

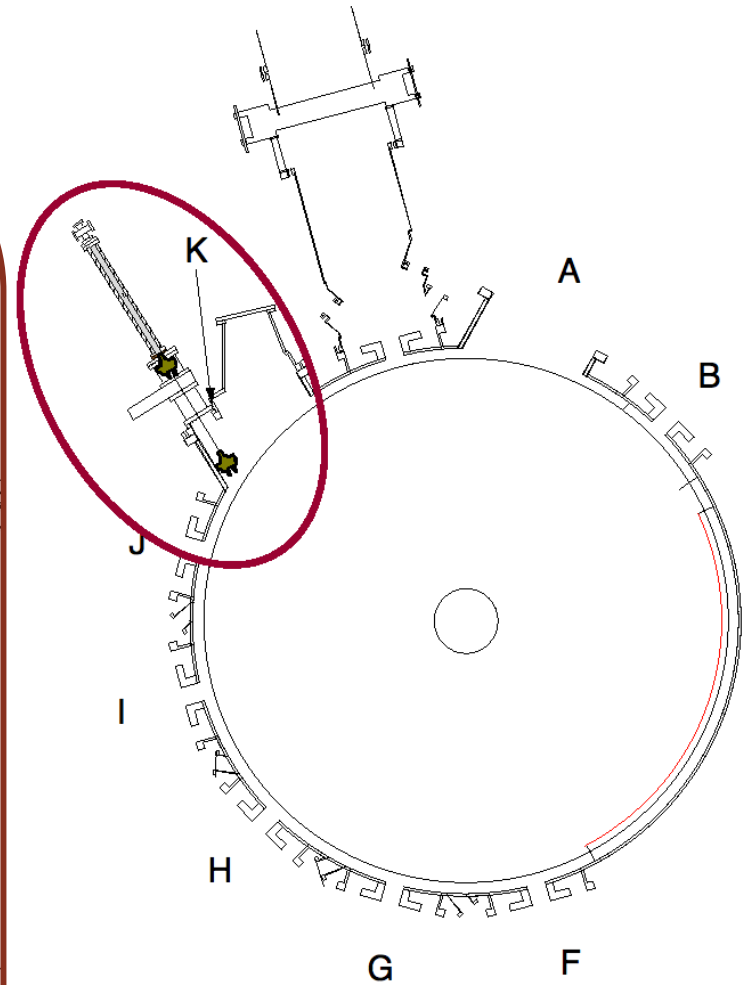
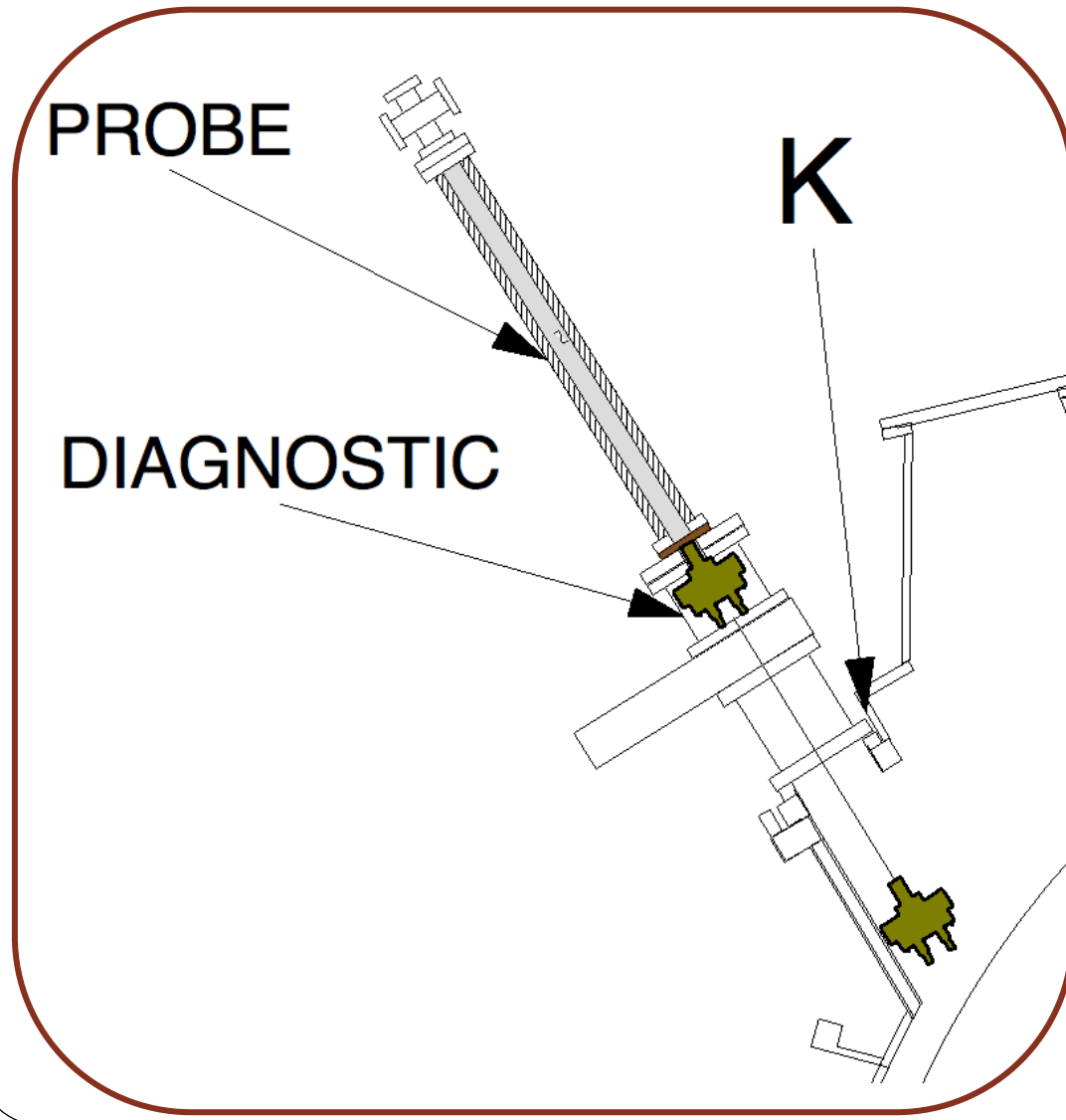
# DIAGNOSTIC DESIGN

Final Design Review

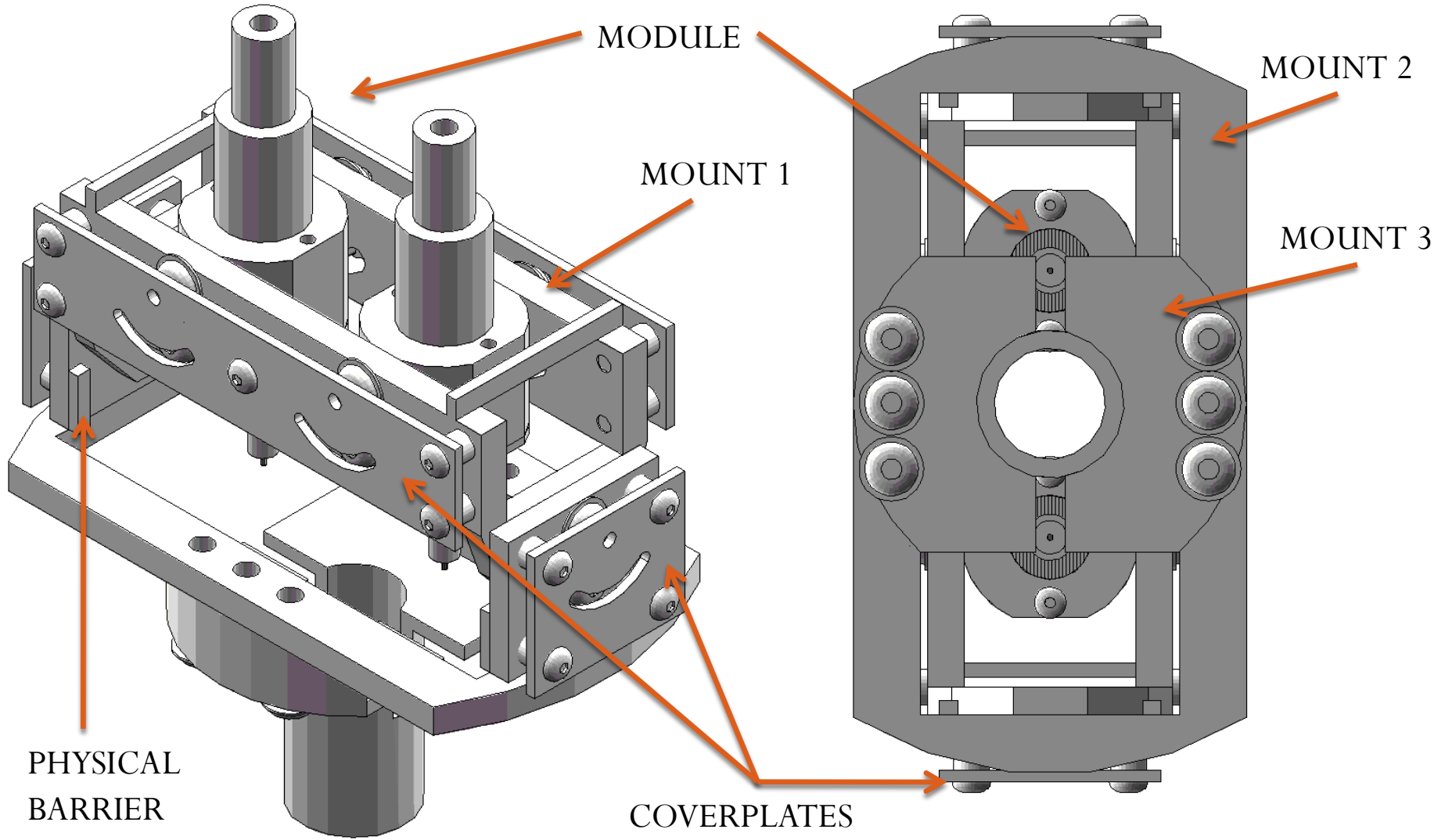
# Overview

- Materials
  - 316 stainless steel
  - PPPL will silver plate all screws
- Secure Screws
  - Spot-welding SS wire
  - Slotted coverplates
- Diagnostic Design
  - Physical barriers
  - Rotation capabilities

