

| EASA | AIRWORTHINESS DIRECTIVE | |
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|  | <p style="text-align: center;">AD No.: 2006 - 0222</p> <p style="text-align: center;">Date: 20 July 2006</p> | |
| <p>No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.</p> | | |
| <p>Type Approval Holder's Name : AIRBUS</p> | <p>Type/Model designation(s) : A318, A319, A320 and A321 aircraft</p> | |
| <p>TCDS Number : EASA.A.064</p> | | |
| <p>Foreign AD : None</p> | | |
| <p>Supersedure : EASA 2006-0106-E</p> | | |
| <p>ATA 28</p> | <p>Fuel - Main Fuel Pump System/Fuel Pumps</p> | |
| <p>Manufacturer(s):</p> | <p>AIRBUS (formerly AIRBUS INDUSTRIE)</p> | |
| <p>Applicability:</p> | <p>AIRBUS A318, A319, A320 and A321 aircraft, all certified models, all serial numbers, that are equipped with fuel pumps manufactured by Eaton Aerospace Limited (formerly FR-HITEMP limited) part number (PN) 568-1-27202-005 with a serial number from 6137 and above.</p> <p>Aircraft on which fuel pumps have not been modified or replaced since embodiment of AIRBUS modification 36734 in production are not affected by the requirements of this AD.</p> <p>Reminder: It is the responsibility of the operator to ensure that any fuel pump replaced on aircraft after having complied with this AD, still complies with the requirements of this AD.</p> | |
| <p>Reason:</p> | <p>An operator reported a failure of this type of fuel pump in service.</p> <p>Subsequent investigation revealed that the cause of the pump failure was that one of the two screws and nuts holding the gas return connector to the top of the motor housing had become unscrewed. The screw dropped between the motor rotor and the stator where it caused the short circuit resulting in the circuit breaker tripping. Further investigation concluded that this was due to the inadequate locking mechanism of the nut and the screw being incorrectly torque tightened.</p> | |

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| | <p>Consequently, the integrity of the pump's explosion proof housing is not kept and arcing may occur during the failure. In case the pump is not submerged in fuel, an explosion could occur both in-flight or on ground.</p> <p>As a result, an Emergency Airworthiness Directive (AD) was issued on May 2nd 2006 to mandate airworthiness limitations.</p> <p>Subsequently, SBs A320-28-1152 "Identification of fuel pumps with inadequate locking of screws and incorrect torque" and A320-28-1153 "Apply correct torque and screw locking on gas return outlet bolts" have been issued as a final fix to airworthiness limitations.</p> <p>This AD cancels AD 2006-0106-E, and, in addition to airworthiness limitations, mandates SB A320-28-1152 and A320-28-1153.</p> |
| Effective Date: | 31 July 2006 |
| Compliance: | <p>A. AFM and Airworthiness limitations applicable to all aircraft :</p> <p>From May 02,2006 (effective date of AD 2006-0106-E), it is mandatory to apply following procedure at each fuel loading :</p> <p>A.1. Refuelling :</p> <p>Before refuelling, all pumps must be turned off, in order to prevent them from automatically starting during the refuelling process.</p> <p>A.2. Ground fuel transfer :</p> <p>For all aircraft, do not start a fuel transfer from any wing tank, if it contains less than 700 kg (1550 lb) of fuel.</p> <p>For A318, A319, and A320 aircraft with a centre tank, do not start a fuel transfer from the centre tank, if it contains less than 2 000 kg (4500 lb) of fuel.</p> <p>If a tank has less than the required quantity, it is necessary to add fuel (via a transfer from another tank or refuelling) to enable a transfer to take place.</p> <p>A.3. Defuelling</p> <p>For all aircraft, when defuelling the wings, do not start the fuel pumps if the fuel quantity in the inner tank (wing tank for A321) is below 700 kg (1 550 lb). If the fuel on the aircraft is not sufficient to achieve the required fuel distribution, then transfer fuel or refuel the aircraft to obtain the required fuel quantity in the wing tank.</p> <p>For A318, A319, and A320 aircraft with a centre tank, when performing a pressure defuel of the centre tank, make sure that the centre tank contains at least 2 000 kg (4 500 lb) of fuel. If it has less than the required quantity, then transfer fuel to the centre tank. Defuel the aircraft normally, and turn OFF the centre tank pumps immediately after the FAULT light on the corresponding pushbutton-switch comes on.</p> |

B. AFM limitation applicable to aircraft fitted with centre tank (mod 20024) excluded A321 aircraft all models :

From May 02,2006 (effective date of AD 2006-0106-E), the following procedure is mandatory for all flights :

If it is confirmed by the maintenance/engineering personnel that the flight is going to be performed with :

- centre tank pumps not in the affected batch, or
- centre tank de-activated and empty, then, the following procedure does not apply.

