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Full Capabilities list
available on website

www.ctlaerospace.com/repair



CTL AEROSPACE, INC.

Aviation Repair & Overhaul

FAA Certificate CL1R064K

EASA Certificate 145.4358

CAAC Certificate F00100499

UK Certificate UK.145.50674



EAGLE Registrations Inc.
SERVICE • INTEGRITY • VALUE

ISO 9001:2015

Registered by EAGLE Registrations Inc.



History / CTL Aerospace Campus

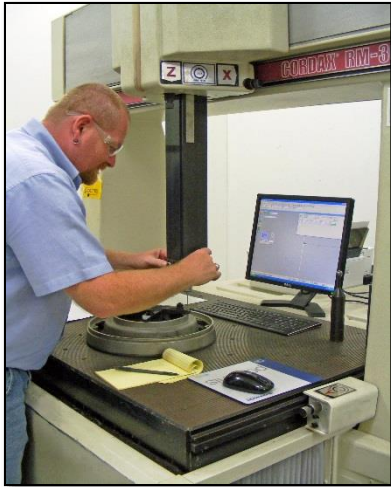
- Founded in 1946
- Current Ownership 1983
- Plant 1 – 1988
 - 108,000 SqFt (OEM)
- Plant 2 – 1997
 - 60,000 SqFt (MRO)
 - 134,000 SqFt (OEM)
- Plant 3 – 2025
 - 3,920 SqFt (OEM)



About CTL

- **Modern State-of-the-Art Facilities**
 - **24/7 Operation**
 - **300+ Experienced Associates**
- **FAA Licensed A&P Mechanics & Repairmen**
 - **Strategic Location**
 - **Advanced Technologies**
 - **Privately Held / Non-Union**

CTL Advanced Capabilities



- Continuous Improvement
- Repair Development
- CMM
- Integrated Autoclave and Ovens
- Overhead Crane Capacity
- Paint Booths



CTL Advanced Capabilities Continued



- Non-Destructive Testing
- 5-Axis Machining and Routing
- Waterjet and Plastic Media Stripping
- Certified Weld Repairs
- Clean Rooms
- Shot peening



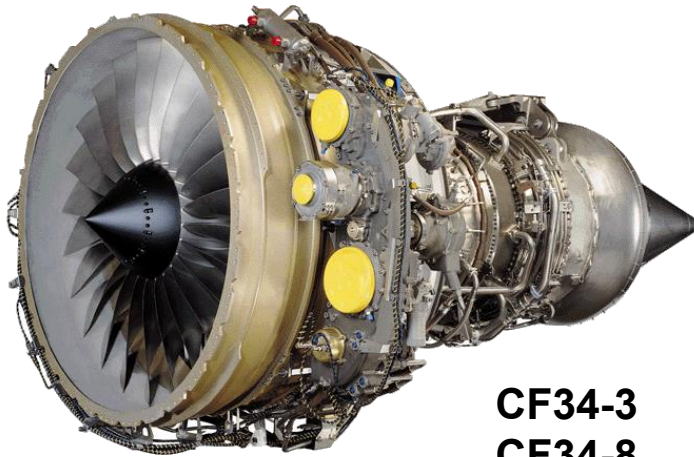
Limited Powerplant Ratings

Includes Inspection, Repair, Modification and Testing of Components for the following Engines:

- CF34
- CF6
- CFM56
- PP20
- GE90
- GEnx
- LEAP
- HF120



CF34 Approved Engine Repairs



**CF34-3
CF34-8
CF34-10**

CF34 Component Repairs

- FWD Fan Case
- AFT Fan Case
- Vane Shrouds
- Seal Retainers
- FWD and AFT Spinners
- HPTR Coupling Nut
- Air/Oil Seals
- Bearing Support Assembly

