

# MANDATORY SERVICE BULLETIN

## MSB 50-003/6

### SUPERSEDES MSB 50-003/5

#### I TECHNICAL DETAILS

##### I.1 Category

Mandatory.

##### I.2 Airplanes affected

Type: DA 50 C

Serial Numbers: 50.002, 50.003, 50.006  
50.C.A.A.007 and subsequent,  
50.C.Q.A.001 and subsequent

##### I.3 Time of Compliance

At next scheduled maintenance action.

**Note:** Prior compliance with MSB 50-003 through MSB 50-003/4 does not constitute compliance with this MSB.

##### I.4 Subject

Software for Garmin G1000 NXi; approved software systems, manifests and configurations.

##### I.5 Reason

Summary of approved software systems, manifests and configurations for Garmin G1000 NXi.

##### I.6 Concurrent Documents

Garmin G1000 NXi Line Maintenance Manual, 190-02631-00, latest effective issue.

## **I.7 Approval**

The technical information or instructions contained in this document relate to the Design Change Advisory No. VÄM 50-002, OÄM 50-001, OÄM 50-003, OÄM 50-004, OÄM 50-006 through OÄM 50-010, OÄM 50-011, OÄM 50-013, OÄM 50-018, OÄM 50-027/a, OÄM 50-031, OÄM 50-032, OÄM 50-050, MÄM 50-115, MÄM 50-140 and MÄM 50-221 which have been approved under the authority of EASA Design Organization Approval ref. EASA.21J.052 or by EASA.

The technical content of this document has been approved under the authority of DOA ref. EASA.21J.052.

## **I.8 Accomplishment/Instructions**

Compare installed software system and related manifests with approved ones stated in this service bulletin.

If installed software system and related manifests are not approved, perform an update to the latest approved software version according to the instructions given in the G1000 NXi Line Maintenance Manual, latest effective issue or other related Garmin documents.

An update to a later approved software system with the related manifest may be carried out on every aircraft. Perform the update according to the instructions given in the G1000 NXi Line Maintenance Manual, latest effective issue or other related Garmin documents.

**NOTE:** Changing the software system requires new configuration of the system. Refer to the Garmin documentation for software configuration.

**NOTE:** Determine what optional equipment (i.e. ADF, DME, WX500, etc.) is installed in the airplane before loading software.

Determine what optional features (i.e. Synthetic Vision (SVT), Jeppesen ChartView, etc.) are installed before loading the AIRFRAME configuration file. If the AIRFRAME configuration file is loaded from the system software card, you will need to unlock the optional features using their unlock cards. Make sure that all of the required materials and equipment are on hand before you begin the upgrade procedure.

Software Part Number	Software Version	Software Name	Remarks
<b>System</b>			This software version supports <ul style="list-style-type: none"> <li>the GFC700 autopilot system.</li> </ul>
010-02576-02	v2576.02		
<b>Manifest</b>			
006-B0224-01	V2.05	GMU System	
006-B0398-46	V3.56	GSA8X System	
006-B0742-12	V3.10	GCU / GMC System	
006-B1177-7Y	V21.60	GDU System	
006-B1607-0K	V2.60	GTX 3X5 System	
006-B1797-16	V3.21	GTX 3X5 / ADS-B	
006-B1827-22	V8.2	GPS/WAAS System	
006-B1838-09	V2.09	GRS 79 System	
006-B1838-58	V2.08	GDC 72 System	
006-B2139-09	V2.60	GEA System	
006-B2210-1N	V5.31D	GMA AUX System	
006-B2212-1N	V5.31D	GMA System	
006-B2253-01	V2.01	NAV System	
006-B2371-02	V2.02	COM System	
006-B2548-19	V2.1B	GIA System	
006-B2679-00	V2.00	GMU44B System	
006-C0048-00	V2.00	GMU FPGA	
006-C0153-22	V2.20	GTX 3X5 FPGA	
006-C0157-21	V2.10	GTX 3X5 / ADS-B FPGA	
006-C0164-01	V1.10	GIA FPGA	
006-C0175-09	V1.46	GMA AUX FPGA	
006-D0425-2A	V4.10	GIA Audio	
006-D3034-B1	V5.00D	GMA AUX Region List	
006-D3034-C2	V5.21	GMA Audio Database	
006-D3035-B2	V5.00D	GMA Display Key Region	
006-D3035-CU	V5.15D	GMA Region List	
006-D3035-G6	V5.28D	GMA Audio Config	
006-D5080-00	V2.00	GRS 79 Region List	
006-D5080-50	V2.00	GDC 72 Region List	
006-D5761-00	V2.00	NAV Region List	

Software Part Number	Software Version	Software Name	Remarks
006-D6318-04	V2.21	GIA Region List	
006-D6358-01	V2.30	GEA Region List	
006-D6512-00	V2.00	COM Region List	
006-D9378-00	V2.00	GFC Cert GIA AFCS Gains	

Software Part Number	Software Version	Software Name	Remarks
<b>System</b>			This software version supports <ul style="list-style-type: none"> <li>• De-Icing System including propeller de-icing</li> <li>• GMU44B magnetometer</li> <li>• Intake Air Temperature Caution &amp; Warning</li> <li>• Glow Fail Caution</li> <li>• checklist files in *.gcl format</li> <li>• GDL69A SXM Datalink receiver</li> <li>• GTS800 Traffic Advisory System</li> </ul>
010-02576-03	v2576.03		
<b>Manifest</b>			
006-B0224-01	V2.05	GMU System	
006-B0398-46	V3.56	GSA8X System	
006-B0551-35	V4.13	GTS8XX System	
006-B0742-12	V3.10	GCU / GMC System	
006-B1177-C3	V21.65.1	GDU System	
006-B1607-0K	V2.60	GTX 3X5 System	
006-B1797-16	V3.21	GTX 3X5 / ADS-B	
006-B1827-22	V8.2	GPS/WAAS System	
006-B1838-09	V2.09	GRS 79 System	
006-B1838-58	V2.08	GDC 72 System	
006-B1902-0B	V5.51	GDL 69e System	
006-B2139-09	V2.60	GEA System	
006-B2181-30	V3.00	GDL 69e XM FW/XM Firmware	
006-B2210-1N	V5.31D	GMA AUX System	
006-B2212-1N	V5.31D	GMA System	
006-B2253-01	V2.01	NAV System	
006-B2371-02	V2.02	COM System	
006-B2548-1K	V2.1E	GIA System	
006-B2679-00	V2.00	GMU44B System	
006-C0048-00	V2.00	GMU FPGA	
006-C0081-20	V2.0	GTS8XX FPGA	

Software Part Number	Software Version	Software Name	Remarks
006-C0153-22	V2.20	GTX 3X5 FPGA	
006-C0157-21	V2.10	GTX 3X5 / ADS-B FPGA	
006-C0164-01	V1.10	GIA FPGA	
006-C0175-09	V1.46	GMA AUX FPGA	
006-D0425-2A	V4.10	GIA Audio	
006-D0725-02	V4.00	GTS8XX Region List	
006-D3034-B1	V5.00D	GMA AUX Region List	
006-D3034-B2	V5.00D	GMA AUX Key Region	
006-D3034-C2	V5.21	GMA Audio Database	
006-D3035-B2	V5.00D	GMA Display Key Region	
006-D3035-CU	V5.15D	GMA Region List	
006-D3035-HE	V5.29D	GMA Audio Config	
006-D5080-00	V2.00	GRS 79 Region List	
006-D5080-50	V2.00	GDC 72 Region List	
006-D5402-02	V1.10	GDL 69e App Package	
006-D5761-00	V2.00	NAV Region List	
006-D6318-04	V2.21	GIA Region List	
006-D6358-01	V2.30	GEA Region List	
006-D6512-00	V2.00	COM Region List	
006-D6994-00	V2.00	GMU44B Region List	
006-D9378-00	V2.00	GFC Cert GIA AFCS Gains	

Approved Configurations (Software)	Remarks
NOTE: Even though more options may be included in the software loader card, only those shown below are currently approved for installation.	
DA50 Option – ADF	Install if an ADF is installed in the airplane (OÄM 50-003)
DA50 Option – Deicing	Install if the de-icing system is installed in the airplane (OÄM 50-011)
DA50 Option – DME	Install if a DME is installed in the airplane (OÄM 50-004)
DA50 Option – Fuel Tanks: Fuel calibration <sup>*1)</sup>	Refer to Note 1 below.
DA50 Option – Fuel Tanks: Pre-calibrated <sup>*1)</sup>	
DA50 Option – GCU 476	Install if a Garmin Control Unit GCU 476 is installed in the airplane (OÄM 50-018).

