

real inspiration

Mold Design in SolidWorks

Mike Puckett

Dassault Systèmes SolidWorks

What We Will Cover

- Preparing imported parts for use
- Using built-in SolidWorks Mold Tools
- Creating complex parting lines using surfacing tools
- Top-down assembly design
- Drawings tools for assemblies

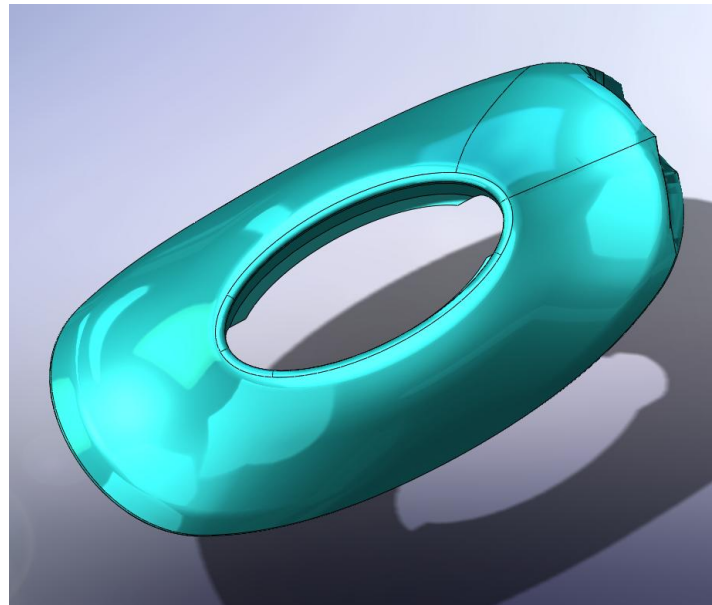


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Repairing Imported Parts

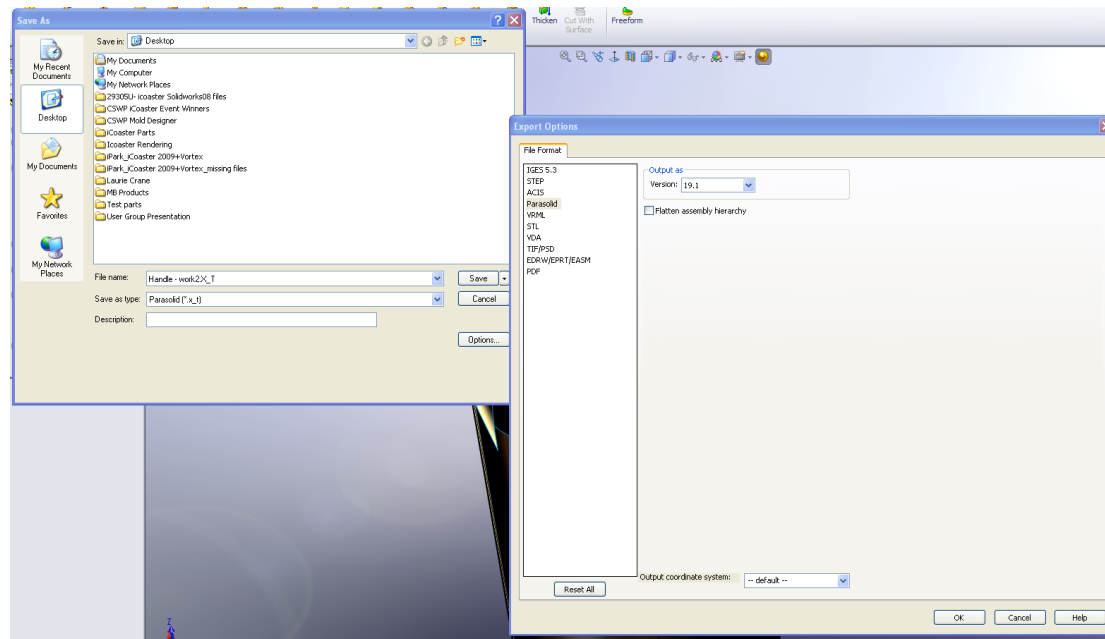
Repairing Imported Parts

- File translation issues
- Parasolid is the preferred format
- What about when a solid, isn't a solid anymore?