CF6 Approved Engine Repairs

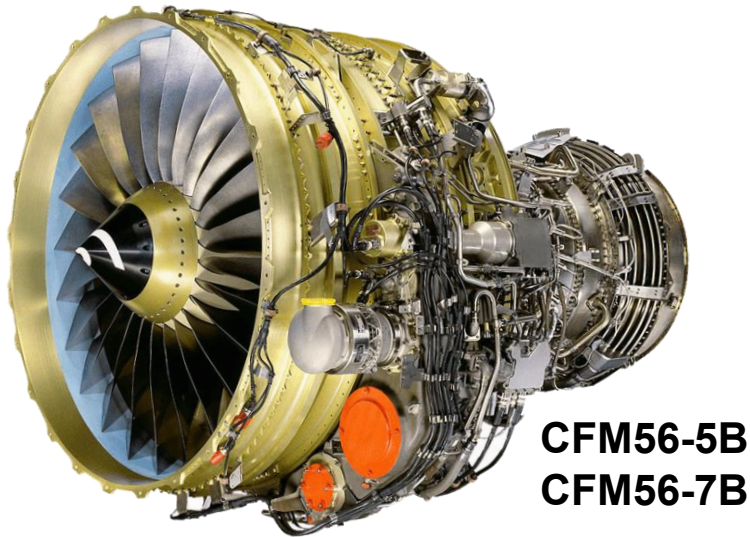


**CF6-80C2
CF6-80E1**

CF6 Component Repairs

- Air/Oil Seal
- Bearing Nuts
- Coupling Nuts
- Spanner Nuts
- Fan Case
- Spinner Cone
- Vane Segments/Vane Assemblies
- Fan Frame
- Fan Shroud
- Stiffener Ring
- Vane Shroud
- Bearing Retainer
- Booster Cases
- Fairings
- Acoustic Liners

CFM56 Approved Engine Repairs



CFM56-5B
CFM56-7B

CFM56 Component Repairs

- Bearing Aft Seal
- Air/Oil Seal
- Acoustic Liners
- FWD & AFT Fan Case
- Vanes
- Spinner Cones
- Bearing Stationary Oil Seal
- Bearing Retainers
- Bellcranks

GE90 Approved Engine Repairs



GE90 Component Repairs

- Fan Stator Module PMI
- FWD Acoustic Liner
- AFT Acoustic Liner
- Rotating Seal
- Stationary Air/Oil Seal
- Fan Blade Platform
- Acoustic Panels
- Bleed Air Panel
- Spinner Cone
- AFT Centerbody
- Exhaust Nozzle
- OGV
- Fan Blade Hardware
- Fan Case Trenchfiller/Abradable

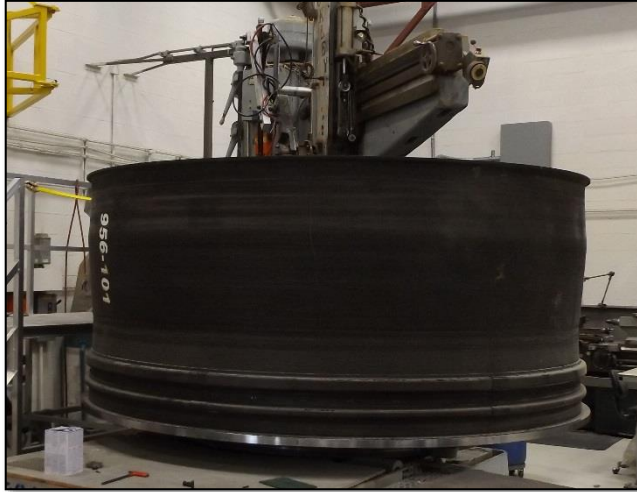
GENx Approved Engine Repairs



GENx Component Repairs

- Fan Module
- Blade Platform
- Spinner Cone
- Speed Sensor
- Fan Blade Hardware
- Fan Case Trenchfiller/Abradable

Fan Case and Fan Module Repair and Overhaul



In-House and On-Wing Capabilities

Fan Case Repair and Overhaul



CF6-80C2

- Equipment capable of handling large hardware
- Complete Abradable Refurbishment and Machining
- Kevlar Containment Shroud Repairs
- Weld Repair
- Doubler Repair
- Bushing Repairs
- Corrosion Removal



CF6-80E1



CF34-3/-8/-10

Fan Case Repair and Overhaul Continued



CFM56-7B

- Complete Abradable Refurbishment and Machining
- Replacement of Mounting Hardware and Dampers
- Weld Repair of Cases



