

MANDATORY SERVICE BULLETIN

NO. MSB-42-024/3

SUPERSEDES MSB-42-024/2

I TECHNICAL DETAILS

I.1 Category

Mandatory

I.2 Airplanes affected

Type: DA 42

Serial Numbers: 42.004 through 42.129, 42.177
42.AC001

I.3 Date of Effectivity

18-Jul-2006

I.4 Time of Compliance

Within the next 50 hours of operation, but not later than 30-Sep-2006.

I.5 Subject

Installation of Propeller System Check valve Bracket

ATA-Code: 72-00.

I.6 Reason

Due to the possibility of rupture of the propeller oil system check valve line caused by vibration a bracket has to be installed to increase the strength of the assembly. In addition the CSU attachment fitting made of aluminum has to be exchanged by a fitting made of steel.

Rev. 3: Update of WI-MSB-42-024, correction of affected airplanes

I.7 Concurrent Documents

None

I.8 Approval

The technical information or instructions contained in this document relate to the Design Change Advisory No. MÄM 42-184, which has been approved under the authority of DOA No. EASA.21J.052.

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

I.9 Accomplishment/Instructions

See WI-MSB-42-024 latest effective issue.

I.10 Mass (Weight) and CG

Mass and Balance are not affected.

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

See WI-MSB-42-024 latest effective issue, which is attached to this SB.

II.2 Special Tools

None

II.3 Credit

1 hour + material as specified in II.1

Credit can only be granted on sending a warranty application and return of attached form incl. work report at latest until 15-Oct-2006

II.4 Reference Documents

DA 42 Airplane Maintenance Manual Doc. No. 7.01.01-E
WI-MSB-42-024 latest effective issue.

III REMARKS

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

INSPECTION REPORT
to MSB 42-024/2**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, Sign

Please fax the completed form to Fax No. **43-2622-26620 or e-mail to
support@diamond-air.at

WORK INSTRUCTION

WI-MSB-42-024

„Propeller System Check Valve Bracket“

I GENERAL INFORMATION

I.1 Subject:

Installation of the bracket for the propeller system check valve.

Rev. 2: Tightening torque definition (refer to III. 4)

I.2 Reference Documents:

Diamond Aircraft AMM 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:

D60-6116-00-00"n"

II.2 Special Tools:

None

II.3 Material:

If MSB-42-024/1 has been conducted:

Qty RH	Qty LH	Description	Part Number
1	1	Adapter	02-7210-07292R1 (TAE)
1	1	Gasket	02-7210-07294R1 (TAE)

otherwise

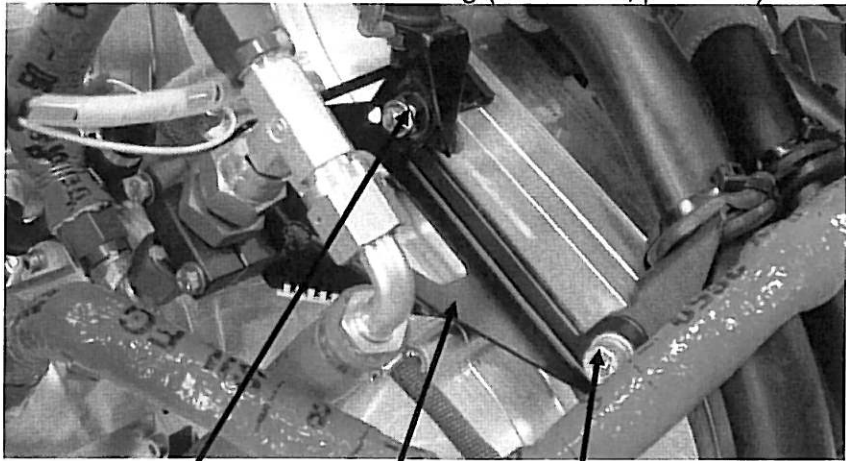
Qty RH	Qty LH	Description	Part Number
4	4	Washer M4	DIN 125-A4.3-A2
2	2	Self locking nut M4	DIN 985-M4-A2
2	2	Screw M4x35	DIN 933-M4x35-A2
2	2	Valve clamp	D60-6116-00-04
1	1	Valve stiffener	D60-6116-00-03
1	1	Adapter	02-7210-07292R1 (TAE)
1	1	Gasket	02-7210-07294R1 (TAE)

