

What if my plane is filled with the wrong fuel?

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Ray Woodmansee from Porterville, Calif., has a problem. His Cessna 195 was accidentally fueled with a mixture of 100LL and ethanol-containing auto gas. He has drained all of the fuel out of the aircraft and was wondering what he could do with it.

The first point here is how to drain fuel out of an aircraft safely. From the data that I have concerning accidents from static electricity, there appears to be more accidents from draining fuel than from adding fuel.

I assume the reason for this is that, when fueling, people use a bonding cable and an electrically conductive fuel hose. When draining fuel, they often feel that the amount of fuel is minimal, so they do not use a conductive hose. Whenever you transfer fuel into or out of an aircraft, use a bonding cable to ensure that both containers are at the same electrical potential.

The second concern: Has the ethanol had any negative effect on the aircraft? The concern with an ethanol-containing fuel is that the ethanol can leach out the plasticizer agent in some rubber or plastic fuel system components. When this happens, the components can become hard and brittle, which can lead to leaks and/or plugged filters and passageways in the fuel system. Most new automotive fuel hose and intake system components have been designed to operate on ethanol-containing fuels. Unfortunately, most aircraft, especially older aircraft, components have not.

Ray did not say if the aircraft had operated on the fuel. If it had, I would carefully monitor the fuel lines and intake system for any leaks or deterioration of components.

Ray did ask if he could use a small amount of the contaminated fuel in each fill up. The STCs for auto gas specify against the use of any ethanol-containing fuel. The problem is that no one can say for sure that a particular system will be affected by a small amount of ethanol without testing each and every component of the fuel system. Therefore, you should choose to err on the safe side and not run any ethanol fuel at all, unless your system has been upgraded to components that are compatible with ethanol.

What should he do with the contaminated fuel? He would need to check with local authorities as to the exact requirements for his area. In all states it is illegal to use any leaded fuel in a catalyst-equipped vehicle. Some states will allow people to use a lead-containing fuel in older vehicles, especially when the vehicle is used off-road, like lawn mowers and tractors.

If this is not allowed by local or state regulations, it may be necessary to send it to a recycle center or proper disposal company.

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