EASA Safety Information Notice

No.: 2007 – 23
Issued: 12 September 2007

Subject: **Microturbo Saphir 2, Model No. 016, Auxiliary Power Unit, Replacement of Exhaust Thermal Insulation**

Ref. Publication: Microturbo Alert Service Bulletin (ASB) No. 49-11A76 Revision 1

Introduction: It has recently come to the attention of EASA that, due to a lapse in manufacturing quality control, the exhaust thermal insulation of certain Microturbo Auxiliary Power Units (APUs) may not meet the approved design standard, and may fail in service.

Microturbo has issued Alert Service Bulletin (ASB) 49-11A76 addressing this issue. According to the ASB, the affected part numbers are 016-33-01 (Inner Thermal Insulation), 016-33-02 (Outer Thermal Insulation) and 016-33-03 (EGT Sensor Thermal Insulation). Only parts replaced since 1995 are affected.

The observed failure mode is rapid deterioration and physical breakdown of the exhaust thermal insulation, leading to loss of insulation efficiency and ultimately exposure of the hot APU exhaust section.

Applicability: Microturbo SA Saphir 2, Model No. 016 APUs. These APUs are installed on but not limited to Dassault Falcon 20 aircraft.

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Recommendation: EASA endorses the recommendation of Microturbo contained in ASB 49-11A76, Rev. 1, dated 06 September 2007 (attached to this notice).

Affected APUs should be inspected as soon as possible, and, until the exhaust thermal insulation is replaced, thereafter at intervals not exceeding 10 APU operating hours. The exhaust thermal insulation should be replaced within 50 APU operating hours in accordance with the instructions in the referenced ASB.

Contact: For further information please contact the Airworthiness Directives, Safety & Research Section, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu

(FSCM F1989)

ALERT SERVICE BULLETIN
49-11A76

SAPHIR 2 AUXILIARY POWER UNIT
MODEL No. 016

REPLACEMENT OF EXHAUST THERMAL INSULATION

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TO: Dassault Aviation and all operators of the Model 016 APU

1. Planning Information

A. Effectivity

This Alert Service Bulletin is applicable to the Model 016 APU installed on Falcon 20 aircraft on which the exhaust thermal insulation has been replaced since 1995.

B. Reason

Recent investigations have revealed that due to a drift in the application of manufacturing quality requirements, a rapid deterioration of the efficiency of the exhaust thermal insulation can occur leading to a physical breakdown of the insulation and subsequent exposure of the gas generator hot section.

If this anomaly occurs the risks incurred are; fire, loss of aircraft integrity, loss of aircraft control leading to loss of human life.

C. Classification

Embodiment of this alert service bulletin is recommended.

D. Description

This Service Bulletin describes the application of the modification N° 124.

This alert service bulletin describes the procedures to be followed to identify and replace the defective exhaust thermal insulation.

The thermal insulation removed is to be shipped to Microturbo who will replace it with a new item.

E. Compliance

Embodiment of this alert service bulletin is with the following limits:

- visual examination of the exhaust thermal insulation mandatory on receipt of this alert service bulletin,
- subsequently, visual examination of the exhaust thermal insulation every 10 APU operating hours,
- mandatory replacement of the exhaust thermal insulation within 50 APU operating hours after the initial check.

F. Approval

Approval of this alert service bulletin is covered by D.O.A. No. N° EASA.21J.214 held by Microturbo.

G. Manpower

Embodiment of this alert service bulletin requires 4 man-hours and must be carried out by a PART and FAR 145 approved aircraft mechanic.

H. Materials

Refer to Para. 3.

I. Tools

Aircraft mechanic's standard tool kit.

J. Weight and Balance

No effect

K. Electrical Power Consumption

No effect

L. References

N/A

M. Reference Documents

Aircraft maintenance manual

N. Interchangeability

N/A

2. Accomplishment Instructions

WARNING: PRIOR TO UNDERTAKING THE FOLLOWING OPERATIONS, ENSURE THAT THE APU AND ITS SURROUNDINGS ARE SUFFICIENTLY COOL.

A. Preparation

Refer to the aircraft maintenance manual and, observing all safety precautions in force, gain access to the APU.

B. Visual Check of Exhaust Thermal Insulation

Examine the outer insulation blanket for signs of burning and/or deterioration of the outer skin.

