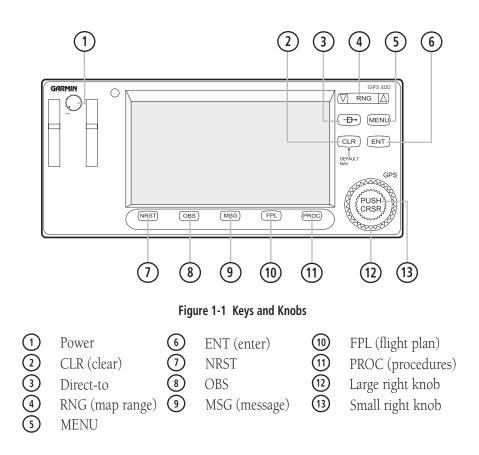


# **GPS 400**

# Quick Reference



#### **LEFT-HAND KNOB**

The **Power** Knob controls unit power, turn clockwise to turn the unit on.

#### **RIGHT-HAND KEYS AND KNOBS**

The **RNG** Key allows the pilot to select the desired map range. Press the up arrow to zoom out to a larger area, or the down arrow to zoom in to a smaller area.

The **Direct-to** Key provides access to the direct-to function, which allows the pilot to enter a destination waypoint and establishes a direct course to the selected destination.

The **MENU** Key displays a context-sensitive list of options. This options list allows the pilot to access additional features or make settings changes which relate to the currently displayed page.

The **CLR** Key is used to erase information, remove map detail, or to cancel an entry. Press and hold the **CLR** key to immediately display the Default NAV Page.

The **ENT** Key is used to approve an operation or complete data entry. It is also used to confirm information, such as during power on.

The large **right** knob is used to select between the various page groups: NAV, WPT, AUX, or NRST. With the on-screen cursor enabled, the large **right** knob allows the pilot to move the cursor about the page. The large **right** knob is also used to move the target pointer right (turn clockwise) or left (counterclockwise) when the map panning function is active.

The small **right** knob is used to select between the various pages within one of the groups listed above. Press this knob momentarily to display the on-screen cursor. The cursor allows the pilot to enter data and/or make a selection from a list of options. When entering data, the small knob is used to select the desired letter or number and the large knob is used to move to the next character space. The small **right** knob is also used to move the target pointer up (turn clockwise) or down (counterclockwise) when the map panning function is active.

#### **BOTTOM ROW KEYS**

The **NRST** Key displays the Nearest Airports Page. Then, turning the small right knob steps through the NRST pages.

The **OBS** Key is used to select manual or automatic sequencing of waypoints. Pressing the **OBS** Key selects OBS mode, which retains the current 'active to' waypoint as the navigation reference even after passing the waypoint (i.e., prevents sequencing to the next waypoint). Pressing the **OBS** Key again returns the unit to normal operation, with automatic sequencing of waypoints. When OBS mode is selected, the pilot may set the desired course to/from a waypoint using the 'Select OBS Course' pop-up window, or an external OBS selector on the HSI or CDI.

The **MSG** Key is used to view system messages and to alert the pilot to important warnings and requirements.

The **FPL** Key allows the pilot to create, edit, activate, and invert flight plans, as well as access approaches, departures, and arrivals. A closest point to flight plan feature is also available from the **FPL** Key.

The **PROC** Key allows the pilot to select and remove approaches, departures, and arrivals from the flight plan. When using a flight plan, available procedures for the departure and/or arrival airport are offered automatically. Otherwise, the pilot may select the desired airport, then the desired procedure.

#### Powering on the GPS 400:

- 1) Turn the **Power** Knob clockwise to turn the unit power on.
- 2) A welcome page appears briefly while the unit performs a self test, followed sequentially by the Unit Type Page and the Software Versions Page. Then (depending on configuration) the Weather Page, the Traffic Page, the Aviation Data Page, the Land/Terrain/Obstacles Database Page, and the Situational Awareness Page are sequentially displayed.



