



Integrated ECAD, Modeling, and CAM in EAGLE/Fusion 360

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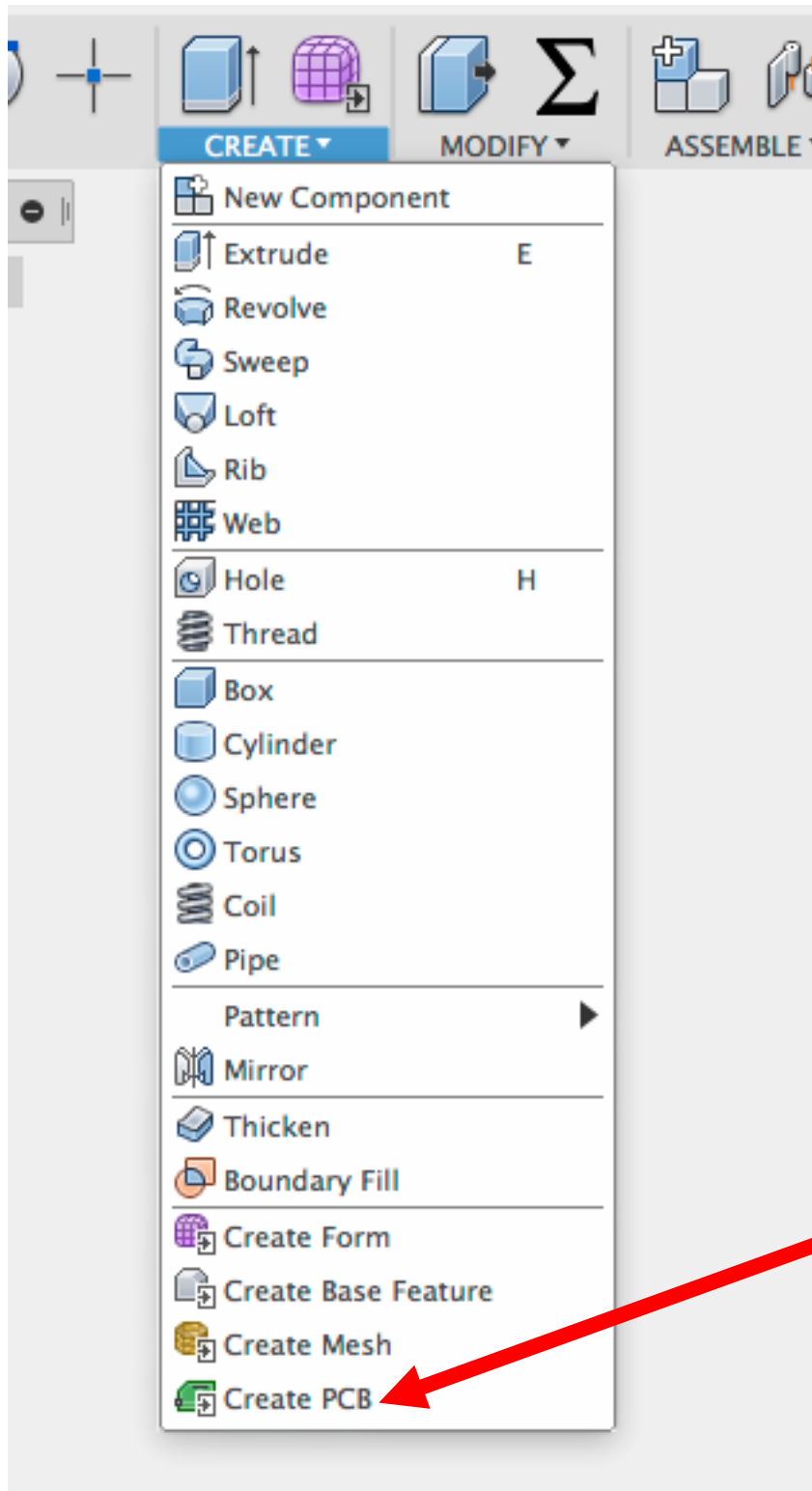
TOPICS

- The PCB workspace in Fusion 360 and the Fusion Sync button in EAGLE
- Eagle/Fusion 360 Integration
 - EAGLE to Fusion 360
 - Fusion 360 to EAGLE
- Workflows and Design Situations
- Advantages of integrated ECAD and MCAD



