And TSJH44 Hanger Application With Reduced Screw Quantities

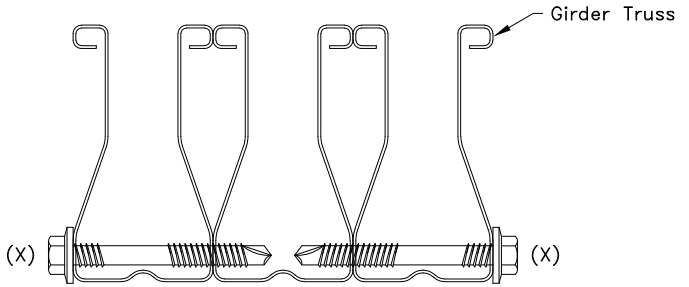
Standard Detail:
TS022A

Date:
06/01/22

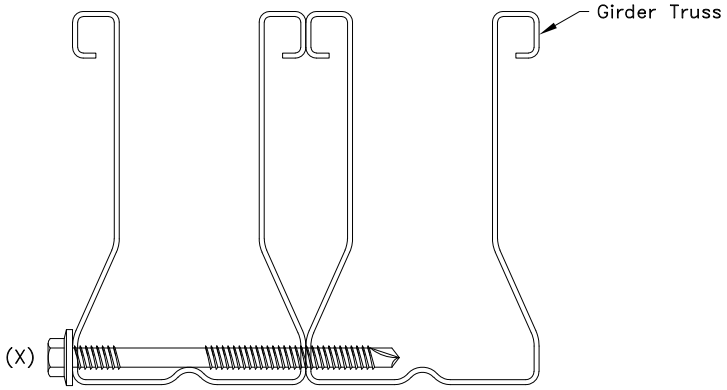
TrusSteel Detail Category:
Truss-To-Truss Connections



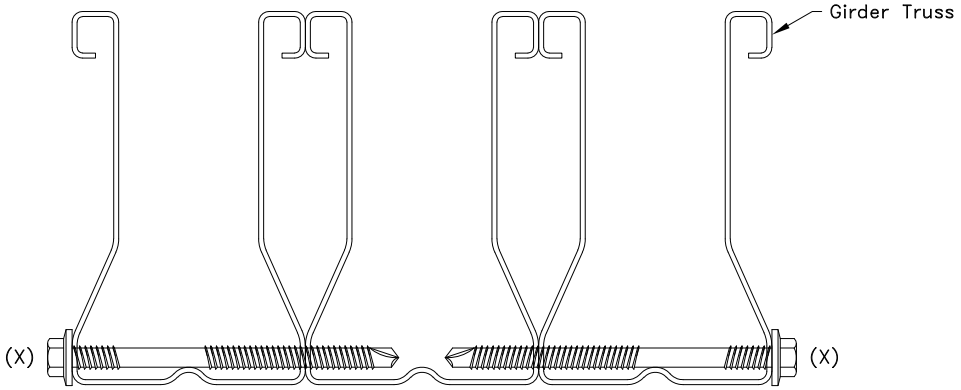
TSC2.75 2–Ply Connection



TSC2.75 3–Ply Connection



TSC3.00 or TSC4.00 2–Ply Connection



TSC3.00 or TSC4.00 3–Ply Connection

X Denotes Number Of Fasteners To Be Applied At Each Hanger Location						
X = Number of required fasteners	Maximum Reaction R and Uplift U from Supported Truss lbs (kN)					
	For 28TSC girder truss	For 33TSC girder truss	For 43TSC girder truss	For 54TSC girder truss	For 68TSC girder truss	For 97TSC girder truss
1	350 (1.56)	440 (1.96)	650 (2.89)	920 (4.09)	1300 (5.78)	1360 (6.05)
2	700 (3.11)	880 (3.91)	1310 (5.83)	1360 (6.05)	1360 (6.05)	
3	1060 (4.72)	1320 (5.87)	1360 (6.05)			
4	1360 (6.05)	1360 (6.05)				

General Notes:

1. If more than one fastener is required, spacing and end distance of fasteners = 3/4" (19mm).
2. Fastener connection shown to be applied within 12" (305mm) of the supported truss.
3. Fastener(s) shall not be located at a panel point.
4. Fasteners(X) = 14AMDB2.125 for TSC2.75 and 14AMD3.5 for TSC3.00 or TSC4.00
5. Cold–Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold–Formed Steel Structural Members" (S100–16/S2–20).

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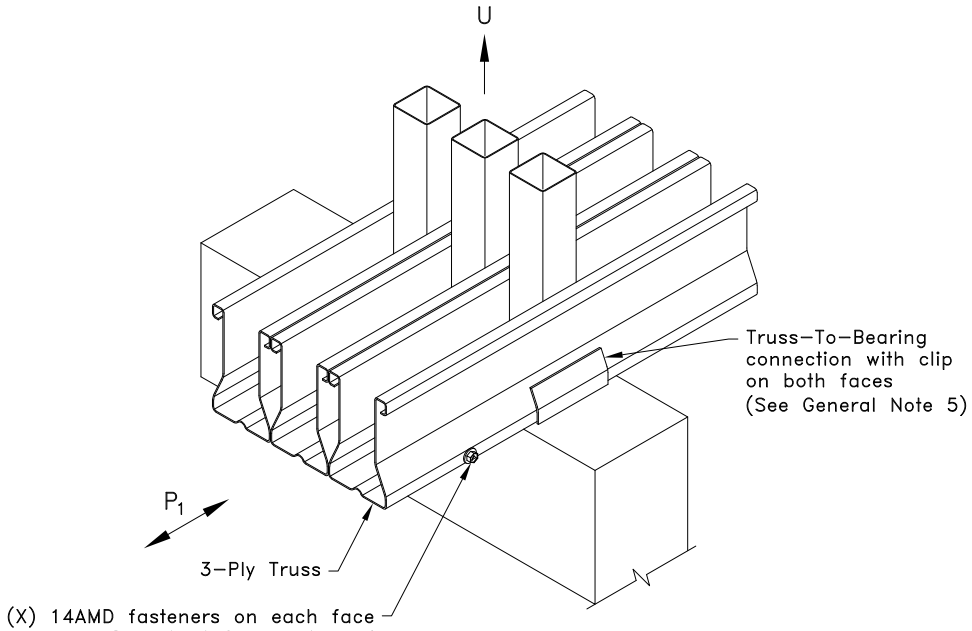
TSC2.75, TSC3.00 or TSC4.00 Ply-To-Ply Connection When Hangers Are Used To Support Trusses

Standard Detail: TS023

Date: 06/01/22

TrusSteel Detail Category: Ply-To-Ply Connections



3–Ply Connection
Clip On Both Faces

Allowable Uplift, U, or Lateral, P_1, Reaction – lbs (kN)[A]						
3–Ply Truss with Bearing Connection On Both Faces						
(X) = Number of required fasteners on each face	28TSC	33TSC	43TSC	54TSC	68TSC	97TSC
1	1410 (6.27)	1760 (7.83)	2620 (11.65)	3680 (16.37)	5200 (23.13)	5830 (25.93)
2	2820 (12.54)	3520 (15.66)	5230 (23.26)	7360 (32.74)	10390 (46.22)	11650 (51.82)
3	4230 (18.82)	5270 (23.44)	7850 (34.92)	11030 (49.06)	15590 (69.35)	17480 (77.75)
4	5640 (25.09)	7030 (31.27)	10460 (46.53)	14710 (65.43)	20780 (92.43)	23300 (103.64)
5	7050 (31.36)	8790 (39.10)	13080 (58.18)	18390 (81.80)	25980 (115.56)	29130 (129.58)

A. If uplift and lateral are in combination, contact a TrusSteel engineer.

General Notes:

1. Contact a TrusSteel engineer for one face connection on 2–Ply or 3–Ply trusses.
2. If more than one fastener is required, spacing and end distance of fasteners = 3/4" (19mm).
3. Fastener connection shown to be applied within 8" (305mm) of the bearing connection.
4. Fasteners(X) = 14AMDB2.125 for TSC2.75 and 14AMD3.5 for TSC3.00 or TSC4.00
5. For proper attachment of the truss to the bearing, see approved truss to bearing connection detail.
6. Cold–Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold–Formed Steel Structural Members" (S100–16/S2–20).

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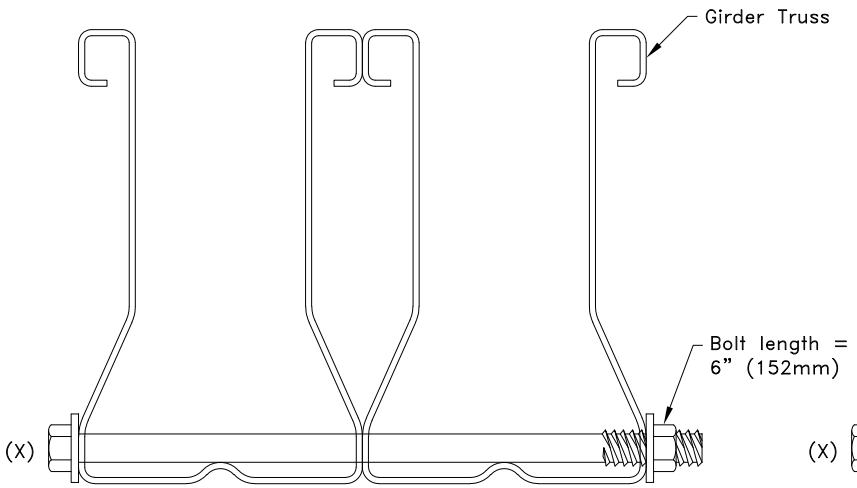
Ply-To-Ply Connection For Bearing Connections On 3-Ply Trusses

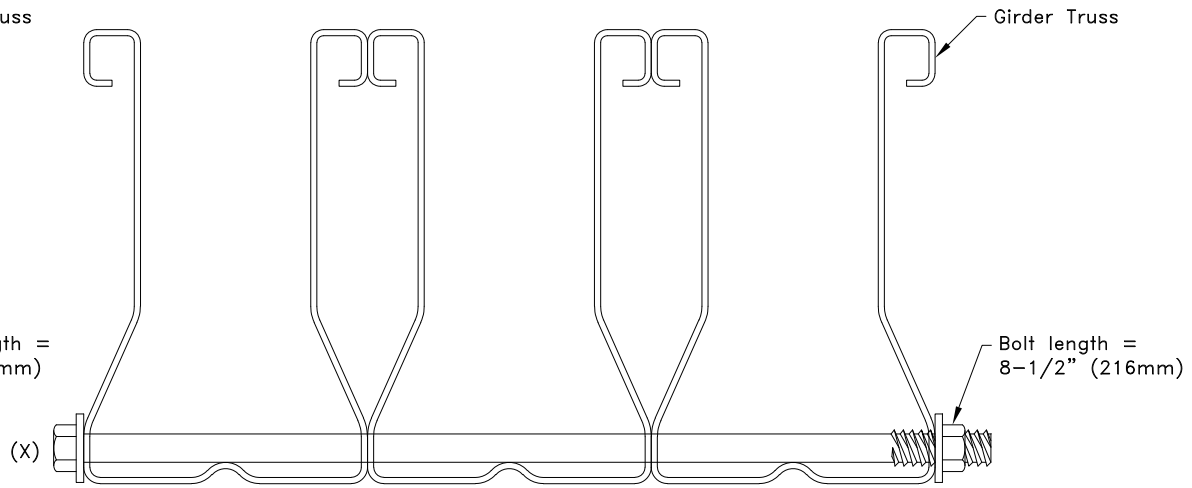
Standard Detail: TS023A

Date: 06/01/22

TrusSteel Detail Category: Ply-To-Ply Connections



TSC3.00 or TSC4.00 2-Ply Connection



TSC3.00 or TSC4.00 3-Ply Connection

X Denotes Number Of Bolts To Be Applied At Each Hanger Location	
X = Number of required bolts	Maximum Reaction R and Uplift U from Supported Truss lbs (kN)
1	660 (2.94)
2	1310 (5.83)
3	1360 (6.05)

General Notes:

1. If more than one bolt is required, spacing and end distance of bolts = 1" (25mm).
2. Bolted connection shown to be applied within 12" (305mm) of the supported truss.
3. Bolt(s) shall not be located at a panel point.
4. Bolts(X) = ASTM A307 Grade A 1/4" (6mm) thru bolt with washer under head and nut.
5. Holes for bolt must be pre-drilled - diameter = 9/32" (7mm).
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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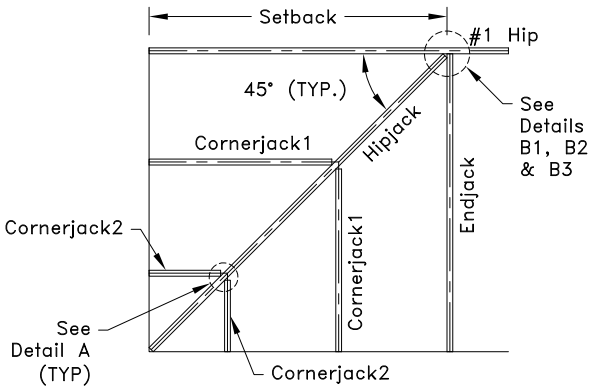
TSC3.00 or TSC4.00 Ply-To-Ply Connections Using Bolts When Hangers Are Used To Support Trusses

Standard Detail: TS024

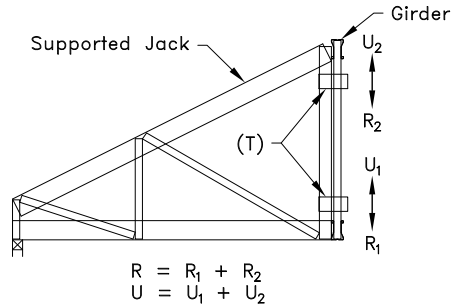
Date: 06/01/22

TrusSteel Detail Category: Ply-To-Ply Connections



Partial Roof Layout

(T) = TTC; for 2 clip connection, place within 1" (25mm) of top and bottom as shown. For 1 clip connection, place within 1" (25mm) of bottom chord, or as analyzed. Bend clip to fit.



$R = R_1 + R_2$
$U = U_1 + U_2$

Typical Jack To Girder Connection

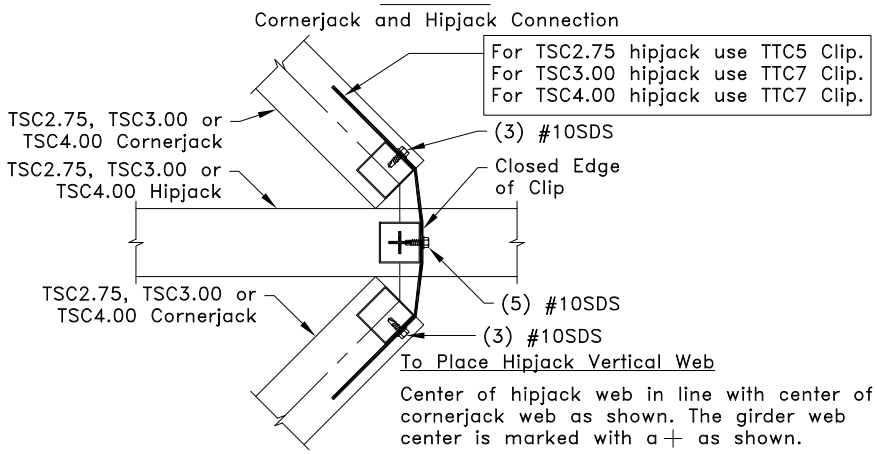
Allowable Values

Supported Jack Type	Number of Clips	R = U lbs (kN)
Cornerjack	1[A]	500 (2.22)
Cornerjack	2	1000 (4.44)
Hipjack	2	1235 (5.49)
Endjack	2	1235 (5.49)

A. (1) Clip may be used when supported truss height is less than 48" (1219mm).

Detail A

Cornerjack and Hipjack Connection



To Place Hipjack Vertical Web

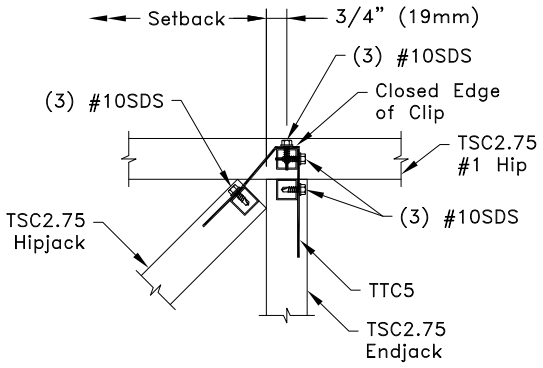
Center of hipjack web in line with center of cornerjack web as shown. The girder web center is marked with a + as shown.

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins.
2. If supported truss or girder web is a Z-web, refer to TS068 for connection areas.
3. SDS = Self-Drilling Tapping Screw. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
4. Truss must be analyzed with concentrated loads directly in line with correctly placed girder vertical webs. Details A, B1, B2, & B3 give correct web placement information.
5. For multi-ply #1 Hips, refer to Standard Detail TS025D for ply to ply connection requirements.
6. Girder web shall not be a C-Web.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

Detail B1

TSC2.75 Into TSC2.75 Connection

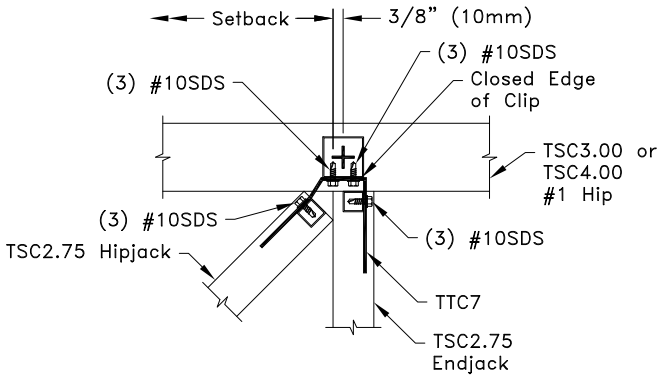


To Place #1 Hip Vertical Web

Edge of #1 hip web in line with edge of endjack web as shown. The girder web center is marked with a + as shown.

Detail B2

TSC2.75 Into TSC3.00 or TSC4.00 Connection

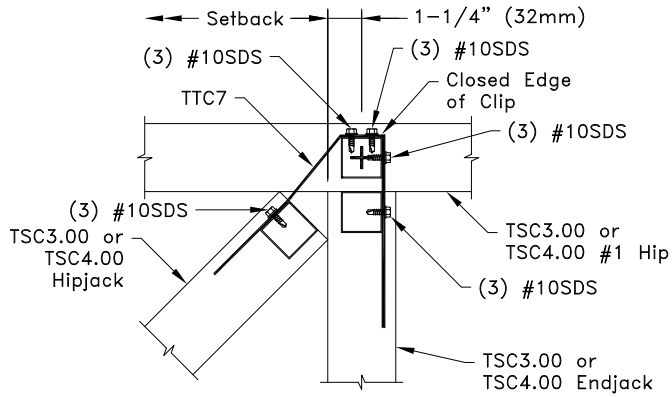


To Place #1 Hip Vertical Web

Edge of #1 hip web in line with edge of endjack web as shown. The girder web center is marked with a + as shown.

Detail B3

TSC3.00 or TSC4.00 Into TSC3.00 or TSC4.00 Connection



To Place #1 Hip Vertical Web

Edge of #1 hip web in line with edge of endjack web as shown. The girder web center is marked with a + as shown.

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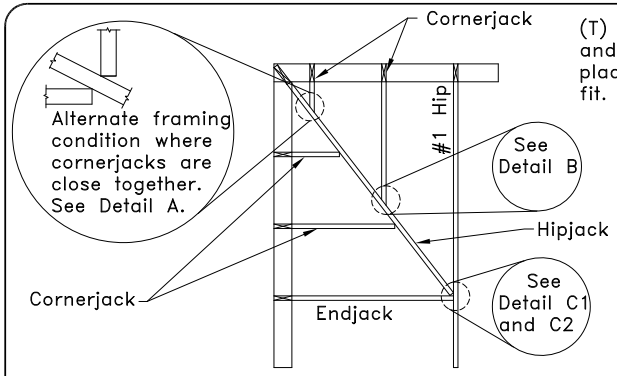
45° Hipjack, Endjack And Cornerjack Connection Details

Standard Detail:
TS025

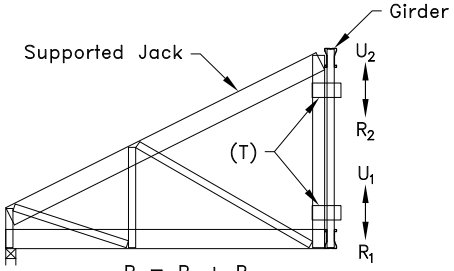
Date:
06/01/22

TrusSteel Detail Category:
Truss-To-Truss Connections



Partial Layout

(T) = TTC; for 2 clip connection, place at top and bottom as shown. For 1 clip connection, place at bottom, or as analyzed. Bend clip to fit.



$R = R_1 + R_2$
$U = U_1 + U_2$

Typical Jack to Girder Connection

Allowable Values

Supported Jack Type	Number of Clips	R = U lbs (kN)
Cornerjack	1[A]	500 (2.22)
Cornerjack	2	1000 (4.44)
Hipjack	2	1235 (5.49)
Endjack	2	1235 (5.49)

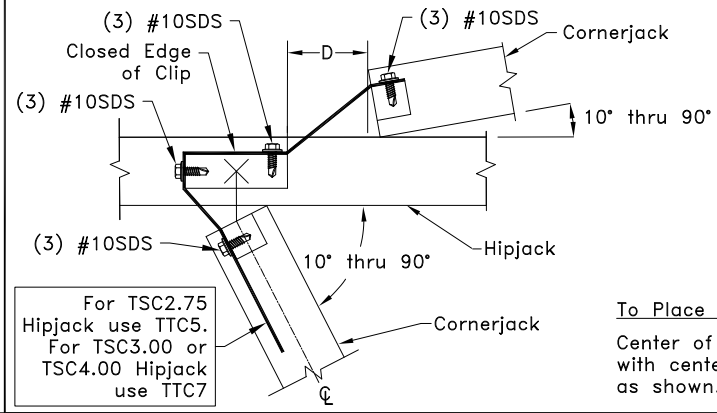
A. (1) Clip may be used when supported truss height is less than 48" (1219mm).

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins.
2. If supported truss or girder web is a Z-web, refer to TS068 for connection areas.
3. SDS = Self-Drilling Tapping Screw. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
4. Truss must be analyzed with concentrated loads directly in line with correctly placed girder vertical webs. Details A, B, C1, & C2 give correct web placement information.
5. For multi-ply #1 Hips, refer to Standard Detail TS025D for ply to ply connection requirements.
6. Girder web shall not be a C-Web.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

Detail A

Distance D (defined below) must be 1-1/4"(31.8mm) or less for this connection.



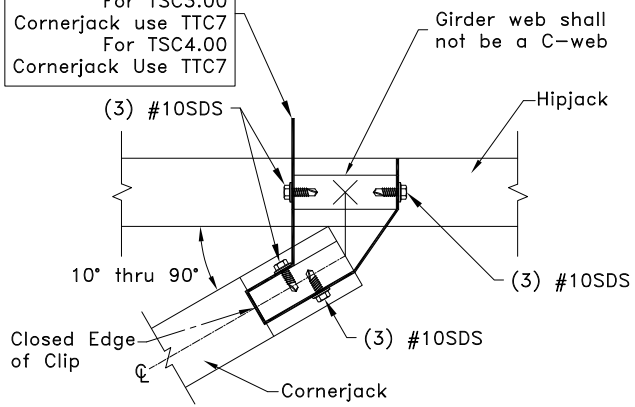
For TSC2.75 Hipjack use TTC5. For TSC3.00 or TSC4.00 Hipjack use TTC7

To Place Hipjack Vertical Web

Center of hipjack web in line with center of cornerjack web as shown.

Detail B

For TSC2.75 Cornerjack use TTC5
For TSC3.00 Cornerjack use TTC7
For TSC4.00 Cornerjack Use TTC7

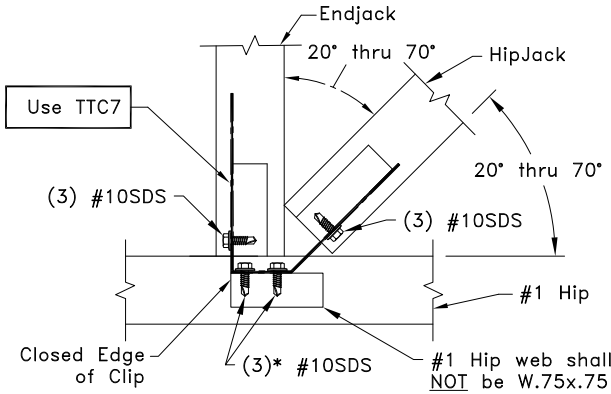


To Place Hipjack Vertical Web

Center of hipjack web in line with center of cornerjack web as shown.

Detail C1

#1 Hip web shall be wider than .75" (19.1mm)



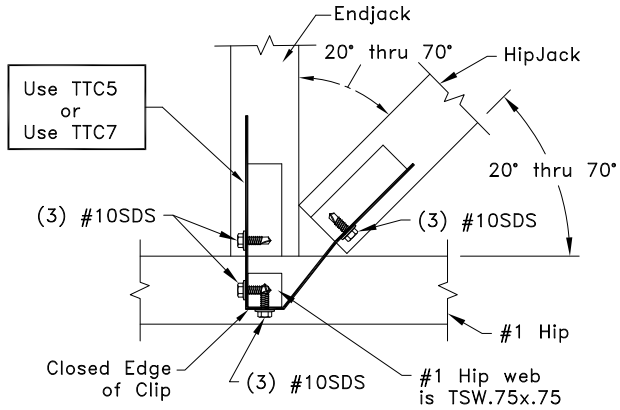
To Place #1 Hip Vertical Web

Edge of #1 hip web in line with edge of endjack web as shown.

* Clip must be bent as needed to insure that screws penetrate both connection areas for Z-webs.

Detail C2

#1 Hip web is TSW.75x.75



To Place #1 Hip Vertical Web

Edge of #1 hip web in line with edge of endjack web as shown.

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Non 45° Hipjack, Endjack, & Cornerjack Connection Details

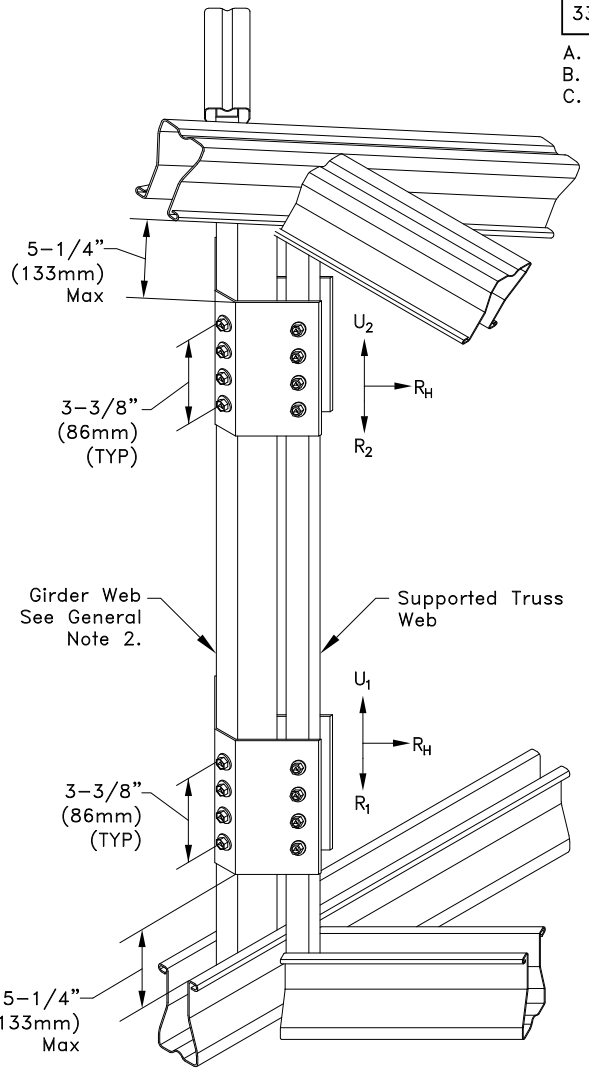
Standard Detail: TS025A

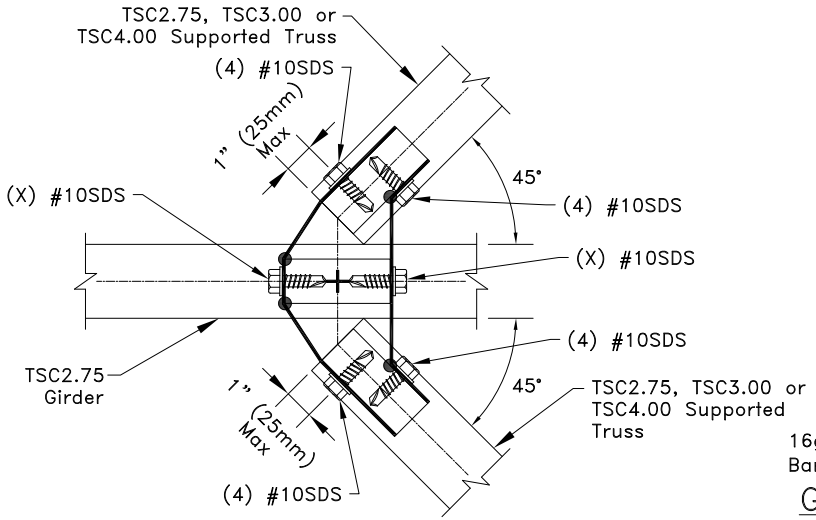
Date: 06/01/22

TrusSteel Detail Category: Truss-to-Truss Connection

Allowable Values					
Girder Web	Maximum Length of Girder Web in (mm)	Maximum Axial Force in Girder Web lbs (kN)	X[A]	R_H (per supported truss) lbs (kN)[B]	R = U (per supported truss) lbs (kN)[B]
33W.75x1.5	36 (914)	542 (2.41)	4	175 (0.78)	270 (1.20)
33W.75x2.25	39 (991)	850 (3.78)	4	250 (1.11)	430 (1.91)

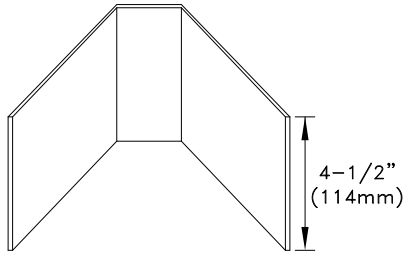
A. The quantity "X" refers to the number of #10SDS required on each side of the girder web, as shown in the cut section view.
B. R = Supported truss vertical reaction, R_H = Supported truss horizontal reaction, and U = uplift.
C. $R = R_1 + R_2$
$U = U_1 + U_2$





TSC2.75 Clip Pair Cut Section

Girder web placement: Center lines of supported trusses line up with center of girder web, as shown above. The girder web center is marked with a + as shown.



16g ASTM A653 SS Grade 50 Class 1 G60
Bare metal thickness = 0.0538" (1.37mm)

General Clip Information

Clip shape and dimensions are different for each girder web to supported truss web combination. Bend to fit web geometry using brake, or see Technical Bulletin 06.06.28 for a listing of specific dimensions for all possible web combinations.

General Notes:

1. SDS = Self-Drilling Tapping Screw. #10SDS end distance is 9/16" (14mm) and edge distance is 9/32" (7mm). #10SDS shall be spaced a minimum distance of 1-1/8" (29mm) apart vertically and 9/16" (14mm) apart horizontally.
2. Girder must be analyzed with concentrated loads from supported trusses in line with center of correctly placed girder webs. "TSC2.75 Clip Pair Cut Section" gives correct girder web placement information.
3. Two clips must be used for one clip pair. Two clip pairs are required for connection as shown. Supported truss must be analyzed with clip type bearings.
4. ● = Clip Bend; Bend clip only once.
5. This connection is for two identical trusses with one truss on each face of the girder web.
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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45° Connection For Single Ply TSC2.75 Girder (Supported Trusses Have Horizontal and Vertical Reactions)

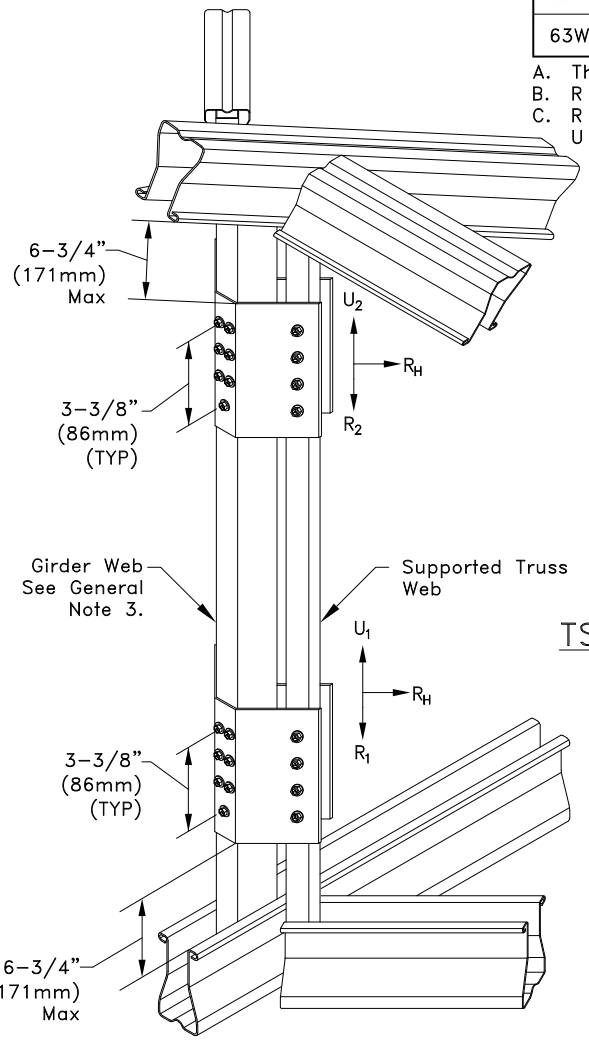
Standard Detail: TS025B

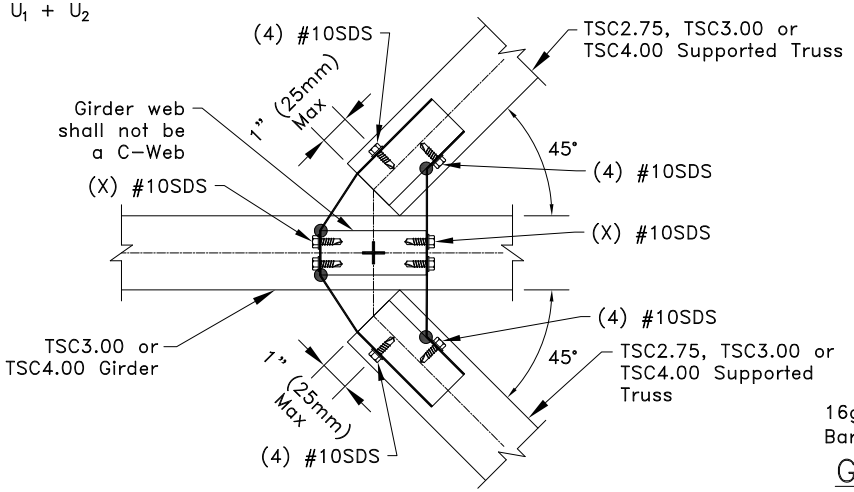
Date: 06/01/22

TrusSteel Detail Category: Truss-to-Truss Connection

Allowable Values					
Girder Web	Maximum Length of Girder Web in (mm)	Maximum Axial Force in Girder Web lbs (kN)	X[A]	R_H (per supported truss) lbs (kN)[B]	R = U (per supported truss) lbs (kN)[B]
33W1.5x1.5 or 33Z1.5x1.62	56 (1422)	820 (3.65)	4	175 (0.78)	420 (1.87)
33W1.5x2.0 or 33Z1.5x2.50	60 (1524)	860 (3.83)	4	280 (1.25)	420 (1.87)
47W1.5x2.5 or 43Z1.5x3.62	60 (1524)	1350 (6.01)	7	570 (2.54)	680 (3.02)
63W1.5x3.5 or 54Z1.5x3.62	60 (1524)	3540 (15.75)	7	950 (4.23)	1400 (6.23)

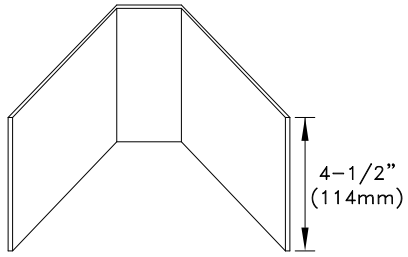
A. The quantity "X" refers to the number of #10SDS required on each side of the girder web, as shown in the cut section view.
B. R = Supported truss vertical reaction, R_H = Supported truss horizontal reaction, and U = uplift.
C. $R = R_1 + R_2$
$U = U_1 + U_2$





TSC3.00 or TSC4.00 Clip Pair Cut Section

Girder web placement: Center lines of supported trusses line up with center of girder web, as shown above. The girder web center is marked with a + as shown.



16g ASTM A653 SS Grade 50 Class 1 G60
Bare metal thickness = 0.0538" (1.37mm)

General Clip Information

Clip shape and dimensions are different for each girder web to supported truss web combination. Bend to fit web geometry using brake, or see Technical Bulletin 06.06.28 for a listing of specific dimensions for all possible web combinations.

General Notes:

1. If supported truss or girder web is a Z-web, refer to TS068 for connection areas.
2. SDS = Self-Drilling Tapping Screw. #10SDS end distance is 9/16" (14mm) and edge distance is 9/32" (7mm). #10SDS shall be spaced a minimum distance of 1-1/8" (29mm) apart vertically and 9/16" (14mm) apart horizontally.
3. Girder must be analyzed with concentrated loads from supported trusses in line with center of correctly placed girder webs. "TSC3.00 or TSC4.00 Clip Pair Cut Section" gives correct girder web placement information.
4. Two clips must be used for one clip pair. Two clip pairs are required for connection as shown. Supported truss must be analyzed with clip type bearings.
5. ● = Clip Bend; Bend clip only once.
6. This connection is for two identical trusses with one truss on each face of the girder web.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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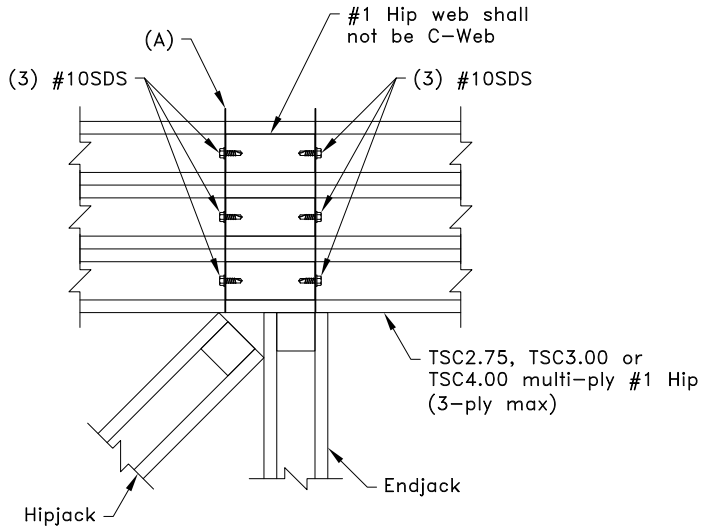
45° Connection For Single Ply TSC3.00 or TSC4.00 Girder (Supported Trusses Have Horizontal and Vertical Reactions)

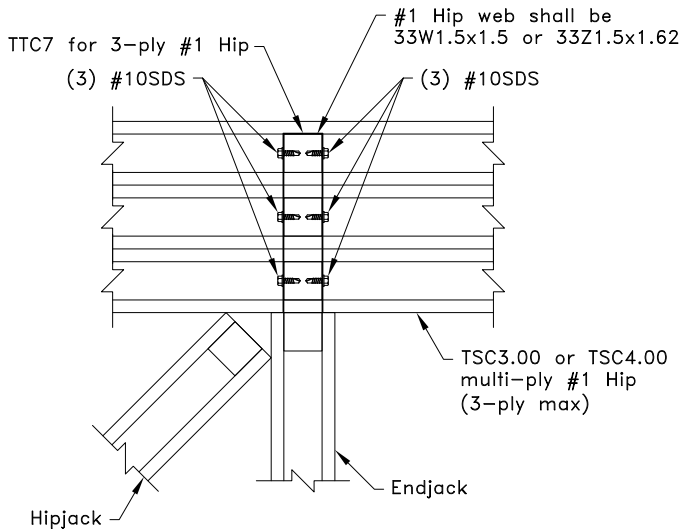
Standard Detail: TS025C

Date: 06/01/22

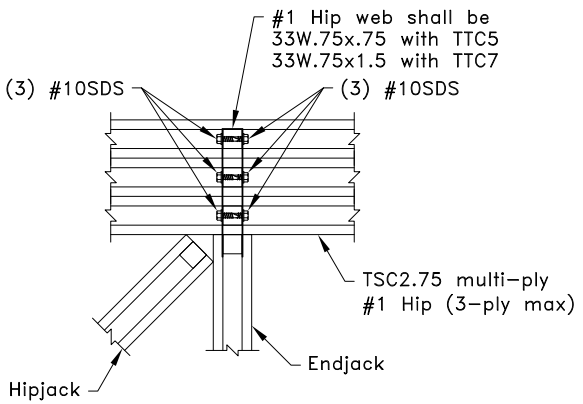
TrusSteel Detail Category: Truss-to-Truss Connection



Multi-ply #1 Hip using steel plates for ply to ply connections



Multi-ply TSC3.00 or TSC4.00 #1 Hip using TTC7 clips for ply to ply connections



Multi-ply TSC2.75 #1 Hip using TTC5 or TTC7 for ply to ply connections

(A) = ASTM A653 SS Grade 33 G60 steel plate on each face
Bare Metal Thickness = 0.0329" (.83mm)

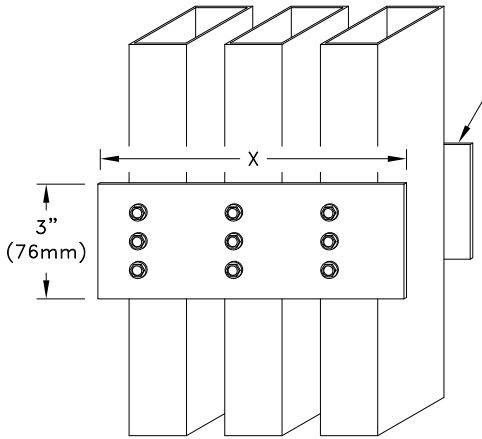


Plate Dimensions:

X = 3.5"(89mm) for 2-ply TSC2.75 #1 Hip
X = 6.0"(152mm) for 2-ply TSC3.00 #1 Hip
X = 6.0"(152mm) for 2-ply TSC4.00 #1 Hip
X = 5.0"(127mm) for 3-ply TSC2.75 #1 Hip
X = 8.0"(203mm) for 3-ply TSC3.00 #1 Hip
X = 8.0"(203mm) for 3-ply TSC4.00 #1 Hip

General Notes:

1. Attachment of supported trusses to #1 Hip must be per TS025 or TS025A. Reference these TrusSteel Standard Details for allowable supported truss reactions, uplifts and connection requirements.
2. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins.
3. SDS = Self-Drilling Tapping Screw. All edge distances, end distance and spacing are 9/16" (14mm) minimum.
4. Truss must be analyzed with concentrated loads directly in line with correctly placed girder vertical webs. Reference details TS025 & TS025A for correct web placement information.
5. Clips/plate pairs must be placed within 1" (25mm) of each supported truss to girder connection.
6. Refer to approved truss drawings for other connections between plies.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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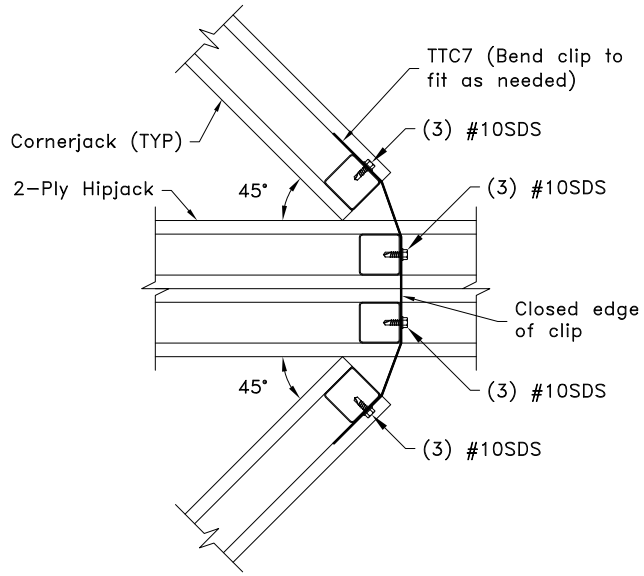
Multi-ply #1 Hips -

Ply To Ply Connection Detail

Standard Detail: TS025D

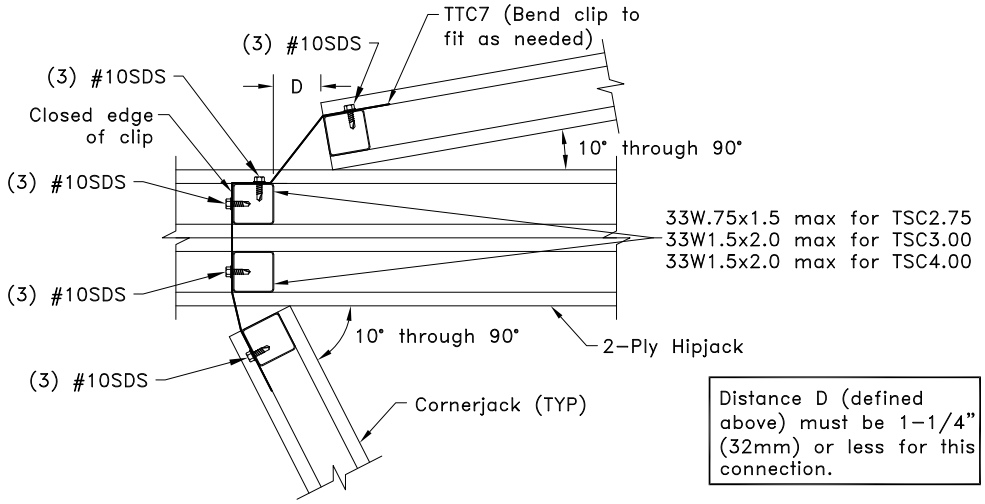
Date: 06/01/22

TrusSteel Detail Category: Ply-to-Ply Connections



45° 2-ply Hipjack Connection

(See TS025 for placement of hipjack vertical web)



Distance D (defined above) must be 1-1/4" (32mm) or less for this connection.

Non 45° 2-ply Hipjack Connection

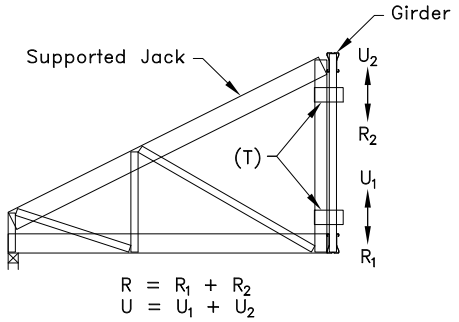
(See TS025A for placement of hipjack vertical web)

Allowable Values

Supported Jack Type	Number of Clips	R = U lbs (kN)
Cornerjack	1[A]	500 (2.22)
Cornerjack	2	1000 (4.44)

A. (1) Clip may be used when supported truss height is less than 48" (1219mm).

(T) = TTC; for 2 clip connection, place within 1" (25mm) of top and bottom as shown below. For 1 clip connection, place within 1" (25mm) of bottom chord, or as analyzed. Bend clip to fit.



Typical Jack To Girder Connection

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins.
2. If supported truss or girder web is a Z-web, refer to TS068 for connection areas.
3. SDS = Self-Drilling Tapping Screw. All edge distances, end distances, and spacing are 9/16" (14mm) minimum.
4. Truss must be analyzed with concentrated loads directly in line with correctly placed girder vertical webs. TS025 and TS025A give correct web placement information.
5. Girder web shall not be a C-Web. Position girder webs as shown in details.
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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2-Ply Hipjack Connections

Standard Detail: TS025E

Date: 06/01/22

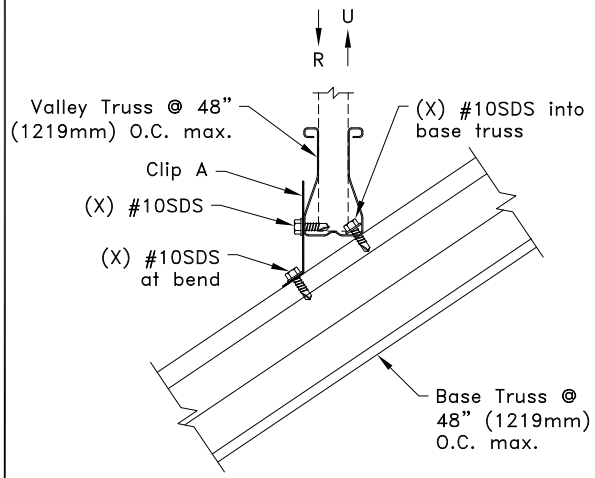
TrusSteel Detail Category: Truss-to-Truss Connections

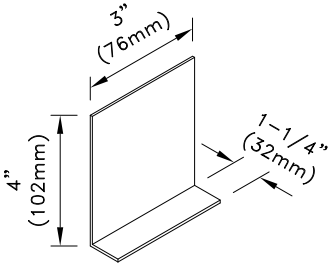
Connection Detail A

Pitch Range: 12/12 maximum

Allowable Loads – lbs (kN)			
X	Allowable Loads	Base Truss	
		TSC2.75[A]	TSC3.00 or TSC4.00
2	R	670 (2.98)	670 (2.98)
	U	410 (1.82)	410 (1.82)
3	R	NA	670 (2.98)
	U	NA	620 (2.76)

A. TSC2.75 valley truss only.



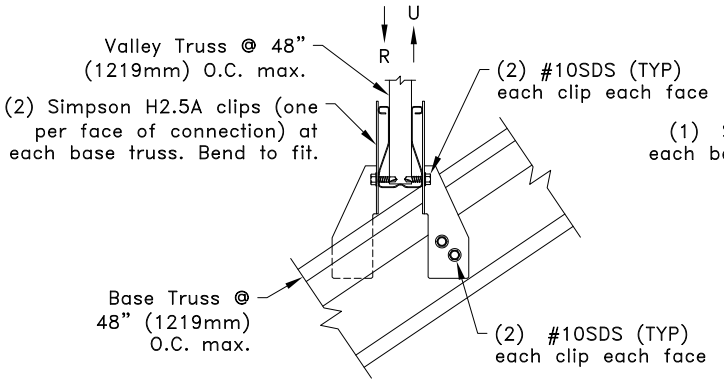


Clip A
18g ASTM A653 SS Grade 33 G60
Bare Metal Thickness = 0.0428" (1.087mm)
Bend clip to roof pitch.

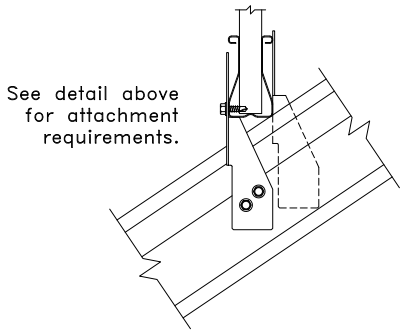
OR

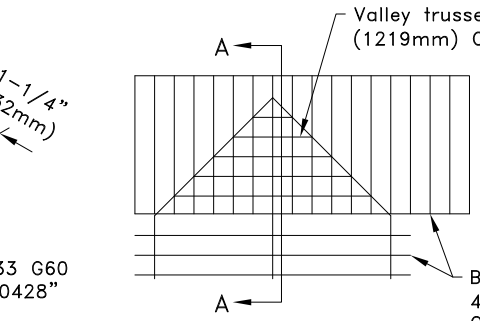
Connection Detail B

Pitch Range: 12/12 maximum
R = 670 lbs (2.98 kN)
U = 820 lbs (3.65 kN)

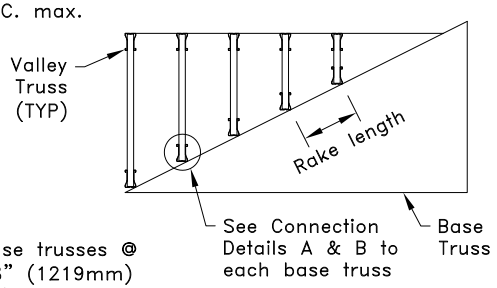


Connection Detail B Alternate Clip Attachment





Partial Framing Plan

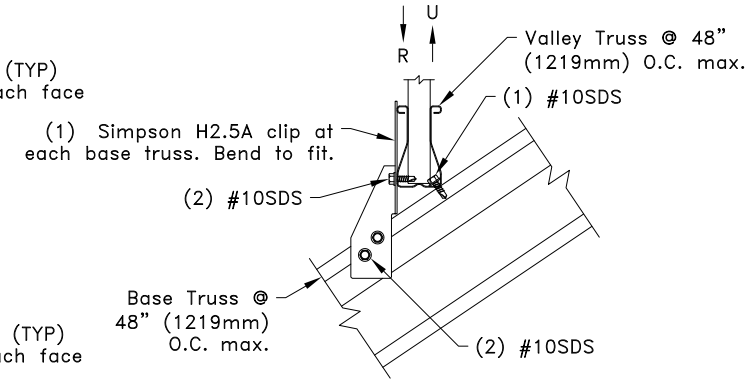


Section A–A

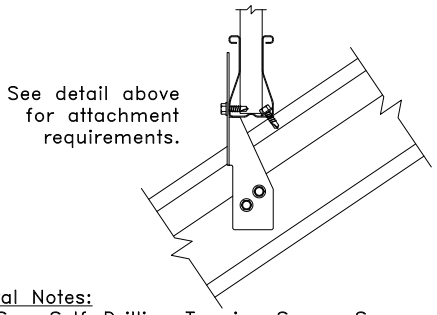
OR

Connection Detail C

Pitch Range: 9/12 maximum
R = 670 lbs (2.98 kN)
U = 320 lbs (1.42 kN)



Connection Detail C Alternate Clip Attachment



General Notes:

1. SDS = Self-Drilling Tapping Screw. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
2. X refers to required number of screws at location.
3. Refer to approved bracing design for required bracing material and connections.
4. Properly attached valley trusses may be used in lieu of purlins if the top chord of the supporting truss has been designed with purlins at O.C. spacing equal to the rake length between valley trusses as shown in the Section A–A.
5. Refer to approved truss drawings for valley truss designs. Valley truss bottom chord panels not to exceed 4'0" (1219mm). Web in valley truss should be located at connection.
6. R refers to vertical reaction and U refers to uplift.
7. It is permissible to substitute an equal alternative for the Simpson Strong-Tie hardware specified on this detail.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TrusSteel Valley Truss Connection to Base Truss

Standard Detail: TS026

Date: 06/01/22

TrusSteel Detail Category: Valley Set

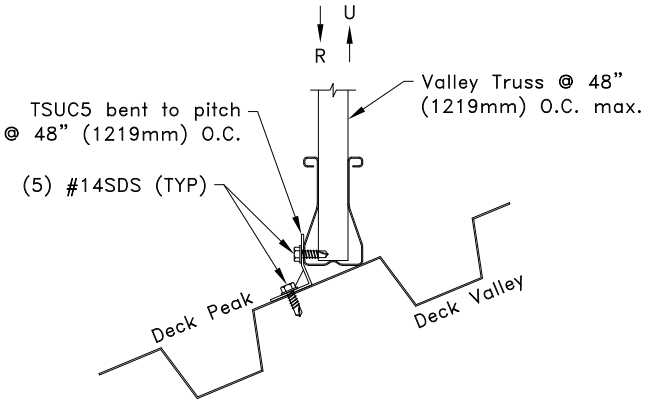
Connection Detail A
Maximum Limits:

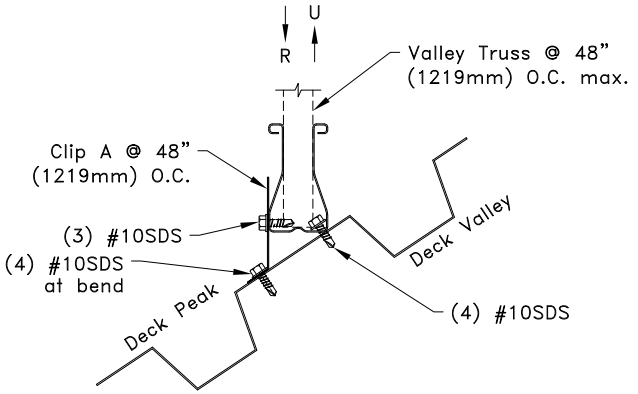
Pitch: 5/12 maximum for TSC2.75 Valley
R = 670 lbs (2.98 kN)
U = 405 lbs (1.80 kN)
Pitch: 3/12 max. for TSC3.00 or TSC4.00 Valley
R = 800 lbs (3.56 kN)
U = 440 lbs (1.96 kN)

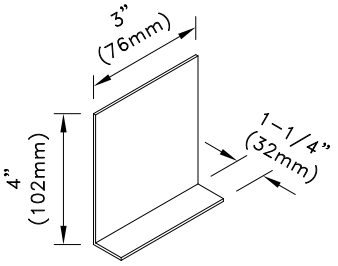
OR

Connection Detail B
Maximum Limits:

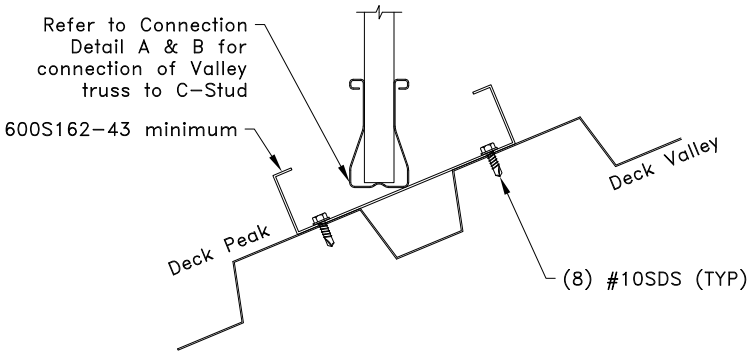
Pitch Range: 12/12 maximum
R = 670 lbs (2.98 kN)
U = 570 lbs (2.54 kN)







Clip A
18ga ASTM A653 SS Grade 33 G60
Bare Metal Thickness = 0.0428" (1.087mm)
Bend clip to roof pitch.



Connection of C-Stud to Span Deck Valley
If valley truss falls within deck valley, use 600S162-43 to span the distance as shown below.

General Notes:

1. SDS = Self-Drilling Tapping Screw. #10SDS spacing, edge distance and end distance is 9/16" (14mm) minimum. #14SDS spacing, edge distance and end distance is 3/4" (19mm) minimum.
2. Steel deck must be ASTM A653 or A1008, Grade 33 minimum, with a bare metal thickness of 0.028" (0.711mm) minimum. The maximum width of the deck valley cannot exceed 4-1/2" (114mm).
3. In lieu of 600S162-43, a 6"x6" (152mmX152mm) 18g. ASTM A653 Grade 33 steel sheet (bare metal thickness = 0.0428" (1.087mm)) may be used.
4. Refer to approved truss drawings for valley truss designs. Valley truss bottom chord panels not to exceed 4'0" (1219mm).
5. R refers to vertical reaction and U refers to uplift.
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TrusSteel Valley Truss Connection to Steel Deck

Standard Detail: TS026A

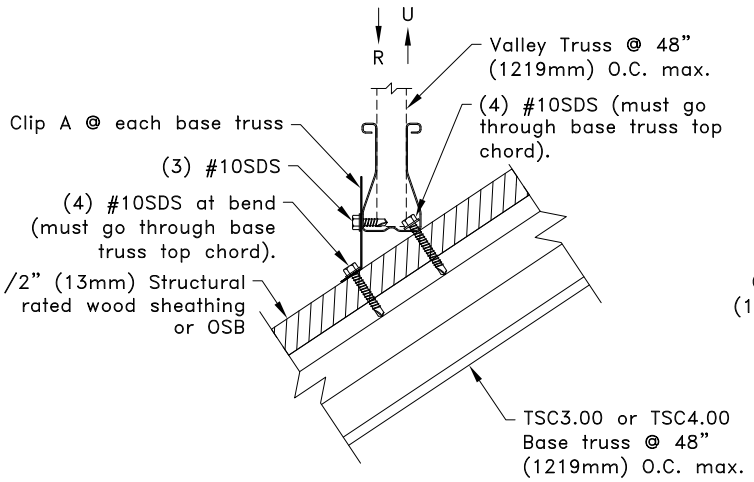
Date: 06/01/22

TrusSteel Detail Category: Valley Set

Connection Detail A
Maximum Limits:

Pitch Range: 12/12 maximum
R = 670 lbs (2.98 kN)
U = 610 lbs (2.71 kN)

OR

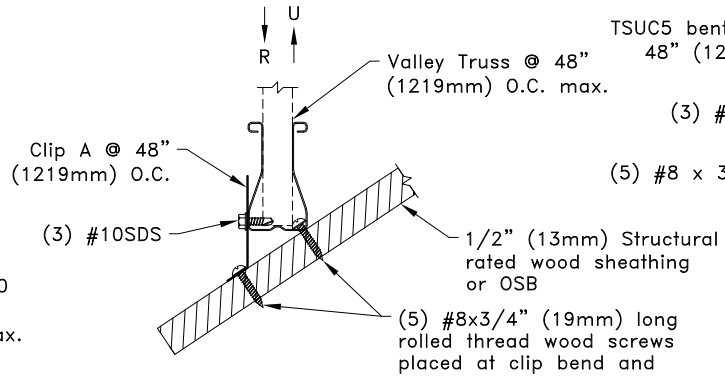


Connection Detail B
Maximum Limits:

Pitch Range: 12/12 maximum
R = 670 lbs (2.98 kN)
U = 360 lbs (1.60 kN)

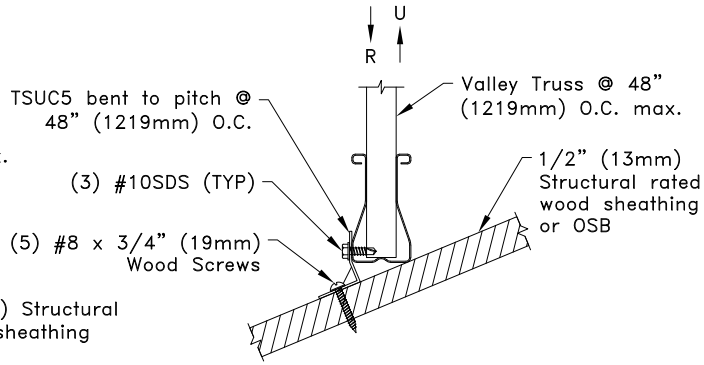
3/16" (5mm) diameter holes must be predrilled in clip B and valley bottom chord before wood screws can be applied.

OR



Connection Detail C
Maximum Limits:

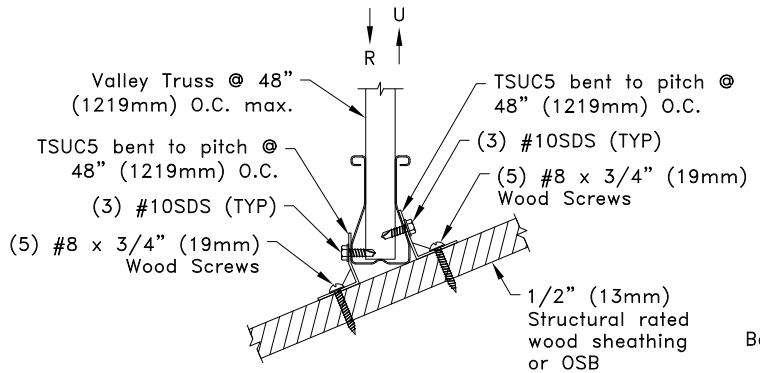
Pitch: 5/12 maximum for TSC2.75 Valley
R = 670 lbs (2.98 kN)
U = 175 lbs (0.78 kN)
Pitch: 3/12 max. for TSC3.00 or TSC4.00 Valley
R = 800 lbs (3.56 kN)
U = 175 lbs (0.78 kN)

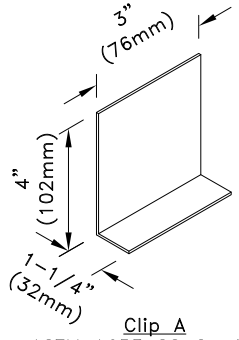


Connection Detail D
Maximum Limits:

Pitch Range: 9/12 maximum
R_v = 750 lbs (3.34 kN)
U = 360 lbs (1.60 kN)

OR





Clip A
18ga ASTM A653 SS Grade 33 G60
Bare Metal Thickness = 0.0428" (1.087mm)
Bend clip to roof pitch

General Notes:

1. SDS = Self-Drilling Tapping Screw. #10SDS spacing, edge distance and end distance is 9/16" (14mm) minimum.
2. Refer to approved truss drawings for valley truss designs. Valley truss bottom chord panels not to exceed 4'0" (1219mm).
3. Wood screw values into wood are based on ANSI/AWC NDS-2018 with a 1.15 duration factor for gravity load, and a 1.60 duration factor for uplift load from wind or seismic.
4. R refers to vertical reaction and U refers to uplift.
5. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TrusSteel Valley Truss Connections for Rated Wood Sheathing

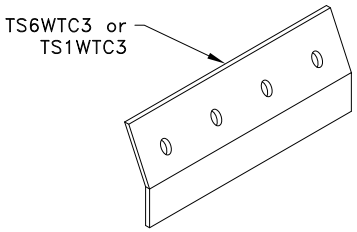
Standard Detail: TS026B

Date: 06/01/22

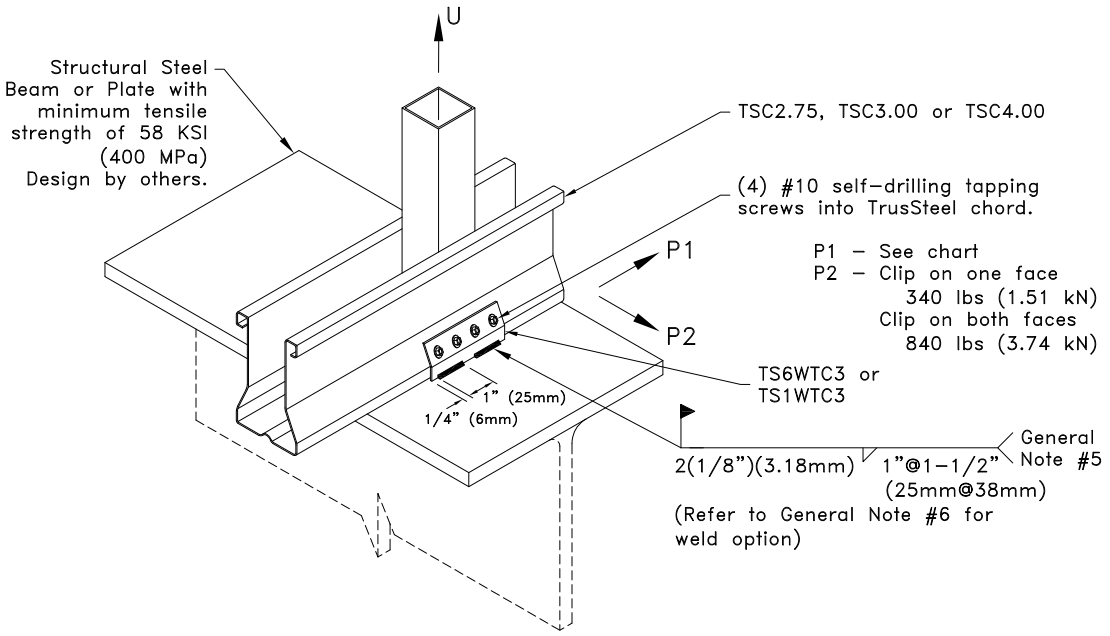
TrusSteel Detail Category: Valley Set

Allowable Loads lbs (kN)[A]					
Chord	Allowable Loads[A]	Clip on one face[B]		Clip on both faces	
		TS6WTC3	TS1WTC3	TS6WTC3	TS1WTC3
28TSC2.75	U	550 (2.45)[C]		1640 (7.30)	
	P1	820 (3.65)		1640 (7.30)	
33TSC2.75	U	550 (2.45)[C]		2040 (9.07)	
	P1	1020 (4.54)		2040 (9.07)	
43TSC2.75	U	550 (2.45)[C]		3040 (13.52)	
	P1	1520 (6.76)		3040 (13.52)	
28TSC3.00 or 28TSC4.00	U	820 (3.65)		1640 (7.30)	
	P1	820 (3.65)		1640 (7.30)	
33TSC3.00 or 33TSC4.00	U	910 (4.05)		2040 (9.07)	
	P1	1020 (4.54)		2040 (9.07)	
43TSC3.00 or 43TSC4.00	U	910 (4.05)[D,E]		3040 (13.52)	
	P1	1520 (6.76)		3040 (13.52)	
54TSC3.00, 54, 68, and 97TSC4.00	U	910 (4.05)[D,E,F]		3480 (15.48)	4180 (18.60)
	P1	1640 (7.30)	2090 (9.30)	3290 (14.63)	4180 (18.60)

A. Allowable loads shown on this detail are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. If web above connection is 33W.75x1.5, U = 820 lbs (3.65 kN).
D. If web above connection is 33C1.5x1.5, U = 1230 lbs (5.47 kN).
E. If web above connection is 33W1.5x1.5 or 33Z1.5x1.62, U = 1400 lbs (6.23 kN).
F. If web above connection is 33Z1.5x2.50, U = 1740 lbs (7.74 kN).



TS6WTC3
bare metal thickness (t) = 0.0538 in. (1.37mm)
TS1WTC3
bare metal thickness (t) = 0.128 in. (3.25mm)



General Notes:

1. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
2. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
3. Refer to TrusSteel Technical Bulletin 98.10.05 titled "Repair of Galvanized Surfaces" to restore corrosion resistant properties of the connection after welding.
4. If a TS6WTC3 clip is welded to steel in excess of 1/8" (3.18mm) thick the weld shall be qualified in accordance with Chapter 4 of the Structural Welding Code-Sheet Steel (AWS D1.3).
5. Weld values are based on a filler material with a minimum tensile strength of 70 ksi (483 MPa).
6. In lieu of welds specified above, the full length of the TS6WTC3/TS1WTC3 may be welded to the bearing.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TS6WTC3 or TS1WTC3 Welded Truss Clip to Structural Steel Bearing

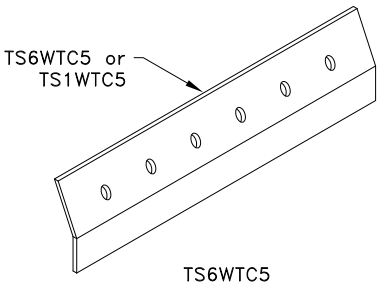
Standard Detail: TS027

Date: 06/01/22

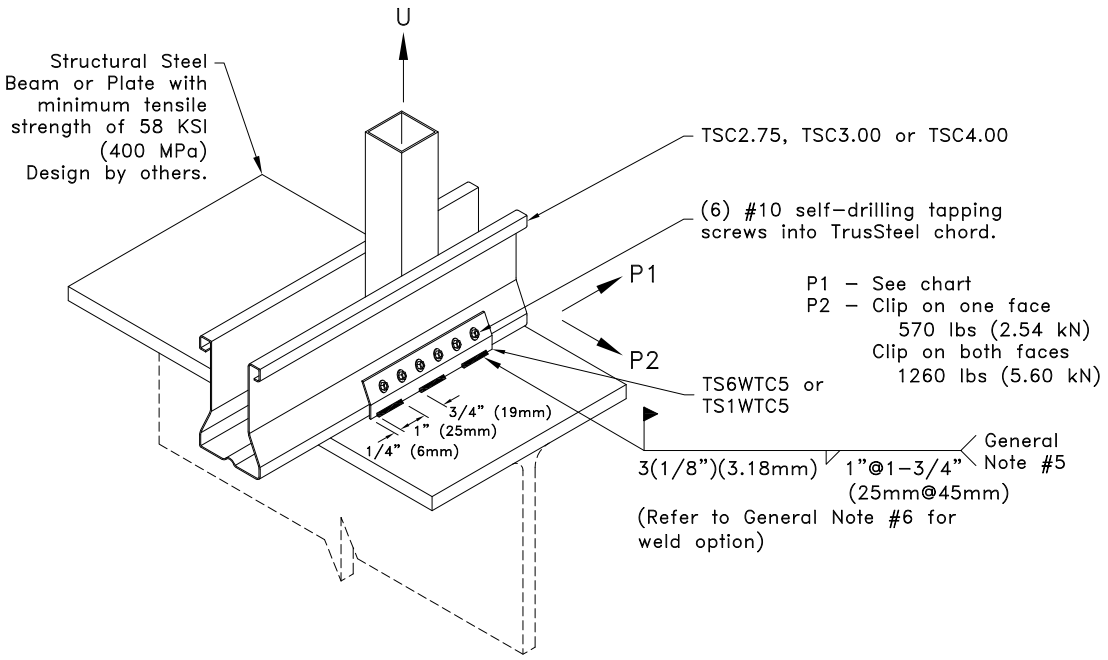
TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A]					
Chord	Allowable Loads[A]	Clip on one face[B]		Clip on both faces	
		TS6WTC5	TS1WTC5	TS6WTC5	TS1WTC5
28TSC2.75	U	550 (2.45)[C]		2460 (10.94)	
	P1	1230 (5.47)		2460 (10.94)	
33TSC2.75	U	550 (2.45)[C]		3060 (13.61)	
	P1	1530 (6.81)		3060 (13.61)	
43TSC2.75	U	550 (2.45)[C]		4560 (20.28)	
	P1	2280 (10.14)		4560 (20.28)	
28TSC3.00 or 28TSC4.00	U	910 (4.05)[D]		2460 (10.94)	
	P1	1230 (5.47)		2460 (10.94)	
33TSC3.00 or 33TSC4.00	U	910 (4.05)[D,E]		3060 (13.61)	
	P1	1530 (6.81)		3060 (13.61)	
43TSC3.00 or 43TSC4.00	U	910 (4.05)[D,E,F,G]		4560 (20.28)	
	P1	2280 (10.14)		4560 (20.28)	
54TSC3.00, 54, 68, and 97TSC4.00	U	910 (4.05)[D,E,F,G]		5230 (23.26)	6280 (27.93)
	P1	2470 (10.99)	3140 (13.97)	4930 (21.93)	6280 (27.93)

A. Allowable loads shown on this detail are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. If web above connection is 33W.75x1.5, U = 960 lbs (4.27 kN).
D. If web above connection is 33C1.5x1.5, U = 1230 lbs (5.47 kN).
E. If web aboce connection is 33W1.5x1.5 or 33Z1.5x1.62, U = 1400 lbs (6.23 kN).
F. If web above connection is 33Z1.5x2.50, U = 1940 lbs (8.63 kN).
G. If web above connection is 43Z1.5x2.50, U = 2280 bls (10.14 kN).



