	BULLETIN TITLE: ELEVATOR CONTROL STUCK			
	CLASSIFICATION: SAFETY ALERT			
BULLETIN NUMBER: ALL-SA-3-0-5-0001-2017		ALL-SA-4-0-5-0001-2017 ALL-SA-5-0-5-0001-2017		
ALL-SA-4-0-5-0001-2017				
Letecká 255 686 04 Kunovice Czech Republic	Tel.:+420 773 984 338 info@brmaero.com www.brmaero.com	Date of issue: 05.10.2017 Date of effect: 05.10.2017	Revision no.: Initial issue Date of rev.: -	Page: 1 Pages: 10

1 GENERAL INFORMATION

1.1 Affected aircraft

- 1.1.1 Type:** BRISTELL
- 1.1.2 Model:** All models fitted with an autopilot and Rotax 912 iS (Sport) or Rotax 914 engines.
- 1.1.3 S/N:** All aircraft fitted with an autopilot and Rotax 912 iS (Sport) or Rotax 914 engines.
- 1.1.4 Countries:** All countries to which above specified Bristell aircraft were exported and/or in which are operated.

1.2 Reason

The BRISTELL airplanes fitted with an autopilot and any of Rotax 912 iS, iS Sport, Rotax 914 engines must have (due to space reasons - fuel installation with 2 fuel pumps) the elevator servo rod connected to the upper arm on the control stick torsion tube (at hand control upper stop). Elevator control stuck has occurred during taxiing on one of the airplanes in operation. It was then found, that the cause was jamming of an autopilot servo rod in a dead position, see Appendix 1.

BRM Aero therefore from this reason issues this Safety Alert to identify affected airplanes and to take appropriate corrective actions.

1.3 Subject

See Appendix 2.

1. Check, whether the aircraft is affected by the bulletin.
2. If so, then take action according to Appendix 2.

1.4 Compliance time

Before next flight.

1.5 Mass data

Not affected.

1.6 Electrical load data

Not affected.

2 DOCUMENTS

- 2.1 Superseded documents** No superseded documents.
- 2.2 Referenced documents** No referenced documents.
- 2.3 Affected documents** No affected documents.

3 MATERIAL INFORMATION

- 3.1 Required material** None.
- 3.2 Required tools** See Appendix 2

Form no: BRM-FORM-BUL-001	Form date of issue: 11.11.2015	Rev.: Init.issue	Rev.date of issue: -
File name: 001_2017_BRM_BULLETIN_EN			© BRM Aero s.r.o.



Letecká 255 Tel.:+420 773 984 338
 686 04 Kunovice info@brmaero.com
 Czech Republic www.brmaero.com

BULLETIN TITLE: ELEVATOR CONTROL STUCK
CLASSIFICATION: SAFETY ALERT
BULLETIN NUMBER: ALL-SA-3-0-5-0001-2017
ALL-SA-4-0-5-0001-2017
ALL-SA-5-0-5-0001-2017

Date of issue: 05.10.2017	Revision no.: Initial issue	Page: 2
Date of effect: 05.10.2017	Date of rev.: -	Pages: 10

3.3 Costs covered by

BRM Aero, in cooperation with BRM dealers in particular countries will provide free of charge required parts and material, if needed to comply with the bulletin.
 BRM Aero will not bear or reimburse down time costs, loss of income, telephone costs or any other costs.

4 ACCOMPLISHMENT INSTRUCTIONS

- 4.1 Type of maintenance** Line
- 4.2 Authorization to perform** Appropriately qualified/rated staff – LSA mechanic, A&P mechanic, etc.
- 4.3 Man-hour** Estimated time to comply with this bulletin is 3 hours.
- 4.4 Work procedure** Refer to Appendix 2.
- 4.5 Work inspection** Refer to Appendix 2.
- 4.6 Bulletin compliance record** Record compliance with the bulletin in the Airplane Log Book.
- 4.7 Feedback** Please inform BRM Aero on the bulletin accomplishment on: info@brmaero.com
 Specify: aircraft serial number, hours flown, bulletin accomplishment result, any other findings and/or comments.