The PCB workspace in Fusion 360 and the Fusion Sync button in EAGLE

The PCB workspace in Fusion 360

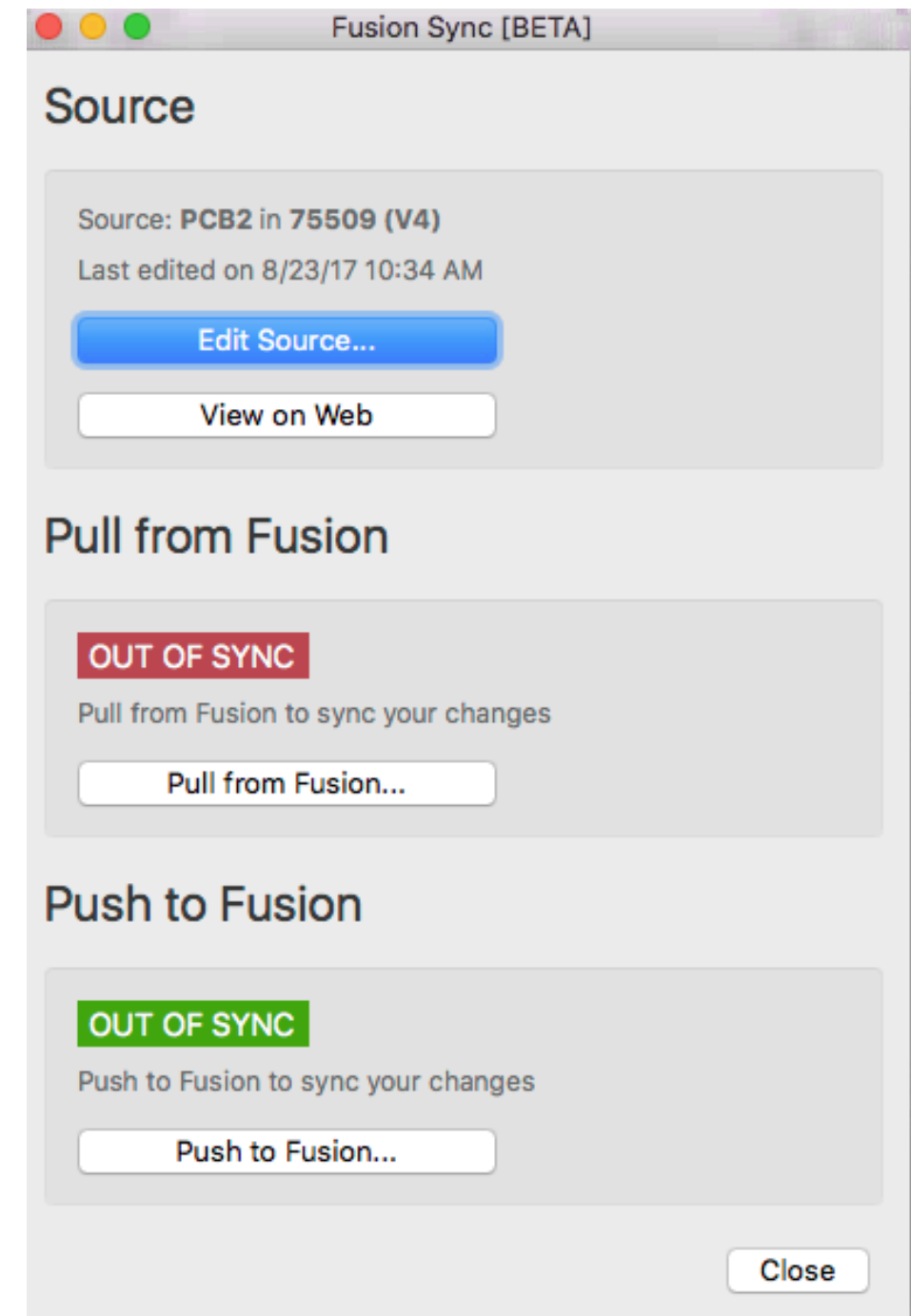
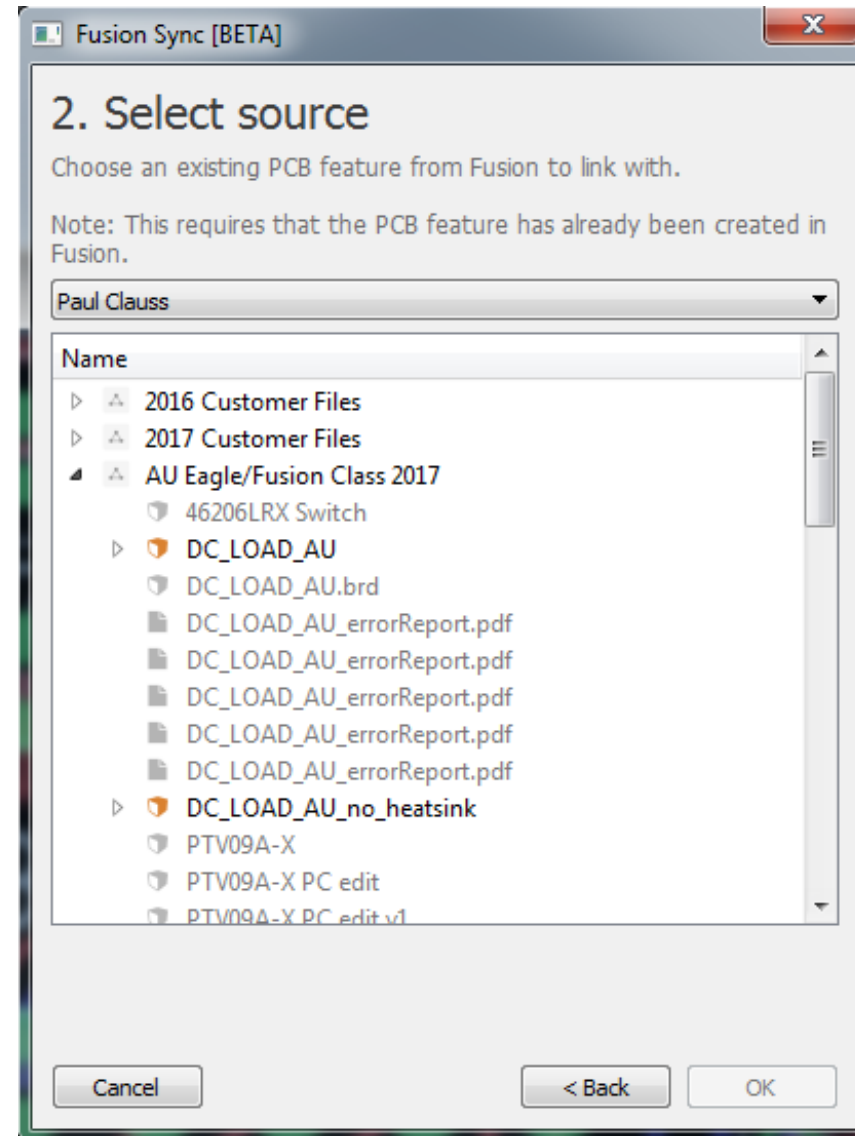


Four Available tools:

-  PCB Profile
-  Copy EAGLE Profile
-  Move PCB Components
-  PCB Status

The Fusion Sync button in EAGLE

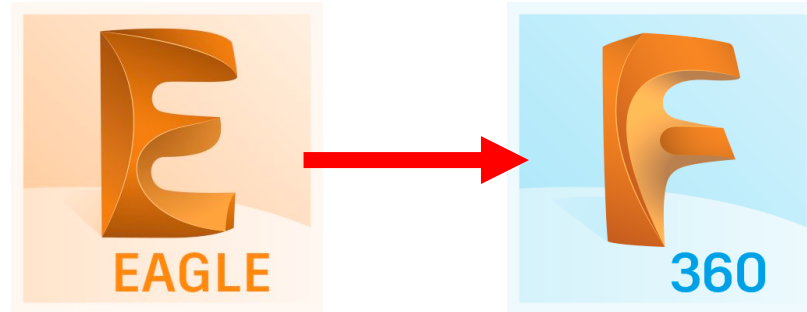
- Define source Fusion 360 design for a PCB component
- ALL pushes and pulls are done through the Fusion Sync button



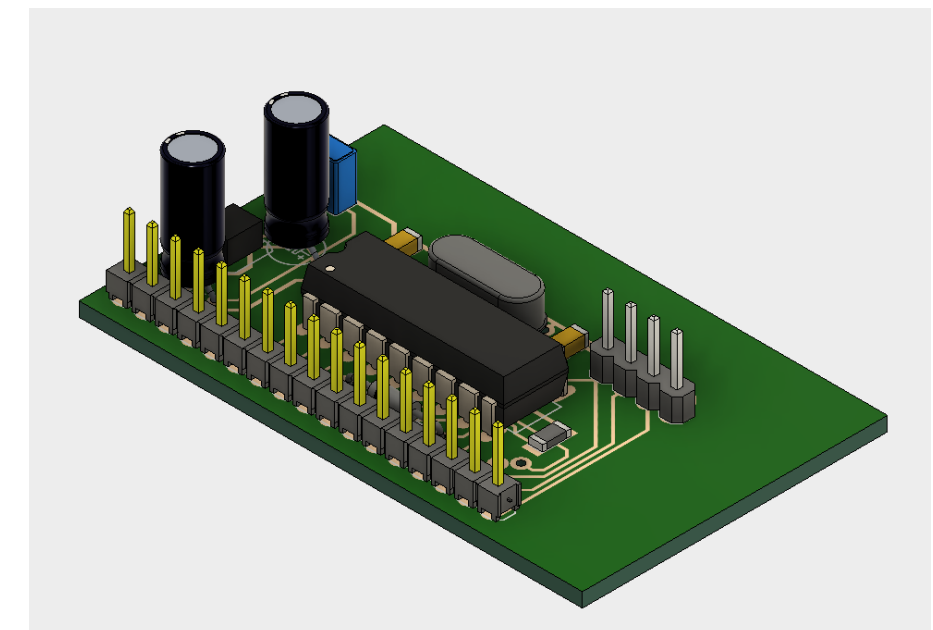
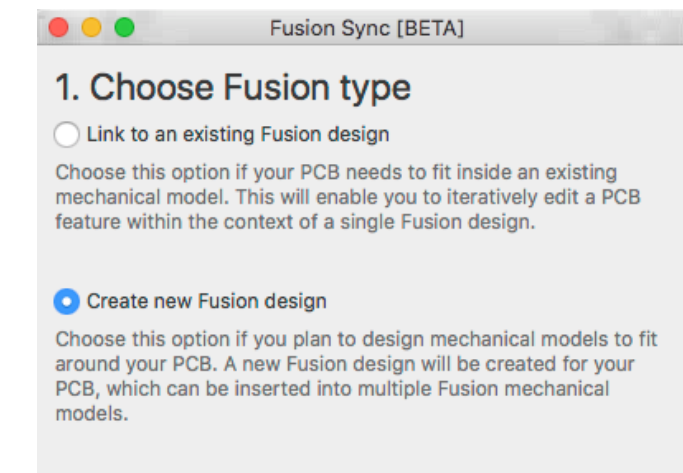
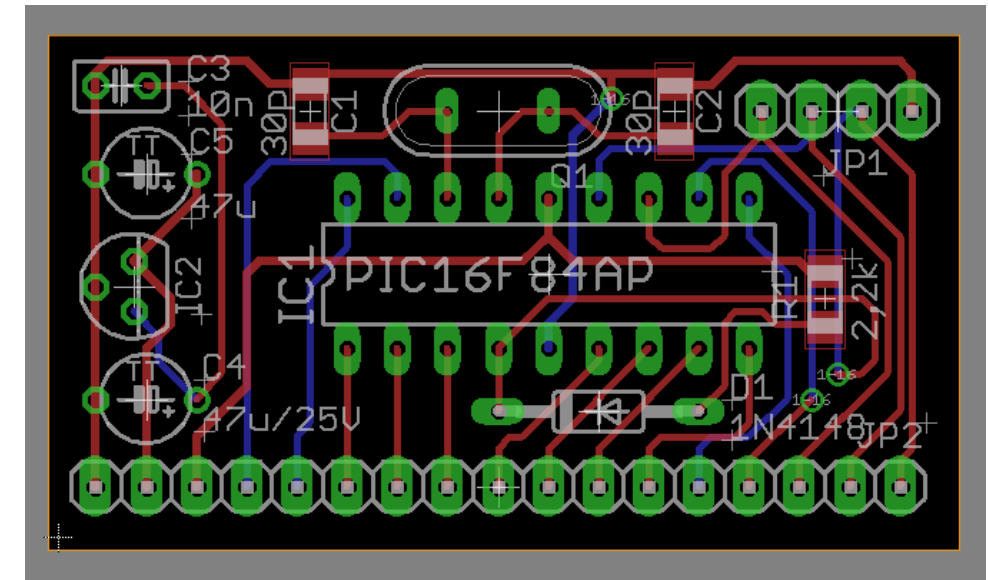


