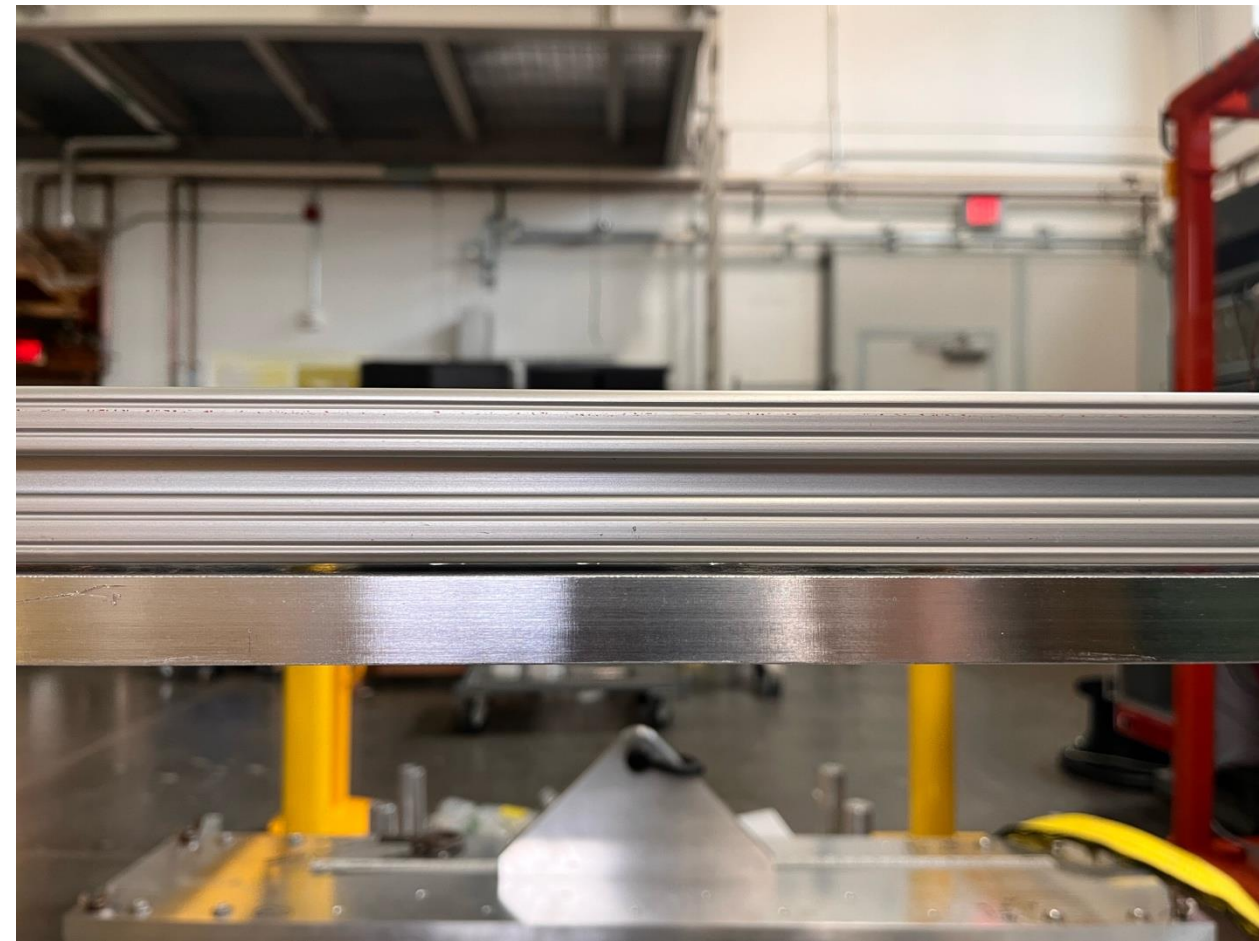


Sagging of the segment plates : March 17-19, 2025

Jhieh-Ying Su, Sayak Chatterjee, Devi Adhikari, Will Henninger, David Armstrong

- Assembled a new segment plate with sanded Al plates
- Used a Jack stand to support the segment from sagging
- Fasten all the M8's and Al screws to the specified torque values
- Measured the sagging at the center of the plate

