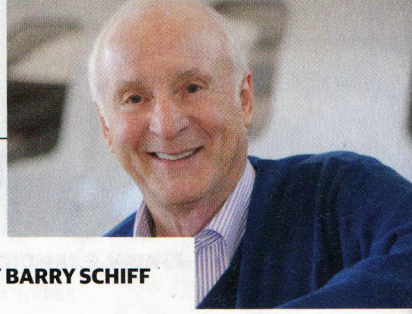

There is no excuse

BY BARRY SCHIFF

Fuel mismanagement shouldn't be a gotcha

THE MOST COMMON REASON for engine failure in single-engine airplanes (and possibly light twins) is fuel mismanagement. There are two reasons why this seems to comfort many of us. The first is that this confirms that the modern piston engine is truly reliable and that we need not be overly concerned about structural or mechanical power failure. The second is that most of us believe that we do a good job of maintaining a healthy flow of fuel to the engine, and that we can easily avoid engine failure caused by fuel starvation or exhaustion. In other words, we are comforted by the notion that this only happens to the other guy.

(Fuel starvation means to deprive the engine of fuel when there still remains a supply of it aboard the aircraft; fuel exhaustion means that all of the usable fuel has been spent or exhausted.)

This confident attitude, however, is occasionally misplaced. In 2009, the last year for which complete accident records are available, pilots ran out of fuel and broke their airplanes about once every five days. Of these 74 accidents, eight were fatal. Virtually all were preventable. (Thankfully, there has been a decline in such accidents in recent years.)

The thought of planning a cross-country flight so as to land with only 15 minutes worth of fuel in each tank truly makes me nervous.

I learned to fly in an Aeronca Champ. It had one small fuel tank in the nose behind the firewall. Yes, it was in the cockpit. The original fuel gauge was borrowed from a Ford, but it could leak and fill the cabin with fumes. So these often were sealed and replaced with a cork that floated in the tank and to which a stiff wire was attached. The wire slid up and through a hole in the fuel cap, which was immediately in front of the windshield. The greater the height of the wire, the fuller was the tank. It doesn't get much simpler than that, but even such a cork-and-wire device could stick and fail, which is why my instructor drilled into me that there was only one time when a pilot should believe a fuel gauge—when it indicates Empty.

Students of that era were taught that the most accurate fuel gauge in the airplane was worn on the pilot's wrist. For example, the Champ had a 13-gallon tank and typically burned 3.5 gph during cruise. My instructor, Mike Walters, insisted that I always round up the fuel consumption and round down the usable fuel. In this case, he would say, "Assume that fuel consumption is four gph and that you only have 12 gallons in the tank. This means that you have three hours of fuel endurance, but never plan to use the last hour."

In other words, he told me to plan to be on the ground within two hours of takeoff. My wrist watch was my fuel gauge. This was fuel management at its simplest, and it worked. There was never an excuse for running out of fuel.

Notice that I was taught to plan on a one-hour fuel reserve. This is still my personal minimum fuel reserve when flying small, piston-powered, general aviation airplanes irrespective of how complex the airplane and its fuel system. Frankly, I disagree with the FAA regulation (Part 91.151) that allows a pilot to begin a day, VFR flight with only a 30-minute fuel reserve. (Night and instrument flights, of course, require a 45-minute reserve.) The thought of planning a cross-country flight so as to land with only 15 minutes worth of fuel in each tank truly makes me nervous. It means that I can legally plan a flight in a Cessna 172 so as to land with only two gallons in each tank. No, thank you.

Furthermore, the 30-minute reserve is required only at the beginning of the flight. This means that a pilot may consume some of his reserve fuel while en route and legally land with less than a 30-minute supply. There actually is no minimum fuel supply required for landing. Little wonder that some pilots run out of gas.

If I were king of the FAA, I would require that pilots depart with a planned fuel reserve of no less than one hour and require an en route fuel stop whenever it became apparent that landing at the destination would occur with less than 60 minutes worth of fuel in the tanks.

Would I really institute such a heavy-handed regulation? Probably not, but I would urge pilots to voluntarily abide by such a guideline. In 60 years of flying, I can honestly say that I have never landed a lightplane with less than an hour's worth of fuel in the tanks. It is a matter of attitude and the willingness to make an unplanned fuel stop instead of allowing yourself to run low on fuel and suffer from that kind of anxiety (or worse). **AOPA**

AOPA SUMMIT
Barry Schiff will be attending AOPA Summit in Palm Springs, California, October 11 through 13 (www.aopa.org/summit).

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