Shuriken Splices – User Guide

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About

The Shuriken (Splices) plugin is a component developed to allow a splice connection between two like members (beam or column) that have HSS as their main material (rectangular or square). This connection allows the design of a splice plate with Atlas Tube's patented Shuriken Structural Nut Keeper, which allows one-sided connections with standard A325 and A490 bolts.
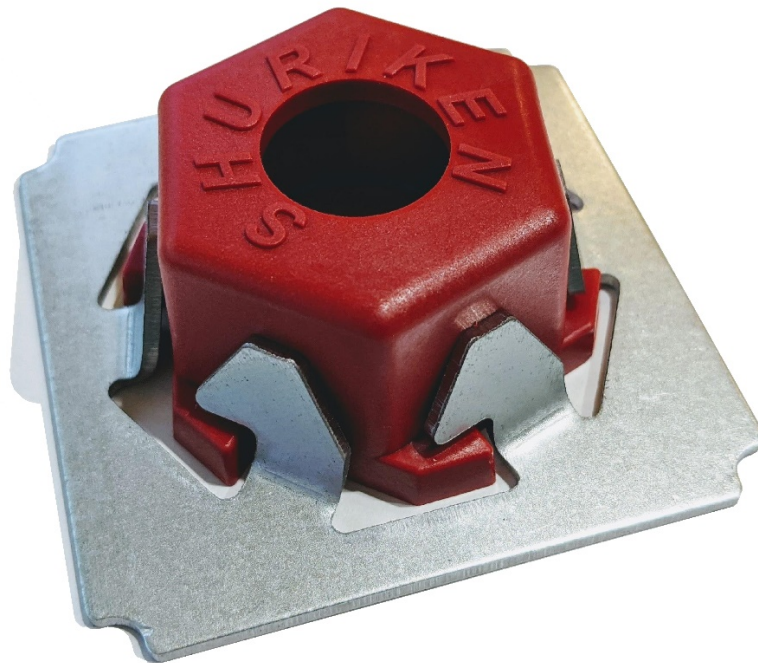
Plugin Defaults

