Baron NDT Aviation NDT Capabilities

Company Overview

• *Baron NDT, LLC** is a distinguished FAA-certified Repair Station (CRS# 5NDR545D) specializing in comprehensive aviation Non-Destructive Testing services. Led by President Michael Benson (ASNT Level III #202831), Baron NDT ensures the safety, quality, and reliability of aircraft components through advanced inspection technologies and expertise.

• *Key Credentials:**
• FAA Part 145 Repair Station Certificate (CRS# 5NDR545D)
• Cessna Certified NDT Authorized Facility
• API QUPA (Phased Array Ultrasonics) Certification
• ASNT Level III Leadership

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Core Aviation NDT Services

1. Ultrasonic Testing (UT)

• **Phased Array Ultrasonics (PAUT)** - Advanced inspection for critical aircraft components including fuselage lap joints, composite materials, engine parts, wing spars, and landing gear
• **Shear Wave Ultrasonics** - Detection of flaws and cracks in metal components
• **Ultrasonic Thickness Measurement** - Corrosion mapping and material thickness assessment
• **Bond Testing** - Composite structure integrity verification
• **Air-Coupled Ultrasonics** - Non-contact inspection for aircraft interiors
• **Automated Scanning** - 2D/3D mapping with detailed reporting

2. Eddy Current Testing (ET)

• **High-Frequency Eddy Current (HFEC)** - Surface defect detection
• **Low-Frequency Eddy Current (LFEC)** - Subsurface discontinuity identification
• **Phased Array Eddy Current** - Complex geometry inspection
• **Rotary Open Hole Eddy Current** - Fastener hole inspection
• Applications: Aircraft skin, fastener holes, heat exchangers, tubing

3. Radiographic Testing (RT)

• **Conventional Film Radiography** - Internal defect detection
• **Computed Radiography (CR)** - Digital phosphor plate imaging
• **Digital Radiography (DR)** - Real-time digital imaging
• Applications: Engine components, fuselage structures, wing assemblies

4. Magnetic Particle Testing (MT)

- **Portable AC/DC Yokes** - Field inspections
- **Magnaflux Magnetic Particle Benches** - Shop-based testing
- Applications: Landing gear, ferromagnetic engine components, structural steel

5. Liquid Penetrant Testing (PT)

- **Ultra-High Sensitivity Penetrant** - Critical aerospace applications
- **Fluorescent Penetrant** - Enhanced defect visibility
- Applications: Engine blades, turbine components, aluminum structures

6. Advanced Technologies

- **Thermography** - Infrared imaging for composite damage assessment
- **Hardness Testing** - UCI and Leeb rebound testing for material verification
- **X-Ray Fluorescence (XRF)** - Material composition analysis and heat damage detection
- **Borescope Inspections** - Internal visual inspection of engines and structures
- **Remote Visual Testing** - Videoscopes and fiberscopes for inaccessible areas

Aviation Industry Experience

Major Clients and Partners

- **Airlines:** Breeze Airways, Mesa Airlines
- **MRO Facilities:** HAECO Americas, ST Aerospace, FlightStar Aircraft Services
- **Aerospace Manufacturers:** Matrix Composites (GE GENX/LEAP components), EMF Components
- **OEM Relationships:** Direct collaboration with Airbus, Boeing, GE Aerospace, Cessna

Recent Aviation Projects

- **Breeze Airways Airbus MSN55341** - Comprehensive PAUT damage assessment and large area scanning
- **HAECO Fuel System Components** - NDT inspection with FAA 8130 certification
- **Matrix Composites GE Engine Parts** - Ultrasonic testing of GENX fabricated components
- **FlightStar Aircraft Services** - Ongoing Level III consulting and NDT manual development

Technical Capabilities

Equipment and Technology

- **Olympus X3 PAUT Systems** with Rollerform scanners
- **Magnaflux Magnetic Particle Equipment**
- **Digital and Computed Radiography Systems**
- **Portable and bench-mounted inspection equipment**
- **Automated scanning with 2D/3D mapping capabilities**

Inspection Expertise

- *Component Types:**
- Fuselage structures and lap joints
- Landing gear assemblies
- Engine components (blades, discs, cases)
- Wing spars and control surfaces
- Fuel system components
- Composite structures
- Fastener holes and critical joints

- *Material Capabilities:**
- Aluminum alloys
- Titanium components
- Steel and ferromagnetic materials
- Advanced composites
- Honeycomb structures
- Multi-layer assemblies

Standards and Compliance

- **ASTM Standards** - Material and testing specifications
- **AMS Specifications** - Aerospace material standards
- **AWS/ASME Codes** - Welding and pressure vessel requirements
- **FAA Regulations** - Part 145 compliance and 8130 documentation
- **OEM Specifications** - Airbus, Boeing, GE Aerospace procedures

Service Delivery Model

On-Site Services

- **Mobile NDT Teams** - Fully equipped for field inspections
- **AOG Support** - Aircraft on Ground emergency response
- **Hangar Services** - On-aircraft inspections at client facilities
- **Flexible Scheduling** - 24/7 availability for critical needs

Facility-Based Services

- **Component Shop Services** - Detailed inspection in controlled environment
- **High-Volume Processing** - Efficient batch inspection capabilities
- **Advanced Testing** - Access to fixed equipment and specialized techniques
- **Comprehensive Documentation** - Full traceability and reporting

Quality Assurance

- **BNDT-027 Standardized Reporting** - Comprehensive documentation system
- **FAA 8130 Certification** - Authorized release certificates
- **Calibrated Equipment** - Documented calibration tracking
- **Level III Oversight** - All work reviewed by certified Level III personnel

Competitive Advantages

Technical Excellence

- **Comprehensive Method Coverage** - All major NDT methods under one roof
- **Advanced Technology Integration** - Latest equipment and techniques
- **Multi-Industry Experience** - Aviation, aerospace, power generation, industrial
- **Continuous Training** - Updated certifications and method qualifications

Customer Focus

- **Rapid Response Capability** - Minimize aircraft downtime
- **Integrated Team Approach** - Seamless integration with client operations
- **Custom Procedure Development** - Tailored inspection protocols
- **Technical Consulting** - Level III expertise and guidance

Strategic Advantages

- **FAA Repair Station Status** - Direct aircraft work authorization
- **Geographic Location** - Jacksonville, FL hub for Southeast aviation market
- **Established Relationships** - Long-term partnerships with major aerospace companies
- **Proven Track Record** - Successful completion of critical aviation projects

Summary

Baron NDT stands as a premier aviation NDT service provider, combining FAA certification, advanced technology, and deep industry expertise to deliver comprehensive inspection solutions. With capabilities spanning all major NDT methods, relationships with leading aerospace companies, and a commitment to safety and quality, Baron NDT is positioned as the trusted partner for aviation NDT requirements.

Whether supporting routine maintenance, AOG situations, or complex damage assessments, Baron NDT's combination of technical capabilities, industry certifications, and customer-focused service delivery ensures the highest standards of aviation safety and reliability.