# BENDIX/KING KR 87 ADF SYSTEM - DESCRIPTION AND OPERATION

## 1. General

A. This section gives the description and operation of the Bendix/King KR 87 ADF System. The line replaceable units (LRU's) in the KR 87 ADF System are the Bendix/King KA-44B ADF antenna and the Bendix/King KR 87 ADF Receiver. The Bendix/King KR 87 ADF System is a stand alone that interfaces with the Garmin G1000 integrated avionics system to give distance data that is shown on the primary flight display (PFD).

B. Refer to Figure 1 for a general view of the KR 87 ADF system.

## 2. Description

A. KR 87 ADF Receiver.

(1) The KR 87 ADF receiver is installed in the center of the instrument panel, below the multifunctional display (MFD). The KR 87 ADF receiver is solid-state and digitally tunable. The KR 87 ADF gives bearing data through the G1000 of stations in the 200 KHz to 1799 KHz frequency band. The receiver also gives audio reception to enable the pilot to identify stations and listen to transcribed weather broadcasts or commercial radio stations in the AM broadcast band. Once the ADF receiver has been tuned to the desired frequency using the unit's tuning knob, the pilot can display the ADF cyan-colored pointer on the HSI using the PFD soft keys. The KR 87 ADF gives sine / cosine data to GIA 2 and analog audio to the audio panel. The incoming audio can be heard in headsets or over the cabin speakers when ADF audio is selected on the audio panel. ,The unit has a gas-discharge display that shows the active ADF frequency in the left window, while the right window shows an indication of either the standby frequency, a flight timer, or a programmable elapsed timer. The receiver automatically adjusts its display brightness to compensate for changes in the ambient light level.

B. KA-44B ADF Antenna.

(1) The KA 44B antenna contains both loop and sense amplifiers, preamplifiers, and modulators that combine the loop and sense signals into a single RF signal which is output to the KR87 through a tri-axial cable of non-critical length.

(2) The KA-44B ADF antenna is installed on the top of the fuselage as follows:

(a) Model 208: LBL 4.55, FS 238.90.

(b) Model 208B: LBL 4.55, FS 286.90.

## 3. Operation

A. The KR 87 is a panel-mounted, solid-state, digital display ADF with an operating frequency range of 200 KHz to 1799 KHz, that gives bearing data to the G1000 system. The pilot uses the unit's tuning knob to tune the ADF receiver to select the desired frequency. The pilot can then use the primary flight display (PFD) softkeys to show the ADF cyan-colored pointer on the PFD HSI.

B. The KR 87 ADF provides sine/cosine data to the Garmin 63W/64W integrated avionics unit No. 2 and analog audio to the audio panel.

(1) The incoming audio can be heard in headsets or over the cabin speakers when ADF audio is selected on the audio panel.

Figure 1 : Sheet 1 : Bendix/King KR 87 ADF System