



OKLAHOMA CITY AIR LOGISTICS CENTER



TEAM TINKER



T56 Series 3.0 and Series 3.5 Competitive Depot Contract Industry Day

30 Nov 16

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U.S. AIR FORCE

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WELCOME



” Sign-in

” Restrooms

” Tornado / Fire Evacuation

” Question Forms

” Open Communication is Encouraged



Agenda



-
- “ 0945 – Sign-In / Welcome and Introductions**
 - “ 1000 – T56 Program, Source Approval Request (SAR)
Submittals & Preliminary Contract Briefing**
 - “ 1115 – Questions/Answers Review**
 - “ 1130 – Break for Lunch**
 - “ 1230 – Individual Pre-Scheduled Side Meetings**
 - “ 1630 – Industry Day Conclusion**



Disclaimer

-
- “ Any presentation points in the following briefing or any ensuing discussions **DO NOT** constitute direction to the contractor
 - “ Following is preliminary information only
 - “ All information provided is subject to change
 - “ Government is not currently soliciting proposals
 - “ All questions must be submitted in writing
 - . Official written responses will be posted on FedBizOps website with non-attribution
 - . Verbal questions and answers are not binding



Overview



-
- “ Program Description**
 - “ Requirements Overview**
 - “ Preliminary Acquisition Overview**
 - “ Preliminary Solicitation Overview**
 - “ Preliminary Source Selection Milestones**
 - “ Source Approval Request (SAR) Requirements**
 - “ Questions/Answers**



Program Description

- “ **T56 engine is a single spool, constant speed, gas turbine power section connected to a reduction gear assembly by a torque meter shaft and supporting structure** *(see upcoming slides for further description)*
- “ **Supports Air Force, Navy, and Coast Guard Requirements**
 - “ **Air Force – T56-A-15, -15A (Series 3.0 / Series 3.5 configurations)**
 - “ **Contingency Support: Engines - to include Quick Engine Change (QEC) Kit**
 - “ **Contingency Support: Power Section**
 - “ **Management of Items Subject to Repair (MISTR) – Major Modules and Components**
 - “ **Navy – T56-14, -16, -425 configurations**
 - “ **MISTR items**
 - “ **Coast Guard – T56-A-15 configuration**
 - “ **MISTR items**
 - “ **QEC kit w/out engine (Nacelle)**
- “ **Supports six different Major Commands and multiple variations of the C-130H aircraft**
 - “ **AMC, ANG, AFRC, AFSOC, ACC, PACAF, AFMC**



Program Description (cont'd)

Program Look Ahead



“ Potential changes to future Air Force requirements

“ Reduced flying hours

“ C-130H aircraft retirements

“ Conversion to C-130J aircraft

“ Series 3.5 modification

“ Currently implemented on LC-130H ANG Fleet – potential for future fleet modification expansions

“ Projected T56 retirement: 2040

Requirements based on known data at time of RFP



Program Description (cont'd)

Air Force Mission



“ Maintenance Concept

“ Three Levels of Maintenance

- “ Depot, Intermediate, and Organizational level repairs
- “ Repairs performed at lowest level possessing capability

“ No fixed time to remove T56 engines for repair

- “ > 90% of engine removals are unscheduled
- “ USAF Scheduled Maintenance Items:
 - “ Turbine Rotor - 6000 hr Maximum Operating Time
 - “ Turbine Wheels & Spacers – Low Cycle Fatigue (LCF) Lives and Depot Maximum Reinstallation Limits Defined in T.O. 2J-T56-54 and 2J-T56-53



Program Description (cont'd)

Air Force Mission



“ Maintenance Concept (cont'd)

