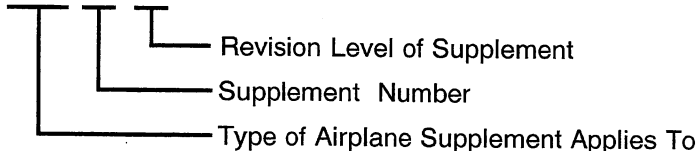# SUPPLEMENTS

INTRODUCTION

The supplements in this section contain amended operating limitations, operating procedures, performance data and other necessary information for airplanes equipped with specific options. Operators should refer to each supplement to ensure that all limitations and procedures appropriate for their airplane are observed.

If optional equipment is installed on the airplane, the respective supplement must be maintained to the latest revision level. If optional equipment is not installed on the airplane, the supplement does not have to be retained.

A non FAA Approved Log of Supplements is provided for convenience only. This log is a numerical list of all the supplements published for this airplane and also shows the revision level of each supplement.

Each individual supplement contains its own Log of Effective Pages. This log lists the page number and effective date of every page in the supplement. The log also lists the dates on which revisions to the supplement occurred. Additionally, the part number of the supplement provides information on the revision level. Refer to the following example:

182S-S1-04

———— Revision Level of Supplement

———— Supplement Number

———— Type of Airplane Supplement Applies To

LOG OF APPROVED SUPPLEMENTS

SUPP. #	SUPPLEMENT NAME	REV LEVEL	EQUIPMENT INSTALLED
1	Bendix/King KX 155A VHF NAV/COMM with KI 208 or KI 209A Indicator Head	1	_____
2	Bendix/King KT 76C Transponder with Blind Encoder	0	_____
3	Bendix/King KMA 26 Audio Selector Panel	0	_____
4	Pointer Model 3000-11 Emergency Locator Transmitter (ELT)	0	_____
5	Bendix/King KLN 89B Global Positioning System (GPS)	2	_____
6	Bendix/King KR 87 Automatic Direction Finder (ADF)	1	_____
7	Bendix/King KAP 140 Autopilot	1	_____
8	Winterization Kit	0	_____
9	Davtron Model 803 Clock/OAT	0	_____
10	Bendix/King KLN89 Global Positioning System (GPS)	0	_____
11	Bendix/King KAP 140 2-Axis Autopilot (Aircraft Serial No. 18280001 thru 18280164)	2	_____
12	Canadian Supplement	0	_____
13	Reserved	0	
14	Reserved	0	

LOG OF APPROVED SUPPLEMENTS

SUPP. #	SUPPLEMENT NAME	REV LEVEL	EQUIPMENT INSTALLED
15	Bendix/King KAP 140 Autopilot (Serial No. 18280165 and on or aircraft modified by MK182-22-01)	0	_____

Cessna
A Textron Company

Pilot's Operating Handbook and
FAA Approved Airplane Flight Manual

CESSNA MODEL 182S

AIRPLANES 18280001 AND ON

SUPPLEMENT 1

BENDIX/KING KX 155A
VHF NAV/COMM
with KI 208 or KI 209A INDICATOR HEAD

SERIAL NO._____

REGISTRATION NO._____

This supplement must be inserted into Section 9 of the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual when the VHF/NAV COMM with Indicator Head is installed.

 Member of GAMA

3 February 1997

Revision 1 - 1 December 1997

182SPHUS-S1-01

S1-1

SUPPLEMENT 1

BENDIX/KING KX 155A VHF NAV/COMM with KI 208 or KI 209A INDICATOR HEAD

The following Log of Effective Pages provides the date of issue for original and revised pages, as well as a listing of all pages in the Supplement. Pages which are affected by the current revision will carry the date of that revision

Revision Level	Date of Issue
0 (Original)	Feb. 3, 1997
1	Dec. 1, 1997

LOG OF EFFECTIVITY

PAGE	DATE	PAGE	DATE
Title (S1-1)	Dec 1/97	S1-9	Feb 3/97
S1-2	Dec 1/97	S1-10	Feb 3/97
S1-3	Feb 3/97	S1-11	Dec 1/97
S1-4	Feb 3/97	S1-12	Feb 3/97
S1-5	Feb 3/97	S1-13	Feb 3/97
S1-6	Feb 3/97	S1-14	Feb 3/97
S1-7	Feb 3/97	S1-15	Feb 3/97
S1-8	Feb 3/97		

SERVICE BULLETIN CONFIGURATION LIST

The following is a list of Service Bulletins that are applicable to the operation of the airplane, and have been incorporated into this supplement. This list contains only those Service Bulletins

Number	Title	Airplane Unit Effectivity	Revision Incorporation	Incorporated In Airplane

SUPPLEMENT

BENDIX/KING KX 155A NAV/COMM with KI 208 or KI 209A INDICATOR HEAD

SECTION 1
GENERAL

The Bendix/King KX 155A Nav/Comm, shown in Figure 1, consists of a panel-mounted receiver-transmitter and a KI 208 or KI 209A Indicator.

The set includes a 760-channel VHF communications receiver-transmitter and a 200-channel VHF navigation receiver. A 40-channel glide- slope receiver is also included if the KI 209A indicator is used. The communications receiver-transmitter receives and transmits signals between 118.00 and 136.975 MHz with 25-kHz spacing. Optional 8.33 kHz (2280 channel) Comm is available. The navigation receiver receives VOR and localizer signals between 108.00 and 117.95 MHz in 50-kHz steps. The glide slope receiver is automatically tuned when a localizer frequency is selected. The circuits required to interpret the VOR and localizer signals are also an integral part of the Nav receiver.

Large self-dimming gas discharge readouts display both the communications and navigation operating frequencies. The KX-155A's "flip-flop" preselect feature enables you to store one frequency in the standby display while operating on another and then interchange them instantly with the touch of a button. Both the active (COMM) and the standby (STBY) frequencies may be displayed at all times and are stored in nonvolatile memory without drain on the aircraft battery. KX 155A has 32 programmable comm channels, a stuck microphone alert and transmitter shutdown, Bearing To/From radial mode, course deviation indicator mode and an elapsed timer mode.

The Comm portion incorporates an automatic squelch. To override the automatic squelch, the Comm volume control knob is pulled out. Push the knob back in to reactivate the automatic squelch. A "T" will be displayed during transmit and "R" during valid signal reception.

The Nav portion uses the pull out feature of the Nav volume control to receive the Nav signal Ident. Pull the volume control knob out to hear the Ident signal plus voice. Push the knob in to attenuate the Ident signal and still hear Nav voice.

