 Letecká 255 Tel.:+420 773 984 338 686 04 Kunovice info@brmaero.com Czech Republic www.brmaero.com	BULLETIN TITLE: CONTROL SURFACES DEFLECTION	
	CLASSIFICATION: MANDATORY SERVICE BULLETIN	
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0 RECORD OF REVISIONS	Rev.No.	Affected pages	Reason	Date
	0	All	1 st Issue	19.07.2024

1 GENERAL INFORMATION

1.1 Affected aircraft

- 1.1.1 Type:** BRISTELL (Ultra-light / Light Sport category aircraft)
- 1.1.2 Model:** All models listed in German Kennblatt 66253 issue 7:
- LSA, LSA-915
"long wing version" - wing span 9.13 m
 - LSA-K, LSA-K-RG, LSA-K-915, LSA-K-RG-915
"short wing version" - wing span 8.13 m
- 1.1.3 S/N:** Not specified, see 1.1.2 Model
- 1.1.4 Countries:** Germany
and other countries where the aircraft is operated under German registration.

1.2 Reason

It was found that the deflections of the ailerons are not in the specified range.

1.3 Required action

Measurement/adjustment of control surface deflections

1.4 Compliance time

No later than the next periodic/annual inspection of the aeroplane.

1.5 Mass data

Not affected

1.6 Electrical load data

Not affected

2 DOCUMENTS

- 2.1 Superseded documents** NONE
- 2.2 Revised documents** NONE
- 2.3 Affected documents** Aircraft Maintenance and Inspection Procedures


3 MATERIAL INFORMATION

- 3.1 Required material** If necessary, please contact BRM Aero
- 3.2 Required tools** Set of common workshop tools.
Protractor (digital, with deflection needle) for measuring control surface deflections.
- 3.3 Costs covered by** BRM Aero will supply Required material if necessary.
BRM Aero does not reimburse labor or any other costs.

4 ACCOMPLISHMENT INSTRUCTIONS

- 4.1 Type of maintenance** Line
- 4.2 Authorization to perform** **Prüfer Klasse 5** in Germany
In other countries as required by the relevant national regulations

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4.3 Manpower

4.4 Work procedure

- Estimated 0.5 – 1 hour to measure the deflections
- Estimated 1 hour for adjustment if necessary and possible
 1. Measure the deflections of the control surfaces (see Annex 4) and check according to the Record in Annex 1 for long wing version, Annex 2 for short wing version
 2. Adjust deflections to the desired range according to the Record in Annex 1 for long wing version, Annex 2 for short wing version. Follow Figures in Annex 3.
 3. Send the completed Record to BRM Aero: service@brmaero.com
 4. Update Flight Manual and Maintenance and Inspection Procedures – follow Annex 4 and Annex 5

Notes:

Refer to the Aircraft Maintenance and Inspection Procedures (MIP) supplied with each aircraft for:

6.4.3 Checking control surface deflections

IMPORTANT – check deflections against values shown in this Bulletin, not against those ones in the supplied MIP

6.4.4 Adjustment of control surface deflections

4.5 Work inspection

Check that all connections released during deflection adjustment are tightened/secured.

Check control system for free movement, no jamming, friction, collision with surrounding structure.

4.6 Bulletin compliance record

Complete RECORD OF CONTROL SURFACE DEFLECTIONS MEASUREMENT in Annex 1 for long wing version, Annex 2 for short wing version

Record the bulletin execution in the Aircraft Log Book.

Inform the relevant aviation authority or delegated entity of the bulletin's implementation.

4.7 Feedback

Scan or take a photo of the completed Record and send copy to authority DAeC c.spintig@daec.de

and also to service@brmaero.com

5 BULLETIN APPROVAL

5.1 Elaborated by:

Petr Javorský, BRM Aero, Certification manager

5.2 Date of elaboration:

19.07.2024


5.3 Approved by:

Milan Bříšťela, BRM Aero, CEO

5.4 Date of approval:

19.07.2024



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6 ANNEXES

Annex 1 Record of Control Surface Deflections Measurement – “long wing version”


Annex 2 Record of Control Surface Deflections Measurement – “short wing version”

