INSTRUCTIONS FOR

AUTOMOTIVE TEST PROBE

MODEL NO: **PPVT**

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 & 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. KEEP THESE INSTRUCTIONS SAFE FOR FUTURE USE.

Refer to instruction manual | Wear protective gloves | Wear eye protection | Corrosive substance | Warning: Explosive gas

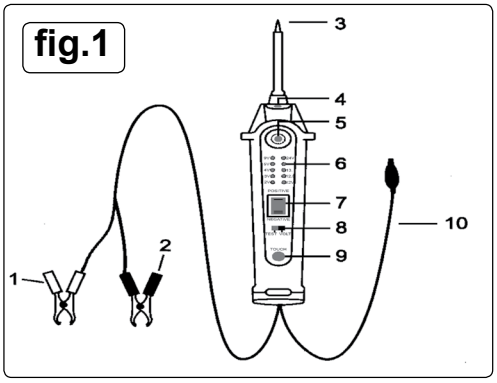
1. SAFETY

- ✓ If you are in any doubt about electrical safety consult a qualified electrician.
- ✓ Only for use with 2V - 24V DC systems.
- × **DO NOT** apply voltage or current to the probe that exceeds the specified maximum of 24V DC.
- × **DO NOT** use with industrial 110V systems.
- × **DO NOT** use on any circuit directly or indirectly connected to AC lines or any other AC power source.
- × **DO NOT** use with any component or circuits of the vehicle's ignition system.
- ✓ Before using this device, check the vehicle's electrical wiring and disconnect any part or system sensitive to voltage and current pulses such as air bags, electronic control modules, etc.
- ✓ Always check your instructions and procedures indicated in the vehicle service manual before attempting to disconnect any part or sub-system of the electrical circuit.
- ✓ When not in use, store the meter carefully in a safe, dry, childproof location. Avoid extremes of temperature.
- × **DO NOT** use the unit around explosive gases, vapour or dust. When the power switch is operated (forwards or backwards), battery current is conducted to the tip of the probe which may cause sparks when contacting ground or certain other circuits.
- × **DO NOT** use leads if damaged or if the wire is bared in any way.
- × **DO NOT** use the equipment when you are tired or under the influence of alcohol, drugs or intoxicating medicines.
- × **DO NOT** use this tester for any purpose other than that for which it has been designed.

2. INTRODUCTION

Time saving tool ideal for the automotive electrician and mechanic. Connects to the vehicle's own battery and reaches all corners of the vehicle with 5mtr cable. Checks for shorts circuits and bad earths quickly and easily. Tests continuity and polarity using flying lead and also indicates voltage (2V to 24V) of system on test using an LED array. Power-up components prior to installation and check in situ function of components and accessories allowing fast problem diagnosis. Features integral work light with touch sensitive control.

1. Red Battery Clip
2. Black Battery Clip
3. Probe
4. Work Light
5. Test Indicator
6. Voltage Indicators
7. Power Switch
8. Selection Switch
9. Work Light Touch Switch
10. Auxiliary Earth Lead



3. OPERATION

3.1. BASIC CONNECTIONS (fig.2).

3.1.1. Unroll the unit's cable. Attach the red battery clip to the positive (+) terminal on the vehicle's battery and the black clip to the negative (-) terminal on the vehicle's battery. The test probe will commence a self test for several seconds, with the buzzer sounding, green test indicator, red test indicator and the built in work light all illuminating in sequence.

3.2. QUICK SELF TEST.

3.2.1. With the battery clips still attached press and hold down the power switch (7) in the single bar 'POSITIVE' position. The test indicator (5) should illuminate RED.

3.2.2. Press and hold down the power switch (7) in the double bar 'NEGATIVE' position. The test indicator should illuminate GREEN.

3.2.3. The unit is now ready to use. If the test indicator did not illuminate, the cause may be that the battery clip connections are poor or the unit is damaged.

3.3. WORK LIGHT OPERATION.

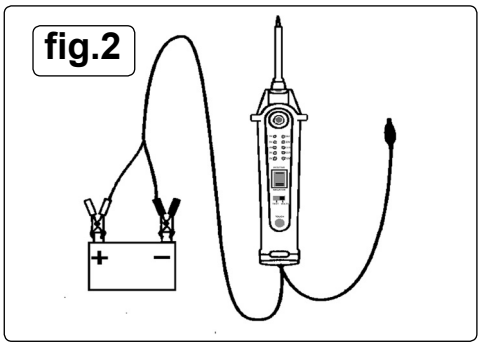
3.3.1. With the battery clips attached, contact the auxiliary earth lead (10) to the work light touch switch (9) for about 1 second, then remove. To turn off work light, contact auxiliary earth lead (10) with work light touch switch (9) for about 1 second again.