All controls for the Nav/Comm, except those for navigation course selection, are mounted on the front panel of the receiver-transmitter. Control lighting is provided by NAV/COMM interior lighting and the instrument panel flood lighting system. Operation and description of the audio selector panel used in conjunction with this radio is shown and described in Supplement 3 in this section.
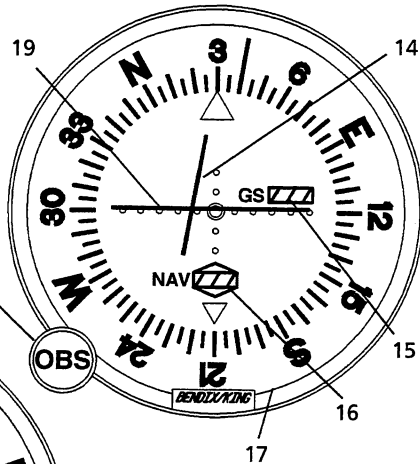
NOTE

The unit has a stuck microphone alert feature. If the microphone is keyed continuously for greater than 33 seconds, the transmitter stops transmitting and the active Comm frequency flashes to alert the pilot of the stuck mic condition.
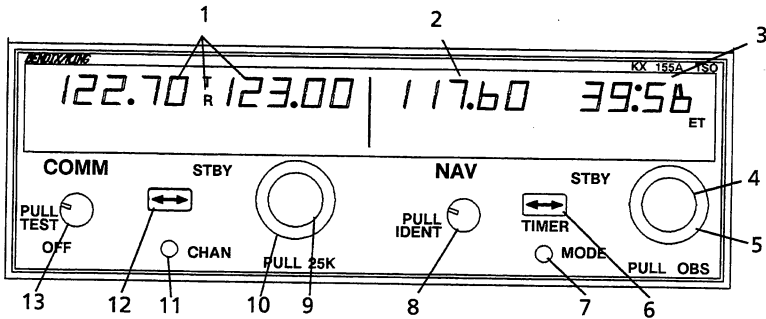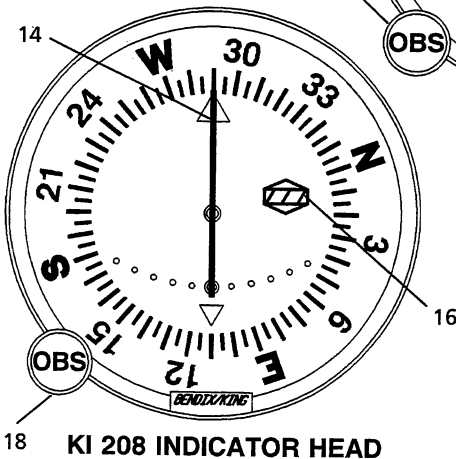
KX 155A VHF NAV/COMM

⬡ **TO INDICATION**

⬢ **FROM INDICATION**

⬢ **FLAG INDICATION**

KI 209A INDICATOR

KI 208 INDICATOR HEAD

0585C1045
0585C1046
0585C1047

Figure 1. Bendix/King KX 155A VHF NAV/COMM with KI 208 or
KI 209A Indicator Head (Sheet 1 of 7)

NAV FUNCTION DISPLAYS
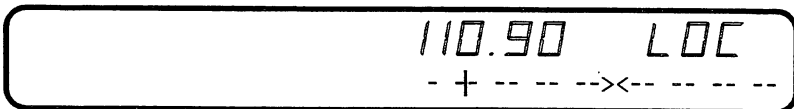
VOR MODE: ACTIVE/BEARING, CDI FORMAT

VOR MODE: ACTIVE/BEARING, FLAG DISPLAY

VOR MODE: ACTIVE "BEARING TO" FUNCTION DISPLAY

VOR MODE: ACTIVE/BEARING, FLAG DISPLAY

LOCALIZER MODE: FREQUENCY/CDI FORMAT

Figure 1. Bendix/King KX 155A VHF NAV/COMM with KI 208 or
KI 209A Indicator Head (Sheet 2 of 7)

1. OPERATING COMM FREQUENCY DISPLAY -- Displays COMM ACTIVE and COMM STANDBY frequencies with a "T" between them to indicate TRANSMIT and an "R" to indicate RECEIVE modes of operation.

2. OPERATING NAV FREQUENCY DISPLAY -- The right portion of the display is allocated to NAV receiver ACTIVE and STANDBY information. The frequency channeling is similar to the COMM when operating in the frequency mode. The NAV ACTIVE and STANDBY frequencies are stored in the memory on power down and return on power up.

3. NAV STANDBY/OBS/Bearing/Radial/Timer Display -- The right side of the NAV display is controlled by the MODE SELECTOR BUTTON (see #7 below). With an active VOR frequency, this portion of the display shows the STANDBY frequency, OBS setting for the internal CDI, the bearing to the VOR station, radial from the VOR station, or a count-up/count-down timer. With an active localizer frequency, this portion of the display shows the standby frequency, the letters "LOC", or count-up/count-down timer.

4. NAV FREQUENCY SELECTOR KNOB (SMALL) -- Operates in 50 kHz steps. The NAV receiver's lower and upper frequency limits are 108.00 MHz and 117.95 MHz. Exceeding the upper limit of frequency band will automatically return to the lower limit and vice versa. A clockwise rotation will increase (inc) the previous frequency while a counterclockwise rotation will decrease (dec) the previous frequency.

5. NAV FREQUENCY SELECTOR KNOB (LARGE) -- Operates in 1 MHz steps. The frequency inc/dec operates the STANDBY frequency display. A clockwise rotation will increase the previous frequency while a counterclockwise rotation will decrease the previous frequency. Exceeding the upper limit of the frequency band will automatically return to the lower limit and vice versa.

Figure 1. Bendix/King KX 155A VHF NAV/COMM with KI 208 or KI 209A Indicator Head (Sheet 3 of 7)

6. NAV/FREQUENCY TRANSFER BUTTON (⟷) -- Interchanges the NAV Active and STANDBY frequencies. Depressing the NAV frequency transfer button for 2 seconds or more will cause the display to go in to the ACTIVE ENTRY mode. Only the ACTIVE frequency will be displayed and it can be directly changed by using the NAV inc/dec knobs. The display will return to the ACTIVE/STANDBY mode when the NAV frequency transfer button is pushed.

