



Unit B, 144 Central Park Drive, PO Box 21220,  
Henderson, Auckland, New Zealand.  
Ph: +64 9 8360065, Fax: +64 9 8360069,  
E-mail: aerotrad@ihug.co.nz, Web: www.propellor.com

## **SERVICE BULLETIN**

### **ATL-SB-5**

Date of Issue: 23 November 2000

Applicability: Propeller Models: AP308 with Automatic Controller fitted to Rotax engines.  
Serial Numbers: All up to 19/9/00.  
(14,15,16,17,19,20,22,24,25,27,33,36,43,45,47,48,49,50)

Compliance: Initial: At Owners Discretion.  
Subsequent: Nil.

#### **SUBJECT: ADJUSTMENT OF SPEED REGULATOR WITHIN AUTOMATIC CONTROLLER**

##### **Reason**

1. Testing by Aero Trading Ltd and owner feedback have indicated that the Airmaster propeller automatic controller may operate continuously in some circumstances, causing excessive hunting of propeller speed. Such operation is unsatisfactory for the pilot, and will cause the propeller pitch change mechanism to operate continuously. An adjustment to the speed regulator may rectify this problem.
2. Existing controllers are also adjusted such that the target speed at the take-off setting is close to the maximum speed limit of the engines that the propellers are fitted to. This may cause the propeller engine speed to exceed the maximum speed limit of the engine in some circumstances. A small adjustment to the target speed of the automatic controller may rectify this problem, and ensure that the overall performance of the engine and propeller is not affected significantly.

## Summary of Effective Change

3. This service bulletin, if actioned, will ensure operation of the Airmaster propeller under automatic control at the following speeds:

Aircraft Engine		Automatic Controller Governed Speeds (Engine Speed)		
Model	Gearbox Ratio	Cruise speed (rpm)	Climb speed (rpm)	Take-Off speed (rpm)
Rotax 912	1 : 2.273	4750 ± 100	5050 ± 100	5700 ± 100
Rotax 912S/914	1 : 2.430	4750 ± 100	5000 ± 100	5700 ± 100

Note: The ratios between the cruise, climb and take-off speeds are fixed by the arrangement of markings on the speed encoder mounted on the spinner back-plate of the propeller. Provision of different arrangements of markings will be addressed in a separate service bulletin.

## Optional Compliance

4. Owner must decide whether to action this service bulletin.

Note: This service bulletin is not compulsory. If the owner is currently satisfied with the performance of the automatic controller they may choose not to action this service bulletin.

## Materials and Parts Required

5. Nil.

## Action

### Removal of Speed Regulator

6. Disconnect plug from speed regulator unit.
7. Remove speed regulator unit from the aircraft.

Note: The speed regulator unit is the black item about the size of a cigarette box that is manufactured by the 'VDO' Instrument Company, and was supplied by Aero Trading Ltd.

### Reprogramming of Speed Regulator

8. The speed regulator unit must be reprogrammed. Program the speed regulator to the following settings:

- a. Dip-switch settings:

<b>Switch Number:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Setting:	Off	Off	On	Off	Off	On	On

- b. Speed control potentiometer frequencies:

<b>Engine Model</b>	<b>Gearbo x Ratio</b>	<b>RV 1 (No1 On) (Hz)</b>	<b>RV 2 (No1 Off) (Hz)</b>	<b>RV 3 (No2 On) (Hz)</b>	<b>RV 4 (No2 Off) (Hz)</b>
Rotax 912	1:2.273	640	637	618	615
Rotax 912S/914	1:2.43	596	593	574	572

9. This reprogramming may be performed by either:

- a. an agent of the 'VDO' Instrument Company, or
- b. Aero Trading Ltd.

10. If speed regulator is to be programmed by an agent of the 'VDO' Instrument Company, the following information should be provided to the agent:

- a. The speed regulator is called a 'rev switch box' and identified by the VDO part number 411.101.
- b. The speed regulator may be programmed by another VDO product called the 'rev switch calibrator', which is identified by the part number 105.005.

11. If the owner wishes the speed regulator to be reprogrammed by Aero Trading Ltd, the unit should be returned to the above address where it will be reprogrammed immediately. It is recommended that the owner advise Aero Trading Ltd that the speed regulator has been sent for reprogramming.

12. If there is any delay in reprogramming the speed regulator the owner should note that the Airmaster propeller will still operate satisfactorily in the manual mode.

### Replacement of Speed Regulator

13. Fit speed regulator unit to aircraft.
14. Reconnect plug to replacement speed regulator unit.
15. Conduct the engine off functional check of the propeller in accordance with the Owner's Manual, Part 4.1.
16. Conduct the engine-running test and set-up of controller in accordance with Owner's Manual, Section 4.2.2.

Note: The electrical fine-pitch stop of the propeller should not have to be adjusted as detailed in this section, as the fine-pitch setting of the propeller has not been altered.

## Recording

17. Record completion of service bulletin ATL-SB-5 in propeller logbook.
18. Replace the table in section 4.2.2. of the Owner's Manual with the following table:

Aircraft Engine		Automatic Controller Governed Speeds (Engine Speed)			Engine Limitations	
Model	Gearbox Ratio	Cruise speed (rpm)	Climb speed (rpm)	Take-Off speed (rpm)	Maximum speed (rpm) (5 mins max)	Maximum Continuous speed (rpm)
Rotax 912	1 : 2.273	4750 ± 100	5050 ± 100	5700 ± 100	5800	5500
Rotax 912S/914	1 : 2.430	4750 ± 100	5000 ± 100	5700 ± 100	5800	5500

19. Advise Aero Trading Ltd at the contact details at the top of this service bulletin.