

# Pedal Effort Sensor

In Vehicle Pedal Effort Sensor  
Product to be used with *AutoTest* Workshop Pro 10





### DECLARATION OF CONFORMITY

We, Auto Test Products Pty Ltd. declare under our sole responsibility that the product Pedal Effort Sensor is in conformity with the provisions of the following Council Directive: 1999/5/EC.

A copy of the Declaration of Conformity is available from <http://www.autotest.net.au>

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Please dispose of batteries properly.

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## 1. UNPACKING AND FIRST TIME USE

Congratulations on your choice of an AUTOTEST™ Pedal Effort Sensor. Please take the time to read this User's Manual before using the Pedal Effort Sensor in the field. Incorrect or inappropriate use of this instrument may void the warranty. Retain the packing materials for future shipping and transport of the unit as it must be calibrated periodically.

Please complete the warranty registration card and post it to AUTOTEST Products Pty Ltd, alternatively visit our website [www.autotest.net.au](http://www.autotest.net.au) and complete your warranty registration on line. Your warranty registration ensures that you are kept up to date on any software or hardware changes to your AUTOTEST™ Pedal Effort Sensor. It also helps to provide faster services.

The packing box of your *AutoTest*® Pedal Effort Sensor should contain the following:

1. *AutoTest*® Pedal Effort Sensor (hand-held unit) attached with the pedal sensor
2. User Manual on *AutoTest*® USB
3. Calibration Certificate
4. Warranty Registration Card
5. 4 x AA Batteries

The *AutoTest*® Pedal Effort Sensor is designed to be used in conjunction with the Workshop Pro.  
\*Workshop Pro and software not included.

## 2. FOR YOUR SAFETY

Read these simple guidelines. Not following them may be dangerous. Read the complete user guide. Further detailed information is given in this manual.



### **SWITCH ON SAFELY**

Do not switch the device on when wireless device use is prohibited or when it may cause interference or danger.



### **SWITCH OFF WHEN REFUELING**

Do not use the device at a refuelling point. Do not use near fuel or chemicals.



### **SWITCH OFF NEAR BLASTING**

Follow any restrictions. Do not use the device where blasting is in progress.



### **USE SENSIBLY**

Use only in the positions as explained in the product documentation.



### **QUALIFIED SERVICE**

Only qualified personnel may install or repair this product.



### **ACCESSORIES AND BATTERIES**

Use only approved accessories and batteries. Do not connect incompatible products.



### **WATER-RESISTANCE**

Your device is not water-resistant. Keep it dry.



### **CONNECTING TO OTHER DEVICES**

When connecting to any other device, read its user's guide for detailed safety instructions. Do not connect incompatible products.

### 3. WARRANTY

To ensure prompt warranty service should it be required, please complete warranty registration form, and return to *AutoTest* Products Pty Ltd within 10 days of purchase of the product. *AutoTest* Products or an Authorised Service Centre warrants this product against defects in material and workmanship for a period of 12 months from the original date of purchase. This warranty applies only to products and components supplied by *AutoTest* Products which can be identified by the trade name or logo affixed to them or by other documents. *AutoTest* Products does not warrant any products not supplied by *AutoTest* Products. During the warranty period, *AutoTest* Products or an Authorised Service Centre will repair (or at its option replace), any defective component(s) without charge for labour, provided the product is returned in its original or suitable equivalent container, freight prepaid, to an authorised *AutoTest* Service Centre. Transit insurance and return freight will be at the owner's expense.

In order to obtain calibration, warranty or non-warranty service, ship the product, freight and insurance prepaid to your nearest *AutoTest* Service Centre. Attach to the product your name, address, contact numbers, description of the problem and if a warranty claim, proof of purchase (dated sales receipt or invoice).

*AutoTest* Products or an Authorised *AutoTest* Service Centre reserves the right to refuse warranty repair if accident, abuse, misuse or misapplication has damaged the product in transit or as a result of service or modifications by other than an Authorised Service Centre, nor are any other warranties expressed or implied, including any regarding merchantability or fitness for any other particular purpose. *AutoTest* Products or an Authorised Service Centre is not responsible for incidental or consequential damages resulting from the breach of any express or implied warranty, including damage to property and, to the extent permitted by law, damages for personal injury.

