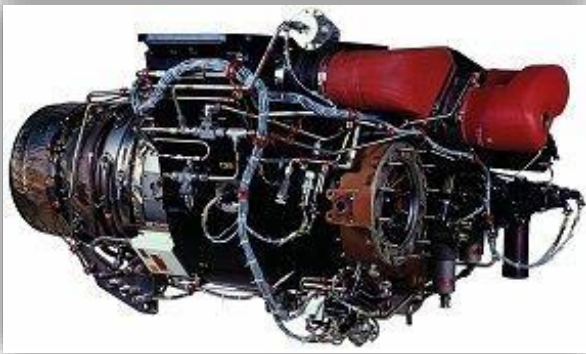




**ATS**

# AMERICAN TURBO SYSTEMS COMPANY OVERVIEW



ESTABLISHED IN 1992, AMERICAN TURBO SYSTEMS IS A MANUFACTURER AND MRO PRODUCT SUPPORT FACILITY FOR GAS TURBINE ENGINES & POWER GENERATION SYSTEMS USED IN COMMERCIAL AND DEFENSE APPLICATIONS.



## MARKET SEGMENTS

- COMMERCIAL AVIATION
- MILITARY GROUND SUPPORT EQUIPMENT (GSE)

# AMERICAN TURBO SYSTEMS COMPANY OVERVIEW



- Our vision: Provide superior value of products & services to ensure our customers' applications are stronger, reliable, and more efficient to achieve maximum performance.
  
- Our mission: We strive to be a world-class provider of MRO solutions in the aerospace & defense industry. We will achieve this through:
  - Customer Focus
  - Product Support
  - Operational Excellence
  - Integrity
  - Continuous Improvement



# AMERICAN TURBO SYSTEMS COMPANY OVERVIEW



## What to expect from us:

- Wide range of capabilities
- Commitment to high standards of Quality and Delivery Performance
- Product reliability
- Highly skilled technical expertise
- In-House production
- Wide range of capabilities
- Partnering for excellence



## Specializing in:

- Auxiliary power unit (APU) overhaul
- Repair of APU components and accessories
- Manufacture of new, overhauled or repaired turbine powered ground support equipment and components
- Complete testing of APUs, systems and accessories





## MRO Services

- FAA/EASA/CAAC Certified
- Worldwide spares distribution
- 24 Hour AOG support
- Rapid Cycle Time
- Inventory management

## MRO Engineering Services

- DER Repair Center
  - DER Approved Repair Procedures
  - Proprietary repair capabilities
  - Extended product life cycle
- Product improvement support
- Tech support
  - Troubleshoot & Development & Innovation

**Delivering the Quality and Service you expect!**

# REGULATORY CERTIFICATIONS



## FAA Approved Repair Station# GV7R740J EASA Approval# EASA.145.6462

UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

### Air Agency Certificate

Number GV7R740J

*This certificate is issued to*  
AMERICAN TURBO SYSTEMS  
*whose business address is*  
4210 NORTH SULLINGER AVENUE  
TUCSON, ARIZONA 85705

*upon finding that its organization complies in all respects with the requirements of the Federal Aviation Regulations relating to the establishment of an Air Agency, and is empowered to operate an approved* REPAIR STATION *with the following ratings:*

LIMITED AIRFRAME (07/13/1999)  
LIMITED ACCESSORIES (07/13/1999)  
LIMITED NON DESTRUCTIVE TEST (09/12/2005)  
LIMITED ENGINE (01/13/2016)

*This certificate, unless canceled, suspended, or revoked, shall continue in effect* INDEFINITELY

Date issued:  
FEBRUARY 27, 1995

By direction of the Administrator  
  
KENNETH J. REILLY  
MANAGER, SDL-PDQ-WP07

This Certificate is not Transferable, and any major change in the basic facilities, or in the location thereof, shall be immediately reported to the appropriate regional office of the Federal Aviation Administration.

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both

FAA Form 8000-4 (1-47) SUPERSEDES FAA FORM 330. Electronic Forms (PDF)

European Union Aviation Safety Agency

### U.S. APPROVAL CERTIFICATE

EASA.145.6462

Taking into account the provisions of Article 68 of Regulation (EU) 2018/1139 of the European Parliament and of the Council and the bilateral agreement currently in force between the European Community and the Government of the United States of America, the European Union Aviation Safety Agency (EASA) hereby certifies:

**AMERICAN TURBO SYSTEMS Inc.**  
FAA Number: GV7R740J

**4210 N SULLINGER AVENUE  
85705 TUCSON ARIZONA  
UNITED STATES**

as a Part-145 maintenance organization approved to maintain the products listed in the FAA Air Agency Certificate and associated Operations Specifications and issue related certificates of release to service using the above reference, subject to the following conditions:

1. The scope of the approval is limited to that specified on the 14 CFR part 145 repair station Air Agency Certificate, and the associated Operations Specifications for work carried out in the United States (unless otherwise agreed in a particular case by EASA).
2. The approval scope shall not exceed the permitted EASA Part-145 ratings as detailed in Regulation EC (No) 1321/2014.
3. This approval requires continued compliance with 14 CFR part 145 and the differences as specified in the Maintenance Annex Guidance (MAG), including the use of the FAA Form 8130-3 for release/return to service of components up to and including power plants.
4. Certificates of return to service must quote the EASA Part-145 approval reference number quoted above and the 14 CFR part 145 Air Agency Certificate number.
5. Subject to compliance with the foregoing conditions, this approval shall remain valid until:

22 January 2025

unless the approval is surrendered, superseded, suspended or revoked.

Date of issue: 18 November 2022

Signed:  
  
For the European Union Aviation Safety Agency

EASA Form 3 - EASA U.S. Approval Certificate Item 1  
Page 1 of 1



# REGULATORY CERTIFICATIONS



## CAAC # F00100649

  
中国民用航空局  
CIVIL AVIATION ADMINISTRATION OF CHINA (CAAC)

**维修许可证**  
**MAINTENANCE ORGANIZATION CERTIFICATE**

---

编号/No. F00100649

单位名称/NAME OF ORGANIZATION:  
American Turbo Systems

单位地址/BUSINESS ADDRESS:  
4210 North Sullinger Avenue Tucson Arizona 85705 USA

经审查, 该单位符合中国民用航空规章第 145 部的要求, 可以从事如下类别的维修工作:  
Upon finding that the organization complies with the requirements of **CHINA CIVIL AVIATION REGULATION(CCAR)** Part 145, the above organization is adequate to accomplish maintenance of the following ratings:

Powerplant Maintenance  
Component Maintenance  
- ☆ -

本许可证除被放弃、暂停或吊销, 在下述期限内将一直有效。  
This certificate, unless cancelled, suspended, or revoked, shall continue in effect until:

2021-12-31

局长授权/FOR THE ADMINISTRATOR OF CAAC  
签字/SIGNATURE:  
XUE Shijun 

颁发日期/DATE ISSUED:  


职务/POSITION:  
Deputy Director General of FSD

再次颁发日期/DATE REISSUED:  
2019-11-05

  
中国民用航空局  
CIVIL AVIATION ADMINISTRATION OF CHINA (CAAC)

**许可维修项目**  
**LIMITATION OF MAINTENANCE ITEMS**

---

限定/LIMITATION:  
对第 F00100649 号许可证所列维修类别限定如下地点和项目:  
Location and items set forth on Maintenance Organization Certificate No. F00100649 is/are limited to the following:

LOCATION: Tucson  
Repair, Overhaul and Modification of following APUs:  
GTCP85-129 Series (GTCP85-129, GTCP85-129A, GTCP85-129B, GTCP85-129C, GTCP85-129D, GTCP85-129E, GTCP85-129F, GTCP85-129G, GTCP85-129H, GTCP85-129J, GTCP85-129CKB).

Inspection, Repair, Overhaul and Modification of the following Components:  
Electrical Power (ATA-24): Limit to Electrical Power System.  
Airborne Auxiliary Power (ATA-49): Limit to APU Cowling/Containment; APU Core Engine; APU Engine Fuel and Control; APU Start/Ignition System; APU Bleed Air System; APU Controls; APU Indicating System; APU Oil System.  
Detail as listed in CAAC approved maintenance capability list.  
- ☆ -

局长授权/FOR THE ADMINISTRATOR OF CAAC  
签字/SIGNATURE:  
XUE Shijun 

颁发日期/DATE ISSUED:  


职务/POSITION:  
Deputy Director General of FSD

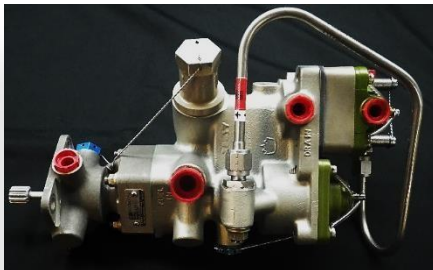
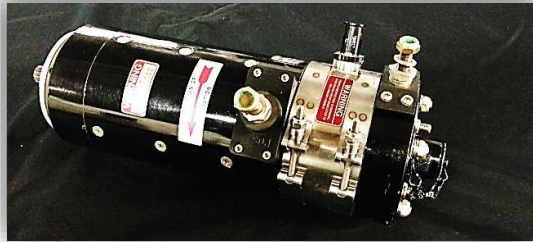
再次颁发日期/DATE REISSUED:  
2019-11-05



COMMERCIAL  
AVIATION MRO  
PRODUCTS & SERVICES



# COMMERCIAL AVIATION MRO



# MRO CAPABILITY



## APU OVERHAUL & COMPONENT REPAIR

- Specialized Capability in Rotating Components
- Hot Section Components Repair
- Compressor Components & Housings Repair
- Gearbox Housings & Gears Repair
- Complete Accessory Overhaul for all Parts & Housings
- **FAA/EASA approved DER Repairs**

## APU'S SUPPORTED

- GTCP131
- GTCP331
- GTCP85
- GTCP95
- GTCP36

# PRODUCT TYPES



## Precision-Machined Complex Aerospace & Defense Parts

- Fuel Control Units
- Starters
- Valve Bodies
- Housings
- Nozzles
- Vanes
- Gear Box Housings
- Scroll Housings / Torus
- Rotors
- Impellers
- Inlets
- Stators
- Shrouds
- Nozzles
- Diffusers
- Fuel Control Torque Motors
- Fuel Pumps
- Load Control Valves
- Surge Control Valves
- IGVA
- Lube Modules
- Chambers
- Fan Housings



# SERVICES & CAPABILITIES

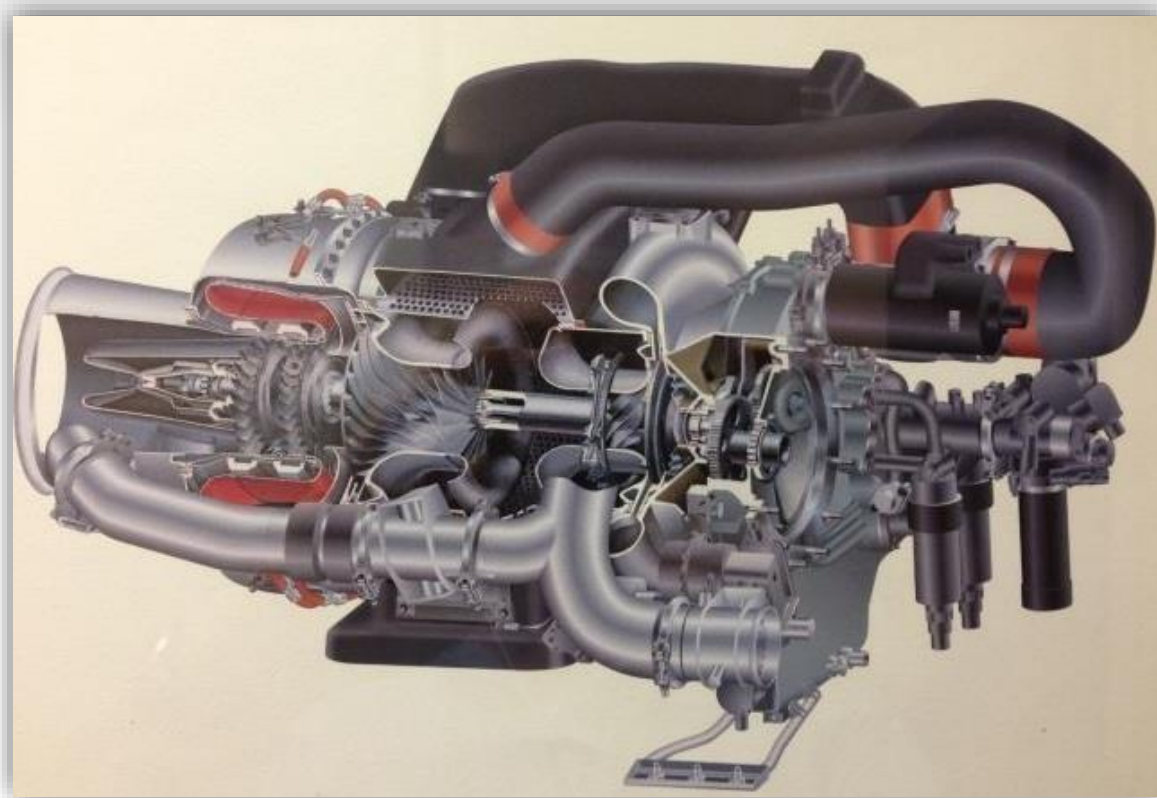


- Conventional Machining
- Curvic Grinding
- Welding & Brazing
- Hand Finishing & Bench Grinding
- Balance
- Inspection / Non-Destructive Testing
- Painting & Powder Coating
- Plasma spray
- Anodizing, Chem Film Coating, Chromate Conversion Coating
- Spin Testing
- Shot Peen
- Heat Treat / Stress Relief