Steps of the assembly



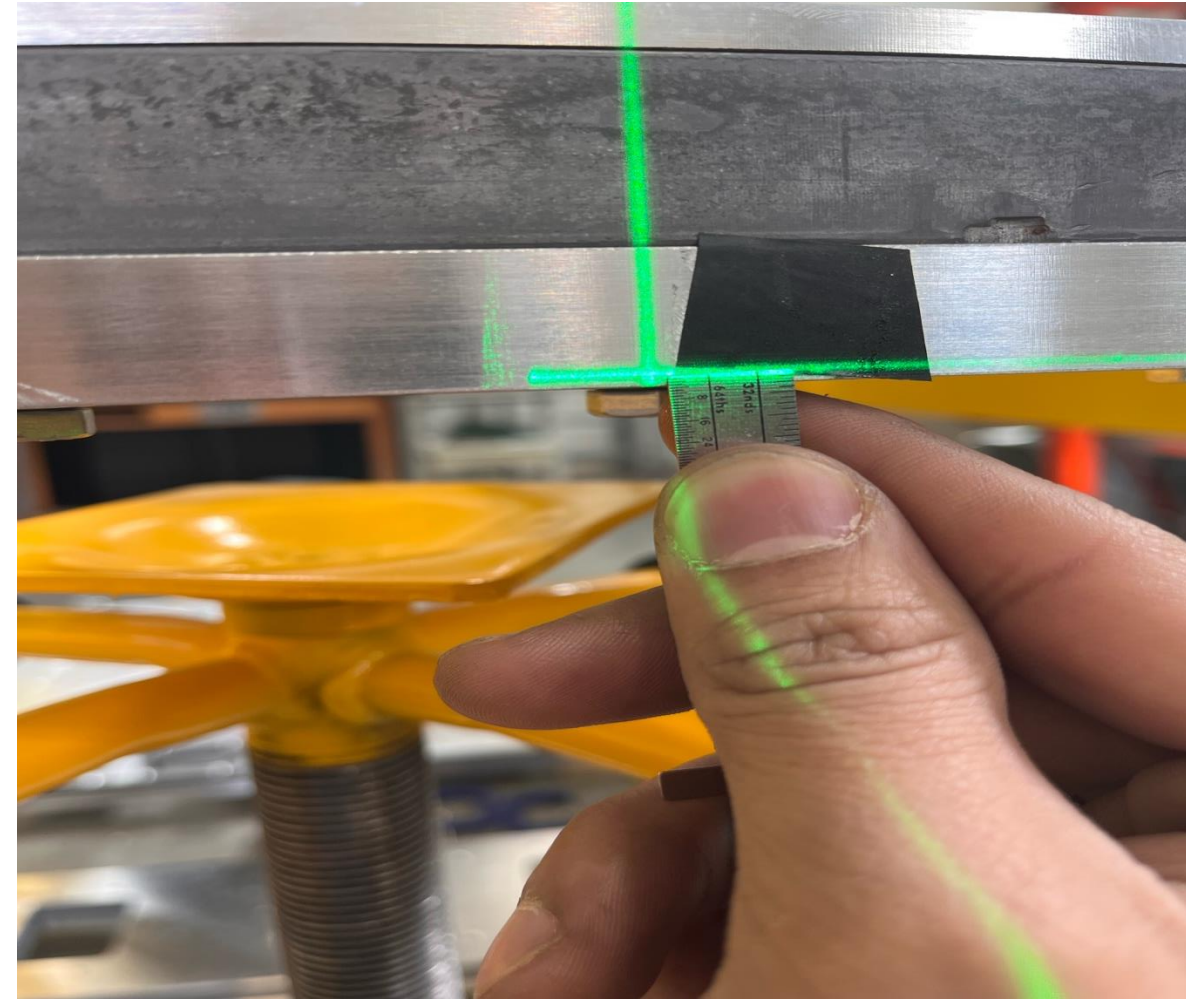
- Used the sanded Al plate and the shorten Al corner block in the US to make the C-shape segment plate (SEG-V)
- Placed the SEG-V on the storage rack
- Used 80-20 bar and the Jack stand to make the segment plate flat

