



## Illustrations for the Bendix/King KLN89B GPS Computer

Doug Dupuie



**Iowa State Press**  
*A Blackwell Publishing Company*

# Chapter 2

A **global positioning system (GPS) computer** allows you to enter the details of your flight plan. The GPS computer will provide many navigational services as you fly along your route.



Bendix/King KLN 89B  
Download the free simulator now at:  
<http://www.bendixking.com>

2-2

Bendix/King



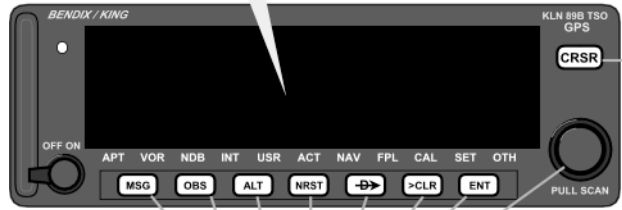
1  
Check the expiration date for the **navigation database** when the computer powers up. If the database is expired, don't use the computer for IFR navigation.

2  
If the database is current, push the ENT button to answer the Acknowledge? prompt and continue.

2-4

Bendix/King

The **screen** on the front of the GPS computer serves as the monitor.



The **knobs** and **buttons** serve as the keyboard for the GPS computer.

2-5

Bendix/King



**Pages** appear on the GPS computer screen and present information related to a particular topic. For example, the **airport page** can display information about any chosen airport.

2-6

Bendix/King

Use the **outer knob** to select different pages.

1



The name of the page you have currently selected is shown here.

2

2-7

Bendix/King

**Extended pages** show additional information about the same topic.

1



The extended page you are viewing is displayed here. For example, this is the second extended page of the airport page.

3

Use the **inner knob** to move between extended pages.

2

2-8

Bendix/King

Use the inner knob to dial letters and numbers. **3**

Use the outer knob to move the flashing cursor between items on the page. **2**

Press the **CRSR** button to engage **cursor mode**. A **flashing cursor** will appear over one of the items on the page, indicating that it is ready for editing. **1**

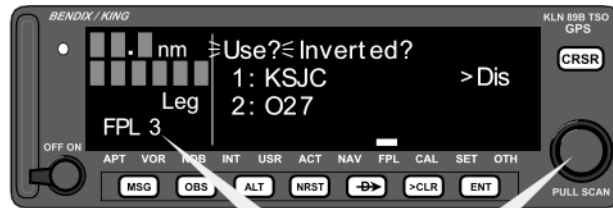
2-9

Bendix/King

Use the outer knob to select the **flight plan page**.

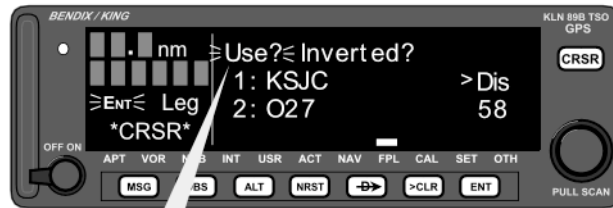
2-10

Bendix/King



Flight plans can be stored in FPL 1 through FPL 24 (the extended pages of the flight plan page). Use the inner knob to move between the stored flight plans.

1



Switching to cursor mode, highlight the Use? option, and press the ENT button.

2



The waypoints in the stored route are inserted into flight plan 0, and the stored route becomes the active flight plan.

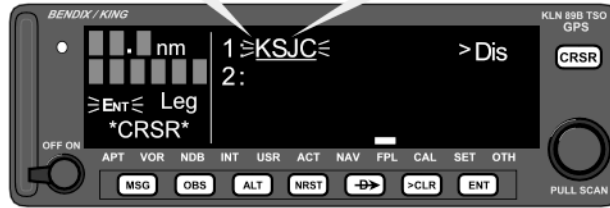
3

Use the outer knob in cursor mode to highlight a line on the flight plan page.