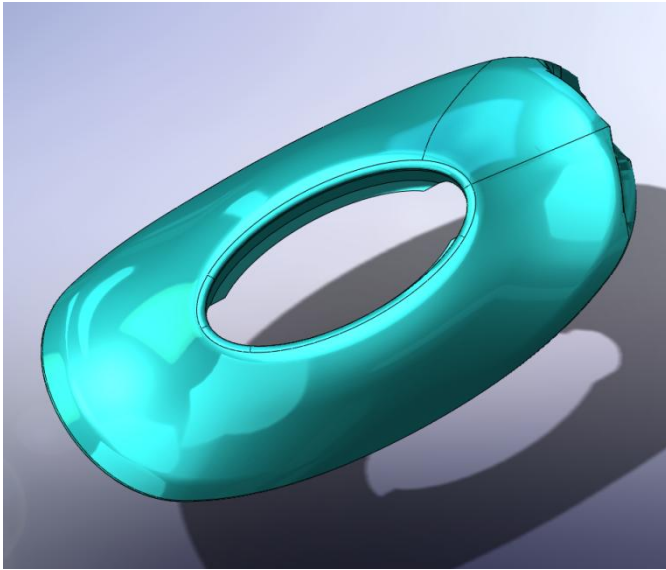
Receiving Imported Parts

- Try to get your customer to send a Parasolid (.X_T)
- Step files are also good
- Stay away from iges if you can
- Parasolids have different versions:

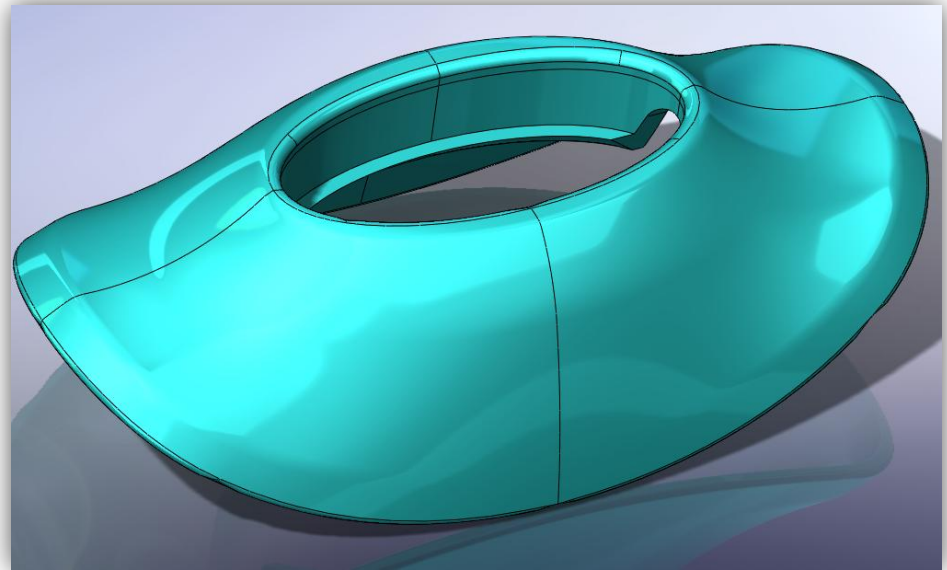


It Used To Be A Solid!

