

AASHTOWare BrR 6.8

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***Truss Tutorial***  
*Truss Gusset Plate Example*

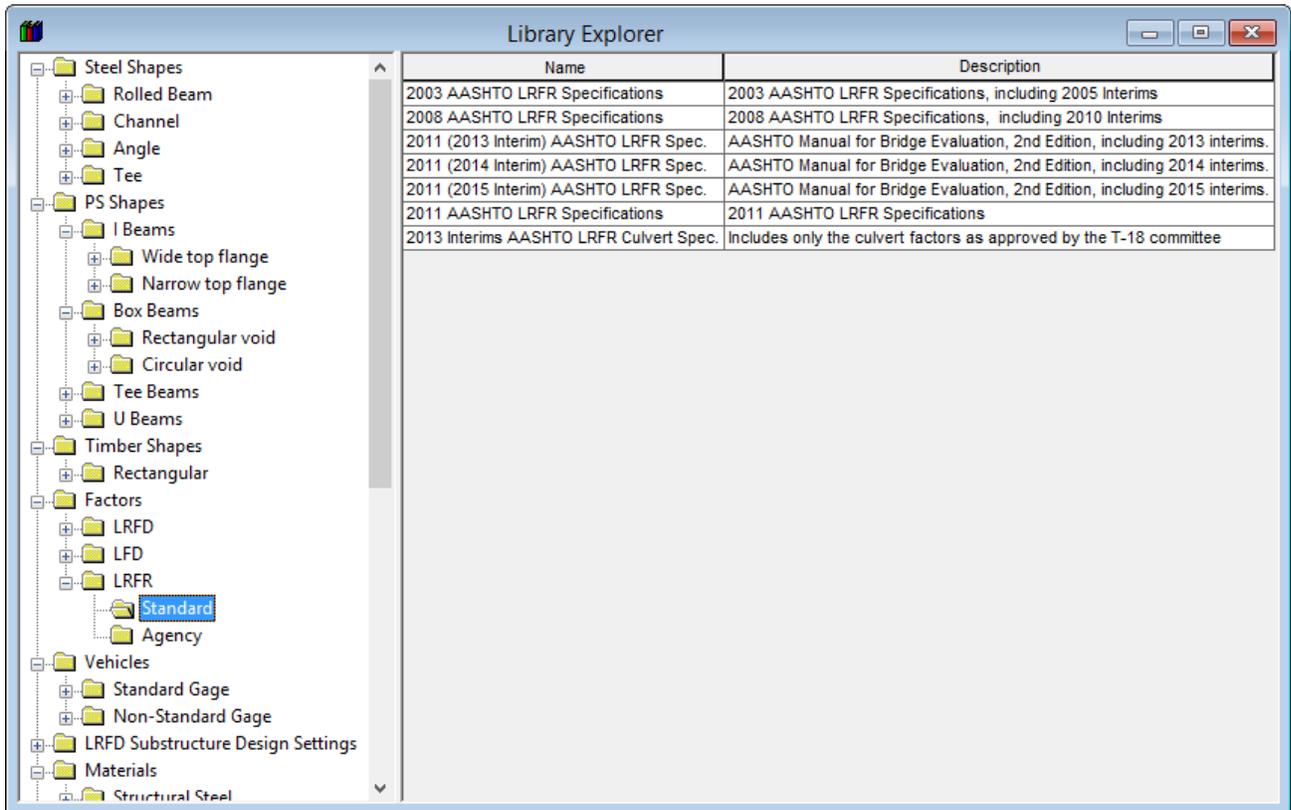
## AASHTOWare Bridge Rating Training

### TGP1 – Truss Gusset Plate Example

#### Topics Covered

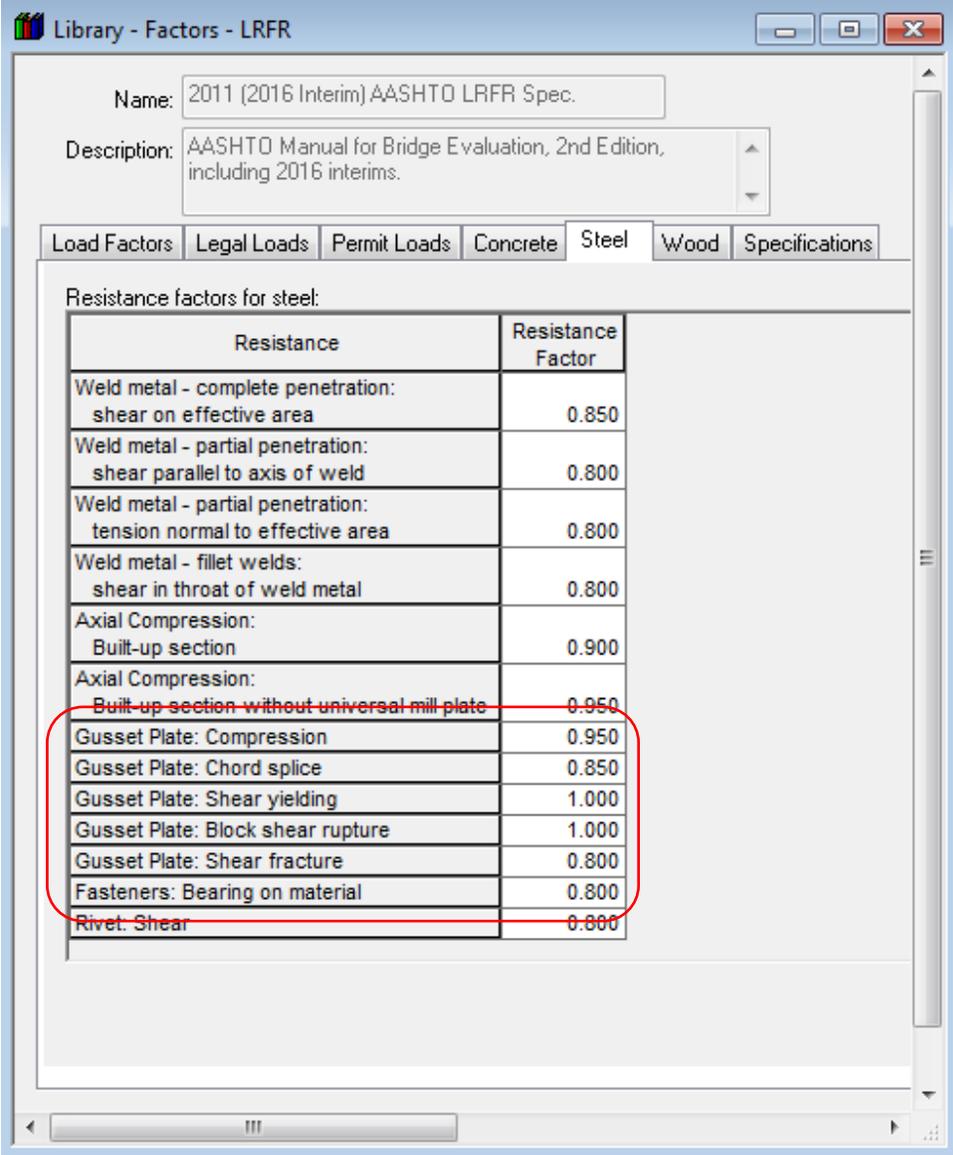
- Gusset plate LRFR Factors and LFD Factors
- Enter Gusset Plate Definition
- Assign Gusset Plate Definition at Panel Point
- Perform truss rating with gusset plates and review results

Start BrDR or BrR and open the Library Explorer, expand the Factors library item's LRFR folder and select the Standard folder.