CFM56-5B



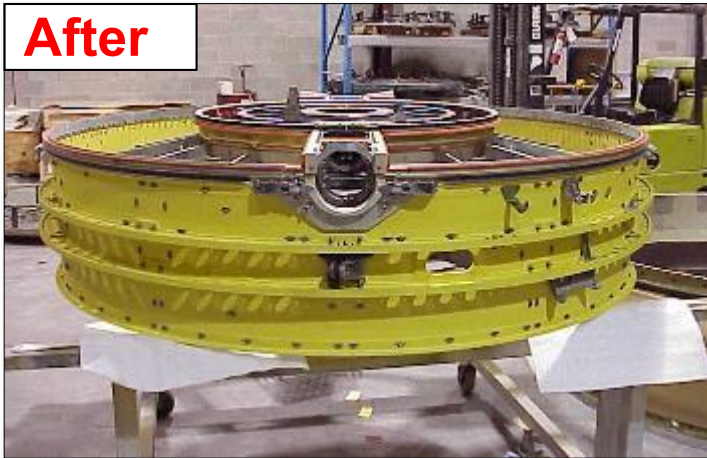
HF120

Fan Module Overhaul

Before



After

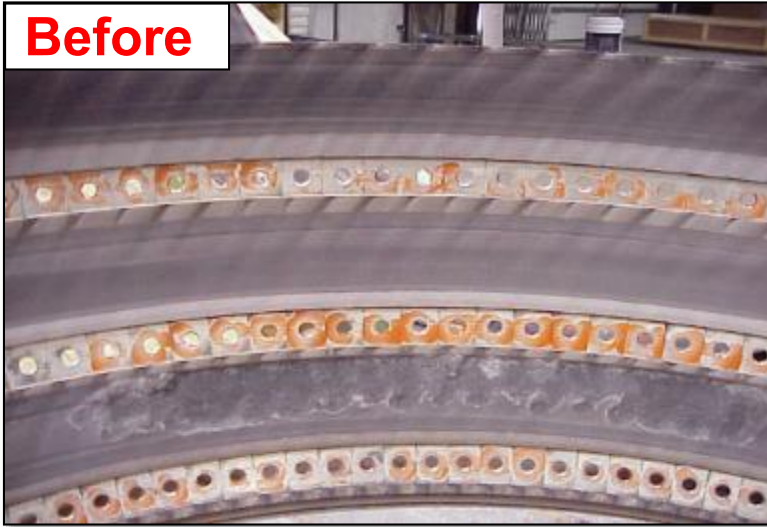


Typical Repairs:

- Full replacement of the Abradable Rub Strip.
- Replacement of the inner and outer Thrust Reverser Support Rings.
- Thermal coating repair to the Support Rings.
- Thrust Reverser Support Ring seal repair and replacement.
- Removal, inspection and replacement of all defective hardware.
- Acoustical liner repair, overhaul, and replacement.
- OGV Vane inspection, repair and refinishing.
- Corrosion Removal
- Weld Repairs
- Complete refinishing of the Anodize coating and protective treatments on the cases.

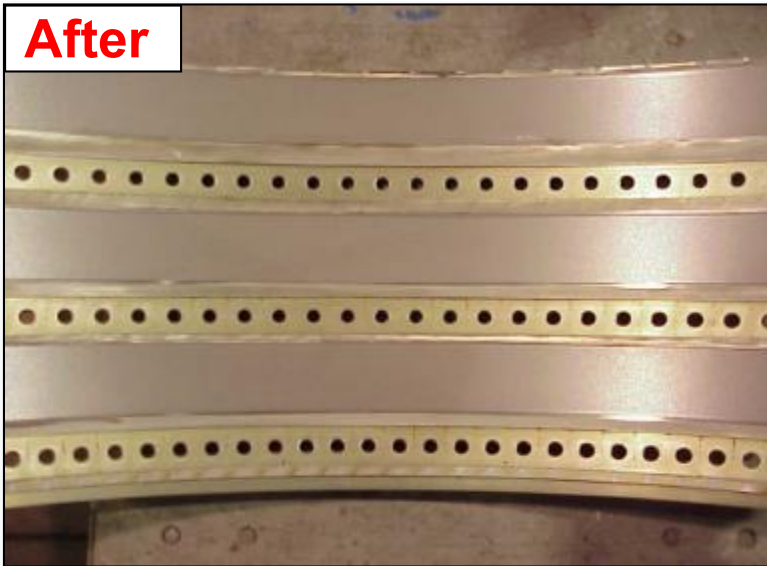
CF6-80C2 Booster Case Overhaul

Before



- Complete Inspection
- Thermal Coating Replacement
- Surface Treatment
- Insert/Dowel Pin Replacement
- Corrosion Removal
- Vane Bore Hole Repair
- Weld Repairs