3) Once the self-test concludes, the Database Versions Page appears which shows the current database information on the NavData® Card and Terrain Data cards. Press the ENT Key to acknowledge the Database Page and proceed to the Instrument Panel Self-test Page.



4) The Instrument Panel Self-test Page allows the pilot to verify that the GPS 400 is communicating properly with in-panel instruments. Compare on-screen indications with the information depicted on connected instruments, such as the CDI, HSI, RMI, and/or external annunciators.

INSTRUMENT PANEL	SELF-TEST
LCDI Half Left LFLG Out of View VCDI Half Up	CAP 00120? FOB 110?
VFLG Out of View TO/FRH RHI OBS To 135° 350%	FF 14.02 Set Full Fuel?
ANNUN DTK On 150%	Go To Chklist? OK?

5) After verifying proper operation, press the **ENT** Key to display the Satellite Status Page.

#### SCREEN LAYOUT (WINDOWS)

The GPS 400's display is divided into two separate *windows* (or screen areas). The left side of the display provides three user-defined data fields. The right side of the display consists of a GPS Window, which shows the various navigation, waypoint information, and settings *pages*. The bottom of the display is used for annunciators.



Each unique screen of information is referred to as a page. Pages are typically selected using the small and large **right** knobs, with the cursor removed from the GPS Window. See pages 6 and 7 for details on arrangement of the GPS 400's main pages.

#### **CURSORS**

The GPS window cursor is used to select the desired fields. Press the small **right** knob to activate the cursor. Press again to deactivate it. Use the small and large **right** knobs to move the cursor around the data fields to select options and enter data.

#### **DATA ENTRY**

Data is entered in the GPS Window using the large and small **right** knobs. The large **right** knob is used to move the cursor about the page. The small **right** knob is used to select individual characters for the highlighted cursor location.

ИРТ	APT KSDE  Public		
	FACILITY & CIT	Y NAME	
DTK	LOUISVILLE I	NTL ST	ANDIF
о ———М	LOUISVILLE K	Y	
DIS	POSITION	ELEY	FUEL
m	N 38°10.46' W085°44.16'	500%	Avgas Jet
ENR	APR TLS RADAR	Yes ARSI	PC C
	н	IPT 1000	000000

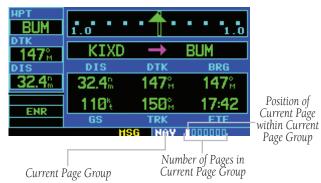
нрт	APT KSDF 🗶 P	ublic	
	FACILITY & CIT		
DTK	LOUISVILLE I	INTL ST	ANDIF
M	LOUISVILLE K	(Y	
DIS	POSITION	ELEV	FUEL
n M	N 38°10.46'	500%	Avgas
	W085°44.16'	DODA	Jet
ENR	APR TLS RADAR	Yes ARS	PC C

#### MAIN PAGE GROUPS

#### **MAIN PAGE GROUPS**

The GPS 400's main pages are divided into four separate page groups: NAV, WPT, AUX, and NRST. Each page group is comprised of multiple pages. The *page groups* are selected using the large **right** knob. The individual *pages* are selected using the small **right** knob.

Page Groups			
NAV Group	WPT Group	AUX Group	NRST Group
7 NAV Pages	10 WPT Pages	4 AUX Pages	8 NRST Pages



The bottom right corner of the screen indicates which page group is currently being displayed (e.g., NAV, WPT, AUX, or NRST), the number of screens available within that group (indicated by the square icons), and the placement of the current screen within that group (indicated by a highlighted square icon).

#### Selecting the desired page group and page:

- Press and hold the **CLR** Key to select the Default NAV Page.
- 2) Turn the large **right** knob to select the desired page group.
- 3) Turn the small **right** knob to select the desired page.

#### **NAV PAGE GROUP**

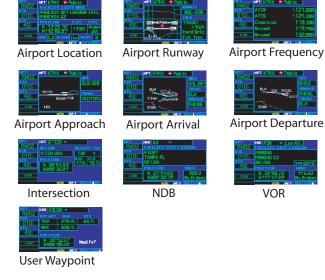
The NAV Page Group includes seven pages.





