

LAA/AWA/14/14
6th November 2014

Rotax 9 Series Engines

Sinking Carburettor Floats

BRP-Powertrain, the manufacturers of the Rotax 9 Series engine range, have recently issued a Mandatory Service Bulletin requiring checks on both 912 and 914 series engines fitted with carburettors. The inspection method described is designed to check the buoyancy of the floats, it accomplishes this by establishing the float chamber fuel quantity.

Both the LAA and the BMAA have been aware for some time that some floats used in Bing carburettors have a tendency to absorb fuel and therefore become less buoyant; this can mean that the fuel level in the carburettor bowl can rise. When this happens, the fuel/air mixture can become slightly richer at some (normally lower) RPMs. The first sign of an over-rich mixture is that the engine begins to run roughly at idle, or may be difficult to start: the rough running will clear if the fuel is turned off at the fuel cock during ground checks; often, there may be a noticeable rise in engine RPM, before the engine finally runs out of available fuel.



Fig. 2 The Tailored Maintenance Schedule (TMS) for your aircraft should include an inspection of the carburettor, this should be at least an 'Annual' check item. During this inspection it's certainly worth taking a close look at the floats: the first sign of problems of material failure in the example shown above was debris in the float bowl, although in this case the buoyancy of the floats wasn't noticeably affected.



Fig. 1. This photo, taken in 2011, shows the difference in fuel absorption between the floats in a Bing carburettor (removed because the engine was running roughly). It's easy to check for problems here because the carburettor float bowl has been designed to be removed quickly (it's held on by a spring-clip).

After careful consideration, the LAA's Engineering team have decided that the merits of accomplishing this latest Factory Service Bulletin are out-weighted by the considerable risks associated with performing the requirements of it. The LAA will therefore not be mandating it with an Airworthiness Information Leaflet (AIL) (Service Bulletins are not, in themselves, mandatory devices).

Because of this and other reasons, Skydrive, the UK agent for Rotax Engines, has offered an alternative means of compliance (AMC) should you feel, as the owner of an affected aircraft, that a check on the float level is necessary.

The Rotax Service Bulletin affecting both 912 and 914 (Series engines) – SB-912-065 & SB-914-046 may be downloaded [HERE](#). Skydrive's AMC – Cover 332 may be downloaded [HERE](#).

The Safety Spot discussion on the subject may be downloaded [HERE](#).