

Please read and save these instructions. Read through this owner's manual carefully before using product. Protect yourself and others by observing all safety information, warnings, and cautions. Failure to comply with instructions could result in personal injury and/or damage to product or property. Please retain instructions for future reference.



DIGITAL BATTERY ANALYZER

UNPACKING

After unpacking unit, inspect carefully for any damage that may have occurred during transit. Check for loose, missing, or damaged parts. If any damage is observed, a shipping damage claim must be filed with carrier. Do not use Digital Battery Analyzer if broken, bent, cracked or damaged parts (including labels) are noted. Any Digital Battery Analyzer that appears damaged in any way, operates abnormally or is missing parts should be removed from service immediately. If you suspect that the Digital Battery Analyzer was subjected to a shock load (a load that was dropped suddenly, unexpectedly, etc.) immediately discontinue use until it has been checked by a factory authorized service center.



⚠ WARNING

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

Explanation of Safety Signal Words

⚠ WARNING : Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION : Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION : Used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTES : Provide clarity and helpful information.



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Thank you very much for choosing an OEMTOOLS Product!

For future reference, please complete the owner's record below:

Model: _____ **Purchase Date:** _____

Save the receipt, warranty and these instructions. It is important that you read the entire manual to become familiar with this product before you begin using it. This product is designed for certain applications only. OEMTOOLS cannot be responsible for issues arising from modification. We strongly recommend this product is not modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the product until you have first contacted OEMTOOLS to determine if it can or should be performed on the product.



IMPORTANT INSTRUCTIONS AND SAFETY RULES

1. Know your tool. Read this manual carefully. Learn the tool's applications and limitations, as well as, potential hazards specific to it.
2. Keep work area clean and well lit. Cluttered or dark work areas invite accidents.
3. Keep children away. All children should be kept away from the work area. Never let a child handle a tool without strict adult supervision.
4. Do not operate this tool if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not attempt to operate.
5. Use safety equipment. Eye protection should be worn at all times when operating this tool. Use ANSI approved safety glasses. Everyday eyeglasses are NOT safety glasses. Dust mask, non-skid safety shoes, hard hat or hearing protection should be used in appropriate conditions.
6. Wear proper apparel. Loose clothing, gloves, neck-ties, rings, bracelets or other jewelry may present a potential hazard when operating this tool. Keep all apparel clear of the tool.
7. Don't overreach. Keep proper footing and balance at all times when operating this tool.
8. Check for damage. Check your tool regularly. If part of the tool is damaged it should be carefully inspected to make sure that it can perform its intended function correctly. If in doubt, the part should be repaired. Refer all servicing to a qualified technician. Consult your dealer for advice.
9. Keep away from flammables. Do not attempt to operate this tool near flammable materials or combustibles. Failure to comply may cause serious injury or death.
10. Store idle tools out of the reach of children and untrained persons. Tools may be dangerous in the hands of untrained users.
11. Maintain tools with care.
12. Keep tools dry and clean.
13. Properly maintained tools are less likely to bind and are easier to control. Do not use a damaged tool. Tag damaged tools "Do not use" until repaired.
14. Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation.
15. If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.
16. Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one tool may become hazardous when used on another tool.
17. Tool service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in a risk of injury.
18. When servicing a tool, use only identical replacement parts. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury.
19. Maintain a safe working environment. Keep the work area well lit. Make sure there is adequate surrounding workspace. Keep the work area free of obstructions, grease, oil, trash, and other debris. Do not use this product in a damp or wet location.
20. Maintain labels and nameplates on this product. These carry important information. If unreadable or missing, contact OEM for a replacement.



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21. Keep the handle dry, clean, and free from brake fluid, oil, and grease.
22. Before use, read and understand all warnings, safety precautions, and instructions as outlined in the vehicle manufacturer’s service manual. It is beyond the scope of this manual to properly describe the correct procedure and test data for each vehicle.
23. Always perform vehicle service in a properly ventilated area. Never run an engine without proper ventilation for its exhaust. Stop work and take necessary steps to improve ventilation in the work area if you develop momentary eye, nose, or throat irritation as this indicates inadequate ventilation.
24. Engine parts that are in motion and unexpected movement of a vehicle can injure or kill. When working near moving engine parts, wear snug fit clothing and keep hands and fingers away from moving parts. Keep hoses and tools clear of moving parts. Always stay clear of moving engine parts. Hoses and tools can be thrown through the air if not kept clear of moving engine parts. The unexpected movement of a vehicle can injure or kill. When working on vehicles always set the parking brake or block the wheels.
25. Avoid accidental fire and/or explosion. Do not smoke near engine fuel and battery components.
26. The warnings, precautions, and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. The operator must understand that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.
27. For safety purposes and the prevention of damage to expensive components it is advised that the user have an understanding of basic automotive repair and a working knowledge of automotive systems.
28. We believe the information contained herein to be reliable. However, general technical information is given by us without charge and the user shall employ such information at his own discretion and risk. We assume no responsibility for results or damages incurred from the use of such information in whole or in part. Always refer to

specific instructions and technical information supplied by vehicle manufacturer.

