Service Bulletin

MODEL(S)	MD302
PART NUMBER(S)	6420302-( )
DESCRIPTION	SAM® Standby Attitude Module
TOPIC	Modification 2 and Software Version 1.1.0
PURPOSE	Product and Performance Enhancements
RELEASE DATE	March 26, 2018

APPLICABILITY

This Service Bulletin is applicable to the model MD302 SAM® Standby Attitude Module, part number series 6420302-( ) manufactured by Mid-Continent Instrument Co., Inc. (dba Mid-Continent Instruments and Avionics).

PURPOSE

This service bulletin describes features associated with hardware changes that are identified at the product level as Modification (MOD) 2. Additionally, it describes an update to the product software represented by version 1.1.0.

EFFECTIVITY

All MD302 SAM units manufactured and marked with MOD 2 shall comply with the hardware updates associated with this Service Bulletin. MOD 2 changes are not required for continued airworthiness. Previous versions of the product cannot be upgraded to MOD 2.

MD302 SAM units in the field can be updated to Software Version 1.1.0, but are not required to do so for continued airworthiness.

Following the release date of the updated software, all MD302 SAM units manufactured by Mid-Continent Instruments and Avionics shall be supplied with Software Version 1.1.0 or later installed.

DESCRIPTION

The following list describes the added features provided by the MOD 2 hardware update.

ADDED FEATURES

1. Extended cold temperature operation
   Display heaters incorporated to provide unit functionality down to -45°C.

2. MD32 Remote Magnetometer support
   a. Assigns previously reserved connector pins as an ARINC 429 data input. This is in addition to the existing ARINC 429 input and allows the MD302 to receive data from two independent external sources.
   b. Assigns previously reserved connector pin as a power output to supply the MD32 Remote Magnetometer with standard and emergency backup power.

   NOTE: MOD 2 is not required for compatibility with the MD32 Remote Magnetometer.

The following list describes the added features, enhancements and resolutions incorporated in the Software Version 1.1.0 update.

ADDED FEATURES

1. MD32 Remote Magnetometer support
   a. Displays independent heading using MD32 Remote Magnetometer as a directional reference source.
   b. Transmits ARINC Label 320 (Magnetic Heading) when using MD32 Remote Magnetometer.

   NOTE: SW v1.1.0 is required for compatibility with the MD32 Remote Magnetometer.

2. ARINC 429 Pass-through/Combination
   Allows both ARINC-in channels to be combined with existing ARINC-out data as a single transmitted data source.

ENHANCEMENTS

1. Receives ARINC label 234/235 for use in baro synchronization
2. Reduced battery switch-over warning/dialog box size to maintain useable attitude display
3. Optional selection for a split-delta symbolic airplane on the attitude display
4. SSEC configuration file identifier is displayed on the start-up screen, if installed
5. Provides capability to support an alternative display for future use
6. Ability to maintain accurate attitude during extended orbiting maneuvers in conjunction with the use of the MD32 Remote Magnetometer

RESOLUTIONS

1. Resolved manual brightness adjustment when external dimming input is lost in low-light conditions
2. Improved transition between minimum airspeed limit and zero

ESTIMATED MANPOWER

Approximately 30 minutes or less to update the unit software.

APPROVALS

This Service Bulletin represents a minor change to the previously approved Technical Standard Order Authorizations. Any changes to software and/or complex hardware have been completed in accordance with approved developmental and quality processes per the guidelines of RTCA document DO-178B and DO-254, respectively.

WEIGHT AND BALANCE

No change

ELECTRICAL LOAD DATA

No change

CERTIFICATION

This Service Bulletin represents a minor change and thus maintains all aspects of the previously approved Technical Standard Order Authorizations. It additionally adds FAA Technical Standard Order Authorization (FAA-TSO) C6e, *Direction Instrument, Magnetic (Gyroscopically Stabilized)*, to the MD302 as part of a system (in conjunction with use of the MD32 Remote Magnetometer).

OTHER PUBLICATIONS AFFECTED

Mid-Continent Instruments and Avionics Installation Manual and Operating Instructions, part number 9017782, Revision K or later, includes information associated with this Service Bulletin.

ACCOMPLISHMENT INSTRUCTIONS

All existing versions of the product (MOD 0, MOD 1) cannot be upgraded with the hardware changes required to accomplish a MOD 2 update.

However, all fielded units with a software version of 1.0.2 or greater can be updated with Software Version 1.1.0. The unit software can be updated by returning the unit to Mid-Continent Instruments and Avionics or by performing the instructions as listed in this section.

If returning the MD302 SAM® unit to Mid-Continent Instruments and Avionics:

Call the Mid-Continent Instruments and Avionics sales department for a Return Material Authorization (RMA) at 316-630-0101.

Return address: Mid-Continent Instruments and Avionics
9400 E. 34th Street N.
Wichita, KS 67226

If performing this software update in the field:

Follow the Instructions for Continued Airworthiness (ICA) for Software Updates as provided in the Mid-Continent Instruments and Avionics Installation Manual and Operating Instructions, part number 9017782, Revision K or later.