#### 4. AUTHORISED SERVICE AGENTS:

##### **AUSTRALIA**

AutoTest Products  
69 Parsons St, Kensington, VIC, 3031

Ph: (+61) 3 8840 3000

The full list of Authorised Service Centres can be found on our website:  
<http://www.autotest.net.au/distributors/>

Alternatively, you can contact the **AutoTest Service Department** by  
Phone: (+61 3) 8840 3016

## 5. OPERATION

### 5.1 Set-Up

Before any testing, insert the included batteries and push the on/off button. The power led should turn on at this point. On start up the power led will light up RED. While the power LED is RED, the workshop pro will not be able to connect to the tablet. The LED will change to GREEN after approximately 10 seconds. This means the unit is ready to connect to a Workshop Pro.

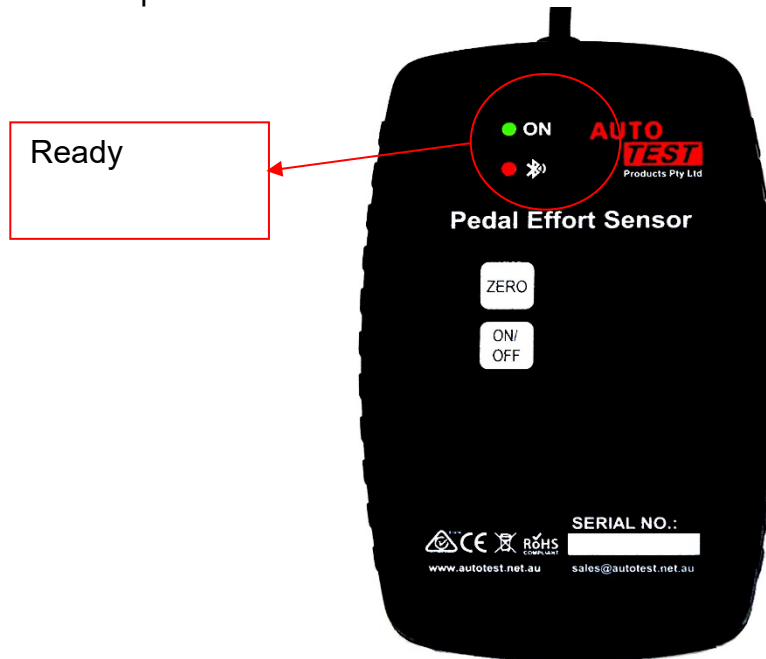


Figure 1

LED State Table

ON		Bluetooth (⌘)	
Solid RED	<b>NOT READY</b>	RED Double Flashing	<b>CONNECTED</b>
Solid GREEN	<b>READY</b>	RED Slow Flashing	<b>NOT READY</b>
Solid AMBER	<b>FIRMWARE UPDATER</b>	RED/ Fast Flashing	<b>READY</b>
RED/GREEN Slow Flashing	<b>50% Battery</b>		
RED/GREEN Fast Flashing	<b>LOW BATTERY</b>		

When the battery is low the ON light will start blinking red (alternating green). At this time the unit will still be functional, but it is recommended that the battery is changed especially when the ON light is blinking quickly.



## 5.2 Bluetooth Pairing

Upon receiving the Pedal effort sensor or Bluetooth printer, the unit will need to be paired with the Workshop pro.

Pairing occurs in the Bluetooth menu, under settings menu.

The Bluetooth menu will display a list of currently paired devices. At the bottom of the screen is a “Scan for devices” button, press this button to see available devices to pair with.

The pedal effort sensor will be named “PES\_XXXX”, XXXXX is the serial number printed on the front of the device. If none of the devices available being with ‘PES’, the unit could be listed as ‘null’. Check for mac address that begin with 20:XX:XX:XX:XX:XX. Once paired the device will be properly named.

The printer will be named “MPT-II”. Also check for mac address that begin with 00:XX:XX:XX:XX:XX or 8C:XX:XX:XX:XX:XX.

Press and hold the desired device to pair with the device.



Figure 2

## 5.3 Running the Test

The pedal sensor should be clamped to the brake pedal and the hand-held unit can be placed on the seat or anywhere comfortable.

Press “test” and select test with Pedal Effort Sensor.



Figure 3

Before beginning the test, press “zero” on the unit to stabilise the measurement. Ensure there is no weight on the brake pedal when this is done. Fill in the test information (examiner ID, and vehicle registration). **DO NOT** press Start until the Workshop Pro is secure. Secure the workshop pro to the passenger seat or to the floor of the car. Ensure that it is secure for the entire duration of the test. Any movement may cause incorrect readings and result in failure of the test. Press “Start” on the bottom right of the screen.