Approved Configurations (Software)	Remarks
DA50 Option – GDL69A SXM	Install if a Garmin Datalink Receiver GDL69A SXM is installed in the airplane (OÄM 50-027/a).
DA50 Option – Flightstream 510 Enable	Install if a FS 510 is installed in the airplane (OÄM 50-032).
DA50 Option – GFC700 with ESP and USP	Install if GFC 700 Autopilot System is installed in the airplane; NOTE: an additional unlock card is required.
DA50 Option – GSR56	Install if a Satellite Transceiver GSR56 is installed in the airplane (OÄM 50-010)
DA50 Option – GSR56 Voice/Text Only	Optional to “DA50 Option – GSR56” above: Install if a Satellite Transceiver GSR56 is installed in the airplane (OÄM 50-010).
DA50 Option – GTS 800	Install if a Garmin Traffic Advisory System GTS800 (OÄM 50-050) is installed in the airplane.
DA50 Option – GTX 345 Option	Install if a GTX 345 transponder is installed in the airplane.
DA50 Option – GTS 345 and GTS 800	Install if a GTX 345 transponder and Garmin Traffic Advisory System GTS 800 (OÄM 50-050) is installed in the airplane.
DA50 Option – GTX 345 and TAS600	Install if a GTX 345 transponder and Avidyne Traffic Advisory System TAS6xx (OÄM 50-006) is installed in the airplane.
DA50 Option – Aerox Oxygen Pressure <sup>2*)</sup>	Install if an Oxygen System with aerox pressure sensor is installed in the airplane (OÄM 50-001).
DA50 Option – ADZ Nagano Oxygen Pressure <sup>2*)</sup>	Install if an Oxygen System with ADZ Nagano pressure sensor is installed in the airplane (OÄM 50-001).
DA50 Option – Propeller Deicing	Install if the propeller de-icing system is installed in the airplane (OÄM 50-011)
DA50 Option – TAS600 Series Installation	Install if a Traffic Advisory System is installed in the airplane (OÄM 50-006).
DA50 Option – WX500	Install if a Stormscope WX500 is installed in the airplane (OÄM 50-013).

1\*) This two options are not required to be installed. If either one is installed, the steps below have to be followed.

- "Fuel Tanks: Fuel calibration" requires manual calibration of the fuel quantity indicators. For calibration, refer to Work Instruction WI-MSB 50-003, latest effective issue.
- "Fuel Tanks: Pre-calibrated" uses pre-defined frequency values of the fuel probes for the fuel quantity indication.

2\*) Refer to Airplane Flight Manual Doc. No. 9.01.01-E section 06-10 Equipment List to determine the installed pressure transducer.

Approved Magnetic Field Charts (GRS1 MV DB)		
Software Part Number	Approved Version	Remarks
006-D2658-01	V2015.00	
006-D2658-02	V2020.00	

**I.9 Mass (Weight) and CG**

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**II PLANNING INFORMATION**

**II.1 Material & Availability**

Quantity	Part Number	Description
1	010-02576-02 010-02576-03	G1000 NXi Software Loader Card (Diamond DA50)

The required Garmin G1000 NXi Cockpit Reference Guide (CRG) and Pilot’s Guide (PG) are referenced to the System Software Version number. The System Software Version number is displayed at the top right side of the MFD Power-up page.

System Software Version	Cockpit Reference Guide	Pilot’s Guide
2576.02	P/N 190-02800-00, Rev. B or later appropriate revision	P/N 190-02799-00, Rev. B or later appropriate revision
2576.03	P/N 190-02800-01, Rev. A or later appropriate revision	P/N 190-02799-01, Rev. A or later appropriate revision

Software and concurrent documents can be obtained through your Garmin distributor.

**II.2 Special Tools**

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**II.3 Labor effort**

Approx. 1 hour

**II.4 Credit**

None.

**II.5 Reference Documents**

None.

**III REMARKS**

1. All work must be done by a certified aircraft service station or a certified aircraft maintenance mechanic.
2. Completion of all work must be recorded in the log book.
3. In case of any doubt contact Diamond Aircraft Industries GmbH.
4. The content of this MSB is mandatory in accordance with EASA TCDS EASA.A.639.



# WORK INSTRUCTION

## WI-MSB 50-003

### Installation of G1000 NXi System Software 010-02576-02

#### **I GENERAL INFORMATION**

##### **I.1 Subject**

This work instruction announces the installation of G1000 System Software Version P/N 010-02576-02.

##### **I.2 Reference Documents**

Diamond Aircraft DA 50 C Airplane Maintenance Manual, Doc. No. 9.02.01, latest effective issue.

Garmin G1000 NXi Line Maintenance Manual, P/N 190-02631-00, latest effective issue.

##### **I.3 Remarks**

- a) All work must be done by a certified aircraft service station or a certified aircraft maintenance mechanic.
- b) All work, in particular if not described in this work instruction, must be done in accordance with the referenced maintenance manual.
- c) For conversion factors between SI units and US/Imperial units refer to AMM Chapter 02.
- d) In case of doubt, contact Diamond Aircraft Industries GmbH.

#### **II DRAWINGS, SPECIAL TOOLS & MATERIALS**

##### **II.1 Drawings**

None.

##### **II.2 Special Tools**

None.

### II.3 Material

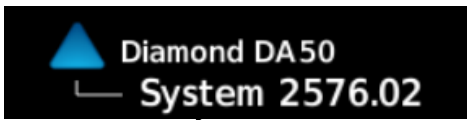

Quantity	Part Number	Description
1	010-02576-02	G1000 NXi Software Loader Card (Diamond DA50)
1 <sup>*)</sup>	006-B0371-03	GIA64 Boot Block v2.02.1

\*) Optional software. The boot block software may be required after a GIA replacement. No DA 50 is delivered without this version installed.

Material is available from Diamond Aircraft Industries or Garmin. The GIA64 Boot Block loader is available from the Garmin Dealer Resource Center only.

