MANDATORY SERVICE BULLETIN
MSB 42NG-059/3
SUPERSEDES RSB 42NG-059/2

I TECHNICAL DETAILS

I.1 Category

Mandatory.

I.2 Airplanes affected

Type:	DA 42 NG, DA 42 M-NG
Serial numbers – range 1:	42.N150 through 42.N183
	42.N185 through 42.N199
	42.MN035 through 42.MN037, 42.MN039
	42.MN050 through 42.MN052
Serial numbers – range 2:	42.N184
	42.N200 through 42.N223
	42.MN038
	42.MN040

I.3 Date of effectivity

09-Sep-2016

I.4 Time of Compliance

Serial numbers – range 1:

First inspection within 25 flight hours from the date of effectivity, but not later than 31-Dec-2016, and following inspection during every 200 hour inspection thereafter.

If the autopilot is deactivated the time of compliance of the first inspection may be extended up to 200 flight hours.

Serial numbers – range 2:

Inspection during every 200 hour inspection.

The terminating action for the following inspection during every 200 hour inspection is the replacement of the autopilot bridle cable clamps with the improved design P/N D41-2213-10-53_01 or higher (_02) and P/N D41-2213-10-54_01 or higher (_02).

Note: Compliance with RSB 42NG-059 or RSB 42NG-059/1 constitutes compliance with the first inspection required by this MSB.

I.5 Subject

I.6 Inspection of autopilot bridle cable clamps.

ATA-Code: 22-00

I.7 Reason

Cracked autopilot bridle cable clamps (P/N D41-2213-10-53 and P/N D41-2213-10-54) in the pitch and roll control system due to possible over-torqueing have been discovered during inspection. Tests have shown that the cracked clamps still perform their function but for safety reason they have to be inspected. This Service Bulletin describes the inspection of the clamps on the potentially affected airplanes.

I.8 Concurrent Documents

None.

I.9 Approval

The technical content of this document has been approved under the authority of DOA ref. EASA.21J.052.

I.10 Accomplishments / Instructions

See WI-MSB 42NG-059, latest effective issue.

I.11 Mass (Weight) and CG

Not affected.

II PLANNING INFORMATION

II.1 Material and Availability

See WI-MSB 42NG-059, latest effective issue.

II.2 Special Tools

None.

II.3 Labour Effort

Approx. 1 hours.

II.4 Credit

For terminating action i.a.w. Section I.4 for aircraft within warranty period.

II.5 Reference Documents

DA 42 NG Airplane Maintenance Manual, Doc. No. 7.02.15, latest effective issue.

III REMARKS

1. All work must be done by a certified aircraft service station or a certified aircraft maintenance mechanic.
2. All work, particular that which is not especially described in this Service Bulletin, must be done in accordance with the referenced Maintenance Manual.
3. Completion of all work must be recorded in the log book.
4. If material and/or labor hours are subject to be credited through Diamond Aircraft Industries, the Service Bulletin must be done by an authorized Diamond Service Center within the time of compliance and the Warranty Application incl. Work Report must be sent not later than 30 days after completion of work.
5. In case of doubt contact Diamond Aircraft Industries GmbH.

EXECUTION REPORT TO SERVICE BULLETIN MSB 42NG-059/3

AIRPLANE INFORMATION

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. +43-2622-26700-1369 or e-mail to airworthiness@diamond-air.at

WORK INSTRUCTION

WI-MSB 42NG-059

I GENERAL INFORMATION

I.1 Subject

Inspection of autopilot bridle cable clamps.

I.2 Reference Documents

DA 42 NG Airplane Maintenance Manual, Doc. No. 7.02.15, latest effective issue.

I.3 Remarks

a) All work must be done by a certified aircraft service station or a certified aircraft maintenance mechanic.

b) All work, in particular if not described in this work instruction, must be done in accordance with the referenced maintenance manual.

c) For conversion factors between SI units and US/Imperial units refer to AMM Chapter 02.

d) 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
a.r.	D41-2213-10-53_01 or D41-2213-10-53_02	Bridle cable clamp
a.r.	D41-2213-10-54_01 or D41-2213-10-54_02	Bridle cable clamp
16	DIN 985-M5-A2	Hexagon nut, self locking
8	LN 9037-M5x28	Hexagon bolt – only required if P/N D41-2213-10-53_02 and P/N D41-2213-10-54_02 is installed.

Material is available from Diamond Aircraft Industries.

III INSTRUCTIONS

III.1 Deactivation of Autopilot (optional)

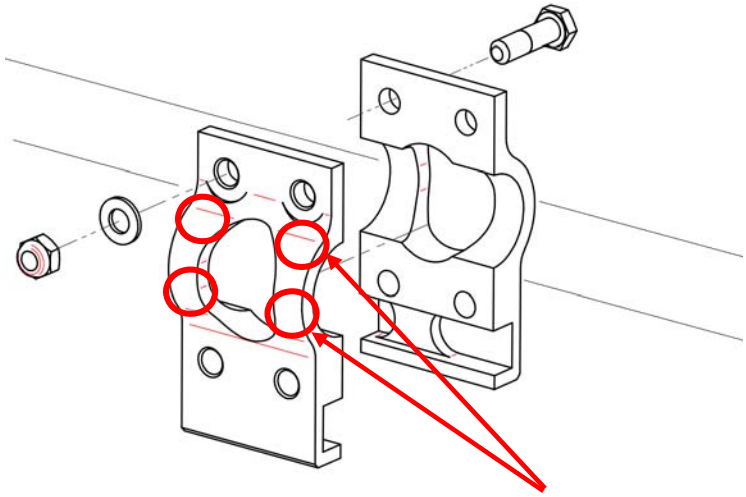
Note: The deactivation of the autopilot may be carried out by the operator.

