

model no. 011-3008-0

**MOTOMASTER<sup>®</sup>**  
**ELIMINATOR**

# 12 V BATTERY TESTER & Charging System Analyzer



## **IMPORTANT:**

**SAVE THESE INSTRUCTIONS.**

This manual contains important safety and operating instructions.

**INSTRUCTION  
MANUAL**

0099002016-00

This MotoMaster Eliminator product carries a one (1) year warranty against defects in workmanship and materials. At its discretion, MotoMaster Canada agrees to have any defective part(s) repaired or replaced free of charge, within the stated warranty period, when returned by the original purchaser with proof of purchase.

This product is not guaranteed against wear or breakage due to misuse and/or abuse.

**NOTE:**

If any parts are missing or damaged, or if you have any questions, please call our toll-free helpline at 1-888-942-6686.

**TABLE OF CONTENTS**

<b>Safety</b>	<b>4</b>
Safety Information	4
Personal Safety Precautions	5
Preparing To Test	6
<b>Operation</b>	<b>7</b>
Battery Test	7
Starter System Test	11
Charging System Test	13
<b>Troubleshooting</b>	<b>16</b>
<b>Technical Specifications</b>	<b>18</b>



Read and understand this instruction manual thoroughly before using the product. It contains important information for your safety as well as operating and maintenance advice. Keep this instruction manual for future use. Should this product be passed on to a third party, this instruction manual must be included.

## SAFETY INFORMATION

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.

Abbreviations and Acronyms	
V	Volt
CCA	Cold Cranking Amps
DC	Direct Current

**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.

## 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, 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 such objects to metal, causing a severe burn.

- **NEVER** smoke or allow a spark or flame in the vicinity of the battery or engine.
- Be extra cautious, to reduce risk of dropping a metal tool onto battery. It might spark or short-circuit battery or other electrical part that may cause explosion.

## PREPARING TO TEST

- Be sure area around battery is well ventilated while battery is being tested.
- Clean battery terminals. Be careful to keep corrosion from coming in contact with eyes.
- If the battery is not sealed, maintenance-free, add distilled water in each cell until battery acid reaches level specified by battery manufacturer. This helps purge excessive gas from cells. Do not overfill.
- If necessary to remove battery from vehicle for testing, always remove grounded terminal from battery first. Make sure all accessories in the vehicle are off, so as not to cause an arc.

## OPERATION

**IMPORTANT:** For testing 12 V batteries only.

Suggested operational range 32°F (0°C) to 122°F (50°C) ambient air temperature.

### BATTERY TEST

1. Turn off the ignition, all accessories and any loads. Close all vehicle doors and the trunk lid.
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 light and show the battery voltage.

**NOTE:** If display is blank, flickers or shows **HI**, **Lo** or **----**, see *Troubleshooting*.

6. Press the  button, then press  or  to select **bATT**. Press  to begin the test mode.
7. Select the battery type. Press  or  to select:  
**SLI** (Standard SLI flooded batteries)  
**GEL** (Gel cell batteries)  
**FLAt** (AGM flat plate batteries)  
**SPL** (AGM spiral batteries)  
Press  when the correct battery type is displayed.

8. Select the battery rating. Press ▲ or ▼ to select:  
**CCA** (Cold Cranking Amps)  
**CA [MCA]** (Cranking Amps [Marine Cranking Amps])  
**En** (a European standard)  
**IEC** (International Electrotechnical Commission standard)  
**din** (Deutsches Institut für Normung Standard)  
Press ➔ when the correct rating type is displayed.
9. Press ▲ or ▼ to input the battery capacity of CCA (Cold Cranking Amps).

### TEST RANGES:

CCA = 100 to 1200

CA [MCA] = 120 to 1440

EN = 90 to 1125

IEC = 65 to 790

DIN = 55 to 670

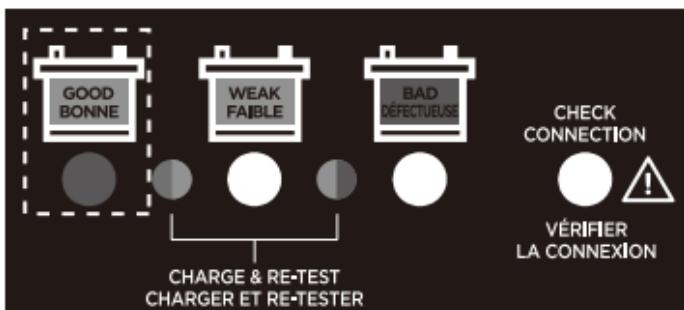
**NOTE:** If CCA rating is not shown on the battery, use the following estimates:

GAS		
L4	V6	V8
400 CCA	600 CCA	700 CCA
DIESEL		
L4	V6	V8
500 CCA	700 CCA	1000 CCA

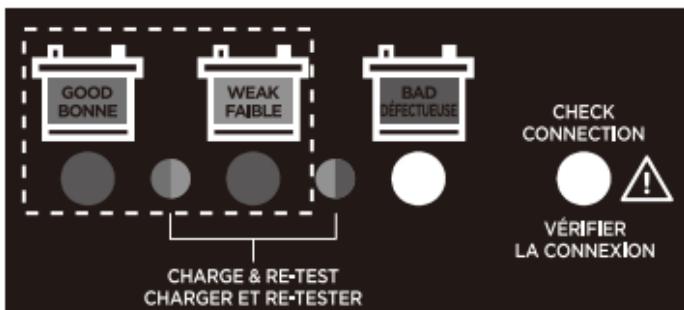
Press when the correct CCA rating is displayed, to begin the test.

**NOTE:** If the display shows **CHA-** ("Is tested battery charged?") press and select or to choose **yes** or **no**, and then press .

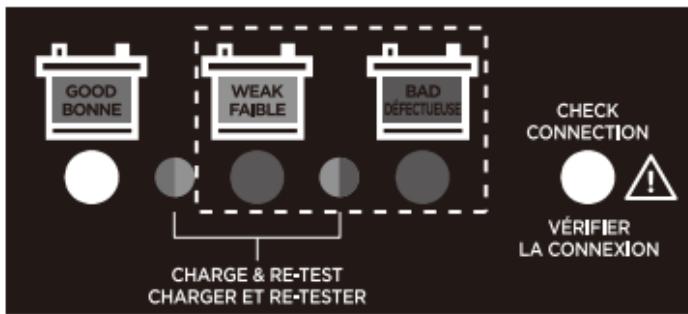
- When the test is complete, the battery tester will display the CCA and one of the following results:



**OK** (green LED lights) – The battery is good and capable of holding a charge.

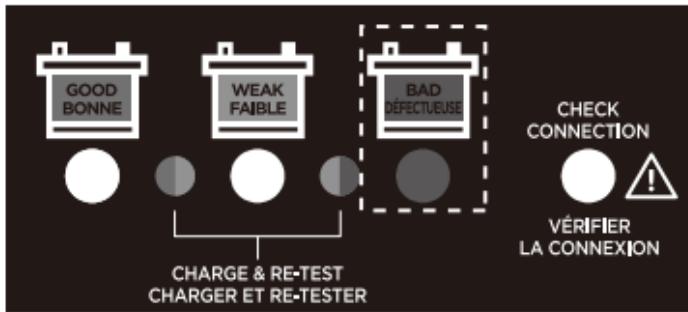


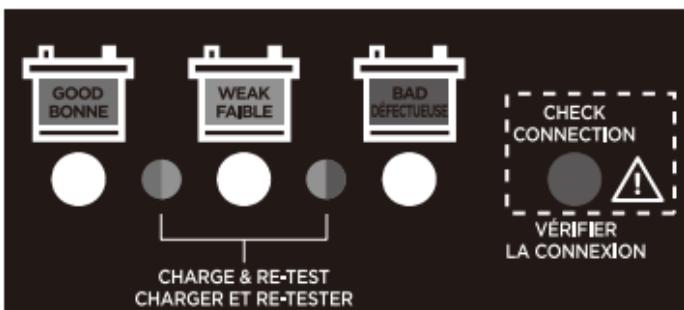
**OK & RECHARGE** (green and yellow LED lights) – The battery is good, but needs recharging.

**RECHARGE & RETEST** (yellow and red LED lights) –

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.

**BAD BATTERY** (red LED lights) – The battery cannot hold a charge OR the battery has at least one cell short circuit. Battery should be replaced immediately.



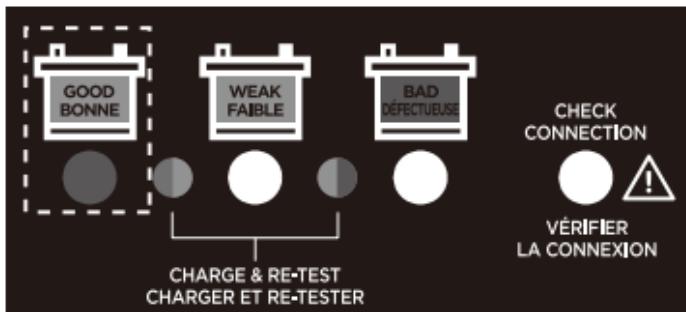
**ERROR** (right-hand red LED lights and **Err** shows on the screen) – The clamps are not connected properly OR the tested battery is larger than maximum testing CCA capacity.