Annex 3 AILERON CONTROL ARMS ADJUSTMENT

Annex 4 DEFLECTION MEASUREMENT PROCEDURE

Annex 5 Flight Manual (Betriebshandbuch) revised page

Annex 6 Maintenance Manual revised page

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6.1 ANNEX 1

**RECORD OF CONTROL SURFACE DEFLECTIONS MEASUREMENT
„long wing version“**


Aircraft: _____
Ser.No.: _____
Reg.mark: _____

MEASURED CONTROL SYSTEM		Required deflections	Measured deflections	Compliance	
LEFT AILERON	up	22 ± 2			
	down	16 ± 2			
RIGHT AILERON	up	22 ± 2			
	down	16 ± 2			
ELEVATOR	up	30 ± 1			
	down	15 ± 1			
RUDDER	left	30 ± 2			
	right	30 ± 2			
ELEVATOR TRIM	up	10 ± 2			
	down	20 ± 2			
LEFT AILERON TRIM	up	15 ± 2			
	down	20 ± 2			
LEFT WING FLAP	retracted	0 ± 2			
	Takeoff	10 ± 2			
	Landing I	20 ± 3			
	Landing II	30 + 0 - 2			
RIGHT WING FLAP	retracted	0 ± 2			
	Takeoff	10 ± 2			
	Difference between L/R flap deflections: ± 0.5°	Landing I	20 ± 3		
		Landing II	30 + 0 - 2		

Measured by:

COMPLIANCE: YES - NO

Date:

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6.2 ANNEX 2

RECORD OF CONTROL SURFACE DEFLECTIONS MEASUREMENT „short wing version“


Aircraft:
Ser.No.:
Reg.mark:

MEASURED CONTROL SYSTEM		Required deflections	Measured deflections	Compliance
LEFT AILERON	up	23 ± 2		
	down	19 ± 2		
RIGHT AILERON	up	22 ± 2		
	down	16 ± 2		
ELEVATOR	up	30 ± 1		
	down	15 ± 1		
RUDDER	left	30 ± 2		
	right	30 ± 2		
ELEVATOR TRIM	up	10 ± 2		
	down	20 ± 2		
LEFT AILERON TRIM	up	15 ± 2		
	down	20 ± 2		
LEFT WING FLAP	retracted	0 ± 2		
	Takeoff	10 ± 2		
	Landing I	20 ± 3		
	Landing II	30 + 0 - 2		
RIGHT WING FLAP	retracted	0 ± 2		
	Takeoff	10 ± 2		
Difference between L/R flap deflections: ± 0.5°	Landing I	20 ± 3		
	Landing II	30 + 0 - 2		

Measured by:

COMPLIANCE: YES - NO

Date:

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6.3 ANNEX 3

AILERON CONTROL ARMS ADJUSTMENT



Fig. 6-1 Set control stick to the neutral (vertical position)

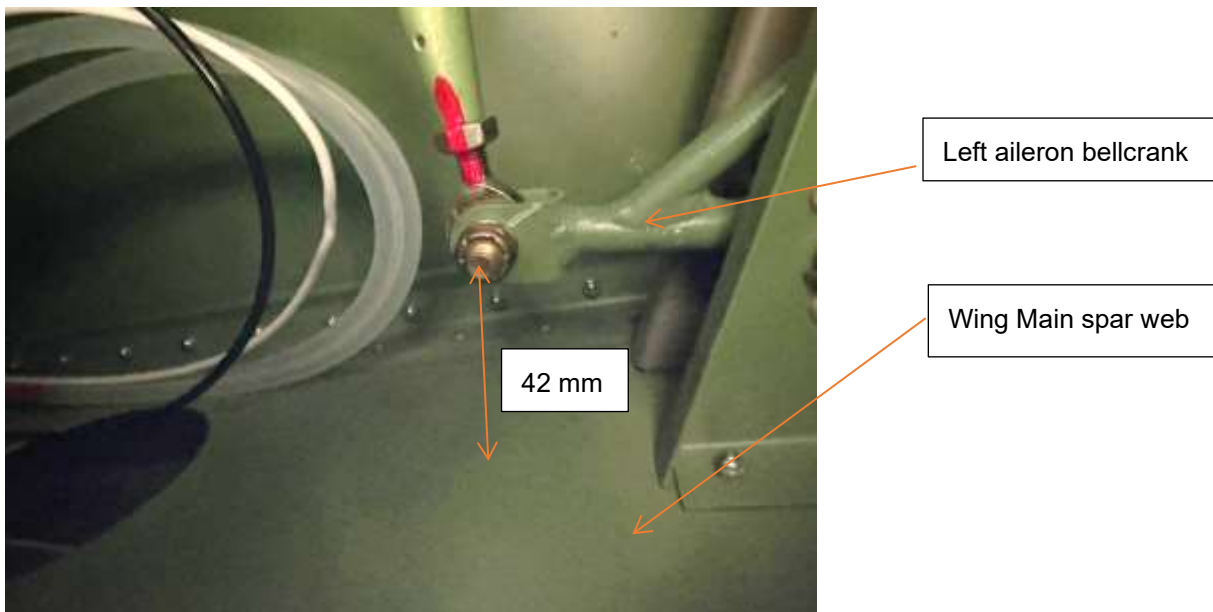


Fig. 6-2 Left aileron bellcrank adjustment (distance 42 mm between bolt axis and spar web, in neutral position)


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Fig. 6-3 Left aileron trailing edge aligned with the wingtip trailing edge in neutral position.
To get this alignment adjust aileron last control rod.