EAGLE/Fusion 360 Integration

EAGLE to Fusion 360



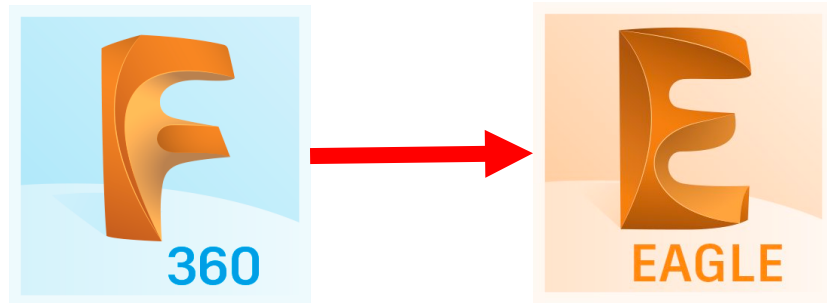
- PUSH an existing EAGLE board to an empty Fusion 360 design
- Use the “Create new Fusion design” option in EAGLE
 - Creates a new Fusion design of the PCB board component and the 3D library packages for any electrical components



DEMO: EAGLE BOARD TO FUSION 360

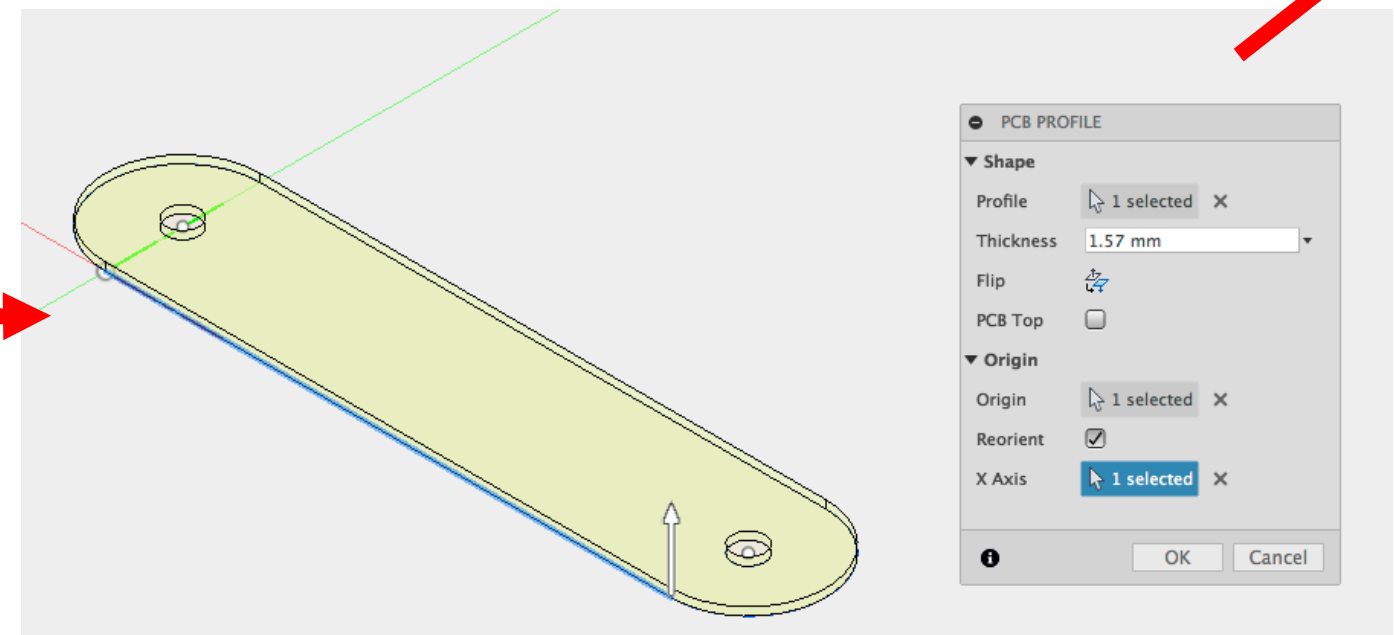
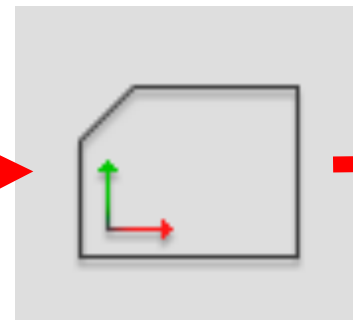
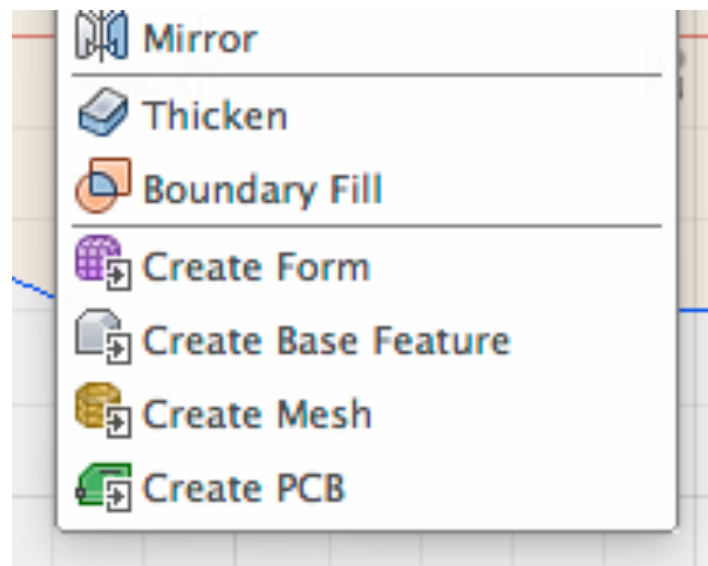
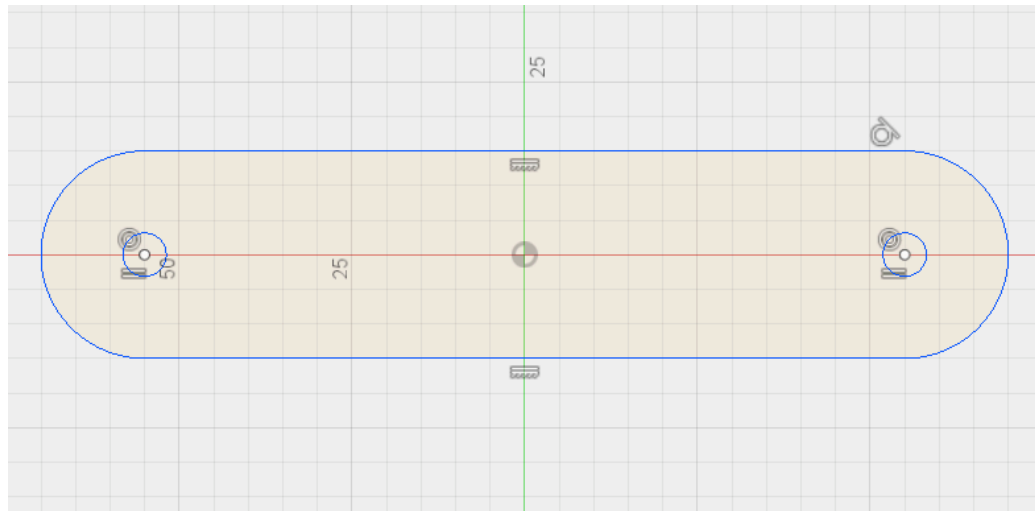
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Fusion 360 to EAGLE



