A319/A320 (MOD 154327) AND A321 - JET-PUMP TRANSFER - CTR L(R) XFR FAULT

Reference: 28.26.00.008 Issue date: 14-FEB-2025 Last check date: 03-JUL-2025 Status: Open
A/C type/serie: A319, A320, A321 ATA: 28-26
Engine manufacturer: Supplier: EATON LIMITED
Purpose / Reason for revision: Link to E/W added

Engineering Support

Status: Open

EXPORT CONTROL: NOT TECHNICAL

Revision: changes to this new TFU revision are highlighted in ***bold blue****.*

Applicability:

A319/A320 fitted with MOD 154327 and A321.

Reference / Documentation:

AMM Task 28-26-00-710-001-A

Description

Some operators are reporting multiple CTR L or R XFR FAULT on A319/A320 (MOD 154327) and A321 fitted with the Jet-Pumps Fuel Transfer System.

The reported transfer system behaviour includes:

1. Intermittent fault triggering and occurring randomly in different flight phases (mostly 2 and 6).
2. Approximately 80-90% of the faults reported are impacting the transfer RH side.
3. The faults are reported with aircraft in the following configuration:
    - No fuel in the CTR tank.
    - Mode transfer in AUTO (*MODE SEL P/BSW (4QL)* pushed in).
    - Mode transfer ON (*CTR TK XFR B/BSW (5QL, 6QL)* pushed in).
4. Most of the cases are showing transfer valves amber "XX" on the ECAM.

Consequence

As the faults are triggered with the CTR tank empty, no consequence is to be expected.

Investigation Status

The root cause of oxidation causing a 'low wetting' current is no longer considered valid. An in-service evaluation of a MOD was not conclusive, as it showed no change in the fault rate. The MOD introduced a resistor in the wiring of the Main Transfer System circuit. An In-Service Evaluation (ISE) was launched in order to assess the effectiveness of this resistor. This ISE was inconclusive. Additionally, this root cause did not explain the asymmetry between right and left sides.

The fault message is still found to be caused by the loss of the Transfer Control Valve FULLY CLOSED feedback signal, though the root cause of the loss of feedback signal has changed. Testing shows in flight phase 2 that with the actuator in the closed position, an interruption of power causes the actuator to move a small amount away from the closed position. This interruption of power is suspected to be predominantly caused by a power transition (from APU power to engine power). After a series of power switches, the accumulated movement may cause the actuator to no longer indicate a FULLY CLOSED position and lead to the noted fault messages.

This explains the reason why the faults are predominantly observed on aircraft operating with their center tank empty for extended time period. Indeed, if the center tank is used, it should reset the actuator position and prevent the message from occurring. This root cause also addresses the asymmetry, as the fault occurs more commonly on the right side. In most airline's operations the right-side engine 2 is started first.

This root cause also explains why the mitigating procedure should help to reduce the fault occurrence, as cycling the valve resets it to a fully closed position.

There is currently no conclusive explanation for the faults reported in Cruise (Flight phase 6). One hypothesis is that the most recent small incremental movements of the actuator were insufficient to disengage the micro-switch feedback contact, but additional vibrations, due to acceleration and take-off could be sufficient to fully disengage it.

Mitigation / Interim Plan

A. In case some fuel is required in the centre tank for next dispatch:

Perform Operational Test of the Main Transfer System as per AMM Task 28-26-00-710-001-A to confirm that transfer system is operating correctly.

If the fault cannot be replicated on ground, no further action is required.

B. In case no fuel is required in the centre tank for next dispatch:

1. To ensure the CTR tank valves are normally **closed** with CTR tank empty in **AUTO mode**:
    a. At the panel 40VU, make sure that:
        - The P/BSW-FUEL/CTR TK/MODE SELECT/AUTO (4QL) is set to AUTO (pushed in).
        - The P/BSW-FUEL/CTR TK/L XFR (5QL) and /R XFR (6QL) are set to ON (pushed in).

    b. At the lower ECAM DU (FUEL system display page), make sure the Centre Tank Transfer Valve symbols show crossline – green (NOTE: This shows the transfer valve position agrees with CTR tank empty in AUTO mode).

    c. Get access to the actuator 11QL and 12QL (Ref. AMM 28-26-51-000-001):
        - Make sure the actuator 11QL and 12QL see/feel indicators (on the actuator body) show in the close position.
        - If the actuator 11QL and/or 12QL:
            - Are found to be close, go to step 2.
            - Do not go to the close position, refer to TSM 28-26-00-810-804-A and/or TSM 28-26-00-810-805-A.