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

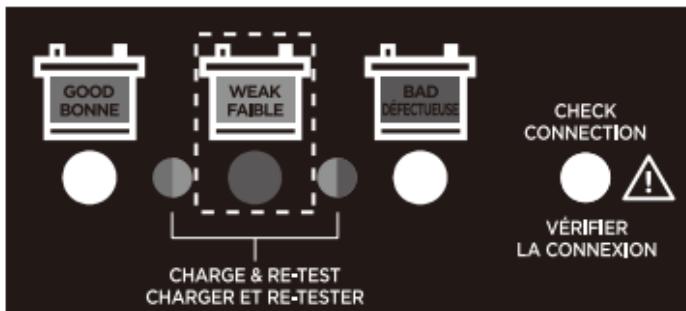
## STARTER SYSTEM TEST

1. Turn off the ignition, all accessories and any loads. Close all vehicle doors and the trunk lid.
2. Clean the battery terminals.
3. Connect the red clamp to the positive (POS, P, +) battery terminal.
4. Connect the black clamp to the negative (NEG. N, -) battery terminal.
5. The display will light and show the battery voltage.  
**NOTE:** If display is blank, flickers or shows **HI**, **Lo** or **----**, see *Troubleshooting*.
6. Press the button, then press or to select **SySt**. Press to begin the test mode.
7. The screen will show **CrAn**. Press to read the minimum voltage of the battery.

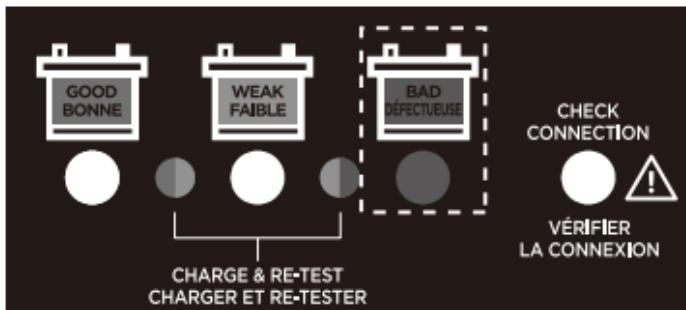
8. Start the engine. Read the voltage after cranking the starter.
9. When the test is complete, the tester will display one of the following results:



**OK** (green LED lights) – The starting system is good.



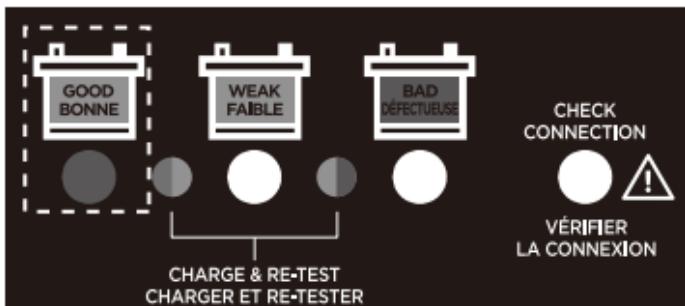
**STARTING SYSTEM IS WEAK** (yellow LED lights) – Check connections, wiring and starter.



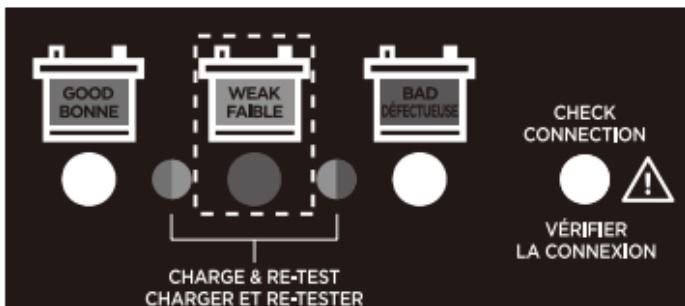
**STARTING SYSTEM PROBLEM** (Red LED lights, the screen is blank, or the screen shows the battery voltage) – Check connections, wiring and starter immediately.

## CHARGING SYSTEM TEST

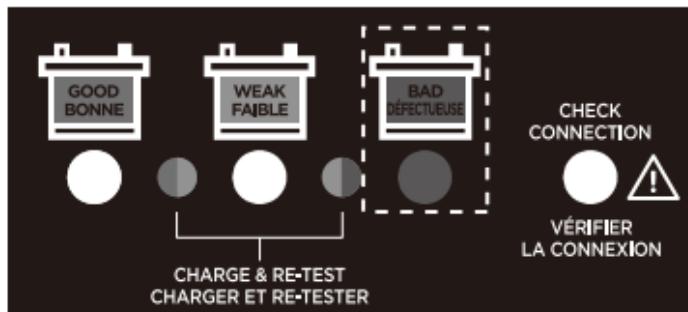
1. After starter test, press for charging system test. The display will show **CHAr**. Press to read live voltage.
2. Rev the engine to 1200-1500 rpm. Read the voltage while the car is running.
3. The tester will display the battery's voltage and one of the following results:



**OK** (green LED lights) – The charging system is good.

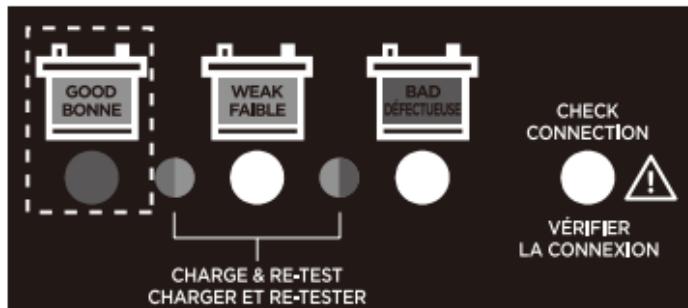


**CHARGING VOLTAGE IS LOW** (yellow LED lights) – Check connections, wiring and alternator.

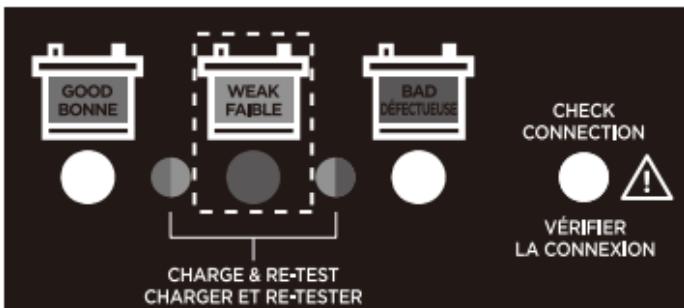


**CHARGING VOLTAGE IS HIGH** (red LED lights) – Check the regulator.

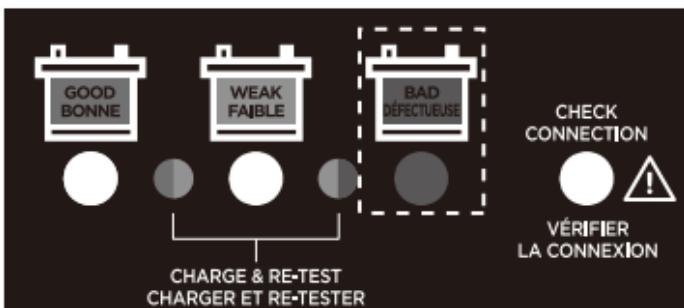
4. Following the charging system at idle, continue the charging system test with test loads. Turn on the blower to high (heat), high beam headlights and rear defogger. Do not use cyclical loads, such as air conditioning or windshield wipers.
5. When the test is complete, the tester will display one of the following results:



**OK** (green LED lights) – The charging system is good.



**CHARGING VOLTAGE IS LOW** (yellow LED lights) –  
Check connections, wiring and alternator.



**CHARGING VOLTAGE IS HIGH** (red LED lights) –  
Check the regulator.

6. To end the test, turn engine off and remove the clamps from the battery posts.

PROBLEM	POSSIBLE CAUSE	SOLUTION
The display is blank.	The clamps are not connected properly to a battery OR the voltage of the tested battery is too low for the tester to read.	Clean terminals and rock clamps back and forth to ensure proper connection to battery. Ensure the red clamp is connected to the positive (POS, +) terminal and the black clamp is connected to the negative (NEG, - terminal). If display screen is still blank, recharge and retest battery. If the same issue persists, replace the battery.
The display shows <b>HI</b> .	The tested battery is over 15.0 V. The tester does not work in this condition.	Make sure battery is 12 V.
The display shows <b>Lo</b> .	The tested battery is under 7 V. The tester does not work in this condition.	Make sure battery is 12 V. Recharge and retest battery. If the same issue persists, replace the battery.

PROBLEM	POSSIBLE CAUSE	SOLUTION
The display flickers or shows - - - .	The voltage of the battery being tested is unstable.	Ensure no loads are being drawn from the battery. If the battery was recently charged, wait 15-30 minutes to let the battery voltage stabilize, then retest the battery. If the same issue persists, replace the battery.
The display shows <b>Err</b> and the right-hand red LED is lit.	The tested battery is larger than maximum testing CCA capacity.	Confirm the rating of the tested battery does not exceed 1200 CCA or 1440 CA (MCA).

**NOTE:**

For more information about troubleshooting, call toll-free: 1-888-942-6686.

## TECHNICAL SPECIFICATIONS

Battery load test	12 V
Charging system test	12 V
Starting system test	12 V
Testing voltage range	7-15 V DC
Operating range	100-1200 CCA (SAE)