# SUPPLEMENT A1
# TO THE AIRPLANE FLIGHT MANUAL DA 40

## COMM/NAV
## KX 125
## BENDIX/KING

**Doc. No.** : **6.01.01-E**

**Date of Issue of the Supplement** : **26 Sep 2000**

Signature :

Authority :

Stamp : AUSTRO CONTROL GmbH
Abteilung Flugtechnik
Zentrale
A-1030 Wien, Schnirchgasse 11

Date of approval : 02. JULI 2001

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

**DIAMOND AIRCRAFT INDUSTRIES GMBH**
**N.A. OTTO-STR. 5**
**A-2700 WIENER NEUSTADT**
**AUSTRIA**

## 0.1 RECORD OF REVISIONS

| Rev. No. | Chapter | Pages | Date of Revision | Date Inserted | Signature |
|---|---|---|---|---|---|
| 1 | all | all | 20 Apr 2001 | | |
| | | | | | |

## 0.2 LIST OF EFFECTIVE PAGES

| Chapter | Page | Date |
|---|---|---|
| 0 | 9-A1-1 | 20 Apr 2001 |
| | 9-A1-2 | 20 Apr 2001 |
| | 9-A1-3 | 20 Apr 2001 |
| 1, 2, 3, 4A, 4B, 5 | 9-A1-4 | 20 Apr 2001 |
| 6 | 9-A1-5 | 20 Apr 2001 |
| 7 | 9-A1-5 | 20 Apr 2001 |
| | 9-A1-6 | 20 Apr 2001 |
| | 9-A1-7 | 20 Apr 2001 |
| | 9-A1-8 | 20 Apr 2001 |
| | 9-A1-9 | 20 Apr 2001 |
| | 9-A1-10 | 20 Apr 2001 |
| | 9-A1-11 | 20 Apr 2001 |
| | 9-A1-12 | 20 Apr 2001 |
| | 9-A1-13 | 20 Apr 2001 |
| 8 | 9-A1-13 | 20 Apr 2001 |

## 0.3 TABLE OF CONTENTS

## 1. GENERAL

This Supplement supplies the information necessary for the efficient operation of the airplane when the COM/NAV KX 125 is installed. The information contained within this Supplement is to be used in conjunction with the complete AFM.

This Supplement is a permanent part of this AFM and must remain in this AFM at all times when the COM/NAV KX 125 is installed.

## 2. LIMITATIONS

No change.

## 3. EMERGENCY PROCEDURES

No change.

## 4A. NORMAL OPERATING PROCEDURES

No change.

## 4B. ABNORMAL OPERATING PROCEDURES

No change.

## 5. PERFORMANCE

No change.

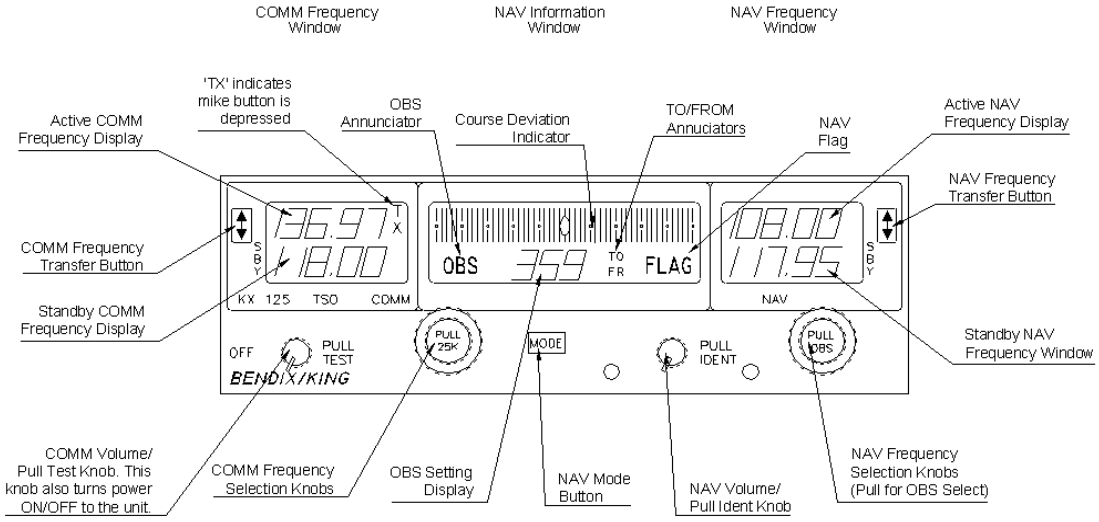
# 6. MASS AND BALANCE

Upon removal or installation of the COM/NAV KX 125 the change of empty mass and corresponding center of gravity of the airplane must be recorded according to Chapter 6 of the Airplane Flight Manual.

