Reminder for **Mogas Users**

If you run an aircraft engine on motor gasoline (mogas), be aware that ethanol blended fuel is generally unsuitable for aviation use. Users of mogas are most likely in the sport and recreation, amateur-built, and vintage sectors of aviation.

Ethanol blended petrol is currently only available from the majority of Gull service stations in the upper North Island, and selected Mobil stations in Wellington and the lower North Island. This is a total of about 50 service stations, around four percent of service stations nationally.

All ethanol petrol blends are required to be labelled as such at the point of sale by the Engine Fuel Specification Regulations.

Adverse Effects

The ethanol/alcohol attracts, carries, and retains water. This can lead to a number of problems:

» The water may be hard to detect in your fuel system.

» Sediment traps (eg, in the fuel tank) can flood, plug filters, and restrict fuel flow.

» On engine shut down and storage, the water present can lead to corrosion on vital engine parts such as crank, main and rod bearings, as well as pins.

» The water can freeze in cold conditions, and from the carburation action.

» The water lowers the vaporization point of fuel, and could cause vapour lock.

Other problems associated with ethanol/alcohol are:

» The alcohol competes directly with the lubrication and, depending on your oil's ability to combat such, could cause engine damage.

» Alcohol is a solvent which could clean deposits in your fuel system and carry them into the filters or carburettors.

» Alcohol burns leaner and may cause higher exhaust gas temperatures (EGTs).

How to Detect

If you are unsure about the presence of alcohol in your mogas, the following test can be carried out.

Using a glass or chemical resistant plastic (such as TPX) container, mark ten equally spaced volumes.

Add one part water into the container to the first mark, and then add nine parts of mogas to the top mark. Shake thoroughly, let stand for 10 minutes or until the mogas is again bright and clear. Look at the apparent level of the line between the mogas and the water.

If alcohol is present in the mogas, the water will absorb it, and the amount of water will appear to increase, indicating the fuel should not be used in the aircraft. However, if the water level remains the same, no alcohol is present, and it can be used in the aircraft.

Summary

Do not use ethanol blended fuel in engines installed in aircraft. Watch for advisory notices at the service station. And if in doubt, test to see if you have an ethanol-blended fuel. The CAA has issued a Continuing Airworthiness Notice 28-001 regarding ethanol blended fuel. See the web site, www.caa.govt.nz, under "Airworthiness Directives". ■