Avidyne Corporation
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FAA APPROVED

AIRPLANE FLIGHT MANUAL SUPPLEMENT

FOR RAYTHEON AIRCRAFT CO. MODEL 58

WITH

AVIDYNE FLIGHTMAX 5RR-MFC-XXX-()
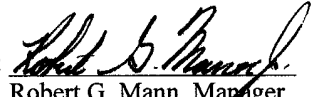FLIGHT SITUATION DISPLAY (FSD)
WITH
SOFTWARE RELEASE 5

REG. NO. _____

SER. NO. _____

This supplement must be attached to the applicable FAA Approved Airplane
Flight Manual when an Avidyne FlightMax 5RR-MFC-4XX-() is installed in
accordance with STC SA00117BO. The information contained herein
supplements or supersedes the basic manual only in those areas listed. For
limitations and procedures not contained in this supplement consult the basic
Airplane Flight Manual.

FAA APPROVED:
                Robert G. Mann, Manager
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                Federal Aviation Administration
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LOG OF REVISIONS

Revision Number	Revised Pages	Description of Revisions	FAA Approval	Date
(-)	ALL	Initial Release	*[signature]*	
A	ALL	Incorporates MFC5 Added GroundProx	*[signature]* 3-29-01	

A vertical black line in the margin shows revised portions of affected pages.

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SECTION I – GENERAL

Avidyne FlightMax 5RR-MFC-4XX-() FSD functions consist of FlightMax Map, FlightMax Traffic, FlightMax Radar, FlightMax GroundProx, FlightMax Charts, FlightMax Lightning, and FlightMax CD Player.

In this installation, the following FlightMax features are activated:

    ☒Map   ☒Traffic   ☐Lightning

    ☒Radar   ☒GroundProx   ☐Charts

    ☒CD Player.

FLIGHTMAX MAP

FlightMax Map is a moving map display that combines external sensor data and navigation data into a single display. The overlay functions are limited to the operating parameters of their respective sensors (see Radar, Traffic, and Lightning, as applicable).

FlightMax Map displays real-time navigation data such as distance and bearing to waypoints and nearby airports, cross-track error against a planned route of flight, and estimated time of arrival at a destination. This information is displayed in data blocks overlaid onto the moving map. Map can display a terrain or political boundary map which can be combined with navigational information as well as other data from Radar and Traffic sensors. The amount of detail and layers is controlled by the pilot.

FlightMax Map obtains position data such as latitude/longitude, ground track and speed from a separately installed and approved Global Positioning System (GPS) receiver or Flight Management System (FMS). The characteristics and approved uses of the GPS/FMS receiver from which it gets its data determine, in part, the ways that Map is used in flight. In addition to basic position data, most GPS/FMS receivers also send flight plan information, navigation data, and supplemental data such as satellite status.

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All flight plans are from the external navigational data source (GPS/FMS).
When a flight plan is active, it is depicted on the map. The appropriate
navigational information is also displayed. The operating mode of the GPS
receiver constrains how Map may be used.

FLIGHTMAX CHARTS

FlightMax Charts, if activated, is a moving map display. Interfaced with an
on-board, external GPS, FlightMax Charts shows aircraft position on a 3 by
4 inch display. FlightMax Charts gives access to digitized versions of VFR
and IFR ENROUTE charts. Depending on what digital charts the user has
loaded, the digitized VFR charts consist of the Sectional, WAC, and TAC
charts. The three layers of charts smoothly transition from one scale to
another as the display is zoomed in and out. The IFR charts are digitized
versions of NOAA IFR LOW AND HIGH ALTITUDE ENROUTE charts.

FLIGHTMAX RADAR

FlightMax Radar, if activated, is an interface, control and display system for
airborne weather radar systems. It duplicates the weather display functions
of the original equipment indicators. FlightMax Radar does *not* support the
accessory functions of these indicators, such as flight plan overlay from
Bendix RNAV units, checklist presentation, etc. In some cases, similar
functionality is available through other FlightMax options.

FLIGHTMAX TRAFFIC

FlightMax Traffic, if activated, displays traffic awareness data gathered by
the BF Goodrich Skywatch airborne traffic sensor. Before operating
FlightMax Traffic, consult the Pilot's Guide. It contains information
essential to the proper use and interpretation of the displays presented by
FlightMax Traffic.

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FLIGHTMAX GROUNDPROX

FlightMax GroundProx, if activated, is a display interfaced to a Honeywell EGPWS system. It provides pilots with a color visual depiction of terrain/obstacles along and below the airplane's lateral and vertical flight path. FlightMax GroundProx presents terrain data on the FSD display. The terrain display is color-coded so as to indicate the varying relative altitudes and threat levels of the adjacent terrain.

Operation of the EGPWS itself, including all aural alerts, is completely independent of the display functions provided by the GroundProx Display. Power to the EGPWS is separate from the FSD.

Terrain/obstacle alert conditions are visually annunciated on the display. Urgent and immediate terrain situations are indicated in the message bar, even if another function is currently displayed.

Failure conditions, such as loss of communication with the EGPWS, are also annunciated on the display.