7. MODE SELECTOR BUTTON -- Depressing the mode button will cause the NAV display to go from the ACTIVE/STANDBY format to the ACTIVE/CDI (Course Deviation Indicator) format. In the CDI mode, the frequency inc/dec knob (pushed in) channels the ACTIVE frequency. When the ACTIVE window is tuned to a VOR frequency, the standby frequency area is replaced by a three digit OBS (Omni Bearing Selector) display. The desired OBS course can be selected by pulling out the inner NAV frequency knob and turning it. This OBS display is independent of any OBS course selected on an external CDI. An "OBS" in the middle of the NAV display will flash while the inner NAV frequency knob is pulled out. The CDI is displayed on the line below the frequency/OBS. When the ACTIVE window is tuned to a localizer frequency, the standby frequency area is replaced by "LOC". When the received signal is too weak to ensure accuracy the display will "FLAG".

Depressing the mode button again will cause the NAV display to go from the ACTIVE/CDI format to the ACTIVE/BEARING format. In the BEARING mode, the frequency inc/dec knob channels the ACTIVE frequency window. Depressing the frequency transfer button will cause the ACTIVE frequency to be placed in blind storage and the STANDBY frequency (in blind storage) to be displayed in the ACTIVE window display. In bearing mode, the right hand window of the NAV display shows the bearing TO the station. When a too weak or invalid VOR signal is received the display flags (dashes).

Figure 1. Bendix/King KX 155A VHF NAV/COMM with KI 208 or KI 209A Indicator Head (Sheet 4 of 7)

Another push of the mode button will cause the NAV display to go from the ACTIVE/BEARING format to the ACTIVE/RADIAL format. In the RADIAL mode, the frequency inc/dec knobs channel the ACTIVE frequency window and depressing the frequency transfer button will cause the ACTIVE frequency to be placed in blind storage and the STANDBY frequency (in blind storage) to be displayed in the ACTIVE window display. In radial mode of operation, the right hand window of NAV display shows the radial FROM the station. When a too weak or invalid VOR signal is received the display flags (dashes).

Another push of the mode button will cause the unit to go into the TIMER mode. When the unit is turned on, the elapsed timer (ET) begins counting upwards from zero. The timer can be stopped and reset to zero by pushing the NAV frequency transfer button for 2 seconds or more causing the ET on the display to flash. In this state, the timer can be set as a countdown timer or the elapsed timer can be restarted. The countdown timer is set by using the NAV frequency inc/dec knobs to set the desired time and then pushing the NAV frequency transfer button to start the timer. The large knob selects minutes, the small knob in the "in" position selects 10 second intervals, and the small knob in the "out" position selects individual seconds. After the countdown timer reaches zero, the counter will begin to count upwards indefinitely while flashing for the first 15 seconds. When the elapsed timer is reset to zero it may be restarted again by momentarily pushing the NAV frequency transfer button.

8. NAV/VOLUME CONTROL (PULL IDENT) -- Adjusts volume of navigation receiver audio. When the knob is pulled out, the Ident signal plus voice may be heard. The volume of voice/ident can be adjusted by turning this knob.

Figure 1. Bendix/King KX 155A VHF NAV/COMM with KI 208 or KI 209A Indicator Head (Sheet 5 of 7)

9. COMM FREQUENCY SELECTOR KNOB (INNER) -- This smaller knob is designed to change the indicated frequency in steps of 50-kHz when it is pushed in, and in 25-kHz steps when it is pulled out. For 8.33 kHz versions, channels are incremented in 25 kHz steps with the knob pushed in and 8.33 kHz with the knob pulled out.

10. COMM FREQUENCY SELECTOR KNOB (OUTER) -- The outer, larger selector knob is used to change the MHz portion of the frequency display. At either band-edge of the 118-136 MHz frequency spectrum, an offscale rotation will wrap the display around to the other frequency band-edge (i.e., 136 MHz advances to 118 MHz).

11. CHANNEL BUTTON -- Pressing the CHAN button for 2 or more seconds will cause the unit to enter the channel program (PG) mode. Upon entering the channel program mode, the channel number will flash indicating that it can be programmed. The desired channel can be selected by turning the comm kHz knob. The channel frequency can be entered by pushing the comm transfer button which will cause the standby frequency to flash. The comm frequency knobs are then used to enter the desired frequency. If dashes (located between 136 MHz and 118 MHz) are entered instead of a frequency, the corresponding channel is skipped in channel selection mode. Additional channels may be programmed by pressing the COMM transfer button and using the same procedure. The channel information is saved by pushing the CHAN button which will also cause the unit to return to the previous frequency entry mode.

The channel selection mode (CH) can then be entered by momentarily pushing the CHAN button. The comm frequency knobs can be used to select the desired channel. The unit will automatically default to the previous mode if no channel is selected within 2 seconds after entering the channel selection mode. The unit is placed in the transmit mode by depressing a mic button.

Figure 1. Bendix/King KX 155A VHF NAV/COMM with KI 208 or KI 209A Indicator Head (Sheet 6 of 7)

12. COMM FREQUENCY TRANSFER BUTTON (⟷) -- Interchanges the frequencies in the USE and STANDBY displays. To tune the radio to the desired operating frequency, the desired frequency must be entered into the standby display and then the transfer button must be pushed. This will trade the contents of the active and standby displays. The operating frequency can also be entered by accessing the ACTIVE ENTRY (direct tune) mode which is done by pushing the COMM TRANSFER button for 2 or more seconds. In the direct tune mode, only the active part of the display is visible. The desired frequency can be directly entered into the display. Push the COMM TRANSFER button again to return to the active/standby display.
The transceiver is always tuned to the frequency appearing in the ACTIVE display. It is, therefore, possible to have two different frequencies stored in the ACTIVE and STANDBY displays and to change back and forth between them at the simple push of the transfer button.

13. COMM VOLUME CONTROL (OFF/PULL/TEST) -- Rotate the VOL knob clockwise from the OFF position. Pull the VOL knob out and adjust for desired listening level. Push the VOL knob back in to actuate the automatic squelch. The VOL knob may also be pulled out to hear particularly weak signals.

14. VOR/Localizer Needle or CDI needle.

15. Glideslope Flag

16. TO-FROM-NAV FLAG

17. Azimuth Card

18. OBS Knob

19. Glideslope Needle

Figure 1. Bendix/King KX 155A VHF NAV/COMM with KI 208 or KI 209A Indicator Head (Sheet 7 of 7)

SECTION 2
LIMITATIONS

There is no change to the airplane limitations when this avionic equipment is installed.

SECTION 3
EMERGENCY PROCEDURES

There is no change to the airplane emergency procedures when this avionic equipment is installed. However, if the frequency readouts fail, the radio will remain operational on the last frequency selected. If either frequency transfer button is pressed and held while power is applied to the unit, the unit wakes up with 120.00 MHz in the COMM use frequency and 110.00 MHz in the NAV active frequency, with both COMM and NAV in the active entry mode. This will aid the pilot in blind tuning the radio.

