

A Resilient Modeling Strategy

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Disclaimers:

1

You're probably better at CAD than I am

These are tricks, tips, and strategies I employ with my team

2

There will always be exceptions

This is not a one-size-fits-all for all situations

3

Practical: Name Everything

Be Descriptive

4

Practical: Less is more

Generally: Fewer features and fewer sketches make it easier to modify

5

This is not comprehensive

I have <1 hour to show you some basic tools

6

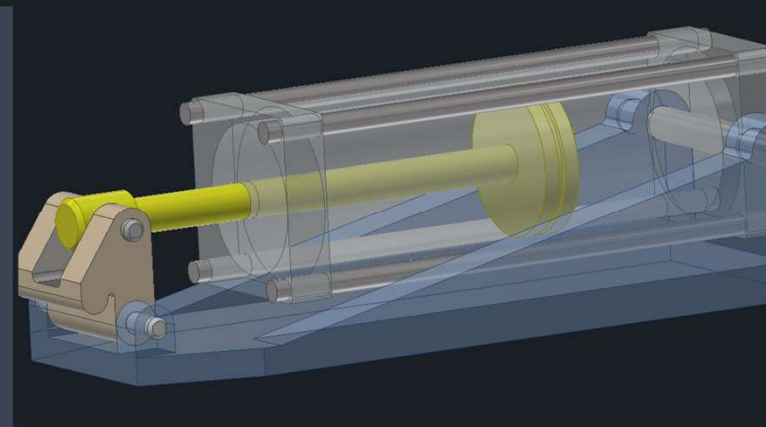
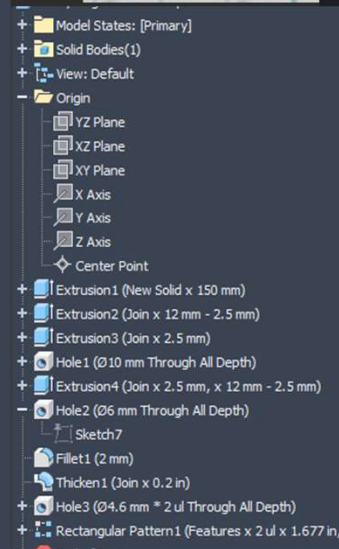
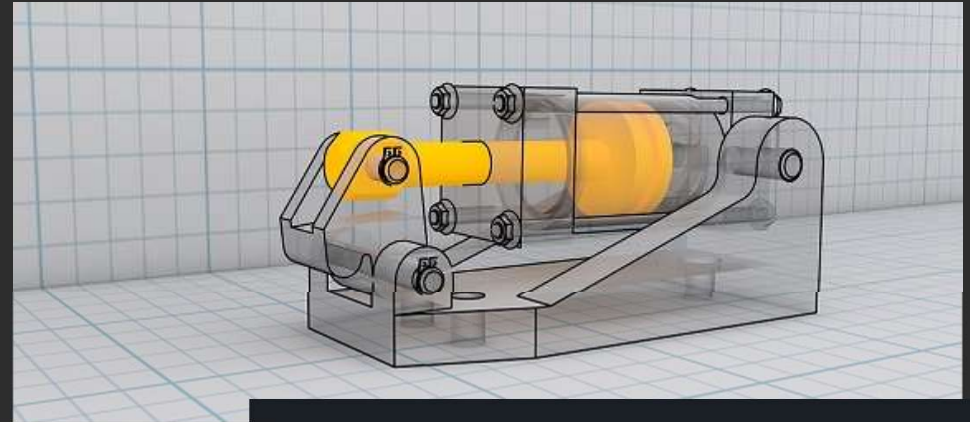
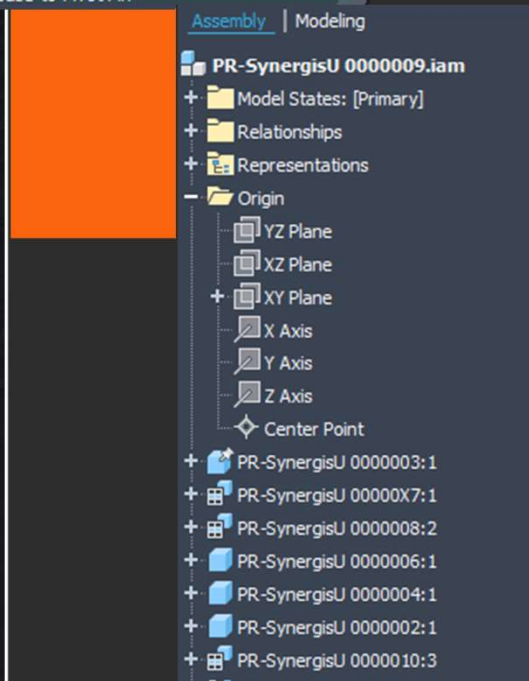
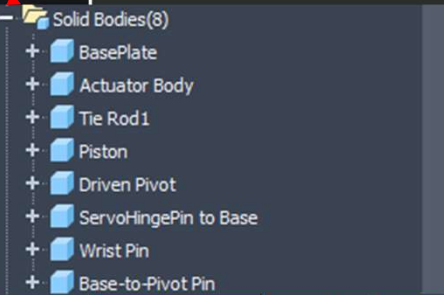
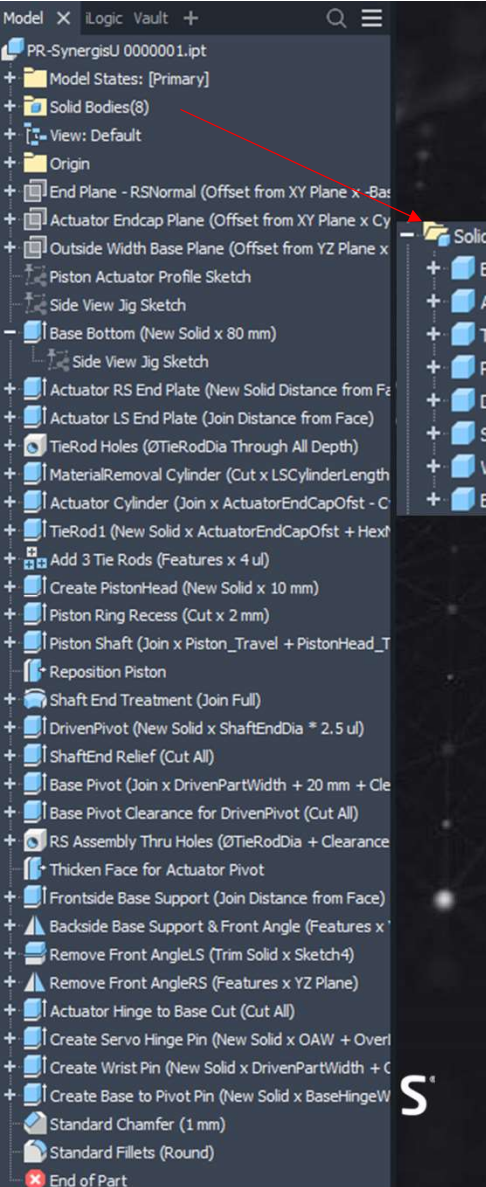
Questions: Please Ask!

