

Older diesel cars may need to be **turned up** and if: **“RUN ENGINE UP TO 2500 RPM 15 SEC”** is shown in the display, the speed should be increased to about 2500 rpm for 15 seconds. Press **«ENTER»** to measure ripple from charging system to battery. One of the following two results, together with the measurement result, will be displayed:

- **RIPPLE DETECTED NORMAL or NO RIPPLE DETECTED:**  
Generator works normally
- **RIPPLE DETECTED HIGH:**  
Check the function of the generator

Press **«ENTER»** to continue testing the charging system with power consumers plugged in. One of the following three results, together with the measurement result, is shown in the display:

- **ALT. LOADS HIGH:** The charging voltage from the generator is too high.
- **ALT. LOADS LOW:** The generator does not provide enough current.
- **ALT. LOADS NORMAL:** The system works normally

When the charging test is complete, press **«ENTER»** and the display will show: **TEST OVER. TURN OFF LOADS & ENGINE.** Then switch off all power supplies and motor and press **«ENTER»** to exit and return to battery test or press **◀ ▶** to choose printing: **PRINT RESULT? YES or NO.** Confirm selection with **«ENTER»**

Remove the terminals from the battery to complete the test.

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*	<b>REGULAR LIQUID</b>	Standardbattery
**	<b>AGM FLAT PLATE</b>	AGM are valveregulated batteries, with the electrolyte (acid) absorbed in the separator.
***	<b>AGM SPIRAL</b>	AGM-battery with cylindrical cells, such as Exide Maxxima
****	<b>VRLA GEL</b>	Gel are valveregulated batteries, with the electrolyte (acid) in gel

## BATTERY TESTER BT 501

### Usermanual – English

#### AREA OF USE:

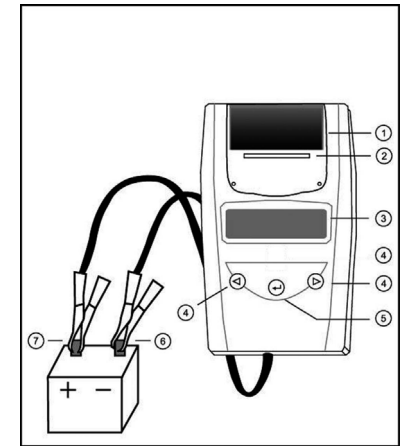
- Testing of 6 and 12V batteries.
- Testing of 12 and 24V charging systems
- Temperature range: 0 to 50°C.

#### SAFETY REGULATIONS:

- Risk of explosion, as batteries emit an explosive mix of gasses. Provide good ventilation.
- No smoking!. Avoid open flames and sparks near the battery.
- Always wear safety goggles when handling batteries.
- Battery acid (electrolyte) is corrosive. If acid comes into contact with skin or eyes, rinse immediately for several minutes using large amounts of water. Seek medical advice immediately.

#### BEFORE TEST:

- Check that the battery terminals are clean and that all power supplies and doors are closed.
- Connect the clamps of the tester to the plus and minus terminal of the battery. Make sure the clamps have good contact to the poles
- Note: the display will light up when the tester is connected to a battery.
- If the display on the tester shows: **“REPLACE INTERNAL BATTERY”** or **”POWER LOW”** the 4 x 1.5V batteries in the tester is empty and must be replaced.
- When a new paper roll is needed: Open the plastic cover that covers the paper roll. Insert a new paper roll into the feed mechanism, which will automatically feed the paper.
- When the tester connects to the battery the OCV (open circuit voltage) will show in the display.



1. Lid (seethrough)
2. Paper outprint
3. LCD Display
4. Up/Down buttons
5. ENTER: confirm choice of function
6. Negative terminal post (Black -)
7. Positive terminal post (Red +)

- By pressing ◀ / ▶ you can chose between the functions System Test, Battery Test and Language selection. (Swedish, Norwegian, Danish and Finnish are not included)
- Every choise must be confirmed by pressing «ENTER»
- Each step of the entire measurement sequence can be completed by choosing different selections when pressing ◀ / ▶ and confirming each choise by pressing Enter.
- Complete the test sequence by following the instructions on the display.

**NOTE! More detailed information can be found in the manual supplied with the instrument.**

## **BATTERY TEST**

- When selecting Battery Test, the following battery types can be selected by pressing ◀ / ▶  
**REGULAR LIQUID\* - AGM FLAT PLATE\*\* - AGM SPIRAL \*\*\* - VRLA GEL \*\*\*\***
- Each battery type can be tested according to the following measurement standards by pressing ◀ / ▶ **EN - JIS - DIN - IEC - SAE**. (EN is the measurement standard normally used in Europe).
- Chose the CCA current indicated on the battery by pressing ◀ / ▶ **SAE: 40-2000A, EN: 40-2100A, IEC: 30-1500A, DIN: 25-1300A, JIS** (battery type).
- When the test is complete, Circuit Voltage (V) and CCA Current (A) are displayed.
- Press ◀ / ▶ to choose SOH (State of Health) or SOC (State of Charge)

### **The following test results can be shown in the display:**

- **GOOD & PASS:** The battery is in good condition.
- **GOOD & RECHARGE:** The battery is in good condition but should be recharged.
- **RECHARGE & RETEST:** Charge the battery and repeat the test.
- **BAD & REPLACE:** The battery has lost performance and should be replaced.
- **BAD CELL & REPLACE:** The battery is short-circuited and should be replaced.
- **LOAD ERROR:** Check that the terminal blocks have good contact with the terminals and that the battery is within the specified size limits. Charge the battery and repeat the battery test.
- **WAITING FOR STABILIZATION:** Wait a few minutes for the voltage to stabilize, alt. charge the battery and repeat the battery test..

### **PRINT SELECTION** (Only for 12V batteries)

- Press ◀ ▶ to choose print **YES** or **NO**. Press «ENTER» to confirm your choise.
- **NO** will end the test sequence, which can also be done by loosening the terminal blocks.

## **SYSTEM TEST** (Test of the chargingsystem)

Select System Test and press «ENTER». Before starting the engine, switch off all power consumption such as light, air conditioning and radio. After starting the engine, one of the following three results is displayed together with the measurement result:

- **CRANKING VOLTS NORMAL:** The electrical system works normally.  
Press «ENTER» to proceed to the charge test.
- **CRANKING VOLTS LOW:** The voltage during start-up is too low.
- **CRANKING VOLTS NO DETECTED:** No voltage could be measured.

If the starting voltage is normal, press «ENTER» to start charging test.

When **MAKE SURE ALL LOADS ARE OFF** appears on the display, switch off all power consumers and press «ENTER» and one of the following three results will then appear on the display together with the measured value:

- **ALT. IDLE VOLTS LOW:** The generator does not supply enough power to the battery.
- **ALT. IDLE VOLTS NORMAL:** The harging voltage of the generator is normal.
- **ALT. IDLE VOLTS HIGH:** The charging voltage is too high. Normally, the highest charging voltage is approx. 14.7V ± 0.05V.

Press «ENTER» to proceed to test the charging system function during power

consumption. The display shows: **TURN ON LOADS AND PRESS ENTER**

Start constant power consumption such as fans at max. heat, high beam and windshield window.

Do not switch on intermittent power consumers such as windshield wipers etc.