



SI 2010/4

(cancels SI 2009/1)

SERVICE INFORMATION

to all distributors, owners

Use of Fuels with Alcohol content and other Additives

MANDATORY/IMMEDIATE

Please pay attention to the following safety definitions used in this service information:

WARNING! Disregarding the following instruction leads to severe deterioration of flight safety and hazardous situations, including such resulting in serious injury and loss of life.

CAUTION! Disregarding the following instruction leads to serious deterioration of flight safety, may cause serious damage to the aircraft and suspend warranty.

Applies to all Pipistrel aircraft.

Distributors are to translate this service information into their native language and forward it to all customers as soon as possible

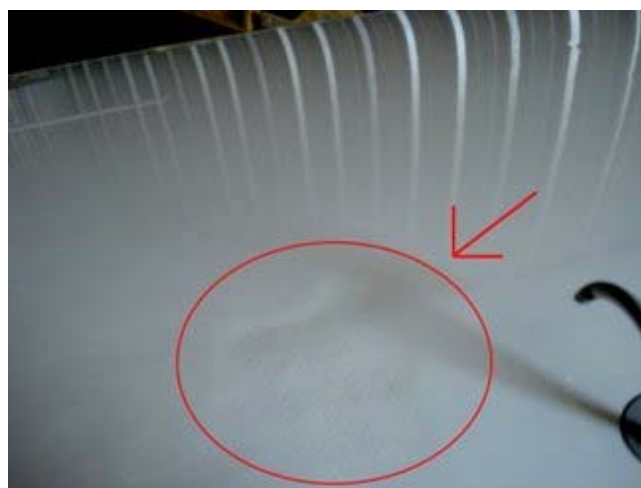
Please see following page(s) for further details.

Use of Fuels with Alcohol (ethanol, methanol) content and other Additives

Pipistrel issued the Service Information 2009/1 roughly one year ago, where the guidelines for using fuels with Ethanol content were published based on then known data and field experience. This new Service Information is being issued based on then current data, recommendation and experience provided by Rotax, certain other aircraft producers, international aviation authorities, information obtained from our customers and own testing. Service Information 2010/4 replaces the Service Information 2009/1, which is not valid any more from this date onwards.

From the moment of publishing the old Service Information 2009/1, Pipistrel has been conducting additional tests, targeted at the behavior of the fuel reservoir structure as well as the complete fuel system when using different types and composition of fuels.

Meanwhile, Pipistrel received notice from two customers, that they have observed anomalies on the upper surface of the wing on the area where the fuel tank is located. It has since been determined that an elevated content of alcohol in fuel, which was used in those aircraft, caused such surface anomalies.



Fact is that the content of fuel, which can be purchased at (automotive) petrol stations around the world, is changing. Particularly large deviations and an elevated content of alcohols in fuel were observed in the United States of America, however such fuel content deviations and high content of alcohols can occur also everywhere else. At this time it is not yet fully known and understood which alcohol fraction causes damage to the structure or fuel reservoirs, as more detailed chemical analyses of the fuel samples and accelerated chemical testing on the fuel reservoir structure are still underway. It is also not know whether the damage is caused by liquid or vaporised fuel with alcohol content.

In the interest of flight safety and protection of customers, considering all facts and despite the incomplete conclusions, we have decided to declare the use of fuel with added alcohols (ethanol, methanol and others) as *unrecommended*.

Until further notice, you are strongly discouraged from the use of fuels with alcohol (including ethanol, methanol and others) content and/or other additives.

When unsure if the fuel has alcohols/additives mixed-in, check with the method described below or use AVGAS 100 LL or equivalent.

Pipistrel's strong alert against the use of fuels with alcohol/additive content is not by any means a lone case. The American FAA have issued the Technical Bulletin AC no. 91-33a where they clearly define which fuels are recommended for use in aviation – fuels with added alcohols are not included. Cessna also published a Letter (18 May, 2010), where they forbid the use of fuels with alcohol content entirely.

Air Traffic Control of the Netherlands issued the Technical Bulletin 04/07 01/MAR, where they reference the abovementioned FAA document as well as relevant EASA documentation. This Technical bulletin also forbids the use of automotive fuels with alcohol content in aviation entirely.

