

www.airborne-sys.com



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WORLD CLASS SPACE AND RECOVERY SYSTEMS

**Airborne
Systems** 





About Airborne Systems

Our history began over 100 years ago in 1919 when Leslie Irvin, the founder of the Irvin Air Chute Company, made the first-ever free fall parachute jump using the first manually operated rip cord. As the world's premier parachute designer and manufacturer, we continue to honor Irvin's legacy through our ongoing achievements.

Space and Recovery

The Space and Recovery business unit is dedicated to providing our customers with unparalleled technical expertise and experience. Our Space Systems focused engineering group is the world's leader in Entry, Descent, and Landing Systems (EDL) for crewed space flight applications, booster recovery systems, and planetary exploration missions. Airborne Systems has extensive experience in designing and developing EDL systems for various space applications, including our role in the recovery system for Discoverer XIII, the first man-made item ever recovered from orbit in 1960. We proudly contributed to the successful landings of SpaceX Dragon Capsules, NASA's Orion Spacecraft, and the Mars 2020 parachute system for planetary exploration. Our Air Systems group delivers innovative parachute and airbag solutions for aircraft, drones, helicopters, cargo, and weapon systems.

Research and Development

Our in-house Research and Development group continues our 100+ year tradition by designing and testing innovative, purpose-built, military parachute systems. Our full range of products are continuously in use across the globe, providing a robust base of experience that continually shapes the development of future products.





AIR SYSTEMS & SPIN-STALL RECOVERY

Airborne Systems has extensive experience and expertise in a variety of applications related to aircraft safety and effectiveness, weapons delivery, and delivery of personnel and cargo to the war-fighter.

Aircraft applications include spin and stall recovery systems for flight test, aircraft escape systems – ejection seat and walk around, and aircraft landing brakes

Weapons systems include decelerators for both conventional, sub-munitions, and special weapons.

Military systems include gliding and non-gliding personnel parachutes for all classes of air drop, as well as conventional and precision cargo delivery systems. Airborne Systems also supports the U.S. Missile Defense Agency by providing a number of air launch systems to deliver targets for use in the testing of missile defense systems.

CAPABILITIES

Aerial Targets

Aircraft Landing Deceleration Systems

Aircraft Escape Systems and Ejection Seats

Weapon Deployment Systems

Aircraft Spin and Stall Recovery Systems

Cockpit Control Systems

Aircraft Escape Systems

Flight Termination Systems





SPACE & RECOVERY SYSTEMS

Since the early days of the U.S. space program and the development of the recovery system for the Discoverer XIII reentry capsule (the first man made item ever recovered from orbit), Airborne Systems has been at the forefront of Entry, Descent & Landing System (EDL) development for space and high altitude applications. Since the 1960's, Airborne Systems has designed and developed EDL systems for a multitude of crewed and uncrewed space applications. Today, Airborne Systems is leading the way with the design and development of the EDL systems needed for America's new fleet of human-rated spacecraft being developed to replace the Space Shuttle (Orion, CST-100, Dragon, New Shepard).

The Airborne Systems Space Systems business unit is dedicated to supporting the emerging commercial space industry and is the world leader in the development of EDL systems for high altitude and space flight applications; both crewed and uncrewed, terrestrial and interplanetary.

CAPABILITIES

Planetary Space EDL Systems

Booster Recovery Systems

Payload Recovery Systems

Capsule Recovery Systems

Fairing Recovery Systems





INFLATABLE AERODYNAMIC DECELERATORS

We have developed a wide range of inflatable products starting with production of hundreds of thousands of BSU-85 Air Inflatable Retarders in the 1960's to the recent development of large scale Inflatable Aerodynamic Decelerators (IADs) for NASA.

This experience provides a significant capability to design, analyze, develop, and fabricate inflatable and fabric structures, including inflatable decelerators for supersonic and hypersonic applications, impact attenuation airbags for space and aircraft applications, flotation and recovery devices for naval applications, inflatable deployable wings for light aircraft, pneumatic muscle actuators, and deployable/transportable structures for various applications.