SECTION 4
NORMAL PROCEDURES

COMMUNICATION RECEIVER-TRANSMITTER OPERATION:

1. OFF/PULL/TEST Volume Control -- Turn clockwise; pull out and adjust to desired audio level; push control back in to activate the automatic squelch.
2. MIC Selector Switch (on audio control panel) -- SET to COMM 1.
3. SPEAKER Selector (on audio control panel) -- SET to desired mode.
4. COMM Frequency Selector Knobs -- Select desired operating frequency.
5. COMM Transfer Button -- PRESS to transfer desired frequency from the STBY display into the COMM display.

6. Mic Button:
   a. To transmit -- Press button and speak in microphone.

NOTE

During COMM transmission, a lighted "T" will appear between the "COMM" and "STBY" displays to indicate that the transceiver is operating in the transmit code.

   b. To Receive -- RELEASE mike button.

NAVIGATION RECEIVER OPERATION:

1. NAV Frequency Selector Knobs -- SELECT desired operating frequency in "STBY" display.
2. NAV TRANSFER BUTTON -- PRESS to transfer desired frequency from the "STBY" display into the "NAV" display.
3. Speaker Selector (on audio control panel) -- SET to desired mode..
4. NAV Volume Control --
   a. ADJUST to desired audio level.
   b. PULL out to identify station.

VOR OPERATION:

Channel the NAV Receiver to the desired VOR and monitor the audio to positively identify the station. To select an OBS course, turn the OBS knob to set the desired course under the lubber line. When a signal is received, the NAV flag will pull out of view and show a "TO" or "FROM" flag as appropriate for the selected course.

LOC OPERATION

Localizer circuitry is energized when the NAV Receiver is channeled to an ILS frequency. Monitor the LOC audio and positively identify the station. The NAV flag will be out of view when the signal is of sufficient strength to be usable.

GLIDESLOPE OPERATION

The glideslope receiver is automatically channeled when a localizer frequency is selected. A separate warning flag is provided to indicate usable signal conditions.

PILOT CONFIGURATION

This mode can be accessed by pressing and holding the NAV Mode Button for more than 2 seconds and then pressing the Nav Frequency Transfer Button for an additional 2 seconds, while continuing to hold the NAV Mode Button. When the Pilot Config Mode is entered the unit will show the "SWRV" mnemonic which is the unit software revision level. Adjustment pages can be accessed by MODE button presses.

The pilot may adjust two parameters in the pilot configuration, the display minimum brightness and sidetone volume level. Minimum Brightness (BRIM) will have a range of 0-255. The dimmest is 0 and the brightest is 255. Sidetone volume level is adjusted when SIDE is displayed. Values from 0-255 may be selected with 0 being least volume, 255 being the greatest.

Adjustment	Mnemonic	Min Level	Max Level
Software Revision Number	SWRV	- - -	- - -
Minimum Display Brightness	BRIM	0	255
Sidetone Level	SIDE	0	255

Subsequent presses of the MODE button sequences through SWRV, BRIM, SIDE, and then back to SWRV.

Pressing the NAV Transfer Button momentarily exits Pilot configuration mode. The NAV returns to its pre-Pilot Config state with the new brightness and sidetone levels stored in nonvolatile memory.

SECTION 5
PERFORMANCE

There is no change to the airplane performance when this avionic equipment is installed. However, the installation of an externally mounted antenna, or several related antennas, will result in a minor reduction in cruise performance.

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Pilot's Operating Handbook and
FAA Approved Airplane Flight Manual

CESSNA MODEL 182S

AIRPLANES 80001 AND ON

SUPPLEMENT 2

BENDIX/KING KT 76C
TRANSPONDER WITH BLIND ENCODER

SERIAL NO._____

REGISTRATION NO._____

This supplement must be inserted into Section 9 of the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual when the KT 76C Transponder with Blind Encoder is installed.

Member of GAMA

3 February 1997

182SPHUS-S2-00

SUPPLEMENT 2

BENDIX/KING KT 76C TRANSPONDER with BLIND ENCODER

The following Log of Effective Pages provides the date of issue for original and revised pages, as well as a listing of all pages in the Supplement. Pages which are affected by the current revision will carry the date of that revision

Revision Level	Date of Issue
0 (Original)	Feb. 3, 1997

LOG OF EFFECTIVITY

PAGE	DATE	PAGE	DATE
Title (S2-1)	Feb 3/97	S2-6	Feb 3/97
S2-2	Feb 3/97	S2-7	Feb 3/97
S2-3	Feb 3/97	S2-8	Feb 3/97
S2-4	Feb 3/97	S2-9	Feb 3/97
S2-5	Feb 3/97		

SERVICE BULLETIN CONFIGURATION LIST

The following is a list of Service Bulletins that are applicable to the operation of the airplane, and have been incorporated into this supplement. This list contains only those Service Bulletins that are currently active.

Number	Title	Airplane Unit Effectivity	Revision Incorporation	Incorporated In Airplane

SUPPLEMENT

BENDIX/KING KT 76C TRANPONDER
## with BLIND ENCODER

SECTION 1

GENERAL

The Bendix/King Transponder (Type KT 76C), Shown in Figure 1, is the airborne component of an Air Traffic Control Radar Beacon System (ATCRBS). The transponder enables the ATC ground controller to "see" and identify more readily the aircraft on the radarscope. The blind encoder (SSD120-20) enables the transponder to automatically report aircraft altitude to ATC.

The Bendix/King Transponder system consists of a panel-mounted unit and an externally-mounted antenna. The transponder receives interrogating pulse signals on 1030 MHz and transmits coded pulse-train reply signals on 1090 MHz. It is capable of replying to Mode A (aircraft identification) and also to Mode C (altitude reporting) interrogations on a selective reply basis on any of 4096 information code selections. A sidewall-mounted SSD120-20 Blind Encoder is included in the avionic configuration, the transponder can provide altitude reporting in 100-foot increments between -1000 and +20,000 feet.

The KT 76C features microprocessor and LSI (Large Scale Integrated) control. Mode and code selection are performed using the rotary knob and numeric buttons and all functions including the flight level altitude are presented on a gas discharge display. All display segments are automatically dimmed by a photocell type sensor.

A VFR programming sequence, described in Section 4, allows the pilot to preprogram any single code such as "1200" into the KT 76C. Pressing the VFR button instantly returns the KT 76C to the preprogrammed code without having to manually enter "1200".

All Bendix/King Transponder operating controls are located on the front panel of the unit. Functions of the operating controls are described in Figure 1.

