Title: Cavalon (Rotorhead III) & MTO2017 Pitch Trim Pressure Correction		
AG-SB-2019-02-B-EN		**Compliance Category:**
Applicability		**~~A - MANDATORY~~** **B – RECOMMENDED** **~~C - OPTIONAL~~**
Aircraft type & model: **Cavalon & MTO2017 with Rotorhead III**	**Affected Serial number(s):** **All Cavalon from V00349 & all MTO2017 (Rotorhead III)**	
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**

Contact & Info:
airworthiness@auto-gyro.com
www.auto-gyro.com

AutoGyro GmbH
Dornierstr. 14
31137 Hildesheim

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

A pressure regulator is fitted into the Cavalon and Sport 2017 pneumatic control box that limits the pressure applied to the trim cylinder in the event of a trim system 'runaway'.
This enables lower pitch stick control force if the system fails to full pressure.
This is a legacy item, installed for Rotorhead II.

Aircraft fitted with Rotorhead III (see photos) have a shorter distance between the rotorhead pitch axis and trim cylinder attachment, such that a higher trim cylinder pressure results in the same hand force on the stick.

Extra trim pressure has been shown to be beneficial in certain aircraft configurations

This service bulletin instructs how to either increase the pressure of the pressure restrictor, or remove the restrictor and replace with a single piece of pneumatic hose.

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:

approx. 0.5hr as a stand-alone item.

Compliance

This bulletin is recommended before or at the next service

Customer Support

Not applicable. Labour hours and materials are not covered by this SB.

Tooling required

Standard tools.

Weight and Balance Effects

Nil

Manuals affected

POH AutoGyro is not affected. AMM AutoGyro Part D, pneumatic diagrams BG2131 and BG2132, the 6 bar pressure restrictor is no longer in the brake/trim circuit for aircraft equipped with Rotorhead III.

Previous Modifications that affect the SB

None

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31137 Hildesheim

Accomplishment instructions (Action required to implement this bulletin):

Effective date of this SB is XX June 2019.

Instructions

Ascertain current pitch trim nose-up maximum pressure:

1. Remove the upper pneumatic connection (clear hose) of the brake/trim cylinder and attach a manometer with a non-return valve (Pic.1)
2. Unhook the rotor bag from the nose and ensure the rotor is able to pitch rearwards under control (a second person holding the bag chord).
3. Switch the flight/brake switch to flight, ensure the propeller is clear of obstruction and turn on the ignition.
4. Apply nose up trim by moving the 4-way switch on the top of the stick to the rear.
5. Note the maximum pressure reading on the manometer. If it is 8 bar then no further action is required. Reconnect the upper brake/trim cylinder pneumatic hose and mark with mechanic paint.
6. If the pressure is more than 0.25 bar less than that displayed in the cockpit then carry out steps 7-13:

Increasing pressure of, or removing, the 6 bar pressure restrictor in the pneumatic box:

7. Gain access to the 6 bar pressure restrictor (pic.2) by removing the cover of the pneumatic box (in the nose area behind the cockpit of the Cavalon 915, behind the engine bay firewall in the Cavalon 914, or in the nose compartment of the MTO2017 – 6 screws).
   WARNING: If the box has the heating option fitted then the elements are attached to the lid and must be disconnected from the box at the black 3 pin connector.
8. **Either:** release the lock-nut of the adjustment knob of the restrictor (a) and screw the adjustment knob (b) in until 8 bar is measured in steps 1-5 above. Re-lock the lock-nut and mark with mechanic paint.
9. **Or the preferred solution:** remove the restrictor and connecting hoses at points (c) and (d) (pic.2) and replace with a single piece of clear pneumatic hose of approx. 130mm length (pic.3).
10. Re-connect the heating element plug if applicable.
11. Re-assemble the lid on the pneumatic box.
12. Carry out a functional and leak check of the pneumatic system and confirm that the brake/trim cylinder is receiving 8 bar max (the gauge should read the same as the cockpit gauge). (steps 1-5 above).
13. Complete any logbook and worksheet entries required.

