FJ44 Fleet Operations

- Over 5900 FJ44 Engines Delivered
- 14.0 Million Fleet Hours
FJ44-1AP

- 671 Engines Produced
- 750,000 Fleet Hours
FJ44-3A-24

- 455 Engines Produced
- Over 1.0 Million Fleet Hours
FJ44-3A

- 1164 Engines Produced
- Over 2.6 Million Fleet Hours
FJ44-4A

- 798 Engines Delivered
- 700,000 Fleet Hours
Scheduled Maintenance Overview
Routine Periodic Inspection (RPI)

- **Check 1 Inspection**
  - Every 300 Engine Hours

- **Check 2 Inspection**
  - Every 600 Engine Hours (No More Than 300 Hours After Check 1)

- The RPI Interval is Not to be Exceeded by More Than 30 Hours

- Service Center Level Maintenance Which Includes Basic Items Such as Igniter Inspections and Filter Replacements
Routine Periodic Inspection (RPI) - Update
Models Effected: ALL MODELS

The following items are no longer required during the Check 1 Inspection (300 hour interval).
- Fuel pump filter replacement.
- Fuel filter bowl inspection.

These items will only be accomplished during the Check 2 Inspection (600 hours interval).

We continue to strive to reduce maintenance requirements and minimize downtime. Additional efforts are being made in this regard and further improvements are expected in the future.
Major Periodic Inspections (MPI)
FJ44-1AP

- Alternate between Hot-Section Inspections (HSI) and Compressor-Section Inspections (CSI)
  - Checks 3/5/7/9 (HSI)
    - 1750 Hour Interval*
    - 2500 Hour Interval* If Enrolled in TAP
  - Checks 4/6/8/10 (CSI)
    - 3500 Hour Interval
    - 5000 Hour Interval* If Enrolled in TAP
  - The MPI Interval is Not to be Exceeded by More Than 50 Hours

* Some Limitations Apply. See Chapter 5 of the Line Maintenance Manual to Determine the Interval for Your Engines
Major Periodic Inspection (MPI)- Update
Models Effected: FJ44-3A and FJ44-3A/24

- Hot Section Inspections (Check 3, 5, 7, 9) interval extended to 3000 hours.
  - Engine configuration and program coverage limitations apply.
    - See Chapter 5 of the FJ44-3A LMM for details.
  - Compressor Section Inspection (Check 4, 6, 8, 10) remain at a 5000 hour interval.
FJ44-3A & FJ44-3A/24

- Alternate between Hot-Section Inspections (HSI) and Compressor-Section Inspections (CSI)
  - Checks 3/5/7/9 (HSI)
    - 2000 Hour Interval
    - 3000 Hour Interval* If Enrolled in TAP
  - Checks 4/6/8/10 (CSI)
    - 4000 Hour Interval
    - 5000 Hour Interval* If Enrolled in TAP
  - The MPI Interval is Not to be Exceeded by More Than 50 Hours

* Some Limitations Apply. See Chapter 5 of the Line Maintenance Manual to Determine the Interval for Your Engines
FJ44-4A

- **Checks 3/5/7 Hot-Section Inspection (HSI)**
  - 2500 Engine Hours

- **Checks 4/6/8 Compressor-Section Inspection (CSI)**
  - 5000 Engine Hours (Not More Than 2500 Hours After HSI)

- Alternate Between HSI and CSI (2500 Hour Interval)

- MPI Interval is Not to be Exceeded by More Than 50 Hours
Accessory Overhauls

- Accessory overhauls are independent from Major Periodic Inspections.
  - May come due between Major Periodic Inspections.
- Intervals vary by component. See Chapter 5 of the Line Maintenance Manual for your specific intervals.
- Accessories Include:
  - Fuel Delivery Unit
  - Lube and Scavenge Pump
Life-Limited Components (LLC)

- LLC may reach their maximum approved service life before or between a scheduled MPI.
- Monitor your LLC to prevent operation past their maximum approved service life.
- Service life limit may vary by component. See Chapter 5 of the Line Maintenance Manual for your specific intervals.
- LLC Include:
  - Fan Rotor
  - Intermediate Pressure Compressor Rotor
  - High Pressure Compressor Rotor
  - High Pressure Turbine Disk
  - 1st Low Pressure Turbine Disk
  - 2nd Low Pressure Turbine Disk
Key Service Documents
**Improved Fuel Tube Assemblies**

**Models Affected: All**

A more resilient configuration of fuel tubes has been developed.

- New Tubes are installed on all New Production Engines and Service Document have been released to update the existing fleet.
- Parts and Labor are covered on effected engines.
- Key Fuel Tubes will be replaced at Check1 or Check 2 (RPI)
- All other affected Tubes will be replaced at CSI.

**RPI Upgrade Service Documents**

- WISB-73-1008 (Models Affected: FJ44-1AP, 3A/24, 3A)
- WISB-73-1006 (Models Affected: FJ44-4A)

**CSI Upgrade Service Documents**

- WISB-73-1009 (Models Affected: FJ44-1AP, 3A/24, 3A)
- WISB-73-1005 (Models Affected: FJ44-4A)
Acceleration Bleed Valve Adjustment
Models Effected: FJ44-4A

- **Service Bulletin WISB-75-1006**
  - Released April, 2019

- **Description:**
  - This document makes an adjustment to the Acceleration Bleed Valve set screw
    - Brings engine bleed airflow characteristics in better alignment with design optimums.