After Installing the Shuriken (Splices) plugin by Atlas Tube, the component job setup feature can be found in the plugin defaults for component setup. Follow the following slides demonstrating how to access this feature.
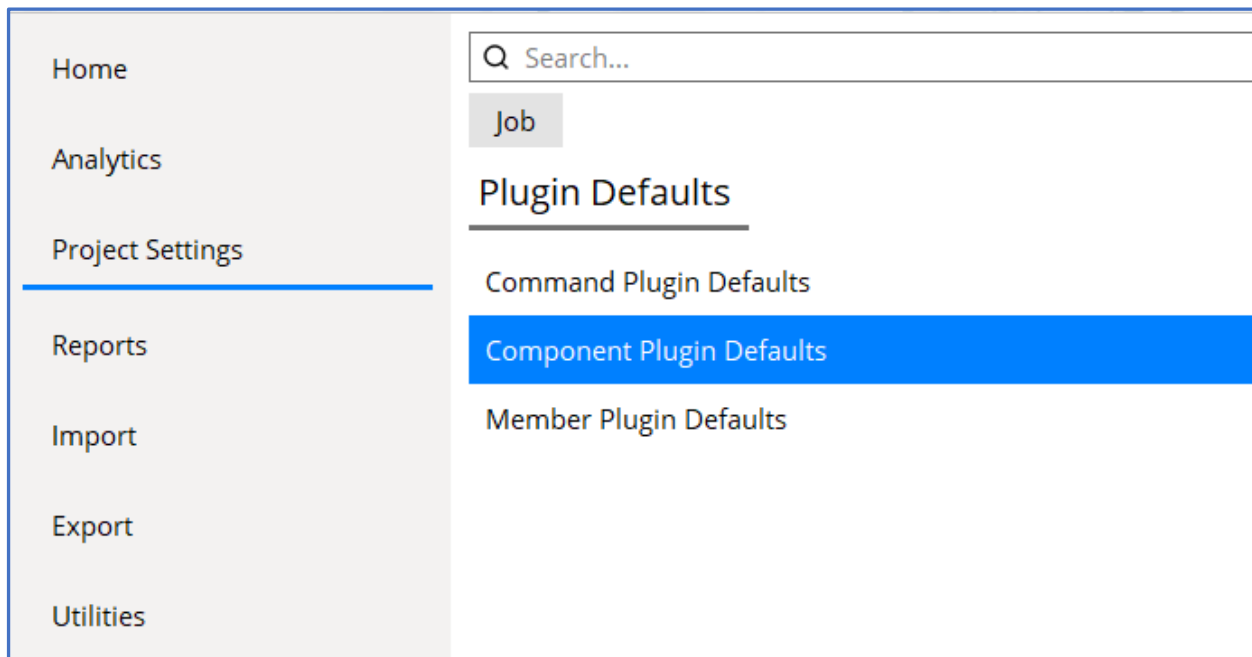