



Battery Load Testing

A Battery load test is a measurement of the batteries ability to deliver adequate starting power. A load tester such as a Sun VAT-40 will be used. Before a load test can be performed the battery [state of charge](#) must be greater than 75%.

Safety

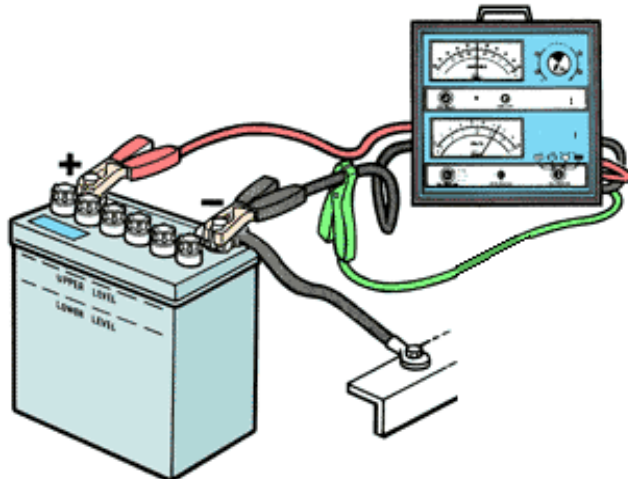
Before testing a battery it is very important to follow some simple safety rules. Always wear eye protection and keep open flames away from the battery. If using a battery charger, always confirm that the charger is off before connecting or disconnecting the charger. Batteries produce hydrogen gas which is extremely flammable; do not smoke while servicing a battery. Batteries should only be charged in well ventilated areas. The electrolyte in the battery contains sulfuric acid, latex gloves are highly recommended.

Determine Batteries Capacity Rating

The Batteries capacity rating is located on the battery label. The rating is expressed in Cold Cranking Amps (CCA). Cold cranking amps is the amount of current a battery can provide at 0 °F (-18 °C). The rating is defined as the amperage a lead-acid battery at that temperature can deliver for 30 seconds and maintain at least 1.2 volts per cell (7.2 volts for a 12-volt battery).

Load Test Procedure

1. Install the load tester as shown.



2. Load the battery by turning the load increase dial until the amp meter reads one-half the cold cranking ampere (CCA) rating.
3. Maintain the load for 15 seconds, and note voltage reading. (Applying load for longer periods can damage tester)

Compare your voltage reading with the chart below. Notice that as the battery temperature declines, so does the minimum voltage. This is due to the effect of temperature on most chemical reactions. The battery reaction is slower as the electrolyte becomes cooler.

Minimum Acceptable Results <small>(when load of 1/2 CCA rating is applied to battery)</small>	
Voltage	Temperature
9.6	70° F and above
9.5	60° F
9.4	50° F
9.3	40° F
9.1	30° F
8.9	20° F
8.7	10° F
8.5	0° F

