

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 THIS PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. PLEASE KEEP INSTRUCTIONS SAFE FOR FUTURE USE.

1. SAFETY INSTRUCTIONS

- WARNING!** Ensure Health and Safety, local authority and general workshop practice regulations are adhered to when using tools.
- DO NOT** use tester if damaged.
- Maintain tester in good and clean condition for best and safest performance.
- Ensure that a vehicle which has been jacked up is adequately supported with axle stands.
- Wear approved eye protection. A full range of personal safety equipment is available from your Sealey dealer.
- Wear suitable clothing to avoid snagging. Do not wear jewellery and tie back long hair.
- Account for all tools and parts being used and do not leave any on or near the engine.
- Ensure the handbrake is applied on the vehicle under test and if the vehicle has automatic transmission, put it in the **PARK** position.
- Always ensure there is adequate ventilation when working with engine running. Emissions of carbon monoxide (if inhaled) can cause serious damage to health.
- WARNING!** Lambda/O₂ sensors are located within the exhaust system, when working on them be well aware of extremes of heat.

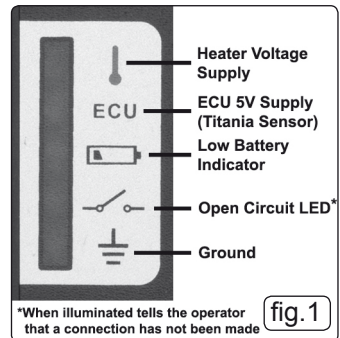
2. INTRODUCTION & SPECIFICATIONS

Tests Zirconia and Titania lambda sensors and ECU. Suitable for 1, 2, 3 and 4 wire sensors, heated and unheated. LED display shows crossover signal from sensor. Simulates rich or lean mixture signals to check ECU response. Insulation-piercing clip for quick and easy connection plus display to confirm wire identity. Features a low battery indicator and powered by 9V battery (supplied).

Battery	9V
Operating Temperature	-10°C to 50°C
Storage Temperature	-20°C to 60°C
Size (L x W x D)	147x81x29mm
Weight (main body only)	250g (inc. battery)

Indicator Panel:

The tester can indicate which wire on the Lambda sensor the unit is connected. This tells the operator which is the signal wire for measuring the Lambda output and also identifies the presence of the heater supply voltage (where applicable) and the sensor ground condition. **Refer to fig 1.**




*When illuminated tells the operator that a connection has not been made

fig. 1


3. OPERATING INSTRUCTIONS

NOTE: DEFAULT SETTING IS ZIRCONIA SENSOR MODE. TITANIA SENSOR MUST BE MANUALLY SELECTED (see below) & THE RICH & LEAN VALUES ARE REVERSED.

- 3.1 SELECTING TITANIA:** to select Titania mode, press the “” button while holding the “+ V” button. When the tester turns on the Titania LED will illuminate. (fig.2)

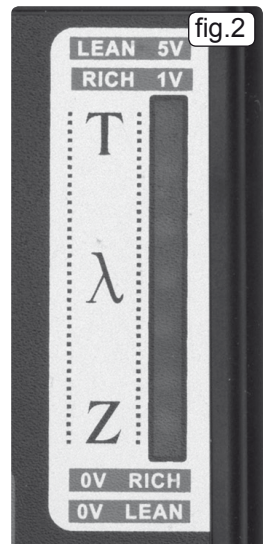
NOTE: The engine must be at normal operating temperature and running at 1500-2000RPM to test the O₂ sensor.

The tester is fitted with a wire-piercing clip allowing it to pierce the sensor wires without damage, (the insulation reforms to its original state after removal).

- 3.2** Switch on the tester by pressing the “” button. Connect the black ground clip to a good chassis ground, or the negative terminal of the vehicle's battery. Connect the wire-piercing clip to one of the sensor wires. The tester can test 1, 2, 3, and 4 sensor wires.
- 3.3** When testing 2, 3 or 4 wire sensors, the indicator panel (fig.1) will identify which wire you are connected to.
- 3.3.1** If the top LED illuminates it indicates the clip is connected to the heater supply voltage.
- 3.3.2** If the second LED illuminates this indicates a connection to the ECU 5V supply, (applicable in the case of Titania sensor, where fitted).
- 3.3.3** The open circuit LED will illuminate when the tester is switched on but not connected to any sensor wires, if a bad connection is made to any of the sensor wires this LED will stay lit. Once a good connection is made the LED will go out, and one of the other LED's will illuminate to indicate which sensor wire is connected.
- 3.4** When connection to the signal wire is made the lights on the vertical display will go out, then the display LED array in the Lambda window will activate. (fig.2).
- 3.4.1** A healthy sensor will show movement across the light path and will illuminate the LEDs in the Lambda window. Once the Lambda window is illuminated ignore any flickering of the LEDs in the indicator panel.
- 3.5** If connected in default (ZIRCONIA) mode, and only the top 2 lights on the Lambda window are flickering, this could indicate a Titania sensor. Leaving the unit connected to the signal wire, switch the unit off and follow instructions for selecting Titania sensor. If the lights then show movement across the Lambda window, this would then indicate a Titania sensor on the vehicle.