TS6WTC5
bare metal thickness (t) = 0.0538 in. (1.37mm)
TS1WTC5
bare metal thickness (t) = 0.128 in. (3.25mm)



General Notes:

1. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
2. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
3. Refer to TrusSteel Technical Bulletin 98.10.05 titled "Repair of Galvanized Surfaces" to restore corrosion resistant properties of the connection after welding.
4. If a TS6WTC5 clip is welded to steel in excess of 1/8" (3.18mm) thick the weld shall be qualified in accordance with Chapter 4 of the Structural Welding Code-Sheet Steel (AWS D1.3).
5. Weld values are based on a filler material with a minimum tensile strength of 70 ksi (483 MPa).
6. In lieu of welds specified above, the full length of the TS6WTC5/TS1WTC5 may be welded to the bearing.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TS6WTC5 or TS1WTC5 Welded Truss Clip to Structural Steel Bearing

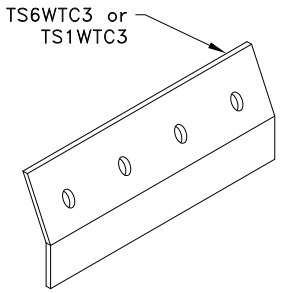
Standard Detail: TS027A

Date: 06/01/22

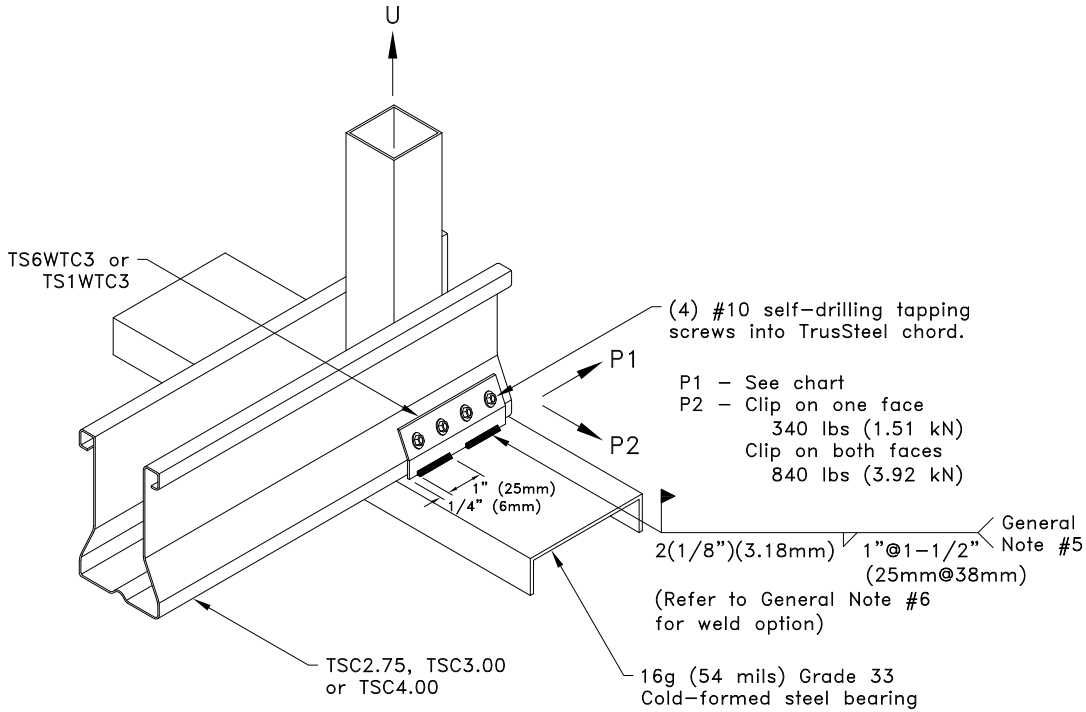
TrusSteel Detail Category:
Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A]					
Chord	Allowable Loads[A]	Clip on one face[B]		Clip on both faces	
		TS6WTC3	TS1WTC3	TS6WTC3	TS1WTC3
28TSC2.75	U	550 (2.45)[C]		1640 (7.30)	
	P1	820 (3.65)		1640 (7.30)	
33TSC2.75	U	550 (2.45)[C]		2040 (9.07)	
	P1	1020 (4.54)		2040 (9.07)	
43TSC2.75	U	550 (2.45)[C]		3040 (13.52)	
	P1	1520 (6.76)		3040 (13.52)	
28TSC3.00 or 28TSC4.00	U	820 (3.65)		1640 (7.30)	
	P1	820 (3.65)		1640 (7.30)	
33TSC3.00 or 33TSC4.00	U	910 (4.05)		2040 (9.07)	
	P1	1020 (4.54)		2040 (9.07)	
43TSC3.00 or 43TSC4.00	U	910 (4.05)[D,E]		3040 (13.52)	
	P1	1520 (6.76)		3040 (13.52)	
54TSC3.00, 54, 68, and 97TSC4.00	U	910 (4.05)[D,E,F]		3480 (15.48)	4180 (18.60)
	P1	1640 (7.30)		3290 (14.63)	

A. Allowable loads shown on this detail are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. If web above connection is 33W.75x1.5, U = 820 lbs (3.65 kN).
D. If web above connection is 33C1.5x1.5, U = 1230 lbs (5.47 kN).
E. If web above connection is 33W1.5x1.5 or 33Z1.5x1.62, U = 1400 lbs (6.23 kN).
F. If web above connection is 33Z1.5x2.50, U = 1740 lbs (7.74 kN).



TS6WTC3
bare metal thickness (t) = 0.0538 in. (1.37mm)
TS1WTC3
bare metal thickness (t) = 0.128 in. (3.25mm)



General Notes:

1. The wall top plate is to be designed by the job engineer. The wall top plate and connection of top plate to wall stud must be designed to support the loads applied to it (downward, upward and lateral).
2. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
4. Refer to TrusSteel Technical Bulletin 98.10.05 titled "Repair of Galvanized Surfaces" to restore corrosion resistant properties of the connection after welding.
5. Weld values are based on a filler material with a minimum tensile strength of 70 ksi (483 MPa).
6. In lieu of welds specified above, the full length of the TS6WTC3 / TS1WTC3 may be welded to the bearing.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TS6WTC3 or TS1WTC3 Welded Truss Clip to Cold-Formed Steel Bearing

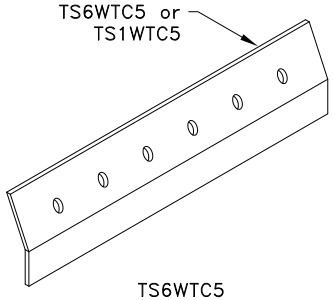
Standard Detail:
TS027B

Date:
06/01/22

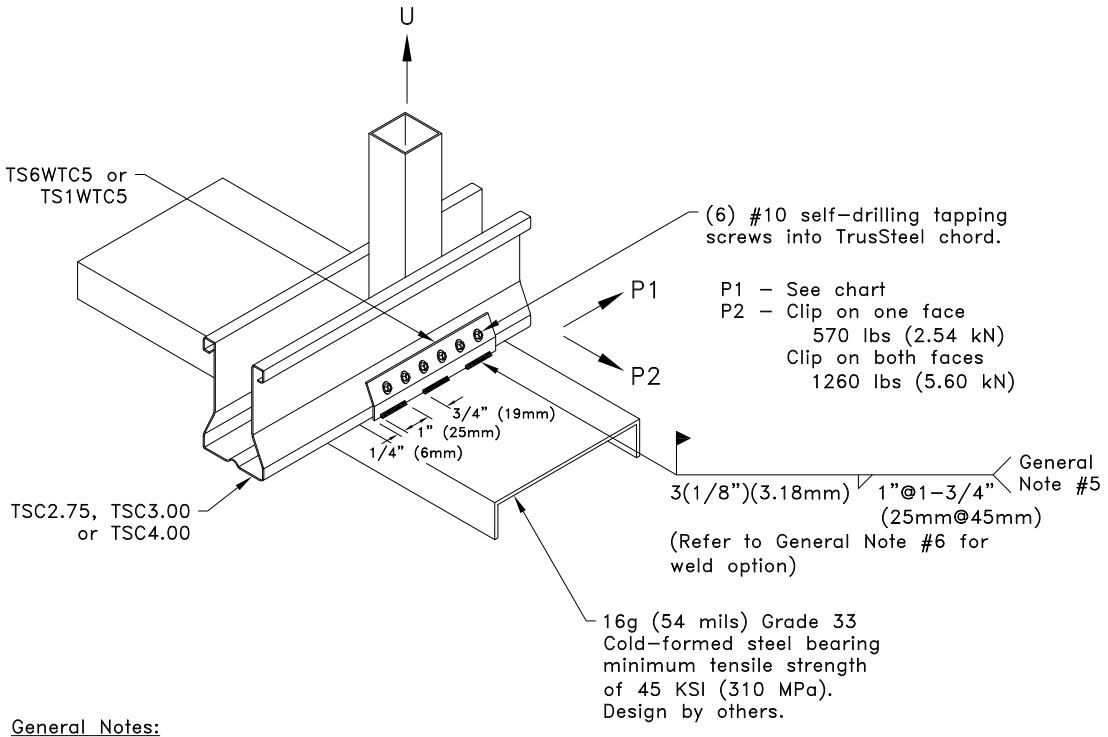
TrusSteel Detail Category:
Truss-To-Bearing: Cold-Formed Steel

Allowable Loads lbs (kN)[A]					
Chord	Allowable Loads[A]	Clip on one face[B]		Clip on both faces	
		TS6WTC5	TS1WTC5	TS6WTC5	TS1WTC5
28TSC2.75	U	550 (2.45)[C]		2460 (10.94)	
	P1	1230 (5.47)		2460 (10.94)	
33TSC2.75	U	550 (2.45)[C]		3060 (13.61)	
	P1	1530 (6.81)		3060 (13.61)	
43TSC2.75	U	550 (2.45)[C]		4560 (20.28)	
	P1	2280 (10.14)		4560 (20.28)	
28TSC3.00 or 28TSC4.00	U	910 (4.05)[D]		2460 (10.94)	
	P1	1230 (5.47)		2460 (10.94)	
33TSC3.00 or 33TSC4.00	U	910 (4.05)[D,E]		3060 (13.61)	
	P1	1530 (6.81)		3060 (13.61)	
43TSC3.00 or 43TSC4.00	U	910 (4.05)[D,E,F,G]		4560 (20.28)	
	P1	2280 (10.14)		4560 (20.28)	
54TSC3.00, 54, 68, and 97TSC4.00	U	910 (4.05)[D,E,F,G]		5230 (23.26)	6280 (27.93)
	P1	2470 (10.99)		4930 (21.93)	

A. Allowable loads shown on this detail are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. If web above connection is 33W.75x1.5, U = 960 lbs (4.27 kN).
D. If web above connection is 33C1.5x1.5, U = 1230 lbs (5.47 kN).
E. If web above connection is 33W1.5x1.5 or 33Z1.5x1.62, U = 1400 lbs (6.23 kN).
F. If web above connection is 33Z1.5x2.50, U = 1940 lbsx (8.63 kN).
G. If web above connection is 43Z1.5x2.50, U = 2280 bls (10.14 kN).



TS6WTC5
bare metal thickness (t) = 0.0538 in. (1.37mm)
TS1WTC5
bare metal thickness (t) = 0.128 in. (3.25mm)



General Notes:

1. The wall top plate is to be designed by the job engineer. The wall top plate and connection of top plate to wall stud must be designed to support the loads applied to it (downward, upward and lateral).
2. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
4. Refer to TrusSteel Technical Bulletin 98.10.05 titled "Repair of Galvanized Surfaces" to restore corrosion resistant properties of the connection after welding.
5. Weld values are based on a filler material with a minimum tensile strength of 70 ksi (483 MPa).
6. In lieu of welds specified above, the full length of the TS6WTC5 / TS1WTC5 may be welded to the bearing.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TS6WTC5 or TS1WTC5 Welded Truss Clip to Cold-Formed Steel Bearing

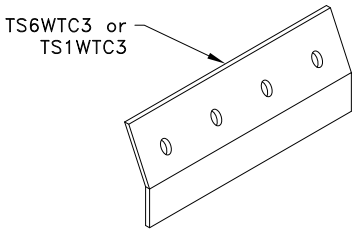
Standard Detail: TS027C

Date: 06/01/22

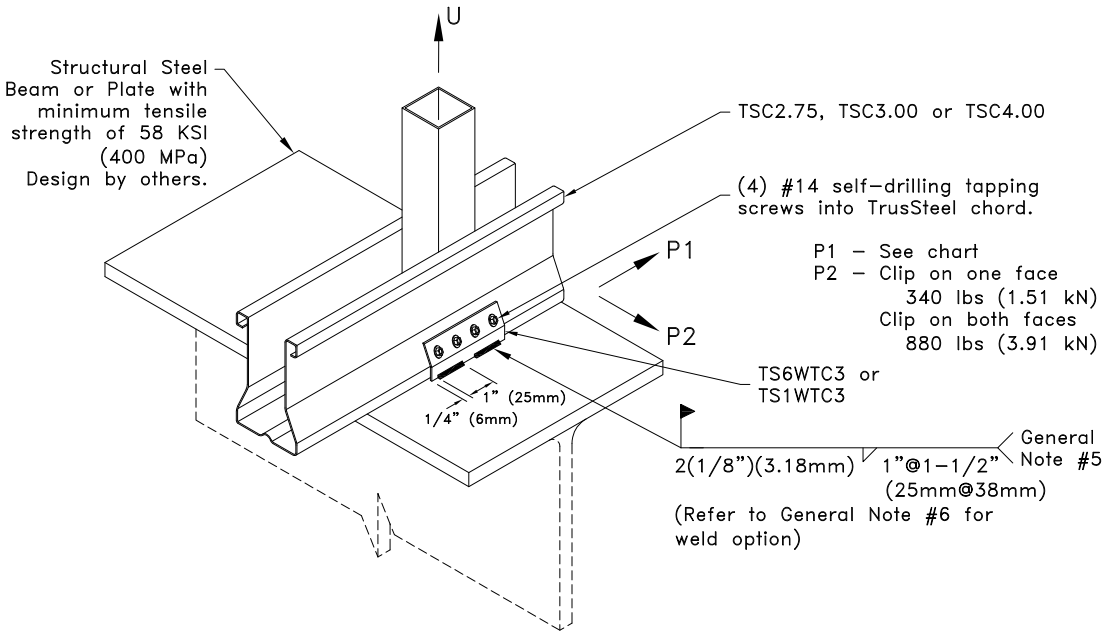
TrusSteel Detail Category: Truss-To-Bearing: Cold-Formed Steel

Allowable Loads lbs (kN)[A]					
Chord	Allowable Loads[A]	Clip on one face[B]		Clip on both faces	
		TS6WTC3	TS1WTC3	TS6WTC3	TS1WTC3
28TSC2.75	U	550 (2.45)[C]		1880 (8.36)	
	P1	940 (4.18)		1880 (8.36)	
33TSC2.75	U	550 (2.45)[C]		2340 (10.41)	
	P1	1170 (5.20)		2340 (10.41)	
43TSC2.75	U	550 (2.45)[C]		3170 (1410)	3490 (15.52)
	P1	1640 (7.30)	1740 (7.74)	3290 (14.63)	3490 (15.52)
28TSC3.00 or 28TSC4.00	U	910 (4.05)		1880 (8.36)	
	P1	940 (4.18)		1880 (8.36)	
33TSC3.00 or 33TSC4.00	U	910 (4.05)		2340 (10.41)	
	P1	1170 (5.20)		2340 (10.41)	
43TSC3.00 or 43TSC4.00	U	910 (4.05)[D,E,F]	910 (4.05)[D,E,G]	3170 (14.10)	3490 (15.52)
	P1	1640 (7.30)	1740 (7.74)	3290 (14.63)	3490 (15.52)
54TSC3.00 or 54TSC4.00	U	910 (4.05)[D,E,F]	910 (4.05)[D,E,G]	3170 (14.10)	4900 (21.80)
	P1	1640 (7.30)	2450 (10.90)	3290 (14.63)	4900 (21.80)
68TSC4.00 or 97TSC4.00	U	910 (4.05)[D,E,F]	910 (4.05)[D,E,G]	3170 (14.10)	6910 (30.74)
	P1	1640 (7.30)	3460 (15.39)	3290 (14.63)	6910 (30.74)

A. Allowable loads shown on this detail are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. If web above connection is 33W.75x1.5, U = 940 lbs (4.18 kN).
D. If web above connection is 33C1.5x1.5, U = 1230 lbs (5.47 kN).
E. If web above connection is 33W1.5x1.5 or 33Z1.5x1.62, U = 1400 lbs (6.23 kN).
F. If web above connection is 33Z1.5x2.50, U = 1580 lbs (7.03 kN).
G. If web above connection is 33Z1.5x2.50, U = 1740 lbs (7.74 kN).



TS6WTC3
bare metal thickness (t) = 0.0538 in. (1.37mm)
TS1WTC3
bare metal thickness (t) = 0.128 in. (3.25mm)



General Notes:

1. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
2. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
3. Refer to TrusSteel Technical Bulletin 98.10.05 titled "Repair of Galvanized Surfaces" to restore corrosion resistant properties of the connection after welding.
4. If a TS6WTC3 clip is welded to steel in excess of 1/8" (3.18mm) thick the weld shall be qualified in accordance with Chapter 4 of the Structural Welding Code-Sheet Steel (AWS D1.3).
5. Weld values are based on a filler material with a minimum tensile strength of 70 ksi (483 MPa).
6. In lieu of welds specified above, the full length of the TS6WTC3/TS1WTC3 may be welded to the bearing.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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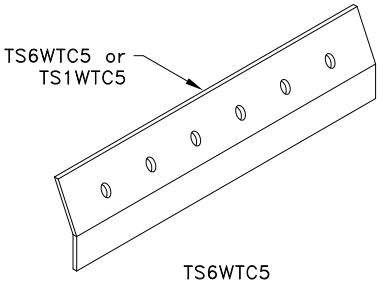
TS6WTC3 or TS1WTC3 Welded Truss Clip to Structural Steel Bearing

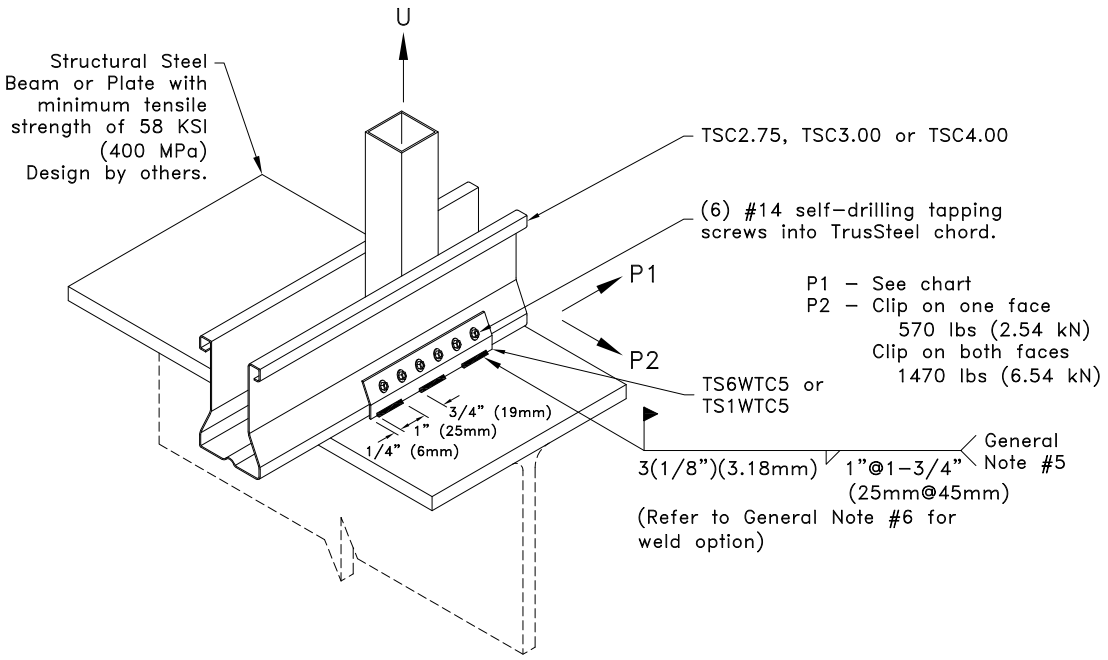
Standard Detail: TS027D
Date: 06/01/22
TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A]					
Chord	Allowable Loads[A]	Clip on one face[B]		Clip on both faces	
		TS6WTC5	TS1WTC5	TS6WTC5	TS1WTC5
28TSC2.75	U	550 (2.45)[C]		2820 (1254)	
	P1	1410 (6.27)		2820 (1254)	
33TSC2.75	U	550 (2.45)[C]		3510 (15.61)	
	P1	1760 (7.83)		3510 (15.61)	
43TSC2.75	U	550 (2.45)[C]		5230 (23.26)	
	P1	2470 (10.99)	2610 (11.61)	4930 (21.93)	5230 (23.26)
28TSC3.00 or 28TSC4.00	U	910 (4.05)[D,E]		2820 (1254)	
	P1	1410 (6.27)		2820 (1254)	
33TSC3.00 or 33TSC4.00	U	910 (4.05)[D,E]		3510 (15.61)	
	P1	1760 (7.83)		3510 (15.61)	
43TSC3.00 or 43TSC4.00	U	910 (4.05)[D,E,F,G]		5230 (23.26)	
	P1	2470 (10.99)	2610 (11.61)	4930 (21.93)	5230 (23.26)
54TSC3.00 or 54TSC4.00	U	910 (4.05)[D,E,F,G]		5530 (24.60)	7350 (32.69)
	P1	2470 (10.99)	3680 (16.37)	4930 (21.93)	7350 (32.69)
68TSC4.00 or 97TSC4.00	U	910 (4.05)[D,E,F,G]		5530 (24.60)	10370 (4613)
	P1	2470 (10.99)	5180 (23.04)	4930 (21.93)	10370 (4613)

A. Allowable loads shown on this detail are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. If web above connection is 33W.75x1.5, U = 960 lbs (4.27 kN).
D. If web above connection is 33C1.5x1.5, U = 1230 lbs (5.47 kN).
E. If web aboce connection is 33W1.5x1.5 or 33Z1.5x1.62, U = 1400 lbs (6.23 kN).
F. If web above connection is 33Z1.5x2.50, U = 1940 lbs (8.63 kN).
G. If web above connection is 43Z1.5x2.50, U = 2480 bls (11.03 kN).



TS6WTC5
bare metal thickness (t) = 0.0538 in. (1.37mm)
TS1WTC5
bare metal thickness (t) = 0.128 in. (3.25mm)



General Notes:

1. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
2. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
3. Refer to TrusSteel Technical Bulletin 98.10.05 titled "Repair of Galvanized Surfaces" to restore corrosion resistant properties of the connection after welding.
4. If a TS6WTC5 clip is welded to steel in excess of 1/8" (3.18mm) thick the weld shall be qualified in accordance with Chapter 4 of the Structural Welding Code-Sheet Steel (AWS D1.3).
5. Weld values are based on a filler material with a minimum tensile strength of 70 ksi (483 MPa).
6. In lieu of welds specified above, the full length of the TS6WTC5/TS1WTC5 may be welded to the bearing.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TS6WTC5 or TS1WTC5 Welded Truss Clip to Structural Steel Bearing

Standard Detail: TS027E

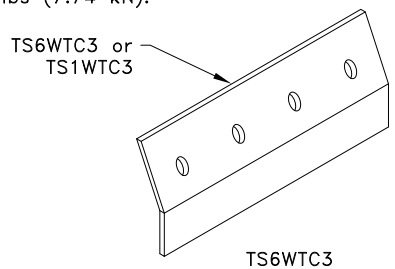
Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

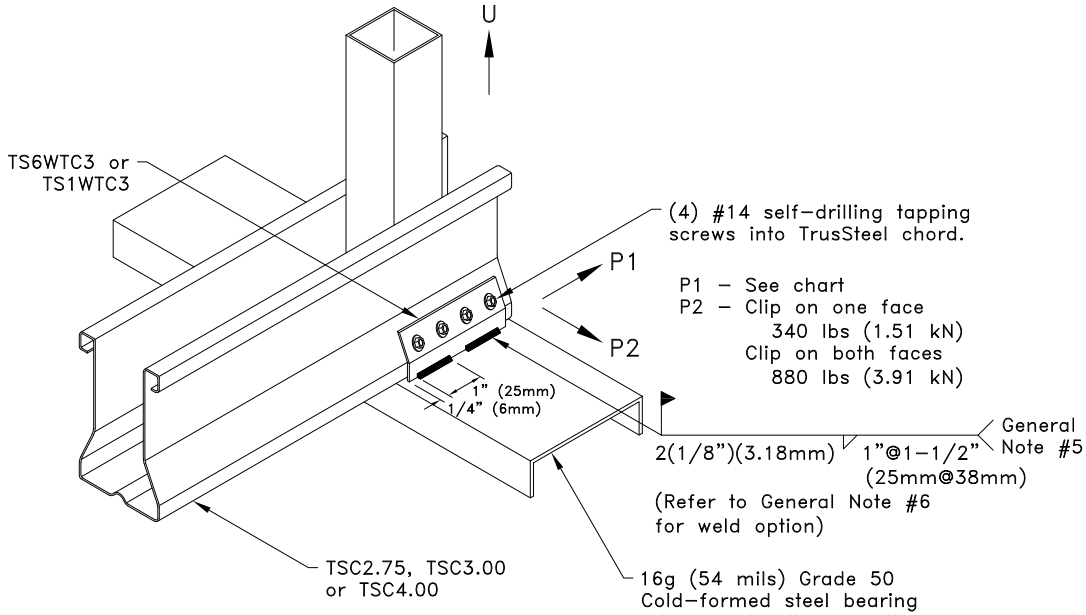
Allowable Loads lbs (kN)[A]					
Chord	Allowable Loads[A]	Clip on one face[B]		Clip on both faces	
		TS6WTC3	TS1WTC3	TS6WTC3	TS1WTC3
28TSC2.75	U	550 (2.45)[C]		1880 (8.36)	
	P1	940 (418)		1880 (8.36)	
33TSC2.75	U	550 (2.45)[C]		2340 (10.41)	
	P1	1170 (5.20)		2340 (10.41)	
43TSC2.75	U	550 (2.45)[C]		3170 (14.10)	3490 (15.52)
	P1	1640 (7.30)	1740 (7.74)	3290 (14.63)	3490 (15.52)
28TSC3.00 or 28TSC4.00	U	910 (4.05)		1880 (8.36)	
	P1	940 (4.18)		1880 (8.36)	
33TSC3.00 or 33TSC4.00	U	910 (4.05)		2340 (10.41)	
	P1	1170 (5.20)		2340 (10.41)	
43TSC3.00 or 43TSC4.00	U	910 (4.05)[D,E,F]	910 (4.05)[D,E,G]	3170 (14.10)	3490 (15.52)
	P1	1640 (7.30)	1740 (7.74)	3290 (14.63)	3490 (15.52)
54TSC3.00 or 54TSC4.00	U	910 (4.05)[D,E,F]	910 (4.05)[D,E,G]	3170 (14.10)	4900 (21.80)
	P1	1640 (7.30)	2380 (10.59)	3290 (14.63)	4750 (21.13)
68TSC4.00 or 97TSC4.00	U	910 (4.05)[D,E,F]	910 (4.05)[D,E,G]	3170 (14.10)	6260 (27.85)
	P1	1640 (7.30)	2380 (10.59)	3290 (14.63)	4750 (21.13)

A. Allowable loads shown on this detail are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. If web above connection is 33W.75x1.5, U = 940 lbs (4.18 kN).
D. If web above connection is 33C1.5x1.5, U = 1230 lbs (5.47 kN).
E. If web above connection is 33W1.5x1.5 or 33Z1.5x1.62, U = 1400 lbs (6.23 kN).
F. If web above connection is 33Z1.5x2.50, U = 1580 lbs (7.03 kN).
G. If web above connection is 33Z1.5x2.50, U = 1740 lbs (7.74 kN).

Allowable Loads with Full Length Weld lbs (kN)[A]			
Chord	Allowable Loads[A]	Clip on both faces	
		TS6WTC3	TS1WTC3
54TSC3.00 or 54TSC4.00	U	3170 (14.10)	4900 (21.80)
	P1	3760 (16.73)	4900 (21.80)
68TSC4.00 or 97TSC4.00	U	3170 (14.10)	6910 (30.74)
	P1	3760 (16.73)	5430 (24.15)



TS6WTC3
bare metal thickness (t) = 0.0538 in. (1.37mm)
TS1WTC3
bare metal thickness (t) = 0.128 in. (3.25mm)



General Notes:

1. The wall top plate is to be designed by the job engineer. The wall top plate and connection of top plate to wall stud must be designed to support the loads applied to it (downward, upward and lateral).
2. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
4. Refer to TrusSteel Technical Bulletin 98.10.05 titled "Repair of Galvanized Surfaces" to restore corrosion resistant properties of the connection after welding.
5. Weld values are based on a filler material with a minimum tensile strength of 70 ksi (483 MPa).
6. In lieu of welds specified above, the full length of the TS6WTC3 / TS1WTC3 may be welded to the bearing.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TS6WTC3 or TS1WTC3 Welded Truss Clip to Cold-Formed Steel Bearing

Standard Detail:
TS027F

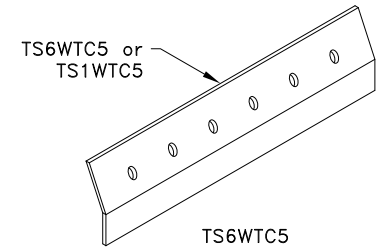
Date:
06/01/22

TrusSteel Detail Category:
Truss-To-Bearing: Cold-Formed Steel

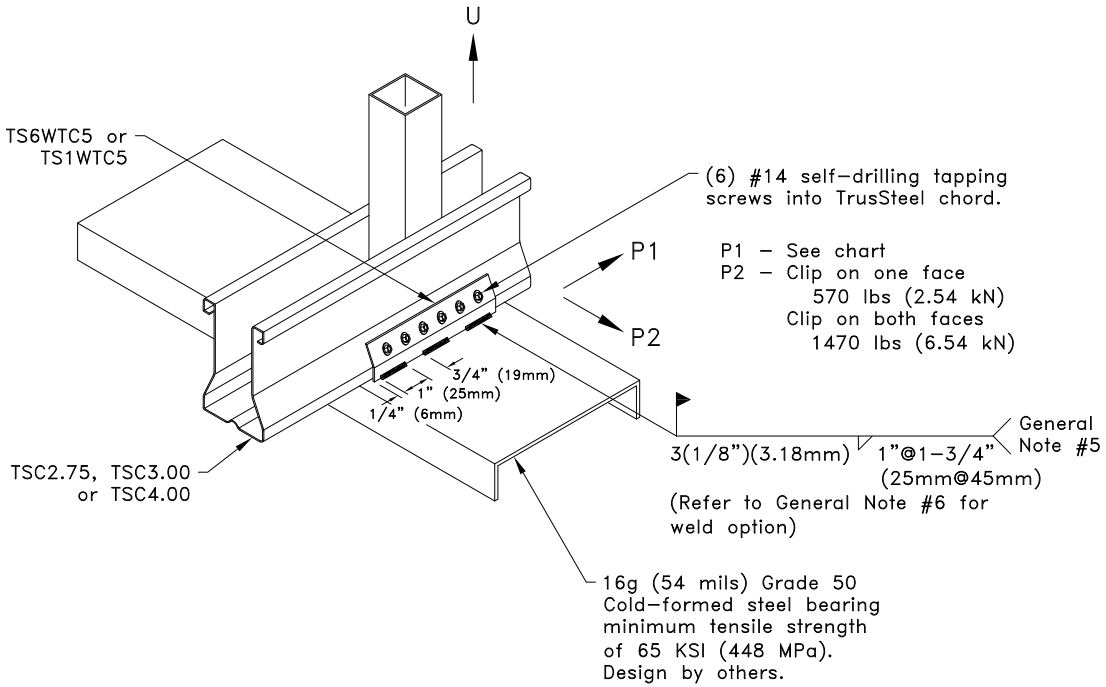
Allowable Loads lbs (kN)[A]					
Chord	Allowable Loads[A]	Clip on one face[B]		Clip on both faces	
		TS6WTC5	TS1WTC5	TS6WTC5	TS1WTC5
28TSC2.75	U	550 (2.45)[C]		2820 (12.54)	
	P1	1410 (6.27)		2820 (12.54)	
33TSC2.75	U	550 (2.45)[C]		3510 (15.61)	
	P1	1760 (7.83)		3510 (15.61)	
43TSC2.75	U	550 (2.45)[C]		5230 (23.26)	
	P1	2470 (10.99)	2610 (11.61)	4930 (21.93)	5230 (23.26)
28TSC3.00 or 28TSC4.00	U	910 (4.05)[D,E]		2820 (12.54)	
	P1	1410 (6.27)		2820 (12.54)	
33TSC3.00 or 33TSC4.00	U	910 (4.05)[D,E]		3510 (15.61)	
	P1	1760 (7.83)		3510 (15.61)	
43TSC3.00 or 43TSC4.00	U	910 (4.05)[D,E,F,G]		5230 (23.26)	
	P1	2470 (10.99)	2610 (11.61)	4930 (21.93)	5230 (23.26)
54TSC3.00 or 54TSC4.00	U	910 (4.05)[D,E,F,G]		5530 (24.60)	7350 (32.69)
	P1	2470 (10.99)	3560 (15.84)	4930 (21.93)	7130 (31.72)
68TSC4.00 or 97TSC4.00	U	910 (4.05)[D,E,F,G]		5530 (24.60)	9390 (41.77)
	P1	2470 (10.99)	3560 (15.84)	4930 (21.93)	7130 (31.72)

A. Allowable loads shown on this detail are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. If web above connection is 33W.75x1.5, U = 960 lbs (4.27 kN).
D. If web above connection is 33C1.5x1.5, U = 1230 lbs (5.47 kN).
E. If web above connection is 33W1.5x1.5 or 33Z1.5x1.62, U = 1400 lbs (6.23 kN).
F. If web above connection is 33Z1.5x2.50, U = 1940 bls (8.63 kN).
G. If web above connection is 43Z1.5x2.50, U = 2480 bls (11.03 kN).

Allowable Loads with Full Length Weld lbs (kN)[A]			
Chord	Allowable Loads[A]	Clip on both faces	
		TS6WTC5	TS1WTC5
54TSC3.00 or 54TSC4.00	U	5530 (24.60)	7350 (32.69)
	P1	5480 (24.38)	7350 (32.69)
68TSC4.00 or 97TSC4.00	U	5530 (24.60)	10370 (46.13)
	P1	5480 (24.38)	9050 (40.26)



TS6WTC5
bare metal thickness (t) = 0.0538 in. (1.37mm)
TS1WTC5
bare metal thickness (t) = 0.128 in. (3.25mm)



General Notes:

1. The wall top plate is to be designed by the job engineer. The wall top plate and connection of top plate to wall stud must be designed to support the loads applied to it (downward, upward and lateral).
2. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
4. Refer to TrusSteel Technical Bulletin 98.10.05 titled "Repair of Galvanized Surfaces" to restore corrosion resistant properties of the connection after welding.
5. Weld values are based on a filler material with a minimum tensile strength of 70 ksi (483 MPa).
6. In lieu of welds specified above, the full length of the TS6WTC5 / TS1WTC5 may be welded to the bearing.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TS6WTC5 or TS1WTC5 Welded Truss Clip to Cold-Formed Steel Bearing

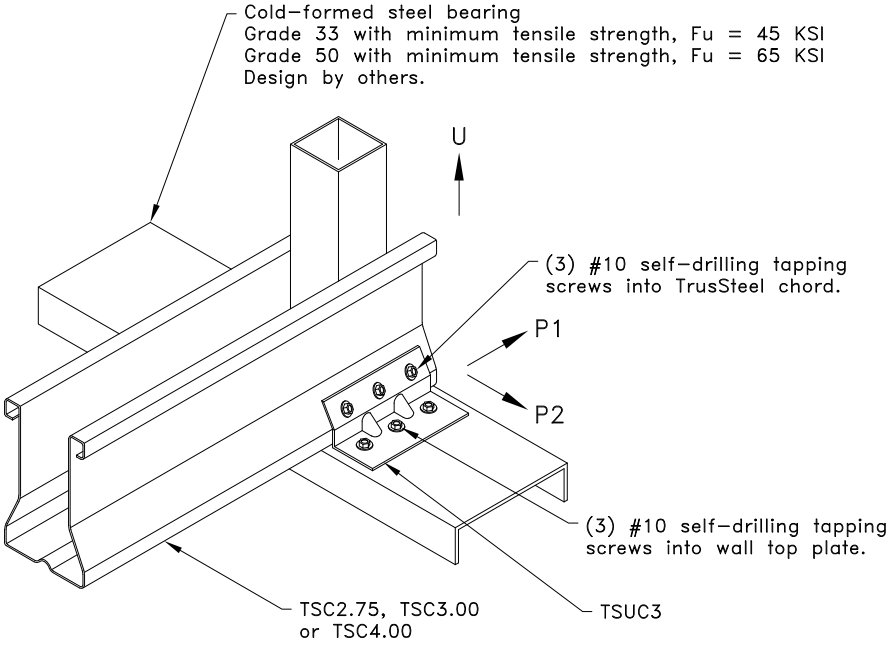
Standard Detail: TS027G

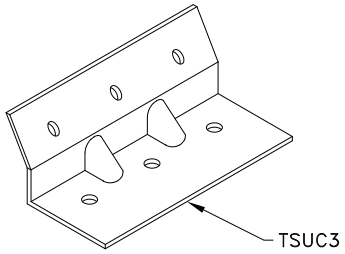
Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Cold-Formed Steel

Wall Top Plate / Min Thickness	Allowable U lbs (kN)[A]			Allowable P1 lbs (kN)[A]							
	TSC2.75	TSC3.00 or TSC4.00	Any Chord Size	28TSC		33TSC		43TSC		54, 68, 97TSC	
	Clip on One Face[B]	Clip on One Face[B]	Clip on Both Faces	Clip on One Face	Clip on Both Faces	Clip on One Face	Clip on Both Faces	Clip on One Face	Clip on Both Faces	Clip on One Face	Clip on Both Faces
20g (33 mils) Grade 33	210 (0.93)	210 (0.93)	500 (2.22)	530 (2.36)	1060 (4.72)	530 (2.36)	1060 (4.72)	530 (2.36)	1060 (4.72)	530 (2.36)	1060 (4.72)
20g (33 mils) Grade 50	310 (1.38)	310 (1.38)	730 (3.25)	620 (2.76)	1230 (5.47)	770 (3.43)	1530 (6.81)	770 (3.43)	1530 (6.81)	770 (3.43)	1530 (6.81)
18g (43 mils) Grade 33	280 (1.25)	280 (1.25)	660 (2.94)					790 (3.51)	1580 (7.03)	790 (3.51)	1580 (7.03)
18g (43 mils) Grade 50	400 (1.78)	400 (1.78)	950 (4.23)					1140 (5.07)	2280 (10.14)	1140 (5.07)	2280 (10.14)
16g (54 mils) Grade 33	350 (1.56)	350 (1.56)	820 (3.65)					1110 (4.94)	2220 (9.88)	1110 (4.94)	2220 (9.88)
16g (54 mils) Grade 50	400 (1.78)	500 (2.22)	1190 (5.29)					1140 (5.07)	2280 (10.14)	1310 (5.83)	2610 (11.61)
14g (68 mils) Grade 33		440 (1.96)	1040 (4.63)								
14g (68 mils) Grade 50	400 (1.78)[C]	620 (2.76)	1230 (5.47)[D]								
12g (97 mils) Grade 33											
12g (97 mils) Grade 50			1230 (5.47)[E]								

A. Allowable loads shown on this detail are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and any web size is acceptable for TSC3.00 or TSC4.00.
C. If web above connection is 33W.75x1.5, U = 620 lbs (2.76 kN).
D. For 33TSC and greater, U = 1480 lbs (6.58 kN).
E. For 33TSC, U = 1530 lbs (6.81 kN). For 43TSC and greater, U = 1960 lbs (8.72 kN).





Allowable P2 lbs (kN)[A]		
Chord	Clip on One Face	Clip on Both Faces
28TSC	310 (1.38)	630 (2.80)
33TSC	340 (1.51)	730 (3.25)
≥ 43TSC	340 (1.51)	880 (3.91)

General Notes:

1. The wall top plate is to be designed by the job engineer. The wall top plate and connection of top plate to wall stud must be designed to support the loads applied to it (downward, upward and lateral).
2. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
4. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC3 Uplift Attachment To Cold-Formed Steel Using #10SDS

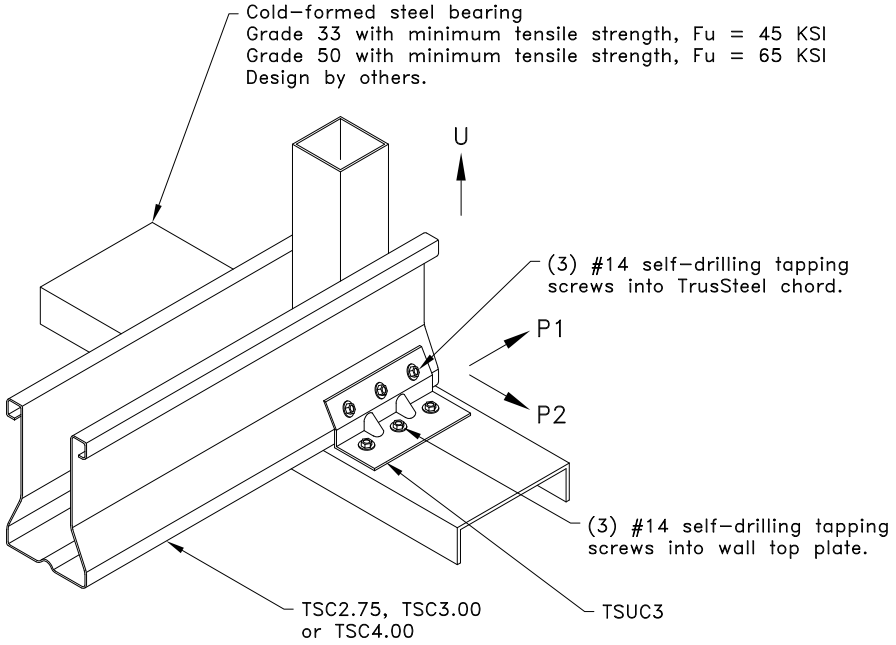
Standard Detail: TS028

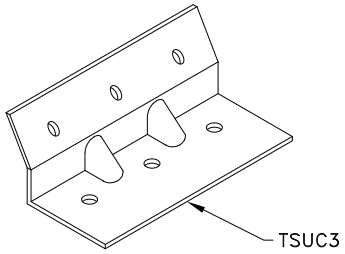
Date: 06/01/22

TrusSteel Detail Category:
Truss-To-Bearing: Cold-Formed Steel

Wall Top Plate / Min Thickness	Allowable U lbs (kN)[A]			Allowable P1 lbs (kN)[A]							
	TSC2.75	TSC3.00 or TSC4.00	Any Chord Size	28TSC		33TSC		43TSC		54, 68, 97TSC	
	Clip on One Face[B]	Clip on One Face[B]	Clip on Both Faces	Clip on One Face	Clip on Both Faces	Clip on One Face	Clip on Both Faces	Clip on One Face	Clip on Both Faces	Clip on One Face	Clip on Both Faces
20g (33 mils) Grade 33	280 (1.25)	280 (1.25)	660 (2.94)	610 (2.71)	1220 (5.43)	610 (2.71)	1220 (5.43)	610 (2.71)	1220 (5.43)	610 (2.71)	1220 (5.43)
20g (33 mils) Grade 50	400 (1.78)	400 (1.78)	960 (4.27)					880 (3.91)	1760 (7.83)	880 (3.91)	1760 (7.83)
18g (43 mils) Grade 33	360 (1.60)	360 (1.60)	860 (3.83)					910 (4.05)	1810 (8.05)	910 (4.05)	1810 (8.05)
18g (43 mils) Grade 50	400 (1.78)	520 (2.31)	1250 (5.56)					1310 (5.83)	2610 (11.61)	1310 (5.83)	2610 (11.61)
16g (54 mils) Grade 33		450 (2.00)	1080 (4.80)					1270 (5.65)	2540 (11.30)	1270 (5.65)	2540 (11.30)
16g (54 mils) Grade 50		660 (2.94)	1410 (6.27)[D]	710 (3.16)	1410 (6.27)	880 (3.91)	1760 (7.83)				
14g (68 mils) Grade 33		570 (2.54)	1360 (6.05)								
14g (68 mils) Grade 50	400 (1.78)[C]	710 (3.16)	1410 (6.27)[E]					1310 (5.83)	2610 (11.61)	1720 (7.65)	3440 (15.30)
12g (97 mils) Grade 33											
12g (97 mils) Grade 50											

A. Allowable loads shown on this detail are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and any web size is acceptable for TSC3.00 or TSC4.00.
C. If web above connection is 33W.75x1.5, U = 710 lbs (3.16 kN).
D. For 33TSC and greater, U = 1560 lbs (6.94 kN).
E. For 33TSC, U = 1760 lbs (7.83 kN). For 43TSC and greater, U = 1950 lbs (8.67 kN).





Allowable P2 lbs (kN)[A]		
Chord	Clip on One Face	Clip on Both Faces
28TSC	340 (1.51)	830 (3.69)
≥ 33TSC	340 (1.51)	880 (3.91)

General Notes:

1. The wall top plate is to be designed by the job engineer. The wall top plate and connection of top plate to wall stud must be designed to support the loads applied to it (downward, upward and lateral).
2. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
4. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC3 Uplift Attachment To Cold-Formed Steel Using #14SDS

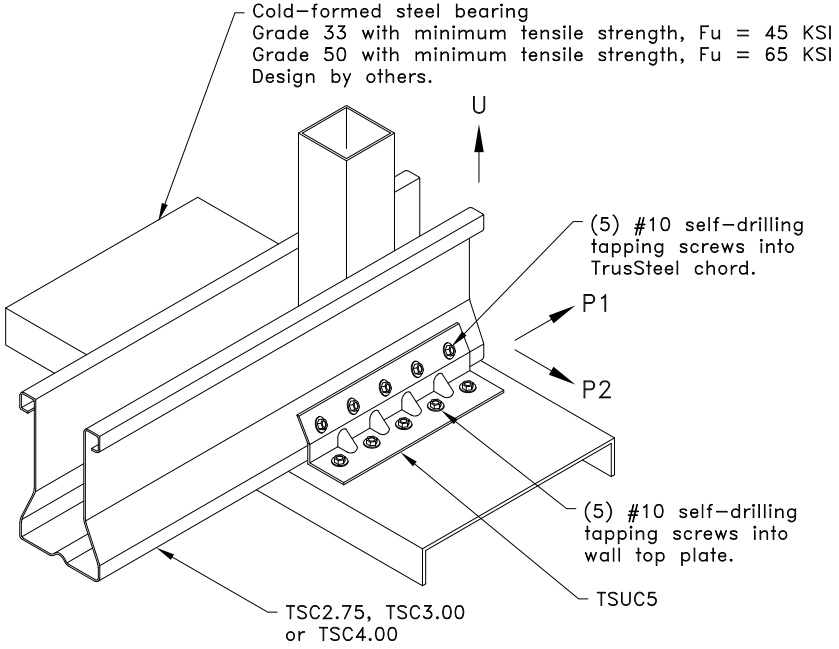
Standard Detail: TS028A

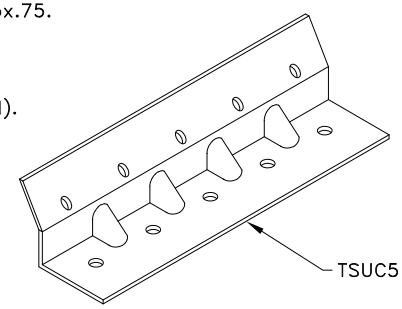
Date: 06/01/22

TrusSteel Detail Category:
Truss-To-Bearing: Cold-Formed Steel

Wall Top Plate / Min Thickness	Allowable U lbs (kN)[A]			Allowable P1 lbs (kN)[A]							
	TS2.75	TSC3.00 or TSC4.00	Any Chord Size	28TSC		33TSC		43TSC		54, 68, 97TSC	
	Clip on One Face[B]	Clip on One Face[B]	Clip on Both Faces	Clip on One Face	Clip on Both Faces	Clip on One Face	Clip on Both Faces	Clip on One Face	Clip on Both Faces	Clip on One Face	Clip on Both Faces
20g (33 mils) Grade 33	350 (1.56)	350 (1.56)	840 (3.74)	880 (3.91)	1770 (7.87)	880 (3.91)	1770 (7.87)	880 (3.91)	1770 (7.87)	880 (3.91)	1770 (7.87)
20g (33 mils) Grade 50	400 (1.78)	510 (2.27)	1210 (5.38)	1030 (4.58)	2050 (9.12)	1280 (5.69)	2550 (11.34)	1280 (5.69)	2550 (11.34)	1280 (5.69)	2550 (11.34)
18g (43 mils) Grade 33		460 (2.05)	1090 (4.85)					1320 (5.87)	2630 (11.70)	1320 (5.87)	2630 (11.70)
18g (43 mils) Grade 50		660 (2.94)	1580 (7.03)					1900 (8.45)	3800 (16.90)	1900 (8.45)	3800 (16.90)
16g (54 mils) Grade 33		580 (2.58)	1370 (6.09)					1850 (8.23)	3700 (16.46)	1850 (8.23)	3700 (16.46)
16g (54 mils) Grade 50	400 (1.78)[C]	740 (3.29)	1980 (8.81)					1900 (8.45)	3800 (16.90)	2180 (9.70)	4360 (19.39)
14g (68 mils) Grade 33		730 (3.25)	1730 (7.70)								
14g (68 mils) Grade 50		740 (3.29)[D]	2050 (9.12)[E]								
12g (97 mils) Grade 33			2050 (9.12)[E]								
12g (97 mils) Grade 50			2050 (9.12)[F]								

A. Allowable loads shown on this detail are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. If web above connection is 33W.75x1.5, U = 710 (3.16 kN)
D. If web above connectoin is 33C1.5x1.5, U = 1010 (4.49 kN)
E. For 33TSC and greater, U = 2460 lbs (10.94 kN).
F. For 33TSC, U = 2550 lbs (11.34 kN). For 43TSC and greater, U = 3260 lbs (14.50 kN).





Allowable P2 lbs (kN)[A]		
Chord	Clip on One Face	Clip on Both Faces
28TSC	520 (2.31)	1050 (4.67)
33TSC	570 (2.54)	1210 (5.38)
≥ 43TSC	570 (2.54)	1470 (6.54)

General Notes:

1. The wall top plate is to be designed by the job engineer. The wall top plate and connection of top plate to wall stud must be designed to support the loads applied to it (downward, upward and lateral).
2. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
4. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC5 Uplift Attachment To Cold-Formed Steel Using #10SDS

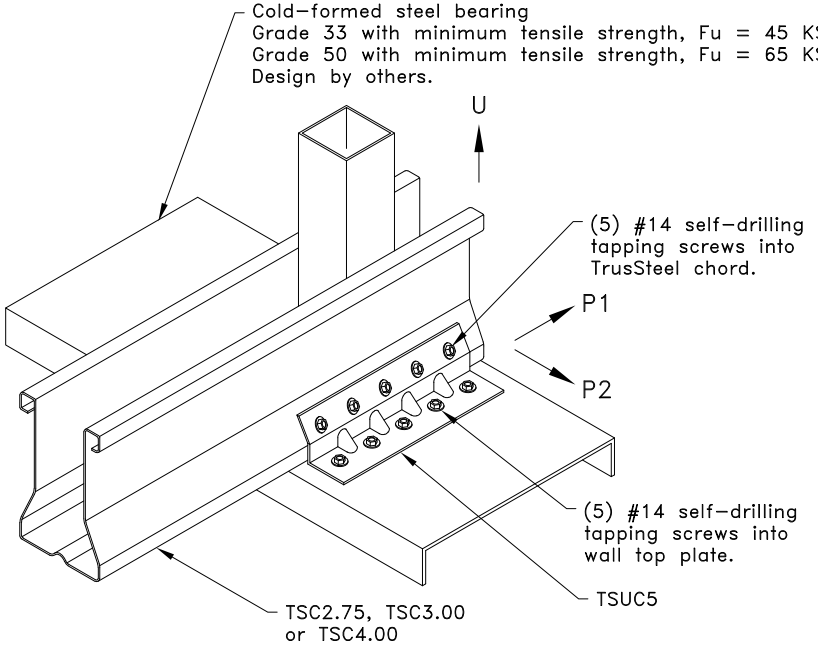
Standard Detail: TS029

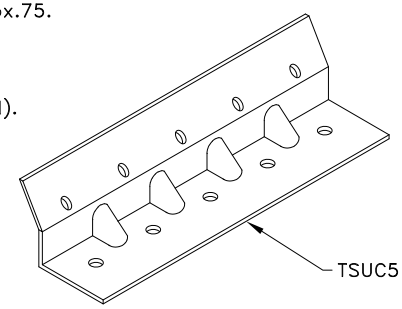
Date: 06/01/22

TrusSteel Detail Category:
Truss-To-Bearing: Cold-Formed Steel

Wall Top Plate / Min Thickness	Allowable U lbs (kN)[A]			Allowable P1 lbs (kN)[A]							
	TS2.75	TSC3.00 or TSC4.00	Any Chord Size	28TSC		33TSC		43TSC		54, 68, 97TSC	
	Clip on One Face[B]	Clip on One Face[B]	Clip on Both Faces	Clip on One Face	Clip on Both Faces	Clip on One Face	Clip on Both Faces	Clip on One Face	Clip on Both Faces	Clip on One Face	Clip on Both Faces
20g (33 mils) Grade 33	400 (1.78)	460 (2.05)	1100 (4.89)	1010 (4.49)	2030 (9.03)	1010 (4.49)	2030 (9.03)	1010 (4.49)	2030 (9.03)	1010 (4.49)	2030 (9.03)
20g (33 mils) Grade 50		670 (2.98)	1590 (7.07)	1180 (5.25)	2350 (10.45)	1460 (6.49)	2930 (13.03)	1460 (6.49)	2930 (13.03)	1460 (6.49)	2930 (13.03)
18g (43 mils) Grade 33		600 (2.67)	1440 (6.41)					1510 (6.72)	3020 (13.43)	1510 (6.72)	3020 (13.43)
18g (43 mils) Grade 50	400 (1.78)[C]	740 (3.29)	2080 (9.25)					2180 (9.70)	4360 (19.39)	2180 (9.70)	4360 (19.39)
16g (54 mils) Grade 33			1800 (8.01)					2120 (9.43)	4240 (18.86)	2120 (9.43)	4240 (18.86)
16g (54 mils) Grade 50		740 (3.29)[D]	2350 (10.45)[E]					2180 (9.70)	4360 (19.39)	2740 (12.19)	5480 (24.38)
14g (68 mils) Grade 33		740 (3.29)	2270 (10.10)								
14g (68 mils) Grade 50		740 (3.29)[D]	2350 (10.45)[F]								
12g (97 mils) Grade 33											
12g (97 mils) Grade 50											

A. Allowable loads shown on this detail are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. If web above connection is 33W.75x1.5, U = 710 (3.16 kN)
D. If web above connectoin is 33C1.5x1.5, U = 1010 (4.49 kN)
E. For 33TSC and greater, U = 2610 lbs (11.61 kN).
F. For 33TSC, U = 2930 lbs (13.03 kN). For 43TSC and greater, U = 3240 lbs (14.41 kN).





Allowable P2 lbs (kN)[A]		
Chord	Clip on One Face	Clip on Both Faces
28TSC	570 (2.54)	1380 (6.14)
≥ 33TSC	570 (2.54)	1470 (6.54)

General Notes:

1. The wall top plate is to be designed by the job engineer. The wall top plate and connection of top plate to wall stud must be designed to support the loads applied to it (downward, upward and lateral).
2. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
4. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC5 Uplift Attachment To Cold-Formed Steel Using #14SDS

Standard Detail: TS029A

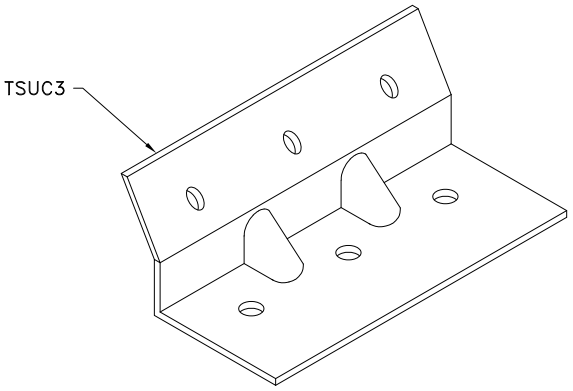
Date: 06/01/22

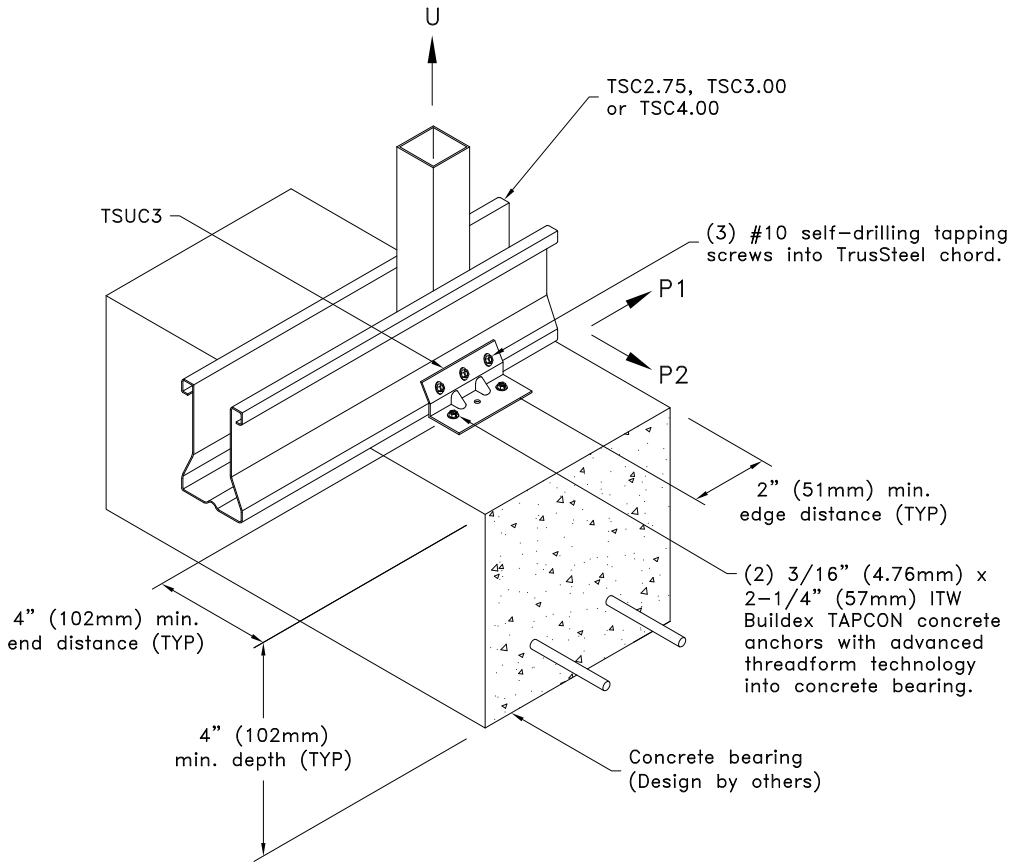
TrusSteel Detail Category:

Truss-To-Bearing: Cold-Formed Steel

Allowable Loads lbs (kN)[A,B,C,D]		
Allowable U		
Concrete Strength f'c, psi (MPa)	Clip on one face[E]	Clip on both faces
2500 (17.24)	NA	520 (2.31)
3000 (20.68)	NA	570 (2.54)
4000 (27.58)	NA	660 (2.94)
5000 (34.47)	NA	740 (3.29)
Allowable P1 and P2 for clip on both faces[E] P1 = 580 lbs (2.58 kN) P2 = 580 lbs (2.58 kN)		

A. Allowable loads shown on this detail are not in combination.
B. Special inspection is required. Refer to ICC ESR-2202 (October, 2021) regarding proper installation of anchors and requirements for special inspection.
C. Per ICC ESR-2202 (October, 2021), the design values given above are for uncracked concrete only.
D. Allowable loads outlined are based on the assumption that 70% of the applied load is live load and 30% is dead load.
E. Clip connection is required on both faces.





General Notes:

1. This detail shall not be used to resist seismic loads.
2. Attachment of second clip on opposite face of chord is identical to what is detailed.
3. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
4. Fill outside holes of TSUC3 clip with TAPCON concrete anchors as shown.
5. Concrete anchor is not to be installed until concrete has reached the specified design strength.
6. Design of tapcons are per ICC ESR-2202 (October, 2021).
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC3 Uplift Attachment To Concrete Bearing

Standard Detail: TS030

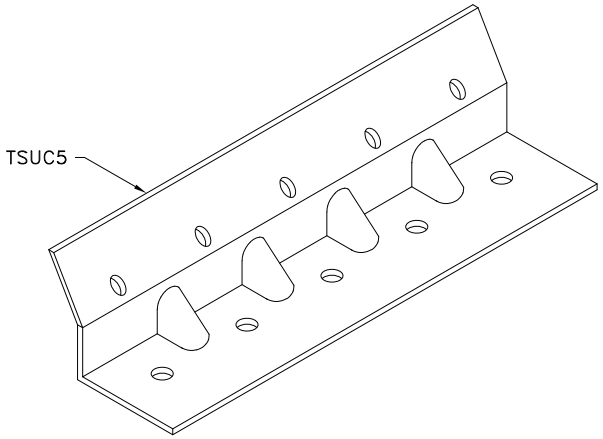
Date: 06/01/22

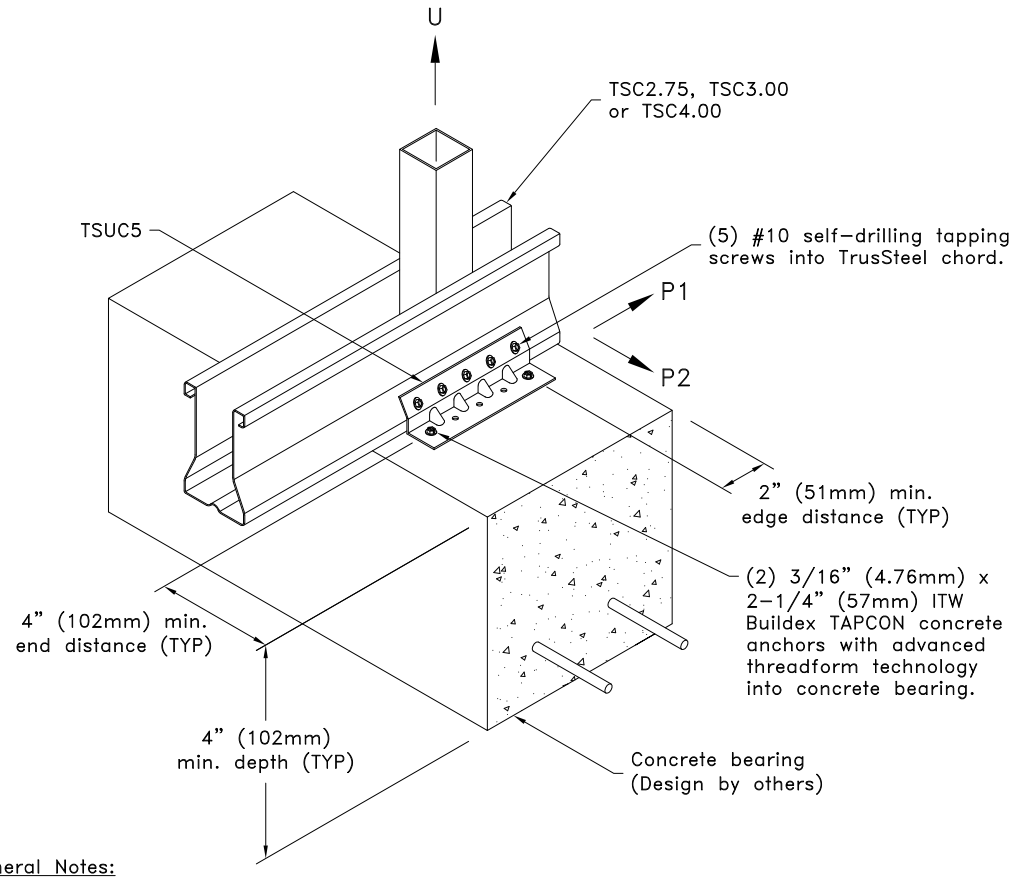
TrusSteel Detail Category: Truss-To-Bearing: Concrete

Allowable U lbs (kN)[A,B,C,D]				
Concrete Strength f'c, psi (MPa)	TSC2.75		TSC3.00 or TSC4.00	
	Clip on one face[E]	Clip on both faces	Clip on one face[E]	Clip on both faces
2500 (17.24)	400 (1.78)	520 (2.31)	440 (1.96)	1040 (4.63)
3000 (20.68)	400 (1.78)	570 (2.54)	480 (2.14)	1140 (5.07)
4000 (27.58)	400 (1.78)	660 (2.94)	550 (2.45)	1320 (5.87)
5000 (34.47)	400 (1.78)	740 (3.29)	620 (2.76)	1480 (6.58)

Allowable P1 & P2 lbs (kN)[A,B,C,D]				
Chord	P1		P2	
	Clip on one face[E]	Clip on both faces	Clip on one face[E]	Clip on both faces
TSC2.75	430 (1.91)	580 (2.58)	430 (1.91)	580 (2.58)
TSC3.00 or TSC4.00	430 (1.91)	680 (3.02)	430 (1.91)	670 (2.98)

A. Allowable loads shown on this detail are not in combination.
B. Special inspection is required. Refer to ICC ESR–2202 (October, 2021) regarding proper installation of anchors and requirements for special inspection.
C. Per ICC ESR–2202 (October, 2021), the design values given above are for uncracked concrete only.
D. Allowable loads outlined are based on the assumption that 70% of the applied load is live load and 30% is dead load.
E. Uplift connections with clip on one face require web above connection.





General Notes:

1. This detail shall not be used to resist seismic loads.
2. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. Multi–ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply–to–ply connections for 3–Ply trusses with a clip on each face.
4. Fill outside holes of TSUC5 clip with TAPCON concrete anchors as shown.
5. Concrete anchor is not to be installed until concrete has reached the specified design strength.
6. Design of tapcons are per ICC ESR–2202 (October, 2021).
7. Cold–Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold–Formed Steel Structural Members" (S100–16/S2–20).

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TSUC5 Uplift Attachment To Concrete Bearing

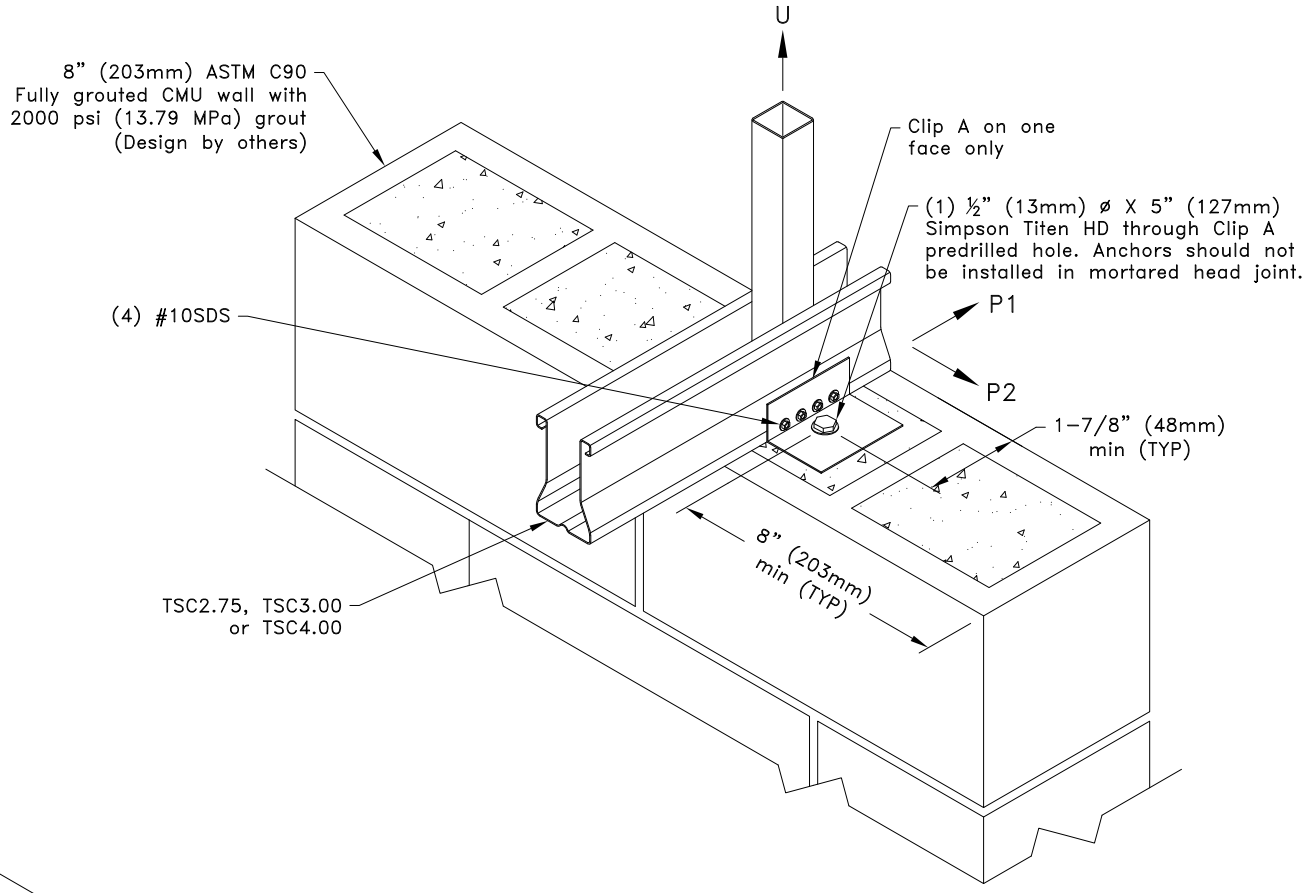
Standard Detail: TS031

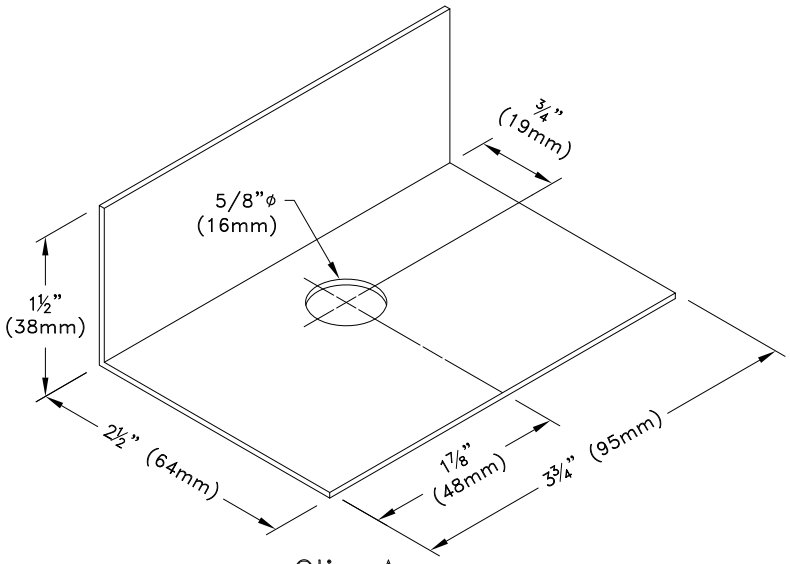
Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Concrete

Allowable Loads – lbs (kN)[A,B]			
Clip Size	Clip on One Face[C]		
	U	P1	P2
16 ga	320 (1.42)[D]	160 (0.71)	420 (1.87)
12 ga	320 (1.42)[D]	160 (0.71)	420 (1.87)

A. Allowable loads shown on this detail are not in combination.
B. Design values are for uncracked masonry.
C. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and any web size is acceptable for TSC3.00 or TSC4.00.
D. If web above connection is 33W.75x1.5,
U = 480 lbs (2.14 kN) with 16g clip and
U = 570 lbs (2.54 kN) with 12g clip.