WPT PAGE GROUP

The WPT Page Group includes ten pages.



#### **AUX PAGE GROUP**

The AUX Page Group includes four pages.

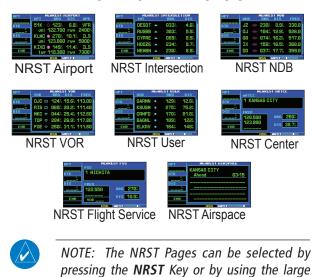




*NOTE:* The flight plan pages are selected by pressing the *FPL* Key and using the small *right* knob to select the desired page.

#### **NRST PAGE GROUP**

The NRST Page Group includes eight pages.



#### Selecting a direct-to destination:

 Press the **Direct-to** Key. The Select Direct-to Waypoint Page appears, with the waypoint identifier field highlighted.



2) Use the small and large **right** knobs to enter the identifier of the desired destination waypoint.

ИРТ	SELECT 🕀 HAYPOINT	
	KDIIN_ 🗞 SE USA	
DTK °	DOTHAN	
DIS	DOTHAN AL	
m	FPL KARM NRST KARM	
	N 31°19.28' CRS 137%	
ENR	W085°26.98' Activate?	
HSG DRCT		

3) Press the **ENT** Key to confirm the selected waypoint, and press the **ENT** Key again to activate the direct-to function.

нрт	SELECT 🖶 HAYPOINT	
	KDHN 💿 SE USA	
DTK	DOTHAN	
M	DOTHAN AL	
D15 n		
m		
END.	N 31°19.28' CRS 137 <sup>°</sup> W085°26.98' Mot just o2	
ENK	W085°26.98' Activate?	
HSG DRCT		

right knob.

### Selecting a direct-to destination from the Map Page:

- 1) Select the Map Page from the NAV Page Group.
- 2) Press the small **right** knob to display a panning pointer.
- 3) Turn the small and large **right** knobs to place the panning pointer at the desired destination location.



- If the panning pointer is placed on an existing airport, NAVAID, or user waypoint, the waypoint name is highlighted. Press the **Direct-to** Key and the **ENT** Key twice to navigate to the waypoint.
- 5) If the panning pointer is placed on an open location, press the **Direct-to** Key then press the **ENT** Key twice to create a '+MAP' waypoint and navigate to it.

# Selecting a direct-to destination by facility name or city:

- Press the **Direct-to** Key. The Select Direct-to Waypoint Page appears, with the waypoint identifier field highlighted.
- Turn the large **right** knob to highlight the facility name (second line) or the city (third line) field.
- 3) Use the small and large **right** knobs to enter the facility name or city location of the desired destination waypoint. When spelling the facility name or city, the GPS 400's Spell'N'Find feature selects the first entry in the database based upon the characters the pilot has entered up to that point.

ИРТ	SELECT 🕀 HAYPOINT	
	KIAD 🕕 NE USA	
DTK	WASHINGTON_DULLES_INT	
DIC	WASHINGTON VA	
D13		
	N 38°56.67' CRS 048	
ENR	H07707 05	
	M07727.35 Activate?	
186 DRCT		

- Continue turning the small **right** knob to scroll through any additional database listings for the selected facility name or city. If needed, use the small **right** knob to scroll backwards.
- 5) Press the **ENT** Key to confirm the selected waypoint, and press the **ENT** Key again to activate the direct-to function.

# Selecting a nearby airport or a flight plan waypoint as a direct-to destination:

- 1) Press the **Direct-to** Key.
- Turn the large **right** knob to highlight the nearest airport (NRST) or flight plan (FPL) field.
- 3) Turn the small **right** knob to display a window listing nearby airports or all waypoints in the active flight plan.



- 4) Continue turning the small **right** knob to scroll through the list and highlight the desired airport.
- 5) Press the **ENT** Key to confirm the selected waypoint, and press the **ENT** Key again to activate the direct-to function.