Note: The electric pitch trim is inoperative when the auto pilot is deactivated.

1	Pull the autopilot circuit breaker.
2	Secure the autopilot circuit breaker with a cable tie.
3	Mark the autopilot as inoperative.

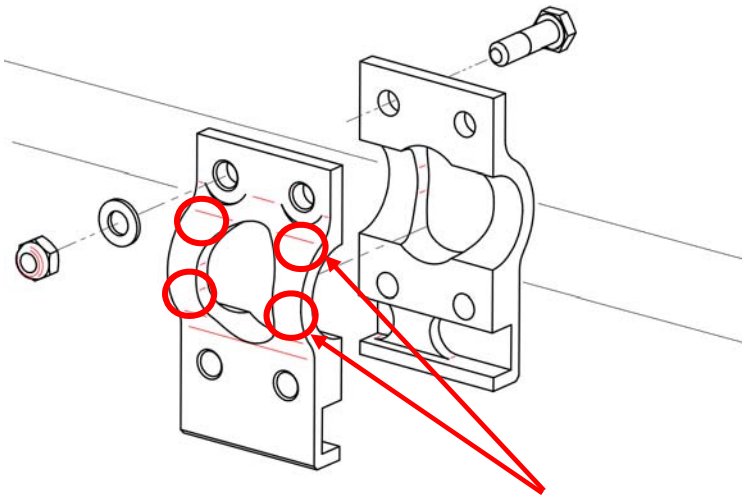
III.2 Initial Inspection of Autopilot Bridle Cable Clamps

4	Remove the rear seat bench i.a.w. AMM Section 25-10.
5	Remove the rear baggage compartment i.a.w. AMM Section 25-10.

6	Examine the clamps of the bridle cables for the pitch and roll servo: • Carefully inspect the clamps with a bright light and a mirror for signs of cracks or damage. Use a magnifying glass, if necessary. • Inspect the upper and lower boltings for loose parts and damage. • Re-torque the bolts. o Mark the clamp position with witness paint or equivalent to allow confirmation that the clamp did not move while re-torqueing o Loosen one bolt at each time and tighten with 3.6 Nm (2.65 lb ft). ▪ Use a new self-locking nut. ▪ Start with the lower bolts. Make sure the lower surfaces touch. o Proceed with the remaining bolts. o Confirm that the clamp did not move.  Look especially in the marked areas for cracks. **CAUTION:** Use a torque wrench with an appropriate torque range. Apply the given torque carefully and do not overtorque the bolts as over-torqueing the bolts might damage the autopilot cable clamps.
7	If a clamp has to be replaced: • Replace the affected clamp. • Adjust the bridle cable tension i.a.w. AMM Section 22-10. • Torque the bolts with 3.6 Nm (2.65 lb ft). **CAUTION:** Use a torque wrench with an appropriate torque range. Apply the given torque carefully and do not overtorque the bolts as over-torqueing the bolts might damage the autopilot cable clamps. Note**:** If a pair of autopilot bridle cable clamps P/N D41-2213-10-53_02 and P/N D41-2213-10-54_02 is installed the 2 short bolts must be replaced with bolts P/N LN 9037-M5x28.
8	Install the rear baggage compartment i.a.w. AMM Section 25-10.
9	Install the rear seat bench i.a.w. AMM Section 25-10.

10	If the autopilot has been deactivated, reactivate the autopilot • Remove the cable tie and push in the autopilot circuit breaker. • Remove the auto pilot inoperative marking
11	Clean working areas, check for foreign objects.
12	Check all altered, replaced, repaired parts for proper function.
13	Test all systems in working area for function.
14	Make all necessary entries in the airplane logs.

III.3 Inspection of Autopilot Bridle Cable Clamps during the 200 hours inspection

15	Remove the rear seat bench i.a.w. AMM Section 25-10.
16	Remove the rear baggage compartment i.a.w. AMM Section 25-10.
17	Examine the clamps of the bridle cables for the pitch and roll servo: • Carefully inspect the clamps with a bright light and a mirror for signs of cracks or damage. Use a magnifying glass, if necessary. • Inspect the upper and lower boltings for loose parts and damage.  Look especially in the marked areas for cracks. Note: Do not re-torque the bolts during recurrent inspection.

18	If a clamp has to be replaced: • Replace the affected clamp. • Adjust the bridle cable tension i.a.w. AMM Section 22-10. • Torque the bolts with 3.6 Nm (2.65 lb ft). **CAUTION:** Use a torque wrench with an appropriate torque range. Apply the given torque carefully and do not overtorque the bolts as over-torqueing the bolts might damage the autopilot cable clamps. Note**:** If a pair of autopilot bridle cable clamps P/N D41-2213-10-53_02 and P/N D41-2213-10-54_02 is installed the 2 short bolts must be replaced with bolts P/N LN 9037-M5x28.
19	Install the rear baggage compartment i.a.w. AMM Section 25-10.
20	Install the rear seat bench i.a.w. AMM Section 25-10.
21	Clean working areas, check for foreign objects.
22	Check all altered, replaced, repaired parts for proper function.
23	Test all systems in working area for function.
24	Make all necessary entries in the airplane logs.