- Inventor & Pro-E files have issues
- Surfacing features will screw things up
- Easy to fix



Before



After



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Applying Scale
(Shrink)

The Scale Factor

- Determine shrink amount
- www.matweb.com
- Shrink rates can vary
- Polypropylene = 0.0 - .025 in/in
- Material manufacturers data sheet
- Insert > Molds > Scale

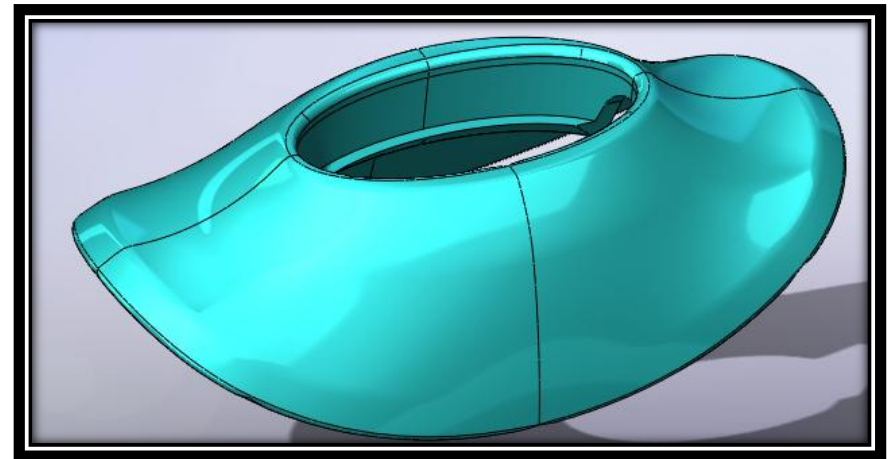
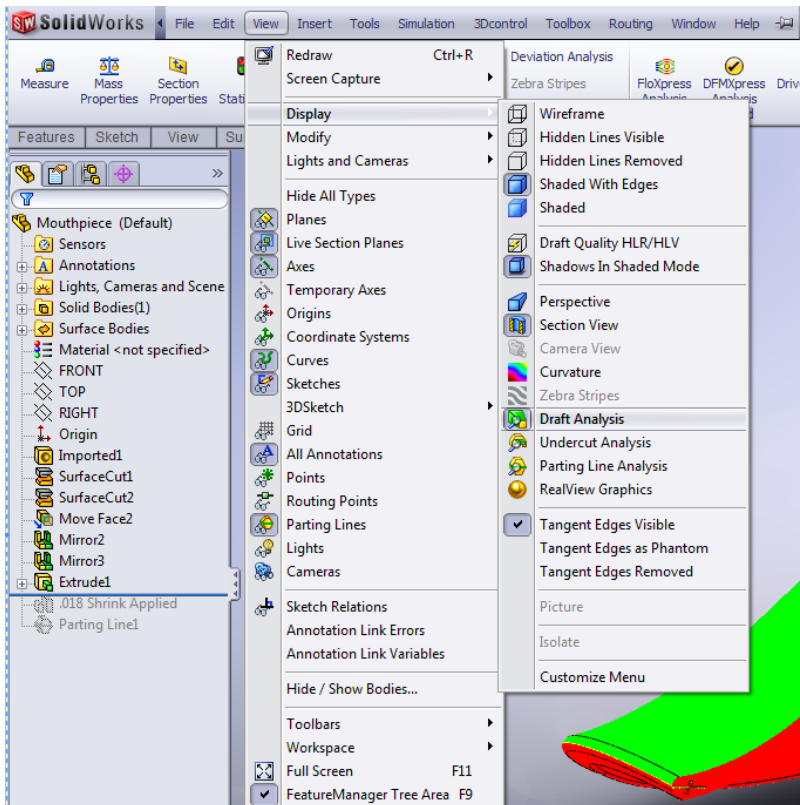


