SDSU San Diego State University

ACTUS

NORTHROP GRUMMAN

Electric Actuation for Retractable Landing Gear System

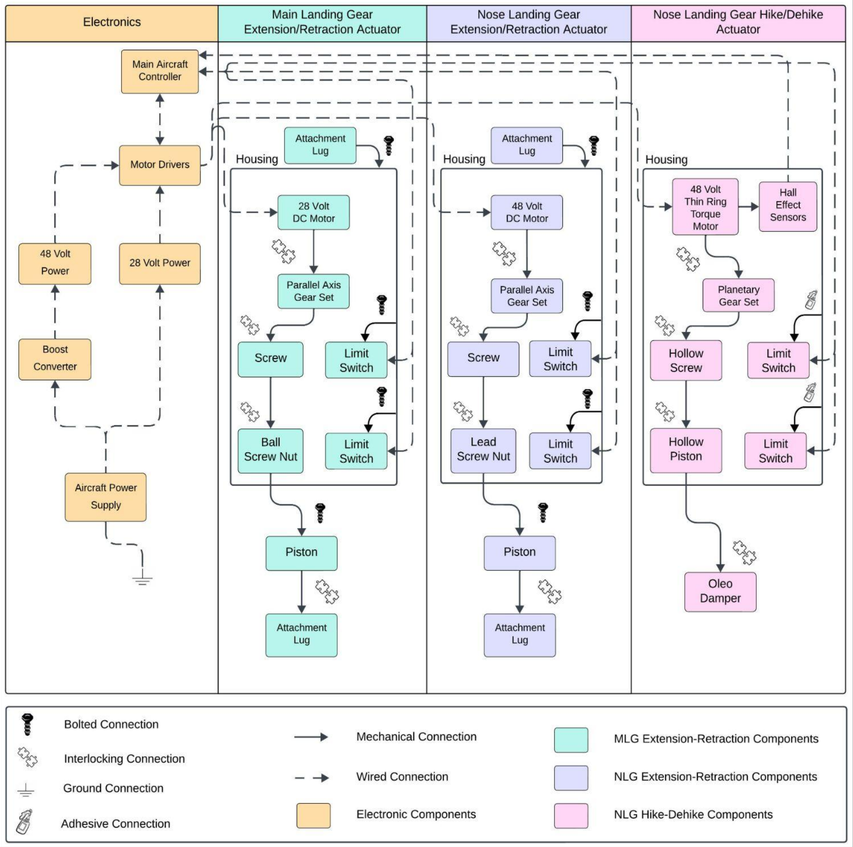
Description

Many unmanned aircraft utilize electric power for systems that, on manned aircraft, have traditionally been hydraulically powered. This change can reduce overall aircraft weight and facilitate computer control of the system(s). For this project, the team was tasked with designing, prototyping, and testing an electric actuation system for an existing hydraulically actuated landing gear configuration.

Team Members

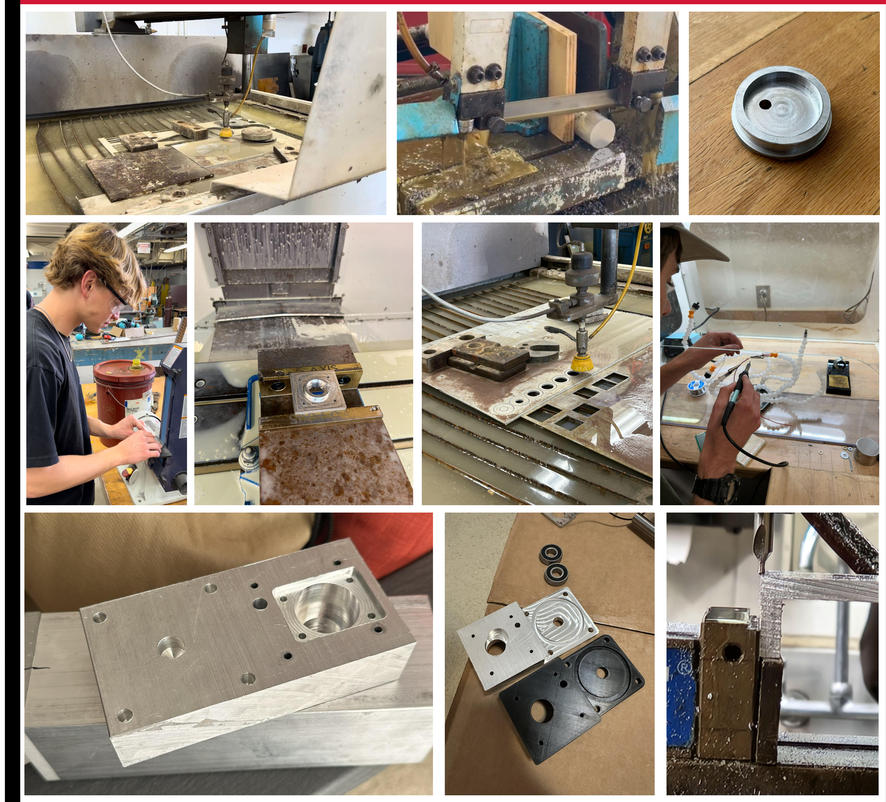
Josh Hammond | Rich Tran | Garrett Leach | Matthew Steel | Jacob Black

