Service Bulletin

MODEL(S)            TB17
PART NUMBER(S)      6430017-( )
DESCRIPTION         Advanced Lithium-ion Battery
TOPIC               Modification ("MOD") 2
PURPOSE             Miscellaneous operational enhancements
RELEASE DATE        March 21, 2016

APPLICABILITY
This Service Bulletin is applicable to the model TB17 Advanced Lithium-ion Battery, part numbers 6430017-( ) 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 modification are available for sale from the manufacturer.

PURPOSE
This modification to the TB17 series includes hardware changes which enhance and optimize current functionality to provide better and more convenient operational characteristics.

EFFECTIVITY: Voluntary
Existing TB17 product previously produced and fielded cannot be upgraded with these MOD 2 changes as described without refurbishment from the manufacturer. Following the release date of this Service Bulletin, all TB17 units marked as MOD 2, including those newly manufactured by True Blue Power and marked as such, shall include the changes as described herewith.

DESCRIPTION
The following list describes the changes incorporated in this TB17 modification.

1. Sleep Mode
   The TB17 will enter sleep mode after approximately 1 hour of inactivity. Inactivity is defined as not charging (applied voltage is less than 280 millivolts above battery voltage) and not discharging (external load is less than 25mA). 

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2. Sleep Timer Reset Delay
   If the Sleep Timer expires during active operation, the battery will briefly enter Sleep
   Mode and will return to Active Mode within 10 mS ± 5mS.

3. Transition from Sleep Mode to Active Mode
   When in Sleep Mode, if a charging voltage (greater than 280mV above the battery
   voltage) or external load (greater than 25mA) is applied, the battery will transition to
   Active Mode in 15mS ± 5mS.

4. Internal series resistance value change
   When in Sleep Mode, a resistance of 350Ω is in series with an external load. The
   resistance value better facilitates operation of low power devices that use less than 25mA
   (e.g. clock) to operate within their normal voltage range while maintaining Sleep Mode
   operation.

5. Maximum Continuous Output Current
   The over-current limit was modified so that the battery can now provide up to 500 Amps
   of continuous current.

6. Short Circuit Timing
   When a load greater than 850A is detected, the battery will continue to provide power for
   100 milliseconds. The Short Circuit Protection will then prevent further discharge until a
   load requiring less than 25mA is detected (e.g. short is removed).

7. Charging Circuit
   Added enhancement to reduce the in-rush current transient whenever a charge voltage is
   applied.

8. State of Charge for Shipping
   The battery will be shipped at approximately 30% state-of-charge (SOC).

9. Identification
   "MOD 2" will be marked out on the TB17 nameplate.

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**ESTIMATED MANPOWER**

None. Not available for field update.

**APPROVALS**

None required

**WEIGHT AND BALANCE**

No change

**ELECTRICAL LOAD DATA**

No change
CERTIFICATION

This Service Bulletin represents a minor change and therefore does not affect the previously approved Technical Standard Order Authorization (TSOA) of the TB17.

OTHER PUBLICATIONS AFFECTED

True Blue Power Installation Manual and Operating Instructions, part number 9018047, Revision D or later, includes information associated with this Service Bulletin.

ACCOMPLISHMENT INSTRUCTIONS

The changes associated with this Service Bulletin apply only to factory-new product provided by True Blue Power and marked accordingly.

To consider whether or not previously fielded product may be eligible for factory refurbishment and upgraded to include this modification, please contact True Blue Power.

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