- Create a PCB component in a Fusion 360 design and PULL to EAGLE

1. Sketch Fusion board profile
2. Create PCB
3. PCB Profile
4. Finish PCB



DEMO: FUSION 360 TO EAGLE PCB COMPONENT CREATION
CUSTOM GRAPHICS CARD

SEE CLASS VIDEO FOR RECORDING

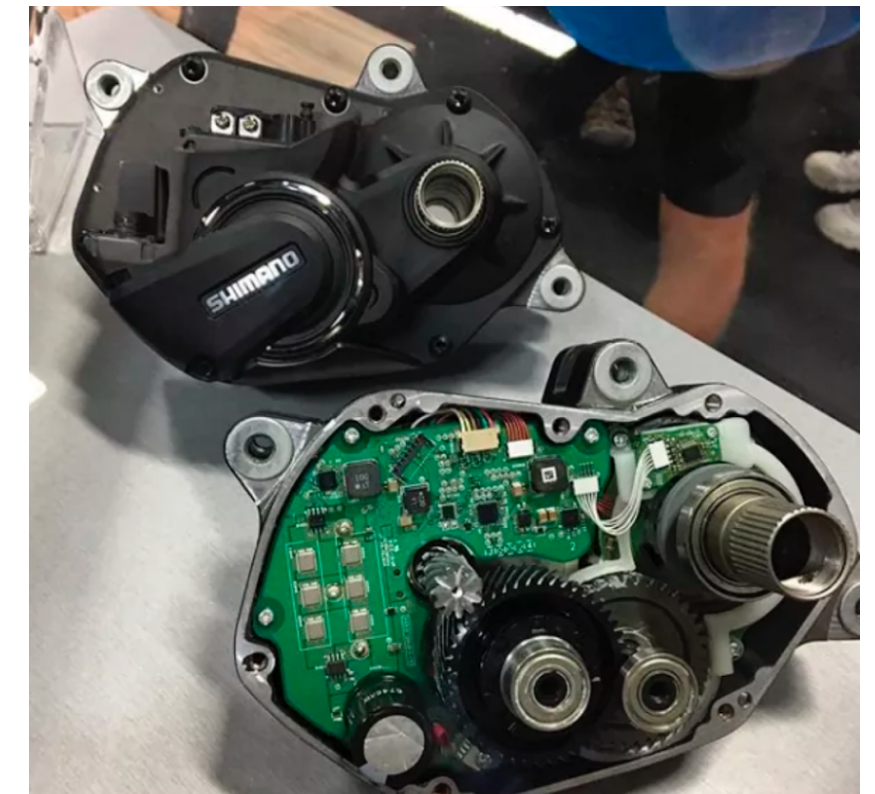
The background features a complex, light gray wireframe mesh that forms a series of interconnected, flowing, and somewhat chaotic shapes. This mesh is set against a plain white background. A solid, medium-blue horizontal bar spans the bottom portion of the image, providing a clear area for the text.