Clip A

16 ga ASTM A653 SS Grade 33 G60
Bare metal thickness, t = 0.0538" (1.37mm)
or
12 ga ASTM A653 SS Grade 33 G60
Bare metal thickness, t = 0.0966" (2.45mm)

General Notes:

1. SDS = Self-Drilling Tapping Screw
2. #10SDS screw spacing, end distance, and edge distance is 9/16" (14mm) minimum.
3. This detail is for 1-Ply trusses only, for multi-ply trusses contact a TrusSteel engineer.
4. Special inspection is required. For proper installation of Titen HD fasteners, grout requirements, and requirements of special inspection, refer to ICC ESR-1056 (March, 2021).
5. It is the responsibility of the building designer to verify that the structural support members are designed for all applicable loads including (but not limited to) the loads given on this detail.
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Uplift Attachment To Grout-Filled CMU Bearing

Standard Detail: TS031A

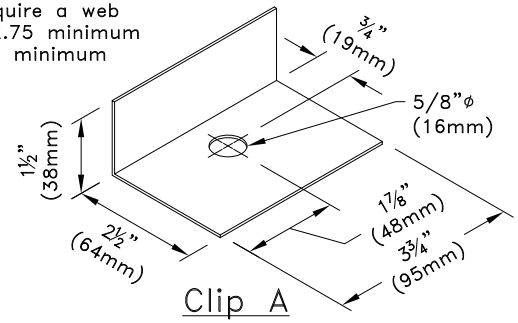
Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Concrete

Allowable Loads – lbs (kN)[A,B]					
f'c of concrete psi (MPa)	Allowable Loads	12g Clip			
		TSC2.75 Chord		TSC3.00 or TSC4.00 Chord	
		Clip on One Face[C,D]	Clip on Both Faces	Clip on One Face[C,E]	Clip on Both Faces
2500 (17.24)	U	320 (1.42)	1170 (5.20)	630 (2.80)	1280 (5.69)
	P_1	590 (2.62)	840 (3.74)	590 (2.62)	920 (4.09)
3000 (20.68)	U	320 (1.42)	1300 (5.79)	630 (2.80)	1420 (6.32)
	P_1	660 (2.94)	920 (4.09)	660 (2.94)	1000 (4.45)
4000 (27.58)	U	320 (1.42)	1500 (6.67)	630 (2.80)	1640 (7.30)
	P_1	770 (3.43)	1060 (4.72)	770 (3.43)	1160 (5.16)
5000 (34.47)	U	320 (1.42)	1640 (7.30)	630 (2.80)	1640 (7.30)
	P_1	820 (3.65)	1190 (5.29)	820 (3.65)	1300 (5.78)

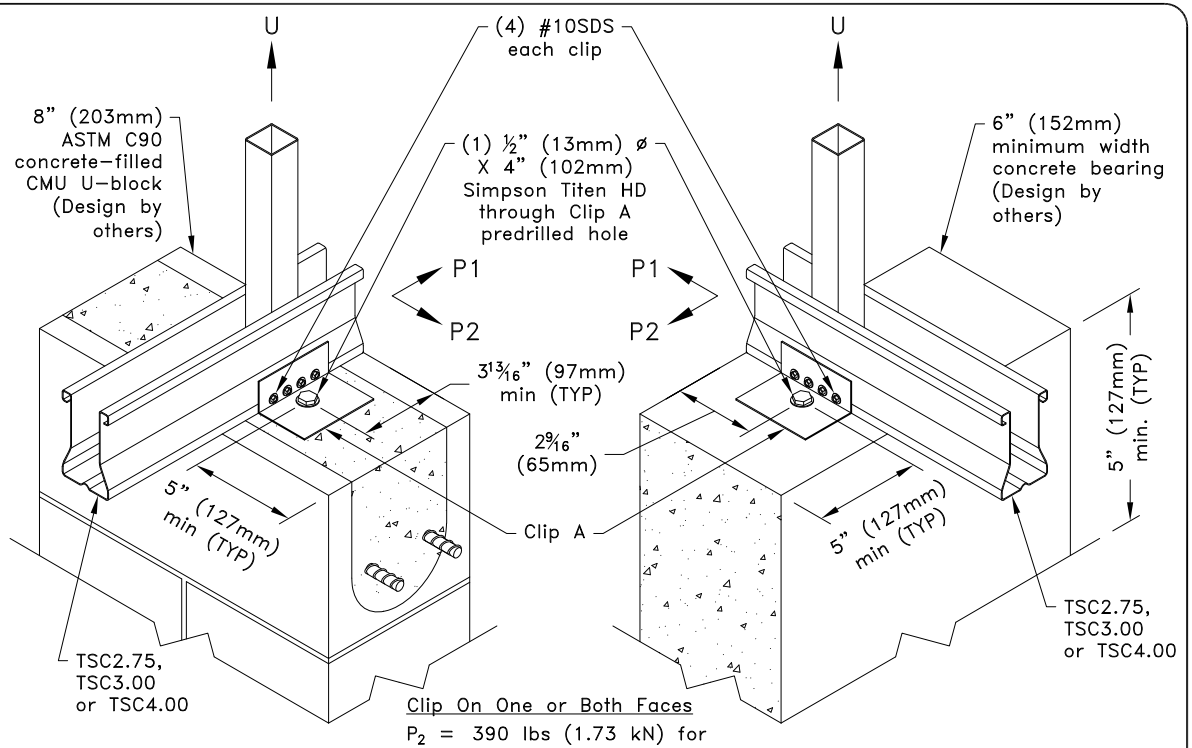
Allowable Loads – lbs (kN)[A,B]					
f'c of concrete psi (MPa)	Allowable Loads	16g Clip			
		TSC2.75 Chord		TSC3.00 or TSC4.00 Chord	
		Clip on One Face[C,D]	Clip on Both Faces	Clip on One Face[C]	Clip on Both Faces
2500 (17.24)	U	320 (1.42)	960 (4.27)	480 (2.14)	960 (4.27)
	P_1	590 (2.62)	840 (3.74)	590 (2.62)	920 (4.09)

A. Allowable loads shown on this detail are not in combination.
B. Design values are for cracked or uncracked concrete.
C. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
D. If web above connection is 33W.75x1.5, U = 480 lbs (2.14 kN) with 16g clip and U = 570 lbs (2.54 kN) with 12g clip.
E. If web above connection is 33C1.5x1.5, U = 820 lbs (3.65 kN)



Clip A

16 ga ASTM A653 SS Grade 33 G60
Bare metal thickness, t = 0.0538" (1.37mm)
or
12 ga ASTM A653 SS Grade 33 G60
Bare metal thickness, t = 0.0966" (2.45mm)



Clip On One or Both Faces
P_2 = 390 lbs (1.73 kN) for 2500 psi (17.24 MPa) Concrete
P_2 = 420 lbs (1.87 kN) for 3000 psi (20.68 MPa) Concrete

General Notes:

1. SDS = Self-Drilling Tapping Screw
2. #10SDS screw spacing, end distance, and edge distance is 9/16" (14mm) minimum.
3. Attachment of second clip on opposite face of chord is identical to what is detailed.
4. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
5. Special inspection is required. For proper installation of Titen HD fasteners and requirements of special inspection, refer to ICC ESR-2713 (September, 2021).
6. It is the responsibility of the building designer to verify that the structural support members are designed for all applicable loads including (but not limited to) the loads given on this detail.
7. Allowable loads shown are for use with normal weight concrete.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Uplift Attachment To Concrete Bearing

Standard Detail: TS031B

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Concrete

Allowable U lbs (kN)[A]

Chord	Southern Pine		Douglas Fir–Larch		Spruce–Pine–Fir		Hem–Fir	
	Clip on one face[B]	Clip on both faces	Clip on one face[B]	Clip on both faces	Clip on one face[B]	Clip on both faces	Clip on one face[B]	Clip on both faces
28TSC2.75	400 (1.78)[C]	1230 (5.47)	400 (1.78)[C]	1230 (5.47)	380 (1.69)	910 (4.05)	400 (1.78)	960 (4.27)
33TSC2.75		1530 (6.81)		1300 (5.78)				
43TSC2.75		1560 (6.94)						
28TSC3.00 or 28TSC4.00	620 (2.76)	1230 (5.47)	540 (2.40)	1230 (5.47)				
33TSC3.00 or 33TSC4.00	660 (2.94)	1530 (6.81)		1300 (5.78)				
43 & 54TSC3.00, 43, 54, 63 & 97TSC4.00		1560 (6.94)						

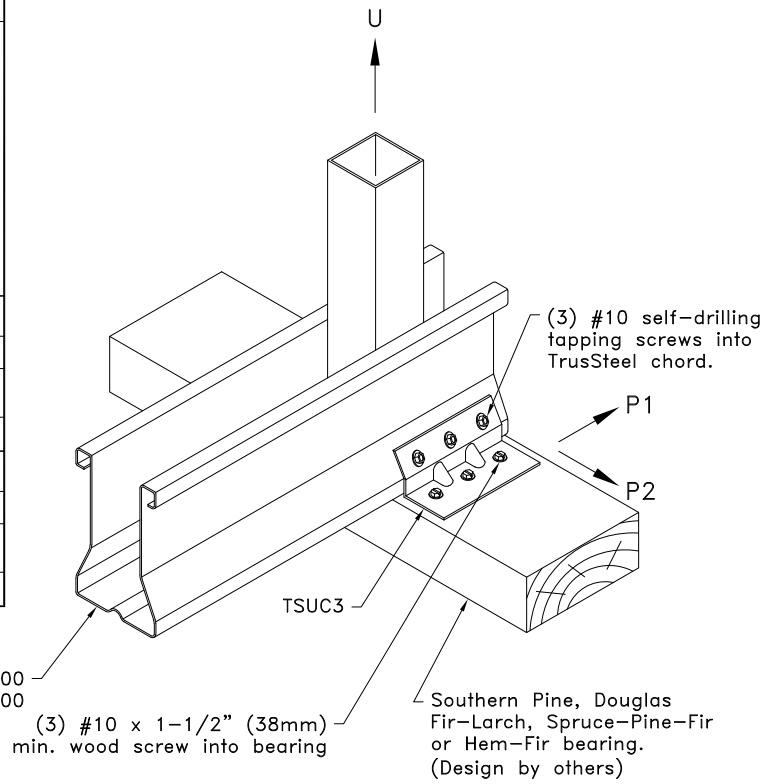
Allowable P1 lbs (kN)[A]

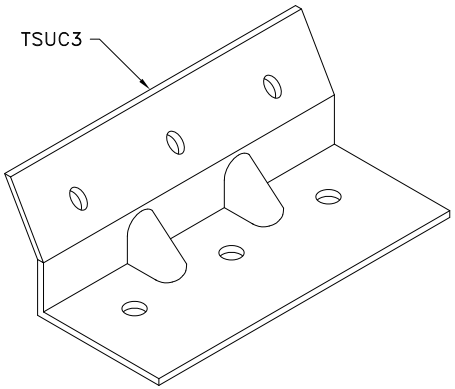
Southern Pine		Douglas Fir–Larch		Spruce–Pine–Fir		Hem–Fir	
Clip on one face	Clip on both faces	Clip on one face	Clip on both faces	Clip on one face	Clip on both faces	Clip on one face	Clip on both faces
600 (2.67)	1200 (5.34)	560 (2.49)	1110 (4.94)	480 (2.14)	960 (4.27)	490 (2.18)	980 (4.36)

Allowable P2 lbs (kN)[A]

28TSC		33TSC		43, 54, 68 & 97TSC	
Clip on one face	Clip on both faces	Clip on one face	Clip on both faces	Clip on one face	Clip on both faces
310 (1.38)	630 (2.80)	340 (1.51)	730 (3.25)	340 (1.51)	880 (3.91)

A. Allowable loads shown are not in combination.
B. Uplift connections with a clip on one face require a web above the connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and any web size is acceptable for TSC3.00 or TSC4.00.
C. If web above connection is 33W.75x1.5, U = 540 lbs (2.40 kN)





General Notes:

1. 2x4 or larger bearing may be used.
2. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. Multi–ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply–to–ply connections for 3–Ply trusses with a clip on each face.
4. Wood screws require a lead hole to be drilled before insertion of screw. Diameter of lead hole to be 9/64" (3.57mm).
5. Allowable wood screw uplift and lateral loads have been increased by 1.6 duration factor for wind and seismic loads.
6. If bearing is pressure treated lumber, reference Steel Framing Alliance bulletin "Pressure Treated Wood and Steel Framing".
7. Allowable fastener values into wood are per ANSI/AWC NDS–2018.
8. Cold–Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold–Formed Steel Structural Members" (S100–16/S2–20).

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TSUC3 Uplift Attachment To Wood Bearing

Standard Detail: TS032

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Wood

Allowable U lbs (kN)[A]

Chord	Southern Pine		Douglas Fir–Larch		Spruce–Pine–Fir		Hem–Fir	
	Clip on one face[B]	Clip on both faces	Clip on one face[B]	Clip on both faces	Clip on one face[B]	Clip on both faces	Clip on one face[B]	Clip on both faces
28TSC2.75	400 (1.78)[C]	2050 (9.12)	400 (1.78)[C]	2050 (9.12)	400 (1.78)[C]	1520 (6.76)	400 (1.78)[C]	1600 (7.12)
33TSC2.75		2550 (11.34)		2160 (9.61)				
43TSC2.75		2610 (11.61)						
28TSC3.00 or 28TSC4.00	740 (3.29)[D]	2050 (9.12)	740 (3.29)[D]	2050 (9.12)	640 (2.85)		670 (2.98)	
33TSC3.00 or 33TSC4.00		2550 (11.34)		2160 (9.61)				
43 & 54TSC3.00, 43, 54, 63 & 97TSC4.00		2610 (11.61)						

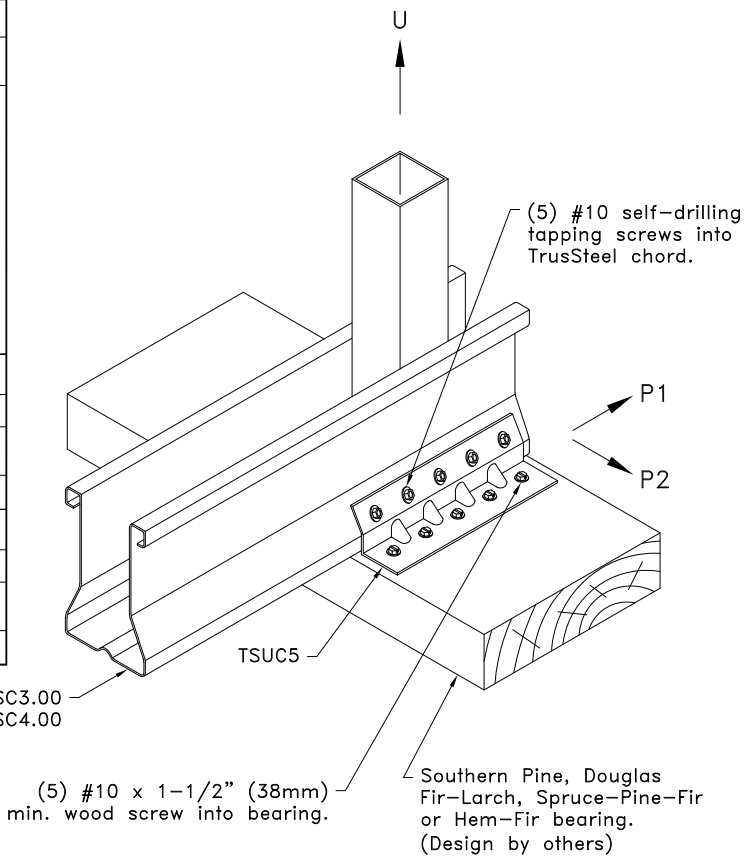
Allowable P1 lbs (kN)[A]

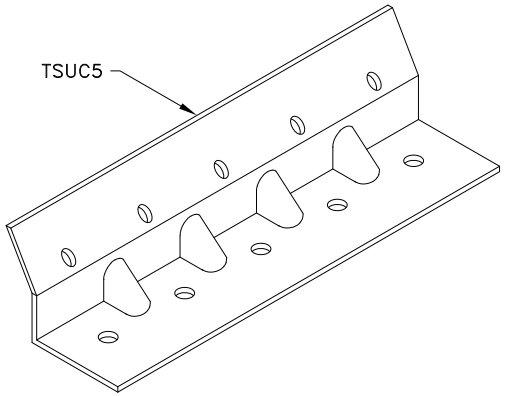
Southern Pine		Douglas Fir–Larch		Spruce–Pine–Fir		Hem–Fir	
Clip on one face	Clip on both faces	Clip on one face	Clip on both faces	Clip on one face	Clip on both faces	Clip on one face	Clip on both faces
1000 (4.45)	2000 (8.90)	930 (4.41)	1860 (8.27)	800 (3.56)	1600 (7.12)	820 (3.65)	1630 (7.25)

Allowable P2 lbs (kN)[A]

28TSC		33TSC		43, 54, 68 & 97TSC	
Clip on one face	Clip on both faces	Clip on one face	Clip on both faces	Clip on one face	Clip on both faces
520 (2.31)	1050 (4.67)	570 (2.53)	1210 (5.38)	570 (2.53)	1470 (6.54)

A. Allowable loads shown are not in combination.
B. Uplift connections with a clip on one face require a web above the connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. If web above connection is 33W.75x1.5, U = 640 lbs (2.85 kN).
D. If web above connection is 33C1.5x1.5, U = 910 lbs (4.05 kN).





General Notes:

1. 2x6 or larger bearing may be used.
2. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. Multi–ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply–to–ply connections for 3–Ply trusses with a clip on each face.
4. Wood screws require a lead hole to be drilled before insertion of screw. Diameter of lead hole to be 9/64" (3.57mm).
5. Allowable wood screw uplift and lateral loads have been increased by 1.6 duration factor for wind and seismic loads.
6. If bearing is pressure treated lumber, reference Steel Framing Alliance bulletin "Pressure Treated Wood and Steel Framing".
7. Allowable fastener values into wood are per ANSI/AWC NDS–2018.
8. Cold–Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold–Formed Steel Structural Members" (S100–16/S2–20).

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TSUC5 Uplift Attachment To Wood Bearing

Standard Detail: TS033

Date: 06/01/22

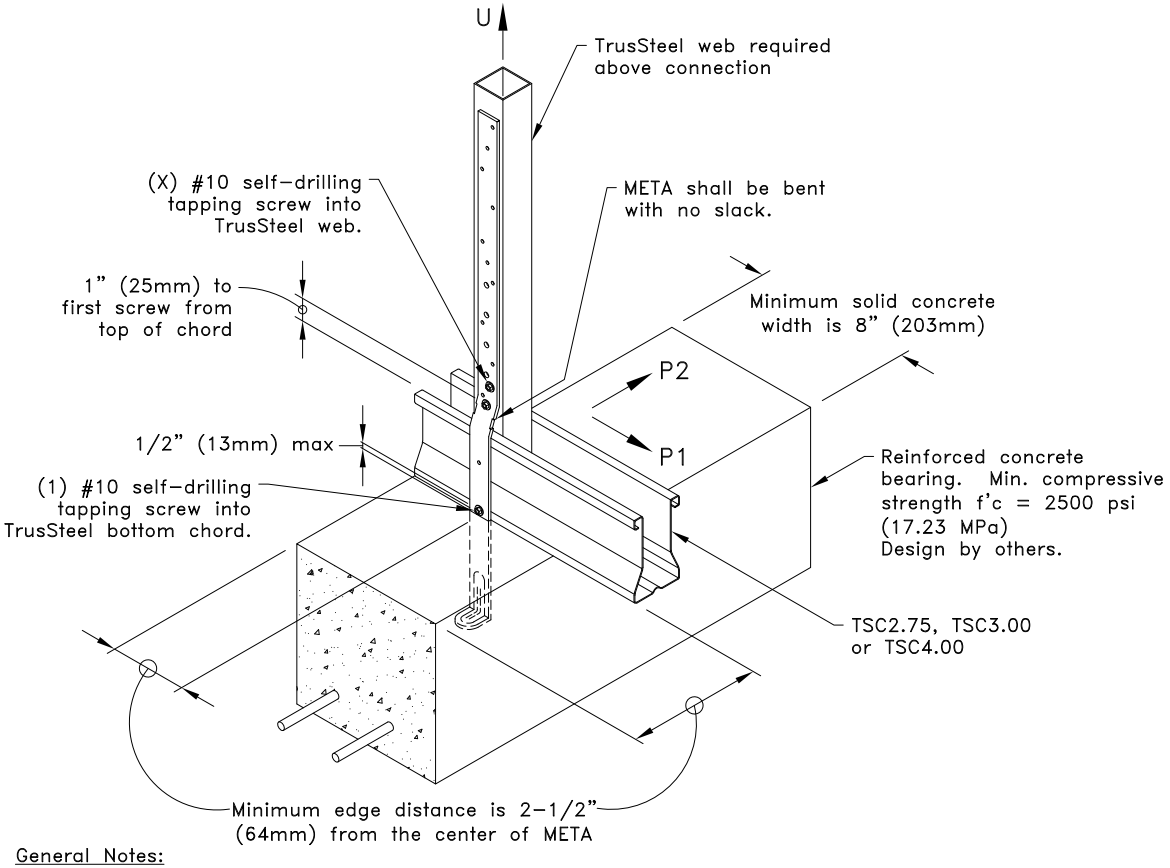
TrusSteel Detail Category: Truss-To-Bearing: Wood

Contact a TrusSteel engineer if the approved truss drawing has been analyzed with a bearing under the bottom chord. Resisting uplift at the web of the truss changes the truss analysis.

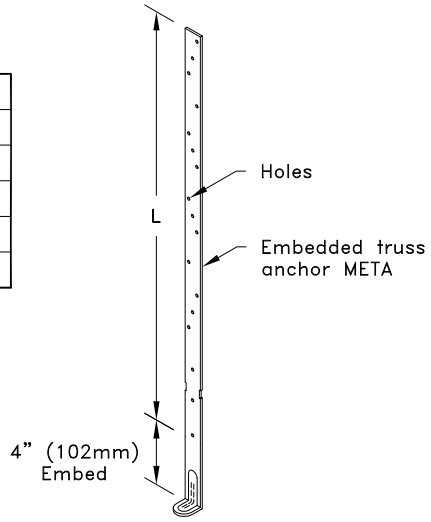
Allowable U lbs (kN)[A]			
X[B]	META on One Face		META on Both Faces
	TSC2.75	TSC3.00 or TSC4.00	TSC2.75, TSC3.00 and TSC4.00
2	440 (1.96)	440 (1.96)	880 (3.91)
3	550 (2.45)	660 (2.94)	1320 (5.87)
4	550 (2.45)	880 (3.91)	1760 (7.83)

Allowable P1 and P2 lbs (kN)[A]		
P1/P2	META on One Face	META on Both Faces
P1	85 (0.38)	170 (0.76)
P2	65 (0.29)	130 (0.58)

A. Allowable loads shown are not in combination.
B. The quantity "X" represents the required number of #10 self-drilling tapping screws.



META	"L" in. (mm)
META16	12 (305)
META18	14 (356)
META20	16 (406)
META22	18 (457)
META24	20 (508)



General Notes:

1. If an META is required on both faces, attach the second META to the opposite face of the chord as detailed.
2. 2-Ply trusses require a strap on each face. For connection to 3-Ply trusses contact a TrusSteel engineer.
3. Truss shall have at least one vertical web over the bearing to accommodate the META.
4. Screws shall be located such that one screw connects the META and the truss bottom chord and at least two screws connect the META and the vertical web over the bearing. The one screw connecting the META to the truss bottom chord must be located no more than 1/2" (13mm) up from the bottom of the chord.
5. META (or equal) length is to be determined by quantity of screws required in the strap.
6. Allowable loads shown are for use with normal weight concrete.
7. It is permissible to substitute an equal alternative for the Simpson Strong-Tie hardware specified on this detail.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Simpson META (or equal) Uplift Attachment To Concrete Bearing

Standard Detail: TS034

Date: 06/01/22

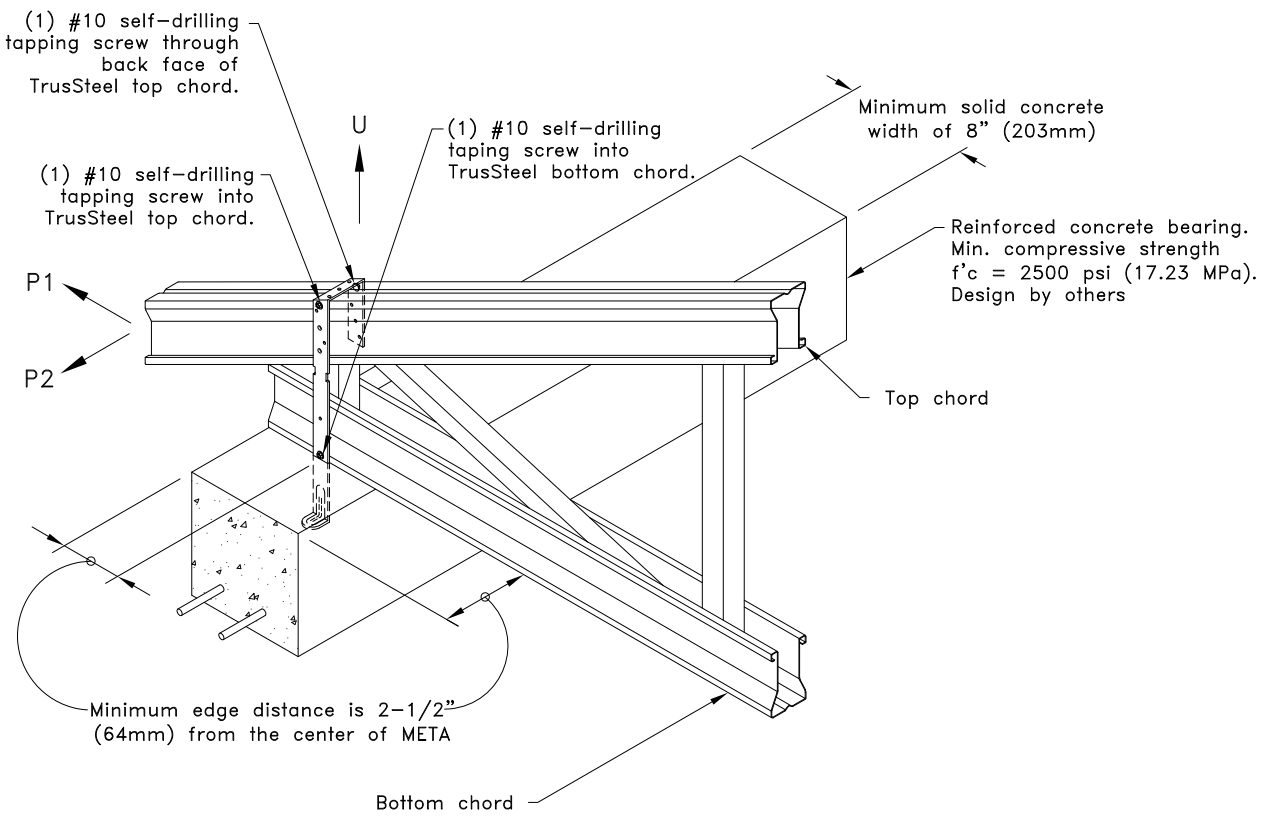
TrusSteel Detail Category: Truss-To-Bearing: Concrete

Contact a TrusSteel engineer if the approved truss drawing has been analyzed with a bearing under the bottom chord. Resisting uplift at the top chord of the truss changes the truss analysis.

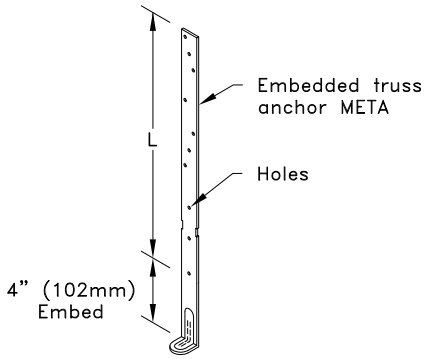
Allowable U lbs (kN)[A]		
Chord	META on One Face	META on Both Faces
28TSC2.75	550 (2.45)	1210 (5.38)
33TSC2.75		1530 (6.81)
43TSC2.75		1800 (8.00)
28TSC3.00 or 28TSC4.00	590 (2.62)	1180 (5.25)
33TSC3.00 or 33TSC4.00	760 (3.38)	1530 (6.81)
43TSC3.00 or 43TSC4.00	900 (4.00)	1800 (8.00)
54TSC3.00 or 54TSC4.00		
68TSC4.00		
97TSC4.00		

Allowable P1 and P2 lbs (kN)[A]		
P1/P2	META on One Face	META on Both Faces
P1	85 (0.38)	170 (0.76)
P2	65 (0.29)	130 (0.58)

A. Allowable loads shown are not in combination.



META	"L" in. (mm)
META16	12 (305)
META18	14 (356)
META20	16 (406)
META22	18 (457)
META24	20 (508)



General Notes:

1. If an META is required on both faces, attach the second META to the opposite face of the chord as detailed.
2. 2-Ply trusses require a strap on each face. For connection to 3-Ply trusses contact a TrusSteel engineer.
3. Truss shall be designed with at least one vertical web over the bearing.
4. See detail above for required number of screws and placement.
5. META shall be installed so it wraps over the top of the truss and returns down the back side of the top chord as shown in detail above.
6. Allowable loads shown are for use with normal weight concrete.
7. It is permissible to substitute an equal alternative for the Simpson Strong-Tie hardware specified on this detail.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Simpson META (or equal) Uplift Attachment Over Top Of Truss Into Concrete Bearing

Standard Detail: TS035

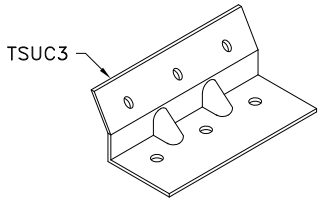
Date: 06/01/22

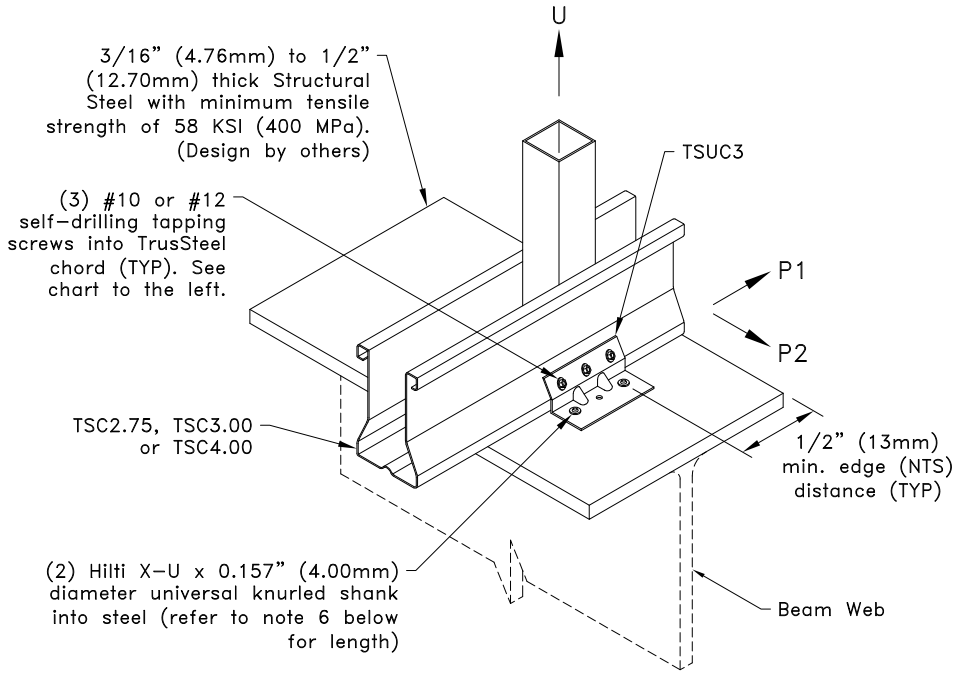
TrusSteel Detail Category: Truss-To-Bearing: Concrete

Allowable Loads lbs (kN)[A,C]

Chord	Clip on one face[B]					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC2.75	400[D] (1.78)	620 (2.76)	310 (1.38)	400[D] (1.78)	660 (2.94)	340 (1.51)
33TSC2.75	400[E] (1.78)	770 (3.43)	340 (1.51)	400[E] (1.78)	820 (3.65)	
43TSC2.75		1140 (5.07)			1220 (5.43)	
28TSC3.00 or 28TSC4.00	620 (2.76)		310 (1.38)	660 (2.94)		
33TSC3.00 or 33TSC4.00	680 (3.02)	770 (3.43)	340 (1.51)	680 (3.02)	820 (3.65)	
43TSC3.00 or 43TSC4.00		1140 (5.07)			1220 (5.43)	
54TSC3.00 or 54, 68 & 97TSC4.00		1250 (5.56)			1250 (5.56)	
Chord	Clip on both faces					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC	1230 (5.47)		630 (2.80)	1310 (5.83)		710 (3.16)
33TSC	1530 (6.81)		730 (3.25)	1630 (7.25)	1630 (7.25)	830 (3.69)
43TSC	1630 (7.25)	2280 (10.14)	880 (3.91)		2430 (10.81)	880 (3.91)
54, 68 & 97TSC		2500 (11.12)			2500 (11.12)	

A. Allowable loads shown are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and any web size is acceptable for TSC3.00 or TSC4.00.
C. Chart values apply to steel thickness between 3/16" (4.76mm) and 1/2" (12.70mm), when connecting to steel greater than 1/2" (12.70mm) thick refer to TS039A.
D. If web above connection is 33W.75x1.5, U = 620 lbs (2.76 kN).
E. If web above connection is 33W.75x1.5, U = 680 lbs (3.02 kN).





General Notes:

1. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
2. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
3. Install pins in the two outside holes of TSUC3 clip.
4. Pins must be driven through existing holes in TSUC3 clip and be driven perpendicular to steel surface.
5. Care must be taken to ensure pins are not overdriven. Pins that are overdriven may puncture surface of TSUC3 clip causing damage. If TSUC3 clip is damaged, the values given on this detail are no longer valid.
6. Pin length must be long enough to ensure the tip either penetrates completely through the steel, or shows evidence of the steel deformation that occurs just before penetration.
7. Do not install pins into area of beam flange directly above beam web.
8. Allowable Hilti X-U Fastener values into steel bearing are per ICC ESR-2269 (February 2021). Refer to ESR regarding proper installation of fastener.
9. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC3 Uplift Attachment To Structural Steel Bearing Using Hilti Pins (Steel From 3/16" to 1/2" Thick)

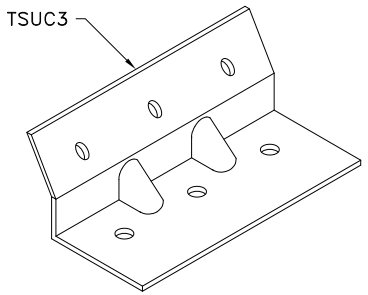
Standard Detail: TS039

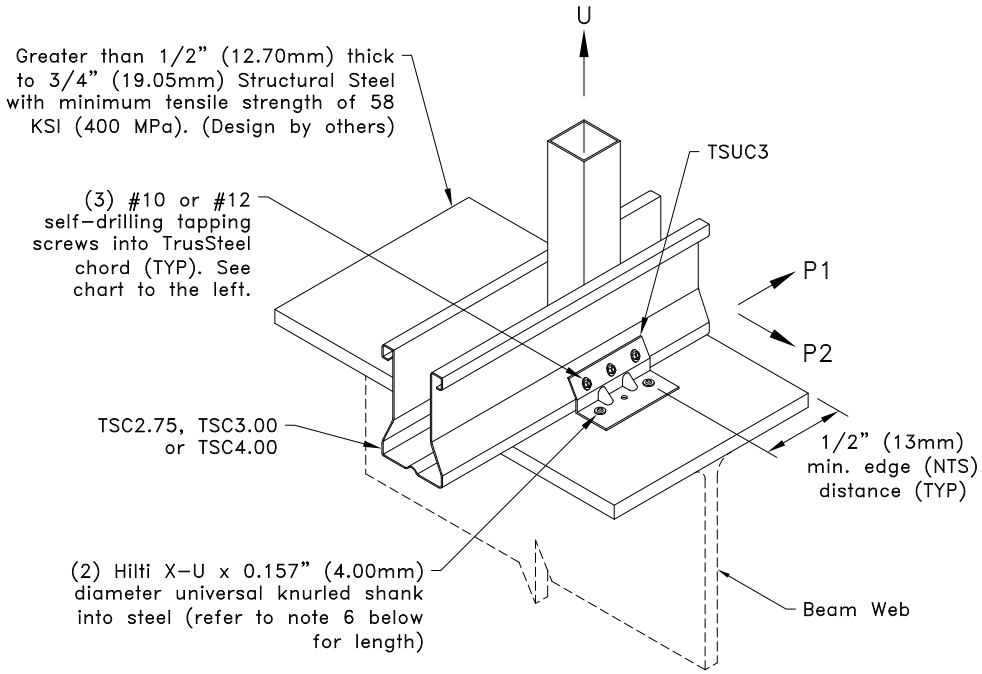
Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A,C]						
Chord	Clip on one face[B]					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC2.75	400[D] (1.78)	620 (2.76)	310 (1.38)	400[D] (1.78)	660 (2.94)	340 (1.51)
33TSC2.75		750 (3.34)	340 (1.51)		750 (3.34)	
43TSC2.75						
28TSC3.00 or 28TSC4.00	590 (2.62)	620 (2.76)	310 (1.38)	590 (2.62)	660 (2.94)	
33TSC3.00 or 33TSC4.00		750 (3.34)	340 (1.51)		750 (3.34)	
43 & 54TSC3.00, 43, 54, 68 & 97TSC4.00						
Chord	Clip on both faces					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC	1230 (5.47)		630 (2.80)	1310 (5.83)		710 (3.16)
33TSC	1400 (6.41)	1500 (6.67)	730 (3.25)	1400 (6.23)	1500 (6.67)	830 (3.69)
43, 54, 68 & 97TSC			880 (3.91)			880 (3.91)

A. Allowable loads shown are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and any web size is acceptable for TSC3.00 or TSC4.00.
C. When connecting to steel between 3/16" (4.76mm) and 1/2" (12.70mm) refer to TS039.
D. If web above connection is 33W.75x1.5, U = 590 lbs (2.62 kN).





General Notes:

1. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
2. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
3. Install pins in the two outside holes of TSUC3 clip.
4. Pins must be driven through existing holes in TSUC3 clip and be driven perpendicular to steel surface.
5. Care must be taken to ensure pins are not overdriven. Pins that are overdriven may puncture surface of TSUC3 clip causing damage. If TSUC3 clip is damaged, the values given on this detail are no longer valid.
6. Pin length shall be minimum of 5/8" (16mm) to ensure a pin penetration of a minimum of 1/2" (13mm).
7. Do not install pins into area of beam flange directly above beam web.
8. Allowable Hilti X-U Fastener values into steel bearing are per ICC ESR-2269 (February 2021). Refer to ESR regarding proper installation of fastener.
9. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC3 Uplift Attachment To Structural Steel Bearing Using Hilti Pins (Steel Greater Than 1/2" to 3/4" Thick)

Standard Detail: TS039A

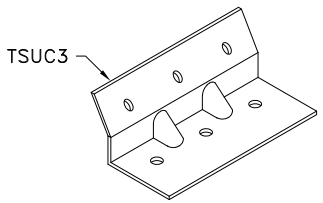
Date: 06/01/22

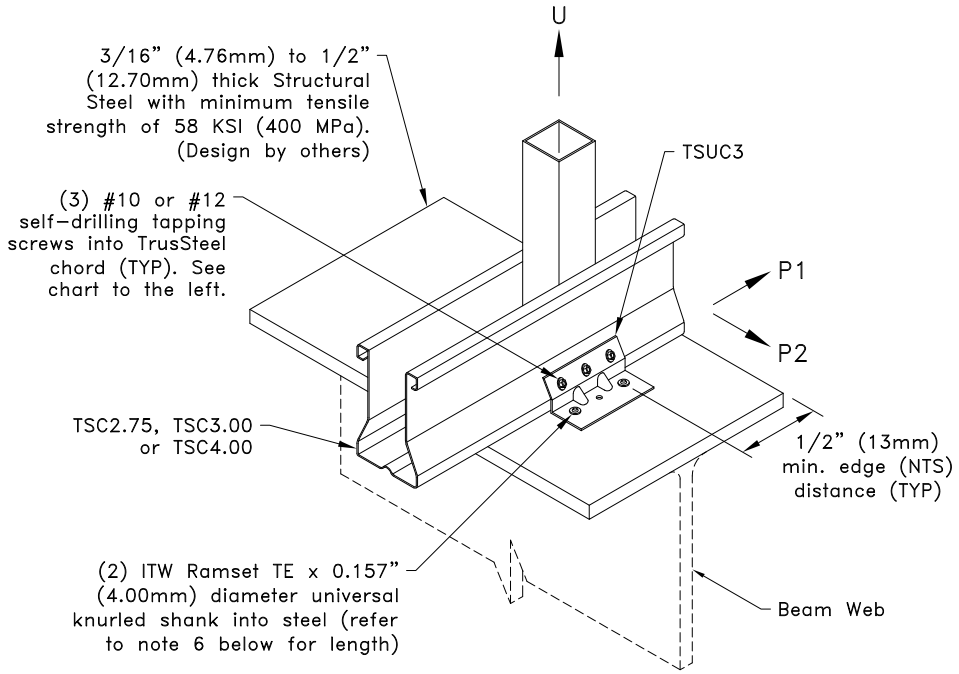
TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A,C]

Chord	Clip on one face[B]					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC2.75	400[D] (1.78)	620 (2.76)	310 (1.38)	400[D] (1.78)	660 (2.94)	340 (1.51)
33TSC2.75		770 (3.43)	340 (1.51)		820 (3.65)	
43TSC2.75		1140 (5.07)			1210 (5.38)	
28TSC3.00 or 28TSC4.00	540 (2.40)	620 (2.76)	310 (1.38)	540 (2.40)	660 (2.94)	
33TSC3.00 or 33TSC4.00		770 (3.43)	340 (1.51)		820 (3.65)	
43TSC3.00 or 43TSC4.00		1140 (5.07)			1210 (5.38)	
54TSC3.00 or 54, 68 & 97TSC4.00		1210 (5.38)				
Chord	Clip on both faces					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC	1230 (5.47)		630 (2.80)	1290 (5.74)	1310 (5.83)	710 (3.16)
33TSC	1290 (5.74)	1530 (6.81)	730 (3.25)		1630 (7.25)	830 (3.69)
43TSC		2280 (10.14)	880 (3.91)		2420 (10.76)	880 (3.91)
54, 68 & 97TSC		2420 (10.76)				

A. Allowable loads shown are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and any web size is acceptable for TSC3.00 or TSC4.00.
C. Chart values apply to steel thickness between 3/16" (4.76mm) and 1/2" (12.70mm), when connecting to steel greater than 1/2" (12.70mm) thick refer to TS039C.
D. If web above connection is 33W.75x1.5, U = 540 lbs (2.40 kN).





General Notes:

1. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
2. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
3. Install pins in the two outside holes of TSUC3 clip.
4. Pins must be driven through existing holes in TSUC3 clip and be driven perpendicular to steel surface.
5. Care must be taken to ensure pins are not overdriven. Pins that are overdriven may puncture surface of TSUC3 clip causing damage. If TSUC3 clip is damaged, the values given on this detail are no longer valid.
6. Pin length must be long enough to ensure the tip either penetrates completely through the steel, or shows evidence of the steel deformation that occurs just before penetration.
7. Do not install pins into area of beam flange directly above beam web.
8. Allowable ITW Ramset TE Fastener values into steel bearing are per ICC ESR-1799 (June 2021). Refer to ESR regarding proper installation of fastener.
9. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC3 Uplift Attachment To Structural Steel Bearing Using ITW Ramset Pins (Steel From 3/16" to 1/2" Thick)

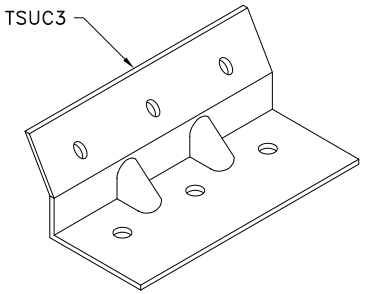
Standard Detail: TS039B

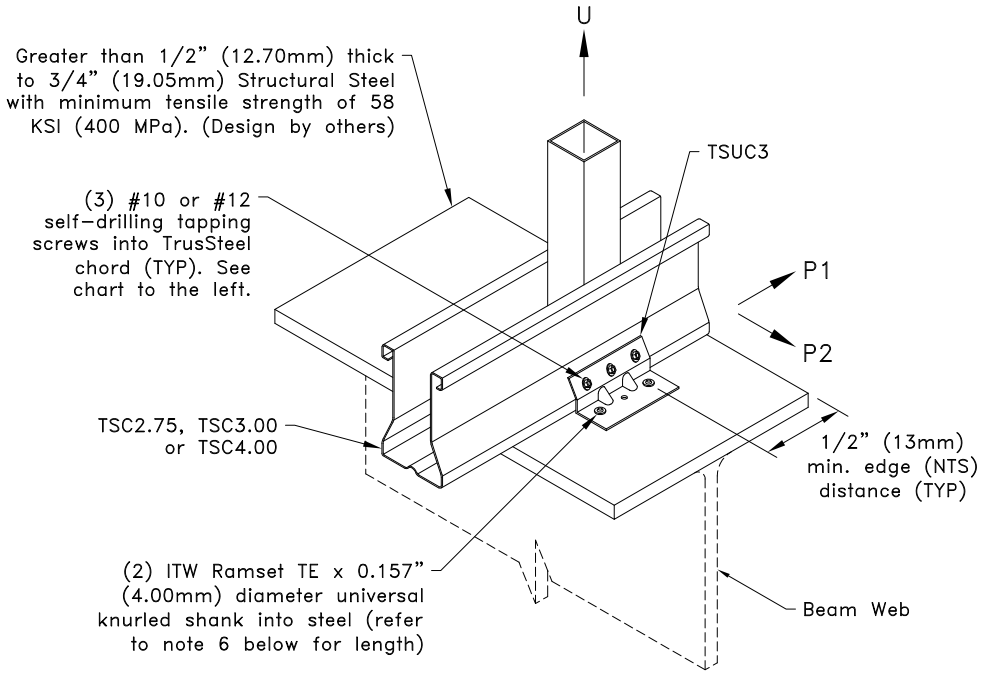
Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A,C]						
Chord	Clip on one face[B]					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC2.75	400[D] (1.78)	620 (2.76)	310 (1.38)	400[D] (1.78)	660 (2.94)	340 (1.51)
33TSC2.75		770 (3.43)	340 (1.51)		820 (3.65)	
43TSC2.75		990 (4.40)			990 (4.40)	
28TSC3.00 or 28TSC4.00	580 (2.58)	620 (2.76)	310 (1.38)	580 (2.58)	660 (2.94)	
33TSC3.00 or 33TSC4.00		770 (3.43)	340 (1.51)		820 (3.65)	
43 & 54TSC3.00, 43, 54, 68 & 97TSC4.00		990 (4.40)			990 (4.40)	
Chord	Clip on both faces					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC	1230 (5.47)		630 (2.80)	1310 (5.83)		710 (3.16)
33TSC	1370 (6.09)	1530 (6.81)	730 (3.25)	1370 (6.09)	1630 (7.25)	830 (3.69)
43, 54, 68 & 97TSC		1980 (8.81)	880 (3.91)		1980 (8.81)	880 (3.91)

A. Allowable loads shown are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and any web size is acceptable for TSC3.00 or TSC4.00.
C. When connecting to steel between 3/16" (4.76mm) and 1/2" (12.70mm) refer to TS039B.
D. If web above connection is 33W.75x1.5, U = 580 lbs (2.58 kN).





General Notes:

1. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
2. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
3. Install pins in the two outside holes of TSUC3 clip.
4. Pins must be driven through existing holes in TSUC3 clip and be driven perpendicular to steel surface.
5. Care must be taken to ensure pins are not overdriven. Pins that are overdriven may puncture surface of TSUC3 clip causing damage. If TSUC3 clip is damaged, the values given on this detail are no longer valid.
6. Pin length shall be minimum of 5/8" (16mm) to ensure a pin penetration of a minimum of 1/2" (13mm).
7. Do not install pins into area of beam flange directly above beam web.
8. Allowable ITW Ramset TE Fastener values into steel bearing are per ICC ESR-1799 (June 2021). Refer to ESR regarding proper installation of fastener.
9. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC3 Uplift Attachment To Structural Steel Bearing Using ITW Ramset Pins (Steel Greater Than 1/2" to 3/4" Thick)

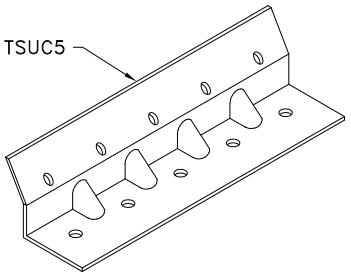
Standard Detail: TS039C

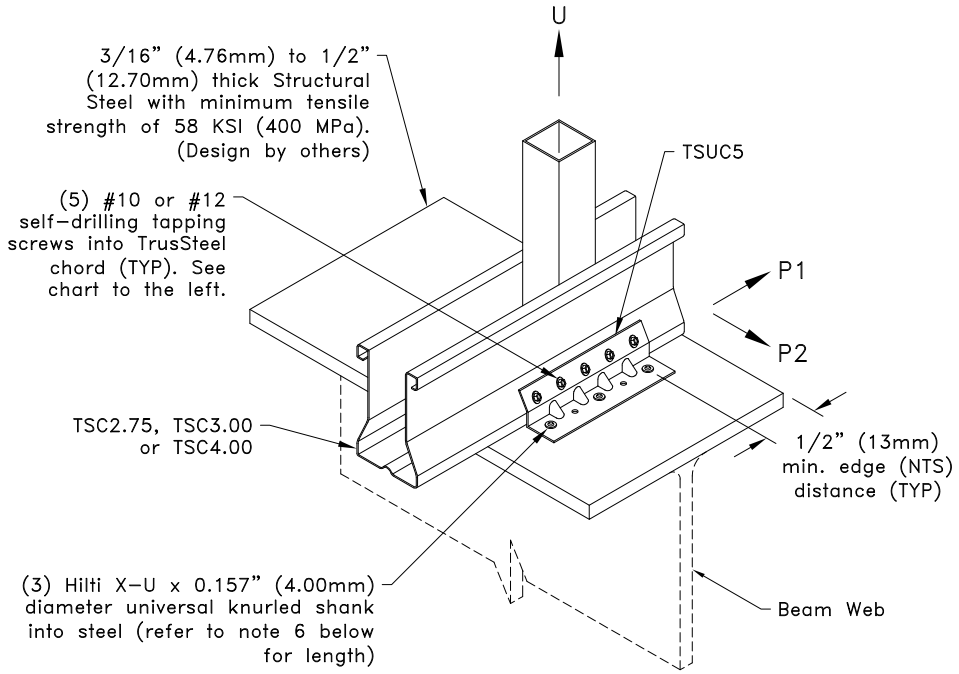
Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A,C]						
Chord	Clip on one face[B]					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC2.75	400[D,E] (1.78)	1030 (4.58)	520 (2.31)	400[D,E] (1.78)	1090 (4.85)	570 (2.54)
33TSC2.75		1280 (5.69)	570 (2.54)		1360 (6.05)	
43TSC2.75		1870 (8.32)			1870 (8.32)	
28TSC3.00 or 28TSC4.00	740[F] (3.29)	1030 (4.58)	520 (2.31)	740[F] (3.29)	1090 (4.85)	
33TSC3.00 or 33TSC4.00		1280 (5.69)	570 (2.54)		1360 (6.05)	
43 & 54TSC3.00, 43, 54, 68 & 97TSC4.00		1870 (8.32)			1870 (8.32)	
Chord	Clip on both faces					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC	2050 (9.12)		1050 (4.67)	2190 (9.74)		1190 (5.29)
33TSC	2450 (10.90)	2550 (11.34)	1210 (5.38)	2450 (10.90)	2720 (12.10)	1380 (6.14)
43, 54, 68 & 97TSC		3740 (16.64)	1470 (6.54)		3740 (16.64)	1470 (6.54)

A. Allowable loads shown are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. Chart values apply to steel thickness between 3/16" (4.76mm) and 1/2" (12.70mm), when connecting to steel greater than 1/2" (12.70mm) thick refer to TS040A.
D. If web above connection is 33W.75x1.5, U = 710 lbs (3.16 kN).
E. If web above connection is 33W.75x2.25, U = 1030 lbs (4.58 kN).
F. If web above connection is 33C1.5x1.5, U = 1010 lbs (4.49 kN).





General Notes:

1. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
2. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
3. Install pins in the two outside holes and the middle of TSUC5 clip.
4. Pins must be driven through existing holes in TSUC5 clip and be driven perpendicular to steel surface.
5. Care must be taken to ensure pins are not overdriven. Pins that are overdriven may puncture surface of TSUC5 clip causing damage. If TSUC5 clip is damaged, the values given on this detail are no longer valid.
6. Pin length must be long enough to ensure the tip either penetrates completely through the steel, or shows evidence of the steel deformation that occurs just before penetration.
7. Do not install pins into area of beam flange directly above beam web.
8. Allowable Hilti X-U Fastener values into steel bearing are per ICC ESR-2269 (February 2021). Refer to ESR regarding proper installation of fastener.
9. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC5 Uplift Attachment To Structural Steel Bearing Using Hilti Pins (Steel From 3/16" to 1/2" Thick)

Standard Detail: TS040

Date: 06/01/22

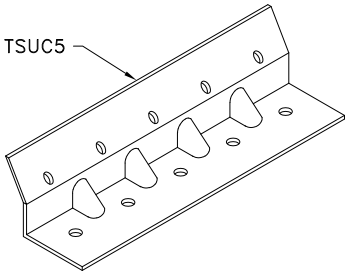
TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

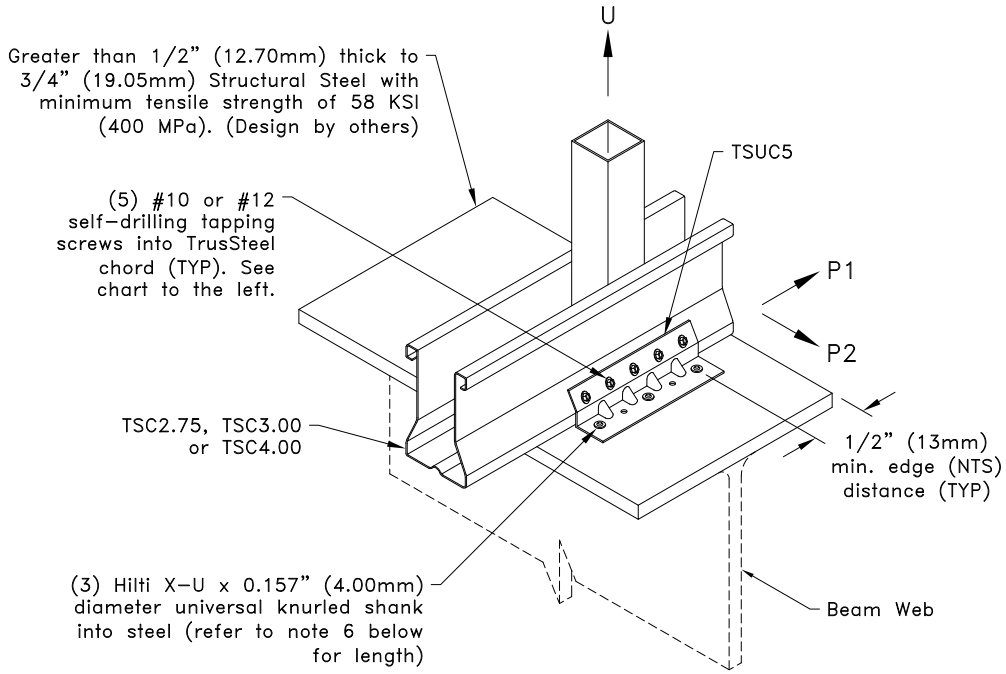
Allowable Loads lbs (kN)[A,C]

Chord	Clip on one face[B]					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC2.75	400[D,E] (1.78)	1030 (4.58)	520 (2.31)	400[D,E] (1.78)	1090 (4.85)	570 (2.54)
33TSC2.75		1130 (5.03)	570 (2.54)		1130 (5.03)	
43TSC2.75						
28TSC3.00 or 28TSC4.00	740[F] (3.29)	1030 (4.58)	520 (2.31)	740[F] (3.29)	1090 (4.85)	
33TSC3.00 or 33TSC4.00		1130 (5.03)	570 (2.54)		1130 (5.03)	
43 & 54TSC3.00, 43, 54, 68 & 97TSC4.00						

Chord	Clip on both faces					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC	2050 (9.12)		1050 (4.67)	2100 (9.34)	2190 (9.74)	1190 (5.29)
33TSC	2100 (9.34)	2250 (10.01)	1210 (5.38)		2250 (10.01)	1380 (6.14)
43, 54, 68 & 97TSC			1470 (6.54)			1470 (6.54)

A. Allowable loads shown are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. When connecting to steel between 3/16" (4.76mm) and 1/2" (12.70mm) refer to TS040.
D. If web above connection is 33W.75x1.5, U = 710 lbs (3.16 kN).
E. If web above connection is 33W.75x2.25, U = 880 lbs (3.91 kN).
F. If web above connection is 33C1.5x1.5, U = 880 lbs (3.91 kN).





General Notes:

1. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
2. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
3. Install pins in the two outside holes and the middle of TSUC5 clip.
4. Pins must be driven through existing holes in TSUC5 clip and be driven perpendicular to steel surface.
5. Care must be taken to ensure pins are not overdriven. Pins that are overdriven may puncture surface of TSUC5 clip causing damage. If TSUC5 clip is damaged, the values given on this detail are no longer valid.
6. Pin length shall be minimum of 5/8" (16mm) to ensure a pin penetration of a minimum of 1/2" (13mm).
7. Do not install pins into area of beam flange directly above beam web.
8. Allowable Hilti X-U Fastener values into steel bearing are per ICC ESR-2269 (February 2021). Refer to ESR regarding proper installation of fastener.
9. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC5 Uplift Attachment To Structural Steel Bearing Using Hilti Pins (Steel Greater Than 1/2" to 3/4" Thick)

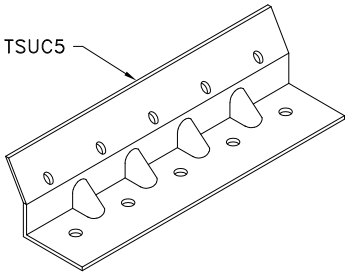
Standard Detail: TS040A

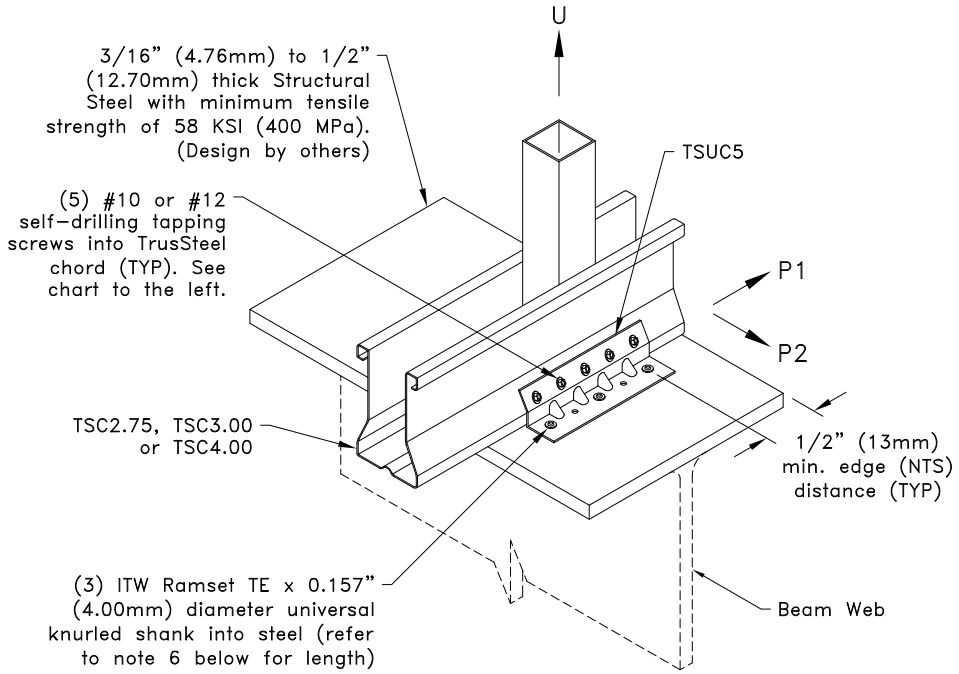
Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A,C]						
Chord	Clip on one face[B]					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC2.75	400[D,E] (1.78)	1030 (4.58)	520 (2.31)	400[D,E] (1.78)	1090 (4.85)	570 (2.54)
33TSC2.75		1280 (5.69)	570 (2.54)		1360 (6.05)	
43TSC2.75		1820 (8.10)			1820 (8.10)	
28TSC3.00 or 28TSC4.00	740[F] (3.29)	1030 (4.58)	520 (2.31)	740[F] (3.29)	1090 (4.85)	
33TSC3.00 or 33TSC4.00		1280 (5.69)	570 (2.54)		1360 (6.05)	
43 & 54TSC3.00, 43, 54, 68 & 97TSC4.00		1820 (8.10)			1820 (8.10)	
Chord	Clip on both faces					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC	1940 (8.63)	2050 (9.12)	1050 (4.67)	1940 (8.63)	2190 (9.74)	1190 (5.29)
33TSC		2550 (11.34)	1210 (5.38)		2720 (12.10)	1380 (6.14)
43, 54, 68 & 97TSC		3640 (16.19)	1470 (6.54)		3640 (16.19)	1470 (6.54)

A. Allowable loads shown are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. Chart values apply to steel thickness between 3/16" (4.76mm) and 1/2" (12.70mm), when connecting to steel greater than 1/2" (12.70mm) thick refer to TS040C.
D. If web above connection is 33W.75x1.5, U = 710 lbs (3.16 kN).
E. If web above connection is 33W.75x2.25, U = 810 lbs (3.60 kN).
F. If web above connection is 33C1.5x1.5, U = 810 lbs (3.60 kN).





General Notes:

1. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
2. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
3. Install pins in the two outside holes and the middle of TSUC5 clip.
4. Pins must be driven through existing holes in TSUC5 clip and be driven perpendicular to steel surface.
5. Care must be taken to ensure pins are not overdriven. Pins that are overdriven may puncture surface of TSUC5 clip causing damage. If TSUC5 clip is damaged, the values given on this detail are no longer valid.
6. Pin length must be long enough to ensure the tip either penetrates completely through the steel, or shows evidence of the steel deformation that occurs just before penetration.
7. Do not install pins into area of beam flange directly above beam web.
8. Allowable ITW Ramset TE Fastener values into steel bearing are per ICC ESR-1799 (June 2021). Refer to ESR regarding proper installation of fastener.
9. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC5 Uplift Attachment To Structural Steel Bearing Using ITW Ramset Pins (Steel From 3/16" to 1/2" Thick)

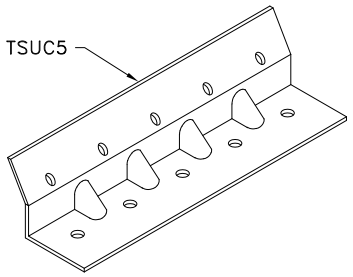
Standard Detail: TS040B

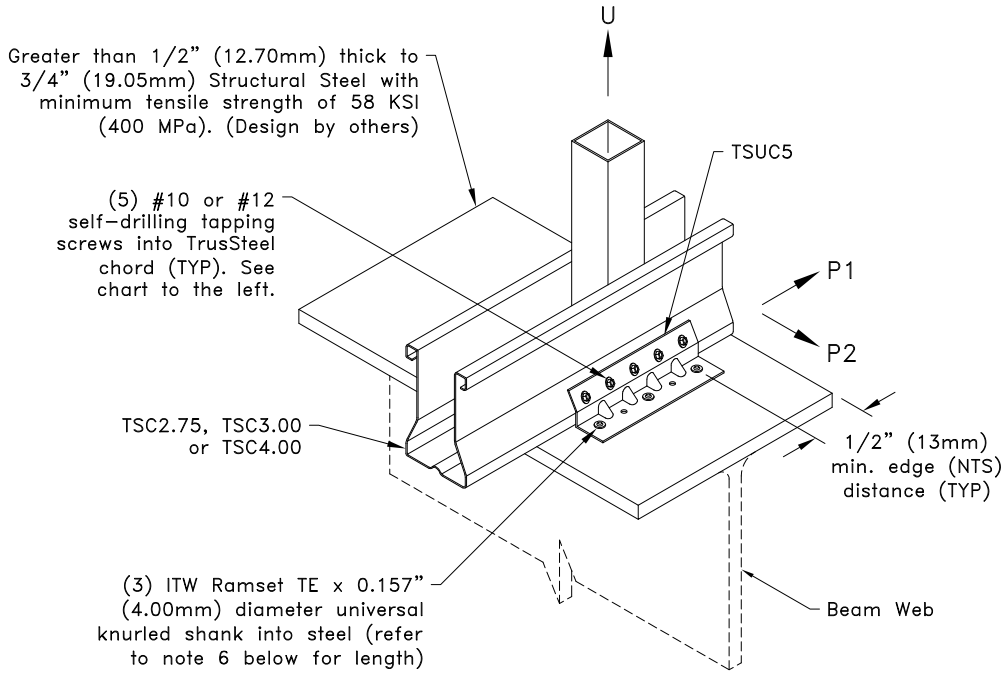
Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A,C]						
Chord	Clip on one face[B]					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC2.75	400[D,E] (1.78)	1030 (4.58)	520 (2.31)	400[D,E] (1.78)	1090 (4.85)	570 (2.54)
33TSC2.75		1280 (5.69)	570 (2.54)		1360 (6.05)	
43TSC2.75		1490 (6.63)			1490 (6.63)	
28TSC3.00 or 28TSC4.00	740[F] (3.29)	1030 (4.58)	520 (2.31)	740[F] (3.29)	1090 (4.85)	
33TSC3.00 or 33TSC4.00		1280 (5.69)	570 (2.54)		1360 (6.05)	
43 & 54TSC3.00, 43, 54, 68 & 97TSC4.00		1490 (6.63)			1490 (6.63)	
Chord	Clip on both faces					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC	2050 (9.12)		1050 (4.67)	2060 (9.16)	2190 (9.74)	1190 (5.29)
33TSC	2060 (9.16)	2550 (11.34)	1210 (5.38)		2720 (12.10)	1380 (6.14)
43, 54, 68 & 97TSC		2980 (13.26)	1470 (6.54)		2980 (13.26)	1470 (6.54)

A. Allowable loads shown are not in combination.
B. Uplift connections with clip on one face require a web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. When connecting to steel between 3/16" (4.76mm) and 1/2" (12.70mm) refer to TS040B.
D. If web above connection is 33W.75x1.5, U = 710 lbs (3.16 kN).
E. If web above connection is 33W.75x2.25, U = 860 lbs (3.83 kN).
F. If web above connection is 33C1.5x1.5, U = 860 lbs (3.83 kN).





General Notes:

1. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
2. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
3. Install pins in the two outside holes and the middle of TSUC5 clip.
4. Pins must be driven through existing holes in TSUC5 clip and be driven perpendicular to steel surface.
5. Care must be taken to ensure pins are not overdriven. Pins that are overdriven may puncture surface of TSUC5 clip causing damage. If TSUC5 clip is damaged, the values given on this detail are no longer valid.
6. Pin length shall be minimum of 5/8" (16mm) to ensure a pin penetration of a minimum of 1/2" (13mm).
7. Do not install pins into area of beam flange directly above beam web.
8. Allowable ITW Ramset TE Fastener values into steel bearing are per ICC ESR-1799 (June 2021). Refer to ESR regarding proper installation of fastener.
9. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC5 Uplift Attachment To Structural Steel Bearing Using ITW Ramset Pins (Steel Greater Than 1/2" to 3/4" Thick)

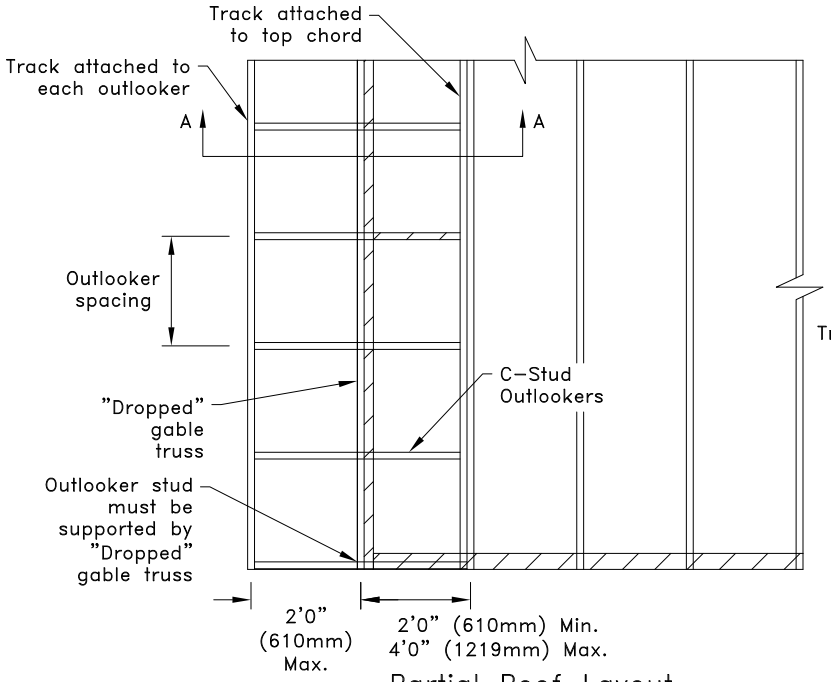
Standard Detail: TS040C

Date: 06/01/22

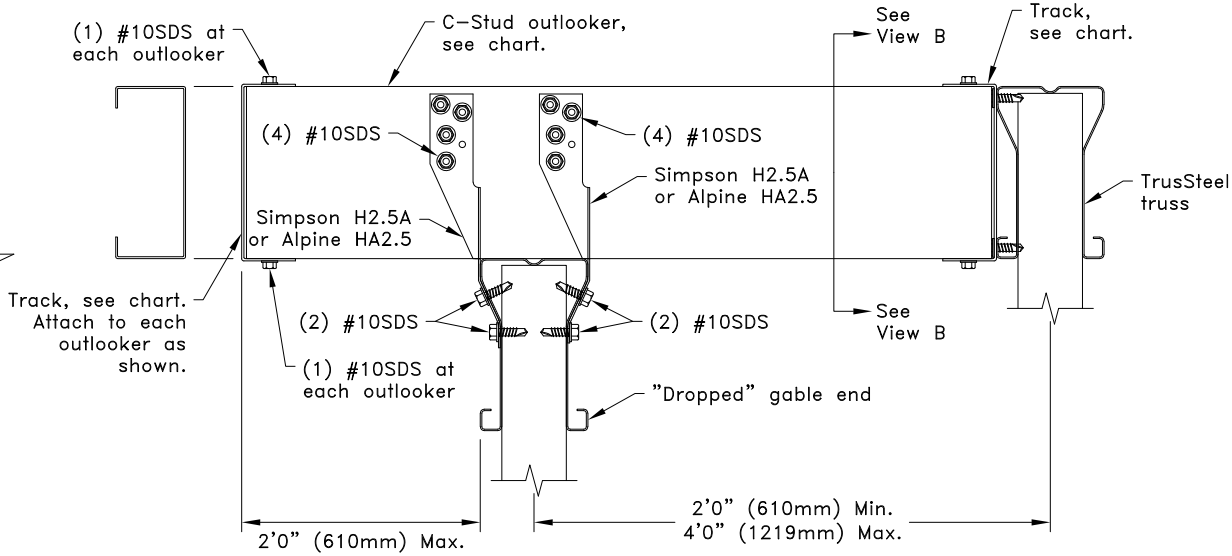
TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

Windspeed for Outlookers			
Outlooker Spacing	Maximum Wind Speed		
	ASCE 7-05	ASCE 7-10	ASCE 7-16
1' (305mm) o.c.	140 mph (63 m/s)	180 mph (80 m/s)	170 mph (76 m/s)
2' (610mm) o.c.	100 mph (45 m/s)	120 mph (54 m/s)	120 mph (54 m/s)

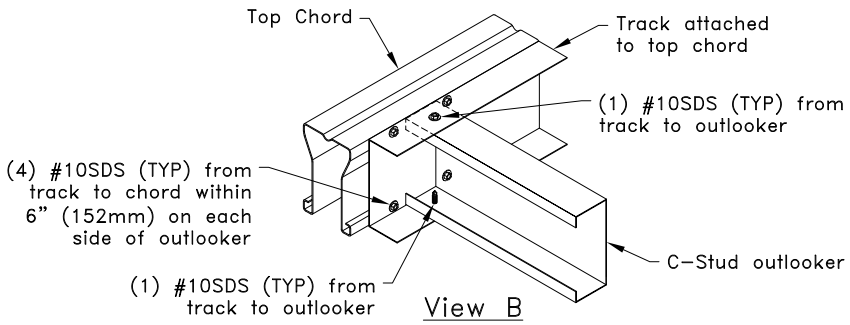
Outlooker Stud and Track Sizes		
Allowable Chord Size	C-Stud	Track
TSC2.75 or TSC3.00	362S162-43	362T125-43
TSC2.75, TSC3.00 or TSC4.00	400S162-43	400T125-43
	600S162-43	600T125-43
	800S162-43	800T125-43



Partial Roof Layout



Section A-A



View B

General Notes:

1. SDS = self-drilling tapping screw.
2. Maximum roof design load is 30 PSF (1.44 kN/m2) live load and 15 PSF (0.72 kN/m2) dead load. Maximum soffit load is 10 PSF (0.48 kN/m2).
3. Wind criteria: ASCE 7-05, ASCE 7-10 or ASCE 7-16, closed building, 30' (9144mm) mean roof height, Category III or IV, EXP C, K_{zt} = 1.0, top chord dead load used for wind design is 5 PSF (0.24 kN/m^2).
4. Roof pitch shall be from 2.2/12 (10.39°) to 12/12 (45°).
5. Outlooker studs shall be placed so that there are no punchouts located within 10" (254mm) of a bearing point.
6. Blocking or strapping may be required to prevent rollover of outlooker C-Stud. Blocking or strapping to be designed by others.
7. Method and design of connections to transfer diaphragm shear to gable truss are the responsibility of the building designer.
8. It is permissible to substitute an equal alternative for the Simpson or Alpine hardware specified on this detail.
9. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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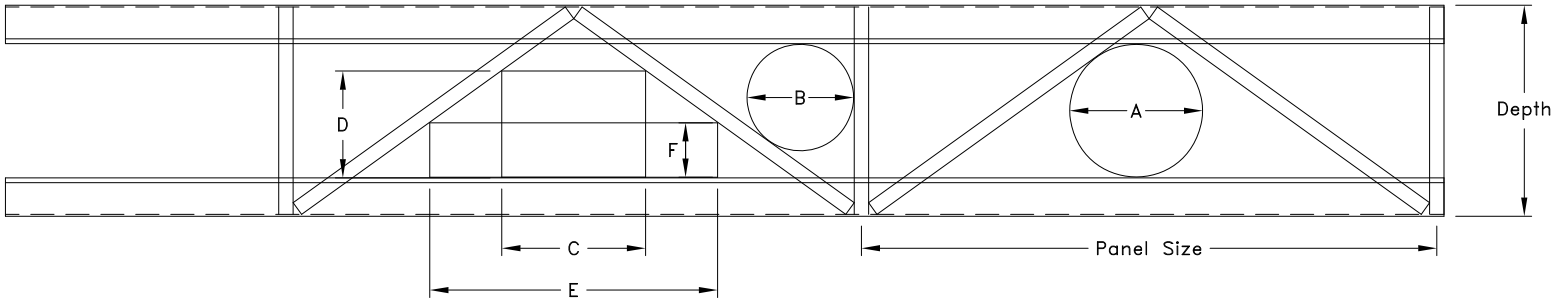
C-Stud Outlooker Attachment To TrusSteel Trusses

Standard Detail: TS041

Date: 06/01/22

TrusSteel Detail Category: Outlooker



Typical Duct Opening Sizes for TSC2.75 Chord Size Steel Floor Truss							
Depth (in.)	Panel Size (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)
10	60	$4\frac{1}{4}$	$4\frac{1}{4}$	11	$3\frac{3}{4}$	16	$3\frac{1}{4}$
12	60	$6\frac{1}{4}$	6	14	5	20	4
14	60	$8\frac{1}{4}$	$7\frac{1}{2}$	17	$5\frac{3}{4}$	22	$4\frac{3}{4}$
16	60	$10\frac{1}{4}$	$8\frac{3}{4}$	14	8	27	$4\frac{3}{4}$
18	60	$12\frac{1}{4}$	10	$14\frac{1}{2}$	$9\frac{1}{2}$	26	6
20	60	$14\frac{1}{4}$	11	$14\frac{1}{2}$	11	26	$7\frac{1}{4}$
22	60	$15\frac{3}{4}$	12	15	$12\frac{1}{4}$	30	$6\frac{3}{4}$
24	60	$17\frac{1}{4}$	$12\frac{3}{4}$	16	$13\frac{1}{4}$	32	7
26	60	$18\frac{3}{4}$	$13\frac{1}{2}$	18	14	34	7
28	60	20	$14\frac{1}{4}$	18	$15\frac{1}{4}$	34	$7\frac{3}{4}$
30	60	$21\frac{1}{4}$	15	20	$15\frac{3}{4}$	32	$9\frac{1}{2}$

- Web size used: 3/4" (19mm) x 1-1/2" (38mm)
- Multiply above units by 25.4 for millimeter

Typical Duct Opening Sizes for TSC3.00 and TSC4.00 Chord Size Steel Floor Trusses							
Depth (in.)	Panel Size (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)
12	60	$3\frac{3}{4}$	$3\frac{3}{4}$	14	$3\frac{3}{4}$	20	$2\frac{3}{4}$
14	60	$5\frac{3}{4}$	$5\frac{3}{4}$	17	$4\frac{1}{2}$	22	$3\frac{1}{2}$
16	60	$7\frac{3}{4}$	$7\frac{3}{4}$	14	$6\frac{3}{4}$	27	$3\frac{1}{2}$
18	60	$9\frac{3}{4}$	9	$14\frac{1}{2}$	$8\frac{1}{4}$	26	$4\frac{3}{4}$
20	60	$11\frac{3}{4}$	10	$14\frac{1}{2}$	$9\frac{3}{4}$	26	6
22	60	$13\frac{3}{4}$	11	15	11	30	$5\frac{1}{2}$
24	60	$15\frac{3}{4}$	12	16	12	32	$5\frac{3}{4}$
26	60	$17\frac{1}{2}$	$12\frac{3}{4}$	18	$12\frac{3}{4}$	34	$5\frac{3}{4}$
28	60	19	$13\frac{1}{2}$	18	14	34	$6\frac{1}{2}$
30	60	$20\frac{1}{4}$	$14\frac{1}{4}$	20	$14\frac{1}{2}$	32	$8\frac{1}{4}$

- Web size used: 1-1/2" (38mm) x 1-1/2" (38mm)
- Multiply above units by 25.4 for millimeter

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Allowable Duct Sizes For TrusSteel Floor Trusses

Standard Detail: TS042

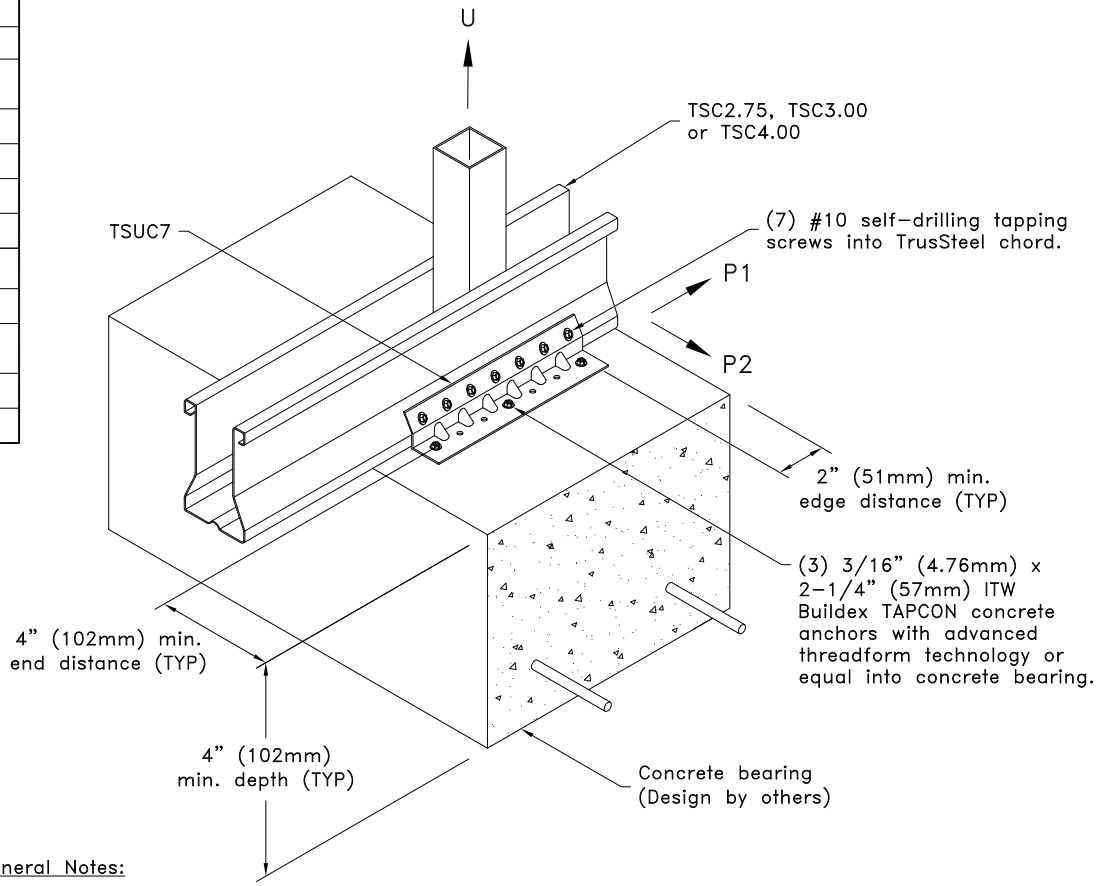
Date: 06/01/22

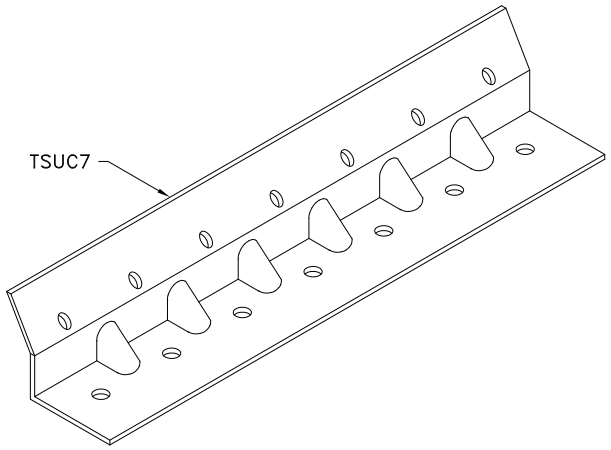
TrusSteel Detail Category: Floor Truss

Allowable U lbs (kN)[A,B,C,D]				
Concrete Strength f'c, psi (MPa)	TSC2.75		TSC3.00 or TSC4.00	
	Clip on one face[E]	Clip on both faces	Clip on one face[E]	Clip on both faces
2500 (17.24)	400 (1.78)	780 (3.47)	660 (2.94)	1560 (6.94)
3000 (20.68)	400 (1.78)	860 (3.83)	720 (3.20)	1710 (7.61)
4000 (27.58)	400 (1.78)	990 (4.40)	740 (3.29)	1980 (8.81)
5000 (34.47)	400 (1.78)	1110 (4.94)	740 (3.29)	2220 (9.88)

Allowable P1 & P2 lbs (kN)[A,B,C,D]				
Chord	P1		P2	
	Clip on one face[D]	Clip on both faces	Clip on one face[D]	Clip on both faces
TSC2.75	580 (2.58)	870 (3.87)	730 (3.25)	870 (3.87)
TSC3.00 or TSC4.00	580 (2.58)	1160 (5.16)	730 (3.25)	1160 (5.16)

A. Allowable loads shown on this detail are not in combination.
B. Special inspection is required. Refer to ICC ESR-2202 (October, 2021) regarding proper installation of anchors and requirements for special inspection.
C. Per ICC ESR-2202 (October, 2021), the design values given above are for uncracked concrete only.
D. Allowable loads outlined are based on the assumption that 70% of the applied load is live load and 30% is dead load.
E. Uplift connections with clip on one face require web above connection.





