

# MANDATORY SERVICE BULLETIN

NO. MSB 42-088/3

SUPERSEDES MSB 42-088/2

## I TECHNICAL DETAILS

### I.1 Category

Mandatory.

### I.2 Airplanes affected

Type: DA 42, DA 42 M

Serial Numbers: 42.004 through 42.321, 42.324 through 42.347, 42.349, 42.351, 42.353 through 42.357, 42.359 through 42.386, 42.388, 42.389, 42.391, 42.394, 42.396, 42.399 through 42.401, 42.405 through 42.409, 42.412 through 42.416, 42.427  
42.AC001 through 42.AC152  
42.M001 through 42.M011, 42.M015 through 42.M019, 42.M021, 42.M022

### I.3 Date of Effectivity

5-Jul-2010

### I.4 Time of Compliance

Within the next 20 flight hours from the date of effectivity and thereafter at each scheduled 100 hours maintenance inspection thereafter until replacement with P/N D64-3217-23-0x.

Replacement with P/N D64-3217-23-0x not later than 31-Dec-2011.

### I.5 Subject

This Service Bulletin prescribes the inspection of the joints that connect the MLG (main landing gear) damper with the MLG trailing arm for cracks.

ATA-Code: 32-10

#### **I.6 Reason**

Depending on environmental, operating and runway conditions the MLG joint P/N D60-3217-23-5x (4 different lengths available) made of aluminium is susceptible to cracking. These cracks have been detected during standard maintenance, but if such cracks remain undetected, this may lead to failure of the joint and subsequent damage or malfunction of the MLG. To avoid such undetected cracks, this Service Bulletin prescribes special recurring inspection of the MLG joint.

The MLG joint D60-3217-23-5x has been replaced by an improved design. Replacement of the MLG joint with the new design P/N D64-3217-23-0x (4 different lengths available) made of steel is described in this Service Bulletin. If MLG joint D64-3217-23-0x (4 different lengths available) is installed, no recurring inspection is necessary.

#### **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 42-452/d, which has been approved by EASA.

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

#### **I.9 Accomplishment/Instructions**

Comply with Work Instruction WI-MSB 42-088, latest effective issue.

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

Mass and Center of Gravity are not affected.

## **II PLANNING INFORMATION**

### **II.1 Material & Availability**

Materials are available from Diamond Aircraft Industries.

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

None.

### **II.3 Labour Effort**

- 0,5 labour hour for inspection only
- 1 labour hour for inspection & replacement.

### **II.4 Credit**

- No credit for inspection only.
- For all aircraft within warranty period 1 labour hour and Material acc. to WI-MSB 42-088 Rev. 1 or later are credited through Diamond Aircraft Industries GmbH, provided that the execution report with the requested information and the replaced parts were sent to DAI for the attention of Warranty Department.

### **II.5 Reference Documents**

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

### **III REMARKS**

1. All measures must be carried out by a certified aircraft service station or a certified aircraft maintenance mechanic.
2. All works, particular those that are not especially described in this Service Bulletin, must be carried out in accordance with the referenced Maintenance Manual.
3. Accomplishment of the measures must be confirmed in the log book.
4. If material and/or labour hours are subject to be credited through Diamond Aircraft Industries, the Service Bulletin must be carried out by an authorized Diamond Service Center and the Warranty Application incl. Work Report and the defective parts must be sent to DAI to the attention of Warranty Department not later than 30 days after the end of time of compliance.
5. In case of doubt contact Diamond Aircraft Industries GmbH.

