
8.9 UPDATING THE CONFIGURATION MODULE

After completing all configuration and software loading procedures, restart the system in configuration mode and update the configuration module by doing the following:

1. Select the System Upload Page.
2. Press the UPDT CFG softkey located in the lower right corner of the System Upload page.
3. 'Update Config Module?' is displayed.
4. Select YES and press the ENT key.
5. The system will update the configuration module located in the PFD connector and prompt the technician when successfully complete. Press the ENT key to acknowledge the prompt.

8.10 DATABASE MANAGEMENT

Database information is obtained from third party sources. Inaccuracies in the data may be discovered from time to time. Garmin communicates this information by issuing a Database Alert. These notifications are available on <http://fly.garmin.com>.

Garmin requests the flight crew report any observed discrepancies related to database information. These discrepancies could come in the form of an incorrect procedure; incorrectly identified terrain, obstacles and fixes; or any other displayed item used for navigation or communication in the air or on the ground. Go to <http://fly.garmin.com> and select "Aviation Data Error Report".

CAUTION: Never disconnect power to the system when loading a database. Power interruption during the database loading process could result in maintenance being required to reboot the system.

The system uses Secure Digital (SD) cards to load and store various types of data. For basic flight operations, SD cards are required for database storage as well as Jeppesen navigation and ChartView database updates. Not all SD cards are compatible with the Perspective system. Use only SD cards supplied by Garmin or the aircraft manufacturer.

CAUTION: When downloading updates to the Jeppesen Navigation Database, copy the data to an SD card other than a Garmin Supplemental Data Card. Otherwise, data corruption can occur.

NOTE: When loading database updates, the 'DB Mismatch' message will be displayed until database synchronization is complete, followed by turning system power off, then on. Synchronization can be monitored on the AUX-SYSTEM STATUS Page.

NOTE: Loading a database in the system prior to its effective date will result in the expiration date on the Power-Up Page and the effective date on the AUX-System Status Page being displayed in amber.

8.10.1 JEPPESEN DATABASES

The Jeppesen navigation database is updated on a 28-day cycle. The ChartView database is updated on a 14-day cycle. If the ChartView database is not updated within 70 days of the expiration date, ChartView will no longer function. Both of these databases are provided directly from Jeppesen.

The ChartView database should be copied to the Garmin supplied Supplemental Data Card which will reside in the bottom card slot on the MFD. The navigation database must be installed from the Jeppesen or user supplied SD data card. Contact Jeppesen (www.jeppesen.com) for subscription and update information.

NOTE: After the navigation database is installed, the card may be removed.

Updating the active Jeppesen navigation database (not using the Dual Navigation Database or Automatic Database Synchronization Features):

1. With the system OFF, insert the SD card containing the new navigation database version into the top card slot of the display (PFD1 or MFD) to be updated (label of SD card facing left).
2. Apply power to the system. A prompt similar to the following appears in the upper left corner of the display:

```
DO YOU WANT TO UPDATE THE STANDBY NAVIGATION DATABASE ON THE BOTTOM CARD?
THE STANDBY DATABASE WILL BE ACTIVATED UPON THE FIRST ON-GROUND POWER CYCLE ON OR
AFTER 00:00 SYSTEM TIME ON THE EFFECTIVE DATE.
      FROM          TO
REGION:  WORLDWIDE  WORLDWIDE
CYCLE:   1512       1513
EFFECTIVE: 26-AUG-2015  18-NOV-2015
EXPIRES:  23-SEP-2015  16-DEC-2015
NO WILL BE ASSUMED IN 21 SECONDS.
```

Figure 8-2. Standby Navigation Database Prompt

3. Press the NO Softkey to proceed to loading the active database.

4. A prompt similar to the following is displayed; press the YES Softkey to update the active navigation database.

```
DO YOU WANT TO UPDATE THE ACTIVE NAVIGATION DATABASE?  
SELECTING YES WILL OVERWRITE THE ACTIVE NAVIGATION DATABASE.  
FROM TO  
REGION: WORLDWIDE WORLDWIDE  
CYCLE: 1512 1513  
EFFECTIVE: 26-AUG-2015 18-NOV-2015  
EXPIRES: 23-SEP-2015 16-DEC-2015  
  
NO WILL BE ASSUMED IN 8 SECONDS.  
UPDATING THE ACTIVE NAVIGATION DATABASE, PLEASE WAIT.  
.  
UPDATED 1 FILES SUCCESSFULLY!  
PRESS ANY KEY TO CONTINUE.  
CONTINUING IN 8 SECONDS.
```