General Notes:

1. This detail shall not be used to resist seismic loads.
2. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
4. Fill outside holes and middle hole of TSUC7 clip with TAPCON concrete anchors as shown.
5. Concrete anchor is not to be installed until concrete has reached the specified design strength.
6. Design of tapcons are per ICC ESR-2202 (October, 2021).
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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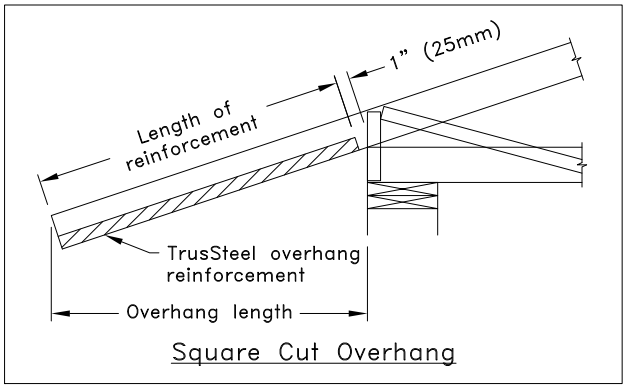
TSUC7 Uplift Attachment To Concrete Bearing

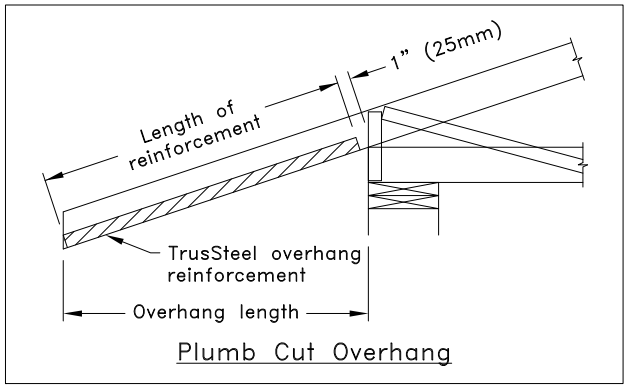
Standard Detail: TS043

Date: 06/01/22

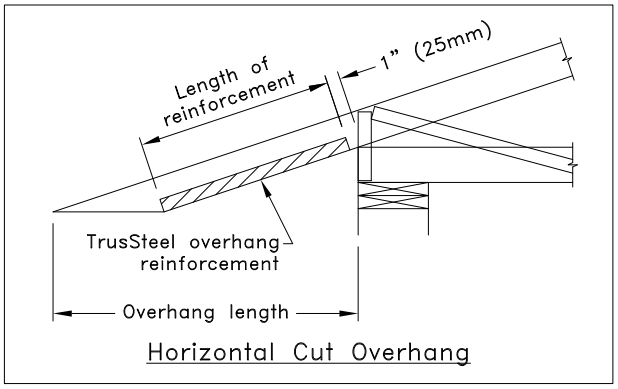
TrusSteel Detail Category: Truss-To-Bearing: Concrete



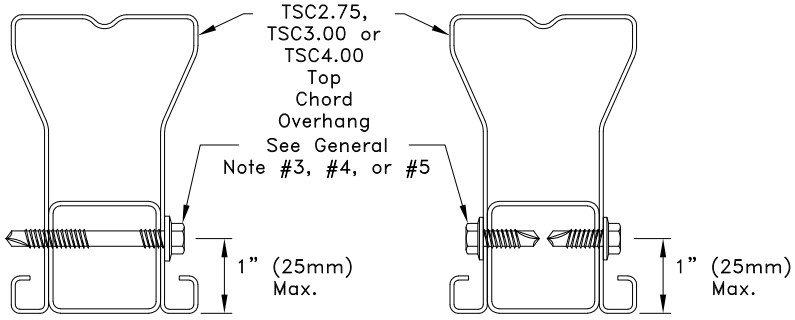
Square Cut Overhang



Plumb Cut Overhang

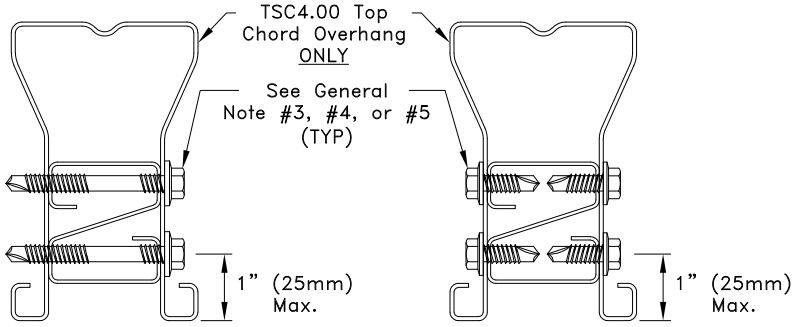


Horizontal Cut Overhang



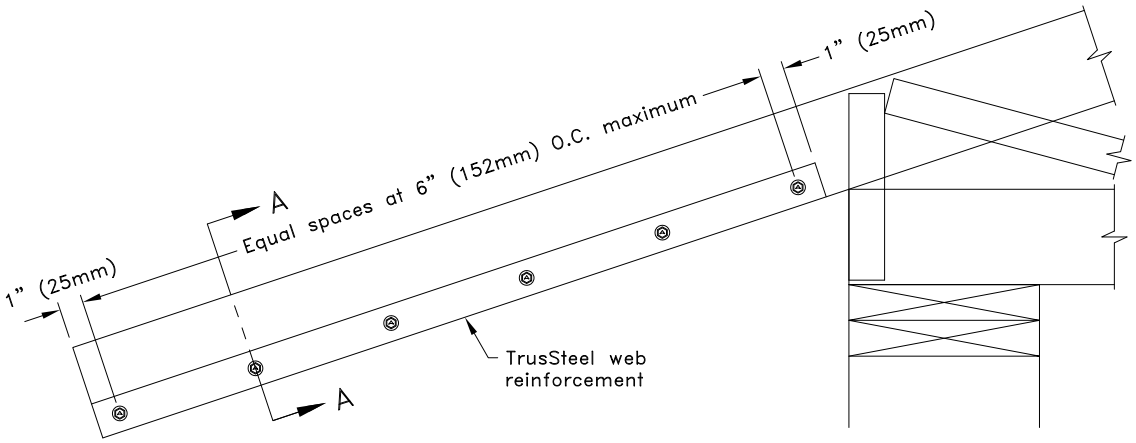
Section A–A
(Fastener placement with 14AMD fasteners into tube web reinforcement)

Alternate Section A–A
(Fastener placement with #14SDS fasteners into tube web reinforcement)



Section A–A
(Fastener placement with 14AMD fasteners into Z–web reinforcement)

Alternate Section A–A
(Fastener placement with #14SDS fasteners into Z–web reinforcement)



Detail A
Overhang Reinforcement Fastener Placement

General Note:

1. SDS = Self–Drilling Tapping Screw.
2. TrusSteel overhang reinforcement for TSC2.75 is 33W.75X1.5 min., for TSC3.00 is 33W1.5x1.5 and for TSC4.00 is 33W1.5X1.5, or 33Z1.5X1.62 min.
3. TSC2.75 fastener selection must be one of the following: #14AMDB1.25, or #14SDS
4. For 28TSC3.00, 33TSC3.00, 43TSC3.00, 54TSC3.00, 28TSC4.00, 33TSC4.00, 43TSC4.00, and 54TSC4.00, fastener selection must be one of the following: #14AMDB2.125, or #14SDS
5. For 68TSC4.00 and 97TSC4.00, fastener selection must be #14AMDR2.375 or #14SDS

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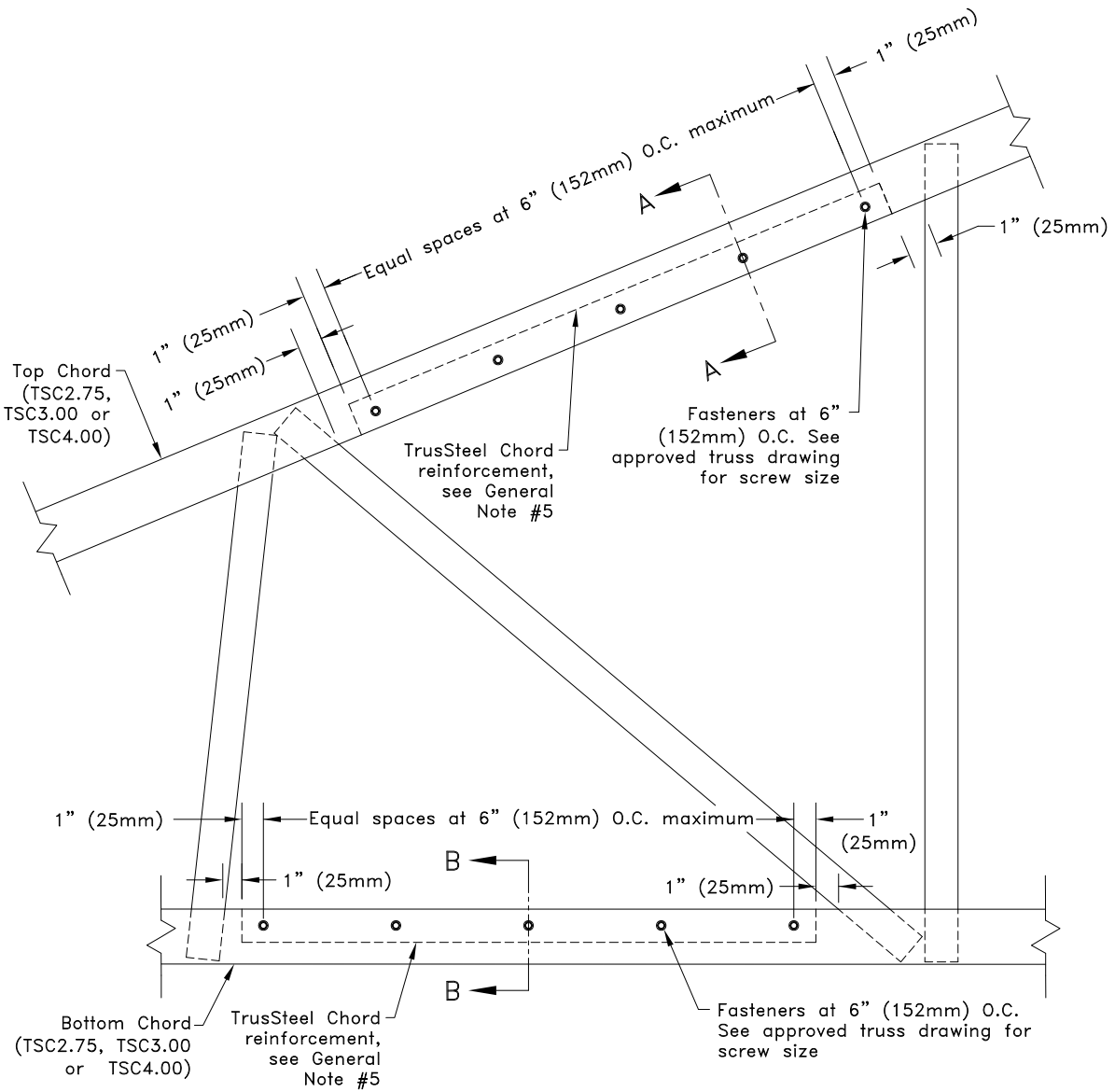
Top Chord Overhang Reinforcement

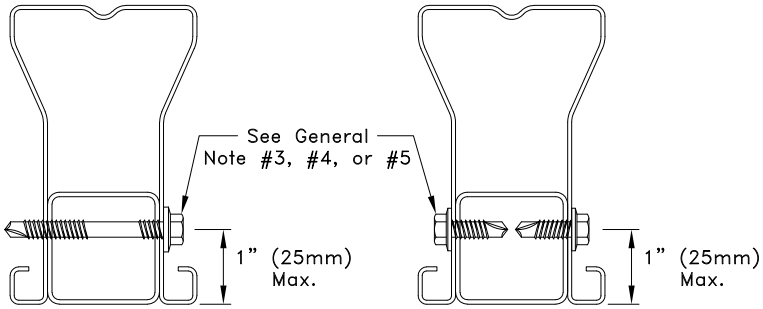
Standard Detail:
TS046

Date:
06/01/22

TrusSteel Detail Category:
Bracing / Reinforcement

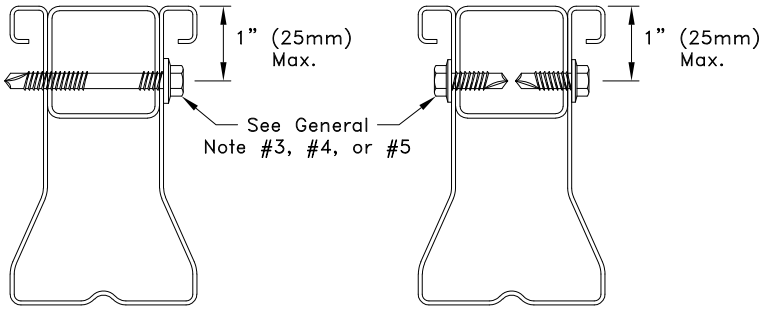


Detail A
Chord Reinforcement Fastener Placement



Section A–A
(Fastener placement with 14AMD fasteners into reinforcement)

Alternate Section A–A
(Fastener placement with #14SDS fasteners into reinforcement)



Section B–B
(Fastener placement with 14AMD fasteners into reinforcement)

Alternate Section B–B
(Fastener placement with #14SDS fasteners into reinforcement)

General Note:
1. SDS = Self-Drilling Tapping Screw.
2. TrusSteel Chord reinforcement for TSC2.75 is 33W.75X1.5 and for TSC3.00 and TSC4.00 is 33W1.5X1.5
3. TSC2.75 fastener selection must be one of the following: #14AMDB1.25, or #14SDS
4. For 28TSC3.00, 33TSC3.00, 43TSC3.00, 54TSC3.00, 28TSC4.00, 33TSC4.00, 43TSC4.00, and 54TSC4.00, fastener selection must be one of the following: #14AMDB2.125, or #14SDS
5. For 68TSC4.00 and 97TSC4.00, fastener selection must be #14AMDR2.375 or #14SDS
6. Noted as "RC" on approved truss drawing.

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Chord Reinforcement

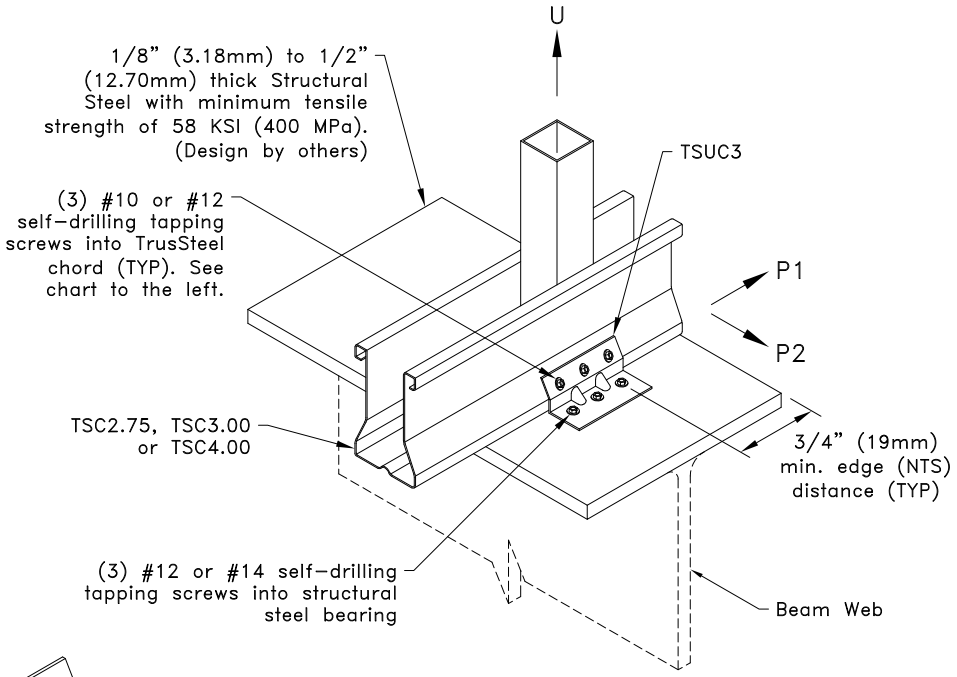
Standard Detail:
TS046A

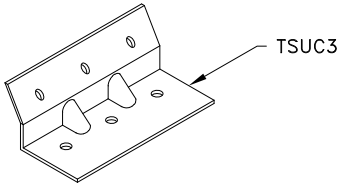
Date:
06/01/22

TrusSteel Detail Category:
Bracing / Reinforcement

Allowable Loads lbs (kN)[A]						
Chord	Clip on one face[B]					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC2.75	400[C] (1.78)	620 (2.76)	310 (1.38)	400[C] (1.78)	660 (2.94)	340 (1.51)
33TSC2.75	400[D] (1.78)	770 (3.43)	340 (1.51)	400[D] (1.78)	820 (3.65)	
43TSC2.75		1140 (5.07)			1220 (5.43)	
28TSC3.00 or 28TSC4.00	620 (2.76)		310 (1.38)	660 (2.94)		
33TSC3.00 or 33TSC4.00	740 (3.29)	770 (3.43)	340 (1.51)	740 (3.29)	820 (3.65)	
43TSC3.00 or 43TSC4.00	740[E] (3.29)	1140 (5.07)		740[E] (3.29)	1220 (5.43)	
54TSC3.00 or 54, 68 & 97TSC4.00		1310 (5.83)			1490 (6.63)	
Chord	Clip on both faces					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC2.75	1230 (5.47)		630 (2.80)	1310 (5.83)		710 (3.16)
33TSC2.75	1530 (6.81)		730 (3.25)	1630 (7.25)		830 (3.69)
43TSC2.75	1960 (8.72)	2280 (10.14)	880 (3.91)	1960 (8.72)	2430 (10.81)	880 (3.91)
28TSC3.00 or 28TSC4.00	1230 (5.47)		630 (2.80)	1310 (5.83)		710 (3.16)
33TSC3.00 or 33TSC4.00	1530 (6.81)		730 (3.25)	1630 (7.25)		830 (3.69)
43TSC3.00 or 43TSC4.00	1960 (8.72)	2280 (10.14)	880 (3.91)	1960 (8.72)	2430 (10.81)	880 (3.91)
54TSC3.00 or 54, 68 & 97TSC4.00		2610 (11.61)			2970 (13.21)	

A. Allowable loads shown are not in combination.
B. Uplift connections with clip on one face require web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. If web above connection is 33W.75x1.5, U = 620 lbs (2.76 kN).
D. If web above connection is 33W.75x1.5, U = 710 lbs (3.16 kN).
E. If web above connection is 33C1.5x1.5, U = 980 lbs (4.36 kN).





General Notes:

1. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
2. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
3. Do not overdrive screws. Overdriven screws may strip out TrusSteel chord.
4. Do not drive screws into area of beam flange directly above beam web.
5. To select proper self-drilling tapping screw for structural steel thickness refer to screw manufacturer's recommendations. Refer to manufacturer's specification and code approval regarding proper installation of #12 or #14 self-drilling tapping screws into steel thickness shown above.
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC3 Attachment To Structural Steel Bearing Using Screws

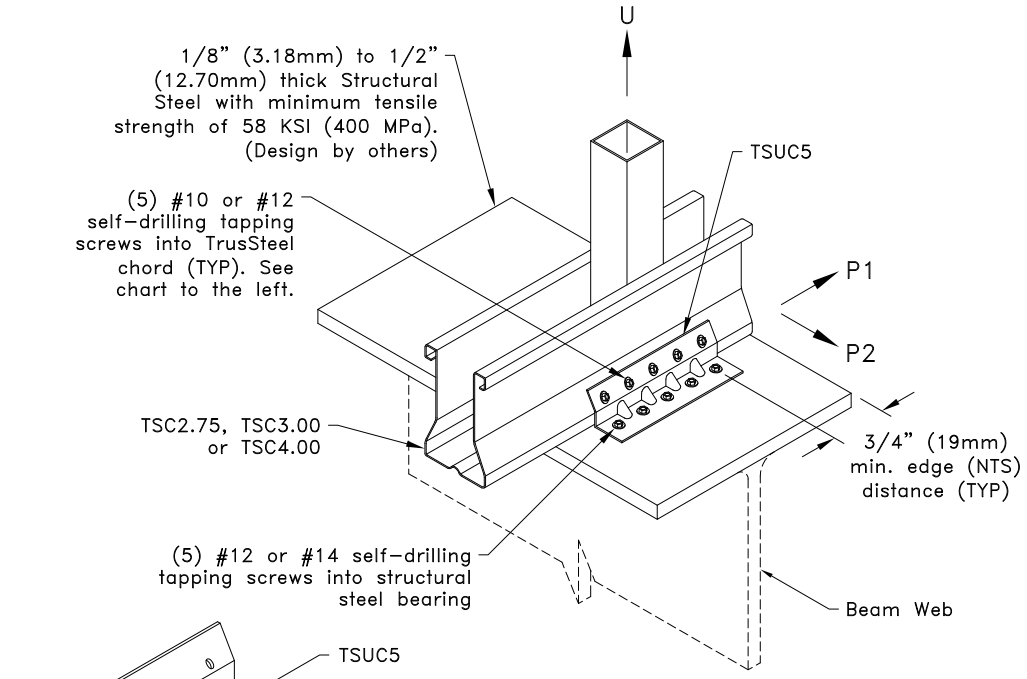
Standard Detail: TS047

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A]						
Chord	Clip on one face[B]					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC2.75	400[C,D] (1.78)	1030 (4.58)	520 (2.31)	400[C,D] (1.78)	1090 (4.85)	570 (2.54)
33TSC2.75		1280 (5.69)	570 (2.54)		1360 (6.05)	
43TSC2.75		1900 (8.45)			2030 (9.03)	
28TSC3.00 or 28TSC4.00	740[E] (3.29)	1030 (4.58)	520 (2.31)	740[E] (3.29)	1090 (4.85)	
33TSC3.00 or 33TSC4.00		1280 (5.69)	570 (2.54)		1360 (6.05)	
43TSC3.00 or 43TSC4.00	740[E,F] (3.29)	1900 (8.45)		740[E,F] (3.29)	2030 (9.03)	
54TSC3.00 or 54, 68 & 97TSC4.00		2180 (9.70)			2480 (11.03)	
Chord	Clip on both faces					
	#10SDS into bottom chord			#12SDS into bottom chord		
	U	P1	P2	U	P1	P2
28TSC2.75	2050 (9.12)		1050 (4.67)	2190 (9.74)		1190 (5.29)
33TSC2.75	2550 (11.34)		1210 (5.38)	2720 (12.10)		1380 (6.14)
43TSC2.75	3260 (14.50)	3800 (16.90)	1470 (6.54)	3260 (14.50)	4050 (18.01)	1470 (6.54)
28TSC3.00 or 28TSC4.00	2050 (9.12)		1050 (4.67)	2190 (9.74)		1190 (5.29)
33TSC3.00 or 33TSC4.00	2550 (11.34)		1210 (5.38)	2720 (12.10)		1380 (6.14)
43TSC3.00 or 43TSC4.00	3260 (14.50)	3800 (16.90)	1470 (6.54)	3260 (14.50)	4050 (18.02)	1470 (6.54)
54TSC3.00 or 54, 68 & 97TSC4.00		4360 (19.39)			4950 (22.02)	

A. Allowable loads shown are not in combination.
B. Uplift connections with clip on one face require web above connection. For values in chart, TSC2.75 minimum web is 33W.75x.75 and TSC3.00 or TSC4.00 minimum web is 33W1.5x.75.
C. If web above connection is 33W.75x1.5, U = 710 lbs (3.16 kN).
D. If web above connection is 33W.75x2.25, U = 1030 lbs (4.58 kN).
E. If web above connection is 33C1.5x1.5, U = 1010 lbs (4.49 kN).
F. If web above connection is 33Z1.5x2.50, U = 1590 lbs (7.07 kN).



General Notes:

1. If a clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
2. Multi-ply trusses require a clip on each face. Refer to TrusSteel detail drawing TS023A for ply-to-ply connections for 3-Ply trusses with a clip on each face.
3. Do not overdrive screws. Overdriven screws may strip out TrusSteel chord.
4. Do not drive screws into area of beam flange directly above beam web.
5. To select proper self-drilling tapping screw for structural steel thickness refer to screw manufacturer's recommendations. Refer to manufacturer's specification and code approval regarding proper installation of #12 or #14 self-drilling tapping screws into steel thickness shown above.
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSUC5 Attachment To Structural Steel Bearing Using Screws

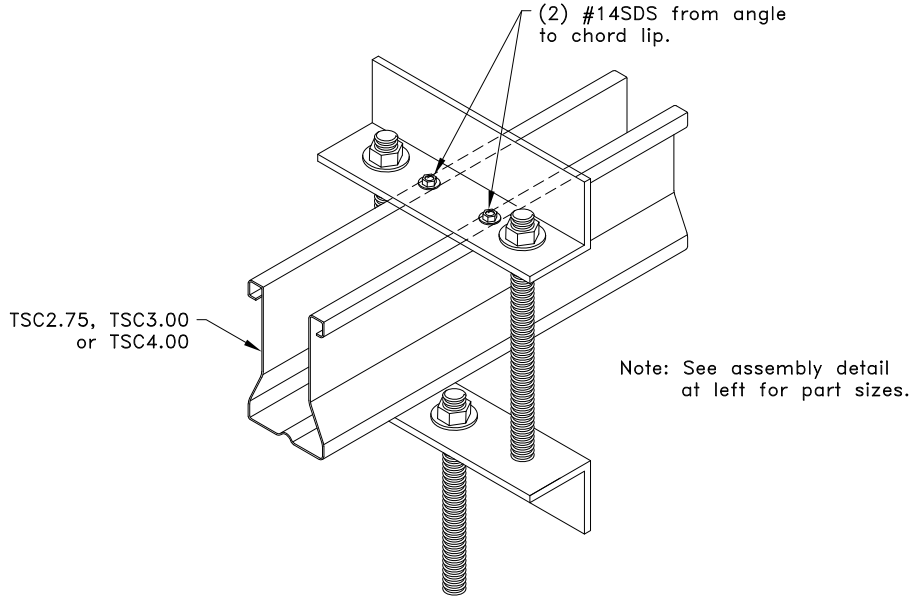
Standard Detail: TS048

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

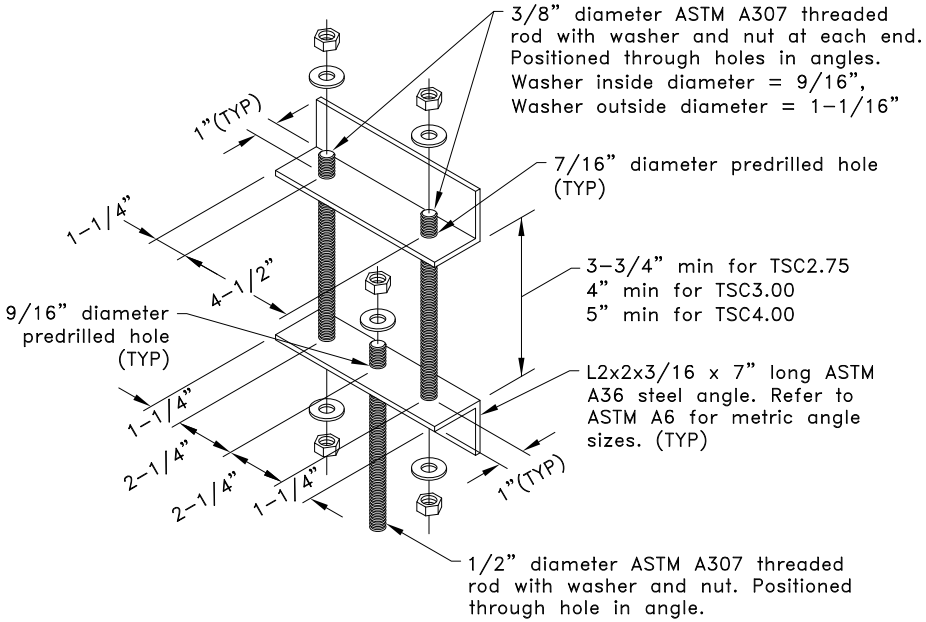
SPRINKLER PIPE DIAMETERS AND HANGER LOADS[A]	
Max. Sprinkler Pipe Diameter, in. (mm)	Max. Hanger Load lbs (kN)
4 (102)	1480 (6.58)
6 (152)	2630 (11.70)
8 (203)	4060 (18.06)

A. Values given are for maximum hanger spacing of 15' (4572 mm)



Note: See assembly detail at left for part sizes.

Sprinkler pipe support attached to rod.



Note: Multiply above units by 25.4 for millimeters.

General Notes:

1. SDS = self-drilling tapping screw
2. Values shown are for the sprinkler pipe hanger only. Truss must be properly loaded for sprinkler pipe load. Refer to TrusSteel Technical Bulletin TB00.09.01, "Sprinkler Pipes – Truss Loading & Connections".
3. It is the responsibility of the Building Designer to verify that the hanger design given in this detail conforms with the overall sprinkler system support design.
4. Hanger loads were determined per NFPA 13 2022 "Standard For The Installation Of Sprinkler Systems" and assume schedule 40 steel pipe.
5. Pipe hanger spacing shall not exceed 12 ft (3658mm) for pipes up to and including 1-1/4 in. (32mm) diameter and 15 ft (4572mm) for pipes greater than 1-1/4 in. (32mm) diameter per NFPA 13 2022 "Standard For The installation of Sprinkler Systems".
6. Nut shall be grade A, HEX conforming to ASTM A563 and Washer shall conform to ASTM F436.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Bottom Chord Sprinkler Pipe Hanger for 8" (203mm) Maximum Diameter Pipe

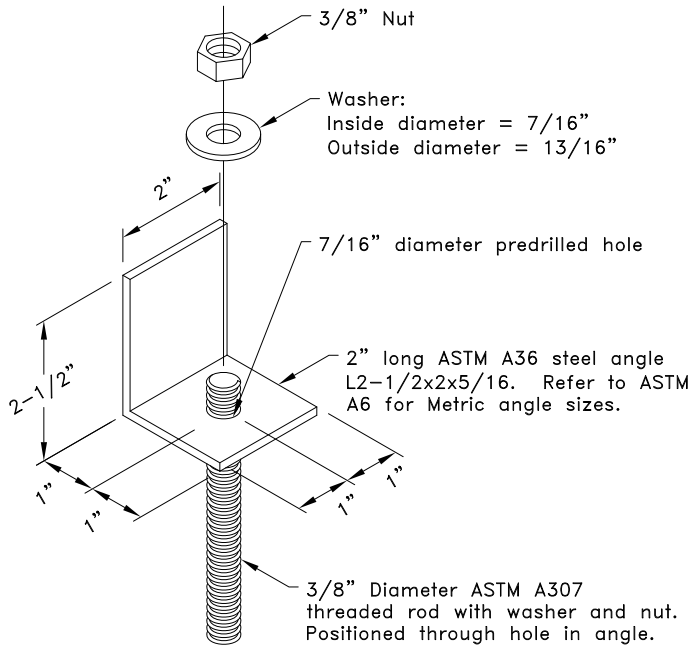
Standard Detail: TS049

Date: 06/01/22

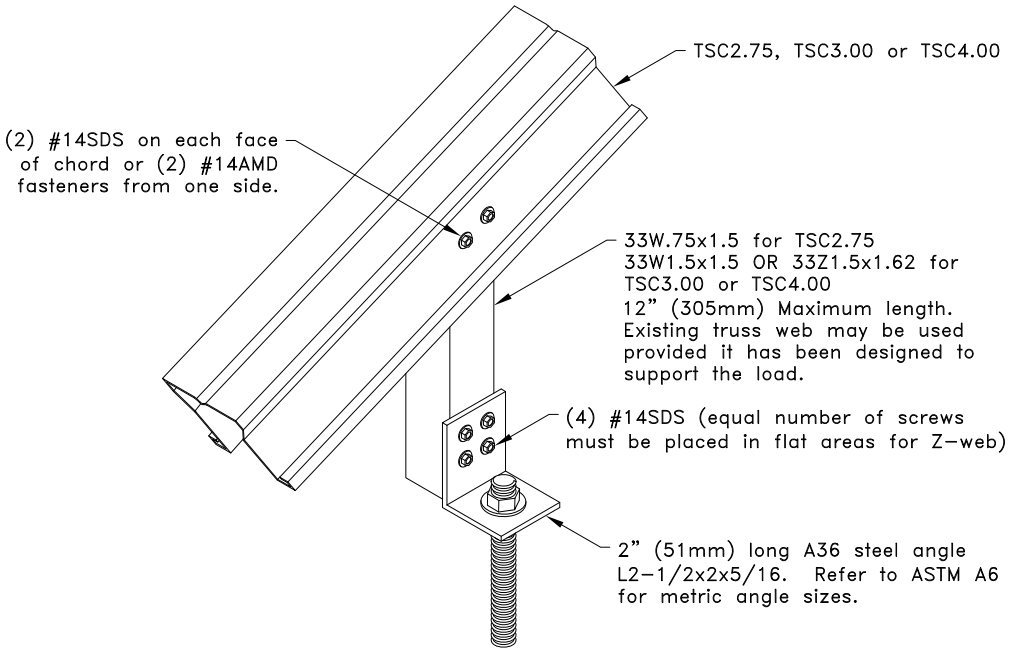
TrusSteel Detail Category: Sprinkler Pipe Hangers

SPRINKLER PIPE DIAMETERS AND HANGER LOADS[A]	
Max. Sprinkler Pipe Diameter, in. (mm)	Max. Hanger Load lbs (kN)
1-1/2 (38)	520 (2.31)

A. Values given are for maximum hanger spacing of 15' (4572 mm)



Note: Multiply above units by 25.4 for millimeters.



Sprinkler pipe support attached to rod.

General Notes:

1. SDS = self-drilling tapping screw
2. Screw spacing and end distance is 3/4" (19mm).
3. Values shown are for the sprinkler pipe hanger only. Truss must be properly loaded for sprinkler pipe load. Refer to TrusSteel Technical Bulletin TB00.09.01, "Sprinkler Pipes – Truss Loading & Connections".
4. It is the responsibility of the Building Designer to verify that the hanger design given in this detail conforms with the overall sprinkler system support design.
5. Hanger loads were determined per NFPA 13 2022 "Standard For The Installation Of Sprinkler Systems" and assume schedule 40 steel pipe.
6. Pipe hanger spacing shall not exceed 12 ft (3658mm) for pipes up to and including 1-1/4 in. (32mm) diameter and 15 ft (4572mm) for pipes greater than 1-1/4 in. (32mm) diameter per NFPA 13 2022 "Standard For The installation of Sprinkler Systems".
7. Nut shall be grade A, HEX conforming to ASTM A563 and Washer shall conform to ASTM F436.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Top Chord Sprinkler Pipe Hanger For 1-1/2" (38mm) Maximum Diameter Pipe

Standard Detail: TS049A

Date: 06/01/22

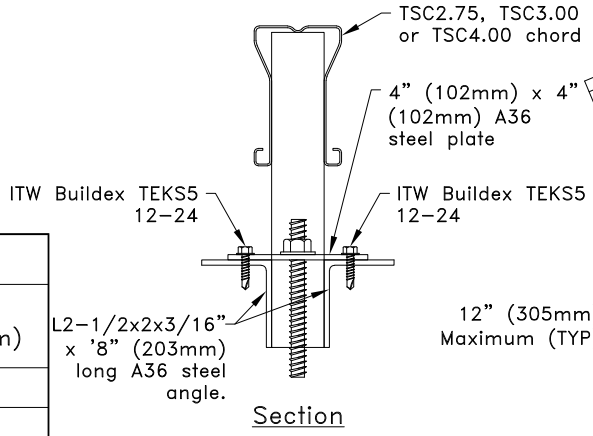
TrusSteel Detail Category: Sprinkler Pipe Hangers

SPRINKLER PIPE DIAMETERS AND HANGER LOADS[A]	
Max. Sprinkler Pipe Diameter, in. (mm)	Max. Hanger Load lbs (kN)
2 (51)	640 (2.85)
4 (102)	1480 (6.58)
6 (152)	2630 (11.70)
8 (203)	4060 (18.06)

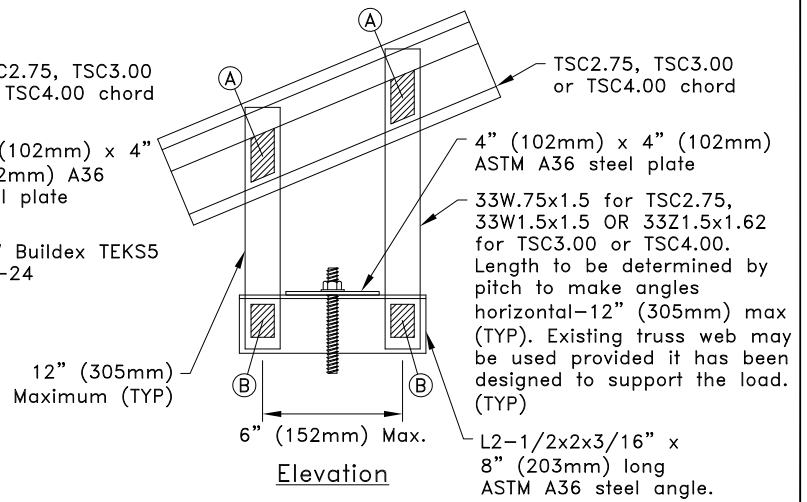
A. Values given are for maximum hanger spacing of 15' (4572mm)

Plate Thickness Table		
Max. Sprinkler Pipe Diameter, in. (mm)	Threaded Rod Diameter in. (mm)[B]	ASTM A36 Plate Thickness in. (mm)
2 (51)	3/8 (10)	3/16 (5)
4 (102)	3/8 (10)	1/4 (6)
6 (152)	1/2 (13)	5/16 (8)
8 (203)	1/2 (13)	3/8 (10)

B. For 3/8" (10mm) diameter threaded rod / nut, washer inside diameter = 7/16" (11mm) and outside diameter = 13/16" (21mm). For 1/2" (13mm) diameter threaded rod / nut, washer inside diameter = 9/16" (14mm) and outside diameter = 1-1/16" (27mm).



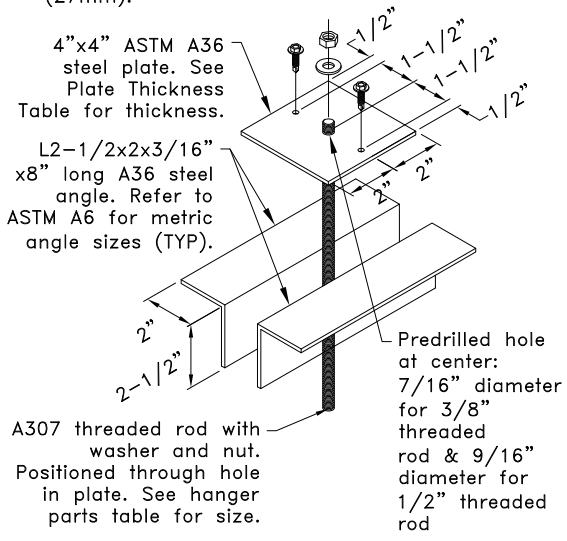
Section



Elevation

Screw Quantity Chart (#14SDS or 14AMD)		
Max. Sprinkler Pipe Diameter, in. (mm)	Screws	
	Ⓐ	Ⓑ
2 (51)	2	2
4 (102)	2	2
6 (152)	3	3
8 (203)	4	5

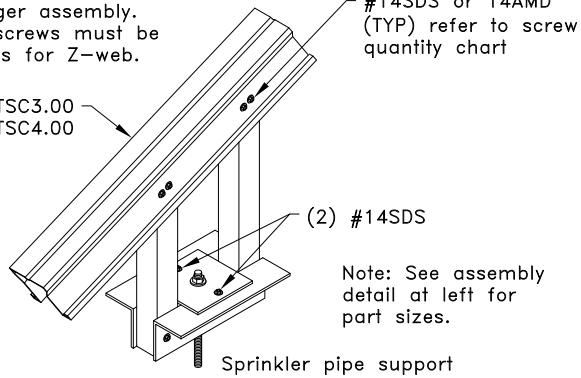
-Screws shall be connected to each face of chord and hanger assembly.
-Equal number of screws must be placed in flat areas for Z-web.



Note: Multiply above units by 25.4 for millimeters.

General Notes:

1. SDS = self-drilling tapping screw
2. Screw spacing and end distance is 3/4" (19mm).
3. Values shown are for the sprinkler pipe hanger only. Truss must be properly loaded for sprinkler pipe load. Refer to TrusSteel Technical Bulletin TB00.09.01, "Sprinkler Pipes - Truss Loading & Connections".
4. It is the responsibility of the Building Designer to verify that the hanger design given in this detail conforms with the overall sprinkler system support design.
5. Hanger loads were determined per NFPA 13 2022 "Standard For The Installation Of Sprinkler Systems" and assume schedule 40 steel pipe.
6. Pipe hanger spacing shall not exceed 12 ft (3658mm) for pipes up to and including 1-1/4 in. (32mm) diameter and 15 ft (4572mm) for pipes greater than 1-1/4 in. (32mm) diameter per NFPA 13 2022 "Standard For The installation of Sprinkler Systems".Nut shall be grade A, HEX conforming to ASTM A563 and Washer shall conform to ASTM F436.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).



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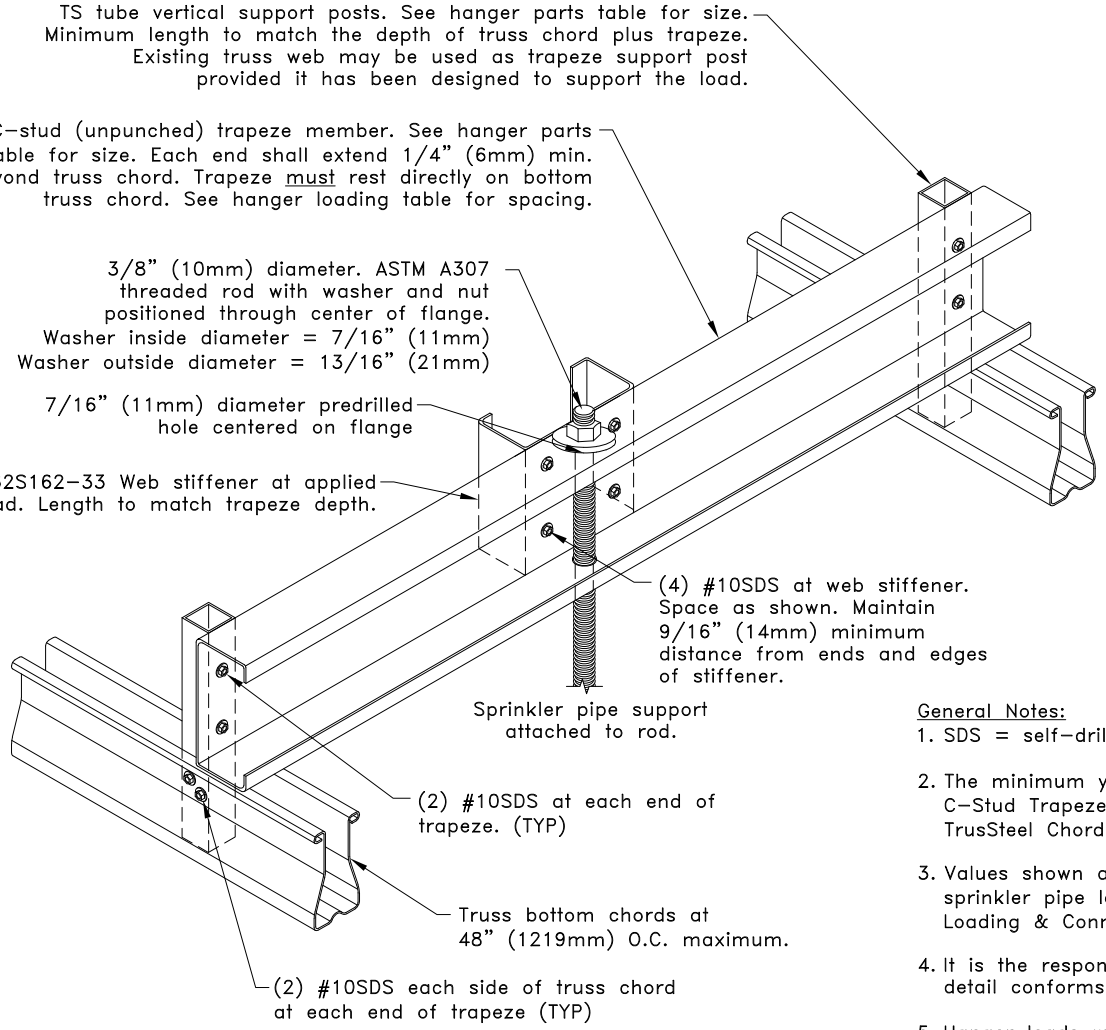
Top Chord Sprinkler Pipe Hanger For 8" (203mm) Maximum Diameter Pipe

Standard Detail: TS049B

Date: 06/01/22

TrusSteel Detail Category: Sprinkler Pipe Hangers



Note: Hanger rod assembly may be placed anywhere along the trapeze.

Hanger Parts Table			
Truss Chord Size	Trusses at 24" (610mm) O.C. Trapeze Member	Trusses at 48" (1219mm) O.C. Trapeze Member	Support Post
TSC2.75	362S162-33 min.	362S162-54 min.	33W.75x1.5
TSC2.75	600S162-33 min.	600S162-33 min.	33W.75x1.5
TSC3.00 or TSC4.00	362S162-33 min.	362S162-54 min.	33W1.5x1.5
TSC3.00 or TSC4.00	600S162-33 min.	600S162-33 min.	33W1.5x1.5

Sprinkler Pipe Diameter & Hanger Load[A]		
Sprinkler Pipe Diameter in. (mm)	Maximum Hanger Load lbs. (kN)	Maximum Hanger Spacing ft (mm)
1 (25)	370 (1.65)	12 (3658)
1 1/4 (32)	430 (1.91)	12 (3658)
1 1/2 (38)	520 (2.31)	15 (4572)
2 (51)	630 (2.80)	15 (4572)

A. Values given are based on maximum hanger spacing.

General Notes:

1. SDS = self-drilling tapping screw. Screw spacing, end and edge distance is 9/16" (14mm) min.
2. The minimum yield strengths of materials are as follows (unless otherwise noted): C-Stud Trapeze = 33ksi (228 MPa), Tube steel support posts = 45ksi (310 MPa), TrusSteel Chords = 55ksi (379 MPa).
3. Values shown are for the sprinkler pipe hanger only. Truss must be properly loaded for sprinkler pipe load. Refer to TrusSteel Technical Bulletin TB00.09.01, "Sprinkler Pipes – Truss Loading & Connections".
4. It is the responsibility of the Building Designer to verify that the hanger design given in this detail conforms with the overall sprinkler system support design.
5. Hanger loads were determined per NFPA 13 2022 "Standard For The Installation Of Sprinkler Systems" and assume schedule 40 steel pipe.
6. Pipe hanger spacing shall not exceed 12 ft (3658mm) for pipes up to and including 1-1/4 in. (32mm) diameter and 15 ft (4572mm) for pipes greater than 1-1/4 in. (32mm) diameter per NFPA 13 2022 "Standard For The installation of Sprinkler Systems".
7. Nut shall be grade A, HEX conforming to ASTM A563 and Washer shall conform to ASTM F436.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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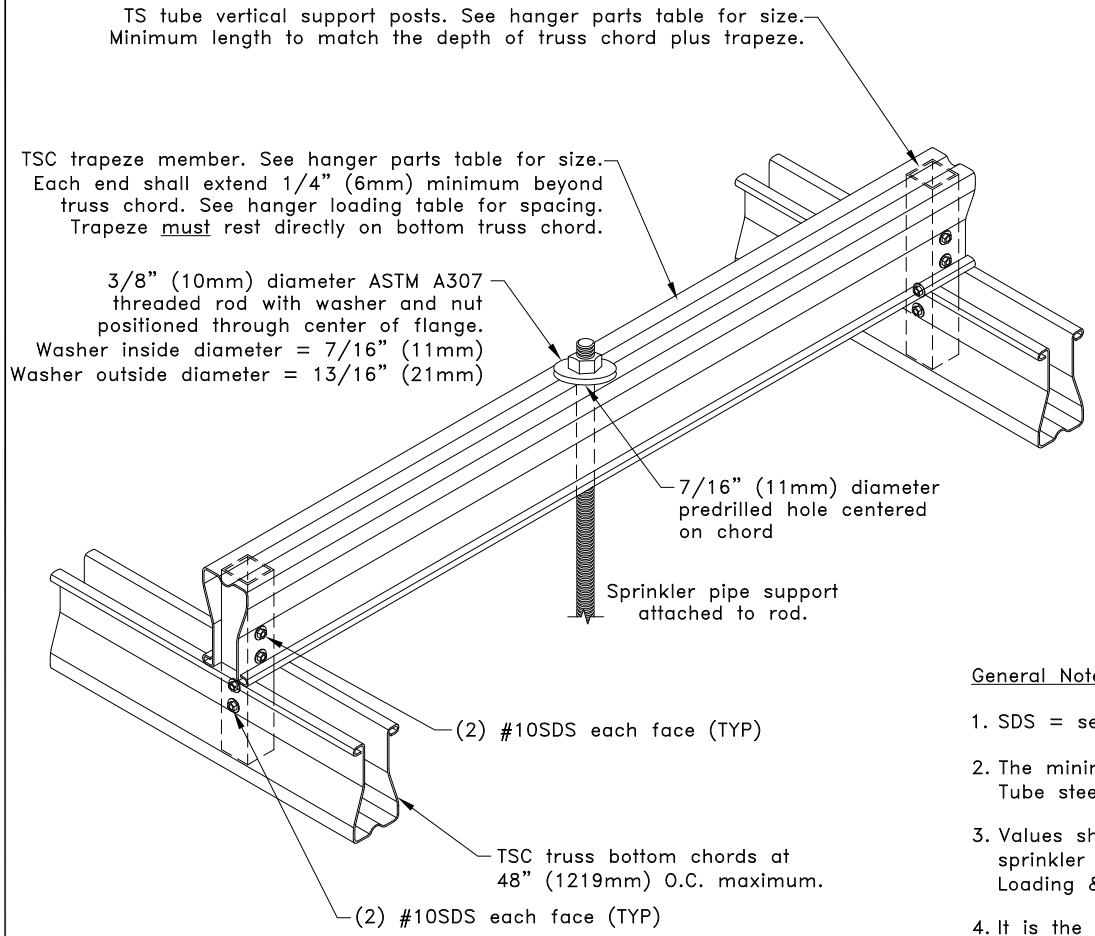
C-Stud Sprinkler Trapeze at Bottom Chord for 2" (51mm) Max. Diameter Pipe

Standard Detail: TS049C

Date: 06/01/22

TrusSteel Detail Category: Bottom Chord Sprinkler Hanger



Hanger Parts Table				
Truss Chord Size	Trusses at 24" (610mm) O.C.		Trusses at 48" (1219mm) O.C.	
	Trapeze Member	Support Post	Trapeze Member	Suport Post
TSC2.75	28TSC2.75 min.	33W.75x.75	33TSC4.00 min.	33W.75x1.5
TSC3.00 or TSC4.00	28TSC3.00 or 28TSC4.00 min.	33W1.5x1.5	43TSC3.00 or 33TSC4.00 min.	33W1.5x1.5

Sprinkler Pipe Diameter & Hanger Load[A]		
Sprinkler Pipe Diameter in. (mm)	Maximum Hanger Load lbs. (kN)	Maximum Hanger Spacing ft (mm)
1 (25)	370 (1.65)	12 (3658)
1 1/4 (32)	430 (1.91)	12 (3658)
1 1/2 (38)	520 (2.31)	15 (4572)
2 (51)	630 (2.80)	15 (4572)

A. Values given are based on maximum hanger spacing.

Note: Hanger rod shall be installed at a minimum of 4in. (102mm) from inside edge of truss bottom chord for TSC2.75 chords and a minimum of 6in. (152mm) for TSC3.00 or TSC4.00 chords.

General Notes:

1. SDS = self-drilling tapping screw. Screw spacing, end and edge distance is 9/16" (14mm) min.
2. The minimum yield strengths of materials are as follows (unless otherwise noted): Tube steel support posts = 45ksi (310 MPa), TrusSteel Chords and Trapeze = 55ksi (379 MPa).
3. Values shown are for the sprinkler pipe hanger only. Truss must be properly loaded for sprinkler pipe load. Refer to TrusSteel Technical Bulletin TB00.09.01, "Sprinkler Pipes – Truss Loading & Connections".
4. It is the responsibility of the Building Designer to verify that the hanger design given in this detail conforms with the overall sprinkler system support design.
5. Hanger loads were determined per NFPA 13 2022 "Standard For The Installation Of Sprinkler Systems" and assume schedule 40 steel pipe.
6. Pipe hanger spacing shall not exceed 12 ft (3658mm) for pipes up to and including 1-1/4 in. (32mm) diameter and 15 ft (4572mm) for pipes greater than 1-1/4 in. (32mm) diameter per NFPA 13 2022 "Standard For The installation of Sprinkler Systems".
7. Nut shall be grade A, HEX conforming to ASTM A563 and Washer shall conform to ASTM F436.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC Sprinkler Trapeze at Bottom Chord for 2" (51mm) Max. Diameter Pipe

Standard Detail: TS049D

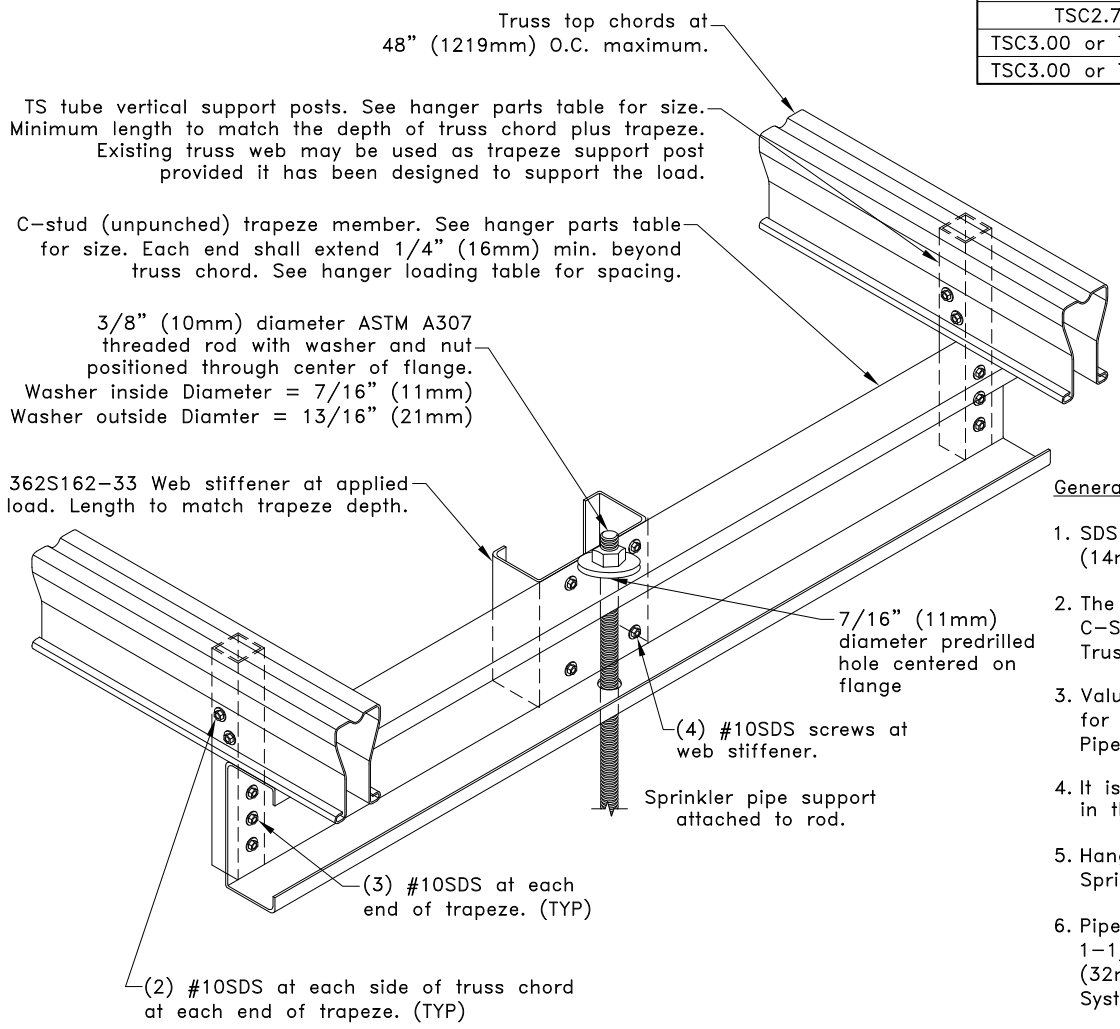
Date: 06/01/22

TrusSteel Detail Category: Bottom Chord Sprinkler Hanger

Hanger Parts Table				
Truss Chord Size	Trusses at 24" (610mm) O.C.		Trusses at 48" (1219mm) O.C.	
	Trapeze Member	Support Post	Trapeze Member	Support Post
TSC2.75	362S162-33 min.	33W.75x.75	362S162-54 min.	33W.75x1.5
TSC2.75	600S162-33 min.	33W.75x.75	600S162-33 min.	33W.75x1.5
TSC3.00 or TSC4.00	362S162-33 min.	33W1.5x1.5	362S162-54 min.	33W1.5x1.5
TSC3.00 or TSC4.00	600S162-33 min.	33W1.5x1.5	600S162-33 min.	33W1.5x1.5

Sprinkler Pipe Diameter & Hanger Load[A]		
Sprinkler Pipe Diameter in. (mm)	Maximum Hanger Load lbs. (kN)	Maximum Hanger Spacing ft (mm)
1 (25)	370 (1.65)	12 (3658)
1 1/4 (32)	430 (1.91)	12 (3658)
1 1/2 (38)	520 (2.31)	15 (4572)
2 (51)	630 (2.80)	15 (4572)

A. Values given are based on maximum hanger spacing.



Note: Hanger rod assembly may be placed anywhere along the trapeze.

General Notes:

1. SDS = self-drilling tapping screw. Screw spacing, end and edge distance is 9/16" (14mm) min.
2. The minimum yield strengths of materials are as follows (unless otherwise noted): C-Stud Trapeze = 33ksi (228 MPa), Tube Steel support posts = 45ksi (310 MPa), TrusSteel Chords = 55ksi (379 MPa).
3. Values shown are for the sprinkler pipe hanger only. Truss must be properly loaded for sprinkler pipe load. Refer to TrusSteel Technical Bulletin TB00.09.01, "Sprinkler Pipes – Truss Loading & Connections".
4. It is the responsibility of the Building Designer to verify that the hanger design given in this detail conforms with the overall sprinkler system support design.
5. Hanger loads were determined per NFPA 13 2022 "Standard For The Installation Of Sprinkler Systems" and assume schedule 40 steel pipe.
6. Pipe hanger spacing shall not exceed 12 ft (3658mm) for pipes up to and including 1-1/4 in. (32mm) diameter and 15 ft (4572mm) for pipes greater than 1-1/4 in. (32mm) diameter per NFPA 13 2022 "Standard For The installation of Sprinkler Systems".
7. Nut shall be grade A, HEX conforming to ASTM A563 and Washer shall conform to ASTM F436.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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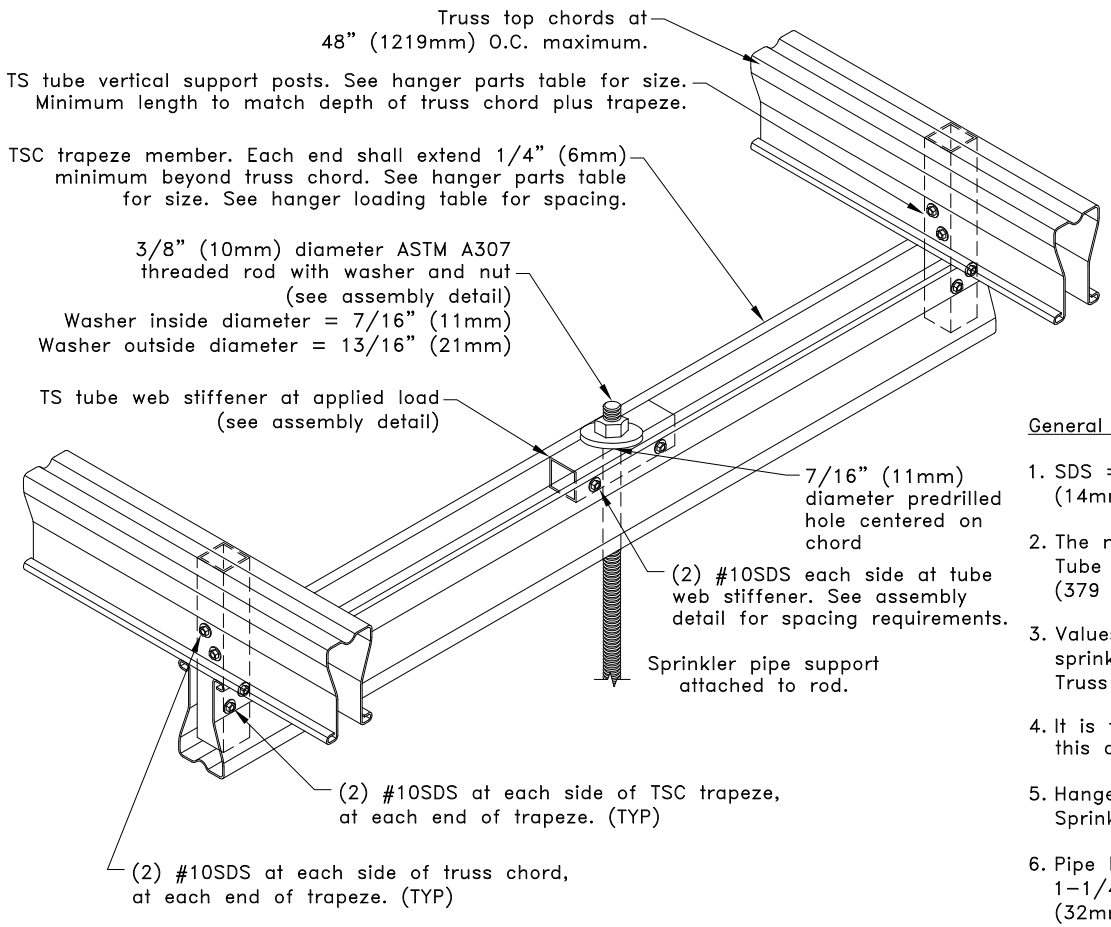
C-Stud Sprinkler Trapeze at Top Chord for 2" (51mm) Max. Diameter Pipe

Standard Detail: TS049E

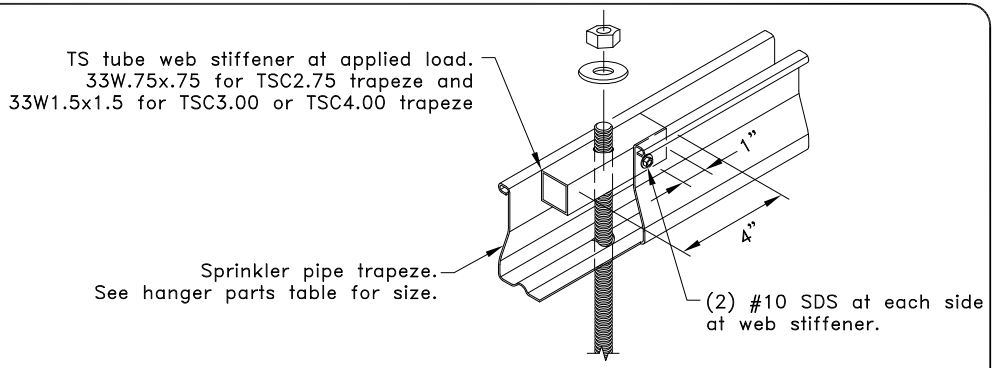
Date: 06/01/22

TrusSteel Detail Category: Top Chord Sprinkler Hanger

Hanger Parts Table				
Truss Chord Size	Trusses at 24" (610mm) O.C.		Trusses at 48" (1219mm) O.C.	
	Trapeze Member	Support Post	Trapeze Member	Suport Post
TSC2.75	28TSC2.75 min.	33W.75x.75	33TSC4.00 min.	33W.75x1.5
TSC3.00 or TSC4.00	28TSC3.00 or 28TSC4.00 min.	33W1.5x1.5	43TSC3.00 or 33TSC4.00 min.	33W1.5x1.5



Note: Hanger rod shall be installed at a minimum of 4in. (102mm) from inside edge of truss bottom chord for TSC2.75 chords and a minimum of 6in. (152mm) for TSC3.00 or TSC4.00 chords.



Hanger Rod Assembly Detail

Note: Multiply above units by 25.4 for millimeters.

