

# WORKSHOP



 Sykes-Pickavant®

# ELECTRICAL TESTING

014900

## Circuit Tester 6, 12, 24 Volt

- High quality, professional circuit tester suitable for 6, 12 and 24 volt circuitry
- Features highly durable polycarbonate handle and hardened steel probe to ensure long service life
- Alligator clip and 1.5 metre lead is insulated by heavy duty rubber with a metallic spring at the handle's base providing additional protection and support to the lead
- Fitted with standard automotive bulb for easy replacement



300424

## Cordless Circuit Tester

- Professional cordless circuit tester suitable for testing DC circuits from 3V to 28V
- Safe to use on engine management systems - e.g. ECM's, sensors, transducers etc
- Three-way voltage indication - illuminates LED, buzzes and vibrates on contact with live wire
- Solid state lamp for longer lasting performance
- Unique v-groove needle accessory for wire piercing
- No ground wire or clips required
- Supplied with long-life alkaline batteries



300426

## Inteliprobe 6-24 Volt Tester

The Inteliprobe is an intelligent circuit and continuity tester ideal for locating bad earths, breaks in continuity and short circuits. Simply hook up the battery clips to the vehicle battery and the tool is ready for use. Suitable for 6V – 24V electrical systems, which makes it ideal for motorcycles, cars, boats and trucks.

- **Polarity Test** - LED changes colour to indicate the polarity on the probe pin  
Red = positive, Green = negative
- **Continuity Test** - between the probe pin and the croc clip on the end of the green lead. LED shows green for a continuous (or closed) circuit
- **Short Circuit Protection** - a thermal breaker which can be manually reset, will trip out at 8 Amps providing protection to the vehicle's wiring system
- **On-vehicle Component Tests** - pushing the switch forward causes a positive potential on the probe tip, and pushing the switch backwards causes a negative potential on the probe tip. This enables the user to energise components such as lights, locks, and trailer connections without having to remove them from the vehicle
- **Off-vehicle Component Tests** - by using the green lead as ground connection, energising the probe tip will enable the user to check the component



300420

**Electrical Fault Finder**

Specially designed tool for tracking and tracing short and open circuits, broken wires and current leaks on any electrical circuit with voltages from 6 to 42 volt DC. The wide working voltage range, automatic short/open detection, adjustable sensitivity levels and flexible antenna probe enables the technician to troubleshoot a complete array of common electrical problems without having to untie wire harnesses or remove body panels.

- Suitable on all kinds of circuits with voltages between 6 and 42 volt DC, such as those found in cars, HGV's, buses, trailers, tractors, boats, etc.
- Features automatic open/short circuit detection and adjustable sensitivity
- 42V ready for use in the new generation of vehicles with mixed or single 42 volt systems
- Operates on DC voltages from 6 to 42 volts
- Internally protected against power surges and overloads
- 200mm (8") flexible probe allows reaching wires in congested places
- Transmitter and receiver LED show open or short circuit conditions
- Variable audio/visual signal provides fast and intuitive feedback on the circuit/wire proximity
- Kit includes **300424** Cordless Circuit Tester
- Supplied with user manual in protective carry case



**Contents**

Part No.	Description
300421	Transmitter
300422	Receiver
300424	Cordless Circuit Tester
300425	Fuse Block Connector Set

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300425

**Fuse Block Connector Set**

- Allows access to the vehicle electrical circuits, via the fuse socket
- Can be used with standard multimeter probes or clips etc to check voltage, current, circuits and components
- Three sizes to fit in place of the relevant circuit's fuse
- Provides easy access to circuits to energise or check electrical components and accessories



032005

**Battery Acid Hydrometer**

- Professional tester for measuring the state of charge in lead acid batteries
- Measures specific gravity of battery acid and indicates battery condition with a red / green scale
- Accurate, simple to use with glass tube and float, rubber siphon and probe



