



# Sykes-Pickavant®

*Workshop Solutions*

## DIAGNOSTICS



[www.sykes-pickavant.com](http://www.sykes-pickavant.com)







**Sykes-Pickavant has been at the forefront of providing Diagnostic Solutions to the Independent Garage market, for more than 20 years. After many years of development, the range now encompasses a wide selection of Diagnostic products, which have been designed specifically with the Independent Garage in mind, and which can be separated into three major product categories:-**

- **Fault Code Reading & System Testing**

The Advanced Code Reader with 4-line display (ACR4 range)

- **Electronic Testers and Simulators**

A range of individual electronic diagnostic tools & testers

- **Pressure Testers**

A range of Pressure Gauge test kits to complement the diagnostic process



As Vehicle Technology moves forward at an ever-increasing pace, it is important that the Independent repairer is able to continue to provide service to his local customers, therefore at Sykes-Pickavant, we have invested heavily in Research and Development, in order to keep pace with the technology. We employ our own Electronics Hardware and Software engineers, and have an extensive, on-going, vehicle applications programme in order to keep our products, and our customers, up-to-date.

With more than 80-years of history, Sykes-Pickavant is one of today's first leading names in automotive service equipment.

Around the world, technicians, mechanics and garage owners depend on our products daily, and we have built an enviable reputation for high quality, value for money products. The key to our Diagnostics Range are products which will:-

**Enable servicing operations/without the correct tools, some jobs are impossible  
Save time/users enjoy better profits through improved productivity**



Maintaining close contact with the market is a priority, enabling us to develop new products that work hard for our users. As automotive technology moves forward, so do we. Each new vehicle that is sold is carefully evaluated to assess what equipment is required for future servicing operations in the aftermarket. And at the same time, we are constantly updating our own products, to ensure they meet both the latest standards and latest applications in the market place

Additionally, we strongly believe it is important for suppliers to the Independent Garage market, to provide services in order to support the users of our products. Therefore, at Sykes-Pickavant we have spent considerable time in developing a range of support services appropriate to our products, and relevant to the needs of our end-user customers.

**The *SPtech* programme has been specifically developed to address these needs. *SPtech* consists of 5 key support elements:-**

- **Helplines - Product and Vehicle Technical Support by telephone**
- **Bulletins - Bulletin Service of Topical Technical Articles**
- **e-Solve - On-Line Database of Technical Articles, Help, Information and Advice**
- **e-Data - CD Rom based Technical Data System to OEM standards**
- **Training - Electronic Systems base training on a wide variety of subjects**



Further information on all of the *SPtech* range of services can be found inside the back cover of this catalogue.



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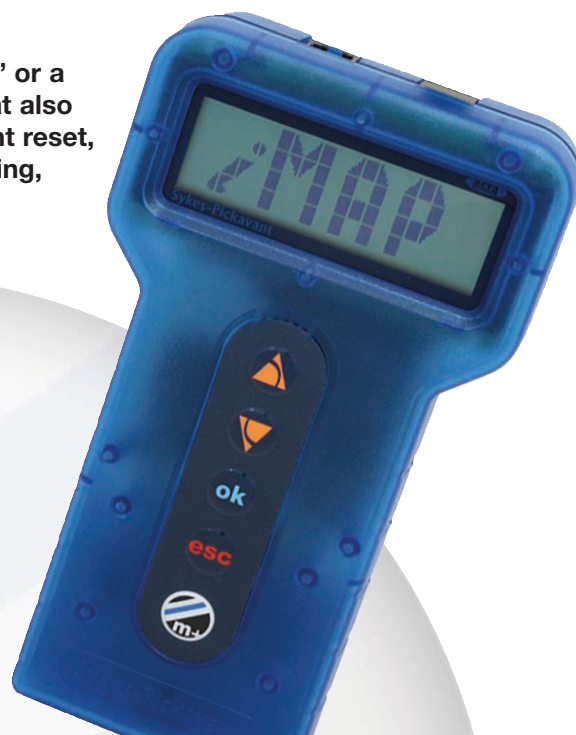
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## More than just a code reader...

The ACR4, has, for many years been referred to as a “Code Reader” or a diagnostic 'scan' tool. However, the ACR4 contains functionality that also covers many routine servicing tasks e.g. service light and instrument reset, parking brake adjustment, tyre pressure monitor reset, injector coding, key coding etc

In reality, the ACR4 is now an Electronic Service Tool, as well as a traditional Code Reader, and covers a wide range of both Vehicle Systems, and Electronic Servicing Functions



### ACR4 Systems Software Coverage for iMAP / iKEYS

Engine Management - Petrol & Diesel  
 ABS  
 Airbag / Airbag Reconfiguration (where applicable)  
 Service Light Reset  
 Security & Immobiliser  
 Gearbox Control  
 Suspension  
 Air Conditioning  
 Tyre Pressure Monitoring  
 Key Coding  
 Rain Activation  
 Seat Controls  
 Body Controls (BSI)  
 EOBD Emission Controls

### Electronic service functions available via the ACR4 software

- Fault code reading & clearing
- Electronic component values
- Set engine parameters
- Adjustments & Configuration
  - Injector Coding
  - Fuel Additive Maintenance
- Actuators
  - ABS inc. Electronic Park Brake
- Built-in help screens - typical values
- Internal memory -for data capture
- Optional PC printing capability



### Multi-function software:

The specialised software allows, appropriate to the vehicle system, the following functions:

- Displays data-stream and 'scans' values
- Read and clear fault codes
- Information support
- Displays code number and explanation text, shows current, intermittent and historical codes.
- Engine setting - set CO value, ignition advance, idle speed and more.
- Check components - Displays values for airflow meter, coolant and air temperature, engine speed, timing advance, injection pulse time, throttle potentiometer, battery voltage, 'block- learn' reference data and many more depending on type of ECM.
- Drives actuators - Test electrical signal to injectors, idle control valves, coils, etc, depending on type of ECM.
- Service light resetting - Where vehicles have 'service due' indication on the dashboard controlled by the ECM, can reset the lights to 'off'.



## Additional ACR4 Features

### • 4 Line Backlit Display

Includes clear text descriptions of all tests and comprehensive help screens, to make diagnosing and problem solving quicker and easier.

### • Memory function

Stores up to 100 screens for retrieval at any time during testing, and the PC software and connection cable allows the user to print out 'before' and 'after' reports. This is a big advantage in providing proof of work carried out where the on-board diagnostics system has logged a fault which is not always apparent to the vehicle owner.

## Generation 2 -G2 Pod and Memory Card

Due to increasing electronic content of vehicle systems, the requirement is for increased software and application content in order to keep pace with today's vehicle technology. SP has developed the Generation 2 pod that provides an expandable memory feature ensuring future applications can be developed.

The new G2 MAP pod contains an internal memory card and USB connection to the PC, vastly improving the application download speed and provides the user with the ability to download new applications on a monthly basis. The new G2 MAP pod replaces the previous generation of MAP pods, and will also be used for all future pod based applications.

iMAP / iKEYS are subscription packages that upgrade the current MAP offering, using the G2 pod, and providing the following key benefits

- Fast update speeds - from the internet to PC and G2 pod
- Monthly internet updates for the duration of the 12-month subscription
- Application software that does not time out
- Expandable for new applications such as Advanced Key Coding

### • ACR4 Vehicle Applications

Each ACR4 Kit is supplied with a comprehensive applications manual which is updated every 4 months. The Applications manual is provided in an A4 ring binder, which is up to date with the latest applications a time of purchase. Updates are supplied as supplementary pages with new applications, every 4 months. All systems / functions for a particular model, which are available via the ACR4, are listed in one location.

### • Additional information which is available in the Applications Manual

- Socket location diagrams
- Cable identifications
- Manual Fault Code Retrieval
- Electronic Park Brake Procedures
- Manual Key Programming Procedures (iKEYS)

There is a separate section covering KEY Coding applications for the ACR4 KEY Coding Software (see catalogue page 5 re: Key Coding)



## ACR4 Code Reader & System Tester - Multi-Application ( iMAP ) Full Kit 30464200

**ACR4 MAP Full Kit - for new ACR4 customers**

More than just a code reader: ACR4 is a multi-functional product offering traditional fault code & live data reading capabilities on a wide range of vehicle systems. ACR4 also provides capability for other electronic maintenance tasks, and for diagnosing and configuring many of the vehicle electronic service functions.