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Draft Analysis

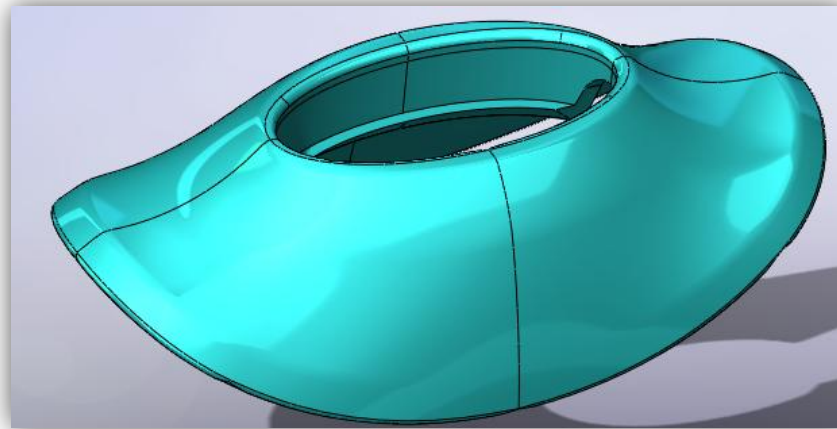
Draft Analysis

- SolidWorks 2009 leaves the D.A. colors visible until you toggle it off
- D.A. resides on the view menu in SolidWorks 2009



Draft Analysis

- Parting line may not always be where you think!
- The Parting Line tool will also split the faces for you
- Auto create your parting line using surfaces



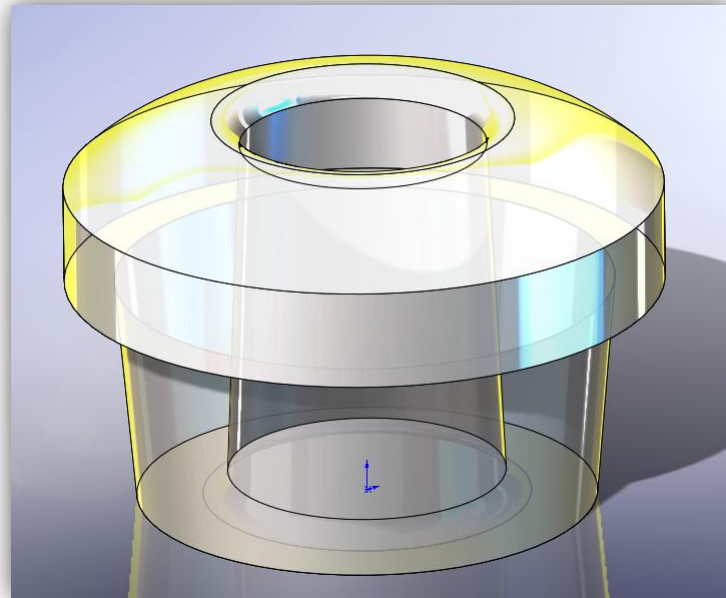


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Creating A Top Down Assembly