#### Viewing airport information:

- Turn the large **right** knob to select the WPT Page Group. 'WPT' appears in the lower right corner of the screen.
- Turn the small **right** knob to select the desired WPT page. Airport information is displayed on the first six WPT pages: airport location, airport runway, airport frequency, airport approach, airport arrival, and airport departure.
- Press the small right knob to activate the cursor.
- 4) Use the small and large **right** knobs to enter the identifier of the desired airport.
- 5) Once the identifier is entered, the information for that airport appears on the page. Press the **ENT** Key to accept the selected identifier.

ИРТ	APT KPHX 😑 Pub	lic
DTK		RUNHAY
о М		08L-26R
DIS		11000%
m		×150%
ENR	3.5%	Hard Srfc
	overzöom	Full Time
	HSIG HPT	

6) To view the other airport information pages, press the small **right** knob to remove the flashing cursor and turn the small **right** knob to select the desired page.

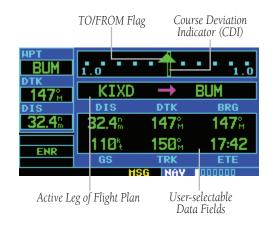
### Viewing airport information by facility name or city:

- 1) Select the Airport Location Page (see page 6).
- 2) Press the small **right** knob to activate the cursor.
- 3) Turn the large **right** knob to highlight the facility name (second line) or the city (third line) field.
- 4) Turn the small and large **right** knob to enter the facility name or city location of the desired destination waypoint. When spelling the facility name or city, the GPS 400's Spell'N'Find feature will select the first entry in the database based upon the characters that have been entered up to that point.

ИРТ	АРТ КАВО 🛛 🖨 Р	ublic	
	FACILITY & CIT	Y NAME	
DTK	ALBUQUERQUE	INTL SI	JNPOR
M	ALBUQUERQUE	_NM	
DIS	POSITION	ELEY	FUEL
m	N 35°02.42'	5350%	Avgas
	W106°36.56'	0000.	Jet
ENR	APR TLS RADAR	Voe ARSI	ec 🗖
	MSG	PT 1000	000000

- 5) Once the identifier is entered, the information for that airport appears on the page. Press the **ENT** Key to accept the selected identifier.
- 6) To view the other airport information pages, press the small **right** knob to remove the flashing cursor and turn the small **right** knob to select the desired page.

#### **DEFAULT NAV PAGE**



The following symbols are used on the Default NAV Page (directly below the CDI), to depict the 'active leg' of a flight plan or direct to:

<del>**</del>	Direct-to a Waypoint
+	Course to a Waypoint, or Desired Course between Two Waypoints
d	Procedure Turn
ه.	Procedure Turn
۷TF	Vectors-to-Final
5	DME Arc to the Left
¢	DME Arc to the Right
Ŋ	Left-hand Holding Pattern
ΰ	Right-hand Holding Pattern

#### DEFAULT NAV PAGE

#### Quickly displaying the Default NAV Page:

From any page, press and hold the **CLR** Key for approximately two seconds.

## Selecting a different data item for any data field:

- With the Default NAV Page displayed, press the MENU Key to display the Default NAV Page Menu.
- 2) The 'Change Fields?' option is already highlighted, so press the **ENT** Key to select this option.



3) Use the large **right** knob to highlight the data field to be changed.

HPT	5.0	• 🕇 •	5.0
DTK 053 <sup>™</sup> DIS	KOKC	DTK	
92.6%	<b>92.6</b> %	<b>053</b> <sup>°</sup> <sub>м</sub>	<b>053</b> %
ENR	<u>100%</u> GS	<b>054</b> % ткк	55:31 ETE
	HS	G NAY	000000

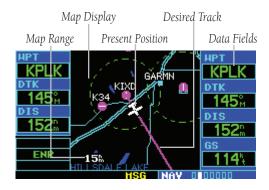
 Turn the small right knob to display the list of available data items. Continue turning the small right knob to select the desired data item from the list.