## EXECUTION REPORT TO SERVICE BULLETIN MSB 42-088/3

### 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 \_\_\_\_\_

Cracked MLG joints were replaced

☐ – no, time since installation of MLG joint LH \_\_\_\_\_ and RH \_\_\_\_\_

☐ – yes, on LH MLG at \_\_\_\_\_ hours time since installation of MLG joint  
on RH MLG at \_\_\_\_\_ hours time since installation of MLG joint

\_\_\_\_\_  
Date, Name, Sign

Please fax the completed form to Fax No. +43-2622-26700-1369 or e-mail to  
airworthiness@diamond-air.at

# WORK INSTRUCTION

## WI-MSB 42-088

### Inspection of MLG joint

## **I GENERAL INFORMATION**

### **I.1 Subject**

This Work Instruction describes the inspection of the joints that connect the MLG (main landing gear) damper with the MLG trailing arm for cracks.

### **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.
- b) All works, particular those that are not especially described in this work instruction, must be carried out in accordance with the referenced maintenance manual.
- c) In case of doubt, contact Diamond Aircraft Industries GmbH.

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

### **II.1 Drawings**

D60-3217-21-00\_02 / D60-3217-22-00\_02

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

None.

### II.3 Material for replacement of MLG joints

Quantity	Part No.	Description
2	D60-3217-25-00	Adapter bushing assy
2	D64-3217-21-62	Bushing
2	D64-3217-21-67	Bushing
a.r. *)	D64-3217-23-00	MLG cross joint assy Replacement part for D60-3217-23-51
a.r. *)	D64-3217-23-01	MLG cross joint assy oversize1 Replacement part for D60-3217-23-52
a.r. *)	D64-3217-23-02	MLG cross joint assy oversize2 Replacement part for D60-3217-23-53
a.r. *)	D64-3217-23-03	MLG cross joint assy oversize3 Replacement part for D60-3217-23-54
8	LN 9025-0815K	Washer M8
4	LN 9037-M8x50	Hexagon screw
4	LN 9338 M8	Hexagon nut
a.r	63830	Loctite 638

a.r. \*) Check which MLG joints are installed i.a.w. AMM Section 32-10. Different part numbers may be used on LH and RH MLG of the airplane.

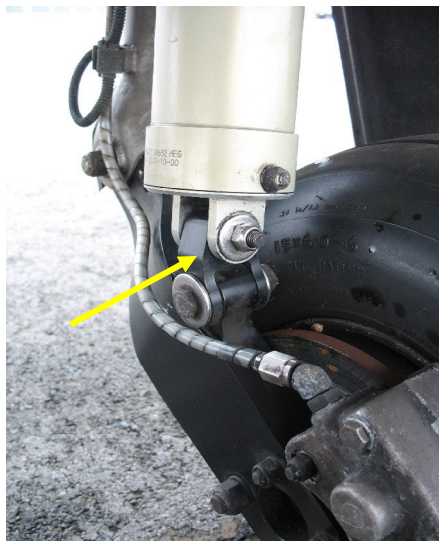
Materials are available from Diamond Aircraft Industries.

### III INSTRUCTIONS

#### III.1 Inspection of MLG Joint

1 Insert AMM-TR-MÄM-42-447/a & AMM-TR-MÄM-42-452 and AMM-TR-MÄM-42-368 into the AMM or use an AMM revision into which these AMM-TRs have been incorporated.

2 Remove the joint P/N D60-3217-23-5x (4 different lengths available) that connects the LH MLG damper and the LH MLG trailing arm. The joint is indicated in the picture. Refer to AMM, section 32-10.