# GTCP131 CAPABILITY

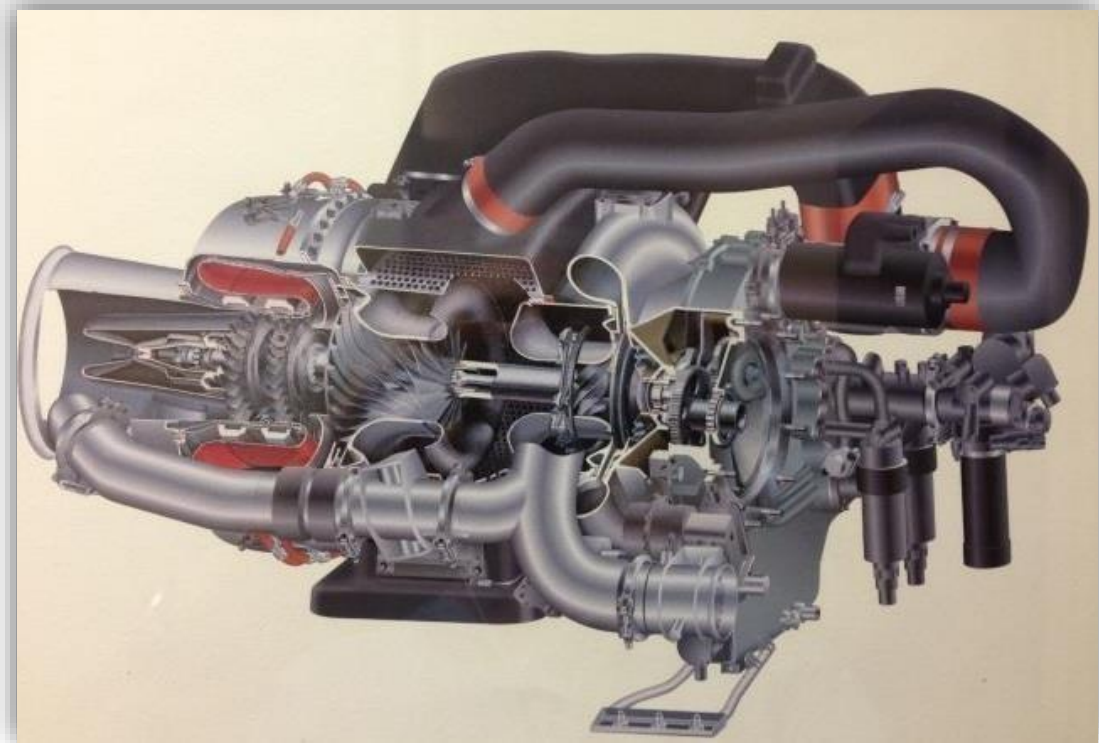


# GTCP131 CAPABILITY



## GTCP131 APU OVERHAUL & COMPONENT REPAIR

- GTCP131-9A
- GTCP131-9B





# GTCP131 CAPABILITY



## GTCP131 COMPRESSOR ROTOR

### Work Scope:

- Blade restoration
- Restore Curvic Coupling
- Restore diameters
- Restore locating diameters & surfaces
- Balance
- Tolerance: .0002"
- **FAA/EASA Approved  
DER Repair**



# GTCP131 CAPABILITY



## GTCP131 FUEL CONTROL

### Work Scope:

- Overhaul



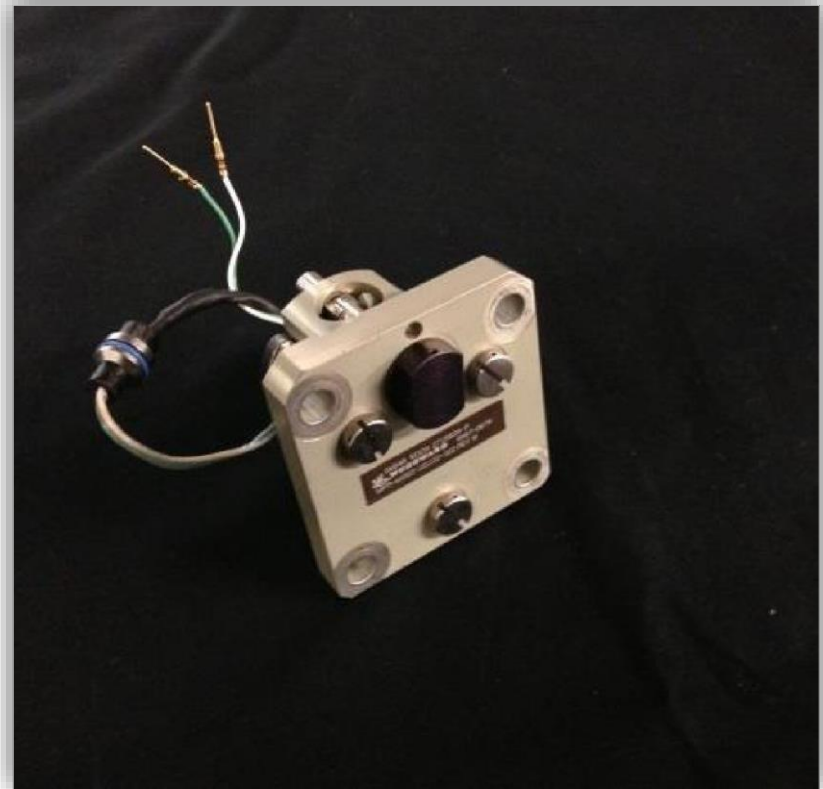
# GTCP131 CAPABILITY



## GTCP131 FUEL CONTROL TORQUE MOTOR

### Work Scope:

- Test
- Demagnetize
- Disassemble
- Fabricate
- Replace coils
- Assemble
- Magnetize
- Adjust flow & hysteresis
- **FAA/EASA Approved DER Repair**



# GTCP131 CAPABILITY



## GTCP131 IGVA

### Work Scope:

- Test
- Repair Specification in-process



# GTCP131 CAPABILITY



## GTCP131 STARTER

### Work Scope:

- Overhaul





# GTCP131 CAPABILITY



## GTCP131 LUBE PUMP FILTER

### Work Scope:

- Overhaul



# GTCP131 CAPABILITY



## GTCP131 LUBE MODULE DEPRIME VALVE

### Work Scope:

- Test
- Disassemble
- Fabricate
- Replace coils
- Restore snap diameters
- Fabricate armature
- Assemble
- **FAA/EASA Approved  
DER Repair**



# GTCP131 CAPABILITY



| PART NUMBER     | DESCRIPTION              | APU     |
|-----------------|--------------------------|---------|
| 3800702-1       | GTCP131-9B APU           | GTCP131 |
| 3800708-1       | GTCP131-9A APU           | GTCP131 |
| 441921-4/-5     | FUEL CONTROL UNIT        | GTCP131 |
| 2704506-2/-4    | STARTER MOTOR            | GTCP131 |
| 3822391-3/-6/-7 | ROTOR, COMPRESSOR        | GTCP131 |
| 3822400-2/-4/-5 | ROTOR, DRIVEN COMPRESSOR | GTCP131 |
| 2718832         | TORQUE MOTOR             | GTCP131 |
| 2718834         | TORQUE MOTOR             | GTCP131 |
| 3886188-1/-2/-3 | IGV ACTUATOR             | GTCP131 |
| 3880938-1       | FILTER, OIL              | GTCP131 |
| 4141028-3/-4    | DEPRIME VALVE            | GTCP131 |
| 692546-4        | SOLENOID VALVE           | GTCP131 |
| MS28034-1       | INLET TEMPERATURE SENSOR | GTCP131 |
| MS28034-3       | OIL TEMP SENSOR          | GTCP131 |

# GTCP131 CAPABILITY



| PART NUMBER | DESCRIPTION                         | APU     |
|-------------|-------------------------------------|---------|
| 3810083     | SEGMENT GEAR                        | GTCP131 |
| 3810684     | DRIVEN COMPRESSOR IGV               | GTCP131 |
| 3810779     | IGV HOUSING                         | GTCP131 |
| 3810781     | IGV FACE GEAR                       | GTCP131 |
| 3810784     | IGV COVER                           | GTCP131 |
| 3810794     | SEGMENT GEAR                        | GTCP131 |
| 3810795     | UPPER COMPOSITE INLET DUCT ASSEMBLY | GTCP131 |
| 3810796     | LOWER COMPOSITE INLET DUCT ASSEMBLY | GTCP131 |
| 3810797     | INLET HOUSING ASSEMBLY              | GTCP131 |
| 3810808     | IGV HOUSING                         | GTCP131 |
| 3810820     | INLET HOUSING ASSEMBLY              | GTCP131 |
| 3810823     | IGV FACE GEAR                       | GTCP131 |
| 3810828     | UPPER COMPOSITE INLET DUCT ASSEMBLY | GTCP131 |
| 3810829     | LOWER COMPOSITE INLET DUCT ASSEMBLY | GTCP131 |
| 3810875     | IGV COVER                           | GTCP131 |
| 3810887     | INLET HOUSING ASSEMBLY              | GTCP131 |
| 3810889     | LOWER COMPOSITE INLET DUCT ASSEMBLY | GTCP131 |
| 3810900     | FAN EXIT DUCT ASSEMBLY              | GTCP131 |
| 3810905     | UPPER COMPOSITE INLET DUCT ASSEMBLY | GTCP131 |
| 3810906     | LOWER COMPOSITE INLET DUCT ASSEMBLY | GTCP131 |
| 3810919     | LOWER COMPOSITE INLET DUCT ASSEMBLY | GTCP131 |
| 3810929     | FAN INLET DUCT                      | GTCP131 |
| 3810948     | UPPER COMPOSITE INLET DUCT ASSEMBLY | GTCP131 |
| 3810949     | LOWER COMPOSITE INLET DUCT ASSEMBLY | GTCP131 |

| PART NUMBER | DESCRIPTION                            | APU     |
|-------------|----------------------------------------|---------|
| 3822398     | TURBINE SHAFT                          | GTCP131 |
| 3822404     | DRIVEN COMPRESSOR COUPLING SHAFT       | GTCP131 |
| 3822492     | COMPRESSOR MATCHED SET SHAFT           | GTCP131 |
| 3822504     | TURBINE SHAFT                          | GTCP131 |
| 3822510     | COMPRESSOR MATCHED SET SHAFT           | GTCP131 |
| 3822529     | DRIVEN COMPRESSOR COUPLING SHAFT       | GTCP131 |
| 3827054     | DRIVEN CENTRIFUGAL COMPRESSOR DIFFUSER | GTCP131 |
| 3827067     | LOAD COMPRESSOR HEAT SHIELD            | GTCP131 |
| 3827152     | DRIVEN CENTRIFUGAL COMPRESSOR CASE     | GTCP131 |
| 3827192     | ENGINE COMPRESSOR DESWIRL              | GTCP131 |
| 3827257     | ENGINE COMPRESSOR DIFFUSER             | GTCP131 |
| 3827260     | DRIVEN COMPRESSOR BEARING HOUSING      | GTCP131 |
| 3827265     | COMPRESSOR BEARING HOUSING             | GTCP131 |
| 3827273     | DIFFUSER HOUSING ASSEMBLY              | GTCP131 |
| 3827274     | ENGINE COMPRESSOR SHROUD               | GTCP131 |
| 3827320     | DRIVEN COMPRESSOR BEARING HOUSING      | GTCP131 |
| 3827322     | ENGINE COMPRESSOR SHROUD               | GTCP131 |
| 3827325     | ENGINE COMPRESSOR DIFFUSER             | GTCP131 |
| 3827401     | ENGINE COMPRESSOR DESWIRL              | GTCP131 |
| 3827402     | DIFFUSER HOUSING ASSEMBLY              | GTCP131 |
| 3827419     | COMPRESSOR BEARING HOUSING             | GTCP131 |
| 3827426     | DRIVEN COMPRESSOR BEARING HOUSING      | GTCP131 |
| 3827429     | DIFFUSER HOUSING ASSEMBLY              | GTCP131 |
| 3827504     | ENGINE COMPRESSOR CASE                 | GTCP131 |
| 3827505     | DRIVEN COMPRESSOR CASE                 | GTCP131 |
| 3830415     | ANNULAR COMBUSTION CHAMBER             | GTCP131 |

