# GARMIN G1000 AIR DATA COMPUTER SYSTEM - TROUBLESHOOTING

## 1. General

A. This section gives the troubleshooting procedures for the Garmin G1000 GDC air data computer. For a general overview of the Garmin GDC 72/74A ADC refer to Garmin G1000 Air Data Computer System - Description and Operation .

## 2. Garmin GDC ADC Troubleshooting

A. Tools and Equipment

**NOTE: For the supplier publication part number and manufacturer data, refer to the Introduction - Supplier Publication List.**

(1) Tools and Equipment

- Multimeter.

(2) Special Consumables

- None.

(3) Reference Material

- Pitot/Static System - Adjustment/Test
- Garmin G1000 Air Data Computer System - Removal/Installation
- GTP 59 Outside Air temperature (OAT) Probe - Maintenance Practices
- Garmin G1000 Integrated Avionics System - Adjustment/Test
- Model 208 Wiring Diagram Manual.

B. Do the Airspeed, Altitude and Vertical Speed Fail Troubleshooting.

**NOTE: A "X" (red) is shown over the primary flight display area for a failed indication.**

(1) Connect external electrical power to the airplane.

(2) Make sure that the circuit breakers given in Table 101 are engaged.

***Table 101. Circuit Breakers***

| Component | Circuit Breaker Name | Circuit Breaker Location |
|---|---|---|
| GDC 72/74A ADC 1 | ADC 1 | Avionics Circuit Breaker Panel |
| GDC 72/74A ADC 2 | ADC 2 | Avionics Circuit Breaker Panel |
| GDC 72/74A ADC Configuration Module 1 | ADC 1 | Avionics Circuit Breaker Panel |
| GDC 72/74A ADC Configuration Module 2 | ADC 2 | Avionics Circuit Breaker Panel |

(3) Refer to Chapter 34, Garmin G1000 Integrated Avionics System - Adjustment/Test G1000 Architecture Verification Check and make sure that:

(a) The correct software and configuration has been installed.

(b) All related systems are serviceable.

(c) The LRU serial number or a version number is not dashed.

(4) Make sure the COM1, COM2, GIA1 GIA2, NAV1 and NAV2 have check marks (green) next to their nomenclature on the list.

(a) This indicates the LRU is serviceable.

(5) Make sure that on the System Status List the GDC1 and/or GDC2 do not show a red X.

(6) Check the primary flight display crew alert system (CAS) and alerts window for messages to aid in troubleshooting the anomaly.

(7) If the Garmin GIA shows an red X on the Avionics Aux System Status page, make sure that the electrical power and ground connections to the GIA is serviceable. Refer to the Model 208 Wiring Diagram Manual, Chapter 20, Wiring - Maintenance Practices.

(8) If the Architecture Verification check shows a serial number or a version number dashed on the Avionics Status page, carefully examine the electrical wiring and components as follows:

**NOTE: Serial number is not reported for the following equipment: COM1, COM2, GS1, GS2, NAV1, NAV2, AND WX500.**

(a) Do a visual check of the electrical connectors and airplane electrical connectors for bent, broken or pushed back pins.

1 If necessary, repair the damage.

(b) Make sure that electrical power and ground signals are present.

(c) Make sure that data bus lines are correctly terminated and secure.

**CAUTION: Do not touch bus wiring to each other or to shield grounds. Damage to equipment or circuits can result.**

(d) Remove electrical power from the airplane.

(e) Use a multimeter to do a continuity check of the bus wires.

1 Make sure that there is continuity only from each wires related pin end to end and to no other wires, airplanes grounds, or shields.

(f) Do a visual check of the wiring components and make sure that all applicable strapping is correct and any necessary G1000 system strapping is correct.

(g) Do a visual check of the wiring bundles for damage.

1 If necessary, repair or replace the wiring bundles. Refer to the Model 208 Wiring Diagram Manual, Chapter 20, Wiring - Maintenance Practices.

(h) Do a check of the applicable system wiring for continuity, ground faults, or other unserviceable conditions.

1 If necessary, repair or replace the wiring bundles. Refer to the Model 208 Wiring Diagram Manual, Chapter 20, Wiring - Maintenance Practices.

(9) Do a check of the ADC pitot and static hose adapters.

(a) Make sure they are tight and serviceable.

(10) If the ADC system wiring and the pitot/static hose installation are serviceable do the steps that follow:

(a) Replace the applicable ADC . Refer to Garmin G1000 Air Data Computer System - Removal/Installation.

(b) Replace the applicable ADC configuration module. Refer to Garmin G1000 Air Data Computer System - Removal/Installation.

(11) When a maintenance action is complete do a check of ADC system operation. Refer to Pitot/Static System - Adjustment/Test.

C. Do the OAT and TAS Fail troubleshooting.

(1) Do a check of OAT probe wining and make sure it is serviceable.

(a) Do a visual check of the wiring bundles for damage.

1 If necessary, repair or replace the wiring bundles. Refer to the Model 208 Wiring Diagram Manual, Chapter 20, Wiring - Maintenance Practices.

(b) Do a check of the applicable system wiring for continuity, ground faults, or other unserviceable conditions.

1 If necessary, repair or replace the wiring bundles. Refer to the Model 208 Wiring Diagram Manual, Chapter 20, Wiring - Maintenance Practices.

(2) Do a check of the ADC configuration module.

(a) Do a visual check of the configuration module wiring for damage.

1 If necessary, repair or replace the wiring . Refer to the Model 208 Wiring Diagram Manual, Chapter 20, Wiring - Maintenance Practices.

(3) If wiring is serviceable, replace the configuration module. Refer to Garmin G1000 ADC Configuration Module - Removal/Installation.

(4) Replace the applicable GDC Air Data Computer. Refer to Garmin G1000 Air Data Computer System - Removal/Installation

(5) Replace the GTP 59 probe. Refer to GTP 59 Outside Air temperature (OAT) Probe - Maintenance Practices.

D. Garmin GDC Air Data Computer System Alert Message Troubleshooting

(1) Push the rightmost softkey on the PFD and make sure that no Alert messages show in the Alerts window.

(a) Do the GDC ADC System Alert message troubleshooting. Refer to Table 102.

***Table 102. GDC CAS Error Messages***

| GDC CAS Alert Messages | Cause | Corrective Action. |
|---|---|---|
| MANIFEST ◆ GDC 1 software mismatch, communication halted. | The system has detected an incorrect software version loaded in GDC 1. | 1. Load correct configuration in the GDC 1. |
| MANIFEST ◆ GDC 2 software mismatch, communication halted. | The system has detected an incorrect software version loaded in GDC 2. | 1. Load correct configuration in the GDC 2. |