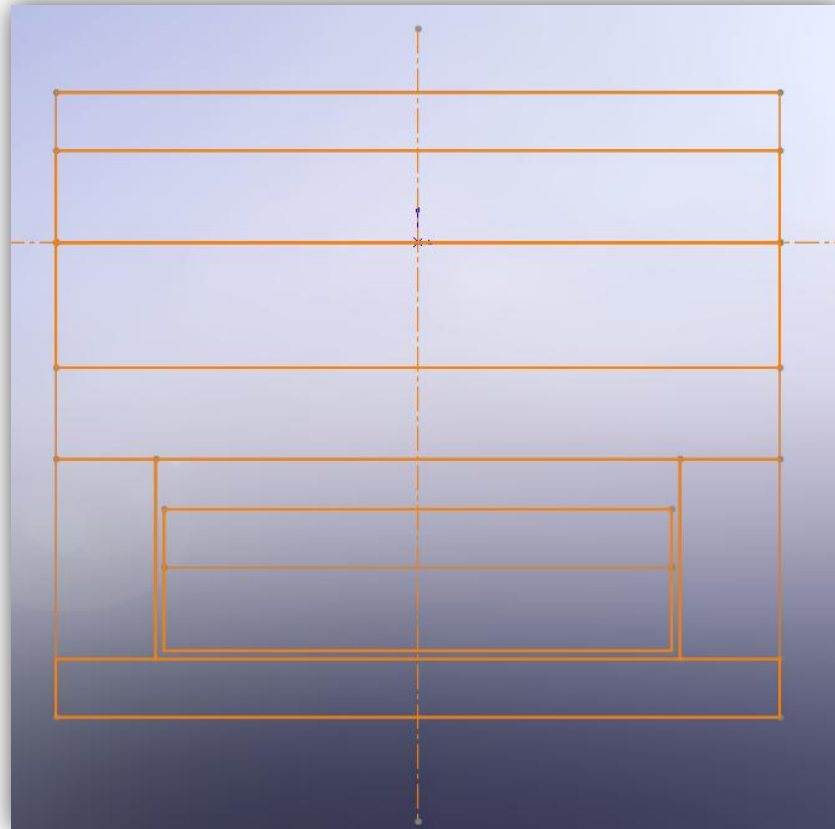
Design Guidelines

- A/V knob
- Material: Polycarbonate
- Material Shrinkage: .007 in/in
- Production quantity: 10,000 parts/week
- Cycle time: 20 seconds



Layout Sketch

- Create a sub-assembly stack
- Layout sketch controls lengths
- Add ejector pins
- Complete stack





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Tools For Creating Drawings

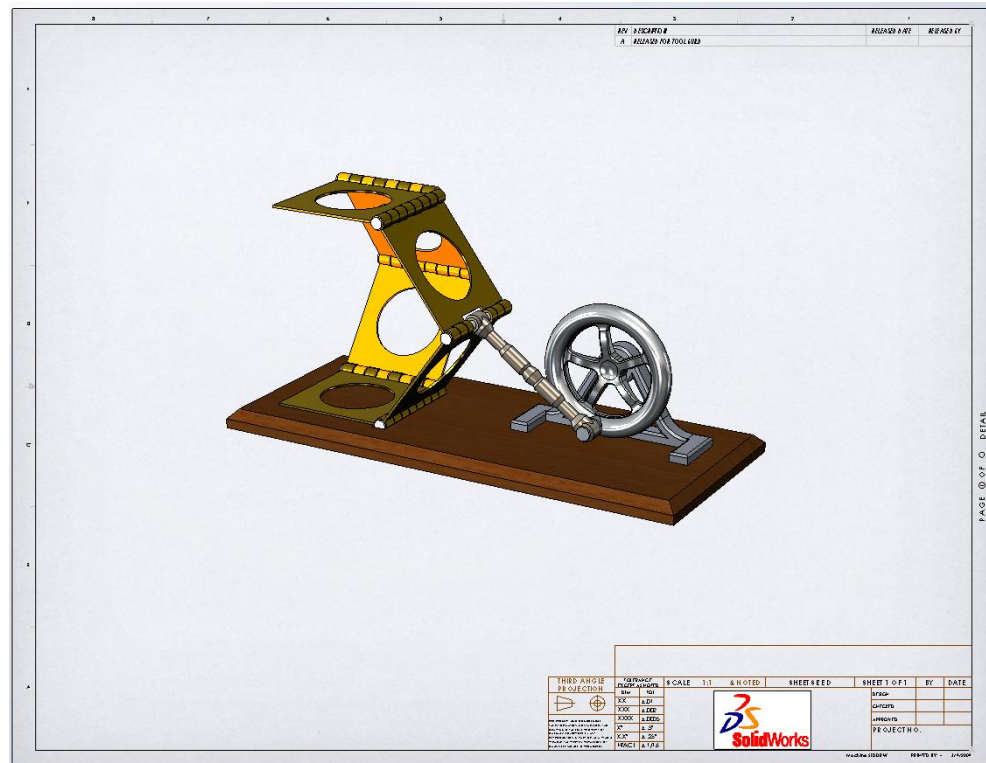
Drawing Tools

- Set properties for multiple parts using custom property manager
- B.O.M. in Assembly



Creating Drawings

- B.O.M.
- Balloons
- Title Block Wizard





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Questions?

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