- Includes 1 year (12 months) subscription for applications software updates
- Updates available via either the internet (iMAP subscription) or via memory card (MAP subscription)

**Electronic service functions available via the ACR4 software:-**

- Fault code reading & clearing
- Electronic component values
- Injector coding
- Fuel additive maintenance
- Set engine parameters
- Adjustments
- Actuators
- Service light resetting
- Electronic Park Brake
- Key Coding
- Built-in help screens - typical values
- Internal memory - for data capture
- Optional PC printing capability

### ACR4 New user iMAP Kit Contents

ACR4 Handset  
G2 Pod & Memory Card pre-loaded with Multi Applications Software  
ACR4 / PC Software Kit  
Ford Engine Management Application Pod  
Ford J1850 Harness  
EOBD Application Pod  
Universal ISO9141 16 pin Harness - All makes  
Universal CAN bus 16 pin Harness for EOBD  
Annual Subscription for 1st Year



### ACR4 Systems Software Coverage

- Engine Management - Petrol & Diesel
- ABS
- Airbag / Airbag Reconfiguration (where applicable)
- Service Reset
- Security & Immobiliser
- Gearbox Control
- Suspension
- Air Conditioning
- EOBD Emission Controls

## ACR4 Code Reader and Systems Tester - Upgrade Kit for existing ACR users to iMAP functionality 30464600

**ACR4 Upgrade Kit for existing ACR users - to provide full iMAP functionality**

- Includes 1 year (12 months) applications software subscription
- Updates available via either the internet (iMAP subscription) or via memory card (MAP subscription)

### ACR4 Upgrade Kit for MAP - Kit Contents

- G2 Pod & Memory Card pre-loaded with Multi
- Applications Software
- ACR4 / PC Software Kit
- Annual Subscription for 1st Year

### Subscriptions

- **304712SUB**  
- Internet Subscription
- **304715SUB**  
- Memory Card Subscription



## ACR4 Advanced Key Coding (iKEYS) - Full Kit

30464300

**Advanced Key Coding:** Provides the user with the ability to program new keys to a vehicle without the need to send the vehicle to a dealer or specialist; all that is necessary is to acquire a new key and security pin code if required. The application provides the user increased access to some of the vehicle security / immobiliser / body control functions.

- Read and clear fault codes,
- live data (vehicle specific)
- Pin code extraction (on specific makes) to aid the user in programming keys without the need to go back to the VM dealer network

Advanced Key Coding is available on a 12-month subscription - iKEYS; and is competitively price positioned for the independent garage, body shop, car sales, fast fits and dealer networks.

### iKEYS Features:-

- Immobiliser ECU ID Reading
- Immobiliser Pin Code Extraction
- Remote Key Fob Programming
- Mechanical Key Code Reading
- Lost Key Memory Erasing
- New Key Programming
- ECU Identification
- Rover EKA Code Reading
- Electronic security - iKEYS can only be used by authorized users.
- User and application guides
- Product support
- Dedicated one-day course available
- Technical help-line available

### Advanced Key Coding Full Kit - Kit Contents

ACR4 Handset  
ACR4 / PC Software Kit  
G2 Pod & Memory Card pre-loaded with Advanced Key Coding Software  
Ford EMS & PATS Pod  
Ford J1850 Harness  
Universal CAN bus 16 pin Harness  
Universal ISO9141 16 pin Harness  
Annual Subscription for 1st Year



## ACR4 Code Reader and Systems Tester - Upgrade Kit for existing ACR users to iKEYS

30464700

### ACR4 Upgrade Kit for existing ACR users - to provide full KEY Coding functionality

- Includes 1 year (12 months) applications software subscription
- Updates available via either the internet (iKEYS subscription) or via memory card (KEY subscription)

### ACR4 Upgrade Kit for KEY Coding - Kit Contents

G2 Pod & Memory Card pre-loaded with KEY Coding Software  
ACR4 / PC Software Kit  
Annual Subscription for 1st Year

## ACR4 Range - Spare Parts

30255400 Advance Code Reader (ACR4) - Replacement Handset  
30255500 Advance Code Reader (ACR4) - Empty Storage Case (10 pod)  
30255600 Advance Code Reader (ACR4) - Empty Storage Case (25 pod)

### Subscriptions

- **304713SUB**  
- Advance Code Reader (ACR4)  
iKEYS Internet Subscription
- **304716SUB**  
- Advance Code Reader (ACR4)  
ACR4-KEYS Memory Card Subscription

## Remote Key Fob Tester 30069400

A compact and simple device that checks to see if the vehicle's remote Key Fob is functioning correctly.

A magnetic strip allows the user to attach the unit to a metal surface (eg a tool cabinet) which allows for the range to be checked at the same time.

- Tests output signal from key fob, on both Infra-Red and 433 MHz frequencies
- Suitable for the majority of Key Fobs available in the UK and European markets








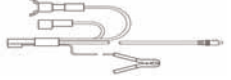











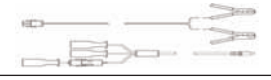







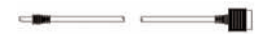

## ACR4 Individual Software Applications

SP recognises that some users of the ACR4 and SMART Systems Testers, will continue to have a requirement or preference for single-application software pods, therefore we are offering a range of manufacturer specific single application software pods, for the manufacturers listed below.

Each new single-application pod, has an 'issue' reference on the label this identifies which iMAP version was current at the time the single-application pod was built.

The user can then choose when it is appropriate to purchase a new version, dependent on his circumstances.

<b>Emission Controls (All Makes):-</b>	
• EOBD - 2007 update (V3)	30354500
<b>Engine Management (Petrol &amp; Diesel):-</b>	
• Ford	30356000
<b>Multi-System (EMS, ABS, Airbag, Service Reset, Body Controls, Gearbox, Aircon, Security etc):-</b>	
• BMW	30355000
• Fiat / Alfa Romeo	30355500
• GM Vauxhall / Opel	30356500
• Mercedes	30357000
• PSA Peugeot / Citroen	30357500
• Renault	30358000
• Rover	30358500
• Toyota	30359000
• VAG Audi / Seat / Skoda / VW	30359500

Pods		Cables		
VM	Part No.	Description	Part No.	Image
EOBD v3	30354500	CAN BUS	30214100	
BMW	30355000	CAN BUS - Fault Tolerant Enhanced	302141V2	
Fiat	30355500	FIAT Lancia Alfa Romeo - 3 Pin	30212600	
Ford	30356000	Ford - 2/3 pins	30213000	
		Ford J1850 - Blue	30212900	
		Ford Special adaptor - J1850 Blue	30213300	
GM	30356500	GM	30211500	
		GM MULTEC 2 - 10 pin	30211800	
Mercedes	30357000	MERCEDES - 14 Pin	30214700	
		MERCEDES - 38 Pin	30214400	
PSA	30357500	PSA - 2 pin	30211700	
		PSA - 30 Pin Red	302122V3	
Renault	30358000	Renault	30212100	
Rover	30358500	Rover	30211600	
Toyota	30359000	Toyota	30211900	
VAG	30359500	VAG & Seat 3 x 2 pins + 12v adaptor	30212300	
MAP Applications only		Suzuki - 12 Pin	30212500	
		Volvo	30212000	
Generic cables		ISO9141 - J1962 Black, Replaces legacy J1962 Harnesses	30214600	
		CAN BUS - Fault Tolerant Enhanced	302141V2	
		VAG All Systems, GM, Peugeot, Citroen-EMS J1962 Black	30212400	
		ACR Extension Lead	30213400	
		ACR 12v Cigar power lead	30215000	
		USB to Serial Adaptor	30214900	
		G2 USB	30214800	
		Set of 16 Manufacturer Specific Cables	303648V2	

## Professional Sensor Simulator & Tester 300735V2

The Professional Sensor Simulator has been designed and manufactured to provide Technicians at all levels, the means to easily simulate the component functions found on most vehicle control systems. These include Engine Management, ABS Sensors and Components.

Because the Sensor Simulator mimics working components, the user can isolate the fault by a process of elimination. In essence, this approach works much the same way that a technician might substitute new parts for old, in order to determine the fault. This concept means the Sensor Simulator gives the user access to all of the potential replacement parts which might be required, but at the touch of a button!

Using the Sensor Simulator in conjunction with the ACR4 Code Reader & Systems Tester, will provide a fuller picture of how the circuit being tested is coping with the information provided, as well as how the ECU is reacting to that signal. This provides the technician with greater insight into the electronic systems of the vehicle.



