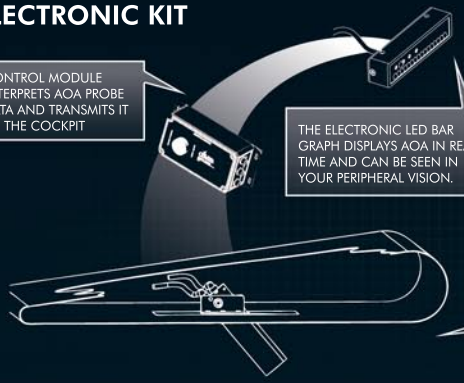
HOW IT WORKS

ELECTRONIC KIT

CONTROL MODULE INTERPRETS AOA PROBE DATA AND TRANSMITS IT TO THE COCKPIT

THE ELECTRONIC LED BAR GRAPH DISPLAYS AOA IN REAL TIME AND CAN BE SEEN IN YOUR PERIPHERAL VISION.

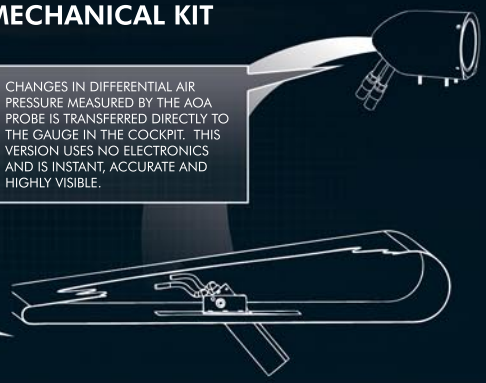


THE ALPHA SYSTEMS AOA INSTRUMENT UTILIZES DIFFERENTIAL PRESSURE MEASURED AT THE PROBE TO CONVEY RELIABLE, INSTANTANEOUS AND CONTINUOUSLY VARIABLE ANGLE OF ATTACK INFORMATION THAT IS ACCURATE REGARDLESS OF AIRCRAFT WEIGHT, TEMPERATURE OR ALTITUDE.

THE AOA PROBE'S MOUNTING PLATE REPLACES AN INSPECTION COVER. THE AOA PROBE FACES FORWARD AT A ~50-DEGREE ANGLE AND PROTRUDES UNDER THE WING ~3.5", MEASURING THE CHANGE OF DIFFERENTIAL PRESSURE CALIBRATED IN FLIGHT AT OPTIMUM ALPHA ANGLE

MECHANICAL KIT

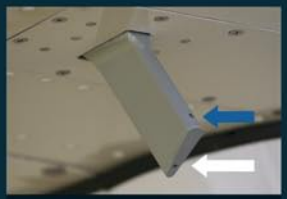
CHANGES IN DIFFERENTIAL AIR PRESSURE MEASURED BY THE AOA PROBE IS TRANSFERRED DIRECTLY TO THE GAUGE IN THE COCKPIT. THIS VERSION USES NO ELECTRONICS AND IS INSTANT, ACCURATE AND HIGHLY VISIBLE.



The ALPHA SYSTEMS AOA system was primarily designed as a **standalone device** to improve operational safety of airplanes by increasing pilot awareness during operations at high angles of attack. This AOA system meets the stated objective of the FAA's Advisory Circular, AC23.1309-1C, **"to improve the safety of the airplane fleet by fostering the incorporation of both new technologies that address pilot-error and weather related accidents and those technologies that can be certified affordably."**

TYPICAL AOA PROBE LOCATION

The AOA probe can be mounted in numerous locations under the wing. It must be in clear air flow at a minimum of 2 feet outside the propeller tip. The AOA probe needs a minimum of 6" clearance from the leading and trailing edges of the wing.



AOA PROBE

The blue and white arrows indicate the AOA sensor ports. The ports measure the change of differential pressure calibrated in flight at optimum alpha angle, unique to the AOA for your airplane.

INSTALLATION

The electronic bar graph can be mounted many different ways. The LEDs have 12 different brightness presets along with a photo sensor for auto brightness control. The electronic unit has an audio warning to identify conditions of reduced AOA.

Calibration of the Alpha Systems AOA is set in-flight at Optimum Alpha Angle (OAA) with a push of a button.

Highly identifiable LEDs stay in your peripheral vision to identify your aircraft's AOA for stall, Vx, Vy, Vapp etc.

Optimum Alpha Angle (OAA) is identified as the aircraft's ability, at minimum controllable airspeed, to hold altitude while having full aileron and rudder authority. Both electronic and mechaincal systems are set to Optimum Alpha Angle in a simple calibration flight by the pilot.