APU MONITORING CHECK LIST

and TROUBLESHOOTING GUIDE

GTCP36-100 APU

1. Did the air door open normally? ____
2. Was the start a normal start? ___ yes ___no
    a. Did you get Rotation? ____
    b. Did you get Ignition at around 10%? _____ How long until ignition? _____
    c. Did Starter disengage at 60%? ____,
    d. Did it reach its no-load RPM in normal time? ____
    e. Did the generator come on at 95% (plus 4 seconds)?
    f. Did the APU then accelerate to its governed speed of 100%?
3. Was the acceleration time normal? _____
4. What was the EGT at idle (bleed off)? _____ ° F (Normal is 644F-734F)
5. What was the EGT at full load (bleed on)? _____° F
6. Did it take longer or shorter than 45 seconds to run down, at shutdown? _____
7. Other comments: _____
8. Protective shutdown devices: low oil press, high EGT, overspeed.

- Once the APU is on-speed and has stabilized wait for at least 1 minute before the Bleed valve is selected.
- A Bleed valve that fails to close completely can cause high EGT during acceleration and possibly hung starts.
- A bleed valve that fails to open fully can result in lower aircraft duct pressure and lower EGT when operating with bleed load.
- When Bleed is selected it also provides EGT temperature protection for the APU. This is done by the ECU by modulating the valve open and closed.
- A loss of monopole signal will shut down the APU.
- With no monopole signal a start attempt will motor the APU, but there will be no combustion and no RPM indication. (because the ECU cannot "see" speed. No speed signal, no 10% switch for fuel, ignition, surge valve opening, and no speed indication).
- A low oil pressure situation will allow the APU to start and accelerate to 95% RPM plus 10 seconds before an auto shutdown.
- Hot oil temperature (HOT) will cause and auto shutdown, and no restart.
- If you get a HOT shutdown, check that the APU is actually hot. If it is not warm, then the problem is an electrical fault. Look for a loose pin, corroded connection, faulty ECU.
- A failed FCU (fuel control unit) torque motor, harness, cannon plug, or ECU (fuel control driver circuits), will still allow APU to start and accelerate to 50% RPM.
- A leaking fuel shutoff valve will allow fuel to flow into the combustor as soon as the boost pump is energized. This excess fuel can cause booming starts and high EGT. It can also extend the APUs normal 45 second run-down time and carbon-up the fuel atomizer.
- A restricted fuel atomizer will cause APU RPM to decrease as the load is increased.

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