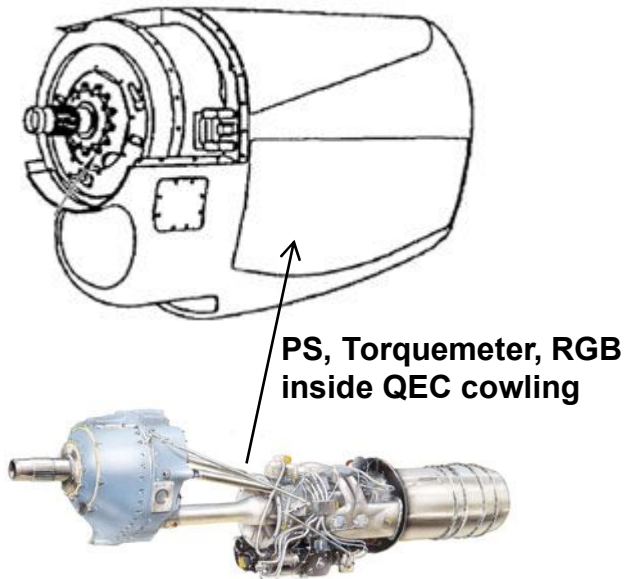
- “ Whole Engines repaired at Field Units and Centralized Repair Facilities (CRFs)**
 - “ Repaired under RCM Workscope Concept using Workscope Cost Optimization Tool (USAF CPIN Software)**
 - “ Identifies most favorable repairs for customer**
 - “ Optimal combination of time on wing and repair costs**
 - “ Contingency support CLINs added to RFP for whole engine (including QEC) and power section workloads**
- “ Field Units and CRFs also perform minor overhaul of major modules permitted if “Time Since Overhaul” under limits of 2J-T56-53**
- “ Maintenance of Accessories based on Test and Repair “On Condition” (MATROC) concept**
- “ All other items depot “Remanufactured” (overhauled)**



Major Repair Items

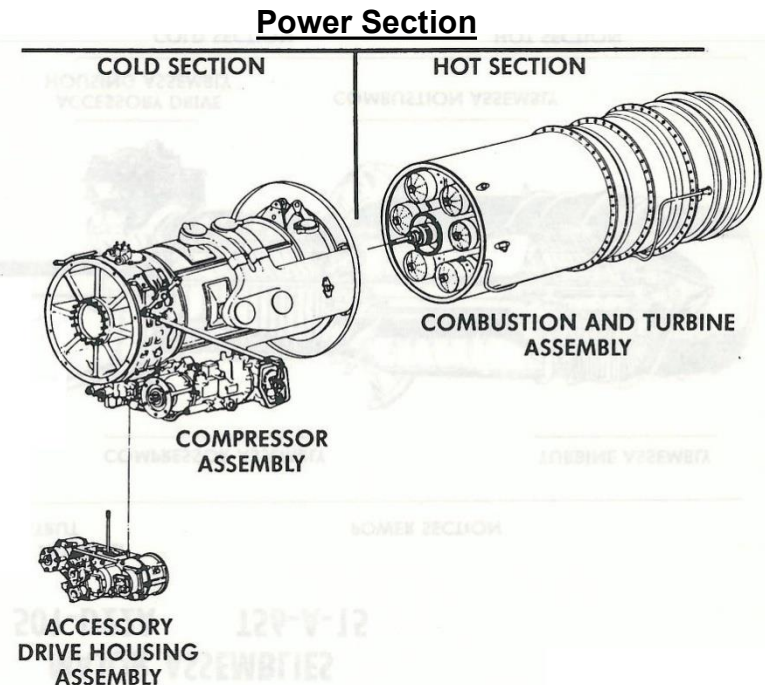
Whole Engine

- “ Everything but the prop
- “ The whole engine consists of a Quick Engine Change Kit assy and an axial-flow, gas turbine power section connected to a reduction gear through a torquemeter assembly and tie struts.
- “ Repaired IAW TO 16W14-12-3 and 2J-T56-56



Power Section

- “ The power section consists of the compressor assembly, combustion and turbine assembly, accessories drive gearbox, and oil, fuel, ignition, control, and cooling air systems.
- “ Overhauled IAW TO 2J-T56-53