### 300735V2 Features

- Menu operated, with single, multi-function button
- Simulates sensor signals, and measures signal output continuously
- Simulates sensor inputs to the vehicle ECM on both petrol & diesel engines
- Simulate Lambda and Knock sensors
- Generate Square Wave and Sine Wave inputs
- Output variable resistance and variable DC volts
- Generates voltages, frequencies, resistance
- Eliminates guesswork where faulty components are suspected

### 300735V2 Technical Specification

Resistance:	100 Ohms to 100K Ohms
DC Volts:	Positive 0.0 to 14v - Negative 0.0 to -14v
Square Wave:	Frequency 1hz to 4kHz - Amplitude 0.0v to 14v Max Current 100mA
Sine Wave:	Frequency 1hz to 4kHz - Amplitude 0.0v to 14v Max Current 100mA
Knock:	Bi Polar Signal - Preset 1 volt peak to peak, 5ms duration
Lambda:	Lean 0.2volts - Rich 0.8volts

## Service Reset Tool for VAG - includes Long Life Service Indicators 300691V5

- Can be used on vehicles with either 16 pin diagnostic sockets, or older vehicles with non-16 pin sockets (ie dual 2 pin sockets)
- Suitable for vehicles designed for both 'Long life' and 'Standard' service intervals
- Standard (fixed) service intervals - three reset options based on service requirement
- Long Life (variable) service intervals - three reset settings based on vehicle sensor inputs
- Long Life settings can be overridden with a fixed service interval if required.
- Suitable for Audi, Seat, Skoda & Volkswagen vehicles



## Service Reset Tool for Volvo 30069200

- Resets service interval lights on Volvo vehicles
- Recently upgraded to cover latest applications
- Fitted with Volvo connection cable and plug (16 pin)



## Service Reset Tool for BMW 300693V2

- Resets service interval and oil lights on BMW vehicles (1989 -)
- Recently upgraded to cover latest applications
- Fitted with BMW twin-connection cable and plug (std 16 pin & BMW round socket)



## Touch Screen Scope 33073500

**The S-P TOUCH SCREEN SCOPE is a portable, compact digital tool: it is user-friendly and equipped with an internal battery.**

Thanks to the innovative Touch Screen technology, the tool controls are displayed by means of virtual keys on the display and can be selected by touching the desired image on the screen. This screen only makes available the necessary keys each time, so more room is left for the graphic display of waveforms.

The tool combines the functions of a dual-trace Touch Screen Scope with those of a digital multimeter, both with automatic and manual scale change.

The Touch Screen Scope section describes the analysis of wave forms from electronic signals derived from sensors, actuators and transducers, typical of the automotive sector.

The user can also consult a digital library of sampled waveforms to use as reference measurements and a library for storing your own waveforms.

### The multimeter section includes the functions of a voltmeter

- For direct current [DC] voltage measurements
- Ammeter to measure direct current with a plug-in Amps Probe (optional tool 30064500 amps clamp)
- Ohmmeter, to measure resistance and to check continuity of electric connections.

In either case, scale selection, both manual and automatic, and the display of the measured quantity, can be shown both graphically and numerically.

The power save function can be selected to put the tool in stand-by mode, and then in the auto switch off condition to protect the internal batteries if the tool is not used for a long period.

A tough anti-shock carry case is used to protect and store the Touch Screen Scope with its accessories.



### 33073500 Features

- A stand-alone hand-held automotive scope
- Two scope channels with automotive ranges
- Monochrome LCD touch screen for quick intuitive response
- Digital volts and ohms
- Amps with optional Amps Probe
- Labscope pre-sets for quick setup
- Comparative waveforms for sure results
- Carry case, probes, power supply, instructions

- A scope enables the user to 'see' the signal or voltage present in a circuit in the form of a trace or wave. This visual representation is easier to understand than just a number.
- Trends in the voltage change can be seen and quickly changing signals can be seen that would never be shown on a volt meter.
- The S-P Touch Screen Scope is a dedicated automotive oscilloscope, specially designed for the automotive industry, and not a re-vamped electronics scope.
- It includes a wide selection of saved automotive trace pattern images which are easily accessible by the user, to aid the diagnostic process.

### TECHNICAL FEATURES

- Backlit LCD display, resolution 320X240 pixel, with "touch screen" system.
- Power supply External 15 V dc
- Internal Rechargeable battery (battery charger) - 9.6 V NiMh-1.5A/h
- Battery capacity approx. 1h and 30' (according to the mode)

### ACCESSORIES SUPPLIED:

- Switching 15Vdc -1A PSU with mains cable to power the tool and/or recharge the batteries.
- 2 scope probes [4mm terminations] for signal sampling.
- Red and black test probes for multimeter use.
- Patch leads 4mm to 4mm, red & black
- Red & black croc clips
- Adapter from BNC to 4mm sockets for the use of probes on CH1.
- User manual.
- Anti-shock carry case

### OPTIONAL EXTRAS:

- 30064500 Plug-in Amps Probe
- 30080000 Interface Connector Set





## Electrical Fault Finder Set 30042000

Track short and open circuits quicker and more easily. The 30042000 allows you to trace troublesome circuits, and to locate faults, even when the wires are inside conduits, harnesses, or behind panels and upholstery.

**Multiple applications:** this professional tool will work 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... With its wide working voltage range, automatic open/short detection, flexible probe and adjustable sensitivity, the 30042000 Fault Finder enables you, to troubleshoot a complete array of common problems, in a wide variety of vehicles.

### 30042000 - Short / Open Circuit Fault Finder

- 42 V 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.
- 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.
- Adjustable sensitivity for all tracing situations.
- No wire piercing required, non-contact technology
- Tracing of wires is made possible even inside harnesses, conduits, behind panels, under carpets, upholstery, etc.
- Transmitter has auto polarity and leads with 5 amps alligator clips.

### 30042000 Kit Contents

- 30042100 (transmitter)
- 30042200 (receiver)
- 30042400 Circuit Tester
- Three sizes blade type fuse block connectors
- Foam padded polypropylene carrying case.
- User's handbook.
- 2 x 9v. alkaline batteries

### 30042100 Transmitter Technical Specification

Voltage:	6 to 42 Volts.
Indicator:	Green LED for power and open circuits. Red LED for Short Circuits
Connector:	Two 5A alligator clamps with auto polarity 450mm cable.

### 30042200 Receiver Technical Specification

Sensitivity:	Selectable sensitivity levels (Low, Med and High) insulated steel probe.
Receiver :	Flexible 200mm
Indicator:	Green LED indicator for power and open circuits. Red LED indicator for short circuits. Variable flashing and modulated audible signal.
Battery Life:	Approx. 25 hrs. Auto Power Off on receiver only.



## AC/DC Current Clamp-600 amp 30064500

For measuring AC / DC amps in conjunction with a standard two socket multimeter, typically used to measure starter motor current consumption

- Measures AC / DC Current clamp with current direction indication
- Large range +/- 600 amp range covers most Automotive applications
- Narrow jaw with large aperture for easy access to automotive harnesses
- Allows ease of current measurement without breaking into harnesses
- On / Off switch and internal battery low-voltage warning



## Professional Cordless Circuit Tester 30042400

Unique combination of features, makes this one of the most productive Circuit Testers available in the market place.

- Safe to use with ECM's, Sensors, Transducers, Airbags etc
- No ground wire or clips required
- Detects from 3 to 28 volts
- Light, Sound and Vibration to indicate voltage
- Rugged stainless steel construction
- Unique V-groove needle accessory for wire piercing
- Solid state lamp for longer lasting performance
- Long life alkaline batteries included



## Automotive Digital Multimeter

30050000

### Applications:

- Measure engine RPM, ignition dwell angle, and temperature of exhaust manifold, cooling system, air conditioning, heating system, catalytic converter, etc.
- Measure output in sensors like Oxygen (O2), Coolant Temperature, Throttle Position (TPS), Manifold Air, Pressure (MAP), Manifold Air Flow (MAF), etc.
- Check grounds, Voltage drops and continuity across Connectors, Wires, Cables, Relays Contacts, Lamps, Switches, etc.
- Check components like Alternator, Diodes, Relays Coils, Condensers, Ignition Coils, Spark Plug Wires, Magnetic Pick-ups, Motors, Switches, Fuses, etc.