Sprinkler Pipe Diameter & Hanger Load[A]		
Sprinkler Pipe Diameter in. (mm)	Maximum Hanger Load lbs. (kN)	Maximum Hanger Spacing ft (mm)
1 (25)	370 (1.65)	12 (3658)
1 1/4 (32)	430 (1.91)	12 (3658)
1 1/2 (38)	520 (2.31)	15 (4572)
2 (51)	630 (2.80)	15 (4572)

A. Values given are based on maximum hanger spacing.

General Notes:

1. SDS = self-drilling tapping screw. Screw spacing, end and edge distance is 9/16" (14mm) min.
2. The minimum yield strengths of materials are as follows (unless otherwise noted): Tube steel support posts = 45ksi (310 MPa), TrusSteel Chords and Trapeze = 55ksi (379 MPa).
3. Values shown are for the sprinkler pipe hanger only. Truss must be properly loaded for sprinkler pipe load. Refer to TrusSteel Technical Bulletin TB00.09.01, "Sprinkler Pipes – Truss Loading & Connections".
4. It is the responsibility of the Building Designer to verify that the hanger design given in this detail conforms with the overall sprinkler system support design.
5. Hanger loads were determined per NFPA 13 2022 "Standard For The Installation Of Sprinkler Systems" and assume schedule 40 steel pipe.
6. Pipe hanger spacing shall not exceed 12 ft (3658mm) for pipes up to and including 1-1/4 in. (32mm) diameter and 15 ft (4572mm) for pipes greater than 1-1/4 in. (32mm) diameter per NFPA 13 2022 "Standard For The installation of Sprinkler Systems".
7. Nut shall be grade A, HEX conforming to ASTM A563 and Washer shall conform to ASTM F436.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC Sprinkler Trapeze at Top Chord for 2" (51mm) Max. Diameter Pipe

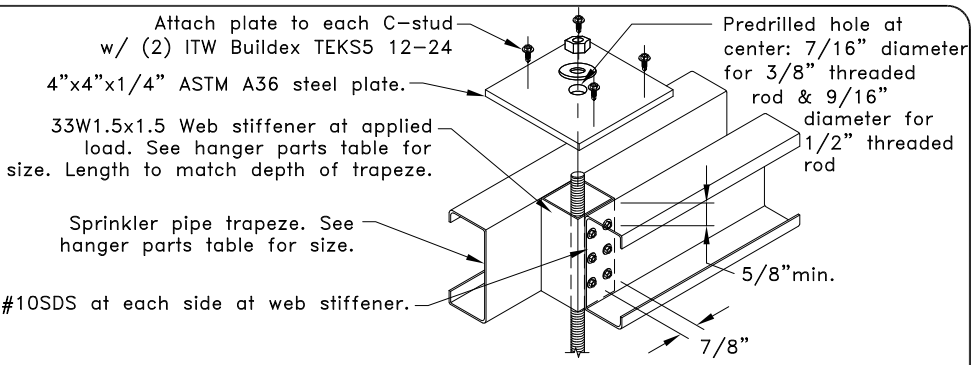
Standard Detail: TS049F

Date: 06/01/22

TrusSteel Detail Category: Top Chord Sprinkler Hanger

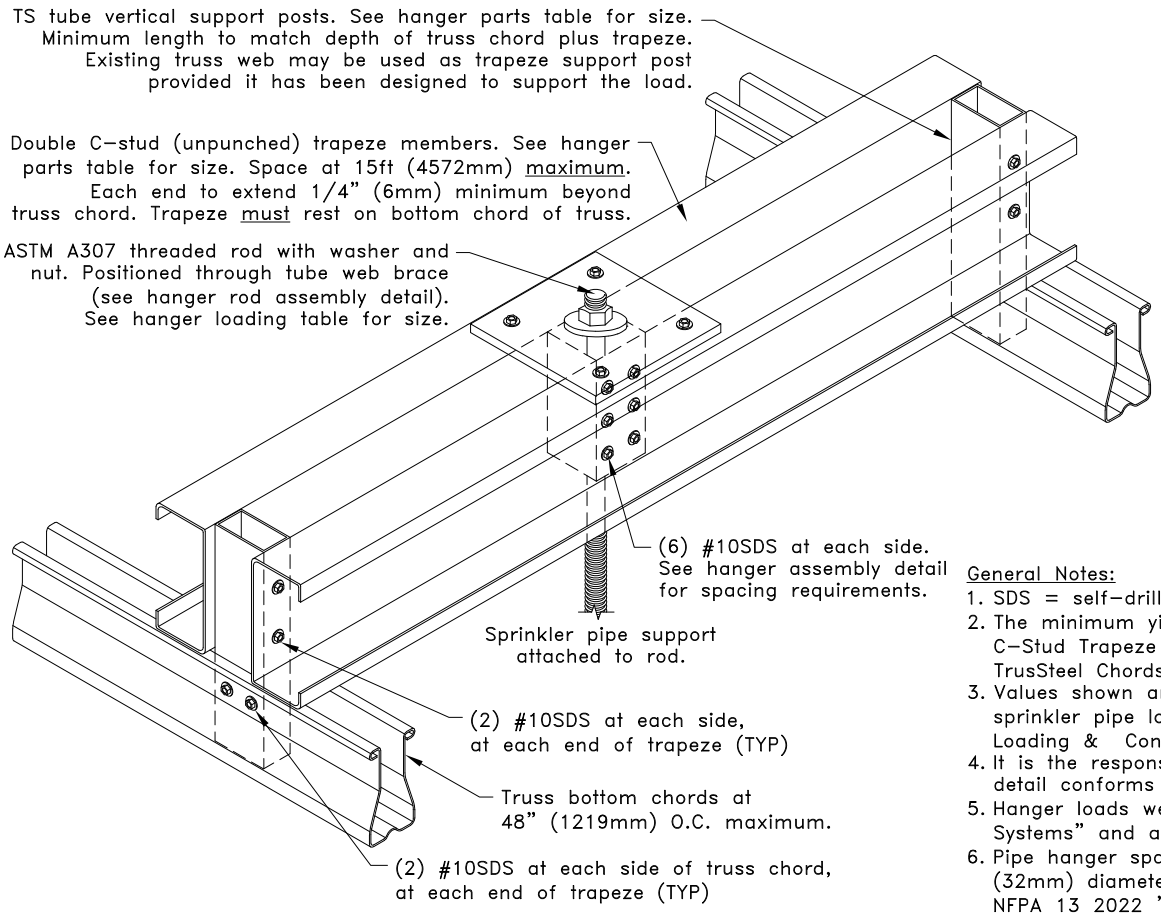
Hanger Parts Table			
Maximum Sprinkler Pipe Dia. 5 in. (127mm)			
Truss Chord Size	Trusses at 24" (610mm) O.C. Trapeze Member	Trusses at 48" (1219mm) O.C. Trapeze Member	Support Post
TSC2.75	(2) 362S162-43	(2) 362S162-68[A]	33W.75x1.5
TSC2.75	(2) 600S162-33	(2) 600S162-43	33W.75x1.5
TSC3.00 or TSC4.00	(2) 362S162-43	(2) 362S162-68[A]	33W1.5x1.5
TSC3.00 or TSC4.00	(2) 600S162-33	(2) 600S162-43	33W1.5x1.5

A. Grade 50 steel required.



Hanger Rod Assembly Detail

Note: Multiply above units by 25.4 for millimeters.



Note: Hanger rod assembly may be placed anywhere along the trapeze.

Sprinkler Pipe Diameter & Hanger Load		
Sprinkler Pipe Diameter in. (mm)	Maximum Hanger Load lbs. (kN)[B]	Threaded Rod Dia. in. (mm)[C]
2 1/2 (25)	840 (3.74)	3/8 (10)
3 (76)	1060 (4.71)	3/8 (10)
3 1/2 (89)	1260 (5.60)	3/8 (10)
4 (102)	1480 (6.58)	3/8 (10)
5 (127)	2010 (8.94)	1/2 (13)

B. Values given are based on 15' (4572mm) maximum hanger spacing.

C. For 3/8" (10mm) diameter threaded rod / nut, washer inside diameter = 7/16" (11mm) and outside diameter = 13/16" (21mm). For 1/2" (13mm) diameter threaded rod / nut, washer inside diameter = 9/16" (14mm) and outside diameter = 1-1/16" (27mm).

General Notes:

1. SDS = self-drilling tapping screw. Screw spacing, end and edge distance is 9/16" (14mm) min.
2. The minimum yield strengths of materials are as follows (unless otherwise noted): C-Stud Trapeze = 33ksi (228 MPa), Tube steel support posts = 45ksi (310 MPa), TrusSteel Chords = 55ksi (379 MPa).
3. Values shown are for the sprinkler pipe hanger only. Truss must be properly loaded for sprinkler pipe load. Refer to TrusSteel Technical Bulletin TB00.09.01, "Sprinkler Pipes – Truss Loading & Connections".
4. It is the responsibility of the Building Designer to verify that the hanger design given in this detail conforms with the overall sprinkler system support design.
5. Hanger loads were determined per NFPA 13 2022 "Standard For The Installation Of Sprinkler Systems" and assume schedule 40 steel pipe.
6. Pipe hanger spacing shall not exceed 12 ft (3658mm) for pipes up to and including 1-1/4 in. (32mm) diameter and 15 ft (4572mm) for pipes greater than 1-1/4 in. (32mm) diameter per NFPA 13 2022 "Standard For The installation of Sprinkler Systems".Nut shall be grade A, HEX conforming to ASTM A563 and Washer shall conform to ASTM F436.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Double C-Stud Sprinkler Trapeze at Bottom Chord for 5" (127mm) Max. Diameter Pipe

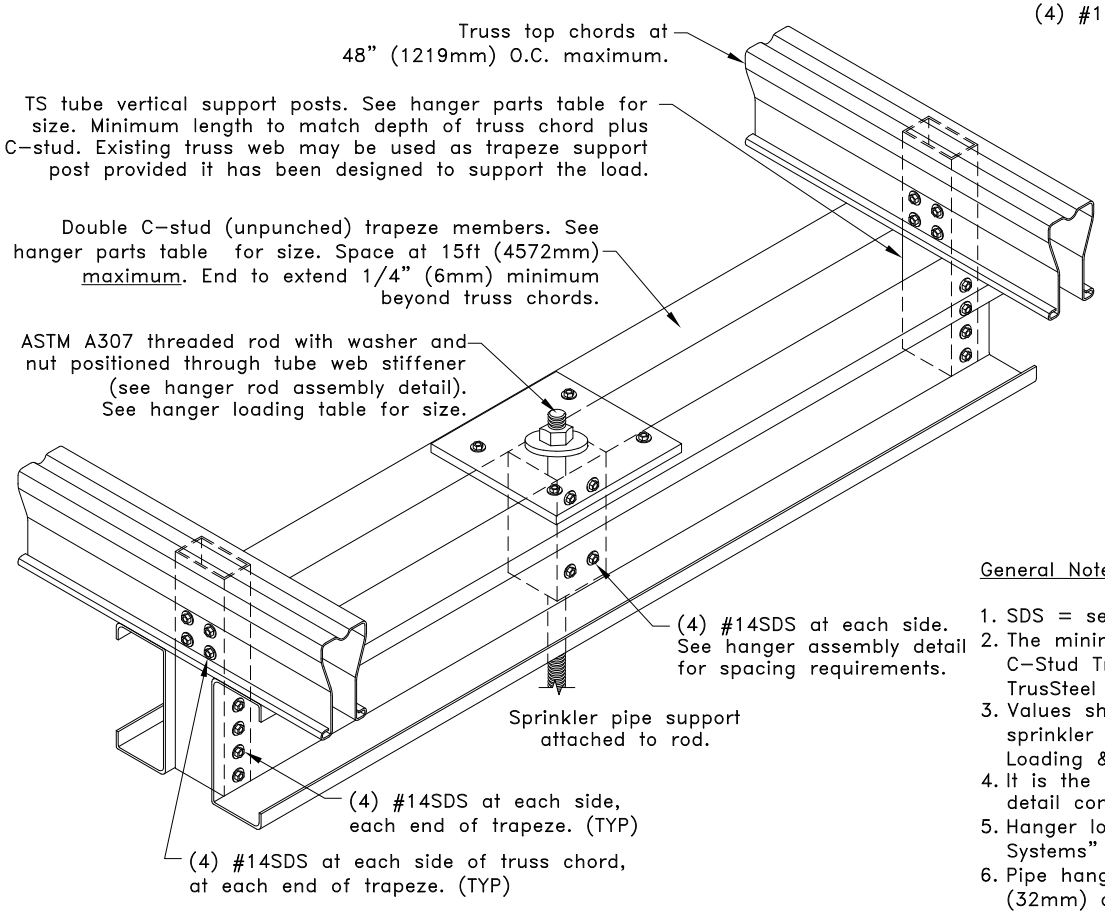
Standard Detail: TS049G

Date: 06/01/22

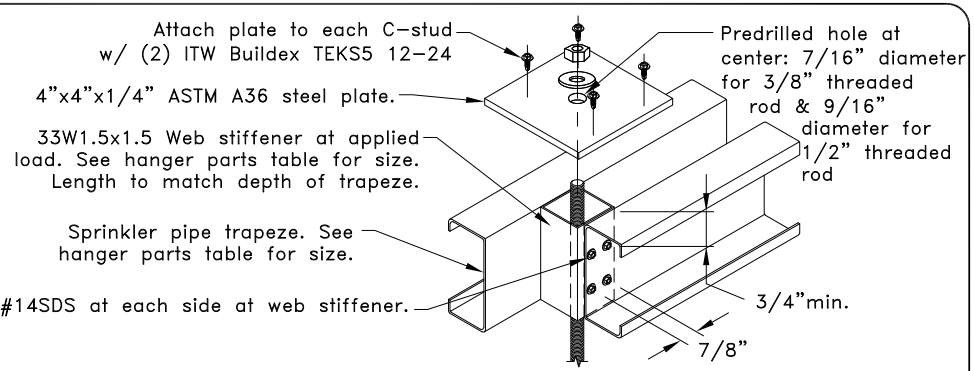
TrusSteel Detail Category: Bottom Chord Sprinkler Hanger

Hanger Parts Table			
Maximum Sprinkler Pipe Dia. 5 in. (127mm)			
Truss Chord Size	Trusses at 24" (610mm) O.C. Trapeze Member	Trusses at 48" (1219mm) O.C. Trapeze Member	Support Post
TSC2.75	(2) 362S162-43	(2) 362S162-68[A]	33W.75x1.5
TSC2.75	(2) 600S162-33	(2) 600S162-43	33W.75x1.5
TSC3.00 or TSC4.00	(2) 362S162-43	(2) 362S162-68[A]	33W1.5x1.5
TSC3.00 or TSC4.00	(2) 600S162-33	(2) 600S162-43	33W1.5x1.5

A. Grade 50 steel required.



Note: Hanger rod assembly may be placed anywhere along the trapeze.



Hanger Rod Assembly Detail

Note: Multiply above units by 25.4 for millimeters.

Sprinkler Pipe Diameter & Hanger Load		
Sprinkler Pipe Diameter in. (mm)	Maximum Hanger Load lbs. (kN)[B]	Threaded Rod Dia. in. (mm)[C]
2 1/2 (25)	840 (3.74)	3/8 (10)
3 (76)	1060 (4.71)	3/8 (10)
3 1/2 (89)	1260 (5.60)	3/8 (10)
4 (102)	1480 (6.58)	3/8 (10)
5 (127)	2010 (8.94)	1/2 (13)

B. Values given are based on 15' (4572mm) maximum hanger spacing.
C. For 3/8" (10mm) diameter threaded rod / nut, washer inside diameter = 7/16" (11mm) and outside diameter = 13/16" (21mm). For 1/2" (13mm) diameter threaded rod / nut, washer inside diameter = 9/16" (14mm) and outside diameter = 1-1/16" (27mm).

General Notes:

1. SDS = self-drilling tapping screw. Screw spacing, end and edge distance is 3/4" (19mm) min.
2. The minimum yield strengths of materials are as follows (unless otherwise noted): C-Stud Trapeze = 33ksi (228 MPa), Tube steel support posts = 45ksi (310 MPa), TrusSteel Chords = 55ksi (379 MPa).
3. Values shown are for the sprinkler pipe hanger only. Truss must be properly loaded for sprinkler pipe load. Refer to TrusSteel Technical Bulletin TB00.09.01, "Sprinkler Pipes - Truss Loading & Connections".
4. It is the responsibility of the Building Designer to verify that the hanger design given in this detail conforms with the overall sprinkler system support design.
5. Hanger loads were determined per NFPA 13 2022 "Standard For The Installation Of Sprinkler Systems" and assume schedule 40 steel pipe.
6. Pipe hanger spacing shall not exceed 12 ft (3658mm) for pipes up to and including 1-1/4 in. (32mm) diameter and 15 ft (4572mm) for pipes greater than 1-1/4 in. (32mm) diameter per NFPA 13 2022 "Standard For The installation of Sprinkler Systems".
7. Nut shall be grade A, HEX conforming to ASTM A563 and Washer shall conform to ASTM F436.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Double C-Stud Sprinkler Trapeze at Top Chord for 5" (127mm) Max. Diameter Pipe

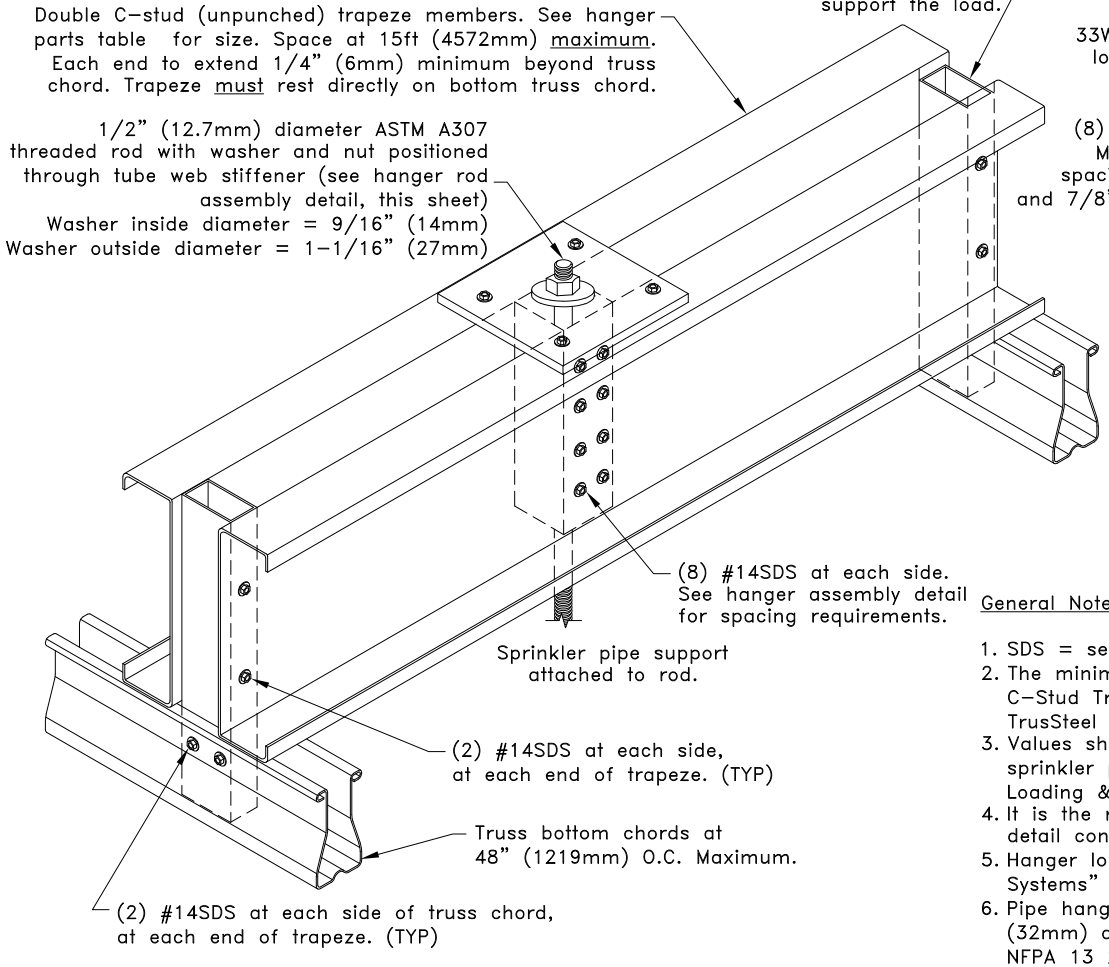
Standard Detail: TS049H

Date: 06/01/22

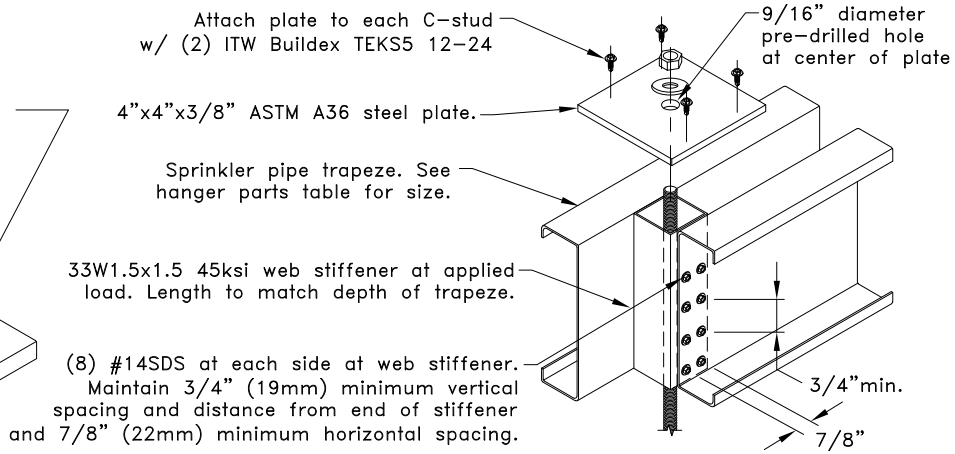
TrusSteel Detail Category: Top Chord Sprinkler Hanger

Hanger Parts Table		
Maximum Sprinkler Pipe Dia. 8 in. (203mm)		
Truss Chord Size	Trusses at 48" (1219mm) O.C.	
	Trapeze Member	Support Post
TSC2.75	(2) 600S162-68[A]	33W.75x1.5
TSC3.00 or TSC4.00	(2) 600S162-68[A]	33W1.5x1.5

A. Grade 50 steel required.



Note: Hanger rod assembly may be placed anywhere along the trapeze.



Hanger Rod Assembly Detail

Note: Multiply above units by 25.4 for millimeters.

Sprinkler Pipe Diameter & Hanger Load	
Sprinkler Pipe Diameter in. (mm)	Maximum Hanger Load lbs. (kN)[B]
6 (152)	2630 (11.70)
8 (203)	4060 (18.06)

B. Values given are based on 15' (4572mm) maximum hanger spacing.

General Notes:

1. SDS = self-drilling tapping screw. Screw spacing, end and edge distance is 3/4" (19mm) min.
2. The minimum yield strengths of materials are as follows (unless otherwise noted): C-Stud Trapeze = 33ksi (228 MPa), Tube steel support posts = 45ksi (310 MPa), TrusSteel Chords = 55ksi (379 MPa).
3. Values shown are for the sprinkler pipe hanger only. Truss must be properly loaded for sprinkler pipe load. Refer to TrusSteel Technical Bulletin TB00.09.01, "Sprinkler Pipes - Truss Loading & Connections".
4. It is the responsibility of the Building Designer to verify that the hanger design given in this detail conforms with the overall sprinkler system support design.
5. Hanger loads were determined per NFPA 13 2022 "Standard For The Installation Of Sprinkler Systems" and assume schedule 40 steel pipe.
6. Pipe hanger spacing shall not exceed 12 ft (3658mm) for pipes up to and including 1-1/4 in. (32mm) diameter and 15 ft (4572mm) for pipes greater than 1-1/4 in. (32mm) diameter per NFPA 13 2022 "Standard For The installation of Sprinkler Systems".
7. Nut shall be grade A, HEX conforming to ASTM A563 and Washer shall conform to ASTM F436.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Double C-Stud Sprinkler Trapeze at Bottom Chord for 8" (203mm) Max. Diameter Pipe

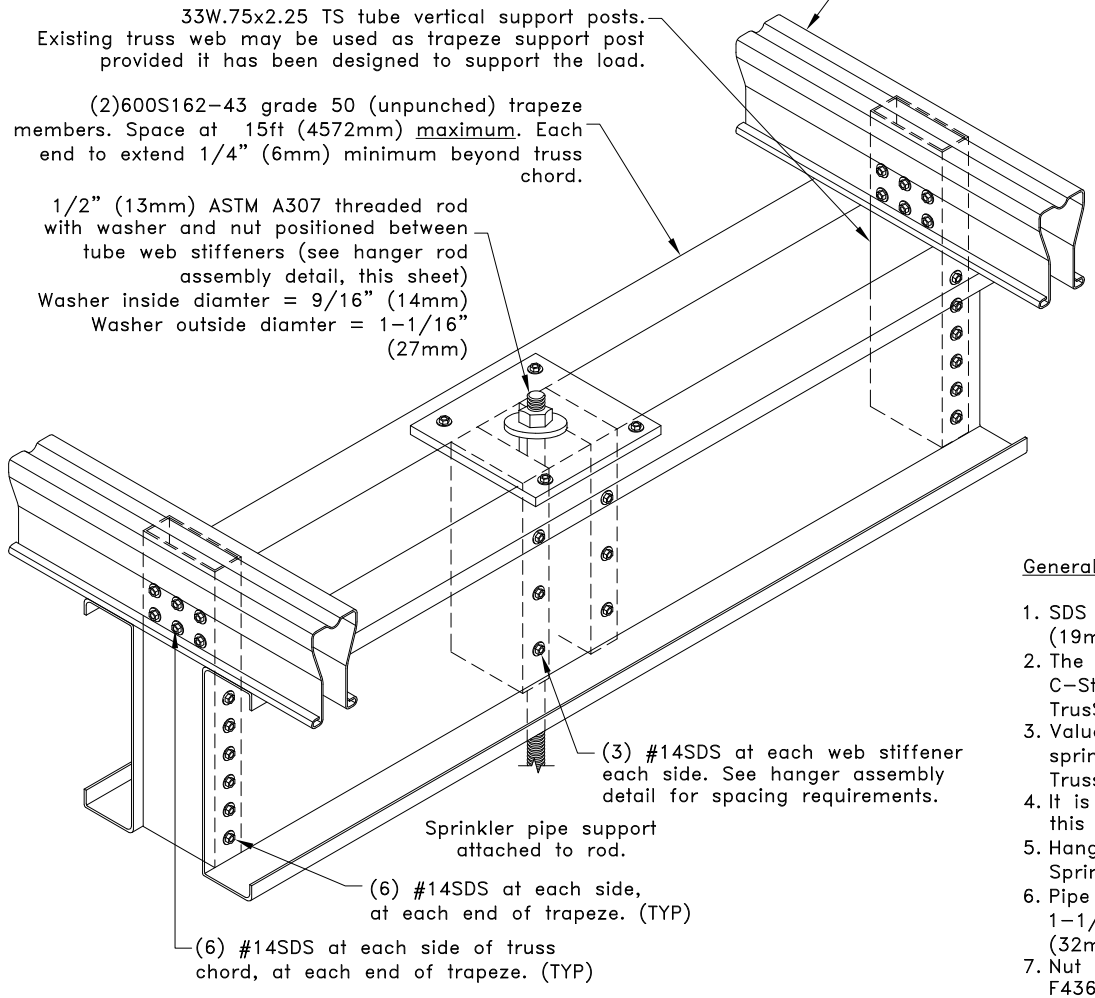
Standard Detail: TS049I

Date: 06/01/22

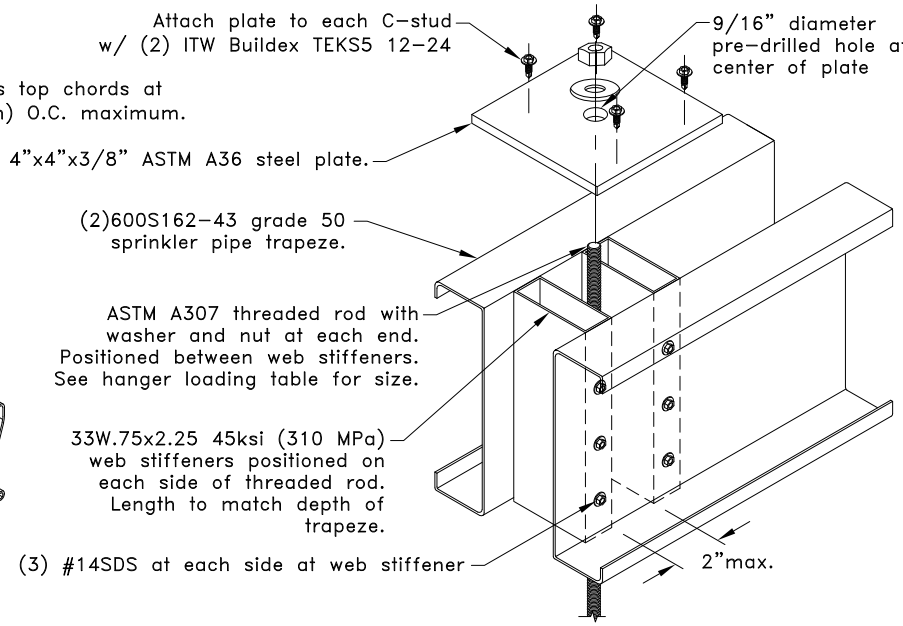
TrusSteel Detail Category: Bottom Chord Sprinkler Hanger

Sprinkler Pipe Diameter & Hanger Load	
Sprinkler Pipe Diameter in. (mm)	Maximum Hanger Load lbs. (kN)[A]
6 (152)	2630 (11.70)

A. Values given are based on 15' (4572mm) maximum hanger spacing.



Note: Hanger rod assembly may be placed anywhere along the trapeze.



Hanger Rod Assembly Detail

Note: Multiply above units by 25.4 for millimeters.

General Notes:

1. SDS = self-drilling tapping screw. Screw spacing, end and edge distance is 3/4" (19mm) min.
2. The minimum yield strengths of materials are as follows (unless otherwise noted): C-Stud Trapeze = 50ksi (345 MPa), Tube steel support posts = 45ksi (310 MPa), TrusSteel Chords = 55ksi (379 MPa).
3. Values shown are for the sprinkler pipe hanger only. Truss must be properly loaded for sprinkler pipe load. Refer to TrusSteel Technical Bulletin TB00.09.01, "Sprinkler Pipes - Truss Loading & Connections".
4. It is the responsibility of the Building Designer to verify that the hanger design given in this detail conforms with the overall sprinkler system support design.
5. Hanger loads were determined per NFPA 13 2022 "Standard For The Installation Of Sprinkler Systems" and assume schedule 40 steel pipe.
6. Pipe hanger spacing shall not exceed 12 ft (3658mm) for pipes up to and including 1-1/4 in. (32mm) diameter and 15 ft (4572mm) for pipes greater than 1-1/4 in. (32mm) diameter per NFPA 13 2022 "Standard For The installation of Sprinkler Systems".
7. Nut shall be grade A, HEX conforming to ASTM A563 and Washer shall conform to ASTM F436.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Double C-Stud Sprinkler Trapeze at TSC2.75 Top Chord for 6" (152mm) Max. Diameter Pipe

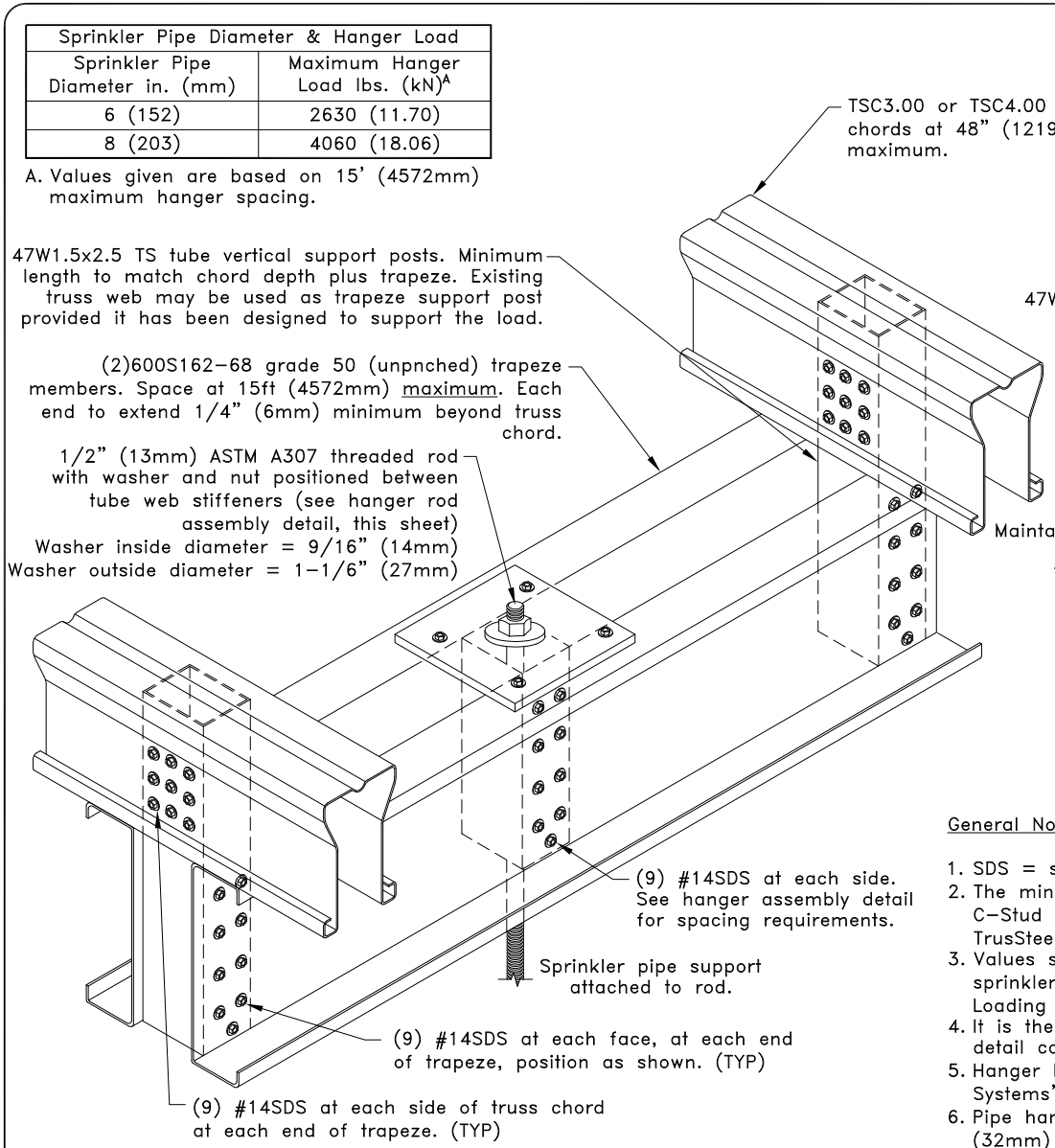
Standard Detail: TS049J

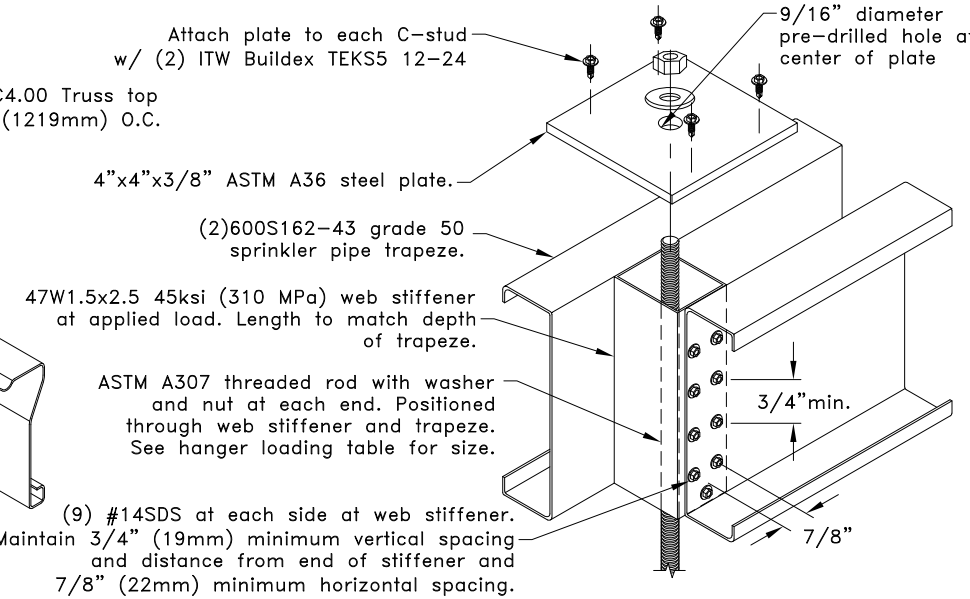
Date: 06/01/22

TrusSteel Detail Category: Top Chord Sprinkler Hanger

Sprinkler Pipe Diameter & Hanger Load	
Sprinkler Pipe Diameter in. (mm)	Maximum Hanger Load lbs. (kN)[A]
6 (152)	2630 (11.70)
8 (203)	4060 (18.06)

A. Values given are based on 15' (4572mm) maximum hanger spacing.





Hanger Rod Assembly Detail

Note: Multiply above units by 25.4 for millimeters.

Note: Hanger rod assembly may be placed anywhere along the trapeze.

General Notes:

1. SDS = self-drilling tapping screw. Screw spacing, end and edge distance is 3/4" (19mm) min.
2. The minimum yield strengths of materials are as follows (unless otherwise noted): C-Stud Trapeze = 50ksi (345 MPa), Tube steel support posts = 45ksi (310 MPa), TrusSteel Chords = 55ksi (379 MPa).
3. Values shown are for the sprinkler pipe hanger only. Truss must be properly loaded for sprinkler pipe load. Refer to TrusSteel Technical Bulletin TB00.09.01, "Sprinkler Pipes - Truss Loading & Connections".
4. It is the responsibility of the Building Designer to verify that the hanger design given in this detail conforms with the overall sprinkler system support design.
5. Hanger loads were determined per NFPA 13 2022 "Standard For The Installation Of Sprinkler Systems" and assume schedule 40 steel pipe.
6. Pipe hanger spacing shall not exceed 12 ft (3658mm) for pipes up to and including 1-1/4 in. (32mm) diameter and 15 ft (4572mm) for pipes greater than 1-1/4 in. (32mm) diameter per NFPA 13 2022 "Standard For The installation of Sprinkler Systems".
7. Nut shall be grade A, HEX conforming to ASTM A563 and Washer shall conform to ASTM F436.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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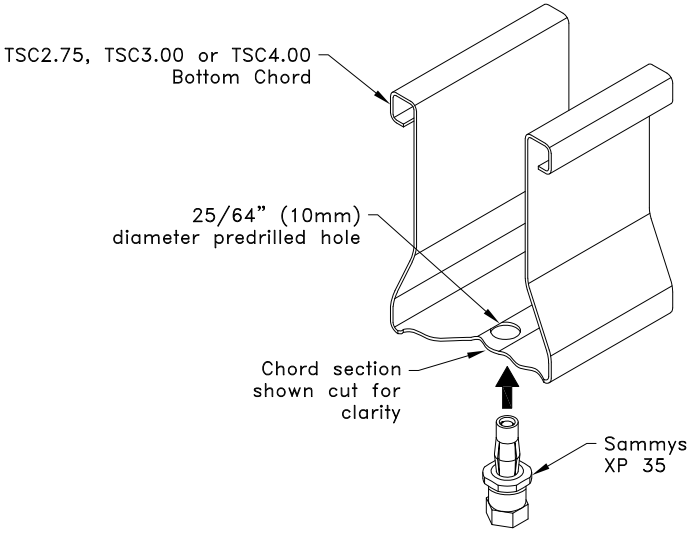
Double C-Stud Sprinkler Trapeze at TSC3.00 or TSC4.00 Top Chord for 8" (203mm) Max. Diameter Pipe

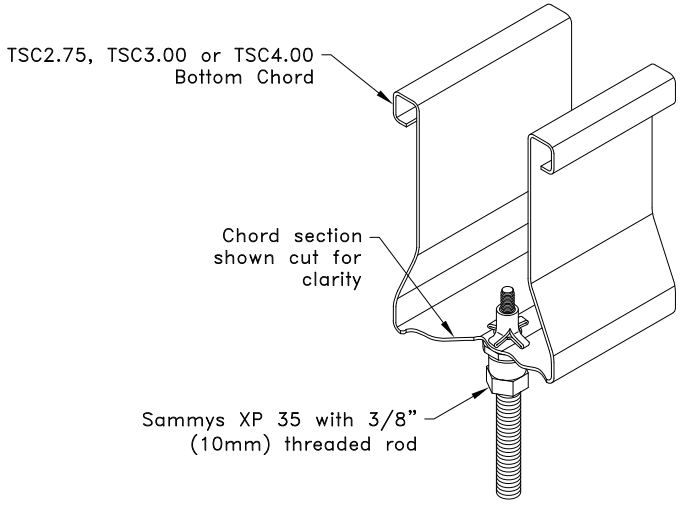
Standard Detail: TS049K

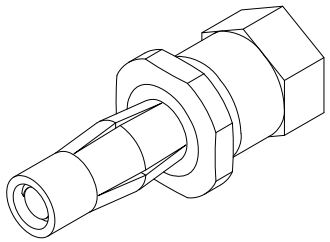
Date: 06/01/22

TrusSteel Detail Category: Top Chord Sprinkler Hanger

Bottom Chord	Max. Sprinkler Pipe Diameter, in. (mm)
28TSC2.75, 28TSC3.00 or 28TSC4.00	2 (51)
33TSC2.75, 33TSC3.00 or 33TSC4.00	3 (76)
43TSC2.75, 43TSC3.00 or 43TSC4.00	2–1/2 (64)
54TSC3.00 or 54TSC4.00	3–1/2 (89)
68TSC4.00 or 97TSC4.00	4 (102)







Sammys X–Press 35
(XP 35)

General Notes:

1. Truss must be properly loaded for sprinkler pipe load. Refer to TrusSteel Technical Bulletin TB00.09.01, "Sprinkler Pipes – Truss Loading & Connections".
2. It is the responsibility of the Building Designer to verify that the hanger design given in this detail conforms with the overall sprinkler system support design.
3. Refer to TB07.09.20, "Attachment of Mechanical Systems to TrusSteel Trusses" for acceptable location of hole.
4. Connections determined in accordance with UL 203 document titled "Standard For Pipe Hanger Equipment For Fire Protection Service", and assume Schedule 40 steel pipe.
5. Pipe hanger spacing shall not exceed 12 ft (3658mm) for pipes up to and including 1–1/4 in. (32mm) diameter and 15 ft (4572mm) for pipes greater than 1–1/4 in. (32mm) diameter per NFPA 13 2022 "Standard For The installation of Sprinkler Systems".

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Bottom Chord Sprinkler Pipe Hanger for 4" (102mm) Max. Diameter Pipe Using Sammys X-Press 35 (XP 35)

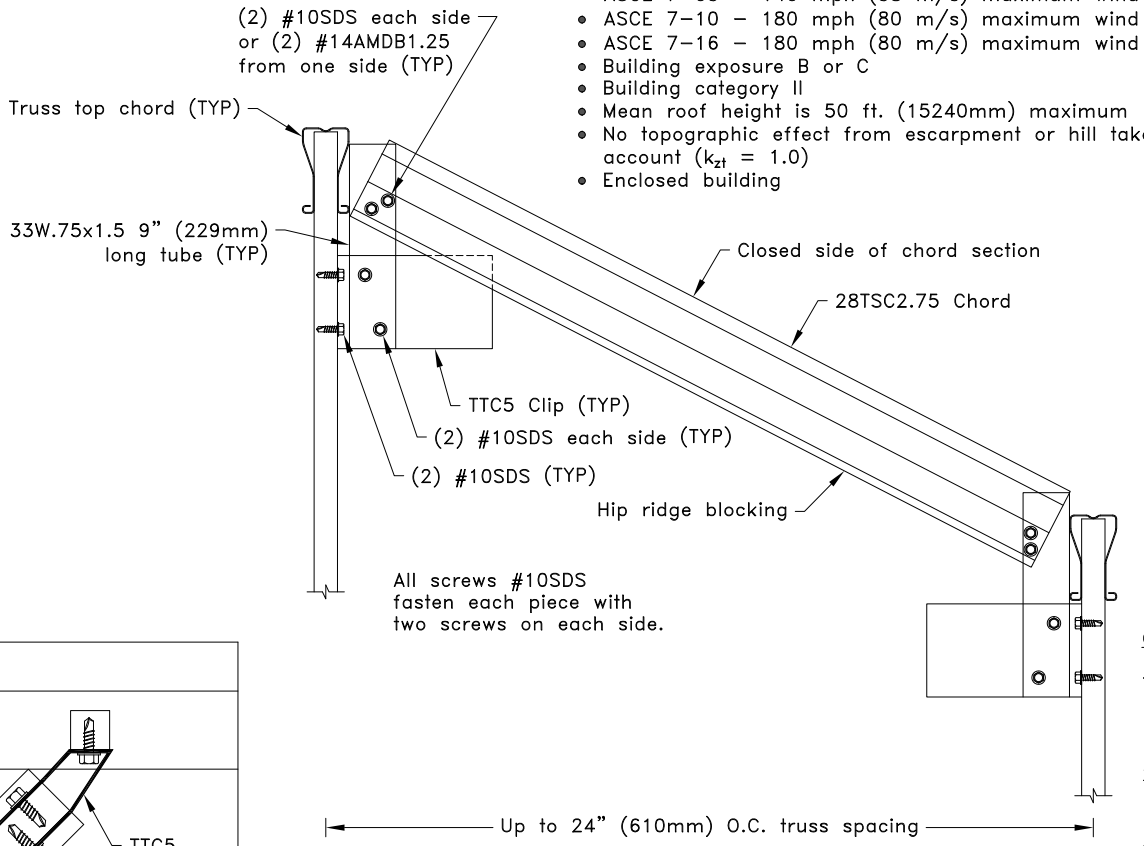
Standard Detail:
TS049L

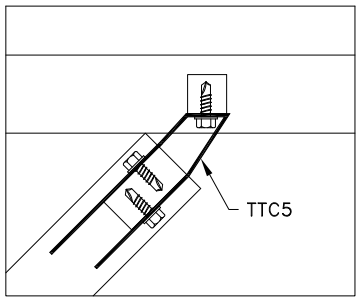
Date:
06/01/22

TrusSteel Detail Category:
Sprinkler Pipe Hangers

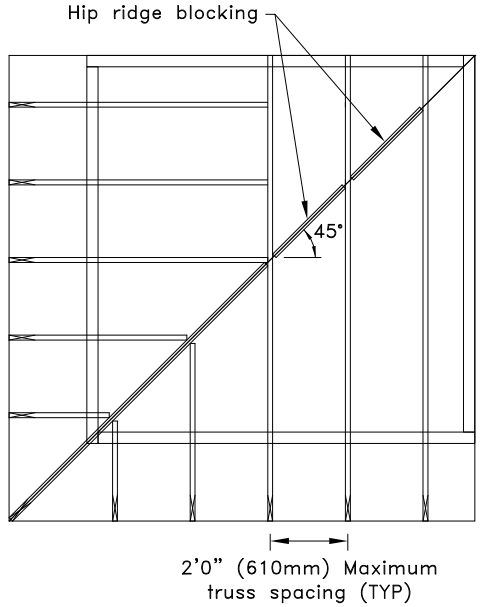
Top chord live load – 40 PSF (1.92 kN/m2) maximum
Top chord dead load – 15 PSF (0.72 kN/m2) maximum
Wind loading:

- ASCE 7-05 – 140 mph (58 m/s) maximum wind speed
- ASCE 7-10 – 180 mph (80 m/s) maximum wind speed
- ASCE 7-16 – 180 mph (80 m/s) maximum wind speed
- Building exposure B or C
- Building category II
- Mean roof height is 50 ft. (15240mm) maximum
- No topographic effect from escarpment or hill taken into account (k_{zt} = 1.0)
- Enclosed building





Plan View of Connection



Partial Roof Layout

General Notes:

1. SDS = self-drilling tapping screw. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum for #10SDS and 3/4" (19mm) minimum for #14AMDB1.25 fasteners.
2. The supported truss must be designed utilizing a clip bearing type.
3. Hip ridge blocking designed to support vertical load only (from gravity load and wind load). If blocking needs to support any other type of load, contact a TrusSteel engineer.
4. This detail may be used for roof pitches from 1.5/12 (7.13°) to 12/12 (45°).
5. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Hip Ridge Blocking Framing Detail For 24" (610mm) O.C. Trusses

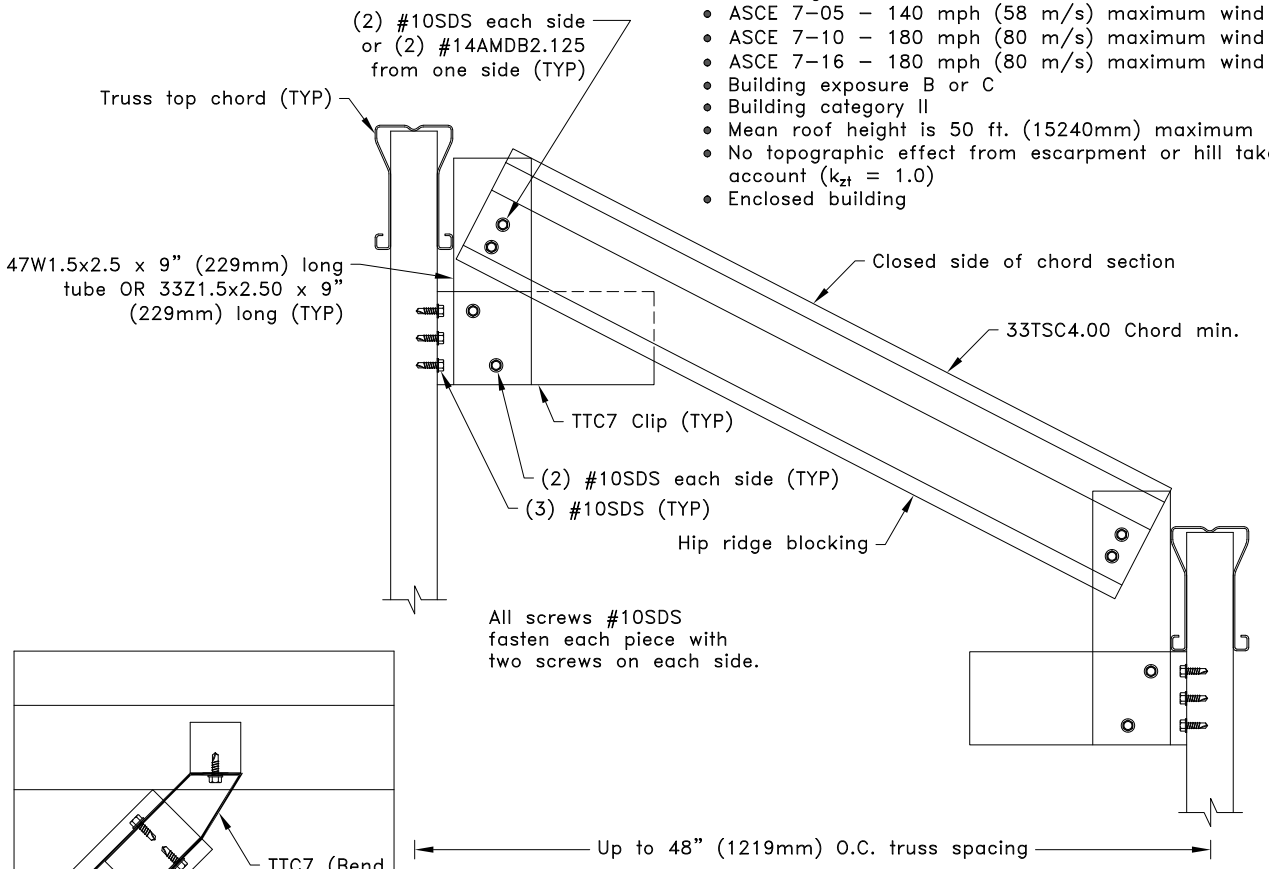
Standard Detail: TS056

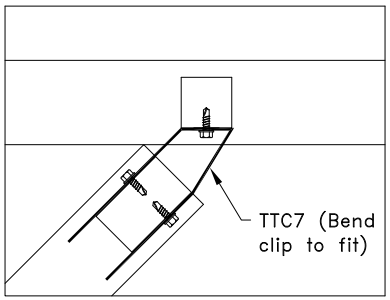
Date: 06/01/22

TrusSteel Detail Category: Hip Framing

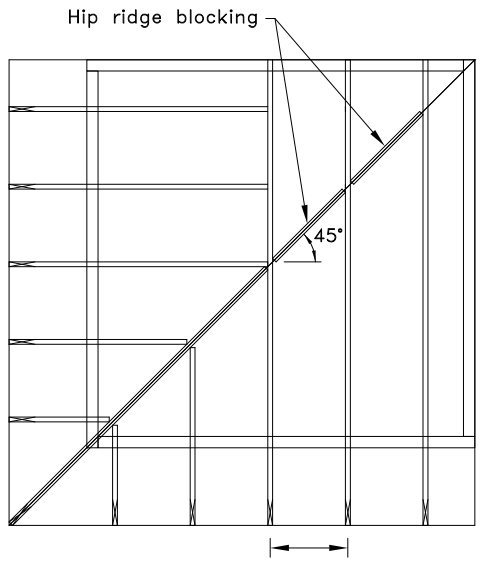
Top chord live load – 40 PSF (1.92 kN/m2) maximum
Top chord dead load – 15 PSF (0.72 kN/m2) maximum
Wind loading:

- ASCE 7–05 – 140 mph (58 m/s) maximum wind speed
- ASCE 7–10 – 180 mph (80 m/s) maximum wind speed
- ASCE 7–16 – 180 mph (80 m/s) maximum wind speed
- Building exposure B or C
- Building category II
- Mean roof height is 50 ft. (15240mm) maximum
- No topographic effect from escarpment or hill taken into account (k_{zt} = 1.0)
- Enclosed building





Plan View of Connection



Partial Roof Layout

General Notes:

1. SDS = self–drilling tapping screw.
2. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum for #10SDS and 3/4" (19mm) minimum for #14AMDB1.25 fasteners.
3. Hip ridge blocking designed to support vertical load only (from gravity load and wind load). If blocking needs to support any other type of load, contact a TrusSteel engineer.
4. This detail may be used for roof pitches from 2.2/12 (10°) to 12/12 (45°).
5. Equal screws must be placed in flat areas for Z–webs. Refer to TS011A and TS068 for fastener contact areas.
6. Cold–Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold–Formed Steel Structural Members" (S100–16/S2–20).

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Hip Ridge Blocking Framing Detail For 48" (1219mm) O.C. Trusses

Standard Detail: TS056A

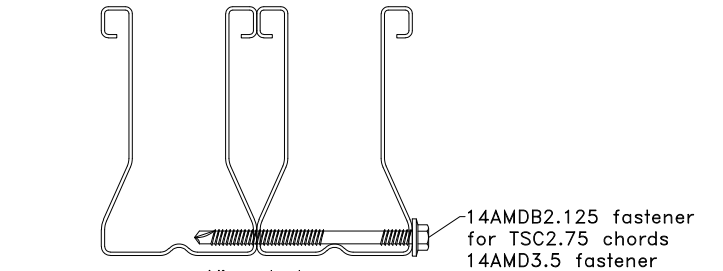
Date: 06/01/22

TrusSteel Detail Category: Hip Framing

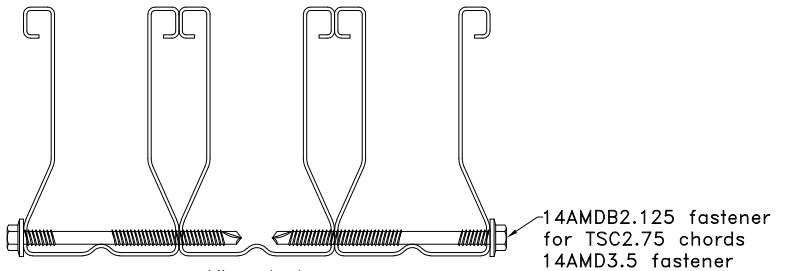
Type of Chord Bracing	Bracing Attached to Each Ply Member (Yes or No)	Minimum Spacing of the Ply–to–Ply Connection
Purlins	Yes	10' 0" O.C. (3048mm)
Purlins	No	Lesser of purlin spacing or 10' 0" (3048)
Structural Panel	Yes	10' 0" O.C. (3048mm)
Structural Panel	No	Lesser of purlin spacing or 10' 0" (3048)

Notes:

- The spacing for ply–to–ply fasteners outlined above are minimum values.
- Additional fasteners may be required to distribute loads from the ply receiving a load to the other plies.
- Refer to TrusSteel details TS023 or TS024 for additional requirements when a TSJH hanger is used to support truss spans framing to the girder. Refer to TrusSteel detail TS023A for uplift connections. Add fasteners if needed.
- Refer to approved truss drawings for any additional fasteners that may be needed.
- Ply–to–ply fasteners are required within 6" of a pitch break on each side.

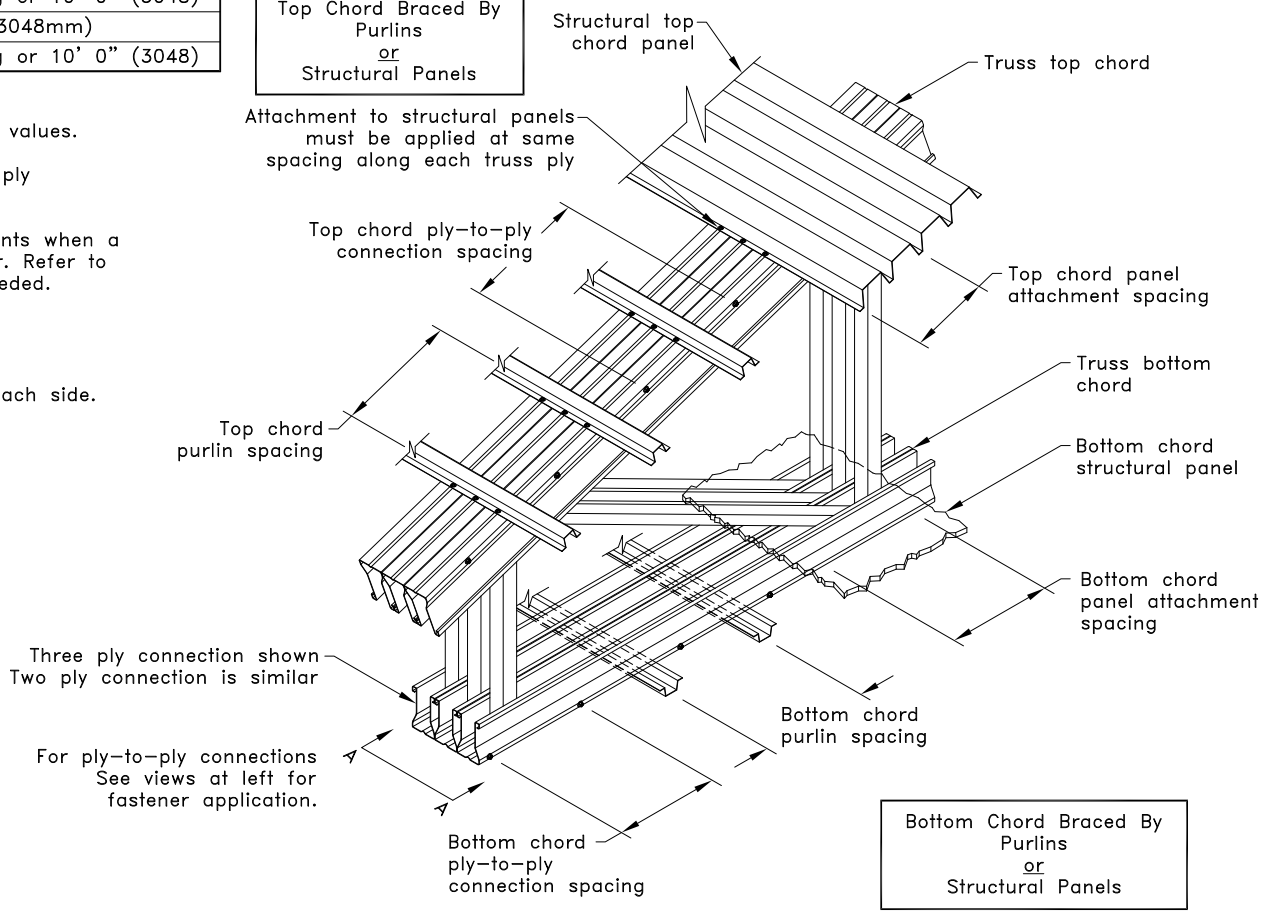


View A–A
2–Ply Connection



View A–A
3–Ply Connection

Top Chord Braced By Purlins or Structural Panels



Bottom Chord Braced By Purlins or Structural Panels

General Notes:

1. Purlins or structural panels must be adequately attached to at least one ply of the truss assembly along the entire top chord and bottom chord length.
2. Refer to approved truss drawings for chord bracing assumptions.
3. Refer to TrusSteel Technical Bulletin 01.04.20 for important information regarding ply–to–ply connections.

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Multiple Member Truss Ply-To-Ply Connections

Standard Detail: TS057

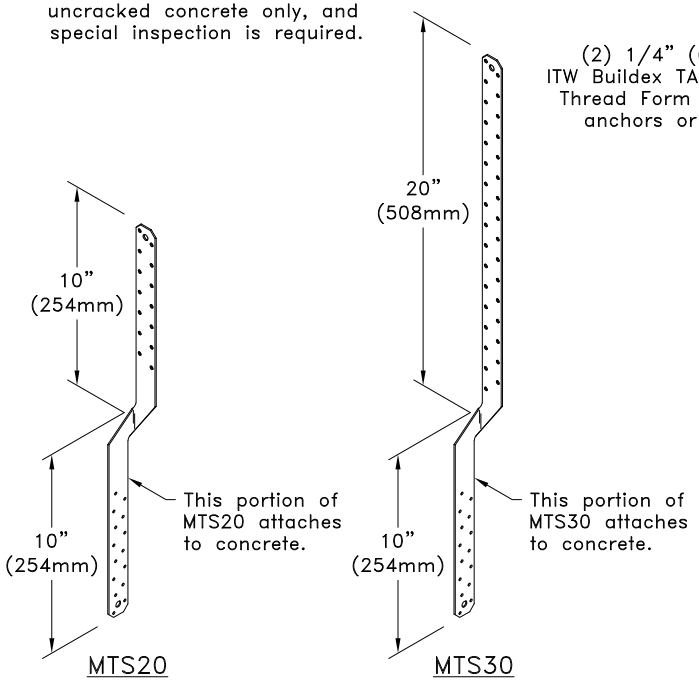
Date: 06/01/22

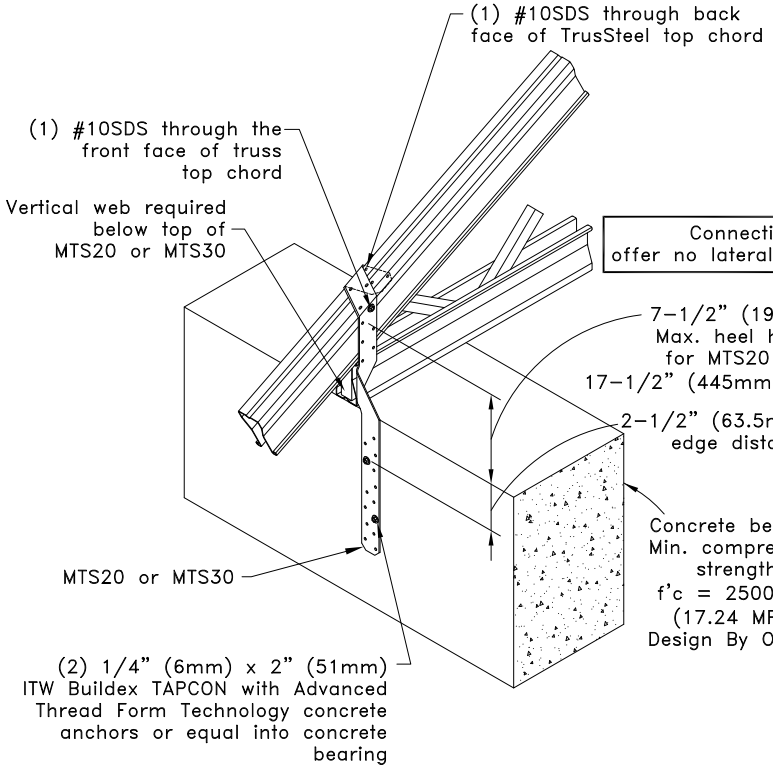
TrusSteel Detail Category: Ply-To-Ply Connections

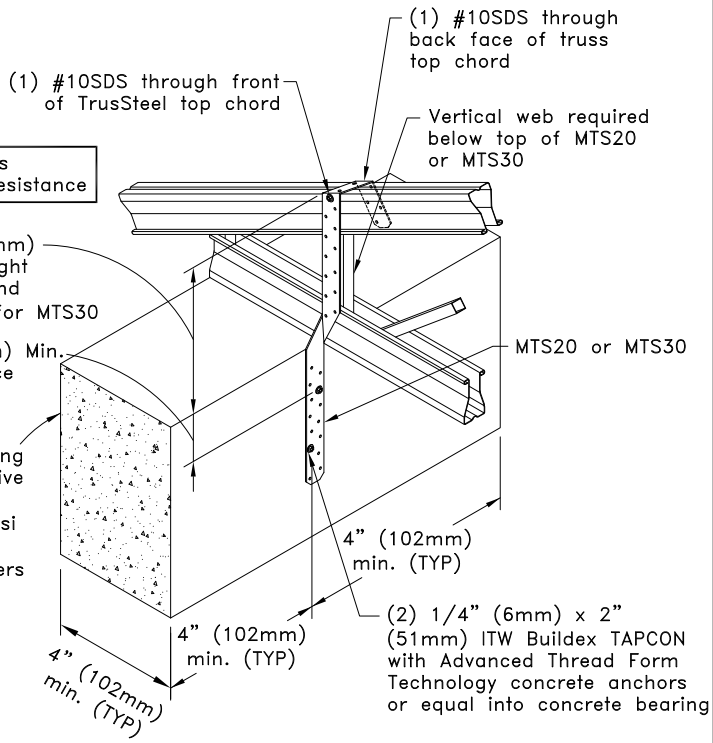
Contact a TrusSteel engineer if the approved truss drawing has been analyzed with a bearing under the bottom chord. Resisting uplift at the top chord of the truss changes the truss analysis.

Allowable Uplift lbs (kN)[A]		
Top Chord	MTS on one face	MTS on both faces
28TSC2.75	400 (1.78)	800 (3.56)
33TSC2.75	510 (2.27)	1020 (4.54)
43TSC2.75	550 (2.45)	1520 (6.76)
28TSC3.00 or 28TSC4.00	400 (1.78)	800 (3.56)
33TSC3.00 or 33TSC4.00	510 (2.27)	1020 (4.54)
43TSC3.00 or 43TSC4.00	760 (3.38)	1520 (6.76)
54TSC3.00 or 54TSC4.00	850 (3.78)	1700 (7.56)
68TSC4.00		
97TSC4.00		

A. Per ICC ESR-2202 (October, 2021), the design values given above are for uncracked concrete only, and special inspection is required.







General Notes:

1. 2-Ply trusses require a strap on each face. For connection to 3-Ply trusses contact a TrusSteel engineer.
2. SDS = self-drilling tapping screw. #10SDS end distance, edge distance and spacing is 9/16" (14mm) minimum.
3. TAPCON shear values into concrete are per ICC ESR-2202 (October, 2021). Refer to ICC ESR-2202 regarding proper installation of anchor and requirements of special inspection.
4. TAPCON concrete minimum anchor spacing is 4" (102mm). Minimum edge distance is 2-1/2" (63.5mm).
5. TAPCON concrete anchor shall not be installed until concrete has reached the specified design strength.
6. If a MTS is required on both faces, attach the second MTS to the opposite face of the chord as detailed and apply them to the same face of the wall.
7. Truss shall be designed with at least one vertical web over the bearing.
8. It is permissible to substitute an equal alternative for the Simpson Strong-Tie hardware specified on this detail.
9. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Simipson MTS20 & MTS30 (or equal) Uplift Attachment Over Top Of Truss Into Face Of Concrete Bearing

Standard Detail: TS058

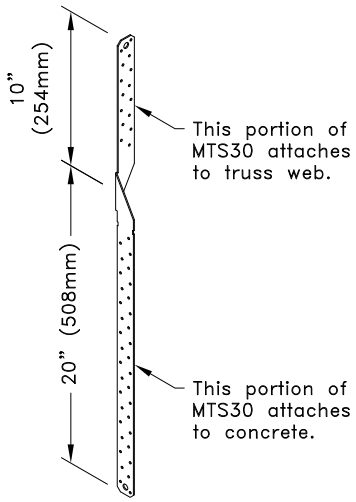
Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Concrete

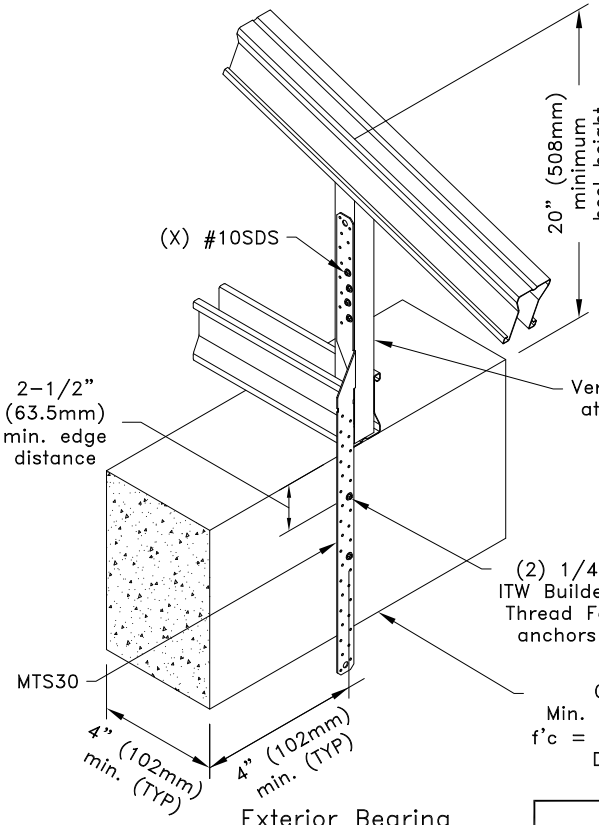
Contact a TrusSteel engineer if the approved truss drawing has been analyzed with a bearing under the bottom chord. Resisting uplift at the web of the truss changes the truss analysis.

Allowable U lbs (kN)[A]			
X[B]	MTS on One Face		MTS on Both Faces
	TSC2.75	TSC3.00 or TSC4.00	TSC2.75, TSC3.00 and TSC4.00
2	430 (1.91)	430 (1.91)	860 (3.83)
3	550 (2.45)	650 (2.89)	1300 (5.78)
4	550 (2.45)	850 (3.78)	1710 (7.61)

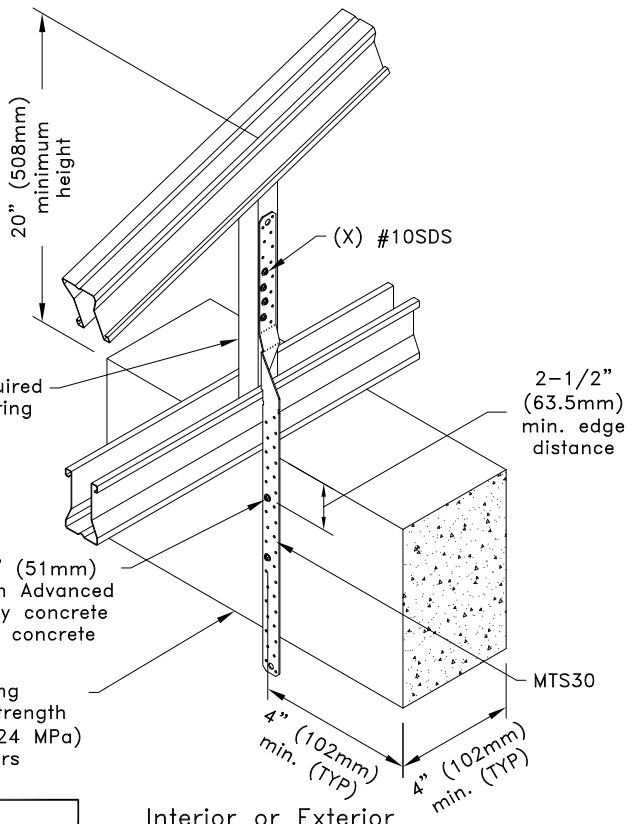
A. Per ICC ESR-2202 (October, 2021), the design values given above are for uncracked concrete only, and special inspection is required.
B. The quantity "X" represents the required number of #10 self-drilling tapping screws.



