



OWNERS MANUAL

Model: BT-100

Battery Load Tester/Charging System Analyzer
For 6 and 12 Volt Batteries



READ THE ENTIRE MANUAL BEFORE USING THIS PRODUCT. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY.

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WARRANTY CARD

SAVE ON POSTAGE! ACTIVATE YOUR WARRANTY ONLINE - THE QUICK AND EASY WAY! Go to www.batterychargers.com to register your product online. (No internet access? Send in the completed warranty card.)

6 MONTH 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

Name, Street Address, City, State, Zip Code, Phone, Email, Store Name Where Purchased, Date of Purchase, Store Location, UPC Number, Serial Number (SEE PRODUCT)

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

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: This product contains one or more chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. 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 protection and protective clothing 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

BATTERY TEST

IMPORTANT: During the first use of this tester, you will notice a little smoke and/or a burning smell. This is normal and will stop after a short burn-in period. Also, during regular use, the metal housing of the unit will get hot enough to burn skin or cause property damage; carry by the handle. Neither of these factors will affect the performance of your tester.

- 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.

6V BATTERY ANALYSIS

- 1. Read the meter and confirm the battery voltage is in the green "OK" area (see illustration). 2. Press and hold the load switch "on" for a maximum of 10 seconds and read the meter with the load still on. The needle should remain in the green area. If it doesn't, the battery is weak or bad.

CAUTION: To prevent overheating, allow tester to cool for 5 minutes before depressing the load switch again, if further testing is required.

12V BATTERY ANALYSIS

- 1. Find the Cold Cranking Amps (CCA) range on the meter (see illustration) that matches the CCA rating of the battery being tested. 2. Press and hold the load switch "on" for a maximum of 10 seconds and read the meter with the load still on. Then, refer to Table 1 or the back of the tester.

CAUTION: To prevent overheating, allow tester to cool for 5 minutes before depressing the load switch again, if further testing is required.

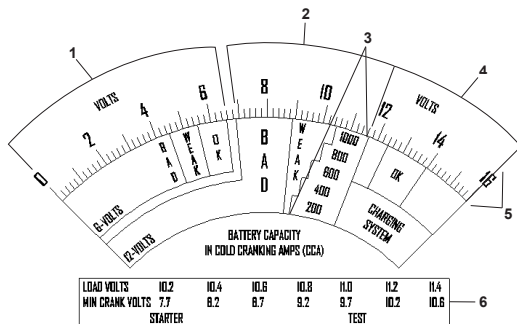
**TABLE 1**

LOAD TEST	BATTERY CONDITION
Good (green)	The battery capacity is OK. The battery may or may not be fully charged. Check the specific gravity of the battery to determine the state of charge, check for an electrical drain or possible charging system trouble. Recharge the battery to a full level.
Weak or bad, but the needle remains steady. (yellow or red)	The battery capacity is not satisfactory. The battery may be either defective or not fully charged. Check the specific gravity to determine which condition exists. If charging does not bring the specific gravity to the full charge level, the battery should be replaced.
Weak or bad, but the needle continues to fall. (yellow or red)	The battery may be defective or very run-down. Release the load switch and note the voltmeter reaction. Voltage recovery to 12 volts or above within a few seconds indicates a defective battery. A slow voltage recovery indicates a run-down condition. For best results, check the specific gravity.

**TESTING THE CHARGING SYSTEM**

1. Connect the tester.
2. Start the engine and run it at 1200 to 1500 rpm. CAUTION: Stay clear of moving engine parts.
3. Note the meter reading with all of the electrical accessories off. It should be in the green "OK" band in the "charging system" scale (see illustration).
4. With the headlights and blower motor on high, the meter should remain in the green "OK" band.
5. If the meter reads in the red band or outside the charging system zone, trouble is indicated; most likely a defective alternator.

**METER**



1. Range for 6 volt battery load testing
2. Range for 12 volt battery load testing
3. Cold cranking amps range
4. Charging system test range
5. Voltage scale
6. Starter test voltage table

**STARTER MOTOR TEST**

This test identifies excessive starter current draw, which makes starting difficult and shortens battery life. Perform the battery load test first, to make sure the battery is in good condition. If the battery tests either weak or bad, this test cannot be performed.

**NOTE:** The engine must be at a normal operating temperature.

1. Perform a basic battery load test. Note the exact voltage with the load test on (see meter illustration).
2. Using the load voltage obtained above, see Table 2 or the meter face, to find the minimum cranking voltage listed. If the engine is less than 200 CID, use the next higher minimum cranking voltage. For example, if the load voltage is 11.00, use 10.2 for the minimum cranking voltage instead of 9.7.
3. If possible, disable the vehicle's ignition system so that it will not start. The test works best if the starter cranks for 2 to 5 seconds.
4. Crank the engine and note the voltage reading during engine cranking.
5. If the cranking voltage is below the minimum cranking voltage in Table 2, the starter current draw is excessive. If the starter cranks slowly, check for high resistance or poor connections.

**TABLE 2**

STARTER TEST VOLTAGE							
LOAD VOLTAGE	10.2	10.4	10.6	10.8	11.0	11.2	11.4
MINIMUM CRANKING VOLTAGE	7.7	8.2	8.7	9.2	9.7	10.2	10.6

**BEFORE RETURNING FOR REPAIRS**

When an unknown operating problem arises, please read the complete manual and then contact Customer Service for assistance. This will usually eliminate the need for return.

[services@schumacherelectric.com](mailto:services@schumacherelectric.com)  
[www.batterychargers.com](http://www.batterychargers.com)

or call 1-800-621-5485, Monday-Friday 7:00AM to 5:00PM 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.

**LIMITED WARRANTY**

**SCHUMACHER ELECTRIC CORPORATION, 801 BUSINESS CENTER DRIVE, MOUNT PROSPECT, IL 60056-2179, MAKES THIS LIMITED WARRANTY TO THE ORIGINAL RETAIL PURCHASER OF THIS PRODUCT. THIS LIMITED WARRANTY IS NOT TRANSFERABLE OR ASSIGNABLE.**

Schumacher Electric Corporation (the "Manufacturer") warrants this battery tester for six (6) months 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.**

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