1

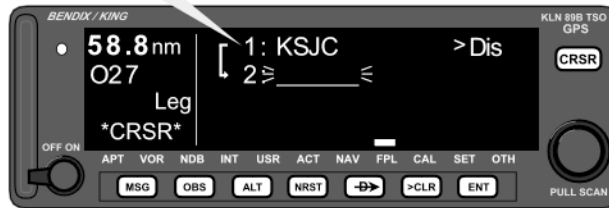
Dial the name of the waypoint and press the ENT button.

2



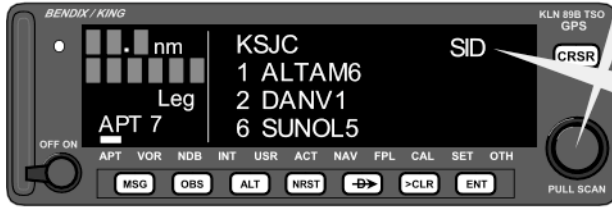
The waypoint now appears in your flight route and the computer is ready to accept more waypoints.

3



Once you are in the APT pages, use the inner knob to scroll to APT page 7.

1



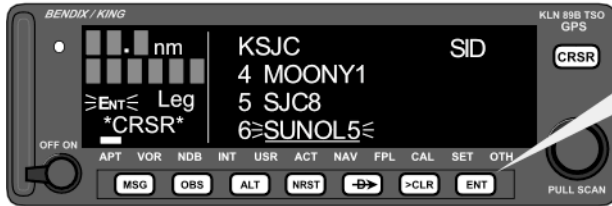
Make sure that "SID" is displayed in the upper right corner.

2



In cursor mode, use the outer knob to highlight the departure you want.

3

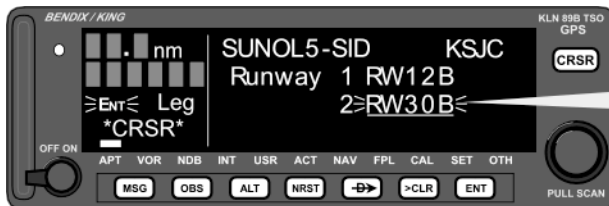


Press ENT to confirm your choice.

4

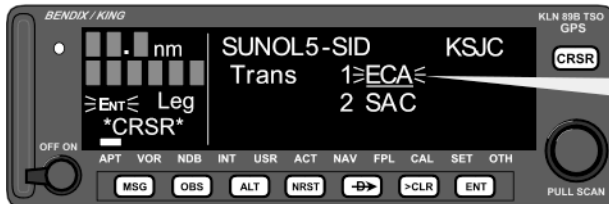
2-13

Bendix/King



Select your departure runway from the menu.

1



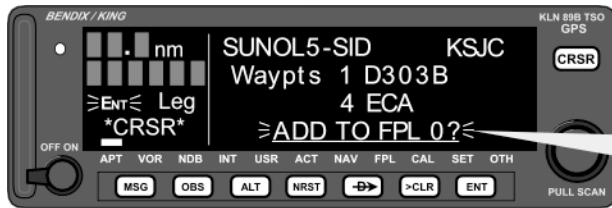
Now select your departure transition.

2

2-14

Bendix/King





Respond to the ADD TO FPL 0? prompt to load all of your selections into the active flight plan.

2-15

Bendix/King



Once you are in the APT pages, use the inner knob to scroll to APT page 8. **1**



Choose your approach from the approach menu. **2**



Choose your transition from the transition menu. **3**



Press the ENT button to load your approach into your flight plan. **4**

2-16

Bendix/King



Review your flight plan on the flight plan page. In cursor mode, use the outer knob to scroll between the waypoints in the route.

1

Check the sequence of waypoints.

2

Check the distances between the waypoints.

3

Use cursor mode to highlight the Distance column heading. Press the CLR button to display other kinds of data about your route.

1



The DTK option shows you the desired tracks between the waypoints in your route.