Workflows and Design Situations

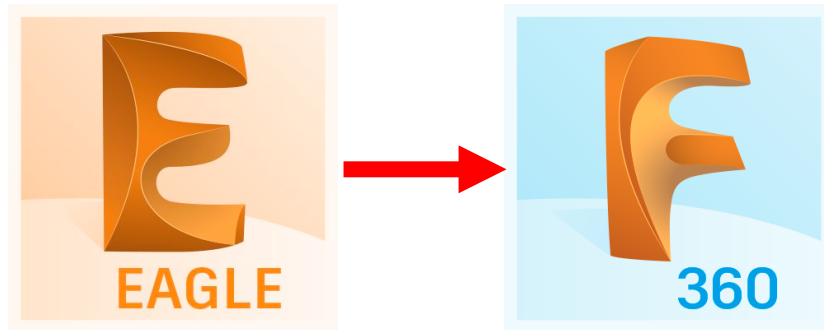
Workflows and Design Situations



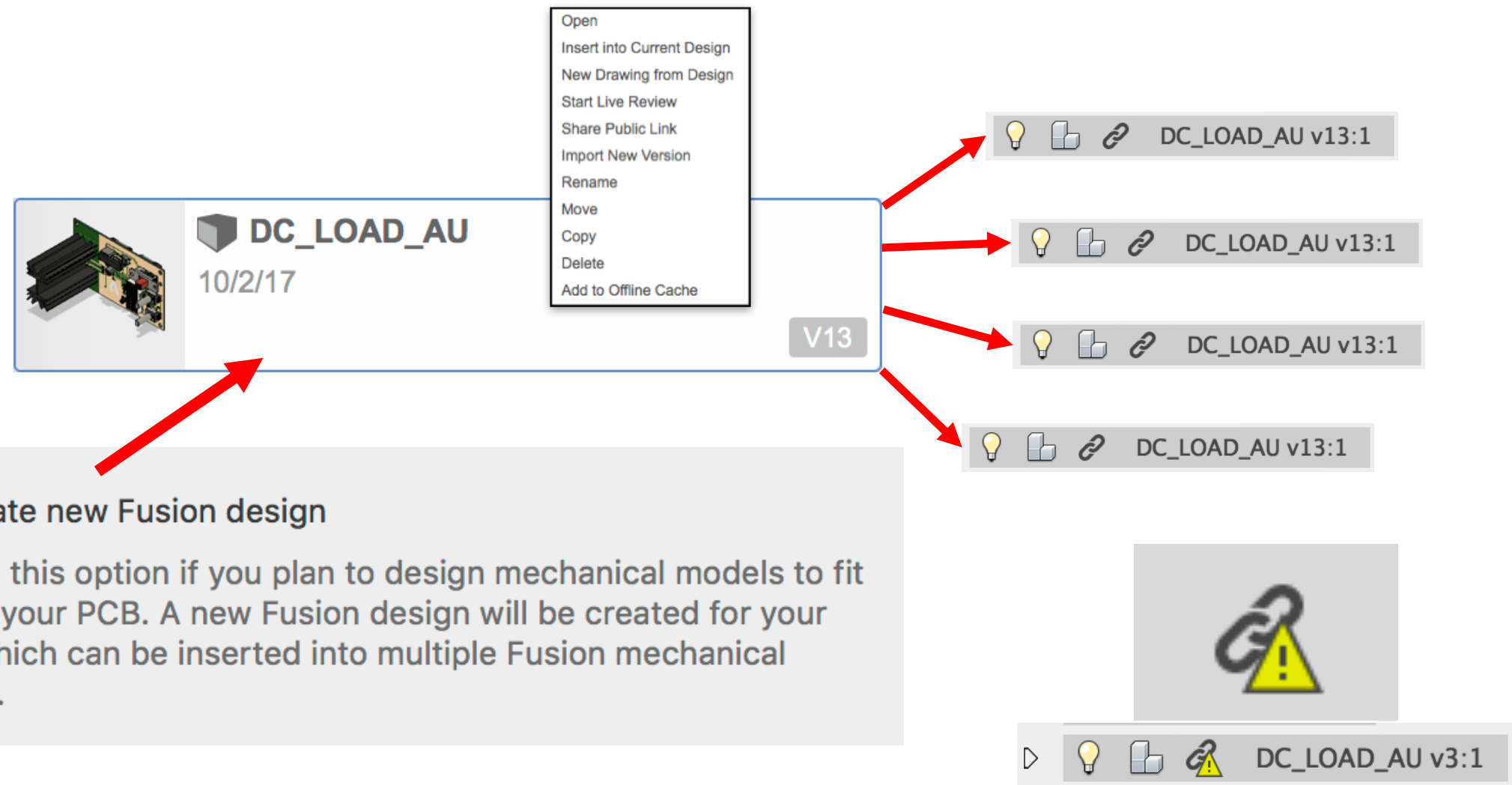
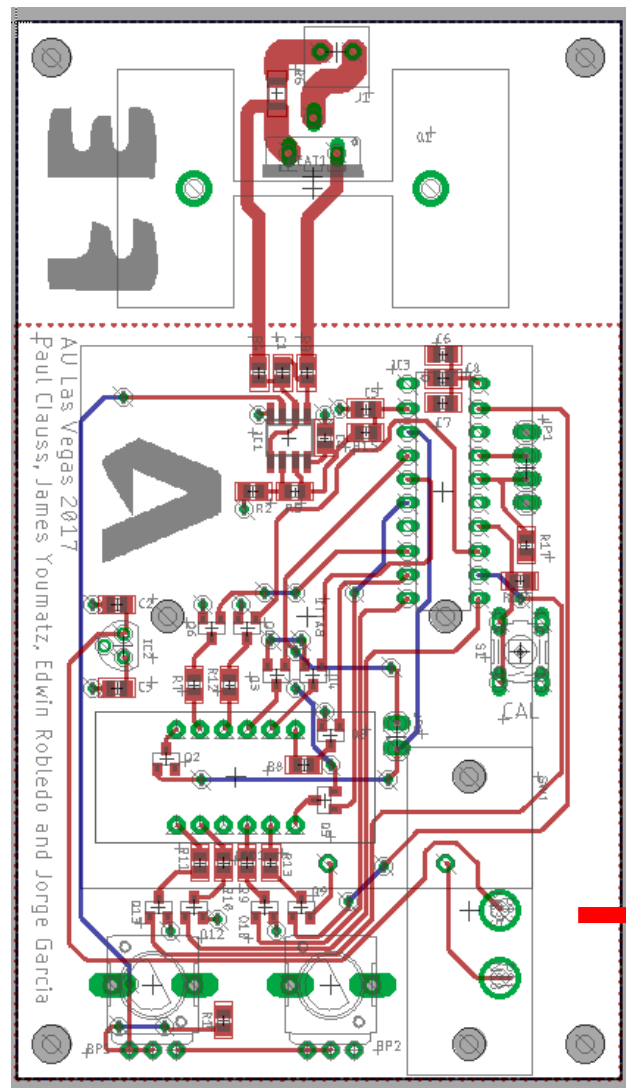
- Which workflow should be used?
 - Depends on design process! Could have:
 - Standard board into many designs
 - Mechanical design dictates board shape
 - Board and enclosure still being designed



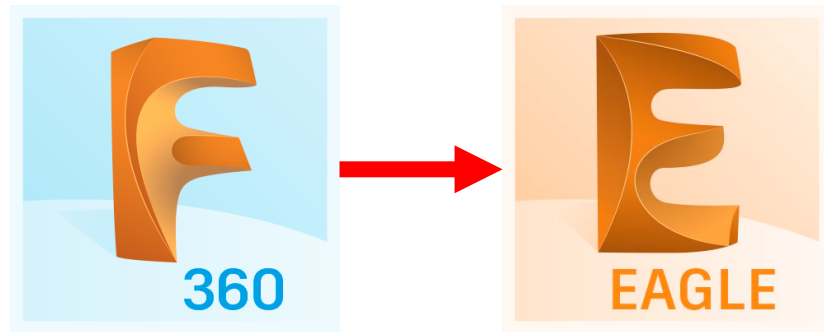
Workflows and Design Situations



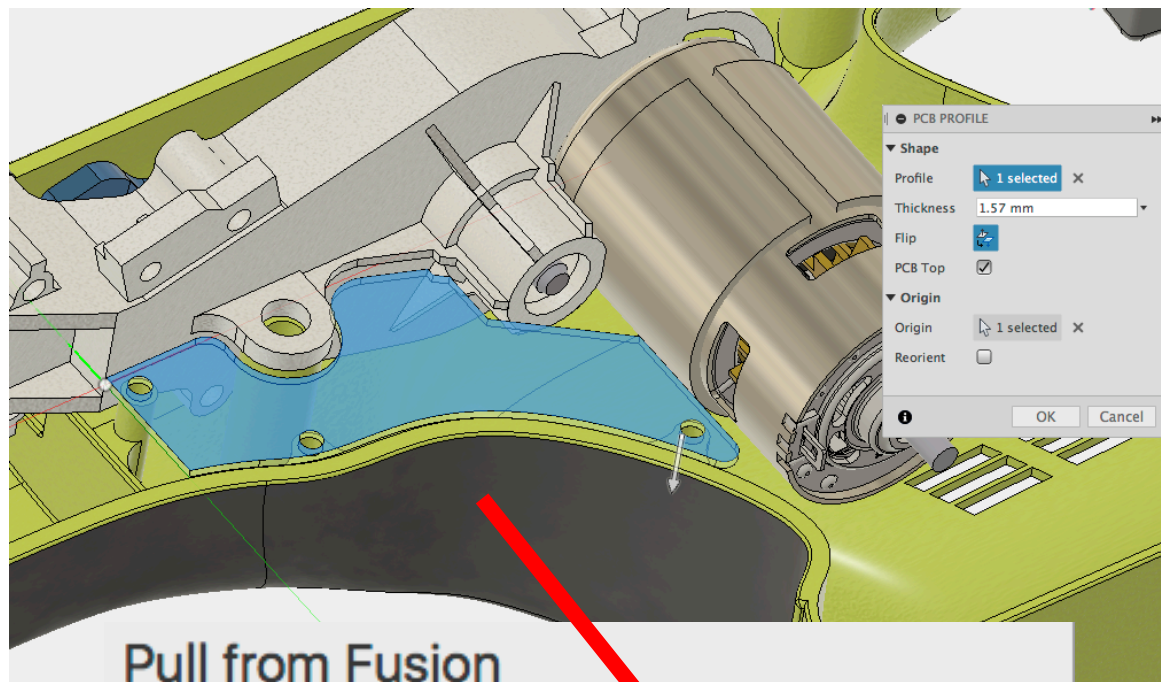
- Standard Board into many designs
- Push into a new Fusion design and insert into assemblies as XREFS



Workflows and Design Situations



- Mechanical design dictates board shape
 - Create board in Fusion and pull to EAGLE
 - Can derive board shape from assembly

