

CHAPTER 3

**BATTERY MANAGEMENT AND SUSTAINMENT
SYSTEMS (BMASS)**

EQUIPMENT DESCRIPTION SHEETS

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BATTERY CHARGER, SOLDIER PORTABLE CHARGER (SPC)



TAMCN: A0012

ID: 11099A

NSN: 6130-01-495-2839

Functional Description

The Battery Charger, Soldier Portable Charger (SPC), (PP-8498/U) is a dual-channel sequential charger that automatically charges up to eight batteries (two at a time) in approximately eight hours depending on battery type and state-of-charge. The SPC comes with (4) J-6358B/P (BB-2590/U – BB-390B/U) adapters. All other adapters are ordered separately. The SPC can hold up to four adapters (one per port) and each adapter holds two batteries. The SPC operates from AC or DC power. For vehicle supplied DC power the SPC has a low voltage cutoff to avoid draining the vehicle battery.

Technical Description

Battery Charger

Manufacturer: Bren-Tronics
 Model: PP-8498/U

Dimensions

Length (in): 22.8
 Width (in): 14.6
 Height (in): 9
 Weight (lb): 27.5
 Volume (ft³): 1.8

Power

Input: 90 -260 VAC
 22- 28 VDC
 Frequency (Hz): 47-420

Warranty

4 years from MFG date

Adapter

Adapter NSN

Battery

Battery

<u>Adapter</u>	<u>Adapter NSN</u>	<u>Battery</u>	<u>Battery</u>
J-6358B/P	5940-01-501-3312	BB-2590/U	BB-390B/U
J-6357A/P	5940-01-493-6388	BB-388A/U	BB-2588/U
J-6356/P	5940-01-427-9183	BB-326/U	BB-516A/U
J-6355/P	5940-01-427-9247	BB-503A/U	
J-6354/P	5940-01-427-9278	BB-2847A/U	
J-6523A/P	5940-01-492-7238	BB-557/U	BB-2557/U
J-6521/P	5940-01-467-8813	BB-2600A/U	
J-6587/P	5940-01-493-6750	BB-2800/U	
J-6589/P	5940-01-493-7622	NIMH / NICAD	
J-6588/P	5940-01-493-6751	MBITR (PRC-148)	
J-6769A/P	5940-01-526-8017	BB-2001A/U (CSEL)	
J-6878/P	5940-01-573-9693	FALCON (PRC-152)	
J-6879/P	5940-01-573-9697	IISR (PRC-153)	

Climatic Conditions: Operating: +14°F to +104°F is recommended. Accepted for short duration: -4°F to +122°F. Storage Temperature Range: -40°F to +158°F.

NOTES: Requires periodic software upgrades as new adapters become available. For vehicle DC operation the DC cable must be ordered separately, J6362A/U, NSN 5940-01-501-6714.

BATTERY CHARGER/ANALYZER (CASP) (PP-8333/U)	
	TAMCN: A7700
	ID: 09591A
	NSN: 6130-01-341-2073
Functional Description	
<p>The CASP Battery Analyzer-Charger (PP-8333/U) is a programmable battery support system designed for maintaining rechargeable batteries used in portable battery powered equipment. The PP-8333/U consists of a CASP/2000H (M) Analyzer-Charger, a selected set of battery interface cables, a ruggedized transport case and technical manuals. The CASP/2000H(M) is pre-programmed with commonly used military battery packs and may be reprogrammed for use with other nickel-cadmium, lead-acid, nickel-metal hydride and silver-zinc batteries. The CASP/2000H (M) has six output ports to which six batteries may be connected at the same time and processed sequentially.</p>	
Technical Description	
<p><u>Battery Charger</u> Manufacturer: Christie Electric Co Model: PP-8333/U</p> <p><u>Power</u> Input: 90 to 135 VAC 180 to 265 VAC</p> <p>Frequency (Hz): 47 to 63</p>	<p><u>Dimensions</u> Depth (in): 14.2 Width (in): 22.3 Height (in): 13.0 Weight (lb): 40.0 Volume (ft³): 2.4</p>
<p><u>Battery</u> BB-516 BB-586 BB-557 BB-590 BB-390B/U * BB-588 BB-699</p>	<p><u>Cable Number</u> 118 (supplied w/unit) 106 (supplied w/unit) 109 (supplied w/unit) 110 (supplied w/unit) 110 (supplied w/unit) 111 (supplied w/unit) 115 (supplied w/unit)</p> <p>* Note: The BB-390B/U requires MI-09591A-25/1B</p>
<p>CALIBRATION cable 116 (supplied w/unit) and cable 102 UNASSIGNED (supplied w/unit) Material & Color: Transit Case, Christie P/N 121644-001 (only included w/system), Black. A/C Cable: Power Supply Cable, Christie PN: 122098-001 (only included w/system) Climate Conditions: Operating: +14°F-+122°F Storage: -40°F-+122°F</p>	
<p>NOTES: Requires periodic calibration. Additional cables available, #102 (JTIDS), #105, (BB-503), #107 (BB-507), #108 (BB-506), #112 (BB-541), #113 (BB-704/TV, #119 (BB-542, #120 (STINGER), #122 (24C PIONEER, #123 (THT), #124 (PARAVANT), #130 (BB-287/42), #131 (BB-287/20).</p>	