GroundProx terrain and object position is derived from Honeywell EGPWS internal sensor signals.

FLIGHTMAX LIGHTNING

FlightMax Lightning, if activated, displays weather avoidance data gathered by an airborne thunderstorm sensor, the BF Goodrich Avionics Systems Stormscope WX-500 Weather Mapping System. Proper use of FlightMax Lightning and the WX-500 can improve the pilot's ability to maintain a safe distance from thunderstorms. Before operating FlightMax Lightning, the Stormscope WX-500 Pilot's Guide should be read and understood. It contains information essential to the proper use and interpretation of the displays presented by FlightMax Lightning.

Airborne thunderstorm sensors detect the electrical discharge associated with lightning, which is sent to the FSD for display.

FlightMax Lightning gives access to all of the functions of the thunderstorm sensor. It provides display functions that will show the reported location of

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thunderstorms with respect to the aircraft. If a GPS navigator is reporting
aircraft position to the FSD or a remote compass is reporting aircraft heading
to the thunderstorm sensor, Lightning will adjust the displayed position of
recorded lightning strikes.
Since lightning and thunderstorms are always associated with hazardous
weather conditions, including extreme turbulence, heavy precipitation and
damaging hail, avoidance of areas where lightning is present will increase
the likelihood of avoiding these hazards.

FLIGHTMAX CD PLAYER

The FlightMax CD Player application, if activated, allows the pilot to play
ordinary music CDs over the aircraft's intercom. The user can start, stop, and
pause the playing of a CD, can skip to the next or previous track on a CD,
and can control volume and balance. CD Player displays status information
to the operator, such as current track, elapsed playing time, volume and
balance setting, and CD Player status.

DATABASE UPDATES

FlightMax Map is intended for use as an enhanced human interface to a
variety of certified GPS receivers. As with certified receivers, the database
of FlightMax Map must be kept current.

It is the pilot's responsibility to insure that current navigation and chart data
is loaded in the system. An **Expired** warning will be displayed on system
start-up. The warning can only be removed by updating the data.
Subscription and data loading instructions are given in the Pilot's Guide.

SYSTEM CONFIGURATION

The FlightMax Flight Situation Display consists of the items that follow:
  A. An integrated central processing unit and display screen
      (CPU/display)
  B. Optional CD-ROM and floppy drive unit (CD-ROM/floppy).
  C. Pilot's Guide

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Additional information is shown in the Pilot's Guide.

SECTION II – LIMITATIONS

General – Applicable to all installations

1. The Avidyne FlightMax Flight Situation Display integrates with separately approved sensor installations. Adherence to limitations in appropriate installation AFM supplements is mandatory.

2. The Avidyne FlightMax Pilot's Guide P/N 600-0053 Revision 00, or later appropriate revision, must be available to the pilot during all flight operations.

3. Use of FlightMax Map during IFR flight requires an IFR approved GPS receiver and installation, operated in accordance with it's applicable limitations.

4. FlightMax Map does not provide terrain data above 75 degrees north latitude or below 75 degrees south latitude.

5. Navigation is not to be predicated on the use of FlightMax Map, which is to be used only as an aid to situational awareness.

6. Under no circumstances should the FlightMax Map terrain color representations be used as a basis for terrain avoidance.

7. Loading or updating data with the CD-ROM is not to be accomplished while airborne.

Applicable if FlightMax Charts is activated

8. Use of FlightMax Charts during IFR flight requires an IFR approved GPS receiver and installation, operated in accordance with it's applicable limitations.

9. Navigation is not to be predicated on the use of FlightMax Charts, which is to be used only as an aid to situational awareness.

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Applicable if FlightMax Traffic is activated

10. Traffic information shown on the FlightMax Traffic display is provided
    to the pilot as an aid to visually acquiring traffic. Pilots should
    maneuver their aircraft based only on ATC guidance or positive visual
    acquisition of the conflicting traffic. Maneuver should be consistent
    with ATC instructions. No maneuvers should be made based only on a
    Traffic Advisory. ATC should be contacted for resolution of the traffic
    conflict.

11. If the pilot is advised by ATC to disable the transponder altitude
    reporting, FlightMax Traffic and the traffic sensor must be turned off.

12. The traffic sensor can only detect aircraft that are transponder equipped.

Applicable if FlightMax GroundProx is activated

13. The FlightMax must be operating for proper operation of EGPWS self-
    test.

14. Terrain avoidance is to be predicated on the independent EGPWS
    indicators and aural alerts; these take precedence over FlightMax
    GroundProx alert messages.

15. Navigation must not be predicated upon the use of the GroundProx
    display. The GroundProx display is intended to serve as a situational
    awareness tool only, and may not provide the accuracy and/or fidelity on
    which to solely base terrain or obstacle avoidance maneuvering
    decisions.

SECTION III - EMERGENCY PROCEDURES

No Change

SECTION IV - NORMAL PROCEDURES

Normal operating procedures for FSD functions are in the Avidyne
FlightMax Pilot's Guide.

The system is protected by a clearly labeled circuit breaker.

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Date: MAR 2 9 2001

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SECTION V through X

No Change