

# Gunson®

## Battery Load Tester



### WARNING NOTICE

Read these instructions through carefully before you use this tool. Pay particular attention to the instructions in bold type. If you do not use the tool correctly, as described in these instructions, you may damage either the product or the battery on which you are working.

### CAUTION:

**Main body can get hot during use, ALWAYS use handle.**

Battery Load Tester

This tester diagnoses problems with the battery, charging systems and starter motors with a simple load test.

Other tools to investigate further may be required.  
Hydrometer (for gravity of battery acid)  
Multimeter (for testing DC voltage)

Safety Precautions

Care should be taken when working with any lead acid batteries as they generate explosive gases during normal battery operation.  
Always allow battery to stabilize before retesting etc.  
Always wear complete protection when handling batteries.  
If acid comes into contact with skin or clothes, wash off immediately.  
If acid comes into contact with the eyes, wash with running cold water for at least 10mins and seek medical advice immediately.  
Never smoke or allow a spark or flame near the working vicinity.  
Care should be taken not to drop any metal objects on the battery, which could cause a short circuit. This includes tools and jewellery.

Connection

- 1. Connect negative (black) clamp to the negative (Neg/N or -) battery post
- 2. Connect positive (Red) clamp to the positive (Pos/P or +) battery post
- 3. Rock clamps back and forward to ensure a good electrical connection is achieved (take care at this point not to touch ENTER button)

Battery Test

Ignition and engine should remain switched off.

- Connect as instructed
- Click ENTER and wait for 10 seconds

Green Light	OK Battery capacity is good	It may or may not be fully charged (Use hydrometer to check gravity). If gravity is less than full charge, check for possible charging system problems or electrical drain.	Recharge battery to full charge.
Green + Yellow Light	OK but weak	Check the comparison chart of load test results on the meter cover of the battery load tester.	Go to Green or Yellow light actions depending upon the comparison.
Yellow Light	Weak Battery capacity is unsatisfactory i.e. defective or partly discharged	Check gravity (again with hydrometer). If gravity is over 1.225 the battery is considered defective. If gravity is under 1.225, recharge battery and re-test. If cell-to-cell gravity varies more than 0.025 (25 points) cell trouble may exist.	If charging does not bring gravity active material discard in accordance with safety procedures and replace.
Red Light	Bad Result Battery may be defective		If the tester indicates poor battery condition, allow the battery to stabilise for a few minutes and check the open circuit voltage with a voltmeter.
CB* displayed Under 12.3v reading	Battery requires charging	After charging, wait for 15-30 minutes to allow the voltage to stabilise and retry the load test.	If the reading is still below 12.3v with CB LED showing, the battery should be replaced immediately.
CB* displayed Over 13.2 volts	Reduce the voltage	Switch on ignition and head lights (or rear window demister) for a few seconds to reduce voltage. Switch off, allow battery to stabilise. Re-test.	Assess reading again.

- The battery is considered charged if it measures 75% or more with hydrometer
- If the battery failed the load test with 75% charge it should be charged and load tested again
- Replace the battery if it fails again

\*CB = Charge Battery

Open Circuit Volts	Percentage of Charge
11.7 volts or lower	0%
12 volts	25%
12.2 volts	50%
12.4 volts	75%
12.6 volts or higher	100%

Alternator | Charging System Test

- Warm up the engine to normal running temperature to test the alternator.
- With the engine OFF, connect + and - to the battery.
- With the engine remaining OFF, press ENTER to do a battery load test.
- With the G4184 still connected to the battery, turn the engine ON.
- Press ENTER – this will give you the alternator test.

Red Light	Indicates a charging system that is unable to charge more than 13.6v
14.8v Reading	Further investigation is therefore required.

Starter Motor Test

This tester identifies excessive current draw when the engine is started.  
This will eventually result in starting difficulties and shorten the battery life.  
Perform the battery load test to determine the state of the battery.

- Connect as instructed
- Disable the vehicles ignition system so that the car will not start
- Crank the engine and note the voltage reading during cranking
- Note the reading

**Note: A reading of 9v or less indicates excessive current draw.**  
**This may be due to:**  
Bad connections | failing starter motor | size of battery is inadequate.

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