### Features:

- Full control manual range selection
- Large 3 1/2 digit LCD display
- AC/DC Voltage measurement up to 600 Volt
- DC Current measurement up to 10 A
- Tachometer function measures from 500 to 10000 rpm
- Dwell measurement from 0 to 120°
- Temperature measurement from -40°C to 1000°C
- Resistance measurement up to 2 MOhm
- Diode & Continuity Tests
- Overload protection & 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:

- Display:
  - 3 1/2 Digit LCD (Max reading 1999)
  - 1/2" (12.5 mm) Digits
  - High Voltage warning indicator
  - Automatic(-) negative polarity indicator
  - Automatic Zeroing
  - Automatic over-range indication
  - Low battery indicator
- Power source: Standard 9 Volt alkaline battery type NEDA 1604 IEC 6F 22 (included)
- Test probes: One red and one black, 1000V/10A rated (IEC1010/EN61010 CAT II), 35" long, K-type temperature probe.
- Physical dimensions: 5.51" (H) x 2.75" (W) x 1.41" (D)  
- 140 mm (H) x 70 mm (W) x 36 mm (D)
- Weight: Approximately 12.34 Oz ( 350 g) Including battery

### Electrical Specifications:

- DC Voltage:  $\pm 0.25\% \pm 2$  dgts., 1MOhm input impedance, 600 V ac/dc Overload protection
- AC Voltage:  $\pm 1.5\% \pm 5$  dgts., 450KOhm input impedance, 40 to 200 Hz, 600 V ac/dc Overload protection
- Resistance:  $\pm 1.0\% \pm 3$  dgts., 250 V ac/dc Overload protection
- DC Current:  $\pm 1.0\% \pm 3$  dgts., Internal 10A/ 250V fuse protection
- Diode test: 2.4  $\pm$  0.6 mA test current, 3.2 V max. test voltage
- Continuity Test: Audible indicator (Buzzer) with circuit resistance is below 100 Ohm
- Temperature: -40° to 400°C ( $\pm 0.7 + 3$  dgts.), 400°C to 1000°C ( $\pm 1.5 + 10$  dgts.)



## Dual Display Autoranging Automotive Digital Multimeter

30053500

### Features:

- Fully Autoranging, Primary and Secondary display, Bargraph, Overload protection and Auto power-off.
- Large selectable 4 3/4 or 3 3/4 digit main display - 4 digits secondary display
- 42 segments analog bargraph
- DC Voltage measurement up to 1000 Volt
- AC Voltage measurement up to 750 Volt
- AC/DC Current measurement up to 10 A
- Tachometer function with inductive pickup measures from 30-20000 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 MOhm
- Frequency measurement from 10 to 20 KHz
- Fuel Injection test measures pulse width from 0.05 to 250 mS, or duty cycle from 0 to 100%
- Oxygen Sensor test function
- Alternator test function
- Fault Code Reader & DTC Decoder
- Diode & Continuity Tests
- Overload Protection & Auto Power-off
- Soft holster for instrument protections

### Technical Specifications:

- Display:
  - 4 3/4 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
- Power Source: One standard 9 Volt alkaline battery type NEDA 1604 IEC 6F 22 (included)
- Test probes: One red and one black, 1000V/10A rated (IEC1010/EN61010 CAT II), 35" long
- Temperature probe: Bead type K thermocouple
- Inductive Pickup for tachometer function
- Physical dimensions (including holster): 6.30" (H) x 3.22" (W) x 1.89" (D) - 160 mm x 82 mm x 48 mm
- Weight: Approximately 12.14 Oz ( 345 g) Including battery



### Electrical Specifications:

- DC Voltage: 0 to  $\pm 1000$ V,  $\pm 0.3\% \pm 2$  dgts., 10M<sub>Ω</sub> input impedance
- AC Voltage: 0 to 750V,  $\pm 2.5\% \pm 5$  dgts., 10M<sub>Ω</sub> input impedance, 50 to 500 Hz
- DC Current: 0 to  $\pm 10$ A,  $\pm 0.8\% \pm 4$  dgts.,
- AC Current: 0 to 10A,  $\pm 0.8\% \pm 4$  dgts.
- Resistance: 0 to 40 M<sub>Ω</sub>  $\pm 0.8\% \pm 5$  dgts.,
- Frequency: 0 to 20 KHz,  $\pm 0.01\% \pm 2$  dgts.
- Tachometer: 30 to 20000 RPM,  $\pm 2$  RPM
- Dwell: 0 to 360°,  $\pm 1.2\%$  krpm/cyl + 2d
- Fuel Injector (pulse width): 0.05 to 250 mS,  $\pm 0.05$  mS +1d
- Temperature: -20° to 1000°C or 0°F to 1832°F ( $\pm 2\% \pm 1$  dgts.)



## 100 Amp AC/DC Micro Current Clamp Meter 30040000

Automotive & Industrial Micro Current Digital Clamp Meter-0.001A-100A  
Specially designed for measuring very low current, to accuracy of 0.001 of an Amp.

### Ergonomic Features:

- Large easy to read 0.393" (10 mm) digits display
- Single knob selects functions
- Peak hold function
- Display data hold
- Rugged plastic enclosure
- Design allows comfortable handling.

*\*\* Please note Ergonomic Features & Applications are common to both products*

### Features:

- Small jaw: 1.2"(W) x 0.53" (D) (300x13.4mm)
- Clamp opens up to 1/2 inch (12.5 mm) .
- One rotary switch operation.
- Large 4 digit LCD display
- AC/DC Voltage measurement up to 600 Volt.
- AC/DC current measurement from 0.001 up to 100 A.
- Relative measurement
- One touch auto zero.
- Peak Hold Function
- Data Hold Function
- Resistance measurement.
- 2 readings per second sampling
- Continuity check with audible indicator.
- Protective hand guard.
- Low battery indicator.
- Auto power off.
- 50 hrs in use battery life.
- Soft carrying deluxe pouch.
- Test leads and batteries included

### Electrical Specifications:

- DC Voltage:  $\pm 2\% \pm 2$  dgts, 600 V ac/dc maximum, 660Vrms overload protection
- AC Voltage:  $\pm 1.5\% \pm 5$  dgts., 50 to 500 Hz, 600 V ac/dc maximum, 660Vrms overload protection
- DC Current:  $\pm 2.5\% \pm 10$  dgts., 100 Amp. Maximum 150 Arms overload protection
- AC Current:  $\pm 2\% \pm 10$  dgts., 600 Amp. Maximum 150 Arms overload protection
- Resistance:  $\pm 1\% \pm 3$  dgts., 100K\_ 660Vrms overload protection
- Continuity Test: Audible indicator (Buzzer) when circuit resistance is below 1000  $\Omega$ , max voltage test < 3 Vdc



## 1000A AC/DC Current Clamp Meter 30041000

Automotive & Industrial 1000 Amp AC/DC Digital Current Clamp Meter

- AC/DC Voltage measurement up to 1000 Volt.
- AC/DC Current measurement up to 1000 Amps.

### 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 around troubleshooting tool for electrical and electronic circuits and systems

### Features:

- Clamp opens up to 1 inch.
- One rotary switch operation.
- Large 4 digit LCD display
- AC/DC Voltage measurement up to 1000 Volt.
- AC/DC current measurement up to 1000 Volt.
- One touch auto zero.
- Peak Hold Function
- Data Hold Function
- Resistance measurement.
- 2 readings per second sampling
- Continuity check with audible indicator.
- Protective hand guard.
- Low battery indicator.
- Auto power off.
- 50 hrs in use battery life.
- Soft carrying deluxe pouch.
- Test leads and batteries included.

### Electrical Specifications:

- DC Voltage:  $\pm 1\% \pm 2$  dgts., 1000 V ac/dc maximum, 1020Vrms overload protection
- AC Voltage:  $\pm 1.5\% \pm 5$  dgts., 50 to 500 Hz, 1000 V ac/dc maximum, 1020Vrms overload protection
- DC Current:  $\pm 2.5\% \pm 10$  dgts., 1000 Amp. maximum, 1020Arms overload protection
- AC Current:  $\pm 2\% \pm 10$  dgts., 1000 Amp. maximum, 1020Arms overload protection
- Resistance:  $\pm 1\% \pm 3$  dgts., 100K\_ maximum, 660Vrms overload protection
- Continuity Test: Audible indicator (Buzzer) when circuit resistance is below 1000  $\Omega$ , max. voltage test < 3 Vdc.



