



INSTRUCTIONS FOR:  
**ELECTRONIC BATTERY TESTER 3 FUNCTION**  
MODEL: **BT91/4.V2**

Thank you for purchasing a Sealey product. Manufactured to a high standard this product will, if used according to these instructions and properly maintained, give you years of trouble free performance.



**IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS AND CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. PLEASE KEEP INSTRUCTIONS SAFE FOR FUTURE USE.**

## 1. SAFETY INSTRUCTIONS



**DANGER! BE AWARE, LEAD-ACID BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL BATTERY OPERATION. FOR THIS REASON IT IS VERY IMPORTANT TO READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY EACH TIME YOU USE THE BATTERY TESTER.**

Follow these instructions and those published by the battery and vehicle manufacturers and the maker of any equipment you intend to use in the vicinity of the battery. Remember to review warning marks on all products and on engines.



### 1.1. PERSONAL PRECAUTIONS

- ✓ Ensure that there is another person within hearing of your voice and close enough to come to your aid should a problem arise when working near a lead-acid battery.
- ✓ Wear safety eye protection and protective clothing. Avoid touching eyes while working near battery.
- ✓ Have fresh water and soap nearby in case battery acid contacts skin, clothing or eyes.
- ✓ Wash immediately with soap and water if battery acid contacts skin or clothing. If acid enters eye, flush eye immediately with cool, clean running water for at least 15 minutes and seek immediate medical attention.
- ✓ Remove personal metallic items such as rings, bracelets, necklaces and watches. A lead-acid battery can produce a short-circuit current which is high enough to weld a ring or the like to metal, which would cause severe burns.
- ✓ Ensure hands, clothing (especially belts) are clear of fan blades and other moving or hot parts of engine, remove ties and contain long hair.
- x **DO NOT** smoke or allow a spark or flame in the vicinity of battery or engine.

### 1.2. GENERAL SAFETY INSTRUCTIONS

- ✓ Familiarise yourself with the application, limitations and potential hazards of the tester. Also refer to the vehicle manufacturer's handbook. *IF IN ANY DOUBT, CONSULT A QUALIFIED VEHICLE TECHNICIAN. For use on lead-acid batteries only.*
- ✓ Ensure that the tester is in good condition before use. If in any doubt do not use the unit and contact an electrician.
- ✓ Use only recommended attachments and parts. To use unapproved items may be dangerous and will invalidate your warranty.
- ✓ Keep tools and other items away from the engine and ensure that you can see the battery and working parts of the engine clearly.
- ✓ Confirm that the battery to be tested is 12 volt **and not 6 or 24 volt** before attaching clamps to battery terminals.
- ✓ If the tester receives a sharp knock or blow it must be checked by a qualified service agent before being used.
- ✓ If the battery terminals are corroded or dirty, clean them before attaching the clamps.
- ✓ Keep children and unauthorised persons away from the work area.
- x **DO NOT** disassemble the tester for any reason. The tester must only be checked by qualified service personnel.
- **WARNING!** To prevent the risk of sparking, short circuit and explosion **DO NOT** drop metal tools in the battery area, or allow them to touch the battery terminals.
- x **DO NOT** cross-connect leads from tester to battery. Ensure positive (+/RED) is to positive and negative (-/BLACK) is to negative. If the symbols cannot be distinguished, remember that the battery negative terminal is normally the one directly connected to the vehicle bodywork.
- x **DO NOT** pull the cables or clamps from the battery terminals.
- x **DO NOT** use the tester outdoors, or in damp, or wet locations and **DO NOT** use in the vicinity of flammable liquids or gases.
- ✓ Ensure that there is effective ventilation to prevent a build-up of explosive gases and do not cover or obstruct the tester ventilation louvres.
- x **DO NOT** use the tester for a task for which it is not designed.
- ✓ When not in use, store the tester carefully in a safe, dry, childproof location.

## 2. INTRODUCTION

Steel case with carry strap. Three control system electronic analyser with large, easy to read volt meter and LED read-outs for battery and alternator condition. Supplied with crocodile clip, probe and operating instructions. Optional trolley available - See Model No. BT91/6.

## 3. OPERATION

- **WARNING!** Ensure that you read, understand and apply the safety and operational instructions before connecting the tester to the battery. Only when you are sure that you understand the procedures is it safe to proceed with testing.

### 3.1. PREPARATION

- 3.1.1. Check battery casing for cracks or leakage and confirm that it is 12 volt.
- 3.1.2. Clean battery terminals.
- 3.1.3. Check electrolyte levels and top up with distilled water as necessary (not sealed batteries).

Note: When connecting the tester ensure that the clamp and probe cables are clear of hot or moving engine parts, particularly if an alternator test is to be carried out. Ventilation slots in the tester casing should be unobstructed and the front panel should be easily visible.



fig. 1

### 3.2. BATTERY CHARGE LEVEL

☐ **WARNING!** Ensure that vehicle, or battery, is in a well ventilated area before testing.

- 3.2.1. Confirm that all vehicle electrical systems are switched off and that the ignition is off. If the engine has been running just before the test, turn on the side lights for approximately two minutes, then turn them off and wait a further minute before testing.
- 3.2.2. Attach the small positive (red) clamp (fig.1.3) to the positive (+) battery terminal and the small negative (black) clamp (fig.1.3) to the negative (-) terminal. Slightly twist clamps on terminals two or three times to ensure a good electrical contact and a firm grip.
- 3.2.3. Read battery voltage on display and compare with table (fig.2.C) to determine charge level.