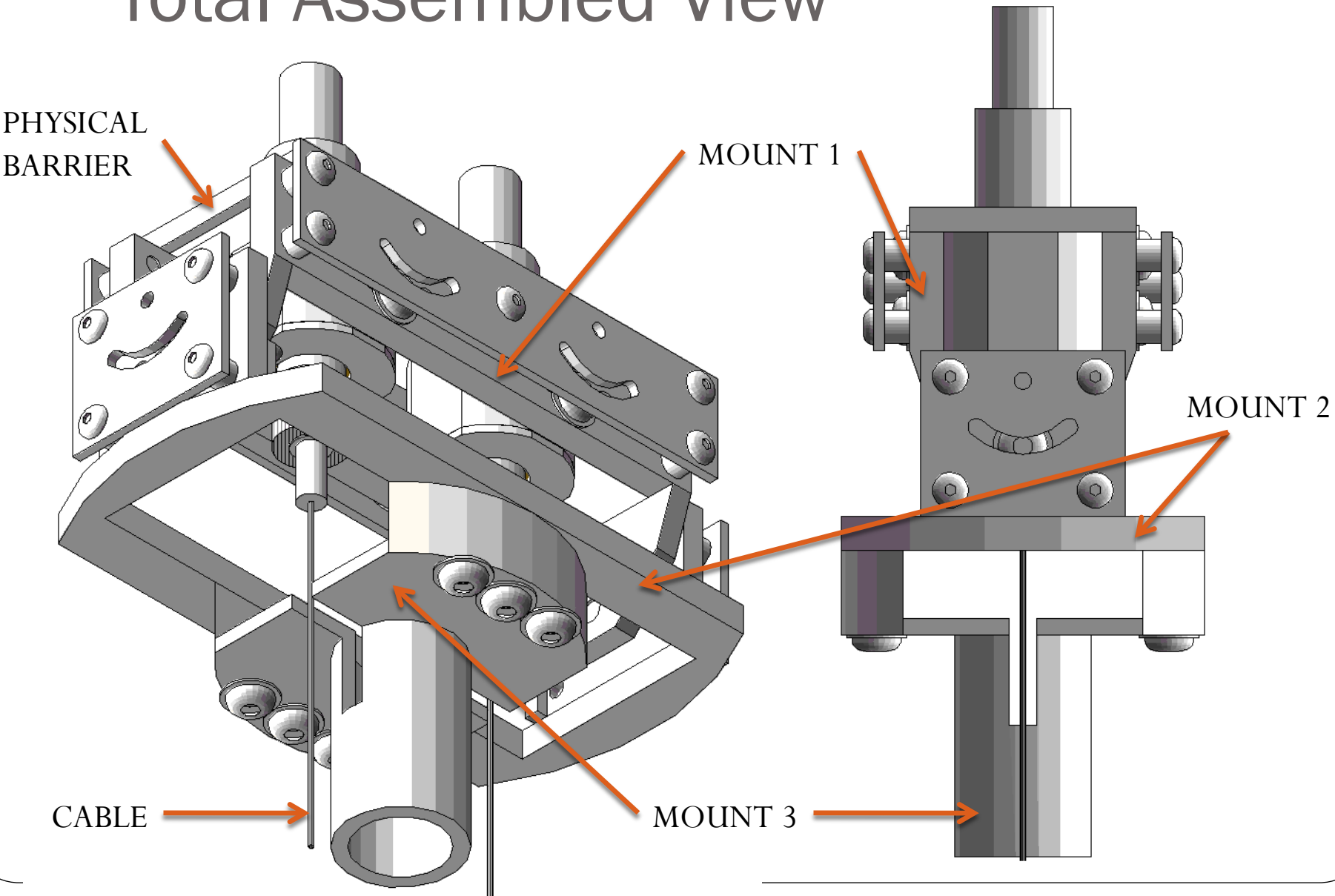
# Diagnostic in Bay K



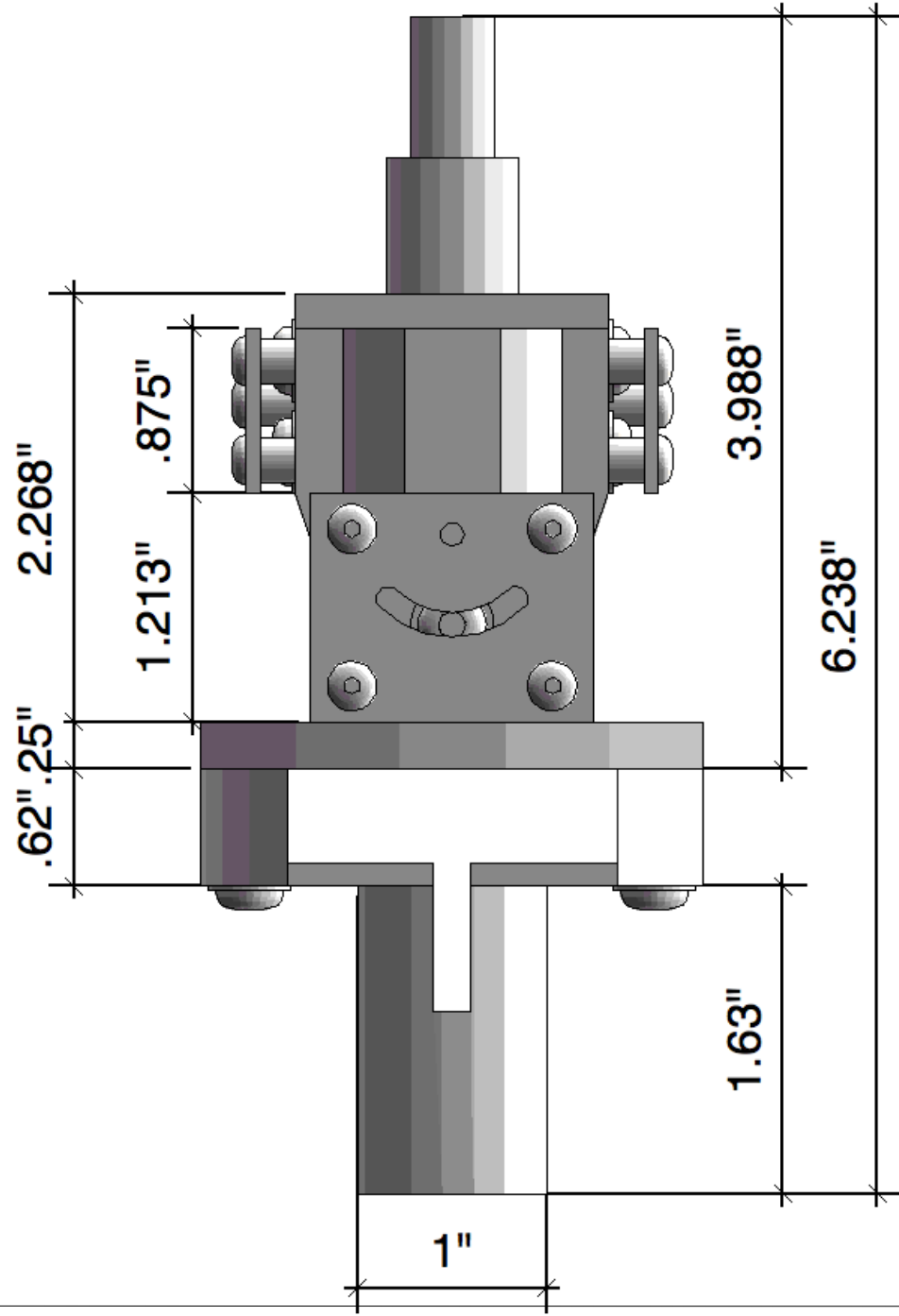
# Total Assembled View



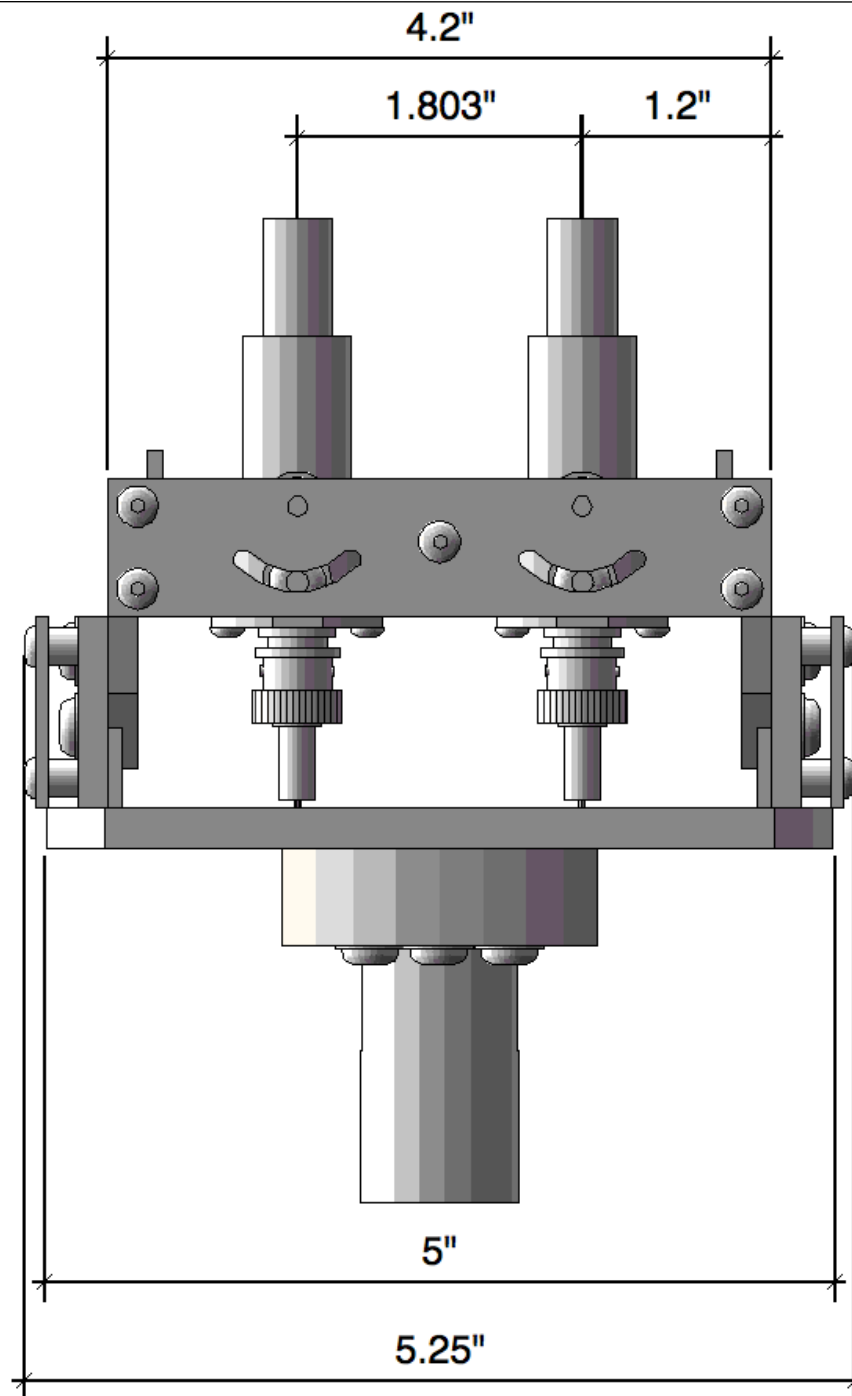
# Total Assembled View



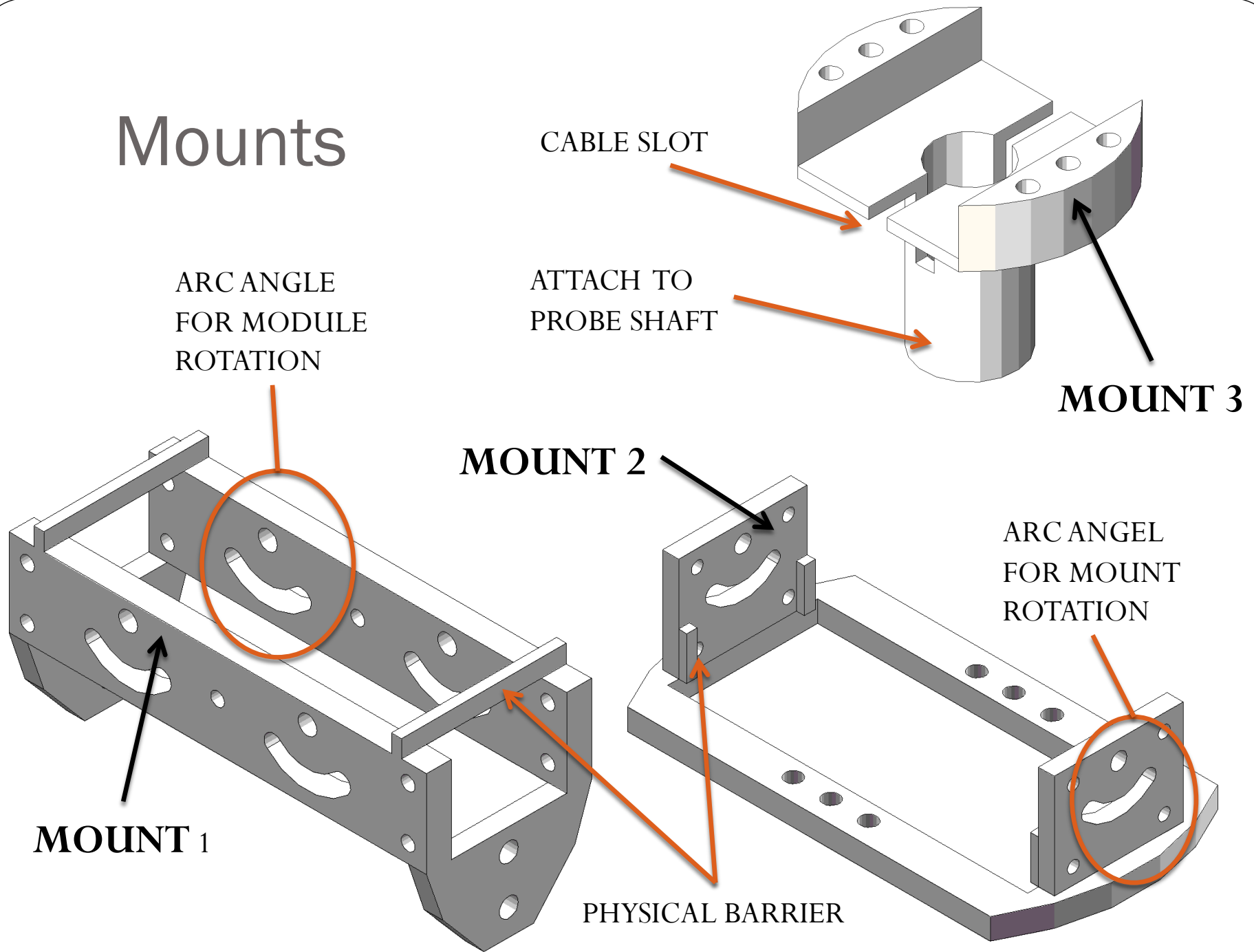
# Total Assembled Dimensions



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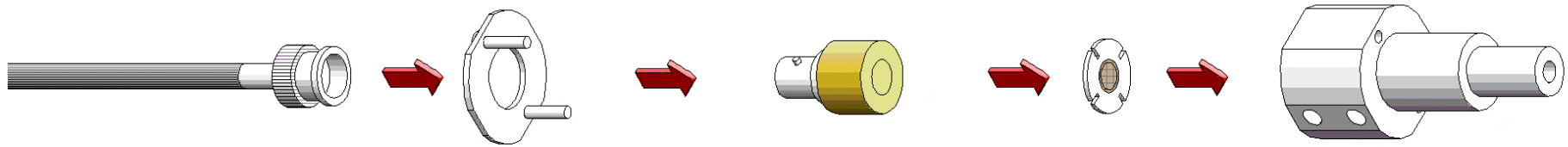