## TGP1 - Truss Gusset Plate Example

Open the 2011 (2016 Interim) AASHTO LRFR Spec. LRFR Factors and select the Steel tab. The gusset plate LRFR resistance factors are listed at the bottom of table.



Library - Factors - LRFR

Name: 2011 (2016 Interim) AASHTO LRFR Spec.

Description: AASHTO Manual for Bridge Evaluation, 2nd Edition, including 2016 interims.

Load Factors | Legal Loads | Permit Loads | Concrete | **Steel** | Wood | Specifications

Resistance factors for steel:

Resistance	Resistance Factor
Weld metal - complete penetration: shear on effective area	0.850
Weld metal - partial penetration: shear parallel to axis of weld	0.800
Weld metal - partial penetration: tension normal to effective area	0.800
Weld metal - fillet welds: shear in throat of weld metal	0.800
Axial Compression: Built-up section	0.900
Axial Compression: <del>Built-up section without universal mill plate</del>	<del>0.950</del>
Gusset Plate: Compression	0.950
Gusset Plate: Chord splice	0.850
Gusset Plate: Shear yielding	1.000
Gusset Plate: Block shear rupture	1.000
Gusset Plate: Shear fracture	0.800
Fasteners: Bearing on material	0.800
Rivet: Shear	0.800

Close the LRFR Factors window.

## TGP1 - Truss Gusset Plate Example

Expand the Factors library item's LFD folder and select the Standard folder. Open the 2002 AASHTO Std. Specifications LFD Factors and select the Phi Factors tab. The gusset plate LFD strength reduction factors are listed at the bottom of table.

The screenshot shows a software window titled "Library - Factors - LFD". It has a "Name" field containing "2002 AASHTO Std. Specifications" and a "Description" field containing "AASHTO Standard Specifications for Highway Bridges, 17th Edition, 2002". There are radio buttons for "Standard" (selected) and "Agency Defined". Below are tabs for "Load Factors", "Phi Factors", and "Specifications". The "Phi Factors" tab is active, showing a table of "Strength Reduction Factors".

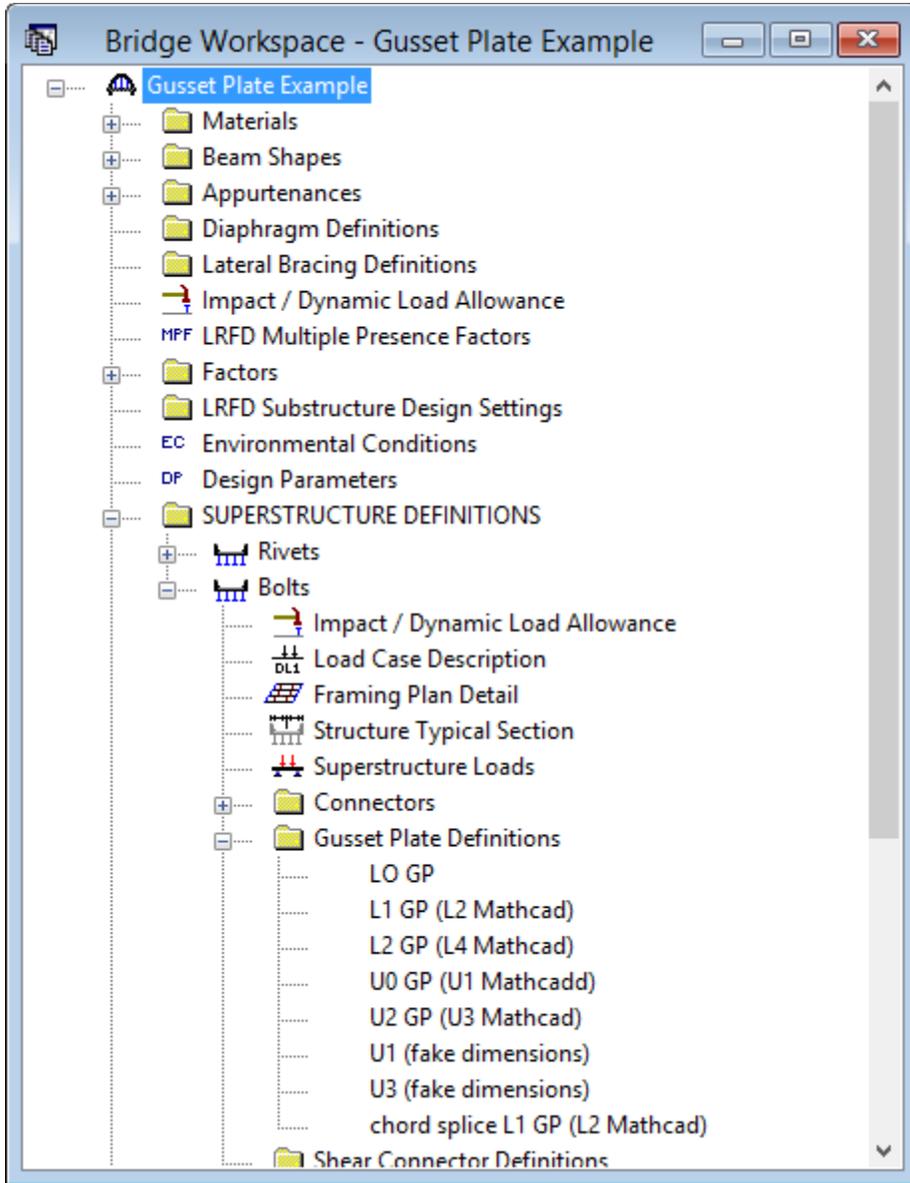
Resistance	Resistance Factor
Prestressed concrete: Shear	0.900
Prestressed concrete: Flexure in Non-P/S Components	0.900
Steel: Flexure	1.000
Steel: Shear	1.000
Steel: Bearing Stiffeners	1.000
Precast reinforced concrete culvert: Flexure	1.000
Precast reinforced concrete culvert: Shear	0.900
Gusset Plate: Shear yielding	1.000
Gusset Plate: Block shear rupture	0.850
Gusset Plate: Shear fracture	0.850
Gusset Plate: Compression	1.000
Gusset Plate: Chord splice	1.000
Tension: Yielding in gross section	1.000
Rivet: Shear	0.800

At the bottom of the window are "Save" and "Close" buttons.

Close the LFD Factors window and the Library Explorer.

## TGP1 - Truss Gusset Plate Example

From the Bridge Explorer, open the Bridge Workspace for BID 28 (Gusset Plate Example). Expand the Bolts Superstructure Definition and the Gusset Plate Definitions folder. The Bridge Workspace for BID 28 (Gusset Plate Example) is shown below.



## TGP1 - Truss Gusset Plate Example

Open the L2 GP (L4 Mathcad) Gusset Plate Definition. Identical double gusset plates is selected for this Gusset Plate Definition and the Material and Dimensions are entered for the Left Plate. Left plate is the plate on the left side of the connection when looking stations ahead. Right plate is the plate on the right side of the connection when looking stations ahead. If Different double gusset plates is selected, the right plate details must be entered. If Identical double gusset plates is selected and Contains corrosion is checked, the right plate details must be entered.

