RotorSport UK Ltd Service Bulletin (Permit)

Title: Ivoprop motor controller software update		Release date 1st Dec 2018
SB-131 Iss1	**Related documents** Modification: MC-407 CCAR No.: CCAR-064, 66, 70	**Compliance Category:** ~~**OPTIONAL**~~ or **RECOMMENDED or** ~~**MANDATORY**~~
Applicability		
Aircraft type & model: **Any RotorSport AutoGyro gyroplane fitted with an Ivoprop propeller.**	**Aircraft serial Nos. affected:** **Any RotorSport AutoGyro gyroplane fitted with an Ivoprop propeller.**	
The maintenance manual to be referenced is this stated or subsequent issue.		MTOsport RSUK0044 Iss 9 Calidus RSUK0061 Iss 7 Cavalon RSUK0288 Iss 5 MTOS2017 RSUK0396 Iss1

This form is the response from RotorSport UK Ltd either against a problem found in the product in service requiring a containment or rectification action, or as service information for aircraft modification incorporation. For help, contact RotorSport on 44(0)1588 505060, or email compliance@rotorsport.org.

The technical content of this document is approved under the authority of the UK CAA Design Organisation Approval Ref: **DAI/9917/06**

Documentation (Service Bulletin Completion action)

a) Entries within the aircraft logbooks, eg CAA BCAR A3-7 Authorised Person to certify that the work is completed by writing *'SB-131 Ivoprop Control Board software V1.5 incorporated'* in the aircraft logbook white pages, and record the action in the pink pages entitled 'Aircraft Modifications'. Both entries must be signed by the CAA Authorised Person together with their Authorisation number.

b) Completion of the SB worksheet attached, This must contain a PMR statement, and a final check item that no tools or equipment have been left within the aircraft)

c) No Type Approval change application document is required

d) Any other Permit Maintenance Release to Service form requirements.

Document approval signatures			
Engineering Manager	**CVE (as required)**	**Chief Test Pilot (if flight performance or safety effect)**	**Head of Airworthiness**
	P. Abbott 07 Dec 2018 16:50 DocuSign	**Not required**	10 Dec 2018

Reason and overview of the Service Bulletin (cause of problem if known)

The Ivoprop pitch change motor has suffered from poor service reliability. Analysis of the motor current draw during the propeller operating cycle has identified peak current loadings that are a major contributory factor. These are significantly reduced by modified 'soft start' software in the propeller controller module.

The effectiveness of this change has been proven by cyclic durability testing.

This bulletin authorises the embodiment of this software within the Ivoprop controller module, either on a service exchange or direct upload basis.

Manpower estimates

Accomplishment of this Service Bulletin requires the following personnel

(i) A3-7 Authorised engineer

Estimated man-hours to complete the task as a stand-alone item are; 10- 30mins, depending where the controller is mounted

Tooling required

Hand tools including a suitable Allen key where the instrument panel has to be removed.

Weight and Balance Effects

No effect

Manuals affected

No effect

Previous Modifications that affect the SB

None

Accomplishment instructions (Action required to implement this bulletin):

1. Locate the Control Board module (see photo), which is located behind the instrument panel (or under the front seat on MTOS). On some aircraft this may be easily accessible without removing the panel, on others the panel must be detached from the aircraft and pulled rearwards to give access.
2. Disconnect the supply cables to the control board.
3. The Control Board will be secured either by Velcro or zip ties, or possibly adhesive. Remove the Control Board.
4. Fit the new Control Board, secure, and reconnect the cables.
5. Refit the panel if detached and check all fastenings secure.
6. In a safe area, turn on the aircraft keyswitch to power the aircraft systems.
7. Operate the propeller pitch change switch from full fine to full coarse and back to full fine 5 times. Ensure the function is normal.
8. Complete the aircraft logbook entries.

If the software is to be upgraded without removal from the aircraft,

1. Locate the Control Board,
2. Connect the upgrade equipment
3. Reflash the program. Remove the equipment.
4. Mark the Control Board module with the new software level v1.5

5. In a safe area, turn on the aircraft keyswitch to power the aircraft systems.
6. Operate the propeller pitch change switch from full fine to full coarse and back to full fine 5 times. Ensure the function is normal.
7. Complete the aircraft logbook entries as market applicable.

