

Project Snippets

Allowable Damage Limit (ADL) Analysis of Inlet Cowl & Nozzle

Technical Scope:

- Allowable Damage Limit (ADL) analysis of components of Inlet Cowl & Primary Exhaust Nozzle of LCA (HAL) engines.
- Stress report generation as per OEM Standards

Execution & Deliverables:

- FE analysis of Inlet Cowl & Primary Exhaust Nozzle baseline model for various load cases
- Identification of critical region where the damages (scratch, dent, crack, gouge, nick) are expected to occur
- Identification of critical load case at critical region
- Simulation of different type damages in FE model
- Calculation of margin of safety (MOS) for static condition

Design of front fuselage bay for UAV

Scope of work:

- Design of PAYLOAD bay and EQUIPMENT bay and supply manufacturing drawings
- Static, dynamic and vibration analysis

Design challenges:

- Equipment bay cover shall be removable to have access for mounting the equipments.
- Design to consider 6g normal in carriage and 3g in flight
- Payload bay and Equipment bay shall be modular
- Calculation of damage (fatigue calculation)

Design of Flap track beam

Scope of work:

- Design of Track Beams for Track #2, Tr#3 and Tr#4 and supply manufacturing drawings
- Static and Dynamic analysis

Design challenges:

- The track beams to be designed to take multiple load paths with fail safe design
- The structure to be designed to satisfy FAR 25
- Optimum location of track positions based on minimum displacements and stress on the skins