After



Composite and Metal Fairing Overhaul



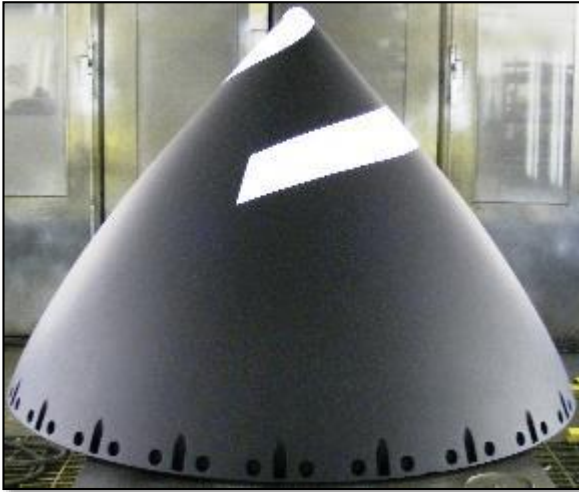
- Metallic and Composite Fairings
- Complete Inspection
- Advanced Chemical Processing Techniques
 - Stripping
 - Anodize
 - Paint
- Bushing Repairs
- Corrosion Removal
- Weld Repairs



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Aviation Repair and Overhaul

Spinner Cone Refurbishment



GE90/GE90-100
GEnx

- Metal & Composite Spinners
- Conical, Elliptical & Conelliptical Spinners
- Complete Inspection
- Advanced Chemical Processing Techniques
 - Stripping
 - Anodize
 - Thermal Coating Repair
 - Custom Paint and Swirl
- Insert Replacement
- Shot Peen Surface Conditioning



CF6-80C



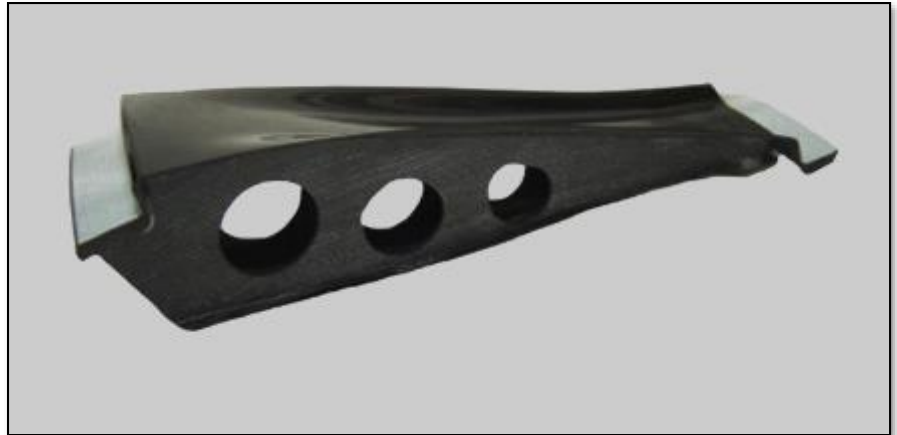
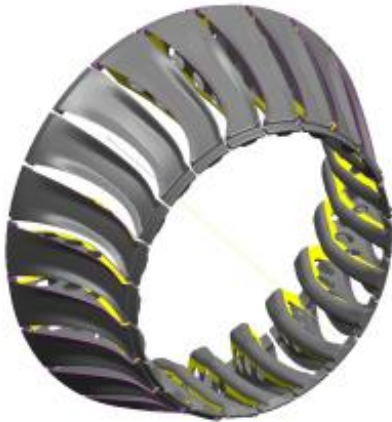
CF34 & CFM56-5/-7