### 30040000 & 30041000 Technical Specification:

- Display:
  - 4 Digit LCD (Max. reading 9999)
  - Display data hold indicator
  - Automatic over-range indication
  - Auto power off
- 0.393"(10 mm) Digits
- Peak hold indicator
- Automatic (-) negative polarity indicator
- Low battery indicator
- Units indicator
- VDC/VAC indicator
- Relative measure indicator
- Continuity indicator
- One touch button auto zeroing
- Power source: Two (2) Standard AAA 1.5 Volt alkaline battery type AAA UM4 or equivalent
- Test probes: One red and one black, 1000V/15A rated (IEC1010/EN61010 CAT II), 35\_" long
- Physical dimensions: 7.95" (H) x 2.62" (W) x 1.33" (D) - 202mm (H) x 67 mm (W) x 33.8 mm (D)
- Weight: Approximately 6.34 Oz (180 g) Including battery



## Oxygen Sensor Tester 30045000

The Oxygen Sensor Tester & Simulator has a simple interface which enables a technician to quickly perform measurements and tests on Oxygen Sensors, and to determine whether or not the sensor or wiring is defective. It is designed to be used as both, a complement for a scan tool, or as a stand alone tool in the diagnostic process.

### Applications:

What kind of sensor can it be used with?

Zirconium, Titanium 1 Volt, Titanium 5 Volt, and dual-cell wideband Oxygen sensors.

Sensor may be heated or unheated (1, 2, 3, 4 wires or 5 for wideband).

### Test Functions:

Lazy or Slow sensors are diagnosed with the simple push of a button which performs a response time test in a matter of seconds.

Wiring can be checked out by using the simulation functions and monitoring the engine response.

Signal output levels are displayed in real time on a fast response bar-graph..

Closed loop performance can be monitored by the cross counts of the signal shown in a large alpha-numeric display

Allows testing of the sensors on or off the vehicle.



### Technical Features

42V Ready.  
Bright and powerful LED Bar-graph as well as alpha-numeric display.  
Does not require special time-consuming set-up.  
Monitors and tests Oxygen Sensors On or Off vehicle.  
Provides instant Pass/Fail results for the Oxygen Sensor.  
Diagnoses "Lazy" sensors (Slow response) which may not always set a DTC code  
Internally protected against power surges.  
High temp 16 AWG silicone test wires for durability.  
Protective rubber holster.

## Digital CO Meter 30074500

Measures the Carbon Monoxide content of petrol engine exhaust emissions  
Ideal for engine tuning, fault diagnosis and pre-MOT test emissions testing

- Low cost CO measurement, by internal catalytic conversion
- Internal filter system and water separator
- Displays % content of CO
- Supplied with hose (7.5m), probe, clamp, power leads (12v) and spare filters

### Technical Features

- 12v powered for workshop or mobile use
- Large, easy to read 3 digit LCD screen, measures 0 - 9.9 & for accurate readings
- Three way filtration system includes coarse and fine filters, plus automatic water separator
- Fast 60 second warm-up time
- Light weight and fully portable (4kg)
- Dimensions : 145 x 200 x 200mm



## Digital CO Meter - Spare Parts

- MT9000/F Spare Filter Pack for Digital CO Meter  
30074400 Exhaust Probe  
30074600 Replacement Hose Assembly

# A range of truly portable 4 & 5 Gas Analysers for fault diagnosis, tuning, and pre-MOT testing

## Features Common to all models:-

- Easy to use - no need for daily reconfiguration
- Ideal for both static and dynamic testing
- Light weight - only 1.1kg - truly 'hand-held'
- Fast warm-up - only 150 seconds
- Internal memory - stores up to 250 test results manual or automatic mode
- PC compatible (using optional software)
- Long life internal battery - full 8 hours between recharges (via mains or 12v)
- Multi-lingual - English, French, German, Italian, Spanish as standard
- 4 Gas models will measure CO, HC, CO<sub>2</sub>, O<sub>2</sub>
- 5 Gas models will measure CO, HC, CO<sub>2</sub>, O<sub>2</sub>, NOX
- Infra-Red Gas Bench measures the three IR gases (CO, HC, CO<sub>2</sub>)
- O<sub>2</sub> & NOX are measure using electrochemical sensors
- Test results can be recorded either manually (by pressing the the appropriate key), or automatically at timed intervals ideal for on-the-road tests so that no driver intervention is required during the test.
- Provides Lambda / AFR measurement, and corrected CO
- OIML Class 1 models include RPM and Oil Temperature measurement

## Diagnostic Applications

Using the gas analyser as a diagnostic tool enhances its use. Some key faults that have an effect on gas analysis are:

- 1 - Rich Mixture
- 2 - Weak Mixture
- 3 - Ignition Misfire
- 4 - Fuel Misfire
- 5 - Tight Valve Clearance
- 6 - Incorrect Ignition Timing
- 7 - Incorrect Valve Timing
- 8 - Faulty Catalytic Converter



## Model Selection Table

	OIML Class 1 Models		Standard Models	
	32424200 5 Gas Analyser	32424000 4 Gas Analyser	32423200 5 Gas Analyser	32420000 4 Gas Analyser
Gases Measured	CO/CO <sub>2</sub> /O <sub>2</sub> /HC/NOX	CO/CO <sub>2</sub> /O <sub>2</sub> /HC	CO/CO <sub>2</sub> /O <sub>2</sub> /HC/NOX	CO/CO <sub>2</sub> /O <sub>2</sub> /HC
OIML Class 1 Certificate	yes	yes	Class 1 accuracy	Class 1 accuracy
Corrected CO	yes	yes	yes	yes
Measures RPM 2 / 4 stroke, DIS	yes	yes		
Measures Oil Temperature yes	yes	yes		
Fuel Types : Petrol / LPG / CNG	yes	yes	yes	yes
Exhaust Probe - Standard		yes		yes
Exhaust Probe - Stainless Steel	yes		yes	
Carrying Case	yes	yes	yes	yes

## Hand Held Exhaust Gas Analyser Accessories

### Infra-Red Printer 32425000

- Compatible with the full range of Hand Held Gas Analysers
- The Gas Analyser sends results via an integral IR transmitter to the remote printer



### High Temp Exhaust Probe - Stainless Steel 32427000

- For use during extended tests, or with high temperature exhausts
- Supplied as standard with 5 Gas models



### Oil Temperature Probe 32429000

- For direct Oil Temperature measurement - supplied as standard with OIML Class 1 models



### RPM Clamp 32428000

- For direct RPM measurement - supplied a standard with OIML Class 1 models



### PC Software 32430000

- Links Gas Analyser to a PC to allow:-
- Display of results on PC screen
- Printing of results on PC printer
- Download of results to PC for storage



#### Spare Parts:

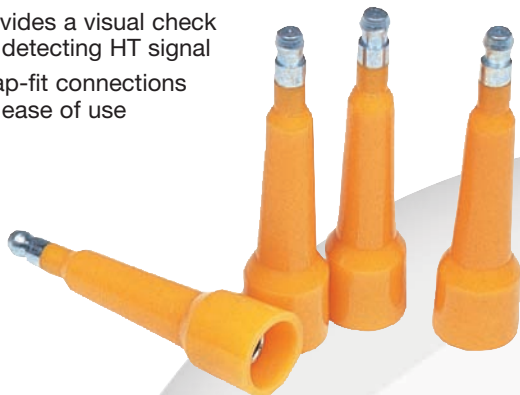
- 32420100 Water Trap End Cap
- 32420200 Water Trap and Filter
- 32420400 Battery Charger
- 32420500 Mains Power Lead
- 32420600 Standard Exhaust Probe & Hose
- 32420700 12v Car Adaptor Power Lead
- 32420800 Spare Filter Set ( 10 )

## HT Tester Sets

30070100

**Set of 4 neon testers for connection between spark plugs and HT leads**

- Provides a visual check for detecting HT signal
- Snap-fit connections for ease of use



## Glow Plug Circuit Tester

31495000

**For fast and easy testing of Glow Plugs on Diesel engined vehicles (12 v)**

Ideal for trouble-shooting poor cold-start situations  
Tester features glow plug probe and five LED indicators

- Indicates Glow Plug condition
- Short-circuit, open circuit, low power
- Uses power from vehicle battery (12v)
- Low battery power indicator



## Computer / Memory Saver 12v

30070200

**Provides an independent 12 volt power supply to vehicle electrical circuits, to enable the disconnection of the vehicles' own battery without losing pre-programmed computer settings**

