

## GARMIN DATA LINK SYSTEM - TROUBLESHOOTING

### 1. General

- A. This section gives the troubleshooting procedures for the GDL 69A XM and GDL 69 SXM Data Link System. For a general overview of the Garmin Data Link System refer to Garmin Data Link System - Description and Operation.
- B. Become familiar with the installed G1000 Avionics System software versions/configurations. Refer to Chapter 34, Garmin G1000 Integrated Avionics System - Description and Operation.

### 2. Garmin Data Link System 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
  - Garmin Data Link System - Removal/Installation
  - Global Positioning System (GPS)/XM Antenna - Removal/Installation
  - Garmin Data Link System - Adjustment/Test
  - Garmin G1000 Integrated Avionics System - Adjustment/Test
  - Garmin G1000 Master Configuration Module - Removal/Installation
  - Model 208/208B Wiring Diagram Manual.

#### B. Do the Garmin Data Link System Troubleshooting.

- (1) 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.
- (2) Make sure the GDL 69 has check mark (green) and serial number next to their nomenclature on the list.
  - (a) Green indicator text indicates the LRU is serviceable.
 

**NOTE:** Serial number is not reported for the following equipment: COM1, COM2, GS1, GS2, GTX1, GTX 2 (OPT), NAV1, NAV2, AND WX500.

**NOTE:** The components that follow are not listed on the System Status List page: KR 87 ADF, KN 63 DME, KTA 870 TAS, KRA 405B, KHF 1050 HR Radio System, ME406 ELT, and the C406-N ELT.
  - (b) Red indicator text indicates the data path functionality is incorrect.
  - (c) Black indicator text indicates the data path functionality is unknown.
- (3) Check the primary flight display crew alert system (CAS) window for messages to aid in troubleshooting the anomaly.
- (4) Carefully examine the electrical wiring and components as follows: Refer to the Model 208 Wiring Diagram Manual, Chapter 20, Wiring - Maintenance Practices.
  - (a) Do a visual check of the data link 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) 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.
- (e) 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.
- (f) 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.
- (g) Do a visual check of the coaxial cable connections to the GPS/XM antenna.
  - 1 Tighten loose coaxial cable connectors as necessary.
  - 2 Repair or replace unserviceable coaxial cable as necessary.
- (5) If the GDL 69A Data Link system wiring is serviceable replace the components that follow:
  - (a) Replace the GDL 69A XM/GDL 69A SXM Data Link. Refer to Garmin Data Link System - Removal/Installation.
    - 1 Do an operational check of the Garmin Data Link system again. Refer to Garmin Data Link System - Adjustment/Test.
  - (b) Replace the Global Positioning System (GPS)/XM antenna. Refer to Global Positioning System (GPS)/XM Antenna - Removal/Installation.
    - 1 Do an operational check of the Garmin Data Link system again. Refer to Garmin Data Link System - Adjustment/Test.

C. GDL 69A System CAS Message Troubleshooting

- (1) For CAS messages related to other Garmin LRU's, refer to the applicable LRU section for CAS message troubleshooting.
- (2) Check the primary flight display crew alert window for Alert messages to aid in troubleshooting the anomaly.
  - (a) Push the rightmost softkey on the PFD and make sure that no Alert messages show in the Alerts window.
  - (b) To troubleshoot GDL 69A Alert messages refer to Table 101.

**Table 101. GDL 69A CAS Alert Messages Troubleshooting**

GDL CAS Alert Messages	Cause	Corrective Actions
GDL 69 CONFIG – GDL 69 config error. Config service req'd.	GDL configuration settings do not match configuration.	1. Load correct configuration in the GDL. Refer to Garmin G1000 Integrated Avionics System - Adjustment/Test 2. Replace GDL. Refer to Garmin Data Link System - Removal/Installation. 3. Replace Garmin G1000 Master Configuration Module. Refer to Garmin G1000 Configuration Module - Removal/Installation.
GDL 69 FAIL – GDL 69 is inoperative.	A failure has been detected in the GDL 69A.	1. Troubleshoot GDL wiring. 2. Replace GDL. Refer to Garmin Data Link System - Removal/Installation
MANIFEST – GDL software mismatch. Communication halted.	GDL has incorrect software installed. GDL data will not be used by the MFD.	1. Load correct software into GDL.

If the master configuration module is replaced the unlock cards for optional systems (TAWS, Jeppesen Aviation Database ect.) must be replaced.

D. Put the Airplane Back to its Initial Condition.

- (1) Disconnect the external electrical power from the airplane.