

Pilot's Guide

KAP 150H

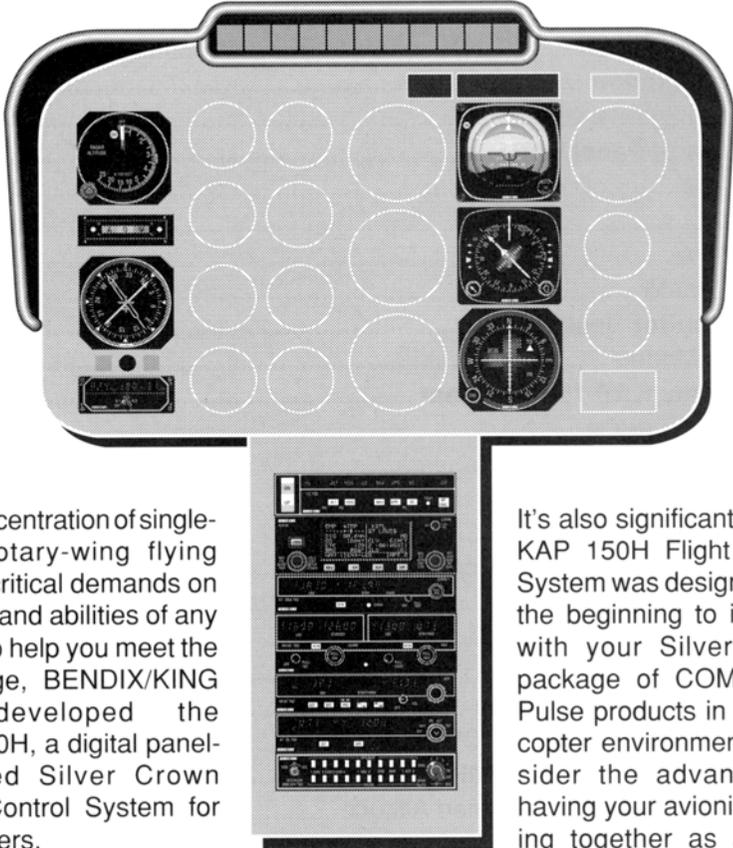
Bendix/King Digital Flight Control System
for Helicopters



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INTRODUCTION



The concentration of single-pilot, rotary-wing flying places critical demands on the skill and abilities of any pilot. To help you meet the challenge, BENDIX/KING has developed the KAP 150H, a digital panel-mounted Silver Crown Flight Control System for helicopters.

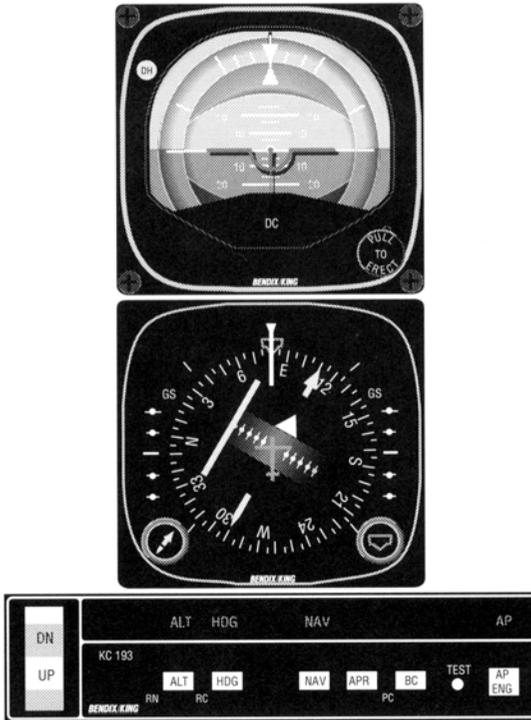
This system brings the digital flight control technology found on the flight decks of the new generation airliners to the cockpits of helicopters. The result is a lightweight, compact flight control system which incorporates the functions of computer, mode selector, and annunciator in a single, panel-mounted unit. This digital panel-mounted system uses fewer parts than previous generation flight control systems. And fewer parts mean potentially greater reliability.

It's also significant that the KAP 150H Flight Control System was designed from the beginning to interface with your Silver Crown package of COMM/NAV/Pulse products in the helicopter environment. Consider the advantage of having your avionics working together as an integrated system rather than

as a group of unrelated components built by several manufacturers.

To fully utilize the impressive capabilities of your new digital panel-mounted flight control system, you must understand its performance capabilities and basic operational requirements. This pilot's guide provides a general familiarization with the flight control system and the associated panel-mounted display, including the KCS 55A slaved compass system and its operation. An additional section covers optional NAV 1/NAV 2 switching.

GENERAL DESCRIPTION



KAP 150H Autopilot System

The KAP 150H Autopilot System is a two-axis, panel-mounted digital system which delivers highly sophisticated flight control capability. An optional yaw damper is available, which makes the KAP 150H a full three-axis system. A full selection of modes are available which enable the pilot to perform attitude and navigation maneuvers.

WARNING:

The KAP 150H is to be used in VFR meteorological conditions only. The autopilot should not be engaged in instrument meteorological conditions. Refer to the Flight Manual Supplement for specific speed restrictions regarding autopilot usage.

The KAP 150H includes the following functions, operating modes and features:

- Roll Level and Pitch Attitude Hold (AP)
- Altitude Hold (ALT)
- Heading Select (HDG)
- NAV (VOR, RNAV or Loran)
- Approach (APR)
- Glideslope (GS)
- Back Course (BC)
- Control Wheel Steering (CWS)
- Auto Capture
- Auto Track
- All angle intercept
- Roll and Pitch Rate Monitor.

SYSTEM INTEGRATION

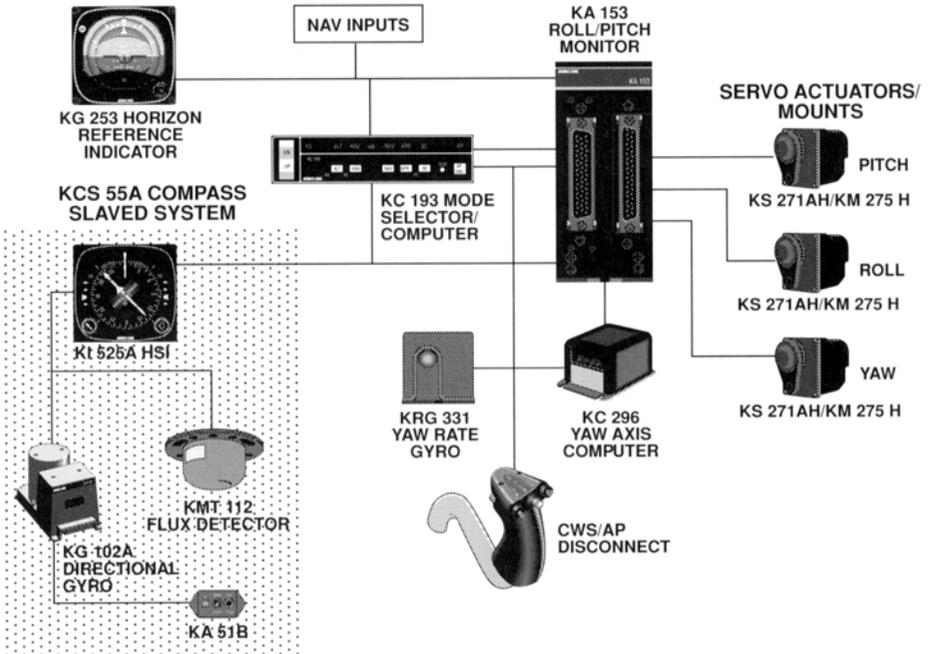
The system diagram below shows the components and their relationships in a typical KAP 150H Flight Control System. The actual components used on an individual helicopter may vary slightly in order to optimize certification and installation requirements.