Fan Blade Platforms and Fan Hardware



- Repairs performed on Metallic, Composite, and Hybrid Platforms
- Complete Inspection
- Replace Seals and Wear Strips
- Recondition
- Paint
- Repairs performed on Fan Blade Hardware
 - Blade Retainers
 - Dovetail Keys
 - Spacers
 - Shims

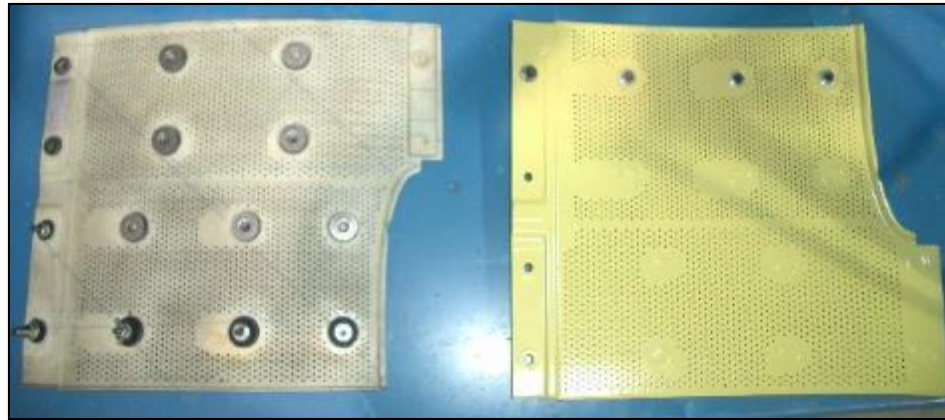


CFM56 Acoustic Panels



Fwd Panel

- Approved Repairs on Fwd, Mid & Aft Panels
- Complete Inspection
- Facesheet Repair
- Stiffener Crack Repair
- Replace Missing or Damaged Spacers and Cups
- Repaint



AFT Panel

Acoustic Liner Segment Repair



- Complete Inspection
- Face Sheet Replacement
- Back Sheet Replacement
- Honeycomb Repair
- Bushing Replacement
- Edge Seal and Bumper Replacement
- Closeout/Scoop Replacement
- Paint



