INSTRUCTIONS FOR

Digital Automotive Analyser

Stock No.50024 Part No.DMM5

IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY TO ENSURE THE SAFE AND EFFECTIVE USE OF THIS PRODUCT.

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09/2004

GENERAL INFORMATION

This manual has been compiled by Draper Tools and is an integrated part of the product with which it is enclosed and should be kept with it for future references.

This manual describes the purpose for which the product has been designed and contains all the necessary information to ensure its correct and safe use. We recommend that this manual is read before any operation or, before performing any kind of adjustment to the product and prior to any maintenance tasks. By following all the general safety instructions contained in this manual, it will ensure both product and operator safety, together with longer life of the product itself.

All photographs and drawings in this manual are supplied by Draper Tools to help illustrate the operation of the product.

Whilst every effort has been made to ensure accuracy of information contained in this manual, the Draper Tools policy of continuous improvement determines the right to make modifications without prior warning.

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DECLARATION OF CONFORMITY

We :
Draper Tools Ltd.,
Hursley Road,
Chandler's Ford,
Eastleigh, Hampshire.
SO53 1YF.
England.

Declare under our sole responsibility that the product:

Stock No:- **50024.**

Part No:- **DMM5.**

Description:- **Digital Automotive Analyser.**

To which this declaration relates is in conformity with the following directive(s) 73/23/EEC & 89/336/EEC.

With reference to: EN61010-1, 61010-2-031, EN50081-1, EN55022, EN50082-1, EN61000-4-2/-3/-8 & ENV50204.

J.N. Draper
Managing Director 21/01/2002

SPECIFICATION

The Draper Tools policy of continuous improvement determines the right to change specification without notice.

Stock No. 50024
Part No. DMM5
Battery type ..... 1 x 9V PP3
Dimensions 70x147x39mm
Weight 189g

- **DC VOLTAGE:** (autoranging) Input impedance: 10m . Overload protection: 1000V DC or 750V AC RMS.

Range	Resolution	Accuracy
32mV	0.1mV	+/- 1.2%rdg + 1 dgts
3.2V	0.001V	
32V	0.01V	
320V	0.1V	
1000V	1V	

- **AC VOLTAGE:** (autoranging) Input impedance: 10m . Overload protection: 1000V DC or 750V AC RMS.

Range	Resolution	Accuracy
3.2V	0.001V	+/- 2.0%rdg + 4 dgts (@ 50-60Hz)
32V	0.01V	
320V	0.1V	
750V	1V	

- **CURRENT:** (autoranging) Voltage burden: 0.2V on 320µA, 32mA range, 2V on 3200µA, 320mA range. Input protection: 0.5A/250V Fuse, µA/mA range, 10A/250V fuse, 10A range.

Range	Resolution	DC Accuracy	AC Accuracy
320µA	0.1µA	+/- 2% rdg + 1 dgts	+/- 2.5% rdg + 4 dgts (@50-60Hz
3200µA	1µA		
33mA	0.01mA		
320mA	0.1mA		
10A	0.01A	+/- 3% rdg + 3 dgts	+/- 3.5% rdg + 4 dgts (@50-60Hz

SPECIFICATION

GUARANTEE

Draper Tools have been carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship for a period of 12 months from the date of purchase except where tools are hired out when the guarantee period is ninety days from the date of purchase.

Should the machine develop any fault, please return the complete tool to your nearest authorized warranty repair agent or contact Draper Tools Limited, Chandler's Ford, Eastleigh, Hampshire, SO53 1YF. England. Telephone: (023) 8026 6355.

If upon inspection it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This guarantee does not apply to normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accident, or repairs attempted or made by any personnel other than the authorised Draper warranty repair agent.

This guarantee applies in lieu of any other guarantee expressed or implied and variations of its terms are not authorised.

Your Draper guarantee is not effective unless you can produce upon request a dated receipt or invoice to verify your proof of purchase within the 12 month period.

Please note that this guarantee is an additional benefit and does not affect your statutory rights.

Draper Tools Limited..

GETTING TO KNOW YOUR ANALYSER

1. Function and Range Selector Switch.
2. LCD Screen.
3. V, , arrows (Voltage, Resistance, dwell, tach) Jack Socket.
4. 'Com' Jack Socket - Plug in the Black (Negative Test Lead).
5. '10A' Jack Socket - (Max 10 amps).

- **UNPACKING:** After removing the packing material, make sure the product is in perfect condition and that there are no visible damaged parts. If in doubt, do not use the digital automotive analyser and contact the dealer from whom it was purchased.

  The packaging materials (plastic bags, polystyrene, etc.), must be disposed of in an appropriate refuse collection container. These materials must not be left within the reach of children as they are potential sources of danger.

	Diode check.
	Audible continuity tester.
BATT	Indicates that the meter battery voltage has dropped excessively.
A	Unit for measuring current (amps).
mV, V	Units for measuring voltage (volts).
, K ,M	Units for measuring resistance (ohms).
	Caution.
	Risk of electric shock.
	DC Voltage ranges.
OHM	Resistance ranges.
	TACH ranges.
	DWELL ranges.