MTS30



Exterior Bearing Condition



Interior or Exterior Bearing Condition

Connections offer no lateral resistance

General Notes:

1. 2-Ply trusses require a strap on each face. For connection to 3-Ply trusses contact a TrusSteel engineer.
2. SDS = self-drilling tapping screw. #10SDS end distance, edge distance and spacing is 9/16" (14mm) minimum.
3. TAPCON shear values into concrete are per ICC ESR-2202 (October, 2021). Refer to ICC ESR-2202 regarding proper installation of anchor and requirements of special inspection.
4. TAPCON concrete minimum anchor spacing is 4" (102mm). Minimum edge distance is 2-1/2" (63.5mm).
5. TAPCON concrete anchor shall not be installed until concrete has reached the specified design strength.
6. If a MTS30 is required on both faces, attach the second MTS30 to the opposite face of the chord as detailed and apply them to the same face of the wall.
7. It is permissible to substitute an equal alternative for the Simpson Strong-Tie hardware specified on this detail.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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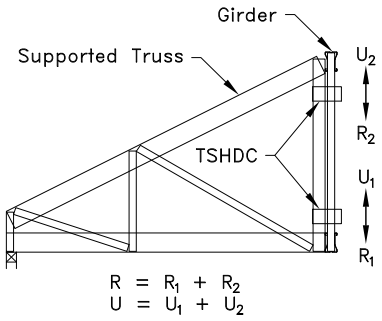
Simpson MTS30 (or equal) Uplift Attachment To Truss Vertical Web Into Face Of Concrete Bearing

Standard Detail: TS058A

Date: 06/01/22

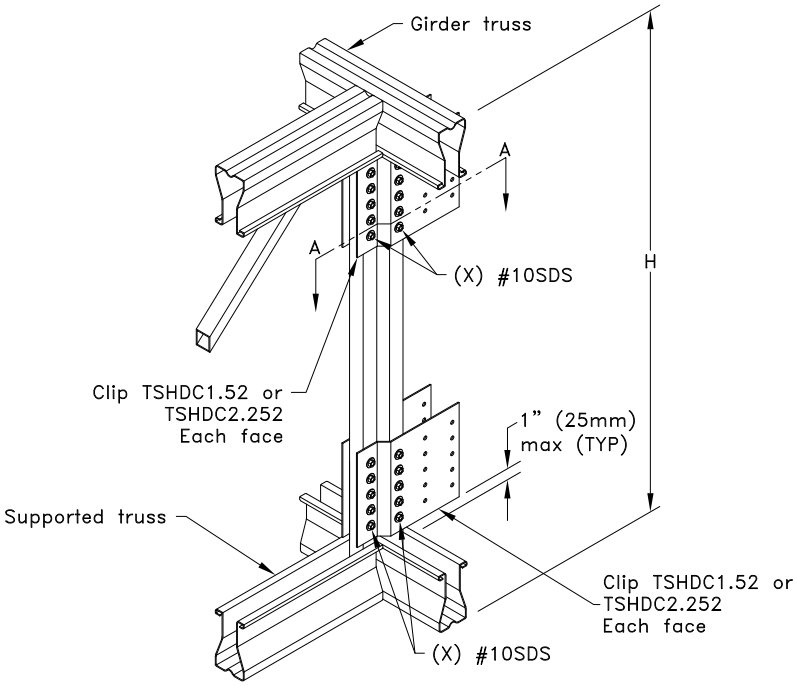
TrusSteel Detail Category: Truss-To-Bearing: Concrete

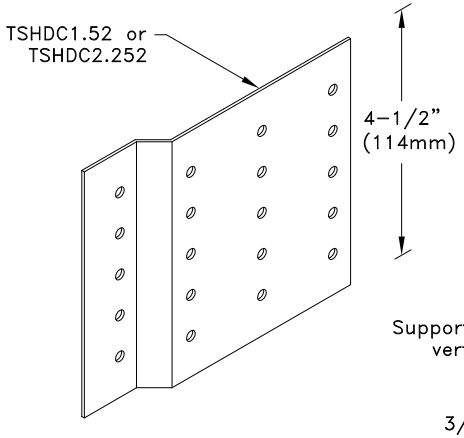


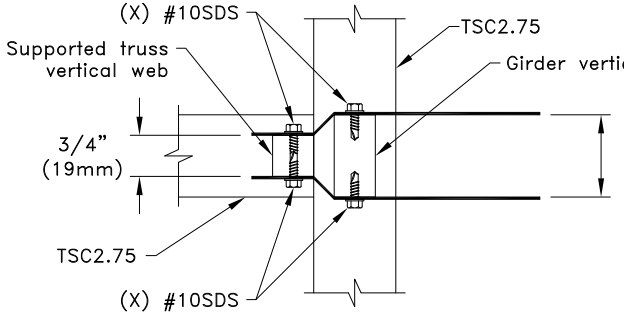
Typical Supported Truss to Girder Connection

Allowable Reaction and Uplift lbs (kN)	
X[A]	H = 24 in. (610mm) minimum R = U lbs (kN)[B]
4	3300 (14.58)
5	3500 (15.57)

A. The quantity "X" refers to the number of #10SDS (Self-Drilling Tapping Screws) that are required on each side of each clip into the web member.
B. R = Allowable Reaction, U = Allowable Uplift







If girder vertical web is:
1-1/2" (38mm) use clip TSHDC1.52 or
2-1/4" (57mm) use clip TSHDC2.252

Section A-A

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. Screw spcing, edge distance and end distance is 9/16" (14mm) minimum.
3. The supported truss must be designed utilizing a clip bearing type.
4. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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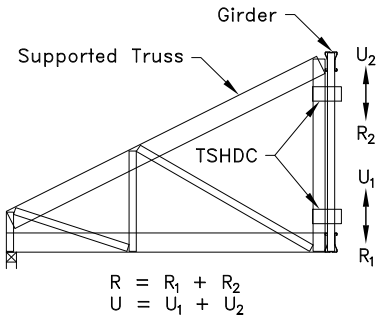
Heavy TSC2.75 Truss-To-Truss Connection (1 Ply Girder)

Standard Detail: TS059

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections

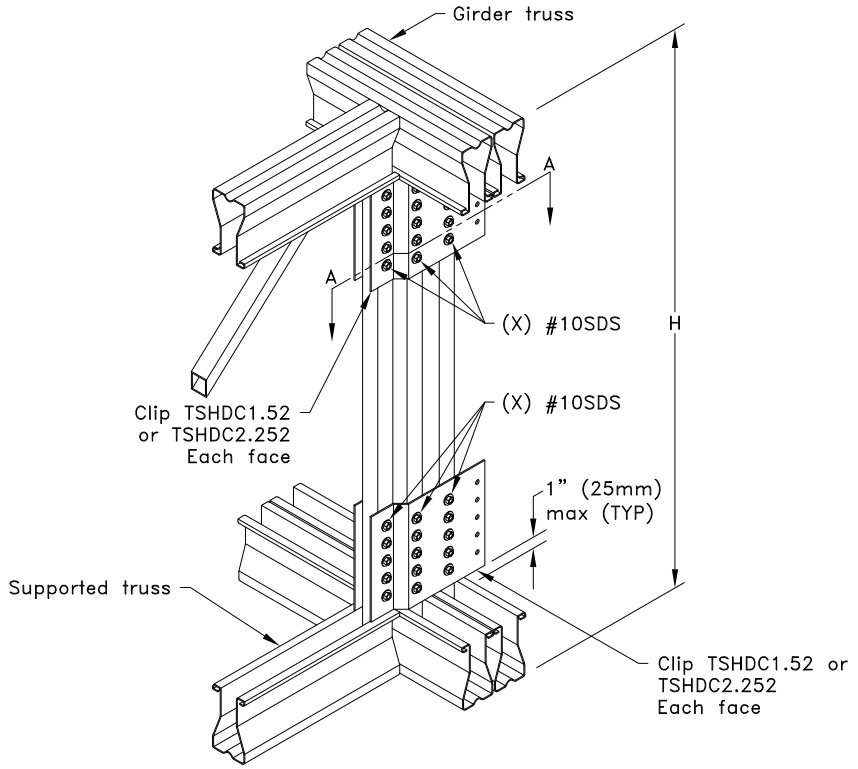


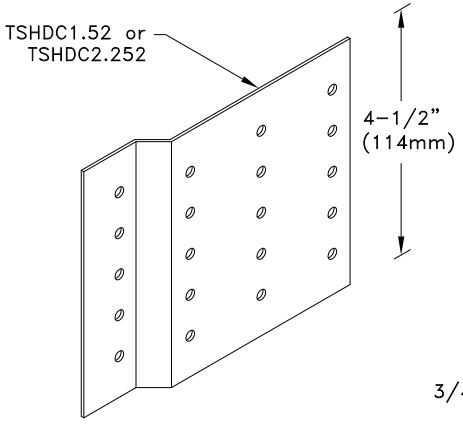
$R = R_1 + R_2$
$U = U_1 + U_2$

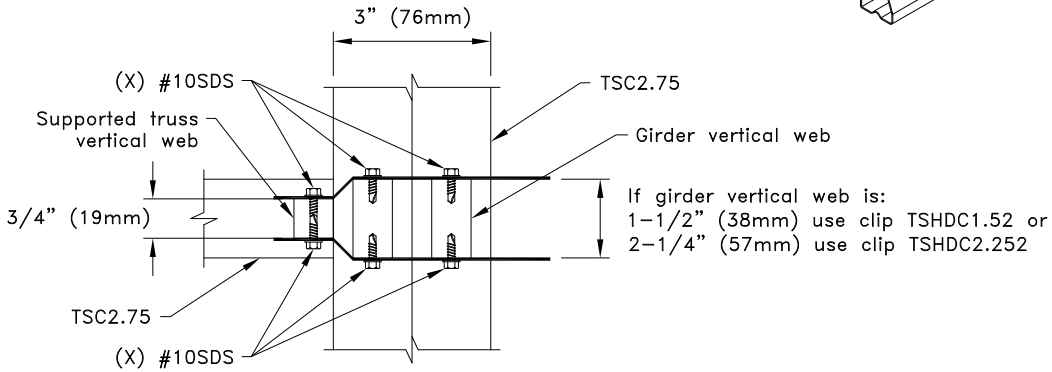
Typical Supported Truss to Girder Connection

Allowable Reaction and Uplift lbs (kN)	
X[A]	H = 24 in. (610mm) minimum R = U lbs (kN)[B]
4	3300 (14.58)
5	3500 (15.57)

A. The quantity "X" refers to the number of #10SDS (Self-Drilling Tapping Screws) that are required on each side of each clip into the web member.
B. R = Allowable Reaction, U = Allowable Uplift







Section A-A

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. Screw spcing, edge distance and end distance is 9/16" (14mm) minimum.
3. The supported truss must be designed utilizing a clip bearing type.
4. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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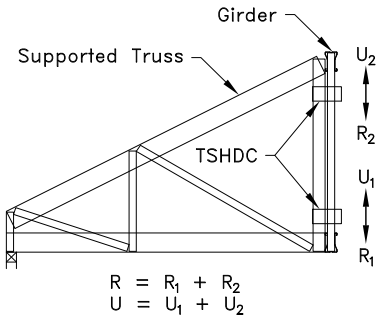
Heavy TSC2.75 Truss-To-Truss Connection (2 Ply Girder)

Standard Detail: TS059A

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections

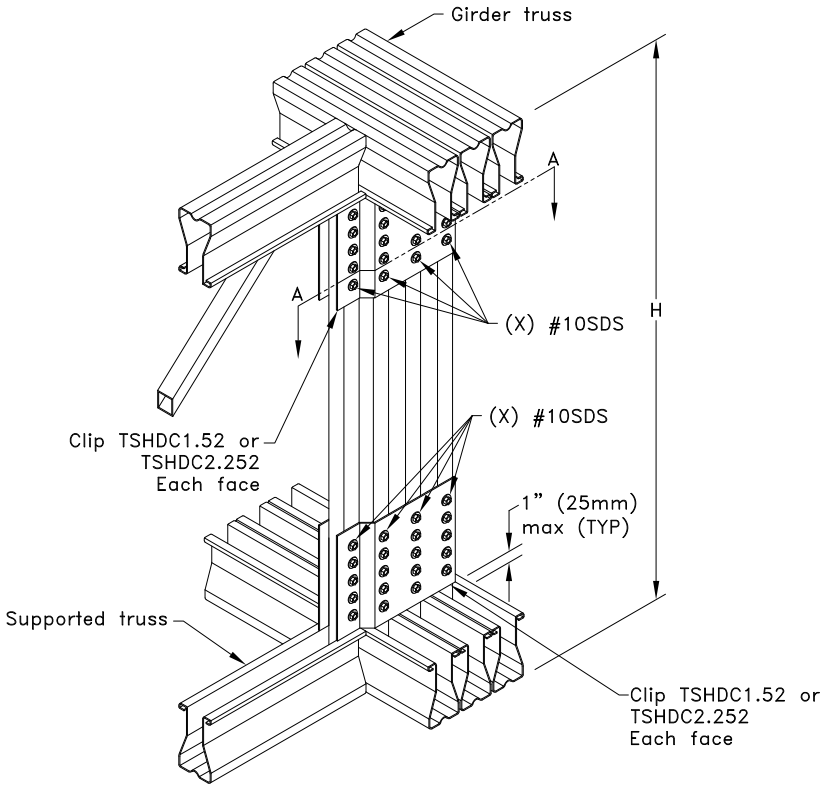


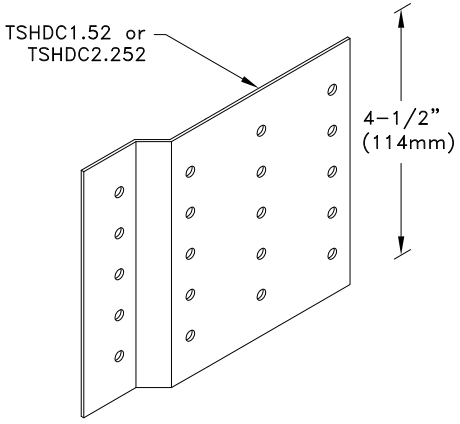
$R = R_1 + R_2$
$U = U_1 + U_2$

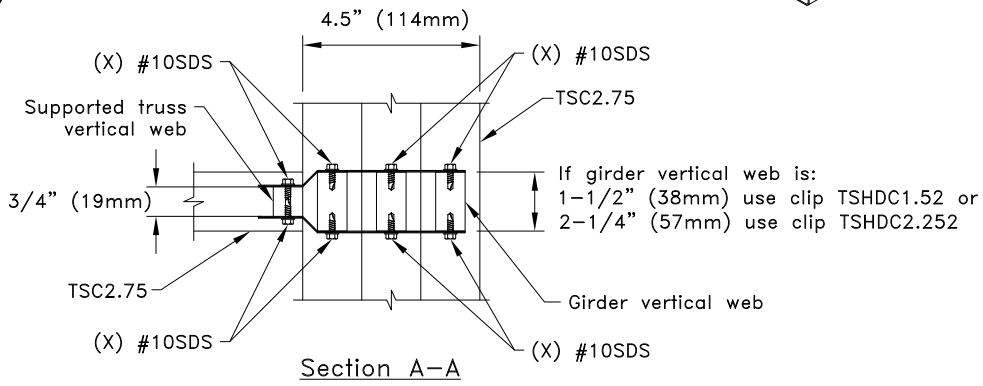
Typical Supported Truss to Girder Connection

Allowable Reaction and Uplift lbs (kN)	
X[A]	H = 24 in. (610mm) minimum R = U lbs (kN)[B]
4	3300 (14.58)
5	3500 (15.57)

A. The quantity "X" refers to the number of #10SDS (Self-Drilling Tapping Screws) that are required on each side of each clip into the web member.
B. R = Allowable Reaction, U = Allowable Uplift







Section A-A

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. Screw spcing, edge distance and end distance is 9/16" (14mm) minimum.
3. The supported truss must be designed utilizing a clip bearing type.
4. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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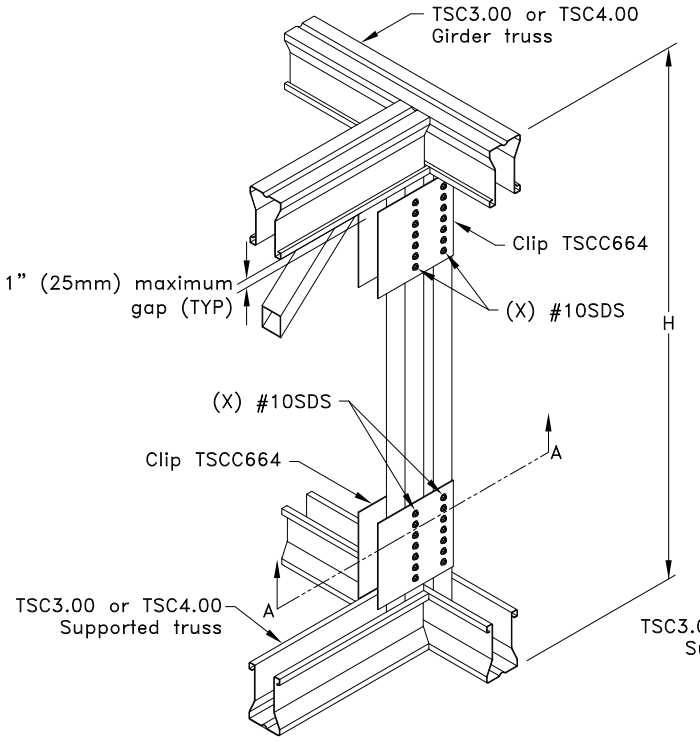
Heavy TSC2.75 Truss-To-Truss Connection (3 Ply Girder)

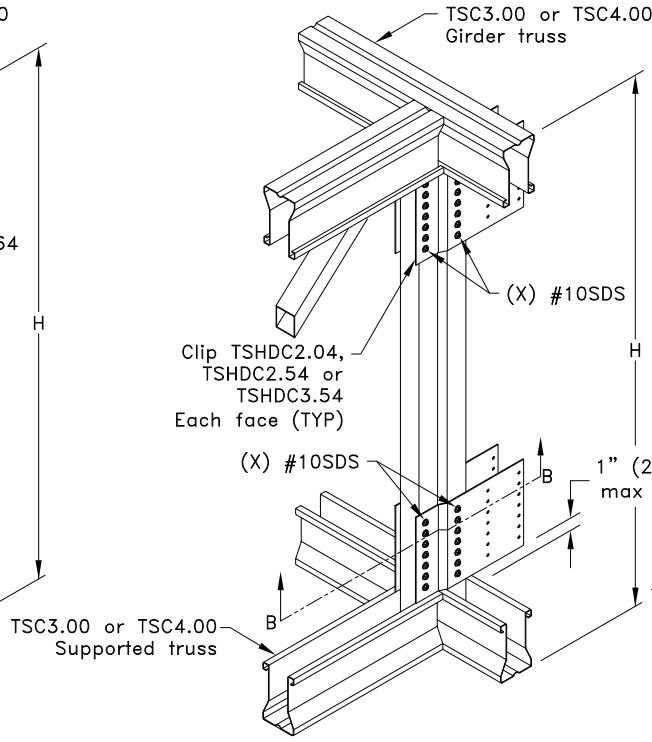
Standard Detail: TS059B

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections



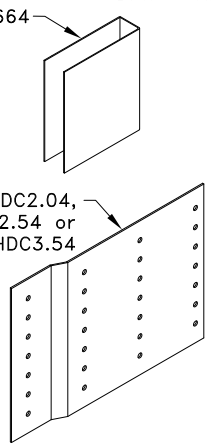
3D View of TSCC664 Clip Conn.

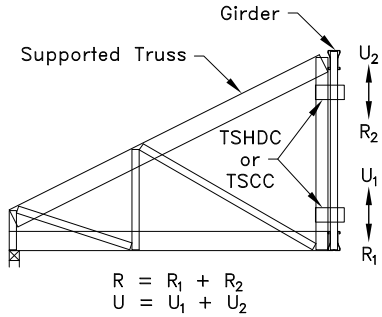


3D View of TSHDC Clip Conn.

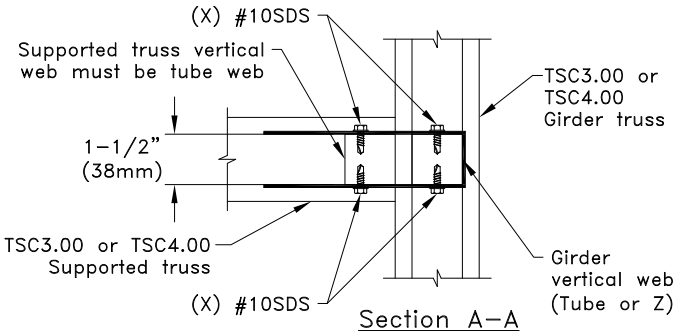
Allowable Reaction and Uplift lbs (kN)	
X[A]	H = 24 in. (610mm) minimum R = U lbs (kN)[B]
5	3000 (13.34)
6	4000 (17.79)
7	4700 (20.91)

A. The quantity "X" refers to the number of #10SDS (Self-Drilling Tapping Screws) that are required on each side of each clip into the web member.
B. R = Allowable Reaction, U = Allowable Uplift



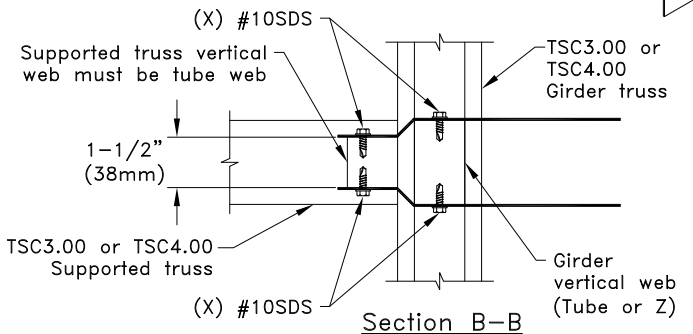


Typical Supported Truss to Girder Connection



Section A–A

If width of girder vertical web is:
1-1/2" (38mm) use clip TSCC664



Section B–B

If width of girder vertical web is:
2" (51mm) use clip TSHDC2.04
2-1/2" (64mm) use clip TSHDC2.54
3-1/2" (90mm) use clip TSHDC3.54

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. Screw spcing, edge distance and end distance is 9/16" (14mm) minimum.
3. The supported truss must be designed utilizing a clip bearing type.
4. If supported truss web is a Z-web, refer to TS060C for connection.
5. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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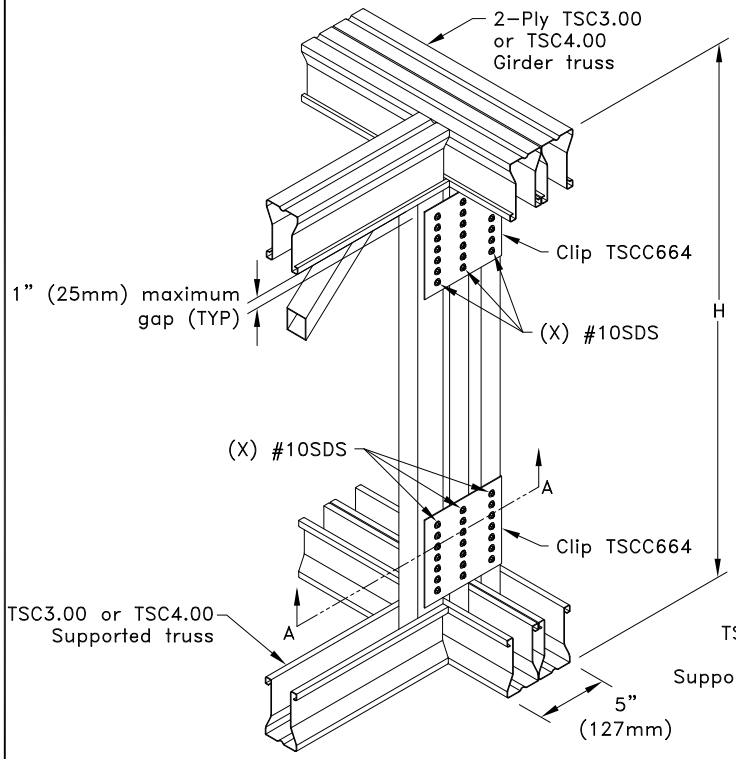
Heavy TSC3.00 or TSC4.00 Truss-To-Truss Connection (1 Ply Girder) Tube Webs

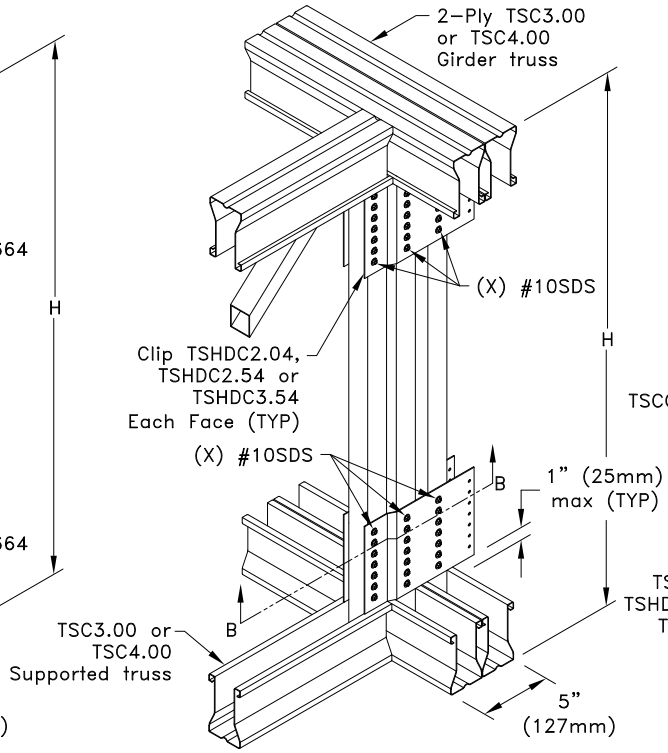
Standard Detail: TS060

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections



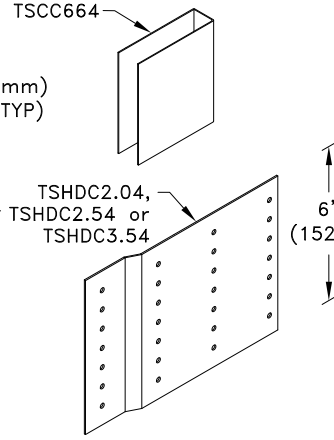
3D View of TSCC664 Clip Conn.

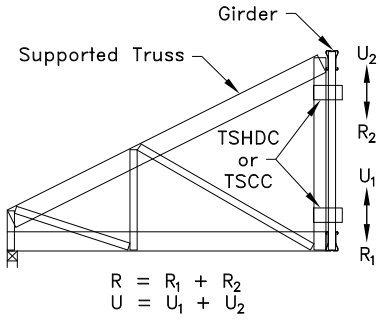


3D View of TSHDC Clip Conn.

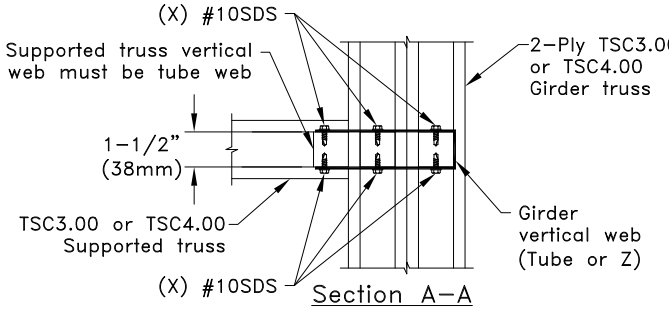
Allowable Reaction and Uplift lbs (kN)	
X[A]	H = 24 in. (610mm) minimum R = U lbs (kN)[B]
5	3000 (13.34)
6	4000 (17.79)
7	4700 (20.91)

A. The quantity "X" refers to the number of #10SDS (Self-Drilling Tapping Screws) that are required on each side of each clip into the web member.
B. R = Allowable Reaction, U = Allowable Uplift



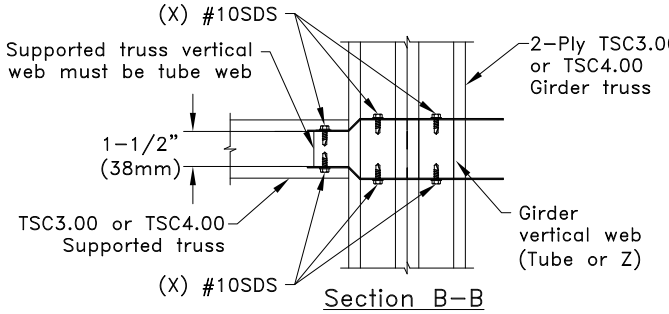


Typical Supported Truss to Girder Connection



Section A-A

If width of girder vertical web is:
1-1/2" (38mm) use clip TSCC664



Section B-B

If width of girder vertical web is:
2" (51mm) use clip TSHDC2.04
2-1/2" (64mm) use clip TSHDC2.54
3-1/2" (90mm) use clip TSHDC3.54

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. Screw spcing, edge distance and end distance is 9/16" (14mm) minimum.
3. The supported truss must be designed utilizing a clip bearing type.
4. If supported truss web is a Z-web, refer to TS060C for connection.
5. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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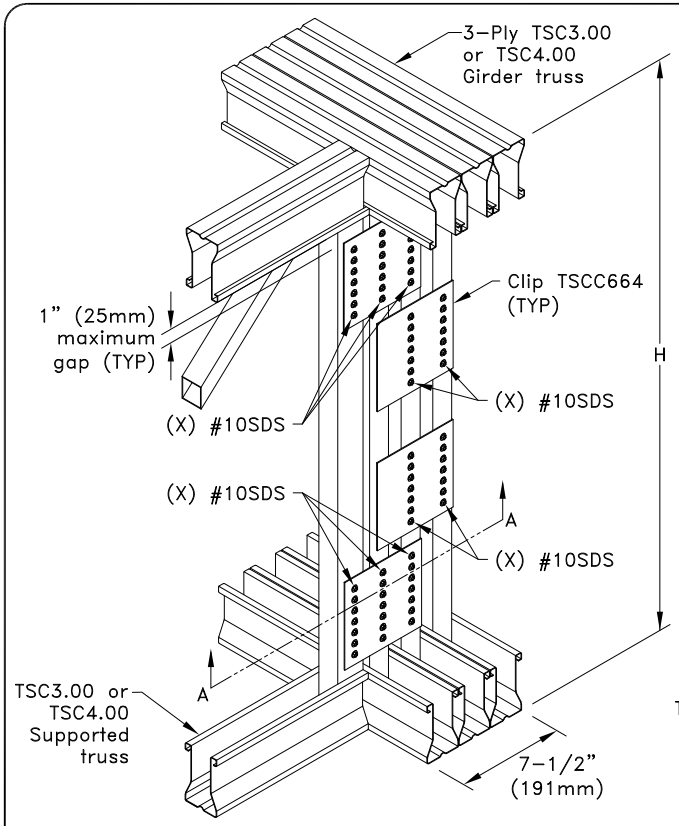
Heavy TSC3.00 or TSC4.00 Truss-To-Truss Connection (2 Ply Girder) Tube Webs

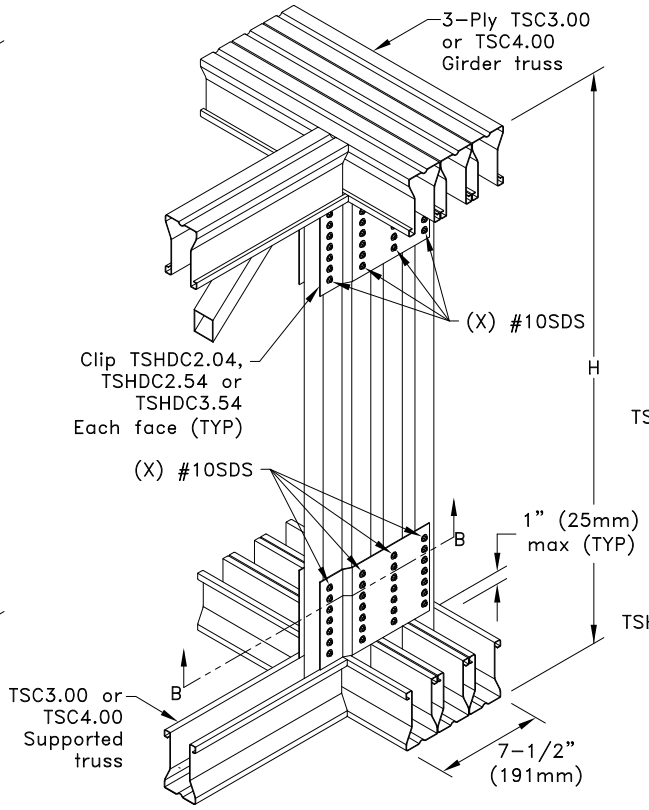
Standard Detail: TS060A

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections



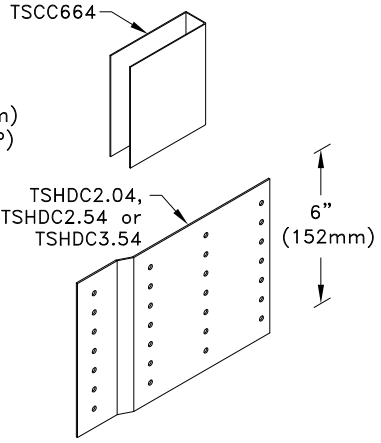
3D View of TSCC664 Clip Conn.

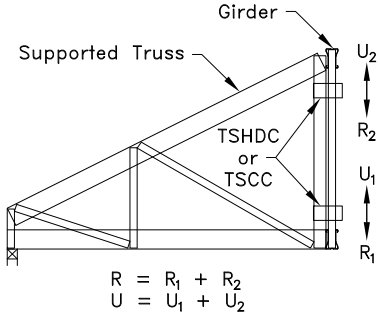


3D View of TSHDC Clip Conn.

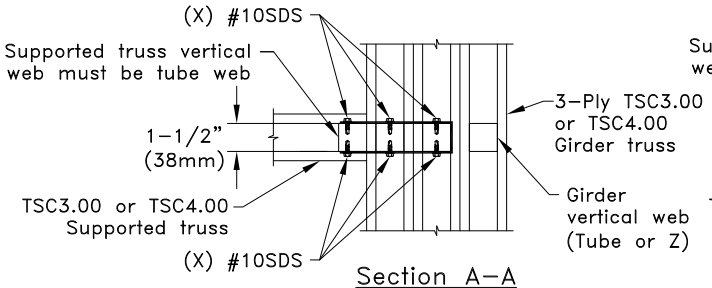
Allowable Reaction and Uplift lbs (kN)	
X^A	H = 24 in. (610mm) minimum R = U lbs (kN)^B
5	3000 (13.34)
6	4000 (17.79)
7	4700 (20.91)

A. The quantity "X" refers to the number of #10SDS (Self-Drilling Tapping Screws) that are required on each side of each clip into the web member.
B. R = Allowable Reaction, U = Allowable Uplift



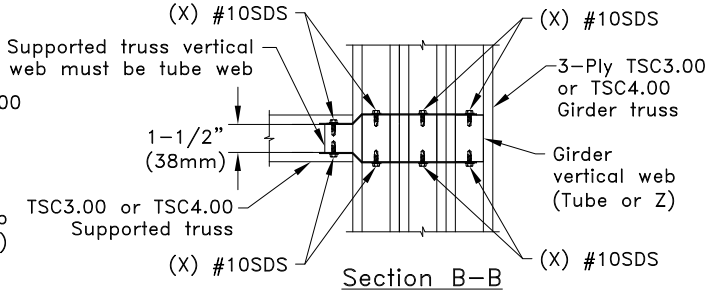


Typical Supported Truss to Girder Connection



Section A-A

If width of girder vertical web is:
1-1/2" (38mm) use clip TSCC664



Section B-B

If width of girder vertical web is:
2" (51mm) use clip TSHDC2.04
2-1/2" (64mm) use clip TSHDC2.54
3-1/2" (90mm) use clip TSHDC3.54

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. Screw spcing, edge distance and end distance is 9/16" (14mm) minimum.
3. The supported truss must be designed utilizing a clip bearing type.
4. If supported truss web is a Z-web, refer to TS060C for connection.
5. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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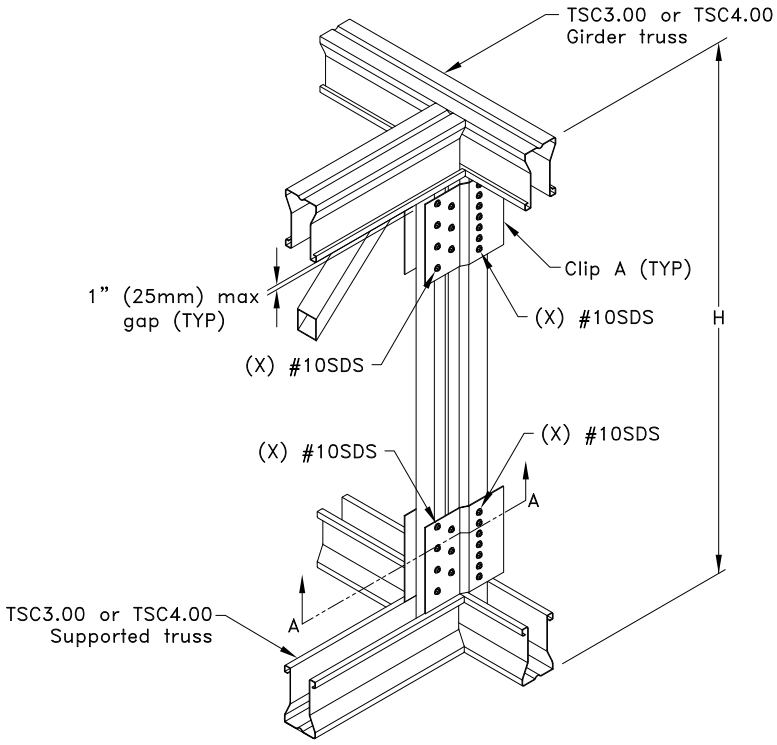
Heavy TSC3.00 or TSC4.00 Truss-To-Truss Connection (3 Ply Girder) Tube Webs

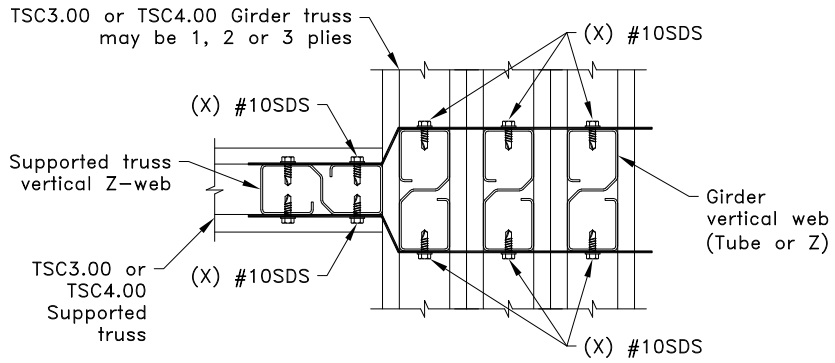
Standard Detail: TS060B

Date: 06/01/22

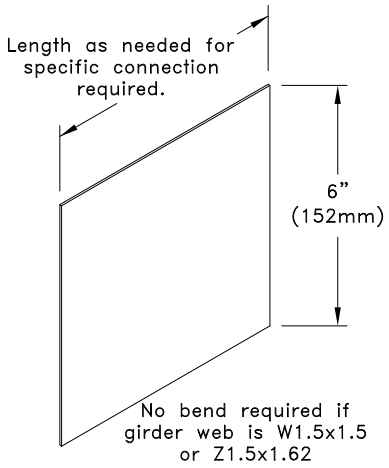
TrusSteel Detail Category: Truss-To-Truss Connections

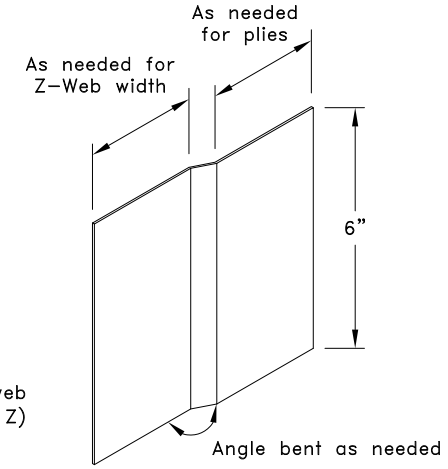


3D View of Clip Connection



Section A–A

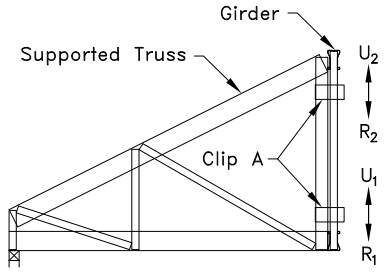




Clip A
16ga. ASTM A653 Grade 33 G60
Bare Metal Thickness = 0.0538" (1.37mm)

Allowable Reaction and Uplift lbs (kN)	
X[A]	H = 24 in. (610mm) minimum
	R = U lbs (kN)[B]
5	3000 (13.34)
6	4000 (17.79)
7	4700 (20.91)

A. The quantity "X" refers to the number of #10SDS (Self-Drilling Tapping Screws) that are required on each side of each clip into the web member.
B. R = Allowable Reaction, U = Allowable Uplift



$R = R_1 + R_2$
$U = U_1 + U_2$

Typical Supported Truss to Girder Connection

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. Screw spcing, edge distance and end distance is 9/16" (14mm) minimum.
3. The supported truss must be designed utilizing a clip bearing type.
4. Refer to TS068 for connection areas.
5. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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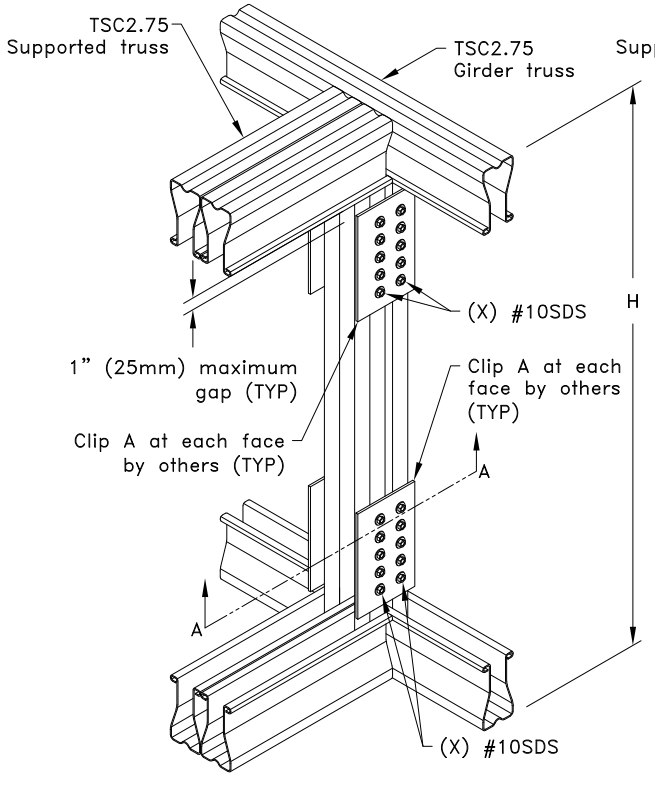
Heavy Duty TSC3.00 or TSC4.00 Truss-To-Truss Connection Up To 3-Ply Girder - Z-Webs

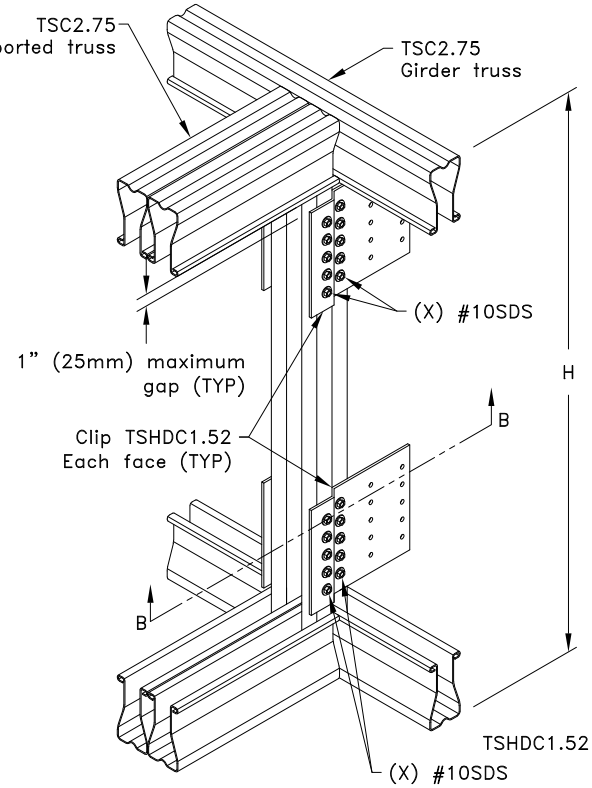
Standard Detail: TS060C

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections



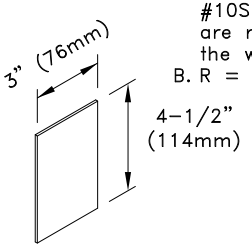
3D View of Clip A Conn.



3D View of TSHDC Clip Conn.

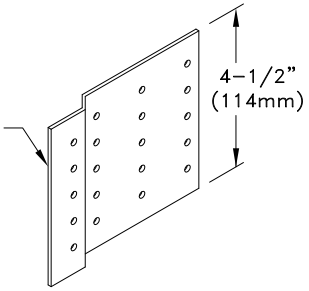
Allowable Reaction and Uplift lbs (kN)	
X[A]	H = 24 in. (610mm) minimum R = U lbs (kN)[B]
4	3300 (14.68)
5	3500 (15.57)

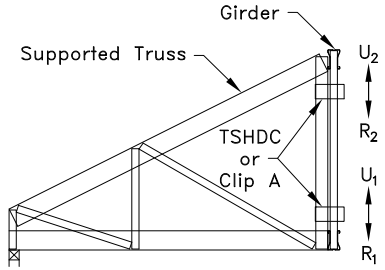
A. The quantity "X" refers to the number of #10SDS (Self-Drilling Tapping Screws) that are required on each side of each clip into the web member.
B. R = Allowable Reaction, U = Allowable Uplift



Clip A

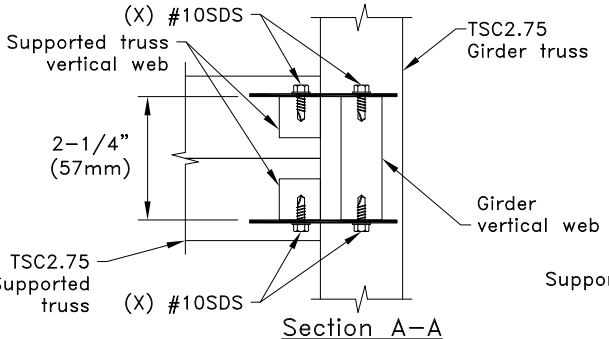
16g ASTM A653 SS Grade 33 G60
Minimum bare metal thickness:
t = 0.0538" (1.37mm)
(Supplied by others)





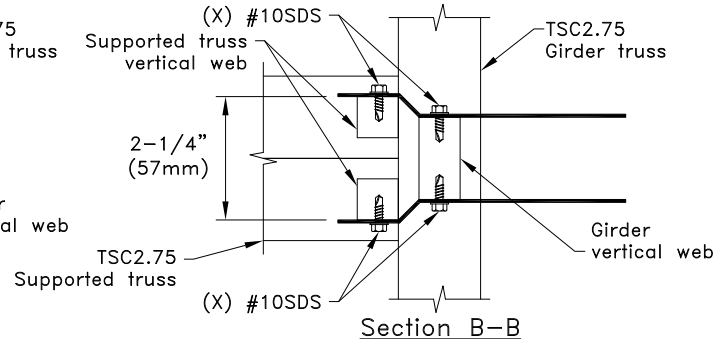
$R = R_1 + R_2$
$U = U_1 + U_2$

Typical Supported Truss to Girder Connection



Section A-A

If width of girder vertical web is:
2-1/4" (57mm) use clip A
by others.



Section B-B

If width of girder vertical web is:
1-1/2" (38mm) use clip TSHDC1.52

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
3. The supported truss must be designed utilizing a clip bearing type.
4. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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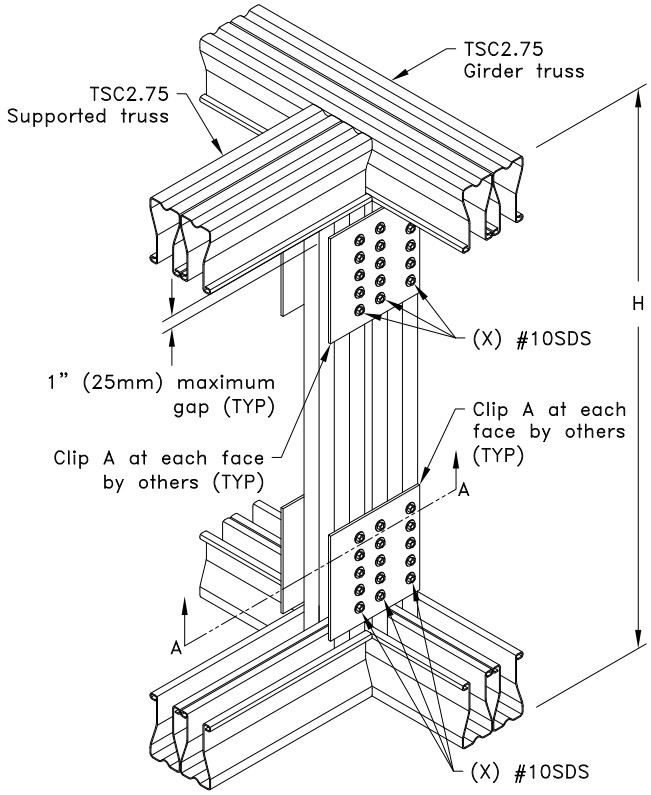
Heavy 2-Ply TSC2.75 Truss-To-Truss Connection (1 Ply Girder) Tube Webs

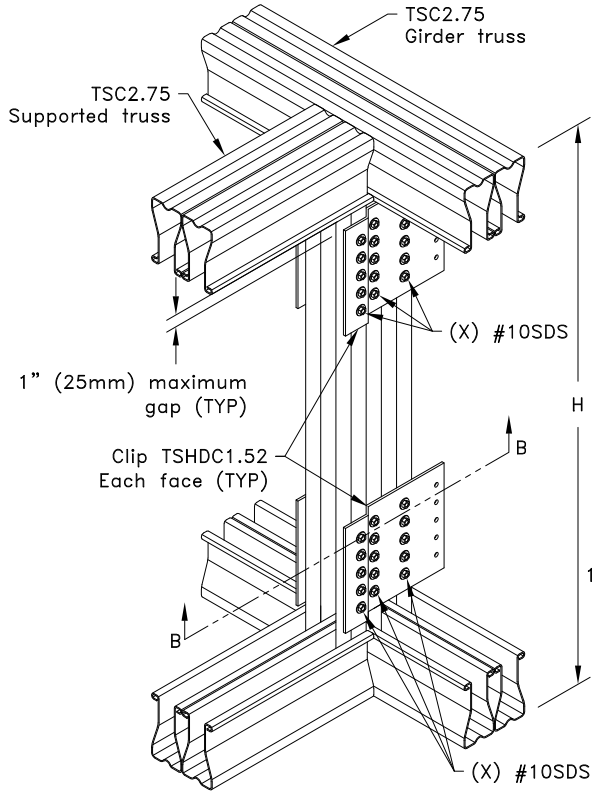
Standard Detail: TS061

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections



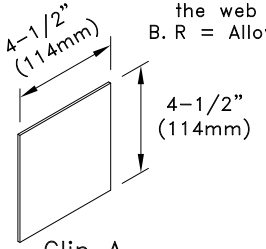
3D View of Clip A Conn.



3D View of TSHDC Clip Conn.

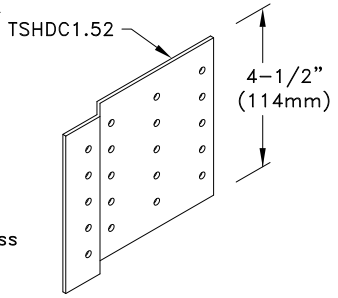
Allowable Reaction and Uplift lbs (kN)	
X[A]	H = 24 in. (610mm) minimum R = U lbs (kN)[B]
4	3300 (14.68)
5	3500 (15.57)

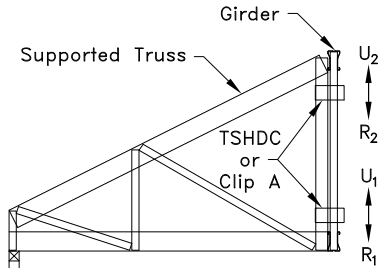
A. The quantity "X" refers to the number of #10SDS (Self-Drilling Tapping Screws) that are required on each side of each clip into the web member.
B. R = Allowable Reaction, U = Allowable Uplift



Clip A

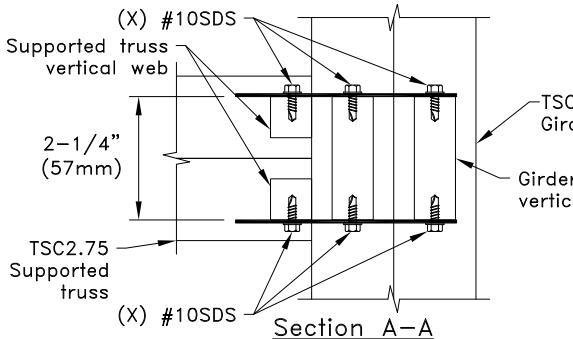
16g ASTM A653 SS Grade 33 G60
Minimum Bare metal thickness:
t = 0.0538" (1.37mm)
(Supplied by others)





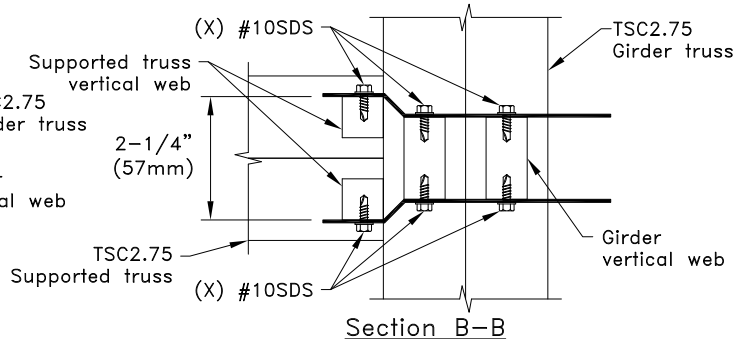
$R = R_1 + R_2$
$U = U_1 + U_2$

Typical Supported Truss to Girder Connection



Section A-A

If width of girder vertical web is:
2-1/4" (57mm) use clip A
by others.



Section B-B

If width of girder vertical web is:
1-1/2" (38mm) use clip TSHDC1.52

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
3. The supported truss must be designed utilizing a clip bearing type.
4. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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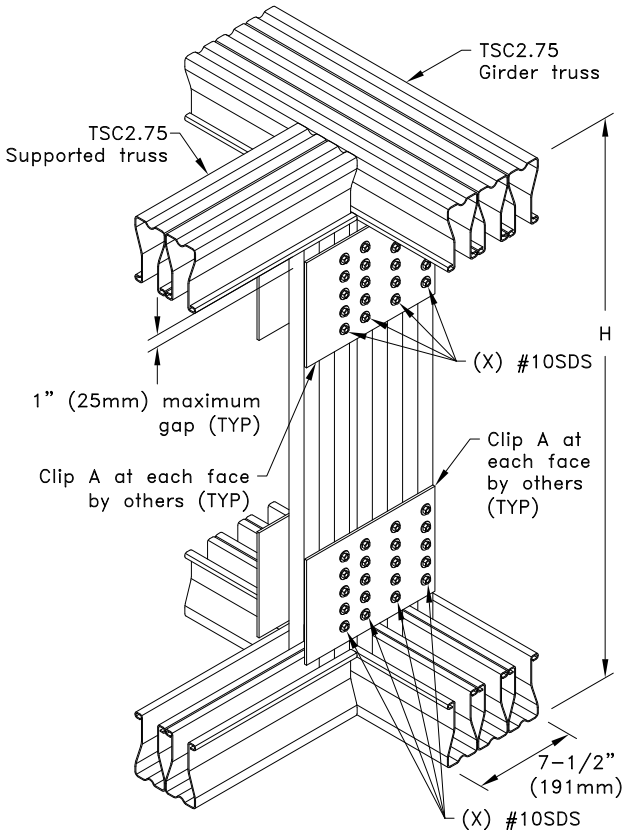
Heavy 2-Ply TSC2.75 Truss-To-Truss Connection (2 Ply Girder) Tube Webs

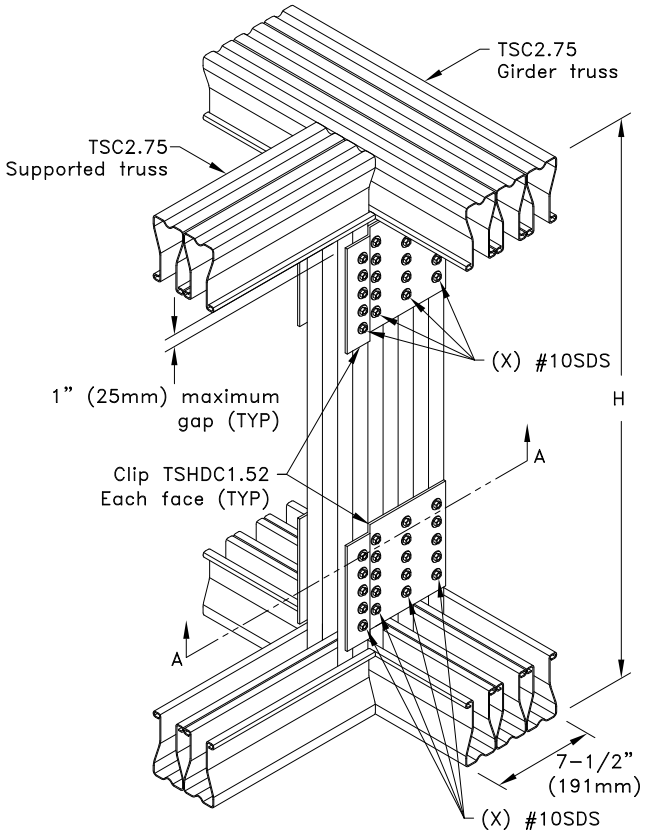
Standard Detail: TS061A

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections



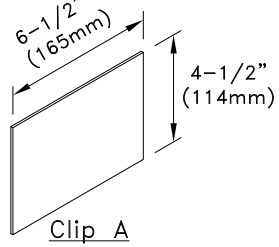
3D View of Clip A Conn.



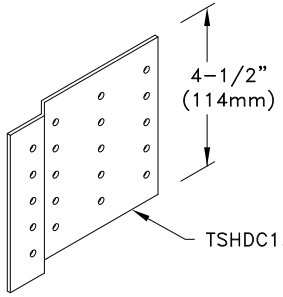
3D View of TSHDC Clip Conn.

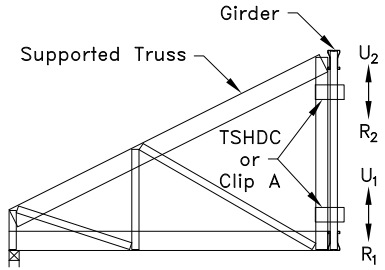
Allowable Reaction and Uplift lbs (kN)	
X[A]	H = 24 in. (610mm) minimum R = U lbs (kN)[B]
4	3300 (14.68)
5	3500 (15.57)

A. The quantity "X" refers to the number of #10SDS (Self-Drilling Tapping Screws) that are required on each side of each clip into the web member.
B. R = Allowable Reaction, U = Allowable Uplift



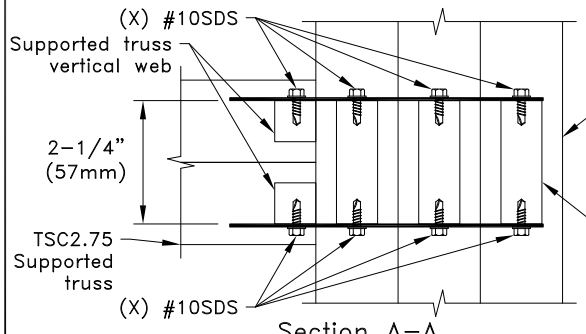
Clip A
16g ASTM A653 SS Grade 33 G60
Minimum bare metal thickness:
t = 0.0538" (1.37mm)
(Supplied by others)





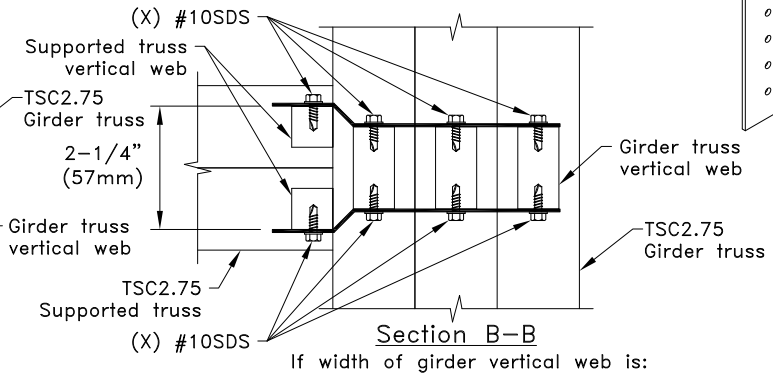
$R = R_1 + R_2$
$U = U_1 + U_2$

Typical Supported Truss to Girder Connection



Section A-A

If width of girder vertical web is:
2-1/4" (57mm) use clip A
by others.



Section B-B

If width of girder vertical web is:
1-1/2" (38mm) use clip TSHDC1.52

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
3. The supported truss must be designed utilizing a clip bearing type.
4. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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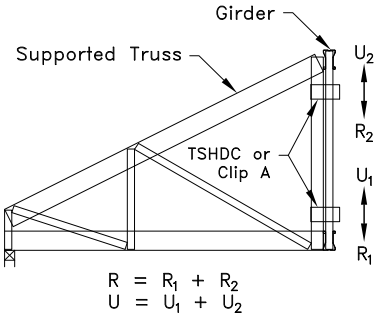
Heavy 2-Ply TSC2.75 Truss-To-Truss Connection (3 Ply Girder) Tube Webs

Standard Detail: TS061B

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections

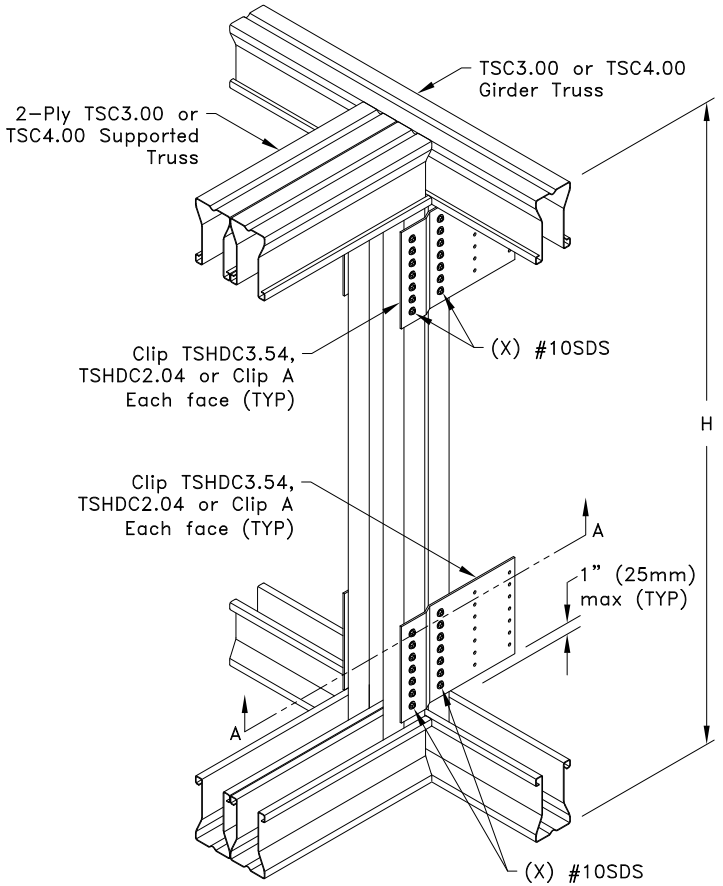


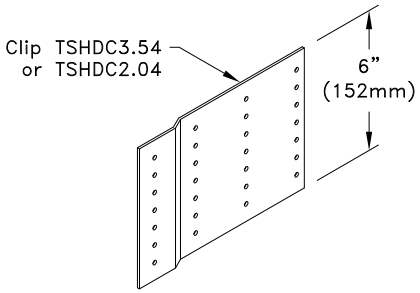
$R = R_1 + R_2$
$U = U_1 + U_2$

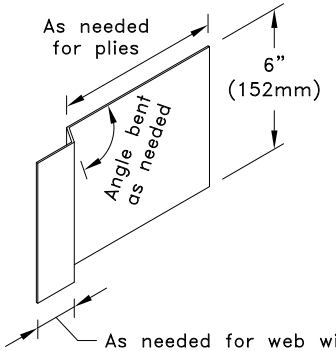
Typical Supported Truss to Girder Connection

Allowable Reaction and Uplift lbs (kN)	
X[A]	H = 24 in. (610mm) minimum R = U lbs (kN)[B]
5	3000 (13.34)
6	4000 (17.79)
7	4700 (20.91)

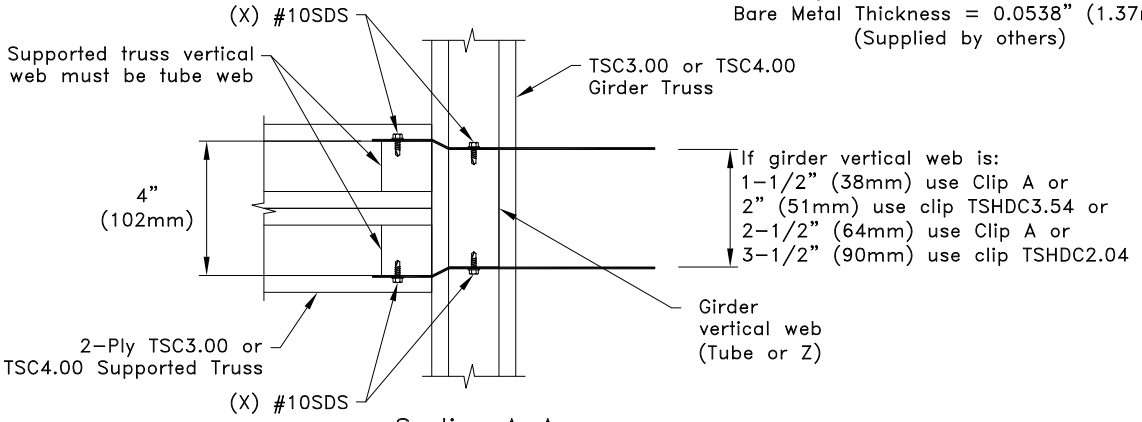
A. The quantity "X" refers to the number of #10SDS (Self-Drilling Tapping Screws) that are required on each side of each clip into the web member.
B. R = Allowable Reaction, U = Allowable Uplift







Clip A
16ga. ASTM A653 Grade 33 G60
Bare Metal Thickness = 0.0538" (1.37mm)
(Supplied by others)



Section A-A

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
3. The supported truss must be designed utilizing a clip bearing type.
4. If supported truss web is a Z-Web, refer to TS062C for connection.
5. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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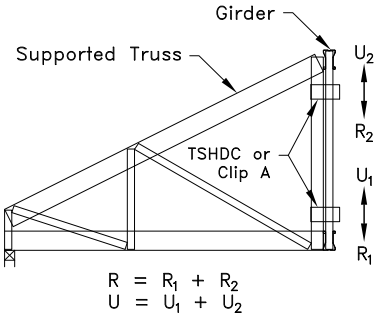
Heavy 2-Ply TSC3.00 or TSC4.00 Truss-To-Truss Connection (1 Ply Girder) Tube Webs

Standard Detail: TS062

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections

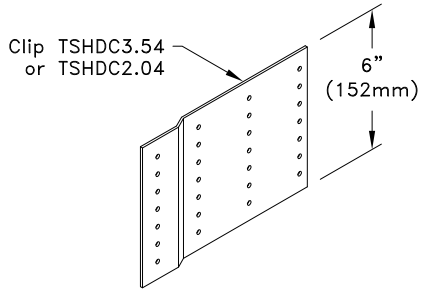


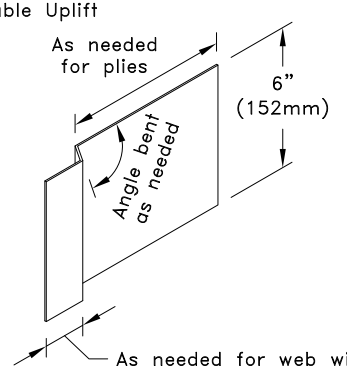
$R = R_1 + R_2$
$U = U_1 + U_2$

Typical Supported Truss to Girder Connection

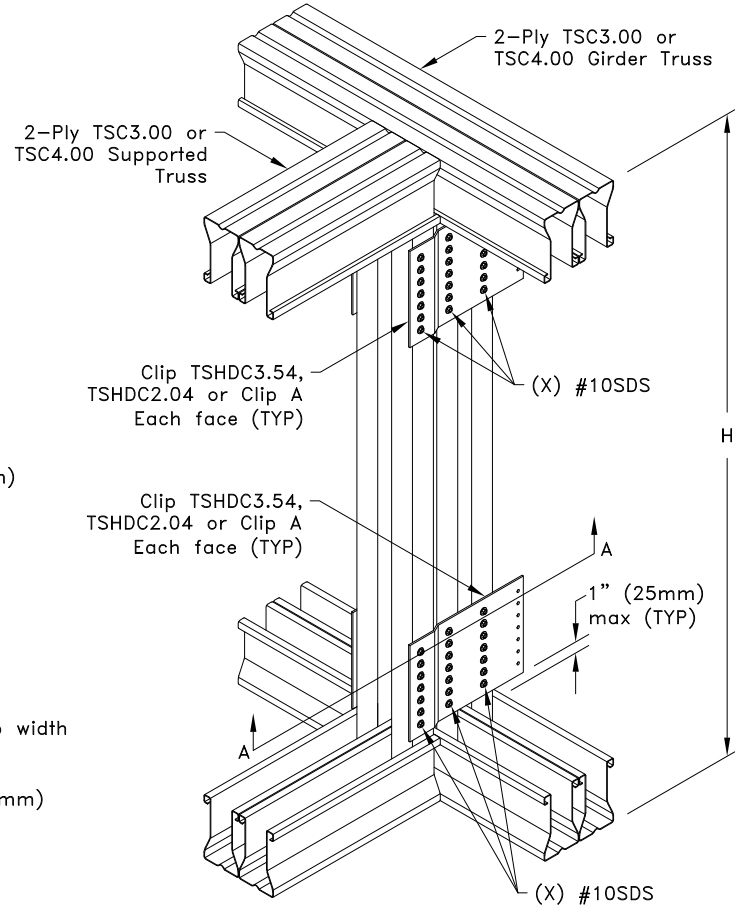
Allowable Reaction and Uplift lbs (kN)	
X[A]	H = 24 in. (610mm) minimum R = U lbs (kN)[B]
5	3000 (13.34)
6	4000 (17.79)
7	4700 (20.91)

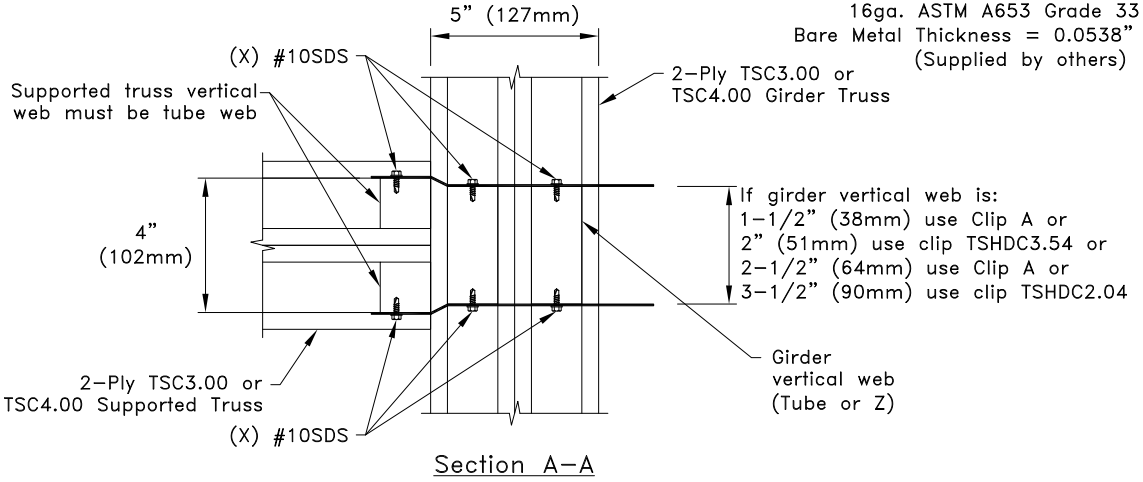
A. The quantity "X" refers to the number of #10SDS (Self-Drilling Tapping Screws) that are required on each side of each clip into the web member.
B. R = Allowable Reaction, U = Allowable Uplift





Clip A
16ga. ASTM A653 Grade 33 G60
Bare Metal Thickness = 0.0538" (1.37mm)
(Supplied by others)





Section A-A

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
3. The supported truss must be designed utilizing a clip bearing type.
4. If supported truss web is a Z-Web, refer to TS062C for connection.
5. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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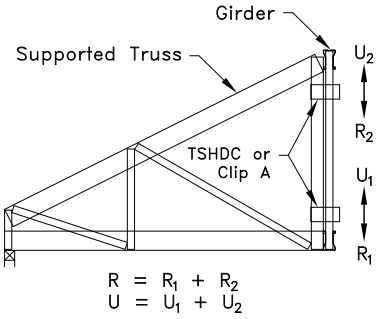
Heavy 2-Ply TSC3.00 or TSC4.00 Truss-To-Truss Connection (2 Ply Girder) Tube Webs

Standard Detail: TS062A

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections

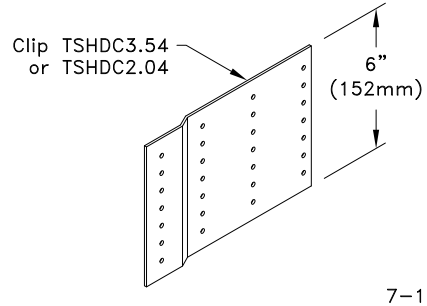


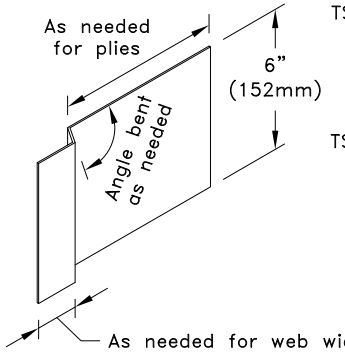
$R = R_1 + R_2$
$U = U_1 + U_2$

Typical Supported Truss to Girder Connection

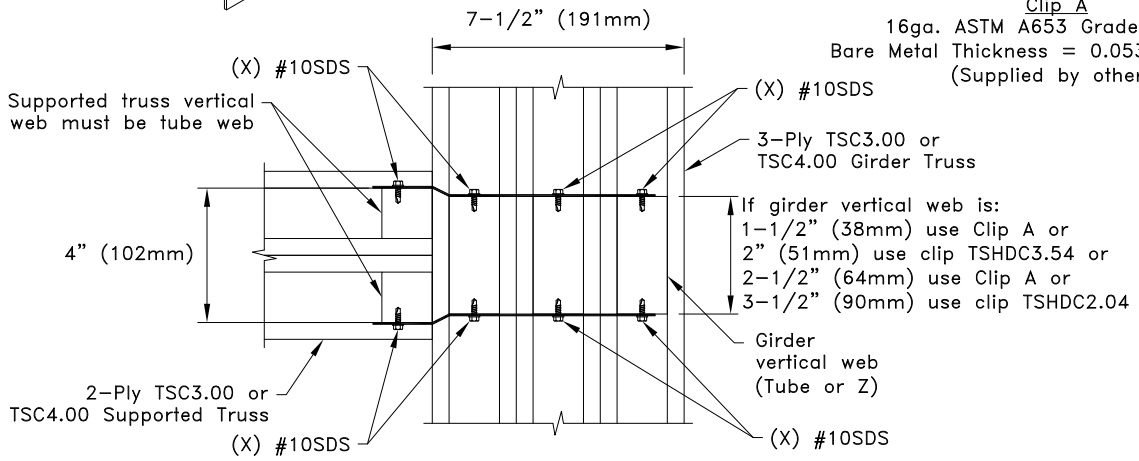
Allowable Reaction and Uplift lbs (kN)	
X[A]	H = 24 in. (610mm) minimum R = U lbs (kN)[B]
5	3000 (13.34)
6	4000 (17.79)
7	4700 (20.91)

A. The quantity "X" refers to the number of #10SDS (Self-Drilling Tapping Screws) that are required on each side of each clip into the web member.
B. R = Allowable Reaction, U = Allowable Uplift

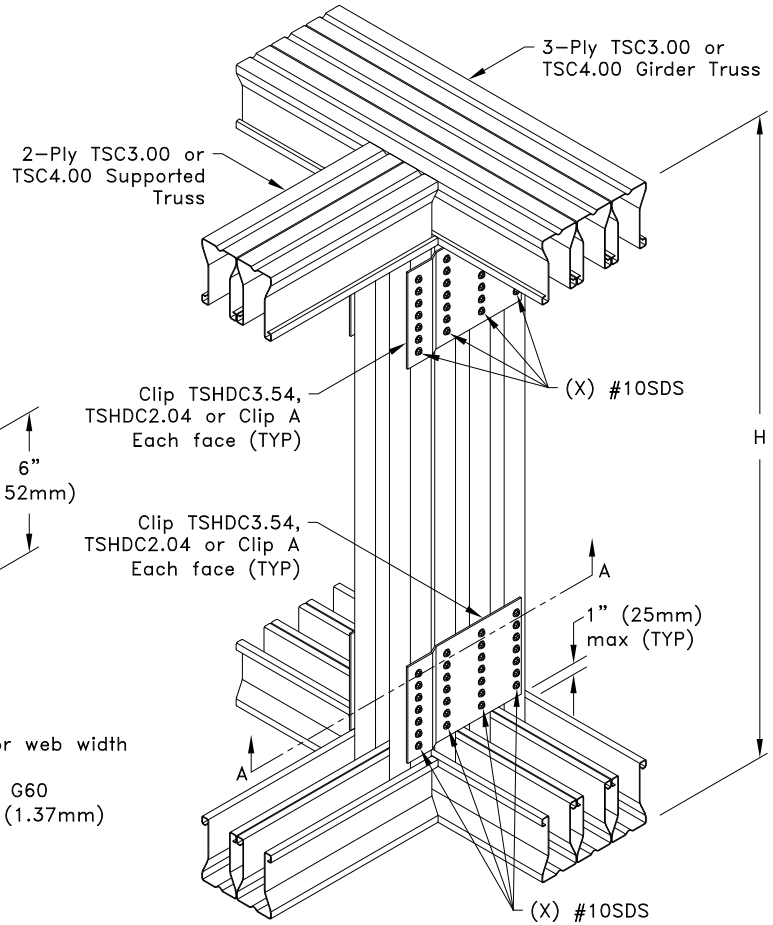




Clip A
16ga. ASTM A653 Grade 33 G60
Bare Metal Thickness = 0.0538" (1.37mm)
(Supplied by others)



Section A-A



General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
3. The supported truss must be designed utilizing a clip bearing type.
4. If supported truss web is a Z-Web, refer to TS062C for connection.
5. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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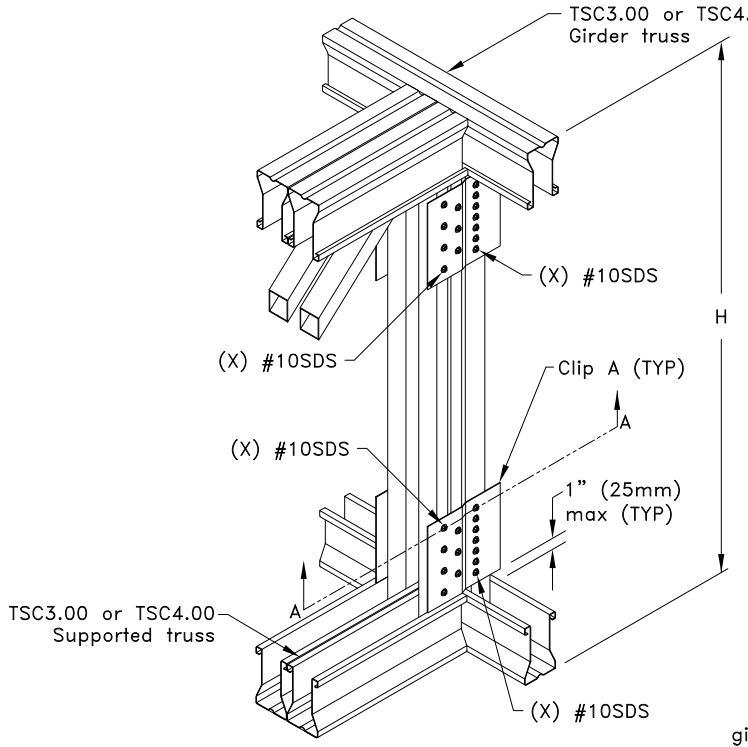
Heavy 2-Ply TSC3.00 or TSC4.00 Truss-To-Truss Connection (3 Ply Girder) Tube Webs

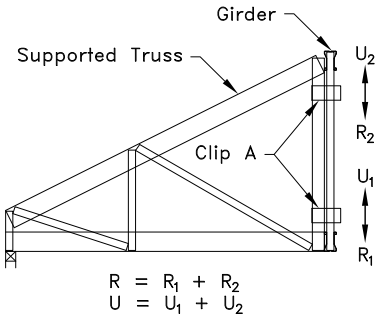
Standard Detail: TS062B

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections



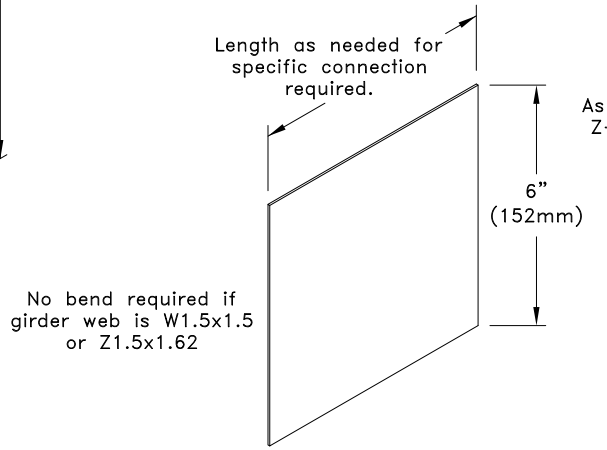
3D View of TSHDC Clip Conn.

