

# SERVICE BULLETIN NO. MSB-AE50R-003

## I. TECHNICAL DETAILS

### 1.1 Category

Mandatory

### 1.2 Engines affected

Engine affected: **AE50R Series**

Serial Numbers affected: **0000–0496; 0497-549, 1000–1041; 2000–2044**

### 1.3 Date of effectivity

This Service Bulletin becomes effective on the 18<sup>th</sup> June, 2009.

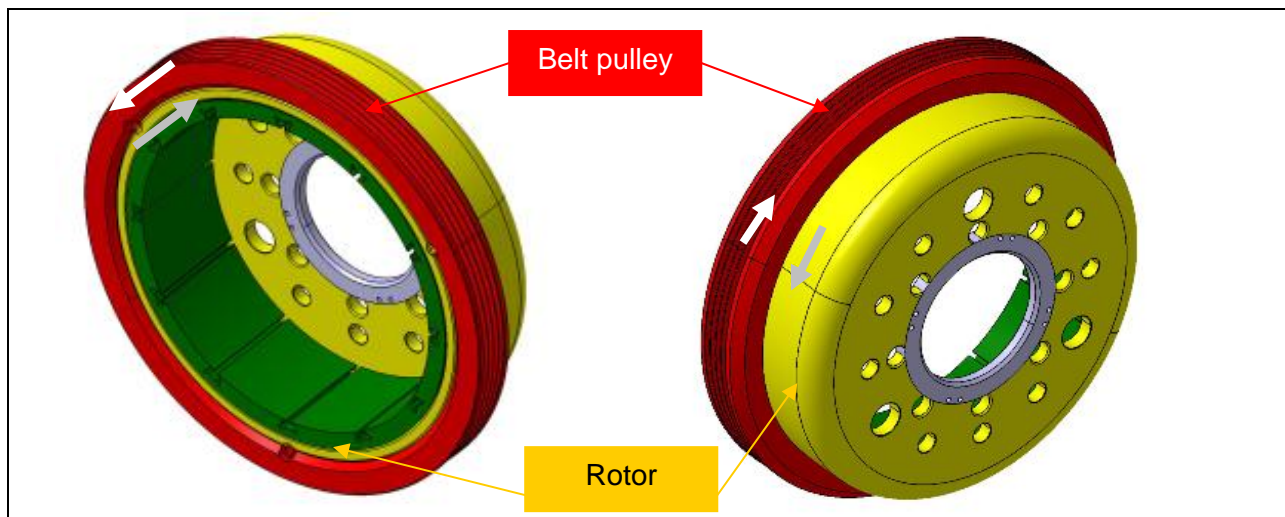
### 1.4 Time of compliance

Within the next scheduled maintenance action but not later than 1<sup>st</sup> June, 2010.

### 1.5 Subject

Sub Assembly Rotor & Pulley – R1A-91-100-000 (E\_R1 B 034)

Fixation of the grub screws in the generator rotor assembly and identification of possible relative movement between the belt pulley and the rotor.



### 1.6 Reason

The belt pulley is press-fitted and glued on the rotor. Engines beginning with S/N 0497 are secured with grub screws additionally.

During scheduled maintenance on some engines without grub screws relative movement between belt pulley and rotor was identified. In addition some grub screws came loose on engines with grub screws installed.

### **1.7 Concurrent documents**

None.

### **1.8 Approval**

The technical information or instructions contained in this document relate to the Basic Type Definition and the Design Change Advisory No. MÄM-E1-079, which has been approved by EASA and under the authority of EASA Design Organization Approval No. EASA.21J.052.

The technical content of this document has been approved under the authority of DOA No. EASA.21J.052.

### **1.9 Measures**

#### **Affected engines S/N: 0000 to 0496**

Design level: no grub screws installed

- ⇒ Identify if a twist between the belt pulley and the rotor is verifiable evident.
- ⇒ If no movement has been identified apply an adequate slip mark [Figure 4] on the visible belt pulley and rotor surface to monitor possible movement during operation.

If movement has been identified the engine needs to be disassembled and sent back to Diamond Aircraft GmbH (Diamond Engines) for replacement of the parts.

#### **Affected engines S/N: 0497-549; 1000-1041; 2000-2044**

Design level: with three (S/N: 0497-549; 1000-1036; 2000-2030) or four (S/N: 1037-1041; 2031-2044) grub screws installed.