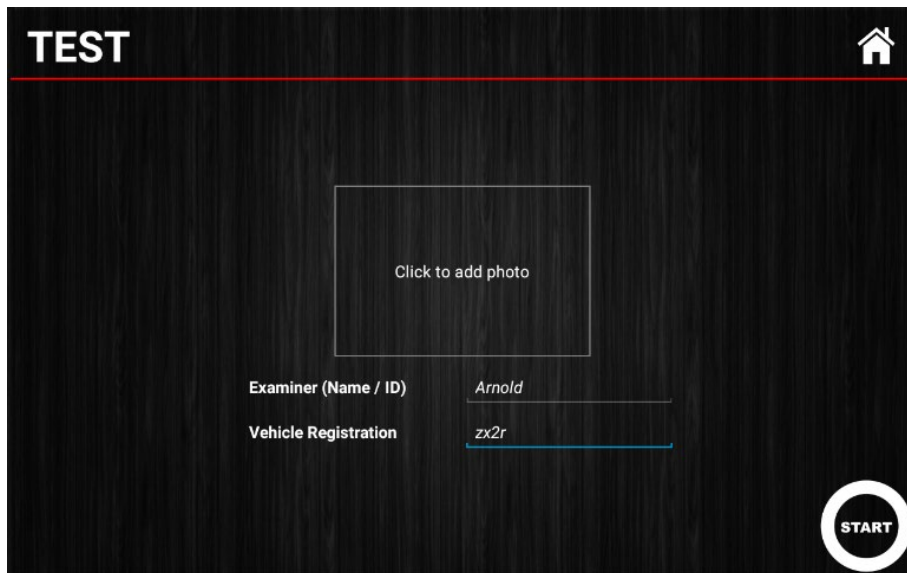


Figure 4

## Test Sequence Summary

<b>Step</b>	<b>Test Status</b>	<b>App Action</b>	<b>User Action</b>
<b>1</b>	User hits "START" after providing the examiner id and registration number of the vehicle	Test window begins counting down from 5	Make sure the tablet completely secure/stable and don't bump it
<b>2</b>	Test setup countdown reaches 0	Test window prompts user to 'Accelerate Vehicle'	Confirm the test is prompting you to accelerate
<b>3</b>	Test is prompting user to 'Accelerate Vehicle'		Begin gently accelerating the vehicle to desired test speed
<b>4</b>	Vehicle arrives at desired test speed		Release the accelerator and apply the brake immediately
<b>5</b>	User begins deceleration	Test window prompts user to 'Decelerate Vehicle'	Continue to apply the brakes until the vehicle comes to a complete stop
<b>6</b>	Test is prompting user to 'Decelerate Vehicle'		Continue to apply the brakes until the vehicle comes to a complete stop
<b>7</b>	Vehicle comes to a complete stop	Test Report is generated and displayed on App screen	Pull over and review test

## 5.4 Reviewing a Test

The test report component of the application contains the information relating to tests that have been run (shown in the figure below). The Red graph displays the forward acceleration and the Green graph displays the pedal effort.

For more detailed instructions on the use of the Workshop Pro 10 and Brake Pro app, find the Workshop Pro 10 manual on our website (scroll to links at bottom of page): <https://autotest.net.au/product/autotest-workshop-pro-10/>



Figure 5

The statistics reported include:

- Location (Longitude, Latitude)
- Average/Peak
- Deceleration (displayable in G, %G, ms<sup>-2</sup>)
- Duration
- Speed
- Stopping Distance
- MFDD
- Side shift
- Average Pedal Effort

Click on the values to cycle through the available units (i.e. G, %G, ms<sup>-2</sup>).

## 5.5 Printing a test

In order to print a test report you need to pair the Workshop Pro with the supplied Thermal Bluetooth Printer, if you haven't done this yet just continue through the following print procedure and the app will redirect you to the Bluetooth Pairing screen when appropriate.

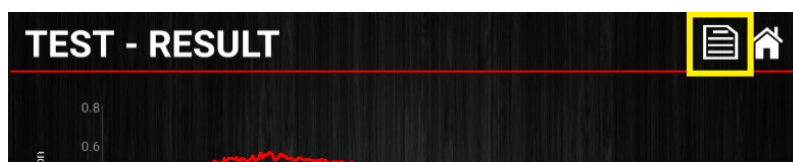


Figure 6



Figure 7

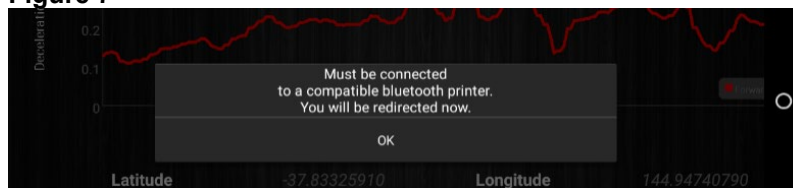


Figure 8

When looking at a test result select the **report icon** from the top right of the report (Figure 6). You will be prompted with a selection panel. Choose **'Print via Bluetooth'** (Figure 7) and you will be asked to select which printer to be used to print the test.