# GTCP131 CAPABILITY



| PART NUMBER | DESCRIPTION                         | APU     |
|-------------|-------------------------------------|---------|
| 3830416     | FUEL INJECTION NOZZLE               | GTCP131 |
| 3830418     | FUEL NOZZLE AIR SHROUD              | GTCP131 |
| 3830461     | ANNULAR COMBUSTION CHAMBER          | GTCP131 |
| 3840160     | FIRST STAGE TURBINE ROTOR ASSEMBLY  | GTCP131 |
| 3840161     | FIRST STAGE AXIAL TURBINE DISK      | GTCP131 |
| 3840165     | SECOND STAGE TURBINE ROTOR ASSEMBLY | GTCP131 |
| 3840170     | COUPLING SHAFT                      | GTCP131 |
| 3840171     | COUPLING SHAFT                      | GTCP131 |
| 3840172     | AFT BEARING SHAFT                   | GTCP131 |
| 3840223     | FIRST STAGE TURBINE ROTOR BLADE     | GTCP131 |
| 3840282     | FIRST STAGE TURBINE ROTOR BLADE     | GTCP131 |
| 3840302     | FIRST STAGE AXIAL TURBINE DISK      | GTCP131 |
| 3840303     | FIRST STAGE TURBINE ROTOR ASSEMBLY  | GTCP131 |
| 3840310     | FIRST-STAGE TURBINE ROTOR ASSEMBLY  | GTCP131 |
| 3844570     | FIRST STAGE TURBINE STATOR ASSEMBLY | GTCP131 |
| 3844575     | FIRST STAGE TURBINE SHROUD SEGMENT  | GTCP131 |
| 3844582     | SECOND STAGE STATOR SEAL            | GTCP131 |
| 3844595     | SHROUD SEGMENT SEAL                 | GTCP131 |
| 3844619     | INNER TRANSITION LINER              | GTCP131 |
| 3844683     | FIRST STAGE NOZZLE SUPPORT          | GTCP131 |
| 3844751     | OUTER TRANSITION LINER              | GTCP131 |
| 3844760     | FIRST STAGE TURBINE NOZZLE SEGMENT  | GTCP131 |
| 3844762     | SECOND STAGE STATOR                 | GTCP131 |
| 3844763     | TURBINE BEARING HOUSING ASSEMBLY    | GTCP131 |
| 3844766     | COMBUSTOR CASE                      | GTCP131 |

| PART NUMBER | DESCRIPTION                          | APU     |
|-------------|--------------------------------------|---------|
| 3844797     | FIRST STAGE TURBINE STATOR ASSEMBLY  | GTCP131 |
| 3844834     | THERMAL INSULATION BLANKET SET       | GTCP131 |
| 3844860     | TURBINE BEARING SUPPORT              | GTCP131 |
| 3844861     | THERMAL INSULATION BLANKET SET       | GTCP131 |
| 3844863     | TURBINE BEARING HOUSING ASSEMBLY     | GTCP131 |
| 3844864     | SECOND STAGE STATOR                  | GTCP131 |
| 3844907     | TURBINE BEARING SUPPORT              | GTCP131 |
| 3844908     | FIRST STAGE NOZZLE SUPPORT           | GTCP131 |
| 3844922     | TURBINE BEARING HOUSING ASSEMBLY     | GTCP131 |
| 3844923     | TURBINE BEARING SUPPORT              | GTCP131 |
| 3850100     | EDUCTOR HOUSING                      | GTCP131 |
| 3860625     | SPLINED SHAFT ASSEMBLY (STARTER)     | GTCP131 |
| 3861020     | HIGH SPEED PINION GEARSHAFT          | GTCP131 |
| 3861023     | COMPOUND IDLER GEARSHAFT ASSEMBLY    | GTCP131 |
| 3861025     | LUBE PUMP GEARSHAFT ASSY             | GTCP131 |
| 3861028     | GENERATOR GEARSHAFT                  | GTCP131 |
| 3861046     | GENERATOR GEARSHAFT                  | GTCP131 |
| 3861047     | HIGH SPEED PINION GEARSHAFT          | GTCP131 |
| 3861139     | HIGH SPEED PINION GEARSHAFT          | GTCP131 |
| 3861141     | MATCHED SET GEARSHAFT                | GTCP131 |
| 3863200     | MATCHED GEARBOX HOUSING ASSEMBLY SET | GTCP131 |
| 3863358     | MATCHED GEARBOX HOUSING ASSEMBLY SET | GTCP131 |
| 3863371     | MATCHED GEARBOX HOUSING ASSEMBLY SET | GTCP131 |
| 3863426     | MATCHED GEARBOX HOUSING ASSEMBLY SET | GTCP131 |
| 3868027     | QUILL SHAFT ASSEMBLY                 | GTCP131 |



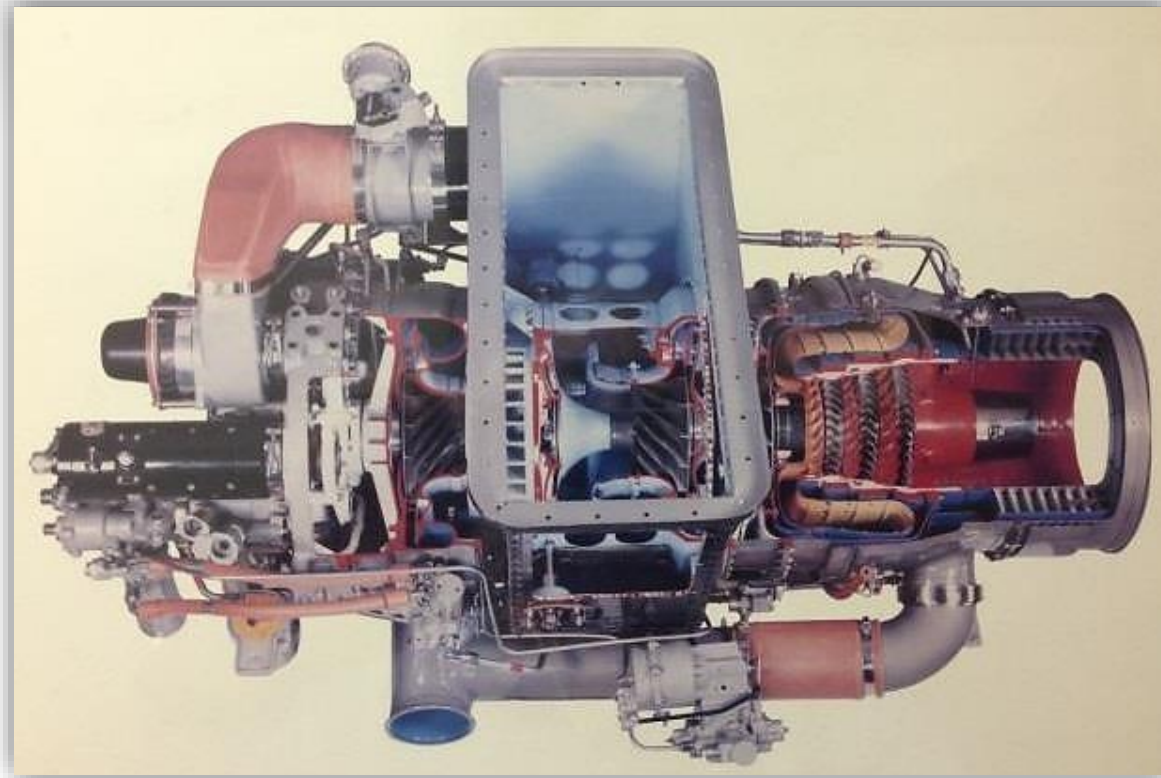
# GTCP131 CAPABILITY



| PART NUMBER | DESCRIPTION                          | APU     |
|-------------|--------------------------------------|---------|
| 3870200     | HIGH SPEED PINION GEAR               | GTCP131 |
| 3870201     | MATCHED SET GEARSHAFT                | GTCP131 |
| 3870204     | GENERATOR GEARSHAFT                  | GTCP131 |
| 3870205     | MATCHED SET GEARSHAFT CLUSTER        | GTCP131 |
| 3870208     | LUBE PUMP GEARSHAFT ASSEMBLY         | GTCP131 |
| 3870211     | STARTER GEARSHAFT                    | GTCP131 |
| 3876132     | IGNITER PLUG LEAD                    | GTCP131 |
| 3876223     | MOTIONAL TRANSDUCER                  | GTCP131 |
| 3876223     | SPEED SENSOR                         | GTCP131 |
| 3876225     | INLET PRESSURE SENSOR                | GTCP131 |
| 3876226     | TOTAL PRESSURE SENSOR                | GTCP131 |
| 3876227     | DELTA PRESSURE SENSOR                | GTCP131 |
| 3876255     | LOP SWITCH                           | GTCP131 |
| 3876271     | EXHAUST THERMOCOUPLE                 | GTCP131 |
| 3876298     | OIL LEVEL SENSOR                     | GTCP131 |
| 3876330     | OIL LEVEL SWITCH                     | GTCP131 |
| 3879005     | CHECK VALVE                          | GTCP131 |
| 3883687     | FLOW DIVIDER                         | GTCP131 |
| 3883830     | FLOW DIVIDER                         | GTCP131 |
| 3883836     | PRIMARY FUEL MANIFOLD                | GTCP131 |
| 3883837     | SECONDARY FUEL MANIFOLD              | GTCP131 |
| 3884928     | DRIVEN COMPRESSOR BLEED AIR DUCT     | GTCP131 |
| 3884939     | BLEED DUCT SUPPORT BRACKET           | GTCP131 |
| 3884950     | TOTAL PRESSURE PICKUP PROBE ASSEMBLY | GTCP131 |
| 3884959     | FAN EXIT DUCT ASSEMBLY               | GTCP131 |
| 3884971     | TOTAL PRESSURE PROBE ASSEMBLY        | GTCP131 |
| 3884974     | SURGE DUCT                           | GTCP131 |
| 3884988     | COMPRESSOR DISCHARGE DUCT            | GTCP131 |
| 3885003     | SURGE DUCT                           | GTCP131 |
| 3885004     | DRIVEN COMPRESSOR BLEED AIR DUCT     | GTCP131 |

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# GTCP331 CAPABILITY

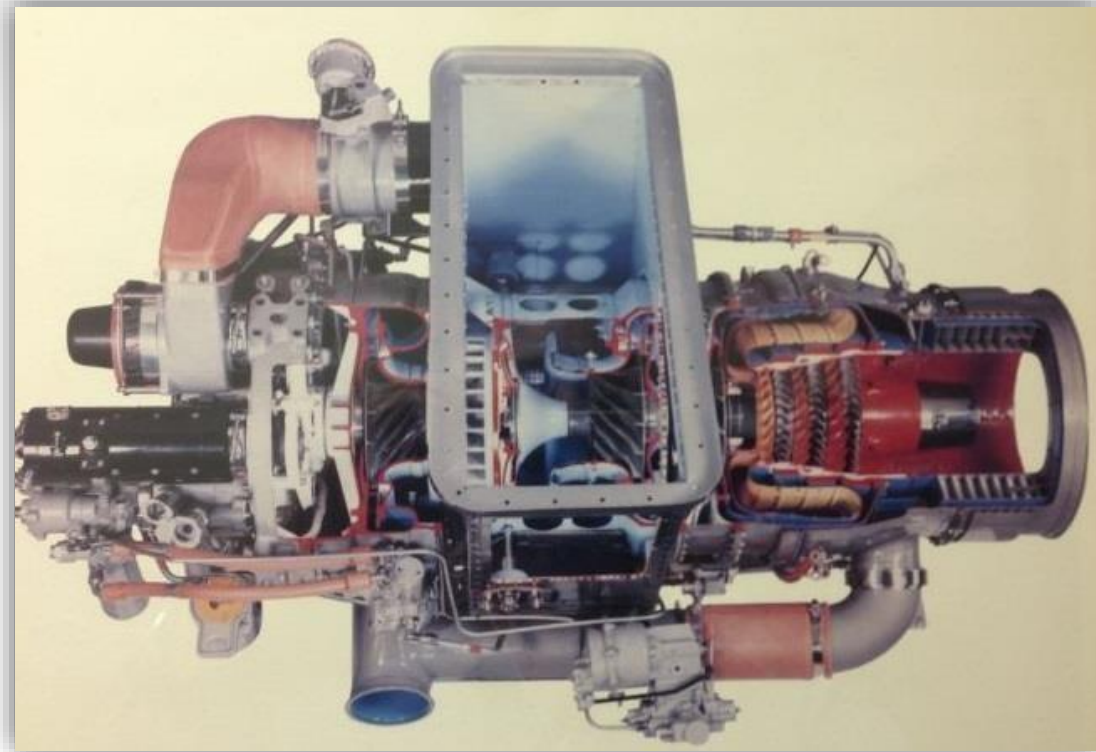


# GTCP331 CAPABILITY



## GTCP331 APU OVERHAUL & COMPONENT REPAIR

- GTCP331-200
- GTCP331-250



# GTCP331 CAPABILITY



## GTCP331 COMPRESSOR 1<sup>ST</sup> STAGE ROTOR

### Work Scope:

- Blade restoration
- Restore Curvic Coupling
- Restore diameters
- Restore locating diameters & surfaces
- Balance
- Tolerance: .0002"
- **FAA/EASA Approved**  
**DER Repair**



