VERIFICATION
CHECK LIST

Verification CL.doc   01/02 rev2

Use this checklist to verify the AOA is loaded with valid calibration data for your aircraft. Some AOAs are shipped with specific aircraft type calibration data pre-installed and some are not requiring manual calibration. Whether the calibration data was supplied by us or created by you, you must confirm that the data is correct for your aircraft. If not, re-calibrate.

The validity and accuracy of the AOA is dependent primarily on the calibration data used, your port locations and the accuracy of your pitot/static system. Do not use the AOA for flight purposes until the following verification has been completed. In the absence of manufacturer's recommendations use this checklist to determine a high AOA warning. All speeds taken in smooth air and 1 "G" flight.

POST INSTALLATION PRE FLIGHT

Blow into Blue tube at CPU -- Air exits Upper Wing Port
Blow into Green tube at CPU - Air exits lower Wing Port
Blow into Red tube at the CPU--------------- IAS increases
Suck on Clear tube at the CPU --------------- IAS increases
Flaps down------------- verify flap switch contacts closed*
PITOT/STATIC TEST ------------------------- COMPLETED
AIRCRAFT LOG---------------------------------- UPDATED
AIRCRAFT CHECKLISTS----------------------- UPDATED
ANNUAL CONDITION CHECK LIST ------- UPDATED

HANGAR VERIFICATION

Aircraft Location --------------------------- Hangar
Gear Switch-------------------------------------- Down
Flaps --- Up
AOA Power-- On

After short delay

RED BUTTON ------------------PUSH/RELEASE
------------------------- Verify Audio "AOA PASS"
BLACK BUTTON --------------PUSH/RELEASE
RED BUTTON ------------------PUSH/RELEASE
--------------------------Verify Display is dimmed

After short delay

FLAPS----------------------------Position to Down
Verify Audio ------------- no errors and "FLAPS"
AOA Power---------------------------------------Off

"Angle Angle Push" Audio Warning Verification

AIRCRAFT LOCATION -----SAFE ALTITUDE
Gross Weight------------------------------------- LOW
AOA Power On-------------ERRORS 11, 12, & 33
FLAPS/GEAR ------------------------------------ UP
COMPUTE V_{w1} --------------- V_{s1} x 1.13 = _____
COMPUTE V_{w2} -------------- V_{APP1} x .85 = _____

In a descent, slow the aircraft till onset of "Angle Angle Push" and note the IAS. Unless the manufacturer instructs otherwise, the onset IAS must be greater than V_{w1}. Assuming V_{W2} is greater than V_{W1}, the onset shall be less than V_{w2}. If not a re-calibration must be performed.

FLAPS/GEAR ------------------------------- DOWN
COMPUTE V_{w3} ----------------V_{so} x 1.13 = _____
COMPUTE V_{w4} -------------- V_{APP0} x .85 = _____

In a descent, slow the aircraft till onset of "Angle Angle Push" and note the IAS. Unless the manufacturer instructs otherwise, the IAS must be greater than V_{w3}. Assuming V_{W4} is greater than V_{W3}, the onset shall be less than V_{w4}. If not a re-calibration must be performed.

For experimental aircraft without Part 23 certifiable stall characteristics or stability, the larger warning margins are desirable.

Mid Range verification

AIRCRAFT LOCATION -----SAFE ALTITUDE
FLAPS/GEAR ------------------------------------ UP
COMPUTE V_{PERF1} --------------V_{s1} x 1.4 = _____

In smooth air, slow the aircraft till onset of first yellow LED or bar. If the IAS is greater than V_{PERF1} proceed. If not a re-calibration must be performed.

FLAPS/GEAR ------------------------------- DOWN
COMPUTE V_{PERF2} -------------- V_{so} x 1.4 = _____

In smooth air, slow the aircraft till onset of first yellow LED or yellow bar. If the IAS is greater than V_{PERF2} proceed. If not a re-calibration must be performed.

Congratulations, your AOA checks OK.

Abbreviations:

V_{PERF} ------------------------------------- Performance airspeed
V_{so} ----------------------------------Stalling speed flaps down
V_{s1}--Stalling speed flaps up
$V_{w1}, V_{w2}, V_{w3}, V_{w4}$ ------------- AOA Warning limit speeds
V_{APP0} ----------recommended approach speed flaps down
V_{APP1} ------------recommended approach speed flaps up

* Use a resistance meter to verify that the flap switch contacts are closed. See service instruction SI0201 for exceptions.

