

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 the OEMTOOLS™ 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 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

The following safety information is provided as a guideline to help you operate your Digital Battery Analyzer under the safest possible conditions. Any tool or piece of equipment can be potentially dangerous to use when safety or safe handling instructions are not known or not followed. The following safety instructions are to provide the user with the information necessary for safe use and operation. Please read and retain these instructions for the continued safe use of your service system. Failure to follow instructions listed below may result in serious injury. In addition, make certain that anyone that uses the equipment understands and follows these safety instructions as well.

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.

Thank you very much for choosing an OEMTOOLS™ Product!

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.



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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.
21. Keep the tool 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



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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, JIS
Tests:	Internal Resistance



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⚠ WARNING

Always wear safety glasses and gloves!

OPERATING INSTRUCTIONS

BATTERY TEST

1. 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.
2. Determine which post of the battery is grounded (connected) to the chassis. Connect NEGATIVE (black) clip to vehicle chassis or engine block away from the battery. Connect POSITIVE (red) clip from battery tester to POSITIVE (POS, P, +) ungrounded post of battery. Do not connect clip to carburetor, fuel lines, or sheet metal body parts. Connect to a heavy gauge metal part of the frame or engine block.

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

3. Connect the tester to a vehicle battery, the screen will come on and display "BATTERY TEST". The battery voltage will also be displayed with "XX.XX V". Press the "Enter" button to go to the next step.
4. The screen will show "BATTERY TYPE" selection. Press the "↵" button to select the battery type: REGULAR LIQUID, AGM BATTERY or VRLA/GEL BATTERY. Press "Enter" button to confirm choice.
5. The screen will show "RATING STANDARD". Press the "↵" button to select the battery standard: 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.

6. The screen will show "RATING CAPACITY". Press the "↵" button to select the battery capacity of CCA. With each press of the button, the value will increase or decrease 5 units

This tester's testing range:

SAE: 40~1200CCA

EN: 40~1150CCA

DIN: 25~675CCA

IEC: 30~775CCA

Press the "Enter" button to confirm the input value

of the battery capacity and begin the test.

7. The screen will show the message, "TESTING". The test result will display after 2 seconds.
8. If the display reads "BATTERY CHARGED?" 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 & decide whether to show this Step or not, it doesn't appear every time.
9. When the test is completed, the display shows the actual available CCA. Press the "↵" button to see the SOH (STATE OF HEALTH) as a percentage. The test results are as following:
 - a. "GOOD PASS"
The battery is good and capable of holding a charge.
 - b. "GOOD RECHARGE"
The battery is good but needs to be recharged.
 - c. "RECHARGE RETEST"
Battery is discharged, the battery condition cannot be determined until it is fully charged. Recharge and retest the battery.
 - d. "BAD REPLACE"
The battery will not hold a charge. It should be replaced immediately.
 - e. "TEST ERROR"
The tested battery is bigger than 1200CCA. Or the clamps are not connected properly. Please fully charge the battery and retest after excluding both previous reasons. If reading is the same, the battery should be replaced immediately.
10. Press "ENTER" return to step 4 to continue testing or remove the test clamps from the battery terminal to end test.

STARTING SYSTEM TEST

1. Connect the tester to a vehicle battery; the tester will be in default "BATTERY TEST" mode. Press the "↵" button once to enter "SYSTEM TEST". The voltage, "XX.XX V" will appear on the screen. Press the "Enter" button to go to next step. The screen will show "TURN OFF LOADS START ENGINE".
2. Turn off all vehicle accessory loads such as lights, air conditioning, radio, etc. and then start the engine. Wait for the tester to detect the cranking voltage.
3. When the engine is started and test complete, one of the three results will be displayed along with the actual voltage reading measured.



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a. "CRANKING VOLTS NORMAL"

The system cranking voltage is in a good range.

b. "CRANKING VOLTS LOW"

The cranking voltage is below normal limits; troubleshoot the starter with manufacturers recommended procedure.

c. "CRANKING VOLTS NOT DETECTED"

The cranking voltage is not detected, retest. Press the "Enter" button to go to next step.

CHARGING SYSTEM TEST

1. The screen will show "PRESS ENTER FOR CHARGING TEST" Press the "Enter" button to begin charging test. The screen will show "MAKE SURE ALL LOADS ARE OFF". This is for testing alternate idle voltage. Press the "Enter" button to go to next step. The screen will show results. One of the three results will be displayed along with the actual voltage reading measured.

a. "ALT. IDLE VOLTS NORMAL"

The system is showing normal output from the alternator. No problem is detected.

b. "ALT. IDLE VOLTS LOW"

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 connections are in good condition, troubleshoot the alternator with the manufacturers recommended procedure.

c. "ALT. IDLE VOLTS HIGH"

The voltage output from the alternator exceeds the normal limits of a functioning regulator. Check to ensure there are no loose connections and the ground connection is normal. If there is no connection issue troubleshoot the alternator/regulator with the manufacturers recommended procedure. The normal high limit of a typical automotive regulator is 14.7 volts +/- 0.05. Check manufacturer specifications for the correct limit, as it will vary by vehicle type and manufacturer.

2. With the engine at idle, press "ENTER" for the charging system with accessory loads test. The screen will show "TURN ON LOADS AND PRESS ENTER". 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. Note: When testing older model diesel engines, you may need to run up the engine

to 2500 rpm for 15 seconds.

3. Press the "ENTER" key to test the charging system with accessory loads. One of the three results will be displayed along with the actual testing measured.

a. "ALT. LOAD VOLTS NORMAL"

The system is showing normal output from the alternator. No problem detected.

b. "ALT. LOAD VOLTS LOW"

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, troubleshoot the alternator with the manufacturers recommended procedure.

c. "ALT. LOAD VOLTS HIGH"

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, troubleshoot the alternator/regulator with the manufacturers recommended procedure.

4. Press "ENTER" when charging system test is complete. Turn all accessory loads and engine off. Press "ENTER" to return to step 1 or remove the test clamps from the battery posts after completion of testing to end test.

ADJUST DISPLAY BRIGHTNESS

1. Connect the Battery Tester to a vehicle battery.
2. The tester defaults to BATTERY TEST display.
3. Press "◀ ▶" button three times to get to the LCD BRIGHTNESS display.
4. Press "Enter" button to show LCD Brightness in percentage.
5. Press the "◀ ▶" button to adjust the LCD brightness.
6. Press "Enter" button to save the setting and return to LCD BRIGHTNESS display.



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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



NOTE: Not all components of the Digital Battery Analyzer are replacement items, but are illustrated as a convenient reference for location and position in the assembly sequence.