Picture 1

3 Clean the MLG joint.

4 Examine the MLG joint for cracks.

**CAUTION:** Look especially in the areas indicated by the arrows.



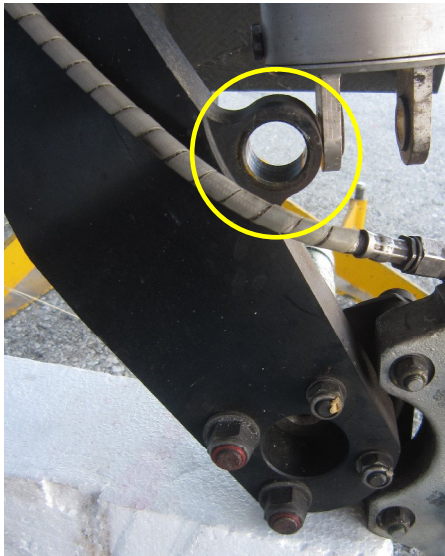
Picture 2

5 If cracks are found, replace the MLG joint i.a.w. Section III.2. Otherwise reinstall MLG Joint.

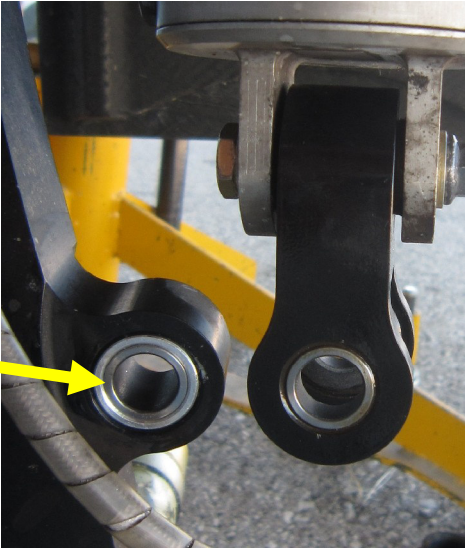


6	Check adjustment of wheel in retracted position. Refer to AMM, section 32-10.
7	Repeat items 2 – 6 on the RH MLG.
8	Carry out a landing gear emergency extension system test. Refer to AMM, section 32-30.
9	Carry out a landing gear extension and retraction test. Refer to AMM, section 32-30.
10	Clean working areas, check for foreign objects.
11	Check all altered, replaced, repaired parts for proper function.
12	Test all systems in working area for function.
13	Make all necessary entries in the airplane logs.

### III.2 Replacement of MLG Joint

1	Pull the GEAR and PITOT HEAT circuit-breakers.  <b>WARNING: Make sure that the GEAR and PITOT HEAD circuit breakers are pulled before you perform maintenance on the landing gear. The landing gear retraction system can cause serious injury to personnel if operated by accident.</b>
2	Raise the airplane on jacks and move the wing and rear fuselage trestles into position to support the airplane. Refer to AMM Section 07-10.
3	Remove the Main Landing Gear cross joint acc. to AMM section 32-10.  <b>Caution: Do not damage the weight on wheel switch.</b>
4	Measure the joint acc. to AMM Section 32-10, and ensure the replacement part has the same size.
5	Remove the coated bushings carefully from the trailing arm and clean the bearing carrier with fresh acetone.  

Picture 3

6	<p>Install the adapter bushing assy.</p> <ul style="list-style-type: none"> <li>- Apply a thin coat of Loctite 638 on trailing arm bearing carrier and on the adapter bushing assy.</li> <li>- Insert the adapter bushing assy flush into the trailing arm.</li> <li>- Remove the excessive Loctite from the trailing arm.</li> <li>- Allow Loctite to cure.</li> </ul> <div data-bbox="234 808 531 848" data-label="Text"> <p>Adapter Bushing assy</p> </div>  <p data-bbox="794 1046 911 1077">Picture 4</p>
7	<p>Install the new joint on the MLG leg acc. to AMM Section 32-10.          Use fasteners i.a.w. drawings D60-3217-21-00_02 / D60-3217-22-00_02.</p>
8	<p>Apply anti-corrosion coating on damper connections acc. to AMM section 12-30.</p>