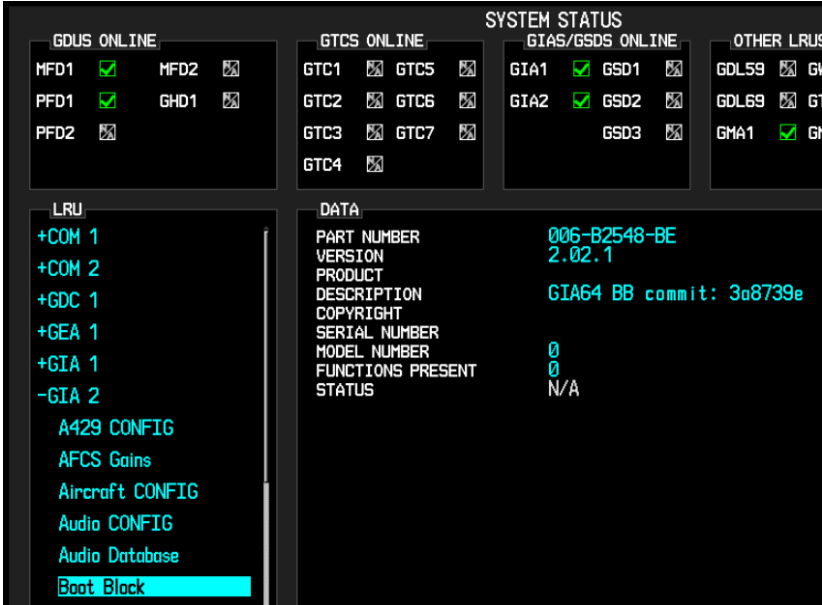
## III INSTRUCTIONS

1	<p>These instructions present field upgrade procedures for the G1000 NXi System Software 010-02576-02 for the DA 50 C.</p> <p>These instructions must be followed step-by-step in order and completely, to upgrade an existing approved configuration of the system software to a newer approved configuration.</p> <p>It is assumed that the person performing the upgrade is familiar with the aircraft and has a good working knowledge of the Garmin G1000 NXi System.</p> <p style="text-align: center;"><b>NOTE</b></p> <p style="text-align: center;">All G1000 NXi screen shots used in this document are intended to provide visual reference only. All information depicted in screen shots, including software file names, versions and part numbers, is subject to change and may not be up to date.</p>
2	In the aircraft, turn the aircraft ELECT. MASTER switch on.

<p>3</p>	<p>Look at the MFD power-up screen (see following figure). In the upper right corner, the display shows 'Diamond DA50, System XXXX.XX'.</p>  
<p>4</p>	<p>This 'System' number is the System Software Version. It correlates to the G1000 NXi, DA50 System Loader Card. For example:</p> <p><b>EXAMPLE:</b>        System Software Version '<b>2576.02</b>' = Loader Image P/N 010-<b>2576-02</b></p>
<p>5</p>	<p>If the System Software Version is already at 2576.02, this Software Service Bulletin may have already been performed, proceed to the Testing Procedure at the end of this bulletin.</p>
<p>6</p>	<p>Turn the aircraft ELECT. MASTER switch off.</p>
<p style="text-align: center;"><b>NOTE</b></p> <p style="text-align: center;">Performing the software update described in this bulletin will delete all stored Pilot Profiles, user waypoints, stored flight plans, and map settings from memory.</p>	
<p><b>Software Load Preparation</b></p>	
<p>7</p>	<p>Determine which optional equipment (i.e. ADF, DME, WX500, etc.) is installed in the airplane before loading software.        Determine what optional features (i.e. Synthetic Vision (SVT), Jeppesen ChartView, etc.) are installed before loading the AIRFRAME configuration file. If the AIRFRAME configuration file is loaded from the system software card, you will need to unlock the optional features using their unlock cards.        Make sure that all of the required materials and equipment are on hand before you begin the upgrade procedure.</p>

	<ul style="list-style-type: none"> <li>• Software Loader Card</li> <li>• GIA 64 Boot Block Loader (optional, see Section II.3)</li> <li>• Chart View Unlock Card (optional OÄM 50-007)</li> <li>• SVS Unlock Card (optional, OÄM 50-008)</li> <li>• Enhanced AFCS Unlock Card (OÄM 50-009)</li> </ul>
8	While performing this procedure ensure the airplane is connected to and drawing power from a power cart. A loss of power during this procedure may result in a defective GIA.
9	Disengage (pull) the MFD and PFD circuit breakers.
10	Turn on the ELECT. MASTER switch.
11	Turn on the AV MASTER switch.
12	Turn on the ground power unit.
13	While holding the ENT key on the MFD, engage the MFD circuit breaker.
14	When the words appear <b>INITIALIZING SYSTEM</b> in the upper left corner of the MFD, release the ENT key.
15	Repeat steps 13 and 14 for the PFD.
16	<p>While in configuration mode write down the following configuration settings:</p> <p><b>Aircraft Configuration</b></p> <p>Aircraft Registration: _____</p> <p>ICAO Address: _____</p> <p>ICAO Region: _____</p> <p>Domain Identifier: _____</p> <p>VFR Code: _____</p> <p><b>Transponder Airframe Configuration</b></p> <p>1090 ES Out Control: _____</p> <p>1090 ES In Capable: _____</p> <p>UAT In Capable: _____</p> <p>EHS Support: _____</p> <p>Allow Flight ID Entry: _____</p> <p>Default Flight ID: _____</p> <p><b>Audio Panel Configuration (GMA Marker page)</b></p> <p>Marker Beacon Lo Sensitivity Offset (dB): _____</p> <p>Marker Beacon Hi Sensitivity Offset (dB): _____</p>

17 Navigate to the system status page and verify which Boot Block software version is installed on GIA #1 and GIA #2. If the boot block is already Part Number 006-B2546-BE, Version 2.02.1 skip the "GIA 64 Boot Block Load" section below.



The screenshot shows the SYSTEM STATUS page with the following sections:

- GDUS ONLINE:** MFD1, MFD2, PFD1, PFD2, GHD1.
- GTCs ONLINE:** GTC1, GTC2, GTC3, GTC4, GTC5, GTC6, GTC7.
- GIAs/GSDs ONLINE:** GIA1, GIA2, GSD1, GSD2, GSD3.
- OTHER LRUs:** GDL59, GDL69, GMA1.
- LRU List:** +COM 1, +COM 2, +GDC 1, +GEA 1, +GIA 1, -GIA 2, A429 CONFIG, AFCS Gains, Aircraft CONFIG, Audio CONFIG, Audio Database, **Boot Block** (highlighted).
- DATA:** PART NUMBER (006-B2548-BE), VERSION (2.02.1), DESCRIPTION (GIA64 BB commit: 3a8739e), SERIAL NUMBER (0), MODEL NUMBER (0), FUNCTIONS PRESENT (N/A), STATUS (N/A).

**GIA 64 Boot Block Load (optional, refer to Section II.3)**

18 Disengage (pull) the MFD and PFD circuit breakers.

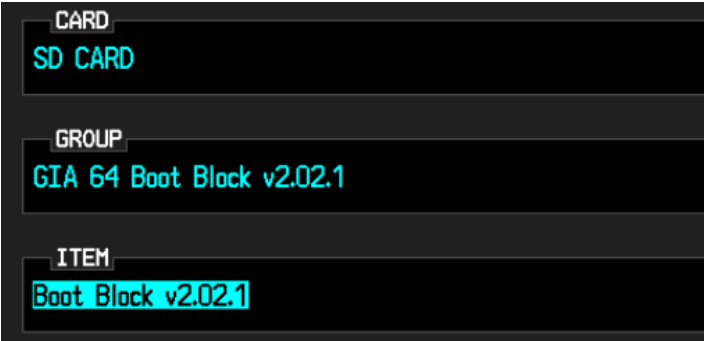
19 Insert the GIA 64 Boot Block Loader Card into the PFD top card slot.