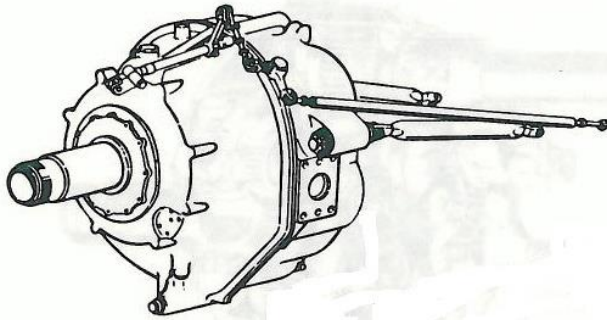




Major Repair Items

Reduction Gearbox

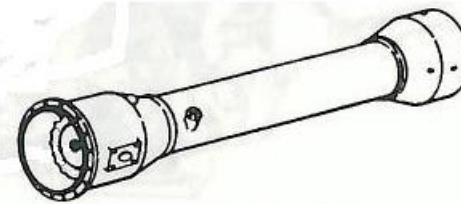
- “ The Reduction Gearbox (RGB) consists of the following major components: RGB assembly, eyebolts, tie struts, prop control intermediate link rod, and RGB mounted prop control hardware.
- “ Overhauled IAW TO 2J-T56-53



Reduction Gearbox

Torquemeter

- “ The torquemeter assy consists of the following major components: the shaft assemblies, safety coupling, housing, pickup, and anti-ice shroud assembly.
- “ Overhauled IAW TO 2J-T56-53



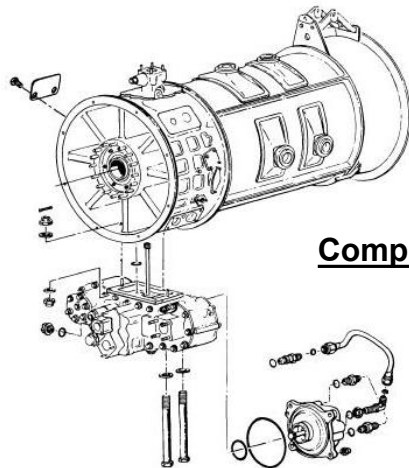
Torquemeter Assembly



Major Repair Items

Compressor Module

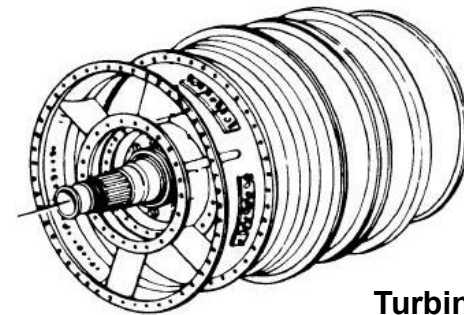
- “ The Compressor Module includes the following major components: Compressor rotor, case and vane assy, air inlet housing, diffuser, accessory drive gearbox with oil pumps, anti ice valves, bleed air valves, fuel nozzles, fuel manifolds, air and oil tubes and hoses, engine mount, and prop and engine control hardware.
- “ Overhauled IAW TO 2J-T56-53



Compressor Module

Turbine Module

- “ The turbine module includes the following major components: Turbine rotor, turbine cases, vanes, turbine shaft coupling and adapter, thermocouples and thermocouple harnesses
- “ Overhauled IAW TO 2J-T56-53



Turbine Module



Pre-Contract Award Qualification Requirements



- “ **Pre-Contract Award Qualification Requirements established IAW FAR Part 9.2 – *details covered in SAR Requirements Briefing***
- “ **Two Part Source Approval Request (SAR) Process**
 - . **I. PRE-AWARD: Proof of Capability**
 - “ Evidence of Same (T56 Series 3.0 / 3.5) or Similar Experience
 - “ Submit Documentation IAW QR’s
 - . **II. POST-AWARD: Source Demonstration of critical processes during transition phase-in**
 - “ Substantiation of Repairs IAW Approved Repair Process Sheets on USAF Exhibits
 - “ Gov’t intent to waive post award demonstrations if company is a Rolls Royce FMC, AMC, or AMOF

All Vendors Must Submit a Source Approval Request (SAR) Package and be an approved source to be eligible for contract award.