Figure 8-3. Database Update Confirmation

5. After the update completes, the display starts in normal mode. Do not remove power while the display is starting.
6. Turn the system OFF and remove the SD card from the top card slot.
7. Repeat steps 1 through 6 for the other display (PFD1 or MFD). Remove the SD card when finished.
8. Apply power to the system and press the ENT Key to acknowledge the Power-Up Page.
9. Turn the large FMS Knob to select the AUX Page group on the MFD.
10. Turn the small FMS Knob to select the System Status Page.
11. Press the Display Database Selection Softkey to show active navigation database information for each display (MFD1 DB, PFD1 DB). Verify the correct active navigation database cycle information is shown for each display.

8.11 DUAL NAVIGATION DATABASE FEATURE

The dual navigation database feature allows each display to store an upcoming navigation database on the bottom SD card so that the system can automatically load it to replace the active database when the new database becomes effective (the next cycle becomes available seven days prior to its effective date), or when the pilot chooses to manually activate the standby navigation database on the AUX System Status Page.

If a navigation database loader card is inserted into the top SD card slot of a display, and an SD card is in the bottom slot, the system will prompt the user (upon on-ground power up) as to whether the database should be stored on the bottom SD card as the standby database. If the user responds affirmatively, the system will copy the navigation database from the top SD card to the bottom SD card. As long as the bottom SD card remains in the card slot, this standby navigation database will be available for the system to use as the active database as soon as it becomes effective or if the pilot chooses to manually activate the database.

The system checks the active and standby databases upon (on-ground only) power-up. If the standby database is current and the active database is out of date, the display will upload the standby database into the active internal database location. Loading the standby database to the active location takes approximately 45-55 seconds. During the loading process 'Please Wait. Navigation Database Update in Progress. Do Not Remove Power from Displays' will be displayed on screen. After startup is complete, the pilot is alerted that the update is complete by a system alert message, 'NAV DB UPDATED'.

Loading a standby navigation database:

1. With the system OFF, insert the SD card containing the new navigation database version into the top card slot of the MFD.
2. Verify that an SD card is inserted in the bottom slot of the PFD.
3. Apply power to the system. A prompt similar to the following is displayed:

```

DO YOU WANT TO UPDATE THE STANDBY NAVIGATION DATABASE ON THE BOTTOM CARD?
THE STANDBY DATABASE WILL BE ACTIVATED UPON THE FIRST ON-GROUND POWER CYCLE ON OR
AFTER 00:00 SYSTEM TIME ON THE EFFECTIVE DATE.
FROM          TO
REGION:       WORLDWIDE      WORLDWIDE
CYCLE:        1512           1513
EFFECTIVE:    26-AUG-2015     18-NOV-2015
EXPIRES:     23-SEP-2015     16-DEC-2015

NO WILL BE ASSUMED IN 21 SECONDS.

```

Figure 8-4. Standby Navigation Database Prompt

4. Press the YES Softkey. The navigation database is copied to the SD card in the bottom card slot of the MFD.
5. After the navigation database files are copied to the bottom SD card, the display will appear as shown in Figure 8-5.

```

INITIALIZING SYSTEM

DO YOU WANT TO UPDATE THE STANDBY NAVIGATION DATABASE ON THE BOTTOM CARD?
THE STANDBY DATABASE WILL BE ACTIVATED UPON THE FIRST ON-GROUND POWER CYCLE ON OR
AFTER 00:00 SYSTEM TIME ON THE EFFECTIVE DATE.
FROM          TO
REGION:       WORLDWIDE      WORLDWIDE
CYCLE:        1512           1513
EFFECTIVE:    26-AUG-2015     18-NOV-2015
EXPIRES:     23-SEP-2015     16-DEC-2015

NO WILL BE ASSUMED IN 18 SECONDS.
UPDATING STANDBY NAVIGATION DATABASE, PLEASE WAIT.
.
UPDATED STANDBY NAVIGATION DATABASE SUCCESSFULLY.
PRESS ANY KEY TO CONTINUE.
CONTINUING IN 9 SECONDS.