20 While holding the ENT and CLR keys on the PFD and MFD, engage the PFD and MFD circuit breakers.

21 When the words appear **INITIALIZING SYSTEM** in the upper left corner of the PFD/MFD, release the ENT and CLR keys.

22 Using the PFD, go to the SYSTEM UPLOAD page using the FMS knob.

23 Activate the cursor and highlight the ITEM field.



The screenshot shows the SYSTEM UPLOAD page with the following fields:

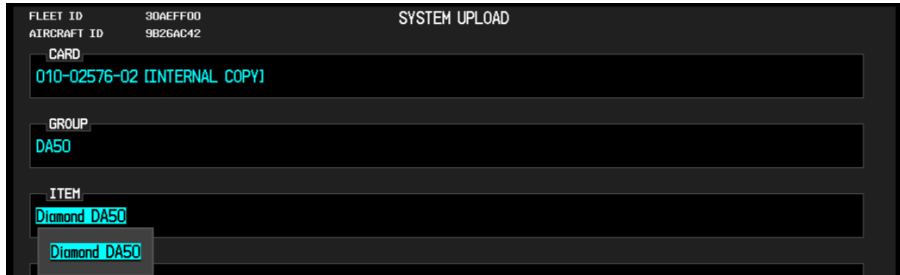
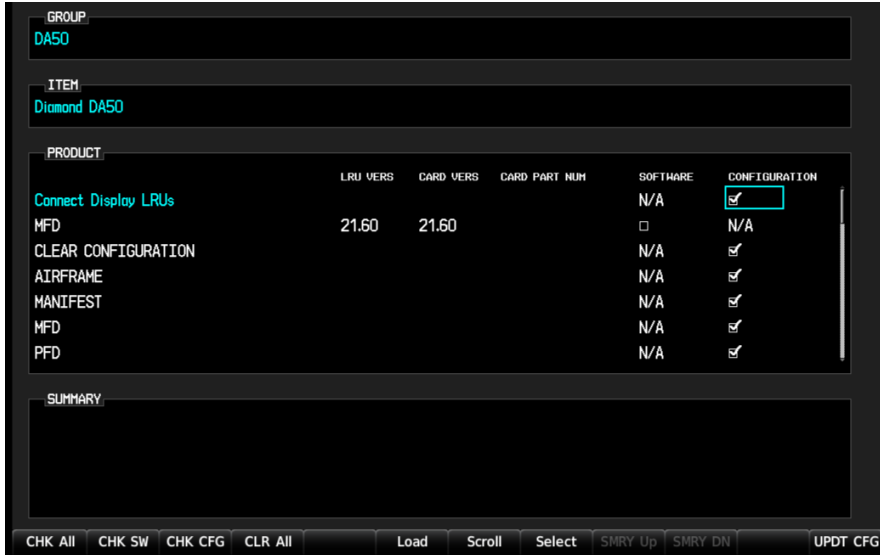

- CARD:** SD CARD
- GROUP:** GIA 64 Boot Block v2.02.1
- ITEM:** **Boot Block v2.02.1** (highlighted)

24 Press the LOAD softkey to begin the software loading process.

25 Press the UPDT CFG softkey.

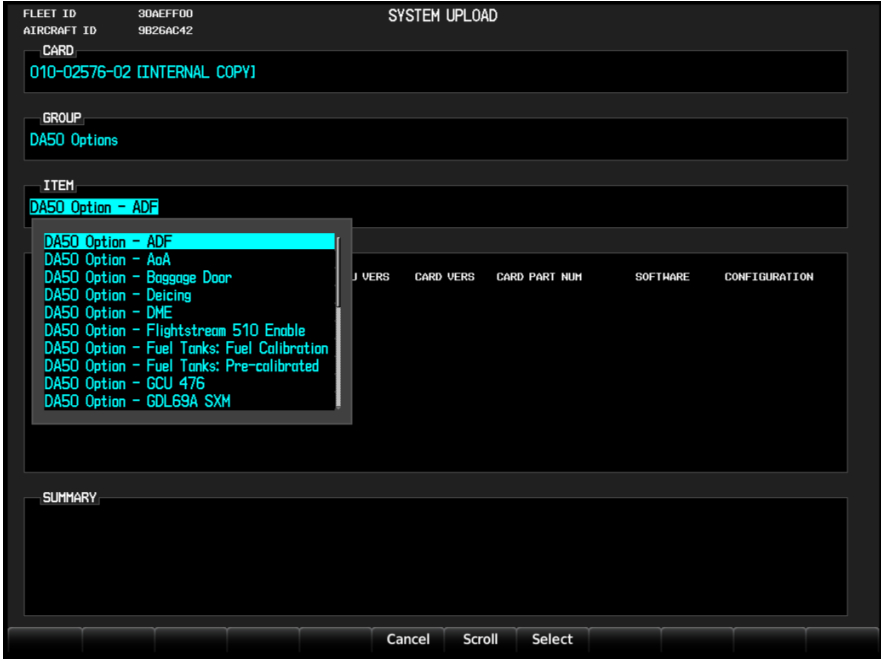

26	Wait until the configuration module is updated and then press the ENT key to acknowledge.
27	Disengage (pull) the MFD and PFD circuit breakers.
28	Remove the GIA 64 Boot Block Loader Card from the PFD top card slot.
29	Continue from step 31 below.
<b>MFD and PFD Software Load:</b>	
30	Disengage (pull) the MFD and PFD circuit breakers.
31	Insert the G1000 NXi Software Loader Card into the MFD top card slot.
32	While holding the ENT key on the MFD, engage the MFD circuit breaker.
33	When the words appear <b>INITIALIZING SYSTEM</b> in the upper left corner of the MFD, release the ENT key.
34	Press the ENT key to acknowledge the following prompt (NOTE: A softkey labeled 'YES' appears in the lower right corner and may be used instead of the ENT key):  <div style="background-color: black; color: white; padding: 5px; text-align: center;"> <b>DO YOU WANT TO UPDATE SYSTEM FILES?          NO WILL BE ASSUMED IN 30 SECONDS.</b> </div>
35	The following screen is displayed.  <div style="background-color: black; color: white; padding: 5px; text-align: center;"> <b>DO YOU WANT TO UPDATE SYSTEM FILES?          NO WILL BE ASSUMED IN 20 SECONDS.          UPDATING SYSTEM FILES, PLEASE WAIT.</b> </div>
36	When the "DO YOU WANT TO UPDATE SPLASHSCREEN" prompt appears, press the YES softkey.
37	Press any key to confirm update completion after the splash screen has finished loading.
38	If a message appears about verifying the databases, press any key to continue.
39	New software is loaded to the MFD. When complete, the MFD starts in configuration mode.
40	Pull the MFD circuit breaker.
41	Remove the G1000 NXi Loader Card from the MFD and insert it into the top card slot on the PFD.
42	While holding the ENT key on the PFD, engage the PFD circuit breaker.
43	When the words appear <b>INITIALIZING SYSTEM</b> in the upper left corner of the PFD, release the ENT key.