CENTRE TANK PUMPS OPERATION PROCEDURE :

WARNING :

Do not turn on the centre tank pumps when the centre tank contains less than 2 000 kg (4 500 lb) of fuel, even if it is requested by another procedure.

Before and during refuelling, turn all tank pumps off.

- If the total FOB after refuelling is less than or equal to 12 000 kg (26 500 lb):

On ground, after refuelling:

Check that the centre tank is empty.

Note : If it is not empty, the fuel contained in the centre tank must be considered unusable.

Turn on all wing tank pumps

Maintain both centre tank pumps off

Turn FUEL MODE SEL to MAN

- If the total FOB after refuelling is more than 12 000 kg (26 500 lb)

On ground, after refuelling :

Check that the centre tank contains at least 2 000 kg (4 500 lb) of fuel.

Note : If the fuel quantity is less than 2 000 kg (4 500 lb), leave both centre tank pumps off for the rest of the flight, consider centre tank fuel unusable and do not apply subsequent procedures.

Turn on all wing tank pumps

If the fuel quantity in the centre tank is above 3 000 kg (6 500 lb), turn on both centre tank pumps.

Monitor the fuel quantity in the centre tank.

- When the fuel quantity in the centre tank is between 2 000 kg (4 500 lb) and 3 000 kg (6 500 lb) :

Turn FUEL MODE SEL to MAN

Turn or maintain off both centre tank pumps

Note : In flight, if the fuel quantity in the centre tank decreases below 2 000 kg (4 500 lb) and centre tank pumps have not been turned off, then :

- *If the fuel in the centre tank is required for the flight, leave the centre tank pumps in ON position and turn FUEL MODE SEL to MAN. When FUEL CTR TK PUMP 1 or PUMP 2 or PUMPS LO PR is triggered on the ECAM, or, the centre tank is empty, turn off the centre tank pumps without delay. Do not apply the subsequent procedures.*
- *If the fuel in the centre tank is not required for the flight, turn off both centre tank pumps and do not turn them back on for the rest of the flight. Consider the centre tank fuel unusable. Do not apply the subsequent procedures.*

- When FUEL AUTO FEED FAULT is triggered on the ECAM, or the fuel quantity in one wing tank (inner + outer) is below 5 000 kg (11 000 lb) :

Turn on both centre tank pumps

- When FUEL CTR TK PUMP 1 or PUMP 2 or PUMPS LO PR is triggered on the ECAM, or the centre tank is empty :

Turn off both centre tank pumps

CAUTION

Turn off both centre tank pumps without delay.

Incorporation of this AD or AFM TR 4.03.00/28 in the Aircraft Operations Manual as well as in the Aircraft Flight Manual and strict adherence by the crew allows complying with paragraph B of this AD.

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| | <p>C. Identification and modification of fuel pumps :</p> <p>C.1 For the centre-tank fuel pumps 37QA and 38QA :</p> <p>Within the next 1000FH or 3 months after the effective date of this AD, whichever occurs first, check the serial Number (S/N) of the fuel pumps in accordance with the instructions given in SB A320-28-1152, and modify the fuel pumps if necessary, in accordance with the instructions given in SB A320-28-1153.</p> <p>C.2 For the wing-tank fuel pumps 21QA(26QA) and 25QA(22QA) :</p> <p>Within the next 2000FH or 6 months after the effective date of this AD, whichever occurs first, check the S/N of the fuel pumps in accordance with the instructions given in SB A320-28-1152, and modify the fuel pumps if necessary, in accordance with the instructions given in SB A320-28-1153.</p> <p>The embodiment of the paragraph C of this AD renders void the requirements of above paragraphs A and B.</p> |
| <p>Ref. Publications:</p> | <p>AIRBUS SB A320-28-1152 original issue, AIRBUS SB A320-28-1153 original issue or later approved revisions. AIRBUS AFM TR 4.03.00/28.</p> |
| <p>Remarks :</p> | <ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-159 for consultation on 23 June 2006 with a comment period until 7 July 2006. No comment was raised during consultation period. 3. Enquiries regarding this AD should be addressed to Mr. M. Capaccio, AD Focal Point, Certification Directorate, EASA. E-mail ADs@easa.europa.eu. 4. For any question concerning the technical content of the requirements in this AD, please contact AIRBUS - Fax 33 5 61 93 44 51 |