CAPABILITIES

Entry, Descent and Landing Systems (EDL)

for Various Space Applications

Hypersonic Inflatable Aerodynamic Decelerators (HIAD)

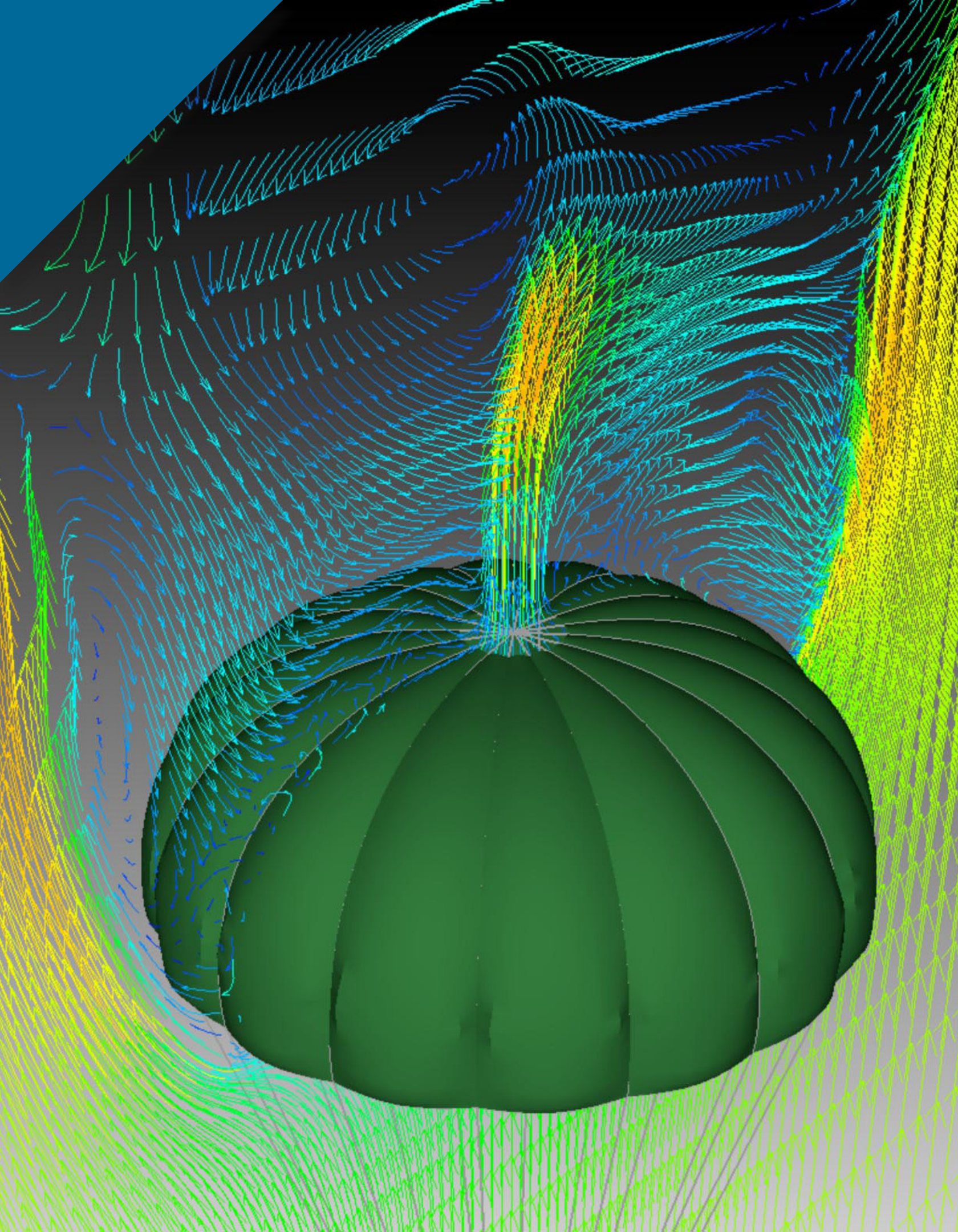
Supersonic Inflatable Aerodynamic Decelerators (SIAD)