- Ideal for use where repair necessitates removal of the battery
- Quick connection via the cigarette lighter socket
- Built-in LED's indicate when battery can safely be removed
- 3m connection leads



## Memory Saver 12v / 24v

30070500

**Workshop quality tool for providing external power (12 / 24v) and protecting vehicle electrical circuits and pre-programmed settings**

- Saves vehicle computer configuration and data when power supply is interrupted
- Protects battery and accessories from voltage surges (open circuits, arking etc)
- Operates from 12v or 24v external vehicle batteries



## Remote Key Fob Tester

30069400

**A compact and simple device that checks to see if the vehicle's remote Key Fob is functioning correctly**

- A magnetic strip allows the user to attach the unit to a metal surface (eg a tool cabinet) which allows for the range to be checked at the same time.
- Tests output signal from key fob, on both Infra-Red and 433 MHz frequencies
- Suitable for the majority of Key Fobs available in the UK and European markets



## Sonoscope

32370000

**A super sensitive sound detector, with a built-in diaphragm which amplifies noise, for assisting in the diagnostic process**  
**Robust metal and plastic construction, with 550mm hose, and 290mm probe**

Helps to diagnose many vehicle problems, including :-

- Noisy water pumps
- Faulty wheel bearings
- Alternator and power steering problems
- Air conditioning compressor bearings
- Camshaft and crankshaft knocks
- Noisy tappets etc





## Petrol Injector Tester

30071000

- Allows a quick check of the quality of electrical signal arriving at each injector in a petrol engine management system
- Operates from the vehicles own 12v power supply

For use on :-

- Vehicles that start but stall soon after
- Vehicles which fail to start but the engine still cranks
- Vehicles with poor fuel consumption
- Vehicles with poor hot or cold starting



## Throttle Pot Tester

30071100

- Allows a quick check of the quality of electrical signal created by the throttle potentiometer in a petrol engine management system
- Operates from the vehicles own 12v power supply

For use on :-

- Vehicles with poor fuel consumption
- Vehicles with poor or erratic acceleration



## Infra-Red Laser Tachometer

30043000

**Non-contact Infra-red Laser Tachometer for measuring RPM on rotating shafts, pulleys wheels etc. Laser picks up signal from reflective tape which is placed on the rotating shaft. Accurate to 0.1 RPM, and will measure up to 99,999 RPM**

### Features:

- Bright and powerful laser optical system allows for easy targeting of rotating shafts, wheels, pulleys, etc..... even in bright daylight.
- Measurements can be obtained from safe and comfortable distances - from 5 to 50 cm.
- The large 5 digits display allows measurements without the need to switch scales or multiply reading ranges.
- Unit comes complete with batteries, reflective tape and soft carrying pouch

### Technical Specification:

- RPM range from 2.5 to 99,999
- Auto Ranging
- 0.5 Second sampling time
- Memory recall: Max, Min, Last value
- TOT: Total revolution count
- Resolution: 0.1RPM<1000 RPM 1.0 RPM>1000 RPM



## Diesel Timing Adaptor

30307000

**Simple to use Diesel Timing Adaptor, suitable for use on a wide range of car and commercial diesel engines. Provides the user with the ability to measure RPM directly, and when connected via a Digital Timing Light, the ability to check and adjust dynamic timing**

- Connects to the vehicle via piezo electric transducers
- Measures engine speed (0 - 6000RPM)
- Check and adjust dynamic timing
- Features unique 'Trigger Stabilisation System' to ensure stability of readings
- Supplied with 6mm piezo electronic transducer (other sizes also available)
- To be used in conjunction with a Timing Light (not supplied)

### Optional Transducers:-

- 300543 6mm Popular Car / LCV Diesel applications (supplied with unit)
- 300542 4.5mm for Mercedes Vehicles
- 300544 6.35mm (1/4") for SAE applications
- 300546 8mm for HGV / PSV / Plant applications



## Infra Red Laser Thermometer

30043500

**The IR Laser Thermometer has a range of -20 to 550°C (-58 to 1000°F), which is ideal for Automotive Testing, and a resolution of 0.1°C (1°F) and an 8:1 optics ratio.**

### Features:

- Laser pointer output (on/off)
- IR Sensor
- LCD Backlight Display
- S: D optimum ratio of 8:1
- Class II Laser
- C/F selection switch
- Scan and data hold modes.
- Carrying pouch



## Electronic Thermometer / Temperature Probe

34031200

**Ideal tool for testing the temperature and efficiency of Air-Conditioning systems**

- Monitors maximum and minimum values
- Memory Recall function for maximum and minimum values
- Range 0 - 50°C (0.1°C resolution)
- 120mm stainless steel probe with extension cable connection
- Switchable from C to F scales
- Countdown timer with audible alarm
- Internal battery with low power indicator



## A New Range of Electrical Test Leads and Accessories, specially designed for Automotive Testing, which can be used with all leading makes of Multimeters and Test Equipment

Test Lead are manufactured from Double Insulated Silicone with multi-strand copper core.

All Leads and Accessories are manufactured to IEC 1010

Rating: 1000v Cat III (fused items = 600v)

All items use standard 4mm cable sockets and are compatible with all leading makes of test equipment.

### Automotive Test Lead Set contents

- Pair of Double Insulated Test Leads (1.2mtrs)
- Pair of Insulated Croc Clips
- Pair of Slimline Back Probes
- Pair of Cable Piercers

### Automotive Test Lead Set

30049000



### Double Insulated Test Leads-1.2 mtrs

30049100

- Can be used with all standard 4mm Multimeter connectors and accessories



### Double Insulated Test Leads Extension Set-1.2 mtrs

30049200

- Extends the working range of standard Test Leads



### In-Line Fuse Links

30049300

- Connect between Test Leads and Probes / Accessories, to protect your Multimeter from accidental overload - 10 amp fuse



### Insulated Croc Clips with 10 amp In-Line Fuse

30049400

- Pair of Croc Clips with built-in accidental overload protection - 10 amp fuse



### Slimline Back Probes

30049500

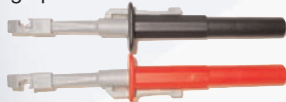
- Pair of ultra-slim back probes, specially designed for Automotive applications



### Cable Piercers

30049600

- Pair of Cable Piercers - specially designed ultra-thin wedge profile is ideal for Automotive work



### Bed of Nails Insulated Clips

30049700

- Pair of 'Bed of Nails' type Clips, providing a high degree of grip and connectivity, particularly suited for Automotive applications



### Display Stand

30049900

- Selection of Test Leads & Accessories



### Test Lead & Probe Set (4mm)

30050200

- Optional accessory set for use with most standard multimeters (4mm plugs)

#### 30050200 Set contents

- 2 x 925mm Leads
- 4 x 4mm male jack plugs
- 4 x 40mm croc clips
- 2 x 24mm probes
- 2 x 118mm probes
- 2 x 6mm spade connectors



### Insulation Piercing Cable Probes

30050300

Set of 2 probes for insulation piercing connection to cables, with robust plastic moulding to withstand high temperatures

- Protected tip to avoid shorting or earth
- C/W 4mm socket connection for standard multimeter cables



### Fuse Block Connector Set

30042500

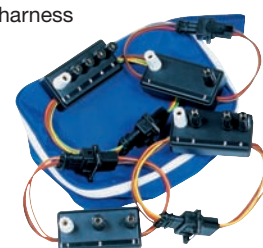
- Allows access to the vehicle electrical circuits, via the fuse socket
- Can be used with standard multimeter probes or clips etc, to check Voltage / Current / Circuits / Components
- Three (3) sizes to fit in place of the relevant circuit's fuse
- Provides easy access to circuits to energize or check electrical components and accessories



### Interface Lead Set

30080000

- Set of 4 in-line connectors with standard harness fittings, essential for safe and simple connection into vehicle harnesses
- T-type connections allow non-interrupted testing of sensor signals
- 4 mm sockets are suitable for standard multimeter cables and accessories
- Uses standard AMP style connectors in 2, 3, 4 & 5 pin configuration





## Combustion Leakage Tester 33194000

Compatible with Sykes-Pickavant Cooling System Testers '317', '318' & '319' Series

- Diagnose cylinder head leaks by detecting the presence of CO<sub>2</sub> in the cooling system
- Fluid colour change indicates the presence of CO<sub>2</sub>
- Variable pressure valve allows for use with motorcycles, cars, vans and HGV
- Supplied with both Standard and Sensitive Reaction Fluid, for accurate diagnosis of cooling system faults.
- Replacement Bottles of Reaction Fluid:-
  - Standard 33194200
  - Sensitive 33194400

A strong colour change from blue to yellow, using either the standard or sensitive reaction fluid, indicates the presence of carbon dioxide in a vehicle's cooling system. Supplied with convenient wire hook for hanging under the bonnet.