5 BULLETIN APPROVAL

- 5.1 Elaborated by:** 
Petr Javorský, BRM Aero, Certification manager
- 5.2 Date of elaboration:** 05.10.2017
- 5.3 Approved by:** 
Milan Bříšťela, BRM Aero, CEO
- 5.4 Date of approval:** 05.10.2017

6 APPENDICES

List of Appendices to the bulletin:
 Appendix 1 : Picture of elevator servo stuck rod
 Appendix 2 : Procedure to properly adjust elevator servo rod



Letecká 255
686 04 Kunovice
Czech Republic

Tel.:+420 773 984 338
info@brmaero.com
www.brmaero.com

BULLETIN TITLE: **ELEVATOR CONTROL STUCK**
CLASSIFICATION: **SAFETY ALERT**
BULLETIN NUMBER: **ALL-SA-3-0-5-0001-2017**
ALL-SA-4-0-5-0001-2017
ALL-SA-5-0-5-0001-2017

Date of issue: 05.10.2017	Revision no.: Initial issue	Page: 3
Date of effect: 05.10.2017	Date of rev.: -	Pages: 10

APPENDIX 1

PICTURE OF ELEVATOR SERVO STUCK ROD

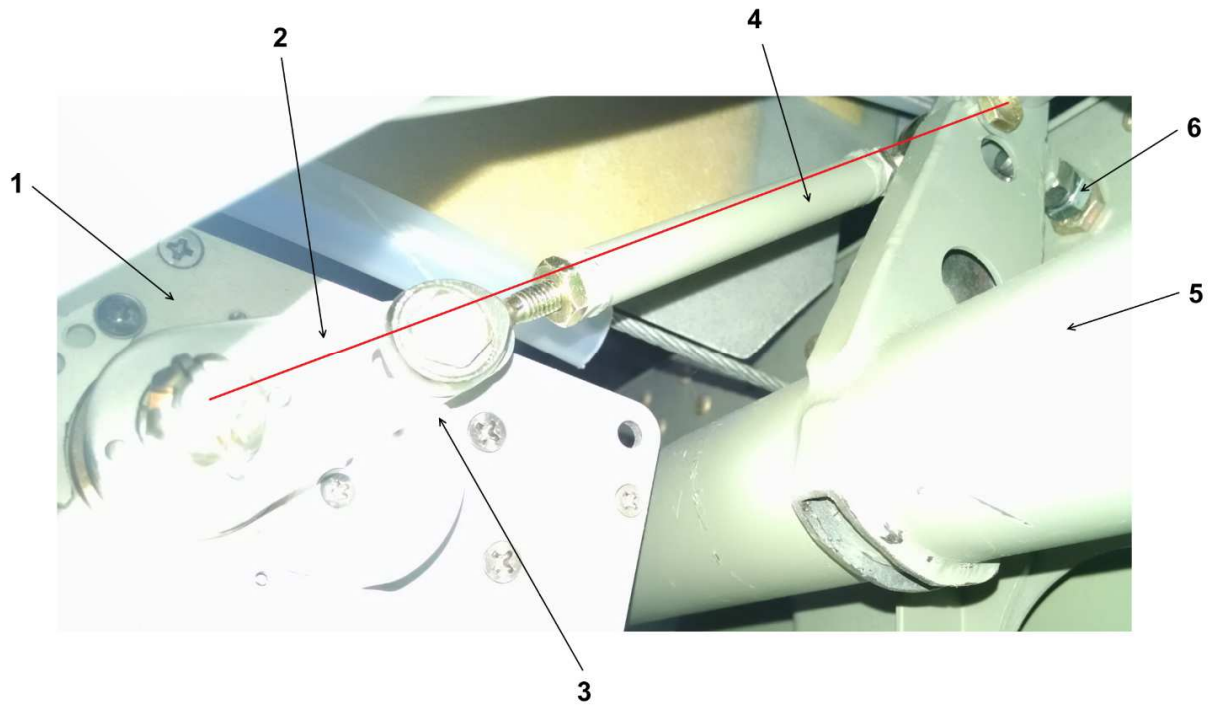



Figure 1

1 – Autopilot elevator control servo	2 – Servo arm
3 – Front stop of servo arm	4 – Servo rod (jammed in dead position between servo arm and arm on control sticks torsion tube)
5 – Control sticks torsion tube	6 – Elevator upper stop in push direction