The Value of this Session Will be determined by participation

- Instead of 'show-and-telling' the audience things, I designed the flow of this session to provide:

- 1- Opportunity for Questions
- 2- Opportunity for Participation
- 3- Opportunity for Feedback and Challenges

Non-resilient vs Resilient Model



Some Benefits of Resilient Modeling

- Easy Updates – Even for others
- Prevention of Feature Failures or Broken References
- Entire Assemblies can be updated simultaneously
- Design Intent makes for easy-to-follow development
- Can be used to mimic fabrication processes
- Less broken constraints and features = better CAD performance
- Overall Quicker to market with less time for design revisions*

Limitations

Multi-Body Solids

- No Transparency
[Workaround: Toggle Bodies on/off, Use Section View, or use Material Library]
- Export*
- Extra step: Derive Parts for Individual/BOM purposes and to add to an assembly
NOTE: Careful not to create cyclical dependencies
Adaptive Sketching will likely fail
- No motion (until Derived parts are added to an assembly)
- Content Center & Design Accelerator
- No-go for Sheet Metal Parts

Considerations

iLogic

Advanced Opportunities for controlling parts features and/or parameters

Importing External “Fixed” Parts

Known Fixed Geometry to work-from can be derived into the work piece and then moved into position (Direct-Move: Solid)

iParts/ iAssemblies

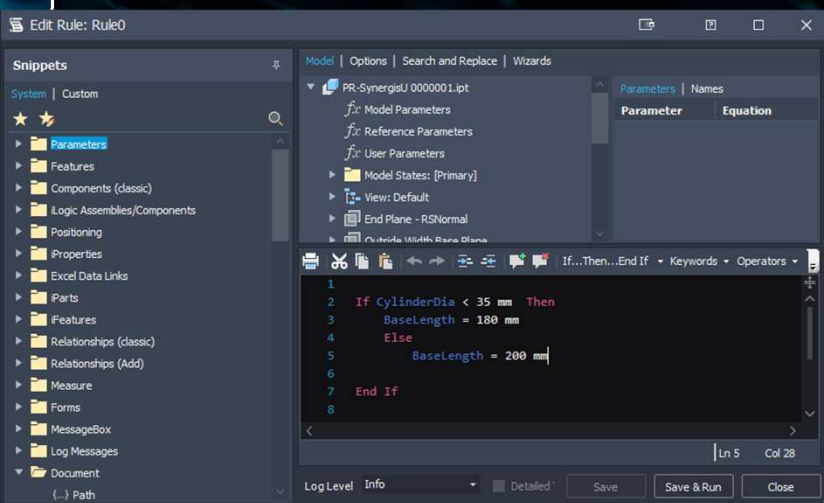
Further Limitations

- HINT: “Generate” Files

Also, further advantages:

- Various Feature Sizes

(In lieu of multiple assembly replacements)



Linking Parameters & “Master” Parts

Build Your “Master” First

- Link Parameters
- Derive Parts /Portions
- Utilize Origins and Origin Planes as much as Possible

Or Create a “Dumb Part”

- Doesn't have to contain all the parts, just the common parameters
- This can optionally be done in Excel



Final Thoughts

Don't let perfect be the enemy of good

(Derived from: l'ennemi du bien est le bien: Voltaire)

When you return to 'fix' or update something, if it's not already resilient, you can incrementally improve.

Questions?



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