GENERAL

aviation unit and intermediate maintenance gas turbine engine auxiliary power unit apu model t 62t 40 1 part numbers 116305 100 and 116305 200 sudoc d 1011155 2835 208 23

Published: September 19, 2026 | Index ID: #-

Understanding the Aviation Unit and Intermediate Maintenance of the T 62T 40 1 APU

The aviation industry relies on complex, high performance systems to keep aircraft running safely and efficiently. One of the most critical components in modern jet aircraft is the Auxiliary Power Unit (APU), a compact gas turbine engine that supplies electrical power, bleed air, and hydraulic pressure when the main engines are off. Among the many APU models in service, the **T 62T 40 1** stands out for its reliability and widespread use in both commercial and military fleets. This article provides a detailed, step by step guide to the intermediate maintenance of the T 62T 40 1, covering part numbers, service procedures, troubleshooting tips, and best practices for keeping this essential aviation unit in top condition.

Why the T 62T 40 1 APU Matters

Auxiliary Power Units are the unsung heroes of aircraft operations. They allow pilots to:

- Power avionics, cabin lighting, and environmental control systems during taxi, take off, and landing.
- Provide bleed air for engine start and air conditioning.
- Serve as an emergency power source if the main engines fail.

Given these vital functions, maintaining the APU—particularly during intermediate maintenance intervals—is essential for flight safety, regulatory compliance, and operational readiness.

Key Features of the T 62T 40 1 APU

The T 62T 40 1 is a lightweight, single stage gas turbine that delivers:

- Electrical power: 115 /V, 400 /Hz, 400 /A (or equivalent).
- Bleed air pressure: up to 20 /psi.
- Operational life: 5,000–7,000 operating hours before major overhaul.
- Weight: approximately 120 /kg.

Its compact design and robust construction make it ideal for a wide range of aircraft, from regional jets to larger narrow body airliners.

Part Numbers You’ll Encounter

When performing intermediate maintenance on the T 62T 40 1, you’ll frequently reference specific part numbers. Two critical components are:

- 116305 100 – This part number identifies the main turbine blade assembly.
- 116305 200 – This part number refers to the compressor stage rotor.

Additionally, the APU's diagnostic system often references the **SUDOC D 1011155** code, which relates to the electronic control unit (ECU) firmware. For more detailed maintenance tasks, the **2835 208 23**series includes various hydraulic fittings and seal kits.

Intermediate Maintenance Overview

Intermediate maintenance is the routine check performed after a specified number of operating hours or after a certain number of cycles. For the T 62T 40 1, the typical interval is every 300–500 operating hours. The goal is to catch wear or damage before it leads to a failure.

Preparation Steps

1. Review the Maintenance Manual – The Aircraft Maintenance Manual (AMM) and APU Maintenance Manual (APUM) provide the most accurate information.
2. Gather Tools – Torque wrenches, pressure gauges, and diagnostic software are essential.
3. Verify Part Availability – Ensure that parts 116305 100 and 116305 200, as well as any SUDOC firmware updates, are on hand.
4. Safety Precautions – Disconnect the APU from the aircraft's power system and follow lockout/tagout procedures.

Inspection Checklist

The following checklist outlines the key areas to examine during intermediate maintenance:

- External Inspection – Check for oil leaks, corrosion, and physical damage.
- Turbine Blade Assembly (116305 100) – Inspect for erosion, cracks, and wear.
- Compressor Rotor (116305 200) – Verify balance and alignment.
- Fuel System – Inspect filters, injectors, and fuel lines.
- Electrical System – Test the ECU (SUDOC D 1011155) for proper operation.
- Hydraulic System – Examine fittings and seal kits (2835 208 23).
- Cooling and Lubrication – Verify oil levels, filter condition, and cooling fan operation.

Common Issues and Their Causes

During intermediate checks, technicians may encounter several recurring problems. Understanding the root causes helps prevent future failures.

- Blade Erosion (116305 100) – Often due to contaminated fuel or improper operating temperature.
- Rotor Imbalance (116305 200) – Can result from manufacturing defects or wear over time.
- ECU Errors (SUDOC D 1011155) – Firmware glitches or sensor malfunctions.
- Hydraulic Seal Failure (2835 208 23) – Age or improper installation.

Step by Step Maintenance Procedure

Below is a comprehensive guide to performing intermediate maintenance on the T 62T 40 1. Follow each step carefully and refer to the official maintenance manuals for detailed torque specifications and safety guidelines.

1. Disconnect and Isolate the APU

Use the aircraft's lockout/tagout system to ensure the APU is completely isolated from all power sources. This includes:

- Cutting off the main power bus.
- Removing any external power connectors.

- Securing the APU in a safe position.