# Mounts





# Module Assembled View



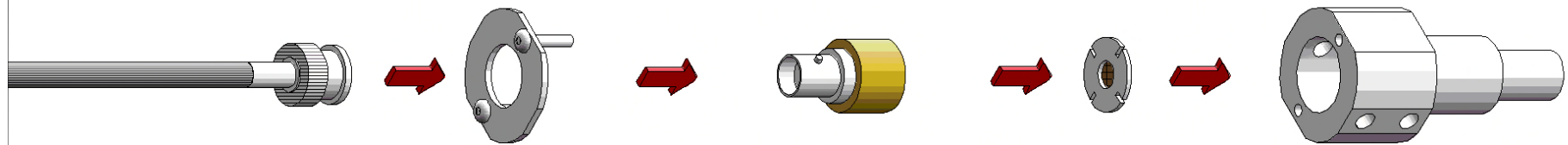
Cable

Base

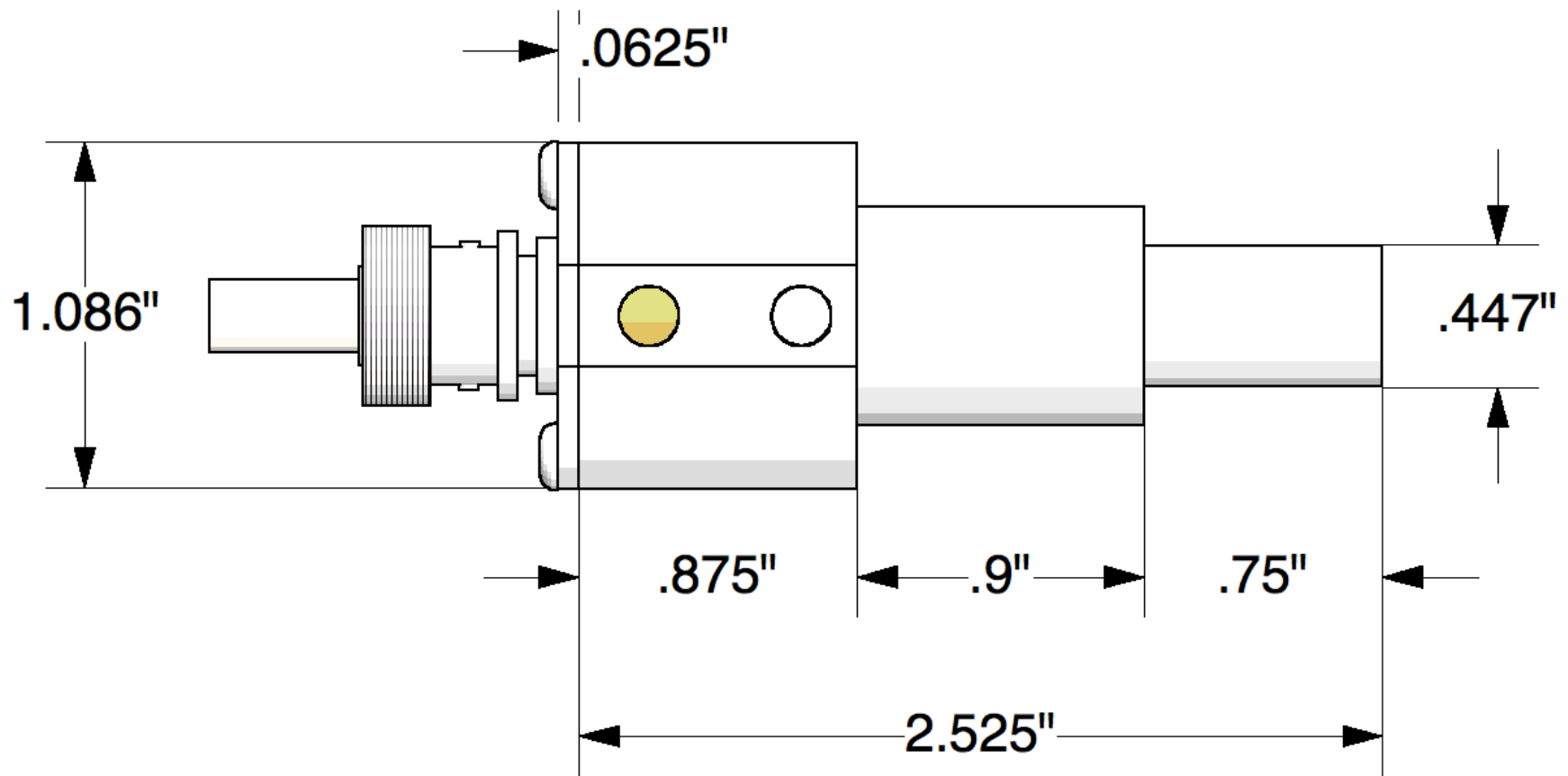
Detector

Washer

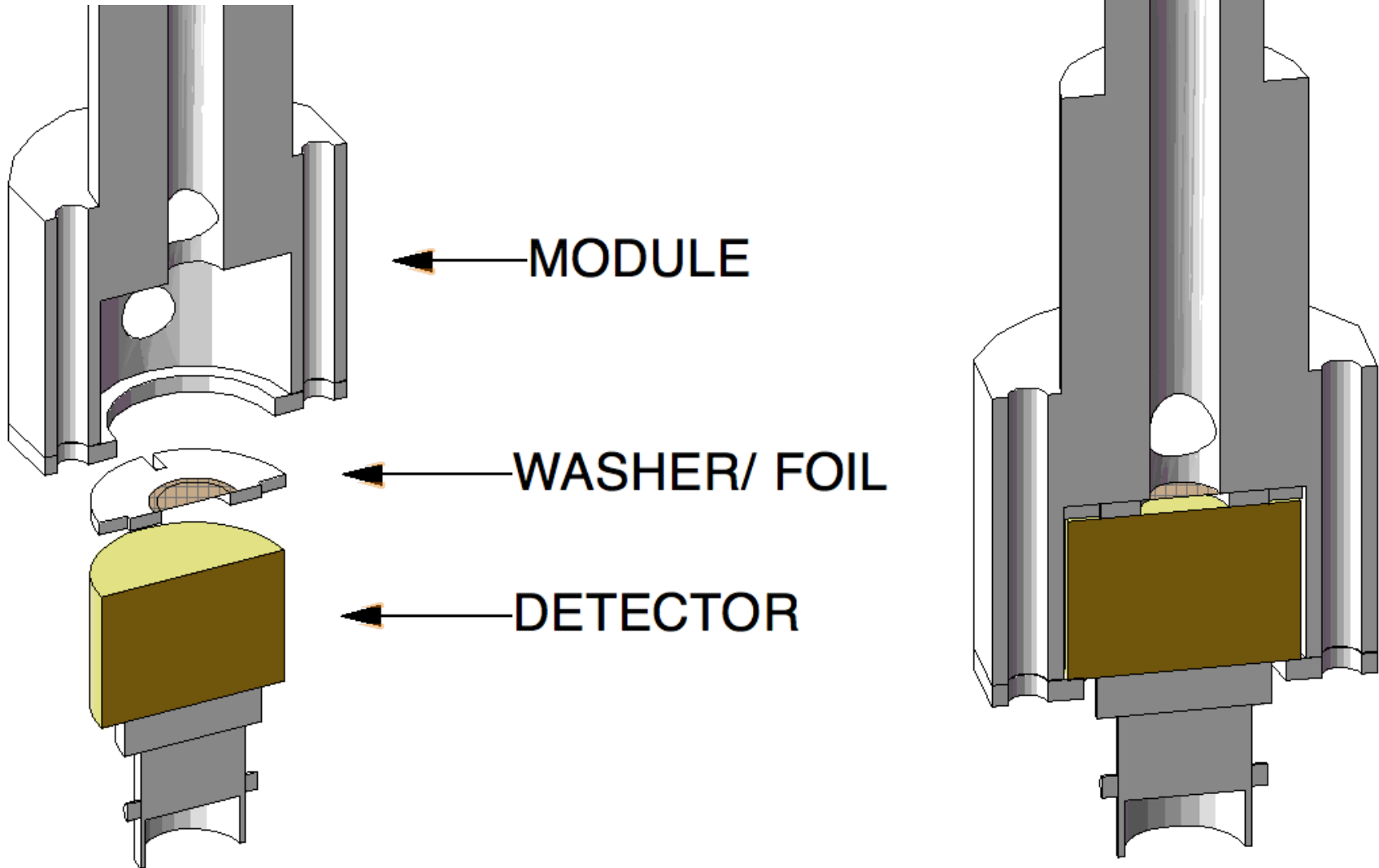
Module



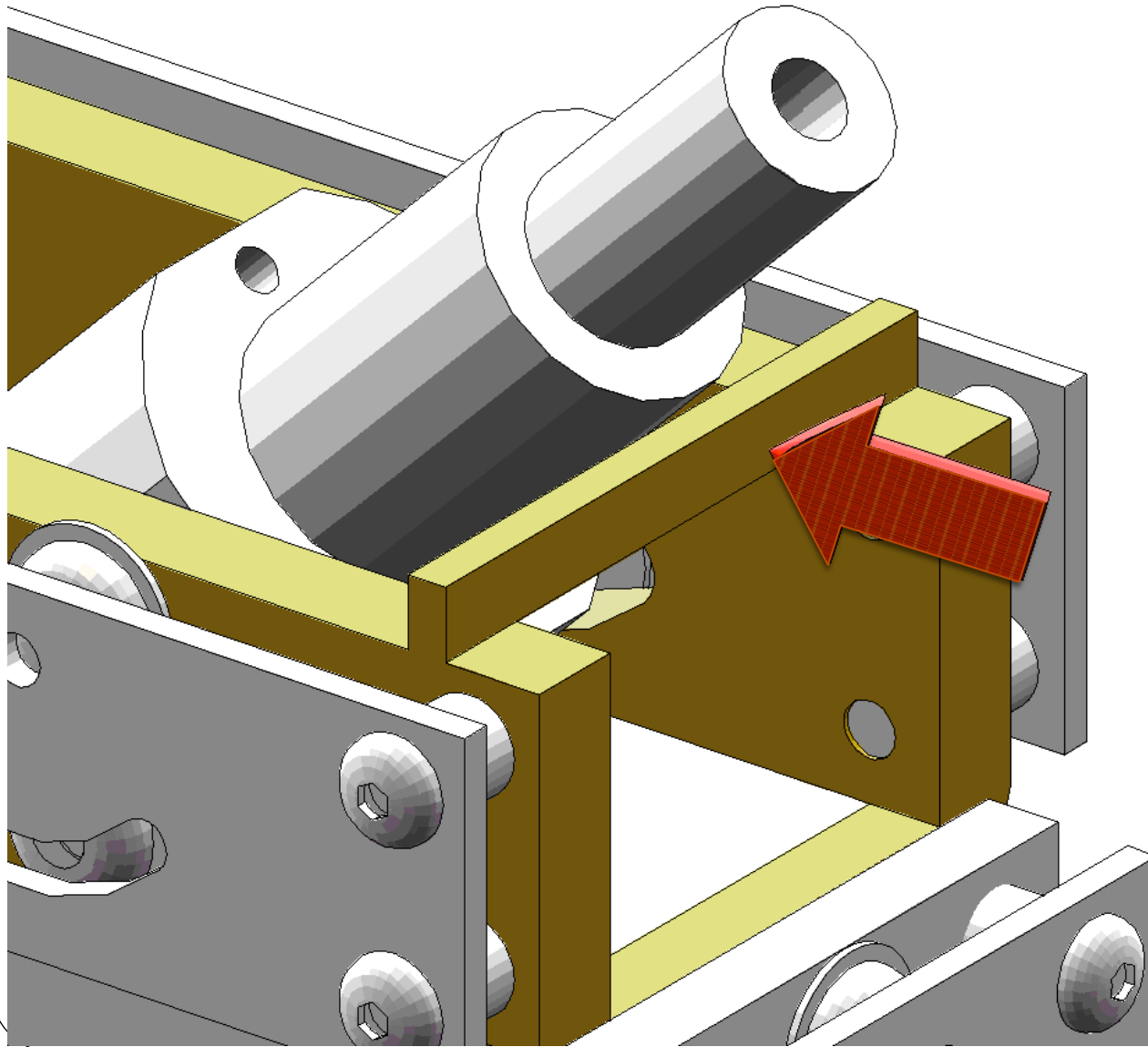
# Module Dimensions



# Module Cross-section



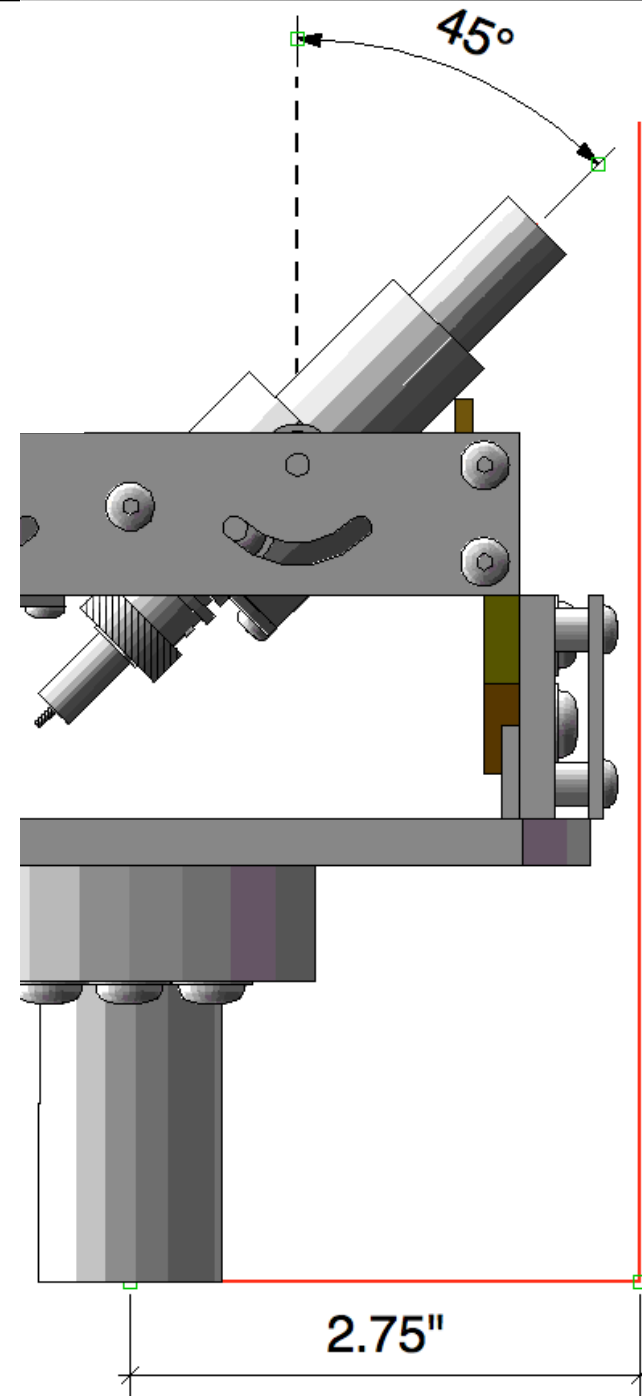
# Module Barrier



- Physical barrier prevents module from hitting walls of Bay K

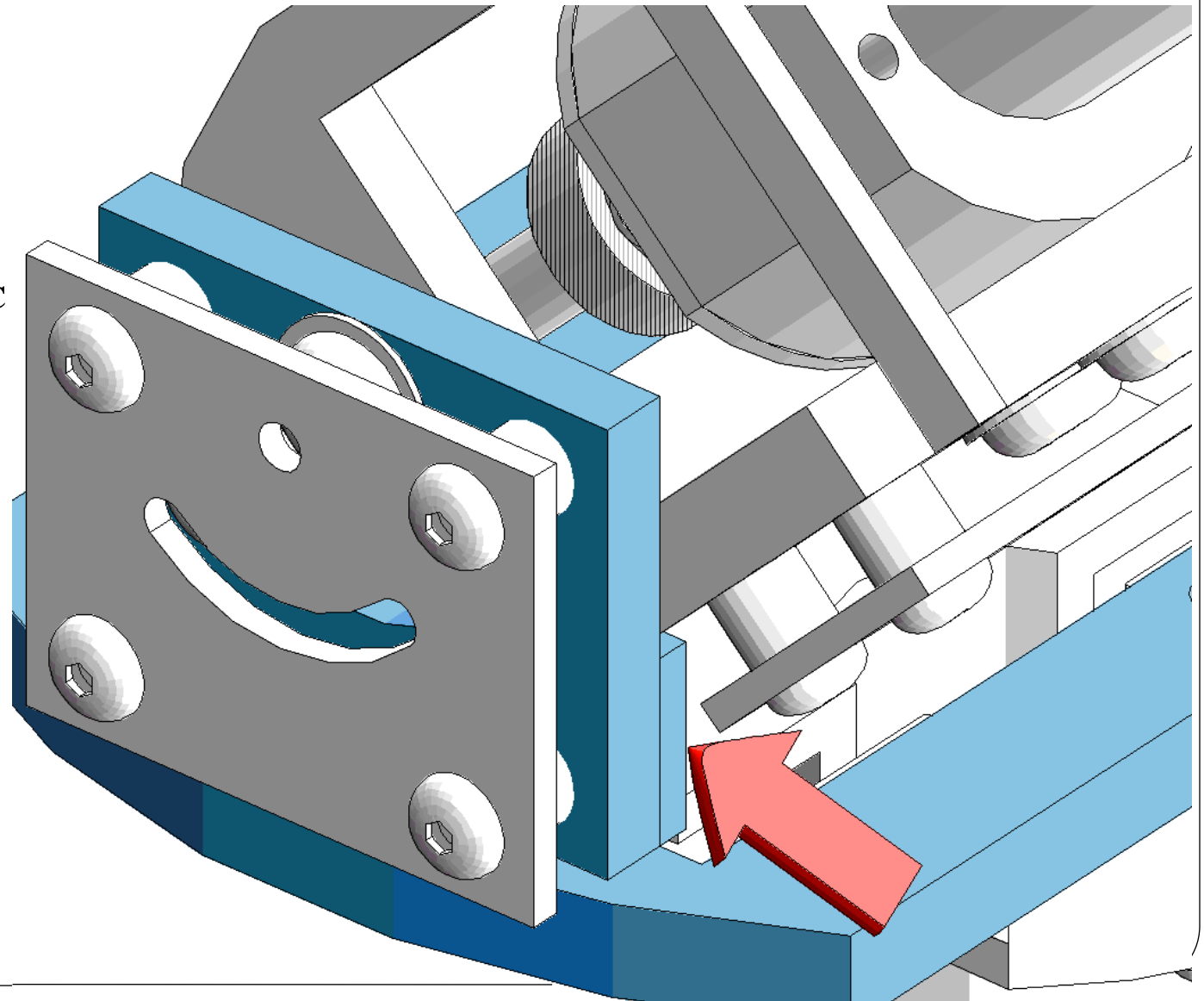
# Module Barrier

- Module will stay well within a 5.5 inch diameter due to Physical Barrier
- Prevents module from rotating too far