# ELECTRICAL TESTING

300500

## Automotive Digital Multimeter

This multimeter is an invaluable tool for performing general auto electric tasks and troubleshooting problems with ignition, fuel injection and body electrics. The small and ergonomic profile makes handling and operation easy and convenient. It is supplied with quality test leads, temperature probe and alligator clips in a handy carry case. Enables measurement of engine RPM, ignition dwell angle and temperature in addition to performing electrical checks such as voltage drop, continuity and resistance:

- Full control manual range selection
- Large 3½ digit LCD display
- AC/DC voltage measurement up to 600 volt
- DC current measurement up to 10 A
- Tachometer function measures from 500 to 10,000 rpm
- Dwell measurement from 0 to 120°
- Temperature measurement from -40°C to 1000°C
- Resistance measurement up to 2 MΩ
- Diode and continuity tests
- Overload protection and auto power-off
- Soft holster for instrument protection
- Data hold facility for 'freezing' of readings
- Supplied with test leads, croc clips and instructions



### Technical Specifications

<b>Display</b>	- 3 ½ Digit LCD (Max reading 1999) - ½" (12.5mm) Digits - High Voltage warning indicator - Automatic (-) negative polarity indicator - Automatic Zeroing - Automatic over-range indication - Low battery indicator
<b>Power Source</b>	Standard 9 volt alkaline battery type NEDA 1604 IEC 6F 22 (included)
<b>Test Probes</b>	One red and one black 1000V/10A rated (IEC1010/EN61010 CAT II), 35" long, K-type temperature probe
<b>Physical Dimensions (including holster)</b>	5.51" (H) x 2.75" (W) x 1.41" (D) 140mm (H) x 70mm (W) x 36mm (D)
<b>Weight</b>	Approximately 12.34 Oz (350g) including battery

### Electrical Specifications

<b>DC Voltage</b>	± 0.25% ± 2dgts, 1M Ohm input impedance, 600V AC/DC Overload protection
<b>AC Voltage</b>	± 1.5% ± 5 dgts, 450K Ohm input impedance 40 to 200 Hz, 600V AC/DC Overload protection
<b>DC Current</b>	± 1.0% ± 3 dgts, Internal 10A/250V fuse protection
<b>Resistance</b>	± 1.0% ± 3 dgts, 250V AC/DC Overload protection
<b>Tachometer</b>	30 to 20000 rpm ± 2 rpm
<b>Diode Test</b>	2.4 ± 0.6 mA test current, 3.2V max test voltage
<b>Continuity Test</b>	Audible indicator (Buzzer) with circuit resistance below 100 Ohm
<b>Temperature</b>	40° to 400°C (± 0.7 + 3 dgts), 400°C to 1000°C (± 1.5 + 10 dgts)

300535

### Auto Ranging Automotive Digital Multimeter

This professional automotive multimeter provides many additional functions over the standard unit and is an essential tool for the auto electrician or auto technician to assist with electrical system diagnosis and troubleshooting. It enables common test functions such as blink type fault code detection, DTC decoding and dynamic O2 sensor testing amongst many others. The small and ergonomic profile and single function select knob makes handling and operation easy and convenient.

- Fully auto ranging, primary and secondary display, bar graph, overload protection and auto power-off
- Large selectable 4 ¾ or 3 ¾ digit main display – 4 digits secondary display
- 42 segments analogue bar graph
- DC voltage measurement up to 1000 volt
- AC voltage measurement up to 750 volt
- AC/DC current measurement up to 10A
- Tachometer function with inductive pick up measures from 30 - 20,000 rpm
- Dwell measurement in degrees from 0 - 360° or duty cycle from 0-100%
- Temperature measurement from -20°C to 1000°C or 0° to 1832°F (selectable °C or °F)
- Resistance measurement up to 40 MΩ
- Frequency measurement from 10 to 20 KHz
- Fuel injection test measures pulse width from 0.05 to 250mS, or duty cycle from 0 to 100%
- Oxygen sensor test function
- Alternator test function
- Fault code reader & DTC decoder
- Diode and continuity tests
- Overload protection and auto power-off
- Soft holster for instrument protections