Make sure the printer you intend to print from is turned on and select it from the choose printer dialog. It will begin to print out shortly.

## 6. SPECIFICATIONS

### 6.1 Hardware Specifications

#### Input

- Load cell: accuracy  $\pm 2\%$

#### Output

- Peak pedal effort

#### Power Source

- Four AA batteries\*

#### Temperature Range

- $-5^{\circ}\text{C}$  -  $50^{\circ}\text{C}$

#### Humidity

- 25% - 85%, non-condensing

#### Battery Capacity

- 2450\* mA/Hr, over 350 tests

### 6.2 Features

- Simple two-button operation via a tactile membrane pad
- Lightweight (500grms), dimension (100 x 150 x 40mm)
- Automatic shut-off to preserve battery life
- Calibration is internationally traceable through NATA
- Interval of calibration as determined by the relevant local authority
- 12 months warranty
- Internet support hotline for diagnostics and calibration
- Comprehensive after-sales service and assistance

\*Battery capacity based on supplied batteries. Capacity could change if different batteries are used.

#### **BATTERY TEST CONDUCTED**

**Objective:** Find out battery life of pedal effort sensor. Determine the battery cut off, ADC counts, brownout voltage and warning led tolerances.

**Test:** Testing conducted on **4x EN91 Energizer AA industrial**.

**Conclusion:** Battery life is as expected. 32 hours of continual use. Assuming 5 minutes for a test, there is an expected 384 tests for each unit.

*7 February 2020*

## 7. TROUBLESHOOTING

Common Issues	Solution
My pedal is not coming up on the available devices list.	Ensure the ON light is green, and the red light is flashing quickly before scanning for devices.
My pedal is paired but I can't start a test.	<p>Check the serial number of the paired device with what is written on the front of the pedal. It is possible that the workshop pro has been paired with the wrong pedal and will require pairing with the correct serial number.</p> <p>Check the lights on the front of the Pedal Effort Sensor. One light must be GREEN and Bluetooth light must be double quick flash every 2 seconds. If the ON light is AMBER, turn the unit on and off, ensure that the 'Zero' button is not pressed when turning on the device.</p> <p>Check the calibration date of the unit. The pedal effort sensor will automatically disable tests after the calibration due date. During this period a pop up will appear alerting user that the Pedal is 'locked'.</p>
ON light won't stay green and keeps turning red.	ON light will blink alternating green and red when the batteries are low. The unit will still be functional but if the lights are flashing quickly the unit might not be able to complete a full test.
Unit won't turn on even with new batteries.	Check the battery compartment. The batteries may have fallen out when knocked or moved too much. If this has not occurred, please call an Authorised Service Agent.
My pedal is giving incorrect readings.	Ensure that there is no weight on the pedal during the start up of the test. You can manually zero the pedal with the button on the front panel.

Please contact your local Authorised Service Agent (Page 7) for further assistance.

## 8. CALIBRATION PROCEDURE

The Pedal Effort Sensor must be re-calibrated periodically, this maintains creditability in tests and acceptance of data according to international standards.

The Calibration due date is print on every test receipt.

There are two ways of calibrating - either via your local authorised service centre or by returning the unit to AUTOTEST Products.

### 8.1 Returning the Sensor for Calibration

#### 8.1.1 Packaging

Please remember that you are shipping an electronic instrument. Bubble wrap or foam should surround the unit and should be inserted into a sturdy cardboard box.

#### 8.1.2 Shipping

**Labelling** - A label noting "Electronic Device - Fragile" should be placed on the box.

**Freight Carrier** – Container should be sent **freight prepaid**. AutoTest Products has no preference on freight carriers. However, should expedient delivery be required ensure you contact your freight carriers for confirmation.

**Ship to:** Ship to: The Service Department, AutoTest Products Pty Ltd, 69 parsons St, Kensington, Victoria 3031 Australia. Phone: +61 3 8840 3016; or to your nearest service distributor. A full list of distributors is available on our website.

## NOTES:

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