Figure 1. Bendix/King KT 76C Transponder with Blind Encoder
(Sheet 1 of 2)
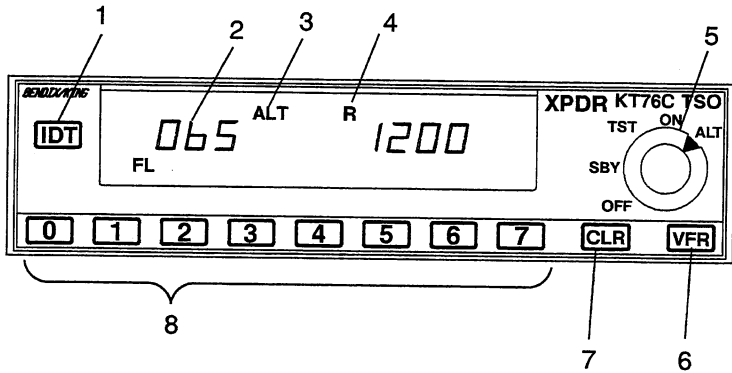
1. **IDENT BUTTON (IDT)** - When depressed, selects special identifier pulse to be transmitted with transponder reply to effect immediate identification of the airplane on the ground controller's display. ("R" will illuminate steadily for approximately 18 seconds. Button illumination is controlled by the avionic light dimming rheostat.

2. **ALTITUDE DISPLAY** - Displays the pressure altitude on the left side of the display. The display is in hundreds of feet. "FL" is annunciated to indicate Flight Level altitude. Flight Level is a term to indicate that the altitude is not true altitude, but barometric altitude which is not corrected for local pressure. For Example, "FL-040" corresponds to an altitude of 4000 feet, meaning sea level pressure of 29.92 inches of mercury.

   The Flight Level altitude is only displayed when the altitude reporting is enabled, i.e. in Altitude mode. If an invalid code from the altimeter is detected dashes will appear in the altitude window. Altitude reporting is disabled if the altitude window is blank or has dashes.

3. MODE ANNUNCIATORS - Displays the operating mode of the transponder.

4. REPLY INDICATOR (R) - "R" is illuminated for momentarily when the transponder is replying to a valid interrogation and during the 18 ± 2 seconds following the initiation of an Ident.

5. MODE SELECTOR KNOB - Controls application of power and selects transponder operating mode as follows:

   OFF -   Turns set off.

   SBY -   Turns set on for standby power and code selection. "SBY" is annunciated.

   TST -   Self-test function. The transmitter is disabled. All display segments will illuminate.

   ON -   Turns set on and enables transponder to transmit Mode A (aircraft identification) reply pulses. ON is annunciated.

   ALT -   Turns set on and enables transponder to transmit either Mode A (aircraft identification) reply pulses and Mode C (altitude reporting) pulses selected automatically by the interrogating signal. ALT is annunciated.

6. VFR CODE BUTTON (VFR) - Pressing the VFR Button will cause a pre-programmed Mode A reply code to supersede whatever Mode A reply code was previously in use. Button illumination is controlled by the RADIO LT dimming rheostat

7. CLEAR BUTTON (CLR) -- Pressing the CLR button will delete the last Mode A code digit entered.

8. NUMERIC KEYS 0-7 - Selects assigned Mode A reply code. The new code will be transmitted after a 5-second delay.

Figure 1. Bendix/King KT 76C Transponder with Blind Encoder
(Sheet 2 of 2)

SECTION 2
LIMITATIONS

There is no change to the airplane limitations when this avionic equipment is installed.

SECTION 3
EMERGENCY PROCEDURES

TO TRANSMIT AN EMERGENCY SIGNAL:

1. Mode Selector Knob -- ALT.
2. Numeric Keys 0-7 -- SELECT 7700 operating code.

TO TRANSMIT A SIGNAL REPRESENTING LOSS OF ALL COMMUNI-CATIONS (WHEN IN A CONTROLLED ENVIRONMENT):

1. Mode Selector Knob -- ALT.
2. Numeric Keys 0-7 -- SELECT 7600 operating code.

SECTION 4
NORMAL PROCEDURES

BEFORE TAKEOFF:

1. Mode Selector Knob -- SBY.

TO TRANSMIT MODE A (AIRCRAFT IDENTIFICATION) CODES IN FLIGHT:

1. Numeric Keys 0-7 -- SELECT assigned code..

2. Mode Selector Knob -- ON.

NOTES

- During normal operation with Mode Selector Knob in ON position, reply indicator flashes, indicating transponder replies to interrogations.

- Mode A reply codes are transmitted in ALT also; however, Mode C codes are suppressed when the Mode Selector Knob is positioned to ON.

3. IDT Button -- DEPRESS momentarily when instructed by ground controller to "squawk IDENT" ("R" will illuminate steadily indicating IDENT operation).

TO TRANSMIT MODE C (ALTITUDE REPORTING) CODES IN FLIGHT:

1. Transponder Code Selector Knob -- SELECT assigned code.
2. Mode Selector Knob -- ALT.

NOTES

- When directed by ground controller to "stop altitude squawk", turn Mode Selector Knob to ON for Mode A operation only.

- Altitude transmitted by the transponder for altitude squawk and displayed on the KT 76C panel is pressure altitude (referenced to 29.92") and conversion to indicated altitude is done in the ATC computers.

TO SELF-TEST TRANSPONDER OPERATION:

1. Mode Selector Knob -- TST Check all displays.
2. Mode Selector Knob -- SELECT desired function.

TO PROGRAM VFR CODE:

1. Mode Selector Knob -- SBY.
2. Numeric Keys 0-7 -- SELECT desired VFR code.
3. IDT Button -- PRESS AND HOLD.
   a. VFR Code Button -- PRESS (while still holding IDT button) to place new VFR code in nonvolatile memory for subsequent call up.

SECTION 5
PERFORMANCE

There is no change to the airplane performance when this avionic equipment is installed. However, the installation of an externally-mounted antenna, or related external antennas, will result in a minor reduction in cruise performance.

Cessna
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Pilot's Operating Handbook and
FAA Approved Airplane Flight Manual

CESSNA MODEL 182S

AIRPLANES 80001 AND ON

SUPPLEMENT 3

BENDIX/KING KMA 26
AUDIO SELECTOR PANEL

SERIAL NO._____

REGISTRATION NO._____

This supplement must be inserted into Section 9 of the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual when the KMA 26 Audio Selector Panel is installed.