29. The manufacturer declines any and all responsibility for damage to vehicles or components if said damage is the result of unskillful handling by the operator or of failure to observe the basic safety rules set forth in the instruction manual.

DISPOSAL

At the end of the useful life of the Digital Battery Analyzer, dispose of the components according to all state, federal, and local regulations.

PURPOSE

A safe, fast, simple, and portable Battery, Starting and Charging System Analyzer.

PRODUCT SPECIFICATIONS

Battery CCA	200-1200
Voltage Testing Range	7-15VDC
Maximum Power Consumption	.5W
Operating Temperature	14 – 122 Degrees Fahrenheit
Testing Standards	SAE, DIN, EN, IEC, CA



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⚠ WARNING

Always wear safety glasses and gloves!

OPERATING INSTRUCTIONS

- Working near a lead acid battery is dangerous. Batteries can generate explosive gases during normal operation. Battery explosion can kill, injure, and cause property damage! To reduce risk of battery explosion, read the following operating instructions and those published by the battery manufacturer and the previous safety instructions prior to operating this tester.
- Risk of contact with battery acid.** Battery acid is a highly corrosive sulfuric acid.
- Be sure area is well ventilated while the battery is being tested.
- When working near the battery, please make sure there are others around who can provide help if needed.
- Please be ready with water and soap near you, in case battery acid comes into contact with skin, clothes or eyes.
- Please wear protection and safety equipment.
- If battery acid comes into contact with skin or the clothes, please immediately wash with soap and water. If the battery acid gets into eyes, please rinse eyes with water right away for at least 10 minutes then go to the hospital.
- This equipment is intended only for professional use by personnel trained in performing the service functions for which it is has been designed.
- This equipment is designed for servicing a variety of vehicles in a safe, convenient manner. However, differences in vehicle makes and models may make it impossible to use this equipment as it is intended. Do not attempt to force the use of this equipment on an application for which it is not designed to perform.
- The procedures documented in this manual are to serve as guidelines for the use of this equipment.
- In addition to these guidelines, always follow the manufacturer's recommended procedures when servicing each unique vehicle.
- The use of this equipment is simple and straightforward if you follow the instructions. When operating this equipment, use common sense, and always stop to think before connecting the Battery tester or performing any tests.

- Position cords to reduce risk of damage by hood, door or moving engine parts.
- Stay clear of fan blades, belts, pulleys, and other moving parts that can cause injury to persons.
- Check polarity of battery posts.

These test procedures are for negative grounded vehicles only. For positive grounded vehicles, see vehicle manufacturers' repair manual.

BATTERY TEST

- Before you test a battery in a vehicle, turn off the ignition, all accessories and loads.
- Close all the vehicle doors and the trunk lid.
- Determine which post of the battery is grounded (connected) to the chassis.
- Connect the Black Lead to the vehicle negative terminal, heavy gauge metal part of the frame or engine block. Do not connect to carburetor, fuel line or sheet metal body parts.
- Connect POSITIVE (red) clip from battery tester to POSITIVE (POS, P, +) ungrounded post of battery.

NOTE: When disconnecting, remove clip from vehicle chassis FIRST, then remove the clip from the battery terminal.

- Connect the tester to a vehicle battery. The screen will come on and the battery voltage will be displayed with "XX.XX V".

NOTE: If "HI" or "LO" or the screen is blank, refer to the Troubleshooting Section of this manual. Press the "Enter" button to go to next step.

- Press the "◀▶" keys to choose the battery's category. "SLI" or "AG-" or "GEL". "AG-" refers to AGM battery. Press the "Enter" button into the next step.
- Press "Enter" button to confirm choice.
- Press the " " keys to choose the battery's testing standards:
 - SAE DIN IEC EN or CA (MCA)
 - SAE: United States Standard
 - EN: European Standard
 - DIN: German Standard
 - IEC: International electrical science and technology association
 - CA (MCA): Normal starting current or maritime starting current
- Press the "Enter" button to confirm the choice and go to next step.
- Press "◀▶" button to input the battery's CCA



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value, every time you press these buttons, the value will rise or fall five units.

12. This tester's testing range:
 - SAE 200 1000CCA
 - EN 185 1125CCA
 - DIN 110 670CCA
 - IEC 130 790CCA
 - CA (MCA) 240 1440CA (MCA)
13. Press the "Enter" button to confirm the input value of the battery capacity and begin the test.
14. The screen will show "-----".
15. If the display reads "CHA?" (Asking if the battery is fully charged or not), press the "Enter" button to proceed then press the " " button to select "YES" or "NO". Press the "Enter" button to confirm your choice and proceed to the next step.

NOTE: The Tester will judge the battery status and decide whether to show this step or not, it doesn't appear every time.