# GTCP331 CAPABILITY



## GTCP331 COMPRESSOR 2<sup>ND</sup> STAGE ROTOR

### Work Scope:

- Blade restoration
- Restore Curvic Coupling
- Restore diameters
- Restore locating diameters & surfaces
- Balance
- Tolerance: .0002"
- **FAA/EASA Approved**  
**DER Repair**





# GTCP331 CAPABILITY



## GTCP331 COMPRESSOR LOAD CONTROL ROTOR

### Work Scope:

- Blade restoration
- Restore Curvic Coupling
- Restore diameters
- Restore locating diameters & surfaces
- Balance
- Tolerance: .0002"
- **FAA/EASA Approved  
DER Repair**





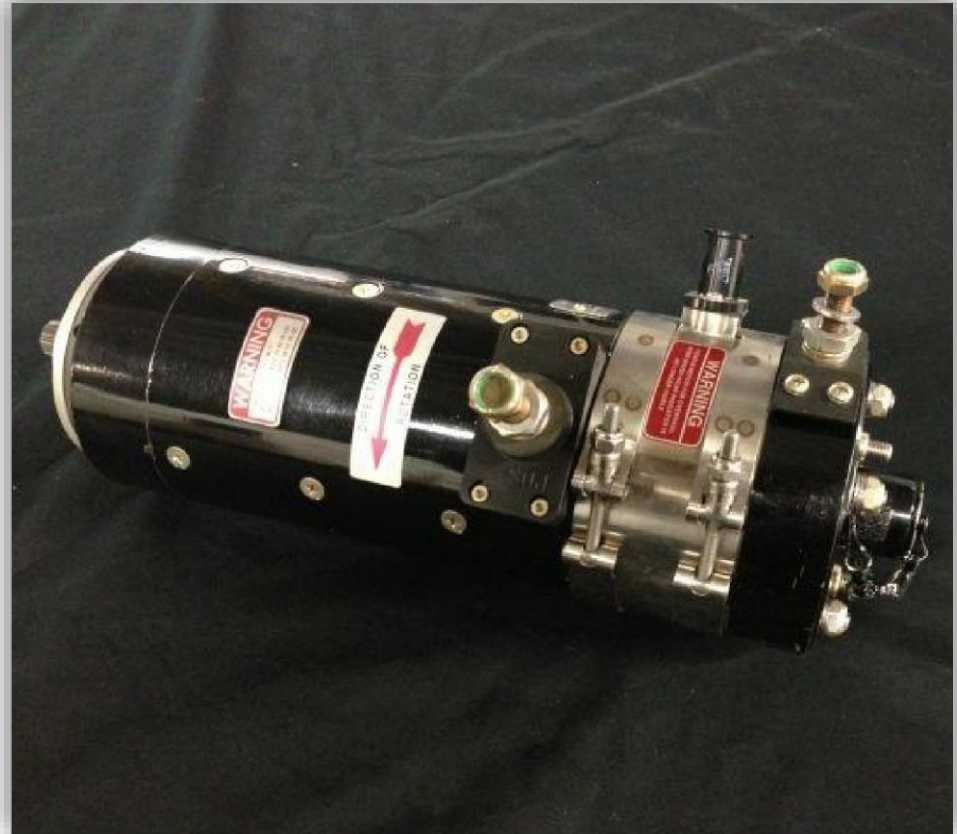
# GTCP331 CAPABILITY



## GTCP331 STARTER

### Work Scope:

- Overhaul



# GTCP331 CAPABILITY



## GTCP331 FUEL CONTROL

### Work Scope:

- Overhaul



# GTCP331 CAPABILITY



## GTCP331-200 FUEL CONTROL TORQUE MOTOR

### Work Scope:

- Test
- Demagnetize
- Disassemble
- Fabricate
- Replace coils
- Assemble
- Magnetize
- Adjust flow & hysteresis
- **FAA/EASA Approved DER Repair**



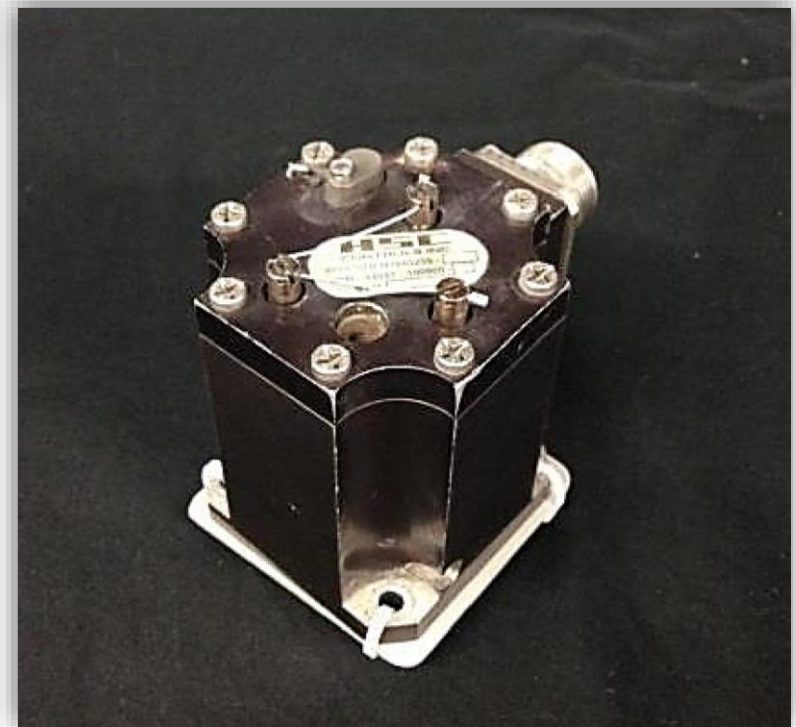
# GTCP331 CAPABILITY



## GTCP331-350 FUEL CONTROL TORQUE MOTOR

### Work Scope:

- Test
- Demagnetize
- Disassemble
- Fabricate
- Replace coils
- Assemble
- Magnetize
- Adjust flow & hysteresis
- **FAA/EASA Approved DER Repair**



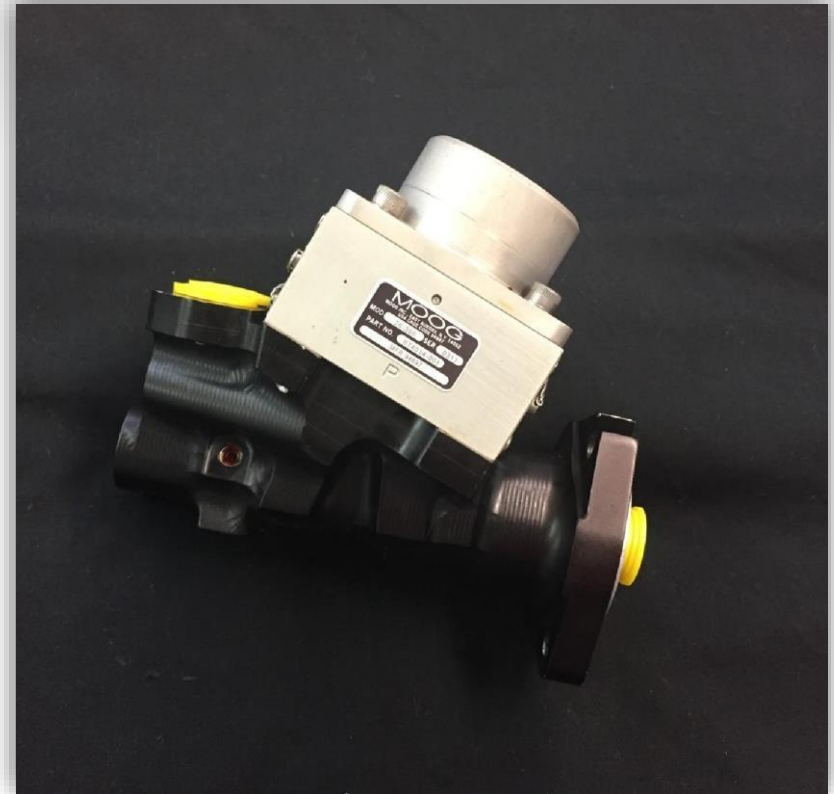
# GTCP331 CAPABILITY



## GTCP331 IGVA

### Work Scope:

- Test
- Repair Specification in-process



# GTCP331 CAPABILITY



| PART NUMBER                       | DESCRIPTION                 | APU     |
|-----------------------------------|-----------------------------|---------|
| 3800298-1                         | GTCP331-200 APU             | GTCP331 |
| 381388-1                          | GTCP331-250 APU             | GTCP331 |
| 3822067-2                         | COMPRESSOR ROTOR, 1ST STAGE | GTCP331 |
| 3822068-1/-2                      | COMPRESSOR ROTOR, 2ND STAGE | GTCP331 |
| 3822074-3                         | COMPRESSOR ROTOR            | GTCP331 |
| 3822080-2/-3/-4                   | COMPRESSOR ROTOR            | GTCP331 |
| 3810123-4/-5/-6/-8                | COVER ASSEMBLY, IGV         | GTCP331 |
| 3810176-3/-4/-7/-8/-9/-10/-11/-12 | HOUSING ASSEMBLY, INLET     | GTCP331 |
| 3810213-10                        | PLENUM, UPPER HALF INLET    | GTCP331 |
| 3810214-5                         | PLENUM, LOWER HALF INLET    | GTCP331 |
| 3810228-2                         | PLENUM, LOWER HALF INLET    | GTCP331 |
| 3810229-2/-4/-5                   | PLENUM, UPPER HALF INLET    | GTCP331 |
| 3810216-1/-2/-3                   | COVER ASSEMBLY              | GTCP331 |
| 3810224-7/-8/-11/-12/-13          | HOUSING ASSEMBLY, IGVA      | GTCP331 |
| 3862699-3                         | GEARBOX ASSEMBLY            | GTCP331 |
| 3885081-1                         | FLOW PALLATE MODULE         | GTCP331 |

| PART NUMBER                                           | DESCRIPTION                       | APU     |
|-------------------------------------------------------|-----------------------------------|---------|
| 3840019-1                                             | DISC, 1ST STAGE TURBINE           | GTCP331 |
| 3840007-1                                             | DISC, 2ND STAGE TURBINE           | GTCP331 |
| 3840022-3/-4                                          | WHEEL ASSY, 3RD STAGE TURBINE     | GTCP331 |
| 3840002-2/-3/-5                                       | WHEEL ASSEMBLY, 1ST STAGE TURBINE | GTCP331 |
| 3840006-1                                             | WHEEL ASSEMBLY, 2ND STAGE TURBINE | GTCP331 |
| 3882500-1/-6/-7/-8/-9/-10/-11/-12/-13/-14/-15/-16/-17 | FUEL CONTROL ASSEMBLY             | GTCP331 |
| 3876046-4                                             | SOLENOID VALVE ASSEMBLY           | GTCP331 |
| 3880160-2/-3/-4/-5                                    | PUMP ASSEMBLY, SCAVENGE           | GTCP331 |
| 3882550-1,-2,-3                                       | VALVE ASSEMBLY, FLOW DIVIDER      | GTCP331 |
| 3888123-9                                             | WIRING HARNESS ASSEMBLY           | GTCP331 |
| 519858-X                                              | MOTOR, ENGINE STARTER             | GTCP331 |
| 3882506-3                                             | TORQUE MOTOR                      | GTCP331 |
| 3882506-6                                             | TORQUE MOTOR                      | GTCP331 |
| 3883255-3                                             | TORQUE MOTOR                      | GTCP331 |
| 3883499-1/-2/-3                                       | IGV ACTUATOR                      | GTCP331 |
| 3886167-2/-3/-4                                       | IGV ACTUATOR                      | GTCP331 |