**Contract Award will not be held for SAR package reviews
Reviews can take from 6 to 18 months**



Requirements Overview



” Supply Chain Management

” Data Deliverables

” Transition Phases



Requirements Overview



Supply Chain Management

- “ **Contractor Furnished Material (CFM)**
 - “ Defense Logistics Agency (DLA) managed items to be managed as CFM (*Consumable Items - No mandate to use DLA*)
- “ **Government Furnished Material (GFM)**
 - “ OC-ALC Managed Parts (*Reparable Items*)
- “ **Establish Inventory Accounts**
 - “ Consolidated Repair Inventory (CRI)
 - “ Accounts to store serviceable GFM
- “ **Forecasted Best Estimated Quantities (BEQs) yearly – Quarterly to monthly delivery orders expected**



Requirements Overview (cont'd)



Data Deliverables

(Not all Inclusive)

" Production Reports

" Required for Bi-weekly meetings

" Commercial Asset Visibility AF (CAVAF)

" GFM receipt, usage, and scrap / condemnations

" Comprehensive Engine Management System (CEMS)

" Official AF database to track engines and selected parts for service life management purpose

" Source of Repair (SOR) required to use CEMS for reporting engine, module and component installation status and service life

Both CAVAF and CEMS require background checks / CAC card access – CEMS access only granted to U.S. Nationals



Requirements Overview (cont'd)



Data Deliverables (cont'd)

- “ **Joint Deficiency Reporting System (JDRS)**
 - “ Used for reporting and management of deficiency resolution
 - “ Used for both Product Quality Deficiency Reports (PQDR) and Material Deficiency Reports (MDR)
- “ **Reliability Data Retrieval and Analysis Reports**
 - “ Teardown Condition Inspection Reporting
 - “ Accomplished for Induction of every major CLIN
 - “ Primary Failed Item Identification & Condition Documentation



Requirements Overview (cont'd)



Transition Phases

- “ PWS will include requirements for Transition Phase-In and Phase-Out Plans
 - “ **Phase-In to reach 45 day IOC and 90 day FOC**
 - “ Identify risks and mitigation strategies
 - “ Qualification
 - “ Hiring of Personnel
 - “ Critical Process demonstrations
 - “ Systems connectivity / access
 - “ Movement of GFE (if applicable)
 - “ **Phase-Out Possibilities – Options may be exercised with or without SecAF DSOR decision**
 - “ SOR Transition to new vendor
 - “ Movement of GFE, GFM, Maintenance Records
 - “ SOR Transition to government facility
 - “ Movement of GFE phased plan when WIP is completed
 - “With” and “Without GFE” pricing in option years
 - “ Training



Preliminary Acquisition Overview



“ Full and Open Competition

- “ NAICS Code 336412 (Small Business Size Standard of 1000 employees or less)
- “ Walsh Healey Public Contracts Act/Services Contract Labor Standards
- “ Subcontracting Plans Will Be Required and Reviewed

“ Contract Type

- “ FAR Part 15
 - “ Single Award Indefinite Delivery/Indefinite Quantity (ID/IQ)
 - “ Firm Fixed Price (FFP) for End Item CLINs
 - “ Over and Above FFP labor wrap rate



Preliminary Acquisition Overview (cont'd)



” Period of Performance

- ” Four-year basic ordering period with one 2-year option and one 1-year option and a 6 month extension of services clause
 - ” Government Furnished Equipment (GFE) to be offered for basic period
 - ” Pending determination of SecAF Depot Source of Repair (DSOR) decision:
 - ” If future SOR determined to be organic, GFE will begin movement to OC-ALC (if applicable) in a phased approach
 - ” If future SOR determined to be contract repair, option years may be exercised with continued use of GFE
- ” FAR 52.217-8 Option to Extend Services (6 Month Maximum)
 - ” Total ordering period 7 years 6 months



Preliminary CLIN Structure



" FFP

- " Transition/Phase-in

- " Individual Repair Items

- " Data (Contract Data Requirements List)

" Over and Above (O&A)

- " FFP Labor Wrap Rate

- " Transition/Phase-out



Preliminary Evaluation Overview



“ Lowest Priced Technically Acceptable Award (LPTA)

- “ Based on Technically acceptable proposals with acceptable past performance**
- “ Technical proposals limited to 75 pages**
- “ Past performance based on recent three years of history**
- “ GFE usage FAR rental agreement formula added to total evaluated bid price**
- “ Transportation (to / from Tinker to award location) value added to total evaluated bid price**
- “ Must be an approved SAR to be eligible for award**
 - “ Even OEM / AMC, AMOFs, FMCs etc., must submit SAR package to become an approved source**



Preliminary Source Selection Milestones



RFP Release	Feb / Mar 17
Proposals Due	Apr / May 17
Source Selection	Apr 17 – Feb 18
Targeted Contract Award	Feb 18