# 7. DESCRIPTION OF THE AIRPLANE AND ITS SYSTEMS

## 7.14 AVIONICS

### FRONT VIEW



## DESCRIPTION

The BENDIX/KING KX 125 NAV/COMM consists of a transmitter/receiver for communication (COMM) and a receiver for navigation information (NAV). These are combined with operating controls and course deviation indicator (CDI) in one unit and information is displayed on a liquid crystal display (LCD). For the COMM part 760 channels are spaced 25 kHz apart and cover a frequency range from 118.000 Mhz to 136.975 MHz. In the NAV part 200 VOR/LOC-channels are spaced 50 kHz apart and cover a frequency range from 108.00 MHz to117.95 MHz.

The NAV/COMM is installed in the center of the instrument panel.

Both, COMM and NAV provide one active and one standby frequency. The NAV/COMM will remember all displayed frequencies during power shutdown, so that they will be available the next time the system is powered up.

## GENERAL INFORMATION

The KX 125 should be turned on only after engine startup, or should be turned off before engine shutdown. This extends the operation life of the COMM/NAV. The COMM/NAV can be turned on or off by rotating the ON/OFF/Volume knob of the radio or by switching the Avionics Master Switch to OFF.

## TURN ON

Position the Battery/Main Switch (BAT) and Avionics Master Switch to ON. To turn on the radio, rotate the ON/OFF/Volume knob clockwise from the OFF position. The radio is prompt ready for operation. The last set frequencies will be displayed.

## SELECTING FREQUENCIES

STANDARD MODE

Rotating the COMM- and NAV Frequency Selection Knobs changes the Frequency in the Standby Window. The outer (lager) knob will change the frequency in 1 MHz steps. The inner (smaller) knob will change the kHz portion of the standby display. It will change in steps of 50 kHz when the knob is pushed in, and 25 kHz when the knob is pulled out. At one band-edge (118 MHz or 136 MHz) the following frequency change will wrap around to the other band edge.

To tune the radio to the desired operating frequency, the desired frequency must be entered into the SBY display and then the TRANSFER button must be pushed momentarily. This will trade the contents of the USE and SBY display.

OPERATION CATEGORY „ACTIVE FREQUENCY ENTRY MODE“

To activate the active entry mode, press and hold the COMM- or NAV-TRANSFER button for 2 seconds or more. The standby frequency will blank and the last USE frequency displayed can be changed directly by the FREQ selector knobs. In the active entry mode the COMM/NAV is also always tuned to the frequency appearing in the USE display. To exit the active entry mode, momentarily press the TRANSFER button. The previous SBY frequency will be re-displayed.

## COMM

TRANSMIT

To transmit, the PTT (Push To Talk) switch on the stick or on the hand microphone must be pushed. A 'TX' annunciator will come on to indicate the Transmit mode of operation.

VOLUME, SQUELCH

The volume of the COMM can be adjusted by the ON/OFF/VOL knob. Pull the ON/OFF/VOL knob out and adjust for desired listening level. Push the ON/OFF/VOL knob back in to actuate the automatic squelch.

## NAVIGATION (NAV-Teil)

VOLUME, STATION IDENTIFICATION

The NAV audio volume can be adjusted with the NAV VOL knob. Pulling the NAV VOL knob out will allow both voice and morse code identification (IDENT) of the tuned NAV station to be heard. When the NAV VOL knob is pushed in, the IDENT tone is attenuated.

NAV-MODES

If a VOR frequency is used, the NAV MODE switch can be used to switch the 3 NAV MODES into the NAV INFORMATION DISPLAY (middle Window).

The 3 modes are: CDI-MODE (Course Deviation Indicator)

BRG-Mode (Bearing)

RAD-Mode (Radial)

On power up the KX 125 will go into the default CDI mode. Momentarily pressing the NAV MODE button will step switch the KX 125 NAV modes in the following sequence: Bearing, Radial, back to CDI and so on.

Tuned to a localizer frequency, the KX 125 will automatically change to CDI mode.