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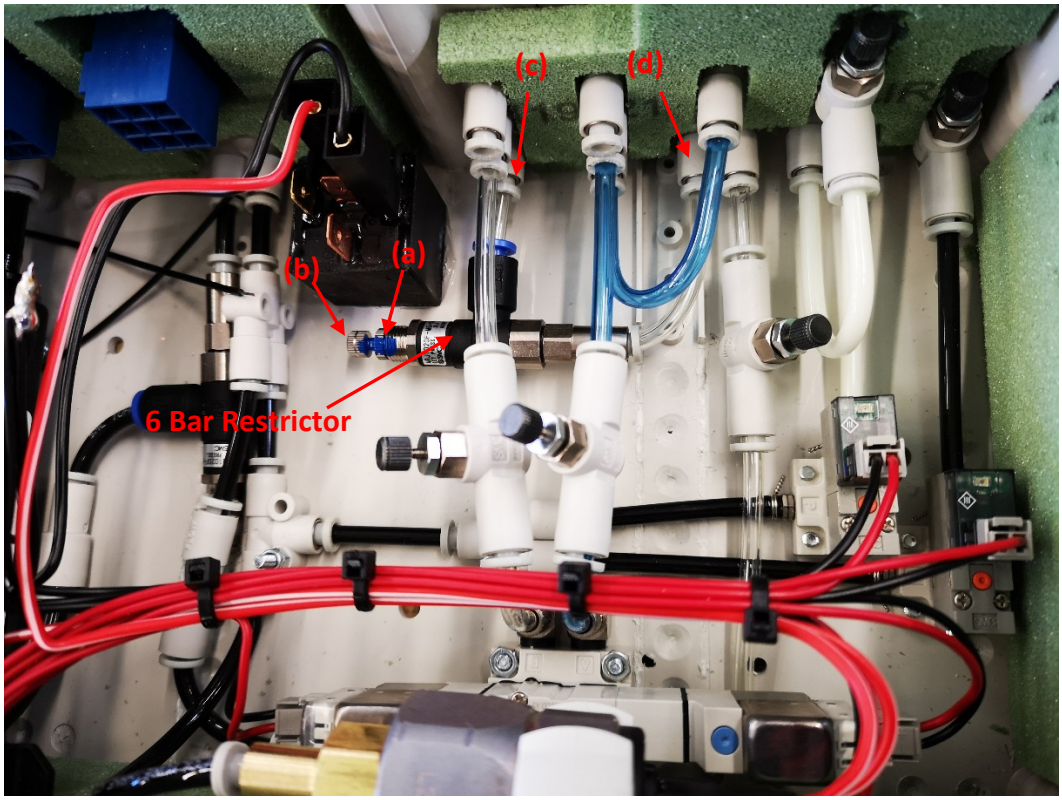
31137 Hildesheim

(Pic.1)



(Pic.2)

