

**SUPPLEMENT A4  
TO THE AIRPLANE FLIGHT MANUAL DA 40**

**GPS  
KLN 89B  
BENDIX/KING**

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This Supplement has been approved for the Joint Aviation Authorities (JAA) by the Austrian Civil Aviation Authority Austro Control (ACG) as Primary Certification Authority (PCA) in accordance with the JAA Certification Procedures of the Joint Aviation Authorities (JAA JC/VP).

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## 1. GENERAL

This Supplement supplies the information necessary for the efficient operation of the airplane when the GPS Annunciation Control Unit MD 41 is installed. The information contained within this Supplement is to be used in conjunction with the complete AFM.

This Supplement is a permanent part of this AFM and must remain in this AFM at all times when the MD 41 is installed.

## 2. LIMITATIONS

The GPS KLN 89B is limited for VFR-use only.

### 2.15 LIMITATION PLACARDS

Following Limitation Placard is in the view of the pilot:

GPS limited to VFR use only

## 3. EMERGENCY PROCEDURES

No change.

## 4A. NORMAL OPERATING PROCEDURES

No change.

**4B. ABNORMAL OPERATING PROCEDURES**

No change.

**5. PERFORMANCE**

No change.

**6. MASS AND BALANCE**

Upon removal or installation of the GPS KLN 89B the change of empty mass and corresponding center of gravity of the airplane must be recorded according to Chapter 6 of the Airplane Flight Manual.

## **7. DESCRIPTION OF THE AIRPLANE AND ITS SYSTEMS**

### **7.14 AVIONICS**

#### **GENERAL**

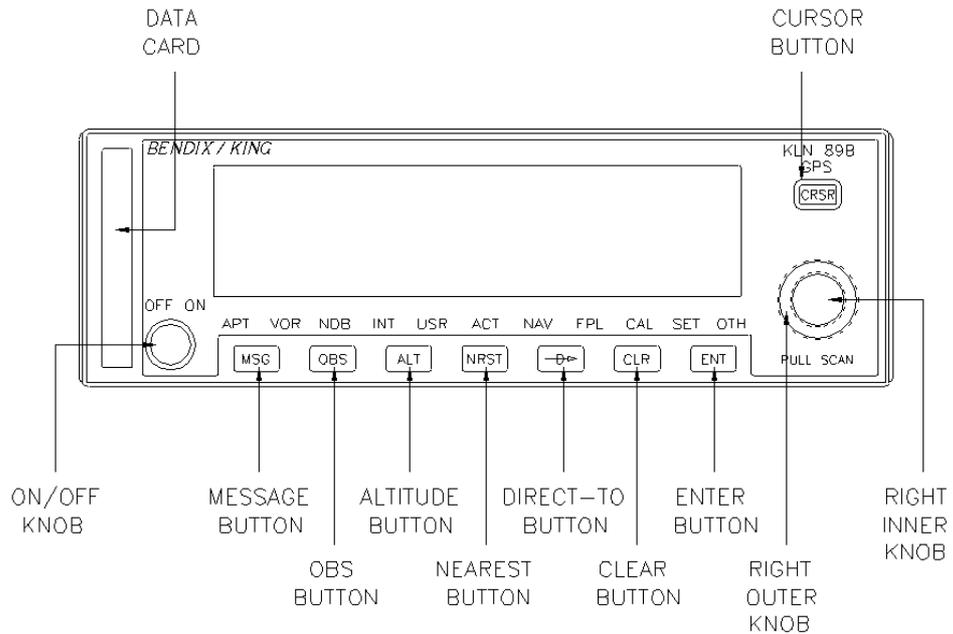
The GPS KLN 89 B navigation system is a panel mounted unit that, in conjunction with an external antenna, receives signals from the Global Positioning System (GPS) for use as a supplemental navigation system for VFR flight. A plug-in data card allows regular scheduled updates of navigation data for the user. User defined waypoints and routes can be entered by the front panel controls to enhance operation of the system.

After an appropriate satellite acquisition period the GPS KLN 89 B can provide precise latitude and longitude position information. With its internal processing, the unit also provides velocity, altitude, track and bearing as well as a multitude of other navigation information for the user.

#### **DATABASE**

Every 28 days, Bendix/King receives new aeronautical data base information from Jeppesen Sanderson. This information is processed and downloaded onto the data base cards. Bendix/King makes these data base card updates available to KLN 89B GPS users.

There are three data base coverage areas available for the KLN 89B. They are referred to as the 'Americas' data base, the 'Atlantic' data base, and the 'Pacific' data base.



## OPERATION

### **NOTE**

Detailed operating procedures are outlined in the GPS KLN 89 B Pilot's Guide.

### TURN ON AND SELFTEST

1. Turn on the KLN 89B by turning the the small power knob clockwise. The Power-On page will be displayed for a few seconds. During this time, the KLN 89B performs an extensive internal test. The operational revision status (ORS) level number in the upper right corner of the display should match the ORS level indicated on the cover of the Pilot's Guide.