	BULLETIN TITLE: ELEVATOR CONTROL STUCK			
	CLASSIFICATION: SAFETY ALERT			
BULLETIN NUMBER: ALL-SA-3-0-5-0001-2017		ALL-SA-4-0-5-0001-2017 ALL-SA-5-0-5-0001-2017		
ALL-SA-4-0-5-0001-2017				
ALL-SA-5-0-5-0001-2017				
Letecká 255 686 04 Kunovice Czech Republic	Tel.:+420 773 984 338 info@brmaero.com www.brmaero.com	Date of issue: 05.10.2017 Date of effect: 05.10.2017	Revision no.: Initial issue Date of rev.: -	Page: 4 Pages: 10

APPENDIX 2

PROCEDURE TO PROPERLY ADJUST ELEVATOR SERVO ROD

Type of Maintenance: Line

Authorization to perform: LSA mechanic, A&P mechanic

Required tools:

1. Allen wrench 2.5 mm (3/32 in) to unscrew and demount attachment screws of the central console fiberglass cover to have access to the autopilot elevator servo installation
2. Allen wrench 3 mm to demount T handle of hand central brake (if installed in the airplane)
3. Nut wrench 3/8" to unscrew the nuts of the servo rod
4. Phillips screwdriver to unscrew the servo arm stop attachment screws
5. 2 straight rules, one of 25 cm (10 in) length, second might be shorter , to measure distance between servo arm-rod joint and straight line.

Required parts and material: None

Estimated Man-hour: 3 hours

Work procedure:


1. Remove the seats and backrest from the cockpit
2. Open the arm rest cover between the seats and take out from inside the plastic box.



Figure 2

3. Use the Allen wrench 2.5 mm (3/32 ") to unscrew all screws attaching the central console composite cover.

Form no: BRM-FORM-BUL-001	Form date of issue: 11.11.2015	Rev.: Init.issue	Rev.date of issue: -
File name: 001_2017_BRM_BULLETIN_EN			© BRM Aero s.r.o.

 Letecká 255 686 04 Kunovice Czech Republic	Tel.:+420 773 984 338 info@brmaero.com www.brmaero.com	BULLETIN TITLE: ELEVATOR CONTROL STUCK CLASSIFICATION: SAFETY ALERT BULLETIN NUMBER: ALL-SA-3-0-5-0001-2017 ALL-SA-4-0-5-0001-2017 ALL-SA-5-0-5-0001-2017		
		Date of issue: 05.10.2017 Date of effect: 05.10.2017	Revision no.: Initial issue Date of rev.: -	Page: 5 Pages: 10

- If the airplane is equipped with a hand brake on the central console, then demount upper T handle.



Figure 3

- Carefully remove the central console composite cover upward.
 It will be necessary to lift up cover rear end at removal of the cover around the throttle lever T handle and slightly turn the cover laterally so that the T handle could pass through the cover rectangular cut-out. At removal of the cover an extension tube of the fuel selector has to be removed also.



Figure 4

- Push the control sticks fully forward (in flight direction) up to the push stop (upper stop on the wing main spar).



Letecká 255
686 04 Kunovice
Czech Republic

Tel.:+420 773 984 338
info@brmaero.com
www.brmaero.com

BULLETIN TITLE: **ELEVATOR CONTROL STUCK SAFETY ALERT**
CLASSIFICATION: **SAFETY ALERT**
BULLETIN NUMBER: **ALL-SA-3-0-5-0001-2017**
ALL-SA-4-0-5-0001-2017
ALL-SA-5-0-5-0001-2017

Date of issue: 05.10.2017	Revision no.: Initial issue	Page: 6
Date of effect: 05.10.2017	Date of rev.: -	Pages: 10



Figure 5

7. Visually check (from the fuselage right side) the mutual position between elevator servo rod and elevator servo arm.

The elevator servo rod must not achieve dead position, when the rod will be aligned in a straight line with the servo arm (180° angle – see the red line on Figure 6 or Figure 1).

The angle between servo rod and servo arm must be significantly less than 180° and such, that the distance of joint center from straight line will be 15 mm (0.6 in) at minimum (see green polygonal line on Figure 6).

Two suitable rules may be used to measure the distance, see Figure 7.

The elevator servo arm must simultaneously touch its front stop, see Figure 6.