FAA APPROVAL

FAA APPROVED UNDER FAR 21 SUBPART J
The Cessna Aircraft Co
Delegation Option Manufacturer CE-1

Executive Engineer

Date: February 21, 1997

🅖 Member of GAMA

3 February 1997

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SUPPLEMENT 3

BENDIX/KING KMA 26 AUDIO SELECTOR PANEL

The following Log of Effective Pages provides the date of issue for original and revised pages, as well as a listing of all pages in the Supplement. Pages which are affected by the current revision will carry the date of that revision

Revision Level	Date of Issue
0 (Original)	Feb 3, 1997

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S3-3	Feb 3/97	S3-7	Feb 3/97
S3-4	Feb 3/97	S3-8	Feb 3/97

SERVICE BULLETIN CONFIGURATION LIST

The following is a list of Service Bulletins that are applicable to the operation of the airplane, and have been incorporated into this supplement. This list contains only those Service Bulletins that are currently active.

Number	Title	Airplane Unit Effectivity	Revision Incorporation	Incorporated In Airplane

SUPPLEMENT

BENDIX/KING KMA 26 AUDIO SELECTOR PANEL

SECTION 1
GENERAL

The Bendix/King KMA 26 Audio Selector Panel is a combination audio amplifier, an audio distribution panel intercom, and a marker beacon receiver. The audio amplifier is for amplification of the audio signals for the speaker system. All receiver audio distribution functions are controlled by two rows of pushbuttons. A rotary selector switch on the right side of the console connects the microphone to either EMG, Com 1, Com 2, Com 3 or PA (Unused position). All operating controls are shown and described in Figure 1.

A crystal-controlled superheterodyne marker beacon receiver with 3-light presentation is incorporated within the unit. Dimming circuitry for the marker lamps automatically adjusts brightness appropriate to the cockpit ambient light level. Hi and Lo sensitivity and lamp test functions are also provided.

Light dimming for the audio control panel is manually controlled by the RADIO light rheostat knob.

MARKER FACILITIES

MARKER	IDENTIFYING TONE	LIGHT*
Inner, Airway & Fan	Continuous 6 dots/sec (3000 Hz)	White
Middle	Alternate dots and dashes (1300 Hz)	Amber
Outer	2 dashes/sec (400 Hz)	Blue

*When the identifying tone is keyed, the respective indicating light will blink accordingly.

Figure 1. Bendix/King KMA 26 Audio Selector Panel (Sheet 1 of 3)
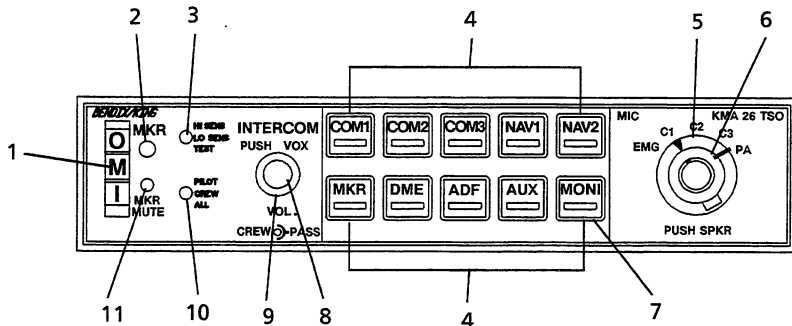
1. MARKER BEACON ANNUNCIATOR LIGHTS -- The three-light marker beacon receiver built into the KMA 26 gives a visual and aural signal when the ship's antenna passes over a 75 MHz beacon. The blue, amber, and white lights on the faceplate, as well as the audio tones, identify the beacon type.

   INNER, AIRWAY and FAN -- Light illuminates white to indicate passage of ILS inner, airway or fan marker beacons.

   OUTER -- Light illuminates blue to indicate passage of outer marker beacon.

   MIDDLE -- Light illuminates amber to indicate passage of middle marker beacon.

2. PHOTOCELL FOR AUTOMATIC DIMMING OF MARKER BEACON LIGHTS AND SELECT BUTTON -- The photocell in the faceplate automatically dims the marker lights as well as the green annunciators in the Speaker Audio Select Buttons for night operation.

3. MARKER BEACON SENSITIVITY LAMP AND TEST SWITCH --The "MKR" Audio Select button must be pushed so that the green annunciator is illuminated for the marker beacon to receive to provide an audio signal at beacon passage. When this switch is on "HI SENS" (upper) position, the high sensitivity is selected which permits you to hear the outer marker tone about a mile out. At this point you may select the the "LO SENS" (middle) position to temporarily silence the tone. It will start to sound again when you are closer to the marker, giving you a more precise indication of its location.

Figure 1. Bendix/King KMA 26 Audio Selector Panel (Sheet 1 of 3)

4. AUDIO SELECT BUTTONS -- Push button audio selection is available for three Communications receivers ("COM 1", "COM 2", and "COM 3"), two Navigation receivers ("NAV 1" and "NAV 2"), the internal Marker Beacon receiver ("MKR"), one DME, one ADF, and one additional auxiliary receiver ("AUX"). The "AUX" position could be used, for example, for a second DME or ADF. When a receiver's audio is selected, the green annunciator illuminates at the bottom of the button. Push the button again to deselect the receiver's audio.

5. MICROPHONE SELECTOR SWITCH (MIC) -- Used to select the desired transmitter for the cockpit microphones. The "C1", "C2", and "C3" positions are for transmitting on the Com 1, Com 2, and Com 3 communications transceivers, respectively. The "EMG" (emergency) position is used to bypass the KMA 26's audio amplifier and directly connects Com 1 to the pilot's microphone and headphones. This provides a fail-safe method of communication should the unit fail. The "PA" position may be selected when the aircraft is configured with a passenger address capability. The "Auto Com" feature always provides automatic headphone audio selection to match the Com transmitter in use. To add speaker audio, simply push the Speaker Select Switch (inner right knob) to the "in" position. Pulling the switch to the "out" position removes speaker audio.

6. SPEAKER SELECT (PUSH SPKR) SWITCH -- With the Speaker Select Switch pushed in, both headphone and cabin speaker audio will be heard. Headphone audio is active full-time. Headphone audio cannot be deselected.

7. MONITOR SELECT (MONI) BUTTON -- When activated, if Com 1 is selected on the Microphone Selector Switch then Com 2 audio is automatically routed to the speaker. Or if Com 2 is selected on the Microphone Selector Switch, then Com 1 is routed to the speaker. Pressing the "MONI" button again will disable the feature. Initially when "MONI" is selected the green annunciators in the button flash for approximately 5 seconds, then remains steady while the Com annunciation returns to its previous state.

8. CREW INTERCOM VOLUME (VOL CREW) KNOB and INTERCOM VOX SENSITIVITY SET (INTERCOM PUSH VOX) SWITCH -- Inside knob adjusts Pilot and Copilot intercom volume. Intercom operation is voice activated (VOX), where intercom becomes active automatically when a crew member or passenger begins to speak. Set the intercom VOX squelch by momentarily pressing and releasing the left inner knob when no one is speaking.