### Spare Parts

- 33194170 Tester Body, Valve and Gauge Assembly
- 33194500 Connector Hose Assembly
- 33195300 Set of O Ring Seals (2)
- 33195470 Glass Sight Tube only

## Cooling System Speed Filler 33160000

The Air Operated Cooling System Speed Filler offers some advantages over the more traditional methods of filling:

- The system integrity can be assessed prior to filling the cooling system with coolant.
- Significantly reduced coolant wastage and mess.
- High efficiency, labour saving and cost effective.
- Uses standard workshop compressed air to generate vacuum (70 - 170 psi)

This kit enables a cooling system to be refilled quickly while eliminating the chances of an air lock. Modern vehicle design has meant that the cooling radiator is often positioned either in line with or below the top of the engine. This means the using gravity to fill the cooling system is not always possible.

The 33160000 overcomes this issue by first forming a vacuum in the cooling system then using this vacuum to "suck" the new coolant in to the cooling system. By "sucking" the new coolant in by means of a vacuum, no airlocks can form and the speed of the refill is much increased.



## Refractometer 03201000

This multi-purpose tool, tests Coolant, Battery Acid and Screenwash, using an Optical prism test technique.

- Coolant - tests both propylene and ethylene based anti-freeze coolant solutions, and determines the freezing point .
- Battery Acid - indicates the specific gravity of the battery electrolyte
- Screen Wash - shows the freezing point of screenwash fluids
- Freezing point shown in degrees C

Spare Part : 03201700 Spare Lens Cover for Refractometer





## Introduction to Cooling System Pressure Testing

Sykes-Pickavant has been involved in the design and manufacture of Cooling System Testers for more than 40 years, and now manufactures a comprehensive range of System Testers, covering Cars, LCV's and HGV's, using both hand and air-pressure pumps, along with the latest addition to the range, the new Electric Cooling System Tester.

Individual vehicle System and Cap adaptors are available for all types of SP System Tester, and all are inter-changeable between different models of SP System Tester, with the use of simple adaptors, which are readily available. Details of the range of System and Cap adaptors for each System Tester are shown with the appropriate model, along with a summary of kit content options which are available.

### '316' Series - One Man Cooling System Testing

#### Electric Cooling System Tester - Complete Set 33169000

This latest tester turns Cooling System testing into a genuine one-man operation, as it is no longer necessary to have an assistant on-hand to check for leaks whilst the technician is operating a pump!

The Electric Cooling System Tester uses the vehicles' own 12v. supply to operate a fast-acting pump which is automatically regulated, and has a pressure limiter with auto shut-off for safety. Most systems can be pressurised and tested in less than one minute.

The unit is supplied with a 4m power lead, and a 4m pressure hose, and sits on a mobile trolley for ease of use both in and out of the workshop.

A comprehensive, 20 piece, set of Cap Adaptors (ref 33167500) is supplied with this kit, covering the majority of European and Asian applications, and these adaptors are also fully compatible with all current SP Cooling System Tester kits.



#### Cooling System Adaptor Set (20 piece) for Electric Cooling System Tester 33167500

Set of 20 Cap & System Adaptors covering the Majority of European and Asian applications, for use with the Electric Cooling System Tester. All vehicle adaptors are compatible with alternative SP Cooling System Testers, via a simple adaptor supplied with this set.



#### Cooling System Cap Set for Japanese Vehicles 33162200



#### Cooling System Cap and Hand Pump Set 33167600

A basic Cooling System Testing Set, comprising of the 20 piece set of System Connectors (33167500), coupled with our standard '317' series quick-connect Hand Pump (03170100)
























#### Electric Cooling System Tester - Pump Unit only 33169500

Electric Cooling System Tester - Electric Pump Unit c/w Trolley and Hose Assembly

Spare Parts: 33162100 Flexible Pressure Hose Assembly for Electric Cooling System Tester  
33162300 Power Cable for Electric Cooling System Tester



## Individual Cap Adaptors for '316' Series

'316' Series - Electric Cooling System Adaptors : Applications				
Reference	Description:	Applications:	Cap No.	Image:
33160100	Cap	Mercedes	1	
33160200	Cap	Audi, Daewoo, Ford, Saab, Skoda, VW, New VW	2	
33160300	Cap	Audi, Ford, Opel, Seat, Skoda, VW	3	
33160400	Cap	Audi, Alfa, BMW, Seat, VW	4	
33160500	Cap	BMW, Rover	5	
33160600	Cap	Citroen, Fiat, Opel, Peugeot, Renault, Rover, Volvo	6	
33160700	Cap	Audi, Citroen, Fiat, Honda, Lancia, Peugeot, Renault, Rover, VAG, Volvo	7	
33160800	Adaptor		8	
33160900	Bayonet	50mm Ø	9	
33161000	Bayonet	35mm Ø Chrysler, Citroen, Mercedes, Mitsubishi, Nissan, Suzuki	10	
33161100	Bayonet	27mm Ø Nissan, Suzuki, Toyota	11	
33161200	Adaptor	Suzuki	12	
33161300	Cap	Kia	13	
33161400	Clip		14	
33161500	Cap	Honda, Toyota	15	
33161600	Cap	Ford, Honda, Hyundai, Mazda, Mitsubishi, Nissan, Opel	16	
33161700	Cap	Ford	17	
33161800	Cap	Ford	18	
33161900	Cap	Mercedes	19	
33162000	Cap	Ford	20	
33167500	Cap Set Complete	All Applications		

## 317' Series - Quick-Connect Cooling System Test Kit,

Featuring a self-testing metal hand pump and precision gauge, with specially designed pressure release valve for safe de-pressurising cooling systems. Ideal for detecting leaks in radiators, heater matrix, hoses, cylinder heads, engine blocks, water pumps etc.



### '317' Series - Pump 03170100

Gauge and Hose assembly c/w quick-connect coupling

## Cooling System Pressure Testing '317' Series Basic System Testing Kit (3 piece) 331700V2

**Basic Kit (3 piece) consisting of:-**

03170100 Hand Pump, Gauge and Hose assembly  
Standard bayonet connector  
Threaded System connector M52

Basic kit covers cars with standard bayonet fittings. Kit is supplied in pre-cut foam base and lid, allowing the user to select further connectors as required for range expansion



## Cooling System Pressure Testing '317' Series Standard European System Testing Kit (9 piece) 33179700

**Standard European Kit (9 piece) consisting of:-**

03170100 Hand Pump, Gauge and Hose assembly  
Standard and Large bayonet connectors  
Specialist bayonet connectors for French and Japanese vehicles  
Threaded System connectors M45, M48, M52, M58



## Cooling System Pressure Testing '317' Series Master System Testing Kit (16 piece) 331795V2

**Master Kit (16 piece) consisting of:-**

03170100 Hand Pump, Gauge and Hose assembly  
Standard and Large bayonet connectors  
Specialist bayonet connectors for French and Japanese vehicles  
Threaded System connectors M45, M48, M52, M58  
Specialist System connectors for BMW, Ford, GM  
Specialist System adaptors for Ford, VAG

This Master kit is also suitable for testing a wide range of LCV's and HGV's, which feature systems with bayonet fittings.

















