

# Service Bulletin

<b>MODEL(S)</b>	TB17
<b>PART NUMBER(S)</b>	6430017-( )
<b>DESCRIPTION</b>	Advanced Lithium-ion Battery
<b>TOPIC</b>	Modification (“MOD”) 2
<b>PURPOSE</b>	Miscellaneous operational enhancements
<b>RELEASE DATE</b>	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).

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  $10\text{ mS} \pm 5\text{mS}$ .
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  $15\text{mS} \pm 5\text{mS}$ .
4. Internal series resistance value change  
When in Sleep Mode, a resistance of  $350\Omega$  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.

#### 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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