Steps of the assembly



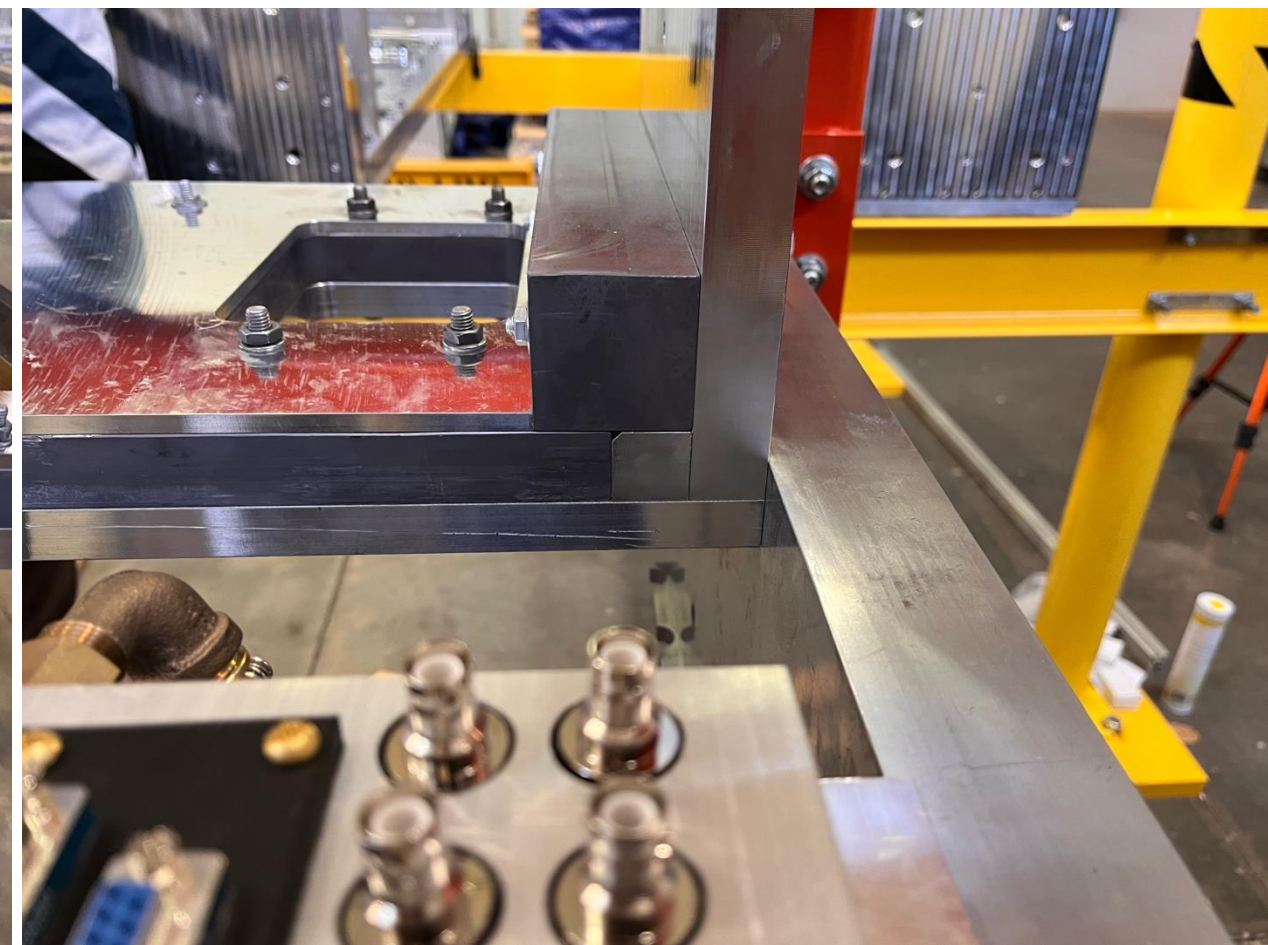
- Used the Pb lifting fixture to load the lead onto the segment plate
- Put the sanded cover (stiffener) plate on top of it

Steps of the assembly



- Fasten all the bolts to the specific torque values (M8 SS : 68 lb-in , 0.250" Al : 45 lb-in)
- Used the laser level to calibrate it while it is jacked up
- Remove the jack and measure the sagging at the center : **1.6 (\pm 0.4) mm**
- Kept the segment for 24 hours on the storage rack and the sagging did not worsen

Placing the sanded segment (SEG-V) in the storage rack



- **It did not fit into the storage rack**
- **Possible reason could be, when we adjusted the storage rack at the first time, the segment plates were already bowed and therefore the A-T box is calibrated to the bowed segment**

Other measurements



- Used the specific torque values with the M8 and 0.25-20 Al bolts while jacking up the SEG-II and SEG-III
- Found significant improvements in the sagging
- SEG-II & SEG-III which was sagging close to 8 mm and 7 mm is now found to be 2.5 mm and 2 mm
- Using the proper torque values is improving the sagging
- Sanding of the Al plates will further enhance the contact between the Al plate and the Pb plate; will reduce the sagging