2

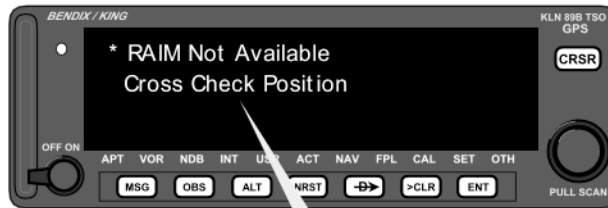


# Chapter 3



A flashing message prompt indicates that you have a message to read. Press the **MSG** button to read the message.

1



The message will clearly indicate that there is a problem with the GPS reception.

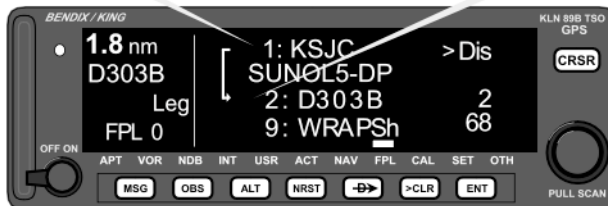
2

3-1

Bendix/King

The flight plan page lists the sequence of waypoints that make up your flight route.

The **active waypoint** is the one that the computer is currently working toward.



3-2

Bendix/King

The **navigation page** shows you the name of the **active waypoint**.

The distance to the **active waypoint**.

The **course deviation indicator (CDI)** shows your position relative to the desired track to the active waypoint.

The **desired track** to the active waypoint.

The **track** of the airplane over the ground.

The **estimated time of arrival** at the active waypoint.

3-3

Bendix/King

Check here to make sure you are in **Leg mode**.

2

Use the inner knob once in the NAV pages to select NAV page number 4.

1

3-4

Bendix/King



The **waypoint alerting** function provides a flashing arrow when you approach the vicinity of the active waypoint.

3-5

Bendix/King



The **turn anticipation** function advises you to begin your turn to the desired track to the next waypoint in the flight plan. Start your turn when the arrow *stops* flashing.

3-6

Bendix/King

The **waypoint sequencing** function makes the next waypoint in the flight plan sequence the new active waypoint.



3-7

Bendix/King



Mode switching on the Bendix/King computer is accomplished using an **external control panel**.

When this button is in the **GPS** position, the navigation indicator will be slaved to the GPS computer.

When the button is in the **NAV** position, the navigation indicator will be slaved to the navigation radio.

3-8

Bendix/King



Press the ALT button to access the first **altitude page**.

1

Use cursor mode to enter the current altimeter setting.

2



Press the ALT button again to access the second **altitude page**.

3

Use cursor mode to edit the entries for your **target altitude** and your desired **descent rate**.

4

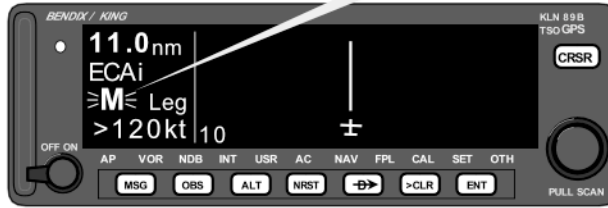


The computer calculates your **top-of-descent point**. Based on your ground speed, the computer displays the time remaining to reach the top-of-descent point.

5

90 seconds prior to reaching the top-of-descent point you will get a flashing message prompt.

1



Press the MSG button to view the message, then again to clear it.

2

The VNAV page will display the time remaining to reach the calculated top-of-descent point.

3



3-13

Bendix/King

In Arm mode, the CDI sensitivity changes from 5.0nm to 1.0nm.

2



At 30NM from the airport, Arm (ARM) mode will be annunciated on the remote annunciator.

1

3-14

Bendix/King



When you enter Active mode, the CDI sensitivity changes from 1.0nm to 0.3nm.

2



At 2NM from the final approach fix, approach active (ACTV) mode will be annunciated.

1

# Chapter 4

The image shows three sequential screenshots of a Bendix/King GPS display. Each screenshot has a callout box with a number and instructions.

**1** On the flight plan page, use cursor mode to highlight the waypoint to which you would like to proceed direct.

**2** Press the **direct to** button.

**3** Press ENT to confirm your choice.

**4** ECA is now the active waypoint. The computer has built a desired track from the present position of the airplane to ECA.

