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, Sign

Please 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.

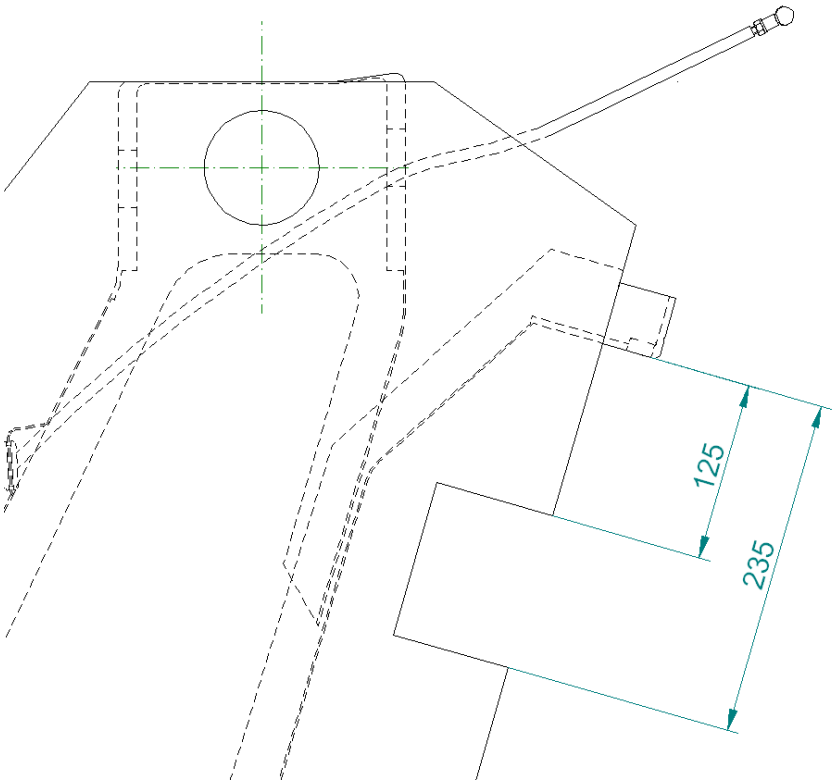
II.3 Material

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

Material is available from Diamond Aircraft Industries.

III INSTRUCTIONS

1.	Verify that masses and residual moments of all control surfaces are within the limits of the AFM Section 51-60. Note: Performance of this Work Instruction affects these limits.
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.	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. Check for clearance between elevator push rod and rudder mass balance in nose up and nose down position (minimum 2 mm / 0.08 in).
6.	Perform rudder control system test i.a.w. AMM Doc. No. 6.02.01 Section 27-20.
7.	Record rudder travel in control system adjustment report listed in AMM Doc. No. 6.02.01 Section 06-00. Note: Be cautious to use the adjustment report for aircraft with large rudder. Note: This adjustment report must always be used when recording the control system travel.
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