

# Home

This is the home page for the Tutorials space that contains tutorials for all CSI programs, usually with the relevant model attached. Tutorials typically provide step-by-step instructions of how to create specific model or accomplish certain task.

On this page:

## Browse tutorials by program

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Tips

- You may click on the table heading in the table below to sort by a particular column (default sorting is by title).
- Model ID uniquely identifies each model. "na" indicates that no model accompanies the tutorial.

Model ID	Title	Description	Program	Version
na	<a href="#">2D-view cutting planes</a>	Setting the tolerance for cutting planes within 2D views such that all desired objects are displayed.	SAP2000	14.2.0
na	<a href="#">Acceleration load in arbitrary direction</a>	Guidelines for acceleration-load application in an arbitrary direction. Applicable to static, modal, and buckling load cases.	SAP2000	14.2.3
80	<a href="#">Analysis and design of composite steel-girder bridge</a>	Use CSiBridge to model a composite steel-girder bridge based on that from the LRF Design Example, Steel Girder Superstructure Bridge (FHWA NHI-04-041).	CSiBridge	16.0.0
581.1	<a href="#">Applying parametric variation to bridge width and girder spacing for bridge object with skewed abutments (steel I-girder bridge deck section)</a>	Demonstration of how to apply parametric variation to the deck width and girder spacing of bridge object with skewed abutments.	CSiBridge	18.0.1
581	<a href="#">Applying parametric variation to bridge width for bridge object with skewed abutments (flat slab bridge deck section)</a>	Demonstration of how to apply parametric variation to bridge object with skewed abutments	CSiBridge	17.2.0
na	<a href="#">Applying point, line, and area loads to bridge objects</a>	This tutorial demonstrates point-, line-, and area-load application to bridge objects.	CSiBridge	15.0.0
na	<a href="#">Building models manually via the commands on the Advanced Tab</a>	Tutorial that provides some tips for building bridge models manually via the commands on the Advanced tab.	CSiBridge	15+
na	<a href="#">Cable-stayed bridge</a>	Tutorial included in the SAP2000 bridge-examples document.	SAP2000	11
na	<a href="#">Cable-stayed bridge first steps</a>	Basic guidelines for modeling of cable-stayed bridges.	CSiBridge	all
na	<a href="#">Center-of-gravity determination</a>	The process for determining center of gravity is given in this tutorial.	SAP2000	12+
na	<a href="#">Cold-formed steel truss</a>	This tutorial demonstrates the modeling of a cold-formed steel truss system.	SAP2000	
na	<a href="#">Complicated joint patterns</a>	Guidelines for creating complicated joint patterns using interactive database editing.	SAP2000	14.1.0
na	<a href="#">Composite section</a>	Several approaches to the modeling of composite sections.	SAP2000	12.0.0
na	<a href="#">Concrete bent with nonprismatic cap beam</a>	Create and modify a concrete bent which features a nonprismatic cap beam. Materials, sections, grids, and supports are defined.	SAP2000	12.0.1
na	<a href="#">Concrete box-girder bridge model</a>	Model from the SAP2000 Bridge Examples document.	SAP2000	11.0.8
na	<a href="#">Concrete confinement for Caltrans sections</a>	Changing the confinement characteristics for reinforced-concrete Caltrans sections within the Section Designer.	SAP2000	14.2.4
na	<a href="#">Create and copy frame properties</a>	Use interactive database editing to create and copy frame section properties between models.	CSiBridge	15.0.0+
na	<a href="#">Create and copy load combinations</a>	This tutorial explains how interactive database editing allows users to create and copy load combinations from one model to another.	SAP2000	14.2.3
na	<a href="#">Create bulb-girder sections with rounded corners</a>	Use the Section Designer to create a bulb-girder section with rounded corners.	SAP2000	14.2.0
na	<a href="#">Create circular openings</a>	Circular openings may be created within area objects, and the surrounding mesh may be improved.	SAP2000	all
na	<a href="#">Create custom sections using polygonal shapes</a>	Create custom cross sections by drawing polygonal shapes within the section designer, then modify or add to their geometry through reshape mode or interactive database editing.	SAP2000	14.2.0
na	<a href="#">Defining lanes from frames in CSiBridge</a>	Describes procedure for defining lanes from frames in CSiBridge.	CSiBridge	17.3.0
na	<a href="#">Design first steps</a>	An overview of the design-check procedure for steel-frame structural systems.	SAP2000	all