- 5) Press the **ENT** Key to select the desired data item and return to the Default NAV Page.
- 6) Press the small **right** knob momentarily to remove the cursor from the page.

#### MAP PAGE

#### **MAP PAGE**



The following symbols are used to depict the various airports and NAVAIDs on the Map Page:

Symbol	Description
0	Airport with hard surface runway(s); (primary runway shown)
0	Airport with soft surface runway(s) only
ß	Private Airfield
B	Heliport
•	VOR
	VOR/DME
	DME
Θ	Localizer
-	Intersection
<b>👳</b>	VORTAC
♦	TACAN
(Ö)	NDB
	Locator Outer Marker

#### Selecting a map range:

- 1) Press the up arrow of the **RNG** Key to zoom out to a larger map area.
- 2) Press the down arrow of the **RNG** Key to zoom in to a smaller map area and more detail.

## Selecting a different data item for any data field:

- With Map Page displayed, press the **MENU** Key to display an options menu.
- 2) Turn the large **right** knob to highlight 'Change Fields?' and press the **ENT** Key.
- 3) Turn the large **right** knob to highlight the data field to be changed.
- Turn the small **right** knob to select the desired type of data for this field and press the **ENT** Key.

<u>НРТ</u>	SELECT FIELD TYPE		
DTK	CTS – Course To Steer 👔		
M	DIS – Distance		
DIS	DTK – Desired Track ESA – Enrte Safe Alt		
m	ETA – Est Time Arvl		
ENR	ETE – Est Time Enrte 🌷		
	MSG NAY DIODDO		

5) Press the small **right** knob to remove the cursor.

# Turning the data fields off and displaying a full screen map:

- With the Map Page displayed, press the **MENU** Key to display the Map Page Menu.
- Turn the large **right** knob to highlight 'Data Fields Off?' and press the **ENT** Key.



 To re-display the data fields, follow steps 1 and 2, but instead select 'Data Fields On?' from the options menu.

#### Quickly decluttering the map display:

Press the **CLR** Key momentarily (as often as needed) to select the desired amount of map detail. The declutter level appears adjacent to the map range.

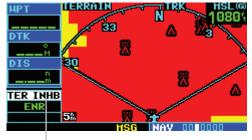


#### **Inhibiting TERRAIN:**

 Select the TERRAIN Page and press the **MENU** Key. 'Inhibit Terrain?' is selected by default.



 Press the ENT Key. The 'TER INHB' annunciation is displayed in the TERRAIN annunciator field when TERRAIN is inhibited.



Annunciator Field

 $\wedge$ 

NOTE: Inhibit mode deactivates TERRAIN alerting when deemed unnecessary by the pilot. Flying VFR into an area where unique terrain exists could cause the system to annunciate nuisance alerts. Pilots should use discretion when inhibiting the TERRAIN system and always remember to enable the system when appropriate.

#### NAV/COM PAGE

#### NAV/COM PAGE

The NAV/COM Page provides a list of the airport communication and navigation frequencies at the departure, enroute, and arrival airports.



NOTE: The NAV/COM frequencies are listed for reference only.

# Selecting a frequency list for a departure, enroute, or arrival airport:

- 1) Press the small **right** knob to activate the cursor.
- Turn the large **right** knob to place the cursor on the airport identifier field (top line on the NAV/COM Page).
- 3) Turn the small **right** knob to select the desired airport and press the **ENT** Key.

#### Scrolling through the list of frequencies:

- Activate the cursor, if not already active, by pressing the small **right** knob.
- 2) Turn the large **right** knob to move the cursor through the list of frequencies. If there are more frequencies in the list than can be displayed on the screen, a scroll bar along the right-hand side of the screen indicates which part of the list is currently being displayed.

#### BOTTOM ROW ANNUNCIATORS AND MESSAGES

See Pilot's Guide for detailed information.

