

# MRC-143

## Tactical Battery Charger



## Operation Manual

Information and descriptions contained in this manual are the property of McDowell Research, an Ultralife Company. Distribution and/or reproduction in part or in whole are expressly forbidden without written consent.

Copyright © 2006 McDowell Research, an Ultralife Company  
All Rights Reserved.

**300 SOUTH 8th STREET, WACO, TX 76701**  
**Phone: (254) 752-1411 Fax: (254) 752-1812**  
**e-mail: [info@mcdowellresearch.com](mailto:info@mcdowellresearch.com)**  
**<http://www.mcdowellresearch.com>**

<b>Section</b>	<b><u>Chapter 1 Introduction</u></b>	<b>Page</b>
1.1	Scope	2
1.2	Introduction	2
1.3	Important Safety Instructions	3
1.4	Serviceable Parts and Repair	3
1.5	Physical Description	3
1.5.1	Physical Parameters	3
1.6	Equipment Provided	3
1.7	External Components	3
	<b><u>Chapter 2 Operation</u></b>	
2.1	Operating Procedures	4
2.2	Start Up	4
2.3	Controls and Indicators	5
	<b><u>Chapter 3 Maintenance</u></b>	
3.1	Preventative Maintenance	6
3.2	Dirt and Dust	6
3.3	Oils and Grease	6
3.4	Corrective Maintenance	6
3.5	Warranty Maintenance	6
3.6	Contact Information	7

## **Chapter 1 - General Information**

### **1.1 Scope**

This manual has been prepared by McDowell Research, an Ultralife Company. for the purpose of providing the user information necessary to understand and maintain the MRC-143 Tactical Battery Charger.

- **Chapter 1 – General Information**

- This chapter provides safety and important information about the MRC-143.

- **Chapter 2 – Operation**

- This chapter provides information necessary for operating the MRC-143, and theory of operating procedures describing how the MRC-143 accomplishes its intended purpose.

- **Chapter 3 – Maintenance**

- This chapter provides information regarding MRC-143 preventive care and corrective maintenance procedures.

**1.2 Introduction** – The MRC-143 Tactical Battery Charger is a self contained battery charger which will charge 3 batteries simultaneously. The MRC-143 is adaptable to the following power sources: AC, DC, and solar.

### **1.3 Important Safety Instructions**

- A. This manual contains important safety and operating instructions for the MRC-143 Tactical Battery Charger.
- B. Before using the MRC-143, read all instructions and cautionary markings on the battery charger.
- C. Use of an attachment not recommended or sold by the manufacturer may result in risk of fire, electric shock, or personal injury to persons.
- D. To reduce risk of damage to electric plug or cord, pull by plug rather than cord when disconnecting battery charger.
- E. Make sure cords are positioned so that they will not be stepped on, tripped over, or otherwise subjected to damage or stress.
- F. Do not operate the power supply with damaged cable or connector - replace it
- G. Do not operate power supply if it has received a sharp blow, been dropped, or otherwise damaged in anyway; take it to a qualified serviceman.
- H. Do not disassemble power supply; take it to a qualified serviceman when service or repair is required.
- I. Incorrect reassembly may result in a risk of electric shock or fire. To reduce risk of electric shock, unplug power supply from outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.

#### 1.4 Serviceable Parts and Repair

The MRC-143 has **NO** user serviceable parts. Units requiring repair should be sent to a qualified service depot for repair or follow instructions in the maintenance chapter of this manual.

#### 1.5 Physical Description

The MRC-143 is rectangular in shape with 4 connectors on one end and a single connector on the other. There are three connectors under the protective delrin lid. The lid is connected to the housing by a plastic latch.

##### 1.5.1 Parameters

- **Length:** 9.625 inches
- **Width:** 5.6875 inches
- **Height:** 4.875 inches
- **Weight:** 7.6 lbs

#### 1.6 Equipment Provided

Equipment	Quantity
MRC-143 Operational Manual	1
MRC-143 Tactical Battery Charger	1

#### 1.7 External Components

- 1 Auxiliary Output Connector
- 3 Solar Input Connectors
- 3 Battery Output Connectors
- 1 AC/DC Input Connector
- On/Off Push Button
- 1 Removable Delrin Protective Lid

## Chapter 2 - Operation

### 2.1 Operating Procedures

The subsequent sections will list in chronological order how to operate the machine safely and efficiently.

### 2.2 Start Up

- First secure the proper power cable to the power source and then to an input connector(s). There are 3 solar input connectors (1) and 1 AC/DC input connector (3). **See Figure 1 and 2.**
- Remove the delrin lid (2) by unsnapping the plastic latch (4). **See Figure 1 and 2.**