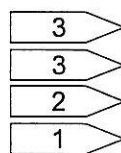
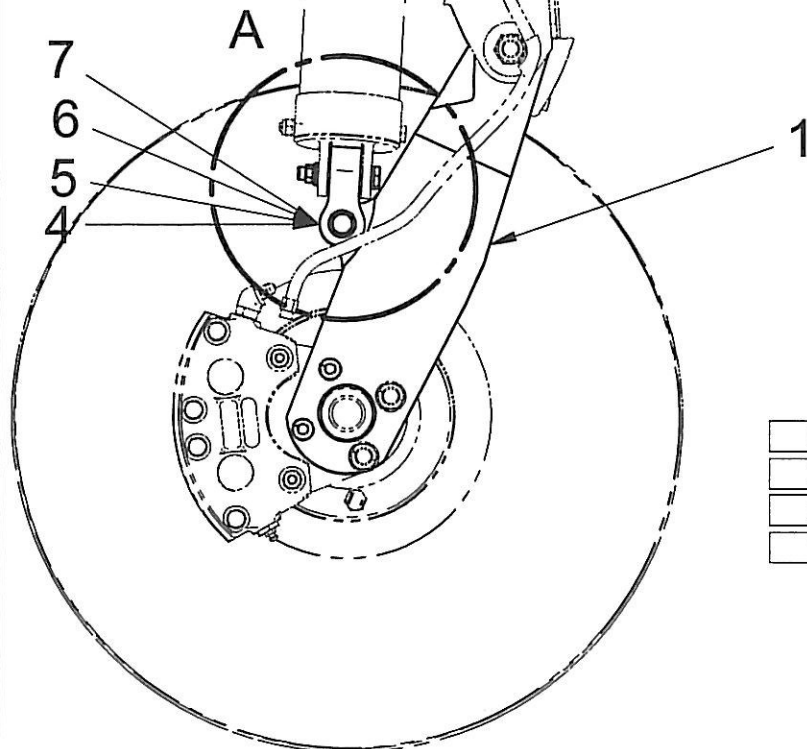
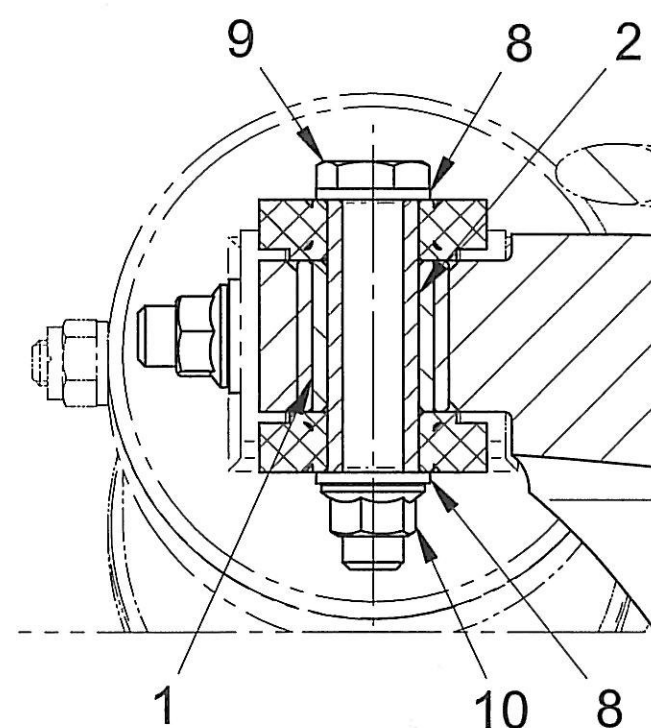
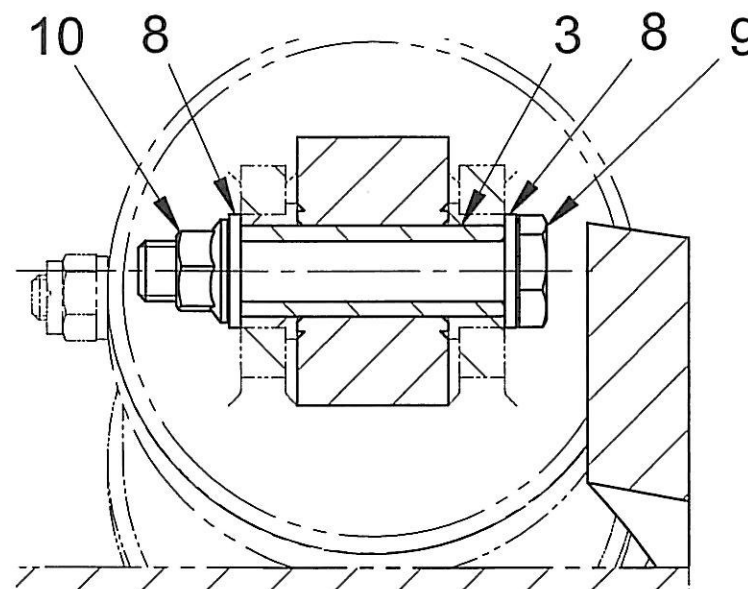
1:5