44	<p>Press the ENT key to acknowledge the following prompt (NOTE: A softkey labeled 'YES' appears in the lower right corner and may be used in lieu of the ENT key):</p> <div style="background-color: black; color: white; padding: 5px; text-align: center;"> <p>DO YOU WANT TO UPDATE SYSTEM FILES?          NO WILL BE ASSUMED IN 30 SECONDS.</p> </div>
45	<p>The following screen is displayed.</p> <div style="background-color: black; color: white; padding: 5px; text-align: center;"> <p>DO YOU WANT TO UPDATE SYSTEM FILES?          NO WILL BE ASSUMED IN 20 SECONDS.          UPDATING SYSTEM FILES, PLEASE WAIT.</p> </div>
46	<p>When the "DO YOU WANT TO UPDATE SPLASHSCREEN" prompt appears, press the YES softkey.</p>
47	<p>Press any key to confirm update completion after the splash screen has finished loading.</p>
48	<p>If a message appears about verifying the databases, press any key to continue.</p>
49	<p>New software is loaded to the PFD. When complete, the PFD starts in configuration mode. Do not remove power.</p>
50	<p>Start the MFD in configuration mode by pressing the ENT key and engaging the MFD circuit breaker.</p> <p style="text-align: center;">NOTE</p> <p style="text-align: center;">For the rest of the software/configuration procedure, do not operate the MFD while loading software or configuration files unless specifically instructed to do so. A failed or cancelled load may result.</p>
<p><b>Initial G1000 NXi Software and Configuration Upload:</b></p>	
51	<p>Using the PFD, go to the SYSTEM UPLOAD page using the FMS knob.</p>
52	<p>Activate the cursor and highlight the GROUP field.</p>
53	<p>Using the FMS knob select DA50.</p>
54	<p>Press the ENT key.</p>

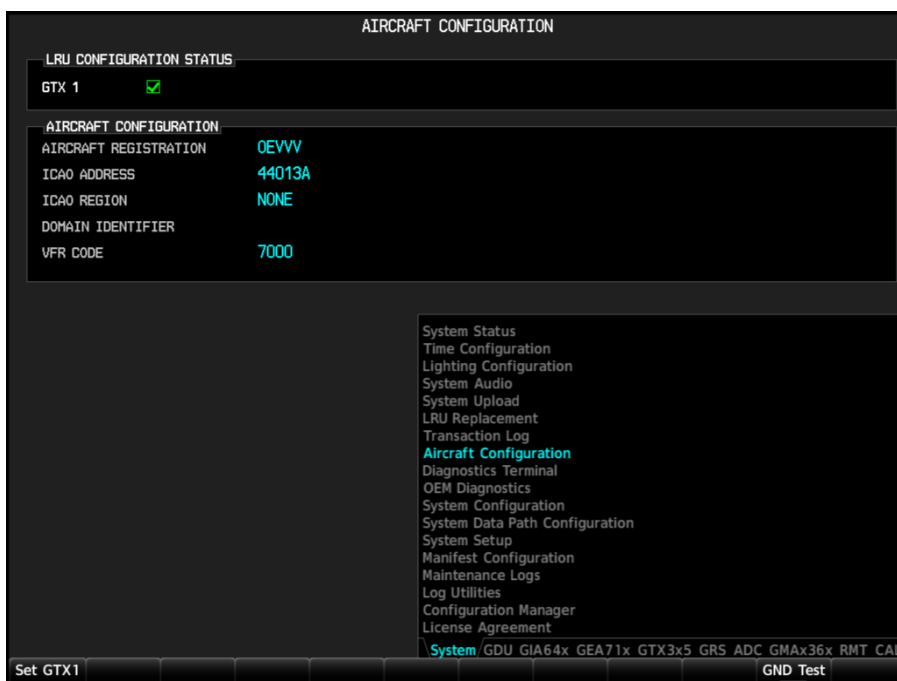
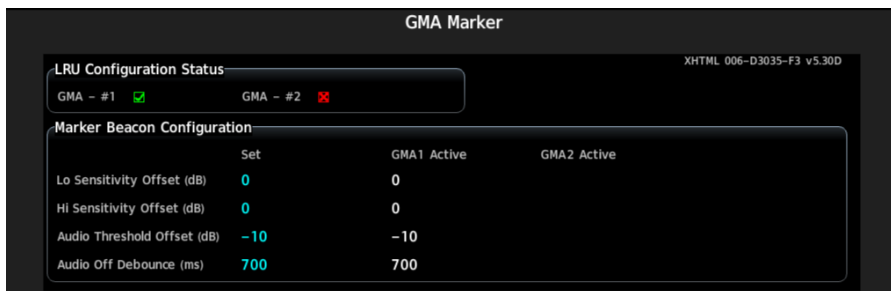
55	Using the FMS knob select Diamond DA50 in the ITEM field 
56	Press the ENT key.
57	Press the LOAD softkey to begin the software and configuration loading process. 
58	Monitor the status of the upload process.
59	Once all files have been successfully loaded, press the ENT key to acknowledge the Upload Complete prompt. 



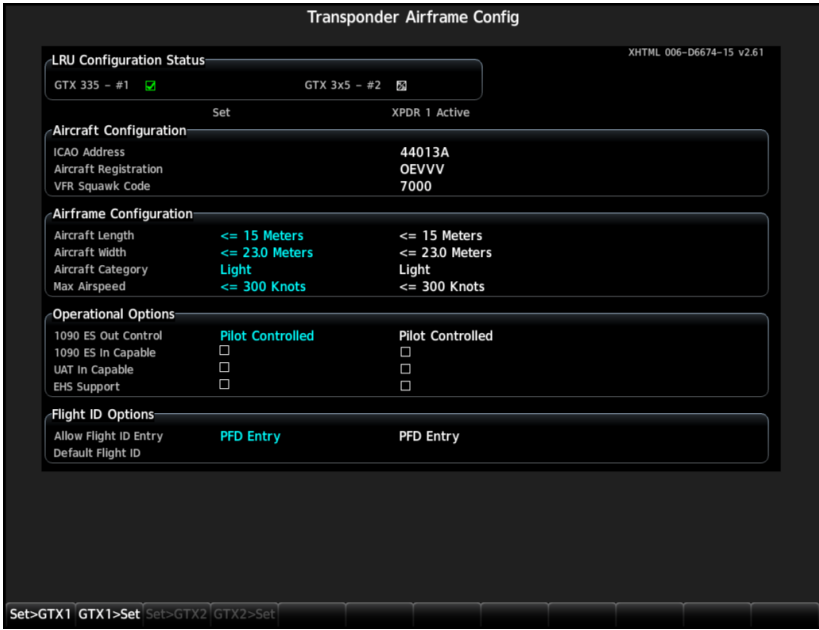
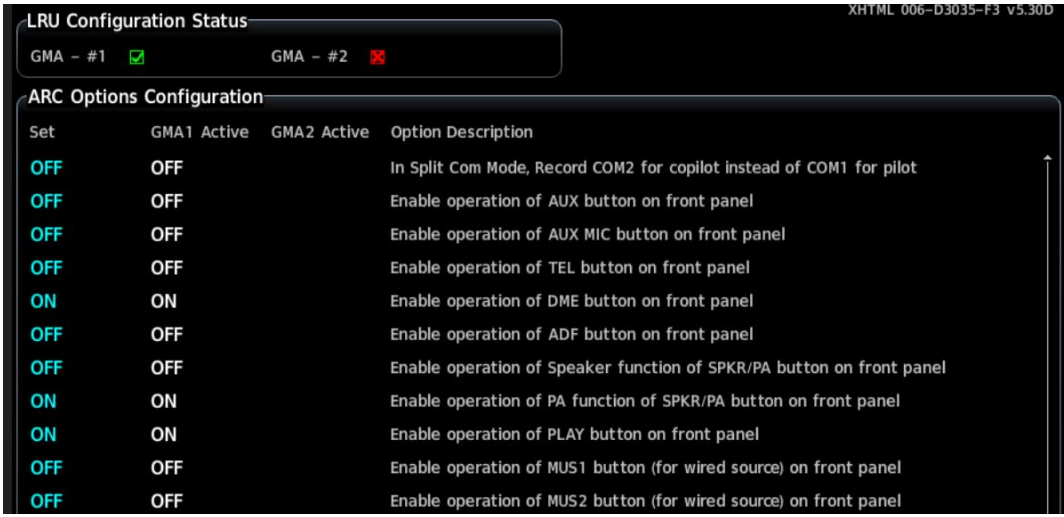
<b>Optional Equipment:</b>	
60	<p>If the airplane is equipped with any of the following optional equipment, perform the procedure below to load software and configuration files. If the DA 50 C is not equipped with any of the following options (except "Fuel Tanks"), proceed to Step 70 of this bulletin. Even though more options may be included in the software loader card, only those shown in the MSB 50-003, latest effective issue are currently approved for installation.</p> <ul style="list-style-type: none"> <li>• DA50 Option – ADF</li> <li>• DA50 Option – DME</li> <li>• DA50 Option – Fuel Tanks: Fuel calibration<sup>1*)</sup></li> <li>• DA50 Option – Fuel Tanks: Pre-calibrated<sup>1*)</sup></li> <li>• DA50 Option – GCU 476</li> <li>• DA50 Option – Flightstream 510 Enable</li> <li>• DA50 Option – GFC 700 with ESP and USP</li> <li>• DA50 Option – GSR 56</li> <li>• DA50 Option – GSR 56 Voice/Text Only</li> <li>• DA50 Option – GTX 345 Option</li> <li>• DA50 Option – GTX 345 and TAS 600</li> <li>• DA50 Option – Aerox Oxygen Pressure<sup>2*)</sup></li> <li>• DA50 Option – ADZ Nagano Pressure<sup>2*)</sup></li> <li>• DA50 Option – TAS600 Series Installation</li> <li>• DA50 Option – WX500</li> </ul> <p>1*) This two options are not required to be installed. If either one is installed, the steps below have to be followed.</p> <ul style="list-style-type: none"> <li>• "Fuel Tanks: Fuel calibration" requires manual calibration of the fuel quantity indicators. Recommended option. For calibration, refer to Step 74 of this bulletin.</li> <li>• "Fuel Tanks: Pre-calibrated" uses pre-defined frequency values of the fuel probes for the fuel quantity indication. A check of the fuel quantity indicators is required if this option is loaded.</li> </ul> <p>2*) Refer to Airplane Flight Manual Doc. No. 9.01.01-E section 06-10 Equipment List to determine the installed pressure transducer.</p>
<b>Loading Optional Equipment Software and Configuration Files:</b>	
61	If not already there, go to the SYSTEM UPLOAD page using the FMS knob.
62	Activate the cursor and highlight the GROUP field.
63	Using the FMS knob select DA 50 C Options.
64	Press the ENT key.