```

Figure 8-5. Standby Navigation Database Update Complete

6. As instructed on the display, press any key to continue. The display will now appear as shown in Figure 8-6.

```

DATABASE NAVIGATION WILL BE VERIFIED BEFORE USE.
DATABASE STANDBY NAV WILL BE VERIFIED BEFORE USE.
PRESS ANY KEY TO CONTINUE.
CONTINUING IN 6 SECONDS.

```

Figure 8-6. Navigation Database Verification Prompt

7. Press any key to continue. The display will now appear as shown in Figure 8-7.

```

.
DO YOU WANT TO UPDATE THE ACTIVE NAVIGATION DATABASE?
SELECTING YES WILL OVERWRITE THE ACTIVE NAVIGATION DATABASE.
FROM          TO
REGION:       WORLDWIDE      WORLDWIDE
CYCLE:        1512           1513
EFFECTIVE:    26-AUG-2015     18-NOV-2015
EXPIRES:     23-SEP-2015     16-DEC-2015

NO WILL BE ASSUMED IN 8 SECONDS.

```

Figure 8-7. Active Navigation Database Prompt

-
8. Press the NO Softkey. The display now starts in normal mode. Since the database effective date is not yet valid, it should not be loaded as the active database. The display now starts in normal mode. Do not remove power while the display is starting.
 9. Press the ENT Key to acknowledge the Power-Up Page.
 10. Turn the large FMS Knob to select the AUX Page group on the MFD.
 11. Turn the small FMS Knob to select the System Status Page.
 12. The new database is copied to the SD card in the bottom card slot of the PFD. Progress can be monitored in the SYNC STATUS field. When copying is finished, 'Complete' is displayed.
 13. Remove power from the system.
 14. Remove the SD card from the top card slot of the MFD.
 15. Apply power to the system.
 16. Press the ENT Key to acknowledge the Power-Up Page.
 17. Turn the large FMS Knob to select the AUX Page group on the MFD.
 18. Turn the small FMS Knob to select the System Status Page.
 19. Press the Display Database Selection Softkey to show standby navigation database information for each display (MFD1 DB, PFD1 DB). Verify the correct standby navigation database cycle information is shown for each display.

Manually activating the standby navigation database:

1. From the AUX-SYSTEM STATUS Page, select the STANDBY DB Softkey.
2. A prompt similar to the following figure below is displayed, select 'Yes' to overwrite the Active Navigation Database with the Standby Navigation Database. Select 'No' to cancel.

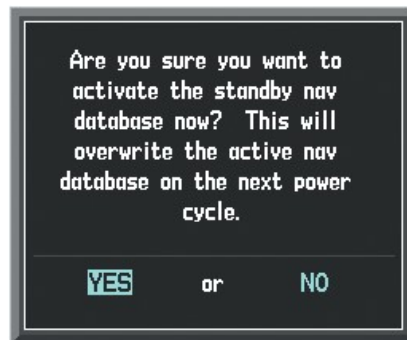


Figure 8-8. Standby Nav Database Activation Confirmation Window

3. Remove power from the system.
4. Apply power to the system.
5. Press the ENT Key to acknowledge the Power-Up Page.
6. Turn the large FMS Knob to select the AUX Page group on the MFD.
7. Turn the small FMS Knob to select the System Status Page.
8. Select the Display Database Selection Softkey to show navigation database information for each display (MFD1 DB, PFD1 DB). Verify the correct navigation database cycle information is shown for each display.

8.12 GARMIN DATABASES

The following databases are stored on Supplemental Data Cards provided by Garmin:

- Expanded basemap • Terrain • Obstacle • SafeTaxi • FliteCharts • Airport Directory (AOPA or AC-U-KWIK)

After subscribing to the desired database product, these database products will be downloaded and ultimately stored on three Supplemental Data Cards (with the exception of FliteCharts, which is loaded on only one card). Each Supplemental Data Card is installed in the bottom card slot of each display as shown in Figure 8-9. These cards must not be removed except to update the databases stored on each card.

