

Service Bulletin

MODEL(S)	TB20, TB30, TB40, TB50, TB60
PART NUMBER(S)	6430020-(), 6430030-(), 6430040-(), 6430050-(), 6431060-()
DESCRIPTION	Advanced Lithium-ion Battery
TOPIC	Software Update Version 1.1.0
PURPOSE	Product and Performance Enhancements
RELEASE DATE	February 29, 2024

APPLICABILITY

This Service Bulletin is applicable to the TBX Series of Advanced Lithium-ion Batteries, part numbers 6430020-(), 6430030-(), 6430040-(), 6430050-(), and 6431060-(), manufactured by Mid-Continent Instrument Co., Inc. (dba True Blue Power and Mid-Continent Instruments and Avionics). These updates are to be performed only by authorized personnel per the instructions as listed in this Service Bulletin. Units with this software upgrade are available for sale from the manufacturer.

PURPOSE

TBX software version 1.1.0 represents improvements to product functionality of the TBX Series and supports a new variant of the series, the TB50, 50Ah Advanced Lithium-ion Battery, part numbers 6430050-().

EFFECTIVITY: RECOMMENDED

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

True Blue Power is recommending that all TB20, TB30, TB40 and TB60 units in the field be updated to Software Version 1.1.0 to take advantage of added features, enhancements and resolutions that improve the function and performance of the product.

Following the release date of the updated software, all general availability of TBX units manufactured or serviced by True Blue Power shall be installed with Software Version 1.1.0 or later.

DESCRIPTION

The following list describes the enhancements and resolutions incorporated in Software Version 1.1.0.

ADDED FEATURES

1. Added appropriate functions, protections, and thresholds specific to the newly available TB50 version(s) of the TBX Series.
2. Added multiple new ARINC labels to support the potential transition from existing TB44 installations to any of the TBX Series.
3. Added new user-programmable configuration parameter for Minimum Energy:
When programmed and when the battery's Deliverable Energy is below this value, the ARINC 429 Label 271, bit 18, becomes active.
4. Added Configuration Identifier feature:
The user-programmable configuration file now reports a 5-digit integer that is unique to the set of parameter values contained in the configuration file. It is reported in the configuration validation file, the diagnostic log, and via new ARINC label 353.

ENHANCEMENTS

1. Modify the Control Mode protocol to allow for customized naming of the user-programmable parameter configuration files from "installer.cfg" to _____.cfg.
2. Improved the use of the Start Peak Current user-programmable configuration parameter
This improves consideration of cold temperatures in determining the battery's ability to perform and complete and engine start.

RESOLUTIONS

1. Expand the timeout duration for module validity checks after reboot to avoid a Service indication, occasionally seen on TB40 and TB60 models.
2. End of Discharge (EOD) condition detection revised to prevent high current discharges from incorrectly triggering an EOD.
3. Added ability to enter Control Mode when battery modules are in an undervoltage state.

ESTIMATED MANPOWER

Software can be downloaded and updated on fielded units in approximately 10 minutes.

WEIGHT AND BALANCE

No change

ELECTRICAL LOAD DATA

No change

CERTIFICATION

This Service Bulletin represents a minor change to the previously approved Technical Standard Order Authorization for the TBX series of Advanced Lithium-ion Batteries. Any changes to software have been completed in accordance with approved developmental and quality processes per the guidelines of RTCA / DO-178C, Software Considerations in Airborne Systems and Equipment Certification.

OTHER PUBLICATIONS AFFECTED

True Blue Power Installation Manual and Operating Instructions are updated with information associated with this Service Bulletin, as applicable. The manual numbers for each model are listed below and the latest revisions can be found at www.truebluepowerusa.com.

- TB20/TB30/TB40/TB60: 9020005; TB50: 9019999
- (previous manual numbers: TB20: 9019286; TB30: 9019287; TB40: 9019288; TB60: 9019485)

ACCOMPLISHMENT INSTRUCTIONS

The action required by this Service Bulletin can be accomplished by returning the unit to True Blue Power or by performing the instructions as listed in this section.

If returning the TB20, TB30, TB40 or TB60 unit to True Blue Power:

Call True Blue Power sales department for a Return Material Authorization (RMA) at 316-630-0101.

Return address: True Blue Power
9400 E. 34th Street N.
Wichita, KS 67226

If performing this update in the field:

1. Download the approved software update file from: <https://www.truebluepowerusa.com/software-updates/> to the root directory of a standard FAT formatted USB flash drive. If updating from 1.0.1 or 1.0.2, file name must remain "update.muf." If updated from 1.0.3 or later, file name can be renamed as "_____.muf." Follow the instructions as listed on the website or Section 5 of the Install Manual.

To verify software version (optional):

1. Load the *getcfg.cmd* file to the root directory of a standard FAT formatted USB flash drive.
2. Follow the same instructions for updating the software as listed on the website or Section 5 of the Install Manual.
3. The battery will write a standard text file, either *installer.txt* or *_____.txt* on the USB flash drive. It can be viewed with any text editor and will display the software version, battery serial number (only on batteries factory built with software 1.0.2 or later) and currently loaded custom configuration parameters.