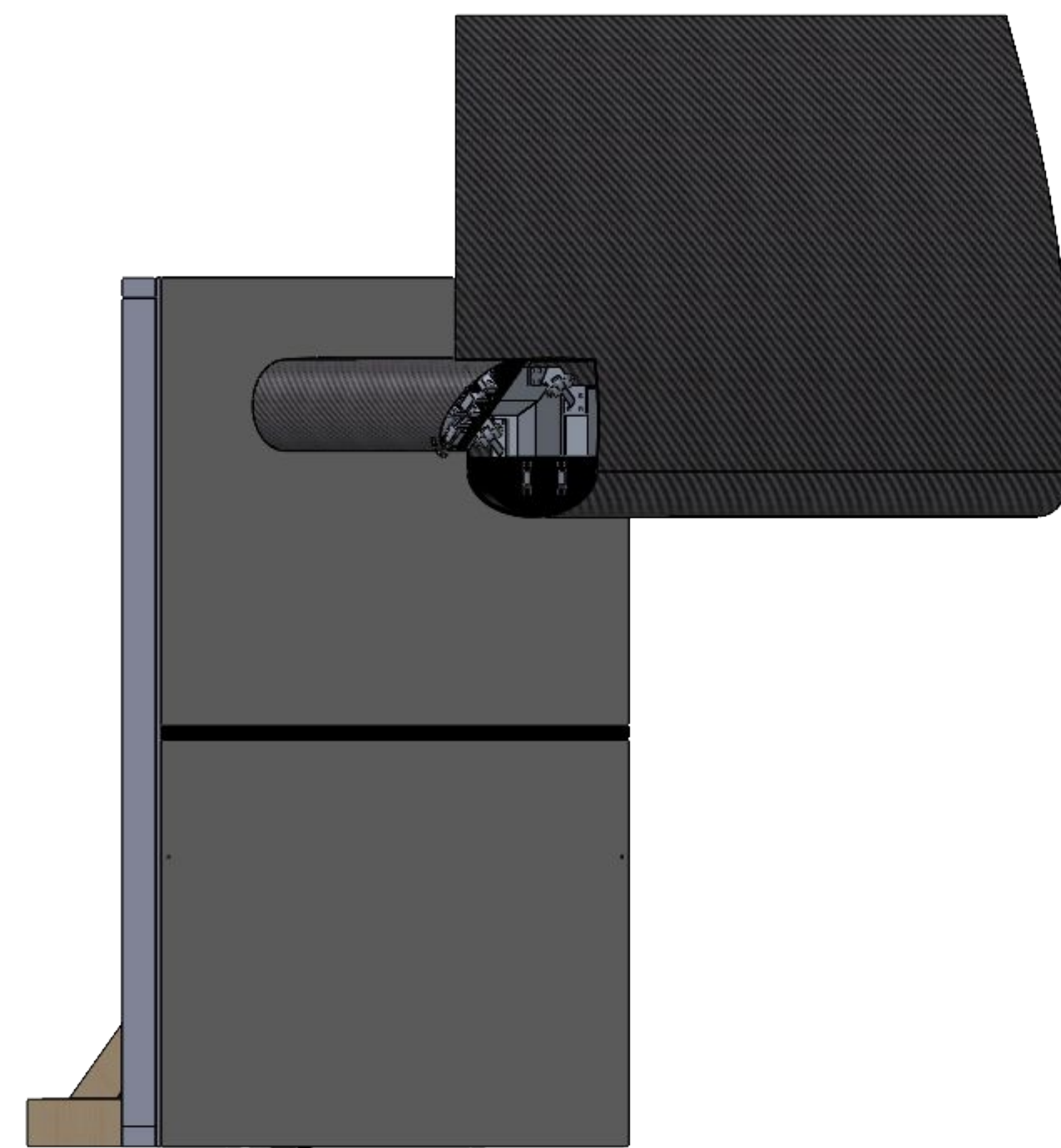


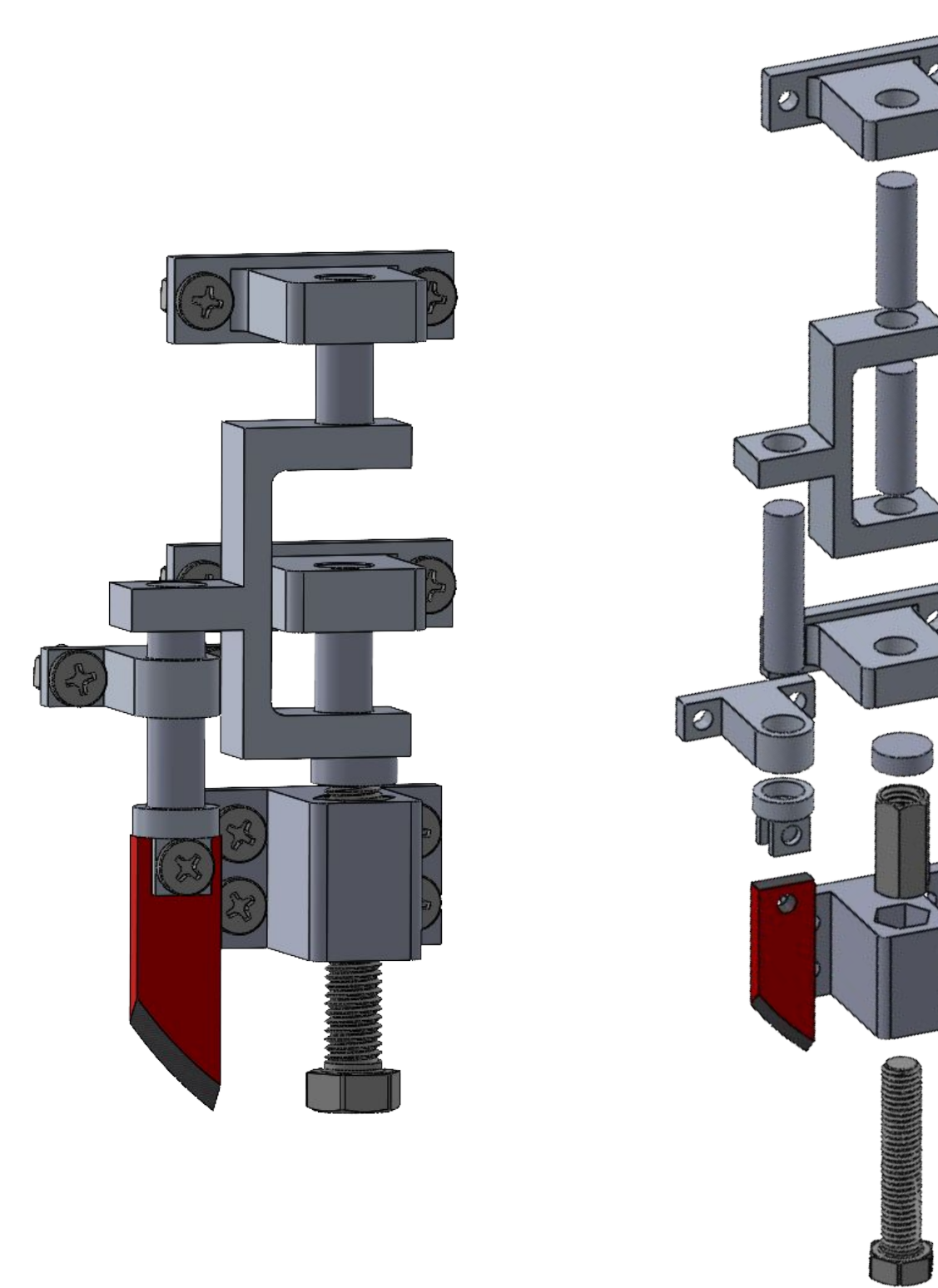
Project Overview

Design and construct a manual wing fold mechanism for the MQ-9 Mojave STOL such that a two-person team can safely fold the wings for a reduced footprint. Team AVIAN will solve this problem by constructing a hinge mechanism and locking mechanism that will allow the wing to be folded and safely secured in a stowed and deployed position.