Figure 1. Bendix/King KMA 26 Audio Selector Panel (Sheet 2 of 3)

9. PASSENGER INTERCOM VOLUME (VOL PASS) KNOB -- Adjusts passenger intercom volume.

10. INTERCOM MODE SELECT SWITCH -- Has three modes "ALL", "CREW", AND "PILOT" which are selected with the toggle switch on the lower left side on the faceplate. In the "ALL" position the pilot, copilot, and passengers are all on the same intercom "loop" and everyone hears the radios. In the "CREW" position the pilot and copilot are on one intercom loop and can hear the radios while the passengers have their own dedicated intercom and do not hear the radios. In the "PILOT" mode the pilot hears the radios but is isolated from the intercom while the copilot and passengers are on the same intercom loop and do not hear the radios.

When either the "ALL" or "CREW" intercom modes are selected, the pilot's and copilot's intercom volume is controlled by rotating the Crew Intercom Volume Knob (left inner knob) while the passenger's volume is controlled by rotating the Passenger Intercom Volume Knob (left outer knob). When the "PILOT" intercom mode is selected, the copilot's and passenger's volume is controlled with the Passenger Intercom Volume Knob. Remember, the volume knobs on the KMA 26 control intercom volume only, not the receiver's volume.

11. MARKER MUTE BUTTON -- Mutes currently active marker beacon audio.

Figure 1. Bendix/King KMA 26 Audio Selector Panel (Sheet 3 of 3)

SECTION 2
LIMITATIONS

There is no change to the airplane limitations when this avionic equipment is installed.

SECTION 3
EMERGENCY PROCEDURES

In the event of an audio amplifier failure in the KMA 26, as evidenced by the inability to transmit in COM 1, 2 or 3.

1. MIC Selector Switch -- EMG.

NOTE

This action bypasses the KMA 26 audio amplifier and connects the pilot's mic/head set directly to COM 1.

SECTION 4
NORMAL PROCEDURES

AUDIO CONTROL SYSTEM OPERATION:

1. MIC Selector Switch -- Turn to desired transmitter.

2. SPEAKER and Audio Select Button(s) -- SELECT desired receiver(s).

NOTES

Rotation of the MIC selector switch selects the Com audio automatically.

MARKER BEACON RECEIVER OPERATION:

1. TEST Position -- HOLD toggle down momentarily to verify all lights are operational.

2. SENS Selections -- Select HI sensitivity for airway flying or LO for ILS/LOC approaches.

SECTION 5
PERFORMANCE

There is no change to the airplane performance when this avionic equipment is installed. However, the installation of an externally mounted antenna or related external antennas, will result in a minor reduction in cruise performance.

Cessna
A Textron Company

Pilot's Operating Handbook and
FAA Approved Airplane Flight Manual

CESSNA MODEL 182S

AIRPLANES 80001 AND ON

SUPPLEMENT 4

POINTER MODEL 3000-11
EMERGENCY LOCATOR TRANSMITTER

SERIAL NO._____

REGISTRATION NO._____

This supplement must be inserted into Section 9 of the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual when the Pointer Model 3000-11 Emergency Locator Transmitter is installed.

FAA APPROVAL

FAA APPROVED UNDER FAR 21 SUBPART J
The Cessna Aircraft Co
Delegation Option Manufacturer CE-1

Executive Engineer

Date: February 21, 1997

Member of GAMA

3 February 1997

SUPPLEMENT 4

POINTER MODEL 3000-11 EMERGENCY LOCATOR TRANSMITTER (ELT)

The following Log of Effective Pages provides the date of issue for original and revised pages, as well as a listing of all pages in the Supplement. Pages which are affected by the current revision will carry the date of that revision

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S4-5	Feb 3/97		
S4-6	Feb 3/97		

SERVICE BULLETIN CONFIGURATION LIST

The following is a list of Service Bulletin that are applicable to the operation of the airplane, and have been incorporated into this supplement. This list contains only those Service Bulletin that are currently active.

Number	Title	Airplane Unit Effectivity	Revision Incorporation	Incorporated In Airplane

SUPPLEMENT

POINTER MODEL 3000-11 EMERGENCY LOCATOR TRANSMITTER (ELT)

SECTION 1

GENERAL

This supplement provides information which must be observed when operating the Pointer Model 3000-11 Emergency Locator Transmitter.

The Pointer Model 3000-11 ELT consists of a self-contained dual -frequency solid-state transmitter powered by a battery pack consisting of five alkaline "C" cell batteries and is automatically activated by a deceleration sensing inertia "G" switch, which is designed to activate when the unit senses longitudinal inertia forces as required in TSO-C91A. Also, a remote switch/annunciator is installed on the top right hand side of the copilot's instrument panel for control of the ELT from the flight crew station. The annunciator, which is in the the center of the rocker switch, illuminates when the ELT transmitter is transmitting. The ELT emits an omni-directional signal on the international distress frequencies of 121.5 MHz and 243.0 MHz. General aviation and commercial aircraft, the FAA and CAP monitor 121.5 MHz, and 243.0 MHz is monitored by the military.

The ELT is contained in a high impact plastic, fire retardant, waterproof case with carrying handle and is mounted behind the aft cabin partition wall on the right side of the tailcone. To gain access to the unit, unfasten the turn fasteners on the aft cabin partition. The ELT is operated by a control panel at the forward facing end of the unit or by the remote switch/annunciator located on the top right hand portion of the copilot's instrument panel (see Figure 1).

Power for the transmitter is provided by an alkaline battery pack inside the transmitter case.

In accordance with FAA regulations, the ELT's battery pack must be replaced after 2 years shelf or service life or for any of the following reasons:

a. After the transmitter has been used in an emergency situation (including any inadvertent activation of unknown duration).
b. After the transmitter has been operated for more than one cumulative hour (e.g. time accumulated in several tests and inadvertent activation of known duration).
c. On or before battery replacement date. Battery replacement date is marked on the battery pack and the label on the transmitter.
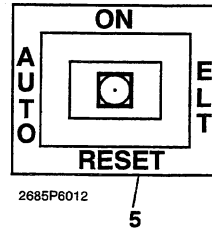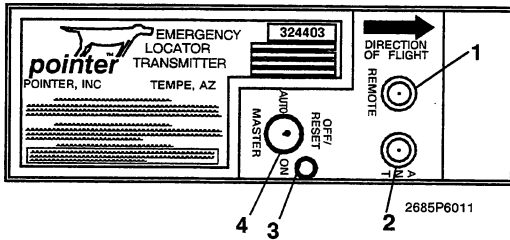
1. REMOTE CABLE JACK -- Connects to ELT remote switch/annunciator located on the copilot's instrument panel.
2. ANTENNA RECEPTACLE -- Connects to antenna mounted on top of tailcone.
3. TRANSMITTER ANNUNCIATOR LIGHT -- Illuminates red to indicate the transmitter is transmitting a distress signal.
4. MASTER FUNCTION SELECTOR SWITCH (3-position toggle switch):

AUTO --   Arms transmitter for automatic activation if "G" switch senses a predetermined deceleration level.