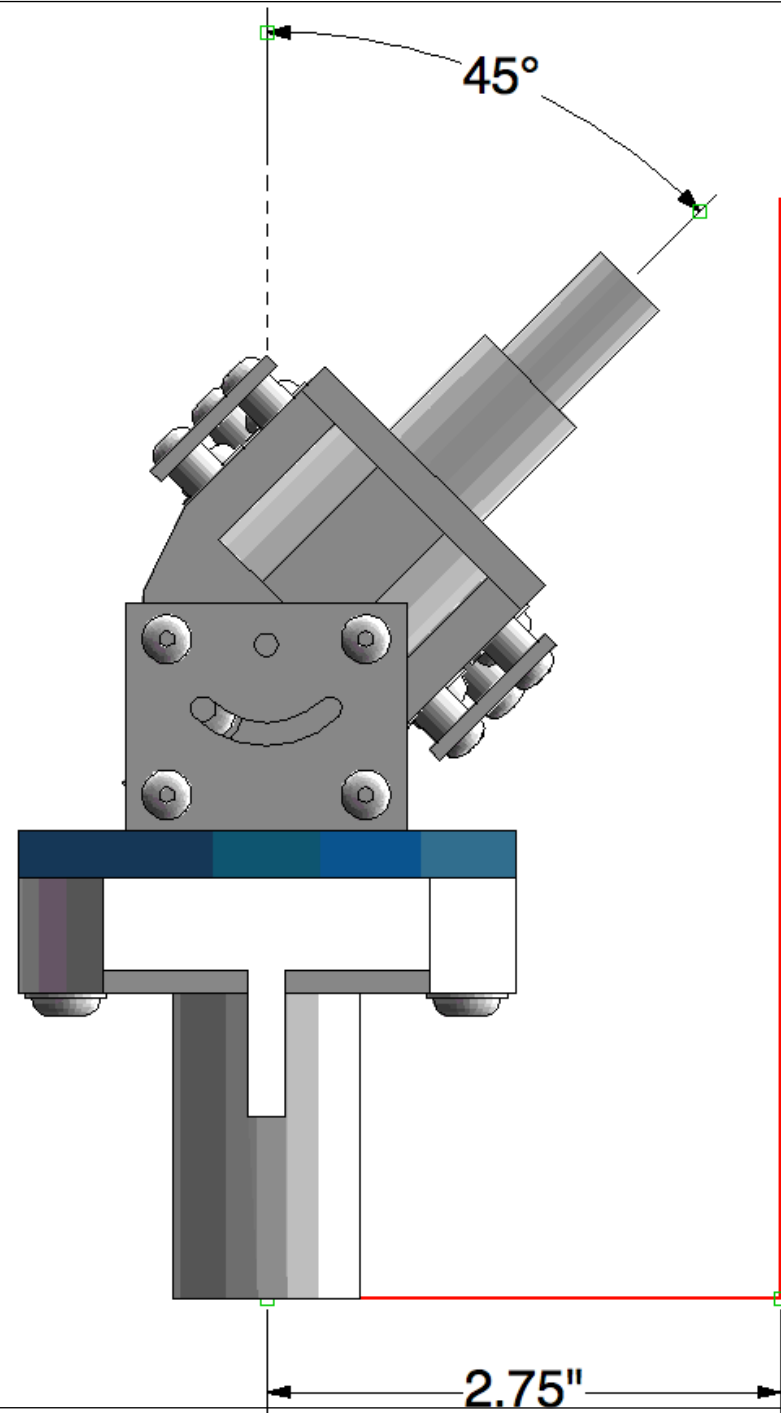
# Mount 1 Barrier

- Physical barrier prevents diagnostic from hitting walls of Bay K

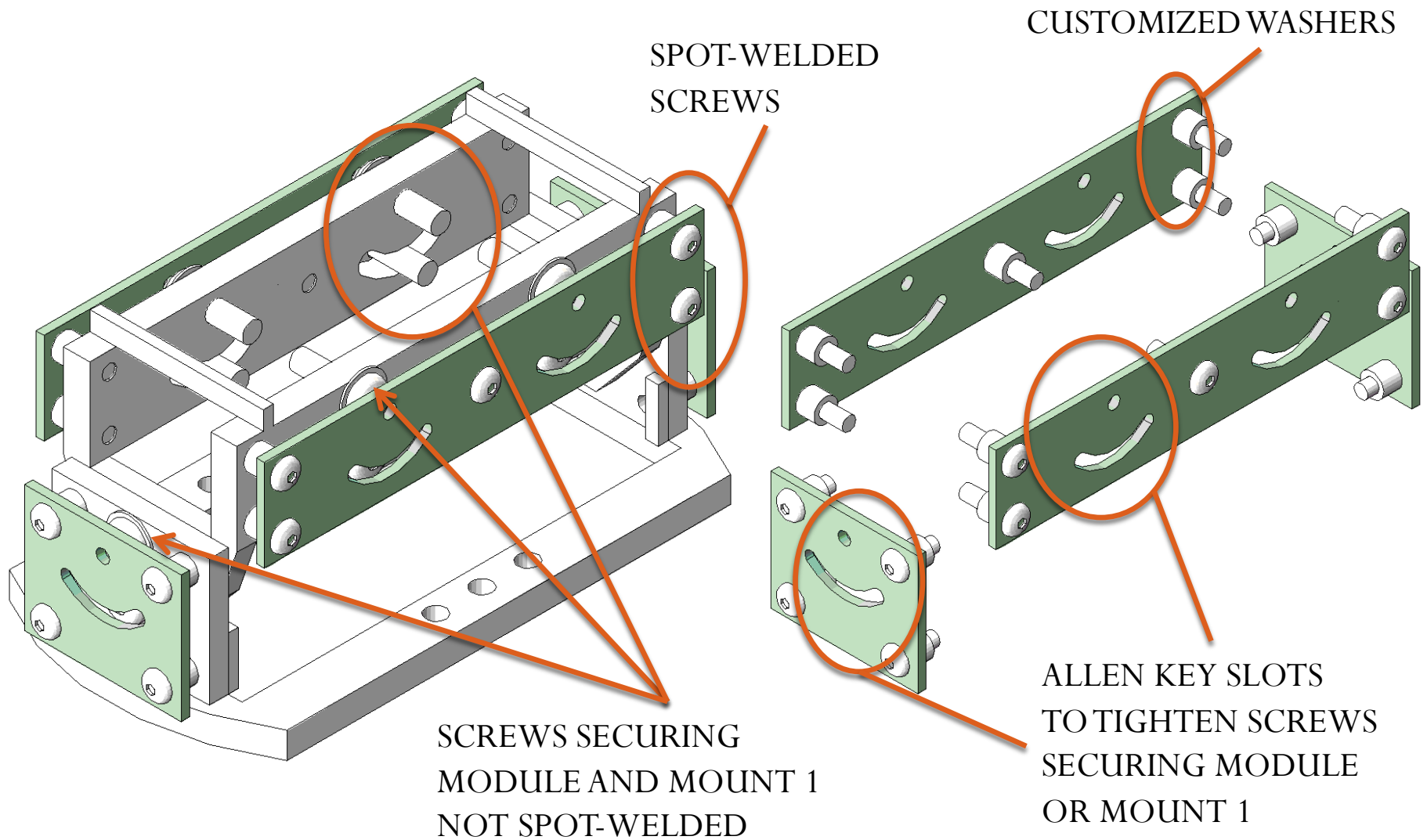


# Mount 1 Barrier

- Diagnostic will stay well within a 5.5 inch diameter due to Physical Barrier.
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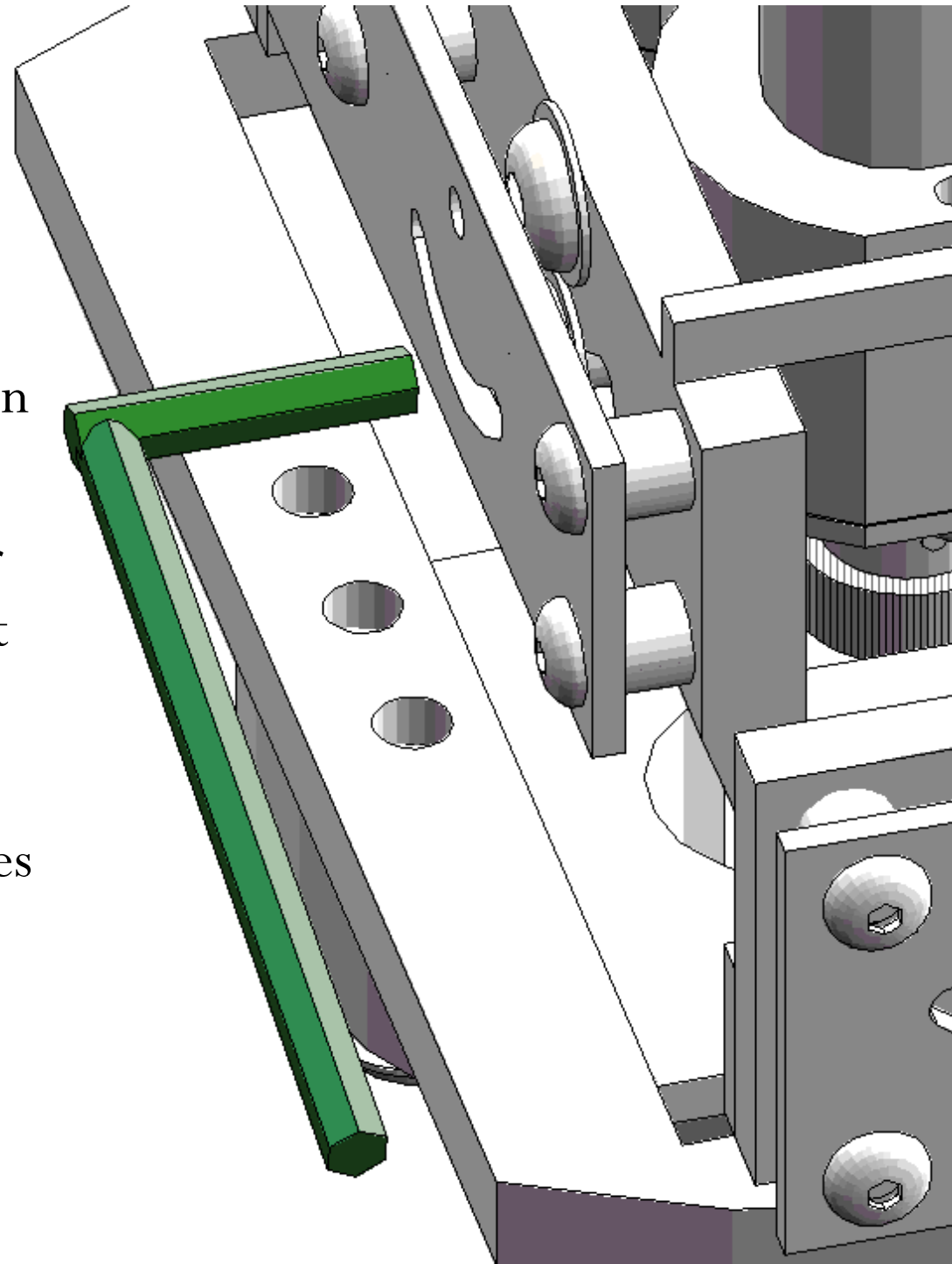
# Coverplates Assembled View



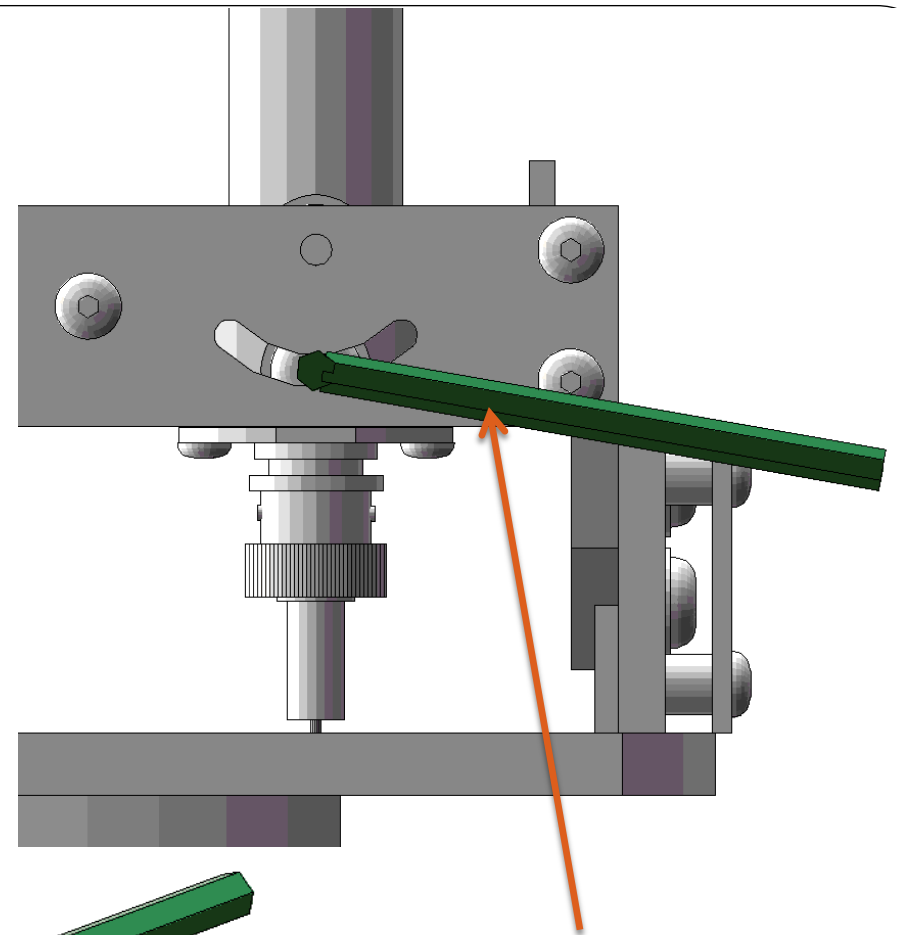
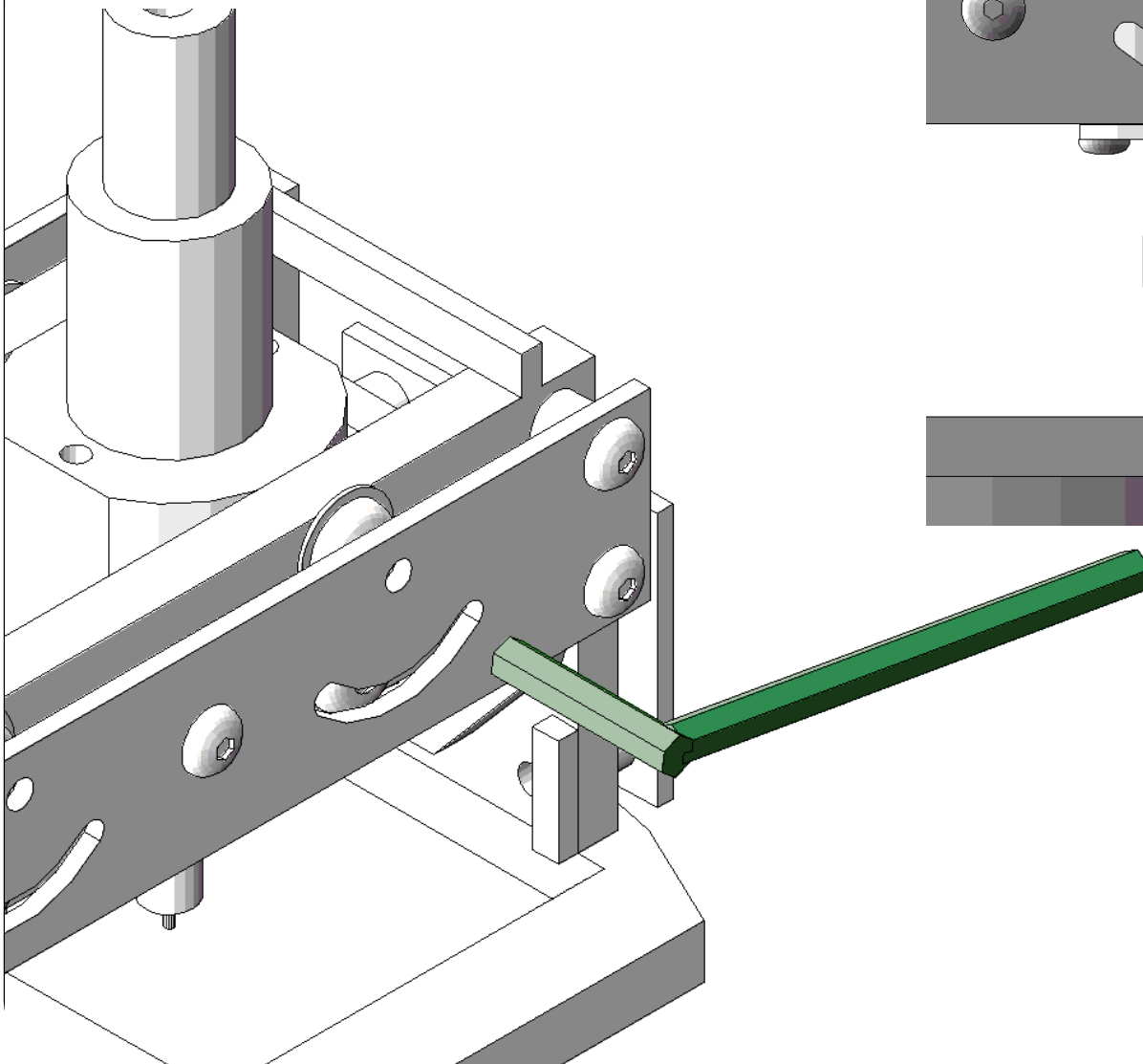