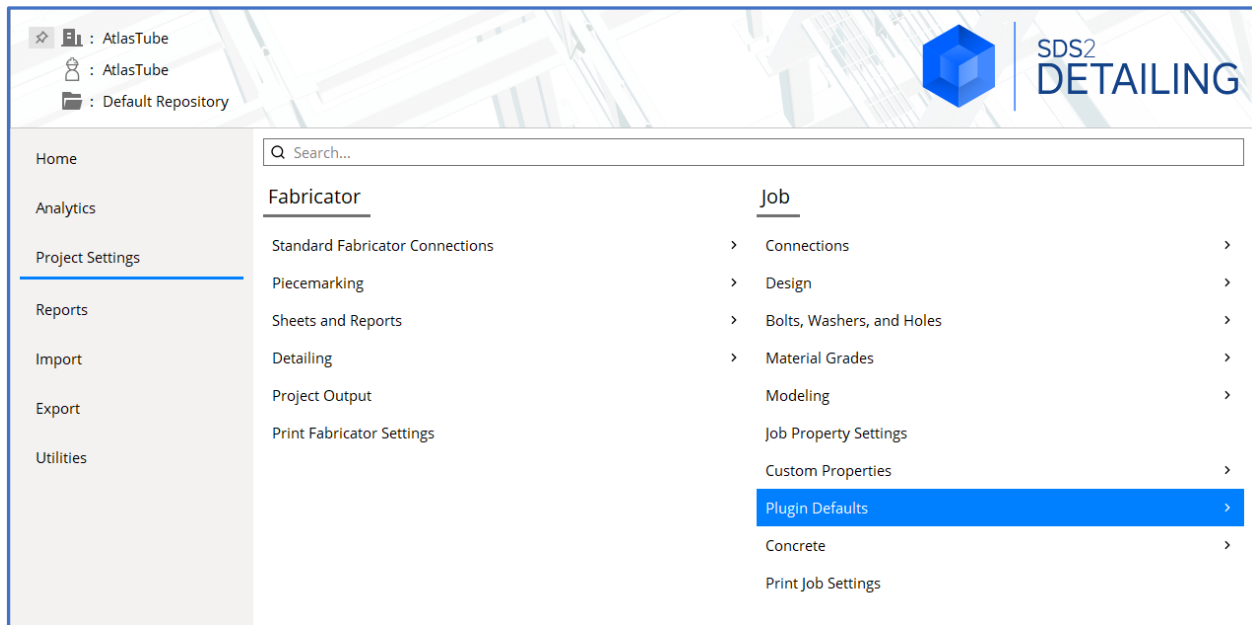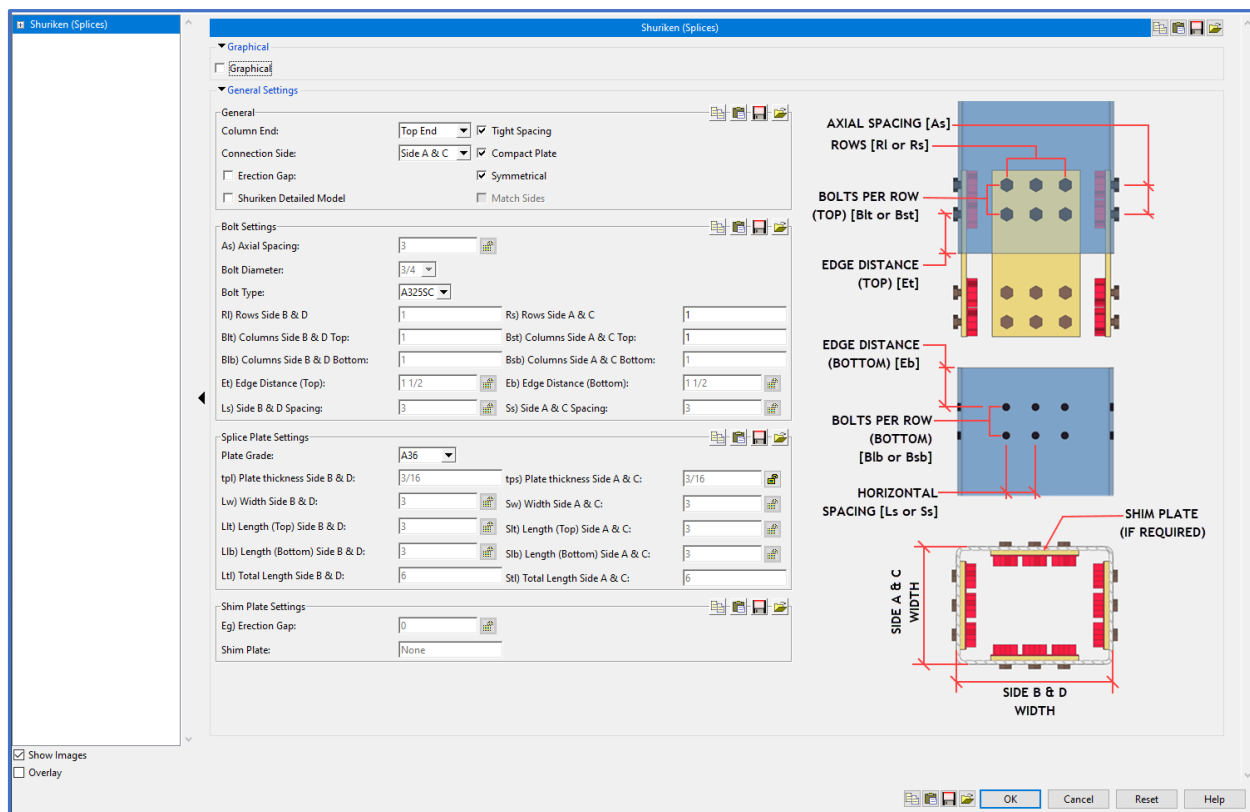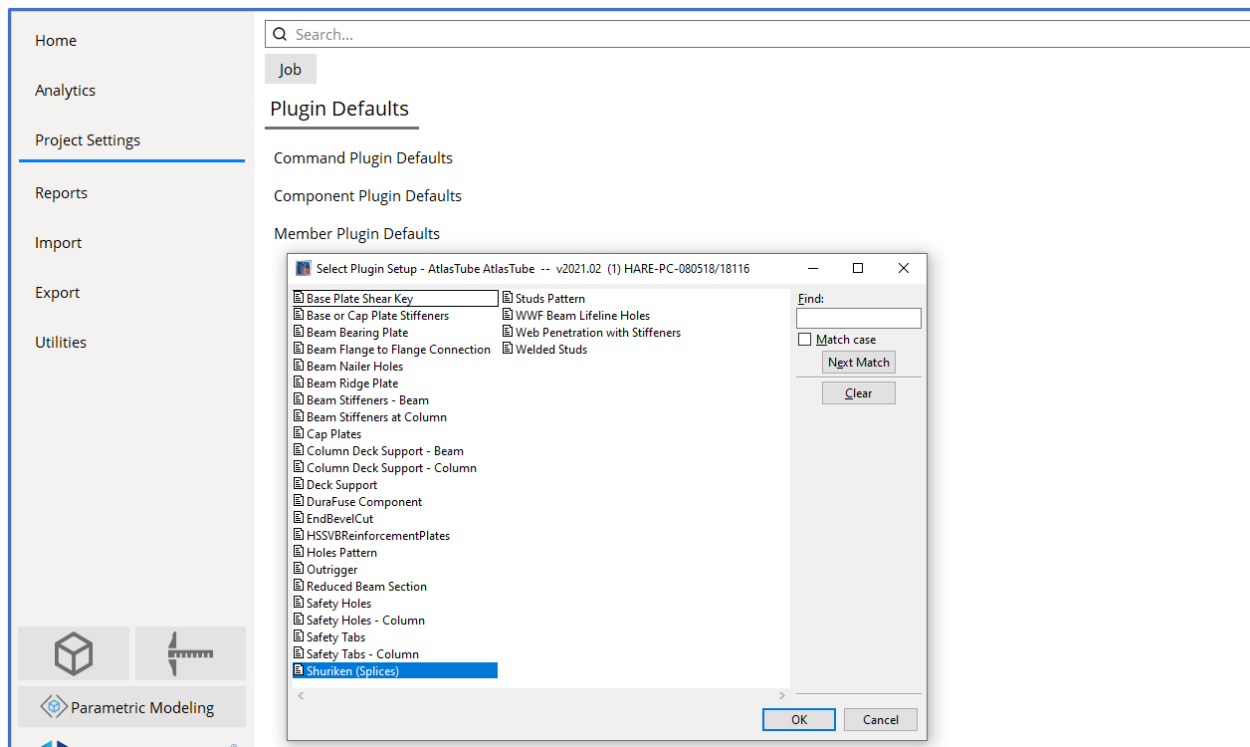
By changing the default settings in this dialog and clicking OK. The component setup is saved and will always default to this when first opening the SDS2 modeling session.

