

# MANDATORY SERVICE BULLETIN

## NO. MSB-42-028

### I TECHNICAL DETAILS

#### I.1 Category

Mandatory

#### I.2 Airplanes affected

Type: DA 42

Serial Numbers: 42.008 through 42.160  
42.AC001, 42.AC002, 42.AC005, 42.AC006  
provided that a black rubber harness protection is installed and  
not the green fabric one.

#### I.3 Date of Effectivity

02-Oct-2006

#### I.4 Time of Compliance

At the next scheduled maintenance action.

#### I.5 Subject

Engine Controls - Electrical Harness  
ATA-Code: 76

#### I.6 Reason

The sealant of the Thielert engine control harness may be broken. Due to heavy rain  
water can enter the harness and accumulate within the ECU.

#### I.7 Concurrent Documents

None.

#### I.8 Approval

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

#### I.9 Accomplishment/Instructions

Comply with WI-MSB-42-028, latest effective issue.

**I.10 Mass (Weight) and CG**

Mass and CG are not affected.

**II PLANNING INFORMATION****II.1 Material & Availability**

see WI-MSB-42-028, latest effective issue

**II.2 Special Tools**

see WI-MSB-42-028, latest effective issue

**II.3 Labor Effort**

2 hours

Aircraft's Ground Time: approx. 48 hours

**II.4 Credit**

None.

**II.5 Reference Documents**

DA 42 Series Airplane Maintenance Manual, Doc. No. 7.02.01, latest effective issue.  
WI-MSB-42-028, latest effective issue.

**III REMARKS**

In case of doubt, contact Diamond Aircraft.

**INSPECTION REPORT**  
to MSB 42-028**AIRPLANE DATA**

Airplane Serial Number: \_\_\_\_\_

Airplane Registration: \_\_\_\_\_

Airplane Operator: \_\_\_\_\_

Hours of operation of airplane: \_\_\_\_\_

No. of landings: \_\_\_\_\_

Hours of operation-engine LH: \_\_\_\_\_

RH: \_\_\_\_\_

Typical operation of airplane: private, club, training, other \_\_\_\_\_

\_\_\_\_\_  
Date, Name, SignPlease fax the completed form to Fax No. \*\*43-2622-26620 or e-mail to  
support@diamond-air.at

# WORK INSTRUCTION

## WI-MSB-42-028

### „Engine Harness Sealing“

## **I GENERAL INFORMATION**

### **I.1 Subject:**

The Thielert engine control harness needs to be sealed to prevent water accumulation within the ECU.

### **I.2 Reference Documents:**

Diamond Aircraft DA 42 Series Airplane Maintenance Manual, Doc. No. 7.02.01, latest effective issue.

### **I.3 Remarks:**

- a) The work must be carried out by a certified aircraft service station or a certified aircraft maintenance mechanic. In case of doubt, contact Diamond Aircraft.
- b) All works, particular those that are not especially described in this work instruction, have to be carried out in accordance with the referenced maintenance manual.

## **II DRAWINGS, SPECIAL TOOLS & MATERIALS**

### **II.1 Drawings:**

None.


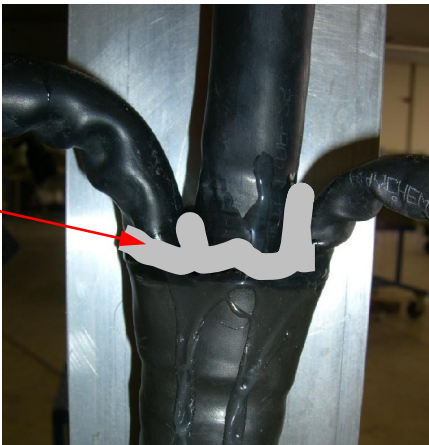
### **II.2 Special Tools:**

None.