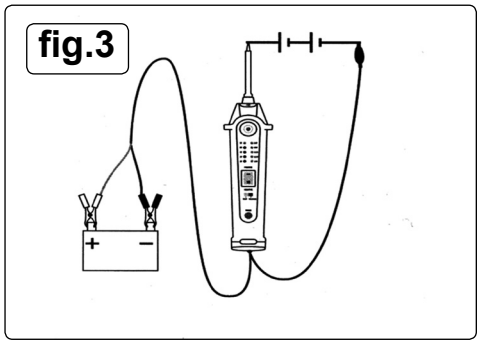
3.4. MEASURING DC VOLTAGE (fig.3).

3.4.1. Set the selection switch to 'VOLTAGE' position.

3.4.2. Connect the probe to the positive terminal of the circuit and clip the auxiliary earth lead to the negative terminal.

3.4.3. The voltage indicators will illuminate to indicate the voltage of the circuit.





3.5. POLARITY TESTING (fig.4).

3.5.1. Set the selection switch to 'TEST' position.

3.5.2. Connecting the tip of the probe to a positive (+) circuit will illuminate the test indicator RED.

3.5.3. Connecting the tip of the probe to a negative (-) circuit will illuminate the test indicator GREEN.

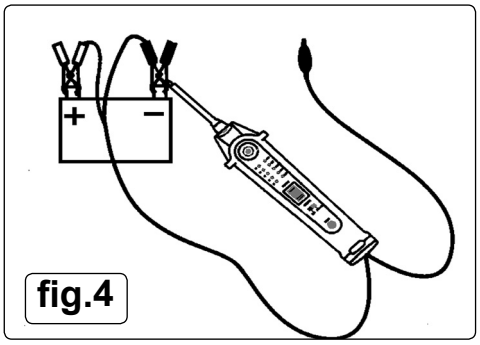
3.5.4. Connecting the tip of the probe to an open circuit will fail to illuminate the test indicator.

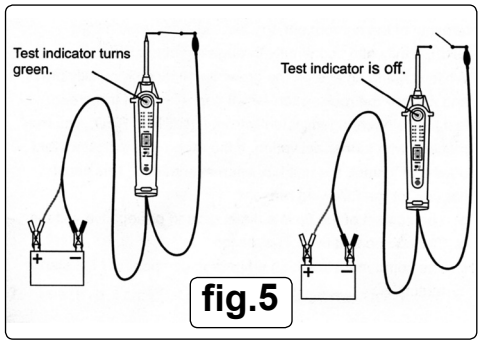
3.6. CONTINUITY TESTING (fig.5).

3.6.1. Set the selection switch to 'TEST' position. **DO NOT** press the power switch.

3.6.2. Using the probe tip together with the auxiliary earth lead, continuity can be tested on wires and components which are disconnected from the vehicle's electrical system.

3.6.3. When continuity is present the test indicator will illuminate GREEN.





3.6.4. ACTIVATING COMPONENTS removed from THE VEHICLE'S ELECTRICAL SYSTEM. (Such as fuel pumps, starter solenoids, magnetic clutches, blower motors, cooling fans, lights etc.) (Fig.6). By using the probe tip together with the auxiliary earth lead, components can be activated, thereby testing their function.

3.6.5. Set the selection switch to 'TEST' position.

3.6.6. Connect the auxiliary earth lead's clip to the negative terminal of the component to be tested. Contact the probe to the positive terminal of the component. The test indicator should illuminate GREEN, indicating continuity through the component.

3.6.7. Whilst observing the test indicator, quickly press the power switch to the single bar 'POSITIVE' position and release it. If the test indicator changes from GREEN to RED, you may proceed with further activation.

3.6.8. If the test indicator went off instantly, the unit has been overloaded. This could happen for the following reasons:

a) Where the tip of the tester has made contact is a direct earth or a negative voltage.

b) The component has a short circuit.

c) The component requires a high current (e.g. a starter motor).

