

## Aviation and Aerospace

Packer Engineering constantly seeks to advance the safety and frontiers of aviation and aerospace technology. Our multidisciplinary team includes engineers, scientists, pilots, aircraft mechanics and technicians. For more than 40 years, Packer's aviation and aerospace team have specialized in accident investigation, design analysis, failure analysis, and systems and component testing. Our engineering resources support us in the following areas: mechanical, metallurgical, polymer, advanced composites and electrical/electronics.



Packer Engineering scientists flew aboard NASA's KC-135 in support of a NASA research grant to study the solidification characteristics of materials in micro-gravity.



### Our Aerospace Team of Specialists Offer:

#### Accident Investigation

- Wreckage Reconstruction
- Documentation and Evidence Preservation
- Occupant Safety/Crashworthiness Analysis
- Accident Research
- Fire and Explosion Investigations
- Full-Scale Models and Exhibits
- Computer Simulation

#### Product Testing

- Static and Dynamic Load Testing
- Fatigue Testing
- Specialized Fixturing and Modeling
- Customized Mechanical Testing

### Technical Services

#### Product Design

- Computer-Aided Design and Engineering
- Stress/Finite Element Analysis
- Materials Selection
- Safety Analysis
- Human Factors Analysis
- Standards Compliance
- Advanced Product Design Analysis
- Intelligent Composite Processing
- Prototyping and Tooling
- Casting Design and Fabrication

# Aviation and Aerospace

## Technical Services (continued)

### Failure Analysis

- Comprehensive Materials Laboratory (with scanning electron microscope)
- Identification of Failure Mode/Type
- System and Component Evaluation
- Materials Evaluation
- Analysis of Operational Environment

We conduct comprehensive aircraft accident investigations and reconstructions as well as failure analysis of components and subassemblies.

### Modeling Analysis

Our modeling, analysis, and prototyping methods provide machined components with equivalent or enhanced quality when compared to the originals, in days instead of months.

We applied our engineering expertise in these areas by fabricating and assembling an exact reproduction of the Wright Brother's 1903 engine. This engine powered a replica Kitty Hawk aircraft on October 14, 2003.