# Coverplates

- Practical for changing module and mount rotation angle
- Holes are large enough for an Allen Key to fit, but not for the socket cap screw head to fall out
- Screws securing coverplates are spot-welded

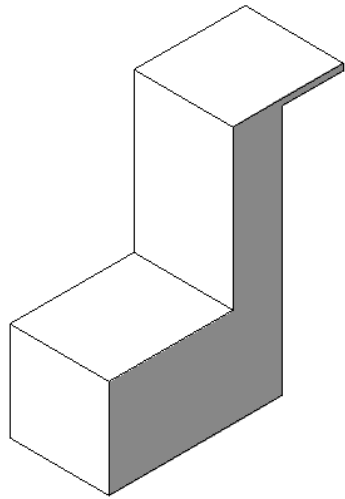


# Coverplates

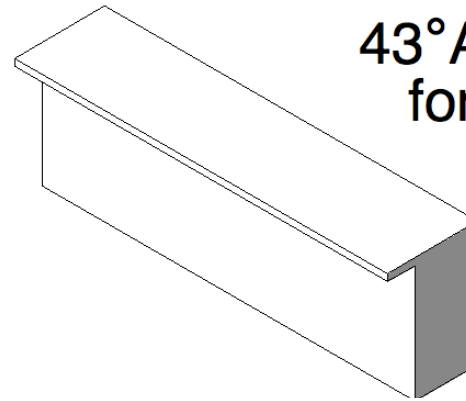


NOTE THAT SLOTS ON COVERPLATES ARE MADE SUCH THAT THE APPROPRIATE ALLEN KEY CAN REACH THE SOCKET CAP SCREW BEHIND THE COVERPLATE

