



FAA # IYZ6R162C

EASA# 145.6758

UK #UK.145.50643

TECHNICAL BULLETIN

Subject: Troubleshooting Strategy for Repeat Removals and Intermittent Units – Position Swapping and Aircraft Reassignment

1. Purpose

This bulletin provides recommended troubleshooting strategies for operators experiencing repeat removals or intermittent discrepancies that cannot be duplicated in a controlled shop environment.

Specifically, this guidance addresses the practice of:

- Moving a suspect unit from one cockpit position to another within the same aircraft
- Reassigning the unit to a different aircraft within the fleet

This method may help isolate aircraft-related causes from unit-related causes.

2. Background

AAE frequently encounters units identified as “repeat offenders” that:

- Exhibit discrepancies on aircraft
- Do not duplicate the reported failure during bench testing
- Pass all environmental and performance checks

Intermittent discrepancies may be influenced by aircraft-specific factors rather than internal unit malfunction.



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3. Contributing Aircraft Variables

Field conditions that may contribute to intermittent behavior include:

- Elevated cockpit or avionics bay temperatures
- Excessive vibration
- Electrical noise or grounding inconsistencies
- Wiring harness issues, including:
 - Chafing
 - Weak or broken conductors
 - Poor crimps
 - Cold solder joints
 - Bent or stressed pins
 - Connector contamination

Environmental and installation variables often cannot be fully replicated in a controlled repair station environment.

4. Recommended Troubleshooting Strategy

When repeat removals occur without confirmed bench failure, AAE recommends:

A. Position Swap Within Same Aircraft

Move the suspect unit to another cockpit position (if applicable).

Monitor whether the discrepancy:

- Follows the unit
- Remains in the original aircraft position

This helps determine whether the issue is position-related (wiring, connector, environmental) or unit-related.

B. Aircraft Reassignment



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Install the suspect unit into another aircraft of similar configuration and monitor performance.

If the discrepancy:

- Follows the unit → likely unit-related
- Remains with the original aircraft → likely installation or aircraft-related

5. Findings

AAE has observed that many repeat removals ultimately trace to aircraft-side conditions rather than to confirmed internal unit failures.

Units returned without duplicated bench faults often pass:

- Functional testing
- Environmental simulation
- Vibration testing (as applicable)
- Electrical performance testing

This suggests the root cause may exist outside the component itself.

6. Impact of Non-Duplicated Failures

When failures cannot be reproduced:

- Troubleshooting time increases
- Turnaround time may be extended
- Root cause identification is delayed
- Repeat removals may continue

Systematic aircraft-side isolation strategies can significantly reduce unnecessary removals and maintenance costs.

6. Further Information



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