- **WARNINGS:** Each time before you use this instrument, inspect the test leads, connectors and probes for damage, e.g. cracks or breaks in the insulation. Any defective leads should be replaced by a qualified person. If the voltage to be measured is not known, set the selector switch to the highest range and reduce until a satisfactory reading is obtained.
- **DC VOLTAGE MEASUREMENT:**
  1. Connect the red test lead to the 'V/ ' jack socket and the black lead to the 'com' jack socket.
  2. Set the selector switch to the desired DCV range.
  3. Connect the test leads to the circuit to be measured.
  4. Turn on the power to the circuit to be measured, the voltage value should appear on the digital display along with the voltage polarity (if reversed only).
- **DC CURRENT MEASUREMENT:**
  1. Connect the red test lead to the '10A' jack socket and the black lead to the 'com' jack socket (max 10A).
  2. Set the selector switch to the 10A range.
  3. Open the circuit to be measured, and connect the test leads in series with the load to be measured, see Fig.2 on page 7.
  4. Turn on the power to the circuit to be measured, the 'current' value should appear on the digital display.
- **RESISTANCE MEASUREMENT:**
- **WARNING** - If the resistance to be measured is part of a circuit, turn off power and discharge all capacitors before measurement.
  1. Connect the red test lead to the 'V/ ' jack socket and the black lead to the 'com' jack socket.
  2. Set the selector switch to the desired OHM range.
  3. Connect the test leads to the circuit to be measured.
  4. The resistance value should now appear on the digital display.
- **TACH (RPM) MEASUREMENT:**
- **IMPORTANT:** For detailed and concise information on the correct use of this tool always refer to the vehicle manufacturer's service handbook.
  1. Connect the red test lead to the 'V/ ' jack socket and the black test lead to the 'com' jack socket.
  2. Set the selector switch to the desired TACH range.
  3. Connect the red test probe to the breaker points or the '-' terminal on the ignition coil.
  4. Connect the black test probe to the '-' terminal of the battery or ground. Refer to Fig.1 on page 7.

- **DWELL ANGLE MEASUREMENT:**
- **IMPORTANT:** For detailed and concise information on the correct use of this tool always refer to the vehicle manufacturer's service handbook.
  1. Connect the red test lead to the 'V/ ' jack socket and the black test lead to the 'com' jack socket.
  2. Set the selector switch to the desired DWELL range.
  3. Connect the red test probe to the breaker points or the '-' terminal on the ignition coil.
  4. Connect the black test probe to the '-' terminal of the battery or ground. Refer to Fig. 1.
- **DIODE MEASUREMENT:**
  1. Connect the red test lead to the 'V/ ' jack socket and the black lead to the 'com' jack socket.
  2. Set the selector switch to the ⊣◀ position.
  3. Connect the red test lead to the anode of the diode and the black lead to the cathode.
  4. The forward voltage drop in mV will now be displayed. If the diode is reversed the figure "1" should show on the display.
- **AUDIBLE CONTINUITY TEST:**
  1. Connect the red test lead to the 'V/ ' jack socket and the black test lead to the 'com' jack socket.
  2. Set the selector switch to the ●))) position.
  3. Connect the test leads to two points of the circuit to be tested. If the resistance is lower than 30 ohms the buzzer will sound.
- **WARNING:** If the resistance to be measured is part of a circuit, turn off power and discharge all capacitors before measurement.

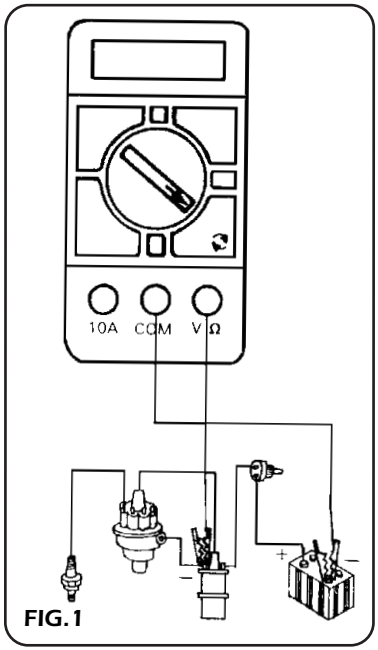

FIG.1

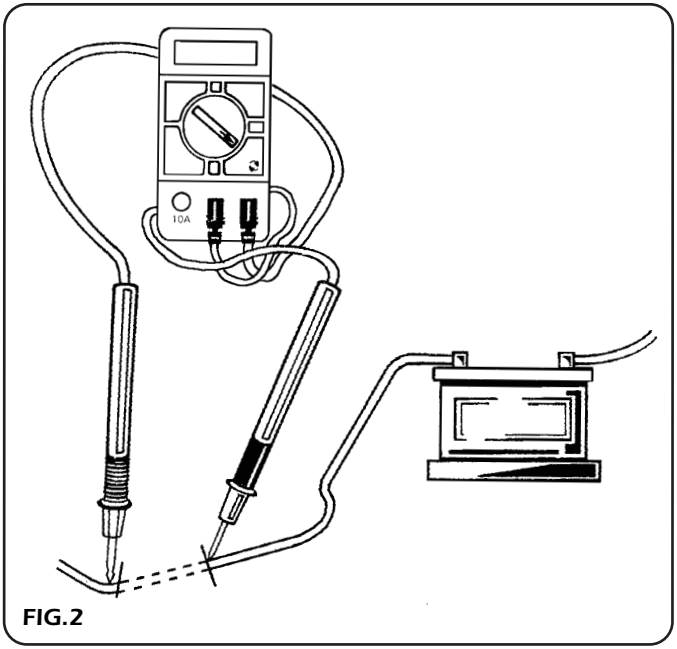

FIG.2

The fuse rarely needs replacing, and almost always a blown fuse is the result of an operator error.

- **WARNING** - If the resistance to be measured is part of a circuit, turn off power and discharge all capacitors before measurement.

If the meter battery is in need of replacement "BATT" will appear on the display.

The fuse should only be replaced by a qualified person.

CONTACTS

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