This same Technical Bulletin also included the description of a simple and very practical method how one can check whether the fuel to be used contains alcohols or not:

- 1) *Take a transparent container (cylindrical shape with parallel walls), can be a jar, and apply 10 equally spaced markings from the bottom to the top of the container.*
- 2) *Pour normal water until the first marking (e.g. 100 ml).*
- 3) *Add test fuel to the top marking (e.g. 900 ml) and CLOSE the container with a cap or cover.*
- 4) *Shake violently so that the water and fuel produce a misty emulsion. Make sure no liquid is spilled, then let settle.*
- 5) *When settled, check where the line between the fuel and water is now.*
 - a) *If the line is above the first marking, it means that the alcohol from fuel has bonded with water. FUEL CONTAINS ALCOHOL, DO NOT USE!*
 - b) *If the line between the liquids is still at the original position (1 marking), the fuel contains no alcohol. OK TO USE!*

NOTE: this is not a technique to separate alcohol from fuel, it is only to be used as a method to check for alcohol content in fuel.

Required actions

Owners/operators must check the airframe (wing) in the area where the fuel tank is located.

Method of check: *visual inspection*

Area of check: *upper wing surface, from wing root to 18 cm (7 inch) past the fuel reservoir cap and from main spar to the leading edge.*

Possible anomalies: *uneven surface, dents, swelling of paint and/or laminate*

Method of check: *visual inspection*

Area of check: *bottom of wing, front drain hole at wing root*

Possible anomalies: *fuel spills, fuel marks*

Method of check: *visual inspection*

Area of check: *wing root rib, forward of main spar*

Possible anomalies: *discoloration, compare color of structure with root rib behind the main spar*

Method of check: *visual inspection*

Area of check: *inside empty fuel tank, look through the filler cap opening with strong light*

Possible anomalies: *discoloration spots, sludgy deposits*

Method of check: *visual inspection*

Area of check: *gascolator*

Possible anomalies: *look for sludge-like deposits, particles*

Should any anomalies be spotted, this must be immediately communicated to Pipistrel via the form provided (see next page). A filled out form, handed-in to Pipistrel via Fax or Email, will serve as a base to determine eligibility for compensations/guarantee. The forms will be accepted by 15 September, 2010; after this date the guarantee for consequences of using incorrect fuels will not be recognised any more.

Owners, who spot anomalies are kindly asked to provide us detailed information of which fuel they used most and where did they purchase it (vendor, location). Ideally, Pipistrel would ask for a sample of fuel used to be sent in for analyses. This all will greatly contribute to solving an individual case.

Until further notice, you are strongly discouraged from the use of fuels with alcohol (including ethanol, methanol and others) content and/or other additives.

When unsure if the fuel has alcohols/additives mixed-in, check with the method described above or use AVGAS 100 LL or equivalent.

WARNING! Use of fuels with alcohol/additive content can lead to damage including but not limited to fuel reservoirs and wing structure as well as to other components of the fuel system. In the most extreme case, this includes engine failure and permanent structural damage to the wing, which may result in serious injury, even loss of life.

Pipistrel fuel-related problem reporting form	
Owner:	
Aircraft serial number:	
When were the anomalies observed:	
Where were the anomalies observed:	
Details of anomalies (attach photographs):	
Where is the aircraft stored (hangar, trailer, outside):	
What fuel was used normally:	
Where do you normally purchase fuel:	
Total airframe flight hours:	
Flight hours in past year (Sept 2009-Sept 2010):	
Hand in until 15 September, 2010 to e-mail: leon.b@pipistrel.si or. fax: +386 5 3661 263. Thank you!	

Distribution

If you know other Pipistrel pilots in your area, we strongly encourage you to pass this important message on to them to participate in this important effort. Safety is the highest priority at Pipistrel, but safety is up to all of us. Let us get out and enjoy flying while raising the safety bar even higher.

As a distributor you are to translate this Service Information and immediately notify all owners from your area.

Pipistrel d.o.o. Ajdovscina
Ivo Boscarol, General manager

THIS IS THE END OF THE SERVICE INFORMATION.