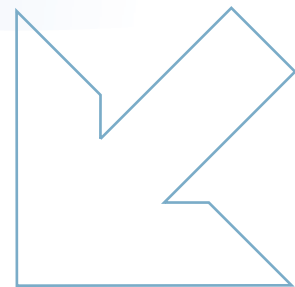




Why do certain AMM tasks require equipment resets?



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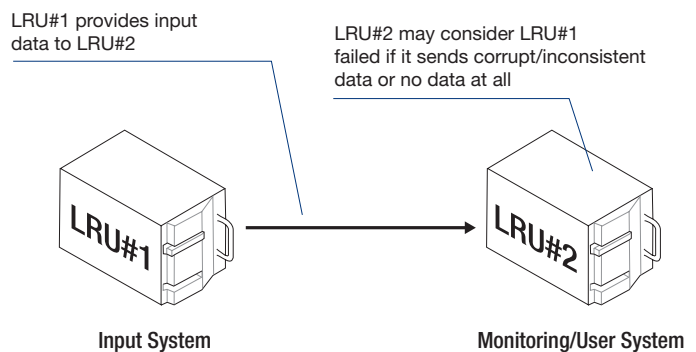
1 | Introduction

While Line Replaceable Unit (LRU) replacement is often performed under significant pressure to maintain a timely aircraft departure, the relevant Aircraft Maintenance Manual (AMM) should not be forgotten. This article looks at one aspect of those AMM procedures whose importance may not always be entirely understood.

While the AMM may not always explicitly require a reset, this can be accomplished by an OFF/ON action request. For example, when starting a task, it may simply require switching OFF certain LRUs. This is accomplished either by pulling the relevant Circuit Breaker or by Cockpit Push Button. At the end of the task, when returning the aircraft to original configuration, the operator is required to switch the LRU back ON. A reset is effectively performed by the OFF/ON action. The LRU may also be switched OFF to avoid electrical or data disturbances in the affected system.

2 | Why do certain AMM tasks require equipment resets?

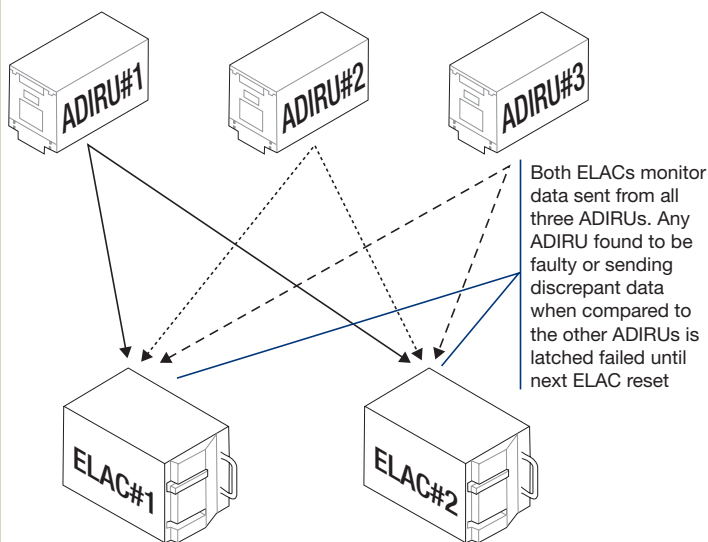
The reset is often necessary to clear faults recorded by systems before or even possibly during maintenance. Some systems (the example below illustrates this) use fault latching mechanisms. That is to say that once a fault has been detected, the input system will be considered unavailable until the user system is next reset.



Typically if maintenance actions are performed to correct a given fault, it can be necessary to reset user systems to ensure that they consider the input system operational again.

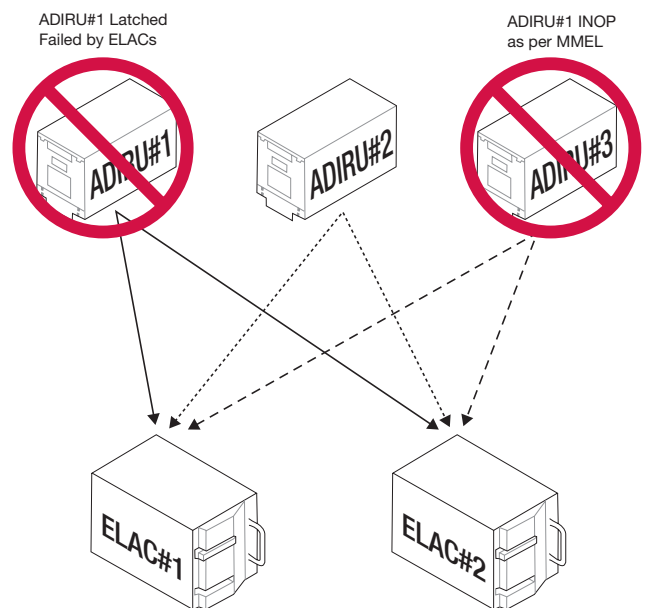
3 | An example of Air Data/Inertial Reference Unit (ADIRU) replacement

Airbus recently investigated an event in which it was found that an aircraft departed in Alternate Flight control law following maintenance actions not performed fully according to AMM procedure. The circumstances of this event were as follows: During flight an ADR#1 (Air Data Reference) fault was detected. The ELAC (Elevator and Aileron Computer) on detecting this fault, latched the ADR#1 as failed until its next reset. The ELAC subsequently used only ADR#2 and #3 data for calculations.



Upon landing, the maintenance crew swapped ADIRU#1 and #3, consequently the faulty ADIRU#1 became ADIRU#3. ADIRU#3 was therefore placed INOP as per MEL and the aircraft dispatched. At no point was an ELAC & SEC reset or aircraft electrical power reset performed. The consequence of this was significant: the ELAC kept its memory of ADR#1 Fault latched from the

previous flight. In addition it detected that the ADR#3 was INOP. Without ADR#1 or #3, only ADR#2 was considered available. Under these conditions the Electronic Flight Control system is only capable of operating in Alternate Law.



Had the maintenance crew correctly followed the AMM, including the ELAC reset, then the ADR#1 fault latched by the ELAC would have been reset and the Alternate law condition avoided.

5 | Conclusion

- Remember to always follow the relevant AMM task, even if each step may not always appear necessary.
- If in any doubt:
 - Contact Airbus customer support to task for assistance.
 - Perform an electrical reset of the aircraft: cut all aircraft electrical power, wait 5 minutes, and then power up again.



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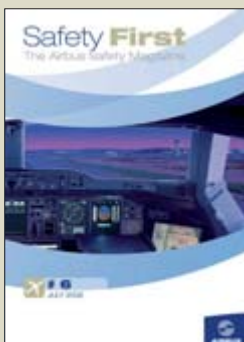
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