The screenshots show the following data:

- Screenshot 1:** 1.8 nm, SUNOL, Leg, \*CRSR\*. GPS 10, 5: ECAi, 35. 6: MOTER, 43. 9: WRAPSh. O27. Buttons: MSG, OBS, ALT, NRST, ->, >CLR, ENT.
- Screenshot 2:** 1.7 nm, SUNOL, >Ent< Leg, \*CRSR\*. DIRECT TO: >ECAi<. Buttons: MSG, OBS, ALT, NRST, ->, >CLR, ENT.
- Screenshot 3:** 39.1 nm, ECAi, Leg, FPL 0. GPS 10, 5: ECAi, 33. 6: MOTER, 41. 9: WRAPSh. O27. Buttons: MSG, OBS, ALT, NRST, ->, >CLR, ENT.



1 Use cursor mode to highlight the waypoint you want to insert the new waypoint *before*.



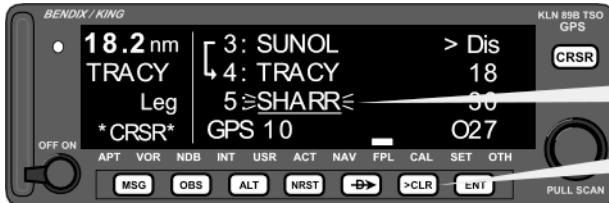
2 Use the inner and outer knobs to enter the new waypoint identifier. Then press ENT to confirm your choice.



3 The new waypoint is inserted into the flight plan.

4-2

Bendix/King



1 Use cursor mode to highlight the waypoint you want to delete, then press the CLR button.



2 Press ENT to confirm your modification.

4-3

Bendix/King



Use Cursor mode to highlight the approach. Press ENT to confirm.

1



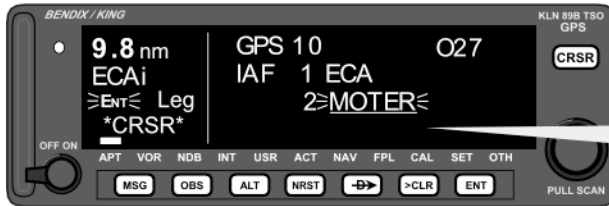
This will take you to the APT 8 page that corresponds to the current approach.

2



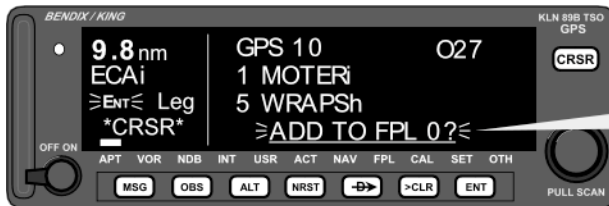
Choose your new approach from the approach menu.

3



Choose your new transition from the transition menu.

4



Press the ENT button to load your approach into your flight plan.

5



Use the outer knob to highlight APT?, then press the ENT button.

2

Press the NRST button to access the nearest page.

1



Pull the inner knob out to scroll through the list of all the nearest airports. Press the direct to button once you have found a suitable airport.

3



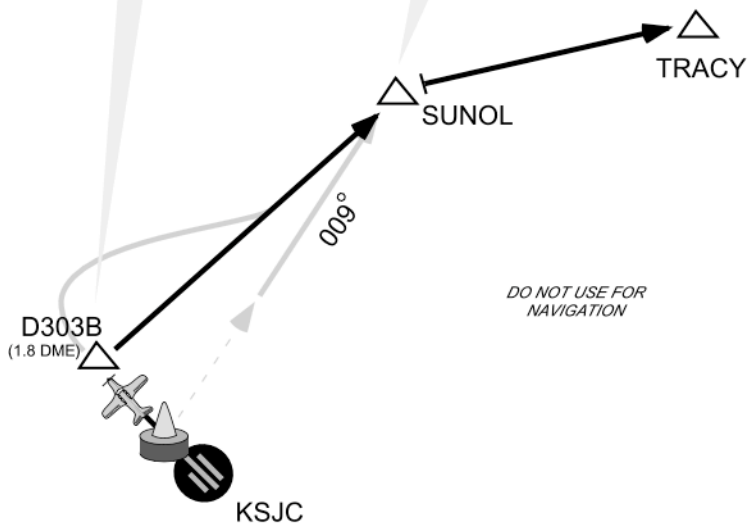
Press the ENT button to make this airport the active waypoint.

