

TURBINEAERO

TurbineAero Engines Technics



Specialty Processes

TurbineAero was created to become the most comprehensive, flexible, and customer focused APU MRO Services company in the world. As the largest independent APU MRO globally, TurbineAero repairs, sells, leases, tests, and certifies APU and related parts accessories. TurbineAero currently has four locations, three are located near Phoenix, AZ and the fourth is just outside of Bangkok, Thailand.

Fluoride Ion Cleaning (FIC)

- Employs a chemical vapor process
- Hydrogen fluoride gas penetrates and reduces oxides on all surfaces
- Minute cracks will be cleaned
- An "alloy depleted surface" is created (not detrimental to part)
- Primarily used prior to brazing and welding repairs

Thermal Spray

- Fully Automated
- Controlled thickness to customer Specifications
- No Dimensional Limitations
- LPPS – Low pressure plasma spray, thermal plasma, HVOF, & dual arc

Vacuum Furnace

- 1 Heat Treat Machine
- 1 Brazing Machine
- Used for Age, Stress, Solutions, Anneal, Precipitation hardness
- Working zone = 2' x 4'

Brazing

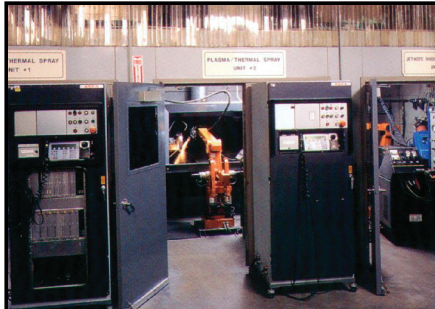
- Brazing creates an extremely strong joint, usually stronger than the base metal pieces themselves, without melting or deforming the components
- No limitation on size of part, only on the airflow

Welding

- ARGON Chamber Welding

Electron Beam (EB) Welding

- Single pass welding of thick joints
- Hermetic seals of components retaining a vacuum
- Low distortion
- Low contamination in vacuum
- Weld zone is narrow



Additional Processes include:

Machining Core

- CNC Lathe (up to 31" Swing)
- CNC Mill (3, 4 and 5-Axis Milling)
- CNC EDM (Sinker and Wire)
- ID/OD Grinding
- Curvic Grinding
- Conventional Machining

Airflow Measurement

- Mass Airflow Measurement
- Area Airflow Measurement

Shot Peen – AMS2430 Certified

High Speed Spin Testing

Inspection/Non-Destructive Testing

Pack Aluminide Coating

Vapor Aluminide Coating

Platinum-Aluminide Coating

Platinum Plating Coating

Chemical coating removal

- Internal Stripping
- External Stripping

Bench Grinding/Hand Finishing

www.turbineaero.com

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Specialty Processes



Why choose TurbineAero?

2015, 2016, 2017
The145.com APU MRO
Top Shop

Serviced more than
10,000 APU

Serviced more than
200,000 APU Accessories

Over 35 Years of Global
APU MRO Services

TurbineAero has DERs
on staff

TurbineAero's mean time
between shop visit is
greater than the original
equipment
manufacturers reported
fleet times

Development of customized
APU maintenance programs
designed to lower operating
costs and maximize
on-wing reliability

APU line maintenance
training at the TurbineAero
facility

98% Customer Retention

History

TurbineAero was originally founded in 1977 then known as Tiernay Manufacturing.

Tiernay added repair and overhaul capabilities in 1978, which began the R&O service life of today's organization.

The first service work came from overhauling environmental control units for Cobra Helicopters for the US Army. The first APU was a Solar Titian Model T62-T39. Subsequently, the GTCP85 model as added which propelled the Company's growth in both the commercial and military market segments.

In the early 1980's the name was changed to Tiernay Turbines with the development of Tiernay's TT10 APU which also sold to the US military. In 1988, Alco Standard purchased the overhaul portion of the business and re-named it Triumph Air Repair. Then in 1993, Alco sold the R&O division to Triumph Group.

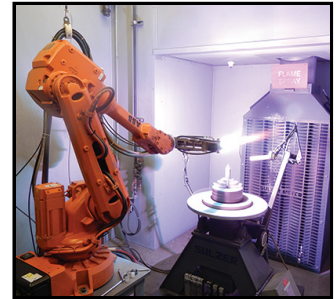
In 1996, Triumph Engines - Tempe joined the Triumph Group and began a campaign of major capabilities expansion including highly engineered component repairs, advanced thermal coatings, and low pressure plasma spray technologies.

About

TurbineAero is the world's leading independent aerospace component maintenance, repair, and overhaul service providers focused on APUs and related products. The businesses provide military, commercial, and regional airline customers with a comprehensive maintenance solution for their legacy and new APU engine models. The combined entity provides global coverage from two modern facilities located in Chandler, Arizona, and Chonburi, Thailand. In addition, it is a provider of hot-section component manufacturing and repair services for original equipment manufacturers, aircraft operators, and repair and overhaul providers, offering extensive and unique capabilities, including complex machining, engineering, inspection, non-destructive testing, and thermal coatings in its Tempe, Arizona facility.

Services

TurbineAero's world class engineering and services capabilities are designed to provide customers with customized solutions, tailored to each customer's unique needs. TurbineAero's operations, engineering and customer services teams strive to provide unique and agile custom solutions for operators of any size, regardless of their needs, with the most flexible pricing and packaging services options in the world.



Certifications:

Regulatory Approvals
Held: FAA, EASA, &
CAAC Part 145

Certifications offered:
FAA Form 8130-3 with /
EASA Dual Release,
CAAC Form AAC-038,
&/OR Certificate of
Conformance

Quality System
Certifications: ISO9001 &
AS9110

In house calibration
services, compliant to
MIL-STD-45662

On-Site NDT Level III
Staff certificated under
NAS 410

Industry leading FOD
prevention and clean as
you go practices

Corporate Headquarters

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Chandler TET Facility - Coatings

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Chandler TAR Facility

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Chonburi Thailand Facility

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Tempe Facility

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