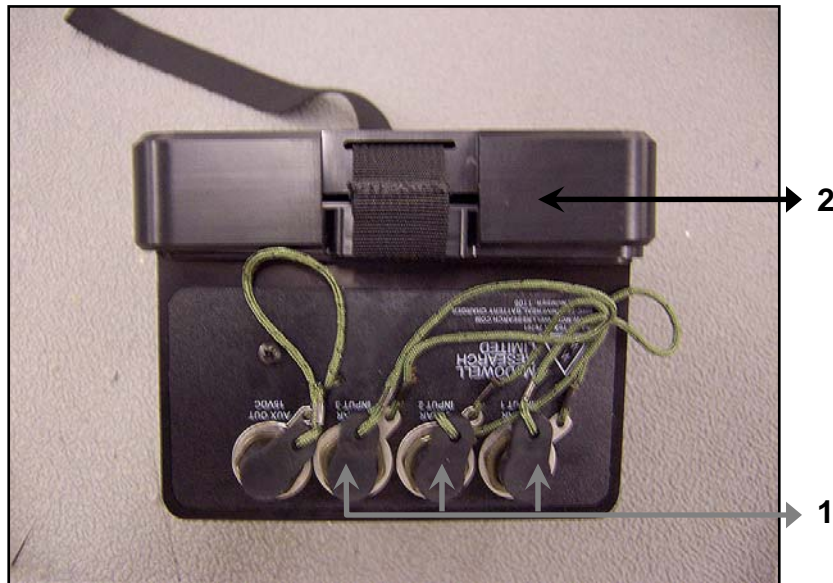


Figure 1 MRC-143 Solar Input Connectors

- Place one to three BB-390/2590 batteries to the output connectors under the lid.
- The battery status switch (5) will turn the LED's on or off, however the batteries will charge until removed or fully charged. **See Figure 2.**

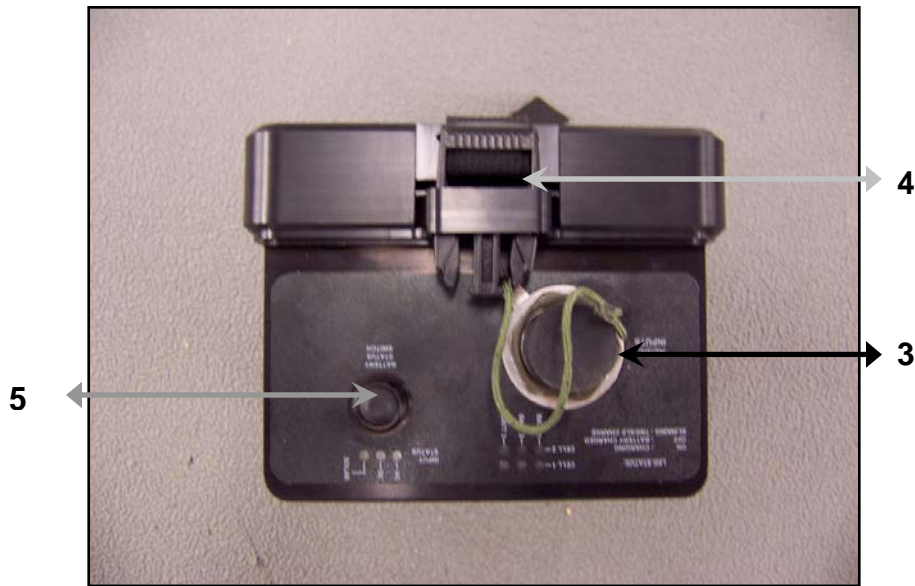


Figure 2 MRC-143 AC/DC Input and Battery Status Switch

### 2.3 Controls and Indicators

- The MRC-143 has a battery status switch clearly marked on the housing. This button will relay the status of the batteries by illuminating the indicators on the housing.
- While turned on the LED indicators on the MRC-143 will be on, when the switch is in the off position the LED indicators will be off.
  - The LED indicators below the battery status switch relay the power source information, such as whether the user is drawing on AC/DC power or using solar panels.
  - The LED indicators below the AC/DC input connector relay charging status.
    - When the LED lights are on the battery is charging.
    - When the indicators are off the battery is charged.
    - When the indicators are blinking the batteries are being trickle charged.

## **Chapter 3 – Maintenance and Warranty Information**

### **3.1 Preventative Maintenance**

All maintenance procedures should be in the subsequent sections.

### **3.2 Dirt and Dust**

All external components to the MRC-143 can be cleaned with a water dampened non-abrasive cloth and allowed to air dry or wipe dry with a clean dry non-abrasive cloth.

### **3.3 Oils and Grease**

All external components of the MRC-143 can be cleaned with a mild soap/water solution dampened non-abrasive cloth. Rinse with water dampened non-abrasive cloth and allowed to air dry or wipe dry with a clean dry non-abrasive cloth.

### **3.4 Corrective Maintenance**

The MRC-143 has **NO** user serviceable parts. Units requiring corrective maintenance should be sent to McDowell Research for repair. Contact information is provided below in section 3.6.

### **3.5 WARRANTY MAINTENANCE**

#### **Warranty Statement**

**4 years for equipment shipped after May 1, 2004**

**3 years for equipment shipped prior to May 1, 2004**

McDowell Research warrants to its customers that the products it manufactures and sells will be free from defects in materials and workmanship for a period of four (4) years for equipment shipped after May 1, 2004.

This warranty shall not apply to any defect, failure or damage caused by improper use or inadequate maintenance and care. McDowell shall not be obligated to provide service under this warranty to repair, service, or modify these products.

In order to obtain service under this warranty, customers must return a failed unit to McDowell with a description of the failure, contact information (in case questions arise and to speed up processing of guarantee claims) and finally a return shipping address. McDowell will return any failed unit at McDowell's cost. **NOTE: THIS**

**WARRANTY DOES NOT APPLY TO BATTERIES SUPPLIED BY MCDOWELL RESEARCH. ALL BATTERIES SUPPLIED BY MCDOWELL RESEARCH ARE WARRANTIED FOR 90 DAYS FROM SHIPMENT.**

**3.6 Contact Information:**

**Please call (254) 752-1411 to obtain an RMA number then you may return any failed unit(s) to:**

**McDowell Research, an Ultralife Company  
300 South 8<sup>th</sup> Street  
Waco, Texas 76701  
Phone: (254) 752-1411  
Fax: (254) 752-1812**

**Online RMA requests can be located and submitted at:  
<http://www.mcdowellresearch.com/shop/RMArequest.asp>**