Dates subject to change



AIR FORCE LIFE CYCLE MANAGEMENT CENTER



AFLCMC... Providing the Warfighter's Edge

PROPULSION DIRECTORATE

Source Approval Requests for the T56-A-15 & T56-A-15A



30 NOV 2015

**Michael Denny
AFLCMC/LPSEC2
DSN: 884-9194
Email: michael.denny@us.af.mil**

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T56 Repair Qualification Requirements



- “ All contractors performing T56 upgrade, overhaul, and repair services must be qualified prior to contract award by the USAF engineering support activity (AFLCMC/LPSE)
 - . Pre-Contract Repair Qualification Requirements (RQRs) are established and posted to FedBizOps:
 - “ <https://www.fbo.gov/spg/USAF/AFMC/OCALCCC/T56RepairQualificationRequirements/listing.html>
- “ Current Qualification Requirement is RQR-1 T56 Revision 1, dated 2 Feb 12
 - . For the current requirement, a Source Approval Request (SAR) is only required to be submitted for Power Section, Torquemeter, and Reduction Gear-Box assemblies
 - . SAR submittals will apply to T56-A-15 and T56-A-15A



Module and Reparable Item Approvals



“ Approval for repair of the top level assembly will approve a source for repair of all indentured reparable subassemblies and components for each engine section

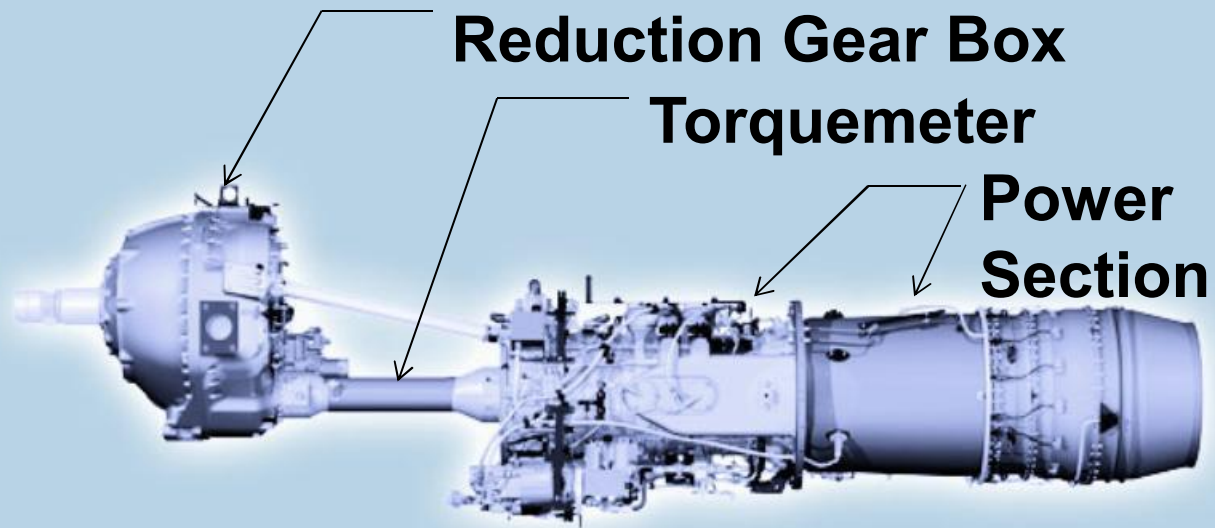
- Source will be added to USAF approved repair source list for all reparable based on a single SAR package for each engine section
- Expect a SAR package for each engine section (3 each packages: RGB, Torquemeter, and Power Section)
- SAR approval authorizes repair for all components of each engine section approved