### **II.3 Material:**

Qty	Description	Part Number
1	Silicone rubber compound	692-542

### III INSTRUCTIONS

1	<p>Remove the top right engine cowling and check which engine harness is installed in the airplane. The green engine control harness P/N 02-7150-52102R1 is not affected by this Service Bulletin.</p> 
2	Remove the outboard access covers of the engine nacelle, to gain access to the ECU and electrical compartment.
3	Disconnect the electrical connectors from the ECU and route the engine control harness through the big access hole of the electrical compartment. Positive drainage of potential moisture should be possible.
4	Let the engine control harness dry for at least 24 hours.
5	<p>Seal the engine control harness with sufficient amount of the silicone rubber compound inside the electrical compartment where the harness gets split, just below the firewall lead-through. Let the silicone rubber compound dry for 24 hours. For handling precautions of the silicone rubber compound refer to the attached datasheets.</p> <p>silicone rubber compound</p> 
6	Connect the engine control harness to the ECU.
7	Clean working areas and check for foreign objects.
8	Install the access covers of the nacelle and the engine cowling.
9	Test all systems in working area for function.
10	Make all necessary entries in the airplane's logs

# PRODUCT SAFETY DATA SHEET

According to EC directive 91/155/EEC and subsequent amendments

CP0138 v2.0 RS 692-542

RS CHIP3 MSDS Date 01/05/03

Version: 1.2  
Revision Date: 08.07.2002

## Silicone Rubber Compound - Flowable Fluid

### 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Trade name : Silicone Rubber Compound - Flowable Fluid

Supplier: RS Components Ltd,  
Birchington Road,  
Corby,  
Northants,  
NN17 9RS.

Tel: +44 (0) 1536 402888  
Fax: +44 (0) 1536 401588

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical characterization: Silicone elastomer

#### Hazardous Ingredients:

Name	CAS-No.	EINECS/ ELINCS No.	Conc. (% w/w)	Classification	
Triacetoxymethylsilane	17689-77-9	241-677-4	3.0	C Xn	R34 R22
Methyltriacetoxysilane	4253-34-3	224-221-9	2.0	C Xn	R34 R22

### 3. HAZARDS IDENTIFICATION

The principal hazards of the product as supplied are:

Irritating to eyes and skin.

### 4. FIRST AID MEASURES

On contact with eyes : Flush with water. Obtain medical attention.

On skin contact : Wipe off and wash with soap and water. If skin irritation persists, get medical attention.

If inhaled : Remove to fresh air.

On ingestion : No first aid should be needed.

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## Silicone Rubber Compound - Flowable Fluid

### 5. FIRE FIGHTING MEASURES

- Suitable extinguishing media** : Carbon dioxide, foam, dry powder or fine water spray. Water can be used to cool fire exposed containers.
- Unsuitable extinguishing media** : None known.
- Hazards during fire fighting** : None known.
- Special protective equipment/procedures** : A self-contained respirator and protective clothing should be worn. Keep containers cool with water spray until well after the fire is out. Determine the need to evacuate or isolate the area according to your local emergency plan.
- Hazardous Combustion Products** : Silica. Carbon oxides and traces of incompletely burned carbon compounds. Formaldehyde.

### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Wear proper protective equipment.
- Precautions to protect the environment** : Prevent from spreading or entering into drains, ditches or rivers by using sand, earth or other appropriate barriers.
- Methods for cleaning up** : Scrape up and place in a container fitted with a lid. The spilled product produces an extremely slippery surface.

### 7. HANDLING AND STORAGE

- Advice on safe handling** : General ventilation is recommended. Local ventilation is recommended. Avoid skin and eye contact. Do not breathe vapour.
- Advice on storage** : Do not store with oxidizing agents. Keep container closed and store away from water or moisture.
- Specific uses** : Refer to technical data sheet available on request.
- Unsuitable packaging materials** : None known.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls** : Ventilation : Refer to Section 7

#### Exposure controls for hazardous components

Name	CAS-No.	Exposure Limits
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## Silicone Rubber Compound - Flowable Fluid

Triacetoxysilane 17689-77-9 10 ppm TWA, 15ppm STEL as acetic acid.

Methyltriacetoxysilane 4253-34-3 10 ppm TWA, 15ppm STEL as acetic acid.

### Personal protection equipment

**Respiratory protection** : Suitable respiratory protection should be worn if the product is used in large quantities, confined spaces or in other circumstances where the OEL may be approached or exceeded.