The system diagram reflects that the KAP 150H system controls both pitch and roll axes of the helicopter. All sensor information—pitch and roll reference, heading and course datum, RNAV/VOR/LOC/GS deviation and flags, marker receiver and static pressure (altitude)—is fed into the system's flight computer. Yaw information is included when the helicopter is equipped with the optional yaw damper.

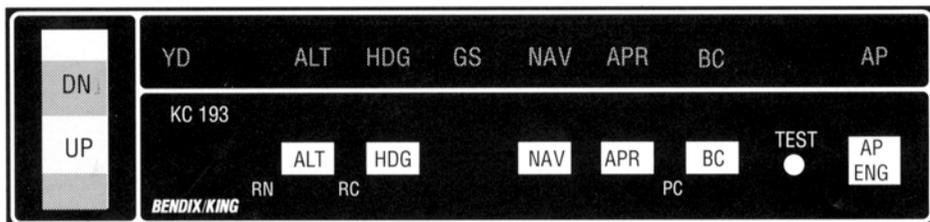
The flight computer calculates pitch and roll steering commands. These steering commands are fed to the autopilot computation circuits contained in the flight computer, which generates the commands for the individual servos to manipulate the cyclic control. The optional yaw channel is independent of pitch and roll commands except for turn coordination. Commands generated in the yaw computer control the tail rotor.

Pitch, roll and yaw commands supplied by the KFC 150H enable the pilot to delegate the manual effort of flying the helicopter to the autopilot.

TYPICAL KAP 150H FLIGHT CONTROL SYSTEM



DESCRIPTION OF PANEL UNITS



The KC 193 Mode Controller/Computer/Annunciator for the KAP 150H incorporates the functions of computer, mode controller and annunciator panel in a single, panel-mounted unit. The KC 193 annunciates all vertical and lateral autopilot system modes, plus

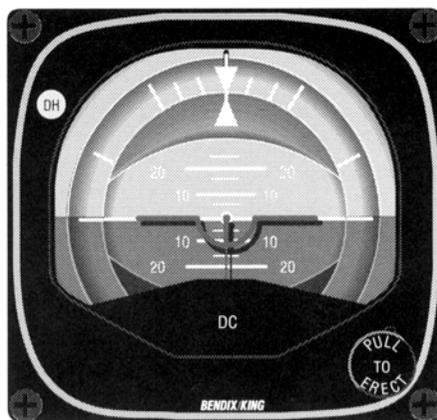
yaw damper. In addition, the KC 193 has six push buttons for engaging autopilot modes, a push button to initiate system self-test, and a vertical trim rocker switch to provide for pilot-initiated pitch attitude or altitude adjustments without disconnecting the autopilot.

KG 253 Horizon Reference Indicator

The KG 253 displays:

- Pitch and roll attitude
- DH (decision height) annunciation when used with a radar altimeter.

The KG 253 is an electric attitude reference indicator. Electrical power (D.C.) must be applied in order for the unit to operate. Immediately following electrical power turn-on, the knob labeled "Pull to Erect" should be pulled out with a moderate, even pull and held in the out position for approximately three seconds. The knob should then be released quickly but smoothly.



Erecting the KG 253 should only be accomplished while the helicopter is relatively level on the ground or in level flight. The gyro must be "up to speed" before system will operate. Allow three minutes for the gyro to come up to speed.

KI 525A Horizontal Situation Indicator (HSI)

The KI 525A is the display portion of the KCS 55A Slaved Compass System. The KI 525A displays the following:

- Slaved gyro magnetic heading information.
- Selected heading (HDG "bug").
- VOR/LOC/RNAV course deviation.
- Glideslope deviation.
- Loran course deviation.

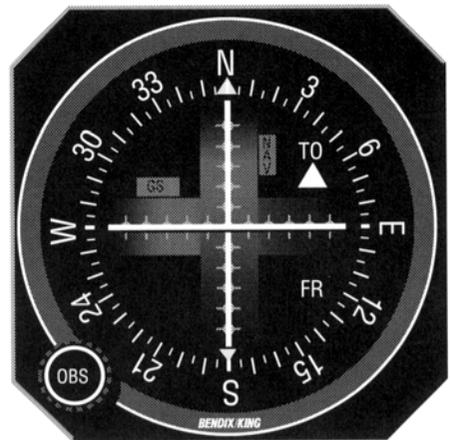


KI 204/206 Course Deviation Indicator (optional NAV 2 indicator)

The KI 204/206 displays the following:

- VOR/LOC/ GLIDESLOPE Deviations.
- Course Select (OBS).
- TO/FROM Flag Indication.
- Loran course deviation (KI 206 only)

The KI 204 is used with the KN 53, KX 155 NAV/COMM, or KX 175B NAV/COMM and the KN 75 Glideslope Receiver. The KI 206 is used with the KN 74, KNS 80/81, KX 165, KNC 610 RNAV, or KLN 88 Loran.

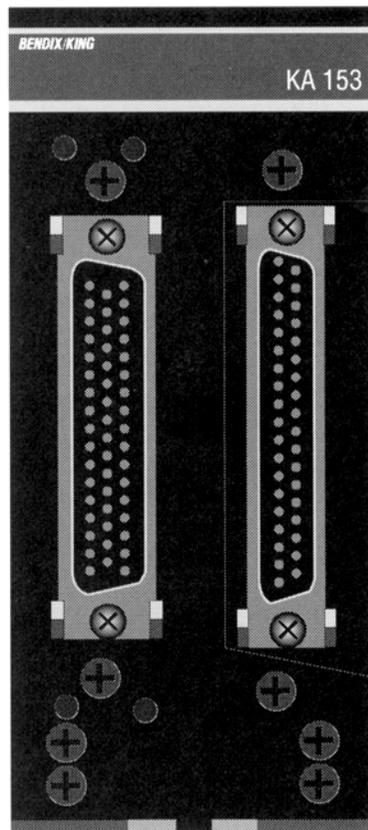


SYSTEM MONITOR DESCRIPTION

KA 153 System Monitor Description

Through the use of extensive monitor circuits, the KAP 150H Flight Control System provides safer automatic control of the helicopter. Failures are predominantly “soft”, that is, helicopter control is automatically returned to the pilot when a fault is detected. Because of this safety factor, the KAP 150H Flight Control System is able to provide smoother control of the helicopter due to increased servo authority.

Fault monitoring, provided by the KA 153 remote-mounted monitor unit, continuously checks for the presence of abnormal servo motor voltages and tach voltages for all three axes. If detected, the KA 153 opens the drive to the servo motor and commands the KC 193 to disengage the Autopilot mode. Other analog circuitry located in the KA 153 provides the aural annunciation to the pilot which indicates that the system has been disconnected.