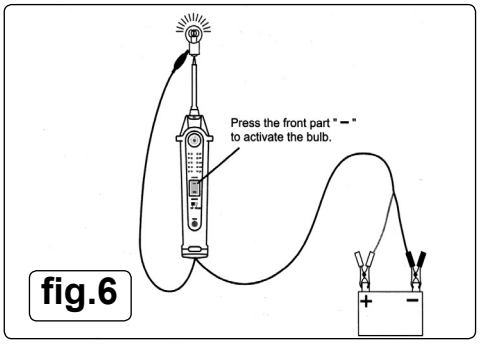
NOTE: The unit is equipped with a built in circuit breaker for overload protection. After the circuit breaker trips, it will reset automatically.

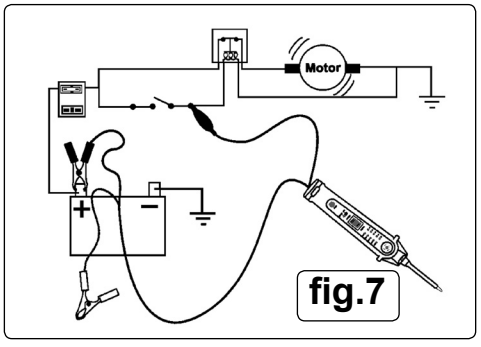
3.7. JUMPER LEAD FEATURE (fig.7).

3.7.1. Set the selection switch to 'TEST' position.

3.7.2. The black battery clip and the auxiliary earth lead are connected directly through the unit. By leaving the red battery clip disconnected from the vehicle's battery, the unit can be used as a long jumper lead.

3.7.3. Be careful to avoid a short circuit and overloading when using this jumper function. In this configuration, the leads are not protected by the unit's built in circuit breaker.





3.8. Activating components with a positive (+) voltage within the vehicle's electrical system (fig.8).

3.8.1. Set the selection switch to 'TEST' position.

3.8.2. Contact the probe tip to the positive terminal, the test indicator should illuminate GREEN. Whilst observing the test indicator, quickly press and release the power switch to the single bar 'POSITIVE' position.

3.8.3. If the test indicator went off instantly, the unit has been overloaded. This could happen for the following reasons:

a) The tip's contact went to direct earth.

b) The component has a short circuit.

c) The component is a high current component (i.e. starter motor)

❑ **WARNING!** Randomly applying voltage to certain circuits can cause damage to a vehicle's electronic components. It is strongly advised to use the correct circuit diagram and diagnostic procedures whilst performing this test.

3.9. Activating components with a negative(-) voltage within the vehicle's Electrical system (fig.9).

3.9.1. Set the selection switch to 'TEST' position.

3.9.2. Contact the probe tip to the negative terminal of the component, the test indicator should illuminate RED. Whilst observing the test indicator, quickly press the power switch to the double bar 'NEGATIVE' position and release it. If the indicator changes instantly from RED to GREEN, you may proceed with further activation.

3.9.3. If the indicator went off instantly, the unit has been overloaded. This could happen for the following reasons:

a) Where the tip of the tester has contacted is a direct positive voltage.

b) The component has a short circuit.

c) The component is a high current component (e.g. a starter motor).

❑ **WARNING!** With this function a vehicle's fuses may blow when the probe tip is earthed in series with them.

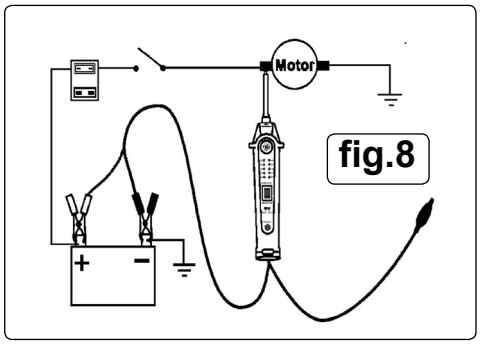


fig.8

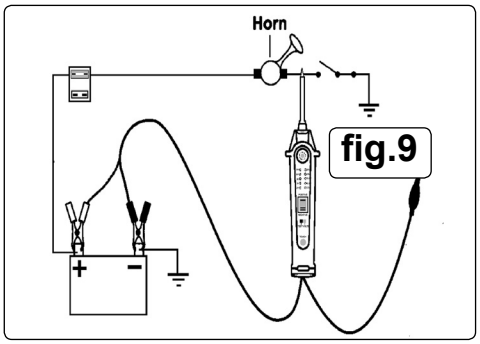


fig.9

3.10. CHECKING FOR BAD EARTH CONTACTS (fig.10).

3.10.1. Set the selection switch to 'test' position.

3.10.2. Probe the suspected earth wire or contact with the probe tip. Observe the colour of the test indicator.

3.10.3. Press the power switch to the single bar 'POSITIVE' position and release it. If the test indicator changes from GREEN to RED, this is not a true earth.