**Gusset Plate Definition**

Name: L2 GP (L4 Mathcad)

Description: Panel Point Fasteners Plate Tension Plate Compression Plate Shear Chord Splice Load Transfer

Description:

Plates:

- Single gusset plate
- Identical double gusset plates
- Different double gusset plates

Condition factor: Good or Satisfactory

Contains corrosion

Dimensions:

Field measured section properties

Left Plate:

Material: gusset plate 1969

As-built plate thickness: 0.25 in

Length: 22.50 in

Height: 12.00 in

Right Plate:

Material:

As-built plate thickness:

Length:

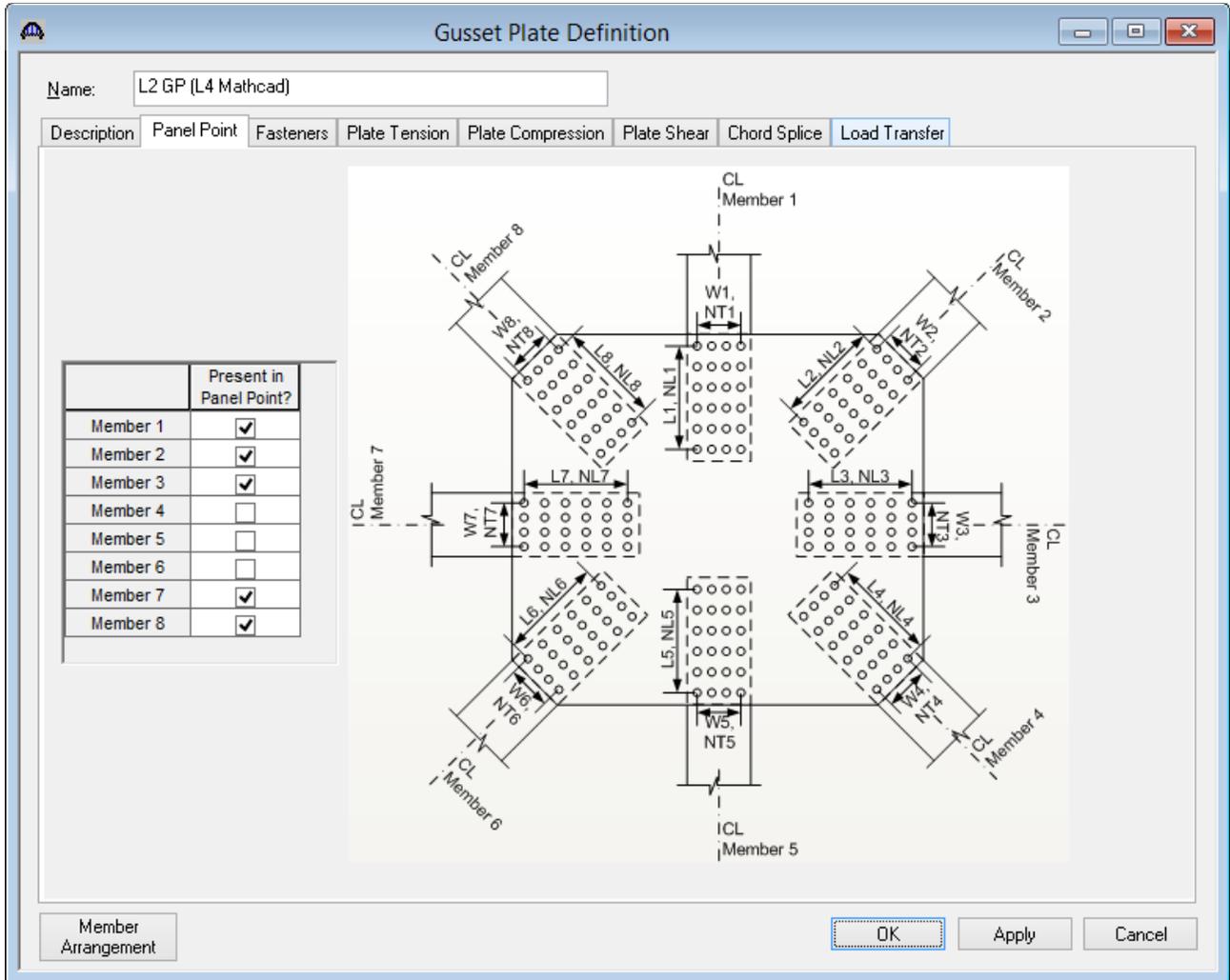
Height:

Member Arrangement

OK Apply Cancel

## TGP1 - Truss Gusset Plate Example

Select the Panel Point tab. This tab specifies the arrangement of truss members present in the Gusset Plate Definition. Member 1, 2, 3, 7 and 8 are present in this Gusset Plate Definition. The truss member arrangement will be validated when the Gusset Plate Definition is assigned to a Panel Point.



TGP1 - Truss Gusset Plate Example

Select the Fasteners tab. Only truss members present in this Gusset Plate Definition are listed in the tables. Same as left plate is checked specifying the fasteners information for the Right Plate is the same as the Left Plate.

**Gusset Plate Definition**

Name:

Left Plate

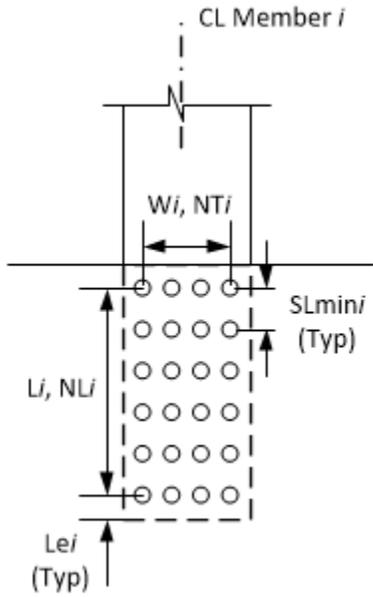
	Connector	NL	L (in)	NT	W (in)	N Total	Le (in)	SLmin (in)	Af (in <sup>2</sup> )	Ap (in <sup>2</sup> )	NShear	NSlip
Member 1	bolt user defined	3.000	5.000	1.000			1.875	2.500			1.000	1.000
Member 2	bolt user defined	3.000	7.000	1.000			2.644	3.500			1.000	1.000
Member 3	bolt user defined	3.000	7.000	1.000			2.500	3.500			1.000	1.000
Member 7	bolt user defined	3.000	7.000	1.000			2.500	3.500			1.000	1.000
Member 8	bolt user defined	3.000	7.000	1.000			2.644	3.500			1.000	1.000

Right Plate

Same as left plate

	Connector	NL	L (in)	NT	W (in)	N Total	Le (in)	SLmin (in)	Af (in <sup>2</sup> )	Ap (in <sup>2</sup> )	NShear	NSlip
Member 1												
Member 2												
Member 3												
Member 7												
Member 8												

TGP1 - Truss Gusset Plate Example



- NL = Number of fasteners in a row along the longitudinal axis of the truss member.
- L = Length between extreme fasteners in a row along the longitudinal axis of the truss member.
- NT = Number of fasteners in a row along the transverse axis of the truss member.
- W = Width between extreme fasteners in a row along the transverse axis of the truss member.
- N Total = Total number of fasteners in the connection. Computed as  $NL \times NT$  if left blank.
- Le = Distance between center of last fastener and end of gusset plate measured in the direction of the applied bearing force (along the longitudinal axis of the truss member).
- SLmin = Minimum center-to-center spacing of fasteners along the longitudinal axis of the truss member.
- Af, Ap = Used to compute the fastener shear resistance reduction factor in MBE 6A.6.12.6.2. Leave Af and Ap blank if the reduction factor should not be computed.
- NShear = Number of shear planes per fastener.
- NSlip = Number of slip planes per fastener.

## TGP1 - Truss Gusset Plate Example

Select the Plate Tension tab. T, Tension and Tshear are disabled and defaulted to the As-built plate thickness when Contains corrosion is not checked in the Description tab.

