

INCH-POUND

MIL-PRF-32052/1(CR)

7 December 1999

## PERFORMANCE SPECIFICATION SHEET

BATTERY, RECHARGEABLE, SEALED, BB-XX90/U, BB-X590/U and BB-390/U

This specification sheet is approved for use by the U. S. Army CECOM, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-PRF-32052.

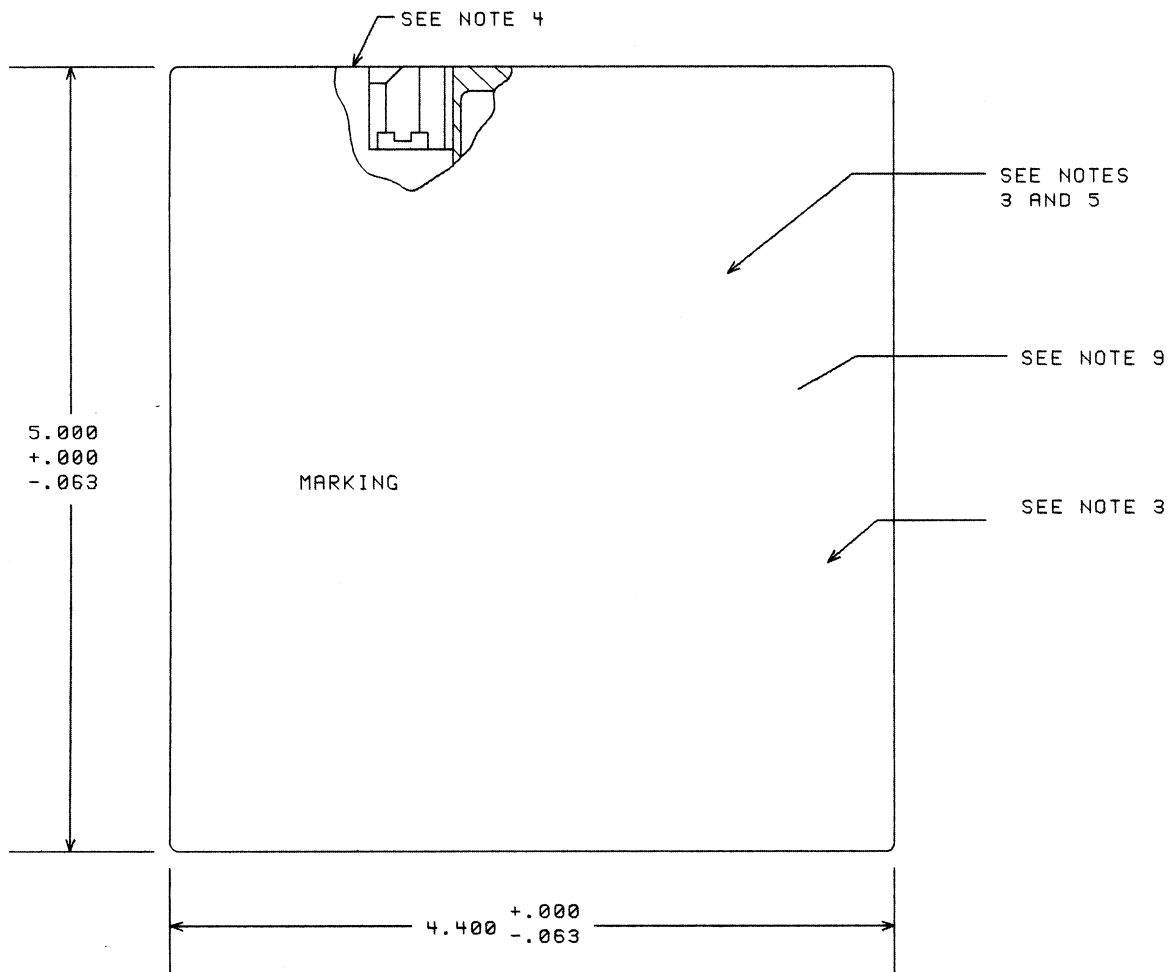


FIGURE 1. FRONT VIEW.