In the case of a service exchange replacement, the original part must be returned to the provider.

Photo of the Control Board

Ref AutoGyro bulletin AG-SB-2018-07-B-EN

Material information (Parts required to be made to implement this service bulletin):

No parts made during embodiment

List of components (with purchasable part nos)

34652 Control board

Interchangeability

Not affected

Parts disposition

a) Disposal requirements – Normal waste
b) Environmental hazards of parts containing hazardous materials - None
c) Scrap requirements (e.g. mutilate scrapped items beyond use) – Not applicable

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AG-SB-2018-07-B-EN		**Compliance Category:** ~~**A - MANDATORY**~~ **B – RECOMMENDED** ~~**C - OPTIONAL**~~
Applicability		
Aircraft type & model: **Any AutoGyro gyroplane fitted with an Ivoprop propeller.**	**Affected Serial number(s):** **Any AutoGyro gyroplane fitted with an Ivoprop propeller.**	
The maintenance manual to be referenced is this stated or subsequent issue.		As per AutoGyro website
This form is the response from AutoGyro GmbH either against a problem found in the product in service requiring a containment or rectification action, or as service information for aircraft modification incorporation. For help, contact AutoGyro on 49(0)5121 88056-00, or email airworthiness@auto-gyro.com.		

Documentation (Service Bulletin Completion action)

The accomplishment of this Service Bulletin, or the decision of its rejection, must be properly documented, if such procedure is required by the relevant authority

Category Codes

A – Mandatory	– failure to comply result in a significant reduction of flight safety, injury or death
B – Recommended	– failure to comply may result in reduced safety margin, injury and/or equipment damage
C - Optional	– improves operating behavior, reliability and/or maintainability

Chief Certification Officer	**Chief Technical Officer**
G. Speich Dec 4 2018 4:12 PM This document has been issued according to an approved computer generated signature procedure DocuSign	Otmar Birkner Dec 5 2018 8:41 AM DocuSign

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www.auto-gyro.com

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Dornierstr. 14
31137 Hildesheim

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The Ivoprop pitch change motor has suffered from poor service reliability. Analysis of the motor current draw during the propeller operating cycle has identified peak current loadings that are a major contributory factor. These are significantly reduced by modified 'soft start' software in the propeller controller module.

The effectiveness of this change has been proven by cyclic durability testing.

This bulletin authorises the embodiment of this software version 1.5 within the Ivoprop controller module, either on a service exchange or direct upload basis.

Manpower estimates

The task may only be performed by an organization or individual entitled and trained to carry out maintenance on AutoGyro aircraft.

Estimated man-hours to complete the task as a stand-alone item is:

10- 30mins, depending where the controller is mounted.

Tooling required

Hand tools including a suitable Allen key where the instrument panel has to be removed.

Weight and Balance Effects

Nil

Manuals affected

Manuals are unaffected

Previous Modifications that affect the SB

None

Accomplishment instructions (Action required to implement this bulletin):

Effective date of this SB is 1st December 2018.

Instructions

1. Locate the Control Board module (see photo), which is either located on the left side of the forward seat (MTO Sport) or behind the instrument panel. On some aircraft this may be easily accessible without removing the panel, on others the panel must be detached from the aircraft and pulled rearwards to give access.
2. Disconnect the supply cables to the control board.
3. The Control Board will be secured either by Velcro or zip ties, or possibly adhesive. Remove the Control Board.
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7. Complete the aircraft logbook entries as market applicable.

In the case of a service exchange replacement, the original part must be returned to the provider.

Photo of the Control Board.

Completion of this Service Bulletin must be recorded within the aircraft documentation, in line with the requirements of the country of operation.

Material information (Parts required to be made to implement this service bulletin):

No parts made during embodiment

List of components (with purchasable part nos)

34652 Control board

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Interchangeability

Not affected

Parts disposition

a) Disposal requirements – None
b) Environmental hazards of parts containing hazardous materials – None
c) Scrap requirements (e.g. mutilate scrapped items beyond use) – Not applicable

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