Gusset Plate Definition

Name:

Description Panel Point Fasteners Plate Tension Plate Compression Plate Shear Chord Splice Load Transfer

Left Plate

	Yielding and Net Fracture						Block Shear						
	Whitmore Width (in)	T (in)	Nfasteners	U	Rp	Beta (LFR)	Ltension (in)	Ttension (in)	NTfasteners	Lshear (in)	Tshear (in)	NVfasteners	NShear
Member 1	5.750		1.000		0.900	0.150	0.750		1.000	6.875		3.000	1.000
Member 2	8.125		1.000		0.900	0.150	0.750		1.000	9.644		3.000	1.000
Member 3	5.417		1.000		0.900	0.150	1.375		1.000	9.500		3.000	1.000
Member 7	5.417		1.000		0.900	0.150	1.375		1.000	9.500		3.000	1.000
Member 8	8.125		1.000		0.900	0.150	0.750		1.000	9.644		3.000	1.000

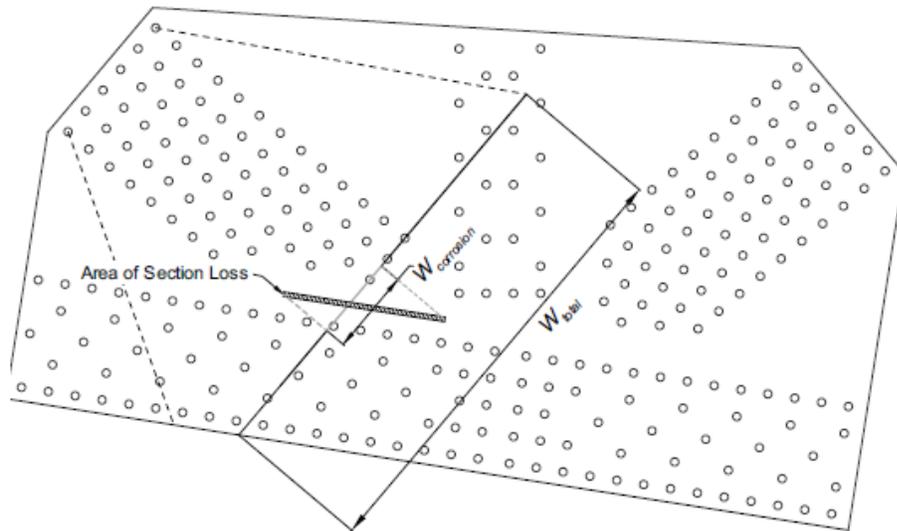
Right Plate

Same as left plate

	Yielding and Net Fracture						Block Shear						
	Whitmore Width (in)	T (in)	Nfasteners	U	Rp	Beta (LFR)	Ltension (in)	Ttension (in)	NTfasteners	Lshear (in)	Tshear (in)	NVfasteners	NShear

### Yielding and Net Fracture:

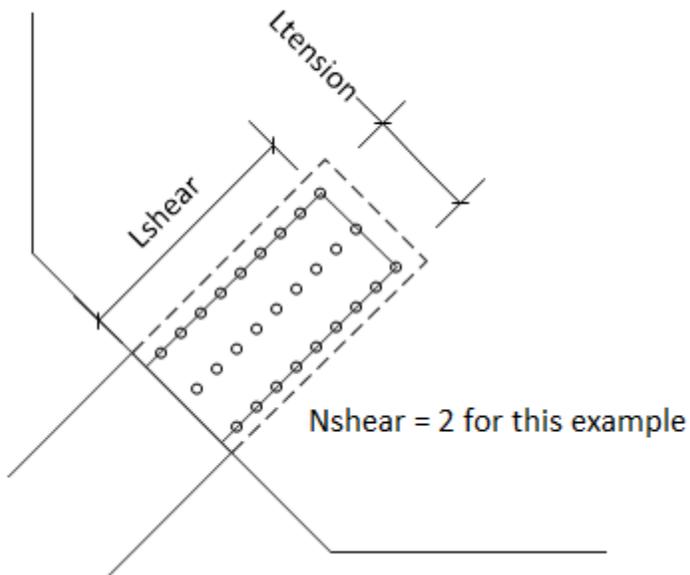
Whitmore Width = Width of the Whitmore section. If left blank, computed as  $W + 2L \times \tan 30^\circ$  where W is the transverse width between extreme fasteners. Refer to MBE Figure 6A.6.12.6.8-1. The user should verify that the computed Whitmore Width cannot be truncated due to the edge of the gusset plate.



## TGP1 - Truss Gusset Plate Example

- T = Thickness of the gusset plate along the Whitmore section.
- Nfasteners = Number of fasteners along the Whitmore section. Used to compute the net area of the Whitmore section. Defaults to NT if left blank.
- U = Shear lag reduction factor. Defaults to 1.0 if left blank.
- Rp = Reduction factor for holes. Defaults to values in MBE 6A.6.12.6.8-1 based on the assigned bolt definition if left blank.
- Beta = LFR adjustment factor from MBE L6B.2.6.5. Defaults to value from spec if left blank.

### Block Shear:



- Ltension = Length of the tension plane.
- Ttension = Thickness of the gusset plate along the tension plane.
- NTfasteners = Number of fasteners along the tension plane.
- Lshear = Length of the shear plane.
- Tshear = Thickness of the gusset plate along the shear plane.
- NVfasteners = Number of fasteners along the shear plane.
- Nshear = Number of shear planes

## TGP1 - Truss Gusset Plate Example

Select the Plate Compression tab. T is disabled and defaulted to the As-built plate thickness when Contains corrosion is not checked in the Description tab.

**Gusset Plate Definition**

Name: L2 GP (L4 Mathcad)

Left Plate

	Whitmore Width (in)	T (in)	Lmid (in)	K (LFR)
Member 1	5.750		3.750	0.500
Member 2	8.125		3.750	0.500
Member 3	5.417		3.500	0.500
Member 7	5.417		3.500	0.500
Member 8	8.125		5.250	0.500

Right Plate

Same as left plate

	Whitmore Width (in)	T (in)	Lmid (in)	K (LFR)
Member 1				
Member 2				
Member 3				
Member 7				
Member 8				

Member Arrangement

Whitmore Width = Width of the Whitmore section. Computed as  $W + 2L \times \tan 30^\circ$  if left blank. Refer to MBE Figure 6A.6.12.6.7-1.

T = Thickness of the gusset plate along the Whitmore section.

Lmid = Distance from the middle of the Whitmore section to the nearest member fastener line in the direction of the member

K = Column effective length factor. Defaults to 0.5 if left blank.

## TGP1 - Truss Gusset Plate Example

Select the Plate Shear tab. Thickness is disabled and defaulted to the As-built plate thickness when Contains corrosion is not checked in the Description tab. The user has the responsibility to determine the critical shear plane locations based on such factors as member configuration and deterioration.

**Gusset Plate Definition**

Name: L2 GP (L4 Mathcad)

Description | Panel Point | Fasteners | Plate Tension | Plate Compression | **Plate Shear** | Chord Splice | Load Transfer

Shear reduction factor: 0.88

**Left Plate**

Shear Plane	Length (in)	Thickness (in)	Number Holes	Hole Diameter (in)
Vertical	12.00		3.00	0.81
Horizontal	22.50		6.00	0.81

**Right Plate**

Same as left plate

Shear Plane	Length (in)	Thickness (in)	Number Holes	Hole Diameter (in)
Vertical				
Horizontal				

**Partial Shear Planes**

Same as left plate

Member	Shear Plane Direction	Length (in)	Thickness (in)
Member 8	Horizontal	11.250	
Member 8	Vertical	10.625	
Member 2	Horizontal	11.250	
Member 2	Vertical	10.625	

New Duplicate Delete

Member Arrangement OK Apply Cancel

Shear reduction factor = Shear reduction factor for the gusset plate. Defaults to 0.88.