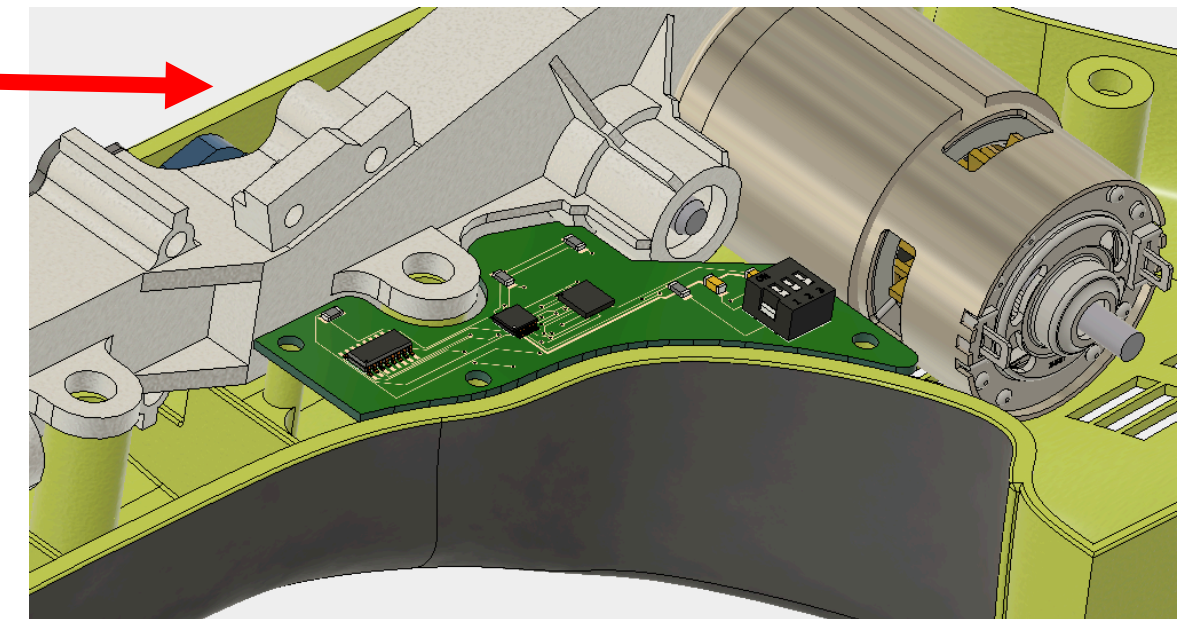
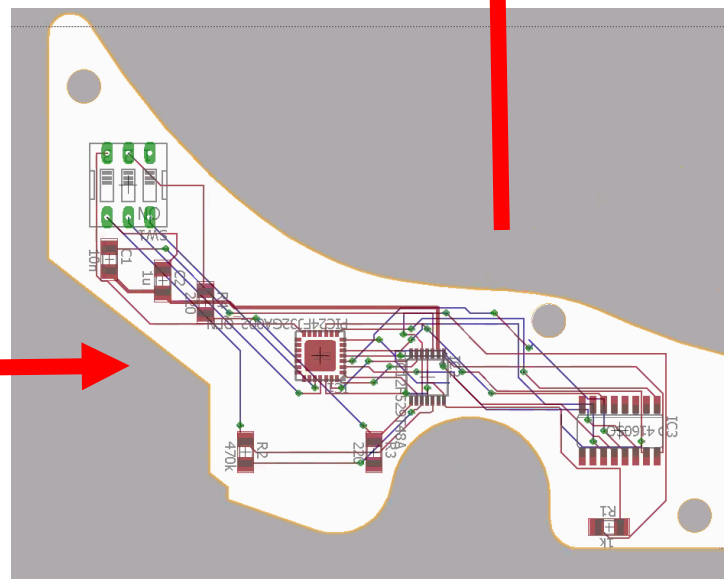
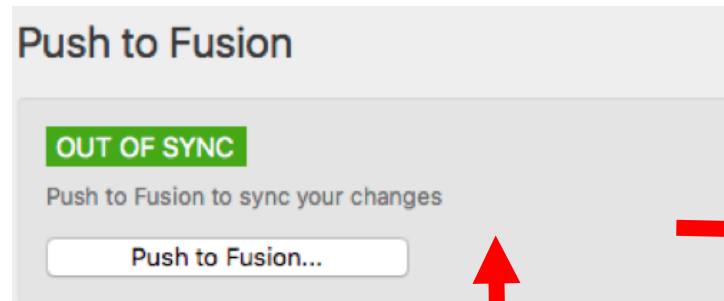


