

Title: Ivoprop motor controller software update		
AG-SB-2018-07-B-EN		Compliance Category:
Applicability		A – MANDATORY B – RECOMMENDED C – OPTIONAL
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 .		

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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
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Contact & Info: airworthiness@auto-gyro.com www.auto-gyro.com	AutoGyro GmbH Dornierstr. 14 31137 Hildesheim
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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 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.

Laptop computer with USB port and MyAVR_Prog Tool software installed.

MyAVR USB stick (see <http://shop.myavr.com/index.php?sp=article.sp.php&artID=200006>)

Connection cable with female 6-pin termination block, normally provided with the USB stick. A longer cable may be purchased.

NOTE! The plastic termination block which fits to the control board may require some fettling to fit to the board, to account for the potting compound poured over the board during manufacture.

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

If the Control Board is replaced:

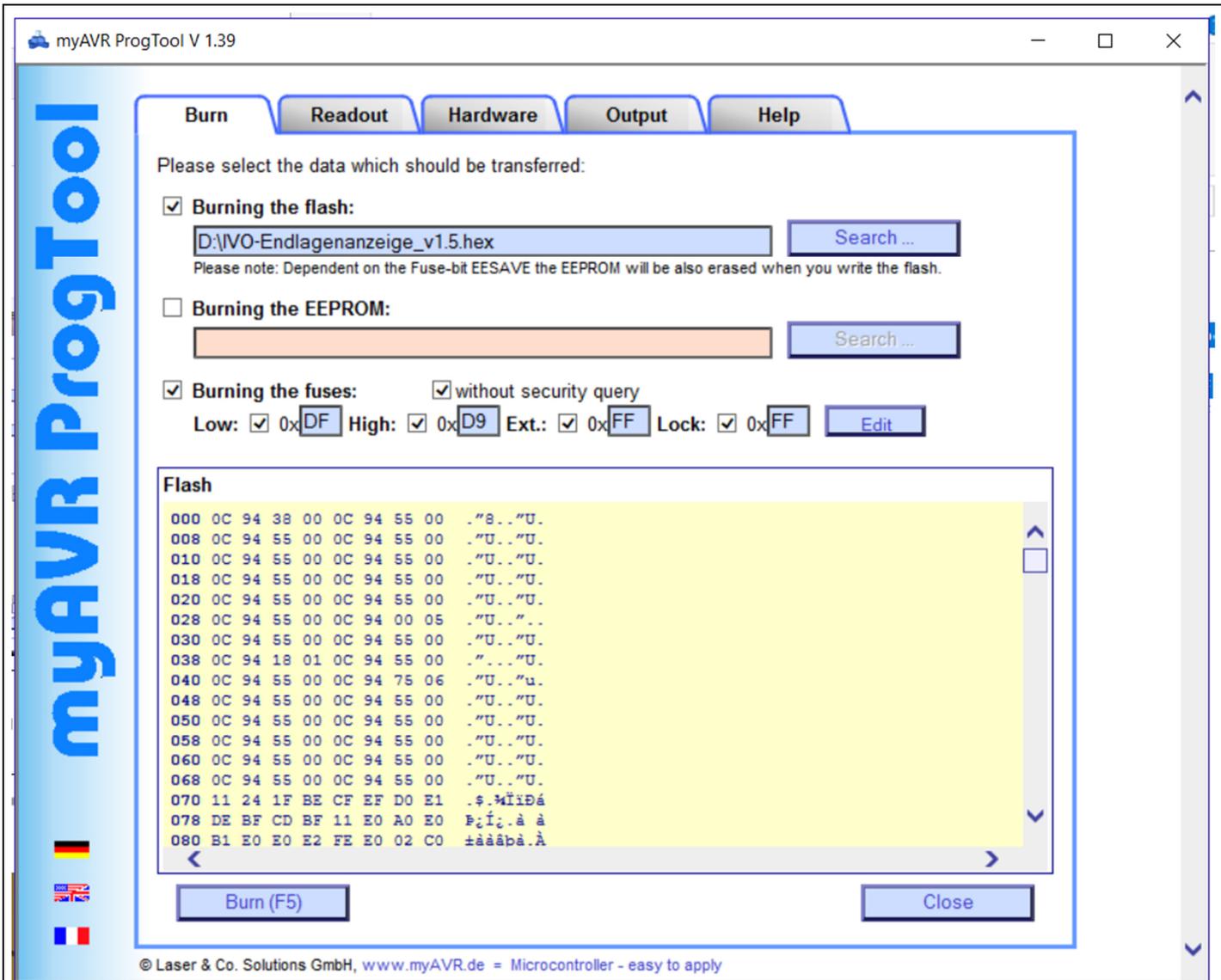
1. Locate the Control Board module (see photo), which is either located on the left side of the forward seat (MTO Sport) or behind the instrument panel. On some aircraft this may be easily accessible without removing the panel, on others the panel must be detached from the aircraft and pulled rearwards 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.
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 as market applicable.

