U.S. Department
of Transportation
**Federal Aviation
Administration**

Small Airplane Directorate
901 Locust, Room 301
Kansas City, MO 64106

DEC 1 5 2011

DepotStar Inc.
Attn: Mark Korin
6180 140th Avenue NW
Ramsey, Minnesota 55303

Dear Mr. Korin:

This letter is in regards to the installation of your Alpha Systems - AOA system on Normal, Utility, Acrobatic, and Commuter Category airplanes.

The installation of any component on an aircraft must be evaluated for its affect on weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness.

The Small Airplane Directorate views your system as non-required equipment that provides a safety benefit. We also recognize that there appears to be a conflict between 14 CFR parts 1, 21 and 43 regarding the classification of a major change. 14 CFR part 43, Appendix A does not use the word "appreciable" when classifying a change as do parts 1 and 21. As such, the Small Airplane Directorate and the Flight Standards Service, Aircraft Maintenance Division has evaluated the installation of the Alpha Systems - AOA system on Normal, Utility, Acrobatic CAR 3 or Part 23 airplanes. We conclude the installation can be considered a minor alteration, provided the following provisions are met:

1. The system is non-required and used in an advisory or supplementary manner. The system will not be used in lieu of the airspeed indicator or aircraft stall warning system. No operational credit may be taken for the installation, such as reduced stall speeds, reduced approach speeds, reduced takeoff or landing distances, etc.
2. Accuracy of indication of stall must coincide with the stall horn, or be conservative (indicate stall at a higher airspeed) as compared to existing stall warning devices.
3. The installation of the system is on an unpressurized aircraft.
   NOTE: The installation on a pressurized aircraft may be a minor alteration; however, the installations will have to be evaluated on a case by case basis.
4. The installation of the AOA system does not require interface with the pitot-static system; the installation does not rely on direct pressure input from the pitot-static system.
5. The AOA system cannot be used as an input source to any automation or system that controls the aircraft, such as an autopilot or stick pusher unless done by STC.
6. If the system provides an aural warning, it should not be a source of nuisance warnings.
7. The installation of the AOA probe is:
   a. On the wing:
      i. On an inspection panel, or is substituting for an inspection panel, provided that the probe is located where it does not interfere with the functioning of a flight

control surface (aileron or spoiler) and does not interfere with the pitot-static system or aircraft stall warning system.

b. On the fuselage of an unpressurized aircraft:
   i. On an inspection panel, or is substituting for an inspection panel, provided that the probe is located in an area that does not interfere with pitot-static system or aircraft stall warning system.
   ii. On an area of the fuselage that would accommodate a like installation of an antenna, and is installed in accordance with acceptable practices such as the aircraft maintenance manual or Advisory Circulars AC 43.13-1B and AC 43.13-2B.

8. The installation of the AOA probe pressure tubes and wiring does not require adding additional openings within the aircraft wing or fuselage primary structure.
9. The installation of the AOA display does not interfere with the pilot's view of the primary flight instruments.
10. The electrical load requirements of the AOA system do not exceed the total generating capacity of the aircraft when operating in conjunction with the required equipment.
11. All electrical wiring is installed in accordance with acceptable practices such as the aircraft maintenance manual or Advisory Circulars AC 43.13-1B and AC 43.13-2B.
12. The calibration procedure must be simple, and repeatable.
13. Calibration procedures, if done in flight, can be accomplished by a pilot of average skill.

If you have any questions or need additional information, please contact Peter Rouse at 816-329-4135, or by e-mail at peter.rouse@faa.gov.

Sincerely,

for Earl Lawrence
Manager, Small Airplane Directorate