Pull from Fusion

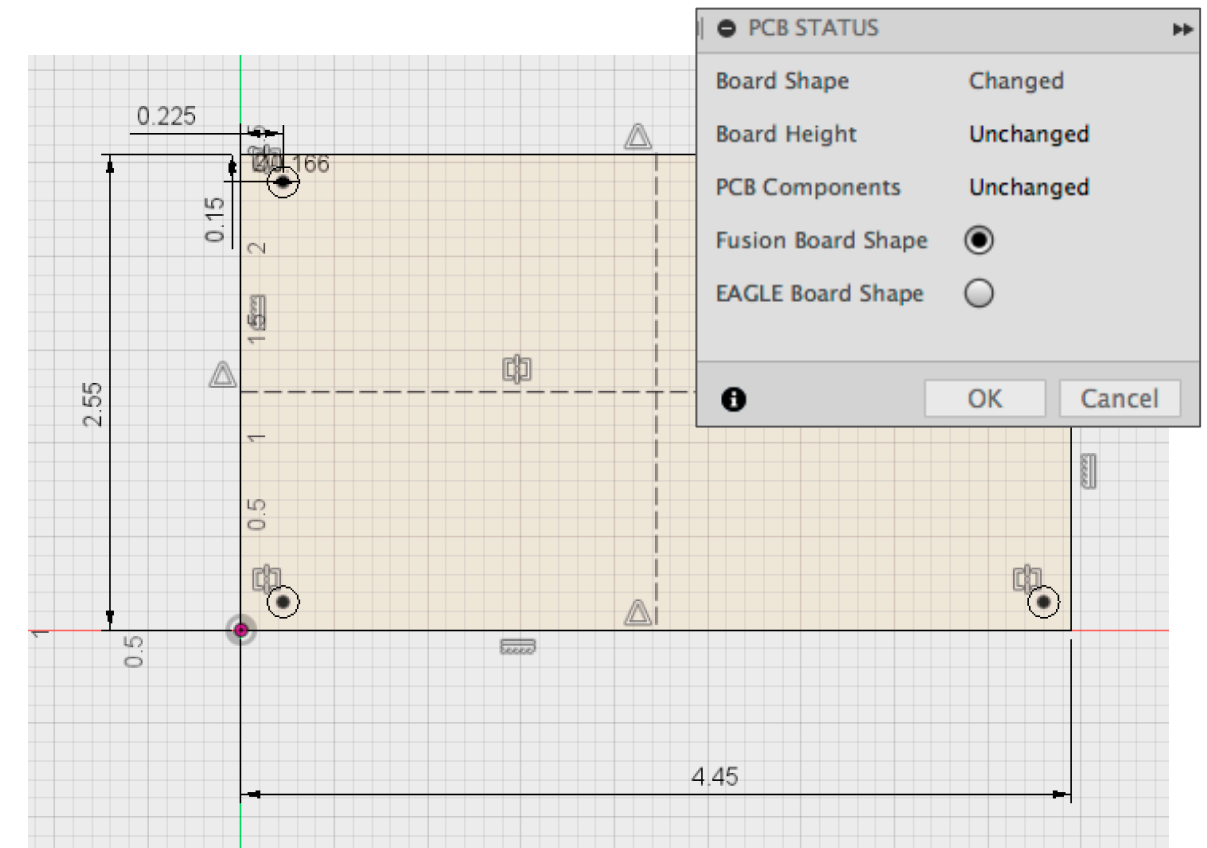
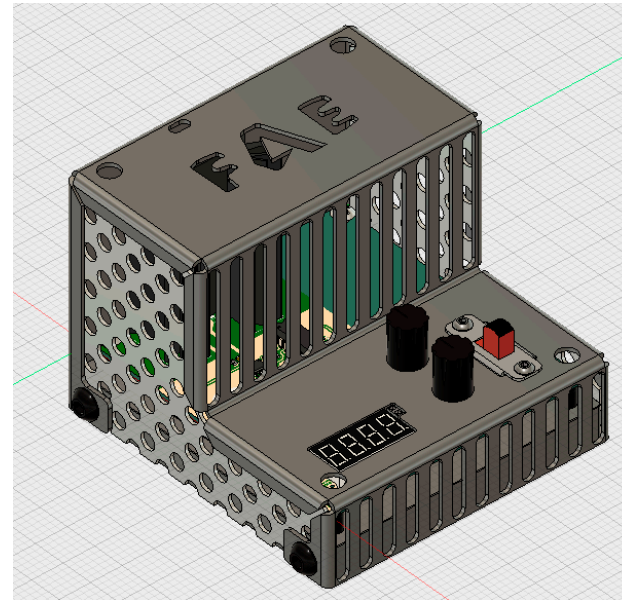
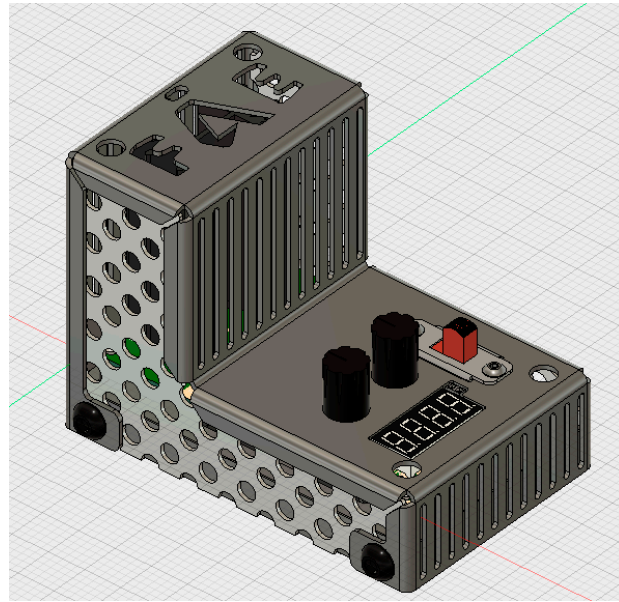
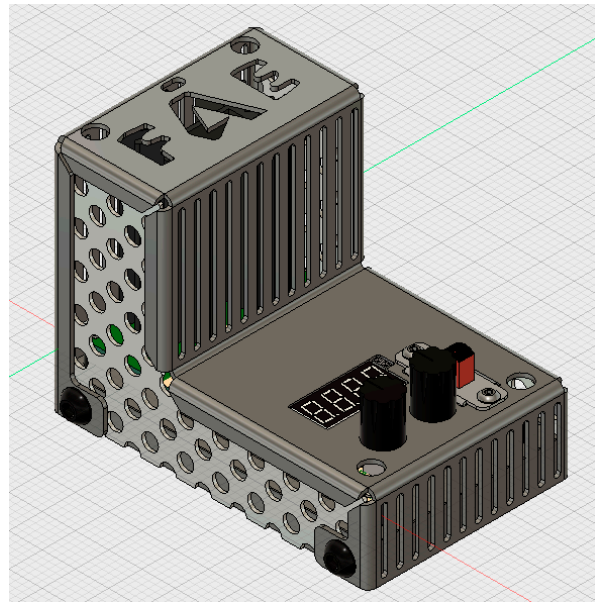
OUT OF SYNC

Pull from Fusion to sync your changes

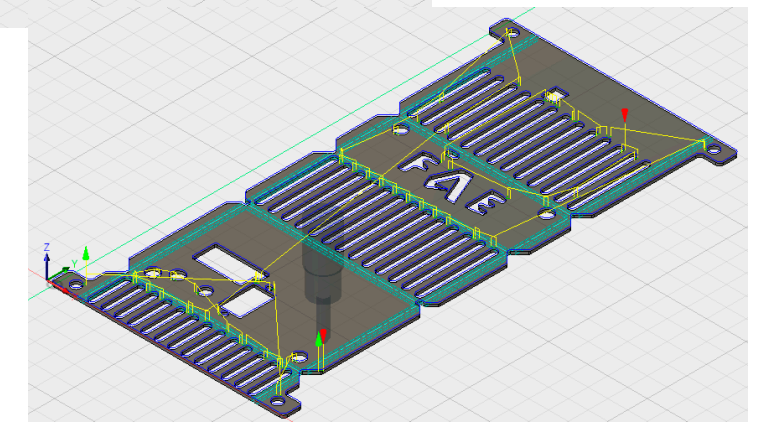
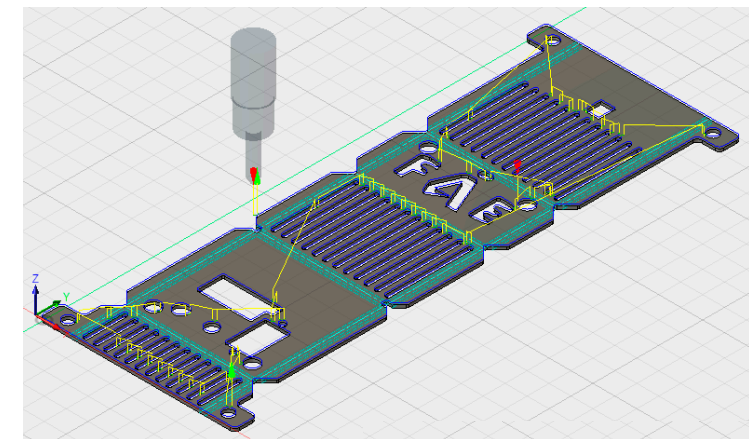
Pull from Fusion...



Workflows and Design Situations



- Board and enclosure still being designed
 - Start with Fusion board component
 - Use Fusion board shape to drive throughout design process