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:
 - a. Connect the MyAVR to the laptop USB port.
 - b. Connect the cable between the MyAVR and the connection port on the control board. Ensure there is a good connection to the board, the potting compound can cause the connection to sit poorly.
 - c. Start MyAVR_Prog Tool. Language options are located on the left lower area.
 - d. Under the 'Hardware' tab, choose 'mySmartUSB light'. Click the question mark to the right of the connection box to identify which port the device is attached, and select that connection.



- e. Select the 'Burn' tab. Click 'Burning the flash' and search for and locate the update software file that you will have already stored on the laptop computer. Filename 'IVO-Endlagenanzeige_v1.5.hex'.
- f. Tick the 'Burning the fuses' box. Enter the fuse values as shown in the picture.



NOTE! The fuses values and tick boxes MUST be as shown. Otherwise the update *will* fail.

- g. Click 'Burn'. The burn process takes a couple of seconds. If the update is successful then 'OK' will be displayed. The update is complete.
4. Remove the equipment.
5. Mark the Control Board module with the new software level v1.5
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 as market applicable.

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

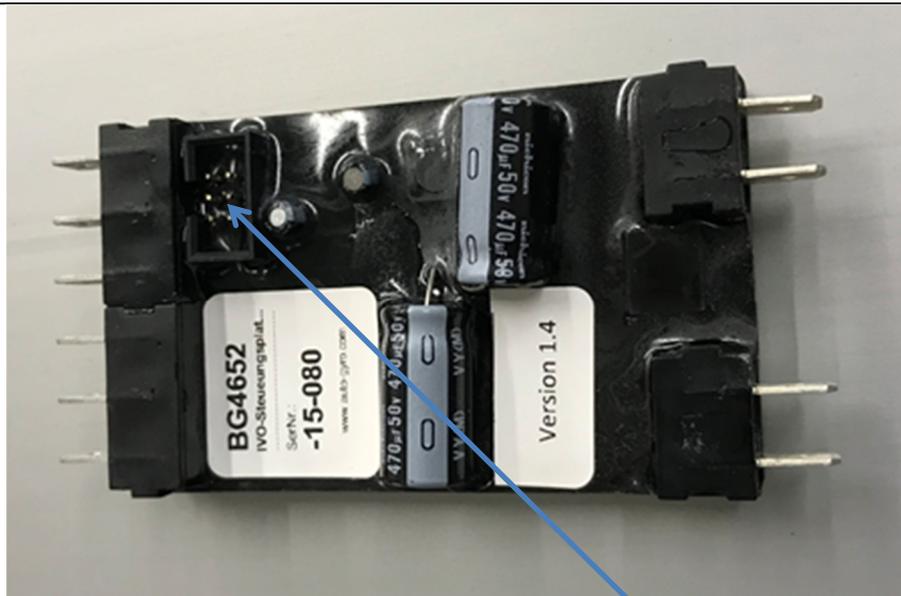


Photo of the Control Board. Connector

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

Software update file: IVO-Endlagenanzeige_v1.5.hex

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