

TTPRO Training Courses

- The most detailed training courses on the market!
- Enhance your skills from beginner to Professional
- Master skills you need to gain a profession edge

All the commands are presented in a click-by-click manner. The tutorial covers the major concepts and frequently used commands required to advance from a novice to an intermediate user level. This tutorial also includes some advance level techniques for students to level up their skills to be an advanced user.

Solidworks 2016 training courses Index

- [Software Interface, configuration, customization](#)
- [Sketches](#)
- [Modeling Features](#)
- [Feature Operations](#)
- [Surfaces](#)
- [Workshop - Project](#)
- [Manufacturing Drawings](#)
- [Assemblies](#)
- [Assembly Drawings](#)
- [Advanced User](#)
- [Simulation and FEA](#)

Click above course index to get to detail table of content on the following pages.

TTPRO Solidworks 2016 Video Training Courses Table of Content

I. Software Interface, Configuration, customization

Introduction.

File configuration:

1. Customization How to set up common option
2. Like background
3. System settings
4. Selection, etc.

User Interface, View Controls and Model Structure

5. New file, open, save, back up, delete file, rename file, active window, close file, exit system.
6. Introduction_ of menu
7. Introduction_ tool bar
8. Basic commands and modeling window
9. Adjust view with mouse, redirect view
10. Basic operation and view control
11. Model display mode, view (solid, wireframe...)
12. Model display view (front, back, right, top...)

II. Sketches and Profiles

Make Sketches

13. Sketching setting up (basic datum, and reference datum)
14. Sketching_ Points
15. Sketching_ lines, center line, construction line
16. Sketching_ Rectangle shape (different way to draw rectangle)
17. Sketching_ Circle (different way to draw circle)
18. Sketching_ Ellipse (different ways to draw ellipse)
19. Sketching_ Arc (different way to draw arc) and Spine line
20. Sketching_ Fillet (different ways to fillet)
21. Sketching_ Chamfer
22. Sketching_ Offset and Thicken
23. Sketching_ Text
24. Sketching_ Palette

Sketch _ Editing

25. Sketch -Modify
26. Sketch -Mirror
27. Sketch-Divide

[Go Back](#)

- 28. Sketch-Delete Segment
- 29. Sketch-Corner
- 30. Sketch-Rotate Resize

Sketch - Constraint

- 31. Sketch _ Constraint Vertical
- 32. Sketch _ Constraint Horizontal
- 33. Sketch _ Constraint_ Perpendicular
- 34. Sketch _ Constraint_ Tangent
- 35. Sketch _ Constraint_ Mid-point
- 36. Sketch _ Constraint_ Coincident
- 37. Sketch _ Constraint_ Symmetric
- 38. Sketch _ Constraint_ Equal
- 39. Sketch _ Constraint_ Parallel

Sketch Dimension

- 40. Sketch Dimension_ dia.
- 41. Sketch Dimension_ radius
- 42. Sketch Dimension_ horizontal
- 43. Sketch Dimension_ vertical
- 44. Sketch Dimension_ Angles

III. **Modeling features**

Modeling Datum

- 45. Modeling_ plane
- 46. Modeling_ Axis
- 47. Modeling_ point
- 48. Modeling_ coordinate System

Features

- 49. Feature_ Extrude
- 50. Feature_ Extrude Cut
- 51. Feature_ Revolve
- 52. Feature_ Revolve cut
- 53. Feature_ Sweep
- 54. Feature_ Sweep cut
- 55. Feature_ Simple Hole,
- 56. Feature_ Standard Hole
- 57. Feature_ Drill Hole
- 58. Feature_ Hole Placement
- 59. Feature_ Hole Shape
- 60. Feature_ Hole Note
- 61. Feature_ Depth setting...
- 62. Feature_ Holes other detail introduction
- 63. Feature_ Round

[Go Back](#)

- 64. Feature_ Chamfer
- 65. Feature_ Shell
- 66. Feature_ Rib

IV. **Feature Operation**

- 67. dimension pattern;
- 68. direction pattern;
- 69. Axis pattern
- 70. Pattern by points
- 71. Fill
- 72. pattern table
- 73. Mirror Feature
- 74. Projection

Design Changes (right button command of the feature) :

- 75. Suppress and un-suppress features;
- 76. Copy feature
- 77. Scale model
- 78. Edit the dimension on model.
- 79. Change description
- 80. Rename feature

Measuring in model

- 81. Length
- 82. Distance
- 83. Angle
- 84. Diameter
- 85. Area
- 86. Volume
- 87. Mass

v. **Surfaces**

Making a surface

- 88. Inter-surface Trim
- 89. Surface Merge
- 90. Extend surface.
- 91. Intersect surface
- 92. Surface intersect
- 93. Solid intersect
- 94. Calculate volume for intersect.
- 95. Make intersect curve.
- 96. Surfaces. Make simple surface in 3D, style surface.
- 97. Thicken
- 98. Solidify

[Go Back](#)

VI. 2D Drawing to 3D Modeling

a) Workshop I

Creating a Simple Objects (Part I) as attached drawing I

b) Workshop II

Creating a Objects (Part II) as attached drawing II

c) Workshop III

Creating a Objects (Part II) as attached drawing III

d) Workshop IV

With the techniques you learned, make a part as attached drawing 4 and add dimension to the model as shown on the drawing. Create section view to show as well.