BATTERY CHARGER, VEHICLE-MOUNTED CHARGER (VMC)



TAMCN: H6002

ID: 11100B

NSN: 6130-01-527-2726

Functional Description

The Vehicle-Mounted Charger (VMC), PP-8481B/U, is the replacement for the Charger-On-The-Move (COTM). The VMC is designed for mounting in a tactical vehicle and provides forward area charging capabilities. The VMC charges two batteries at a time and automatically moves to the next two batteries in queue. The VMC comes with two Universal Adapters (J-6520A/U). Additional adapters are available but must be ordered separately. To avoid draining the vehicle battery, the VMC has a low voltage cutoff, which will stop battery-charging operations when low voltage is detected from the vehicle battery.

Technical Description

Battery Charger

Manufacturer: Bren-Tronics
 Model: PP-8481B/U
 Input: 90-260 VAC or 22-28 VDC
 Frequency (Hz): 47-420
Warranty 4 Years from MFG date

Dimensions

Length (in): 27.0
 Width (in): 8.0
 Height (in): 14.0
 Weight (lb): 34.0
 Volume (ft³): 1.7
 Operating Temp: -4°F to +122°F
 Storage Temp: -40°F to +158°F

Adapter

J-6520A/U

Adapter NSN

5940-01-493-8744

Battery

BB-2590/U
 BB-2588/U
 BB-516A/U
 BB-2847A/U
 BB-2590/U
 BB-2001A/U (CSEL)
 BB-390/2590
 BB-2557B/U
 BB-2600A/U
 FALCON (PRC-152)
 BB-390/2590
 MBITR (PRC-148)
 BB-390/2590
 IISR (PRC-153)

Battery

BB-390B/U
 BB-2800/U
 BB-326
 MBITR (PRC-148)
 BB-390B/U
 BB-2800/U
 BB-2847A/U
 BB-557/U
 BB-2800/U
 BB-2847A/U
 BB-2800/U
 BB-2847A/U

J-6581/U (BULK)

5940-01-494-7116

J-6583/U *

5940-01-494-7118

J-6584/U

5940-01-494-7120

J-6585/U *

5940-01-494-3002

J-6585/U *

5940-01-494-4134

VMC-IISR

BTA-70862

NOTES: Requires periodic software upgrades as new adapters become available. The Universal Adapter J-6520A/U is not interchangeable with the COTM Universal Adapter J-6520/U. Heating effects caused by AC power operation may degrade battery charge acceptance. The VMC comes with both an AC (CX-13553) and DC (CX-13554) power cables.

VEHICLE MOUNTED BATTERY CHARGER (VMBC)



TAMCN: A0328

ID: 11843A

NSN: 6130-01-581-9480

Functional Description

The Vehicle Mounted Battery Charger (VMBC) has all of the battery charging capabilities of the PP-8481 B/U, but in a smaller volume. The VMBC is designed for mounting in a tactical vehicle and provides forward area charging capabilities. To avoid draining the vehicle battery, the VMBC has a low voltage cutoff, which will stop battery-charging operations when low voltage is detected from the vehicle battery.