Adding the Shuriken (Splices) icon to the SDS2 modeling screen.

The Shuriken (Splices) plugin icon can be loaded into the SDS2 toolbars for quick access. The following slides demonstrate the process for doing so.

Type Shuriken in the Search

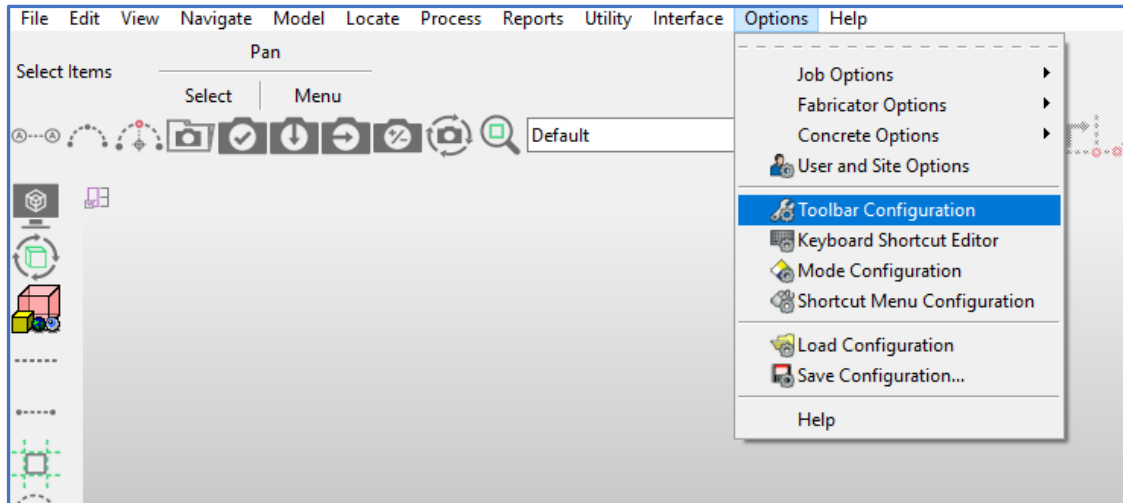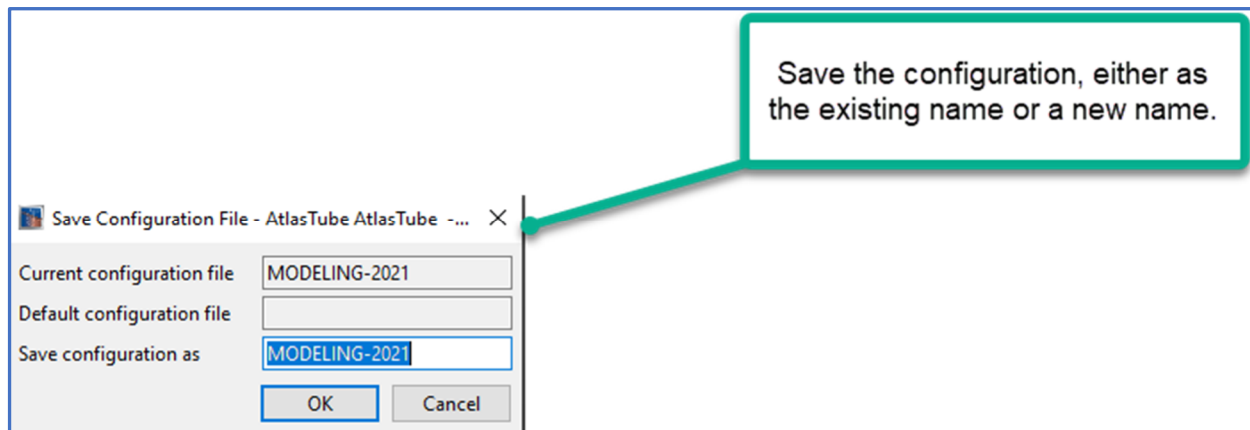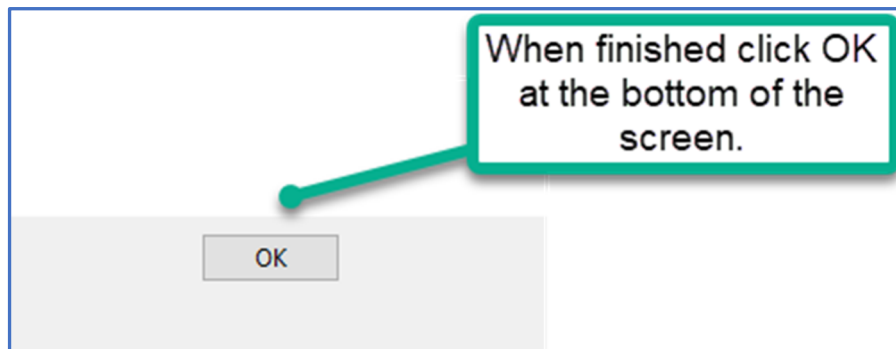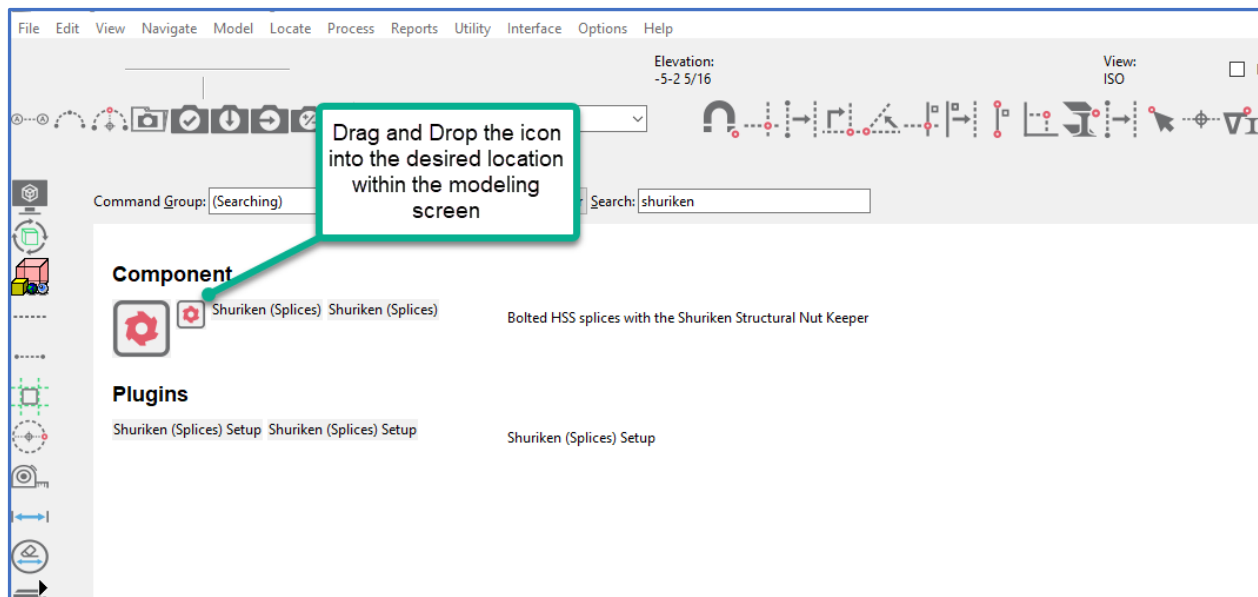File Edit View Navigate Model Locate Process Reports Utility Interface Options Help