2. When the internal test is complete, the Power-On page will automatically be replaced by the Self Test page. The present altitude will be displayed on line 2. This altitude is received from the encoding altimeter. Verify that the altitude displayed on the GPS is the same as indicated on the altimeter (set to 1013 mbar).
3. If the KLN 89B has passed the internal self test, the bottom of the Self Test page will display **Pass**. If instead, **Fail** is displayed, recycle power to the KLN 89B. If the Self Test page still displays **Fail**, the KLN 89B requires repair and should not be used for navigation.
4. When you are ready to approve the Self-test page, press the **ENT** button while the **Ok?** is flashing. If it happens not to be flashing, press the **CRSR** button and use the right outer knob to move the cursor there.
5. The next page displayed will be the Initialization page. If the date and time are incorrect by more than 10 minutes, refer to section 3.2 of the Pilot's Guide for the KLN 89B. The right side of the screen should show the identifier of the nearest airport to the initial position, along with a radial and distance from that airport waypoint. When all information on the Initialization page is correct, move the cursor to **Ok?** and press **ENT** to move on.
6. The GPS KLN 89B is limited to VFR-use only. The VFR page will be displayed to notify you of this. Press **ENT** to acknowledge this page.
7. The Data Base page will now be displayed, showing the date the data base expires or the date that it expired. Press **ENT** to acknowledge the information displayed on this page.

## MESSAGE PAGE

Whenever the KLN 89B wants to get your attention, the message prompt (a large yellow "M" on the left side of the screen) begins flashing. You should view the message at your earliest opportunity because the unit may be alerting you to some situation of immediate concern to its condition or to your flight. A description of each possible message is included in Appendix B of the GPS KLN 89B Pilot's Guide.

To view a message:

1. Press the **MSG** button. The MSG page will appear and show the new message.
2. After reading the message, press **MSG** again to return to the page previously in view. If all of the messages cannot be displayed on one Message page, repeated presses of **MSG** will show the other messages before returning to normal operation. If a message condition exists which requires a specific action by the pilot, the message prompt will remain on but will not flash.

## 'NEAREST' FUNCTIONS

At any time, you can have access to the nearest airports (or airfields), waypoints, Special Use Airspace (SUA), Flight Service Station (FSS) frequencies, and Center frequencies to your position. The 'nearest' function is activated by pressing the **NRST** button.

When you first press the **NRST** button, a page is displayed asking which nearest function you would like to select.

The choices are:

APT	Airports (or airfields)
VOR	VOR's
NDB	NDB's
INT	Intersections
USR	User-defined waypoints
SUA	Special Use Airspace
FSS	Flight Service Station Frequencies
CTR	Center Frequencies

To select the desired 'Nearest'-function, use the right inner knob to move the cursor to the desired selection and press **ENT**. Notice that the cursor is initially over APT field, so you may press **NRST** then press **ENT** immediately to access the nearest airports (or airfields).

'DIRECT TO' -OPERATION

The  button is used to initiate 'Direct To'-operation (navigation from your present position direct to your destination). When  is pressed, the 'Direct To'-page will be displayed with a flashing cursor over a waypoint identifier. The waypoint identifier which appears on the 'Direct To'-page is chosen by the KLN 89B according to the following rules:

1. If the Flight Plan 0 (FPL 0) page is displayed on the screen and the cursor is over one of the waypoint identifiers in FPL 0 when  is pressed, then that waypoint identifier will appear on the 'Direct To'-page (DIR).
2. If the KLN 89B is displaying the NAV 4 page and the right inner knob is in the 'out' position, then the waypoint highlighted in the lower right hand corner of the NAV 4 map display will be the default waypoint.
3. If there is any waypoint page (APT, VOR, NDB, INT, USR, or ACT page) in view when  is pressed, then the DIR page will contain the identifier for the waypoint just viewed.

If none of the conditions above are occurring, then:

4. When  is pressed, the waypoint identifier for the current active waypoint will be displayed.

If there is no active waypoint when  is pressed, then:

5. The Direct To page displays blanks in the waypoint identifier field. In order for there not to be an active waypoint, there is no Direct To waypoint and there are no waypoints in Flight Plan 0.

FLY DIRECT TO A WAYPOINT

1. Press **[D→]**. The Direct To page is displayed. The cursor will already be on. A waypoint identifier may or may not be displayed, it does not matter at this point.
2. Rotate the right inner knob to select the first character of the desired waypoint's identifier.
3. Turn the right outer knob one click clockwise to move the flashing portion of the cursor over the second character position.
4. Rotate the right inner knob to select the second character of the identifier.
5. Use the right outer and inner knobs as in the previous steps until the desired identifier is completely displayed.
6. Press **[ENT]** to display the waypoint page for the selected waypoint.
7. Press **[ENT]** again to approve the displayed waypoint page. The screen will change to the NAV 1 page, and the selected waypoint will now be the active Direct To waypoint.

8. AIRPLANE HANDLING, CARE AND MAINTENANCE

No change.