

Computer-aided Design (CAD) with SolidWorks®

ENGINEERING

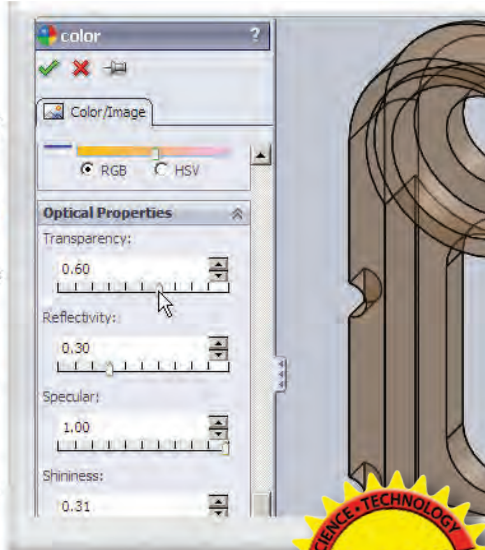


Lesson 10: Assembly

10.5.7: Mates (cont.)

Alternatively, you could also right-click on the graphics area and choose the **Select Other** tool. This tool cycles through the edges and planes, allowing you to view and select entities you would **not normally be able to see** from your angle.

Another useful tool for an Assembly is the ability to change the color and transparency of the entity. Right-click on the Part in the FeatureManager and then select the Appearances icon. Then click on the **Edit Color** box. The Color PropertyManager will open. Select the shade you prefer. Next, look at the Optical Properties menu. You can adjust the **transparency** of the Part. This will allow you to view all facets or regions of the part.



VIRTUAL COURSE

Computer-aided Design (CAD) with SolidWorks includes everything you need for successful blended learning.

Through LearnMate®, essential resources are provided for both students and teachers.

- Students are always one click away from help files and audio available on each page.
- Teachers have instant access to handouts, tips and detailed activity instructions.

CAD with SolidWorks is ideal for any engineering or automated manufacturing program, providing a thorough and engaging element of STEM (Science, Technology, Engineering and Mathematics) education.

**SolidWorks software not included.*

Computer-aided Design (CAD) with

SolidWorks teaches how to use SolidWorks® 3D mechanical design software* by means of a project-based design tutorial. This course fast-tracks students through many advanced features of Solidworks, exposing them quickly to the power of 3D modeling.

Assuming no prior knowledge, Computer-aided Design (CAD) with SolidWorks takes students step-by-step through the process of building a complex six-part rotary stamp assembly. In this way, students obtain a comprehensive introduction to all the capabilities of the SolidWorks tool for parametric models of parts and assemblies. Each and every part designed is made from scratch by students from the ground up, using multiple techniques within the software to accomplish the design.



- Software screen videos of every step enhance the on-screen text instructions, enabling students to follow the workflow.
- Review questions reinforce student comprehension of concepts and procedures
- The course concludes with an open-ended design challenge in which students model their own handle for the rotary stamp.

P O W E R E D B Y

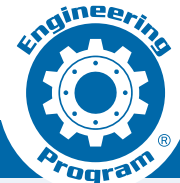


intelitek's engineering courses are powered by LearnMate®, intelitek's innovative e-learning platform. Self-paced interactive LearnMate content may be deployed stand-alone or through the robust learning management system (LMS). LearnMate provides everything needed for the ultimate blended learning experience.

- SCORM-compliant interactive content
- Anytime, anywhere accessibility
- Student and class management
- Grade tracking
- Skill/competency reporting mapped to national skill standards



CAD with SolidWorks Specifications



Order # 16-3108

■ LearnMate® E-Learning Content: Computer-aided Design (CAD) with SolidWorks

*SolidWorks software not included.