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#### Technical Specifications

<b>Display</b>	- 4 ¾ digits main display - 4 digits secondary display - 42 segments analog bargraph (20 updates/second) - Backlight - Automatic (-) negative polarity indicator - Automatic zeroing - Automatic over-range indication - Low battery indicator
<b>Power Source</b>	One standard 9 volt alkaline battery type NEDA 1604 IEC 6F 22 (included)
<b>Test Probes</b>	One red and one black, 1000V/10A rated (IEC1010/EN61010 CAT II), 35" long
<b>Temperature Probe</b>	Bead type K thermocouple
<b>Tachometer Function</b>	Inductive pickup
<b>Physical Dimensions (including holster)</b>	6.30" (H) x 3.22" (W) x 1.89" (D) 160mm x 82mm x 48mm
<b>Weight</b>	Approximately 12.14 Oz (345g) including battery

#### Electrical Specifications

<b>DC Voltage</b>	0 to ± 1000V, ± 0.3% ± 2dgts, 10M input impedance
<b>AC Voltage</b>	0 to 750V, ± 2.5% ± 5 dgts, 10M input impedance 50 to 500 Hz
<b>DC Current</b>	0 to ± 10A ± 0.8% ± 4 dgts
<b>AC Current</b>	0 to 10A, ± 0.8% ± 4 dgts
<b>Resistance</b>	0 to 40M ± 0.8% ± 5 dgts
<b>Frequency</b>	0 to 20 KHz ± 0.01% ± 2 dgts
<b>Tachometer</b>	30 to 20,000 rpm ± 2 rpm
<b>Dwell</b>	0 to 360° ± 1.2°/krpm/cyl + 2d
<b>Fuel Injector (pulse width)</b>	0.05 to 250 mS ± 0.05 mS + 1d
<b>Temperature</b>	-20° to 1000°C or 0°F to 1832°F (± 2% + 1 dgts)

# ELECTRICAL TESTING

### Features

- Large easy to read 0.393" (10mm) digit display
- Single knob selects functions
- Peak hold function
- Display data hold
- Rugged plastic enclosure
- Design allows comfortable handling
- One rotary switch operation
- Resistance measurement
- 2 readings per second sampling
- Continuity check with audible indicator
- Protective hand guard
- 50 hrs in use battery life
- Soft carrying deluxe pouch
- Test leads and batteries included

### Applications

- Measure currents in circuits like battery chargers, alternators, starter motors, electrical loads etc
- Check grounds, voltage drops and continuity across connectors, wires, cables, relay, contacts, lamps, switches, etc
- Check components like alternators, diodes, relays, coils, condensers, ignition coils, magnetic pick-ups, motors, switches, fuses etc
- An essential all round troubleshooting tool for electrical and electronic circuits and systems

### Technical Specifications

- **Display**
  - Large 4 digit LCD (max. reading 9999)
  - Automatic over-range indication
  - Auto power off
  - 0.393" (10 mm) digits
  - Units indicator
  - Relative measure indicator
  - Peak hold indicator
  - VDC/VAC indicator
  - Continuity indicator
  - Automatic (-) negative polarity indicator
  - One touch button auto zeroing
  - Low battery indicator
- **Power Source:** Two (2) standard AA
- A 1.5 volt alkaline battery type AAA UM4 or equivalent
- **Test Probes:** One red and one black, 1000V/15A rated (EC1010/EN61010 CAT II), 35" long
- **Physical Dimensions:** 7.95" (H) x 2.62" (W) x 1.33" (D) – 202mm (H) x 67mm (W) x 33.8mm (D)
- **Weight:** Approximately 6.34 oz (180g) including battery

\* Please note - features, applications, technical specifications above are common to both products