### Vertical Shear Plane and Horizontal Shear Plane:

Length = Length of the shear plane.

Thickness = Thickness of the gusset plate along the shear plane.

Number of Holes = Number of holes in the shear plane for the shear rupture check.

Hole Diameter = Diameter of holes in the shear plane.

### Partial Shear Planes:

Member = Specify the compression member for which the defined shear plane should be checked.

Shear Plane Direction = Specify the direction of the partial shear plane.

Length = Length of the partial shear plane.

Thickness = Thickness of the gusset plate along the partial shear plane.

Select the Chord Splice tab.

Consider chord splice = Check this box if the chord splice articles should be considered.

Continuous chord members = Check this box if the chord is continuous at this gusset plate. If the chord is continuous, there is no need to check the vertical shear plane capacity. This does not affect % load transfer. If checked, the horizontal shear plane force calculation will be along the corresponding chord member. If not checked, the horizontal shear plane force calculation will be with respect to true horizontal.

Gross area = Gross area,  $A_g$ , of all plates in the cross-section intersecting the spliced plane.

Gross section modulus = Gross section modulus,  $S_g$ , of all plates in the cross-section intersecting the spliced plane. Use the section modulus that corresponds to the edge of the splice (top or bottom) that sees the maximum axial plus bending stress.

epg = Distance between the centroid of the gross cross-section and the resultant force perpendicular to the spliced plane.

**Compression Splice:**

Lsplice = Center-to-center distance between the first lines of fasteners in adjoining chords.

K = Effective column length factor. Defaults to 0.5 if left blank.

## TGP1 - Truss Gusset Plate Example

Gusset plate thickness = Thickness of the gusset plate. Used to compute the slenderness ratio.

Defaults to the minimum of left and right As-built plate thickness if left blank.

Computed slenderness ratio = The computed slenderness ratio of the chord splice.

Fcr = If the computed slenderness ratio is less than 25 as per MBE 6A.6.12.6.9-2, the Fcr is set to Fy.

### Tension Splice:

Net area = Net area, An, of all plates in the cross-section intersecting the spliced plane.

Net section modulus = Net section modulus, Sn, of all plates in the cross-section intersecting the spliced plane. Use the section modulus that corresponds to the edge of the splice (top or bottom) that sees the maximum axial plus bending stress.

e<sub>pn</sub> = Distance between the centroid of the net cross-section and the resultant force perpendicular to the spliced plane.

Select the Load Transfer tab.

The screenshot shows the 'Gusset Plate Definition' dialog box with the 'Load Transfer' tab selected. The 'Name' field contains 'L2 GP (L4 Mathcad)'. The dialog has several tabs: Description, Panel Point, Fasteners, Plate Tension, Plate Compression, Plate Shear, Chord Splice, and Load Transfer. The 'Load Transfer' tab contains a table with the following data:

	% Load Transfer via Fasteners (%)	% Load Transfer
Member 1		
Member 2		
Member 3	100.00	100.00
Member 7	100.00	100.00
Member 8		

At the bottom of the dialog, there is a 'Member Arrangement' button on the left and 'OK', 'Apply', and 'Cancel' buttons on the right.

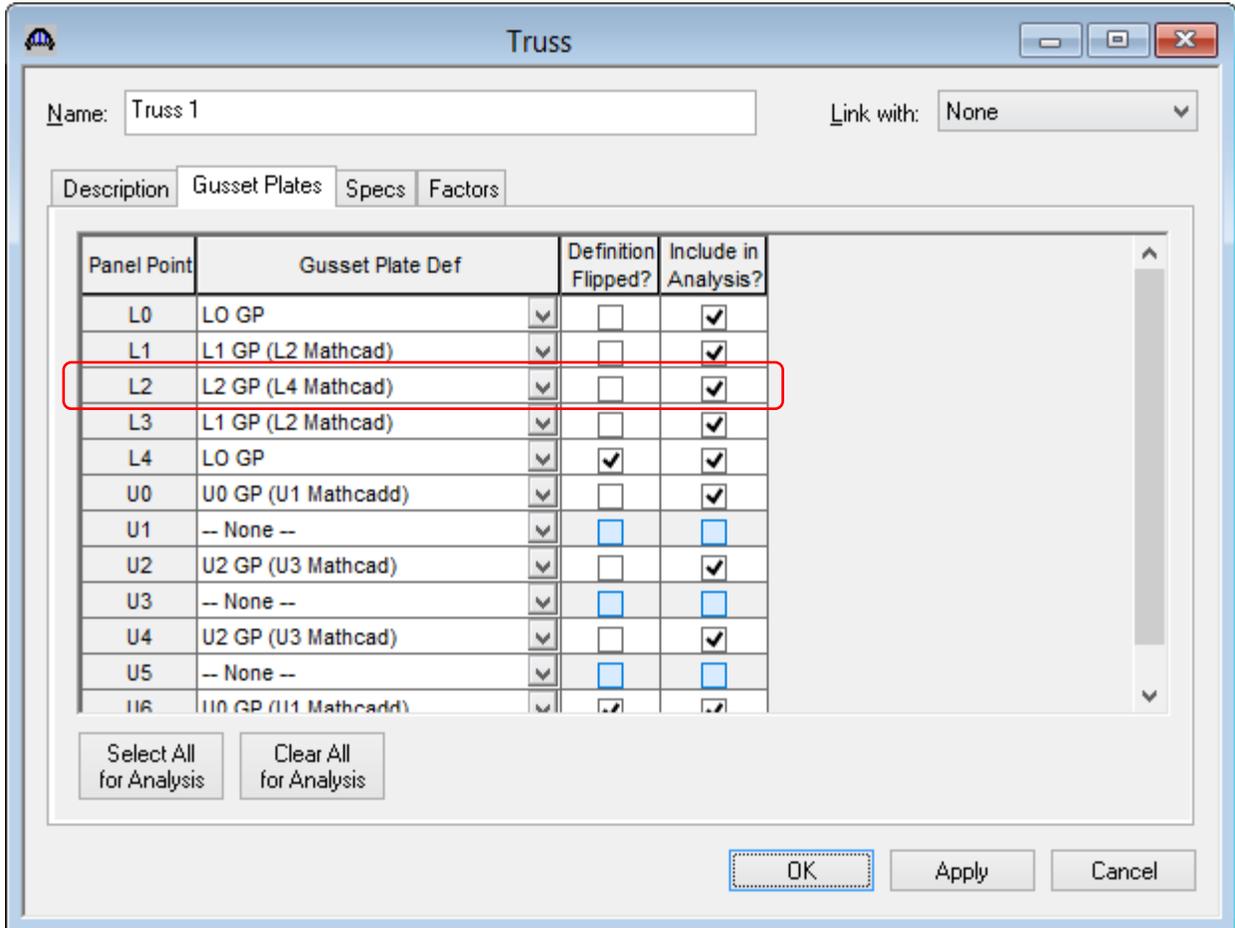
% Load Transfer via Fasteners = The dead and live loads used in the fastener rating equations will be adjusted by this percentage. Defaults to 100% if left blank.

% Load Transfer = The dead and live loads used in the gusset plate rating equations will be adjusted by this percentage. Defaults to 100% if left blank.

Close the L2 GP (L4 Mathcad) Gusset Plate Definition.