- ⇒ Identify if a twist between the belt pulley and the rotor is evident or grub screws got loose [Figure 1] or are missing.

If the grub screws are missing or not properly screwed the following maintenance action is required:

- ⇒ Remove all grub screws [Figure 1] in the generator rotor assembly.
- ⇒ Clean the holes with ACETON, use new scrub screws M4x5 (DIN 913).
- ⇒ Screw in the grub screws as far as possible.
- ⇒ The new scrub screws are 3mm shorter than the original assembled scrub screws. Use LOCTITE "Hysol" 3450 two component epoxy adhesive. Fill the thread above the scrub screw consistent with the adhesive to avoid unbalanced mass during operation [Figure 3]. Make sure that the adhesive enters the thread and cured according the product description sheet before operation.
- ⇒ Remove overlapping adhesive.
- ⇒ Clean the working area.



Figure 1: Scrub screw assembly



Figure 2: Loose scrub screws



Figure 3: Rework solution with LOCTITE "Hysol" 3450

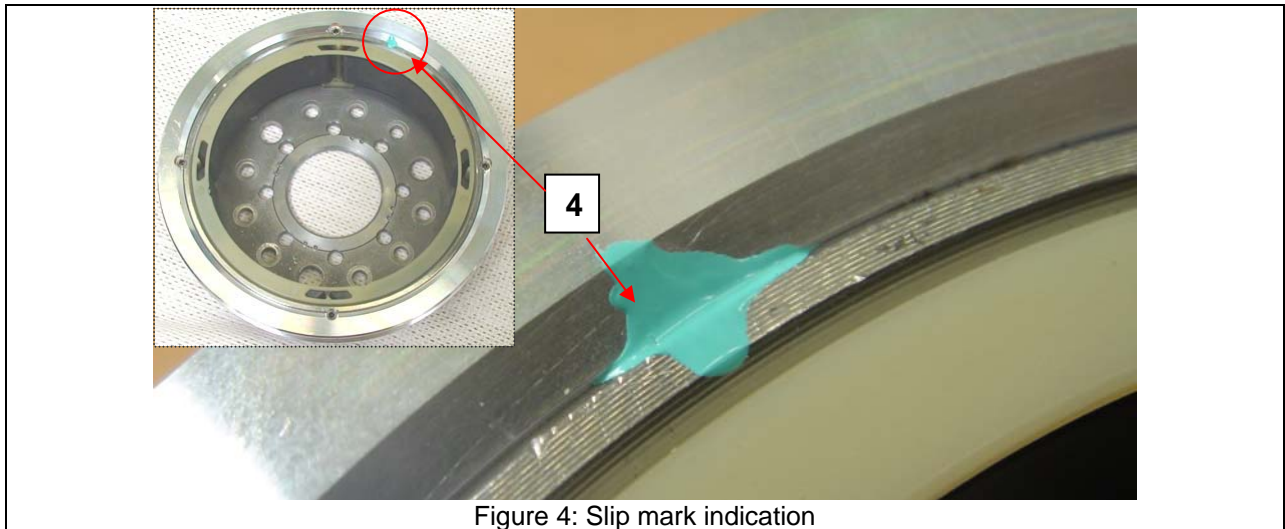


Figure 4: Slip mark indication

### **1.10 Recurring actions**

#### **Affected engines S/N: 0000 to 0496**

It is required to monitor the slip mark during scheduled maintenance to identify possible movement between the belt pulley and the rotor.

If movement has been identified the engine needs to be disassembled and sent back to Diamond Aircraft GmbH (Diamond Engines) for replacement of the parts.

### **1.11 Mass (Weight) and CG**

Negligible.

## **II. PLANNING INFORMATION**

### **2.1 Material and availability**

- ⇒ LOCTITE “Hysol” 3450 two component epoxy adhesive
- ⇒ New Scrub Screws M4x5 DIN 913
- ⇒ Slip mark “Farben-Kiroff-Technik” X501860310031D or adequate material

### **2.2 Special tools**

None.

### **2.3 Labor consumption**

Depending on aircraft installation / typically one man hour

### **2.4 Reference documents**

None

### **2.5 Credit**

For credit contact Diamond Aircraft GmbH (Austro Engine GmbH).

### **III. REMARKS**

1. All measures must be carried out by a certified engine station or a certified engine mechanic.
2. Accomplishment of the measures must be confirmed in the log book.
3. In case of any doubt, contact Diamond Aircraft GmbH.