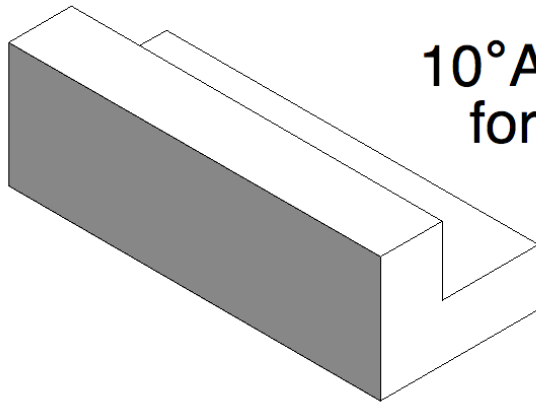
# Angleblocks



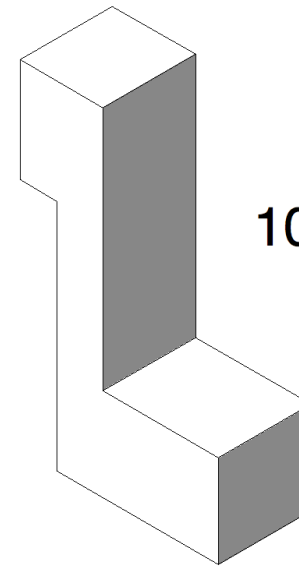
43° Angle block  
for Mount



43° Angleblock  
for Module

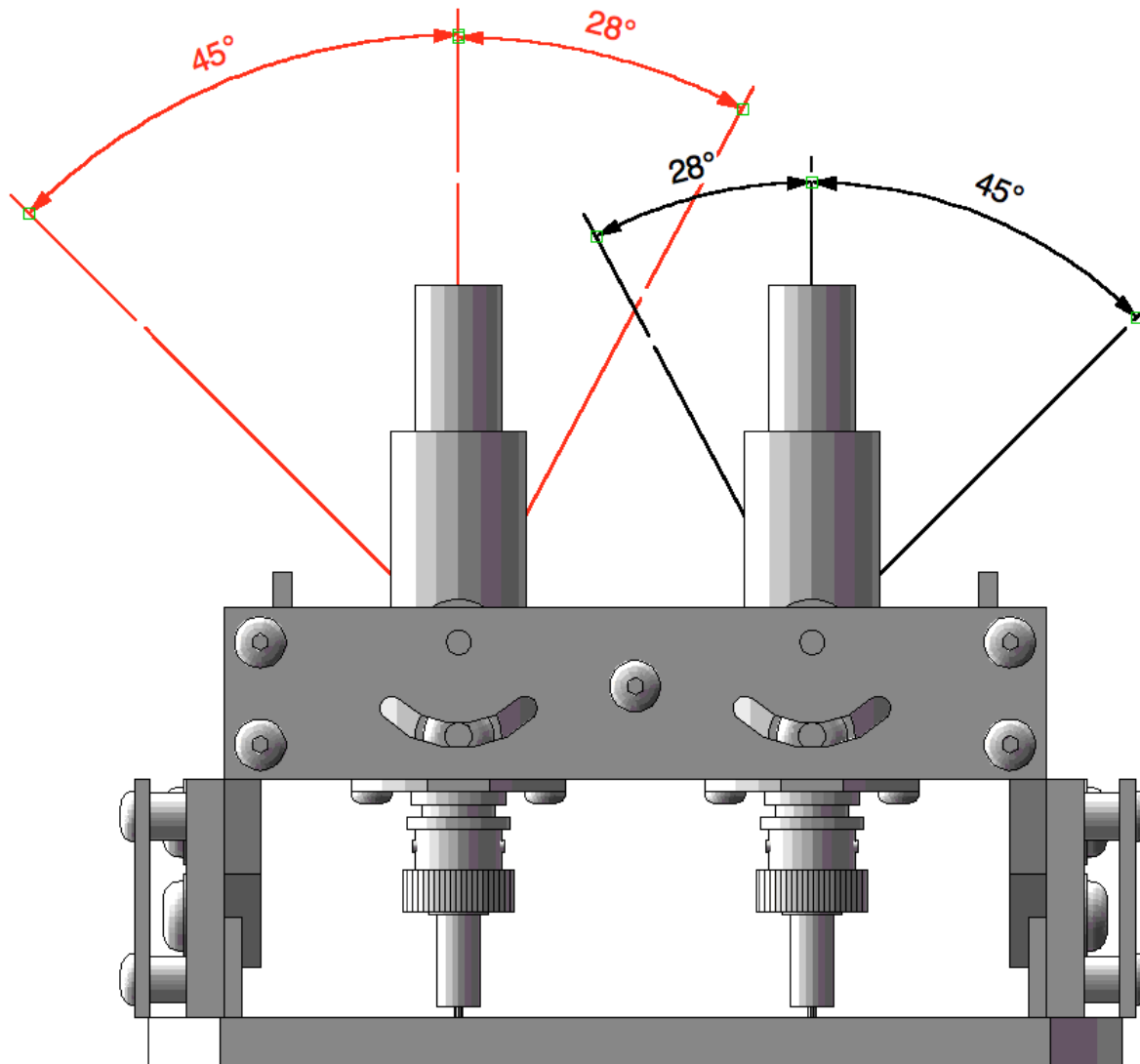


10° Angleblock  
for Module



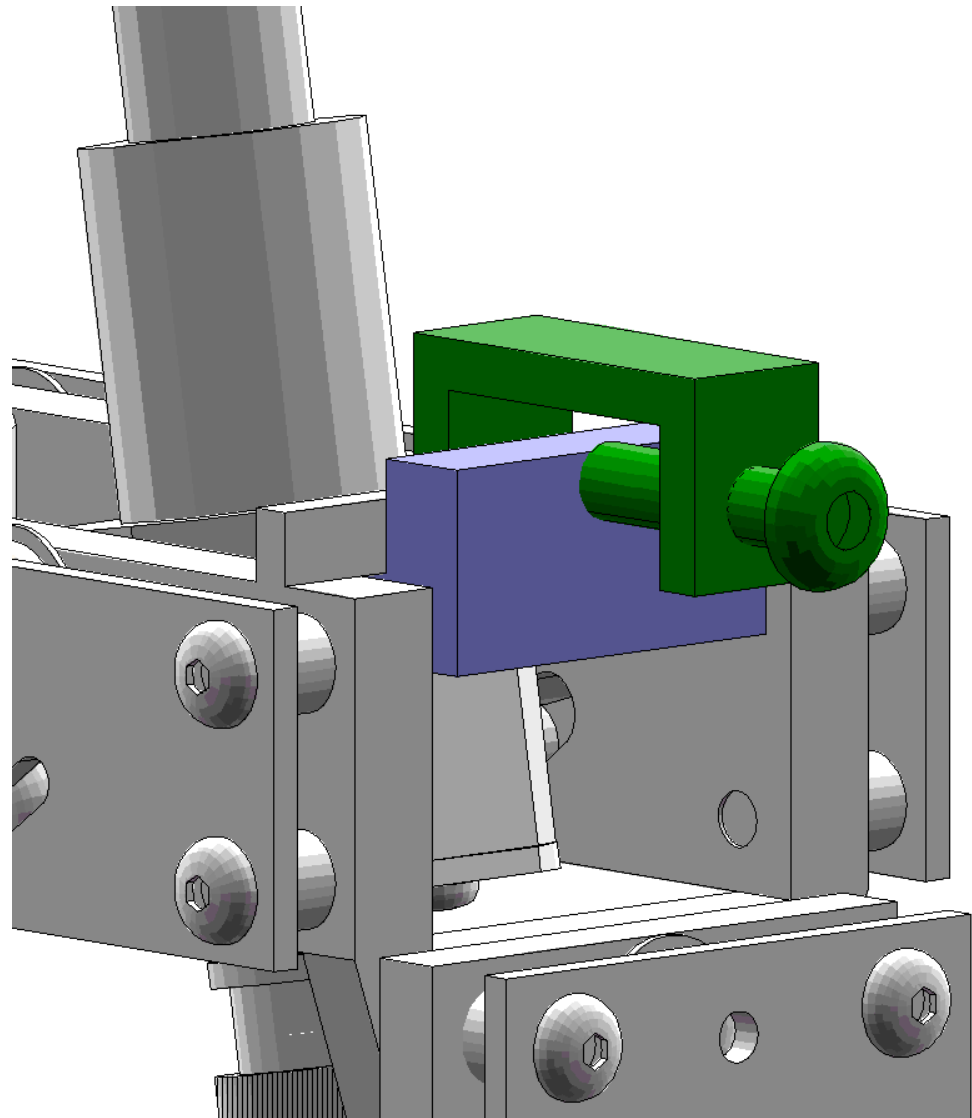
10° Angleblock  
for Mount

# Module Rotation Range

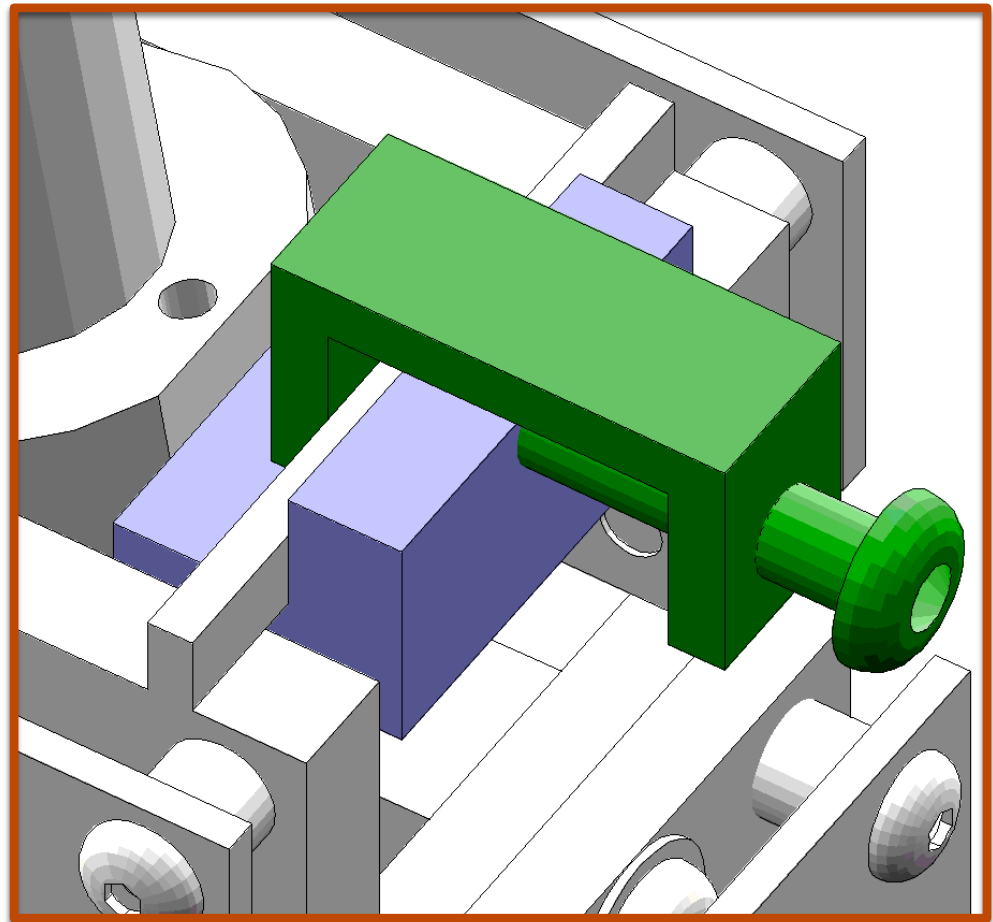
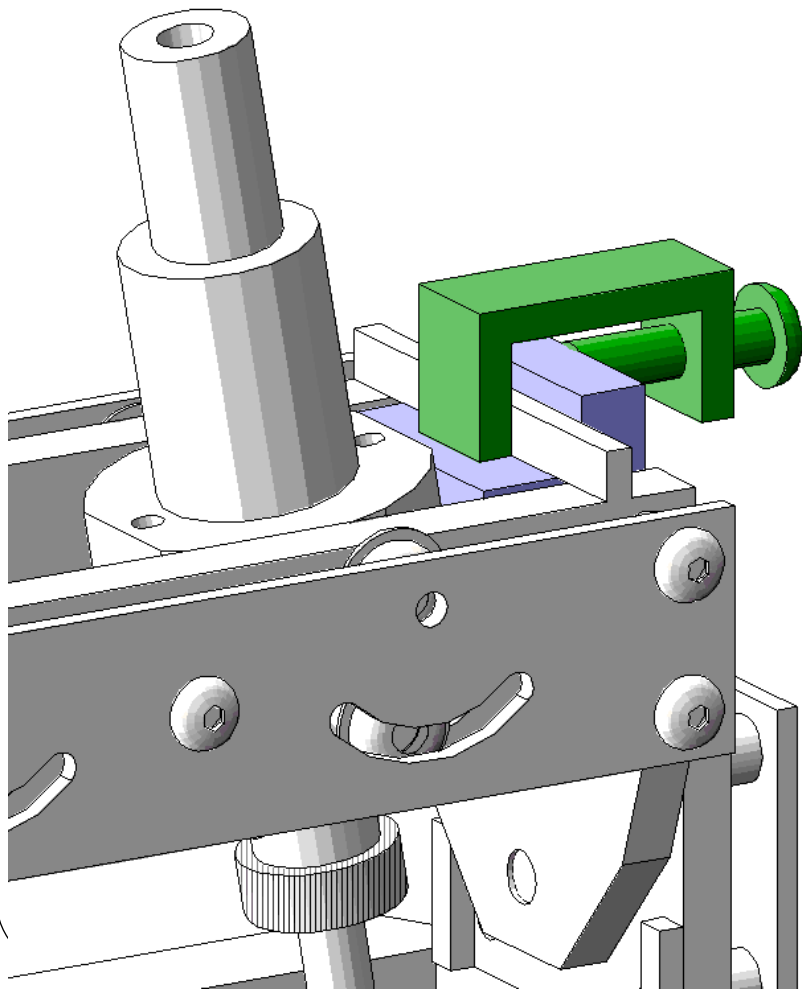