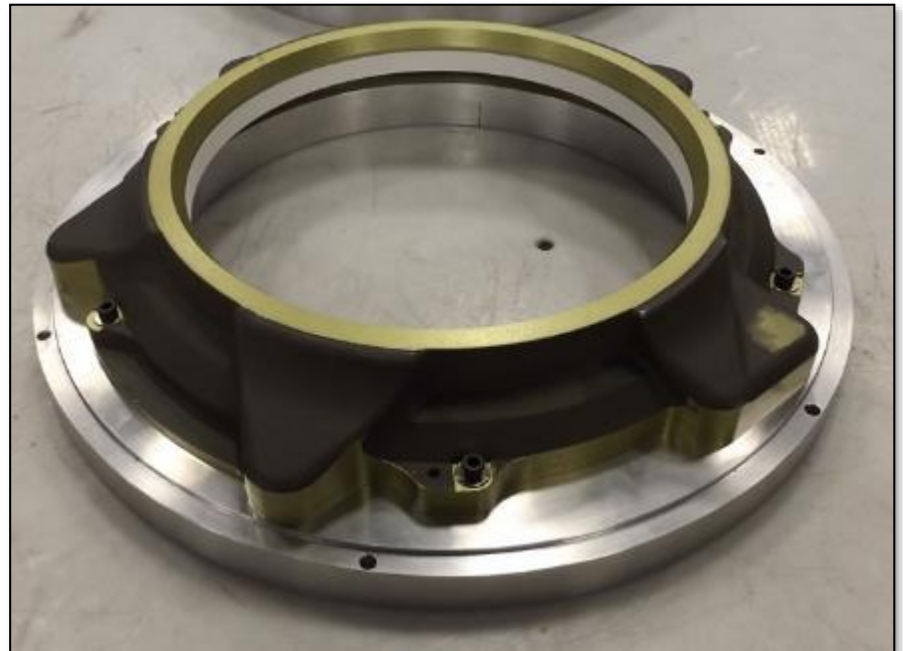
CF6, CFM56, GE90



CF34 Air/Oil Seal Refurbishment



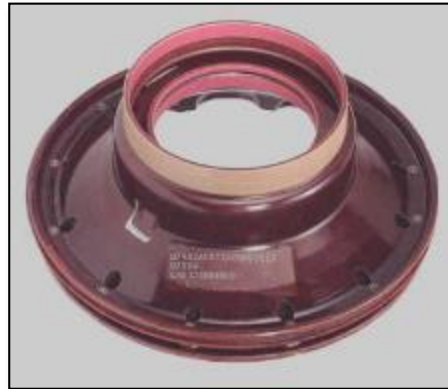
- Metallic and Composite Seals
- Complete Inspection
- Teflon Replacement
- Clean Testing



CFM56 Air/Oil Seal Refurbishment



- Metallic and Composite Seals
- Complete Inspection
- Oil Scoop and Cover Replacement
- Teflon Replacement
- Abradable Replacement
- Part Upgrades and Service Bulletins
- Pressure Testing
- Clean Testing



CF6-80C2 Air/Oil Seal



- Metallic and Composite Seals
- Complete Inspection
- Corrosion Removal
- Teflon Replacement
- Abradable Replacement
- Thermal Spray Repairs
- Part Upgrades and Service Bulletins



Before



After



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Aviation Repair and Overhaul

GE90 Air/Oil Seal

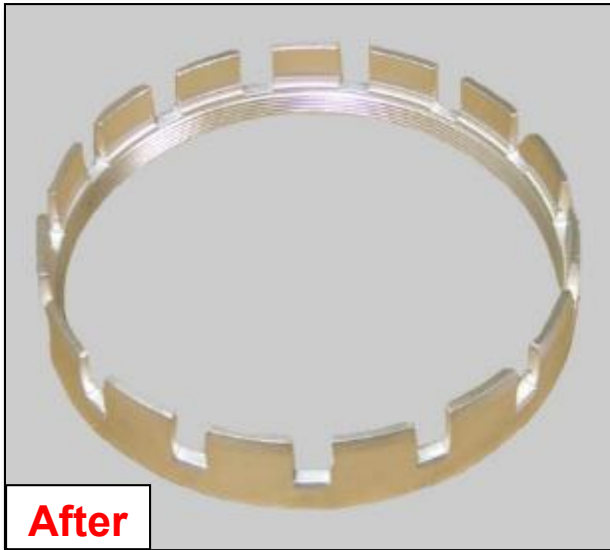
- Metallic and Composite Seals
- Complete Inspection
- Corrosion Removal
- Teflon Replacement
- Thermal Spray Repairs
- Part Upgrades and Service Bulletins
- Clean Testing



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Aviation Repair and Overhaul

Spanner, Bearing & Coupling Nut Overhaul



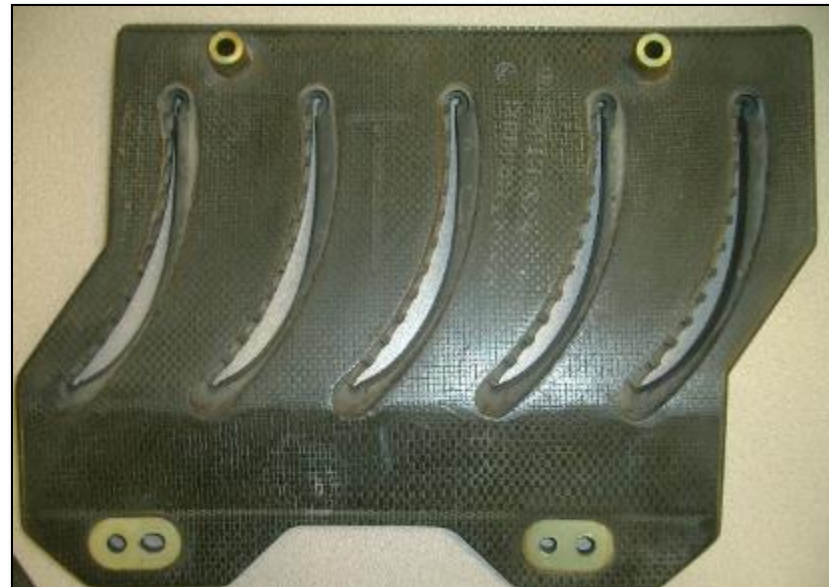
- Complete Inspection
- Silver Plating
- Black Oxide
- Molydag/Graphite Coating
- Mating Surface Repair
- Torque Test Certification
- Teflon, Vespel, & Abrabable Replacement