2. Drain and Replace Oil

Oil is the lifeblood of the turbine. Drain the old oil, inspect for contaminants, and replace with fresh, manufacturer specified oil. Remember to:

- Check the oil filter for wear.
- Record the oil level after refilling.
- Dispose of old oil in accordance with environmental regulations.

3. Inspect the Turbine Blade Assembly (116305 100)

Remove the blade assembly and inspect each blade for:

- Surface erosion or pitting.
- Cracks or fractures.
- Proper alignment with the turbine housing.

If any blade shows significant wear, replace it with a new part 116305 100. Ensure all blades are balanced before reassembly.

4. Examine the Compressor Rotor (116305 200)

Check the rotor for:

- Vibration signatures that indicate imbalance.
- Surface damage or wear.
- Proper bearing clearance.

Use a vibration analyzer to confirm that rotor dynamics are within acceptable limits. Replace the rotor if any irregularities are detected.

5. Test the Electronic Control Unit (SUDOC D 1011155)

Connect diagnostic software to the APU's ECU. Run a full diagnostic cycle to check for:

- Fault codes.
- Sensor data integrity.
- Firmware version.

If errors appear, update the firmware or replace faulty sensors. Always document any changes in the maintenance log.

6. Check Hydraulic Fittings and Seals (2835 208 23)

Inspect all hydraulic connections for:

- Seal integrity.
- Leakage.
- Proper torque on fittings.

Replace any worn seals with the 2835 208 23 kit. Tighten fittings to the manufacturer's specified torque values.

7. Verify Cooling and Lubrication Systems

Ensure the cooling fan operates at the correct speed and that the fan blades are free of damage. Check the lubrication system for:

- Proper oil pressure.

- No blockages in oil lines.

Replace any clogged filters and verify oil pressure readings with a gauge.

8. Reassemble and Perform a Test Run

After all components have been inspected and replaced as necessary, reassemble the APU. Follow these steps:

- Secure all bolts with the correct torque.
- Reconnect the APU to the aircraft's power system.
- Run a short test cycle to confirm proper operation.
- Monitor temperature, pressure, and vibration data.

Record all test results in the aircraft's maintenance log.

Best Practices for APU Maintenance

Beyond the standard procedure, here are several best practices that can extend the life of the T 62T 40 1 and reduce downtime:

Use High Quality Fuel

Contaminated or low grade fuel accelerates blade erosion. Implement a strict fuel quality monitoring program and use only approved aviation fuel.

Schedule Regular Training

Keep maintenance personnel up to date with the latest service bulletins and technical updates. Regular training reduces the risk of human error.

Maintain Detailed Records

Accurate logs of oil changes, part replacements, and diagnostic results help identify trends and anticipate future maintenance needs.

Implement Predictive Analytics

Use vibration analysis and thermography to detect early signs of wear. Predictive analytics can alert crews before a component fails.

Common Troubleshooting Scenarios

Below are typical problems that can arise during APU operation and how to address them.

1. Reduced Electrical Output

Possible causes include:

- Compressor rotor imbalance (116305 200).
- Electrical connector corrosion.
- ECU misconfiguration.

Solution: Inspect and balance the rotor, clean connectors, and verify ECU settings.

2. Overheating

Causes:

- Blocked cooling fan.

- Low oil level or pressure.
- Excessive engine load.

Solution: Clean or replace the fan, check oil levels, and reduce load if possible.

3. Unexpected Shutdowns

Potential reasons:

- Fuel filter blockage.
- Hydraulic seal leak.
- ECU fault codes.

Solution: Replace filters, seal leaks, and clear fault codes.

FAQs About the T 62T 40 1 APU

- What is the typical lifespan of the T 62T 40 1? Usually 5,000–7,000 operating hours before a major overhaul.
- Can I use aftermarket parts? It is recommended to use OEM parts (e.g., 116305 100, 116305 200) to ensure compatibility and safety.
- How often should I update the ECU firmware? Follow the manufacturer's service bulletins; typically every 1–2 years or after a major software release.
- What are the key indicators of impending failure? Increased vibration, abnormal temperature readings, and irregular ECU fault codes.

Conclusion

Baca Juga (Artikel Terkait)

- **advanced engineering electromagnetics solution manual edition hardcover by balanis constantine a published by wiley**
  URL: http://dtrainderailed.com/advanced-engineering-electromagnetics-solution-manual-edition-hardcover-by-balanis-constantine-a-published-by-wiley.pdf
- **advanced engineering electromagnetics solutions manual**
  URL: http://dtrainderailed.com/advanced-engineering-electromagnetics-solutions-manual.pdf
- **advanced engineering electromagnetics wiley 1989 grading**
  URL: http://dtrainderailed.com/advanced-engineering-electromagnetics-wiley-1989-grading.pdf
- **advanced engineering fluid mechanics by biswas**
  URL: http://dtrainderailed.com/advanced-engineering-fluid-mechanics-by-biswas.pdf