

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2007 - 0218 Date: 10 August 2007
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.	
Type Approval Holder's Name : AIRBUS	Type/Model designation(s) : A318, A319, A320 and A321 aircraft
TCDS Number: EASA.A.064	
Foreign AD: Not Applicable	
Supersedure: EASA AD 2006-0222	
ATA 28	Fuel – Main Fuel Pump System / Fuel Pumps – Airworthiness Limitations / Inspection / Replacement
Manufacturer(s):	AIRBUS (formerly AIRBUS INDUSTRIE)
Applicability:	AIRBUS A318, A319, A320 and A321 aircraft, all certified models, all serial numbers (MSN), except aircraft that have received AIRBUS modification 37508 in production or AIRBUS Service Bulletin (SB) A320-28-1159 in service. 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.
Reason:	An operator reported a failure of a type 8410 fuel pump part number (PN) 568-1-27202-005 in service. Subsequent investigation revealed that the cause of the pump failure was due to 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. 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. As a result, Emergency Airworthiness Directive (AD) 2006-0106-E was issued on the 2nd of May 2006 to mandate airworthiness limitations. Subsequently, AD 2006-0222 was issued on the 20th of July 2006 to cancel AD 2006-0106-E, and, in addition to airworthiness limitations, mandated the modification of affected pumps. Further investigations have revealed that all of the type 8410 fuel pumps PN 568-1-27202-001, PN 568-1-27202-002 and PN 568-1-27202-005 can be affected. This AD supersedes AD 2006-0222, and, in addition to airworthiness limitations, enlarges the applicability, and mandates the modification/replacement of affected pumps.
Effective Date:	07 September 2007
Compliance:	A. AFM and Airworthiness limitations applicable to all aircraft : From the effective date of this AD, it is mandatory to apply the following procedure at each fuel loading : A.1. Refueling : Before refueling, all pumps must be turned off, in order to prevent them from automatically starting during the refuelling process. A.2. Ground fuel transfer : For all aircraft, do not start a fuel transfer from any wing tank, if it contains less than 700 kg (1 550 lb) of fuel. 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 (4 500 lb) of fuel. If a tank has less than the required quantity, it is necessary to add fuel (via a transfer from another tank or refueling) to enable a transfer to take place. A.3. Defueling For all aircraft, when defueling 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. 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.

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

From the effective date of this AD, 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 in accordance with AMM task 28-21-00-040-00200, 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 refueling, turn all tank pumps off.

■ If the total Fuel On Board (FOB) after refueling is less than or equal to 12 000 kg (26 500 lb) :

On ground, after refueling :

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 refueling is more than 12 000 kg (26 500 lb)

On ground, after refueling :

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 : If the fuel quantity in the centre tank inadvertently gets below 2 000 kg (4 500 lb) prior to being checked and centre tank pumps have not been turned off, the flight crew must perform the following steps :

- *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, when 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

- If FUEL CTR TK PUMP 1(2) LO PR is triggered on the ECAM :

Turn off the associated centre tank pump

CAUTION Turn off associated centre tank pumps without delay.
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- If no fuel leak :

	Open the crossfeed valve. When FUEL CTR TK PUMPS LO PR is triggered on the ECAM, or when the centre tank is empty : Turn off both centre tank pumps and close the crossfeed valve CAUTION Turn off both centre tank pumps without delay. Note 1: Incorporation of this AD or AFM TR 4.03.00/28 issue 02 in the Aircraft Operations Manual as well as in the Aircraft Flight Manual and strict adherence by the crew is acceptable to comply with paragraph B of this AD. C. Identification and replacement of fuel pumps : Within the next 5 000FH or 18 months after the effective date of this AD, whichever occurs first, check the PN of the fuel pumps, and modify/replace if necessary, in accordance with the instructions given in SB A320-28-1159. <u>The installation of fuel pumps modified in accordance with SB A320-28-1159 at all applicable locations cancels the requirements of above paragraphs A and B and/or updates pump interchangeability.</u> <u>After 18 months from the effective date of this AD, EATON fuel pumps type 8410 with a PNR 568-1-27202-001, 568-1-27202-002 or 568-1-27202-005 shall not be installed on the aircraft included in the applicability paragraph of this AD.</u>
Ref. Publications:	AIRBUS SB A320-28-1159 original issue, or later approved revisions. AIRBUS AFM TR 4.03.00/28 issue 02.
Remarks :	- 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. - This AD was posted on 13 June 2007 as PAD 07-093 for consultation until 04 July 2007. The Comment Response Document can be found at: http://ad.easa.europa.eu/ . - Enquiries regarding this Airworthiness Directive should be referred to the AD Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu . - For any question concerning the technical content of the requirements in this AD, please contact: AIRBUS – Airworthiness Office – EAS E-mail: airworth-eas@airbus.com .