3.10.4. If the test indicator turned off when the power switch was pressed to the single bar position, this circuit is more than likely a direct earth. Note that high current components such as a starter motor will also cause the test indicator to turn off during this check.

3.11. Following and locating short circuits. In most cases a short circuit causes a fuse to blow. This is the best place to commence the fault finding process.

3.11.1. Set selection switch to 'TEST' position.

3.11.2. Remove the blown fuse from the fuse box. Hold the probe tip against each of the contacts in turn whilst moving the power switch to the forward, single bar 'POSITIVE' position. The side of the fuse housing which causes the test indicator to turn off when the power switch is pressed forward is the shorted circuit.

3.11.3. Make a note of this wire's identification code or colour. Follow the wire as far as you can along the wiring harness.

3.11.4. Locate the colour coded wire in the harness and expose it as much as possible.

3.11.5. Probe through the insulation of the wire with the probe tip and move the power switch to the forward, single bar 'POSITIVE' position to energise the wire. If the test indicator turns off, this wire can be identified as the shorted wire.

3.11.6. Continue testing the wire at each connector in the harness. The connector which causes the test indicator to turn off will lead you to the shorted area. Inspect the harness for signs of chafing or burnt out wiring and replace or repair as necessary.

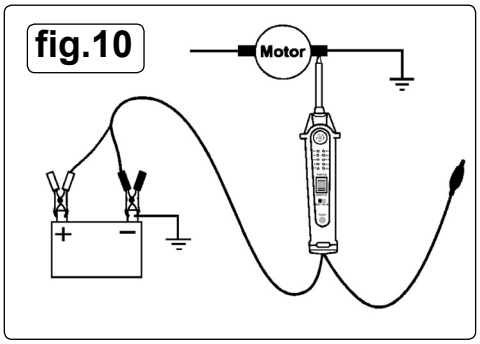


fig.10

3.12. Testing trailer lamps and connections (fig.11).
3.12.1. Set the selection switch to ‘TEST’ position.
3.12.2. Connect the unit to a battery of the correct voltage for the trailer electrical system.
3.12.3. Clip the auxiliary earth lead to an earth on the trailer chassis.
3.12.4. Probe the contacts of the trailer’s electrical connection socket whilst pressing the test switch to the single bar ‘POSITIVE’ position. This will allow you to check the function and orientation of the trailer lighting system.

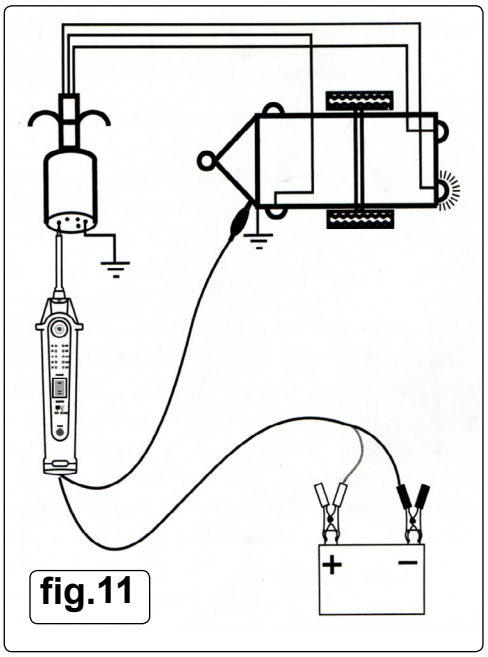


fig.11

4. SPARE PART

Description	Part Number
Probe	PPVT.01

Parts support is available for this product. Please log on to
www.sealey.co.uk, email sales@sealey.co.uk or telephone 01284 757500

ENVIRONMENT PROTECTION
Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.

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 is required for any claim.

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