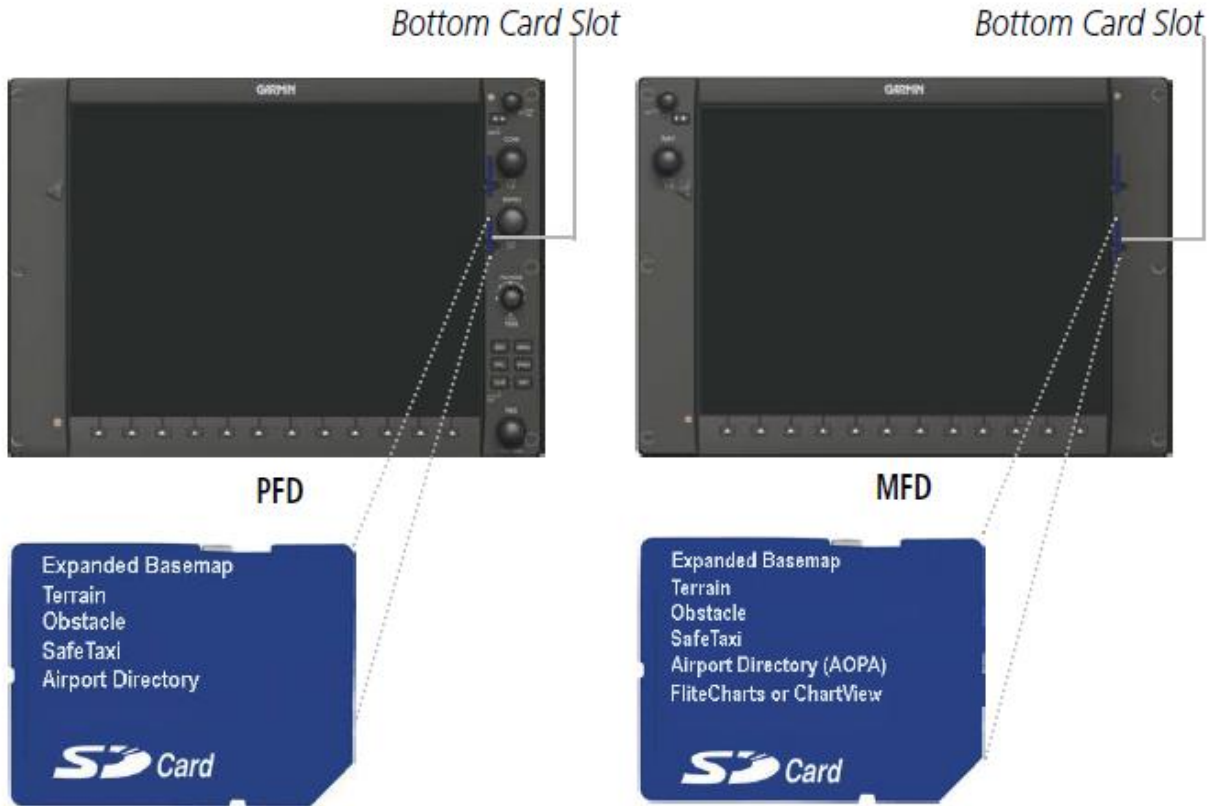


Figure 8-9. Correct Database Locations MFD PFD Bottom Card Slot Bottom Card Slot

Since these databases are not stored internally in the displays, a Supplemental Data Card containing identical database versions must be kept in each display unit.

The basemap database contains data for the topography and land features, such as rivers, lakes, and towns. It is updated only periodically, with no set schedule. There is no expiration date.

The terrain database contains the terrain mapping data. It is updated periodically and has no expiration date.

The obstacle database contains data for obstacles, such as towers, that pose a potential hazard to aircraft. Obstacles 200 feet and higher are included in the obstacle database. It is very important to note that not all obstacles are necessarily charted and therefore may not be contained in the obstacle database. This database is updated on a 56-day cycle.

NOTE: The data contained in the terrain and obstacle databases comes from government agencies. Garmin accurately processes and cross-validates the data, but cannot guarantee the accuracy and completeness of the data.

The AOPA or AC-U-KWIK Airport Directory provides detailed information about airports and heliports, along with the names and phone numbers of thousands of FBOs. The AOPA Airport Directory covers U.S.

airports, while the AC-U-KWIK Airport Directory coverage area may be worldwide or regional, depending on the database purchased. Both AOPA and AC-U-KWIK Airport Directory databases are updated every 56 days.

The SafeTaxi database contains detailed airport diagrams for selected airports. These diagrams aid in following ground control instructions by accurately displaying the aircraft position on the map in relation to taxiways, ramps, runways, terminals, and services. This database is updated on a 56-day cycle.

The FliteCharts database contains procedure charts for the United States only. This database is updated on a 28-day cycle. If not updated within 180 days of the expiration date, FliteCharts will no longer function.

