

**THIS BULLETIN DOES NOT CHANGE AIRCRAFT TYPE DESIGN**

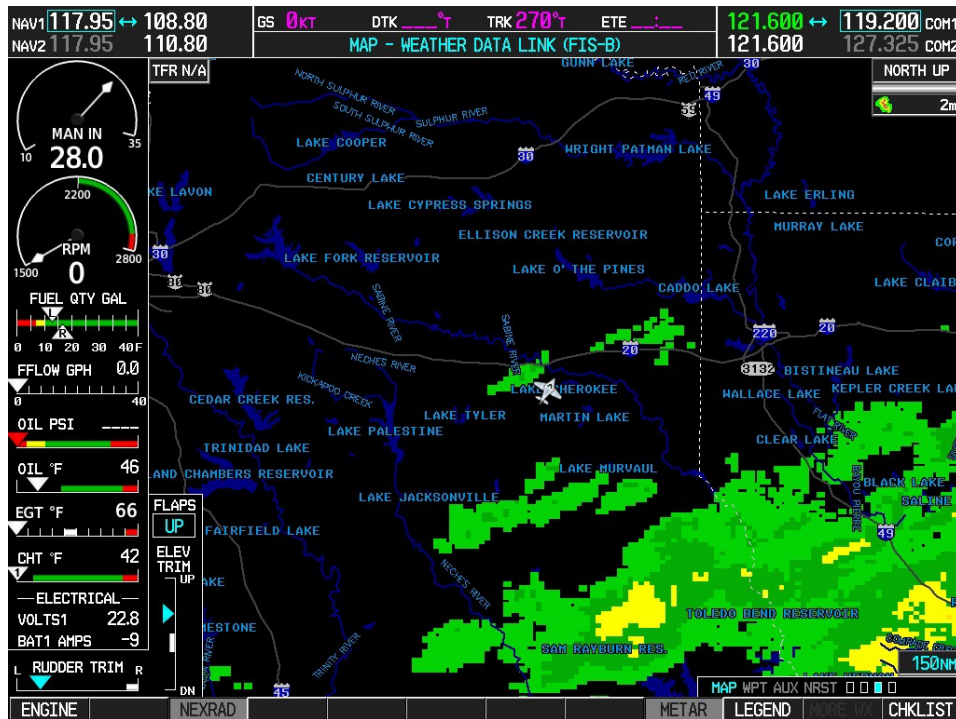
- SUBJECT:** Garmin G1000 software upgrade required to support the display of ADS-B FIS-B NEXRAD radar data.
- MODELS/ SN AFFECTED** Mooney M20M and M20R Aircraft equipped with GARMIN G1000, GIA 63W integrated avionics units, and GTX 345R transponder unit
- TIME OF COMPLIANCE:** **Owner Discretion**
- INSTRUCTIONS:** Read entire Service Bulletin before completing work. Fill out the completion card on page 3 and return to Mooney International when this service bulletin is complete.
- This service bulletin is to be completed by a Mooney Authorized Service Center that is authorized to update software in a M20 Garmin G1000.
- INTRODUCTION:** This Service Bulletin lets Mooney Aircraft owners know of new software that allows display of NEXRAD weather radar data on the MFD when the aircraft is equipped appropriately.
- ADS-B, or Automatic Dependent Surveillance-Broadcast, is the Next Generation air traffic modernization. When a M20M or M20R is equipped with a G1000 system, GIA 63W integrated avionics units, and a GTX 345R transponder unit, the transponder unit provides the following functions:
- Transmission of ADS-B “Out” data on 1090 extended squitter (1090ES) (1090 MHz)
    - Integration of data from internal and external sources to transmit the following data per 14 CFR 91.227:
      - GPS Position, Altitude, and Position Integrity
      - Ground Track and/or Heading, Ground Speed, and Velocity Integrity
      - Air/Ground Status
      - Flight ID, Call Sign, ICAO Registration Number
      - Capability and Status Information
      - Transponder Squawk Code, IDENT, and Emergency Status
    - Pressure Altitude Broadcast Inhibit
  - Reception of TIS-A traffic data from a ground station
  - Provide TIS-A traffic alerting to the pilot via interfaced display and audio output
  - Reception of ADS-B “In” data on 1090 MHz
    - ADS-B (Data directly from another transmitting aircraft)
    - ADS-R (Rebroadcast of ADS-B data from a ground station)
  - Reception of ADS-B “In” data on UAT (978 MHz)
    - ADS-B (Data directly from another transmitting aircraft)
    - ADS-R (Rebroadcast of ADS-B data from a ground station)
    - TIS-B (Broadcast of secondary surveillance radar) (SSR) derived traffic information from a ground station.
    - FIS-B (Broadcast of aviation data from a ground station)
  - Provide ADS-B traffic information and alerting to the pilot via an interfaced display
    - Correlation and consolidation of traffic data from multiple traffic sources
    - Aural and visual traffic alerting
  - Provide FIS-B data to the pilot via an interfaced display
    - Graphical and textual weather products
      - NEXRAD
      - PIREP's
      - AIRMET/SIGMET's
      - METAR's
      - TAF's



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- Winds Aloft
- Aviation Data
- TFR's
- NOTAM's

Figure SB M20-341-1 presents a typical MFD NEXRAD radar display for the M20R Ovation using ADS-B FIS-B source data when equipped as indicated by this service bulletin. The weather portion (map) is identical on the M20M Bravo FIS-B NEXRAD display..



**Figure SB M20-341-1 - Example ADS-B FIS-B NEXRAD Display**

Aircraft will require new software installation to be completed by a Mooney Authorized Service Center who can access and load the new software revision required to comply with this Service Bulletin.

The aircraft must also carry a copy of *Garmin G1000 Cockpit Reference Guide for Mooney M20M, M20R, M20TN, M20U and M20V*, PN 190-00450-06 Revision B

WARRANTY:  
REFERENCE  
DATA:

N/A  
1. Garmin FAA approved STC SA01714WI for GTX 345R - Can be obtained from Garmin Dealer.  
System Software Version 0401.37



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<b>MOONEY INTERNATIONAL CORPORATION</b> KERRVILLE, TEXAS 78028 – FAX 830-257-4635	
SERVICE (BULLETIN) (INSTRUCTION) NO. _____ HAS BEEN COMPLIED	
WITH ON AIRCRAFT MODEL _____ SERIAL NUMBER _____	
Tach. Time: _____	N-Number _____ (Reg. No.)
Owner: _____	Date of Compliance: _____
_____	Complied
_____	By: _____
Inspection Report: _____	
_____	
_____	
_____	
Form 07-0001	
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<b>MOONEY INTERNATIONAL CORPORATION</b> ATT'N: TECHNICAL SUPPORT 165 Al Mooney Road, North Kerrville, Texas 78028	

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