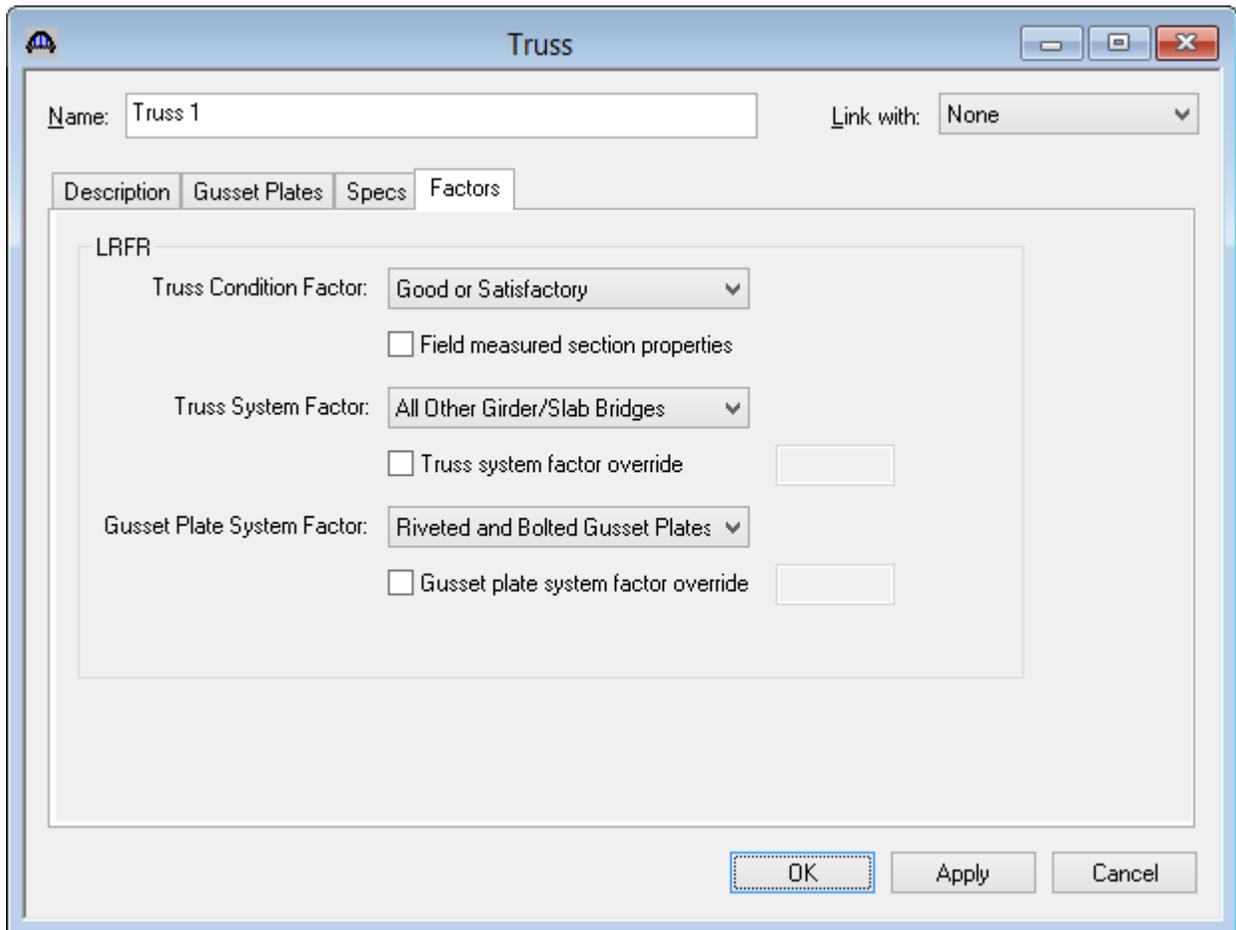
## TGP1 - Truss Gusset Plate Example

Expand the TRUSSES folder in the Bridge Workspace tree. Open the Truss 1 and select the Gusset Plates tab. The L2 GP (L4 Mathcad) Gusset Plate Definition is assigned to the L2 Panel Point. The L2 Panel Point's gusset plate is included in the truss analysis. If Definition Flipped? is checked, the member arrangement in the assigned Gusset Plate Definition will be flipped vertically. The Gusset Plate Definition's member arrangement will be validated against the Panel Point's member arrangement when OK or Apply is clicked.



## TGP1 - Truss Gusset Plate Example

Select the Factors tab. The Gusset Plate System Factor is defaulted to Riveted and Bolted Gusset Plates



The image shows a software dialog box titled "Truss". At the top, there is a "Name:" field containing "Truss 1" and a "Link with:" dropdown menu set to "None". Below this are four tabs: "Description", "Gusset Plates", "Specs", and "Factors", with "Factors" being the active tab. The "Factors" tab contains a section labeled "LRFR" with the following settings:

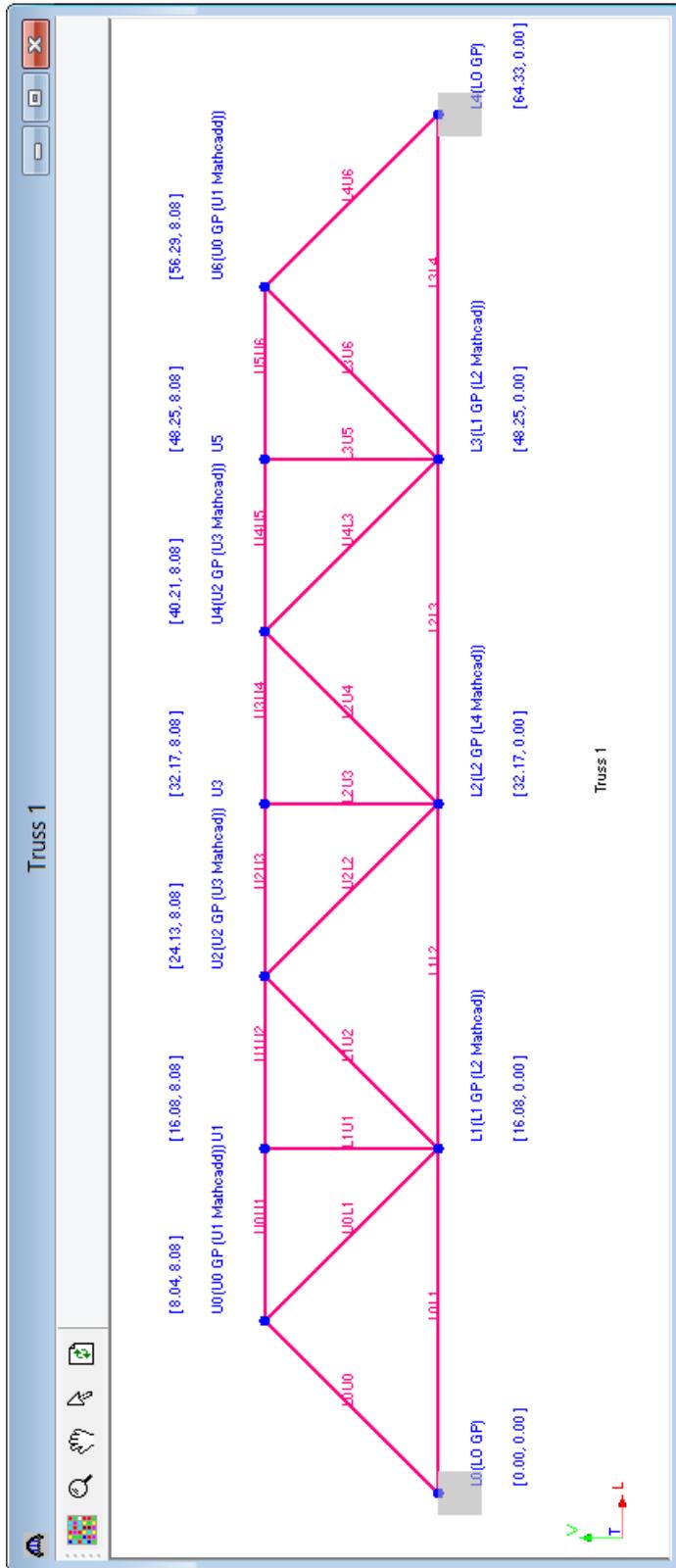
- Truss Condition Factor: Good or Satisfactory (dropdown)
- Field measured section properties
- Truss System Factor: All Other Girder/Slab Bridges (dropdown)
- Truss system factor override (with an empty text input field)
- Gusset Plate System Factor: Riveted and Bolted Gusset Plates (dropdown)
- Gusset plate system factor override (with an empty text input field)

At the bottom right of the dialog box are three buttons: "OK", "Apply", and "Cancel".