65	<p>Using the FMS knob select the appropriate option and press the ENT key.</p> 
66	<p>Press the LOAD softkey, to begin the software and configuration loading process.</p>
67	<p>Press the ENT key to acknowledge the Upload Complete prompt.</p> 
68	<p>View the SUMMARY field and ensure that all items are "COMPLETED".</p>
69	<p>Repeat steps 65 through 68 to load any other equipped options.</p>

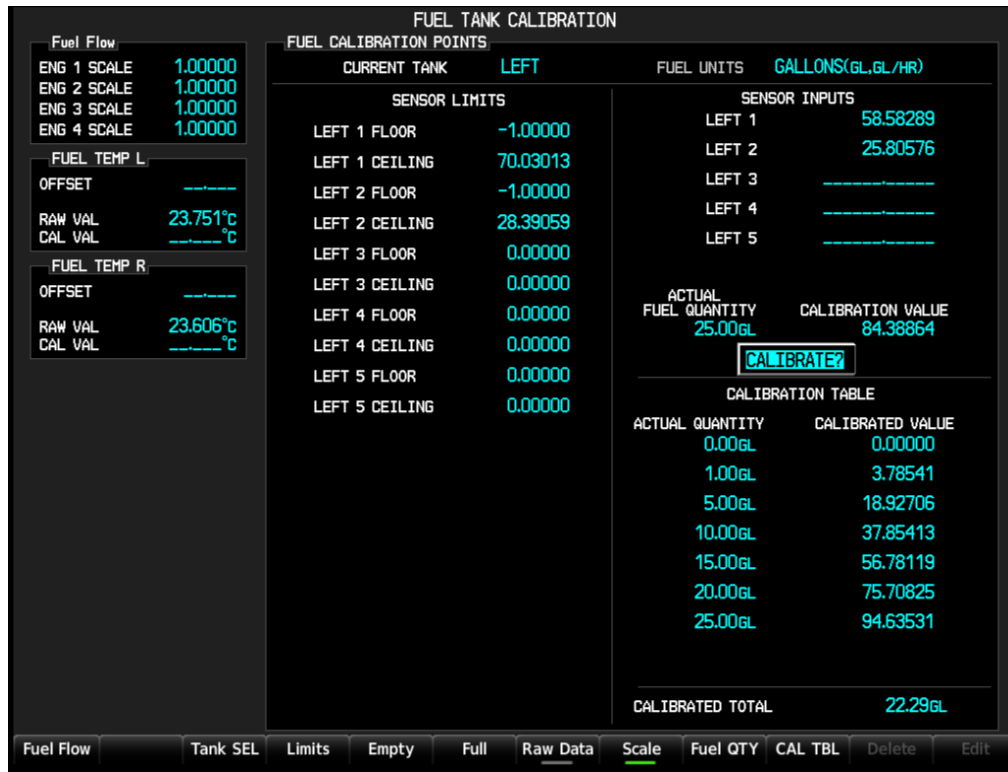
70 Re-enter the configuration settings of the Audio Panel into the Set column as noted in Step 16 of this bulletin and press the "Set>GMA 1" softkey.