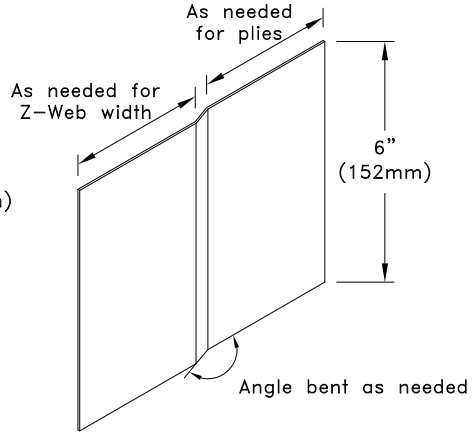


Typical Supported Truss to Girder Connection

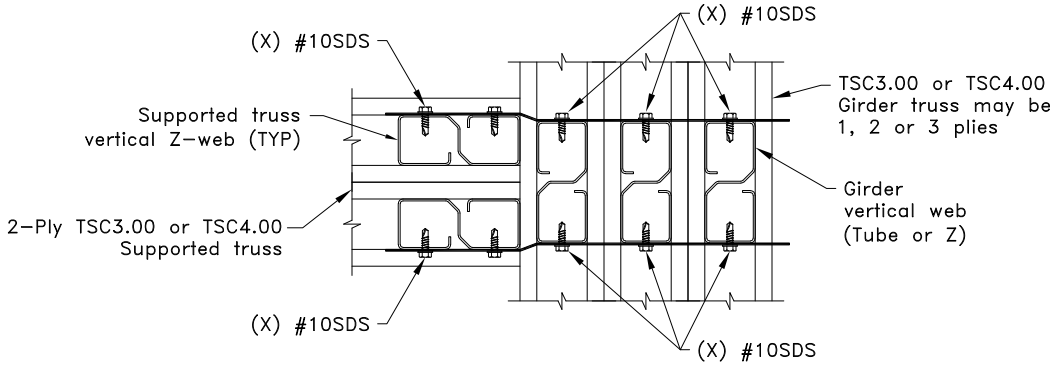
Allowable Reaction and Uplift lbs (kN)	
X[A]	H = 24 in. (610mm) minimum R = U lbs (kN)[B]
5	3000 (13.34)
6	4000 (17.79)
7	4700 (20.91)

A. The quantity "X" refers to the number of #10SDS (Self-Drilling Tapping Screws) that are required on each side of each clip into the web member.
B. R = Allowable Reaction, U = Allowable Uplift





Clip A
16ga. ASTM A653 Grade 33 G60
Bare Metal Thickness = 0.0538" (1.37mm)



Section A-A

General Notes:

1. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins, designed by others.
2. Screw spacing, edge distance and end distance is 9/16" (14mm) minimum.
3. The supported truss must be designed utilizing a clip bearing type.
4. Refer to TS068 for connection areas.
5. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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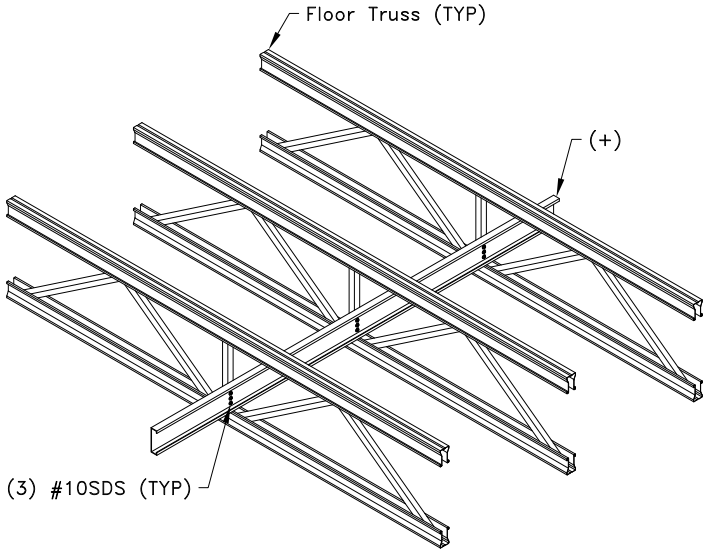
Heavy Duty 2-Ply TSC3.00 or TSC4.00 Truss-To-Truss Connection Up To 3-Ply Girder - Z-Webs

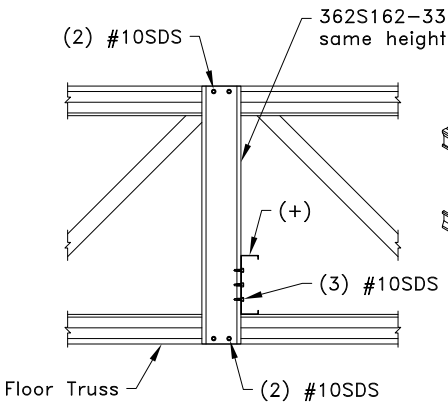
Standard Detail: TS062C

Date: 06/01/22

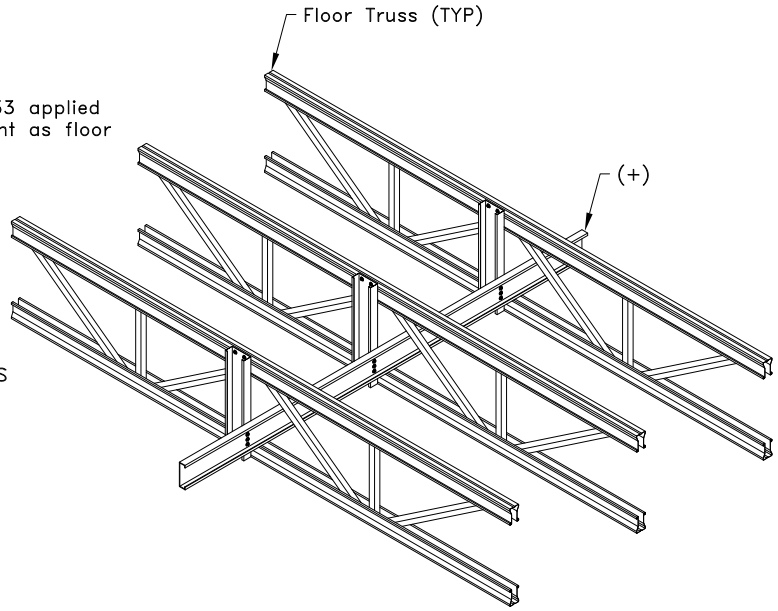
TrusSteel Detail Category: Truss-To-Truss Connections



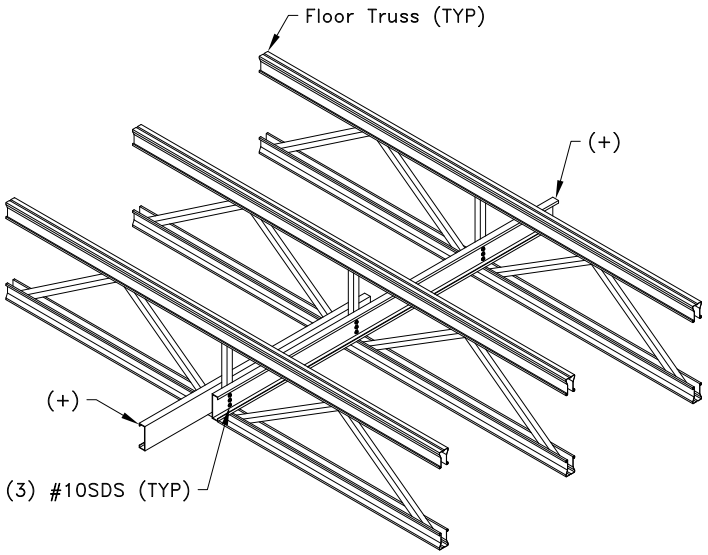
Continuous Strongback Connection



Vertical Stud Connection



Strongback Connection When No Truss Vertical Web Is Present



Spliced Strongback Connection

Strongbacks must overlap a distance of one truss-to-truss spacing at splice.

General Notes:

1. SDS = Self-Drilling Tapping Screw
2. Fastener spacing, edge distance and end distance are 9/16" (14mm).
3. The strongbacks on sealed approved truss drawings for floors are not considered in the structural analysis of the floor trusses, therefore they do not act as support or bearing for these trusses. However, to minimize the dynamic response of floor systems, strongbacks may be specified at a maximum of 10'(3048mm) O.C.
4. Strongbacks should be attached to walls at their outer ends or restrained by other means.
5. Strongbacks should be placed as close to the bottom chord of the floor trusses as possible.
6. (+) 600S162-33, 550S162-33 or 400S200-68 stud member continuous strongback. Attach to each truss where shown with (3) #10SDS into vertical web member.

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Strongback Bridging Guidelines For TrusSteel Floor Trusses

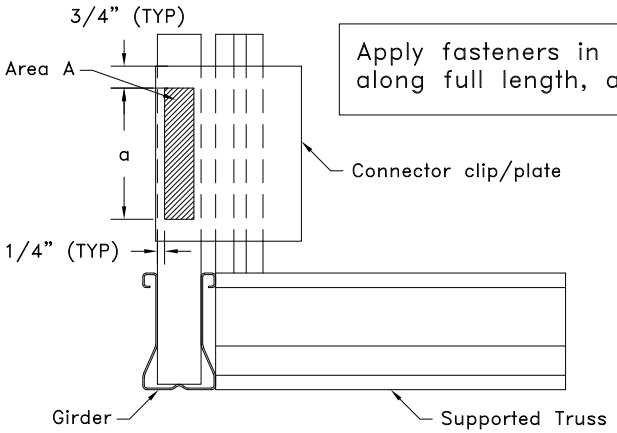
Standard Detail: TS066

Date: 06/01/22

TrusSteel Detail Category: Floor Truss

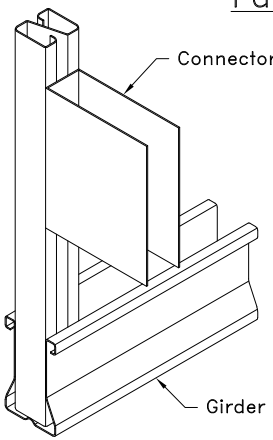
Connection of Clip to Girder Web

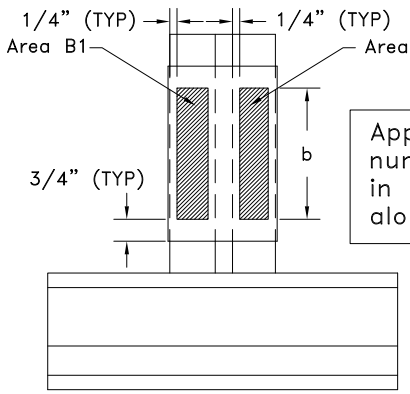
Side Mounted Connection



Apply fasteners in Area A along full length, a.

Face Mounted Connection

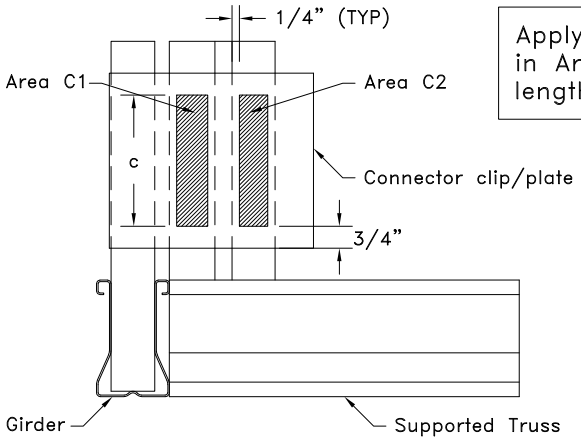




Apply an equal number of fasteners in Areas B1 and B2 along full length, b.

Connection of Clip to Supported Truss Web

Clip to Web Face



Apply an equal number of fasteners in Areas C1 and C2 along full length, c.

General Notes:

1. Refer to approved truss drawings for supported truss and girder information.
2. For millimeters, multiply distance in inches by 25.4.

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Connection Areas for Clip/Plate to Z-Webs

Standard Detail: TS068

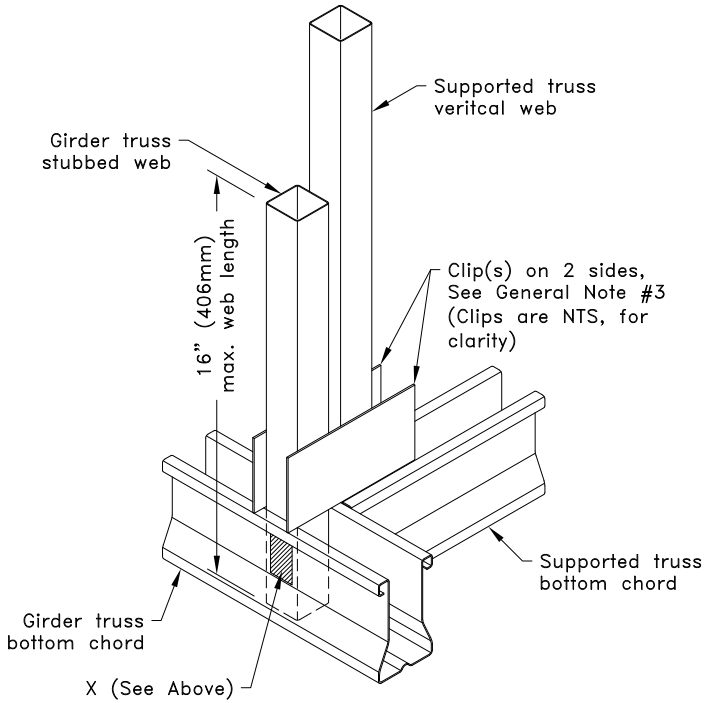
Date: 06/01/22

TrusSteel Detail Category: Truss-to-Truss Connections

Number of #14AMD Fasteners (X)	Chord Gauge – Maximum Tie-In Loads, lbs. (kN)				Tube Gauge, 16" (406mm) Max. Length					Z-Web Gauge, 16" (406mm) Max. Length			
	28TSC	33TSC	43TSC	54TSC 68TSC 97TSC	33W 1.5x1.5	47W 1.5x1.5	56W 1.5x1.5	47W 1.5x2.5	63W 1.5x3.5	33Z 1.5x1.62	33Z 1.5x2.50	43Z 1.5x2.50	43Z 1.5x3.62
2	1165 (5.18)	1375 (6.12)	1565 (6.96)	1770 (7.87)	●	●	●	●	●	●	●	●	●
3	1745 (7.76)	2065 (9.19)	2350 (10.45)	2660 (11.83)	●	●	●	●	●	●	●	●	●
4	2330 (10.36)	2750 (12.23)	3130 (13.92)	3545 (15.77)	●	●	●	●	●	●	●	●	●
4	2910 (12.94)	3655 (16.26)	4355 (19.37)	4665 (20.75)		●	●	●	●			●	●
5	–	–	3915 (17.41)	4430 (19.71)				●	●		●	●	●
5	–	–	5445 (24.22)	5830 (25.93)				●	●			●	●
6	–	–	4700 (20.91)	5315 (23.64)				●	●		●	●	●
6	–	–	6535 (29.07)	6995 (31.12)				●	●			●	●
7	–	–	–	6200 (27.58)				●	●		●	●	●
7	–	–	–	8160 (36.30)					●				●

Chart Values are for TSC3.00 or TSC4.00 trusses only, refer to General Note #2 for TSC2.75 trusses.

● = Denotes stub web member is available for loads shown.



General Notes:

1. Only valid for 90° connections.
2. Maximum supported truss load for 33W.75x1.5 and 33W.75x2.25 webs is 1960 lbs (8.72 kN) with (3) #14AMD fasteners required.
3. Attachment of the supported truss to stub web requires a separate connection detail. Connection must be to both faces, and first set of clips must be flush with top of the bottom chord.
4. The top and bottom chords of all trusses shall be properly connected to structural sheathing or purlins.
5. Refer to TrusSteel Standard Detail TS011 and TS011A for fastener placement.
6. Fully insert stub web inside of bottom chord.
7. When supported truss connector clips are stacked, the same number of clips are required on each side.
8. Bottom chord of girder to be checked in SteelVIEW with applicable point load at stub web location.
9. Chart values for use with 1, 2, and 3-ply girders. Insert stub web in all plies. Connection for supported truss to stub web must provide means to transfer appropriate load amount from front ply to additional plies.
10. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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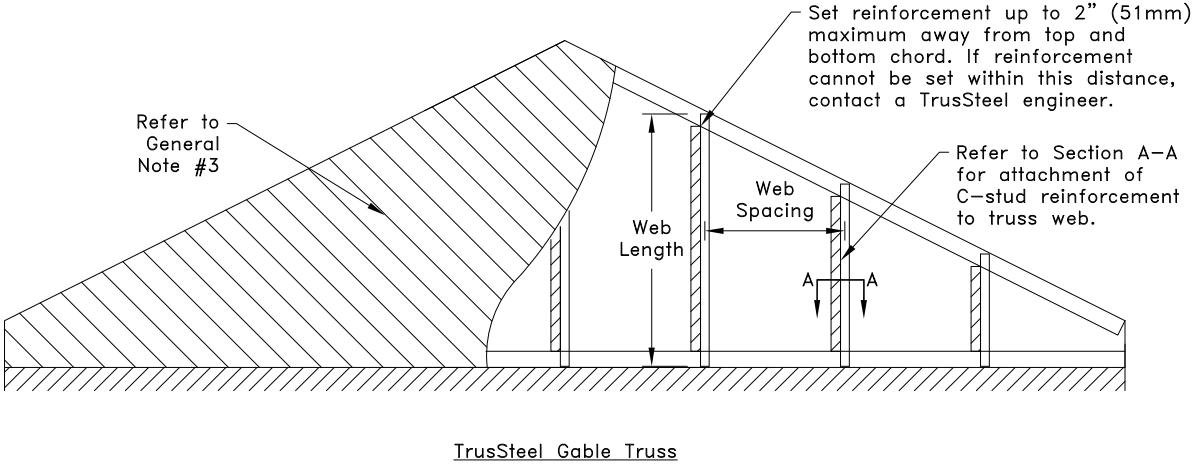
2-Sided Stub Web 90° Connection (Allowable Tie-In Loads)

Standard Detail: TS069

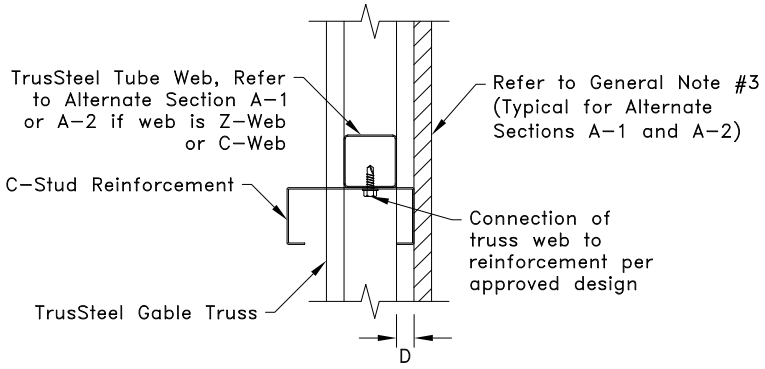
Date: 06/01/22

TrusSteel Detail Category: Truss-To-Truss Connections

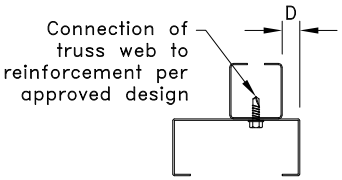


TrusSteel Gable Truss

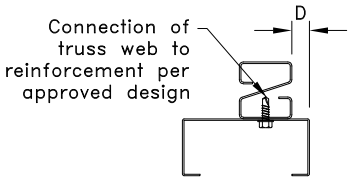
D = 3/8" (10mm) for TSC2.75 Gable Truss
D = 1/2" (13mm) for TSC3.00 & TSC4.00 Gable Truss



Section A–A



Alternate Section A–1
Connection to C–Web



Alternate Section A–2
Connection to Z–Web

General Notes:

1. SDS = self–drilling tapping screw.
2. #10SDS edge distance, end distance & spacing is 9/16" (14mm).
3. Properly attached structural sheathing to the C–Stud Brace is required. Design by others.
4. This detail addresses the installation of C–Stud reinforcement to furr out and attach to structural sheathing that is flush with the face of the gable truss. No gable truss design is assumed.
5. For C–stud braces that are only required to furr out the face of the gable (i.e. not required to brace the web) 250S162–33 Grade 33 minimum shall be used and attached to the truss web with #10SDS at 6" (152mm) O.C.

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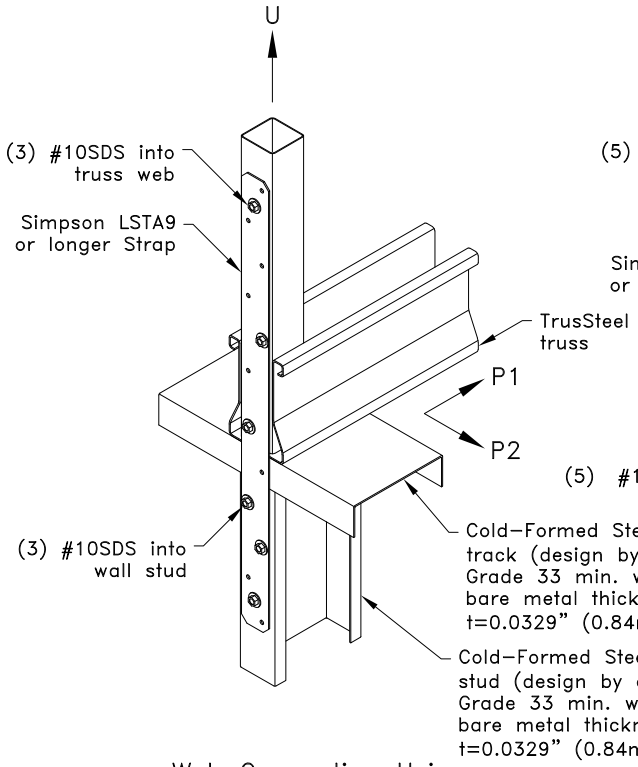
Guidelines For TrusSteel Gable Truss

(General Reinforcement Installation)

Standard Detail:
TS070

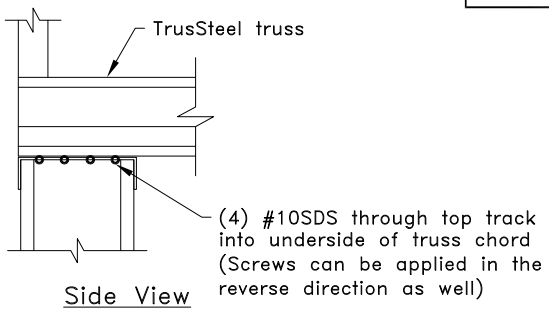
Date:
06/01/22

TrusSteel Detail Category:
Gable Framing



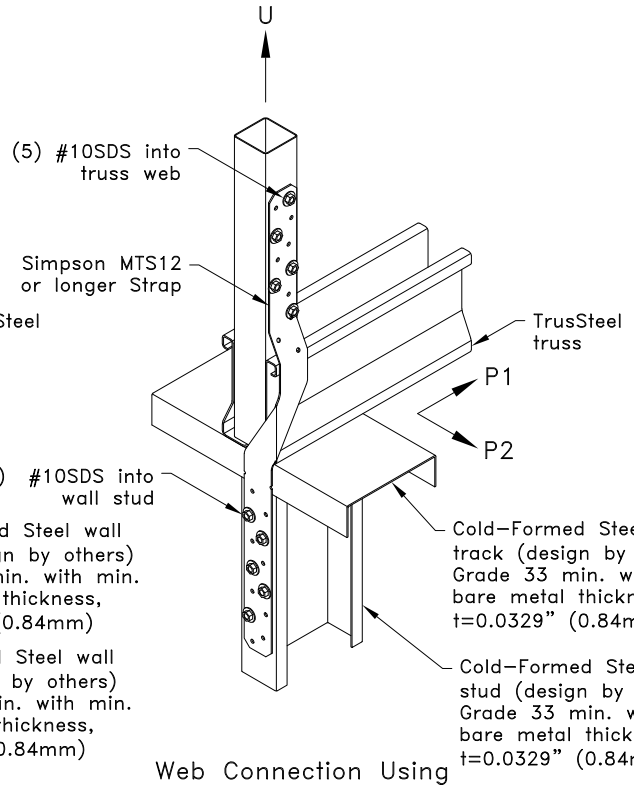
Web Connection Using
Simpson LSTA

U = 510lbs (2.27 kN)



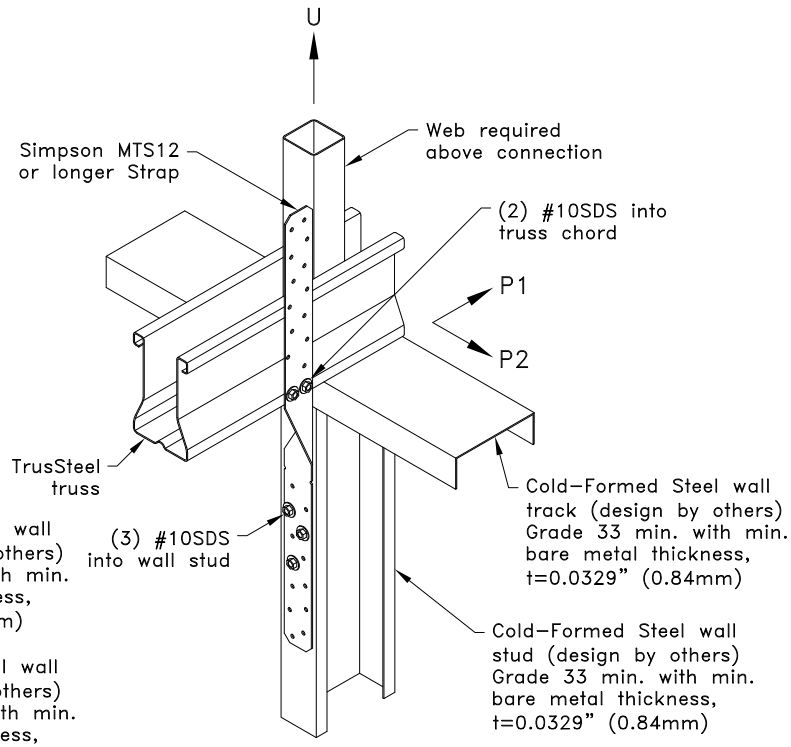
Side View

P1 = P2 = 740lbs (3.29 kN)



Web Connection Using
Simpson MTS

U = 550lbs (2.45 kN) for TSC2.75
U = 790lbs (3.51 kN) for TSC3.00 or TSC4.00



Chord Connection Using
Simpson MTS

Chord	Allowable Uplift
28TSC	410lbs (1.82 kN)
33TSC	510lbs (2.27 kN)
43TSC	530lbs (2.36 kN)

General Notes:

1. This detail is for 1-Ply trusses only, for multi-ply trusses contact a TrusSteel engineer.
2. SDS = self-drilling tapping screw.
3. #10SDS edge distance, end distance & spacing is 9/16" (14mm).
4. For connection to web, truss end vertical web must be flush with the edge of the wall and tall enough to apply the strap.
5. Design of bearing shall be by others.
6. Wall stud must be directly under truss.
7. Allowable loads shown on this detail are not in combination.
8. It is permissible to substitute an equal alternative for the Simpson Strong-Tie hardware specified on this detail.
9. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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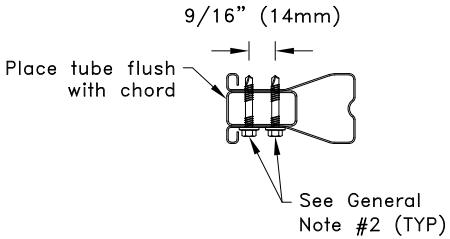
Connection For Truss to CFS Wall Stud

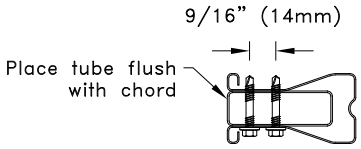
Standard Detail:
TS071

Date:
06/01/22

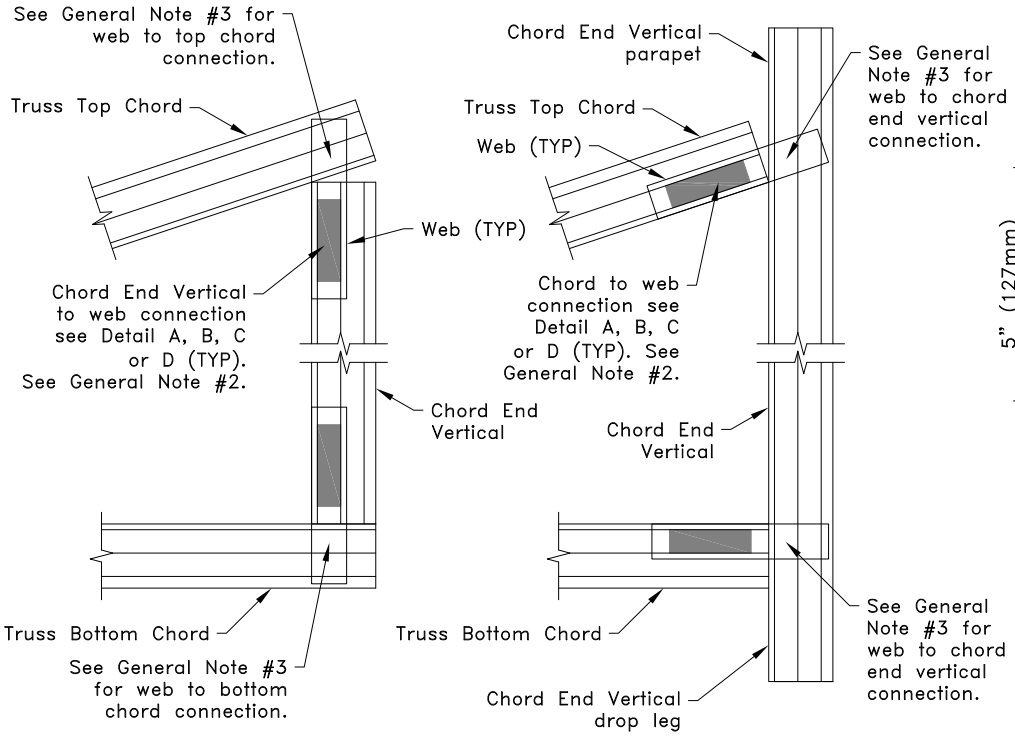
TrusSteel Detail Category:
Truss-To-Bearing: Cold-Formed Steel



TSC2.75 with 33W.75x1.5 Web

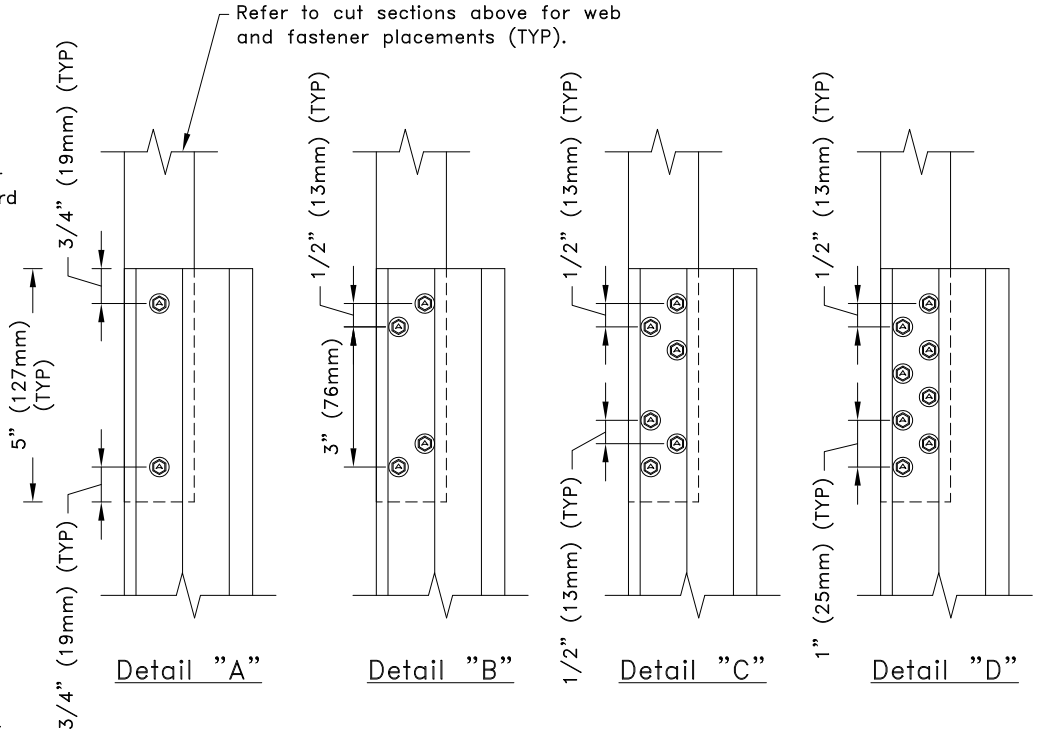


TSC2.75 with 33W.75x2.25 Web



Chord End Vertical Only

Chord End Vertical With Parapet or Drop Leg



General Notes:

1. Fastener spacing and end distance is 3/4" (19mm) minimum, except as shown.
2. Refer to approved truss drawings for fastener type, web size, web length, connection to truss chord and detail call out.
3. Refer to approved truss drawings for fastener type and fastener quantity.

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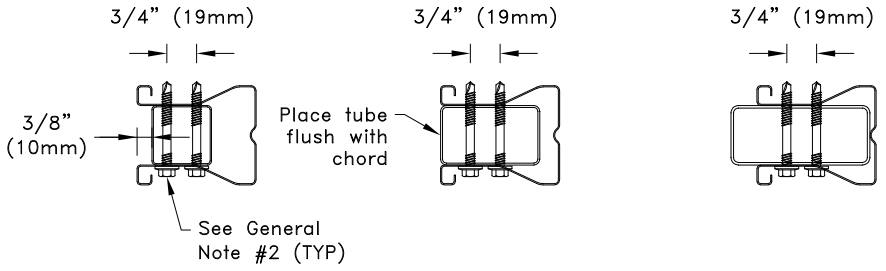
TSC2.75 Connection for Chord End Vertical Condition

Standard Detail: TS072

Date: 06/01/22

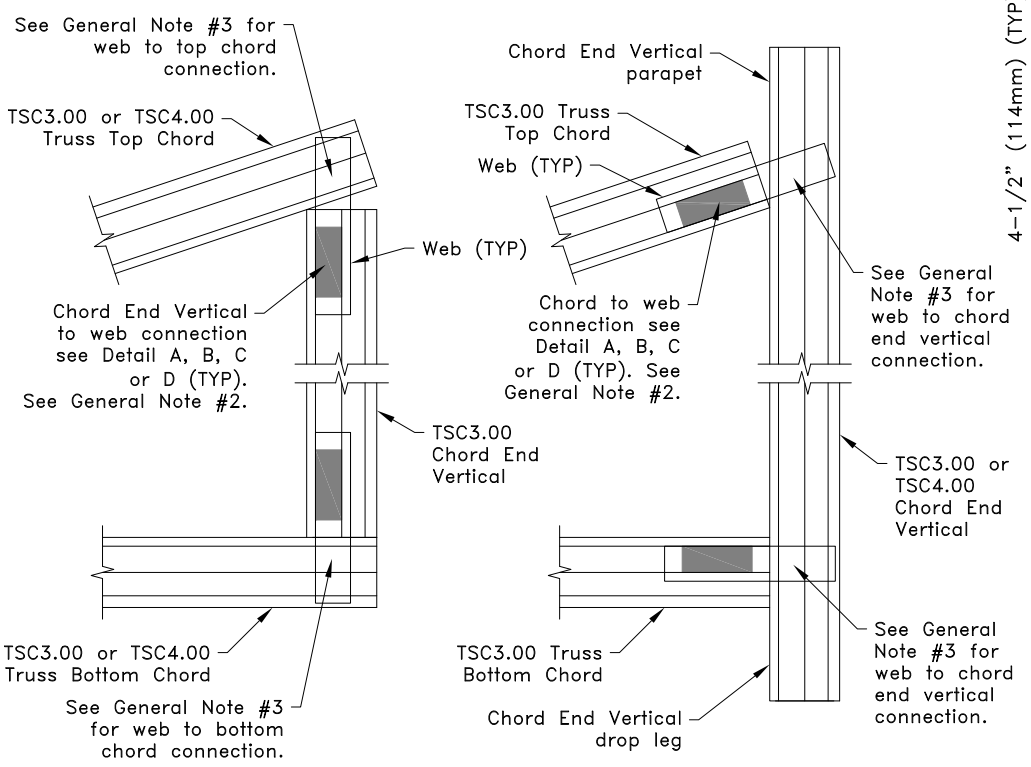
TrusSteel Detail Category: Chord End Vertical



TSC3.00 with W1.5x1.5 Web

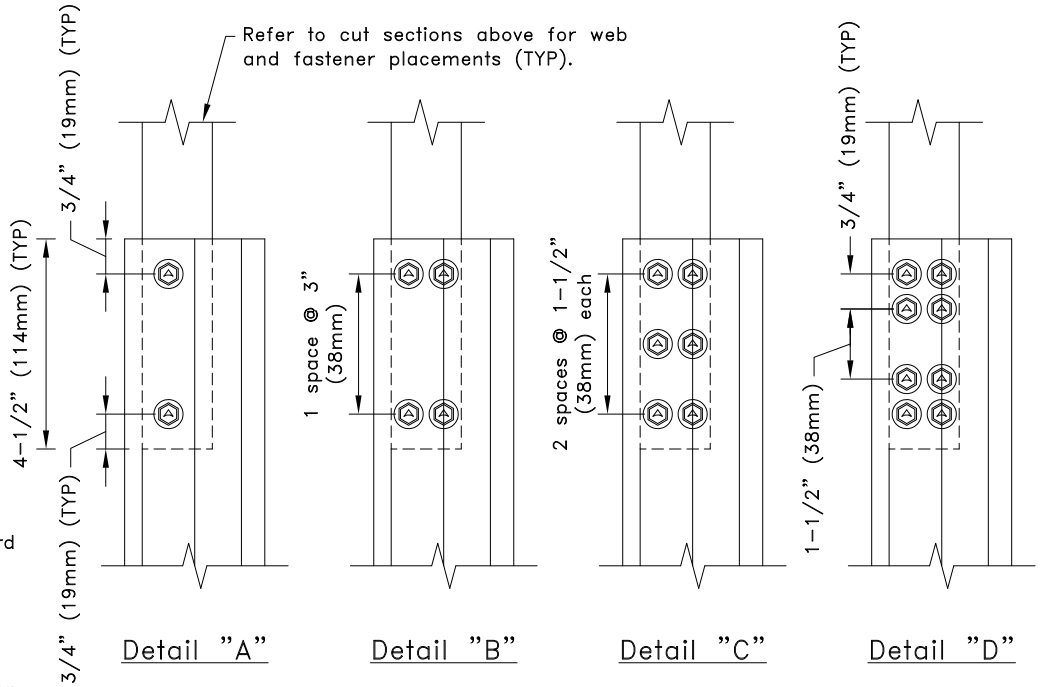
TSC3.00 with W1.5x2.5 Web

TSC3.00 with W1.5x3.5 Web



Chord End Vertical Only

Chord End Vertical With Parapet or Drop Leg



Detail "A"

Detail "B"

Detail "C"

Detail "D"

General Notes:

1. Fastener spacing and end distance is 3/4" (19mm) minimum, except as shown.
2. Refer to approved truss drawings for fastener type, web size, web length, connection to truss chord and detail call out.
3. Refer to approved truss drawings for fastener type and fastener quantity.

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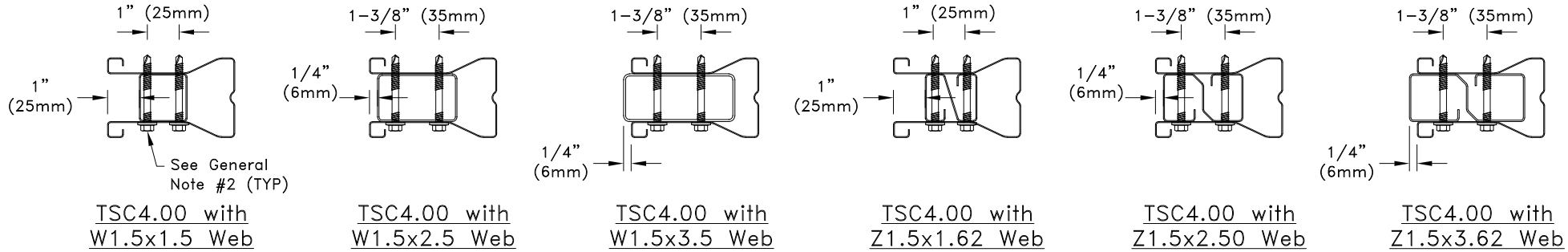
TSC3.00 Connection for Chord End Vertical Condition

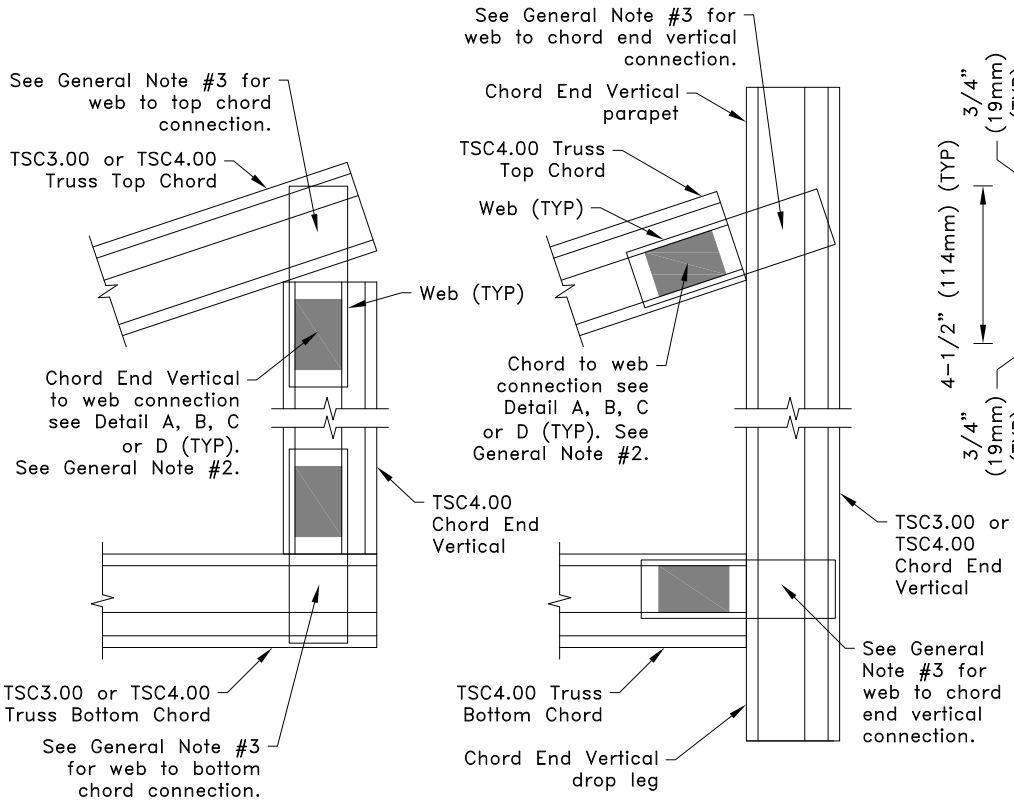
Standard Detail: TS072A

Date: 06/01/22

TrusSteel Detail Category: Chord End Vertical

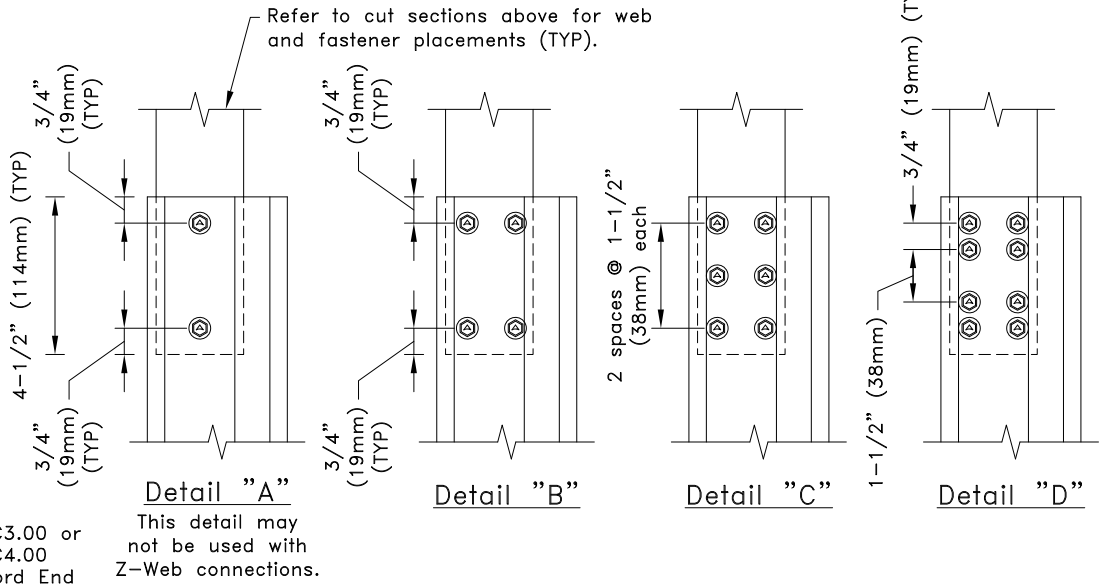


TSC4.00 with W1.5x1.5 Web | TSC4.00 with W1.5x2.5 Web | TSC4.00 with W1.5x3.5 Web | TSC4.00 with Z1.5x1.62 Web | TSC4.00 with Z1.5x2.50 Web | TSC4.00 with Z1.5x3.62 Web



Chord End Vertical Only

Chord End Vertical With Parapet or Drop Leg



Detail "A"

This detail may not be used with Z-Web connections.

Detail "B" | Detail "C" | Detail "D"

General Notes:

1. Fastener spacing and end distance is 3/4" (19mm) minimum, except as shown.
2. Refer to approved truss drawings for fastener type, web size, web length, connection to truss chord and detail call out.
3. Refer to approved truss drawings for fastener type and fastener quantity.

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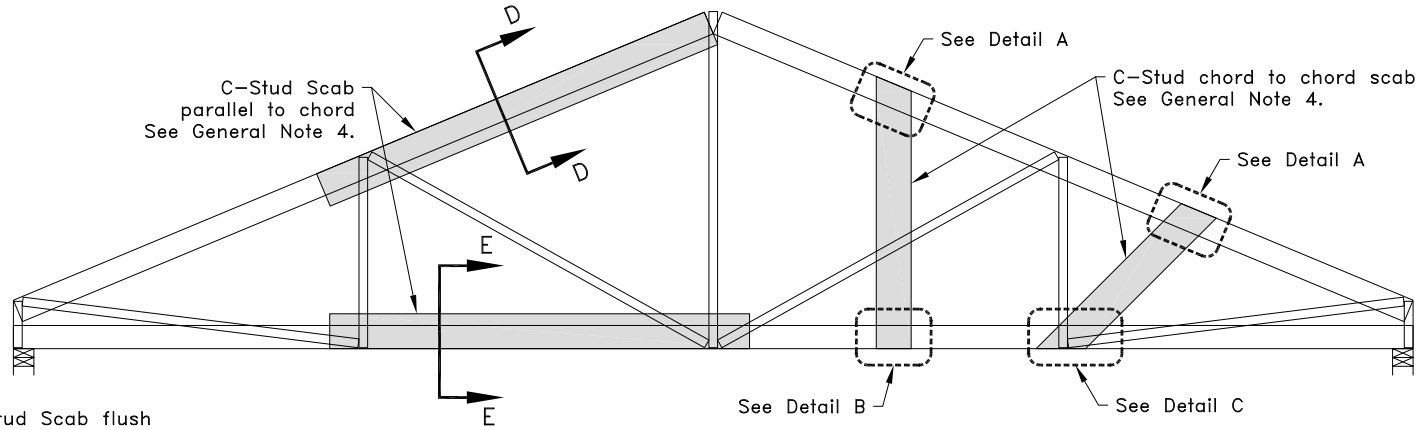
TSC4.00 Connection for Chord End Vertical Condition

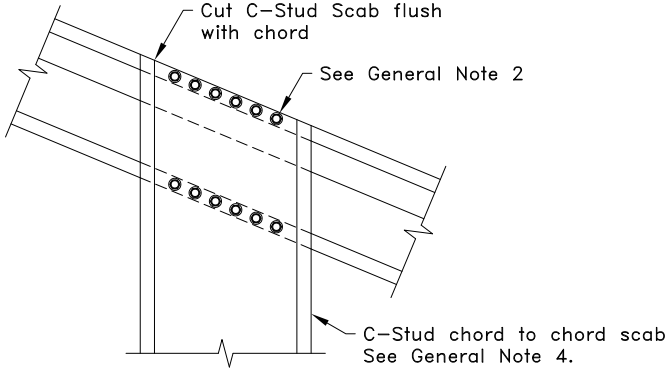
Standard Detail: TS072B

Date: 06/01/22

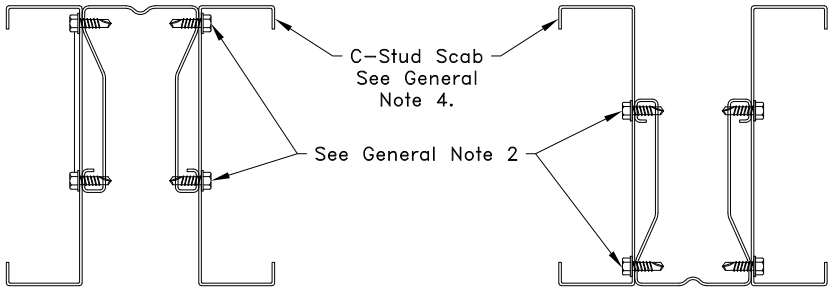
TrusSteel Detail Category: Chord End Vertical

Generic Representation of C-Stud Scab Reinforcements



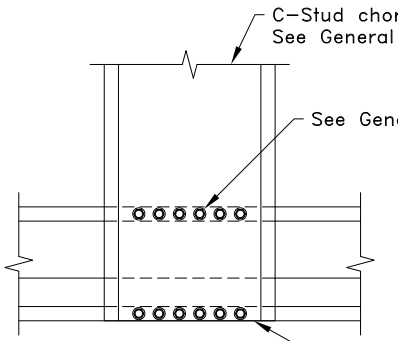


Detail A

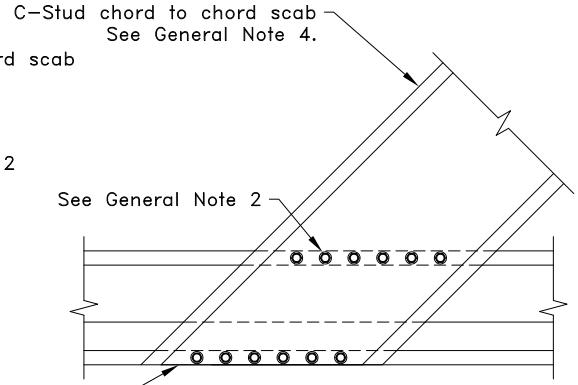


Section D-D

Section E-E



Detail B



Detail C

General Notes:

1. SDS = Self-Drilling Tapping Screw
2. Refer to approved truss drawing for screw type, size, spacing and/or quantities.
3. Screw end distance and edge distance is 1.5D minimum. Screw spacing is 3D minimum unless noted otherwise on apporoved truss drawing. D refers to screw diameter.
4. Refer to approved truss drawing for C-Stud Scab reinforcement material, size, placement and if scab is needed on one face or both faces of chord.

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Generic C-Stud Scab Installation Guide

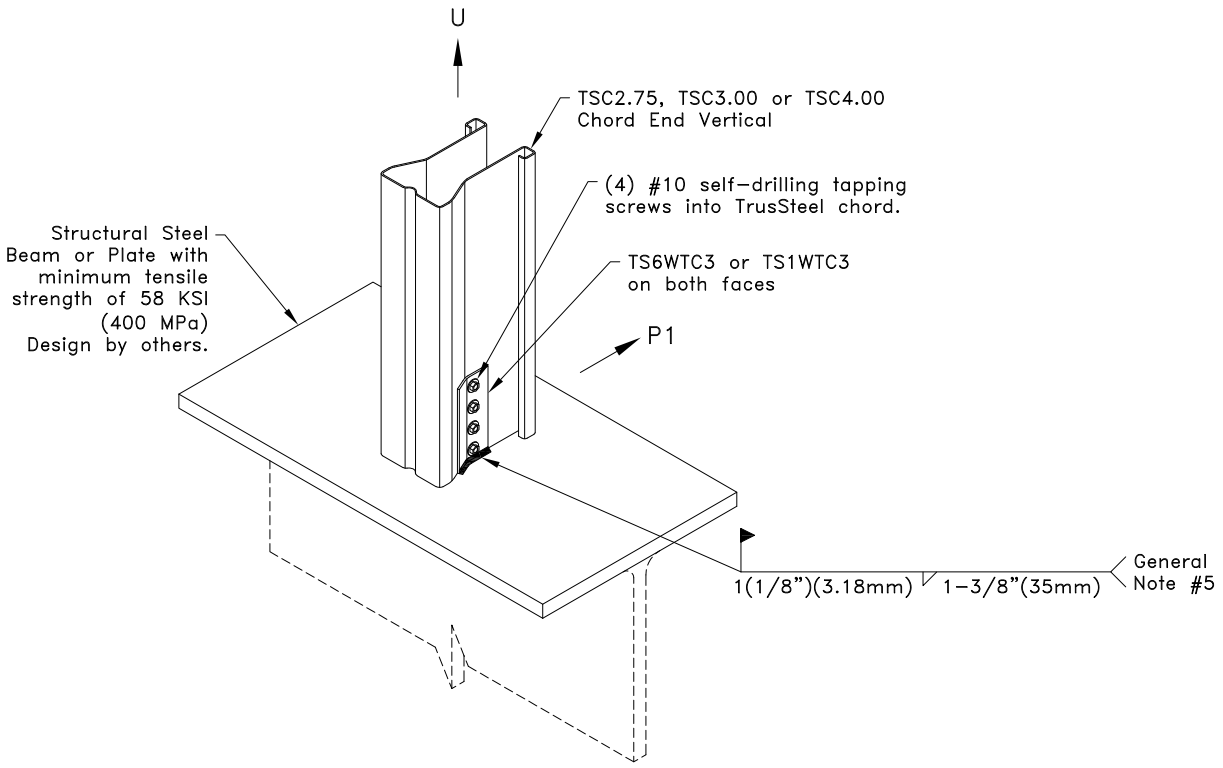
Standard Detail:
TS073

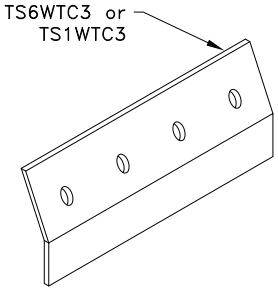
Date:
06/01/22

TrusSteel Detail Category:
Reinforcement

Allowable Loads lbs (kN)[A]			
Chord	Allowable Loads[A]	Clip on both faces	
		TS6WTC3	TS1WTC3
28TSC2.75 or 28TSC3.00 or 28TSC4.00	U	1640 (7.30)	1640 (7.30)
	P1	410 (1.82)	410 (1.82)
33TSC2.75 or 33TSC3.00 or 33TSC4.00	U	2010 (8.94)	2040 (9.07)
	P1	510 (2.27)	510 (2.27)
43TSC2.75 or 43TSC3.00 or 43TSC4.00	U	2010 (8.94)	3040 (13.52)
	P1	760 (3.38)	760 (3.38)
54TSC3.00 or 54TSC4.00	U	2010 (8.94)	4180 (18.59)
	P1	870 (3.87)	1050 (4.67)
68TSC3.00 or 68TSC4.00	U	2010 (8.94)	4180 (18.59)
	P1	870 (3.87)	1050 (4.67)
97TSC3.00 or 97TSC4.00	U	2010 (8.94)	4180 (18.59)
	P1	870 (3.87)	1050 (4.67)

A. Allowable loads shown on this detail are not in combination.





TS6WTC3
bare metal thickness (t) = 0.0538 in. (1.37mm)
TS1WTC3
bare metal thickness (t) = 0.128 in. (3.25mm)

General Notes:

1. This detail is for 1-Ply or 2-Ply truss only, for 3-Ply trusses contact a TrusSteel engineer.
2. Clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. Refer to TrusSteel Technical Bulletin 98.10.05 titled "Repair of Galvanized Surfaces" to restore corrosion resistant properties of the connection after welding.
4. If a TS6WTC3 clip is welded to steel in excess of 1/8" (3.18mm) thick the weld shall be qualified in accordance with Chapter 4 of the Structural Welding Code-Sheet Steel (AWS D1.3).
5. Weld values are based on a filler material with a minimum tensile strength of 70 ksi (483 MPa).
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Chord End Vertical With TS6WTC3 or TS1WTC3 Welded Truss Clip to Structural Steel Bearing

Standard Detail: TS074

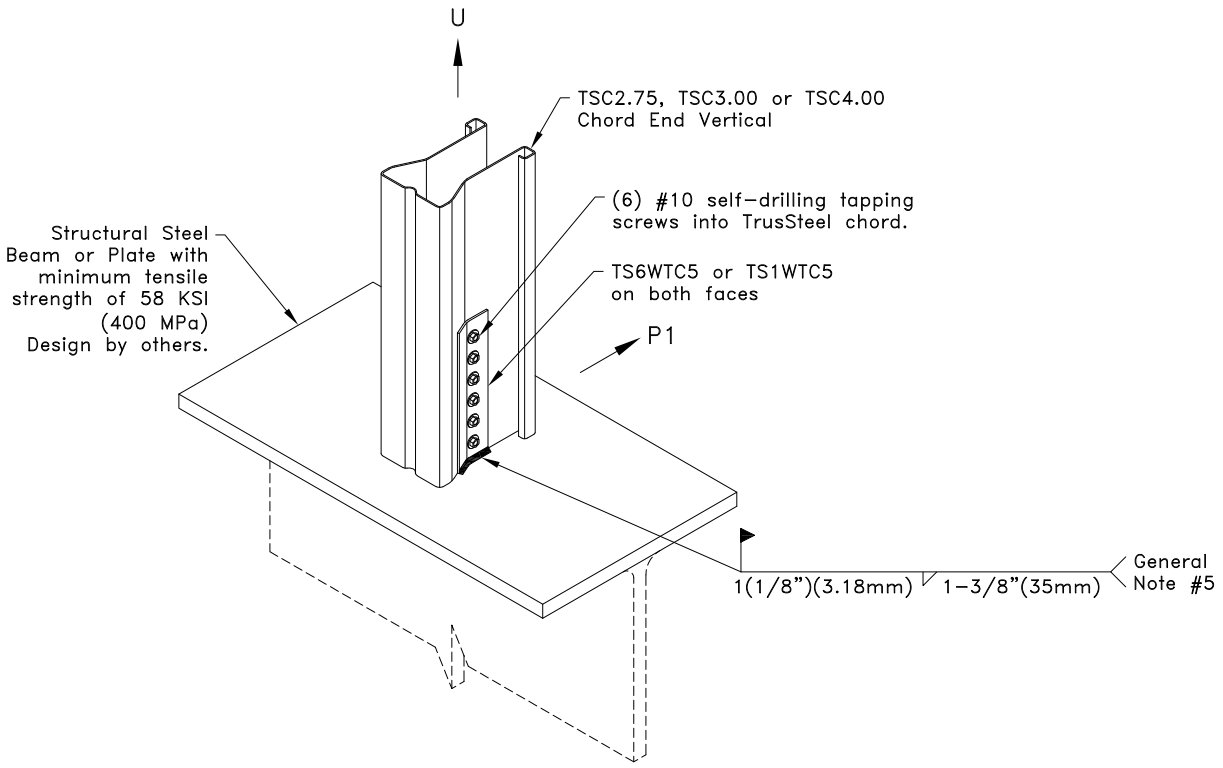
Date: 06/01/22

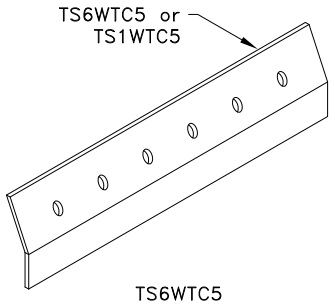
TrusSteel Detail Category:

Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A]			
Chord	Allowable Loads[A]	Clip on both faces	
		TS6WTC5	TS1WTC5
28TSC2.75 or 28TSC3.00 or 28TSC4.00	U	2010 (8.94)	2460 (10.94)
	P1	410 (1.82)	410 (1.82)
33TSC2.75 or 33TSC3.00 or 33TSC4.00	U	2010 (8.94)	3060 (13.61)
	P1	510 (2.27)	510 (2.27)
43TSC2.75 or 43TSC3.00 or 43TSC4.00	U	2010 (8.94)	4560 (20.28)
	P1	760 (3.38)	760 (3.38)
54TSC3.00 or 54TSC4.00	U	2010 (8.94)	4680 (20.82)
	P1	870 (3.87)	1050 (4.67)
68TSC3.00 or 68TSC4.00	U	2010 (8.94)	4680 (20.82)
	P1	870 (3.87)	1050 (4.67)
97TSC3.00 or 97TSC4.00	U	2010 (8.94)	4680 (20.82)
	P1	870 (3.87)	1050 (4.67)

A. Allowable loads shown on this detail are not in combination.





TS6WTC5
bare metal thickness (t) = 0.0538 in. (1.37mm)
TS1WTC5
bare metal thickness (t) = 0.128 in. (3.25mm)

General Notes:

1. This detail is for 1-Ply or 2-Ply truss only, for 3-Ply trusses contact a TrusSteel engineer.
2. Clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. Refer to TrusSteel Technical Bulletin 98.10.05 titled "Repair of Galvanized Surfaces" to restore corrosion resistant properties of the connection after welding.
4. If a TS6WTC5 clip is welded to steel in excess of 1/8" (3.18mm) thick the weld shall be qualified in accordance with Chapter 4 of the Structural Welding Code-Sheet Steel (AWS D1.3).
5. Weld values are based on a filler material with a minimum tensile strength of 70 ksi (483 MPa).
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Chord End Vertical With TS6WTC5 or TS1WTC5 Welded Truss Clip to Structural Steel Bearing

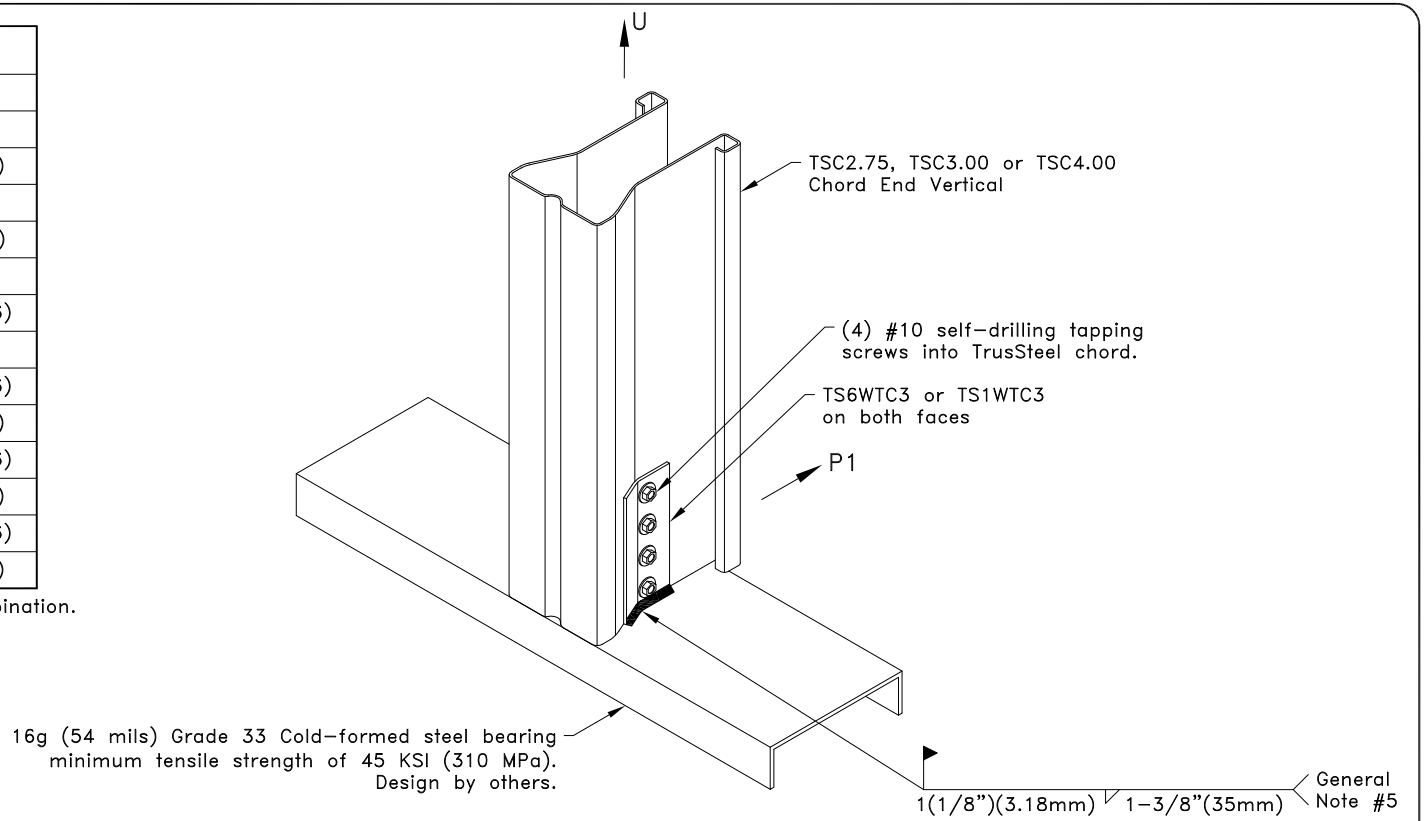
Standard Detail:
TS074A

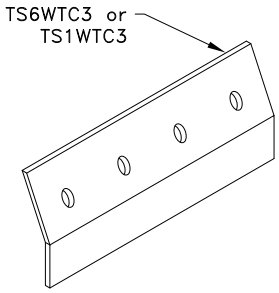
Date:
06/01/22

TrusSteel Detail Category:
Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A]			
Chord	Allowable Loads[A]	Clip on both faces	
		TS6WTC3	TS1WTC3
28TSC2.75 or 28TSC3.00 or 28TSC4.00	U	1640 (7.30)	1640 (7.30)
	P1	410 (1.82)	410 (1.82)
33TSC2.75 or 33TSC3.00 or 33TSC4.00	U	2010 (8.94)	2040 (9.07)
	P1	510 (2.27)	510 (2.27)
43TSC2.75 or 43TSC3.00 or 43TSC4.00	U	2010 (8.94)	2980 (13.26)
	P1	760 (3.38)	760 (3.38)
54TSC3.00 or 54TSC4.00	U	2010 (8.94)	2980 (13.26)
	P1	870 (3.87)	1050 (4.67)
68TSC3.00 or 68TSC4.00	U	2010 (8.94)	2980 (13.26)
	P1	870 (3.87)	1050 (4.67)
97TSC3.00 or 97TSC4.00	U	2010 (8.94)	2980 (13.26)
	P1	870 (3.87)	1050 (4.67)

A. Allowable loads shown on this detail are not in combination.





TS6WTC3
bare metal thickness (t) = 0.0538 in. (1.37mm)
TS1WTC3
bare metal thickness (t) = 0.128 in. (3.25mm)

General Notes:

1. The wall top plate is to be designed by the job engineer. The wall top plate and connection of top plate to wall stud must be designed to support the loads applied to it (downward, upward and lateral).
2. This detail is for 1-Ply or 2-Ply truss only, for 3-Ply trusses contact a TrusSteel engineer.
3. Clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
4. Refer to TrusSteel Technical Bulletin 98.10.05 titled "Repair of Galvanized Surfaces" to restore corrosion resistant properties of the connection after welding.
5. Weld values are based on a filler material with a minimum tensile strength of 70 ksi (483 MPa).
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Chord End Vertical With TS6WTC3 or TS1WTC3 Welded Truss Clip to Cold-Formed Steel Bearing