AMSC N/A

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FSC 6140

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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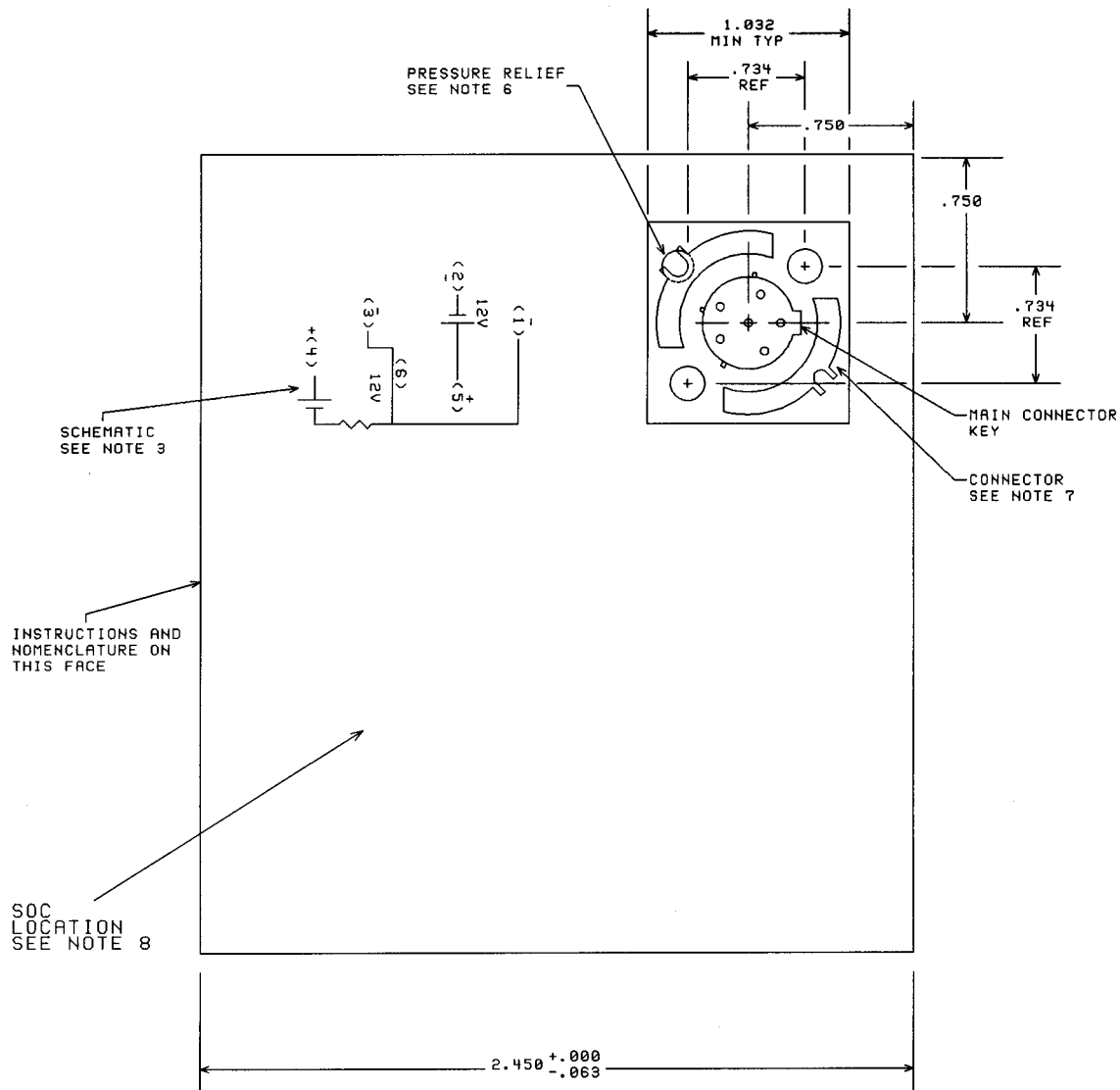


FIGURE 2. TOP FACE OF BATTERY.