2. To ensure the CTR tank valves can be correctly operated **open** in **MANUAL mode**:
    a. At the panel 40VU, make sure that:
        - The P/BSW-FUEL/CTR TK/MODE SELECT/AUTO (4QL) is set to MAN (released out).
        - The P/BSW-FUEL/CTR TK/L XFR (5QL) and /R XFR (6QL) are set to ON (pushed in) to open the transfer valves.

    b. At the lower ECAM DU (FUEL system display page), make sure the Centre Tank Transfer Valve symbols show in line – green (NOTE: This shows the transfer valve position agrees with the switch position).

    c. Get access to the actuator 11QL and 12QL (Ref. AMM 28-26-51-000-001).
        - Make sure the actuator 11QL and 12QL see/feel indicators (on the actuator body) show in the open position.
        - If the actuators 11QL and/or 12QL:
            - Are found to be open, go to step 3.
            - Do not go to the open position, refer to TSM 28-26-00-810-806-A and/or TSM 28-26-00-810-807-A.

3. To ensure the CTR tank valves can be correctly operated **close** in **MANUAL mode**:
    a) At the panel 40VU, make sure that:
        - The P/BSW-FUEL/CTR TK/MODE SELECT/AUTO (4QL) is set to MAN (released out).
        - The P/BSW-FUEL/CTR TK/L XFR (5QL) and /R XFR (6QL) are set to OFF (released out) to close the transfer valves.

b) At the lower ECAM DU (FUEL system display page), make sure the Centre Tank Transfer Valve symbols show crossline – Amber (NOTE: This shows the transfer valve position agrees with the switch position).

c) Get access to the actuator 11QL and 12QL (Ref. AMM 28-26-51-000-001).
   - Make sure the actuator 11QL and 12QL see/feel indicators (on the actuator body) shows in the close position.
   - If the actuator 11QL and/or 12QL:
     - Are found to be close, no more troubleshooting work steps are necessary. Make a note of conditional step 4.
     - Do not go to the close position, refer to TSM 28-26-00-810-804-A and/or TSM 28-26-00-810-805-A.

4. Restore System back to initial configuration
   a) Restore P/BSW-FUEL/CTR TK/MODE SELECT/AUTO (4QL) to AUTO position

   b) At the lower ECAM DU (FUEL system display page), make sure the Centre Tank Transfer Valve symbols remains Amber crossline (NOTE: This shows the transfer valve position agrees with the switch position).

5. If the CTR L(R) XFR FAULT are reported repeatedly during a short period of time on an aircraft (i.e. more than 1 occurrence within 3 consecutive flight legs), prior to the next flight with fuel required in the centre tank, perform an Operational Test of the Main Transfer System as per AMM Task 28-26-00-710- 001-A to confirm that transfer system is operating correctly.

NOTE

If the CTR L(R) XFR FAULT is observed to occur repeatedly on an aircraft, the recommendation is to implement the following procedure to perform cycling of the Centre Tank Transfer Valves after every flight (irrespective if the fault has occurred on the particular flight or not). Alternatively, the cycling can be done on a daily or bi-weekly basis based on operator experience:

1. At the panel 40VU, make sure that:
   a. The P/BSW-FUEL/CTR TK/MODE SELECT/AUTO (4QL) is set to AUTO (pushed in).
   b. The P/BSW-FUEL/CTR TK/L XFR (5QL) and /R XFR (6QL) are set to ON (pushed in).
   c. At the lower ECAM DU (FUEL system display page), make sure the Centre Tank Transfer Valve symbols show crossline – green.

2. Open the Centre Tank Transfer Valves:
   a. The P/BSW-FUEL/CTR TK/MODE SELECT/AUTO (4QL) is set to MAN (released out).
   b. At the lower ECAM DU (FUEL system display page), make sure the Centre Tank Transfer Valve symbols show in line – green.

3. Close the Centre Tank Transfer Valves:
   a. The P/BSW-FUEL/CTR TK/MODE SELECT/AUTO (4QL) is set to AUTO (pushed in).
   b. At the lower ECAM DU (FUEL system display page), make sure the Centre Tank Transfer Valve symbols show crossline – green.

We would like to ask operators to confirm implementation of the above procedure and to provide feedback on the associated effect (contact 1SYPF through TechRequest).

Permanent Solution

The final solution is targeted for the end of 2026 for which a Service Bulletin will likely be issued.

The permanent solution should consist in the installation of standard timer relays into a relay panel to eliminate the inadvertent actuator movements and to stop the spurious FUEL CTR XFR Faults from occurring.

Survey for the Engineering Support section

Annex

General Information

Potential impact:					
Key information:					
Solution benefit:					
First issue date:	27-NOV-2015	Issue date:	14-FEB-2025	Last check date:	03-JUL-2025

Technical parameters

ATA:	28-26
A/C type/serie:	A319, A320, A321
Engine:	
Engine manufacturer:	
Fault code/ECAM warning:	FUEL CTR L XFR FAULT, FUEL CTR L+R XFR FAULT, FUEL CTR R XFR FAULT
FIN:	11QL, 12QL
Part Number:	HTE200002-1
Supplier:	EATON LIMITED

Attachments

General:

- TFU_28.26.00.008_Summary.pptx

Links

N/A