### 3.3. BATTERY LOAD TEST

**NOTE:** 1) ON THE FIRST LOAD TEST SMOKE MAY BE EMITTED FROM THE LOUVRES IN THE TESTER CASING. THIS IS OIL BURNING OFF THE LOAD COILS AND IS NORMAL.  
2) DO NOT LOAD TEST IF THE BATTERY VOLTAGE, AS DETERMINED IN 3.2., IS BELOW 12.35 VOLTS. RECHARGE BATTERY FIRST.  
3) DO NOT LOAD TEST BATTERIES SMALLER THAN 32AH CAPACITY.

- 3.3.1. Connect the small clamps to the battery as in 3.2.2.
- 3.3.2. Connect the large clamp (fig.1.2) to the battery negative terminal and then firmly press the spring loaded probe (fig.1.1) onto the battery positive terminal. DO NOT keep the probe on the terminal for more than 10 seconds (see timer, fig. 2.D) or the tester may overheat.
- 3.3.3. Note the voltage on the display at approximately 10 seconds, just before removing the probe from the battery terminal. 9 volts or higher indicates that the battery is in good condition.
- 3.3.4. a) If the reading is between 8 and 9 volts, charge the battery for 5 minutes at 30 amps and then retest.  
b) If the displayed voltage falls quickly at the start of the test or the display closes down then either the battery is faulty or is extremely discharged. Charge for 12 hours at a current equal to one tenth of the battery capacity figure (ie if capacity is 45Ah then charge at 4.5 amps) and then retest.

Note: The red 'Stop' LED (fig.2.A) will come on if the tester overheats, typically after 3 or 4 consecutive load tests. When this happens terminate test and wait for the tester to cool down.

### 3.4. ALTERNATOR TEST

- 3.4.1. Connect the small clamps to the battery terminals, as in 3.2.2.
- 3.4.2. Start the engine and allow it to reach normal operating temperature. Switch off all accessories.
- 3.4.3. Run engine at 2000rpm and note the display reading, which should be between the values shown on panel C (fig.2).
- 3.4.4. A low reading indicates a fault which will cause the battery to be under charged. Likely causes are faulty rectifier, high resistance in cable to battery or slipping drive belt.  
A high reading indicates a fault which will cause the battery to be over-charged. Likely cause is a faulty voltage regulator.

### 3.5. EQUIPMENT SUPPLY CHECKS

- 3.5.1. Connect the small black clamp to the battery negative terminal and the red clamp to the positive connector on the equipment in question.
- 3.5.2. Switch on the equipment and note the display. A voltage of 11.5 or higher indicates that the supply circuit is OK. A lower voltage indicates high resistance and no voltage indicates open circuit.

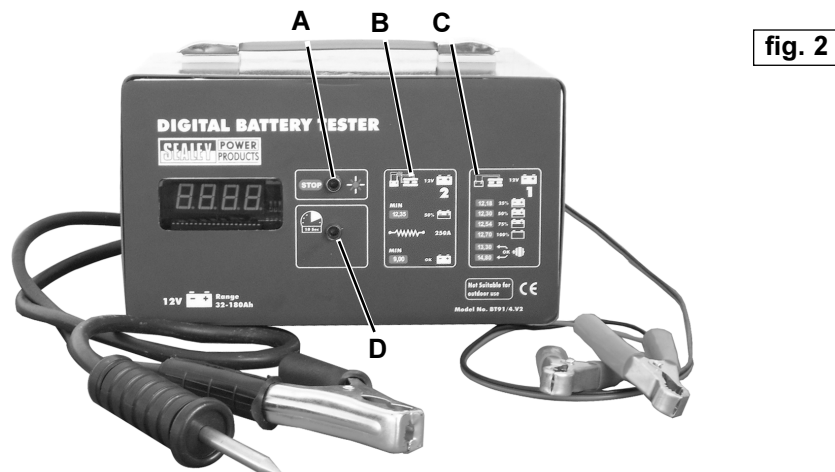


fig. 2

## 4. DECLARATION OF CONFORMITY

**Declaration of Conformity** We, the sole UK importer, declare that the product listed below is in conformity with the following standards and directives.

**Electronic Battery Tester - 3 Function**  
**Model: BT91/4.V2**  
89/336/EEC EMC Directive  
93/68/EEC CE Marking Directive



The construction file for this product is held by the manufacturer and may be inspected, by a national authority, upon request to Jack Sealey Ltd.

Signed by Mark Sweetman

1st November 2005

For Jack Sealey Ltd. Sole UK importer of Sealey Professional Tools.

**NOTE:** It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

**IMPORTANT:** No liability is accepted for incorrect use of this product.

**WARRANTY:** Guarantee is 12 months from purchase date, proof of which will be required for any claim.

**INFORMATION:** For a copy of our catalogue and latest promotions call us on 01284 757525 and leave your full name, address and postcode.



**Sole UK Distributor**  
**Sealey Group,**  
Bury St. Edmunds, Suffolk.

☎ 01284 757500  
☎ 01284 703534

🌐 [www.sealey.co.uk](http://www.sealey.co.uk)  
✉ [sales@sealey.co.uk](mailto:sales@sealey.co.uk)