## DETAIL A

REVISION					
REV	SH	ZONE	DESCRIPTION	DATE	APPROVAL
-	01	ALL	MÂM 42-452 NEW DRAWING, DOES NOT SUPERSEDE ANOTHER DRAWING.	24.09.10	SEE TB
A	01	ALL	MÂM 42-452/b ITEM D60-3217-25-00 REPLACED BY D60-3217-41-00_1 FLAG NOTE 4 CANCELLED	18.11.10	SEE TB

## SECTION B-B

## SECTION C-C



10	2	LN 9338-M8	NUT, HEXAGON	WL 1.7224.3						3
9	2	LN 9037-M8x50	HEXAGON SCREW							3
8	4	LN 9025-0815K	WASHER	WL 1.7214.4						3
7	1	D64-3217-23-03	MLG CROSS JOINT ASSY OVERSIZE3							1
6	1	D64-3217-23-02	MLG CROSS JOINT ASSY OVERSIZE 2							1
5	1	D64-3217-23-01	MLG CROSS JOINT ASSY OVERSIZE1							1
4	1	D64-3217-23-00	MLG CROSS JOINT ASSY							1
3	1	D64-3217-21-67	BUSHING	15-5PH	H1025			AMS 5659		1
2	1	D64-3217-21-62	BUSHING	15-5PH	H1025			AMS 5659		1
1	1	D60-3217-41-00_1	ROCKER ARM ASSY LH/RH							1
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL TYPE	H.T.	MATERIAL SIZE	SPECIFICATION	REMARK		

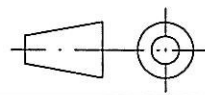
## Notes:

- 1 Only RH
- 2 Only LH
- 3 Optionality

Dimensions and further informations shown  
on drawing  
**D60-3217-21-00\_01 / D60-3217-22-00\_01.**  
Refer to the last valid revision.

## DIMENSIONS METRIC

FIRST ANGLE PROJECTION



FORMAT

A3

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN MM

DIMENSION TOLERANCES

2 DECIMAL	±0,25
1 DECIMAL	±0,5
DECIMAL	±1
ANGLE	±1°
RAD	±0,5

3.2

FINISH  
IN  
MICRO-  
METER

## IDENTIFICATION MARKINGS

DP-S-17-00001

CLASSIFICATION:

NONE

INTERCHANGEABLE PART

NO

THIS DRAWING WAS PRODUCED USING

SOFTWARE: **SOLID EDGE V18**

FILENAME

**D60-3217-21-00\_2a.asm**

Diamond Aircraft Industries

N. A. Otto-Straße 5  
A-2700 Wiener Neustadt

DEPARTMENT

SIGN

DATE

PROJECT

DA 42

DRAWN

CHECKED:

QA:

STRESS:

MANUF.:

SYSTEM:

APPROVED:

TITLE

**MLG - ASSY  
LH/RH**

DWG.ORIG.

**DAIA**

DWG.NO.

**D60-3217-21-00\_2  
D60-3217-22-00\_2**

REV

"A"

CODE **710197**

SCALE 1:2

SH **01** OF **01**