# GTCP331 CAPABILITY



| PART NUMBER        | DESCRIPTION                | APU     |
|--------------------|----------------------------|---------|
| 160126-2           | REGULATOR, OIL TEMP        | GTCP331 |
| 305766-1/-4        | IGNITER PLUG, HIGH VOLTAGE | GTCP331 |
| 3101091-2/-3       | RETAINER, BRG              | GTCP331 |
| 3289504-2          | VALVE, GB REGULATING       | GTCP331 |
| 3611372-1          | ADAPTER                    | GTCP331 |
| 3612887-1          | RING GEAR ASSEMBLY         | GTCP331 |
| 3613961-1          | DUCT, FAN INLET            | GTCP331 |
| 3614400-8          | TRANSDUCER ASSEMBLY        | GTCP331 |
| 3616848-2          | VALVE, GEARBOX SHUTOFF     | GTCP331 |
| 3616959-6          | FAN ASSEMBLY               | GTCP331 |
| 3617459-1          | VALVE, BODY ASSY           | GTCP331 |
| 3790076-105        | ACTUATOR, IGV ASSY         | GTCP331 |
| 3810119-2          | GEAR SECTOR, SPUR IGVA     | GTCP331 |
| 3810120-1          | GEARSHAFT SECTOR           | GTCP331 |
| 3810127-1          | HOUSING ASSY, BRG INLET    | GTCP331 |
| 3810138-1/-2       | SHROUD, COMPRESSOR         | GTCP331 |
| 3810187-2          | HOUSING ASSY, BRG INLET    | GTCP331 |
| 3810211-3          | BELL, INLET COMPRESSOR     | GTCP331 |
| 3810259-3          | HOUSING ASSY, INLET        | GTCP331 |
| 3822060-2          | COUPLING AND SEAL ASSY     | GTCP331 |
| 3822062-2          | SHAFT, DRIVEN CPRSR        | GTCP331 |
| 3822065-1          | SHAFT, ENG CPRSR CPLG      | GTCP331 |
| 3822077-1/-2/-4/-5 | TIE SHAFT ASSEMBLY         | GTCP331 |
| 3826099-1/-3/-4/-5 | VANE, INLET                | GTCP331 |
| 3826110-2          | DESWIRL ASSEMBLY           | GTCP331 |

| PART NUMBER           | DESCRIPTION               | APU     |
|-----------------------|---------------------------|---------|
| 3826120-2             | CARRIER, BEARING          | GTCP331 |
| 3826125-1             | CARRIER, SEAL             | GTCP331 |
| 3826127-1             | CARRIER, SEAL             | GTCP331 |
| 3826130-1             | RETAINER, SEAL            | GTCP331 |
| 3826138-3             | HOUSING ASSY, CPRSR       | GTCP331 |
| 3826140-5/-6/-8/-9    | SCROLL HOUSING ASSY       | GTCP331 |
| 3826141-5/-7/-8/-9    | BACK SHROUD ASSY          | GTCP331 |
| 3826158-1             | SHAFT, ACTUATOR           | GTCP331 |
| 3826184-5             | INSUL BLNKT, SIDE SEGMENT | GTCP331 |
| 3826185-4             | INSUL BLNKT, TOP SEGMENT  | GTCP331 |
| 3826186-5             | INSUL BLNKT, BTM SEGMENT  | GTCP331 |
| 3826262-1,-2          | DIFFUSER, 2 STG           | GTCP331 |
| 3826282-1             | DIFFUSER, DRIVEN CPRSR    | GTCP331 |
| 3830051-1,-2,-3,-4,-5 | COMBUSTION CHAMBER, ANLR  | GTCP331 |
| 3830054-9             | SHROUD, FUEL NOZZLE       | GTCP331 |
| 3840004-5             | BLADE, 1 STG TURB ROTOR   | GTCP331 |
| 3840008-2             | BLADE, 2 STG TURB ROTOR   | GTCP331 |
| 3840011-3             | COUPLING, RTR SEAL CURVIC | GTCP331 |
| 3840016-2             | COUPLING AND SEAL ASSY    | GTCP331 |
| 3844001-1/-3          | LINER ASSY, CMBSTR TRNSN  | GTCP331 |
| 3844007-1             | SUPPORT, 1 STG STATOR     | GTCP331 |
| 3844008-1             | SHROUD, 1 STG TURB        | GTCP331 |
| 3844009-1             | SUPPORT, 2 STG STATOR     | GTCP331 |
| 3844011-2/-5/-9       | STATOR ASSY, 2 STG TURB   | GTCP331 |
| 3844018-1/-2/-3/-4/-5 | STATOR ASSY, 3 STG TURB   | GTCP331 |

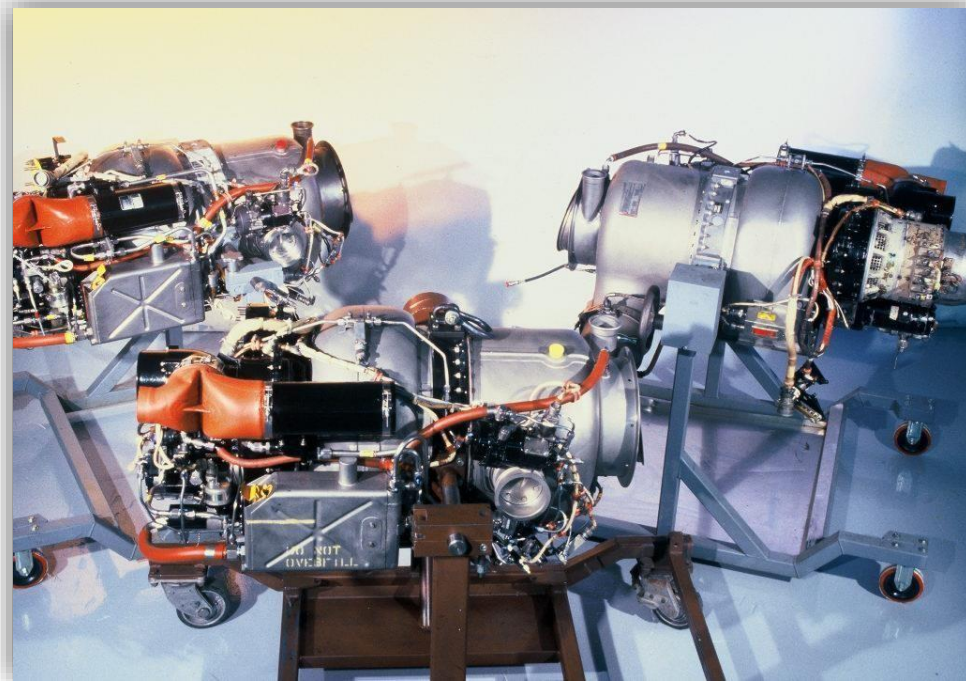
# GTCP331 CAPABILITY



| PART NUMBER              | DESCRIPTION              | APU     |
|--------------------------|--------------------------|---------|
| 3844028-1/-2/-3/-4/-5/-8 | SUPPORT ASSY, TURB BRG   | GTCP331 |
| 3844038-1/-4             | STATOR ASSY, 1 STAGE     | GTCP331 |
| 3844040-1/-3/-5/-8       | STATOR ASSY, 1 STG TURB  | GTCP331 |
| 3844045-1/-2             | RING, CONTAINMENT        | GTCP331 |
| 3844050-2                | SEAL, LABYRINTH          | GTCP331 |
| 3844053-1/-2             | CASE, COMBUSTION CHAMBER | GTCP331 |
| 3844082-1                | INSULATION, BLANKET      | GTCP331 |
| 3844083-1                | INSULATION, BLANKET      | GTCP331 |
| 3844084-1                | INSULATION, BLANKET      | GTCP331 |
| 3844085-1                | INSULATION, BLANKET      | GTCP331 |
| 3844086-1                | INSULATION, BLANKET      | GTCP331 |
| 3844268-1/-2/-3/-4/-5/-6 | HEAT SHIELD              | GTCP331 |
| 3850007-1                | MUFFLER, EXHAUST         | GTCP331 |
| 3850008-1                | CONE, TAIL, TURBINE      | GTCP331 |
| 3850010-2                | HOUSING, EXHAUST MUFFLER | GTCP331 |
| 3862180-21               | GEARBOX ASSEMBLY         | GTCP331 |
| 3862385-1                | HOUSING ASSEMBLY         | GTCP331 |
| 3868000-1                | SHAFT, QUILL             | GTCP331 |
| 3868001-1                | SHAFT, QUILL             | GTCP331 |
| 3870050-1                | SUPPORT, TURBINE         | GTCP331 |
| 3876023-2                | SWITCH, OIL TEMP         | GTCP331 |
| 3876024-6                | SWITCH, LOW OIL PRESSURE | GTCP331 |
| 3876026-3                | TRANSDUCER, MOTIONAL #1  | GTCP331 |
| 3876026-3                | TRANSDUCER, MOTIONAL #2  | GTCP331 |
| 3876027-3/-4             | THERMOCOUPLE, IMMERSION  | GTCP331 |

| PART NUMBER           | DESCRIPTION               | APU     |
|-----------------------|---------------------------|---------|
| 3876035-4             | SENSOR, CPRSR INLET PRESS | GTCP331 |
| 3876048-3             | SWITCH, DIFF. PRESS.      | GTCP331 |
| 3876059-2             | SWITCH, OIL LEVEL         | GTCP331 |
| 3876072-1/-2          | SENSOR, DRVN CPRSR INLET  | GTCP331 |
| 3876096-1             | SENSOR ASSY, STATIC FLOW  | GTCP331 |
| 3876166-1             | VALVE, DE-OIL SOLENOID    | GTCP331 |
| 3880163-1             | GEARSHAFT, SPUR           | GTCP331 |
| 3880210-5             | FILTER ASSEMBLY           | GTCP331 |
| 3880271-1             | INDICATOR, DIFF. PRESS    | GTCP331 |
| 3882491-1/-2/-3       | MANIFOLD ASSY, PRI FUEL   | GTCP331 |
| 3882492-1/-2/-3/-5/-6 | MANIFOLD ASSY, SEC FUEL   | GTCP331 |
| 3882721-3             | DUCT, FAN DISCHARGE       | GTCP331 |
| 3884211-1             | DUCT, SURGE ELBOW         | GTCP331 |
| 3884238-2             | DUCT, TEE                 | GTCP331 |
| 3884292-2             | DUCT, AIR SURGE           | GTCP331 |
| 3884391-1 / -2        | DUCT, AIR SURGE           | GTCP331 |
| 3888076-3             | LEAD, ELEC IGNITER PLUG   | GTCP331 |
| 4-1059-100            | MAGNETIC DRAIN PLUG       | GTCP331 |
| 42044A                | SHUTTLE VALVE             | GTCP331 |
| 420-44A6BBB           | VALVE, SHUTTLE            | GTCP331 |
|                       |                           |         |
|                       |                           |         |
|                       |                           |         |

# GTCP85 CAPABILITY

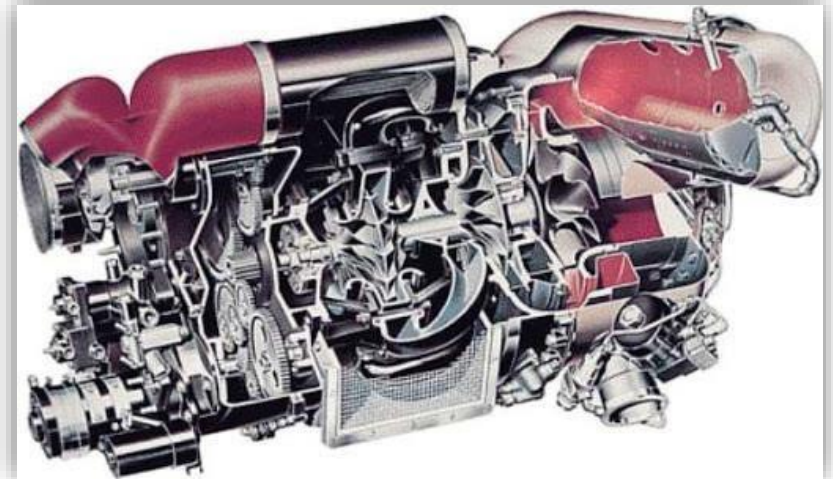


# GTCP85 CAPABILITY



## GTCP85 APU OVERHAUL & COMPONENT REPAIR

- **ALL** GTCP85 SERIES APUs:  
COMPLETE OVERHAUL SERVICES
- **ALL** GTCP85 ACCESSORIES:  
COMPLETE OVERHAUL SERVICES
- RESTORATION & REPAIR OF ALL  
GTCP85 MAJOR COMPONENTS
- **FAA/EASA Approved**  
**DER Repairs**