# Module Rotation

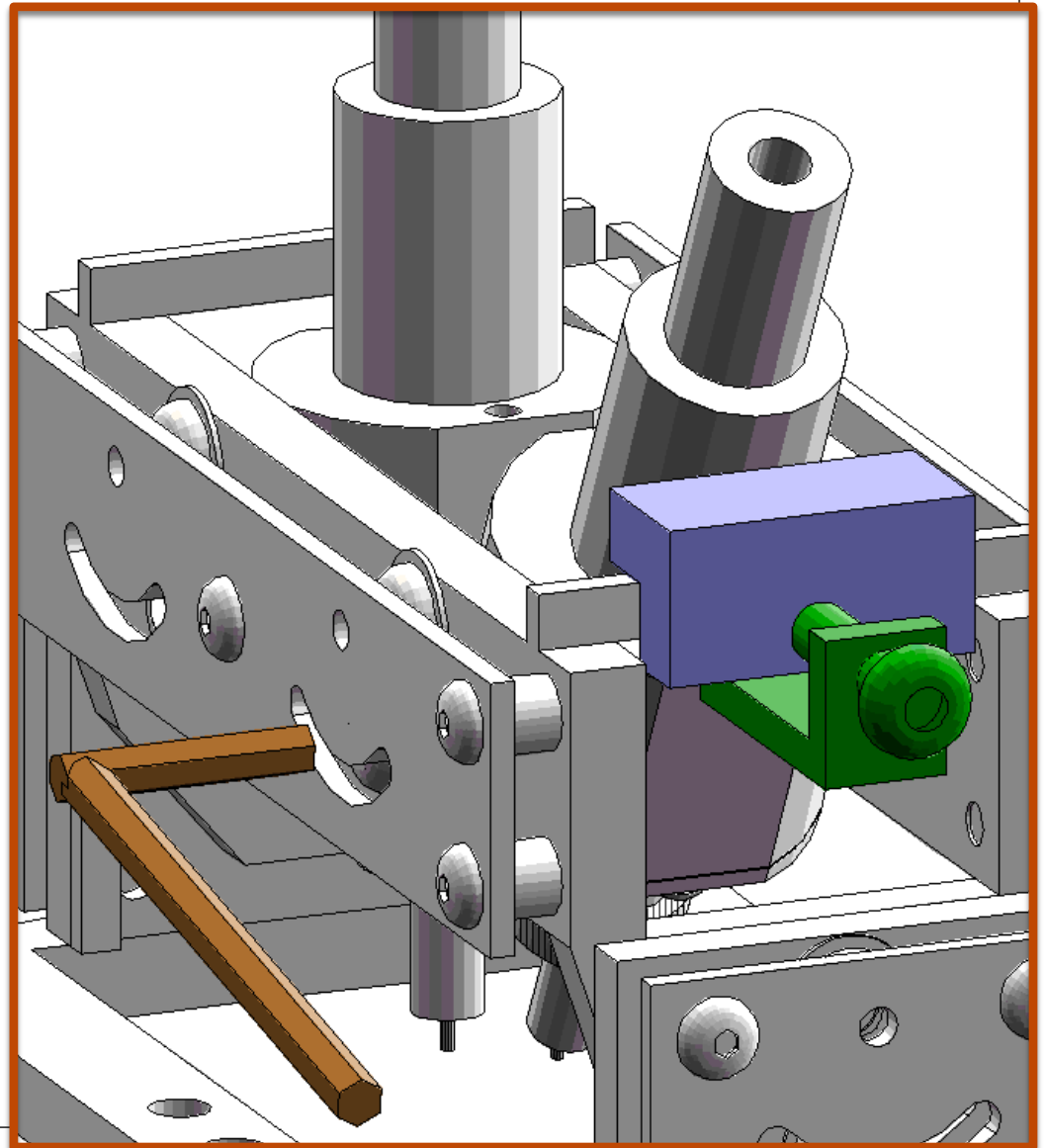
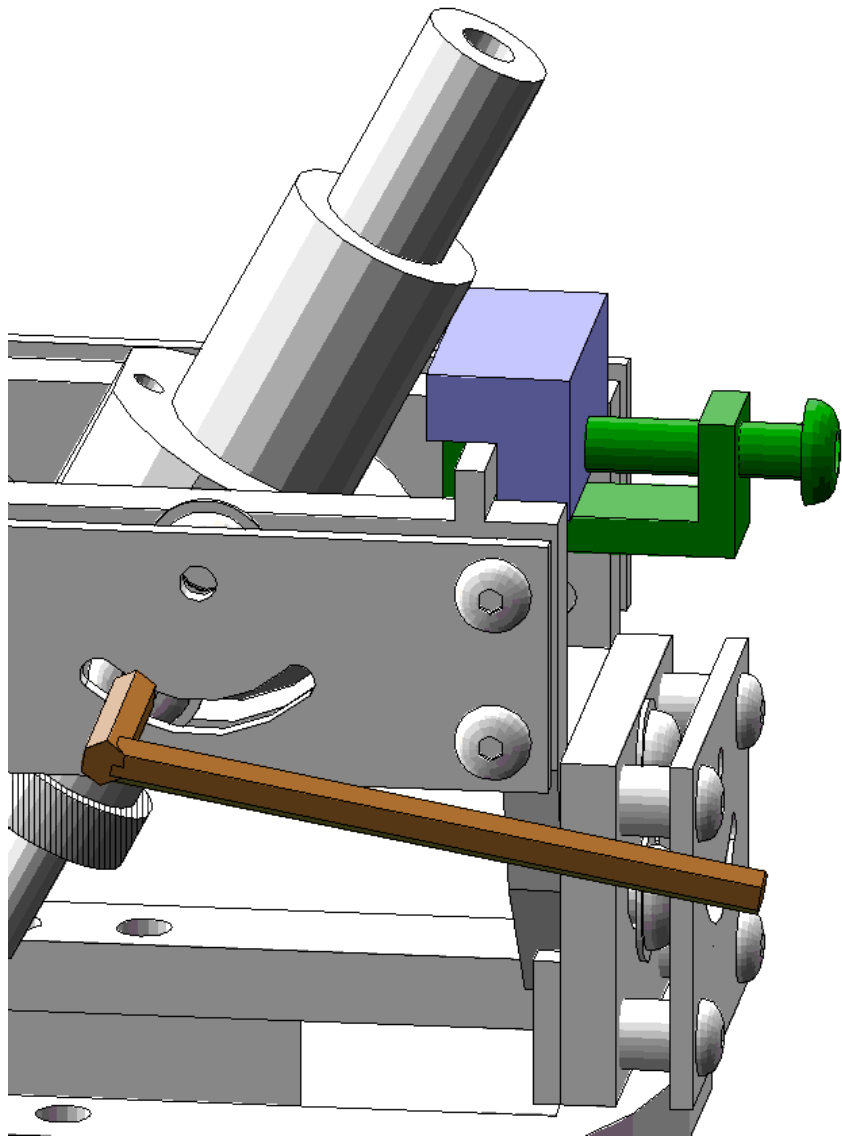
- Angleblock is secured to physical barrier on mount with clamp
- Allen key is then used to loosen module so it can rest against angleblock (here 10 degrees)
- Allen key is used to secure module
- Clamp is removed and angleblock slides out