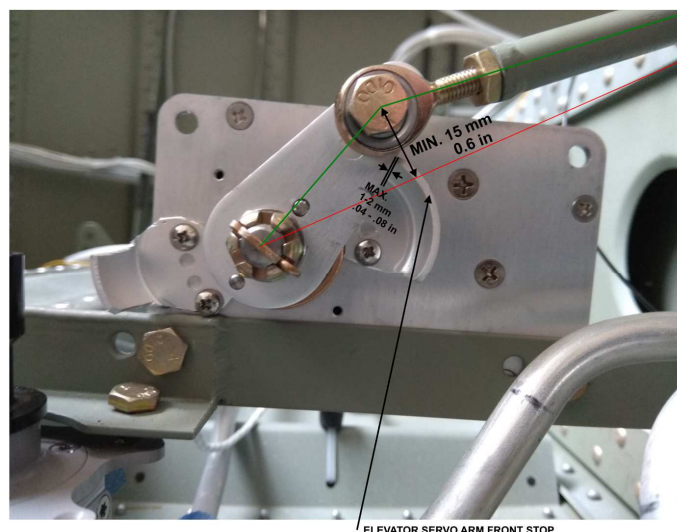


Figure 6



Letecká 255 Tel.:+420 773 984 338
686 04 Kunovice info@brmaero.com
Czech Republic www.brmaero.com

BULLETIN TITLE: **ELEVATOR CONTROL STUCK**
CLASSIFICATION: **SAFETY ALERT**
BULLETIN NUMBER: **ALL-SA-3-0-5-0001-2017**
ALL-SA-4-0-5-0001-2017
ALL-SA-5-0-5-0001-2017

Date of issue: 05.10.2017	Revision no.: Initial issue	Page: 7
Date of effect: 05.10.2017	Date of rev.: -	Pages: 10

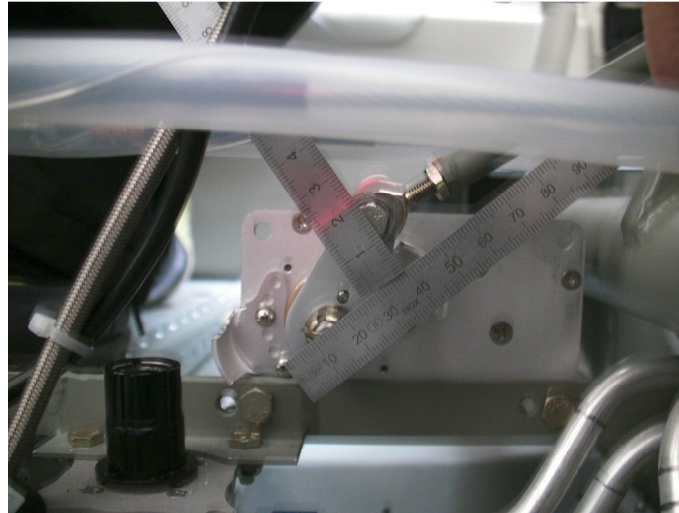



Figure 7

8. If everything is OK according to step 7, then proceed with step 15 and subsequent.
9. If the rod may reach its dead position and/or the joint distance from the straight line is less than 15 mm (0.6 in) or if the servo arm simultaneously does not touch its front stop (gap is more than 1-2 mm (0.04-0.08 in)), then it will be necessary to elongate rod length and move/adjust the servo arm front stop.
10. Use a Phillips screw driver to unscrew the servo arm front stop attachment screws and then remove the stop. It will be reinstalled after the rod length adjustment.
11. Rod length elongation – use nut wrench 3/8" to release and unscrew the self-locking nut on a bolt connecting the rod with servo arm and also on opposite end where the rod is connected to the arm on the torsion tube. Remove connecting bolts and washers (before make a note or photo of washers arrangement on the bolt). Then remove the rod.
Release slightly the counter-nuts on the rod and turn the terminal (eye) of about 2 turns on both ends of the rod (this will add approx. 5 mm (0.2 in) of rod length).
CAUTION: The rod terminals (eyes) must still remain sufficiently screwed down in the rod (6 threads at least).
Then re-tight the counter-nuts.
Reinstall the rod back.
Push the control sticks fully forward up to the push stop and check again position of the rod and servo arm according to step 7.
12. If the rod length still needs to be adjusted, then repeat the procedure in previous step .
13. Re-install the servo arm front stop back on the servo body so that the servo arm will touch the stop with fully pushed control sticks (see Figure 7).
14. Perform check of the installation – push the control sticks fully forward up to the push stop and visually from the fuselage right side check position of the elevator servo rod and servo arm –

