



# ASI Andromeda SYSTEMS INCORPORATED

Your Supportability Teammate

## Engineering

By leveraging the depth of knowledge and breadth of experience from within the company's primary service areas, the **Engineering Team** of Andromeda Systems Incorporated provides comprehensive and cost-effective solutions through the synergistic application of cross-disciplinary talent. Combining leading edge technology with classical methods of analysis, our engineering expertise has led the development of equipment and process improvement for both military and commercial systems including aircraft, ground vehicles, facilities, and industrial equipment.

### SERVICE AREAS

- Aircraft Modification & Repair
- CAD/CAM
- Electrical/Electronic Systems  
Design & Integration
- Fleet Support Engineering
- Production Support
- Reliability Engineering
- Structural Analysis

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## SOLUTIONS DELIVERED

- Navy/Air Force T-6 Aircraft Condition Inspection Specification developed using Damage Tolerance Analysis, Force Structure Maintenance Plan, Reliability-Centered Maintenance Analysis, and Aging Aircraft experience.
- Engineering data packages, structural analysis, detail and installation structural and wiring drawings for the installation of an acoustic emissions structural damage detection system on patrol aircraft.
- Engineering and analysis expertise provided to efforts in reducing maintenance requirements for DoD air and ground platforms.
- Structural analysis and certification report development for equipment rack installations on patrol aircraft.
- Service Life Assessment of structural enhancements using Linear and Non-Linear Finite Element Analysis to characterize complex processes.
- Airframe Change Development for multiple platforms under structures and sub-systems Service Life Extension Programs.
- Crack Growth and Residual Strength Analysis to determine inspection requirements for safe operation of aircraft in support of Service Life Extension Efforts.
- Airframe Repair and Modification with associated Analytical Substantiation combining structural and mechanical design and analysis functions.
- Application Development and Deployment of Web-based Engineering Analysis Tools produced by structural and mechanical engineering and information technology.
- Avionics Development with associated Structural Modifications and Airframe Changes involving structural, mechanical, electrical and electronic engineering.

## Service Areas and Capabilities

### AIRCRAFT MODIFICATION & REPAIR

- All Phases of Engineering Change Development
- Change Assessments impacting:
  - Certification Requirements, Fatigue
  - Life, Logistics, Maintainability
  - Reliability, Strength, Design Change
  - MRB Engineering Support to
  - Modification Lines

### CAD/CAM

- Computer-Aided Design and Drafting
  - ASME Y14 Standards
  - Legacy MIL-STD-100
- Three-Dimensional Solid Modeling

### PRODUCTION SUPPORT

- Depot Artisan/Mechanic Repair Technique Training
- MRB Engineering Support to Modification Lines
- Repair Development & Substantiation
  - Metallic and Composite Structure

### FLEET SUPPORT ENGINEERING

- Engineering Change Development
- Forensics
- Engineering and Aircraft Mishap Investigations
- Process Improvement and Mapping
- Repair Development & Substantiation
- Root Cause Analysis
- Technical Directives
- Technical Instruction Development

### ELECTRICAL/ELECTRONIC DESIGN & INTEGRATION

- Electrical Load Analysis
- Electromagnetic Compatibility and Interference Design, Analysis and Testing
- Micro controllers Integration and Operational Algorithms Development
- Reliability Modeling of Devices and Systems
- Sensor Integration for On-board Performance Monitoring Systems
- Systems Design, Analysis & Integration
- Systems Engineering Support

### RELIABILITY ENGINEERING

- Assessments
  - In-Service or New System
- Improvement Programs
- Modeling and Simulation
- Predictions
- Program Development
- Reliability Growth Analysis

### STRUCTURAL ANALYSIS

- Static Strength Analysis
- Fatigue and Damage Tolerance Analysis
- Finite Element Analysis
- Certification and Airworthiness Report Development
- Web-Based Engineering Tool Development