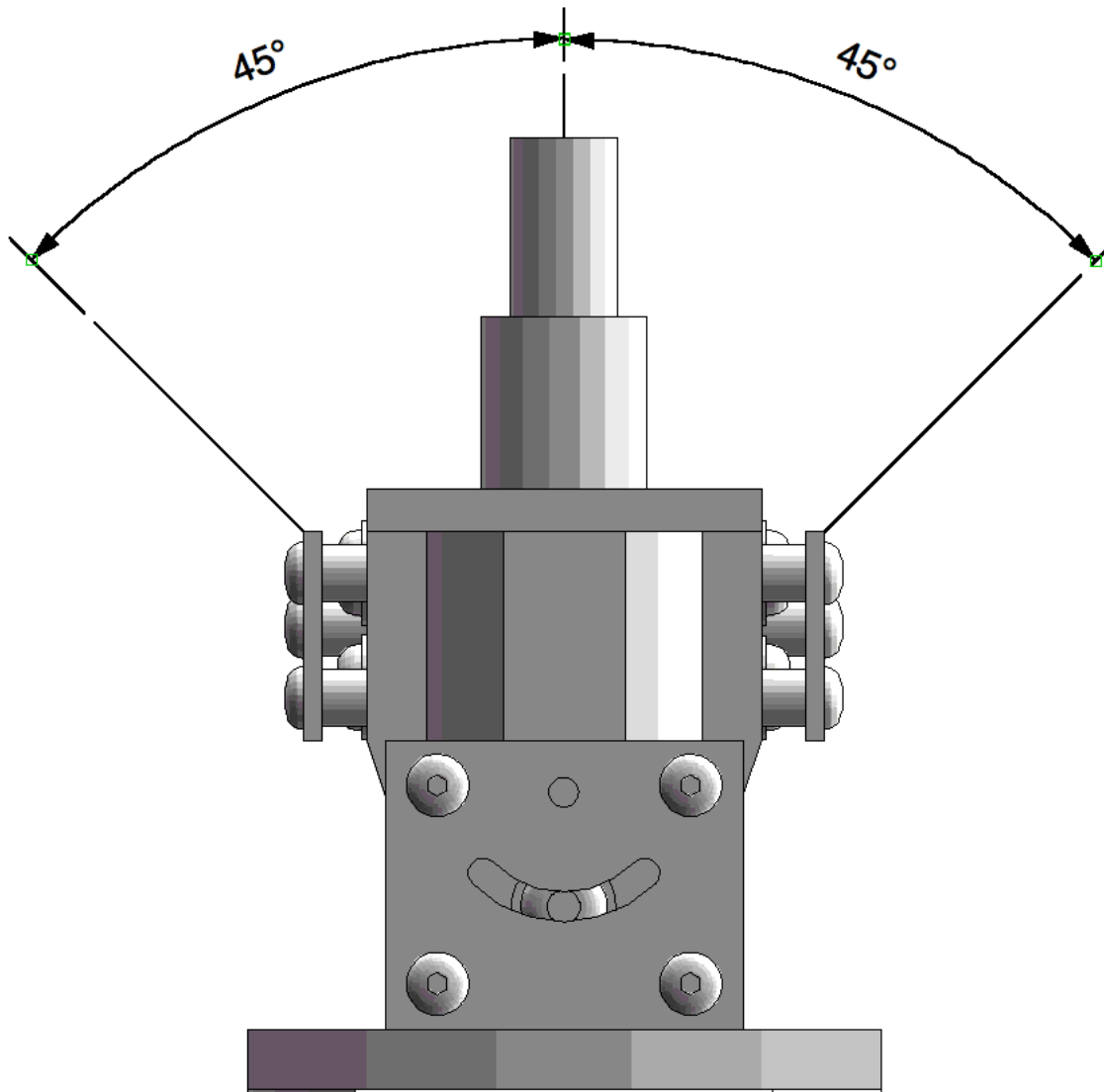
# Module Rotation 10 Degrees



# Module Rotation 28 Degrees



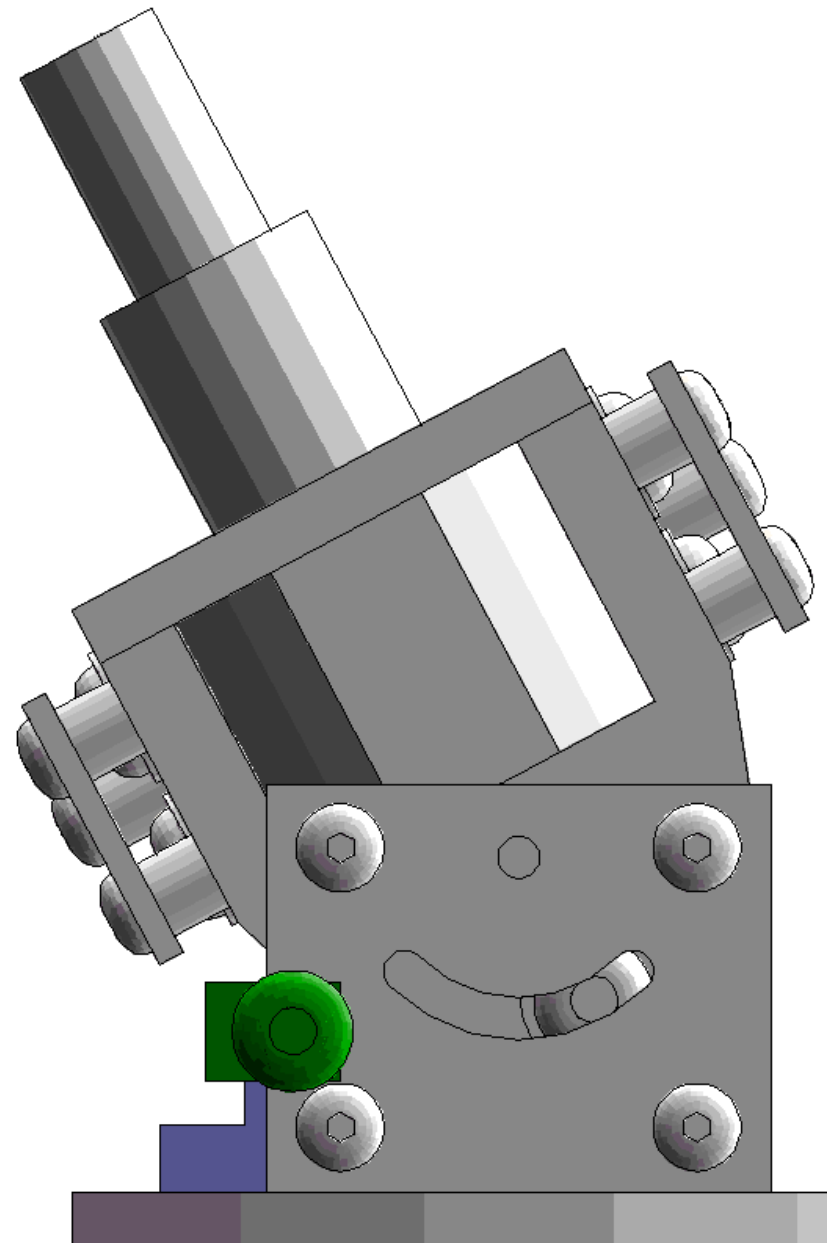
# Mount Rotation Range



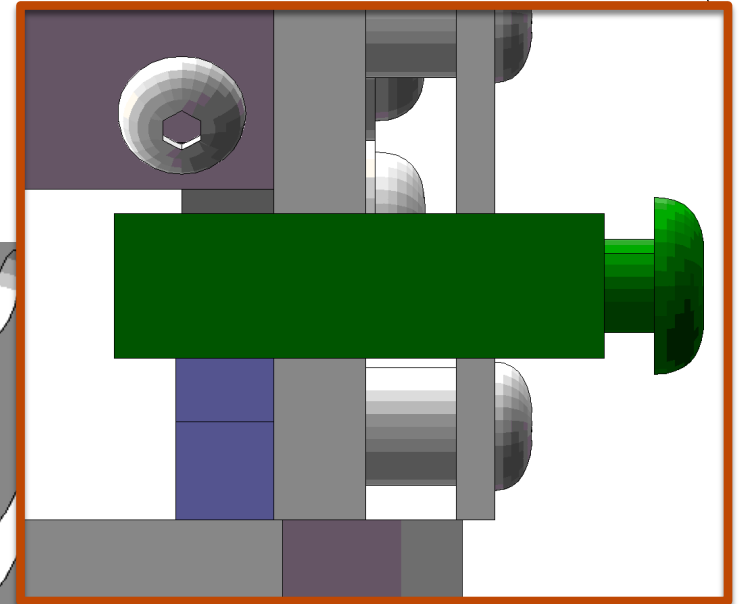
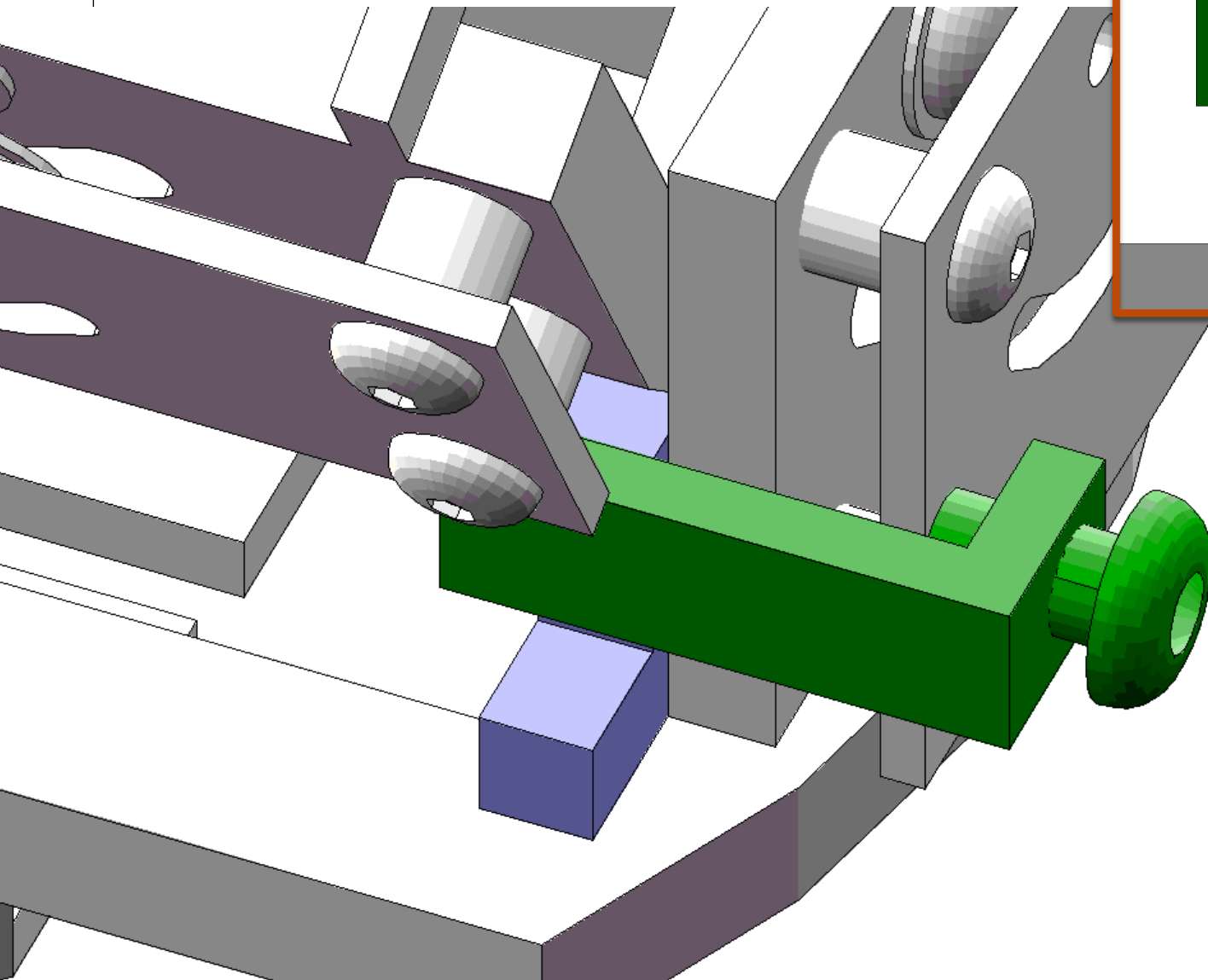


# Mount Rotation

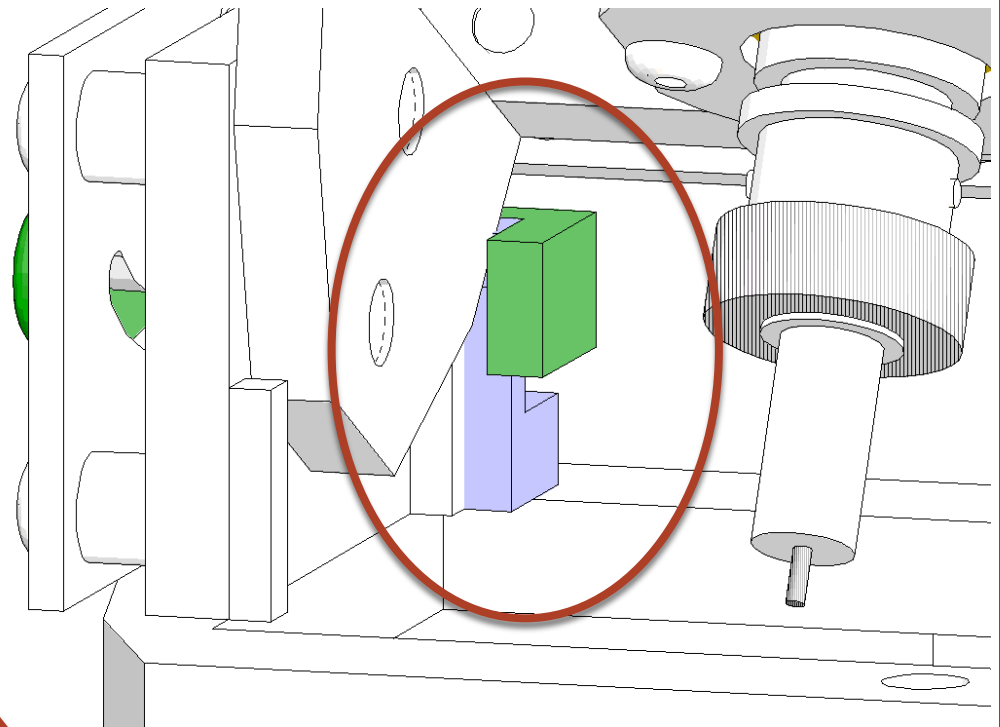
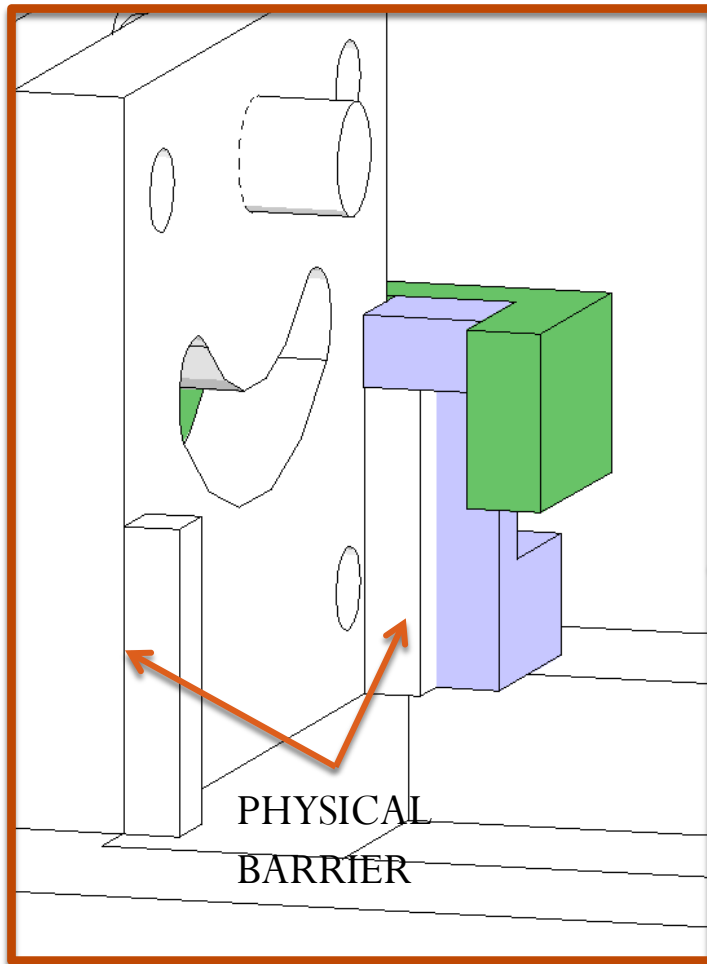
- Angleblock is secured to physical barrier on mount with clamp
- Allen key is then used to loosen mount so it can rest against angleblock (here 28 degrees)
- Allen key is used to secure mount
- Clamp is removed and angleblock slides out



# Mount Rotation



# Mount Rotation



A VIEW WITH MOUNT 1 REMOVED  
TO SEE CLAMP SECURING  
ANGLEBLOCK TO PHYSICAL BARRIER  
ON MOUNT 2