OWNERS MANUAL
Model: BT-250
Digital Battery Tester
For 12 Volt Batteries
IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS – This manual will show you how to use your tester safely and effectively. Please read, understand and follow these instructions and precautions carefully, as this manual contains important safety and operating instructions.

WORKING IN THE VICINITY OF A LEAD-ACID BATTERY IS DANGEROUS. BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL OPERATION. FOR THIS REASON, IT IS IMPORTANT THAT YOU FOLLOW THESE INSTRUCTIONS EACH TIME YOU USE THE TESTER.

WARNING: Pursuant to California Proposition 65, this product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

- Read the entire manual before using this product. Failure to do so could result in serious injury.
- Use the tester in a well-ventilated area.
- This tester is not intended for use by children.
- Do not expose the tester to rain or snow.
- Do not operate the tester if it has received a sharp blow, been dropped or otherwise damaged in any way; take it to a qualified service person.
- Inspect the battery for a cracked or broken case or cover. If the battery is damaged, do not use the tester.
- Do not disassemble the tester; take it to a qualified service person when service or repair is required. Incorrect reassembly may result in a risk of fire or electric shock.
- Follow these instructions and those published by the battery manufacturer and the manufacturer of any equipment you intend to use in the vicinity of the battery. Review the cautionary markings on these products and on the engine.

PERSONAL SAFETY PRECAUTIONS

- Wear complete eye and clothing protection when working near lead-acid batteries. Always have someone nearby for help.
- Have plenty of fresh water, soap and baking soda nearby for use, in case battery acid contacts your eyes, skin or clothing. Wash immediately with soap and water and seek medical attention.
- If battery acid comes into contact with eyes, flush eyes immediately for at least 10 minutes and get medical attention.
- Neutralize any acid spills thoroughly with baking soda before attempting to clean up.
- Remove all personal metal items from your body, such as rings, bracelets, necklaces and watches. A lead-acid battery can produce a short circuit current high enough to weld a ring to metal, causing a severe burn.
- Never smoke or allow a spark or flame in the vicinity of the battery or engine.
OPERATING INSTRUCTIONS

IMPORTANT: For testing 12 volt batteries only. Suggested operational range 32°F (0°C) to 122°F (50°C) ambient air temperature.

TO INSTALL OR REPLACE THE INTERNAL 9 VOLT BATTERY:

NOTE: Nothing will be seen on the display screen until the tester is properly connected to a battery.

1. Open the battery compartment cover on the back of the tester.
2. Remove the old battery (if necessary).
3. Observing the proper polarity, install a new, fully charged 9 volt battery.
4. Close the battery compartment cover.

BATTERY TEST

1. Turn off the ignition, all accessories and any loads.
2. Clean the battery terminals.
3. Clip the red clamp to the positive (POS, P, +) battery terminal.
4. Clip the black clamp to the negative (NEG, N, -) battery terminal.
5. The display will show the battery voltage.
6. Press the ENTER button to begin the test mode.
7. Select the type of battery. Press ▲ or ▼ to select from:
   SLI (Starting/Lighting/Ignition – Standard Flooded Batteries)
   SEAL (VRLA, GEL, AGM, etc. Sealed/MF Batteries).
   Press ENTER when the correct battery type is displayed.
8. Select the rating type you want. Press ▲ or ▼ to select from:
   DIN (Deutsches Institut für Normung Standard)
   IEC (International Electrotechnical Commission Standard)
   EN (a European Standard)
   CA (MCA) (Cranking Amps [Marine Cranking Amps])
   SAE (Society of Automotive Engineers Standard)
   Press ENTER when the correct rating type is displayed.
9. Select the CCA (Cold Cranking Amps) of the battery. Press ▲ or ▼ to change the rating displayed.
   Test Ranges:
   SAE = 200 to 1200 CCA
   DIN = 110 to 670 CCA
   IEC = 130 to 790 CCA
   EN = 185 to 1125 CCA
   CA (MCA) = 240 to 1440 CA (MCA)
   Press ENTER when the correct CCA rating is displayed.
10. The battery tester will display one of the following results:
    • Green (OK) – The battery is good and capable of holding a charge.
    • Green and Yellow (OK & RECHARGE) – The battery is good, but needs recharging.
• **Yellow (RECHARGE BATTERY) –** The battery voltage is too low. The battery condition cannot be determined until it is fully charged. Recharge and retest the battery.

• **Yellow and Red (RECHARGE & RETEST) –** The battery is discharged. The battery condition cannot be determined until it is fully charged. Recharge and retest the battery. If the reading is the same, the battery should be replaced immediately.

• **Red (BAD CELL) –** The battery cannot hold a charge. It should be replaced immediately (OR: the battery has at least one cell short circuit. It should be replaced immediately).

• **ERROR on the screen and second Red LED lit –** The clamps are not connected properly (OR: the tested battery is larger than maximum testing CCA capacity).

**NOTE:** With any of the results, except **OK** and **RECHARGE BATTERY**, the tester will ask you if the battery is charged: CHG-. Press **ENTER** and then ▲ or ▼ to display YES or NO, and then press **ENTER** again to continue the test.

11. Press **ENTER** to return to the beginning of the test, or remove the clamps from the battery posts to end the test.

**CHARGING SYSTEM TEST/VOLTMETER**

This battery tester has a built-in voltmeter to test your battery’s state of charge and your alternator’s output voltage.