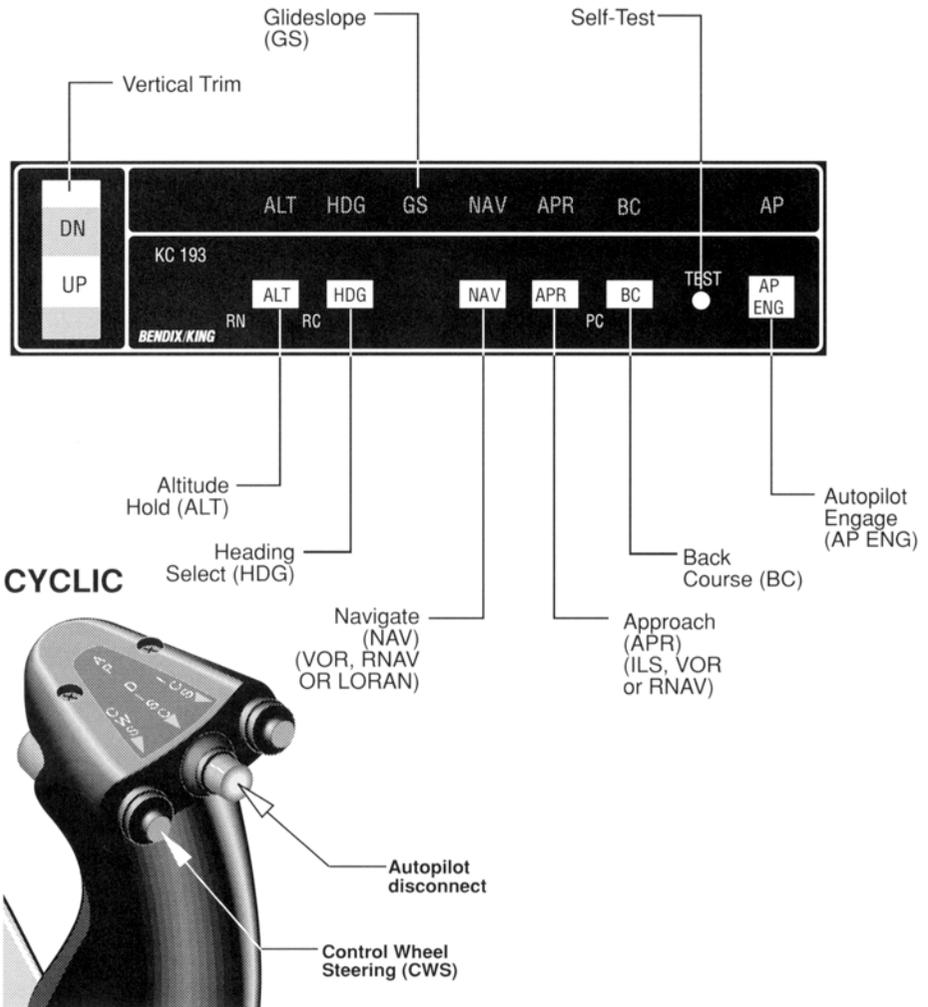


OPERATING MODES

KAP 150H Operating Modes

The KAP 150H is a high-performance digital panel-mounted autopilot system for helicopters designed for use in VFR cruise configuration. The KAP 150H uses the KG 253 Horizon Reference Indicator to sense pitch and roll attitude. The KCS 55A Slaved Compass System is used as the mag-

netic heading source for the KAP 150H. This system provides combined presentation of heading, radio navigation, and glideslope information. If you are unfamiliar with the operation, refer to KCS 55A Compass System Pilot's Guide, part number 006-08256-0003.



Definitions:

Mode	Autopilot Action
Attitude Reference	Power on and no modes selected. KG 253 displays aircraft attitude and KI 525A displays slaved heading.
Autopilot Engage (AP ENG)	Helicopter controls respond smoothly to satisfy autopilot modes selected by the pilot. Basis mode is level roll attitude and pitch attitude hold.
Heading (HDG)	Select desired heading with the "bug" on the KI 525A, and the autopilot will turn to and maintain the heading.
Navigation (NAV) (VOR, RNAV or Loran)	With VOR, RNAV or Loran course selected on the CDI or HSI, the autopilot will intercept and track the appropriate course.
Approach (APR) (ILS, VOR or RNAV)	With an ILS or VOR (or RNAV) course selected on the CDI or HSI, autopilot will intercept and track the appropriate course. Response of the system to commands for needle centering is more aggressive than in NAV mode.
Back Course (BC)	With the ILS front course set into the CDI or HSI, the autopilot will capture and track a reverse LOC course. Glideslope is locked out.
Altitude Hold (ALT)	The autopilot will maintain the desired altitude.
Test Button	Momentarily depressing the test button initiates a test of the KAP 150H circuitry including operation of all monitors. The test must be performed after electrical power has been applied. The autopilot cannot be engaged until the pre-flight test is successfully completed.

Mode**Autopilot Action**

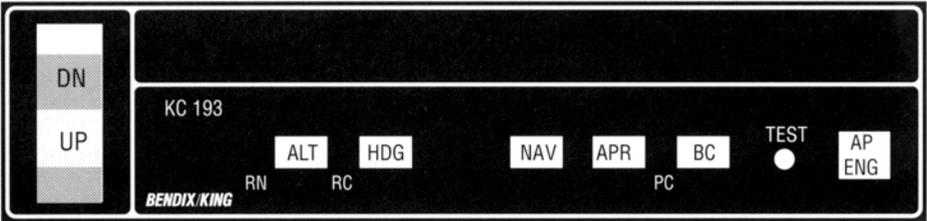
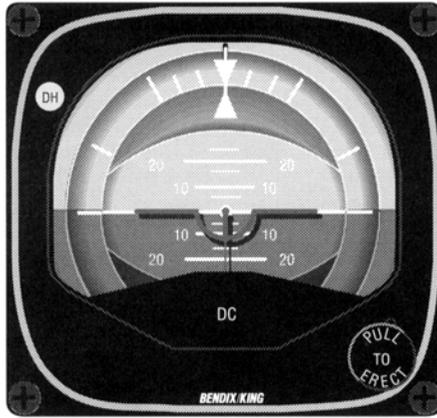
Vertical Trim (DN / UP)

This rocker switch allows you to adjust pitch attitude to achieve approximately a 500 fpm rate of change while in ALT hold, or rate of approximately 1.5 degrees per second pitch attitude change when not in pitch attitude hold.

Control Wheel Steering (CWS)

This switch mounted on the cyclic allows you to maneuver the helicopter in pitch and roll without disengaging the autopilot. After the CWS switch is released, the autopilot resumes control of the helicopter, maintains the current pitch reference, and returns to the previously selected roll mode. (HDG, NAV, APR, or BC)

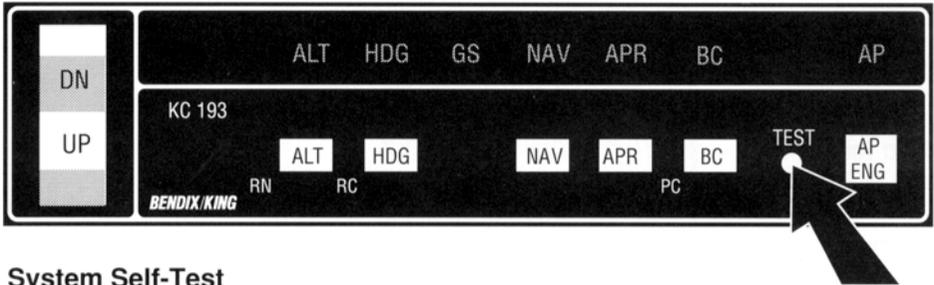
OPERATING THE KAP 150H SYSTEM



Initial Power On

When initially powered (no modes selected), the knob labeled "Pull to Erect" on the KG 253 should be pulled out with a moderate, even pull and held in the out position for approximately three seconds. The knob should then be released quickly but smoothly.

The KG 253 will display helicopter attitude, and slaved heading will be displayed on the KI 525A. A remote-mounted AP Fail/YD Fail annunciator will be lit to prompt the pilot to initiate the system self-test.