## DRAWING NOTES

1. All dimensions are in inches.
2. Tolerances on decimals:  $\pm .031$  inch.
3. Stencil (or equivalent) schematic, identification and charging instructions as shown. Color marking white.
4. Face of connector shall be flush to .031 inch below top of battery.
5. Manufacturer must fill in applicable information in parenthesis. Location is optional.

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6. Pressure relief valve(s) shall be located under connector or approved location. It shall release gas before case damage is incurred. It shall not permit the entry of liquid into the battery case.
7. The main connector key shall be oriented as shown in Figure 2. The two connector mounting screws shall be a corrosion resistant material. Connectors, which are functionally equivalent to the SC-C-179495 and will not cause a reduction in battery performance or life, are acceptable.
8. Battery shall have a "State of Charge" indicator located and marked approximately as shown on the face of the battery indicated. State of charge interpretation shall be clearly marked on the battery.
9. Distinctive markings are required, dependent upon battery chemistry.

**REQUIREMENTS:**

**Rated capacity (C/5):**

BB-XX90/U: 4.5 AH  
BB-X590/U: 6.0 AH  
BB-390/U: 4.8 AH

**Voltage (Nominal):** 12/24 volts.

**Maximum Voltage:**

32.8 volts for 24 volt mode  
16.4 volts for 12 volt mode

**Weight (Maximum):**

BB-X590/U: 1.68 Kg (3.7 lbs.)  
BB-XX90/U: 1.36 Kg (3.0 lbs.)  
BB-390/U: 1.82 Kg (4.0 lb.)

**Connector:** Floating type per SC-C-179495 or equivalent.

All connectors, including socket terminal and charging connector, if required, shall retain full function after 500 insertions and withdrawals.

Connector mounting screws shall remain securely fastened after 500 insertions and withdrawals.

**Charge rate for testing and on battery :**

C/2 minimum for 2-3 hrs maximum or with approved charger  
(or when permitted, per 4.7.1.2)

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<u>Discharge Rates</u>	<u>5 Second Voltage(V)</u>	<u>Final Voltage(V)</u>	<u>Current (Amps)</u>
C/5	-	20.0	0.8
0.5C <sub>5</sub>	-	20.0	2.0
2.2 C <sub>5</sub>	22.0	20.0	10.0
4.0C <sub>5</sub> (12V)	11.0	10.0	36.0

<u>Test</u>	<u>Current or Power (Amperes or Watts)</u>	<u>BB-XX90 Minimum Capacity Requirement (AH or WH)</u>	<u>BB-X590 Minimum Capacity Requirement (AH or WH)</u>	<u>BB-390/U Minimum Capacity Requirement (AH or WH)</u>
Full Capacity Discharge	2A 50W	4.2AH 119 WH	6.0AH 178 WH	4.8 AH 118 WH
Cycle Life, 224 cycles	2A	3.7 AH	5.4 AH	4.3 AH
Overcharge, 24 hours	2A	4.2 AH	6.0 AH	4.8 AH
High Rate Discharge	10A	3.3 AH	5.2 AH	3.0 AH
Low Temperature Discharge at -20°C for BB-390, BB-XX90 and -30°C for BB-X590 (see note 4)	2A	3.0 AH	4.0 AH	3.3 AH
Retention of Charge 7 days at 50° C (122°F)	2A	3.7 AH	5.4 AH	1.8 AH
Pulse Discharge 36 amps, 5 seconds on, 25 seconds off, continuously to 10 volts	36A	6.6 AH	10.4 AH	6.0 AH
Vibration	0.8A	4.5 AH	6.0 AH	4.9 AH

- NOTES -
1. Unless otherwise specified, all values are minimum.
  2. All charges and discharges shall be performed on fully assembled batteries through the terminals.
  3. All discharge currents are fixed at the specific rate regardless the increase of battery capacity.
  4. Allow discharge voltage to 18.0V.

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CONCLUDING MATERIAL:

Custodian:  
Army - CR

Preparing Activity:  
Army - CR

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