Digital battery load tester BAT508

User's manual

SIA "DIAGTOOLS"

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WARNING - RISK OF EXPLOSIVE GASES

Pursuant to California Proposition 65, this product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

1. Working in the vicinity of a lead acid battery is dangerous. Batteries generate explosive gases during normal battery operation. For this reason, it is of utmost importance that each time before using your tester, you read these instructions carefully and follow instructions by battery maker as well.
2. To reduce risk of battery explosion, follow these instructions and those published by the battery manufacturer and manufacturer of any equipment you intend to use in the vicinity of the battery. Observe cautionary markings on these items.

12Volts BATTERY ANALYSIS - Click "ENTER" & wait for 10 seconds of load. Load test results will be:

1. **OK (GREEN LED LIGHT):** Battery capacity is good. May or may not be fully charged. Determine state of charge by checking specific gravity (use hydrometer). If gravity is less than full charge, check for possible charging system trouble or electrical drain. Recharge battery to full charge.
2. **OK BUT WEAK (GREEN+YELLOW LED LIGHT):** Review the comparison chart of load test result on the meter cover to see if this battery is "OK" or not. If it is "OK", go up to 1ST "OK" state. If it is not, go down to 3rd "WEAK" state.
3. **WEAK (YELLOW LED LIGHT):** Battery capacity is unsatisfactory. Battery may be either: (1) defective or (2) partly discharged. To determine which, check specific gravity. If gravity is over 1.225, 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 to full charge level, the battery is either sulfated or has lost active material.

4. **BAD (RED LED LIGHT):** Battery may be defective (e.g. a bad cell).

5. **Digital LED code display "c.b":**

a) If the battery volts is under 12.3V, "c.b" (Charge battery) will be shown on LED display. Please fully charge the battery before test. After charging, please wait 15-30 minutes to let the voltage stable & make load test. If reading is still below 12.3V with "c.b", the battery should be replaced immediately.

b) If the battery volts is above 13.2V, "c.b" (Charge battery) will be shown on LED display. While in making load test connected with battery from vehicle, please turn off the engine & turn on the head light in a second to wait the battery voltage under 13.2V, and then turn off the head light to test the battery.

c) In a battery that has just finished its charging cycle, the voltage is unstable. Therefore it is recommended to wait for 15-30 minutes, until the voltage is

below 13,2 V, before performing a load test."

TEMPERATURE COMPENSATION 1 STEP = 50 cranking amps.

BATTERY TEMPERATURE	+20˚F	0˚F	-20˚F
DECREASE BATTERY RATING BY:	1 STEP	2 STEP	3 STEP

If the tester indicates poor battery condition, allow the battery to stabilize for a few minutes and check the open circuit voltage by voltmeter. This is a good measure of the percent charge in the battery. The battery is considered charged if it measures 75% or more. If it failed the load test with 75% charge, it should be replaced. If the battery charge measures less than 75%, it

should be charged and load tested again. Replace the battery if it fails again. The values in the following charge are for a 12 volt battery:

OPEN CIRCUIT VOLTS*	PERCENT OF CHARGE
11.7 Volts or lower	0
12.0	25
12.2	50
12.4	75
12.6 or higher	100

TESTING THE CHARGING SYSTEM - after load test

1. Remain connecting the tester the same after battery testing. Click “ENTER” to this stage. “TEST STATE -CHARGING AND LED LIGHT” will be on.
2. Start the engine and allow it to reach normal operating temperature.
3. Run engine at 1200 to 1500rpm. CAUTION: Stay clear of moving engine parts.
4. Read the meter. A reading in the red LED light indicates a problem in the charging system that will undercharge a battery (less than 13.6V), or overcharge the battery (over 14.8v) .Please refer to volts meter.

GB-2.V2

STARTER MOTOR TEST (12VOLT VEHICLES)

This test identifies excessive starter current draw, which makes starting difficult and shortens battery life. Perform battery load test-proceed to make sure if battery is
GOOD.

ENGINE MUST BE AT NORMAL OPERATING TEMPERATURE

1. Connect negative (black) clamp to the negative (NEG, N, -) battery post. Connect positive (red) clamp to the positive (POS, P, +) battery post. ROCK clamps back and forth to ensure a good electrical connection. Do not click “ENTER”.
2. Disable the system ignition so the car will not start.
3. Crank the engine and note the voltage reading during cranking.
4. A meter reading of 9 volts or less indicates excessive current draw. This may be due to bad connections or a failing starter motor, or the battery is too small for the vehicle’s requirements.

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