System Self-Test

The KAP 150H incorporates a system self-test function which is activated by a test button on the KC 193. The test must be successfully performed before the autopilot can be engaged. The test determines, before takeoff, that the system is operating normally. To perform the test, momentarily push the test button:

1. All annunciator lights and autopilot light will illuminate.
2. After 7 seconds the annunciator legends will go blank, an aural tone

Attitude Reference Mode of Operation

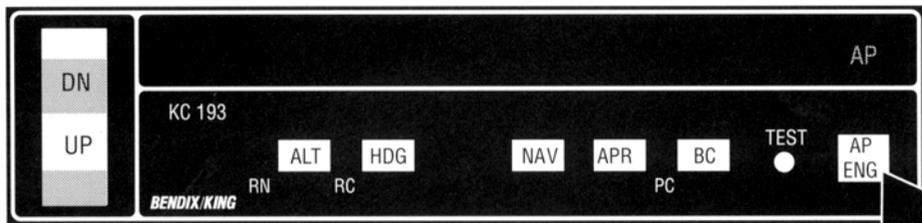
The system will be in the basic attitude reference or "gyro" mode with power on, but no modes selected (annunciator panel blank). Helicopter heading is shown on the KI 525A HSI, and pitch and roll attitude on the KG 253 Horizon Reference Indicator.

will beep (approx. 6 times) and the "AP" light will flash (approx. 12-13 times) and go off. (If the AP light fails to flash or continues to flash, you will be unable to engage the autopilot)

The test checks all digital computing capability, the disconnect capability of the autopilot, and the failure annunciator system.

CAUTION: If the KAP 150H fails system self-test, see a qualified Bendix/King Sales and Service Center for repair.

Attitude Gyro Operation Note: When shutting down the helicopter for short periods of time, the attitude gyro should be completely spun down before moving the helicopter. Gyro spin down begins when the electric power is removed from the gyro and usually takes about 10 minutes. If electric power is reapplied during the spin down period, use the "PULL TO ERECT" knob to re-erect before moving the helicopter.



AUTOPILOT (AP) MODE

NOTE: The autopilot cannot be engaged and used after power has been applied to the system until the system self-test has been successfully performed.

After the AP ENG button is engaged, the AP mode annunciator will illuminate. The autopilot provides two-axis (pitch and roll) control as well as automatic response to all selected autopilot modes.

On initial engagement, with no other autopilot modes selected on the KC 193, the KAP 150H will maintain the existing helicopter pitch attitude and fly a level roll attitude. The vertical trim switch may be used to adjust pitch attitude. Holding the vertical trim switch in either the up or down position will cause the pitch attitude to change at a rate of 1.5 degrees per second until the switch is released.

The CWS button may also be used to adjust pitch attitude. Press and hold the CWS button, fly the helicopter to the desired pitch attitude and then release the CWS button. The autopilot will maintain the attitude at which the CWS button is released.

When included, the third axis yaw damper system will significantly damp out yaw oscillations and provide turn coordination and ball centering. The yaw damper is engaged whenever the autopilot is engaged. If desired, a separate yaw damper ON/OFF switch may be fitted, which allows use of the yaw system independent of the autopilot.

The AP mode may be disengaged by pressing the AP ENGAGE button or the autopilot disconnect button, which is located on the cyclic. *When the autopilot is disengaged, the AP annunciator will flash for 2 1/2 seconds and an aural tone will sound to alert the pilot.*

WARNING: Numerous alternate methods of disengaging the autopilot are available such as turning off the hydraulics switch, pulling the autopilot circuit breaker or turning off the avionics master switch. Any action that interrupts the flow of electrical power to any component of the autopilot will cause it to disengage. The pilot should become familiar with all means of disengaging the autopilot.

NOTE: For system limitations refer to the Flight Manual Supplement for your particular helicopter.

CAUTION: Overpowering the KAP 150H in the pitch or roll axis in flight will result in the autopilot automatically disconnecting.

HEADING SELECT (HDG) MODE

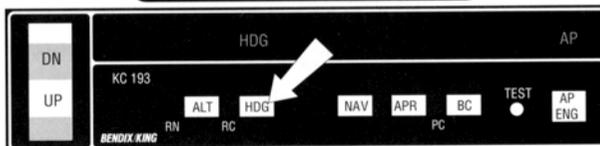
In the heading (HDG) mode, the autopilot will turn to and fly a selected heading. The following steps should be taken to operate in the heading mode:

1. Move the heading “bug” to the desired heading on the KI 525A using the HDG knob.
2. Depress the HDG button on the KC 193 to engage the heading select mode. The HDG annunciator illuminates to confirm the selected mode. With the autopilot

engaged, the autopilot will turn the helicopter in the shortest direction to intercept and fly the selected heading.

3. If you move the heading “bug” again while the heading select mode is engaged, the autopilot will immediately turn the helicopter in the direction of the newly selected heading.

4. To disengage the HDG mode, press the HDG button or select another roll mode.

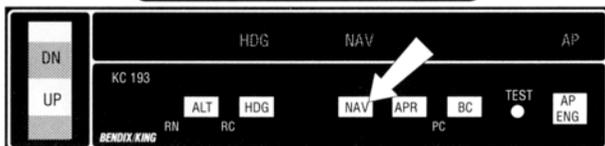


Navigation (NAV) mode

In the navigation (NAV) mode, the autopilot intercepts and tracks VOR, RNAV or Loran courses.

To operate in the NAV mode:

1. Tune the frequency for the selected VOR (or VORTAC) station. For RNAV, set in the waypoint distance and radial. For Loran, select the desired destination waypoint or active flight plan leg.
2. Set the desired course on the KI 525A HSI for VOR or RNAV. Set desired track for Loran.
3. Establish the desired intercept angle by setting the heading "bug" on the intercept heading and activate HDG mode. ("HDG" light will illuminate.) The KAP 150H will perform all-angle intercepts.
4. Press the NAV button on the KC 193. (NAV light will flash to signify that NAV mode is armed.)



NOTE: If the NAV mode is selected within 3-4 dots of course deviation, NAV arm mode will be bypassed and the NAV mode will engage directly.

5. The autopilot will fly the selected heading until entering the capture zone*, then turn to intercept the selected course. The HDG light will go off, and the NAV light will illuminate steadily as the NAV mode goes from arm to engage.
6. The autopilot will make heading adjustments as necessary to maintain course.

**The capture point will vary depending on the angle of intercept and the rate of change of course deviation.*

NOTE: You should consider using HDG select mode just prior to VOR station passage. If the autopilot is engaged in NAV mode it may cause erratic maneuvers while following a rapidly changing course deviation needle as the aircraft flies in the VOR cone of confusion.

7. To disengage the NAV mode, press the NAV button or select another roll mode.

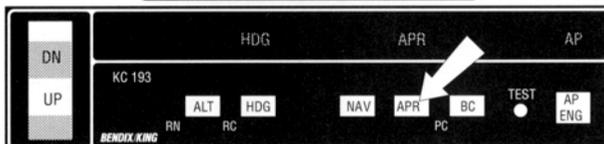
APPROACH (APR) MODE

The approach (APR) mode allows the autopilot to intercept and track ILS (both localizer and glideslope), VOR and RNAV courses. To operate in the APR mode:

1. Tune the frequency for the selected ILS, VOR or RNAV approach.
2. Set the final approach course on the KI 525A HSI. (Always use the front course inbound course when flying a localizer approach.)
3. Establish the desired intercept angle by setting the heading "bug" on the intercept heading and activate the HDG mode. (HDG will illuminate.)
4. Depress the "APR" button on the KC 193 (APR light will flash to signify that APR mode is armed).

NOTE: If the APR mode is selected with the aircraft within 3-4 dots of course deviation, APR arm mode will be bypassed and the APR mode will engage directly.