	RRAIN Annunciator TERRAIN, ERRAIN (Flashing), TER FAIL, TER INHB, TER N/A	<b>CDI/RAIM Mode</b> Approach, Enroute, Oceanic, Terminal, '0.30' (for VLOC approaches)	Page Group Indicator NAV, WPT, AUX, NRST, FPL, DRCT, PROC, MSG Waypoint Alert NEXT DTK, etc. Turn Advisory TURN TO_, etc.
,	TER INHB ENR - INTEG SU	SP MSG	NAY DOLDOOD
the	Integrity Failure INTEG	<b>OBS Mode</b> Suspend,	Message Annunciator
sor	<b>Position Warning</b> WARN (RAIM protection limit failure)	OBS, Blank (for auto- sequencing)	Flashing (new message), Blank (no message)

#### Viewing a list of nearest airports:

Press the **NRST** Key to display the Nearest Airport Page. 'NRST' will appear in the lower right corner of the screen.

<b>НРТ</b>	АРТ	IEAREST A BRG	IRPORT DIS	APR
DTK		● 327% 118.300		
DIS		■ 296%		
m		122.800 • 035%		
ENR		126.000		
		HSG N	RST TOD	10000

# Scrolling through the list of nearest airports:

- 1) Press the small **right** knob to activate the cursor.
- Turn the large **right** knob to scroll through the list. The scroll bar along the right-hand side of the page will indicate which part of the list is currently being viewed.
- To remove the flashing cursor, press the small right knob.

### Viewing additional information for a nearby airport:

- Highlight the identifier of the desired airport by scrolling through the list, as described in the preceding procedure.
- 2) Press the **ENT** Key to display the Airport Location Page for the selected airport.



3) To view additional WPT pages for the selected airport (including the airport runway and airport frequency pages), press the small **right** knob to remove the flashing cursor. Turn the small **right** knob to display the additional WPT pages. When finished, press the small **right** knob to return the flashing cursor to the screen.



4) To return to the Nearest Airport Page, verify that 'Done?' is highlighted by the flashing cursor and press the **ENT** (or **CLR**) Key.

### Selecting a nearby airport as a direct-to destination:

- Press the **Direct-to** Key. The Select Direct-to Waypoint Page appears, with the waypoint identifier field highlighted.
- 2) Turn the large **right** knob to highlight the nearest airport (NRST) field.
- 3) Turn the small **right** knob to display a window showing up to nine nearby airports.



- Continue turning the small **right** knob to scroll through the list and highlight the desired airport.
- 5) Press the **ENT** Key to confirm the selected airport. Press the **ENT** Key again (with 'Activate?' highlighted) to activate the direct-to function.

#### Creating a new flight plan:

- 1) Press the **FPL** Key and turn the small **right** knob to display the Flight Plan Catalog Page.
- 2) Press the **MENU** Key to display the Flight Plan Catalog Page Menu.
- Turn the large right knob to highlight 'Create New Flight Plan?' and press the ENT Key.



 A blank Flight Plan Page appears for the first empty storage location. Use the small and large **right** knobs to enter the identifier of the departure waypoint, and press the **ENT** Key.

НРТ	FLIGHT PLAN			
	05 KMHK / KCOU			
DTK	HAYPOINT	DTK	DIS	
M	KMHK			
DIS	KLNK	<b>352</b> %	103%	
m	KCOU	11 <b>3</b> ≗	243	
ENR		M	m	
HSG FPL D				

- 5) Repeat the preceding step 4 to enter the identifier for each additional flight plan waypoint.
- Once all waypoints have been entered, press the small right knob to return to the Flight Plan Catalog Page.

#### Navigating a flight plan:

- 1) Press the **FPL** Key and turn the small **right** knob to display the Flight Plan Catalog Page.
- 2) Press the small **right** knob to activate the cursor.
- Turn the large right knob to highlight the desired flight plan and press the MENU Key to display the Flight Plan Catalog Page Menu.
- 4) Turn the large **right** knob to highlight 'Activate Flight Plan?' and press the **ENT** Key.



#### Stop navigating a flight plan:

- 1) Press the **FPL** Key
- 2) Press the **MENU** Key to display the Flight Plan Catalog Page Menu.
- Turn the large right knob to highlight 'Delete Flight Plan?', and press the ENT Key.