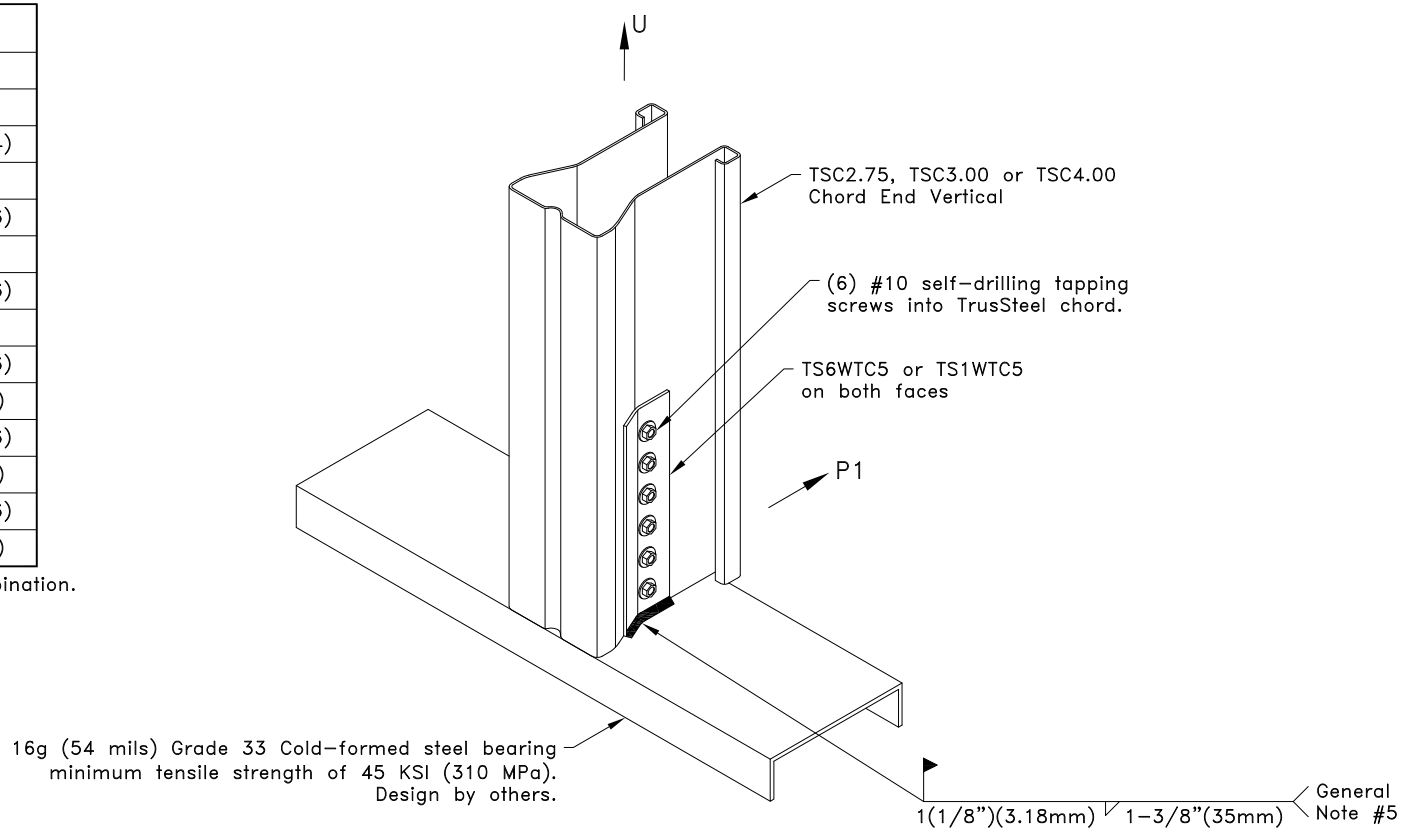
Standard Detail:
TS074B

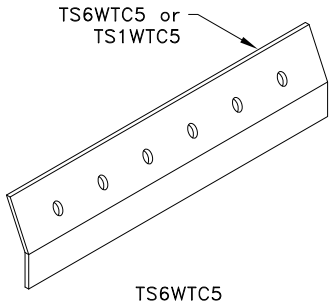
Date:
06/01/22

TrusSteel Detail Category:
Truss-To-Bearing: Cold-Formed Steel

Allowable Loads lbs (kN)[A]			
Chord	Allowable Loads[A]	Clip on both faces	
		TS6WTC5	TS1WTC5
28TSC2.75 or 28TSC3.00 or 28TSC4.00	U	2010 (8.94)	2460 (10.94)
	P1	410 (1.82)	410 (1.82)
33TSC2.75 or 33TSC3.00 or 33TSC4.00	U	2010 (8.94)	2980 (13.26)
	P1	510 (2.27)	510 (2.27)
43TSC2.75 or 43TSC3.00 or 43TSC4.00	U	2010 (8.94)	2980 (13.26)
	P1	760 (3.38)	760 (3.38)
54TSC3.00 or 54TSC4.00	U	2010 (8.94)	2980 (13.26)
	P1	870 (3.87)	1050 (4.67)
68TSC3.00 or 68TSC4.00	U	2010 (8.94)	2980 (13.26)
	P1	870 (3.87)	1050 (4.67)
97TSC3.00 or 97TSC4.00	U	2010 (8.94)	2980 (13.26)
	P1	870 (3.87)	1050 (4.67)

A. Allowable loads shown on this detail are not in combination.





TS6WTC5
bare metal thickness (t) = 0.0538 in. (1.37mm)
TS1WTC5
bare metal thickness (t) = 0.128 in. (3.25mm)

General Notes:

1. The wall top plate is to be designed by the job engineer. The wall top plate and connection of top plate to wall stud must be designed to support the loads applied to it (downward, upward and lateral).
2. This detail is for 1-Ply or 2-Ply truss only, for 3-Ply trusses contact a TrusSteel engineer.
3. Clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
4. Refer to TrusSteel Technical Bulletin 98.10.05 titled "Repair of Galvanized Surfaces" to restore corrosion resistant properties of the connection after welding.
5. Weld values are based on a filler material with a minimum tensile strength of 70 ksi (483 MPa).
6. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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Chord End Vertical With TS6WTC5 or TS1WTC5 Welded Truss Clip to Cold-Formed Steel Bearing

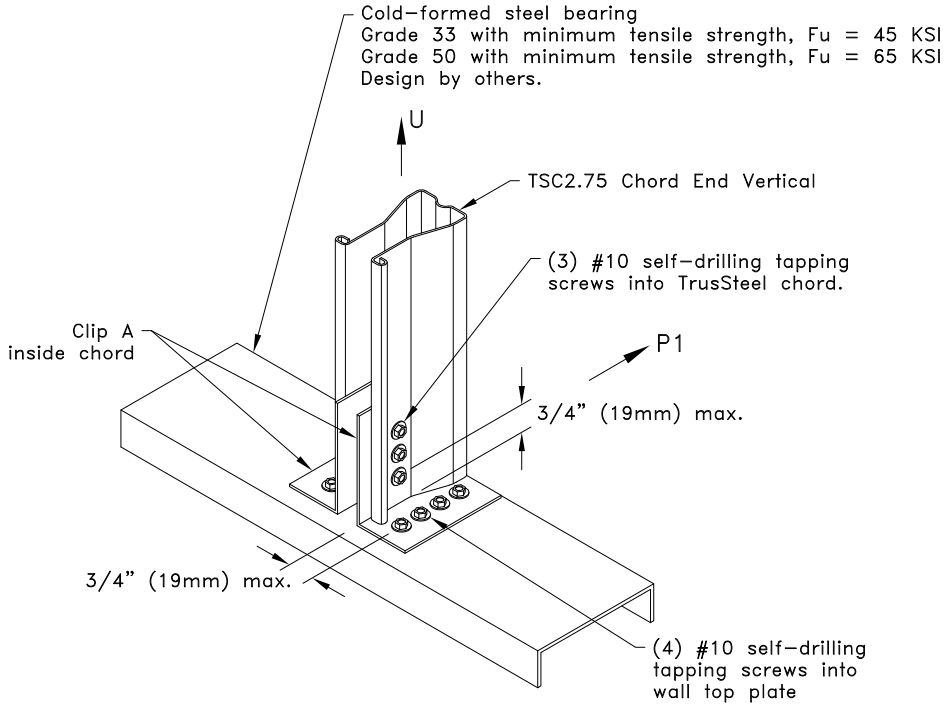
Standard Detail: TS074C

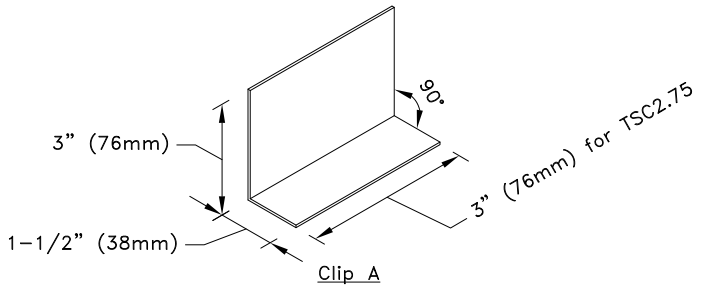
Date: 06/01/22

TrusSteel Detail Category:
Truss-To-Bearing: Cold-Formed Steel

Wall Top Plate / Min Thickness	Allowable U lbs (kN)[A]	Allowable P1 lbs (kN)[A]		
		28TSC	33TSC	43TSC
	Clip on Both Faces	Clip on Both Faces	Clip on Both Faces	Clip on Both Faces
20g (33 mils) Grade 33	670 (2.98)	660 (2.94)	750 (3.34)	760 (3.38)
20g (33 mils) Grade 50	970 (4.31)			
18g (43 mils) Grade 33	870 (3.87)			
18g (43 mils) Grade 50	1260 (5.60)			
16g (54 mils) Grade 33	1100 (4.89)			
16g (54 mils) Grade 50	1580 (7.03)			
14g (68 mils) Grade 33	1380 (6.14)			
14g (68 mils) Grade 50	1960 (8.72)			
12g (97 mils) Grade 33				
12g (97 mils) Grade 50				

A. Allowable loads shown on this detail are not in combination.





16g ASTM A653 SS Grade 33 Class 1 G60
Bare metal thickness: (t) = 0.0538" (1.37mm)

General Notes:

1. The wall top plate is to be designed by the job engineer. The wall top plate and connection of top plate to wall stud must be designed to support the loads applied to it (downward, upward and lateral).
2. This detail is for 1-Ply or 2-Ply truss only, for 3-Ply trusses contact a TrusSteel engineer.
3. Screw end distance and edge distance is 9/32" (7mm) minimum. Screw spacing is 9/16" (14mm) minimum.
4. Clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
5. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC2.75 Chord End Vertical Uplift Attachment To Cold-Formed Steel Using Screws

Standard Detail: TS075

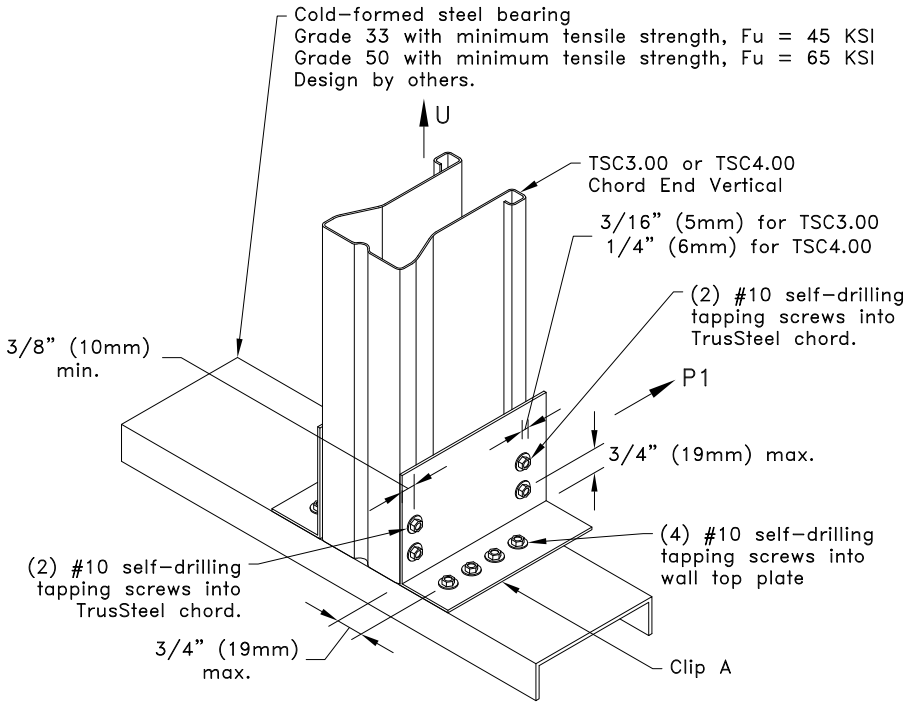
Date: 06/01/22

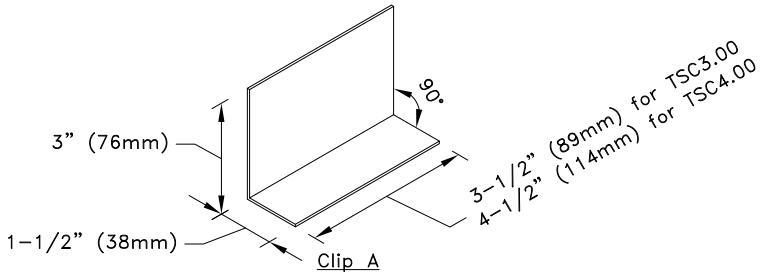
TrusSteel Detail Category:

Truss-To-Bearing: Cold-Formed Steel

Wall Top Plate / Min Thickness	Allowable U lbs (kN)[A]	Allowable P1 lbs (kN)[A]					
		28TSC	33TSC	43TSC	54TSC	68TSC	97TSC
	Clip on Both Faces	Clip on Both Faces	Clip on Both Faces	Clip on Both Faces	Clip on Both Faces	Clip on Both Faces	Clip on Both Faces
20g (33 mils) Grade 33	670 (2.98)	650 (2.89)	790 (3.51)	1130 (5.03)	1330 (5.92)	1410 (6.27)	1410 (6.27)
20g (33 mils) Grade 50	970 (4.31)					1640 (7.30)	1740 (7.74)
18g (43 mils) Grade 33	870 (3.87)						
18g (43 mils) Grade 50	1260 (5.60)						
16g (54 mils) Grade 33	1100 (4.89)						
16g (54 mils) Grade 50	1310 (5.83)[B]						
14g (68 mils) Grade 33	1310 (5.83)						
14g (68 mils) Grade 50	1310 (5.83)[C]						
12g (97 mils) Grade 33	1310 (5.83)[C]						
12g (97 mils) Grade 50	1310 (5.83)[C]						

A. Allowable loads shown on this detail are not in combination.
B. If 28TSC4.00 U = 1470 lbs (6.54 kN), if 33TSC3.00 or 33TSC4.00 U = 1580 lbs (7.03 kN).
C. If 28TSC4.00 U = 1470 lbs (6.54 kN), if 33TSC3.00 U = 1580 lbs (7.03 kN), if 33TSC4.00 U = 1770 lbs (7.87 kN), if 43TSC3.00 or 43TSC4.00 U = 1960 lbs (8.72 kN).





16g ASTM A653 SS Grade 33 Class 1 G60
Bare metal thickness: (t) = 0.0538" (1.37mm)

General Notes:

1. The wall top plate is to be designed by the job engineer. The wall top plate and connection of top plate to wall stud must be designed to support the loads applied to it (downward, upward and lateral).
2. This detail is for 1-Ply or 2-Ply truss only, for 3-Ply trusses contact a TrusSteel engineer.
3. Screw end distance and edge distance is 9/32" (7mm) minimum, except as shown. Screw spacing is 9/16" (14mm) minimum.
4. Clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
5. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC3.00 or TSC4.00 Chord End Vertical Uplift Attachment To Cold-Formed Steel Using Screws

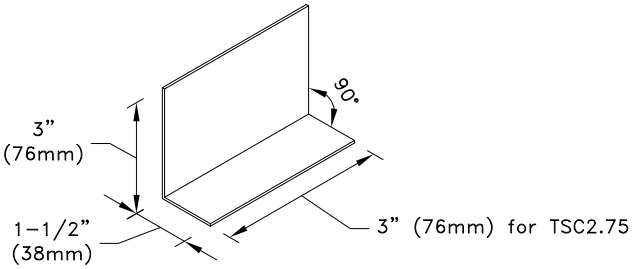
Standard Detail: TS075A

Date: 06/01/22

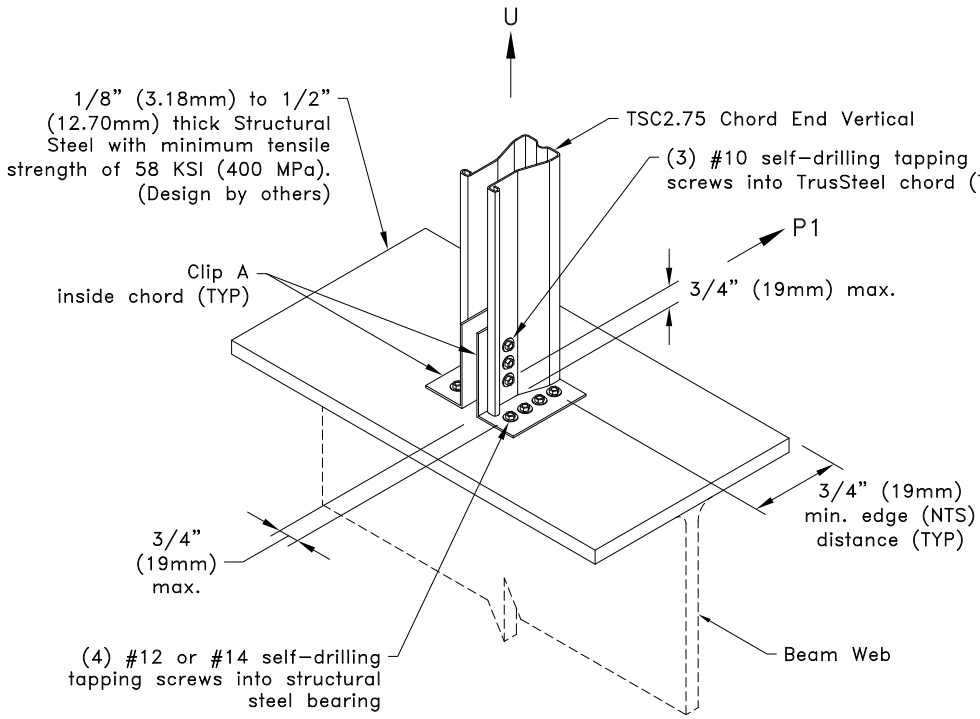
TrusSteel Detail Category: Truss-To-Bearing: Cold-Formed Steel

Allowable Loads lbs (kN)[A]		
Chord	Clip on both faces	
	U	P1
28TSC2.75	1990 (8.85)	660 (2.94)
33TSC2.75	2030 (9.03)	750 (3.34)
43TSC2.75	2030 (9.03)	760 (3.38)

A. Allowable loads shown are not in combination.



Clip A
16g ASTM A653 SS Grade 33 Class 1 G60
Bare metal thickness: (t) = 0.0538" (1.37mm)



General Notes:

1. This detail is for 1-Ply or 2-Ply truss only, for 3-Ply trusses contact a TrusSteel engineer.
2. Clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. #10SDS Screw end distance and edge distance is 9/32" (7mm) minimum. #10SDS Screw spacing is 9/16" (14mm) minimum.
4. #12SDS & #14SDS Screw end distance and edge distance is 3/8" (10mm) minimum. #12SDS & #14SDS Screw spacing is 3/4" (19mm) minimum.
5. Do not overdrive screws. Overdriven screws may strip out TrusSteel chord.
6. Do not drive screws into area of beam flange directly above beam web.
7. To select proper self-drilling tapping screw for structural steel thickness refer to screw manufacturer's recommendations. Refer to manufacturer's specification and code approval regarding proper installation of #12 or #14 self-drilling tapping screws into steel thickness shown above.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC2.75 Chord End Vertical Attachment To Structural Steel Bearing Using Screws

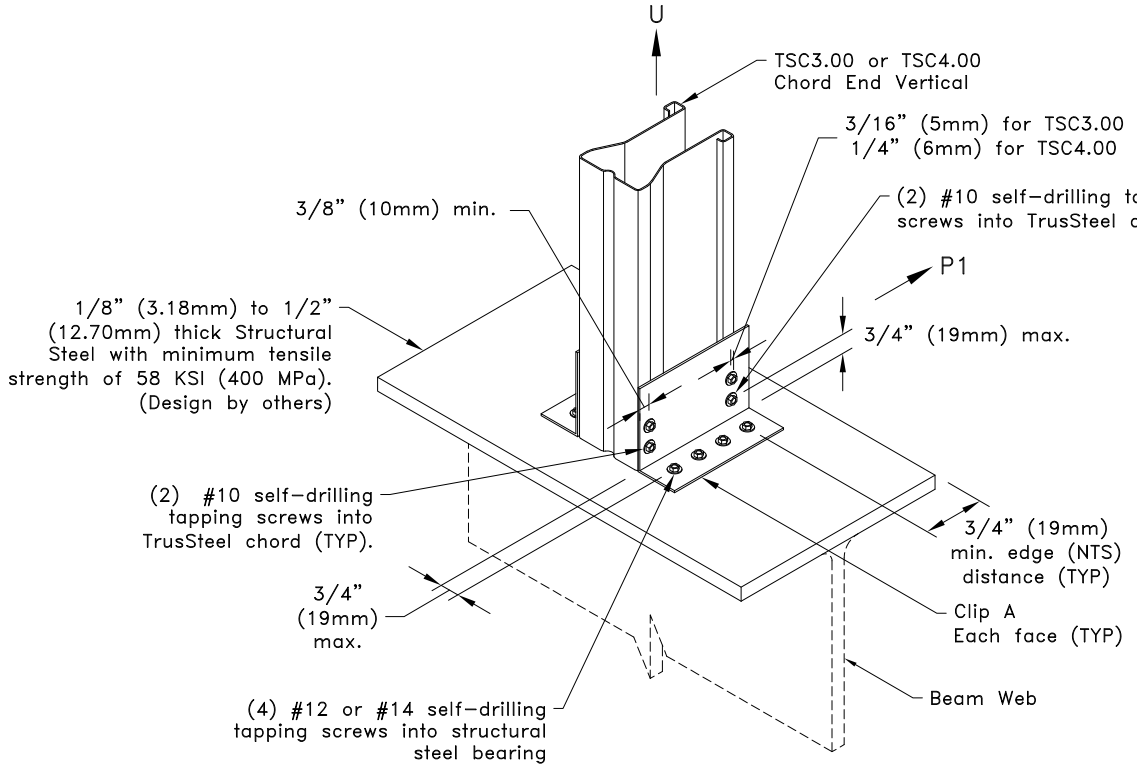
Standard Detail: TS075B

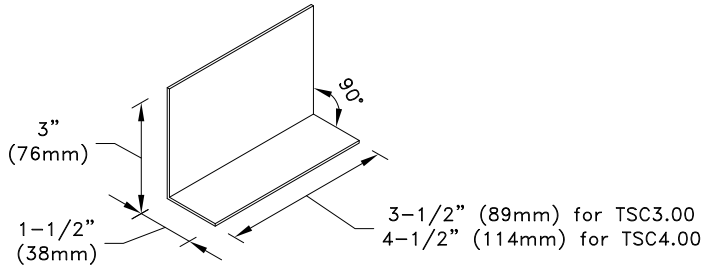
Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A]		
Chord	Clip on both faces	
	U	P1
28TSC3.00	1310 (5.83)	650 (2.89)
33TSC3.00	1580 (7.03)	790 (3.51)
43TSC3.00	2030 (9.03)	1130 (5.03)
54TSC3.00	2030 (9.03)	1330 (5.92)
28TSC4.00	1470 (6.54)	730 (3.25)
33TSC4.00	1770 (7.87)	890 (3.96)
43TSC4.00	2030 (9.03)	1250 (5.56)
54TSC4.00	2030 (9.03)	1480 (6.58)
68TSC4.00	2030 (9.03)	1640 (7.30)
97TSC4.00	2030 (9.03)	1740 (7.74)

A. Allowable loads shown are not in combination.





Clip A
16g ASTM A653 SS Grade 33 Class 1 G60
Bare metal thickness: (t) = 0.0538" (1.37mm)

General Notes:

1. This detail is for 1-Ply or 2-Ply truss only, for 3-Ply trusses contact a TrusSteel engineer.
2. Clip is required on both faces, attach the second clip to the opposite face of the chord as detailed.
3. #10SDS Screw end distance and edge distance is 9/32" (7mm) minimum, except as shown. #10SDS Screw spacing is 9/16" (14mm) minimum.
4. #12SDS & #14SDS Screw end distance and edge distance is 3/8" (10mm) minimum. #12SDS & #14SDS Screw spacing is 3/4" (19mm) minimum.
5. Do not overdrive screws. Overdriven screws may strip out TrusSteel chord.
6. Do not drive screws into area of beam flange directly above beam web.
7. To select proper self-drilling tapping screw for structural steel thickness refer to screw manufacturer's recommendations. Refer to manufacturer's specification and code approval regarding proper installation of #12 or #14 self-drilling tapping screws into steel thickness shown above.
8. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC3.00 or TSC4.00 Chord End Vertical Attachment To Structural Steel Bearing Using Screws

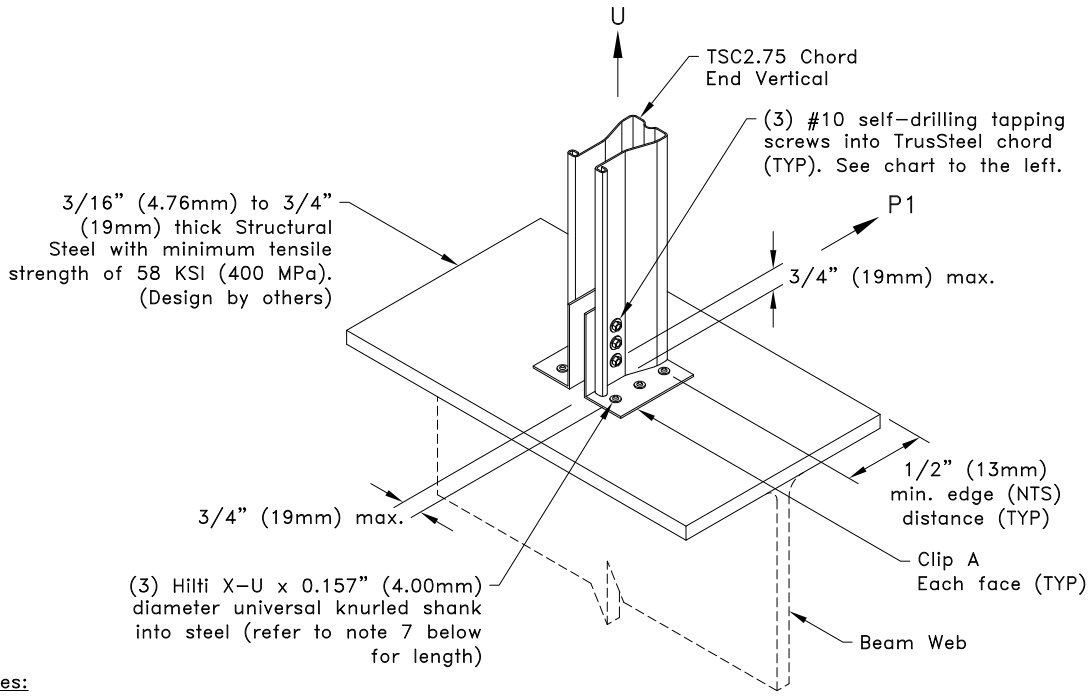
Standard Detail: TS075C

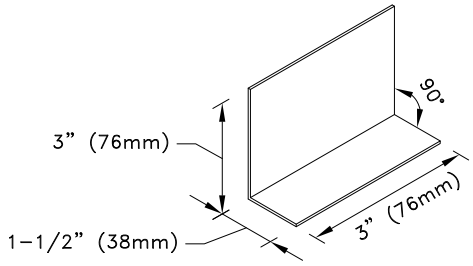
Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A]		
Chord	Clip on both faces	
	#10SDS into bottom chord	
	U	P1
28TSC2.75	1220 (5.43)	660 (2.94)
33TSC2.75	1220 (5.43)	750 (3.34)
43TSC2.75	1220 (5.43)	760 (3.38)

A. Allowable loads shown are not in combination.





Clip A
16g ASTM A653 SS Grade 33 Class 1 G60
Bare metal thickness: (t) = 0.0538" (1.37mm)

General Notes:

1. Attachment of second clip on opposite face of chord is identical to what is detailed.
2. This detail is for 1-Ply or 2-Ply truss only, for 3-Ply trusses contact a TrusSteel engineer.
3. #10SDS Screw end distance and edge distance is 9/32" (7.14mm) minimum. Screw spacing is 9/16" (14.3mm) minimum.
4. Hilti pin end distance and edge distance is 1/2" (12.7mm) minimum. Pin spacing is 1" (25.4mm) minimum.
5. Pins must be driven perpendicular to steel surface.
6. Care must be taken to ensure pins are not overdriven. Pins that are overdriven may puncture surface of clip causing damage. If clip is damaged, the values given on this detail are no longer valid.
7. Pin length must be long enough to ensure the tip either penetrates completely through the steel, or shows evidence of the steel deformation that occurs just before penetration. For steel thicker than 1/2", pin length shall be long enough to ensure pin penetration of a minimum of 1/2".
8. Do not install pins into area of beam flange directly above beam web.
9. Allowable Hilti X-U Fastener values into steel bearing are per ICC ESR-2269 (February 2021). Refer to ESR regarding proper installation of fastener.
10. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC2.75 Chord End Vertical Uplift Attachment To Structural Steel Bearing Using Hilti Pins (Steel From 3/16" to 3/4" Thick)

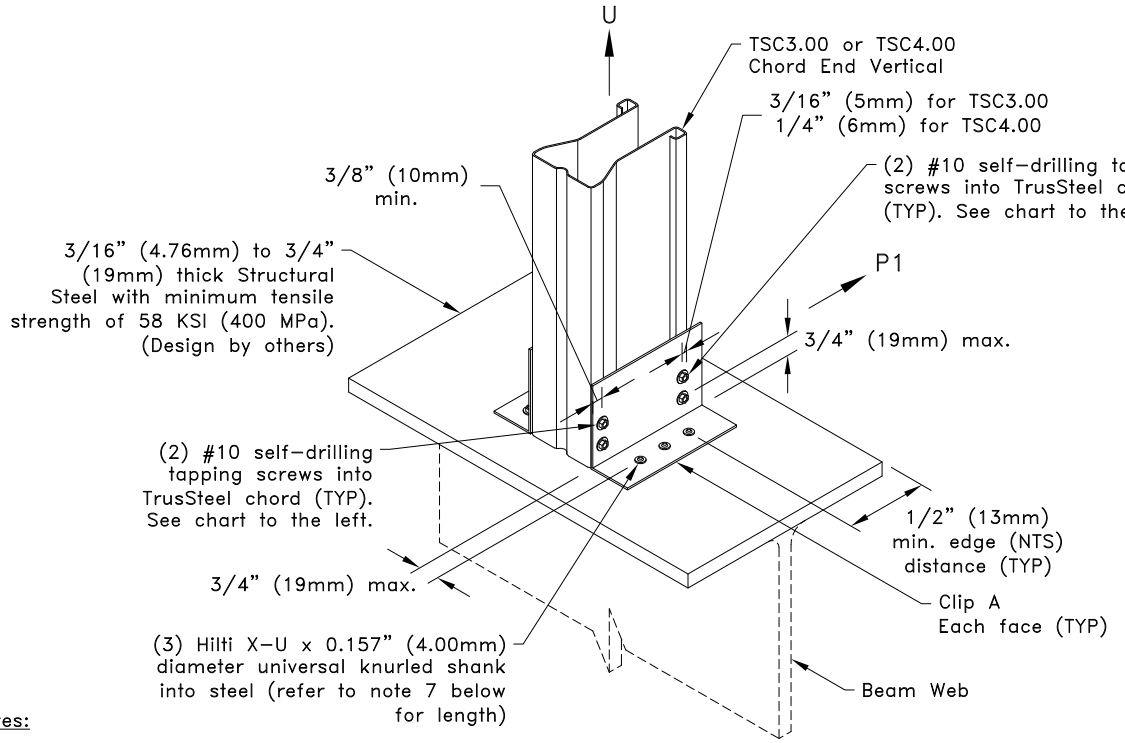
Standard Detail: TS076

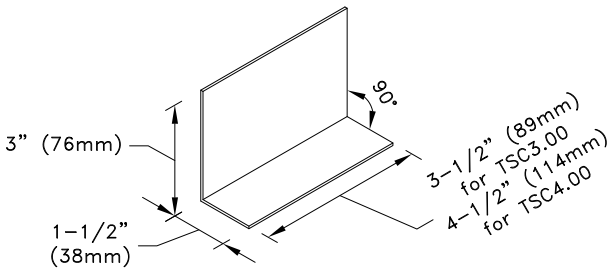
Date: 06/01/22

TrusSteel Detail Category:
Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A]		
Chord	Clip on both faces	
	#10SDS into bottom chord	
	U	P1
28TSC3.00	1220 (5.43)	650 (2.89)
33TSC3.00	1220 (5.43)	790 (3.51)
43TSC3.00	1220 (5.43)	1130 (5.03)
54TSC3.00	1220 (5.43)	1330 (5.92)
28TSC4.00	1220 (5.43)	730 (3.25)
33TSC4.00	1220 (5.43)	890 (3.96)
43TSC4.00	1220 (5.43)	1250 (5.56)
54TSC4.00	1220 (5.43)	1480 (6.58)
68TSC4.00	1220 (5.43)	1640 (7.30)
97TSC4.00	1220 (5.43)	1740 (7.74)

A. Allowable loads shown are not in combination.





Clip A
16g ASTM A653 SS Grade 33 Class 1 G60
Bare metal thickness: (t) = 0.0538" (1.37mm)

General Notes:

1. Attachment of second clip on opposite face of chord is identical to what is detailed.
2. This detail is for 1-Ply or 2-Ply truss only, for 3-Ply trusses contact a TrusSteel engineer.
3. #10SDS Screw end distance and edge distance is 9/32" (7.14mm) minimum. Screw spacing is 9/16" (14.3mm) minimum.
4. Hilti pin end distance and edge distance is 1/2" (12.7mm) minimum. Pin spacing is 1" (25.4mm) minimum.
5. Pins must be driven perpendicular to steel surface.
6. Care must be taken to ensure pins are not overdriven. Pins that are overdriven may puncture surface of clip causing damage. If clip is damaged, the values given on this detail are no longer valid.
7. Pin length must be long enough to ensure the tip either penetrates completely through the steel, or shows evidence of the steel deformation that occurs just before penetration. For steel thicker than 1/2", pin length shall be long enough to ensure pin penetration of a minimum of 1/2".
8. Do not install pins into area of beam flange directly above beam web.
9. Allowable Hilti X-U Fastener values into steel bearing are per ICC ESR-2269 (February 2021). Refer to ESR regarding proper installation of fastener.
10. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC3.00 or TSC.4.00 Chord End Vertical Uplift Attachment To Structural Steel Bearing Using Hilti Pins (Steel From 3/16" to 3/4" Thick)

Standard Detail: TS076A

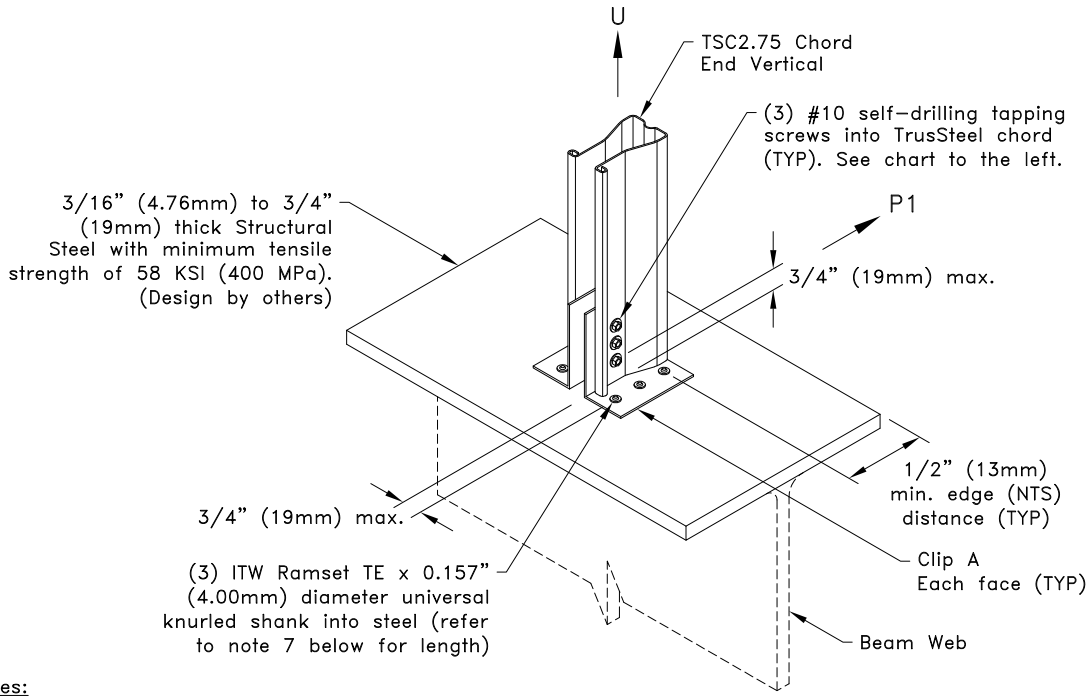
Date: 06/01/22

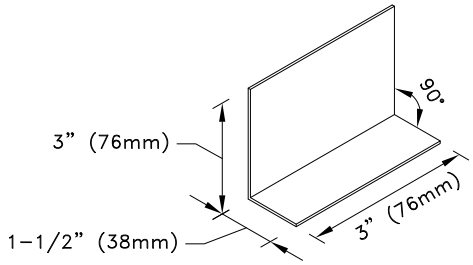
TrusSteel Detail Category:

Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A]		
Chord	Clip on both faces	
	#10SDS into bottom chord	
	U	P1
28TSC2.75	1220 (5.43)	660 (2.94)
33TSC2.75	1220 (5.43)	750 (3.34)
43TSC2.75	1220 (5.43)	760 (3.38)

A. Allowable loads shown are not in combination.





Clip A
16g ASTM A653 SS Grade 33 Class 1 G60
Bare metal thickness: (t) = 0.0538" (1.37mm)

General Notes:

1. Attachment of second clip on opposite face of chord is identical to what is detailed.
2. This detail is for 1-Ply or 2-Ply truss only, for 3-Ply trusses contact a TrusSteel engineer.
3. #10SDS Screw end distance and edge distance is 9/32" (7.14mm) minimum. Screw spacing is 9/16" (14.3mm) minimum.
4. ITW Ramset pin end distance and edge distance is 1/2" (12.7mm) minimum. Pin spacing is 1" (25.4mm) minimum.
5. Pins must be driven perpendicular to steel surface.
6. Care must be taken to ensure pins are not overdriven. Pins that are overdriven may puncture surface of clip causing damage. If clip is damaged, the values given on this detail are no longer valid.
7. Pin length must be long enough to ensure the tip either penetrates completely through the steel, or shows evidence of the steel deformation that occurs just before penetration. For steel thicker than 1/2", pin length shall be long enough to ensure pin penetration of a minimum of 1/2".
8. Do not install pins into area of beam flange directly above beam web.
9. Allowable ITW Ramset TE Fastener values into steel bearing are per ICC ESR-1799 (June 2021). Refer to ESR regarding proper installation of fastener.
10. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC2.75 Chord End Vertical Uplift Attachment To Structural Steel Bearing Using ITW Ramset Pins (Steel From 3/16" to 3/4" Thick)

Standard Detail: TS076B

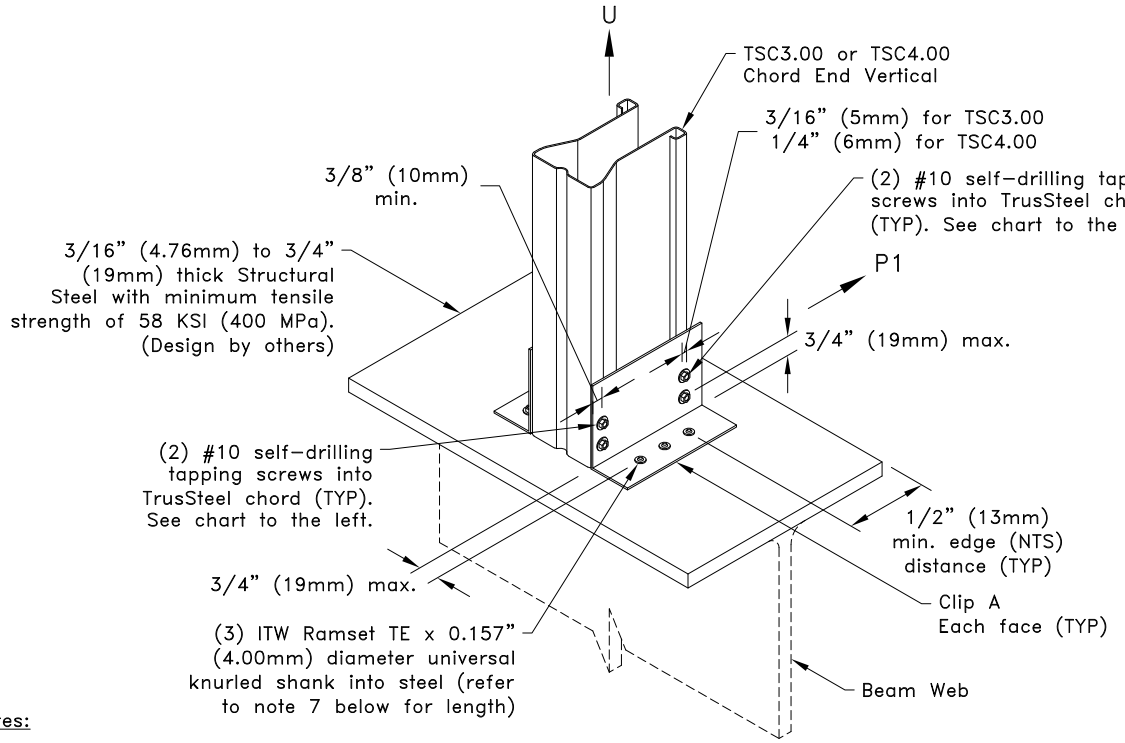
Date: 06/01/22

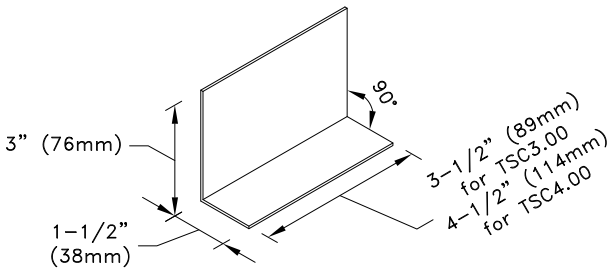
TrusSteel Detail Category:

Truss-To-Bearing: Structural Steel

Allowable Loads lbs (kN)[A]		
Chord	Clip on both faces	
	#10SDS into bottom chord	
	U	P1
28TSC3.00	1220 (5.43)	650 (2.89)
33TSC3.00	1220 (5.43)	790 (3.51)
43TSC3.00	1220 (5.43)	1130 (5.03)
54TSC3.00	1220 (5.43)	1330 (5.92)
28TSC4.00	1220 (5.43)	730 (3.25)
33TSC4.00	1220 (5.43)	890 (3.96)
43TSC4.00	1220 (5.43)	1250 (5.56)
54TSC4.00	1220 (5.43)	1480 (6.58)
68TSC4.00	1220 (5.43)	1640 (7.30)
97TSC4.00	1220 (5.43)	1740 (7.74)

A. Allowable loads shown are not in combination.





Clip A
16g ASTM A653 SS Grade 33 Class 1 G60
Bare metal thickness: (t) = 0.0538" (1.37mm)

General Notes:

1. Attachment of second clip on opposite face of chord is identical to what is detailed.
2. This detail is for 1-Ply or 2-Ply truss only, for 3-Ply trusses contact a TrusSteel engineer.
3. #10SDS Screw end distance and edge distance is 9/32" (7.14mm) minimum. Screw spacing is 9/16" (14.3mm) minimum.
4. ITW Ramset pin end distance and edge distance is 1/2" (12.7mm) minimum. Pin spacing is 1" (25.4mm) minimum.
5. Pins must be driven perpendicular to steel surface.
6. Care must be taken to ensure pins are not overdriven. Pins that are overdriven may puncture surface of clip causing damage. If clip is damaged, the values given on this detail are no longer valid.
7. Pin length must be long enough to ensure the tip either penetrates completely through the steel, or shows evidence of the steel deformation that occurs just before penetration. For steel thicker than 1/2", pin length shall be long enough to ensure pin penetration of a minimum of 1/2".
8. Do not install pins into area of beam flange directly above beam web.
9. Allowable ITW Ramset TE Fastener values into steel bearing are per ICC ESR-1799 (June 2021). Refer to ESR regarding proper installation of fastener.
10. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC3.00 or TSC.4.00 Chord End Vertical Uplift Attachment To Structural Steel Bearing Using ITW Ramset Pins (Steel From 3/16" to 3/4" Thick)

Standard Detail:
TS076C

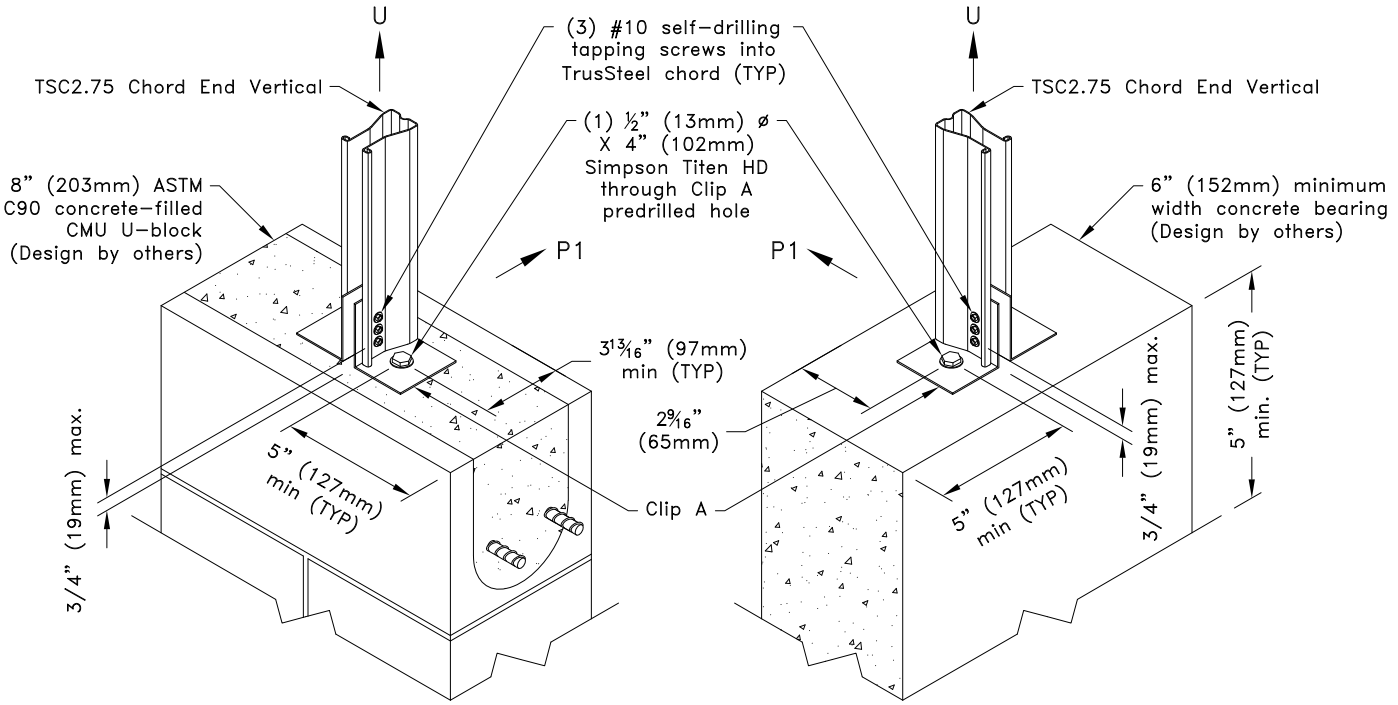
Date:
06/01/22

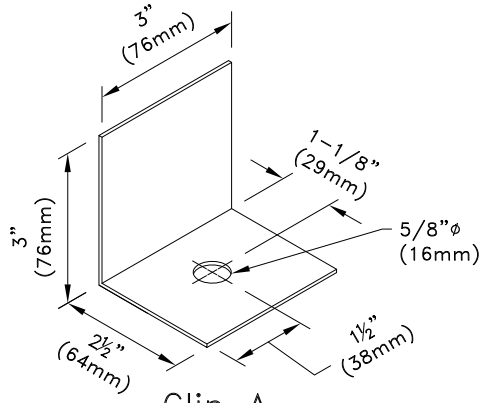
TrusSteel Detail Category:
Truss-To-Bearing: Structural Steel

Allowable Loads – lbs (kN)[A,B]		
f'c of concrete psi (MPa)	Allowable Loads	12g Clip TSC2.75 Chord Clip on Both Faces
2500 (17.24)	U	1170 (5.20)
	P_1	660 (2.94)
3000 (20.68)	U	1300 (5.79)
	P_1	660 (2.94)
4000 (27.58)	U	1500 (6.67)
	P_1	660 (2.94)
5000 (34.47)	U	1670 (7.43)
	P_1	660 (2.94)

Allowable Loads – lbs (kN)[A,B]		
f'c of concrete psi (MPa)	Allowable Loads	16g Clip TSC2.75 Chord Clip on Both Faces
2500 (17.24)	U	960 (4.27)
	P_1	660 (2.94)

A. Allowable loads shown on this detail are not in combination.
B. Design values are for cracked or uncracked concrete.





Clip A

16 ga ASTM A653 SS Grade 33 G60
Bare metal thickness, t = 0.0538" (1.37mm)
or
12 ga ASTM A653 SS Grade 33 G60
Bare metal thickness, t = 0.0966" (2.45mm)

General Notes:

1. Attachment of second clip on opposite face of chord is identical to what is detailed.
2. This detail is for 1-Ply or 2-Ply truss only, for 3-Ply trusses contact a TrusSteel engineer.
3. #10SDS Screw end distance and edge distance is 9/32" (7.14mm) minimum. Screw spacing is 9/16" (14.3mm) minimum.
4. Special inspection is required. For proper installation of Titen HD fasteners and requirements of special inspection, refer to ICC ESR-2713 (September, 2021).
5. It is the responsibility of the building designer to verify that the structural support members are designed for all applicable loads including (but not limited to) the loads given on this detail.
6. Allowable loads shown are for use with normal weight concrete.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

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TSC2.75 Chord End Vertical Uplift Attachment To Concrete Bearing

Standard Detail: TS077

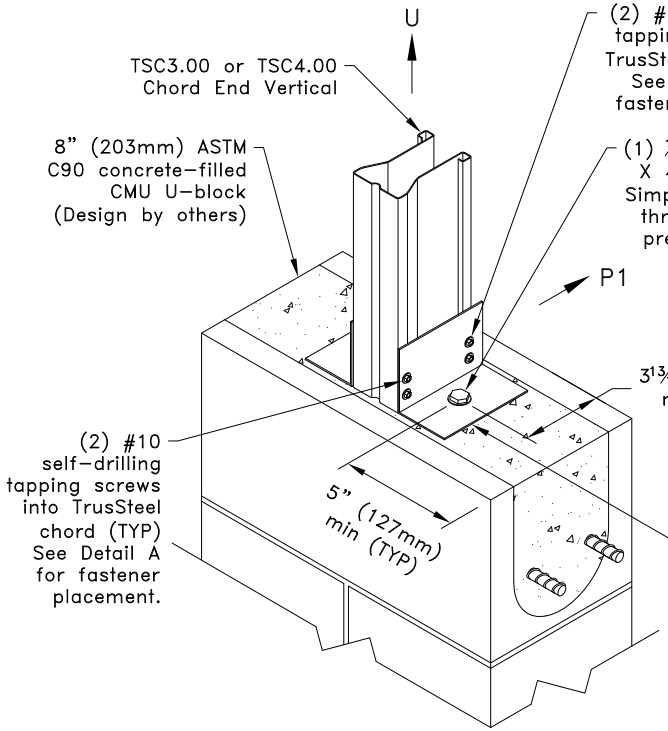
Date: 06/01/22

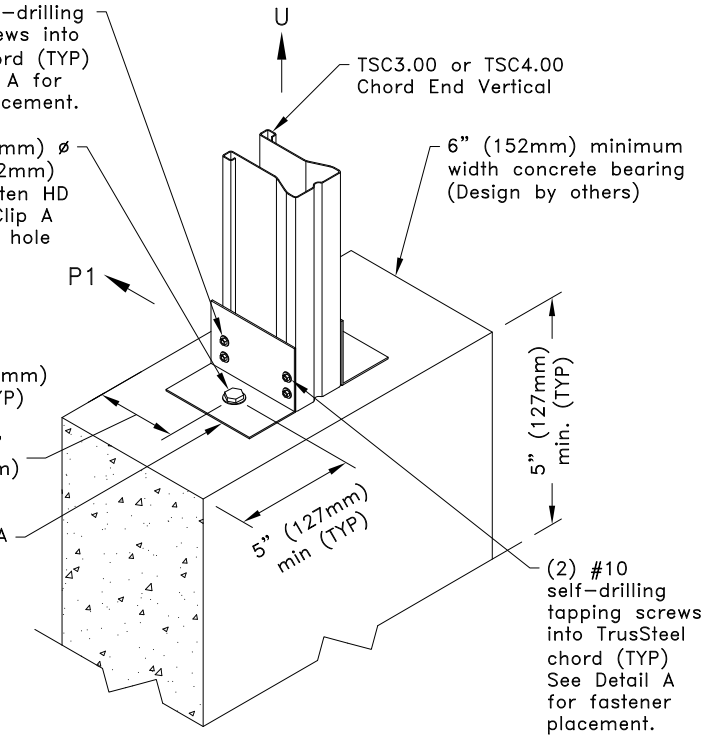
TrusSteel Detail Category: Truss-To-Bearing: Concrete

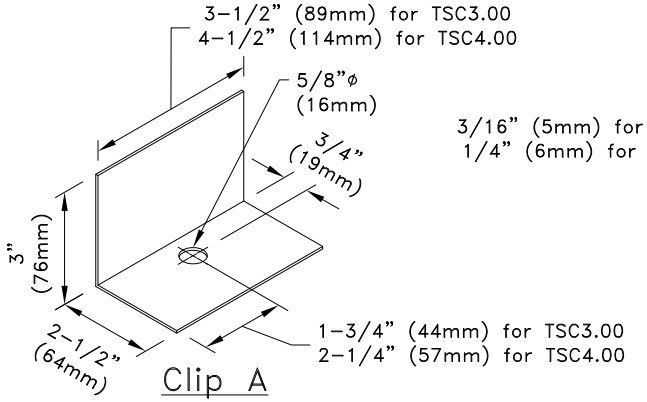
Allowable Loads – lbs (kN)[A,B]			
f'c of concrete psi (MPa)	Allowable Loads	12g Clip	
		TSC3.00 Chord	TSC4.00 Chord
		Clip on Both Faces	Clip on Both Faces
2500 (17.24)	U	1280 (5.69)	1280 (5.69)
	P_1	650 (2.89)	730 (3.25)
3000 (20.68)	U	1310 (5.83)	1420 (6.32)
	P_1	650 (2.89)	730 (3.25)
4000 (27.58)	U	1310 (5.83)	1470 (6.54)
	P_1	650 (2.89)	730 (3.25)
5000 (34.47)	U	1310 (5.83)	1470 (6.54)
	P_1	650 (2.89)	730 (3.25)

Allowable Loads – lbs (kN)[A,B]		
f'c of concrete psi (MPa)	Allowable Loads	16g Clip
		TSC3.00 or TSC4.00 Chord
		Clip on Both Faces
2500 (17.24)	U	960 (4.27)
	P_1	650 (2.89)

A. Allowable loads shown on this detail are not in combination.
B. Design values are for cracked or uncracked concrete.

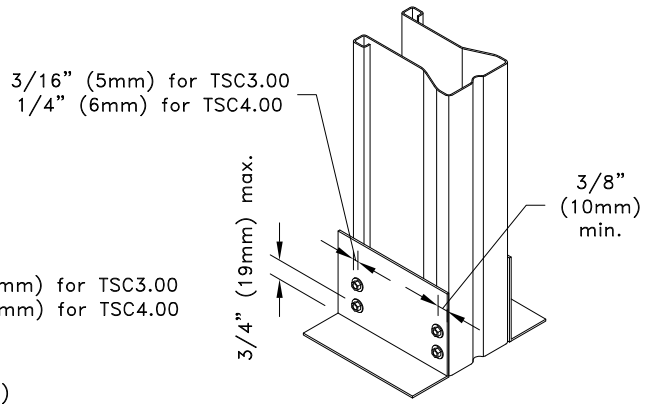






Clip A

16 ga ASTM A653 SS Grade 33 G60
Bare metal thickness, t = 0.0538" (1.37mm)
or
12 ga ASTM A653 SS Grade 33 G60
Bare metal thickness, t = 0.0966" (2.45mm)



Detail A
Fastener Placement

General Notes:

1. Attachment of second clip on opposite face of chord is identical to what is detailed.
2. This detail is for 1-Ply or 2-Ply truss only, for 3-Ply trusses contact a TrusSteel engineer.
3. #10SDS Screw end distance and edge distance is 9/32" (7.14mm) minimum. Screw spacing is 9/16" (14.3mm) minimum.
4. Special inspection is required. For proper installation of Titen HD fasteners and requirements of special inspection, refer to ICC ESR-2713 (September, 2021).
5. It is the responsibility of the building designer to verify that the structural support members are designed for all applicable loads including (but not limited to) the loads given on this detail.
6. Allowable loads shown are for use with normal weight concrete.
7. Cold-Formed Steel calculations are per the 2020 supplement to AISI 2016 "North American Specification for the Design of Cold-Formed Steel Structural Members" (S100-16/S2-20).

ALPINE TrusSteel™

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155 Harlem Ave., North Building, 4th Floor / Glenview, IL 60025 / (800) 755-6001

TSC3.00 or TSC4.00 Chord End Vertical Uplift Attachment To Concrete Bearing

Standard Detail: TS077A

Date: 06/01/22

TrusSteel Detail Category: Truss-To-Bearing: Concrete

Standard Detail Index

See referenced Technical Bulletins for important information on using specific Standard Details

Category	Description	Technical Bulletin

Bracing / Reinforcement

TS019	General Web Reinforcement Guidelines	
TS046	Top Chord Overhang Reinforcement	
TS046A	Chord Reinforcement	
TS073	Generic C-Stud Scab Installation Guide	

Chord End Vertical

TS072	TSC2.75 Connection For Chord End Vertical Condition	
TS072A	TSC3.00 Connection For Chord End Vertical Condition	
TS072B	TSC4.00 Connection For Chord End Vertical Condition	

Chord Splices

TS002A	TSC2.75 Splices Using The “Tube Only” Splice	
TS002B	TSC2.75 Splices Using The TS68UPS2 Universal Piece	
TS012B	TSC4.00 Splices Using the TS97UPS4 Universal Piece	
TS012E	TSC4.00 Splices	
TS012F	TSC3.00 Splices Using The “Tube Only” Splice	
TS012G	TSC3.00 To TSC4.00 Splices Using The “Tube Only” Splice	

Fastener Placement

TS011	Tube And C-Web Fastener Placement And Allowable Shear Loads	
TS011A	Z-Web Fastener Placement And Allowable Shear Loads	

Floor Truss

TS042	Allowable Duct Sizes for TrusSteel Floor Trusses	
TS066	Strongback Bridging Guidelines For TrusSteel Floor Trusses	TB070404 and TB971125

Gables

TS013	3-5/8” C-Stud Gable Framing	
TS014	6” C-Stud Gable Framing	
TS070	Guidelines For TrusSteel Gable Truss (General Reinforcement Installation)	

See referenced Technical Bulletins for important information on using specific Standard Details

Category	Description	Technical Bulletin

Heels

TS006	TSC2.75, TSC3.00 and TSC4.00 Standard Heel Height Detail	

Hip Framing

TS056	Hip Ridge Blocking Framing Detail for 24” (610mm) O.C. Trusses	
TS056A	Hip Ridge Blocking Framing Detail for 48” (1219mm) O.C. Trusses	

Member Section Properties

TS007	TSC2.75 Chord Properties	TB010914
TS008	TSC4.00 Chord Properties	TB010914
TS008A	TSC3.00 Chord Properties	TB010914
TS009	TSC2.75 Tube Web Properties	
TS010	TSC3.00 & TSC4.00 C-Web and Tube Web Properties	
TS010A	TSC3.00 & TSC4.00 Z-Web Properties	

Outlooker

TS041	C-Stud Outlooker Attachment to TrusSteel Trusses	

Piggybacks

TS003	Piggyback Uplift Connection (Piggyback Sits On Purlins)	TB981026
TS003A	Roof Deck Support On Piggyback Overhangs	TB981026
TS003B	Piggyback Uplift Connection (Piggyback Sits Directly On Base Truss)	TB981026

Pitch Break Connections

TS004	TSC2.75 Pitch Break Connector Fastener Contact Areas	
TS004A	TSC2.75 K-Web Connector Fastener Areas	
TS004B	TSC2.75 Straight Pitch Break Connector Fastener Area	
TS004C	TSC2.75 Welded Pitch Break Connector Fastener Areas	
TS004D	TSC2.75 Clipped and Coped Connection Fastener Areas	
TS004E	TSC2.75 Seat Cut Tube Pitch Break Connector	
TS004F	TSC2.75 Gusset Plate Fastener Placement	

See referenced Technical Bulletins for important information on using specific Standard Details

Category	Description	Technical Bulletin

Pitch Break Connections

TS016	TSC3.00 or TSC4.00 Pitch Break Connector Fastener Contact Areas	
TS016A	TSC3.00 or TSC4.00 K-Web Connector Fastener Areas	
TS016B	TSC3.00 or TSC4.00 Straight Pitch Break Connector Fastener Areas	
TS016C	TSC3.00 or TSC4.00 Reinforced Pitch Break Connector #14SDS Fastener Areas	
TS016D	TSC4.00 Welded Pitch Break Connector Fastener Areas	
TS016E	TSC3.00 or TSC4.00 Clipped and Coped Connections Connector Fastener Areas	
TS016F	TSC3.00 or TSC4.00 Seat Cut Tube Pitch Break Connector	
TS016G	TSC3.00 or TSC4.00 Gusset Plate Fastener Placement	

Ply-to-Ply Connections

TS023	TSC2.75, TSC3.00 or TSC4.00 Ply-To-Ply Connection When Hangers Are Used To Support Trusses	TB010420
TS023A	Ply-To-Ply Connection For Uplift Connections On 3-Ply Trusses	
TS024	TSC3.00 or TSC4.00 Ply-To-Ply Connections Using Bolts When Hangers Are Used To Support Trusses	
TS025D	Multi-ply #1 Hips – Ply-To-Ply Connection Detail	
TS025E	2-Ply Hipjack Connections	
TS057	Multiple Member Truss Ply-To-Ply Connections	

Sprinkler Pipe Hangers

TS049	Bottom Chord Sprinkler Pipe Hanger for 8” (203mm) Maximum Diameter Pipe	TB000901 and TB070920
TS049A	Top Chord Sprinkler Pipe Hanger for 1-1/2” (38mm) Maximum Diameter Pipe	TB000901 and TB070920
TS049B	Top Chord Sprinkler Pipe Hanger for 8” (203mm) Maximum Diameter Pipe	TB000901 and TB070920
TS049C	C-Stud Sprinkler Trapeze at Bottom Chord for 2” (51mm) Maximum Diameter Pipe	TB000901 and TB070920
TS049D	TSC Sprinkler Trapeze at Bottom Chord for 2” (51mm) Maximum Diameter Pipe	TB000901 and TB070920
TS049E	C-Stud Sprinkler Trapeze at Top Chord for 2” (51mm) Maximum Diameter Pipe	TB000901 and TB070920
TS049F	TSC Sprinkler Trapeze at Top Chord for 2” (51mm) Maximum Diameter Pipe	TB000901 and TB070920
TS049G	Double C-Stud Sprinkler Trapeze at Bottom Chord for 5” (127mm) Max. Diameter Pipe	TB000901 and TB070920
TS049H	Double C-Stud Sprinkler Trapeze at Top Chord for 5” (127mm) Max. Diameter Pipe	TB000901 and TB070920

See referenced Technical Bulletins for important information on using specific Standard Details

Category	Description	Technical Bulletin

Sprinkler Pipe Hangers

TS049I	Double C-Stud Sprinkler Trapeze at Bottom Chord for 8" (203mm) Max. Diameter Pipe	TB000901 and TB070920
TS049J	Double C-Stud Sprinkler Trapeze at TSC2.75 Top Chord for 6" (152mm) Max. Dia. Pipe	TB000901 and TB070920
TS049K	Double C-Stud Sprinkler Trapeze at TSC3.00 or TSC4.00 Top Chord for 8" (203mm) Max. Diameter Pipe	TB000901 and TB070920
TS049L	Bottom Chord Sprinkler Pipe hanger for 4" (102mm) Max. Diameter Pipe Using Sammys X-Press 35 (XP 35)	TB000901 and TB070920

Top Chord Bearing

TS020	DISCONTINUED	
TS020A	DISCONTINUED	

Truss-to-Bearing: Cold-Formed Steel

TS027B	TS6WTC3 or TS1WTC3 – Welded Truss Clip to Cold-Formed Steel Bearing	TB980925 and TB981005
TS027C	TS6WTC5 or TS1WTC5 – Welded Truss Clip to Cold-Formed Steel Bearing	TB980925 and TB981005
TS027F NEW	TS6WTC3 or TS1WTC3 – Welded Truss Clip to Cold-Formed Steel Bearing	TB980925 and TB981005
TS027G NEW	TS6WTC5 or TS1WTC5 – Welded Truss Clip to Cold-Formed Steel Bearing	TB980925 and TB981005
TS028	TSUC3 Uplift Attachment to Cold-Formed Steel Using #10SDS	TB980925
TS028A NEW	TSUC3 Uplift Attachment to Cold-Formed Steel Using #14SDS	TB980925
TS029	TSUC5 Uplift Attachment to Cold-Formed Steel Using #10SDS	TB980925
TS029A NEW	TSUC5 Uplift Attachment to Cold-Formed Steel Using #14SDS	TB980925
TS071	Connection For Truss To CFS Wall Stud	
TS074B NEW	Chord End Vertical With TS6WTC3 or TS1WTC3 Welded Truss Clip to Cold-Formed Steel Bearing	TB981005
TS074C NEW	Chord End Vertical With TS6WTC5 or TS1WTC5 Welded Truss Clip to Cold-Formed Steel Bearing	TB981005
TS075 NEW	TSC2.75 Chord End Vertical Uplift Attachment to Cold-Formed Steel Using Screws	
TS075A NEW	TSC3.00 or TSC4.00 Chord End Vertical Uplift Attachment to Cold-Formed Steel Using Screws	

Truss-to-Bearing: Concrete

TS030	TSUC3 Uplift Attachment to Concrete Bearing	TB980925
TS031	TSUC5 Uplift Attachment to Concrete Bearing	TB980925
TS031A	Uplift Attachment to Grout-Filled CMU Bearing	TB980925

See referenced Technical Bulletins for important information on using specific Standard Details

Category	Description	Technical Bulletin

Truss-to-Bearing: Concrete

TS031B	Uplift Attachment To Concrete Bearing	
TS034	Simpson META (or equal) Uplift Attachment to Concrete Bearing	TB980925
TS035	Simpson META (or equal) Uplift Attachment Over Top Of Truss Into Concrete Bearing	TB980925
TS043	TSUC7 Uplift Attachment to Concrete Bearing	TB980925
TS050	DISCONTINUED	
TS051	DISCONTINUED	
TS052	DISCONTINUED	
TS053	DISCONTINUED	
TS054	DISCONTINUED	
TS055	DISCONTINUED	
TS058	Simpson MTS20 & MTS30 (or equal) Uplift Attachment Over Top Of Truss Into Face Of Concrete Bearing	TB980925
TS058A	Simpson MTS30 (or equal) Uplift Attachment To Truss Vertical Web Into Face Of Concrete Bearing	
TS077 NEW	TSC2.75 Chord End Vertical Uplift Attachment To Concrete Bearing	
TS077A NEW	TSC3.00 or TSC4.00 Chord End Vertical Uplift Attachment To Concrete Bearing	

Truss-to-Bearing: Structural Steel

TS027	TS6WTC3 or TS1WTC3 – Welded Truss Clip to Structural Steel Bearing	TB980925 and TB981005
TS027A	TS6WTC5 or TS1WTC5 – Welded Truss Clip to Structural Steel Bearing	TB980925 and TB981005
TS027D NEW	TS6WTC3 or TS1WTC3 – Welded Truss Clip to Structural Steel Bearing	TB980925 and TB981005
TS027E NEW	TS6WTC5 or TS1WTC5 – Welded Truss Clip to Structural Steel Bearing	TB980925 and TB981005
TS039	TSUC3 Uplift Attachment to Structural Steel Bearing Using Hilti Pins (Steel From 3/16” to 1/2” Thick)	TB980925
TS039A	TSUC3 Uplift Attachment to Structural Steel Bearing Using Hilti Pins (Steel Greater Than 1/2” to 3/4” Thick)	
TS039B	TSUC3 Uplift Attachment to Structural Steel Bearing Using ITW Ramset Pins (Steel From 3/16” to 1/2” Thick)	
TS039C	TSUC3 Uplift Attachment to Structural Steel Bearing Using ITW Ramset Pins (Steel Greater Than 1/2” to 3/4” Thick)	
TS040	TSUC5 Uplift Attachment to Structural Steel Bearing Using Hilti Pins (Steel From 3/16” to 1/2” Thick)	TB980925
TS040A	TSUC5 Uplift Attachment to Structural Steel Bearing Using Hilti Pins (Steel Greater Than 1/2” to 3/4” Thick)	

See referenced Technical Bulletins for important information on using specific Standard Details

Category	Description	Technical Bulletin

Truss-to-Bearing: Structural Steel

TS040B	TSUC5 Uplift Attachment to Structural Steel Bearing Using ITW Ramset Pins (Steel From 3/16” to 1/2” Thick)	
TS040C	TSUC5 Uplift Attachment to Structural Steel Bearing Using ITW Ramset Pins (Steel Greater Than 1/2” to 3/4” Thick)	
TS047	TSUC3 Uplift Attachment to Structural Steel Bearing Using Screws	TB980925
TS048	TSUC5 Uplift Attachment to Structural Steel Bearing Using Screws	TB980925
TS074 NEW	Chord End Vertical With TS6WTC3 or TS1WTC3 Welded Truss Clip to Structural Steel Bearing	TB981005
TS074A NEW	Chord End Vertical With TS6WTC5 or TS1WTC5 Welded Truss Clip to Structural Steel Bearing	TB981005
TS075B NEW	TSC2.75 Chord End Vertical Attachment to Structural Steel Bearing Using Screws	
TS075C NEW	TSC3.00 or TSC4.00 Chord End Vertical Attachment to Structural Steel Bearing Using Screws	
TS076 NEW	TSC2.75 Chord End Vertical Uplift Attachment To Structural Steel Bearing Using Hilti Pins (Steel From 3/16” to 3/4” Thick)	
TS076A NEW	TSC3.00 or TSC4.00 Chord End Vertical Uplift Attachment To Structural Steel Bearing Using Hilti Pins (Steel From 3/16” to 3/4” Thick)	
TS076B NEW	TSC2.75 Chord End Vertical Uplift Attachment To Structural Steel Bearing Using ITW Ramset Pins (Steel From 3/16” to 3/4” Thick)	
TS076C NEW	TSC3.00 or TSC4.00 Chord End Vertical Uplift Attachment To Structural Steel Bearing Using ITW Ramset Pins (Steel From 3/16” to 3/4” Thick)	

Truss-to-Bearing: Wood

TS032	TSUC3 Uplift Attachment to Wood Bearing	TB980925
TS033	TSUC5 Uplift Attachment to Wood Bearing	TB980925

Truss-to-Truss Connections

TS001	Truss-To-Truss Connections Using TTC Clips	TB010420
TS001A	Truss-To-Truss Connection Using TTC Clips (1 Ply Girder)	
TS001B	Truss-To-Truss Connection Using TTC Clips (2 Ply Girder)	
TS001C	Truss-To-Truss Connection Using TTC Clips (3 Ply Girder)	
TS001D	Face Mounted Truss-To-Truss Connection Using TTC Clips (1 Ply Girder)	
TS001E	Face Mounted Truss-To-Truss Connection Using TTC Clips (2 Ply Girder)	
TS001F	Face Mounted Truss-To-Truss Connection Using TTC Clips (3 Ply Girder)	
TS022	TSJH22, 24, and 44 Hanger Application	TB010420

See referenced Technical Bulletins for important information on using specific Standard Details

Category	Description	Technical Bulletin

Truss-to-Truss Connections

TS022A	TSJH22, 24, and 44 Hanger Application with Reduced Screw Quantities	TB010420
TS025	45° Hipjack, Endjack And Cornerjack Connection Details	
TS025A	Non 45° Hipjack, Endjack, & Cornerjack Connection Details	
TS025B	45° Connection For Single Ply TSC2.75 Girder (Supported Trusses Have Horizontal and Vertical Reactions)	TB060628
TS025C	45° Connection For Single Ply TSC3.00 or TSC4.00 Girder (Supported Trusses Have Horizontal and Vertical Reactions)	TB060628
TS059	Heavy TSC2.75 Truss-To-Truss Connection (1 Ply Girder)	
TS059A	Heavy TSC2.75 Truss-To-Truss Connection (2 Ply Girder)	
TS059B	Heavy TSC2.75 Truss-To-Truss Connection (3 Ply Girder)	
TS060	Heavy TSC3.00 or TSC4.00 Truss-To-Truss Connection (1 Ply Girder) Tube Webs	
TS060A	Heavy TSC3.00 or TSC4.00 Truss-To-Truss Connection (2 Ply Girder) Tube Webs	
TS060B	Heavy TSC3.00 or TSC4.00 Truss-To-Truss Connection (3 Ply Girder) Tube Webs	
TS060C	Heavy Duty TSC3.00 or TSC4.00 Truss-To-Truss Conn. Up To 3-Ply Girder – Z-Webs	
TS061	Heavy 2-Ply TSC2.75 Truss-To-Truss Connection (1 Ply Girder) Tube Webs	
TS061A	Heavy 2-Ply TSC2.75 Truss-To-Truss Connection (2 Ply Girder) Tube Webs	
TS061B	Heavy 2-Ply TSC2.75 Truss-To-Truss Connection (3 Ply Girder) Tube Webs	
TS062	Heavy 2-Ply TSC3.00 or TSC4.00 Truss-To-Truss Connection (1 Ply Girder) Tube Webs	
TS062A	Heavy 2-Ply TSC3.00 or TSC4.00 Truss-To-Truss Connection (2 Ply Girder) Tube Webs	
TS062B	Heavy 2-Ply TSC3.00 or TSC4.00 Truss-To-Truss Connection (3 Ply Girder) Tube Webs	
TS062C	Heavy Duty 2-Ply TSC3.00 or TSC4.00 Truss-To-Truss Conn. Up To 3-Ply Girder – Z-Webs	
TS068	Connection Areas for Clip/Plate to Z-Webs	
TS069	2-Sided Stub Web 90° Connection (Allowable Tie-In Loads)	

Valley Set

TS026	TrusSteel Valley Truss Connection To Base Truss	
TS026A	TrusSteel Valley Truss Connection To Steel Deck	
TS026B	TrusSteel Valley Truss Connection for Rated Wood Sheathing	