Technical Description

Power Supply

Manufacturer: Bren-Tronics, Inc.
Model: BTC-70870-1

Power

Input:
DC: 22- 33

Frequency (Hz): 47-420

Dimensions

Length (in): 14
Width (in): 16.2
Height (in): 8.3
Weight (lb): 23
Volume (ft³): 1.08

Temperatures

Operating: -20°C to +50°C
-4°F to +122°F
Storage: -40°C to +70°C
-40°F to +158°F

Adapter

VMC-Universal	5940-01-493-8744
VMC-390 / 2590	5940-01-494-7116
VMC-CSEL	5940-01-494-7118
VMC-MBITR	5940-01-494-4134
VMC-557/2557/2600	5940-01-494-7120
VMC-FALCON	5940-01-494-3002
VMC-IISR	BTA-70862
VMC-AA	BTA-70873

Adapter NSN

Batteries

BB-390 /2590	BB-2847
BB-516A / 326	MBITR
BB-388 / 2588	BB-2800
BB-390 / 2590**	
CSEL*	BB-2800
BB-390 / 2590	BB-2847
MBITR*	BB-390 / 2590
BB-2800	BB-2847
BB-2600*	BB-557 / 2557
Falcon*	BB-2800
BB-390 /2590	BB-2847
IISR*	
AA cells (Nickel)	

NOTES: Requires periodic software upgrades as new adapters become available. Will not operate from AC power. Adapter plates are interchangeable with the PP-8484B/U VMC. Requires a unique software upgrade that "IS NOT" interchangeable with the VMC.

BB-390/2590 SELF-DISCHARGE DEVICE (CAP)	
	TAMCN: N/A
	I.D. N/A
	NSN: 6130-01-490-4310
Functional Description	
<p>The PP-8497/U Self-Discharge Device (CAP), is used to make QUICK CHECKS to ensure that each 12-volt section of the battery is working and to reset the battery State of Charge (SOC) indicator for the BB-390B/U. When used with the BB-2590/U, the cap is only used to ensure that each 12V section is working. If the SOC indicator requires resetting, use the SPC or VMC chargers to recharge/reset the BB-2590/U SOC indicator.</p>	
Technical Description	
<p><u>Discharge Cap</u> Manufacturer: Bren-Tronics, Inc. Model: PP-8497/U</p>	<p><u>Dimensions</u> Length (in): 2.7 Width (in): 1.9 Height (in): 2.2 Weight (lb): 0.375 Volume (ft³): 0.006</p>
<p><u>Power</u> Input: N/A Output: N/A</p>	
<p>Frequency (Hz): N/A</p>	
<u>Specifications</u>	
NOTES: N/A	

BATTERY HEALTH INDICATOR	
	TAMCN: N/A
	ID: N/A
	NSN: 6130-01-494-4133
Functional Description	
<p>The Battery Health Indicator (SDD1), (PP-8496/U) is a battery discharger and analyzer used to determine the State of Health of a BB-390B/U or BB-2590/U. The LED indicator communicates the results of the battery testing, providing an accurate result of battery capability.</p>	
Technical Description	
<p><u>Power Supply</u> Manufacturer: Bren-Tronics, Inc. Model: PP-8496/U</p>	<p><u>Dimensions</u> Length (in): 4.5 Width (in): 2.1 Height (in): 2.8 Weight (lb): .42 Volume (ft³): 0.006</p> <p><u>Temperatures</u> Operating: 0°C to +50°C -+32°F +122°F Storage: -40°C to +70°C -40°F to +158°F</p>
<p>NOTES: The discharge time for a BB-2590/U is 10 hours and for a BB-390B/U it is 7.2 hours.</p>	

BATTERY CHARGER, PULSE CHARGER WORLD VERSION PLUS																																																																	
	TAMCN: K0001																																																																
	ID: 11380A																																																																
	NSN: 6130-01-477-4703																																																																
Functional Description																																																																	
<p>The Pulse Charger World Version Plus (PCWV+) is an 110/220V Vehicle Battery Charging System (up to 20 amps) that charges and desulfates 12V conventional flooded lead-acid batteries and sealed "maintenance-free" batteries, including lead acid Flooded Cell, Valve Regulated Lead-Acid (VRLA), Absorbed Glass Mat (AGM) and gel cell.</p>																																																																	
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NOTES: Includes a switch on the back to select Gel Cell and AGM or Flooded Cell lead-acid batteries.																																																																	

BATTERY ANALYZER, VEHICLE, 490PT



TAMCN: K0002

ID: 11258A

NSN: 6130-01-510- 9594

Functional Description

The 490PT is a conductance tester designed to accurately analyze 6 and 12-Volt vehicle batteries. Battery condition, voltage, and Current Cranking Amps (CCA) are digitally displayed. The 490PT comes with a storage case.

