

Service

To obtain service, purchaser should contact Midtronics for a Return Authorization number, and return the unit to Midtronics freight prepaid, Attention: RA# _____. Midtronics will service the tester and reship, the next scheduled business day following receipt, using the same type carrier and service as received. If Midtronics determines that the failure was caused by misuse, alteration, accident, or abnormal condition of operation or handling, purchaser will be billed for the repaired product and unit will be returned freight prepaid with freight charges added to the invoice. Battery testers beyond the warranty period are subject to the repair charges in effect at that time. Optional remanufacturing service is available to return the tester to like new condition. Out of warranty repairs will carry a 3 month warranty. Remanufactured units purchased will carry a 6 month warranty.

Patents

This tester is made in the U.S.A. by MIDTRONICS, INC. and is protected by one or more of the following U.S. Patents: 6,002,238; 5,831,435; 5,821,756; 5,757,192; 5,598,098; 5,592,093; 5,585,728; 5,574,355; 5,572,136; 5,343,380; 5,140,269; 4,912,416; 4,881,038; 4,825,170; 4,816,768; 4,322,685; Canadian patents: 1,280,164; 1,295,680; United Kingdom patent: 0,417,173; German patent: 689 23 281.0-08; European Patent: 0,548,266, and other U.S. and Foreign patents issued and pending. This product may utilize technology exclusively licensed to Midtronics, Inc. by Johnson Controls, Inc. and/or Motorola, Inc.

Limited Warranty

This battery tester is warranted to be free of defects in materials and workmanship for a period of one year from the date of purchase. Midtronics will, at our option, repair the unit or replace the unit with a remanufactured tester. This limited warranty applies only to Midtronics battery testers and does not cover any other equipment, static damage, water damage, overvoltage, dropping unit or damage resulting from extraneous causes including owner misuse. Midtronics is not liable for any incidental or consequential damages for breach of this warranty. The warranty is void if owner attempts to disassemble the unit, or to modify the cable assembly.



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MIDTRONICS

PowerSensor[®] MICRO400[™] Digital Battery Analyzer

For testing 6 and 12 volt automotive/commercial batteries rated from 100 to 1400 CCA.

**INSTRUCTION
MANUAL**

***** Caution *****

Because of the possibility of personal injury, always use extreme caution when working with batteries.

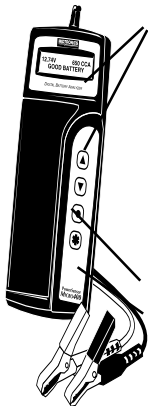
Prior to Testing

- Clean battery posts or side terminals with a wire brush.
- For group 31 or side-post batteries, install and tighten lead terminal stud adapters (included). **Failure to properly install stud adapters, or using stud adapters that are dirty or worn may result in false test results.**
- If testing in the vehicle, make sure all vehicle accessory loads are off and the ignition is in the off position. Read the **Testing In The Vehicle** section of this manual before testing.

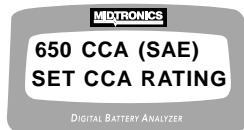
Connecting The Tester

- Connect red clamp to positive terminal.
- Connect black clamp to negative terminal.
- To ensure a proper connection, rock the clamps back and forth. The tester requires both sides of the clamp to be firmly connected prior to testing. A poor connection will prevent testing and a **CHECK CONNECTION** message will appear. If this occurs, clean the terminals and reconnect.

Testing Procedure

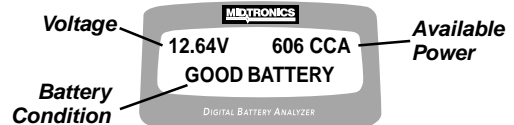


- Use the **yellow** arrows to scroll to the battery's CCA rating.



- Press the **green** start button to test.
- After testing, if the battery's temperature is 32°F / 0°C or below, press the **blue** temperature compensation button to get a compensated test result.

Test Results



- GOOD BATTERY = Return to service.
- GOOD-RECHARGE = Fully charge the battery and return to service.
- CHARGE & RESET = Fully charge the battery and retest. Failure to fully charge the battery before retesting may cause false readings.
- REPLACE BATTERY = Replace battery.
- BAD CELL-REPLACE = Replace battery.

Testing In The Vehicle

- Turn on the highbeam headlights for one minute to remove the battery's surface charge, then wait at least one minute to allow the voltage to recover before starting the test.
- A **REPLACE** reading may be the result of a poor connection or corrosion between the vehicle's battery cables and the battery. Retest the battery after disconnecting the cables before replacing.
- If the **SYSTEM NOISE** message appears, make sure all vehicle accessory loads are off and the ignition switch is in the off position. Retest.

If the **SYSTEM NOISE** message continues after several retest attempts, disconnect the battery cables and retest.

Troubleshooting

If the display does not illuminate:

- Check connection to the battery.
- Battery may be too low to power the tester (below 5.5 volts). Fully charge the battery and retest.

If the tester displays **SYSTEM NOISE** message when the battery is not connected to the vehicle:

- You may be testing too close to a source of noise ie. a charger or other high-current device. If so, move away and retest.
- If no source of noise is identified, fully charge the battery and retest. If the message appears after charging, replace the battery.

QUESTIONS OR COMMENTS?
CALL 1-800-776-1995