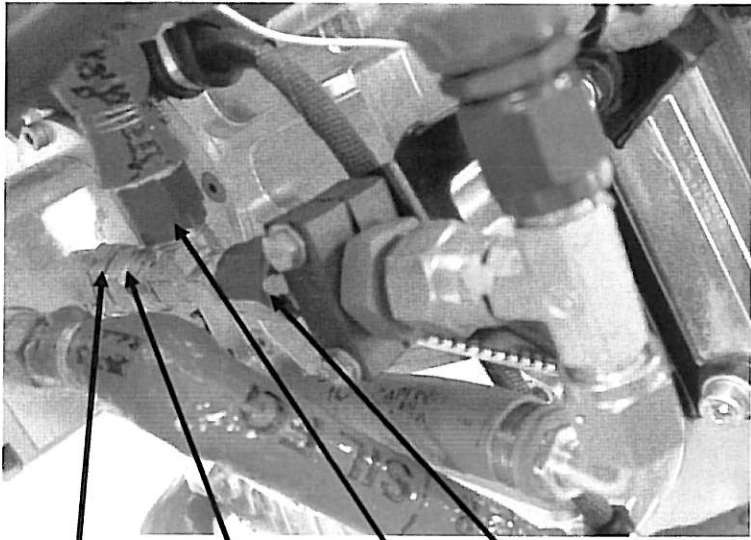
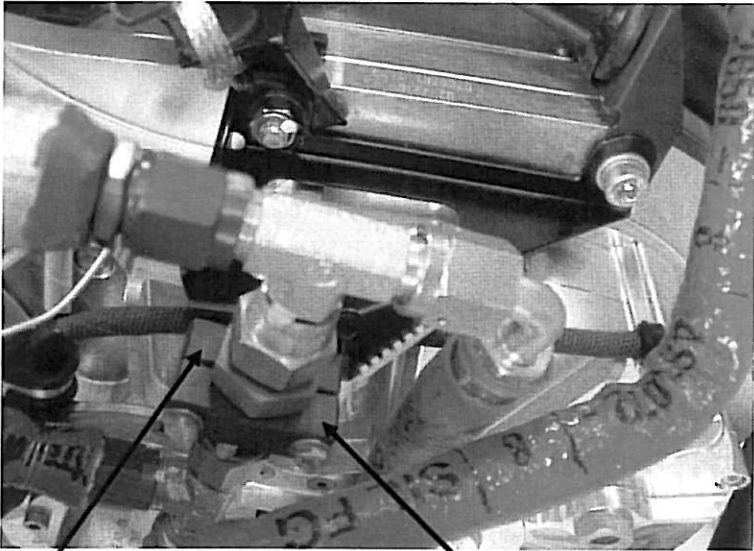
III INSTRUCTIONS

These instructions refer to the installation on one engine side. On both engines the bracket and the fitting (adapter) made of steel has to be installed.


If MSB-42-024/1 has been conducted the attachment fitting (adapter) made of aluminum has to be exchanged by a fitting (adapter) made of steel (see point 4 of the following instructions).

If MSB-42-024/1 has not been conducted the fitting has to be exchanged and the bracket has to be installed according to the following instructions.

1	Remove upper LH cowling according to the AMM
	Remove nut of coolant tank mounting (see Pos 1, picture 1)
 <p style="text-align: right;">Picture 1</p> <p>Pos 1 Pos 2 Pos 3</p>	

3	Bring valve stiffener (see Pos 2, picture 1) in position and fix it with the nut and the bolt (Pos 1 and Pos 2, picture 1)
4	<p>Disconnect Pos 2 from Pos 1. Remove Fitting Pos 1 (Adapter P/N 02-6120-16057R1) and gasket. Install new gasket (02-7210-07294R1) and fitting (Adapter 02-7210-07292R1) (tightening torque 30 Nm). Connect Pos 2 to the installed fitting and close it only so far that the connection is flexible. Loosen fittings position 3 and 4, picture 2 only so far, that the connections are flexible.</p>  <p style="text-align: right;">Picture 2</p> <p>Pos 1 Pos 2 Pos 3 Pos 4</p>
5	<p>Bring first half of valve clamp (see Pos 1, picture 3) into position between stiffener and valve.</p>  <p style="text-align: right;">Picture 3</p> <p>Pos 1 Pos 3</p>
6	Bring second half of valve clamp (see Pos 2, picture 3) into position in front of the valve.

7	Attach the valve clamps to the stiffener with the screws, washer and nuts. Tighten the screws. If the fittings are loose enough (see step 4) the valve should not be distorted.
8	Tighten the fittings position 1, 2 and 3, picture 2 use standard torque according to the AMM
9	Clean working area and check for foreign objects.
10	Perform ground run and check for leakage in accordance with AMM
11	Install upper LH cowling in accordance with AMM

EASA	AIRWORTHINESS DIRECTIVE	
	AD No : 2006 - 0277	
	Date: 06 September 2006	
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 : Diamond Aircraft Industries		Type/Model designation(s) : DA42
TCDS Number : EASA A.005		
Foreign AD : Not applicable.		
Supersedure : Not applicable.		
ATA 72	Engine - Propeller System Check Valve Bracket - Installation	
Manufacturers:	Diamond Aircraft Industries GmbH, Austria Diamond Aircraft Industries Inc., Canada	
Applicability:	DA 42, Serial Numbers 42.004 and up including 42.129, and 42.177 DA 42, Serial Number 42.AC001	
Reason:	<p>Shortly after an engine change, the aluminium fitting attached to the engine gearbox holding lines and fittings of the propeller control system was found to be cracked. This led to a pressure loss in the propeller control system following a control system malfunction and led to a in-flight engine shutdown.</p> <p>The broken fitting is part of the engine installation and was initially a steel part. It was later modified by the engine manufacturer to an aluminium design.</p> <p>Investigation determined that the area is critical for cracks due to combination of mass, material and installation torque values.</p> <p>With Design Change MÄM 42-184, Diamond Aircraft Industries incorporated an additional bracket into production airplanes to improve the installations and prevent vibration cracks.</p>	

	This airworthiness directive requires the retroactive installation of this bracket for all airplanes, including the airplanes with steel fittings.
Effective Date:	16 September 2006
Compliance:	Within the next 50 flight hours after the effective date of this directive, but not later than 30 September 2006, modify the aircraft by installing the additional bracket in accordance with the instructions of Diamond Mandatory Service Bulletin (MSB) 42-024/2 dated August 31, 2006.
Ref. Publications:	Diamond Aircraft Industries MSB 42-024/2 dated August 31, 2006 or later approved revisions.
Remarks :	<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 06-211 for consultation on 09 August 2006 with a comment period until 23 August 2006. No comments were received during the consultation period. 3. Enquiries regarding this AD should be addressed to the 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 Diamond Aircraft Industries Telephone +43 2622 26700; Facsimile +43 2622 26780; E-mail: office@diamond-air.at