SW143-Solidworks MBD

About This Course

The goal of this course is to teach you how to communicate product and manufacturing infonnation (PMI) in 3D formats. SOLIDWORKS MBD, or Model Based Definition software, enables users to represent PMI directly within a 3D model and publish this information to 3D PDF, eDrawings, or STEP 242 file fonnats, eliminating the need for separate 2D drawing files.

The focus of this course is on the fundamental skills and concepts central to successfully utilizing SOLIDWORKS MBD. You should view the training course manual as a supplement to, not a replacement for, the system documentation and on-line help. Once you have developed a good foundation in basic skills, you can refer to the on-line help for information on less frequently used command options.

Perequisites

Students attending this course are expected to have the following:

- Mechanical design experience.
- Completed the course *SOLIDWORKS Essentials.*
- Familiarity with SOLIDWORKS annotation commands.
- Experience with the Windows™ operating system.

Course Design Philosophy

This course is designed around a process- or task-based approach to training. Rather than focus on individual features and functions, a process-based training course emphasizes the processes and procedures you follow to complete a particular task. By utilizing case studies to illustrate these processes, you learn the necessary commands, options and menus in the context of completing a design task.

Course Length

The recommended minimum length for this course is 1 day.

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Lesson 1:
Introduction to SOLIDWORKS MBD

- What is SOLIDWORKS MBD?
- Course Layout
- MBD using Feature Dimensions
- 3D PDF Capabilities
  - Viewport Options
  - Markup Capabilities
- MBD in SOLIDWORKS
  - Annotations Folder
  - Annotations Views
  - 3D Views
- MBD using DimXpcrt
- DimXpert Capabilities
- eDrawings and MBD
- eDrawings Capabilities
- STEP 242 Files
- MBD and Assemblies
- Steps in the Process

Lesson 2:
Using Feature Dimensions and Annotation Views

- Using Feature Dimensions with MBD
- Default Annotation Views
- Optimizing Settings
  - Customizing the CommandManager
- Adding and Organizing Annotations
  - Activating a Annotation View
  - Annotation Views Shortcut menu
- Adding Reference Dimensions
  - Annotation View Assignment
- Modifying Dimensions
- Creating a Section Annotation View
- Editing an Annotation View
- Unassigned Items
- Creating an Annotation View
- Notes Area
  - Show on Open
- Exercise 1: Main Body Annotation Views
- Exercise 2: Flange Annotation Views
- Exercise 3: Fork Annotation Views

Lesson 3:
Capturing 3D Views

- 3D Views
- 3D Views Tab ...
- Capture 3D View
  - Activating and Modifying 3D Views
  - Using Multiple Annotation Views
  - Dynamic Annotation Views
- Publishing PM I
  - Publish to 3D PDF
- Special 3D View Types
  - Detail Views
  - Auxiliary Views
  - Section Views
  - Broken Views
- Model Break View
  - Accessing Model Break Views
- Publish eDrawings File
  - Settings to Consider for eDrawings
  - Modifying Font Size
- Exercise 4: Main Body 3D Views
- Exercise 5: Broken-out Section and Break Views
- Exercise 6: Auxiliary View

Lesson 4:
3D PDF Template Editor

- 3D PDF Template Editor
- Areas of the Template
  - Logo Image
  - Primary Viewport
  - Thumbnail Area
  - Pages Tabs
  - BOM Table Area
  - Notes Area
  - Comments and Custom Properties Area
- Text Types
- Other Template Aspects
  - Background
  - Page Setup
  - Independent Viewport
  - Projected Viewport
- Building a Custom Template

- Saving and Storing Custom Templates
  - 3D PDF Theme File Location
- Testing the Template
- Supplemental Tutorials

Lesson 5:
Using DimXpert

- What is DimXpert?
- DimXpert Settings
- DimXpert Block Tolerances
  - Block Tolerance
  - General Tolerance
  - General Block Tolerance
- DimXpert Dimension Settings
  - Size Dimensions
  - Location Dimension
  - DimXpert Dimension Settings
  - Size Dimensions
  - Location Dimension
  - Chain Dimension
  - Geometric Tolerance
  - Chamfer Controls
  - Display Options
- How DimXpert Works
- Auto Dimension Scheme
- DimXpertManager
  - Linked Features
  - Tree Display
  - Tolerance Status
- Show Tolerance Status
- Modifying DimXpert Annotations
  - DimXpert Annotation Views
  - DimXpert Locations
- Combining Dimensions
- Publish using Default Views
- Creating Multiple Schemes
  - Copy Scheme
- Manual DimXpert Annotations
- Feature Selector Toolbar
  - Default DimXpert Features
  - Intersection and Compound Features
  - Collection Pattern Feature

Using DimXpcrt Dimension Tools
DimXpert Dimension Types
Unique DimXpcrt Options
Linear or Angular Dimension
Reference Features
DimXpcrt Direction
Supplemental Tutorials
Exercise 7: Auto Dimension Scheme
Exercise 8: Multiple Schemes
Exercise 9: Manual DimXpcrt Annotations
Automating Basic Dimensions

Lesson 6:
MBD and Assembly Models
Assembly Models and MBD
Assembly Level Dimensions
Optimizing Settings in Assemblies
Additional Settings to Consider
Adding Assembly Annotations
BOM Tables and Balloons
Publishing Assembly PM I
Additional MBD Tools
Supplemental Tutorials
Exercise 10: Assembly Annotations
Exercise 11: Assembly Exploded Views