Elevation:
-5-2 5/16

View:
ISO

Drag and Drop the icon into the desired location within the modeling screen

Command Group: (Searching)

Search: shuriken

Component

Shuriken (Splices) Shuriken (Splices)

Bolted HSS splices with the Shuriken Structural Nut Keeper

Plugins

Shuriken (Splices) Setup Shuriken (Splices) Setup

Shuriken (Splices) Setup

When finished click OK at the bottom of the screen.

OK

Save the configuration, either as the existing name or a new name.

Save Configuration File - AtlasTube AtlasTube -... ✕

| Current configuration file	MODELING-2021
Default configuration file	
Save configuration as	MODELING-2021

OK   Cancel

Adding the component to a member

The supported connection types for the component include Beam-2-Beam or Column-2-Column connections that have HSS main material types. The splice plates will be shop bolted to the member housing the component.
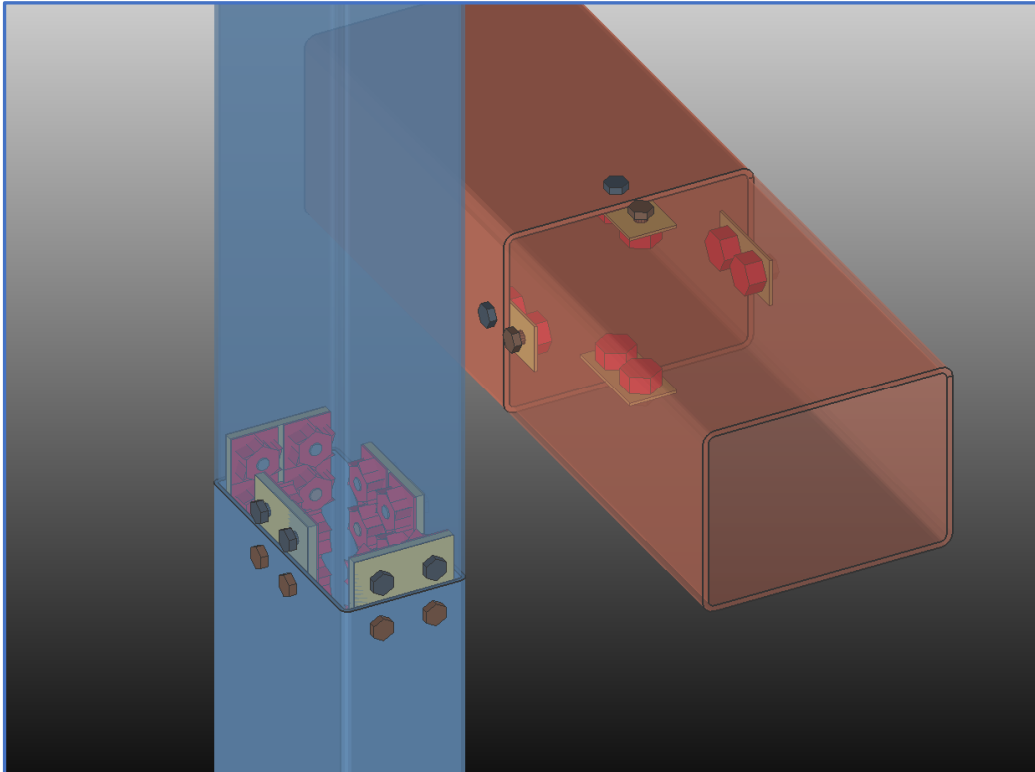