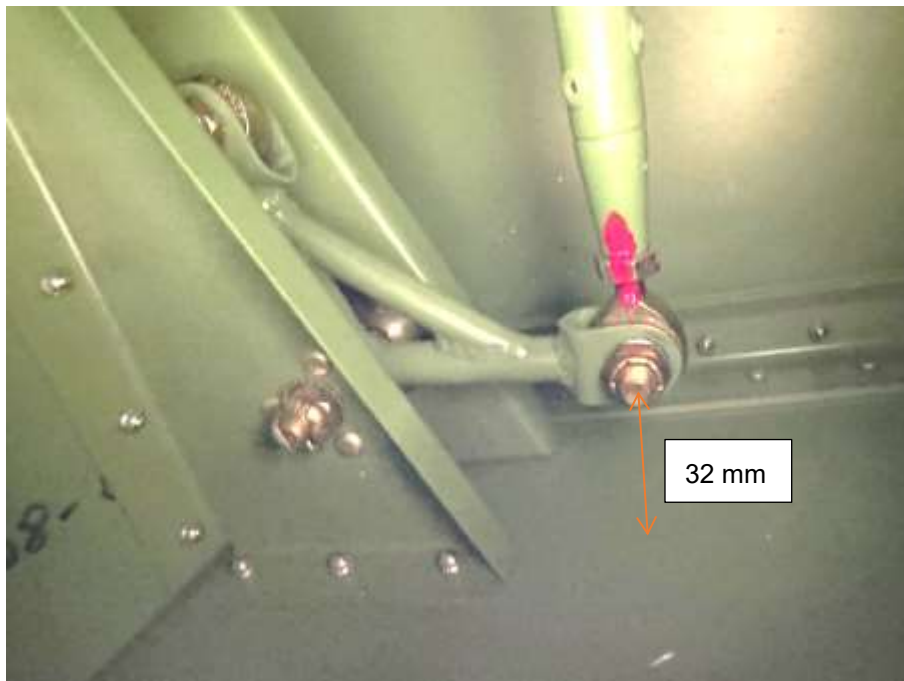




Fig. 6-4 Right aileron bellcrank adjustment (distance 32 mm between bolt axis and spar web, in neutral position)

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*Fig. 6-5 Right aileron trailing edge aligned with the wingtip trailing edge in neutral position.
To get this alignment adjust aileron last control rod.*

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6.4 Annex 4

DEFLECTION MEASUREMENT PROCEDURE

The following figures show for illustration how to properly measure control surface deflections.

When measuring, it is necessary to fully move the control stick up to its stop to deflect required control surface.

Do not deflect the control surface by holding it by the trailing edge, the measured deflections could be different.

Make sure that the control stick movement was not limited by the seat (you may remove it).

AILERONS	
	
	
	

Fig. 6-6 Hold elevator control stick in neutral position


Fig. 6-7 Elevator in neutral position

Fig. 6-8 Set aileron to neutral position against wing tip and place digital protractor on the aileron root and zero it.

Fig. 6-9 Move the control stick fully left up to the stop

Fig. 6-10 Measure and record left aileron up deflection

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*Fig. 6-11 Move the control stick fully right to the stop
Repeat the procedure for the right aileron. Measure the deflection at aileron root, not at the tip*



Fig. 6-12 Measure and record left aileron down deflection

ELEVATOR



Fig. 6-13 Set elevator to the neutral position

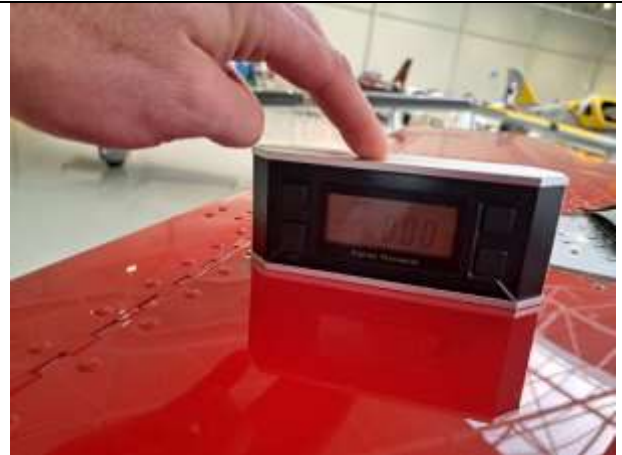


Fig. 6-14 Place protractor on the elevator (in the middle in front of the trim tab) and zero it.



