



Above, Alpha Systems' Eagle AoA kit is pictured and includes everything necessary to install, approve, calibrate and fly an AoA indicator in certificated or experimental airplanes. Various optional indicators are available from the company, as is an adapter providing HUD-like transparency.

WHAT'S THE BIG DEAL?

"To reduce the risk of inadvertent stall/departure resulting in LOC accidents, the GA community should install and use AoA based systems for better awareness of stall margin," said the General Aviation Joint Steering Committee (GA-JSC) panel report focusing on LOC accidents in approach and landing phases. That 2012 recommendation applied to both newly manufactured and existing aircraft.

A proposal was developed in 2013, and the FAA in early 2014 accepted a new industry-developed consensus standard for new AoA systems. It's known as ASTM F3011-13 and tracks with the steering committee recommendation that the agency promote AoA-system adaptation in GA with the new, simpler, lower-cost systems meeting the standard. The AoA systems approved under F3011-13 can be installed, relatively easily and inexpensively, without a field approval or supplemental type certificate. Install it, log it, fly it.

Alpha Systems, maker of several new and legacy AoA systems, offered up a list of reasons for installing angle-of-attack guidance, taken from a recent article in a National Association of Flight Instructors' publication. Consider these points, also mirrored by other providers and pilots who regularly fly with an AoA indicator:

- AoA lets you know immediately whether the wing will support the aircraft or not. Put another way, it shows the reserve lift available before stall onset.
- At high angles of attack, accurate airspeed indications are difficult due to position error.
- AoA is not affected by gross weight, bank angle, load factor, speed or density altitude.
- AoA will indicate proper approach speeds under all conditions of weight, CG, flap position, air density, turbulence or angle of bank.
- AoA can instantly detect wind shear, immediately suggesting a solution.
- When properly used, AoA can identify exact pitch attitude for best angle or rate of climb.
- AoA can also indicate optimum long-range-cruise pitch attitude.