### 300400

## 100 Amp Micro Current Clamp Meter

- Specially designed for measuring very low currents, to accuracy of 0.001 of an amp
- Small jaw: 1.2" (W) x 0.53" (d) (300 x 13.4mm)
- Clamp opens up to ½ inch (12.5mm)
- Relative measurement
- AC/DC voltage measurement up to 600 Volt
- AC/DC current measurement from 0.001amp up to 100 amp

### Electrical Specifications

<b>DC Voltage</b>	± 2% ± 2 dgts 600V AC/DC maximum 660 vrms overload protection
<b>AC Voltage</b>	± 1.5% ± 5 dgts 50 to 500 Hz, 600V AC/DC maximum, 660 Vrms overload protection
<b>DC Current</b>	± 2.5% ± 10 dgts, 100 Amp Maximum 150 arms overload protection
<b>AC Current</b>	± 2% ± 10 dgts, 600 Amp Maximum 150 arms overload protection
<b>Resistance</b>	± 1% ± 3 dgts, 100K 660 Vrms overload protection
<b>Continuity Test</b>	Audible Indicator (Buzzer) when circuit resistance is below 1000 max voltage test <3Vdc



### 300410

## 1000 Amp Current Clamp Meter

- AC/DC voltage measurement up to 1000 volt
- AC/DC current measurement up to 1000 amps
- Clamp opens up to 1 inch

### Electrical Specifications

<b>DC Voltage</b>	± 1% ± 2 dgts 1000V AC/DC maximum 1020 Vrms overload protection
<b>AC Voltage</b>	± 1.5% ± 5 dgts, 50 to 500 Hz, 1000V AC/DC maximum, 1020 Vrms overload protection
<b>DC Current</b>	± 2.5% ± 10 dgts, 1000 amp maximum, 1020 arms overload protection
<b>AC Current</b>	± 2% ± 10 dgts, 1000 amp maximum, 1020 arms overload protection
<b>Resistance</b>	± 1% ± 3 dgts, 100K maximum, 660 Vrms overload protection
<b>Continuity Test</b>	Audible indicator (buzzer) when circuit resistance is below 1000 max voltage test <3 Vdc



300430

### Infra-Red Laser Tachometer

- Non-contact Infra-Red Laser Tachometer for measuring RPM on rotating shafts, pulleys, wheels etc.
- Infra-red laser picks up signal from reflective tape which is placed on the rotating shaft
- Features bright and powerful laser optical system for easy targeting of rotating object, even in bright daylight
- Measurements can be obtained from safe and comfortable distances from 5 to 50cm
- The large 5 digits display allows measurements without the need to switch scales or multiply reading ranges
- Unit comes complete with batteries and reflective tape in a soft carrying pouch



#### Specifications

RPM Range	2.5 to 99,999
Accuracy	Within 0.1 RPM
Memory	Max, Min, Last value
TOT	Total Revolution Count
Display	5 Digit LCD
Distance	50 – 500mm
Resolution	0.1 rpm < 1000 rpm 1.0 rpm >1000 rpm

300440

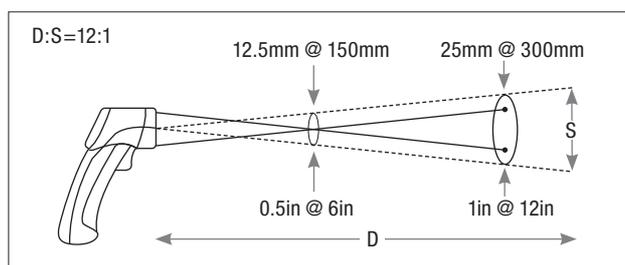
### Infrared Thermometer

- High precision non-contact thermometer
- Features a unique dual laser beam system which accurately pinpoints the targeted area, ensuring optimum distance from the object for precise temperature measurement
- Ideal for automotive or industrial applications such as air conditioning and heating systems, cooling systems, and exhaust systems
- Automatic data hold and display resolution
- High and low temperature alarm setting