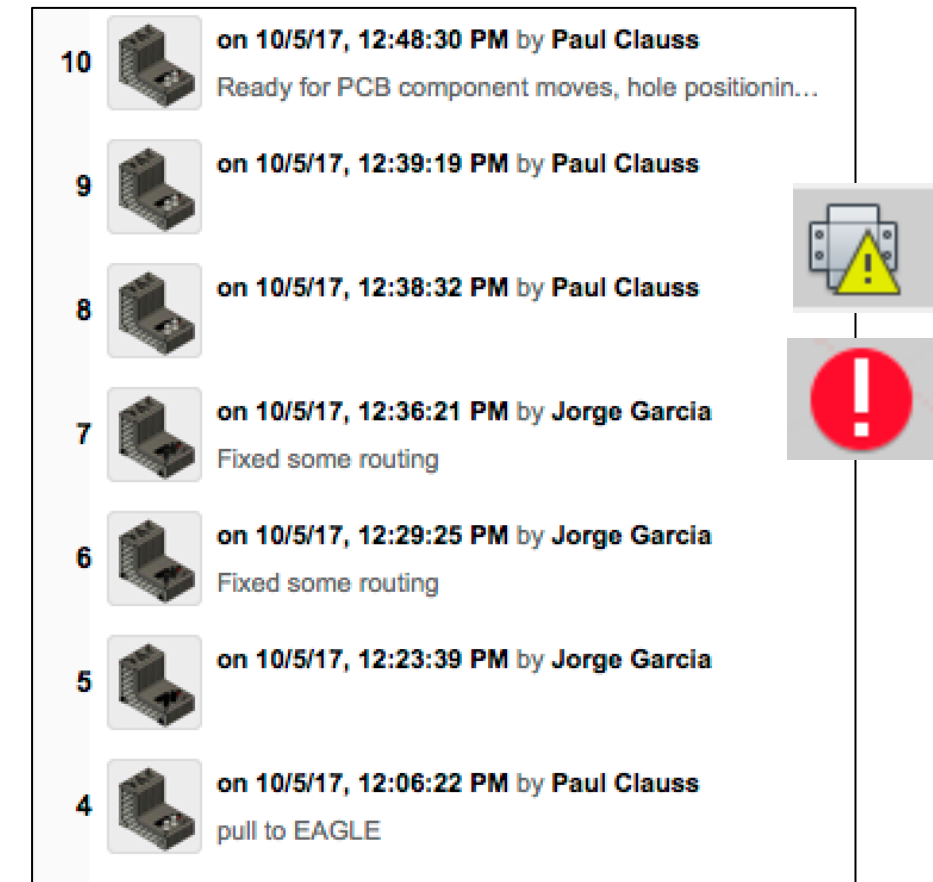
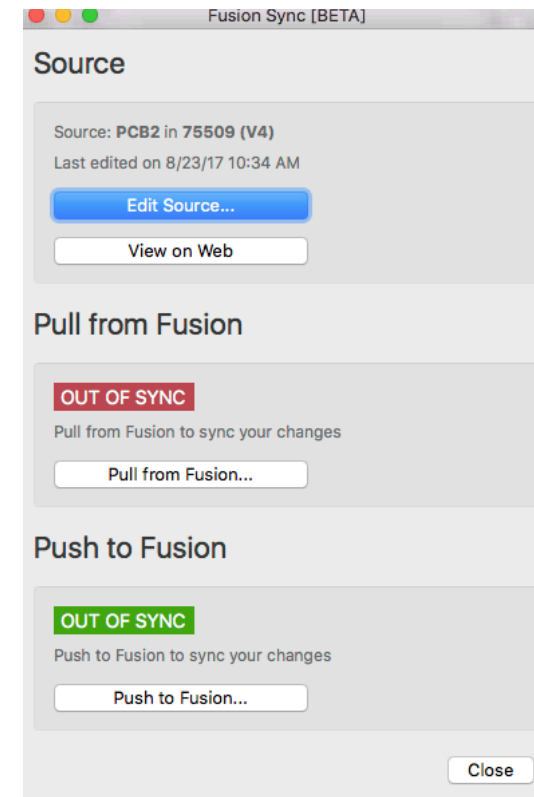
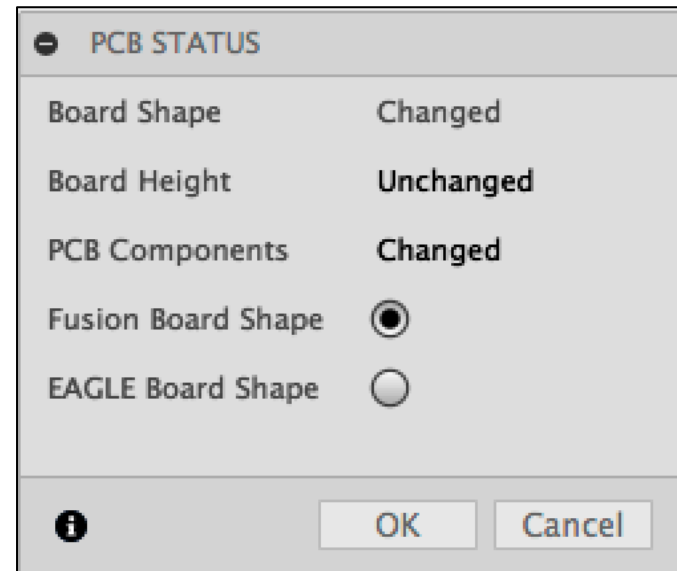
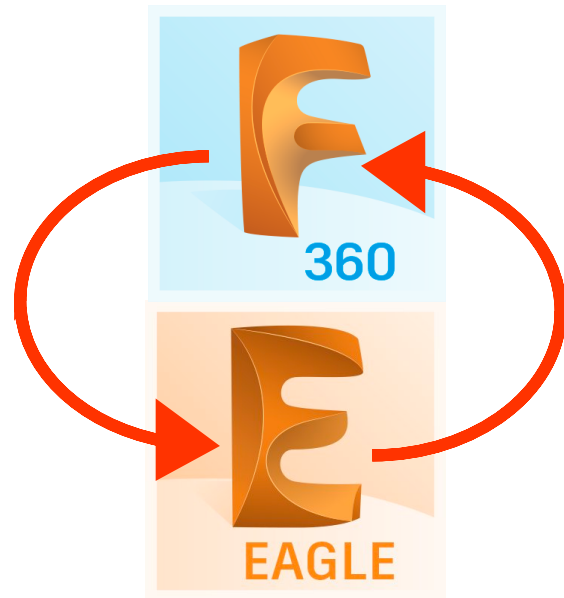
DEMO: EDITING FUSION ASSEMBLY WITH CHANGES TO PCB COMPONENT

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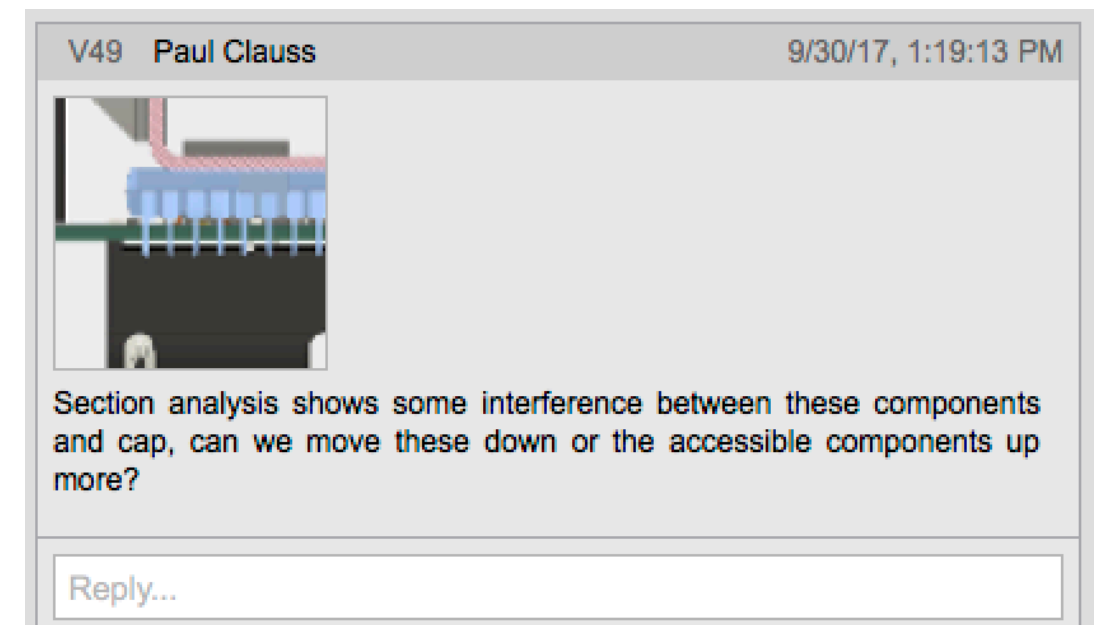


Advantages of integrated ECAD and MCAD

Advantages of integrated ECAD and MCAD



- The electrical, mechanical, and manufacturing teams can work with a single Fusion 360 design and EAGLE board file
- Less file conversions
- Communication! Comments!





QUESTIONS?



Make anything.