1. Turn off the ignition, all accessories and any loads. Close all vehicle doors, including the trunk.

2. Clip the red clamp to the vehicle’s Positive battery terminal and clip the black clamp to the vehicle’s Negative battery terminal. Be sure to follow all the precautions listed under OPERATING INSTRUCTIONS.

3. Read the voltage on the digital LED display. See the following chart for specifications.

**Battery Voltage Test (Engine Off)**

<table>
<thead>
<tr>
<th>STATE OF CHARGE</th>
<th>LEAD FLOODED</th>
<th>AGM</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>12.65V</td>
<td>12.84V</td>
</tr>
<tr>
<td>75%</td>
<td>12.45V</td>
<td>12.60V</td>
</tr>
<tr>
<td>50%</td>
<td>12.24V</td>
<td>12.36V</td>
</tr>
<tr>
<td>25%</td>
<td>12.06V</td>
<td>12.00V</td>
</tr>
<tr>
<td>DISCHARGED</td>
<td>11.89V</td>
<td>11.82V</td>
</tr>
</tbody>
</table>

**Electrical System Test (Engine Running)**

Normal charging voltage should range from 13.8-14.6V
## TROUBLESHOOTING

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>The screen shows ( \text{ib} ).</td>
<td>Internal battery is low.</td>
<td>Replace the 9 volt battery before beginning the test.</td>
</tr>
<tr>
<td>The display shows ( \text{Cb} ).</td>
<td>There may be a problem with the battery.</td>
<td>Have the battery checked.</td>
</tr>
<tr>
<td>The display reads ( \text{Hb} ).</td>
<td>The tested battery is over 15 volts.</td>
<td>Make sure the battery being tested is a 12 volt battery.</td>
</tr>
<tr>
<td>The display reading is blank.</td>
<td>Battery clamps are connected incorrectly. The voltage of the battery being tested is less than 1.5 volts, which is too low for the tester to read.</td>
<td>Check the battery clamps.</td>
</tr>
<tr>
<td>The display reads ( \text{----} ).</td>
<td>The voltage of the battery being tested is unstable.</td>
<td>Recharge and retest the battery. If the reading is the same, replace the battery.</td>
</tr>
</tbody>
</table>

### BEFORE RETURNING FOR REPAIRS

For information about troubleshooting, contact customer service for assistance:

services@schumacherelectric.com
www.batterychargers.com
or call 1-800-621-5485, Monday-Friday 7:00 AM to 5:00 PM CST

For REPAIR OR RETURN, contact Customer Service at 1-800-621-5485. DO NOT SHIP UNIT until you receive a RETURN MERCHANDISE AUTHORIZATION (RMA) number from Customer Service at Schumacher Electric Corporation.
Schumacher Electric Corporation (the “Manufacturer”) warrants this battery tester for one (1) year from the date of purchase at retail against defective material or workmanship that may occur under normal use and care. If your unit is not free from defective material or workmanship, Manufacturer’s obligation under this warranty is solely to repair or replace your product with a new or reconditioned unit at the option of the Manufacturer. It is the obligation of the purchaser to forward the unit, along with proof of purchase and mailing charges prepaid to the Manufacturer or its authorized representatives in order for repair or replacement to occur.

Manufacturer does not provide any warranty for any accessories used with this product that are not manufactured by Schumacher Electric Corporation and approved for use with this product. This Limited Warranty is void if the product is misused, subjected to careless handling, repaired, or modified by anyone other than Manufacturer or if this unit is resold through an unauthorized retailer.

Manufacturer makes no other warranties, including, but not limited to, express, implied or statutory warranties, including without limitation, any implied warranty of merchantability or implied warranty of fitness for a particular purpose. Further, Manufacturer shall not be liable for any incidental, special or consequential damage claims incurred by purchasers, users or others associated with this product, including, but not limited to, lost profits, revenues, anticipated sales, business opportunities, goodwill, business interruption and any other injury or damage. Any and all such warranties, other than the limited warranty included herein, are hereby expressly disclaimed and excluded. Some states do not allow the exclusion or limitation of incidental or consequential damages or length of implied warranty, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and it is possible you may have other rights which vary from this warranty.

**THIS LIMITED WARRANTY IS THE ONLY EXPRESS LIMITED WARRANTY AND THE MANUFACTURER NEITHER ASSUMES OR AUTHORIZES ANYONE TO ASSUME OR MAKE ANY OTHER OBLIGATION TOWARDS THE PRODUCT OTHER THAN THIS WARRANTY.**

Schumacher® and the Schumacher Logo are registered trademarks of Schumacher Electric Corporation.
1 YEAR LIMITED WARRANTY PROGRAM

REGISTRATION

MODEL: _______________________

DESCRIPTION: __________________________

This is the only express limited warranty, and the manufacturer neither assumes nor authorizes anyone to assume or make any other obligation. There is no other warranty, other than what is described in the product owner's manual. The warranty card should be submitted within 30 days of purchase. The customer must keep the ORIGINAL receipt because it will be required for any warranty claims. This warranty is not transferable. Send warranty card only. DO NOT SEND UNIT TO THIS ADDRESS FOR REPAIR.

Mail this card to:
Schumacher Electric Corporation
801 Business Center Drive
Mount Prospect, IL 60056-2179

For faster warranty activation, go to www.batterychargers.com to register your product online.

SAVE ON POSTAGE! ACTIVATE YOUR WARRANTY ONLINE – THE QUICK AND EASY WAY!

(SEE PRODUCT)