

Battery Load Tester/Charging System Analyzer

For 6 and 12 Volt Batteries

OWNERS MANUAL

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

1. 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.

WARNING: RISK OF EXPLOSIVE GASES.

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.

- 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.

2. 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.

3. 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 "GOOD" 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.

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

TABLE 1 – METER REACTION AFTER 10 SECONDS OF LOAD

LOAD TEST	BATTERY CONDITION
GOOD (GREEN BAND) after 10 seconds of load.	Battery capacity is good. May or may not be fully charged. Determine state of charge by checking specific gravity (use hydrometer). If gravity is less than full charge, check for possible charging system trouble or electrical drain. Recharge battery to full charge.
WEAK OR BAD, BUT STEADY (meter reading steady after 10 seconds of load).	Battery capacity is unsatisfactory. Battery may be either: (1) defective or (2) partly discharged. To determine which, check specific gravity. If gravity is over 1.225, battery is considered defective. If gravity is under 1.225, recharge battery and retest. If cell-to-cell gravity varies more than 0.025 (25 points), cell trouble may exist. If charging does not bring gravity to full charge level, the battery is either sulfated or has lost active material.
WEAK OR BAD AND FALLING (meter continues to fall after 10 seconds of load).	Battery may be defective (e.g. a bad cell). For a quick check, release load switch and note volt meter reaction. If voltage recovers to 12.0 volts or more in a few seconds battery is probably defective. If voltage recovers slowly, battery may be only very run down. For more accurate results, check gravity and follow above procedure.

For the manual with Spanish, visit www.batterychargers.com or call 1-800-621-5485.

Para obtener el manual en español, visite www.batterychargers.com o llame al 1-800-621-5485.

TEMPERATURE COMPENSATION

BATTERY TEMPERATURE	+20°F	0°F	-20°F
DECREASE BATTERY RATING BY: (1 STEP = 50 cranking amps).	1 STEP	2 STEPS	3 STEPS

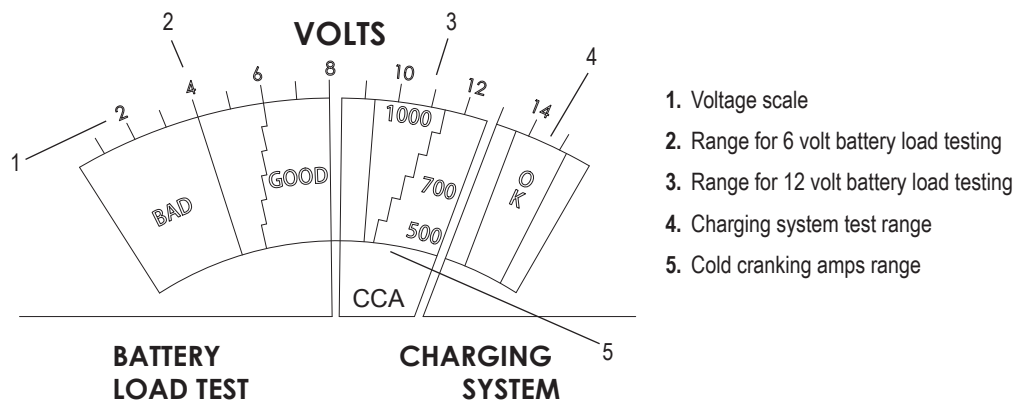
If the load indicates poor battery condition, allow the battery to stabilize for a few minutes and check the open circuit voltage by voltmeter. This is a good measure of the percent charge in the battery. The battery is considered charged if it measures 75% or more. If it failed the load test with 75% charge, it should be replaced. If the battery charge measures less than 75%, it should be charged and load tested again. Replace the battery if it fails again. The values in the following charge are for a 12 volt battery; divide these in half for 6 volt batteries.

OPEN CIRCUIT VOLTS	PERCENT OF CHARGE
11.7 Volts or lower	0
12.0	25
12.2	50
12.4	75
12.6 or higher	100

4. TESTING THE CHARGING SYSTEM

1. Connect the tester the same as for battery testing.
2. Start the engine and allow it to reach normal operating temperature.
3. Run engine at 1200 to 1500rpm. CAUTION: Stay clear of moving engine parts. Do not press the load switch.
4. Read the meter. A reading in the red band area indicates a problem in the charging system that will undercharge a battery; if the meter is beyond the OK area, the charging system is likely to overcharge the battery.

5. METER



6. STARTER MOTOR TEST

For 12V vehicles only.

This test identifies excessive starter current draw, which makes starting difficult and shortens battery life. Perform battery load test-proceed to make sure if battery is GOOD.

NOTE: ENGINE MUST BE AT NORMAL OPERATING TEMPERATURE.

1. Connect negative (black) clamp to the negative (NEG, N, -) battery post. Connect positive (red) clamp to the positive (POS, P, +) battery post. ROCK clamps back and forth to ensure a good electrical connection.
2. Disable the system ignition so the car will not start.
3. Crank the engine and note the voltage reading during cranking.
4. A meter reading of 9 volts or less indicates excessive current draw. This may be due to bad connections or a failing starter motor; or the battery is too small for the vehicle's requirements.

7. BEFORE RETURNING FOR REPAIRS

For REPAIRS OR RETURNS, visit 365rma.com

Visit batterychargers.com for Replacement Parts.

8. LIMITED WARRANTY

For information on our one year limited warranty, please visit batterychargers.com or call 1-800-621-5485 to request a copy.

Go to batterychargers.com to register your product online.