Course Outline (Lab and Virtual)

Lesson 1: Introduction to SolidWorks

Lesson 2: Sketching the Cover

Lesson 3: Extruding the Cover

Lesson 4: Working Drawings

Lesson 5: Drawing the Crank Wheel

Lesson 6: Drawing the Link Arm

Lesson 7: Drawing the Base

Lesson 8: Drawing the Stamp Block

Lesson 9: Adding Text

Lesson 10: Assembly

Project: Crank Handle

ENGINEERING PROGRAM

CAD with SolidWorks guides students through the steps to create a working part that can be produced on a 3D printer!



Bringing designs to life with a working 3D model serves to engage students and deliver a deeper understanding of concepts learned.

By producing and assembling the individual parts into a working mechanism, students see how the design process translates into production.

Bring all these benefits to your students by adding the Solido SD300 Pro desktop 3D printer to your lab!

This affordable and easy-to-use 3D Printer is the perfect classroom solution, requiring

- no post-processing
- no chemical bath
- no curing time

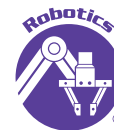
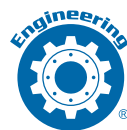


Simply send your 3D data file to the printer, remove the model when finished and remove the support material from the model - no harsh chemicals or special instruments required.

The plastic sheet lamination technology produces durable, flexible and transparent models that can be drilled, machined, finished and do not distort over time. No other 3D printer offers such a combination of ease-of-use, safe operation and versatile model material. Bring rapid prototyping technology to your engineering program with this simple-to-use and cost-effective solution!

Make CAD with SolidWorks part of a comprehensive STEM program!

Foundations Program courses are an excellent launching point for more in-depth programs in engineering, mechatronics, automation, advanced manufacturing and more!



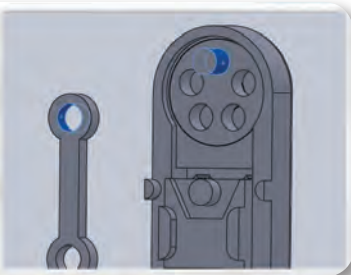
Activity 10.1: Creating an Assembly

14 Click on the left side of the stamp block, select the table tool, and click on the inside of the left wall of the baseplate. Again, change the male type to Chisels, set it to 25mm, and click on the check mark.

15 Click Insert Component and select Link Arm.

16 Click the inside of the upper circle of the Link Arm to the outside of the off-center gap in the Crank Wheel (concentric, default).

17 Make the inside of lower circle of the Link Arm to the outside of the gap on the Stamp Bottom (concentric, default).



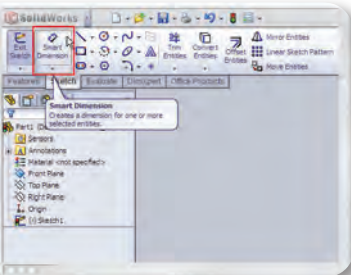
Activity 2.1: Drawing the Cover

22 Select the Smart Dimension tool.

23 Left click on the perimeter of the circle and then left click to place the dimension leader to the right of the circle.

24 Edit the number in the Modify Dimension dialog box to 20mm in diameter, then click on the green check mark.

25 Left click on the bottom line of the profile, and place the dimension below the profile. Edit the dimension in the Modify Dimension dialog box to 50mm, then click the green check mark.

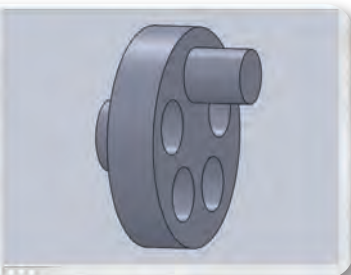


Activity 5.1: Drawing the Crank Wheel

24 Use the Polarize Circle tool to draw a Circle along the top hole. It should be concentric and equal to the hole.

25 Extrude up 20mm This step should protrude through the hole and stick out on the front side of the wheel. If it is being the wrong direction, select the Reverse Direction button in the PropertyManager, and to the End Condition dropdown menu.

26 Save your work on the Crank Wheel.



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