Full Assembly CAD

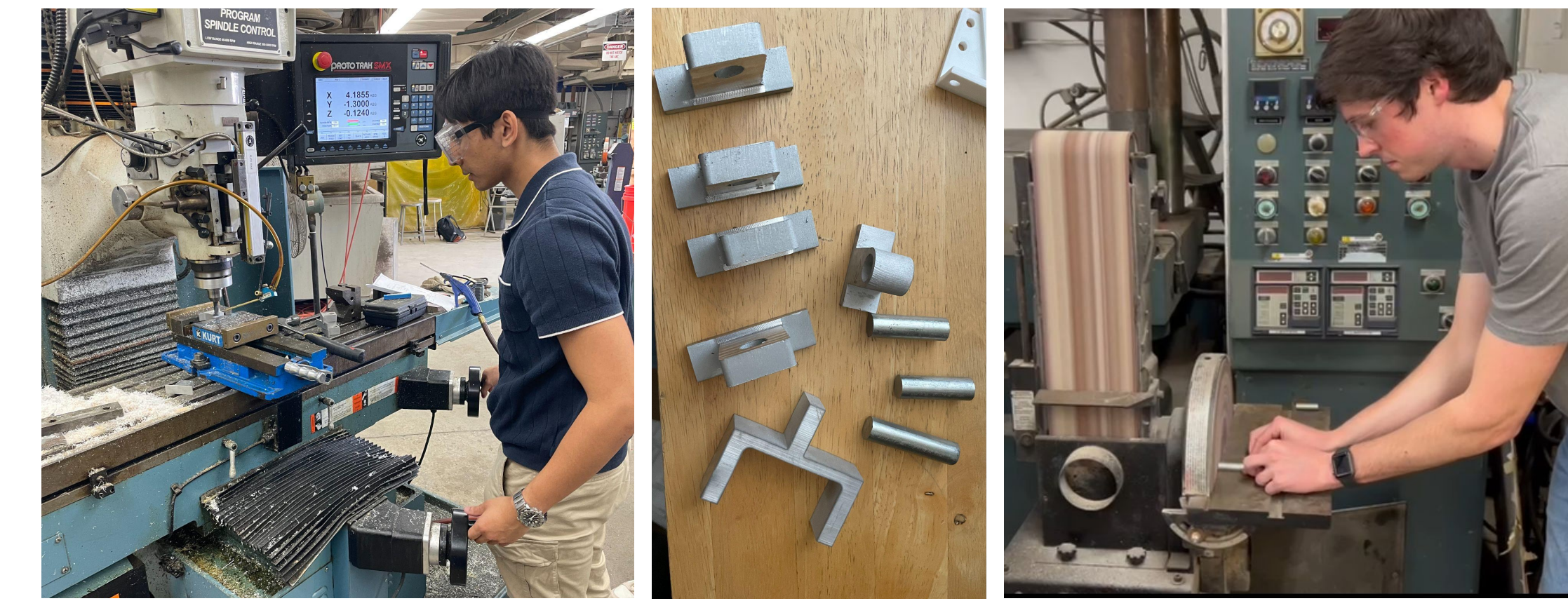


Locking Mechanism



Manufacturing

Locking Mechanism:



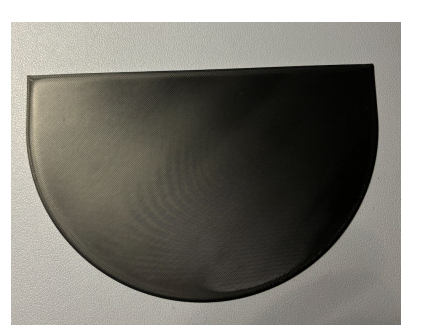
Airfoil/Frame:



Shop Aids:



Rib Template



Bondo Tool

Meet the Team



Alexander Bautista
Team Lead



Grant Butsko
Design Lead

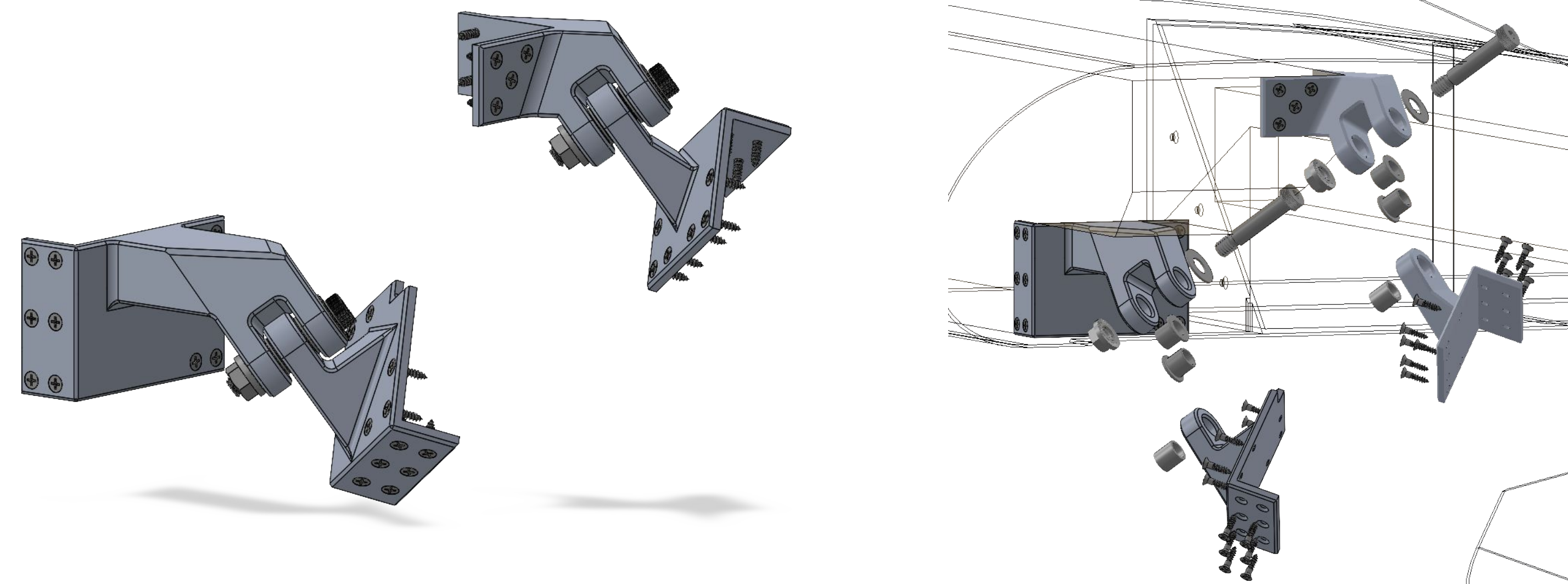


Andres Mendoza
Quality & Test Lead



Tallon McDonough
Production Lead

Hinge



Prototyping/Test

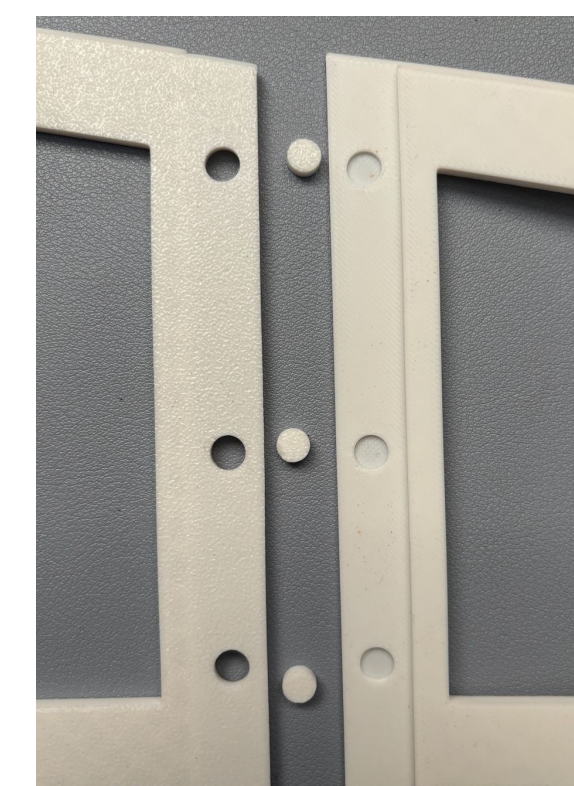
Locking Mechanism
-Version 1



Tolerance Tester
(3D Printing Capabilities)