5. The autopilot will fly the selected



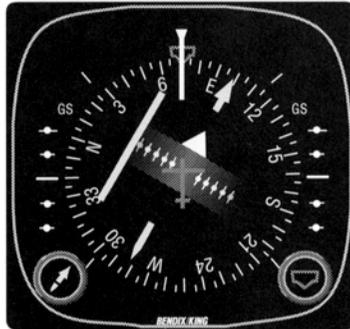
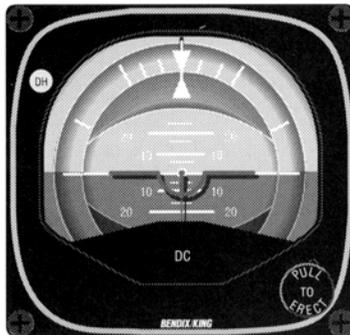
heading until entering the capture zone, then turn to intercept the course. The "HDG" light will go off and the "APR" light will illuminate steadily as the APR mode goes from arm to engage.

6. The autopilot will make heading adjustments as necessary to maintain course. Once localizer course capture has occurred on an ILS approach, the glideslope mode is armed. Automatic capture occurs as the aircraft intercepts the glideslope from either above or below. When the intercept occurs, "GS" is illuminated on the annunciator panel. The autopilot will maintain the glideslope with pitch corrections. If altitude hold (ALT) mode had been engaged prior to GS capture, it will disengage at GS capture and the ALT light will go out.

NOTE: For system limitations refer to your Flight Manual Supplement.

NOTE: GS is locked out on VOR, RNAV APR and BC.

7. To disengage the APR mode, press the APR button or select another roll mode.



BACK COURSE (BC) MODE

In the Back Course (BC) mode the autopilot intercepts and tracks a reverse course ILS. To operate in the BC mode:

1. Tune the frequency for the selected localizer.
2. *Be certain to set the OBS to the Localizer Front Course even though you will be flying a reciprocal heading on a Localizer Back Course Approach. For example, when making a BC APCH RWY 27, the associated Front Course would be approximately 090 degrees. Set the OBS to 090 to fly a coupled Back Course Approach to RWY 27.*
3. Establish the desired intercept angle by setting the heading "bug" on the intercept heading and activate the HDG mode. ("HDG" light will illuminate.)
4. Select the Back Course mode by either pressing the "APR" button and then the BC button,

or by merely pressing the BC button itself. (HDG will remain illuminated, BC will illuminate, and APR will flash to signify that APR mode is armed.)

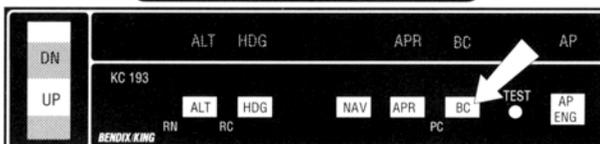
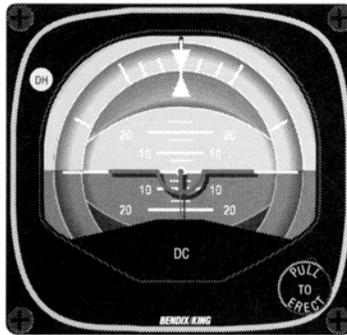
NOTE: If the BC APR mode is selected within 3-4 dots of course deviation, BC APR arm mode will be bypassed and the BC APR mode will engage directly. For system limitations refer to your Flight Manual Supplement.

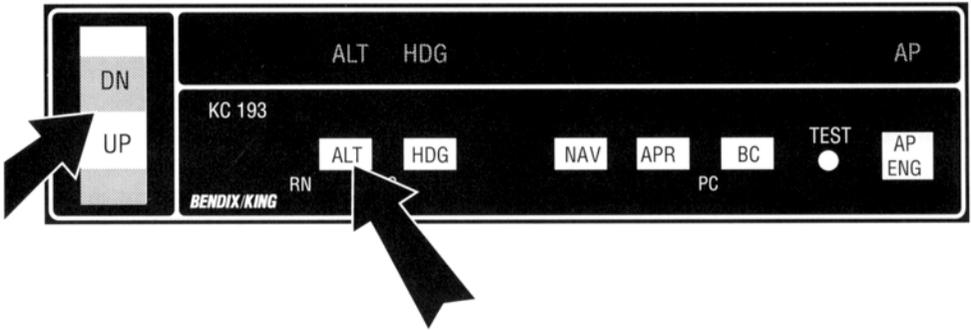
5. The autopilot will fly the selected heading until entering the capture zone, then turn to intercept the course. The "HDG" light will go off

and the "APR" light will illuminate steadily as the BC mode goes from arm to engage.

6. The autopilot will bank as required to maintain course. Automatic crosswind compensation will provide precise tracking. (The glideslope is locked out on Back Course approaches.)

7. To disengage the BC mode, press the BC button or select another roll mode.





ALTITUDE HOLD MODE (ALT)

In the altitude hold (ALT) mode, the autopilot maintains the altitude at which the mode was engaged. To operate in the ALT mode:

1. Depress the "ALT" button when the aircraft has reached the altitude you wish to maintain. (For smoother transition to the Altitude Hold Mode, press the "ALT" Button when the vertical velocity is no more than 500 fpm.)
2. The autopilot will then make the required pitch changes to keep the helicopter level at the selected altitude.
3. The vertical trim switch may be used to adjust altitude up or down at approximately 500 fpm without
4. disengaging altitude hold. (The ALT mode is cancelled by automatic glideslope capture or by depressing the "ALT" button.) When the vertical trim switch is released, the autopilot will maintain the new altitude.
5. The CWS button may also be used to adjust altitude. Press and hold the CWS button while flying the helicopter to the desired new altitude at which the CWS button is released.
5. To disengage the ALT mode, press the ALT button.

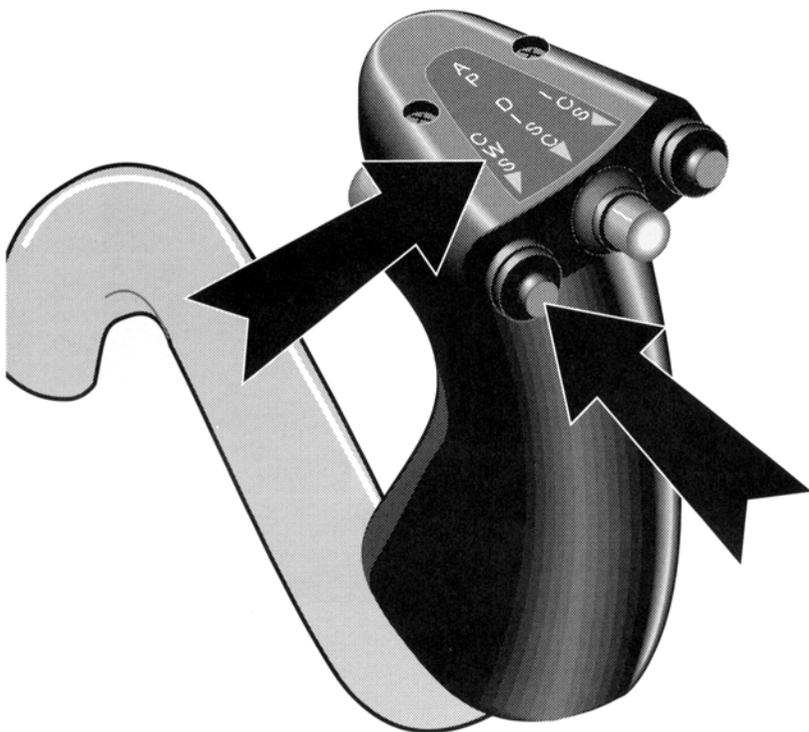
CONTROL WHEEL STEERING MODE (CWS)

With the autopilot engaged, control wheel steering (CWS) allows the pilot to maneuver the helicopter without disengaging the autopilot.

