

## OPTIONAL SERVICE BULLETIN

NO. OSB 40-066

NO. OSB D4-072

### I TECHNICAL DETAILS

#### I.1 Category

Optional.

#### I.2 Airplanes affected

Type: DA 40, DA 40 D  
Serial numbers: 40.010 through 40.362  
D4.001 through D4.109  
aircraft with standard tanks

#### I.3 Date of Effectivity

23-Feb-2010

#### I.4 Time of Compliance

At owner's discretion

#### I.5 Subject

Large Rudder.  
ATA-Code: 55-40

#### I.6 Reason

Early serial numbers of DA 40 / DA 40 D airplanes with standard tanks are equipped with a small rudder. For production standardization higher serial numbers are all equipped with a large rudder regardless of tank configuration. This service bulletin describes the retrofit of the large rudder DA4-5540-00-00\_1 on all aircraft initially equipped with a small rudder DA4-5540-00-00.

Note: Only the large rudder DA4-5540-00-00\_1 is available as spare part from Diamond Aircraft Industries.

#### 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 40-113/a which has been approved under the authority of JAA Design Organization Approval No. MOT-JA-01.

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

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

Comply with WI-OSB 40-066 / WI-OSB D4-072, latest effective issue.

## **I.10 Mass and CG**

Mass and CG affected.

# **II PLANNING INFORMATION**

## **II.1 Material and Availability**

See WI-OSB 40-066 / WI-OSB D4-072, latest effective issue.

## **II.2 Special Tools**

None.

## **II.3 Labor Effort**

Approx. 2 hours.

## **II.4 Credit**

None.

## **II.5 Reference Documents**

Diamond Aircraft DA 40 Series Airplane Maintenance Manual, Doc. No. 6.02.01, latest effective issue.

# **III REMARKS**

- 1) All measures must be carried out by a certified aircraft maintenance station or a certified aircraft mechanic.
- 2) All works, particular those that are not especially described in this service bulletin, must be carried out in accordance with the reference maintenance manual.
- 3) Accomplishment of the measures must be confirmed in the log book.
- 4) In case of doubt, contact Diamond Aircraft Industries GmbH.

**EXECUTION REPORT TO  
SERVICE BULLETIN  
OSB 40-066  
OSB D4-072**

## AIRPLANE DATA

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

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

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

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

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

Hours of operation-engine \_\_\_\_\_

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

\_\_\_\_\_  
Date, Name, SignPlease fax the completed form to Fax No. +43-2622-26700-1369 or e-mail to  
airworthiness@diamond-air.at

## WORK INSTRUCTION

WI-OSB 40-066

WI-OSB D4-072

„Replacement of Rudder“

### **I GENERAL INFORMATION**

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

Replacement of rudder.

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

Diamond Aircraft DA 40 Series Airplane Maintenance Manual, Doc. No. 6.02.01, 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**

None.

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

None.

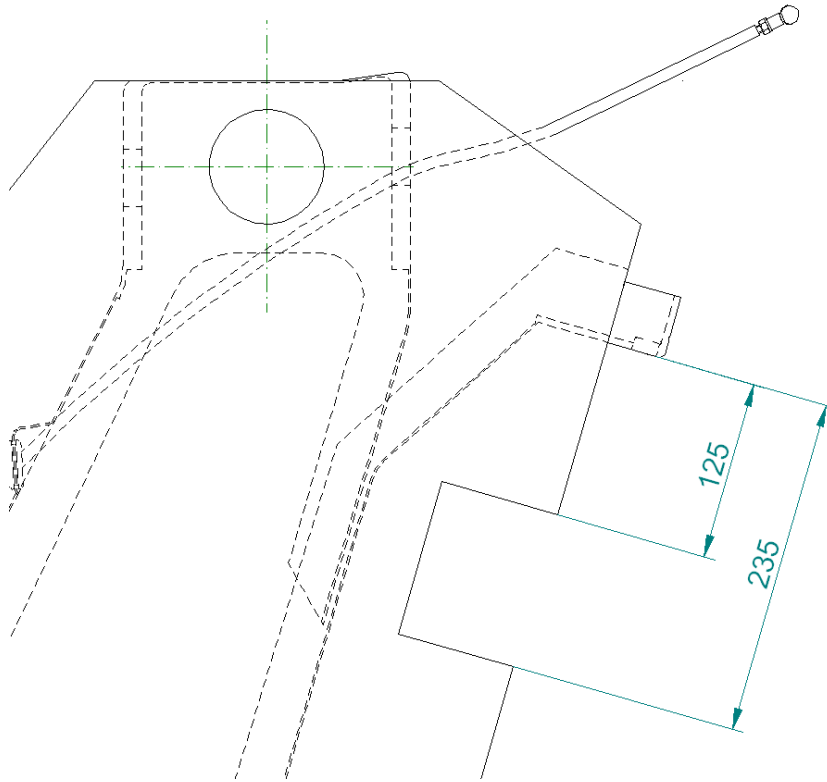
### II.3 Material

Quantity	Part Number	Description
1	DA4-5540-00-00_1	Rudder Assy

Material is available from Diamond Aircraft Industries.

## III INSTRUCTIONS

1.	<p>Verify that masses and residual moments of all control surfaces are within the limits of the AFM Section 51-60.</p> <p>Note: Performance of this Work Instruction affects these limits.</p>
2.	Remove old rudder i.a.w. AMM Doc. No. 6.02.01 Section 55-40.
3.	Resize the rudder mass balance cut out on the vertical stabilizer (refer to Sketch 1).
4.	Install new rudder i.a.w. AMM Doc. No. 6.02.01 Section 55-40.
5.	<p>Check for proper gap (3 mm / 0.12 in minimum) between rudder and stabilizer frame at full rudder deflection LH and RH and during travel.</p> <p>Check for clearance between elevator push rod and rudder mass balance in nose up and nose down position (minimum 2 mm / 0.08 in).</p>
6.	Perform rudder control system test i.a.w. AMM Doc. No. 6.02.01 Section 27-20.
7.	<p>Record rudder travel in control system adjustment report listed in AMM Doc. No. 6.02.01 Section 06-00.</p> <p>Note: Be cautious to use the adjustment report for aircraft with large rudder.</p> <p>Note: This adjustment report must always be used when recording the control system travel.</p>
8.	Determine new weight and center of gravity by weighing or calculation.
9.	Record aircraft empty mass and CG in AFM.
10.	Make all necessary entries in the aircraft logs.



Sketch 1: Cut out for rudder mass balance