Fig. 6-15 Pull the control stick fully aft



Fig. 6-16 Measure and record elevator up deflection



Fig. 6-17 Push the control stick fully forward



Fig. 6-18 Measure and record elevator down deflection


RUDDER



Fig. 6-19 Rudder right deflection. 30° = 225 mm



Fig. 6-20 Rudder left deflection. 30° = 225 mm


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6.5 ANNEX 5

Flight Manual (Betriebshandbuch) revised page


1. Print next page
2. Cut this page to A5 format and punch holes to fit your existing Flight Manual (Betriebshandbuch) ring binder
3. Use this page to replace the original page showing control surface deflections in the Flight Manual (Betriebshandbuch)
4. Record page change in existing Flight Manual (Betriebshandbuch), table "Record of Revisions" (Berichtigungsstand)

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BRISTELL (all models in Kennblatt 66253, Ausgabe 8)



Betriebshandbuch

1.3.3 Abmessungen und Ansichten

Die folgende Tabelle zeigt die Ausschläge der Steuerflächen gemäß dem Mandatory Service Bulletin ALL-SB-0-0-0-DE-0002-2024.

Diese Ausschläge ersetzen die im Original-Flughandbuch angegebenen Werte.


Ausschläge:		Kurze Tragfläche 8.13 m	Lange Tragfläche 9.13 m
Querruderausschlag - Links	nach oben	$23^\circ \pm 2^\circ$	$22^\circ \pm 2^\circ$
	nach unten	$19^\circ \pm 2^\circ$	$16^\circ \pm 2^\circ$
Querruderausschlag - Recht	nach oben	$22^\circ \pm 2^\circ$	$22^\circ \pm 2^\circ$
	nach unten	$16^\circ \pm 2^\circ$	$16^\circ \pm 2^\circ$
Querrudertrimmung	nach oben	$15^\circ \pm 2^\circ$	$15^\circ \pm 2^\circ$
	nach unten	$20^\circ \pm 2^\circ$	$20^\circ \pm 2^\circ$
Höhenruderausschlag	nach oben	$30^\circ \pm 1^\circ$	$30^\circ \pm 1^\circ$
	nach unten	$15^\circ \pm 1^\circ$	$15^\circ \pm 1^\circ$
Höhenrudertrimmung	nach oben	$10^\circ \pm 2^\circ$	$10^\circ \pm 2^\circ$
	nach unten	$20^\circ \pm 2^\circ$	$20^\circ \pm 2^\circ$
Seitenruderausschlag	nach links	$30^\circ \pm 2^\circ$	$30^\circ \pm 2^\circ$
	nach rechts	$30^\circ \pm 2^\circ$	$30^\circ \pm 2^\circ$
Landeklappenstellungen	Eingefahrene	$0^\circ \pm 2^\circ$	$0^\circ \pm 2^\circ$
	Startposition	$10^\circ \pm 2^\circ$	$10^\circ \pm 2^\circ$
	Landeposition I.	$20^\circ \pm 3^\circ$	$20^\circ \pm 3^\circ$
	Landeposition II.	$30 + 0^\circ$ - 2°	$30 + 0^\circ$ - 2°

Ausstellungsdatum: 07/2024

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6.6 ANNEX 6

Maintenance Manual revised page

1. Print next page on A4 format
2. Punch holes to fit your existing Maintenance Manual ring binder
3. Use this page to replace the table showing control surface deflections in the Maintenance Manual
4. Record page change in existing Maintenance Manual, table "Record of Revisions".

MAINTENANCE AND INSPECTION PROCEDURES

6.4.3 Checking control surface deflections

The following table shows the deflections of the control surfaces in accordance with the Mandatory Service Bulletin ALL-SB-0-0-0-EN-0002-2024.

These deflections replace the values given in the original Maintenance and Inspection Procedures.

		Short wing 8.13 m	Long wing 9.13 m
Left aileron	up	23° ± 2°	22° ± 2°
	down	19° ± 2°	16° ± 2°
Right aileron	up	22° ± 2°	22° ± 2°
	down	16° ± 2°	16° ± 2°
Aileron trim tab	up	15° ± 2°	15° ± 2°
	down	20° ± 2°	20° ± 2°
Elevator	up	30° ± 1°	30° ± 1°
	down	15° ± 1°	15° ± 1°
Elevator trim tab	up	10° ± 2°	10° ± 2°
	down	20° ± 2°	20° ± 2°
Rudder	nach links	30° ± 2°	30° ± 2°
	nach rechts	30° ± 2°	30° ± 2°
Wing flap	Retracted	0° ± 2°	0° ± 2°
	Takeoff position	10° ± 2°	10° ± 2°
	Landing position I.	20° ± 3°	20° ± 3°
	Landing position II.	30 + 0° - 2°	30 + 0° - 2°
	Difference between L/R flap deflections	± 0.5°	± 0.5°

6. CHAPTER - CONTROLS