8.13 AUTOMATIC DATABASE SYNCHRONIZATION FEATURE

The automatic database synchronization feature automatically transfers a database from one Supplemental Data Card to the other Supplemental Data Card to ensure that all databases are synchronized throughout the system. After power-up, the system compares all copies of each applicable database. If similar databases do not match, the most recent valid database is automatically copied to each card in the system that does not already contain that database.

The following databases are checked and synchronized: Basemap, SafeTaxi, Obstacle, and Airport Directory (AOPA or AC-U-KWIK). This feature applies only to databases that are stored on the Supplemental Data Card that resides in the bottom slot of each display. This feature does not apply to the active navigation database which is stored internally in each display, the terrain database, or the charts databases (FliteCharts and ChartView), which are only required to be present on the MFD.

The synchronization progress may be monitored on the AUX-System Status Page in the Sync Status section of the Database Window (Figure 8-10). This section shows the synchronization status of each applicable database, including the percent complete, time remaining, and to which displays the databases are being copied. When the synchronization is complete, the status is listed as 'Complete', followed by the displays to which the databases were copied. This sub-section is only present when a sync is occurring or has occurred on the current power-up.

An indication of 'Complete' still requires a power cycle before the synchronized databases will be used by the system.

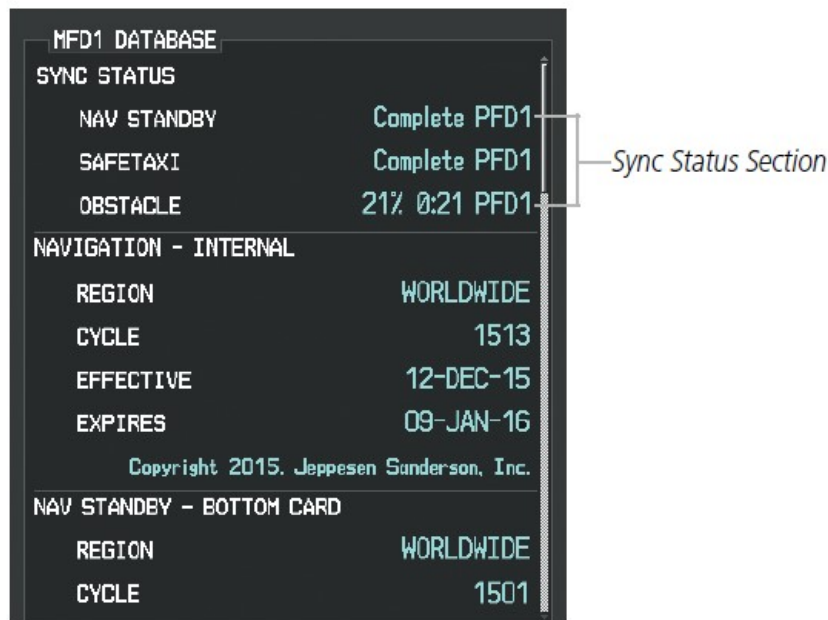


Figure 8-10. AUX-System Status Page- Database Window

The Display Database Softkey is used to place the cursor in the Database Window. Upon first press of the Display Database Softkey, the softkey will change to a selected state (black text on gray background) and the cursor will appear in the Database Window. At this point the user can scroll through all databases in the Database Window to view status information. If the Display Database Softkey is pressed repeatedly, the softkey will switch between PFD1 and MFD1. Database status information in the Database Window will reflect the database of the selected display. After a successful sync and restart, verify that the proper databases are now in use on the AUX-System Status Page.

If an error occurs during the synchronization, an error message will be displayed, followed by the affected display in the Sync Status section of the Database Window. If a synchronization completes on one display, but an error occurs on the other, the error message will be displayed with the affected display listed after it. When an error message (Table 8-1) is displayed, the problem must be corrected before the synchronization can be completed. A power cycle is required to restart synchronization when 'Card Full' or 'Err' is shown.