# GTCP85 CAPABILITY



## GTCP85 SERIES MODELS AND APPLICATION

| PART NUMBER | MODEL              | APPLICATION |
|-------------|--------------------|-------------|
| 380048-1-1  | APU GTCP85-98      | BOEING 727  |
| 380678-1-1  | APU GTCP85-98C     | BOEING 727  |
| 380678-4-1  | APU GTCP85-98C(C)  | BOEING 727  |
| 380678-1-   | APU GTCP85-98CK    | BOEING 727  |
| 380678-3    | APU GTCP85-98CK(B) | BOEING 727  |
| 380428-1-X  | APU GTCP85-129     | BOEING 737  |
| 380428-2-1  | APU GTCP85-129A    | BOEING 737  |
| 380428-3-1  | APU GTCP85-129B    | BOEING 737  |
| 380428-4-1  | APU GTCP85-129C    | BOEING 737  |
| 380428-9-1  | APU GTCP85-129CK   | BOEING 737  |
| 380428-13   | APU GTCP85-129CKA  | BOEING 737  |
| 380428-14   | APU GTCP85-129CKB  | BOEING 737  |
| 380428-5-1  | APU GTCP85-129D    | BOEING 737  |
| 380428-6-1  | APU GTCP85-129E    | BOEING 737  |
| 380428-7-1  | APU GTCP85-129F    | BOEING 737  |
| 380428-8-1  | APU GTCP85-129G    | BOEING 737  |

| PART NUMBER | MODEL               | APPLICATION     |
|-------------|---------------------|-----------------|
| 380428-10-1 | APU GTCP85-129H     | BOEING 737      |
| 380428-11-1 | APU GTCP85-129J     | BOEING 737      |
| 380428-12-1 | APU GTCP85-129K     | BOEING 737      |
| 380256-1-1  | APU GTCP85-98D      | BOEING DC-9     |
| 381015-1    | APU GTCP85-98DCK    | BOEING DC-9     |
| 3800368-1   | APU GTCP85-98DC(B)  | BOEING MD80     |
| 381276-1    | APU GTCP85-98DHF    | BOEING MD80     |
| 381276-2    | APU GTCP85-98DHF(A) | BOEING MD80     |
| 381276-3    | APU GTCP85-98DHF(B) | BOEING MD80     |
| 381276-4    | APU GTCP85-98DHF(C) | BOEING MD80     |
| 372580      | APU GTC85-90        | COMM GRND CART  |
| 381066-1    | APU GTCP85-184      | COMM GRND CART  |
| 372980-200  | APU GTCP85-291      | COMM GRND CART  |
| 372980-300  | APU GTCP85-291C     | CONVAIR 540     |
| 372980-100  | APU GTCP85-91C      | CONVAIR STINGER |
| 381252-1    | APU GTCP85-185L     | LOCKHEED L-100  |

# GTCP85 CAPABILITY



## GTCP85-129 SERIES ACCESSORIES

| PART NO.          | DESCRIPTION                          | AIRCRAFT APPLICATION                                                                                                                                             |
|-------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 108032 – Series   | Differential Pressure Regulator      | B707, B727, B737, BAC1-11, CARA, DC-8, DC-9, F-28, G-22, GPU, L-382, MD80, MERCURE, TRIDENT, VFW-614, YS-11                                                      |
| 109486 – Series   | 4" Load Control Valve                | B707, B727, B737, DC-8, L100                                                                                                                                     |
| 129552 – Series   | Pneumatic Thermostat                 | B707, B727, B737, BAC1-11, CARA, DC-8, DC-9, F-28, G-22, GPU, L-382, MD-80, MERCURE, TRIDENT, VFW-614, YS-11                                                     |
| 152050 – Series   | Aircraft Tubular Oil Cooler          | B727, B737, BAC1-11, CARA, DC-9, MD-80, TRI 3B, TRI 1/2E                                                                                                         |
| 320362 - Series   | Solenoid Shut off Valve              | B707, B727, B737, B747, BAC1-11, DC-8, DC-9, F-28, G-22, L-100, MD-80                                                                                            |
| 3601193 – Series  | Fuel Atomizer                        | B707, B727, B737, B747, BAC1-11, CARA, CV-580, DC-8, DC-9, GPU, L-100, L-382, MD-80, MERCURE, TRIDENT, VFW-160A                                                  |
| 3603701 – Series  | Accessory Drive Gearcase Assembly    | BAC1-11, MERCURE, TRI 1/2E, TRI 3B                                                                                                                               |
| 3604524 – 54      | Combustor Assembly                   | B737                                                                                                                                                             |
| 3605812 – Series  | Electrical Engine Starter            | B707, B727, B737, BAC1-11, CARA, CV-580, DC-8, DC-9, F-28, G-22, GPU, L-100, L382, MD-80, MERCURE, TRIDENT, VFW-614                                              |
| 3609480 & 3615700 | Centrifugal Multiple Switch Assembly | B707, B727, B737, BAC1-11, DC-8, DC-9, L-100, MD-80, TRIDENT                                                                                                     |
| 3617750 - Series  | Fuel Control Unit                    | B-727, B737, BAC1-11, DC-9, MD-80                                                                                                                                |
| 373048 - Series   | Pressure Relief Valve Assembly       | B707, B727, B737, BAC1-11, CARA, DC-8, DC-9, GPU, L-100, L382, MD-80, MERCURE, TRIDENT, VFW-160                                                                  |
| 397868 – 1        | Surge Bleed Valve                    | B737, B777                                                                                                                                                       |
| 692545 – Series   | Solenoid Shut off Valve              | B707, B727, B737, BAC1-11, BAE146, CARA, CV-580, CV-600/640, DC-8, DC-9, ELECTRA, F-28 FOKKER, G-222, GPU, L-100, L-382, MD-80, MERCURE, TRIDENT, VFW-614, YS-11 |
| 692993            | Solenoid Shut off Valve              | B707, B727, B737, BAC1-11, DC-8, DC-9, GPU, L-100, L-382, MD-80, MERCURE, TRIDENT, VFW160A/614, VISCOUNT, YS-11                                                  |
| 698430 – 1        | Low Oil Pressure Switch              | B737                                                                                                                                                             |
| 698430 – 2        | Oil Sequence Switch                  | B737                                                                                                                                                             |
| 9C4925822-100     | Wire Harness                         | GTCP85-129H APU                                                                                                                                                  |
| 737D-73269        | Wire Harness                         | GTCP85-129C/E APU                                                                                                                                                |
| 9X4934747         | Wire Harness                         | GTCP85 US AIRWAYS                                                                                                                                                |



# GTCP85 CAPABILITY



## ALL GTCP85 SERIES COMPONENT OVERHAUL

- Specialized Capability in Rotating Components
- ALL Hot Section Components
- ALL Compressor Components & Housings
- ALL Gearbox Housings and Gears
- Complete Accessory Repair for all other Parts & Housings
- **FAA/EASA approved DER Repairs**



# GTCP85 CAPABILITY



## GTCP85 TURBINE WHEEL

### Work Scope:

- Crack removal
- Tip Grind
- Remove & Replace shaft
- Plasma spray
- Grind Journals
- Balance
- Tolerance: .0002"



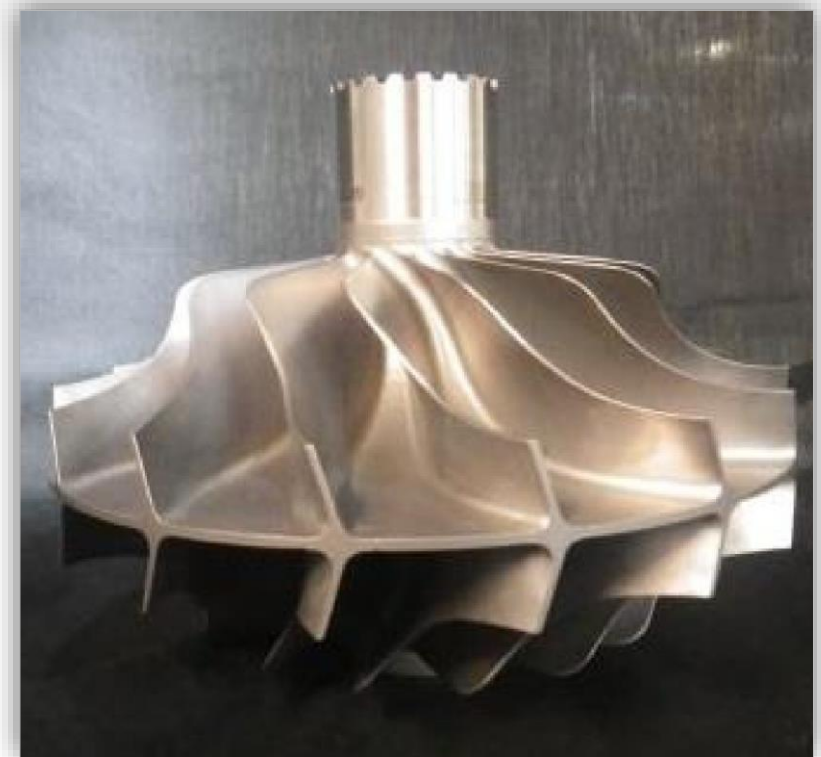
# GTCP85 CAPABILITY



## GTCP85 COMPRESSOR 1<sup>ST</sup> STAGE IMPELLER

### Work Scope:

- Blade restoration
- Restore Curvic Coupling
- Restore diameters
- Restore locating diameters & surfaces
- Balance
- Tolerance: .0002"
- **FAA/EASA Approved  
DER Repair**



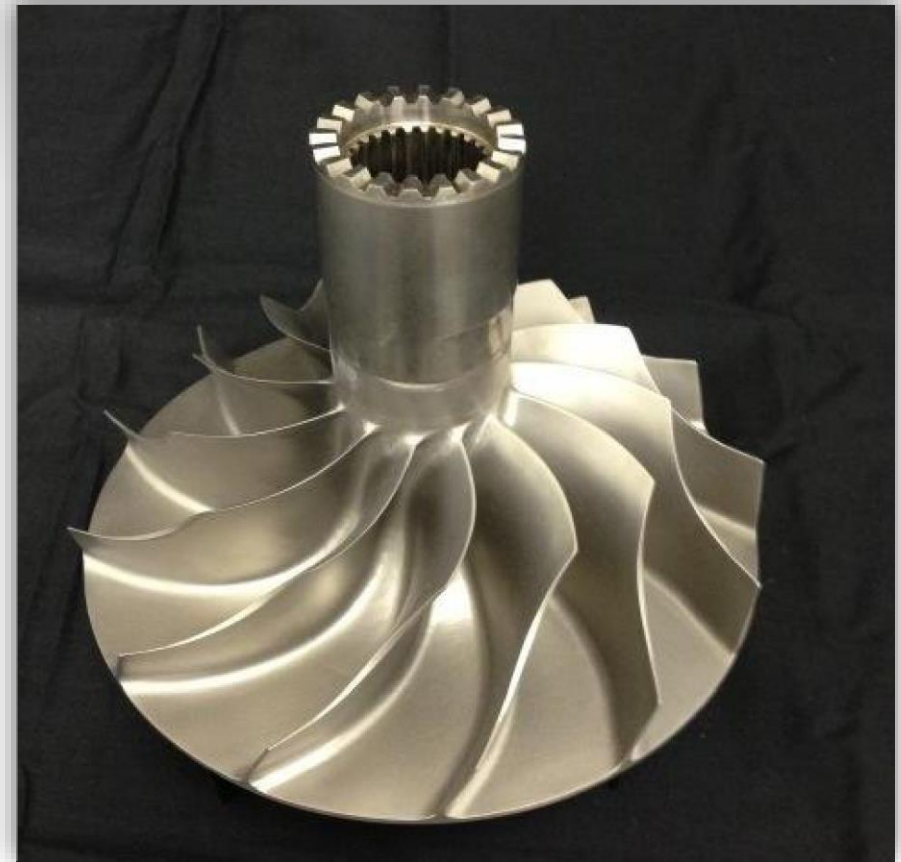
# GTCP85 CAPABILITY



## GTCP85 COMPRESSOR 1<sup>ST</sup> STAGE IMPELLER

### Work Scope:

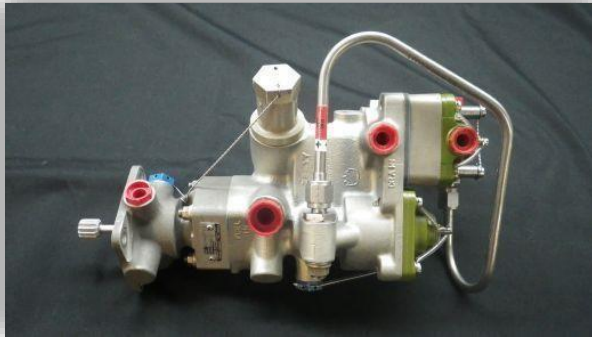
- Blade restoration
- Restore Curvic Coupling
- Restore seal diameters
- Restore locating diameters & surfaces
- Balance
- Tolerance: .0002"
- **FAA/EASA Approved  
DER Repair**