#### Specifications

Display	- Backlit LCD - Max Temp - Auto hold function
Temp Range	-50° to 550°C
Accuracy	+/- 1.5% at 550°C



# INSPECTION

323700

## Sonoscope

- A sensitive sound detector with a built-in diaphragm which amplifies noise to assist in the diagnosis of vehicle concerns such as noisy water pumps, wheel bearings, and other driven auxiliaries
- Robust metal and plastic construction
- Hose Length: 550mm
- Probe Length: 290mm



300475

## Wireless Electronic Stethoscope – ‘ChassisEar’

Designed for the detection of vehicle noises e.g. rattles, squeaks and air ingress under load, during a road test and for the diagnosis of a wide variety of potential faults e.g. wheel bearings, CV joints, differentials, transmission, injectors, alternators, water pumps, AC compressors and many more.

- Suitable for cars, vans, trucks, buses etc. as there are no cable length issues to overcome
- Pick-up clamps can be attached to many different parts of the vehicle in order to amplify the sounds made under load and in actual driving conditions
- Consists of receiver unit, four transmitter units (4 channels), four pick-up leads, pick-up fixing straps, headphones, batteries, instruction manual & storage case



N.B. Due care and consideration should be taken of driving conditions and regulations when operating the ChassisEAR on the road.

### Spare Parts

Part No.	Description	Qty
30047501	Transmitter 1	1
30047502	Transmitter 2	1
30047503	Transmitter 3	1
30047504	Transmitter 4	1
30047506	Pickup Lead and Clamps	4

### Thread Restoring Files

- Designed for the restoration of damaged or worn threads
- Suitable for left or right hand threads
- Available in four configurations
- Ideal for where conventional dies cannot be used

Part No.	Thread	Pitch
015600	BSW/BSF	11, 12, 14, 16, 18, 20, 22, 26
015601	SAE/UN	12, 13, 14, 16, 18, 20, 24, 28
015602	Metric	0.75, 1, 1.25, 1.5, 1.75, 2, 2.5, 3
015603	BSP	11, 12, 14, 16, 19, 20, 22, 28



### 660935

#### Wire Brush

- Used to clean corroded material and debris from metal components
- Ideal for cleaning damaged or corroded threads
- Hardened and tempered steel wire bristles
- Oil resistant wooded handle



### 660990

#### Spiral Screw/Stud Extractor Set (Easy-outs)

- Spiral type five piece set designed to remove broken studs, screws and bolts
- Simply drill a hole in the broken stud or screw to be removed and insert the high strength, left hand thread extractor. Turn anti-clockwise for the tool to bite and unwind the stud
- Suitable for studs, screws and bolts 3-19mm in diameter



### 018000

#### Fluted Screw/Stud Extractor & Drill Set

- Fluted type set designed to remove broken studs, screws and bolts
- Includes 5 drills, 10 guides and 5 fluted extractor assemblies for simple and effective removal
- Suitable for all studs, screws and bolts 6-12mm in diameter
- Also available without drills in a simplified kit for customers who already have a drill set – **018200** Fluted Extractor Set



018200



018000

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# STUD AND NUT

012000

## Stud Setters and Extractors

- Compact yet powerful stud extractor used to remove rusted, threaded or seized studs and set new ones
- High strength, eccentric knurled wheel design provides increasing grip and force to affected stud ensuring superior grip with minimal effort
- Stud capacity: 6 – 19mm
- 1/2" square drive



661950

## Concentric Roller Stud Extractor Set

- Concentric roller type four piece socket set for extracting damaged, seized, threaded or rusted studs
- High strength cam roller design manufacture from chrome vanadium for durability and long life
- Supplied in blow moulded protective case
- Sizes: 6, 8, 10 and 12mm
- 1/2" square drive