If burning and/or skin damage is found replace the complete exhaust thermal insulation.

C. Replacement of Exhaust Thermal Insulation

(1) Preliminary Procedure

(a) Remove the APU (Refer to the aircraft maintenance manual).

(b) Remove the screws and lockwashers attaching the two igniter plugs and remove the retainers.

(2) Removal of Exhaust Thermal Insulation

(a) Remove the EGT sensor thermal insulation.

(b) Remove the plug from the EGT sensor port.

(c) Disconnect the oil breather pipe from the exhaust duct.

(d) Remove the outer insulation blanket.

(e) Remove the six screws and washers and remove the outer duct.

(f) Remove the clamp and the inner insulation blanket.

(3) Installation of Exhaust Thermal Insulation

(a) Position the new inner insulation blanket on the inner duct aligning the holes for the oil breather pipe and the EGT sensor plug with two reinforced areas on the blanket.

(b) Position the outer duct and secure with its 6 attaching screws and lockwashers. Tighten to 2 Nm and safety with 0.5 mm stainless steel locking wire.

(c) Position the new outer insulation blanket on the outer duct and fasten the press-studs.

(d) Using a screwdriver, pierce the inner insulation blanket to allow the passage of the ends of the oil breather pipe and the EGT sensor plug.

(e) Connect the oil breather pipe to its boss on the exhaust. Tighten the pipe nut to full contact then add 1/6 turn.

(f) Install the EGT sensor plug.

(g) Position the new EGT sensor thermal insulation and fasten with its press-studs.

(4) Close-up Procedures

(a) Position the two igniter plug retainers and secure with their screws and lockwashers. Tighten the screws to 2 Nm and bend up each lockwasher tab on to a flat on the screw head.

(b) Install the APU (Refer to the aircraft maintenance manual).

D. Final Operations

Pack and ship the removed thermal insulation to the address shown on the compliance certificate.

Complete the compliance certificate and mail or fax to the address indicated.

3. Material Information

A. Consumable Materials Required

N/A.

B. Parts Required

Table 1 - Parts Required

N°	Description	P/N	Qty	Remarks
	Insulation blanket (outer)	98102000	1	
	Insulation blanket (inner)	98101000	1	
	EGT sensor thermal insulation	98103000	1	
	Screw	22126CM040026	6	Outer duct attachment
	Lockwasher	23112CC040	6	Outer duct attachment
	Screw	22208CC040014	4	Igniter plug retainer attachment
	Lockwasher	S3860-4ACL	4	Igniter plug retainer attachment

C. Effect on Part Numbers

Table 2 - Effect on Part Numbers

New P/N	Qty	Description	Old P/N
98101000	1	Inner thermal insulation	016-33-01
98102000	1	Outer thermal insulation	016-33-02
98103000	1	EGT sensor thermal insulation	016-33-03
Deleted	1	Clamp	MINOX018028

4. Effect on Ident. and Mod.Plates

N/A.

Objet : Attestation d'application de la modification 124.
Subject: Modification 124 compliance certificate.

Important / *Important notice*:

Après application de ce Bulletin Service Alerte, veuillez compléter la présente attestation et la retourner par courrier ou fax à :
After incorporating this Alert Service Bulletin, please complete this certificate and mail or fax to:

Microturbo SA
Support Clients - 8 Chemin du pont de Rupé, BP 62089 - 31019 Toulouse Cedex 2, France
Fax (33) (0)5 61 70 74 45 - e.mail: technical.support@microturbo.fr

Information concernant le matériel / *Equipment information*					
Utilisateur *Customer*					**N° Appareil** *Aircraft S/N*
	Réf. - P/N	**N/S** - S/N	**TSN***	**CSN***	
GAP / *APU*					
Protection thermique contrôlée *Thermal Protection checked*	Yes ☐	No ☐			
Protection thermique remplacée *Thermal Protection Replaced*	Yes ☐	No ☐			

*** TSN = Time Since New** (Heures depuis neuf) **CSN = Cycles Since New** (Cycles depuis neuf)

Opération effectuée par: .....
Work performed by:

Je certifie que le matériel identifié ci-dessus a été modifié selon les directives du Bulletin Service Alerte en objet.
I certify that the above-mentioned equipment has been modified according to the directives given in this Alert Service Bulletin.

Date	**Nom** / *Print name*	**Fonction** / *Position*	**Signature**
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