1. T56-A-15 Power Section Unit Assy	6842602
1.1. Compressor Module	23072502
1.1.1. Fuel Nozzle	23074274
1.1.2. Right Hand Wiring Harness	6827055
1.1.3. Scavenge Pump	6846567
1.1.4. Oil Pump Assembly, Main Pressure & Scavenge	6792265
1.1.4. Anti-Hic Solenoid Valve	678156835-055
1.1.5. Solenoid Valve	6824286
1.1.6. Branch Wiring Harness	6821701
1.2. Turbine Module	23078842
1.2.1. Turbine Rotor Shaft	6846907
1.2.2. Front Bearing Support	23071468
1.2.3. Turbine Inlet Tie Bolt	6844778
1.2.4. Turbine Front Bearing Cage	6846935
1.2.5. 2nd Stage Turbine Vane	23009988
1.2.6. 2nd Stage Turbine Vane (M+M)	23083698
1.2.7. 3rd Stage Turbine Vane	23009375
1.2.8. 3rd Stage Turbine Vane	6846994
1.2.9. 4th Stage Turbine Vane	6846995
1.2.10. Turbine Inlet Case	6847349
1.2.11. Turbine Guide Vane & Seal Support	6870409
1.2.12. Support Assembly	6788234
1.2.13. Rear Turbine Bearing Support	23005861
1.2.14. Exhaust Cone (Outer)	23052623
1.2.15. Turbine Vane Case	23009372
1.2.16. Turbine Rotor	23074630
1.3. Case Assembly Combustion Chamber Outer	6842689
1.4. Casing Assembly Combustion Chamber Inner	6789860
1.5. Combustion Chamber Inner Casing Liner	6788746
1.6. Combustion Liner	6894068
1.7. Speed Sense Control	6873465
1.8. Actuator Electro-Mechanical	179307
1.9. Paralleling Valve Assembly	6814762
1.10. Control Assembly	6794215
1.11. High Pressure Filter Assembly	6821460
1.12. Temperature Valve Assembly	23030485
1.13. Fuel Control	23067638
1.14. Ignition Exciter	6895689
1.15. Speed Sense Valve	6821493
1.8. Actuator Electro-Mechanical	179307
1.9. Paralleling Valve Assembly	6814762
1.10. Control Assembly	6794215
1.11. High Pressure Filter Assembly	6821460
1.12. Temperature Valve Assembly	23030485
1.13. Fuel Control	23067638
1.14. Ignition Exciter	6895689
1.15. Speed Sense Valve	6821493
1.16. Fuel Pump Assembly	6827283/ 022489-054-03
1.17. Solenoid Valve	6781978190585-1
1.18. Solenoid Valve	190391A
1.19. Pressure Switch	6827995
1.20. Relay Assembly	6809639
1.21. T.D. Amplifier	23069687
1.22. Cable Assembly	6806799
1.23. Cable Assembly	6847718



T56 Sections

T56





T56 Sections



“ Reduction Gearbox

. PN 23080237 NSN 2840-01-492-9017

“ Torquemeter

. PN 6897603 NSN 2840-01-111-4765

“ Power Section

. (T56-A-15) PN 6842602 NSN 2840-01-321-1665

. (T56-A-15A) PN 23086196 NSN 2840-01-658-5872



SAR Submittals



“ RQR-1 T56 provides for a two part qualification process

- . Part I: Documentation of experience and capability**
- . Part II: Substantiation of repair procedures by source demonstration**
 - “ Part II not required for Rolls Royce FMC/AMC/AMOF**
 - “ Part II compliance may (government’s option) require a site survey visit of contractor facilities per RQR-1 T56**



Post-Award

Part II - Process Demonstrations



“ Process demonstrations conducted during 45-day IOC and 90 day FOC -- Post Award Transition Phase-In

- . 50 Sensitive & 15 Critical Processes Identified**
- . Substantiation of Contractor repair processes**
 - “ Sensitive Processes: Review of Contractor repair documentation, tooling, process orders, and lab reports as required**
 - “ Critical Processes: Same to include on-site review**
- . Engineering approval required for each process prior to production authorization**
- . Gov’t intent to waive Part II for Rolls-Royce AMC, AMOF, or FMC companies**



SAR Submittals



-
- “ **SARs shall be submitted to Tinker AFB Small Business Office:**
 - “ **AFSC/SB**
3001 Staff Drive, Ste 1AG85A
Tinker AFB, OK 73145-3009

 - “ **For questions and assistance contact Small Business development point of contact:**
 - . **Ms. Laurel Chambers at 405-739-7243**



T56 Industry Day



QUESTIONS?

TEAM TINKER



U.S. AIR FORCE
