SUPPLEMENT A22
TO THE AIRPLANE FLIGHT MANUAL DA 40

STRIKE FINDER
SF 2000
INSIGHT

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0.1   RECORD OF REVISIONS

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0.2   LIST OF EFFECTIVE PAGES

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1. GENERAL

This Supplement supplies the information necessary for the efficient operation of the airplane when the Insight Strike Finder SF 2000 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 Strike Finder SF 2000 is installed.

NOTE

The Strike Finder does neither replace a weather radar nor weather information. The Strike Finder is only used as an additional source of information beside approved weather information.

2. LIMITATIONS

No change.

3. EMERGENCY PROCEDURES

No change.

4A. NORMAL PROCEDURES

No change.

4B. ABNORMAL PROCEDURES
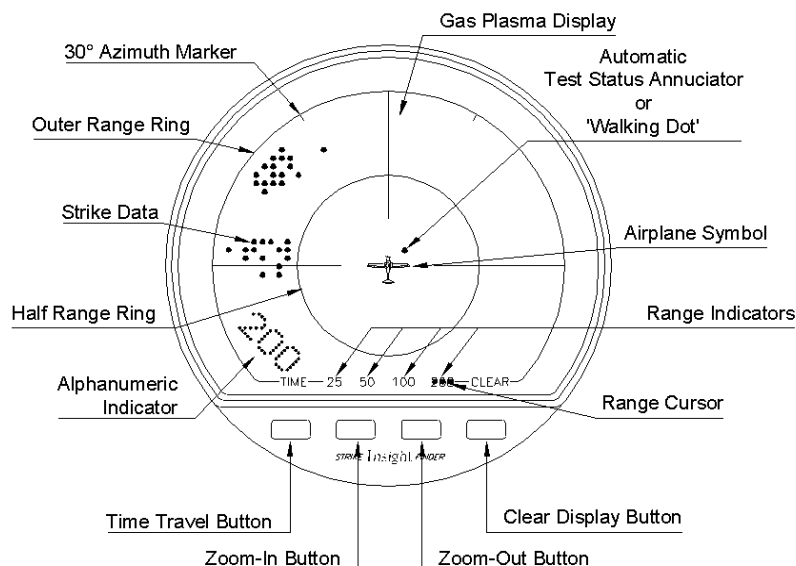
No change.

5. PERFORMANCE

No change.

6. MASS AND BALANCE

Upon removal or installation of the Strike Finder SF 2000 the change of the empty mass and the 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

CONTROLS AND DISPLAY

30-degree Azimuth Marker - helps with identifying the location of thunderstorms relative to the airplane´s intended track.

Outer Range Ring - is the outer boundary of viewable strike data within the selected range (e.g. 200 nm, 100 nm, 50 nm, 25 nm).

Half Range Ring - is half the distance from the airplane to the outer range ring, for the selected range.

Strike Data - is plotted on the display as bright orange dots to indicate the location, range and severity of detected lightning activity.

Range Indicators - are used to show the current viewing range selected. They indicate the distance from the airplane to the outer range ring.

Range Cursor - highlights one of the four range indicators to show selected range view (defaults to 200 nm).

Alphanumeric Indicator - appears as large digits in the lower left quadrant of the display. Provides readout of range selection, Time Travel function and troubleshooting codes.

Airplane Symbol - represents your airplane.

Ultra Bright LED or Gas Plasma Display - consists of a 2.5-inch diameter viewable area. It displays strike data and status messages with bright orange dots against a black background.

Automatic Test Status Annunciator - appears in the center of the display as a 'Walking Dot', which moves in a clockwise direction. The presence of this dot means the Strike Finder has successfully passed all automatic diagnostic tests.

Zoom-In/Zoom-Out Buttons - permit the operator to step through the range selections (25-50-100 & 200 nm), smoothly altering the distances viewed on the display.

Time Travel Button - allows the pilot to display recent strike data history - compressing about one hour of storm activity into a one minute presentation.

Clear Display Button - clears the display of all dots but does not erase the strike data history employed by the Time Travel function.