To use control wheel steering, depress the CWS button on the cyclic. This releases the autopilot servos and allows the pilot to assume manual control while autopilot control functions are placed in a synchronization state. When the CWS button is released, the

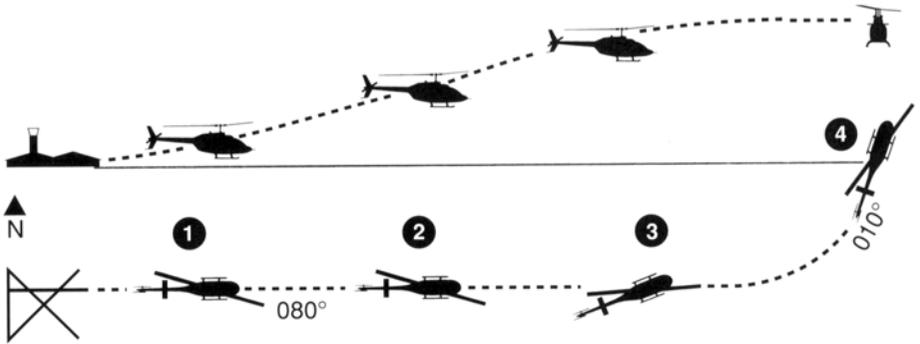
autopilot will smoothly resume control of the helicopter and fly it to the lateral command (HDG, NAV APR or BC) being used prior to engaging CWS. The vertical command used by the autopilot will be the one existing when CWS is released.

NOTE: For system limitations refer to the Flight Manual Supplement for your particular helicopter.



OPERATIONS WITH THE KAP 150H

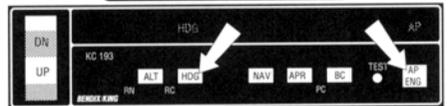
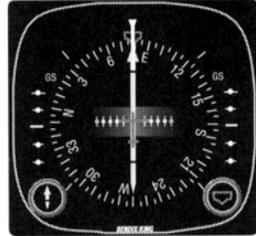
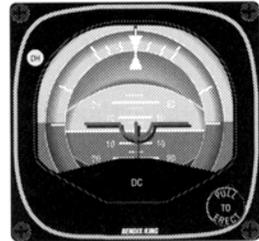
Takeoff And Climb To Assigned Altitude



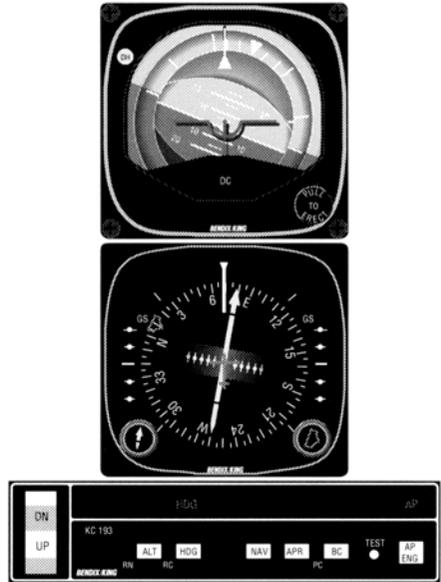
1. The helicopter is well off the ground and climbing with an appropriate airspeed.

The heading "bug" on the KI 525A is turned to the current heading of 080 degrees .

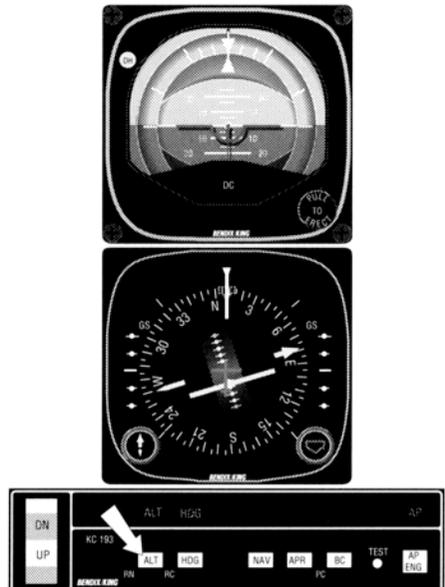
2. By depressing the "AP ENG" and "HDG" buttons on the KC 193, the autopilot engages and begins to maintain the existing pitch attitude and maintain the heading of 080 degrees. The autopilot maintains a level roll attitude since 080 degrees already was the heading at the time the HDG mode was engaged.



3. The heading “bug” on the KI 525A is turned to the new desired heading of 010 degrees and the helicopter begins to respond with an immediate left turn. Takeoff climb attitude continues.

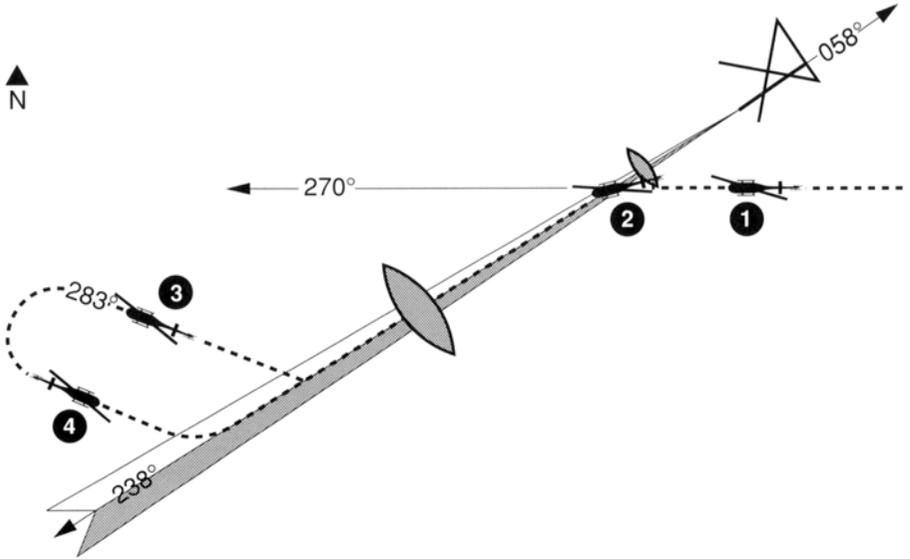


4. Desired altitude has been reached, altitude hold (ALT) has been engaged and the helicopter has returned to level flight. The 010 degree heading has been acquired.

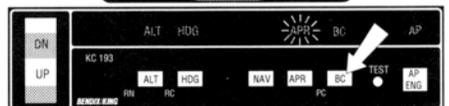
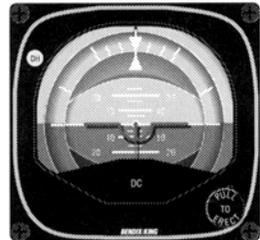


OPERATIONS WITH THE KAP 150H

Outbound On Front Course For Procedure Turn To ILS Approach

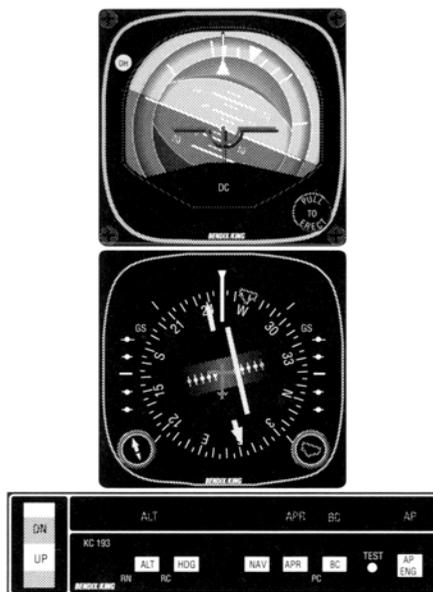


1. The helicopter is heading 270 degrees with heading (HDG), altitude hold (ALT) and autopilot (AP) engaged. To intercept and fly the ILS front course outboard, set the front course on the HSI and depress the Back Course (BC) button. The Back Course mode is selected to enable the autopilot to fly outboard on the front course. The capture point is now being computed based on closure rate.