Close the Truss 1.

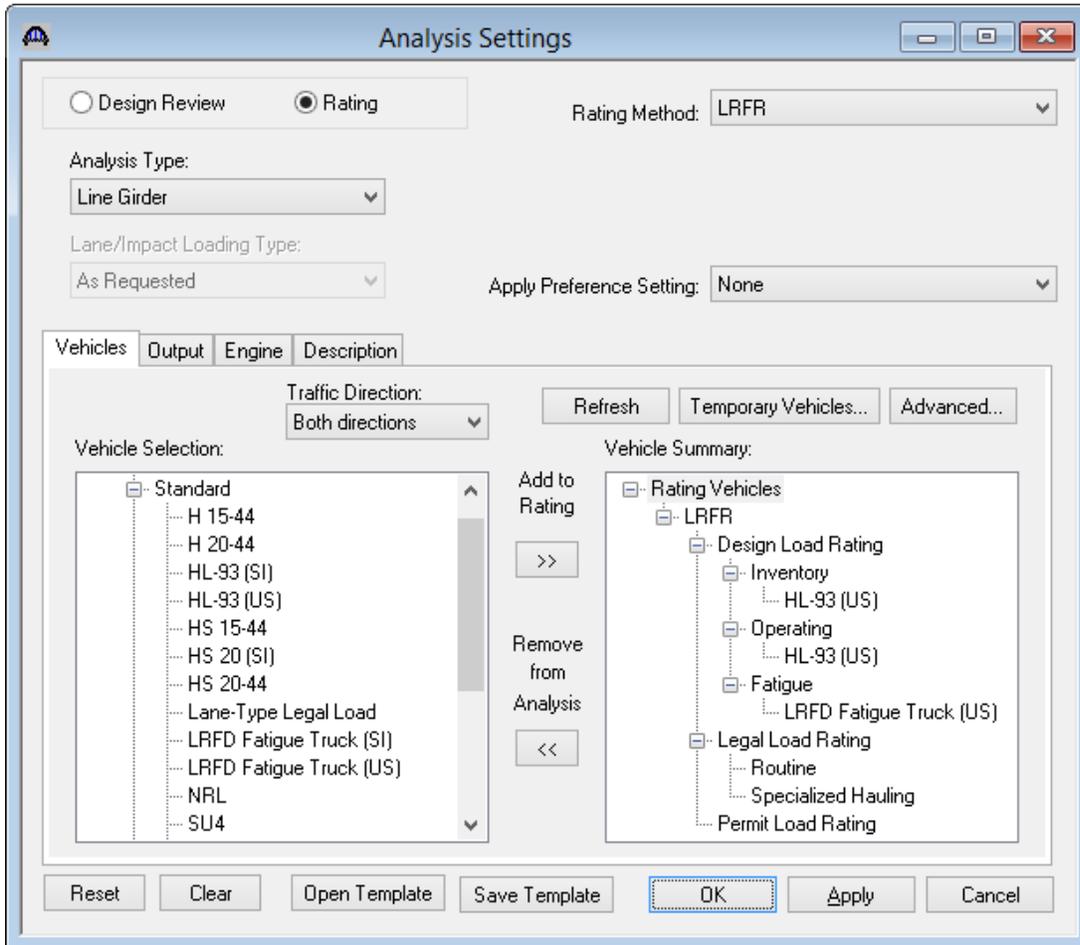
# TGP1 - Truss Gusset Plate Example

Open the Truss 1 schematic. The Panel Point is labeled with the assigned Gusset Plate Definition. Close the Truss 1 schematic.

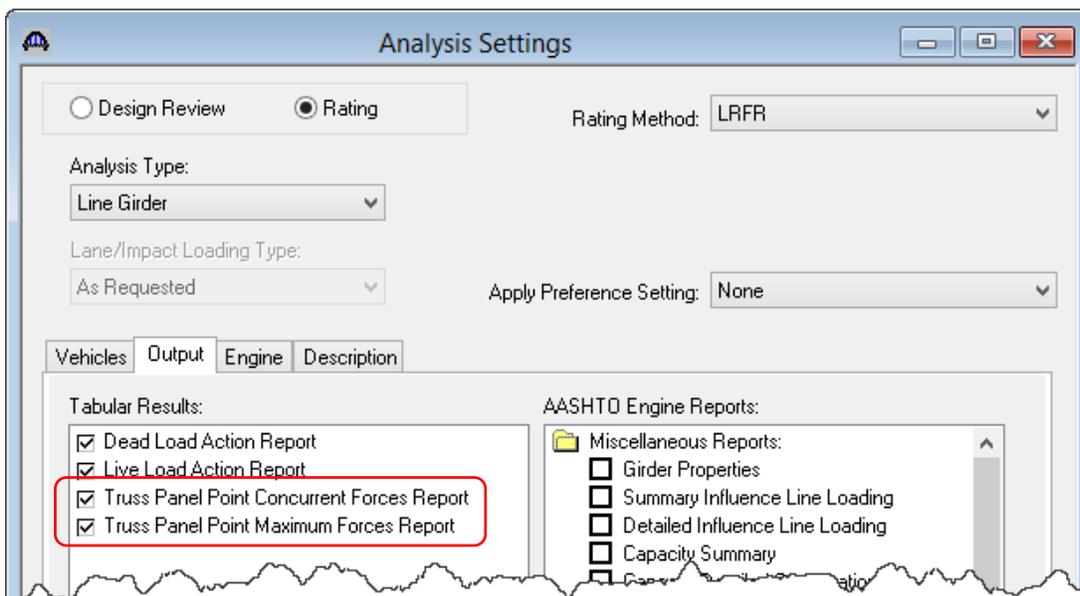


## TGP1 - Truss Gusset Plate Example

Open the Analysis Settings window and select the LRFR Design Load Rating template.



Select the Output tab and select the Truss Panel Point Concurrent Forces Report and the Truss Panel Point Maximum Forces Report. Click OK to save the analysis settings and close the window.



## TGP1 - Truss Gusset Plate Example

With Truss 1 selected in the Bridge Workspace tree, click on the Analyze button on the Bridge Workspace toolbar to start the truss rating analysis. The Analysis Progress window will appear showing the progress. Click Ok to close the Analysis Progress window after the analysis is completed.

Open the Analysis Results window. This window shows the critical rating factor considering all truss members and the panel point gusset plates that were included in the analysis. The limit states specific to gusset plate are Gusset Plate Fastener, Gusset Plate Bolt Slip, Gusset Plate Tension, Gusset Plate Compression, Gusset Plate Vertical Shear and Gusset Plate Horizontal Shear. Rating Results Summary is the only report type available.