99. Switch Model unit between imperial system to Metric system.

100. Save model space as PDF,

101. snapshot

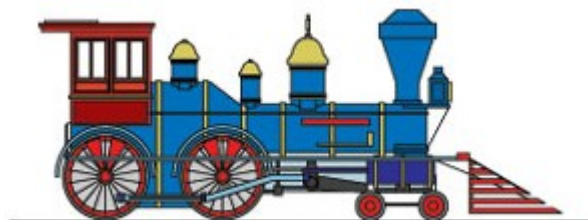
102. Step file

103. Other inter_exchange file.

VII. Workshop V - Make a project of The Toy Train

Make 3D models for the toy train in English system : Make all the parts of the toy train with the techniques you learned. Chimney with yellow cap can be made as one part and scale it into three parts. Train total length is about 10". parts will be make in roughly scale.

Dimension to be chosen as every 1/8" increasing. such as .125", .25", .05" 1.00", ect. Save all the 3D files into a folder as: **Train_English**



e) Workshop: Make a set of parts for toy train with metric system and convert all the parts into imperial system

Save all the 3D files into a folder as: **Train_Metric**

VIII. Drawing

104. Layout Interface

105. New Sheet,

106. sheet setup

107. Title Block

[Go Back](#)

-
108. Relationship of drawing and model insert.
 109. Views settings.
 110. Add different views.
 111. Save drawing and close file.
 112. Use model created early and generate basic drawing as attached
 113. Detail view
 114. Auxiliary view
 115. Project view
 116. Top view, front view, left view...
 117. Section view- partial section
 118. Section view- full section
 119. Section view- half section
 120. Section view- Offset section
 121. Section view- Zoned section
 122. Section view- Exclude part
 123. Hatch/fill,
 124. Draft group,
 125. Move to sheet,
 126. Erase/resume view;
 127. Save the drawing and close file.
 128. GD&T, Introduce GD&T and symbols in detail
 129. Table; create table
 130. Hole schedule.
 131. Move to other sheet
 132. Edit table. dimensions; GD&T; Hole schedule
 133. Tolerance
 134. GD&T
 135. GD&T setting table.
 136. Sketch in drawings. Sketch tab.

f) **Project: Make a drawing for the part made in previous section.**

IX. **Assemblies-- Make assemblies; Operation on parts and assemblies**

137. Introduction all the assembly interface
138. Build assembly. add parts to assembly
139. Position options to build assembly
140. Measuring between parts
141. Interference
142. Clearance.
143. Replace Component
144. Repair assembly relationship
145. Parts Repeating installation
146. Pattern installation;
147. Copy and paste component;
148. Component hide/unhide;
149. Suppress/resume;

[Go Back](#)

- 150. Searching component in subassembly
- 151. Different display mode:
- 152. Assemblies- Section View
- 153. Assemblies - Explore View
- 154. Front views
- 155. Back Views
- 156. Top Views
- 157. Right View
- 158. 3D views

Operation on assembly

- 159. Extruding cut
- 160. Sweep cut
- 161. All the other operation commands.
- 162. Cosmetic Sketch
- 163. Cosmetic thread
- 164. Rendering – assign colors;
- 165. Rendering – transparent;
- 166. Rendering to different part with different color;
- 167. others need to know...

17. Workshop - Build assembly of the train with the models made in part III

x. Assembly Drawings:

- 168. Explode view and position component and options
- 169. Assembly Explode View set up
- 170. Position components in for the explode view.
- 171. Assembly Drawings,
- 172. General view
- 173. Parent view,
- 174. Project view
- 175. Detail view
- 176. Auxiliary view
- 177. 3D view
- 178. How to break relationship of each view.
- 179. View Alignment;
- 180. View display mode and other functions related.
- 181. Assembly Section View set up
- 182. Section view reference arrow,
- 183. Full Section View
- 184. Partial section View
- 185. Exclude parts from section view.
- 186. Made section view in drawing if model has not been set up sections.
- 187. Make Breaking View
- 188. Set up breaking view
- 189. Breaking View options.
- 190. Insert multi models.
- 191. Del model;

[Go Back](#)

- 192. set model;
- 193. Remove model.
- 194. Model display.
- 195. Assembly Drawings,
- 196. Review tab Introduce functions and options in this tab.
- 197. BOM table
- 198. BOM bubble
- 199. Add Table
- 200. Add call out.
- 201. Add notes and flag notes.
- 202. Add Rev. symbol.
- 203. Add BOM bubble to the drawing
- 204. Save drawing as PDF,
- 205. Save drawing inter-exchange file.
- 206. Plot setting.

XI. Advance Level Command and Other Settings

- 207. 2D curve
- 208. Set up cylinder coordinate system
- 209. Make spiral points
- 210. 3D curve
- 211. Draft
- 212. Advanced Rounds and Tweaks
- 213. Copy feature from different model:
- 214. wrap
- 215. Flexible part on assembly
- 216. Transparent; Light; Reflection Mapping texture
- 217. Parameter and relations.
- 218. Cross reference relations.
- 219. Design table function.
- 220. User Defined Features (UDF's)
- 221. Additional useful functions.
- 222. Manipulate layers
- 223. 3D loft
- 224. Part family

XII. Simulation and FEA

- 225. Simulation and FEA