- When the computed capture point is reached, HDG mode is cancelled, Back Course (BC) mode activates, and a left turn out-bound on the localizer is initiated by the autopilot.

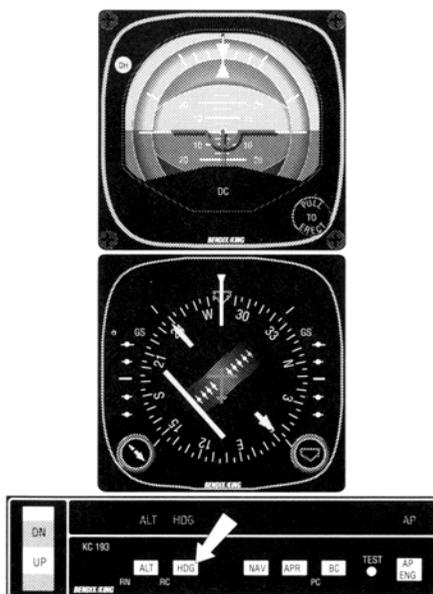
NOTE: The left-right deviations of the HSI course needle are directional (i.e., fly left if the needle is left of center and fly right if the needle is right of center).



- Now you have turned the heading "bug" left to 103 degrees and made a left 180-degree turn to this heading. The 103 degree heading will intercept the front course of 058 degrees. You must now reselect the approach mode by depressing the "APR" button on the mode controller. The "APR" light will begin to flash signifying the approach mode is armed. Automatic capture of the localizer will occur.

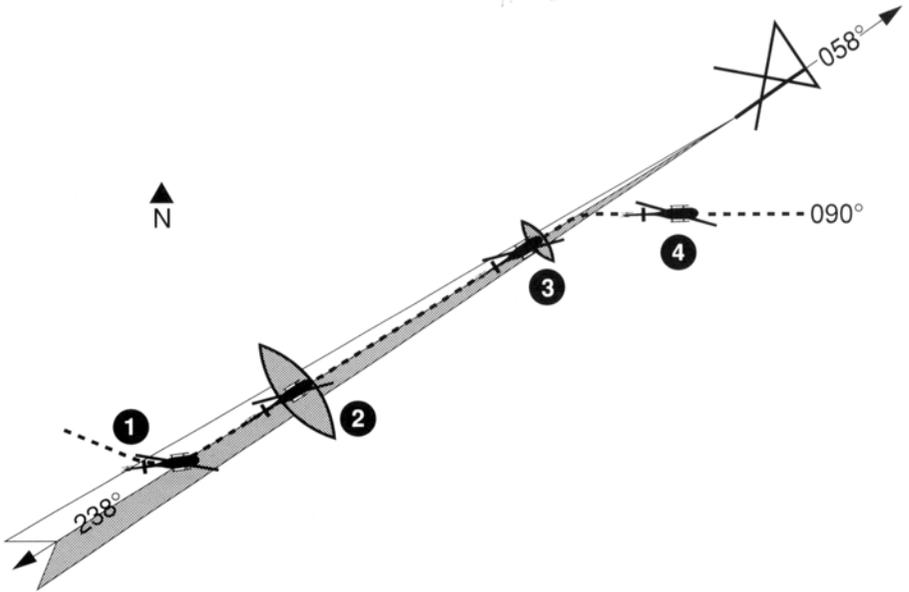


- To initiate the procedure turn out-bound, the pilot positions the heading "bug" on the KI 525A at the desired heading of 283 degrees. After the heading (HDG) button is pressed on the KC 193, the autopilot initiates the right turn to 283 degrees. The deviation bar shows pictorially that the helicopter is flying away from the localizer centerline at a 45 degree angle on a selected heading of 283 degrees.

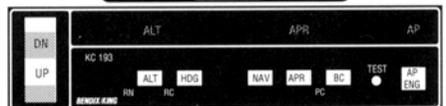
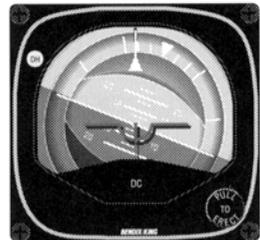


OPERATIONS WITH THE KAP 150H

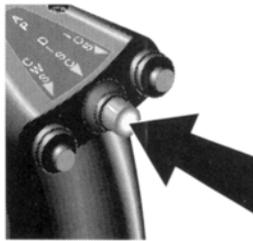
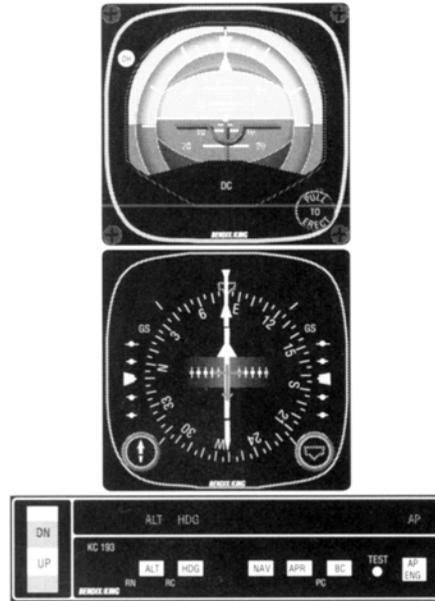
Front Course ILS Approach



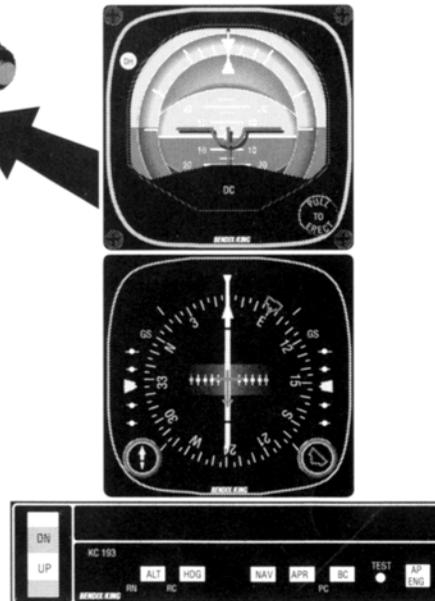
1. After establishing a localizer intercept heading with the heading bug while in HDG mode, the APR button is pressed. As APR coupling occurs, the APR annunciator light comes on steady, HDG light goes off, and the glideslope mode is automatically armed. The autopilot will roll the helicopter out on localizer and the course needle will center.