The screenshot shows the 'Analysis Results - Truss 1' window. At the top, there are three dropdown menus: 'Report Type' set to 'Rating Results Summary', 'Lane/Impact Loading Type' with radio buttons for 'As Requested' (selected) and 'Detailed', and 'Display Format' set to 'Single rating level per row'. Below these is a table with 10 columns: Live Load, Live Load Type, Rating Method, Rating Level, Load Rating (Ton), Rating Factor, Element Name, Limit State, Impact, and Lane. The table contains four rows of data. Below the table, the text 'AASHTO Truss LRFR Engine Version 6.7.0.3001' and 'Analysis Preference Setting: None' is visible. A 'Close' button is located in the bottom right corner.

Live Load	Live Load Type	Rating Method	Rating Level	Load Rating (Ton)	Rating Factor	Element Name	Limit State	Impact	Lane
HL-93 (US)	Truck + Lane	LRFR	Inventory	10.24	0.284	L1U2	STR-I AXIAL-COMPRESSION	As Requested	As Requested
HL-93 (US)	Truck + Lane	LRFR	Operating	10.28	0.286	L2L3 : L2	SER-II Gusset Plate Bolt Slip	As Requested	As Requested
HL-93 (US)	Tandem + Lane	LRFR	Inventory	7.64	0.305	L1U2	STR-I AXIAL-COMPRESSION	As Requested	As Requested
HL-93 (US)	Tandem + Lane	LRFR	Operating	8.73	0.349	L2L3 : L2	SER-II Gusset Plate Bolt Slip	As Requested	As Requested

AASHTO Truss LRFR Engine Version 6.7.0.3001  
Analysis Preference Setting: None

Close

## TGP1 - Truss Gusset Plate Example

Open the Specification Checks window. Gusset plate specification articles specific to a member and the member loads (like fasteners, tension and compression) is listed under the truss member. Gusset plate specification articles that are for the gusset plate and all loads coming into the gusset plate (like shear and chord splice) will be listed under the panel point.

Specification Reference	Pass/Fail
6.13.4 Block Shear Rupture Resistance	General Comp.
6.8.2 Tensile Resistance	General Comp.
✓ 6.8.2.3 Combined Tension and Flexure	Passed
✓ 6.8.4 Tension Limiting Slenderness Ratio	Passed
✓ 6.9.2.2 Combined Axial Compression and Flexure	Passed
✗ 6.9.3 Compression Limiting Slenderness Ratio	Failed
6.9.4.1.1 Nominal Compressive Resistance	General Comp.
6.9.4.1.2 Truss Elastic Flexural Buckling Resistance of Truss Members	General Comp.
✓ 6.9.4.1.3 Elastic Torsional Buckling and Flexural-Torsional Buckling Resistance	Passed
6.9.4.2 Nonslender and Slender Member Elements	General Comp.
NA 6A.6.12.5.1 Gusset Plate Rivets in Shear	Not Applicable
✗ 6A.6.12.6.1 Gusset Plate Axial Force Rating	Failed
✓ 6A.6.12.6.1 Gusset Plate Bolt Slip Resistance Rating	Passed
✓ 6A.6.12.6.1 Gusset Plate Fastener Rating	Passed
✓ 6A.6.12.6.1 Gusset Plate Partial Shear Plane Rating	Passed
6A.6.12.6.2 Gusset Plate Fastener Shear Resistance - Bolt	General Comp.
6A.6.12.6.3 Gusset Plate Bolt Slip Resistance	General Comp.
6A.6.12.6.4 Gusset Plate Bearing Resistance at Fastener Holes	General Comp.
6A.6.12.6.6 Gusset Plate Shear Resistance Partial Shear Plane	General Comp.
6A.6.12.6.7 Gusset Plate Compressive Resistance	General Comp.
6A.6.12.6.8 Gusset Plate Tensile Resistance	General Comp.
6A.6.12.6.8 Gusset Plate Tensile Resistance Block Shear Rupture	General Comp.
6A.6.12.6.8 Gusset Plate Tensile Resistance Whitmore Net Fracture	General Comp.
6A.6.12.6.8 Gusset Plate Tensile Resistance Whitmore Yielding	General Comp.
✓ 6A.6.6-7 Truss Axial Tension and Compression Rating	Passed
NA 6A.6.8 Truss Combined Axial and Flexure Rating	Not Applicable
NA APPA6.3.3.Cb Lateral Torsional Buckling Resistance - Cb Calculation	Not Applicable
APPD6.2 Yield Moment	General Comp.
APPD6.3.1 In the Elastic Range (Dc)	General Comp.
Plastic Moment (Mp) for Steel Noncomposite Sections Plastic Moment (Mp)...	General Comp.
Steel Elastic Section Properties	General Comp.

## TGP1 - Truss Gusset Plate Example

Following list of LRFR specification articles will be checked for gusset plates. The implementation of these articles is described in detail in the AASHTO LRFR Truss Method of Solution Manual's Appendix B.

<b>MBE Article</b>	<b>Description</b>
<b>6A.6.12.6.2</b>	Fastener Shear Resistance
<b>6A.6.12.5.1</b>	Rivets in Shear
<b>6A.6.12.6.3</b>	Bolt Slip Resistance
<b>6A.6.12.6.4</b>	Bearing Resistance at Fastener Holes
<b>6A.6.12.6.6</b>	Gusset Plate Shear Resistance
<b>6A.6.12.6.6</b>	Gusset Plate Shear Resistance – Partial Shear Plane
<b>6A.6.12.6.7</b>	Gusset Plate Compressive Resistance
<b>6A.6.12.6.8</b>	Gusset Plate Tensile Resistance – Block Shear Rupture
<b>6A.6.12.6.8</b>	Gusset Plate Tensile Resistance – Whitmore Yielding
<b>6A.6.12.6.9</b>	Chord Splices – Compressive Resistance
<b>6A.6.12.6.9</b>	Chord Splices – Tensile Resistance
<b>6A.6.12.6.1</b>	Resistance Reduction for DL/LL Ratio

Following list of LFR specification articles will be checked for gusset plates. The implementation of these articles is described in detail in the AASHTO LFD Truss Method of Solution Manual's Appendix A.

<b>MBE Article</b>	<b>Description</b>
<b>L6B.2.6.1</b>	Fasteners – Shear
<b>L6B.2.6.1</b>	Fasteners – Rivets in Shear
<b>L6B5.3.1</b>	Bolt Slip Resistance
<b>L6B.2.6.1</b>	Fasteners – Bearing
<b>L6B.2.6.3</b>	Gusset Plate Shear Resistance
<b>L6B.2.6.3</b>	Gusset Plate Shear Resistance – Partial Shear Plane
<b>L6B.2.6.4</b>	Gusset Plate Compressive Resistance
<b>L6B.2.6.5</b>	Gusset Plate Tensile Resistance – Block Shear Rupture
<b>L6B.2.6.5</b>	Gusset Plate Tensile Resistance – Whitmore Yielding
<b>L6B.2.6.6</b>	Chord Splices – Compressive Resistance
<b>L6B.2.6.6</b>	Chord Splices – Tensile Resistance

## TGP1 - Truss Gusset Plate Example

Open the Analysis Output window. The Gusset Plate Section Property Report contains a listing of the gusset plate data. In the Rating Results Report, the Overall Rating Summary lists the critical rating results considering the truss member and panel point rating results. For each live load type, the detail truss member rating results, detail panel point rating results, panel point shear action, panel point chord splice action, and panel point shear and chord splice rating results are listed.

