

R-3656
TROUBLESHOOTING GUIDE
FOR THE
SCc AOA SYSTEM

SAFE FLIGHT[®]
INSTRUMENT CORPORATION
WHITE PLAINS, N.Y.

REVISION NOTICE

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1.0 SCOPE

This document describes ways to troubleshoot the SCc AOA System installed on the aircraft and isolating the faulty component or interface.

2.0 SYSTEM COMPONENTS

Indexer Computer (indexer), P/N 1504-4 or C-14061-1

Lift Transducer (transducer), P/N 3704-4, 3704-6 or C-14007-1

Cable Assembly, P/N: 1504-150-2 or equivalent Cessna part number

CAT5E Cable, P/N: 3704-150-1, 3704-150-2 or 3704-160-1

3.0 REQUIRED EQUIPMENT

Fluke 87 Multimeter or equivalent

CAT 5 cable

4.0 GENERAL

When power is applied to the system, all indexer LEDs will illuminate for five (5) seconds and perform a Power-On Self-Test (POST). The audio warning (Geiger counter sound) will also sound for the duration of the system self-test. After the self-test, the audio warning shall stop and the LEDs on the indexers will indicate the current state of the system and the position of the transducer.

5.0 TROUBLESHOOTING

Discrepancy	Remedy
Indexer does not illuminate.	<ul style="list-style-type: none"> • Check the system circuit breaker. See Figure 1. • Check the wiring to pin 10 of the mating connector to the indexer. • Confirm voltage of either 14 or 28 at pin 10 (Figure 1) of the indexer mating connector, try to adjust the indexer mating connector pin 10 for a tighter contact when connected to the indexer. • If the circuit breaker and the pin 10 wiring are good, check the ground connection on pin 8. • If the previous troubleshooting steps are good, replace the indexer.
Indexer is blank after POST.	<ul style="list-style-type: none"> • Press and hold both buttons on the indexer for 2 seconds. All reference marker lights will illuminate a pattern of LED segments. If LEDs, 8, 9 & 10 are illuminated (see Figure 2/Table 1), remove the transducer and use a substitute CAT 5 cable to connect the transducer and the indexer. Cycle power to the system. If the system passes POST and the proper LED segments are illuminated, inspect the cable for proper connection or damage. • If the indexer is still blank after re-cycling power to the system and after POST, replace the transducer. • If LED 11 is illuminated, replace the indexer. • <u>Pre-software version 1.3.0</u> Press and hold both buttons on the indexer for 2 seconds. If LEDs 6 or 7 is/are illuminated, replace both indexer and transducer.
After POST, if the top <i>RED</i> indexer LED (LED 1) is illuminated and blinks at a 1 Hz frequency. (Figure 2)	Calibrate the system per the applicable Installation Manual (User Guide).
Any LED not illuminated during POST	Replace the indexer.
If the reference marker LED does not move with a single button push or if the reference marker LED moves multiple positions with a single button push	Replace the indexer.
<p>NOTE ► Placing the vane in the full forward (UP) position may cause a system Out of Range failure. The display may blank, this is expected behavior.</p>	

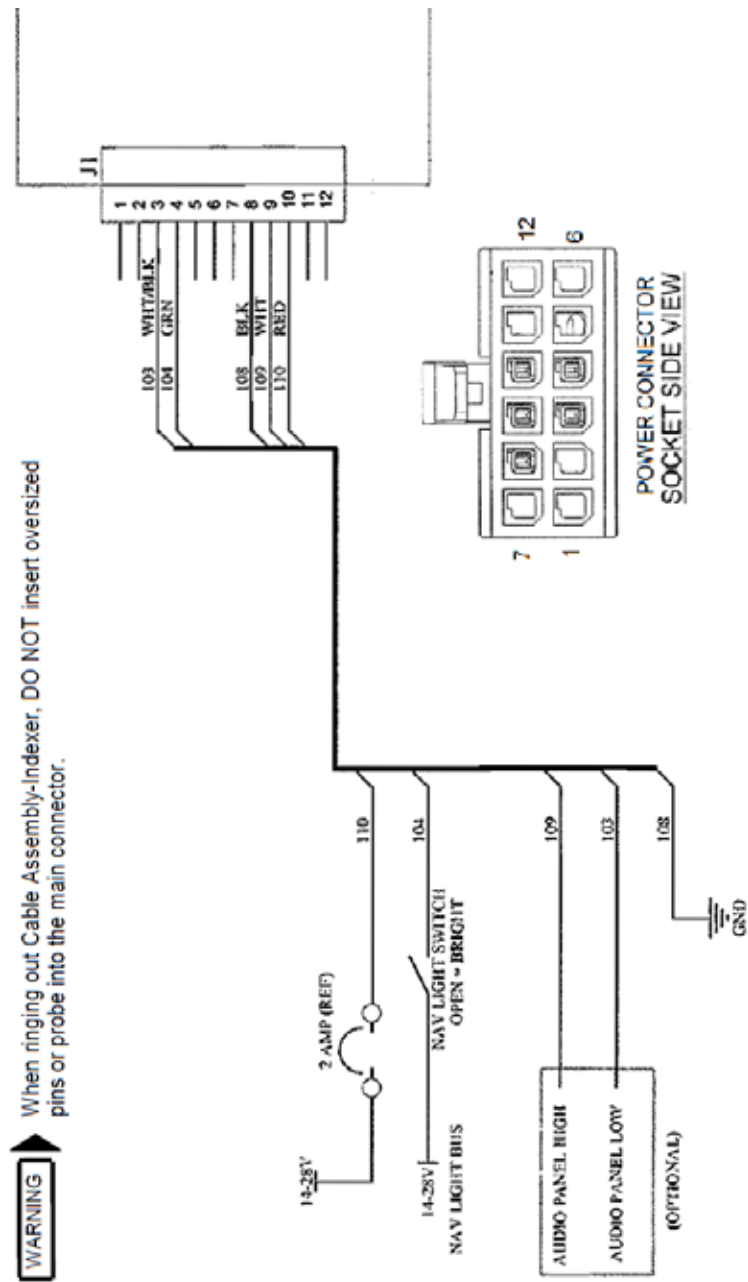


Figure 1: Power Cable Wiring

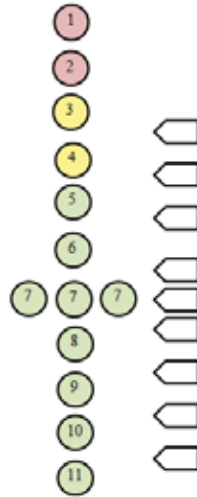


Figure 2: Indexer Segments

Table 1: Fault Indication/Description

LED Indication	Fault Description	Check	Corrective Action	
6	Transducer hardware fault	Power cycle system Disconnect and reconnect all cables at both the indexer and the transducer. Use a standard known good Cat5 cable (out of aircraft) to test communication between indexer and transducer.	If system operates with alternative cable, the transducer cable is damaged and should be replaced. If no change, return transducer and indexer (if S/W pre 1.3.0) for service.	
7	Transducer hardware fault			
8	Transducer vane sensor reporting an error			If system operates with alternative cable, the transducer cable is damaged and should be replaced.
9	Transducer temperature sensor reporting an error			If no change, return transducer for service.
10	Transducer communication failure			If problem persists, return indexer for service.
11	Indexer failure		Power cycle system	If no change, return indexer for service.