Technical Description

Battery Analyzer

Manufacturer: PulseTech
 Model: 490 PT
 Range: 0.9 – 30VDC
 Frequency (Hz): N/A
 Warranty: 1 year limited

Dimensions

Depth (in): 3.5
 Width (in): 13.0
 Height (in): 16.0
 Weight (lb): 1
 Volume (ft³): 0.06

Battery Types

Lead Acid: (Flooded Cell)
 Absorbed Glass Mat: (AGM)

Accessories

Interface: Removable cable/clamp assembly

A/C Cable: N/A

Case Material & Color: Plastic, black with yellow highlights.

NOTES: Uses power from the battery under test or an internal 9V battery. When testing batteries in tactical vehicles the batteries must be disconnected in order to test as 12VDC batteries.

BATTERY CHARGER, VEHICLE, PRO-HD																																																																	
	TAMCN: K0003																																																																
	ID: 11259A																																																																
	NSN: 6130-01-500-3401																																																																
Functional Description																																																																	
<p>The Pro-HD is a vehicle battery charger that allows the user to charge batteries without removing the batteries from the vehicle. The Pro-HD automatically switches from 12 to 24 volts and works on AGM, VRLA, GEL and flooded cell batteries. It is fully automatic, senses battery condition, and provides only what the battery can accept.</p>																																																																	
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<p>Case Material & Color: Powder coated; black; 16 GA cold rolled-steel enclosure.</p>																																																																	
<p>NOTES: Charger output to conventional alligator clamps or NATO slave plug, to charge batteries installed in vehicles. The vehicle battery box must be kept open during charging.</p>																																																																	

BATTERY SOLAR CHARGER, 12VDC																																																													
	TAMCN: N/A																																																												
	ID: N/A																																																												
	NSN: 6130-01-546-8432																																																												
Functional Description																																																													
<p>The Pulse Solar Charger (PSC) is a 12V vehicle battery charger that charges all types of lead acid batteries including AGM, VRLA, GEL and flooded cell batteries. This solar charging system prevents the loss of battery State of Charge, desulfates the battery, and helps offset energy loss from key-off parasitic loads. The PSC will not recharge dead batteries. The 12V Pulse Recovery Unit (PRU) prevents overcharge of batteries allowing the PSC to be left connected indefinitely.</p>																																																													
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		Height (in):	8.5																																																										
<u>Power</u>		Weight (lb):	1.0																																																										
Input:	N/A	Volume (ft ³):	0.003																																																										
Output:																																																													
DC:	17.4 @ 155mA																																																												
Pulse Frequency:	22-28 KHZ	<u>Accessories</u>																																																											
		Solar Panel																																																											
		Pulse Recovery Unit (PRU)																																																											
<u>Warranty</u>	1 years limited																																																												
<u>Battery Types</u>																																																													
Lead Acid:	(Flooded Cell)																																																												
Absorbed Glass Mat:	(AGM)																																																												
<p>Case Color: Solar Panel Olive Drab and Black. PRU is black.</p>																																																													
<p>NOTES: Modification instructions have been published for mounting of the PSC on the MMG25 (USMC) Generator. The PRU will pull between 3mA to 5mA (3 Amp hours per 30 days) from the generator battery. The PSC unit should always be disconnected from the battery for long term storage or the PRU will deeply discharge the battery.</p>																																																													

BATTERY SOLAR CHARGER, 24VDC	
	<p>TAMCN: N/A</p> <hr/> <p>ID: N/A</p> <hr/> <p>NSN: 6130-01-487-0035</p>
Functional Description	
<p>The Pulse Solar Charger (PSC) is a 24V vehicle battery charger that charges all types of lead acid batteries including AGM, VRLA, GEL and flooded cell batteries. This solar charging system prevents the loss of battery State of Charge, desulfates the battery, and helps offset energy loss from key-off parasitic loads. The PSC will not recharge dead batteries. The 24V Pulse Recovery Unit (PRU) prevents overcharge of batteries allowing the PSC to be left connected indefinitely.</p>	
Technical Description	
<p><u>Battery Charger</u> Manufacturer: PulseTech Model: 735X640</p> <p><u>Power</u> Input: N/A Output: DC: 28 @ 200mA</p> <p>Pulse Frequency: 22-28 KHZ</p> <p><u>Warranty</u> 5 years limited</p>	<p><u>Dimensions</u> Depth (in): 0.125 Width (in): 9.0 Height (in): 11.0 Weight (lb): 1.65 Volume (ft³): 0.005</p> <p><u>Accessories</u> Solar Panel: 735X641 Pulse Recovery Unit (PRU): 735X675</p> <p><u>Battery Types</u> Lead Acid: (Flooded Cell) Absorbed Glass Mat: (AGM)</p>
<p>Case Color: Solar Panel Olive Drab and Black. PRU is black.</p>	
<p>NOTES: Modification instructions have been published for mounting of the PSC on most of the Tactical Quiet Generator (TQG) family. The PRU will pull between 3mA to 5mA (3 Amp hours per 30 days) from the generator battery. The PSC unit should always be disconnected from the battery for long term storage or the PRU will deeply discharge the battery.</p>	