4) With 'Yes?' highlighted, press the **ENT** Key to delete the flight plan.

#### Editing a flight plan:

- 1) Press the **FPL** Key and turn the small **right** knob to display the Flight Plan Catalog Page.
- 2) Press the small **right** knob to activate the cursor.
- Turn the large right knob to highlight the desired flight plan and press the ENT Key.
- 4) To add a waypoint to the flight plan:
  - a) Turn the large **right** knob to select the point to add the new waypoint. (If an existing waypoint is highlighted, the new waypoint is placed directly in front of this waypoint.)
  - b) Use the small and large **right** knobs to enter the identifier of the new waypoint and press the **ENT** Key.
- 5) To delete a waypoint from the flight plan:
  - a) Turn the large **right** knob to select the waypoint to be deleted.
  - b) Press the **CLR** Key to display a 'remove waypoint' confirmation window.
  - c) With 'Yes' highlighted, press the **ENT** key to remove the waypoint.
- Once all changes have been made, press the small **right** knob to return to the Flight Plan Catalog Page.

#### **SELECT AN APPROACH**

#### Selecting an approach:

- 1) Press the **PROC** Key to display the Procedures Page.
- 2) Turn the large **right** knob to highlight 'Select Approach?' and press the **ENT** Key.



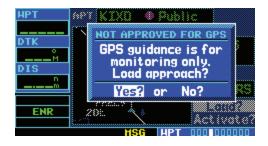
 A window appears listing the available procedures. Turn the large right knob to highlight the desired procedure and press the ENT Key.



4) A second window appears listing the available transitions. Turn the large **right** knob to highlight the desired transition waypoint and press the **ENT** Key. The approach 'Vectors' option assumes the pilot will receive vectors to the final course segment of the approach and will provide navigation guidance relative to the final approach course.



- 5) Turn the large **right** knob to highlight 'Load?' or 'Activate?' and press the **ENT** Key. 'Load?' adds the procedure to the flight plan without immediately using it for navigation guidance. This allows the pilot to continue navigating the original flight plan, but keeps the procedure available on the Active Flight Plan Page for quick activation when needed.
- 6) For precision approaches and some nonprecision approaches, a reminder window appears indicating that GPS guidance on such approaches is strictly for monitoring only — use the external navigation receivers and CDI (or HSI) for primary navigation. To confirm this reminder, highlight 'Yes?' and press the ENT Key.



Not all approaches in the database are approved for GPS use. As the pilot selects an approach, a 'GPS' designation to the right of the procedure name indicates the procedure can be flown using the GPS receiver. Some procedures do not have this designation, meaning the GPS receiver may be used for supplemental navigation guidance only. ILS approaches, for example, must be flown by tuning the VLOC receiver to the proper frequency and coupling the VLOC receiver to the external CDI (or HSI).

A selected approach may be *activated* or *loaded*. Once an approach is selected, it may be activated for navigation from the Procedures Page. Activating the approach overrides the 'enroute' portion of the active flight plan, proceeding directly to the 'approach' portion (for a full approach, directly to the initial approach fix). Activating the approach also initiates automatic CDI scaling transition as the approach progresses.

In many cases, it may be easiest to 'Load' the full approach while still some distance away, enroute to the destination airport. Later, if vectored to final, use the following steps to select 'Activate Vector-To-Final'—which makes the inbound course to the final approach fix (FAF) waypoint active. Otherwise, activate the full approach using the 'Activate Approach?' option.

#### Activating an approach:

- With an approach loaded in the active flight plan, press the **PROC** Key to display the Procedures Page.
- Turn the large **right** knob to highlight 'Activate Approach?' and press the **ENT** Key.



The 'Activate Vector-To-Final?' option allows the pilot to activate the final course segment of the approach. This option assumes the pilot will receive vectors to the FAF and provides guidance to intercept the final course, before reaching the FAF.

