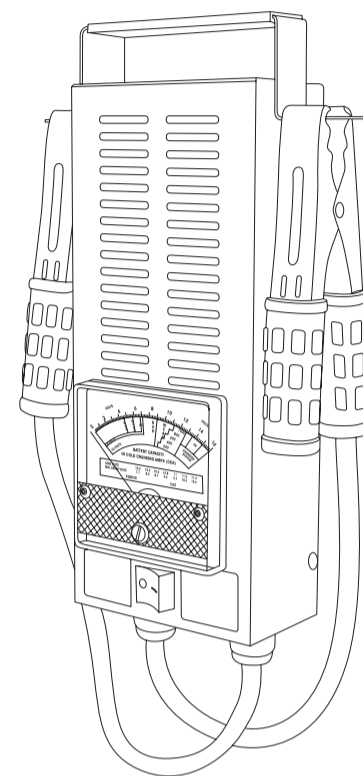




# 100 AMP BATTERY LOAD TESTER/VOLTMETER



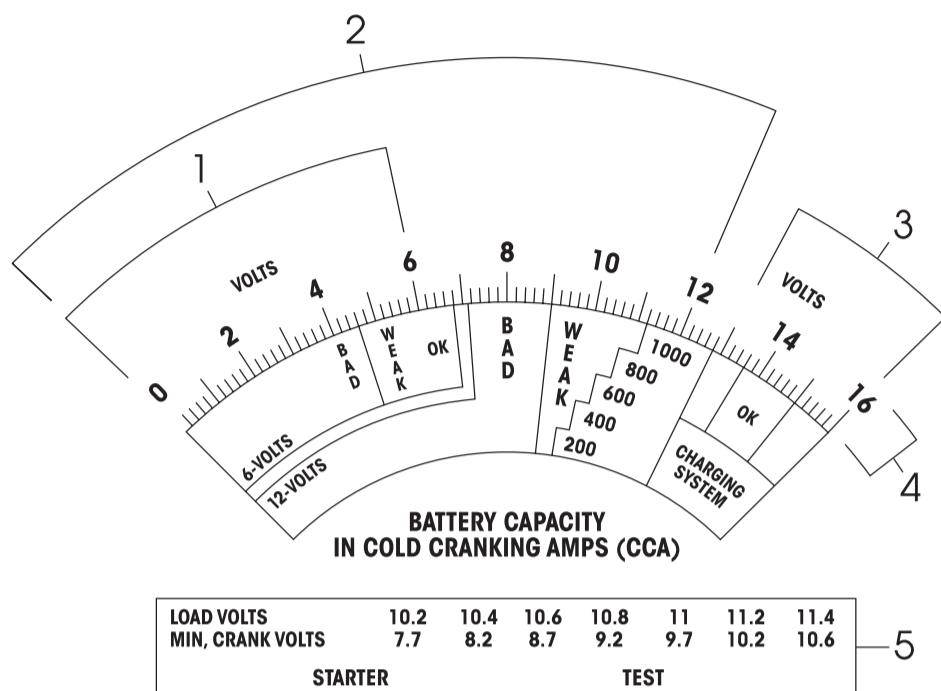
This product has been carefully manufactured to give you dependable operation. Please read this manual thoroughly before operating your new product, as it contains the information you will need to become familiar with its features and obtain optimal performance. Please keep this manual on file for future reference.

210mm

Fig.2

STARTER VOLTAGE TEST							
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	10.9.7	10.2	10.6

### BATTERY TESTER/VOLTMETER DISPLAY



- 1 - Battery Analysis Volt Range – 6V
- 2 - Battery Analysis Volt Range – 12V
- 3 - Charging System Test Range
- 4 - Voltage Scale
- 5 - Starter Voltage Test Table

### IMPORTANT SAFETY INFORMATION

- WARNING:** Risk of Explosive Gases.
- SHIELD EYES:** Explosive gases can cause eye injury or blindness. Always use proper eye protection when working with batteries.
- CONTAINS SULFURIC ACID:** May cause severe burns. Always wear gloves when working with batteries.