ON --   Activates transmitter instantly. Used for test purposes and if "G" switch is inoperative. The ON position bypasses the automatic activation switch. (The red annunciator in the center of the remote switch/annunciator should illuminate).

OFF/RESET -- Deactivates transmitter during handling, following rescue and to reset the automatic activation function. (The red annunciator in the center of the remote switch/annunciator should extinguish).

5. REMOTE SWITCH/ANNUNCIATOR (3-position rocker switch):

ON -- Remotely activates the transmitter for test or emergency situations. Red annunciator in center of rocker switch illuminates to indicate that the transmitter is transmitting a distress signal.

AUTO -- Arms transmitter for automatic activation if "G" switch senses a predetermined deceleration level.

RESET -- Deactivates and rearms transmitter after automatic activation by the "G" switch. Red annunciator in center of rocker switch should extinguish.

SECTION 2
LIMITATIONS

Refer to Section 2 of the Pilot's Operating Handbook (POH).

SECTION 3
EMERGENCY PROCEDURES

Before performing a forced landing, especially in remote and mountainous areas, activate the ELT transmitter by positioning the remote switch/annunciator to the ON position. The annunciator in center of the rocker switch should be illuminated.

Immediately after a forced landing where emergency assistance is required, the ELT should be utilized as follows:

NOTE

The ELT remote switch/annunciator system could be inoperative if damaged during a forced landing. If inoperative, the inertia "G" switch will activate automatically. However, to turn the ELT OFF and ON again requires manual switching of the master function selector switch which is located on the ELT unit.

1. ENSURE ELT ACTIVATION:
   a. Position remote switch/annunciator to the ON position even
      if annunciator light is already on.
   b. If airplane radio is operable and can be safely used (no
      threat of fire or explosion), turn ON and select 121.5 MHz.
      If the ELT can be heard transmitting, it is working properly.
   c. Ensure that antenna is clear of obstructions.

NOTE

When the ELT is activated, a decreasing tone will
be heard before the typical warbling tone begins.

2. PRIOR TO SIGHTING RESCUE AIRCRAFT -- Conserve
   airplane battery. Do not activate radio transceiver.
3. AFTER SIGHTING RESCUE AIRCRAFT -- Position remote
   switch/annunciator to the RESET position and release to the
   AUTO position to prevent radio interference. Attempt contact
   with rescue aircraft with the radio transceiver set to a
   frequency of 121.5 MHz. If no contact is established, return
   the remote switch/annunciator to the ON position immediately.
4. FOLLOWING RESCUE -- Position remote switch/annunciator
   to the AUTO position, terminating emergency transmissions.

SECTION 4
NORMAL PROCEDURES

As long as the remote switch/annunciator is in the AUTO position
and the ELT master function selector switch remains in the AUTO
position, the ELT automatically activates when the unit senses
longitudinal inertia forces as required in TSO-C91A.

Following a lightning strike, or an exceptionally hard landing, the
ELT may activate although no emergency exists. If the remote
switch/annunciator illuminates, the ELT has inadvertently activated
itself. Another way to check is to select 121.5 MHz on the radio
transceiver and listen for an emergency tone transmission. If the
remote switch/annunciator is illuminated or an emergency tone is
heard, position the remote switch/annunciator in the RESET position
and release to the AUTO position.

The ELT must be serviced in accordance with FAR Part 91.207.

INSPECTION/TEST

1. The emergency locator transmitter should be tested every 100 hours.

NOTE

Test should only be conducted within the first 5 minutes of each hour.

2. Disconnect antenna cable from ELT.
3. Turn airplane battery switch and avionics power switches ON.
4. Turn airplane transceiver ON and set frequency to 121.5 MHz.
5. Place remote switch/annunciator in the ON position. The annunciator should illuminate. Permit **only three** emergency tone transmissions, then immediately reposition the remote switch/annunciator to the RESET position and release to the AUTO position.
6. Place the ELT master function selector switch in the ON position. Verify that the transmitter annunciator light on the ELT and the remote switch/annunciator on the instrument panel are illuminated.
7. Place the ELT master function selector switch in the OFF/RESET position.
8. Reposition ELT master function selector switch to AUTO.
9. Reconnect antenna cable to ELT.

⚠ WARNING

A TEST WITH THE ANTENNA CONNECTED SHOULD BE APPROVED AND CONFIRMED BY THE NEAREST CONTROL TOWER.

NOTE

Without its antenna connected, the ELT will produce sufficient signal to reach the airplane transceiver, yet it will not disturb other communications or damage output circuitry.

IN-FLIGHT MONITORING AND REPORTING

Pilot's are encouraged to monitor 121.5 MHz and/or 243.0 MHz while in flight to assist in identifying possible emergency ELT transmissions. On receiving a signal, report the following information to the nearest air traffic control facility:

1. Your position at the time the signal was first heard.
2. Your position at the time the signal was last heard.
3. Your position at maximum signal strength.
4. Your flight altitude and frequency on which the emergency signal was heard -- 121.5 MHz or 243.0 MHz. If possible, positions should be given relative to a navigation aid. If the aircraft has homing equipment, provide the bearing to the emergency signal with each reported position.

SECTION 5
PERFORMANCE

There is no change in airplane performance when the ELT is installed.

Pilot's Operating Handbook and
FAA Approved Airplane Flight Manual

CESSNA MODEL 182S

AIRPLANES 182S80001
AND ON

SUPPLEMENT 5

BENDIX/KING KLN 89B (IFR)
GLOBAL POSITIONING SYSTEM

SERIAL NO._____

REGISTRATION NO._____

This supplement must be inserted into Section 9 of the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual when the KLN 89B Global Positioning System is installed.

FAA APPROVAL

FAA APPROVED UNDER FAR 21 SUBPART J
The Cessna Aircraft Co
Delegation Option Manufacturer CE-1

[signature] Executive Engineer

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SUPPLEMENT 5

BENDIX/KING KLN 89B GLOBAL POSITIONING SYSTEM (IFR)

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