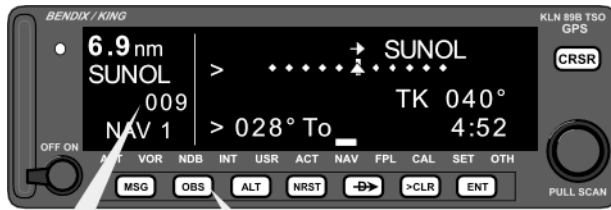
4

# Chapter 5



Instead of flying the assigned heading and intercepting the 009-degree radial, the simplified GPS route takes you to the 1.8 DME fix, then directly to SUNOL. ATC would not be pleased with this solution.





To switch to **OBS mode**, press the **OBS button**. DTK will disappear from the display, and the OBS course will be displayed where "Leg" normally is.

1

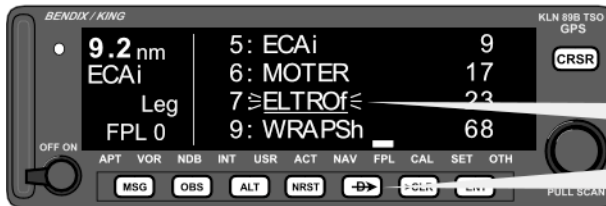
Once in OBS mode, use the **OBS selector** to dial the inbound course of 009°.

2



ECAi is the currently the active waypoint. You need to change this.

1



On the flight plan page, use cursor mode to highlight ELTRO, press the direct to button, and ENT to confirm.

2



ELTRO becomes the new active waypoint.

3

The computer now plans to take you directly to ELTRO, which is not quite what you want.

4

The course you dialed in becomes the new desired track to the active waypoint.

3



Press OBS to switch to OBS mode.

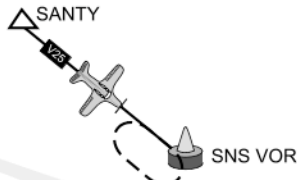
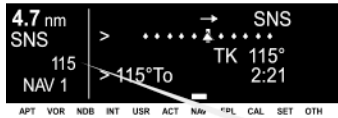
1



Dial in the approach course on the CDI.

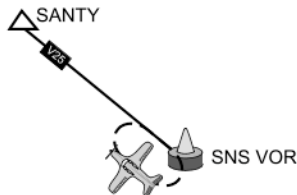
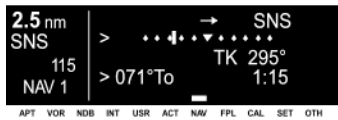
2





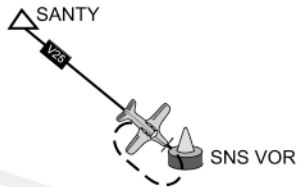
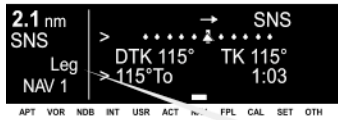
Switch to OBS mode prior to reaching SNS.

**1**



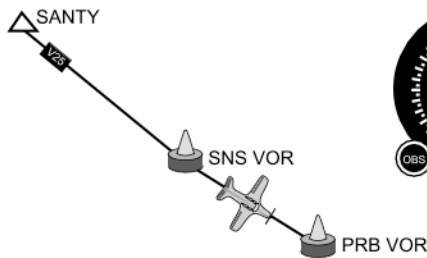
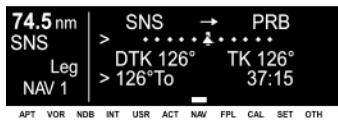
Fly the hold. SNS remains the active waypoint, even after passing it.

