

SWITCH TO JP-5 WOULD BE COSTLY

Many pilots had heard of JP-5, but most knew little more than it was a military jet fuel specification used by the Navy. Most business jet engines are approved to burn JP-5 if you know where to get it. But JP-5 came out of the shadows in December of last year when the NTSB held public hearings on the crash of TWA 800. Some experts speculated that the use of JP-5 could have prevented the apparent explosion of the center fuel tank in the TWA Boeing 747, so there was lots of talk on the TV news about JP-5, but not much information. To get some facts we spoke with Craig Sincok, president of Avfuel, a major general aviation fuel supplier, and Wayne Malone, president of Pride Refining, a large maker of military jet fuel.

The major difference between JP-5 and the jet-A commonly used by civilian jets is the temperature of the flash point. The flash point is the lowest temperature at which a volatile liquid will burst into flames when it is exposed to an ignition source. Jet-A, or the military equivalent JP-8 used by all services except the Navy, has a flash point of 115° F. minimum. The JP-5 flash point is 140° F. minimum. The flash point for gasoline is much lower than for any type of kerosene such as jet fuel.

The potential safety advantages of a higher flash point are apparent, but those advantages apply only to a narrow set of circumstances. If, for example, there is a fire, the temperatures are so far above the flash point of any fuel that the advan-

tages of JP-5 are gone. But in aircraft carrier operations with steam-powered catapults and airplanes with engines running packed into a confined space, it's possible to see how higher-flash-point fuel could be safer. When fuel is heated as it sits inside the tanks of an airplane parked on the ramp there may also be a safety advantage. So why doesn't the Air Force and everybody else use JP-5? The answer is cost.

Malone said that 23 percent of a barrel of crude oil can be refined into jet-A or JP-8 with the lower flash point. Raise the flashpoint to the JP-5 standard and only 11.5 percent of each barrel can be made into jet fuel. The oil that isn't made into jet fuel is used for diesel, heating oil, gasoline, and so on, but you can see that the costs of requiring all jet fuel to meet the JP-5 flash point standard would be substantial. A gallon of JP-5 will produce as much power in the same engine as a gallon of jet-A, but refineries would have to process twice as much crude to produce the same amount of jet fuel if JP-5 were the universal requirement.

Sincok and Malone couldn't accurately estimate how much more pilots would pay for a gallon of JP-5 because there are so many variables in production and supply, but it would be considerably more. And nobody can say that a switch to JP-5 would prevent an accident, including TWA 800, because the cause of that crash has not been determined.