## Hydraulic Nut Splitters

- Designed for the efficient removal of seized or rusted nuts without damage to threads
- Available in small or large configurations, supplied singly or as a combined set

Part No.	Description	Max. Nut Size (mm)	Spare Parts
031600	Hydraulic Nut Splitter - Small	22	031612 Cutter & Anvil
033600	Hydraulic Nut Splitter - Large	37	033612 Cutter & Anvil
033604	Hydraulic Nut Splitter – Set (2)	22, 37	–



**027600**

**Air Blow Gun**

- Used for cleaning carburettor jets, fuel lines, brake pipes etc, the gun has an infinitely variable air flow with fingertip control and is also suitable for dispensing of some low viscosity fluids
- High velocity 100mm nozzle, cranked for easy access
- High impact resistant body
- Body threaded 1/4" BSP to accept a quick coupler if required



**076101**

**Brake Disc Run Out Set (Magnetic Base & DTI Gauge)**

- Used for measuring disc run-out
- Powerful magnetic clamp with on/off lever for easy removal from surfaces
- Flat and 'V' shaped base can be used on both flat and round surfaces
- Simple and accessible fine adjuster for easy and precise settings



**Contents**

Part No.	Description
077120	High Quality DTI Gauge with Floating Scale
076100	Universal Magnetic Clamp For DTI With Fine Adjustment

**028300**

**Circlip Tool Set**

- Uniquely designed T-handle circlip remover used to remove and replace circlip rings on pistons, gears and transmission components
- Enables internal and external operation with the threaded adjusting screw providing precise adjustment without the need to maintain hand pressure like most standard circlip pliers
- Includes four sets of interchangeable tips
- Jaw capacity: 44 – 178mm



**660887**

**Hook, Pick and Scraper Set - 9 piece**

- Hardened chrome vanadium steel
- Ergonomic soft grip handles
- Includes multi-purpose scraper, ideal for gasket scraping
- Contains eight hooks and picks, ideal for the fitting and removal of seals, O rings, bushes, springs, cotter pins and fuses



**660650**

**Hydraulic Hose Clamp**

- Clamps brake and fuel hoses to allow brake/clutch slave cylinders to be disconnected or removed with minimum fluid loss



**WORKSHOP**

# GENERAL

040101

## Impact Driver Set

- For use with a medium weight hammer to loosen stubborn screws and nuts
- Ideal for removal of brake drum screws and door hinge brackets
- Supplied with a range of interchangeable bits
- Refer to page 51 for kit contents



066000

## Grip Wrench Set - 5 piece

- A combination of five different popular grip wrench locking pliers presented in a practical plastic storage wallet
- An ideal set for both automotive and industrial technicians and engineers
- Refer to page 82 for details



### Contents

Part No.	Description	Length (mm)	Capacity (mm)	Weight (g)
066001	5" Curved Jaw	135	0-30	180
066003	10" Curved Jaw	235	0-63	600
066008	7" Omnium Grip	200	0-40	410
066009	10" Omnium Grip	235	0-60	630
066012	10" Pinch-Off Clamp	235	30	380

660950

## Oil Can

- Fitted with a flexible spout, the oil can operates by force feed and has a spring trigger return
- Allows visible indication of fluid level
- 500ml capacity



670006

## Telescopic Pick-up Magnet

- Solid metal construction
- Strong magnetic tip capable of picking up small metallic objects
- Features telescopic shaft to allow extension of 135mm - 490mm and in built pocket clip
- Extension range: 135mm - 490mm
- Holds weights: up to 1.0kg



## Flexible Drive Belt Stretcher

- Designed to be a safe, easy and versatile option for flexible drive belt fitment
- Multi-application tools suitable for modern engines featuring stretch drive belts
- Allows the belt to be installed in one operation

Part No.	Description
077400	Flexible Drive Belt Stretcher
077444	Flexible Drive Belt Stretcher – Double Pulleys



077400



077444