



Dynon Avionics Pitot/Static Test White Paper, 05-Dec-2011

Dynon Pitot/Static Test Background

Dynon ADAHRS/EFIS units use airspeed in the calculation of attitude (or GPS ground speed when airspeed is unavailable). The internal gyros are monitored and calibrated in flight using feedback from the accelerometers and from airspeed to achieve a highly accurate attitude solution.

When a pitot or static test is performed the ADAHRS is being exposed to dynamics that are impossible to achieve in a real aircraft flight environment, namely large airspeed changes without the accompanying accelerations and rotations. This false condition will cause a well-calibrated unit to incorrectly adjust its calibration. Furthermore, when a unit is in a test situation a change in applied pitot or static pressure will cause the attitude to pitch up or down. This is expected.

Performing the Dynon prescribed pitot and static test procedure to a Dynon ADAHRS or EFIS will prevent problems with the unit's performance in flight.

Dynon Pitot/Static Test Instructions

Basic Principles

- Ensure unit is warmed up during each test reading
- Unit should be powered off when changing pressures
- Keep aircraft still (do not move) when pressure is applied

Steps

1. Turn EFIS on and let it warm up for 5 minutes
2. Turn EFIS off
3. Apply pressure to pitot and/or static port (keep aircraft still while EFIS is powered on)
4. Turn on EFIS (external or internal battery power is acceptable)
5. Verify airspeed and/or altitude reading
6. Turn EFIS off (using button 1 is a good option for this operation)
7. Repeat steps 3-5 for each pressure point

*See user manual for instructions on adjusting the airspeed or altitude offsets