 Letecká 255 686 04 Kunovice Czech Republic	Tel.:+420 773 984 338 info@brmaero.com www.brmaero.com	BULLETIN TITLE: ELEVATOR CONTROL STUCK CLASSIFICATION: SAFETY ALERT BULLETIN NUMBER: ALL-SA-3-0-5-0001-2017 ALL-SA-4-0-5-0001-2017 ALL-SA-5-0-5-0001-2017		
		Date of issue: 05.10.2017 Date of effect: 05.10.2017	Revision no.: Initial issue Date of rev.: -	Page: 8 Pages: 10

they may not be aligned in a straight line, the distance of joint from center line must be 15 mm at minimum and servo arm must touch its front stop, see *Figure 6* and *Figure 7*.

15. Pull the control sticks fully aft (see *Figure 8*) up to the pull stop (bottom stop on the wing main spar) and check mutual position of the servo rod and servo arm. The rod and arm may not be aligned in a straight line (dead position) and servo arm should touch the rear stop (gap max. 1-2 mm), see *Figure 9*.

Note: If necessary, when the servo arm is hitting the stop edge too early after stop movement to its new position, the stop edge may be trimmed using a file or snips.




Figure 8



Figure 9

16. If everything is OK then proceed with the next steps.

Form no: BRM-FORM-BUL-001	Form date of issue: 11.11.2015	Rev.: Init.issue	Rev.date of issue: -
File name: 001_2017_BRM_BULLETIN_EN			© BRM Aero s.r.o.

	BULLETIN TITLE: ELEVATOR CONTROL STUCK			
	CLASSIFICATION: SAFETY ALERT			
BULLETIN NUMBER: ALL-SA-3-0-5-0001-2017		ALL-SA-4-0-5-0001-2017 ALL-SA-5-0-5-0001-2017		
ALL-SA-4-0-5-0001-2017				
ALL-SA-5-0-5-0001-2017				
Letecká 255 686 04 Kunovice Czech Republic	Tel.: +420 773 984 338 info@brmaero.com www.brmaero.com	Date of issue: 05.10.2017 Date of effect: 05.10.2017	Revision no.: Initial issue Date of rev.: -	Page: 9 Pages: 10

17. Reinstall the fuel selector extension tube




Figure 10

18. Re-install the central console composite cover.

Proceed carefully when setting the cover back on the console so that to avoid scratching of the cover and surrounding structure. First set the cover on the throttle T lever (see *Figure 4* and instructions in step 5). Do not forget to set the upper end of the fuel selector extension tube back on the fuel selector when re-installing the cover (see *Figure 11*). It is helpful to put the hand through the arm rest hole and set the tube end by fingers on the fuel selector. Once the cover is properly positioned, screw it with all attachment screws.



Figure 11

	BULLETIN TITLE: ELEVATOR CONTROL STUCK			
	CLASSIFICATION: SAFETY ALERT			
BULLETIN NUMBER: ALL-SA-3-0-5-0001-2017				
ALL-SA-4-0-5-0001-2017				
ALL-SA-5-0-5-0001-2017				
Letecká 255	Tel.:+420 773 984 338	Date of issue: 05.10.2017	Revision no.: Initial issue	Page: 10
686 04 Kunovice	info@brmaero.com	Date of effect: 05.10.2017	Date of rev.: -	Pages: 10
Czech Republic	www.brmaero.com			

19. Check visually the complete installation and then move the hand control fully forward, aft, left, right, to check control free movement.
20. Re-install the seats.
21. Record bulletin accomplishment into the Airplane Log Book.
22. Inform airplane manufacturer on bulletin performance by email on: info@brmaero.com.

Specify please:

- Airplane serial number
- Hours flown
- Result of the bulletin performance
- Any other your findings/comments

Form no: BRM-FORM-BUL-001	Form date of issue: 11.11.2015	Rev.: Init.issue	Rev.date of issue: -
File name: 001_2017_BRM_BULLETIN_EN			© BRM Aero s.r.o.