SPORT CALIBRATION CHECK LIST

sport_cklst.doc   05/01   rev 3

AOA PRESSURE PORT

The POST INSTALLATION and HANGAR CALIBRATION CHECK LISTS must be completed prior to flight. The zero "G" maneuver requires that all unsecured items be removed from the aircraft prior to flight. Two pilots are required during the calibration process and one must be assigned the task to fly the aircraft and nothing more. The flight calibration area will be cleared for traffic and will be at a safe altitude with the IAS always within the green IAS band. Stalls are not required or desired!

Switch activation is done by pushing and holding the designated colored switch momentarily, then releasing the switch. To get into the calibration mode, momentarily hold both the black and red switch pushed, then release both at the same time.

There are three modes, *Flight*, *Self Test* and *Calibration*.
In the *Calibration* mode, there are four pages. Page *Hangar Calibrate* sets the pressure transducer zero offsets. Page *Zero "G"* is where the no lift data is recorded. Page *Angle Advisory* is where the "angle push" warning is set. Page *Save* is how data is stored to permanent memory.

Cruise Configuration is with gear, flaps and slats up.
Landing Configuration is with the gear, flaps and slats down for landing.

In the *Flight* mode, the black switch is the dimmer and the red switch is the push to test. In the *Self Test* mode the buttons are inactive. In the *Calibrate* mode, the red switch is the record data switch and the black switch is the skip to next page button without recording.

POST INSTALLATION PRE FLIGHT

Blow into Blue tube at CPU --- Air exits Upper Wing Port
Blow into Green tube at CPU-- Air exits lower Wing Port
Blow into Red tube at the CPU-------------- IAS increases
Suck on Clear tube at the CPU ------ Altimeter increases
PITOT/STATIC TEST ------------------------ COMPLETED
AIRCRAFT LOG------------------------------------UPDATED
AIRCRAFT CHECKLISTS -----------------------UPDATED
ANNUAL CONDITION C/L-----------------------UPDATED
CHAPTER IX TESTING --------------------- COMPLETED

HANGAR CALIBRATION

Aircraft Location----------------------------Hangar
Gear SW --------------------------------------- DOWN
AOA Power--ON
AOA Self Test ------------ PASSED or ERRORS
CPU AUDIO VOLUME ---------------ADJUSTED
RED/BLACK SW------ PUSH BOTH/RELEASE
PAGE hangar calibrate ------------------All LEDs flash
RED SW record ------------------PUSH/RELEASE
BLACK SW skip 2 pages -------2x PUSH/RELEASE
PAGE save data to permanent memory? Odd LEDs flash
RED SW Yes record ---------------PUSH/RELEASE

CRUISE DATA CALIBRATION

AIRCRAFT LOCATION ------ SAFE ALTITUDE
AOA Power On-----------ERRORS 11, 12, & 33
FLAPS/GEAR------------------ CONFIRMED UP
RED/BLACK SW------ PUSH BOTH/RELEASE
PAGE hangar calibrate ------------------All LEDs flash
BLACK SW skip don't record -------PUSH/RELEASE
PAGE zero lift----------- Bottom Green LED flash
Zero "G" Maneuver 1/2 sec.---- ANY SAFE IAS
RED SW record--------------------PUSH/RELEASE
PAGE angle advisory ---------- Bottom 6 LEDs flash
AIRSPEED $1.15V_{s_1}$ descending slow flight ....YES
RED SW record--------------------PUSH/RELEASE
PAGE save cruise data to memory?----- odd LEDs flash
RED SW Yes, record ---------------PUSH/RELEASE

LANDING DATA CALIBRATION

AIRCRAFT LOCATION ------ SAFE ALTITUDE
FLAPS/GEAR------------- CONFIRMED DOWN
RED/BLACK SW------ PUSH BOTH/RELEASE
PAGE hangar calibrate ------------------All LEDs flash
BLACK SW skip don't record-------PUSH/RELEASE
PAGE zero lift----------- Bottom Green LED flash
Zero "G" Maneuver 1/2 sec.---- ANY SAFE IAS
RED SW record--------------------PUSH/RELEASE
PAGE angle advisory ---------- Bottom 6 LEDs flash
AIRSPEED $1.15V_{so}$ descending slow flight ....YES
RED SW record--------------------PUSH/RELEASE
PAGE save landing data to memory?---- odd LEDs flash
RED SW Yes, record ---------------PUSH/RELEASE

FLIGHT TEST AOA

VERIFICATION C/L------------------COMPLETE
CHAPTER X CALIBRATING ------COMPLETE
CHAPTER X FLIGHT TESTING - COMPLETE

FLY THE AIRPLANE & WATCH FOR TRAFFIC