CF6-80C2 OGV Segment Repair



- Complete Inspection
- Carbon Fiber Repairs
- Vane slot boot replacement
- Bushing replacement

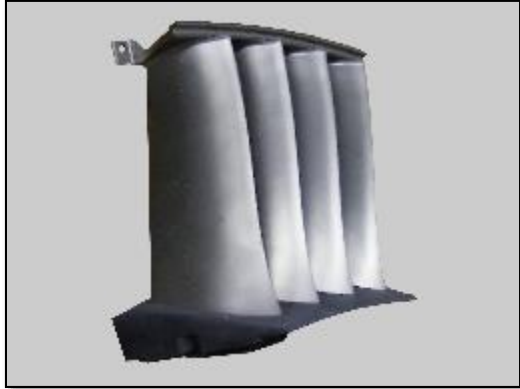


CF6-80C2 OGV Repair



- Complete Inspection
- Airfoil Surface Repairs
- Platform Seal Replacement
- Platform Crack Repairs
- Leading Edge Replacement

CF6-80C2 Booster Assembly



Stator Vane Segments Stages 1-5

- Disassembly
- Inspection
- Vane Segment Replacement
- Teflon Replacement
- Assembly



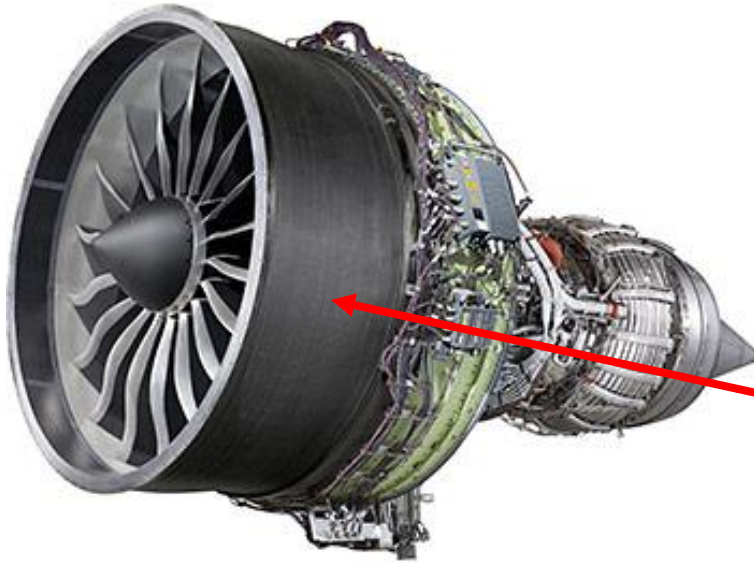
Stage 1 Vane Booster Assembly

GE90 Exhaust Nozzle Repair/Overhaul

- Complete Inspection
- Fireshield Replacement
- Full Overhaul



Fan Case Repair Development



On-Wing/On-Site Repair

- 24/7 Service
- Worldwide Support
- Reduce Maintenance Ground Time
- Quick Turn Around Times
- Engines Currently Supported
CF34, CFM56, CF6, GE90, Genx, & LEAP



GE90 Abradable Replacement



GE90 Abradable Replacement



CFM56 Abradable Replacement



CF6-80C2 Fan Case



AEROSPACE, INC.

Aviation Repair and Overhaul

**HIGHEST
QUALITY**

The



**AGGRESSIVE
TURN TIMES**

**REPAIR
DEVELOPMENT**

**BROAD RANGE OF
CAPABILITIES**

Advantage

**ON-WING
SUPPORT**

**PROFESSIONAL,
COURTEOUS,
RESPONSIVE
CUSTOMER
SERVICE**

**COST
COMPETITIVE**



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Aviation Repair and Overhaul