CDI-MODE (COURSE DEVIATION INDICATOR)

In CDI-Mode the NAV Information Display will light up the deviation bars. If a valid VOR signal is received, the deviation scale will show left or right deviation bars, which indicate

SELECTING A RADIAL

The OBS entry mode is activated when the inner (smaller) NAV frequency selection knob (“Pull OBS” knob) is pulled out while a VOR frequency is displayed on the NAV active window. The OBS annunciator will flash to indicate you are in the OBS select mode (OBS knob pulled out). Rotating the inner NAV frequency selection knob changes the OBS setting. Turning the knob quickly results in large changes to the OBS setting, while turning the knob slowly changes the OBS setting one degree at a time. While in the OBS mode, the appropriate “TO” or “FR” (To/From) annunciation is also displayed.

If an invalid NAV signal is being received, the unit indicates a flagged condition by displaying all the deviation bars on the CDI, along with a “FLAG” annunciation. In addition, the “TO” and “FR” annunciations are removed from the display.

BRG-MODE

In the Bearing mode, the received VOR signal is always displayed in TO format, and is selected by pressing the NAV Mode button to cycle to the BRG Mode. In the BRG mode, the deviation scale, deviation bars and OBS annunciator are not displayed. When a valid navigation signal is being received, the NAV INFO window will show a three-digit display with a 'TO' annunciator.

If a valid navigation signal is not being received, dashes (---) are displayed in the NAV INFO window.

RAD-MODE (RADIALANZEIGE)

In the Radial mode, the KX 125 will always display the received VOR signal in FROM format, and is selected by pressing the NAV Mode button to cycle to the RAD Mode. In the RAD mode, the deviation scale, deviation bars and OBS annunciator are not displayed. When a valid navigation signal is being received, the NAV INFO window will show a three-digit display with a 'FR' annunciator.

If a valid navigation signal is not being received, dashes (---) are displayed in the NAV INFO window.

AUTO-TO-FUNCTION

Regardless of the active mode, pressing and holding the Mode button for more than 2 seconds will activate the “Auto-TO” mode, bringing up the CDI mode with a centered deviation bar, a “TO” indication and an OBS setting indicating the direct course to the station. Once this is done, the indicator will then operate in the normal CDI mode, showing the appropriate left - right course deviation.

LOCALIZER-OPERATION

When a localizer frequency is selected in the active frequency window, the CDI-mode will be activated automatically. The 'OBS'-, 'TO'-, and 'FR'- indicators are not shown, and the NAV INFO window will display 'LOC'.

When a valid localizer signal is being received, deviation bars are displayed left or right along the deviation scale, indicating course deviation.

If an invalid localizer signal is received, all CDI deviation bars and a 'FLAG' annunciator are displayed.

If a localizer frequency is active and a VOR frequency is selected, the KX 125 will return to the mode in use prior to selection of the localizer frequency.

LOSS OF FREQUENCY DISPLAY

This mode will help if a loss of the frequency display is encountered. This mode will be entered if the KX 125 is powered up with either the COMM or NAV TRANSFER button is depressed, it will default into the COMM and NAV active entry mode. The active COMM frequency will be set to 120.00 MHz and the active NAV frequency will be set to 110.00 MHz.

Now the desired frequency can be set by rotating the frequency selection knobs. Rotating the outer (lager) knob clockwise will increase the frequency in 1 MHz steps. Rotating it counterclockwise will decrease the frequency in 1 MHz steps.

Rotating

The outer (lager) knob will change the frequency in 1 MHz steps. The inner (smaller) knob will change the kHz portion of the standby display. It will change in steps of 50 kHz when the knob is pushed in, and 25 kHz when the knob is pulled out.

The inner (smaller) knob will change the kHz portion in 50 kHz steps. Rotating clockwise will increase the frequency and rotating counterclockwise will decrease it.

For the COMM, the frequency can also be changed in 25 kHz steps, when the inner (smaller) knob is pulled out.

This will aid the pilot in blind tuning the radio in the unlikely event of display failure.

COMM and NAV standby frequencies are also 120.00 MHz and 110.00 MHz but will not be displayed.

**STUCK MICROPHONE BUTTON PROTECTION**

During transmissions, a 'TX' appears on the right side of the COMM Frequency Window. When the PTT-button is pressed continuously for more than 35 seconds, the KX 125 will automatically switch back to 'Receiving-mode'. Both, active frequency and standby frequency will begin to flash, to alert the pilot of a possible stuck transmit button.

**CIRCUIT PROTECTION**

A 10 ampère circuit breaker protects the electrical system from overload in case of a short circuit in the NAV/COMM.

## 8. AIRPLANE HANDLING, CARE AND MAINTENANCE

No change.