BATTERY SOLAR CHARGER, 24VDC W/PUSH-TO-TEST (PTT)																																																					
	TAMCN: N/A																																																				
	ID: N/A																																																				
	NSN: 6130-01-497-0964																																																				
Functional Description																																																					
<p>The Pulse Solar Charger (PSC) with Push To Test (PTT) is a 24V vehicle battery charger that charges all types of lead acid batteries including AGM, VRLA, GEL and flooded cell batteries. This solar charging system prevents the loss of battery State of Charge, desulfates the battery, and helps offset energy loss from key-off parasitic loads. The PSC w/PTT will not recharge dead batteries. The 24V Pulse Recovery Unit (PRU), prevents overcharge of batteries allowing the PSC to be left connected indefinitely (items 1 and 2). The PTT unit (item 3) provides an indication of the batteries state-of-charge and allows the user to manage the vehicle battery system more efficiently.</p>																																																					
Technical Description																																																					
<table border="0" style="width: 100%;"> <tr> <td colspan="2"><u>Battery Charger</u></td> <td colspan="2"><u>Dimensions</u></td> </tr> <tr> <td>Manufacturer:</td> <td>PulseTech</td> <td>Depth (in):</td> <td>0.125</td> </tr> <tr> <td>Model:</td> <td>735X643</td> <td>Width (in):</td> <td>9.0</td> </tr> <tr> <td></td> <td></td> <td>Height (in):</td> <td>11.0</td> </tr> <tr> <td colspan="2"><u>Power</u></td> <td>Weight (lb):</td> <td>2.00</td> </tr> <tr> <td>Input:</td> <td>N/A</td> <td>Volume (ft³):</td> <td>0.005</td> </tr> <tr> <td>Output:</td> <td></td> <td colspan="2"><u>Accessories</u></td> </tr> <tr> <td>DC:</td> <td>28 @ 200mA</td> <td>Solar Panel</td> <td>735X641 - Item 1</td> </tr> <tr> <td>Pulse Frequency:</td> <td>22-28 KHZ</td> <td>Pulse Recovery Unit</td> <td>735X675 - Item 2</td> </tr> <tr> <td></td> <td></td> <td>Push To Test</td> <td>735X696 - Item 3</td> </tr> <tr> <td><u>Warranty</u></td> <td>5 years limited</td> <td colspan="2"><u>Battery Types</u></td> </tr> <tr> <td></td> <td></td> <td>Lead Acid:</td> <td>(Flooded Cell)</td> </tr> <tr> <td></td> <td></td> <td>Absorbed Glass Mat:</td> <td>(AGM)</td> </tr> </table>		<u>Battery Charger</u>		<u>Dimensions</u>		Manufacturer:	PulseTech	Depth (in):	0.125	Model:	735X643	Width (in):	9.0			Height (in):	11.0	<u>Power</u>		Weight (lb):	2.00	Input:	N/A	Volume (ft ³):	0.005	Output:		<u>Accessories</u>		DC:	28 @ 200mA	Solar Panel	735X641 - Item 1	Pulse Frequency:	22-28 KHZ	Pulse Recovery Unit	735X675 - Item 2			Push To Test	735X696 - Item 3	<u>Warranty</u>	5 years limited	<u>Battery Types</u>				Lead Acid:	(Flooded Cell)			Absorbed Glass Mat:	(AGM)
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<p>NOTES: Modification Instructions for mounting of the PSC W/PTT on tactical vehicles and the floodlight set are being developed. The PRU will pull between 3mA to 5mA (3 Amp hours per 30 days) from the generator battery. The PSC unit should always be disconnected from the battery for long term storage or the PRU will deeply discharge the battery.</p>																																																					