**2**



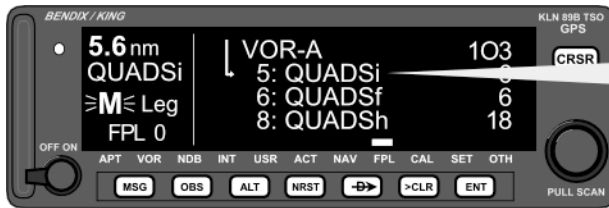
Switch back to Leg mode before reaching SNS.

**3**

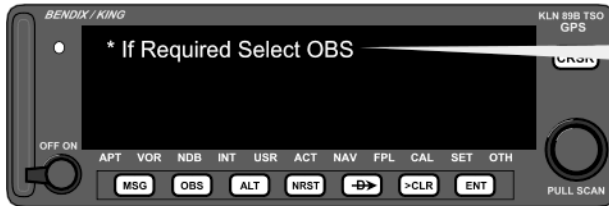


PRB now becomes the active waypoint and the flight continues.

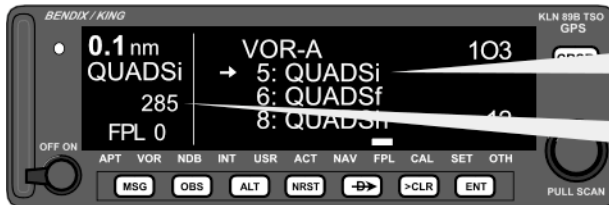
**4**



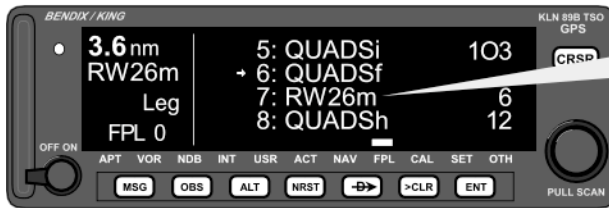
You are approaching the initial/final approach fix in Leg mode as usual.



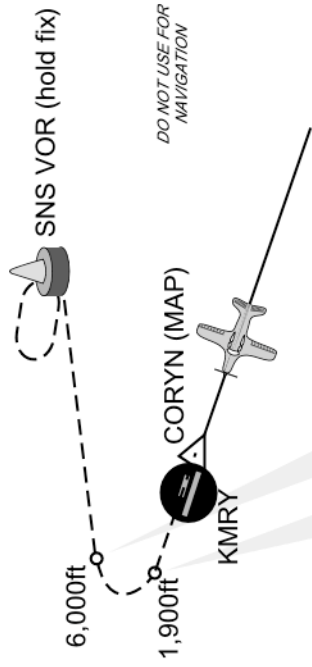
A message makes an excellent suggestion to switch to OBS mode.



Switch to OBS mode prior to reaching the initial/final approach fix, twist the inbound course, then fly the procedure turn. The IAF will remain the active waypoint.



When you turn inbound, switch back to Leg mode. When you cross the IAF/FAF, the computer will sequence to the missed approach point.



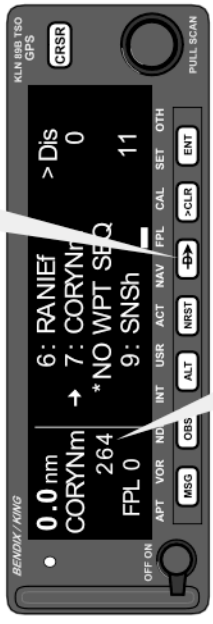
The computer has no way of representing climbs and turns as waypoints. Consequently, the missed approach point and the hold fix are the only waypoints from the missed approach procedure that appear in the computer.



**1**  
After reaching the missed approach point, the missed approach point remains the active waypoint, and the computer automatically switches to the non-sequencing mode. The NO WPT SEQ line makes this clear.



**2**  
After executing the climbs and turns, you can use the direct to function to proceed to the hold fix.



**3**  
Make sure you are in OBS mode before you reach the hold fix.