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FAA APPROVED  
AIRPLANE FLIGHT MANUAL SUPPLEMENT  
FOR SANDEL AVIONICS SN4500  
Electronic Horizontal Situation Indicator (EHSI)  
Primary Navigation Display (PND)  
WHEN INSTALLED IN  
Cessna Citation Model S550 AIRCRAFT

This supplement must be attached to the FAA approved Airplane Flight Manual when the airplane is modified by the installation of a Sandel Avionics SN4500 EHSI in accordance with

**STC No. ST 01930LA.**

The information contained herein supplements or supersedes the basic manual only in those areas listed herein. For limitations, procedures, and performance information not contained in this supplement, consult the appropriate basic Airplane Flight Manual.

APPROVED BY:

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## **SECTION I - GENERAL**

The Sandel Avionics SN4500 EHSI is a four-inch instrument that performs the functions of a traditional Horizontal Situation Indicator combined with a two-pointer RMI. The SN4500 EHSI also displays a moving map, Stormscope® data, FIS-B data link weather, traffic information, marker beacon and GPS annunciators if the aircraft is appropriately equipped and configured.

FIS-B Weather Data is intended for the purpose of assisting in long-range strategic flight planning only. Please note that its delayed updating and lack of sufficient resolution makes it unsuitable for tactical maneuvering of the aircraft. It also differs significantly from on-board weather radar (which scans a narrow vertical angle) since it portrays radar returns from multiple ground stations extending from the surface up to the highest flight levels. For these reasons it may not directly reflect the current flight conditions.

## **SECTION II LIMITATIONS**

The system must utilize software version 1.00 or later FAA approved version.

The SN4500 EHSI Pilots Guide, SPN 82009-PG (or applicable revision corresponding to the software version) must be immediately available to the flight crew.

The "CRC Self Test Failed" message must not appear on power-up if flight operations are predicated on the use of the SN4500 EHSI.

The FIS-B weather display shall not be used for tactical maneuvering of the aircraft.

## **SECTION III EMERGENCY PROCEDURES**

If the SN4500 EHSI fails to operate, use the magnetic compass as a heading source.

If the remote directional gyro (DG) becomes inoperative, the heading display will flag or be removed from the display. Use the magnetic compass as a heading source.

If the "FCS FDBCK ERR" message appears when in autopilot coupled NAV or APPR mode, immediately monitor the lateral and vertical deviation indicators. If they are not tracking properly, immediately disable the autopilot and flight director NAV or APPR mode for the duration of the flight. HDG mode may still be used if the autopilot tracks the SN4500 HDG bug properly.

## SECTION IV NORMAL PROCEDURES

The SN4500 NAV pushbutton selects the primary navigation source. The selected source will drive the SN4500 deviation indicator and the autopilot.

The SN4500 BRG pushbutton selects the bearing pointer 1 / 2 / Both. The 'M' pushbutton followed by the BRG pushbutton selects the available bearing pointer sources.

Annunciation of all GPS modes is accomplished by messages on the GPS receiver as well as on-screen annunciation on the SN4500 EHSI.

The traffic display mode is annunciated next to the TFC button. There are three different modes available which control how the traffic targets are displayed. Press the TFC button repeatedly to cycle through the different modes.

- ON: Enables display of all targets within the selected map range (limited by the maximum range of the installed traffic system).
- M: Manual mode. Traffic will be displayed at the selected map range only when alerting traffic is present, without auto ranging. Display range can be changed manually.
- A: Auto mode. Traffic will be displayed at the selected map range only when alerting traffic is present, except that the map range will auto-scale to an appropriate range to show the traffic on-screen.

Manual (M) or Auto (A) modes do not display non-alerting traffic.

The SN4500 can display two types of weather information, precipitation and lightning. Lightning may be displayed from two independent sources, WX-500 Stormscope® or a FIS-B data link receiver. Both sources of lightning may be displayed simultaneously.

The SN4500 WX pushbutton selects the type weather to be displayed:

- PL: Precipitation & Lightning
- P: Precipitation only
- L: Lightning only

The 'M' pushbutton followed by the WX pushbutton selects the lightning display data source, either WX500, WSI, or both. The number to the right of the WX annunciation displays the time in minutes since the last FIS-B precipitation data was received from the data link receiver.

Weather graphics depicted on the SN4500 data link weather display may differ significantly from the on-board weather radar or from out of the cockpit observations for one or more of the following reasons.

- Vertical strata information is not provided by the FIS-B weather service. The FIS-B weather data originates from NEXRAD ground based weather radar observations that include weather measurements up to 30,000 feet above the radar facility. The on-board weather radar is measuring returns relative to the current flight level.
- The FIS-B weather display is not exactly real time. Under certain circumstances the time from when the NEXRAD radar observations were made to when the data is displayed on the SN4500 can be as high as 40 minutes. During this time the position of the weather may have significantly changed or moved relative to the aircraft position.
- The graphic representation of precipitation is predicated on the level of reflected energy from moisture in the air mass (the more moisture in the air mass, the higher level of energy returned to the radar antenna). This may result in graphic presentation of precipitation on the SN4500 display when no visible moisture can be seen.
- Virga precipitation: the precipitation may be at a higher flight level and evaporating before reaching the current aircraft flight level.

The circuit breaker for the SN4500 Navigation Display is located on the right side circuit breaker panel Avionics DC bus labeled EHSI 2.

Refer to the SN4500 EHSI Pilot's Guide for other procedures, error messages, alerts and more detailed operating information.

## **SECTION V PERFORMANCE DATA**

No Change to AFM