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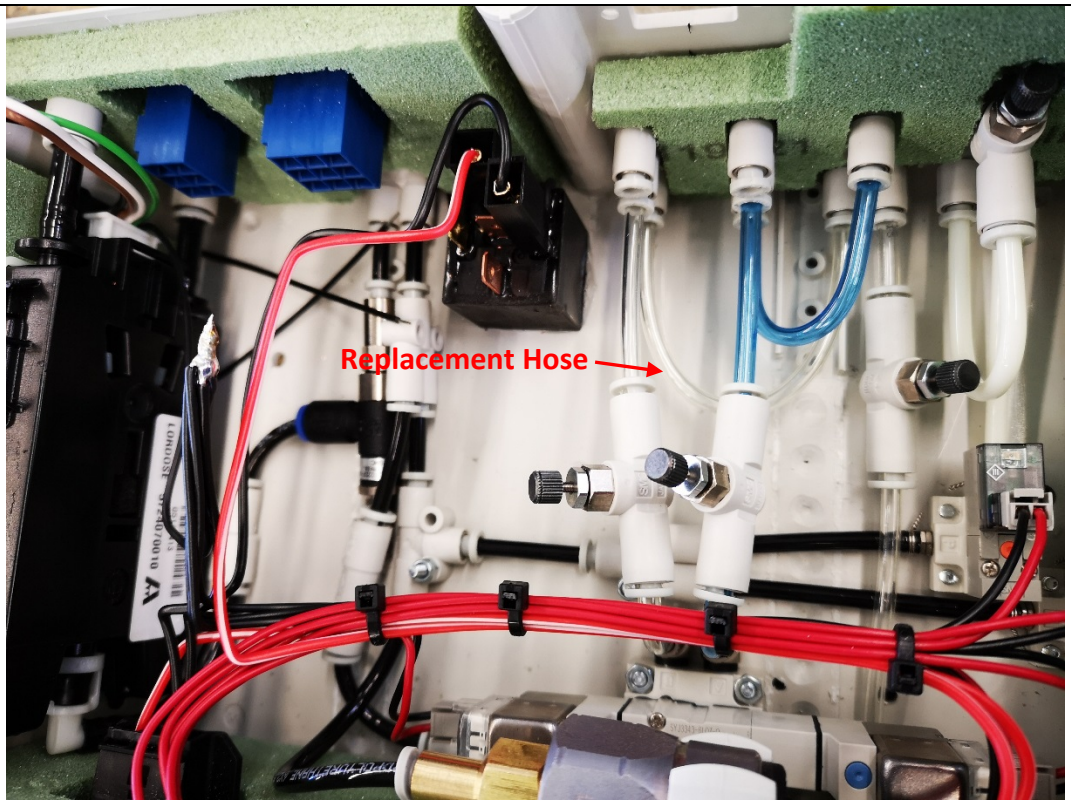
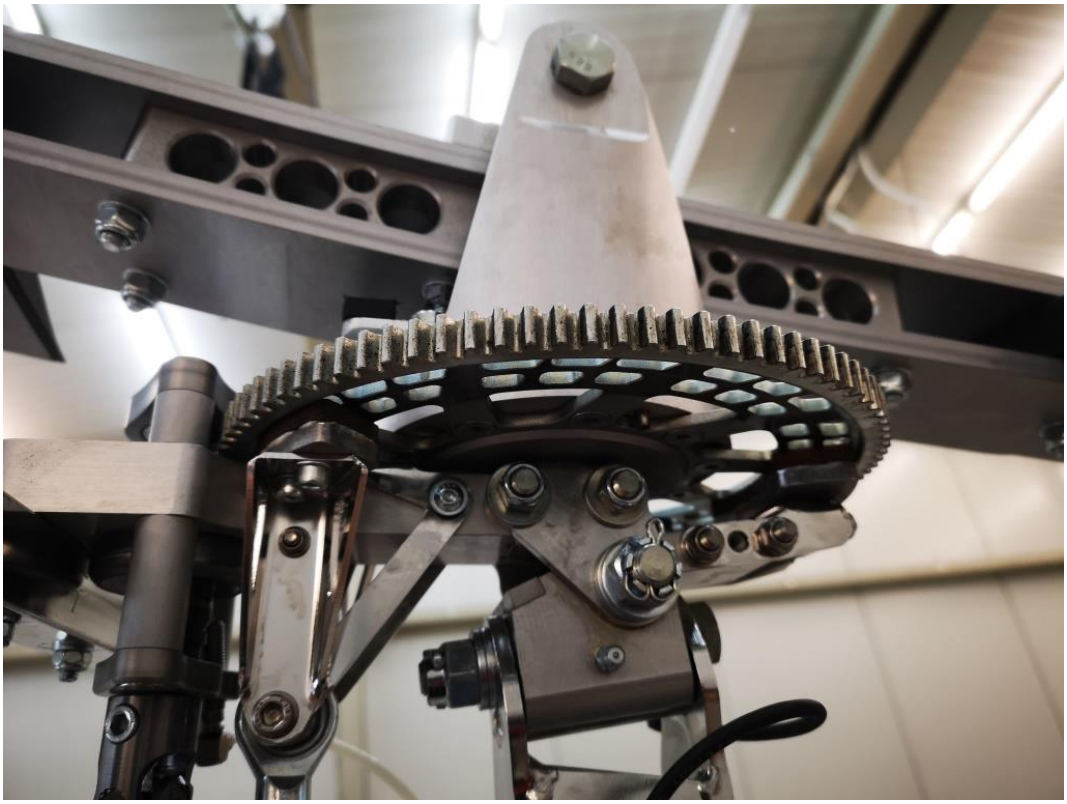


(Pic.3)



Rotorhead III

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airworthiness@auto-gyro.com
www.auto-gyro.com

AutoGyro GmbH
Dornierstr. 14
31137 Hildesheim

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):

Nil

List of components (with purchasable part numbers)

Clear pneumatic hose of approx. 130mm length

Interchangeability

Not affected

Parts disposition

a) Disposal requirements – Nil
b) Environmental hazards of parts containing hazardous materials – Nil
c) Scrap requirements (e.g. mutilate scrapped items beyond use) – Normal plastic waste or recycling

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