Set GTX1 GND Test

72	<p>Re-enter the configuration settings of the Transponder as noted in Step 16 of this bulletin.</p>  <p>The screenshot shows the 'Transponder Airframe Config' interface. At the top, it displays 'LRU Configuration Status' with two entries: 'GTX 335 - #1' (checked) and 'GTX 3x5 - #2' (unchecked). Below this is 'Aircraft Configuration' with fields for ICAO Address (44013A), Aircraft Registration (OEVVV), and VFR Squawk Code (7000). The 'Airframe Configuration' section includes Aircraft Length (&lt;= 15 Meters), Aircraft Width (&lt;= 23.0 Meters), Aircraft Category (Light), and Max Airspeed (&lt;= 300 Knots). 'Operational Options' includes 1090 ES Out Control (Pilot Controlled), 1090 ES In Capable, UAT In Capable, and EHS Support. 'Flight ID Options' includes Allow Flight ID Entry (PFD Entry) and Default Flight ID (PFD Entry).</p>																																																
73	<p>Verify following settings on the GMA Options page.</p>  <p>The screenshot shows the 'LRU Configuration Status' interface. It displays 'GMA - #1' (checked) and 'GMA - #2' (unchecked). Below this is the 'ARC Options Configuration' table:</p> <table border="1"> <thead> <tr> <th>Set</th> <th>GMA1 Active</th> <th>GMA2 Active</th> <th>Option Description</th> </tr> </thead> <tbody> <tr> <td>OFF</td> <td>OFF</td> <td></td> <td>In Split Com Mode, Record COM2 for copilot instead of COM1 for pilot</td> </tr> <tr> <td>OFF</td> <td>OFF</td> <td></td> <td>Enable operation of AUX button on front panel</td> </tr> <tr> <td>OFF</td> <td>OFF</td> <td></td> <td>Enable operation of AUX MIC button on front panel</td> </tr> <tr> <td>OFF</td> <td>OFF</td> <td></td> <td>Enable operation of TEL button on front panel</td> </tr> <tr> <td>ON</td> <td>ON</td> <td></td> <td>Enable operation of DME button on front panel</td> </tr> <tr> <td>OFF</td> <td>OFF</td> <td></td> <td>Enable operation of ADF button on front panel</td> </tr> <tr> <td>OFF</td> <td>OFF</td> <td></td> <td>Enable operation of Speaker function of SPKR/PA button on front panel</td> </tr> <tr> <td>ON</td> <td>ON</td> <td></td> <td>Enable operation of PA function of SPKR/PA button on front panel</td> </tr> <tr> <td>ON</td> <td>ON</td> <td></td> <td>Enable operation of PLAY button on front panel</td> </tr> <tr> <td>OFF</td> <td>OFF</td> <td></td> <td>Enable operation of MUS1 button (for wired source) on front panel</td> </tr> <tr> <td>OFF</td> <td>OFF</td> <td></td> <td>Enable operation of MUS2 button (for wired source) on front panel</td> </tr> </tbody> </table> <p>TEL button should be set to ON if a GSR56 Satellite Transceiver is installed.  DME button should be set to ON if a DME is installed.  ADF button should be set to ON is an ADF is installed.</p>	Set	GMA1 Active	GMA2 Active	Option Description	OFF	OFF		In Split Com Mode, Record COM2 for copilot instead of COM1 for pilot	OFF	OFF		Enable operation of AUX button on front panel	OFF	OFF		Enable operation of AUX MIC button on front panel	OFF	OFF		Enable operation of TEL button on front panel	ON	ON		Enable operation of DME button on front panel	OFF	OFF		Enable operation of ADF button on front panel	OFF	OFF		Enable operation of Speaker function of SPKR/PA button on front panel	ON	ON		Enable operation of PA function of SPKR/PA button on front panel	ON	ON		Enable operation of PLAY button on front panel	OFF	OFF		Enable operation of MUS1 button (for wired source) on front panel	OFF	OFF		Enable operation of MUS2 button (for wired source) on front panel
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74	<p>If the option "Fuel Tanks: Fuel Calibration" has been loaded, perform steps 75 to 82. Otherwise proceed with step 83.</p>																																																
75	<p>Level the airplane in accordance with the Airplane Maintenance Manual.</p>																																																
76	<p>Completely drain both fuel tanks.</p>																																																
77	<p>Re-fill 1.0 USgal into the left fuel tank and 1.5 USgal into the right fuel tank.</p>																																																

78 Navigate to the Fuel Tank Calibration page. Press the following softkeys in sequence 12, 11, 10, 9



FUEL TANK CALIBRATION

FUEL CALIBRATION POINTS

CURRENT TANK **LEFT**      FUEL UNITS **GALLONS(GL, GL/HR)**

SENSOR LIMITS		SENSOR INPUTS	
LEFT 1 FLOOR	-1.00000	LEFT 1	58.58289
LEFT 1 CEILING	70.03013	LEFT 2	25.80576
LEFT 2 FLOOR	-1.00000	LEFT 3	-----
LEFT 2 CEILING	28.39059	LEFT 4	-----
LEFT 3 FLOOR	0.00000	LEFT 5	-----
LEFT 3 CEILING	0.00000		
LEFT 4 FLOOR	0.00000	ACTUAL FUEL QUANTITY	CALIBRATION VALUE
LEFT 4 CEILING	0.00000	25.00GL	84.38864
LEFT 5 FLOOR	0.00000	<b>CALIBRATE?</b>	
LEFT 5 CEILING	0.00000	CALIBRATION TABLE	
		ACTUAL QUANTITY	CALIBRATED VALUE
		0.00GL	0.00000
		1.00GL	3.78541
		5.00GL	18.92706
		10.00GL	37.85413
		15.00GL	56.78119
		20.00GL	75.70825
		25.00GL	94.63531
		CALIBRATED TOTAL <b>22.29GL</b>	

Fuel Flow Tank SEL Limits Empty Full Raw Data Scale Fuel QTY CAL TBL Delete Edit

9    10    11    12

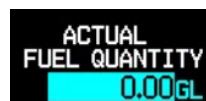
79 Select the left fuel tank, manually set ACTUAL FUEL QUANTITY to 0.00GL and select CALIBRATE? using the ENT key. Verify data entry and confirm the "Overwrite data" message by selecting YES and pressing the ENT key.



FUEL TANK CALIBRATION

FUEL CALIBRATION POINTS

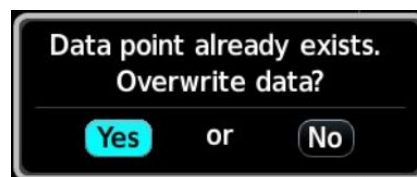
CURRENT TANK **LEFT**



ACTUAL  
FUEL QUANTITY  
**0.00GL**



**CALIBRATE?**

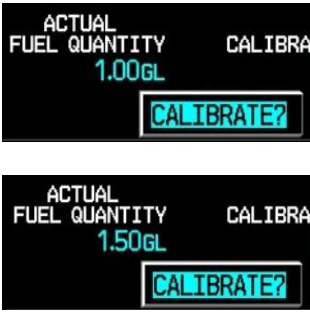
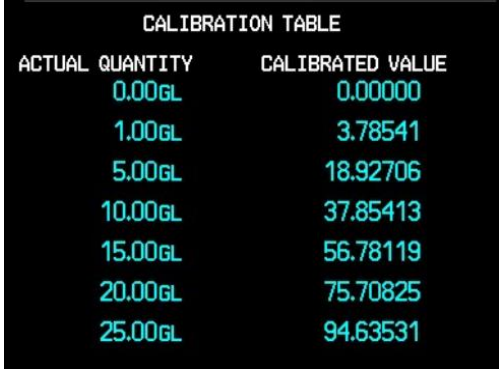



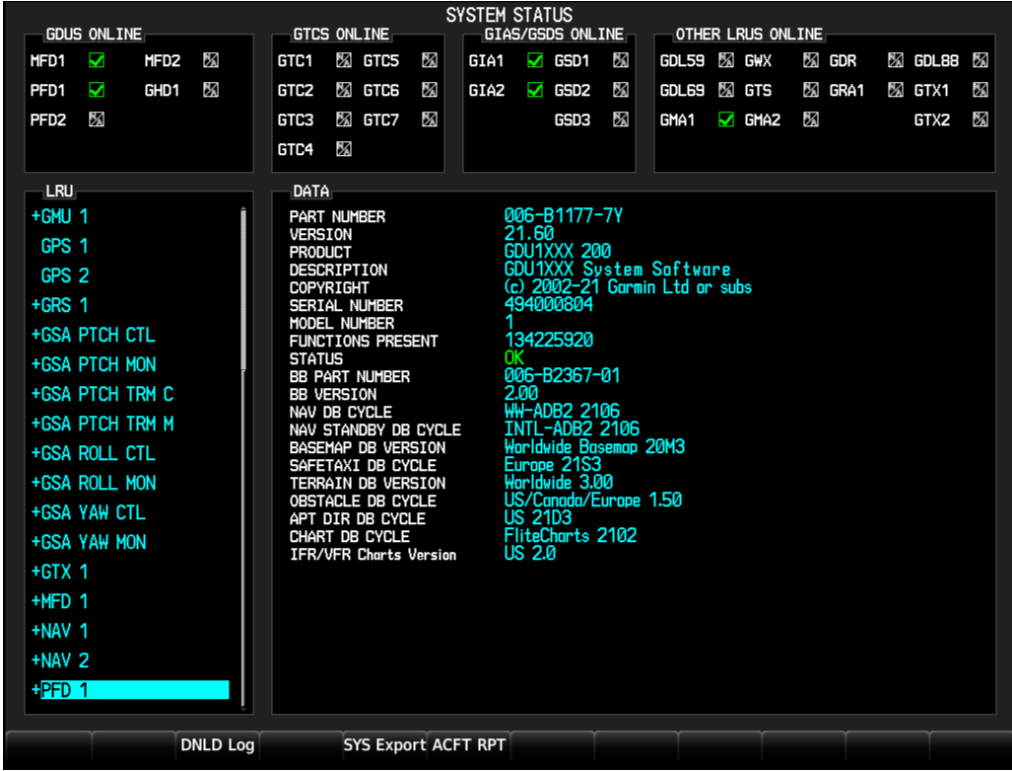
Data point already exists.  
Overwrite data?