POSSIBLE RESULTS ARE

- a. (Green Light On) The battery is in good state and can hold a charge. "XXXX" (CCA Value)/flashing appears on the screen.
- b. (Green and Yellow Light On) The battery is in good state, but needs to be charged. "XXXX" (CCA Value)/flashing appears on the screen.
- c. (Yellow and Red Light On) The battery is discharged and the condition cannot be determined. You will need to fully charge the battery and retest. If the test results are the same, the battery cannot take a charge and must be replaced.
- d. (Red Light On) The battery cannot take a charge and is defective and needs to be replaced.
- e. ("ERR with Red Light On) The clamps are not connected properly or the battery amp rating exceeds the capacity of the tester. Please fully charge the battery and retest after excluding both previous reasons. If reading is the same, the battery should be replaced immediately.

STARTING SYSTEM TEST

NOTE: Before beginning the starting and charging system test, make sure the battery is in good condition and fully charged.

1. Connect the tester to a vehicle battery, battery voltage will be displayed with "XX.XX V". **NOTE:** If "HI" or "LO" or the screen is blank, refer to the Troubleshooting Section of this manual. Press the

Enter button to go to the next step.

2. Press "◀▶" button and choose "SySt", press "Enter". Turn off all vehicle accessory loads such as lights, air conditioning, radio, etc. When "CrAn" appears on the screen, press the "Enter" button to begin the test. A progress bar will appear on the screen ("-----"). Within 1 minute, start the engine and read the voltage.

POSSIBLE RESULTS ARE

- a. (Green LED On) Voltage is more than 9.6V, starting system is ok.
- b. (Yellow LED On) Voltage is between 7.2V – 9.6V the starting system is weak and should be checked soon.
- c. (Red LED On) Voltage is lower than 7.2V, cranking voltage is below normal limits; troubleshoot the starter with manufacturer's recommended procedure.
- d. The display shows "-----", starting system not detected. Retest.

Charging System Test

1. After the starting system test, press the "Enter" button to proceed to the Charging System Test. "CHAR" will appear on the screen.
2. With the engine running increase RPM to between 1200 and 1500. Press the "Enter" button to get the test results.

POSSIBLE RESULTS ARE

- a. (Green Light On) Voltage between 13.4V and 14.6V, The system is showing normal output from the alternator. No problem is detected.
- b. (Red Light On) Voltage is more than 14.6V; the voltage output from the alternator to the battery exceeds the normal limits of a functioning regulator. Check to ensure there are no loose connections and that the ground connection is normal. If there are no connection issues, replace the regulator. Since most alternators have the regulator built-in, this will require you to replace the alternator.
- c. (Yellow Light On) Voltage is less than 13.4V, the alternator is not providing sufficient current to the battery. Check the belts to ensure the alternator is rotating with engine running. If the belts are slipping or broken, replace the belts and retest. Check the connections from the alternator to the battery. If the connection is loose or heavily corroded, clean or replace the cable and retest. If the belts and



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connections are in good condition, replace the alternator.

1. Press “Enter” button to proceed to the next test.
2. 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. The screen will show “Load”, press the “Enter” button to run test.

ONE OF THE THREE RESULTS WILL BE DISPLAYED

- a. (Green Light On) Voltage between 13.4V and 14.6V, the system is showing normal output from the alternator. No problem detected.
- b. (Red LED On) Voltage is more than 14.6V; the voltage output from the alternator to the battery exceeds the normal limits of a functioning regulator. Check to ensure there are no loose connections and that the ground connection is normal. If there are no connection issues, replace the regulator. Since most alternators have the regulator built-in, this will require you to replace the alternator.
- c. (Yellow LED On) Voltage is less than 13.4V; the alternator is not providing sufficient current for the systems electrical loads and the charging current for the battery. Check the belts to ensure the alternator is rotating with the engine running. If the belts are slipping or broken, replace the belts and retest. Check the connections from the alternator to the battery. If the connection is loose or heavily corroded, clean or replace the cable and retest. If the belts and connections are in good working condition, replace the alternator.
- d. Test is complete, turn all accessory loads and engine off. Remove the test clamps from the battery posts.

TROUBLESHOOTING

1. “HI” appears on the screen. Battery voltage exceeds tester capacity. Please check battery type.
2. If the battery voltage is less than 7V, tester cannot perform any tests. Charge battery and retest. If it is the same, replace the battery.
3. Screen is blank. Battery is completely discharged. Charge battery and retest.

MAINTENANCE

1. Always store the Digital Battery Analyzer in a well-protected area where it will not be exposed to inclement weather, corrosive vapors, abrasive dust, or any other harmful elements.
2. Keep the Battery Tester clean for better and safer performance.
3. Clean clamps and case after each use to prevent corrosion from battery fluid.



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Figure	Description	Quantity
A	Positive Battery Clamp (Red)	1
B	Negative Battery Clamp (Black)	1
C	Lead Set	1
D	Menu Button	1
E	Increase Button	1
F	Decrease Button	1
G	Display	1