# GTCP85 CAPABILITY



## GTCP85 ACCESSORY OVERHAUL



Fuel Control



Atomizer



Combustor



# GTCP85 CAPABILITY



## GTCP85 ACCESSORY OVERHAUL



3 Way Valve



Load Control Valve



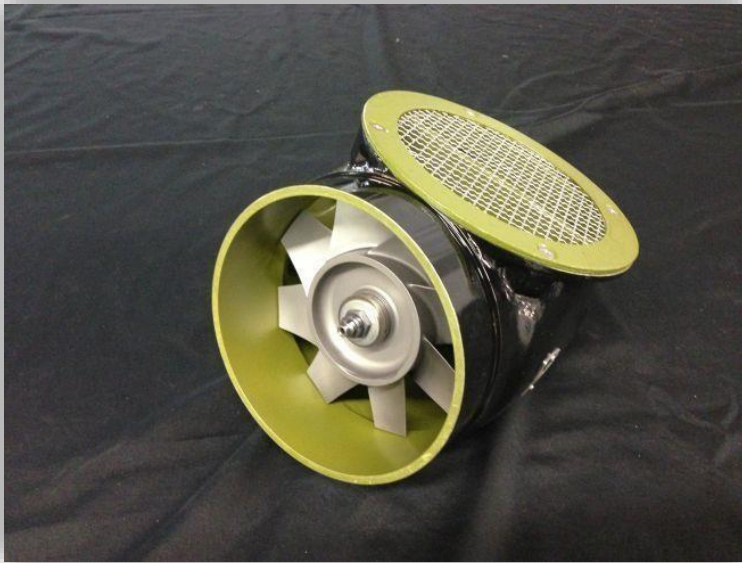
Surge Control Valve



# GTCP85 CAPABILITY



## GTCP85 ACCESSORY OVERHAUL



Cooling Fan



Oil Cooler

# GTCP85 CAPABILITY



## GTCP85 COMPRESSOR INLET HOUSING



# GTCP85 CAPABILITY



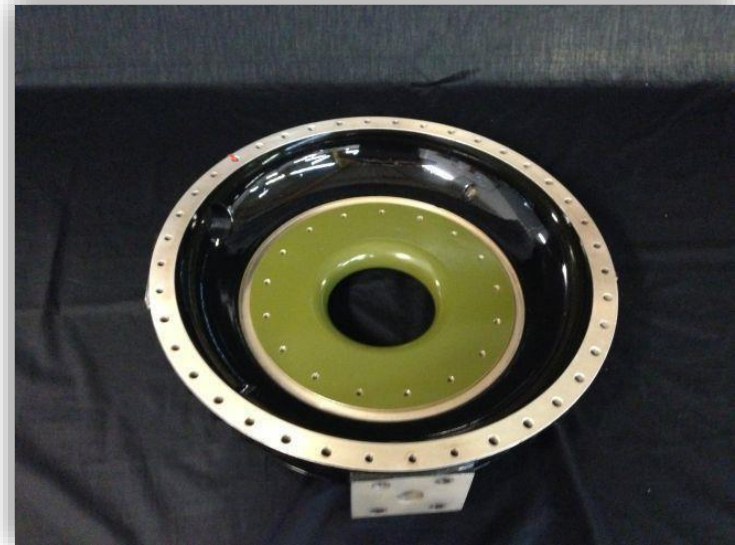
## GTCP85 COMPRESSOR INTERSTAGE HOUSING



# GTCP85 CAPABILITY



## GTCP85 COMPRESSOR 2ND DIFFUSER HOUSING



# GTCP85 CAPABILITY



## GTCP85 COMPRESSOR JOURNAL BEARING HOUSING





# GTCP85 CAPABILITY



## GTCP85 GEARBOX HOUSING SET

ACCESSORY PAD SIDE



INPUT SIDE





# GTCP85 CAPABILITY



## GTCP85 HOT SECTION

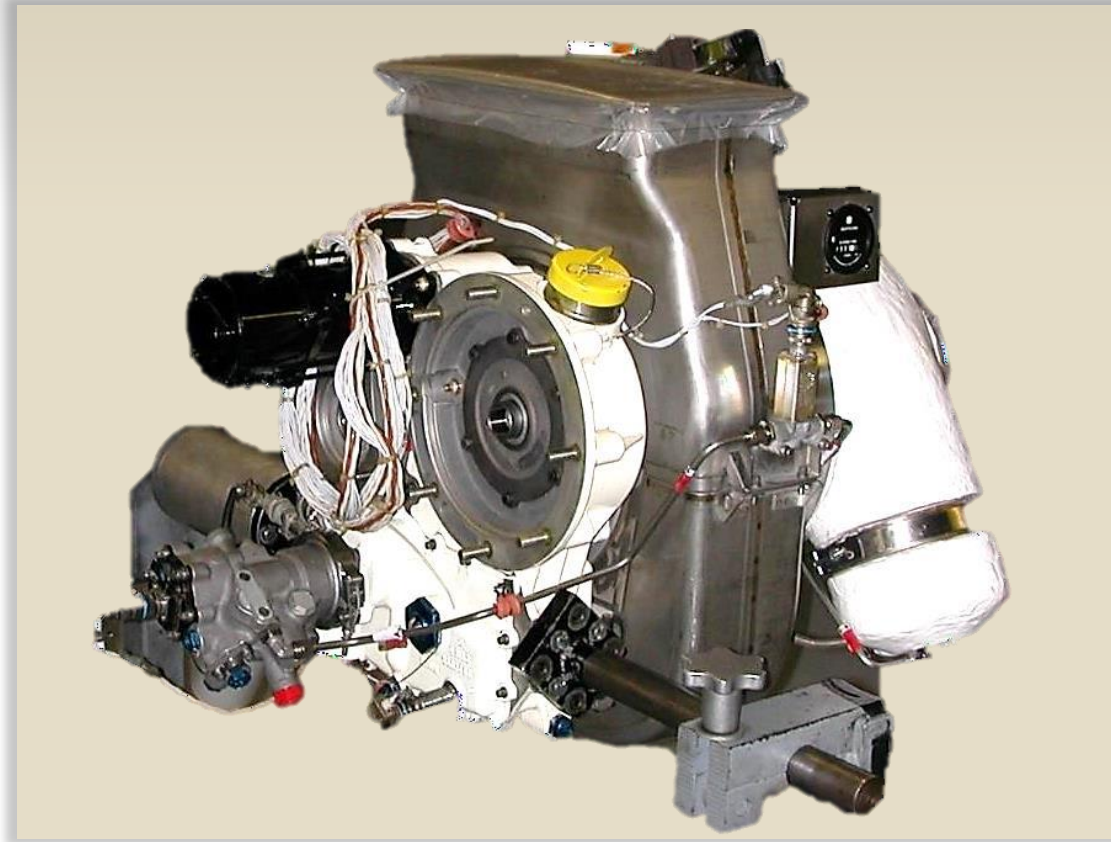
TORUS



COMBUSTION LINER



# GTCP36 CAPABILITY

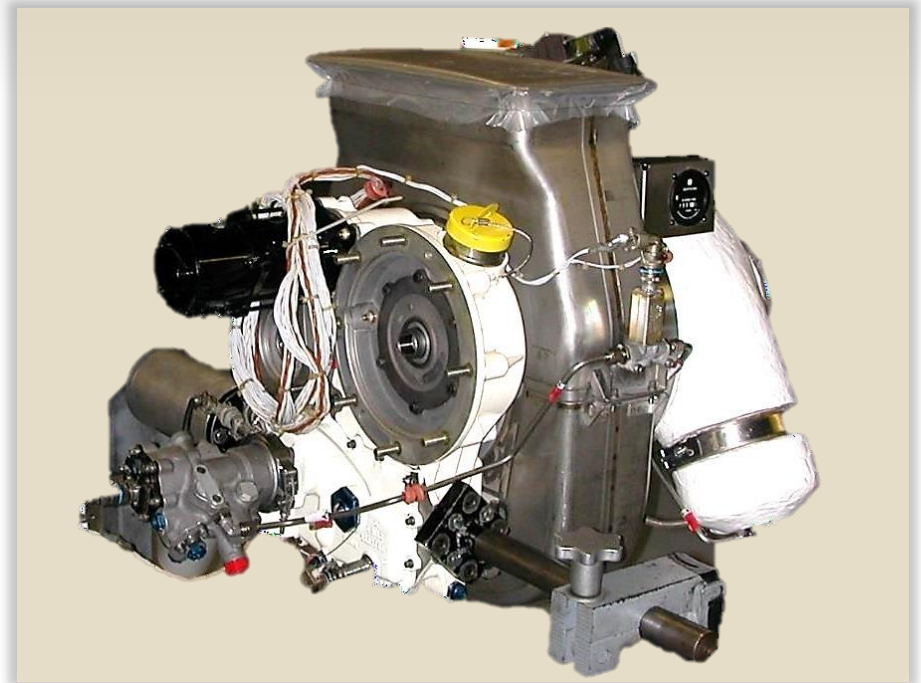


# GTCP36 CAPABILITY



## GTCP36 APU OVERHAUL & COMPONENT REPAIR

- GTCP36-50



# GTCP36 CAPABILITY



## GTCP36 COMPRESSOR ROTOR

### Work Scope:

- Blade restoration
- Restore Curvic Coupling
- Restore diameters
- Restore locating diameters & surfaces
- Balance
- Tolerance: .0002"
- **FAA/EASA Approved  
DER Repair**



# GTCP36 CAPABILITY



## GTCP36 FUEL CONTROL TORQUE MOTOR

### Work Scope:

- Test
- Demagnetize
- Disassemble
- Fabricate
- Replace coils
- Assemble
- Magnetize
- Adjust flow & hysteresis
- **FAA/EASA Approved DER Repair**





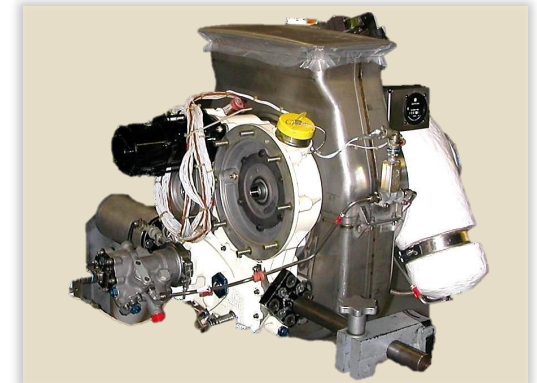
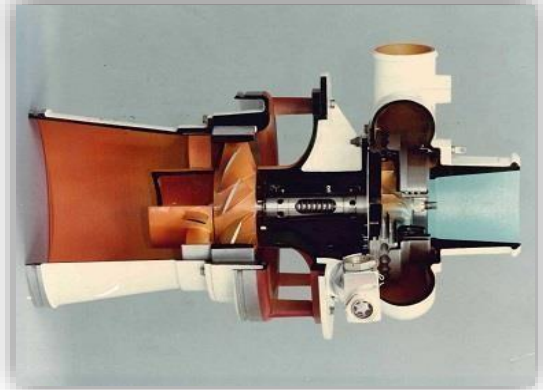
MILITARY  
GROUND SUPPORT EQUIPMENT  
PRODUCTS & SERVICES



# GROUND SUPPORT EQUIPMENT



## MILITARY GSE



# GROUND SUPPORT EQUIPMENT



## MILITARY GSE PRODUCTS & SERVICES

- Manufacture and Support of A/M32C-10C Air Cycle Air Conditioner
- Manufacture and support of A/M32A-60A Gas Generator.
- Manufacture and support for the MEP-362A Generator Set
- Manufacture and application of the TT10-1 Gas Turbine Engine
- Manufacture and Support of the next generation RACM (Roof Mounted Air Conditioner Module)
- Ground Power Unit GPU-290 ATS "Twin Pack"
- Ground Power Unit GPU-298 ATS "Twin Pack"
- Air Cycle Machine



# GROUND SUPPORT EQUIPMENT



## ATS A/M 32C-10C AIR CYCLE AIRCONDITIONER



### AIR CYCLE AIR CONDITIONER

#### A/M 32C-10C Air Cycle Air Conditioner

This unique ground support system supplies conditioned air to aircraft on the ground when used in conjunction with an A/M 32A-60A ground start cart. The unit meets the overall requirements for ground mobility and air transportability, as well as performance and compatibility characteristics established by the USAF.

#### High Compatibility

The unit is compatible with a large number of front line aircraft. It can be used to supply conditioned air to the following aircraft: F-4, F-5, A-7, A-10, F-14, F-15, F-16, and F & RF-111. It can also be used for ground cabin-cooling of any large passenger aircraft.

#### Modular Construction

The unit is of modular construction consisting of a trailer, protective enclosure, air cycle turbine, heat exchangers, controls and ducts. Each part is designed to be removed quickly and easily using only elementary tools. This feature allows for rapid field service using relatively untrained personnel.

#### All Pneumatic Systems

An extensive thermodynamic study has been conducted to select an efficient cycle to meet the intended use of the system. The overall performance of the air conditioner at various conditions (per MIL-A-83089B) are listed on the back. Also, all control systems are pneumatic. There are no electrical systems in the unit, thus the only connections are air-in from the start cart and air-out to the aircraft.

#### Mobility & Versatility

A lunette eye is provided at the front of the trailer for connection to a towing vehicle. The trailer is supplied with a retractable caster wheel bolted to the towbar to support the unit during operation. The caster is retracted during towing. A hand-brake is provided to lock the main trailer wheels to prevent movement during storage or while in operation. The unit is equipped with 4 rings which may be used either for sling lifting or for tie-down.