System Level Diagram

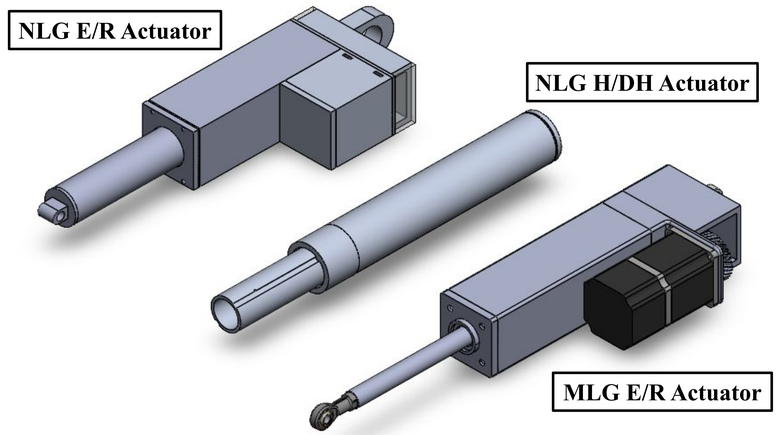


Full-Scale CAD Assemblies

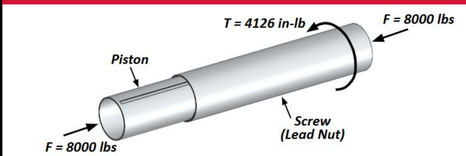
Manufacturing



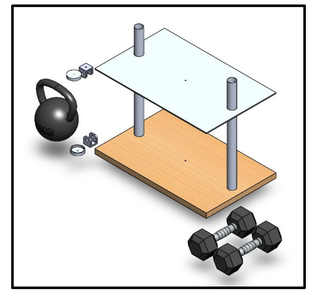
Scale-Model Prototypes



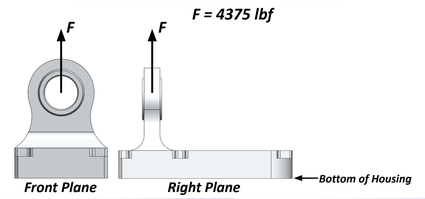
Testing & Analysis

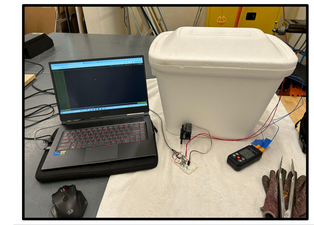


NLG H/DH Screw & Piston Solidworks Analysis

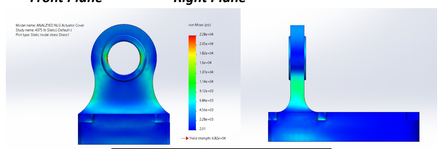


Force Testing Rig CAD Model





Microswitch Temperature Test



NLG E/R Lug Solidworks Analysis

Acknowledgements

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