NOTE! TITANIA SENSOR: RICH & LEAN SIGNALS ARE REVERSED.

- 3.6** When a Lambda sensor is working correctly in good conditions this will be shown in the Lambda Window with the LED array illuminating continuously from lean to rich then back again (see fig.2). This pattern is repeated constantly. If the sensor is not working correctly or there is a fault with the ECU this will not occur and the LED array will remain in the rich or lean sector of the display window, depending on the type of fault.
- 3.7** To identify the source of the fault, use the simulation feature of the tester to introduce a rich or lean signal and observe whether this produces a change in the LED activity on the Lambda window. Press +V (**Titania, press 0V**) on the tester it will transmit a RICH signal to the ECU.
- 3.7.1** If the circuit is functioning correctly the mixture will be weakened and the result should be apparent by a decrease in the engine speed occurring. Ideally, a four-gas analyser should be used to verify that the mixture strength varies in response to the false signals introduced.
- 3.7.2** If there is no reaction it would suggest a wiring/connection problem or faulty ECU. Faulty fuelling, faulty ignition or faulty management sensors (located on the engine) could also produce the same effect.
- 3.7.3** If there is a response to the simulated signal the Lambda sensor should be checked, cleaned and tested, and replace or substitute if necessary.




- 3.8 In some car management systems, putting in a simulated signal may appear as a fault code in the ECU memory when checked with a code reader.
- 3.9 Some management systems have a "limp home device" this is activated when the Lambda sensor fails. The ECU will input a firm value signal of approx. 500mV to the sensor to allow the vehicle to be driven at low speeds.


4. MAINTENANCE

- 4.1 The Lambda tester is a sensitive electronic instrument and should be treated as such. Avoid high temperatures, mechanical shock and damp environments. Check cables for damage and/or loose connections together with battery replacement is the only required maintenance.
- 4.2 **Battery Replacement:** When the battery voltage is low the LED in the indicator panel will illuminate.
 - 4.2.1 Ensure the two clips are removed from the sensor wires and the ground point.
 - 4.2.2 Remove the battery cover on the rear of the tester by sliding in the direction of the arrow.
 - 4.2.3 Unplug the battery connector and replace with a battery of the same type and rating, replace the battery cover ensuring it snaps into place.

Environmental Protection.




Recycle unwanted materials instead of disposing of them as waste.
All tools, accessories and packaging should be sorted, taken to a recycle centre and disposed of in a manner which is compatible with the environment.



When the product is no longer required, it must be disposed of in an environmentally protective way. Contact your local solid waste authority for recycling information.

Battery Removal.



⚠ WARNING! To avoid electric shock, disconnect the test leads from any source of voltage before removing the battery door.
Ensure the two clips are removed from the sensor wires and the ground point.
Remove the battery cover on the rear of the tester by sliding in the direction of the arrow.
Unplug the battery connector and replace with a battery of the same type and rating, replace the battery cover ensuring it snaps into place.

Dispose of batteries according to local authority guidelines.

Under the Waste Batteries and Accumulators Regulations 2009, Jack Sealey Ltd are required to inform potential purchasers of products containing batteries (as defined within these regulations), that they are registered with Valpak's registered compliance scheme.
Jack Sealey Ltd's Batteries Producer Registration Number (BPRN) is BPRN00705

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 latest catalogue and promotions call us on 01284 757525 and leave your full name and address, including postcode.





Sole UK Distributor, Sealey Group,
Kempson Way, Suffolk Business Park,
Bury St. Edmunds, Suffolk,
IP32 7AR

 **01284 757500**

 **01284 703534**

 www.sealey.co.uk

 sales@sealey.co.uk