

STAYING AHEAD OF THE CURVE: KNOW YOUR SYSTEMS

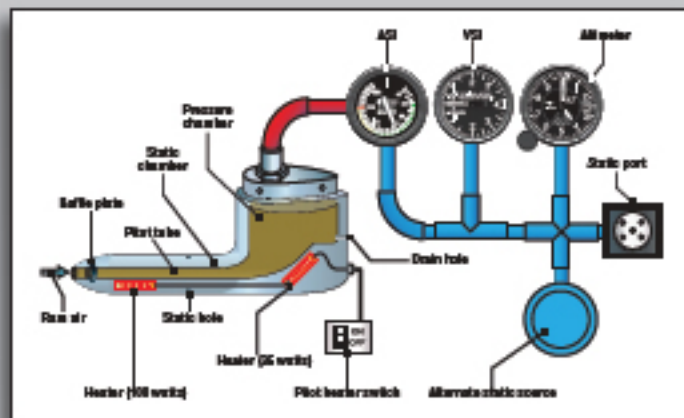
Aircraft systems. We've all got 'em, but we don't always seem to know them, their operation or failure modes, according to a number of instructors and safety professionals.

One such instructor (employed by a large international flight-training organization) noted the frequency with which he sees pilots arrive for recurrent training only to find them unprepared because of deficient knowledge of their aircraft's systems. In response, he used every conversation to stress the vital importance of knowing aircraft systems—to be, as one put it, "intimate with your aircraft, to understand how everything works and how all the different systems work together."

"You should know all the details," a CFI/sim instructor in a number of piston and turbine aircraft added. "If you don't know, ask the question and get answers until you really understand how the electrical system is set up, how it works, the connections and instruments powered by vacuum, the workings of the fuel system, boost pumps, tanks and cross-feeds—the works."

They both expressed some incredulity that the captain of an expensive aircraft would put his or her life on the line without knowing how everything works. "How in the world do you troubleshoot a problem if you don't know the systems? How would you know how much load to shed from an alternator failure to give yourself battery time to land? Or to safely use a standby bus? Or what needs to be done to make the boost pump take over for a failed fuel pump?"

Never forget, one noted, that most accidents and incidents are human-based, not airplane-caused. "But better knowledge of aircraft systems can go a long way to keeping a mistake in handling an emergency from turning into something worse."



Typical Ignition System Schematic