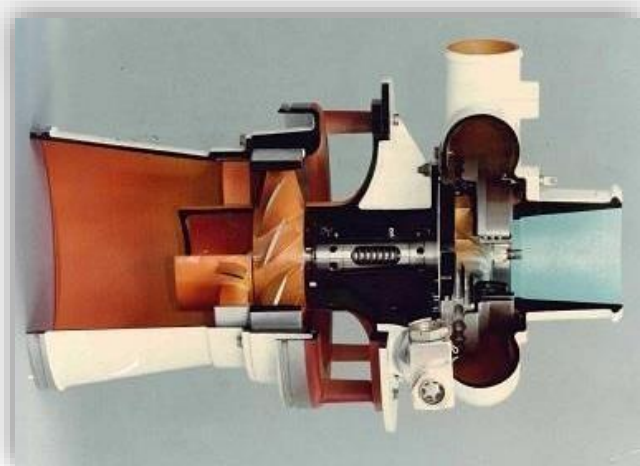




# GROUND SUPPORT EQUIPMENT



## ATS A/M 32C-10C AIRCONDITIONER



### General Characteristics

NSN: 4120-01-101-4704

#### Feature

#### Unit

#### Overall Dimensions:

|                                            |                      |
|--------------------------------------------|----------------------|
| Length (less draw bar & pintle hook) ..... | 69 inches (175.3 cm) |
| Width .....                                | 70 inches (177.8 cm) |
| Height .....                               | 69 inches (175.3 cm) |

#### Tire Size

|                          |                 |
|--------------------------|-----------------|
| Main Wheels .....        | 6.00 x 9, 6-ply |
| Pressure .....           | 30 psig         |
| Retractable Caster ..... | 4.10 x 6        |
| Pressure .....           | 30 psig         |

#### Towing Capabilities

|                                    |                    |
|------------------------------------|--------------------|
| Front .....                        | Lunette Eye        |
| Rear .....                         | Pintle Hook        |
| Maximum speed, paved highway ..... | 20 mph (32.2 km/h) |
| Maximum speed, graded gravel ..... | 10 mph (16.1 km/h) |
| Maximum speed, belgium block ..... | 8 mph (12.9 km/h)  |

Tiedown Provisions ..... 4 rings

Parking Brake ..... Mechanical, Hand

#### Primary Conditioner Air Output

|                                              |                                  |
|----------------------------------------------|----------------------------------|
| Temperature .....                            | 50° F to 200° F (10° C to 93° C) |
| Pressure .....                               | 0-4 psig                         |
| Flow .....                                   | 16-95 ppm (7.3-43.2 kg/m)        |
| Number of conditioned air ports .....        | Two Per Unit                     |
| Conditioned air hoses, 8 inch diameter ..... | Four, 15Ft. Lengths (4.6 m)      |

#### High Pressure Conditioned Air Output

|                                                |                                  |
|------------------------------------------------|----------------------------------|
| Temperature .....                              | 55° F to 200° F (13° C to 93° C) |
| Pressure .....                                 | 5 to 25 psig                     |
| Flow .....                                     | 0-15 ppm (0-6.8 k/m)             |
| Number of conditioned air ports .....          | One Per Unit                     |
| Conditioned air hose, 1 1/2 inch diameter .... | One, 50 Ft. Length (15 m)        |

Weight ..... 1,500 pounds (682 kg)

# GROUND SUPPORT EQUIPMENT



## A/M 32A-60A GENERATOR SET



### Specifications and Technical Data

#### A/M32A-60A GENERATOR SET

NSN 6115-00-420-8486



#### FEATURES

Self-propelled up to 4 miles per hour.  
Negotiates inclines up to 15 degrees.  
Towable to 20 miles per hour.  
Rough Road Capability  
High-ground Clearance  
100 Gallon Fuel Tank  
Automatic Engine Control  
Automatic Electrical Power Regulation

Current limiting and soft start capabilities.  
Fault Indicator  
Modular Components  
Gas Turbine Simplicity and Reliability  
All hoses, cables, fittings, and attachments  
included and stored aboard unit.  
Aircraft grade components and wiring systems.

#### POWER OUTPUTS

AC Electrical: 60 kW, 3 Phase,  
120/208 V, 400 Hz  
DC Electrical: 28 V, 200 Amp Continuous  
300 Amp Max.  
Pneumatic: 150 bps/in. at 49 psia

#### OPERATING ENVELOPE

Ambient Temperature Range  
Run: -55° to 125°F  
Storage: -70° to 1160°F  
Altitude: M.S.L. to 10,000 Ft  
Humidity: 95% R.H.  
Rain: 5-12" Hour  
Shock: 10 g's

#### DIMENSIONS/WEIGHT

Height: 67-5/16"  
Length: 104-3/4"  
Width: 54-1/2"  
Dry Weight: 2800 lbs

#### MIL-STANDARDS

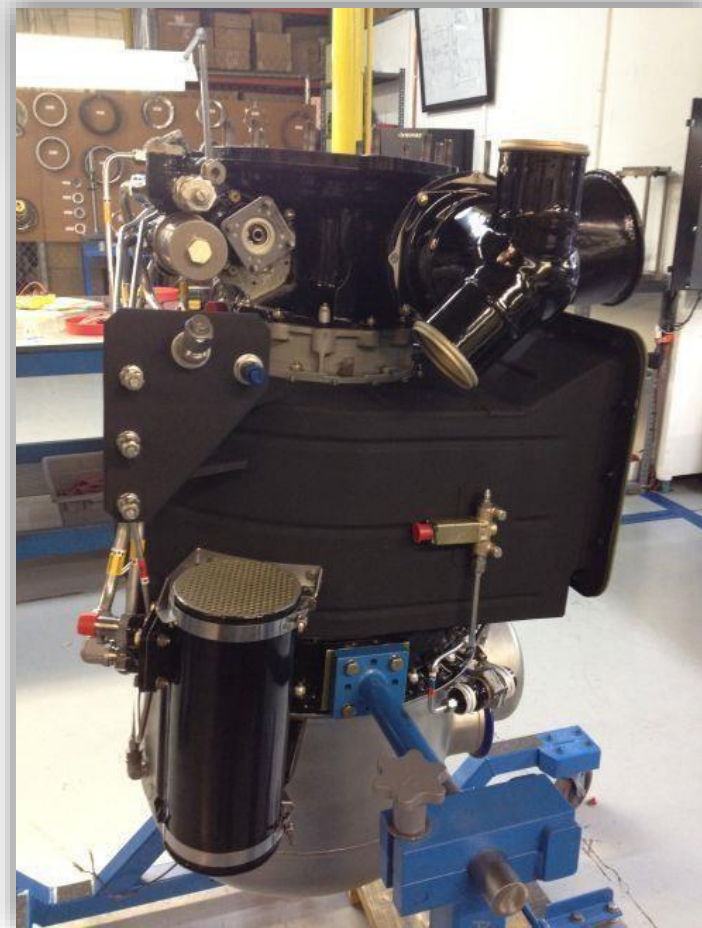
Meets:  
MIL-C-4658A  
Quality System Requirements  
MIL-STD-704  
Aircraft Electrical Power  
MIL-STD-882  
ATS P/N 100002



# GROUND SUPPORT EQUIPMENT



## GENERATOR SET GTCP85-180 APU





# GROUND SUPPORT EQUIPMENT



## ATS MEP 362A 10KW 28 VDC GAS TURBINE ENGINE-DRIVEN GENERATOR SET



### General Characteristics

#### Classification

Description: 10KW, 28 VDC

Model: MEP 362A

NSN: 6115-01-161-3992

Spec: Purchase Description  
1 June 1982

Type: 1 Tactical

Class: 1 (precise)

Mode: IV (DC)

#### Physical Characteristics

**Dimensions:** 86 in. x 71 in. x 49 in. (218 cm x 180 cm x 122 cm)

#### Weight:

Mission Ready: ..... 1,175 lb (533 kg)

Empty: ..... 975 lb (402 kg)

**Mobility:** Fully housed. Mobile, trailer mounted. Manually relocated by two persons. Lifting and tie-down attachments provided.

**Engine:** Gas turbine. Horsepower 25\* @ 50,300 rpm 24 VDC electric start. Operating speed: 50,300 rpm reduced to 12,000 rpm by gear box. Fuel tank capacity: 32 gallons (135 liters) (approximately 4 hours at average load). Fuel is contained in an integral tank, featuring direct read-out fuel contents gage. Solid-state control system.

**Fuels:** MIL-T-5624, Aviation Turbine Fuels, Grades JP4 and JP5 (Primary). Also MIL-T-83133, Aviation Turbine Fuel, Grade JP8; MIL-F-16884, Marine Diesel Fuel Oil; VV-F-800, Diesel Fuel Oils, Grades DF-1, DF-2, and DF-A.

**Electrical Data:** Brushless generator. Solid-state control system. Fungus and moisture treatment.

**Voltage Connection:** DC; 28 Volt, two wire.

#### Protective Devices:

- Overspeed protection
- Overtemperature protection
- Overvoltage protection
- Undervoltage protection
- Low oil pressure protection

#### Instrumentation:

- DC Voltmeter
- Output Ammeter
- Low Oil Pressure\*\*
- Engine Overtemperature\*\*
- Engine Overspeed\*\*
- Generator Overload\*\*
- Battery Charging Ammeter
- Hour Meter
- Generator Overvoltage\*\*
- Generator Overtemperature\*\*
- Generator Undervoltage\*\*
- Ready to Load\*\*
- Main Contractor Closed\*\*
- Low Fuel\*\*

\*Derated from 75 HP for this application. \*\*Indicator Lamps.

# GROUND SUPPORT EQUIPMENT



## ATS TT-10 GAS TURBINE ENGINE



### TT10-1 Gas Turbine Engine

4210 N. Sullinger Ave • Tucson, AZ 85705 USA  
(520) 888-1100 • Fax: (520) 888-5400

#### Performance Data

##### FUELS:

MIL-T-5624 (JP-4 & 5)  
MIL-T-88133 (JP-8)  
VV-F-800 (DF-1, DF-2 & DF-A)  
MIL-F-16884 (Diesel Marine)

##### OILS:

MIL-L-7808,  
MIL-L-23699 plus various commercial oils

##### OUTPUT PAD:

Single pad 12,000 rpm

##### ROTOR SPEED:

50,300 rpm

##### RATING:

75 hp

##### AMBIENT CONDITIONS:

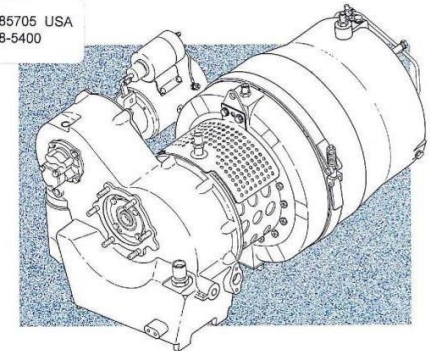
60°F at sea level

##### AIR FLOW ENGINE:

1.32 pps

##### OPERATING ENVIRONMENT:

Temperature — 65°F to 125°F  
Altitude — sea level to 15,000 ft.



#### Installation Considerations

##### ELECTRICAL REQUIREMENTS:

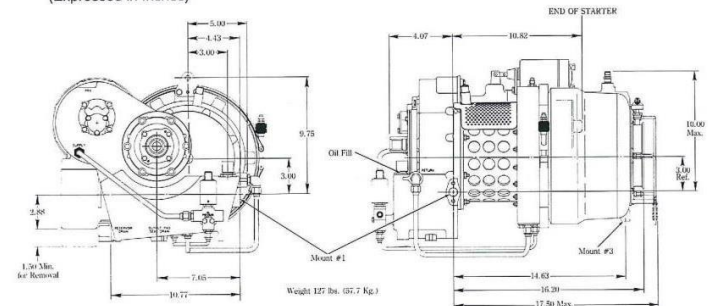
28 volt dc

##### FUEL REQUIREMENTS:

Pressure — 5 psi above true vapor  
pressure (min) to 40 psi (max)

#### Dimensions

(Expressed in Inches)



# GROUND SUPPORT EQUIPMENT



## ROOF TOP AIR CONDITIONING MODULE (RACM)



### AMERICAN TURBO SYSTEMS

Developed to a US Military specification by ATS this Ground Power Unit incorporates increased capability with improved maintainability, deployment capability and function over the A/M32C-10C air conditioner. Designed to be mounted on top of the A/M32A-60A without modification to or compromise of normal capability of the A/M32A-60A providing the customer with the equivalent performance of a CGAC System.

### MILITARY GROUND SUPPORT ROOF MOUNTED AIR CONDITIONER MODULE

RACM NSN: 4120-01-475-2535 RP

American Turbo Systems P/N 3500000-1



R A C M MOUNTED ON A/M32A-60A

SPECS: 48" wide x 62" long x 18" high

Weight: 475 lbs approximate

Output: 100PPM at 3psig 95%RH 50 F- 200F

Conditions: SLC from -40 F to 125 F

[www.atstucson.com](http://www.atstucson.com)

4210 N. Sullinger Ave. Tucson, AZ, USA Ph: 520.888.1100 Fax: 520.888.5400





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