Click on the newly added toolbar icon to add the component to a supported connection member, or click on the puzzle piece component icon and select Shuriken (Splices) from the list of available components.
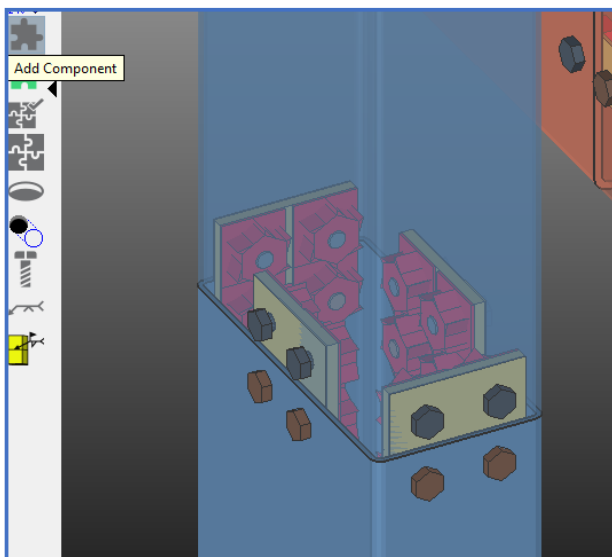
After adding the component to a member, a dialog appears with options for configuring a valid connection.
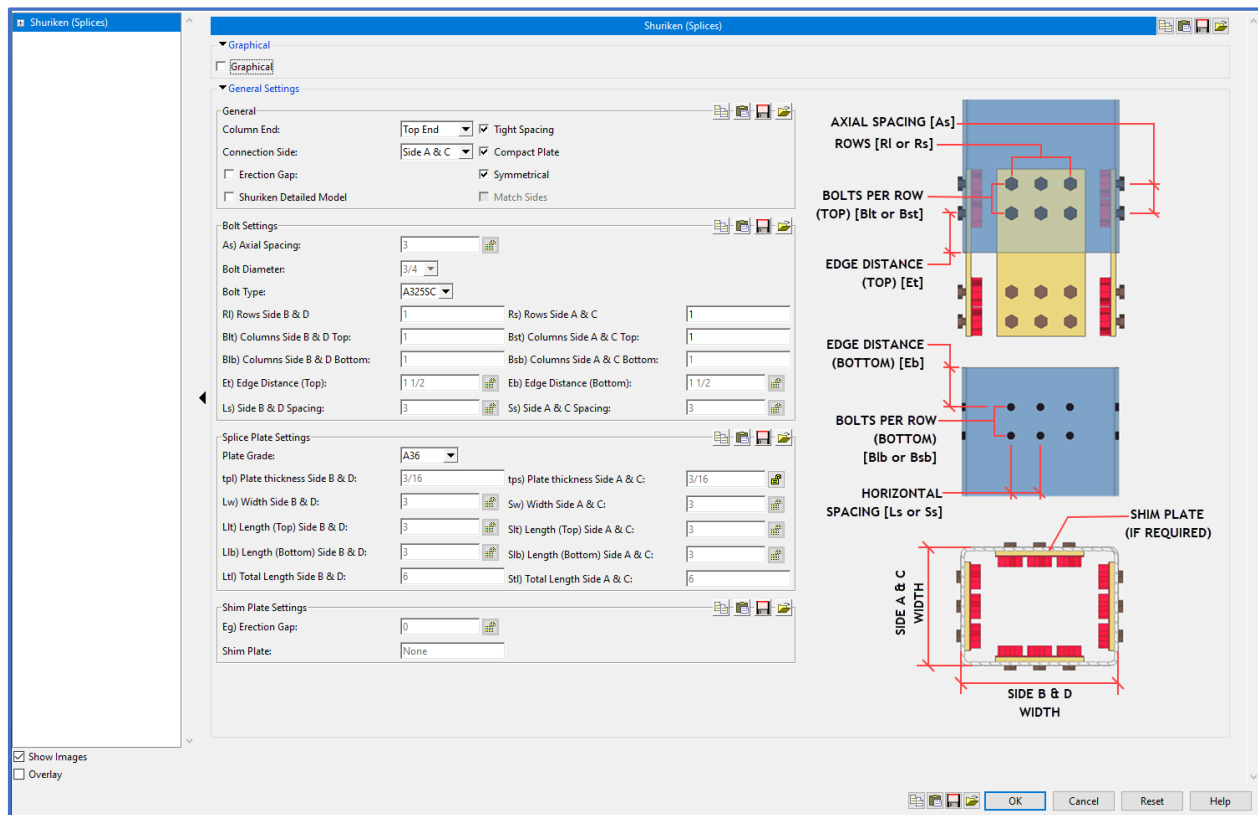
If the member has sufficient interior space for a connection using Shuriken, no error will be present at the top of the dialog. If the interior space of the member limits or precludes a connection using Shuriken, a warning will exist at the top of the dialog screen, as in the following slide.
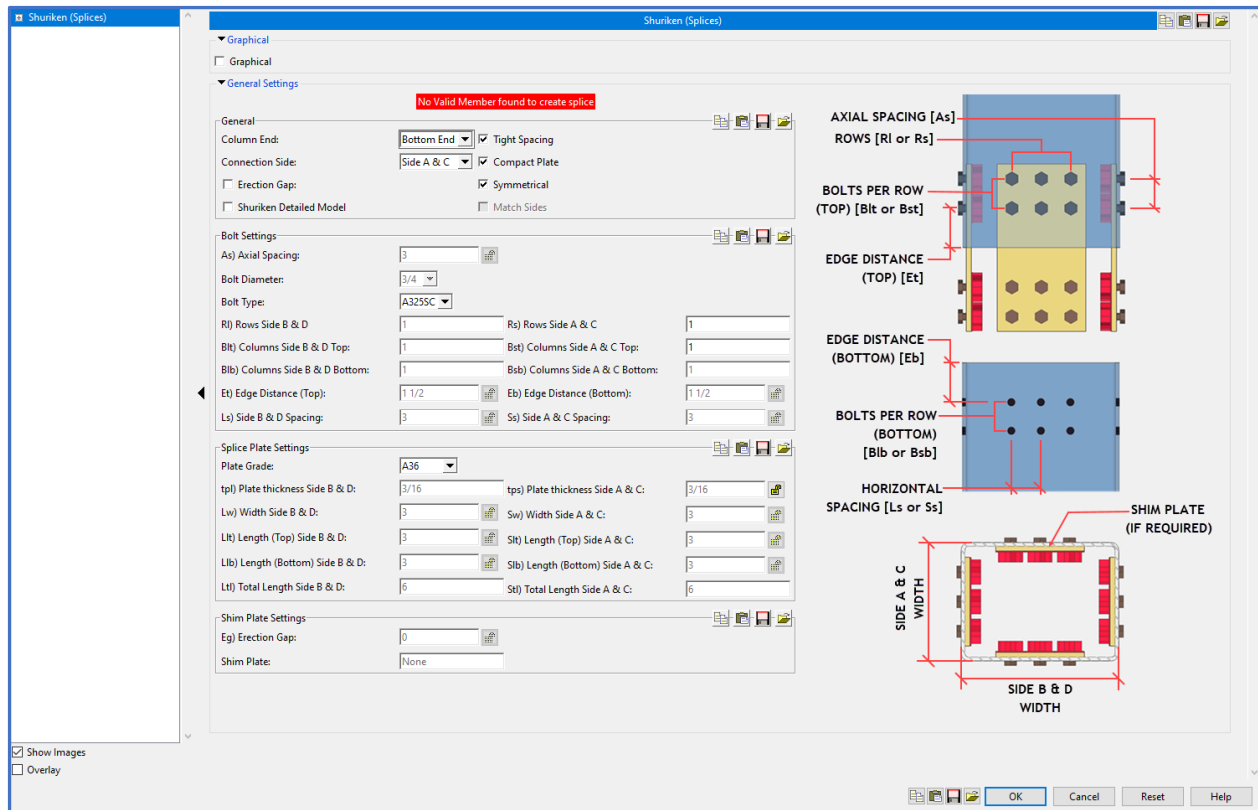
Invalid connections include:

1) No Valid Member found to create splice
2) Member too small (cannot use plugin)
3) Splice of members with different outer dimensions not supported

Valid connections with warnings:

1) Member too small for four sided connection – 2 sided connection only (Can use plugin but only for workable side.
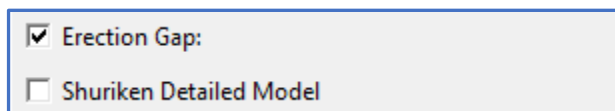
Component Options

Images have been provided in the dialog to illustrate the meaning of each field. The functions of menus and checkboxes are explained here.
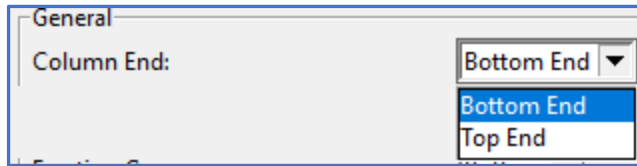
Column End: Controls end at which splice is added to its controlling member. Bottom End (i.e., Left End), Top End (i.e., Right End)
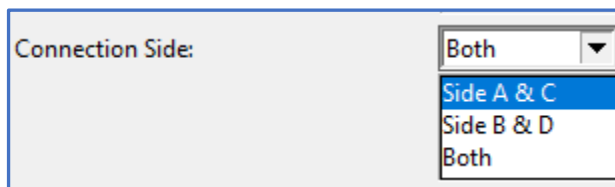

Connection Side: Determines sides of the members to which splice plates will be attached.