- Working with lead-acid batteries may be dangerous. During normal operation, batteries may generate explosive gases, so use with extreme caution when using this battery load tester/voltmeter. Always work in a well-ventilated area.
- To reduce the risk of personal or property damage, read and understand all directions and warnings prior to use of this battery load tester/voltmeter. **NOTE:** The metal housing unit may become hot while testing, use caution when in use to prevent burns or other injuries.
- You may experience a burning smell or notice some smoke when using this tester for the first time. Do not be alarmed, this is a normal process for the first use and will stop after an initial period.

### BATTERY ANALYSIS - 12 VOLT

- Review the battery label on the battery to be tested and locate the Cold Cranking Amps (CCA) rating.
- Connect the positive (+) red clamp to the positive (+) battery terminal post. Connect the negative (-) black clamp to the negative (-) battery terminal post. Ensure that both clamps are tightly secure to the terminal posts before proceeding. **NOTE:** Engine and all electrical accessories must be off while testing the battery. **NOTE:** Never test a damaged or frozen battery.
- Review the CCA range on the battery tester/voltmeter and verify that the ratings match the CCA rating on the battery to be tested.
- Press the load switch to test and hold for a maximum of 10 seconds. Read the meter and then release the switch. Refer to the battery analysis table on the back of the tester for your results. See Fig. 1

Fig.1

LOAD TEST	BATTERY ANALYSIS
Good (Green)	Battery cranking ability is GOOD. The battery may or may not be fully charged. Additional tests can be made to determine the charging system output or state of charge.
Bad/Weak (Yellow or Red – steady needle)	Battery cranking ability is NOT GOOD. Battery may not be fully charged or is defective. If charging the battery does not bring the readings back to a Good standard, it should be replaced.
Bad/Weak (Yellow or Red – unsteady needle)	Battery cranking ability is NOT GOOD. Battery may be run down or defective. Slow voltage recovery indicates a run-down battery. Voltage recovery to 12V or higher within seconds indicates a defective battery.

### Temperature may affect the readings.

Use this chart below to accurately compensate for extreme temperatures.

Battery Temperature	+20°F	0°F	-20°F
Decrease Battery Reading By:	1 Step	2 Steps	3 Steps
(1 Step = 200 Cranking Amps)			

### BATTERY ANALYSIS - 6 VOLT

- Connect the positive (+) red clamp to the positive (+) battery terminal post. Connect the negative (-) black clamp to the negative (-) battery terminal post. Ensure that both clamps are tightly secure to the terminal posts before proceeding. **NOTE:** Engine and all electrical accessories must be off while testing the battery.
- Read the meter and confirm that the battery voltage is in the green area of the display.
- Press the load switch to test and hold for a maximum of 10 seconds. Read the meter and then release the switch. Refer to the battery analysis table on the back of the tester for your results. See Fig. 1

### TESTING THE CHARGING SYSTEM

- Connect the positive (+) red clamp to the positive (+) battery terminal post. Connect the negative (-) black clamp to the negative (-) battery terminal post. Ensure that both clamps are tightly secure to the terminal posts before proceeding.
- For proper readings, engine should be at a fast idle. **CAUTION:** Stay clear of moving engine parts.
- Record the meter reading with all of the electrical accessories shut off. **NOTE:** The needle should remain in the green area of the display.
- Record the meter reading with the headlights and blower motor on high. **NOTE:** The needle should remain in the green area of the display, if it does not; then there may be a problem with the charging system.

### TESTING THE STARTER MOTOR

- Connect the positive (+) red clamp to the positive (+) battery terminal post. Connect the negative (-) black clamp to the negative (-) battery terminal post. Ensure that both clamps are tightly secure to the terminal posts before proceeding.
- Use this test to report excessive starter current draw, which makes starting difficult. **NOTE:** Perform the battery analysis first to ensure the battery condition before proceeding with the starter motor test. If the battery analysis shows either a weak or bad battery, then this test cannot be performed.
- For proper readings, the engine must be at a normal operating temperature.
- During the battery analysis, record the exact voltage with the load test on. Using the voltage recorded, refer to the table below and find the minimum cranking voltage listed. See Fig. 2