3D Print Connectors
- Oversized Prints



Hinge Prototype



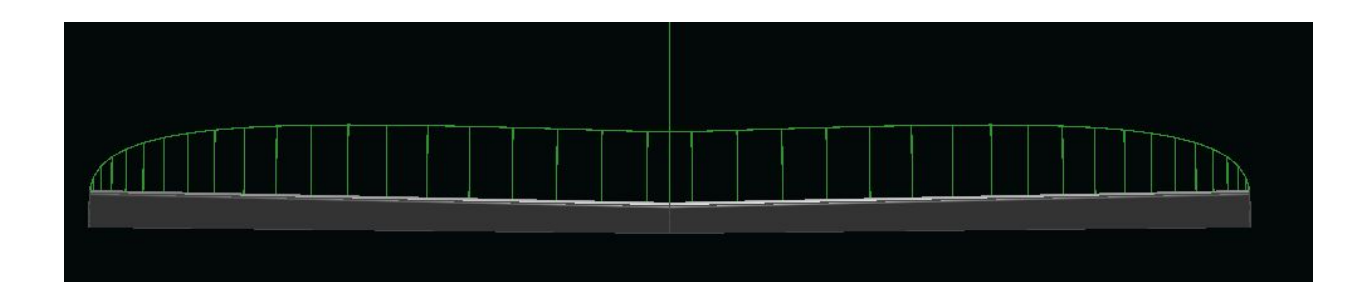
Acknowledgements

Team AVIAN Engineering would like to thank the following people:

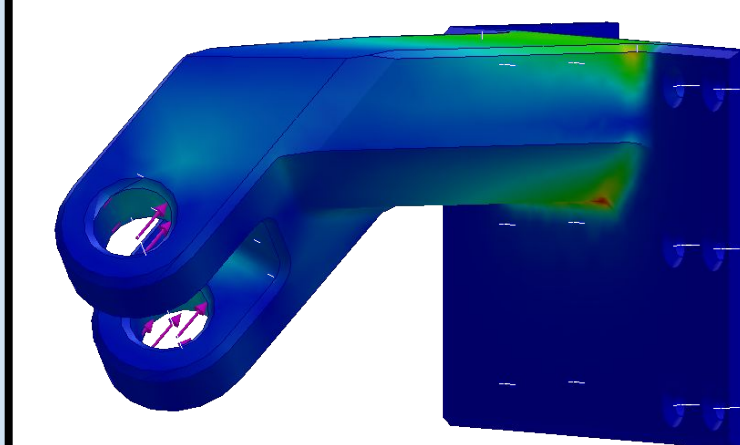
General Atomics: Chris Sam, Travis Burns, Chris Aguilar, Eshan Sinha, and John Callaway

SDSU: Dr. Scott Shaffar

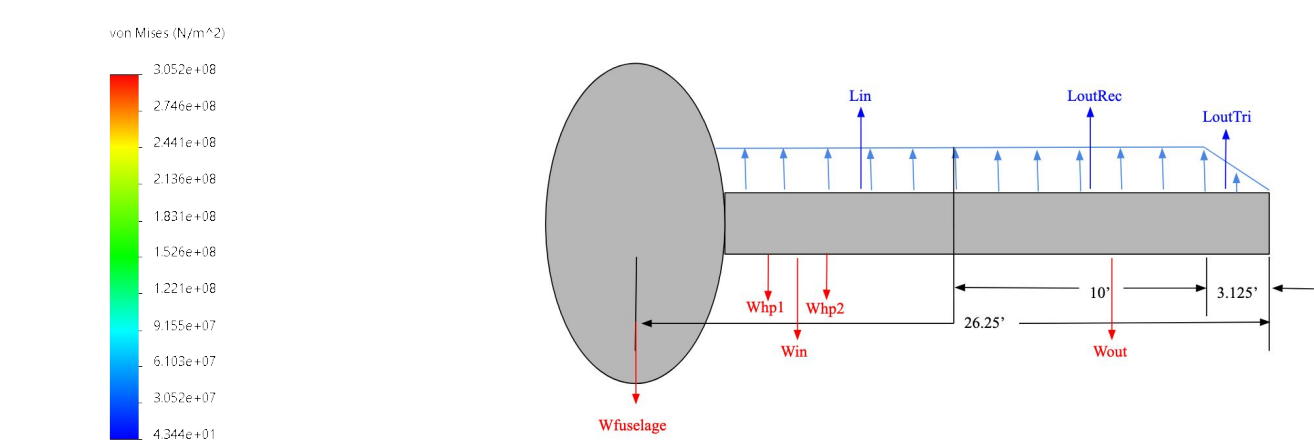
Analysis



XFLR5 Loading Curve



FEA



Free Body Diagram