OPERATING PROCEDURES

AUTOMATIC SYSTEM BOOT-UP

The Strike Finder automatically starts when the 'Avionic Master' switch is turned on. The Strike Finder system will begin a software boot-up, and a display self test procedure. Display test consists of a series of three sunburst patterns emanating from the center and expanding to the Outer Range Ring of the display. This sunburst pattern ensures that all Display pixels (dots) are lighting correctly. Following this, the software version number is displayed briefly in the lower left quadrant of the display.

On start-up Strike Finder automatically selects the 200 nm range view. This ensures that distant weather is depicted, and not inadvertently ignored with a shorter range selection.

AUTOMATIC TEST STATUS ANNUNCIATOR

Once the boot-up procedure is completed, the Strike Finder System automatically carries out a self-diagnostic system test every minute. A successful test is annunciated by the Test Status Annunciator in the center of the display. The Test Status Annunciator or 'Walking Dot' rotates clockwise in the four positions, to affirm the successful completion of each test. So long as the Test Status Annunciator is present, you can be confident of Strike Finder´s weather depiction capabilities.

FAULT DETECTION

If a fault is detected, the appropriate error code is displayed in the lower left corner of the display, and the test rate is increased to once per second. Also, the 'Walking Dot' disappears from the display. A persistent error code indicates a permanent failure.

ZOOM

ZOOM-IN/ZOOM-OUT

The Strike Finder is capable of 25, 50, 100 and 200 nm range views. The two center buttons control display zoom. Depressing the Zoom-Out button increases the range setting. Depressing the Zoom-In button reduces the view of the display to the next shorter range. A display of shorter range provides a magnified and more detailed picture of storm activity. As the airplane approaches an area of thunderstorm activity you may select to zoom in for a better depiction. Note, regardless of the range view selected, Strike Finder is always detecting lightning out to 200 nm.

ZOOM INDICATOR

With this feature, you can zoom through the four range selections, smoothly altering the range view, and a numeric readout Zoom Indicator in the lower left quadrant of the display. The Zoom Indicator persists for a few seconds, and then is erased. The Range Cursor continuously highlights one of the four range indicators, showing which range view is currently selected.

ZOOM LIMITS

When Strike Finder is fully zoomed in to a 25 nm range view, the Zoom-In button has no effect other than to display the Zoom Indicator. Similarly, the Zoom-Out button has no affect on the display when the 200 nm range view is already selected.

TIME TRAVEL

The left button activates Time Travel. Time Travel allows you to view an accelerated replay of accumulated thunderstorm activity stored in memory. Like time-lapse photography, it compresses the last 4000 strikes, or up to one hour of storm activity, into a one minute presentation. This is useful for identifying weather areas that otherwise might not be obvious because of random strikes. It also paints a dynamic picture of thunderstorm life-cycle and movement. Time Travel amplifies indications that may be slow, vague and unrecognized in real time perspective.

STARTING TIME TRAVEL

When suitable storm history data is available, depressing the Time Travel button will start the time-lapse presentation. The Test Status Annunciator indicates Time Travel mode by reversing direction and doubling its rate of rotation around the airplane symbol. Simultaneously, the Alphanumeric Indicator, in the lower left quadrant of the display, indicates the span of the strike data history in minutes. For example, the display of the number 30 indicates that the Time Travel depiction begins with storm activity that occurred 30 minutes previous. After several seconds this time indication is erased from the display.

DURING TIME TRAVEL

At any time during the replay you may depress the Time Travel button to determine your position in the data history. For example, a second pressing of the Time Travel button may display the number 20 which indicates that the activity currently displayed actually occurred 20 minutes previous.

RESUMING NORMAL OPERATION

Normal operation can be resumed in two ways:

1.   Automatic - Strike Finder will automatically resume normal operation upon completion of data replay.

2.   Manual - At any time during data replay, the operator can manually return to normal operation by pressing and holding in the Time Travel button, then press the clear button and release both together.

CLEAR DISPLAY

The Clear Display button clears the display of all strike dots, but does not erase any strike data history employed by the Time Travel function. Strike Finder will immediately plot new lightning activity on the display.

EVALUATION DOT ACCUMULATION

Clearing the display at any time, also permits evaluating the rate of date accumulation as an indicator of storm activity and severity. Strong thunderstorm activity is shown by rapid accumulation and large cluster size. Strike data will appear more slowly, with small clusters, in a dissipating storm.

8. AIRPLANE HANDLING, CARE AND MAINTENANCE

No change.