### Activating the approach with vectors to final:

- With an approach loaded in the active flight plan, press the **PROC** Key to display the Procedures Page.
- Turn the large **right** knob to highlight 'Activate Vector-To-Final?' and press the **ENT** Key.



#### **GUIDELINES FOR FLYING AN APPROACH**

Due to the variety of available approach procedures, the specific steps required will vary according to the approach selected. Keep in mind the following while flying the approach:

- Selecting the destination airport as the last waypoint in the active flight plan, or using the Direct-to Key ensures that the desired waypoint will automatically appear when choosing the 'Select Approach?' option from the Procedures Page. Otherwise, the airport should be selected first, then the approach procedure.
- As the aircraft progresses to each approach waypoint, a waypoint alert message ('NEXT DTK # # #°') will appear in the lower right corner of the display (see page 14).
- Turn advisories ('TURN TO # # #°') will appear in the lower right corner of the display (see page 14) when the pilot should begin a course change (via a standard rate turn).
- For GPS-based approaches, receiver autonomous integrity monitoring (RAIM) monitors satellite conditions and alerts the pilot using an 'INTEG' or 'WARN' annunciation at the bottom left corner of the display (see page 14) if protection limits cannot be maintained. If this occurs, the GPS receiver should not be used for primary navigation guidance. Revert to an alternate navigation source, or select an alternate destination airport.

- Within 30 nm of the destination airport, CDI scaling will transition from 5.0 nm (enroute mode, 'ENR') to 1.0 nm (terminal mode, 'TERM') or when leaving the departure airport, from 1.0 to 5.0 nm. Within 2.0 nm of the final approach fix, GPS-based approaches will see a second transition from 1.0 to 0.3 nm (approach mode, 'APR').
- A 'START PROC TRN' prompt will appear in the lower right corner of the display to advise the pilot when the aircraft is at a safe distance to initiate a procedure turn. The procedure turn is displayed on the Map Page, but guidance through the turn itself is not provided.
- Alerts for proper holding pattern entry (e.g., 'HOLD DIRECT') are displayed in the lower right corner of the display. Waypoint sequencing is automatically suspended (indicated by 'SUSP directly above the **OBS** Key) at the holding waypoint. Press the **OBS** Key again to return to automatic waypoint sequencing. For course reversals, waypoint sequencing is suspended for one trip around the holding pattern only (after which it will return to automatic waypoint sequencing).

- The CDI will guide the pilot through a DME arc. Just keep the needle centered to fly along the arc. When using an autopilot, the course select on the CDI (or HSI) must be periodically updated with the desired track (DTK).
- When crossing the missed approach point, 'SUSP' will appear above the **OBS** Key, indicating that automatic sequencing of waypoint is suspended at the missed approach point, and a 'from' indication will appear on the CDI (or HSI).



#### Flying a Missed Approach:

- Press the **OBS** Key. The next waypoint in the approach (MAHP, in this case 'SWARM' intersection) is automatically offered as the destination waypoint.
- 2) Follow the missed approach procedures, as published on the approach plate, for proper climb and heading instructions.
- 3) An alert message in the lower right-hand corner of the screen recommends entry procedures for the holding pattern (e.g., 'HOLD TEARDROP'). When flying the holding pattern, a timer appears on the Default NAV Page. The timer automatically resets on the outbound side of the hold when the aircraft turns abeam the hold waypoint. The timer again resets as the pilot turns inbound (within approximately 30° of the inbound course). This allows use of standard timing (typically one minute) to fly the inbound and outbound legs of the hold.

HPT MH	1.0	• 🕇 •	1.0
01K 053° DIS	DIS		WARMMH BRG
0.30%	0.30%	<b>053</b> <sup>°</sup>	<b>054</b> %
APR	146∜ GS	053 <sup>™</sup> TRK	00:07 ete
TSG HOLD TEARDROP			

4) The GPS 400 provides course guidance only on the inbound side of the holding pattern. When leaving the holding pattern to re-fly the approach (or another approach) press the **PROC** Key to 'Select Approach?' or 'Activate Approach?' as previously described. Or, use the **Direct-to** Key to select another destination.



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