**Hand protection** : Chemical protective gloves should be worn: Butyl rubber. Nitrile rubber. Neoprene rubber. Silver shield(TM). 4H(TM). Regarding glove's breakthrough time...,contact your chemical protective glove supplier.

**Eye protection** : Safety glasses should be worn.

**Skin protection** : Wear impervious overalls in circumstances where significant skin contact can occur.

**Hygiene measures** : Exercise good industrial hygiene practice. Wash after handling, especially before eating, drinking or smoking.

**Environmental exposure controls** : Refer to section 6 and 12.

**Additional information** : None known.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

**Form:** Viscous Liquid      **Colour:** Colorless      **Odour:** Acetic acid

### Other data

**Boiling point/range** : > 35C/95F

**Flash point** : 87 °C (Closed Cup)

**Explosive properties** : No

**Specific Gravity** : 1.03

**Viscosity** : 350 cSt at 25°C.

**Oxidizing properties** : No

The above information is not intended for use in preparing product specifications.

## 10. STABILITY AND REACTIVITY

**Stability** : Stable under normal usage conditions.

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## Silicone Rubber Compound - Flowable Fluid

<b>Conditions to avoid</b>	:	None established.
<b>Materials to avoid</b>	:	Can react with strong oxidising agents. Cures in the presence of water or moisture, releasing a small amount of acetic acid.
<b>Hazardous decomposition products</b>	:	See section 11.

### 11. TOXICOLOGICAL INFORMATION

<b>On contact with eyes</b> <sup>3</sup>	:	Irritating.
<b>On skin contact</b> <sup>3</sup>	:	Irritating.
<b>If inhaled</b> <sup>3</sup>	:	The vapour is irritating to the mouth, nose and throat.
<b>On ingestion</b> <sup>3</sup>	:	Small amounts transferred to the mouth by fingers during use should not injure. Swallowing large amounts may cause digestive discomfort.
<b>Other Health Hazard Information</b>	:	Product may emit formaldehyde vapours at temperatures above 150°C in the presence of air. Formaldehyde vapour is harmful by inhalation and irritating to eyes and respiratory system at breathing concentration less than one part per million (1 ppm).

<sup>1</sup> Based on product test data.

<sup>2</sup> Based on assessments from related products.

<sup>3</sup> This information is based either on test data, extrapolation from tests on similar materials, review of component data, or a combination of these sources.

### 12. ECOLOGICAL INFORMATION

#### Environmental fate and distribution

Siloxanes are removed from water by sedimentation or binding to sewage sludge. In soil, siloxanes are degraded.

#### Ecotoxicity effects

No adverse effects on aquatic organisms.

**Bioaccumulation** : No bioaccumulation potential.

#### Fate and effects in waste water treatment plants

Removed > 90% by binding onto sewage sludge. No adverse effects on bacteria. The siloxanes in this product do not contribute to the BOD.

#### Additional environmental information

Additional environmental information on the silicone component is available on request.

### 13. DISPOSAL CONSIDERATIONS

**Product disposal** : Dispose of in accordance with local regulations.

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**CP0138 v2.0 RS 692-542**

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## Silicone Rubber Compound - Flowable Fluid

**Packaging disposal** : Dispose of in accordance with local regulations.

### 14. TRANSPORT INFORMATION

#### Road / Rail (ADR/RID)

Not subject to ADR/RID.

#### Sea transport (IMDG)

Not subject to IMDG code.

#### Air transport (IATA)

Not subject to IATA regulations.

### 15. REGULATORY INFORMATION

#### Labelling according to EEC Directive

**Symbols** : Xi Irritant.

**R-phrases** : R36/38 Irritating to eyes and skin.

**S-phrases** : S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S37 Wear suitable gloves.  
S51 Use only in well-ventilated areas.

#### National legislation / regulations

**Ozone depleting chemicals** : No ozone depleting chemicals are present or used in manufacture.

#### Status

**EINECS** : All ingredients listed or exempt.

**TSCA** : All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

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## **Silicone Rubber Compound - Flowable Fluid**

### **16. OTHER INFORMATION**

**R22** Harmful if swallowed., **R34** Causes burns.