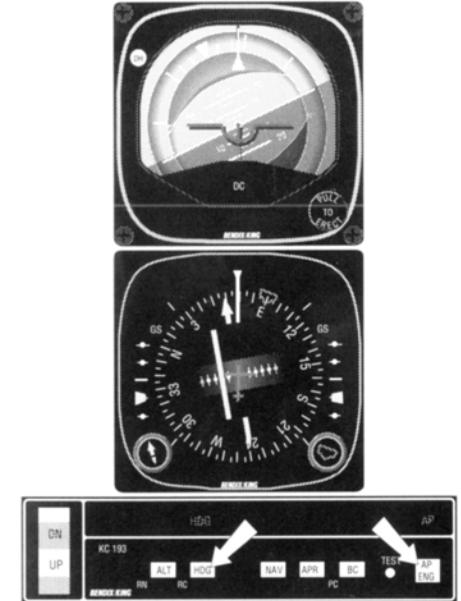
2. The autopilot follows the localizer, making automatic adjustments in heading to keep the course deviation needle centered. When the glideslope deviation needle reaches mid-scale, altitude hold is automatically disengaged when the glideslope is captured. The "ALT" light goes out and "GS" comes on. The autopilot will make pitch and bank changes as necessary to maintain glideslope and localizer tracking.



3. At the middle marker, the pilot disconnects the autopilot with the AP DISC button on the cyclic. This cancels all operating autopilot modes. The pilot initiates a missed approach.

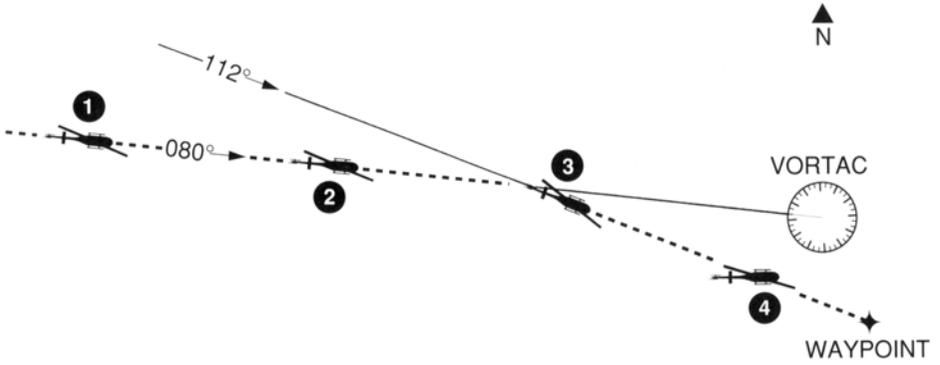


4. The heading "bug" has been previously set to the missed approach heading, 090 degrees. Engaging the autopilot and activating the "HDG" mode causes the autopilot to commence a right turn to a heading of 090 degrees. With the basic pitch mode engaged, the autopilot will fly the helicopter at the pitch attitude existing when the KAP 150H is engaged. To increase or decrease that pitch attitude during climb out, use control wheel steering or the vertical trim control.

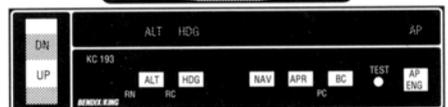
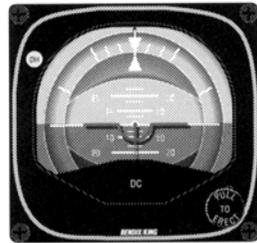


OPERATIONS WITH THE KAP 150H

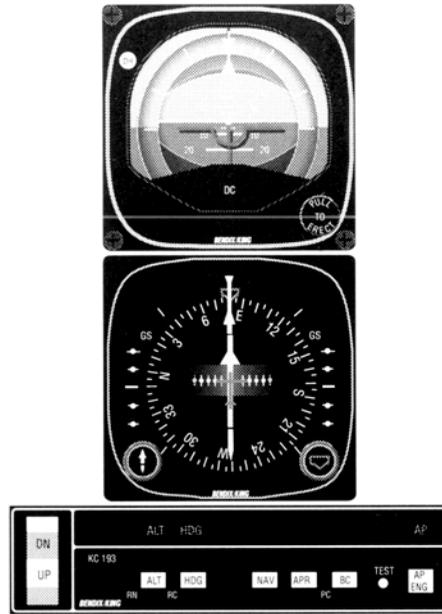
RNAV or Loran Capture



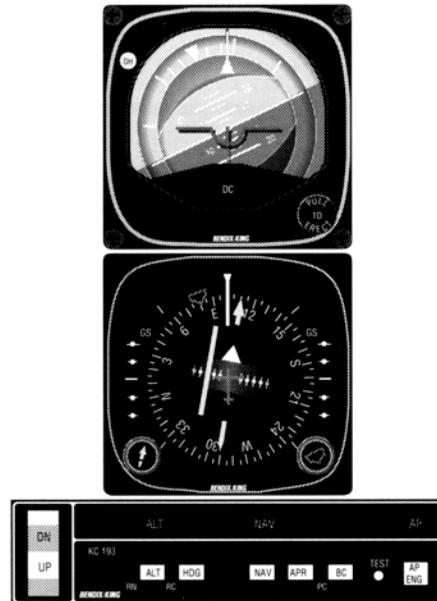
1. The helicopter is flying to a VOR on an airway in HDG mode, heading 080 degrees.



2. A waypoint has been established in the Loran or RNAV computer, which is in enroute mode. A 112 degree course to the waypoint has been selected (using OBS Mode with Loran) and "NAV" button pushed "on". The "NAV" light is flashing to signify that the NAV mode is armed. The autopilot is still following the heading select mode on 080 degrees and will do so until the capture zone is entered and NAV mode is coupled. The capture point is now being computed based on closure rate.



3. The capture sequence starts when NAV mode automatically couples, cancelling the NAV/ARM and HDG modes. The autopilot is turning the helicopter right.



4. The helicopter has completed its turn to the 112 degree course. A wind correction produces a heading of 105 degrees, displaying a seven degree "crab" angle to maintain the 112 degree RNAV or Loran course.

Note: When using Loran as a navigation source, the course arrow on the KI 525A must be set at the Desired Track or OBS setting indicated by the Loran. Moving the course pointer on the KI 525A does not affect movement or location of the Left/Right course deviation bar. However, in order for the KAP 150H to track a Loran course, the proper course must be set in the HSI.



OPTIONAL NAV 1/NAV 2 SWITCHING

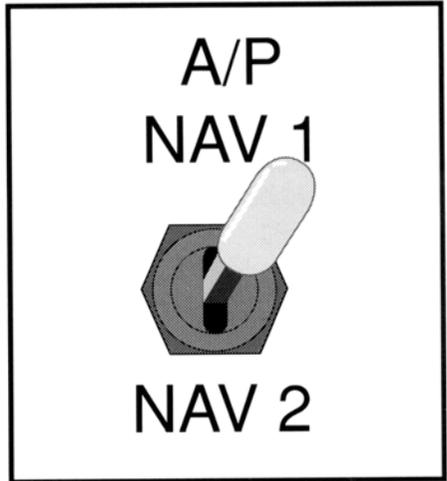
It is possible to obtain an optional NAV 1/NAV 2 switching system for the KAP 150H, which allows the autopilot to fly sensor information from either the Number 1 VOR/ILS/RNAV navigation indicator or the Number 2 VOR/ILS/RNAV navigation indicator.

With the switch installed on the cockpit panel, the pilot merely flips the switch if he wants to have the autopilot fly information from the Number 2 radio. This may be particularly helpful if either the Number 1 or Number 2 radio should fail.

When coupled to the Number 2 radio, the KAP 150H continues to utilize the heading bug information set on the KI 525A while in the HDG mode. Information such as Desired Track, OBS, and inbound localizer course must be set on the Number 2 NAV Course

Deviation Indicator (e.g., KI 206) using the OBS selector knob.

In order to accommodate NAV 1/NAV 2 switching, a special status KI 525A HSI and a special status Course Deviation Indicator are required.



EMERGENCY PROCEDURES

Consult the Flight Manual Supplement for emergency procedures.

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