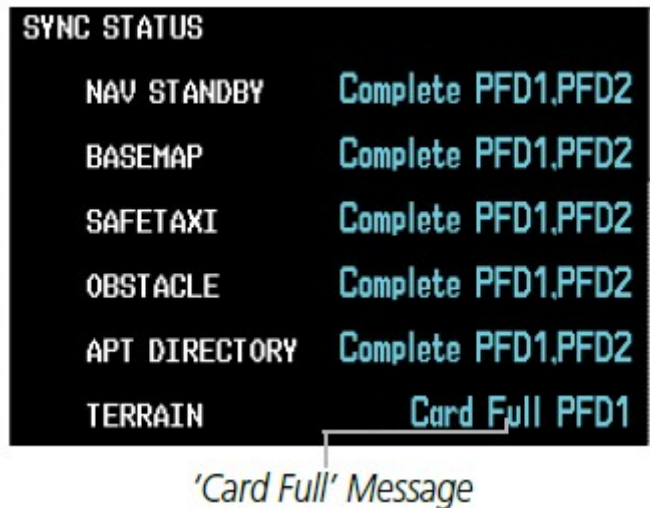


Figure 8-11. Synchronization Error Message

Error Message	Description
Canceled	Database synchronization has been canceled by removing the bottom SD card in display being updated
Card Full	SD card does not contain sufficient memory
Err	Displayed for all other errors that may cause the synchronization process to be halted
Timeout	System timed-out prior to the database transfer completing

Table 8-1. Database Synchronization Error Messages

8.14 UPDATING GARMIN DATABASES

The Garmin database updates can be obtained by following the instructions detailed in the 'Aviation Databases' section of the Garmin website (fly.garmin.com). Once the updated files have been downloaded from the website, a PC equipped with an appropriate SD card reader is used to unpack and program the new databases onto an existing Supplemental Data Card. Equipment required to perform the update is as follows:

- Windows-compatible PC computer (running Windows XP, Vista, or Windows 7)
- SD Card Reader: SanDisk SDDR-93, SanDisk SDDR-99, Verbatim #96504, or equivalent
- Updated database obtained from the Garmin website
- Existing Supplemental Database SD Cards (010-00330-42, or -43) from the PFD and MFD

In some cases it may be necessary to obtain an unlock code from Garmin in order to make the database product functional. It may also be necessary to have the system configured by a Garmin authorized service facility in order to use some database features.

8.15 UPDATING BASEMAP, SAFETAXI, OBSTACLE, AND AIRPORT DIRECTORY DATABASES

These databases may be copied to one Supplemental Data Card, then automatically synchronized to other card in the system:

1. With system power OFF, remove the MFD database card from the bottom card slot of the MFD.
2. Update the basemap, SafeTaxi, obstacle and/or airport directory databases on the MFD card.
3. Insert the MFD database card into the bottom card slot of the MFD.
4. Apply power to the system, check that the databases are initialized and displayed on the Power-Up Page (Figure 8-12). If a 'Verifying' message is seen, wait for the system to finish loading before proceeding to step 5.

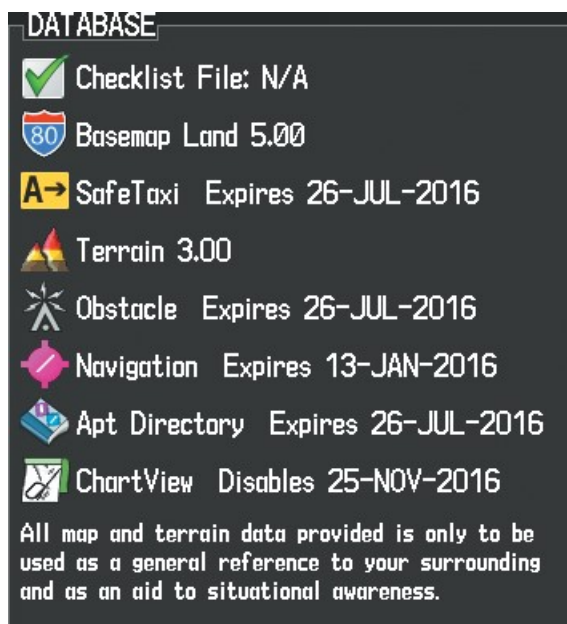


Figure 8-12. Database Information on the Power-up Page

5. Acknowledge the Power-up Page agreement by pressing the ENT Key or the right most softkey.
6. Turn the large FMS Knob to select the AUX Page group on the MFD.
7. Turn the small FMS Knob to select the System Status Page.
8. Monitor the Sync Status in the Database Window. Wait for all databases to complete synchronization, indicated by 'Complete' being displayed as seen in Figure 8-11.
9. Remove and reapply power to the system.
10. Turn the large FMS Knob to select the AUX Page group on the MFD.
11. Turn the small FMS Knob to select the System Status Page.
12. Press the Display Database Selection Softkey to show database information for each display (MFD1 DB, PFD1 DB). Verify the correct database cycle information is shown for each database for each display.