Erection Gap: Automates dialog settings for shim plate and erection gap. With erection gap off, the erection gap dimension at the bottom of the dialog defaults to 0 and is disabled. If Erection Gap is checked, the erection gap dimension is unlocked, it will default to 1/16. Shim plates will be sized to account for the difference in member wall thickness (if any) and the erection gap.

Shuriken Detailed Model: Displays a detailed version of the Shuriken for representative purposes, but will slow performance. Defaults to off.
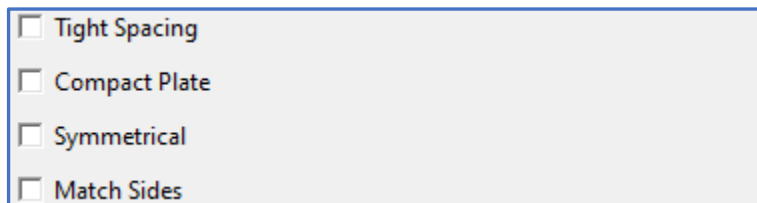
Tight Spacing: Automates dialog settings to use the minimum bolt spacing allowed for Shuriken of the selected size.

Compact Plate: Automates dialog settings to use the smallest possible splice plates for the selected Shuriken size, bolt spacing, and edge distance.

Symmetrical: Matches the top and bottom settings of the connection.

Match Sides: Matches the side of the connection if Both is selected in Connection Side. If the tube is rectangular, the match sides setting will calculate based on the smallest side.

Materials added by the component will include the following:

1) Splice plates
2) Shuriken
3) Matched holes, bolts, nuts, and washers
4) Shim plates (if required)
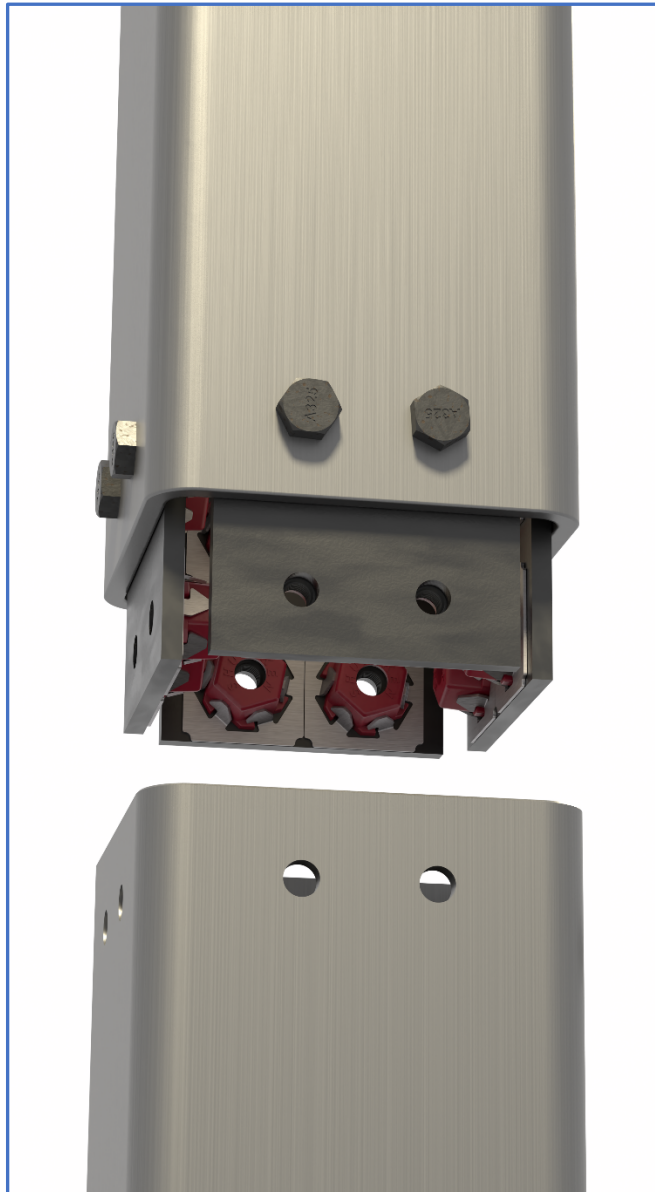
Beta version

The current version of the Shuriken (Splices) plugin is a beta release. For feature requests and bug reporting, contact Ted.Goldstein@atlastube.com