- **Compliance: (Whichever Occurs First)**
  - Within 60 Flight Hours
  - No Later than October 1, 2019
  - At next Routine Periodic Inspection (RPI)

- **Coverage:**
  - Material and labor coverage for all effected engines

- **Effectivity:**
  - Various FJ44-4A
    - See document to determine engine specific effectivity
Intermediate Pressure Compressor (IPC)  
Models Effected: FJ44-4A

- **Background:**
  - A small number of FJ44-4A engines have shed a blade from the Intermediate Pressure Compressor (IPC).
  - Loss of these thin, small blades may result in noise, vibration, or change in operating parameters of the engine.
  - The issue is the result of a thin area in the blade profile that may fatigue.
Intermediate Pressure Compressor (IPC)  
Models Affected: FJ44-4A

- Service Bulletin WISB-72-1023  
  - Released April, 2019

- Description:  
  - This document replaces the IP compressor rotor with the latest design

- Compliance:  
  - Recommended at next MPI  
    - We are working to replace IPC Rotors even sooner as hardware and resources allow.  
    - IPC Rotor replacement is accomplished on-wing at a Williams-authorized Line Maintenance Elite service center.

- Coverage:  
  - Labor covered for all affected engines  
  - Materials covered for all engines enrolled in TAP  
  - For engines not on a maintenance program, IP compressor rotor is prorated

- Effectivity:  
  - See document to determine engine specific effectivity
FJ44
General Topics
FADEC Update

New Configuration of FADEC system is now certified for new production engines.

- Production cut in points:
  - 525M2-1019
  - 525B-0583
  - 525C-0297

Optional upgrade for the existing fleet planned in the future.

- Key differences
  - Expanded self diagnostics capabilities.
  - More durable FCU housing configuration.
  - Improved start protection logic.
  - Improved ECU thermal management (improves long term durability)
# FADEC Update

- **Hardware Compatibility**
  - The new FCU and ECU are interchangeable with the old configurations.
  - Both engines must have the same electronic control type (i.e. both new or both old) with matching software.

**NOTE:** The new ECU cannot be used on CJ3 (only certified on CJ3+).
Williams International World Headquarters - Dawn of a New Era -

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Williams International World Headquarters
- Dawn of a New Era -

  
  - Expands our product support capabilities to better serve you
    - Modern training facility for hosting our highly-rated aircraft operator and technician training.
    - Open, integrated office area where we have room to expand as the fleet grows.
    - Larger, streamlined Repair Station.
  
  - Provides us with the ability to further accelerate our rapid pace of product development & improvement in offerings made to our customers.
  
  - Our world class environment helps us attract the best in the business to better serve you.
Engine Maintenance Terminal (EMT)

- Having an EMT on board the aircraft can reduce AOG down time.
- Allows for FADEC data to be sent to us upon landing.
- This allows fault and other information to be reviewed
  - assists in troubleshooting and determining corrective action
  - Allows quicker dispatch of hardware or personnel if needed
  - Clearing of faults can be accomplished
EMT Overview

- Used to program and interrogate the FADEC System.
- Includes:
  - EMT Software
  - USB to Serial Converter
  - Communication Cables
  - Computer
- Key Uses:
  - Routine Maintenance Downloads
  - Engine or ECU replacement programming
  - Engine Control Software programming
  - Trouble Shooting and Clearing of FADEC Faults and Exceedances
  - Downloading and submitting FADEC system data including Faults, Trends and exceedances
EMT Software

- Two versions of EMT Software:
  - **Basic EMT**
    - Intended for use by operators.
    - Free download from our website.
    - Functions:
      - Download FADEC Data (.einfo file)
      - View and log engine parameters
      - View and clear FADEC faults
      - View Exceedances
      - View FADEC lifing values and control settings
  - **Full EMT**
    - Intended for use and purchase by trained maintenance providers.
    - Additional Functions:
      - FADEC control software programing
      - Updating FADEC lifing values and control settings
EMT Hardware

Windows Based Computer

Communication Cable TL301256

Serial to USB Converter TL301307
EMT Communication Outlets

CJ1+, CJ2+, CJ3

M2 and CJ3+

CJ4
FADEC DOWNLOADS

➢ All FADEC downloads should be sent to:
  FADEC@Williams-int.com

➢ The above email address is used for automated data collection. These files are not actively reviewed. If assistance is needed with FADEC fault issues:
  ➢ Submit a request for assistance at www.williams-int.com > Product Support > Ask a Question
  ➢ E-mail your request to WIProductSupport@williams-int.com

Instructional Videos on the use of EMT are available on our Website.
Product Support App

Just Launched

News for Owners and Operators

New Product Support App

We have just launched a new Product Support mobile application.

Anyone with a Product Support Portal account can utilize the app on iOS and Android mobile devices to quickly access several tools.

One noteworthy new feature is the ability to request Routine Periodic Inspection kits for engines enrolled in the Total Assurance Program. The app also includes a tool for scheduling Major Periodic Inspections and other maintenance events.

Go mobile with your product support by searching “Williams International” on Apple’s App Store or the Google Play Store today.
TAPADVANTAGE® BLUE

Program Benefits include:

- “Optional” Bulletin Coverage
- Foreign Object Damage Coverage
- Corrosion Coverage at MPI
- Express Compressor Section Inspection
- Unscheduled Engine Removal Credit
- Minimum Hour Forgiveness
- And More….
Contacting Us

www.williams-int.com

WIProductSupport@williams-int.com

1-(800)859-3544 (USA)

1-248-960-2929 (Outside USA)
Thank You!

Enjoy the Remainder of Your Conference