Figure 8-13. Display Database Softkey

8.16 UPDATING TERRAIN, FLITECHARTS, AND CHARTVIEW DATABASES

1. With system power OFF, remove the Supplemental Data Card from the bottom card slot of the MFD and both PFDs.
2. Copy the updated terrain database to both Supplemental Data Cards. Copy the updated FliteCharts or ChartView database to one Supplemental Data Card.
3. Insert the updated Supplemental Data Cards into the bottom card slot of the MFD and PFDs. The Supplemental Data Card containing the FliteCharts or ChartView database is inserted in the MFD.
4. Apply power to the system, check that the databases are initialized and displayed on the Power-Up Page (Figure 8-12). A 'Verifying' message may be seen. If this message is present, wait for the system to finish loading before proceeding to step 5.
5. Acknowledge the Power-up Page agreement by pressing the ENT Key or the right most softkey.
6. Turn the large FMS Knob to select the AUX Page group on the MFD.
7. Turn the small FMS Knob to select the System Status Page.
8. Press the Display Database Selection Softkey to show database information for each display (MFD1 DB, PFD1 DB, or PFD2 DB). Verify the correct database cycle information is shown for each database for each display.
9. Remove power from the system.

8.17 MAGNETIC FIELD VARIATION DATABASE UPDATE

A copy of the current magnetic field variation database (MV DB) is included with the navigation database. At startup, the system compares this version of the MV DB with that presently being used by each AHRS (GRS1 and optional GRS2). If the system determines the MV DB needs to be updated, a prompt is displayed on the Navigation Map Page, similar to Figure 8-14. Note, in the following example, GRS1 is the first AHRS to indicate an update is available. In actuality, this is dependent on which AHRS is the first to report status to the system. GRS2 may be displayed before GRS1. The order is not important, only that each AHRS be updated, if more than one is installed.

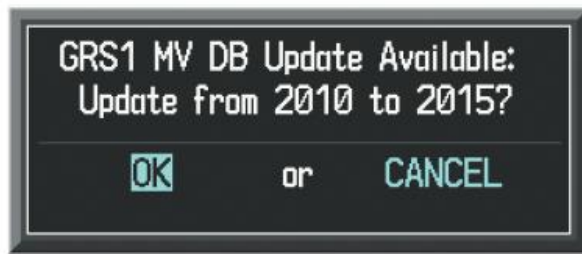


Figure 8-14. GRS1 Magnetic Field Variation Database Update Prompt

Loading the magnetic field variation database update (single or dual AHRS):

1. With 'OK' highlighted, as seen in Figure 8-14, press the ENT Key on the MFD. A progress monitor is displayed as shown in Figure 8-15.

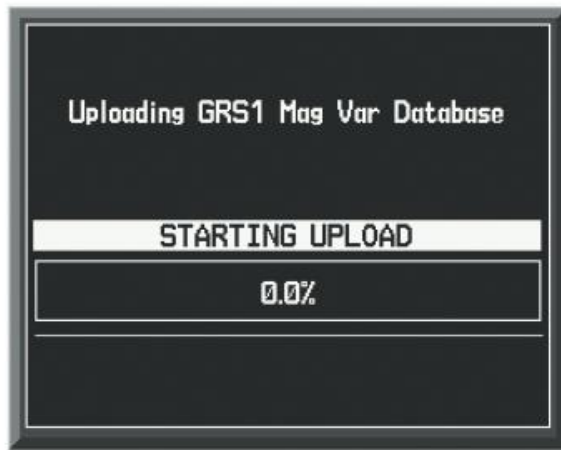


Figure 8-15. Uploading Database to GRS1

2. If a single GRS is installed, the system is ready for use when the upload is complete. Otherwise, continue the procedure to update the other GRS.
3. The system displays a prompt for the next GRS upload is displayed, as seen in Figure 8-16.



Figure 8-16. GRS2 Magnetic Field Variation Database Update Prompt

4. With 'OK' highlighted, press the ENT Key on the MFD. A progress monitor is displayed as shown in Figure 8-17. When the upload is complete, the system is ready for use.



Figure 8-17. Uploading Database to GRS2

Blank Page