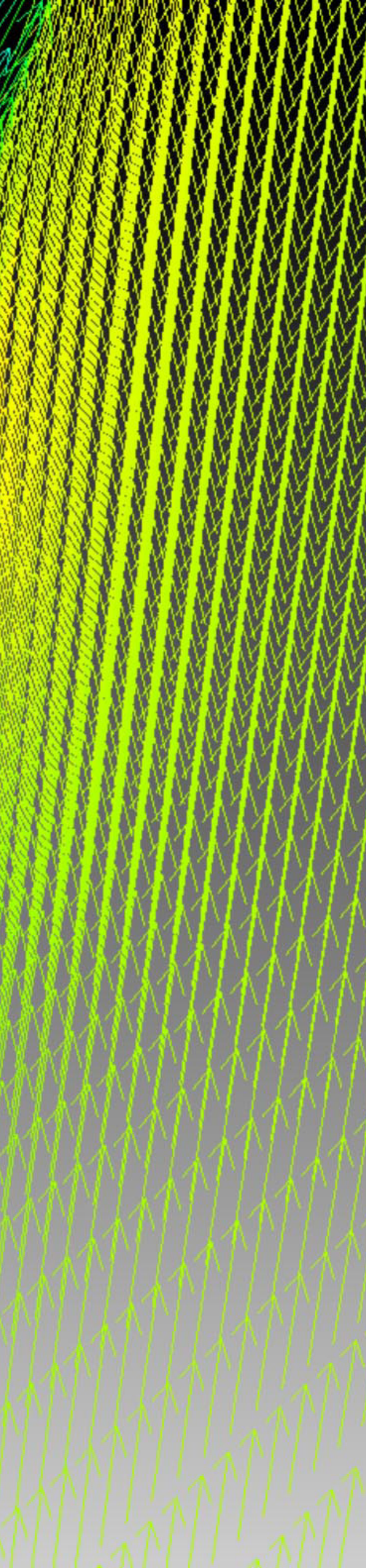
Impact Attenuation Airbags

Pneumatic Muscle Actuators

Inflatable Wings

Flotation Systems





ENGINEERING & DESIGN

We believe that successful products are born from a deep understanding of the needs and aspirations of our customers. Our approach combines rigorous research, collaborative brainstorming, and iterative prototyping, ensuring that every design decision is informed by real-world insights.

Airborne Systems follows fielded products to ensure they provide maximum capability to the user. This is done throughout continuous education, training, and support in the field.

Systems engineering tools including integrated master schedule/ integrated master plan, specification compliance, validation tracking, and risk assessment are utilized to ensure project success.

In addition to the development of internal specifications for fabric, parts and equipment, Airborne Systems engineering process also includes programmatic test plans, test reports, final verification matrices and reports.

CAPABILITIES

Mechanical Design and Manufacturing

Control Systems

Systems Analysis

Fabric Design and Manufacturing

Parachute Trajectory Modeling and Simulation

Program Management

Configuration Management





PRODUCT TESTING & SUPPORT

Airborne Systems' test capabilities are unmatched in the industry. Our engineers are well-versed in all aspects of product testing, from seam and joint element testing to highly complex supersonic wind tunnel testing. Airborne Systems' extensive experience and knowledge base ensure that tests are conducted with the precision required to validate product performance to meet federal standards.

Airborne Systems maintains dedicated test and drop facilities in several locations, enabling us to accommodate and respond to various customer requirements.

With a test history spanning decades, Airborne Systems is uniquely positioned to apply lessons learned to every system we design and test.

CAPABILITIES

Tensile Testing

Flight Testing & Qualification of Parachute Systems

Airbag Drop Testing

Wind Tunnel Testing

Water Landing Systems Testing

Acceptance Testing

Installation Testing

Environmental Testing

Data Collection

Rigging, Packing and Product Support