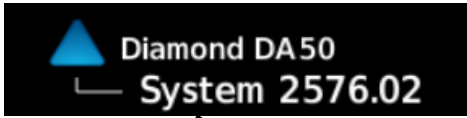

**Yes**    or    **No**

80 Repeat for the RIGHT tank.


CURRENT TANK **RIGHT**

81	<p>Re-fill another 1.0 USgal into the left fuel tank and another 1.5 USgal into the right fuel tank and calibrate the data points.</p> 																																				
82	<p>Re-fill another 4.0 USgal into the left fuel tank and another 3.5 USgal into the right fuel tank and calibrate the 5.00USgal data points. Repeat for all datapoints shown in the calibration table. (max. 25.00 LH and 24.00 RH)</p>  <table border="1" data-bbox="598 828 1098 1198"> <thead> <tr> <th>ACTUAL QUANTITY</th> <th>CALIBRATED VALUE</th> </tr> </thead> <tbody> <tr><td>0.00GL</td><td>0.00000</td></tr> <tr><td>1.00GL</td><td>3.78541</td></tr> <tr><td>5.00GL</td><td>18.92706</td></tr> <tr><td>10.00GL</td><td>37.85413</td></tr> <tr><td>15.00GL</td><td>56.78119</td></tr> <tr><td>20.00GL</td><td>75.70825</td></tr> <tr><td>25.00GL</td><td>94.63531</td></tr> </tbody> </table>	ACTUAL QUANTITY	CALIBRATED VALUE	0.00GL	0.00000	1.00GL	3.78541	5.00GL	18.92706	10.00GL	37.85413	15.00GL	56.78119	20.00GL	75.70825	25.00GL	94.63531																				
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83	<p>Go to the CONFIGURATION MANAGER page and pres the CNFM CFG softkey.</p>  <table border="1" data-bbox="438 1276 1257 1904"> <thead> <tr> <th colspan="3">CONFIGURATION IDENTIFICATION</th> </tr> <tr> <th></th> <th>EXPECTED CONFIGURATION ID</th> <th>ACTUAL CONFIGURATION ID</th> </tr> </thead> <tbody> <tr> <td>FLEET</td> <td>30AEFF00</td> <td>30AEFF00</td> </tr> <tr> <td>AIRCRAFT</td> <td>9B26AC42</td> <td>9B26AC42</td> </tr> </tbody> </table> <table border="1" data-bbox="438 1422 1257 1825"> <thead> <tr> <th>CONFIGURATION ITEMS</th> <th>STATUS</th> </tr> </thead> <tbody> <tr><td>+COM 1</td><td>Valid</td></tr> <tr><td>+COM 2</td><td>Valid</td></tr> <tr><td>+GDC 1</td><td>Valid</td></tr> <tr><td>+GEA 1</td><td>Valid</td></tr> <tr><td>+GIA 1</td><td>Valid</td></tr> <tr><td>+GIA 2</td><td>Valid</td></tr> <tr><td>+GMA 1</td><td>Valid</td></tr> <tr><td>+GRS 1</td><td>Valid</td></tr> <tr><td>+GTX 1</td><td>Valid</td></tr> <tr><td>+MFD 1</td><td>Valid</td></tr> <tr><td>+PPD 1</td><td>Valid</td></tr> </tbody> </table> <p style="text-align: center;">CNFM CFG</p>	CONFIGURATION IDENTIFICATION				EXPECTED CONFIGURATION ID	ACTUAL CONFIGURATION ID	FLEET	30AEFF00	30AEFF00	AIRCRAFT	9B26AC42	9B26AC42	CONFIGURATION ITEMS	STATUS	+COM 1	Valid	+COM 2	Valid	+GDC 1	Valid	+GEA 1	Valid	+GIA 1	Valid	+GIA 2	Valid	+GMA 1	Valid	+GRS 1	Valid	+GTX 1	Valid	+MFD 1	Valid	+PPD 1	Valid
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84	<p>Navigate to the SYSTEM UPLOAD page using the FMS knob.</p>																																				
85	<p>Press the UPDT CFG softkey.</p>																																				

86	Wait until the configuration module is updated and then press the ENT key to acknowledge.
<b>Software Load Confirmation:</b>	
87	
88	Using the PFD, go to the System Status page using the FMS knob. Activate the cursor and toggle to the LRU window.
89	In the LRU window, highlight each of the items listed in the following table and verify that the software part number and version displayed on the System Status page matches those listed in the table in MSB 50-003 latest effective issue.
90	De-activate the cursor.
91	Turn off system power.
92	Remove the G1000 NXi System Software Loader Card from the PFD and set it aside.
<b>Software Operational Test:</b>	
<p><b>CAUTION</b></p> <p>Do not insert the obstacle/terrain data SD cards into the bottom slot of both the PFD and MFD until all software and configuration files have been loaded and all displays have been powered up in normal mode at least one time subsequent to loading software. Failure to do so may result in obstacles not displaying correctly.</p>	
93	Turn system on in normal mode and wait until it is completely powered up.
94	Turn off system power.

95	Reinsert the database card.
96	Turn system on in normal mode.
97	If messages appear about verifying databases, press any key to continue.
98	<p>Look at the MFD power-up screen. In the upper right corner, the display shows 'Diamond DA50 System 2576.02':</p> <div style="text-align: center;">  </div> 
99	Verify that the System Software Version is correct.
100	Press the ENT key to acknowledge the agreement on the MFD (the rightmost softkey may also be used to acknowledge the agreement).
101	Allow the displays to initialize for approximately one minute. The GDC 72 and GRS 79/GMU 44 require a longer initialization period than do other LRUs. During normal operation, this causes the attitude, heading, airspeed, altitude, vertical speed, and OAT fields to be invalid during the first 40-60 seconds of PFD power-up.



102	<p>Verify that no 'Manifest' errors appear when the ALERTS softkey is pressed.</p> <p>NOTE: A 'FAILED PATH' message is normal, as long as the Engine Master Switch is switched off.</p> 
103	<p>If the option "Fuel Tanks: Pre-Calibrated" has been loaded into the system, verify correct indication of the fuel quantity indicators.</p>
104	<p>Perform additional testing of the G1000 NXi in accordance with the Garmin G1000 NXi Line Maintenance Manual, P/N 190-02631-00.</p> <p>NOTE: After installation of new software into the G1000 NXi, the optional Synthetic Vision (SVT), Chart View, etc. must be re-activated.</p>
105	<p>Make all necessary entries in the airplane logs.</p>