580	<a href="#">Dynamic loading imposed on structure by lowering a mass via a pulley assembly</a>	Modeling of pulley assembly with the primary goal of applying the pulley assembly loads to the structure.	SAP2000	17.2.0
na	<a href="#">Haunched steel-girder bridge</a>	Guidelines and tutorial for modeling haunched steel-girder bridges.	SAP2000	12.0.2
na	<a href="#">Hinge first steps (CSiBridge)</a>	Basic introduction to hinge application in CSiBridge.	CSiBridge	
na	<a href="#">Hinge first steps (SAP2000)</a>	Basic introduction to hinge application in SAP2000.	SAP2000	
na	<a href="#">Import frame properties from shape libraries</a>	Guidelines for importing frame properties from shape libraries.	CSiBridge	15.1.1+
	<a href="#">Influence-based moving-load analysis first steps (CSiBridge)</a>	Procedure for setting up influence-based moving-load analysis.	CSiBridge	18.0.1
na	<a href="#">Influence-based moving-load analysis first steps (SAP2000)</a>	Procedure for initiating influence-based moving-load analysis.	SAP2000	12.1.0
na	<a href="#">Joint renumbering</a>	The process for renumbering structural joints is outlined in this tutorial.	SAP2000	
na	<a href="#">Joint-pattern first steps</a>	This tutorial provides an introduction to the assignment of joint patterns.	SAP2000	12.1.0
na	<a href="#">Lane definition per layout line or frame</a>	This tutorial provides guidelines for lane definition according to either layout-line or frame-object configuration.	SAP2000	14.2.0
na	<a href="#">Layout-line geometry</a>	Guidelines for defining vertical and horizontal layout lines, also known as baselines.	SAP2000	14.2.0
na	<a href="#">Locate center of mass</a>	Procedure for locating the center of mass for a structural system.	SAP2000	12+
na	<a href="#">Manual modeling of bridge foundations</a>	PowerPoint presentations are attached which provide detailed examples of a 2-span PCC-girder bridge with three different foundation types. A step-by-step modeling procedure, with detailed descriptions and sketches, outlines the process.	CSiBridge	15.1.1+
na	<a href="#">Manual modeling of wall-type bents</a>	This tutorial describes a manual modeling process for wall-type bents within bridge objects.	SAP2000	14.2.2
na	<a href="#">Manual modification of bridge bearings</a>	Guidelines for the manual modification of bridge bearings automatically created by the bridge modeler.	SAP2000	12.0.2
na	<a href="#">Merging two models</a>	Tutorial describing how to merge two models.	CSiBridge	17+
82	<a href="#">Model from Bridge Seismic Design Request manual</a>	Example bridge model from the Bridge Seismic Design Request manual.	CSiBridge	16.0.0
na	<a href="#">Modeling a pin connection between crossing members</a>	Modify joints and apply constraints such that a pin connection allows crossing members to translate freely.	SAP2000	14.2.3
na	<a href="#">Modeling simply supported shells</a>	Procedure for modeling simply supported shells and coordinating their support systems.	SAP2000	na
na	<a href="#">Moment-curvature analysis for hollow prestressed-concrete piles</a>	Perform moment-curvature analysis on custom sections developed within the Section Designer.	SAP2000	12.0.1
na	<a href="#">Obtain results for individual stages of a staged-construction load case</a>	Options and an example of how to obtain results for individual stages of a staged-construction load case.	SAP2000	14.2.4
na	<a href="#">Pushover analysis first steps</a>	Guidelines for performing pushover analysis.	SAP2000	12.0.1
na	<a href="#">Radial point load</a>	Application of point loads in the radial direction using the Advanced Joint Coordinate Axes feature.	SAP2000	14.2.4+
na	<a href="#">Reinforced-concrete column and beam design</a>	Design reinforced-concrete columns and beams while considering combined performance measures and interaction-surface output.	SAP2000	
na	<a href="#">Section-cut first steps</a>	Introductory tutorial for using section cuts.	SAP2000	all
na	<a href="#">Steel bridge</a>	Tutorial included with the SAP2000 Bridge Examples document.	SAP2000	11
na	<a href="#">Steel-frame pipe rack</a>	A detailed and extensive procedure which describes the modeling, analysis, and design of a 3D steel-frame pipe rack system.	SAP2000	
na	<a href="#">Steel-girder bridge with variable flange thickness</a>	Guidelines and tutorial for creating a steel-girder bridge with variable flange thickness.	SAP2000	14.0.0
na	<a href="#">Step-by-step moving-load analysis first steps (CSiBridge)</a>	Procedure for setting up step-by-step moving-load analysis.	CSiBridge	18.0.1
na	<a href="#">Step-by-step moving-load analysis first steps (SAP2000)</a>	Procedure for initiating step-by-step moving-load analysis.	SAP2000	all
na	<a href="#">Tall shear wall building</a>	Walk-Thru Example for Shear Wall Building Assessment in Perform-3D	Perform-3D	na
na	<a href="#">Time dependent properties first steps (SAP2000)</a>	Basic introduction to using time dependent material properties	SAP2000	14+
na	<a href="#">Time-history analysis first steps</a>	Overview of the procedure for time-history analysis.	SAP2000	
na	<a href="#">Tuned-mass damper</a>	An overview of the tuned-mass damper and guidelines for modeling the device.	SAP2000	
1784	<a href="#">Using load optimizer to optimize tension in cables of a cable-stayed bridge</a>	This page provides the cable-stayed bridge model that is described in the CSiLoadOptimizer Technical Note.	CSiBridge	19.2.2

na	<a href="#">Using the graphical user interface</a>	Tips and tricks for efficiently using the graphical user interface to develop models in SAP2000 and ETABS.	ETABS, SAP2000	
na	<a href="#">Variable girder spacing</a>	Procedure for developing a model with variable girder spacing.	SAP2000	14.1.0
na	<a href="#">Vibrating-machinery steel skid on piles</a>	This tutorial demonstrates the modeling of vibrating machinery and its connection to a steel-skid structural system.	SAP2000	
na	<a href="#">Water pressure</a>	This tutorial provides guidelines for the application of loading induced by water pressure on an area object.	SAP2000	