Spare Parts

03170400 Pressure Relief Valve for 03170100 Hand Pump





## '317' Series - Quick Connect System Adaptors and Connectors

Application	Picture	Type	Reference	331700V2	33179700	331795V2
<b>Radiator System Connectors : 317 series - quick connectors</b>				<b>Kit Contents</b>		
Citroën, Ford, Honda, Japanese cars, Austin Rover, Mercedes, Proton, Rover, Vauxhall/Opel.		System connector:- Standard Bayonet	03170200	●	●	●
Medium and Heavy Commercial Vehicles		System connector:- Large Bayonet	03170300		●	●
Daihatsu, Honda, Mazda, Mitsubishi, Nissan, Subaru, Toyota, Pre - '97 models		System connector:- Small Japanese bayonet	03171600		●	●
Daihatsu, Honda, Mazda, Mitsubishi, Nissan, Subaru, Toyota, Post - '97 models		System connector:- Small Japanese bayonet	03171700			●
Renault, Simca, Peugeot/Talbot.		System Connector Small French bayonet	03172300		●	●
BMW, Ford, GM, Land Rover, Range Rover, Vauxhall/Opel.		System Connector Threaded cap M52:	03172400	●	●	●
Citroën, Fiat, Austin Rover, Peugeot, Renault, Rover, Saab, Volvo.		System Connector Threaded cap M45:	03172500		●	●
Audi, Volkswagen. (use with 03182000 threaded adaptor to add M58 VW / Audi caps)		System Connector Threaded cap M48:	03172600 03182000		●	●
Peugeot, Citroën, Nissan.		System Connector Large Bayonet:	03178700			●
Vauxhall Vectra, Saab 9-5		System Connector Threaded cap M52:	33170400			●
Ford Scorpio, Transit '95 onwards		System Connector Threaded cap M52:	33170500			●
BMW 3,5,7 series, Rover 75, Range Rover '94 on		System Connector	33171400			●
Volkswagen Golf, Passat '97 onwards Audi A3, A4, A6 '97 onwards (use with 03172600)		Threaded System Connector Adaptor	33180600			●
Galaxy, Sharan. (use with 03172600)		Threaded System Connector Adaptor	33181500			●
Ford Focus, C-Max etc '03 onwards		System Connector	33171700			
Ford Transit '02 onwards, LDV		System Connector	33172100			

## '318' Series - Threaded-Connect system with unique SP pump unit, for system and cap testing.

A quick and simple method for detecting leaks in radiators, heater matrix, hoses, cylinder heads, engine blocks and water pumps.



## '318' Series - Hand Pump Unit

03180100

c/w Gauge and bayonet connector fitting

## Cooling System Pressure Testing '318' Series Basic Cap and Cooling System Test Kit (2 Piece) 33180000

'318' Series Standard Base Kit consist of :

- 03180100 Standard Pump and Gauge Assembly
- 03180200 Standard bayonet connector and double-ended hose assembly for European and Japanese vehicles with bayonet fittings

Base kit allows the user to make his own selection of connectors and adaptors, and to expand the range covered, as required.



## Cooling System Pressure Testing '318' Series Standard European Cap and Cooling System Test Kit (7 piece) 33189000

'318' Series European Kit consist of:

- 03180100 Standard Pump and Gauge Assembly
- 03180200 Standard bayonet connector and double-ended hose assembly for European and Japanese vehicles with bayonet fittings
- 03182200 Pump connector hose
- Threaded system connectors x 2 (M45, M52)
- Threaded cap adaptors x 2 (M45, M52)

This kit can be upgraded at any time with additional adaptors and connectors.



## Cooling System Pressure Testing '318' Series Complete Cap and Cooling System Test Kit (13 piece) 33189500

'318' Series Complete Kit consist of:

- 03180100 Standard Pump and Gauge Assembly
- 03180200 Standard bayonet connector and double-ended hose assembly for European and Japanese vehicles with bayonet fittings
- 03182200 Pump connector hose
- Threaded system connectors x 4 (M45, M48, M52, M58)
- Threaded cap adaptors x 3 (M45, M48, M52)
- Small bayonet connectors for French and Japanese applications x 2
- Small bayonet cap test adaptor for Japanese applications x 1





## Cooling System Pressure Testing '318' Series Master Cap and Cooling System Test Kit (17 piece) 33189600

'318' Series Master Kit consists of:

- 03180100 Standard Pump and Gauge Assembly
- 03180200 Standard bayonet connector and double-ended hose assembly for European and Japanese vehicles with bayonet fittings
- 03182200 Pump connector hose
- Threaded system connectors x 4 (M45, M48, M52, M58)
- Threaded cap adaptors x 8 (M45, M48, M52 plus BMW, Ford (2), GM, VAG special connectors)
- Large bayonet system connector for later French and Japanese applications x 1
- Small bayonet cap test adaptor for Japanese applications x 1



The Master Kit is a new kit, containing all of the most popular, recently introduced system and cap adaptors, and has the widest range coverage of all of the '318' Series kits.

### '318 Series - Vehicle Specific Applications

Full range available of individual system connectors and adaptors. Complement your existing kit with additional connectors and adaptors from pages 24 - 25.

Technical: Specific Vehicle Applications	
03180200	Connector Hose
03182200	Cap connector Hose
03182000	Threaded adapter M48/M58 - (use with 01382600) Volkswagen
03182400	Threaded Cap M52 - BMW, Ford, GM, Landrover, Range Rover, Vauxhall 'Opel'.
03182500	Threaded cap M45 - Austin Rover, Citroén, Fiat, Peugeot, Renault, Rover, Saab, Volvo
03182600	Threaded cap M48 - Audi, Volkswagen
03191600	Small bayonet - Daihatsu, Honda, Hyundai, Isuzu, Mazda, Mitsubishi, Nissan, Subaru, Suzuki, Toyota
03185570	Small bayonet - later Japanese cars
03188700	Large bayonet - Citroén, Nissan, Peugeot
33180400	Threaded cap M52 - Vauxhall Vectra
33180500	Threaded cap M52 - Ford Scorpio
33181500	System test adapter - Galaxy, Sharon
33180600	Cooling system adapter - Volkswagen, Audi
33181400	System tester - Range Rover / BMW
33181600	Ford Focus. C Max '03 onwards
33182100	Ford transit '02 onwards LDV

### Vehicle Specific Applications: 33189600

 03182200	 03180200	 03182400	 03182500
 03182600			 03188700
 33180500			 33182100
 33180400			 03182000
 33181800			 33181500
 03191600	 03185570	 33180600	 33181400

### '318' Series - Spare Parts

- 03180400 318 Pump Cap Spacer
- 03180500 318 Series Radiator Adaptor Small
- 03180600 318 Series Radiator Adaptor Large
- 03180700 318 Pump Seal and Washer Set

- 03180800 318 Series Clip and Lock Catch Set
- 03180900 318 Pump Gauge Assembly
- 03181100 318 Washer Set for Standard Adaptor
- 03188900 318 Pump Plunger Assembly




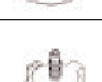















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## COOLING SYSTEM TESTING

## 318' Series - Threaded Connect System Adaptors and Connectors















Application	Picture	Type	Reference	33180000	33189000	33189500	33189600
<b>318' Series - Threaded Connect System Adaptors and Connectors</b>				<b>Kit Contents</b>			
Citroën, Ford, Honda, Japanese cars, Austin Rover, Mercedes, Proton, Rover, Vauxhall/Opel.		Bayonet connector Double Ended	03180200	●	●	●	●
Pump connector hose for System Connectors		Bayonet connector Single Ended	03182200		●	●	●
Renault, Peugeot/Talbot,		System Connector Small French bayonet	03182300			●	
BMW, Ford, GM, Vauxhall/Opel, Land Rover, Range Rover.		System connector Threaded cap M52:	03182400		●	●	●
Austin Rover, Citroen, Fiat, Peugeot, Renault, Rover, Saab, Volvo.		System Connector Threaded cap M45:	03182500		●	●	●
Audi, Volkswagen.		System Connector Threaded cap M48:	03182600			●	●
Peugeot, Citroen all models 1996 onwards		System Connector Large bayonet::	03188700				●
Daihatsu, Honda, Mazda, Mitsubishi, Nissan, Subaru, Toyota, Pre - '97 models		System Connector small Japanese Bayonet	03191600			●	●
Daihatsu, Honda, Mazda, Mitsubishi, Nissan, Subaru, Toyota, Post - '97 models		System Connector small Japanese Bayonet:	03191700				
Vauxhall Vectra, Saab 9-5		System Connector Threaded cap M52:	33180400				●
Ford Scorpio, Transit '95 onwards		System Connector Threaded cap M52:	33180500				●
BMW 3,5,7 series, Rover 75, Range Rover '94 on		System Connector	33181400				●
Ford Focus, C-Max '03 onwards		System Connector	33181700				●
Ford Transit '02 onwards, LDV		System Connector	33182100				●
Daihatsu, Honda, Hyundai, Isuzu, Mazda, Mitsubishi, Nissan, Subaru, Suzuki, Toyota.		Cap Adaptor small Japanese Bayonet	03185200			●	



## COOLING SYSTEM TESTING

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### 318' Series - Threaded Connect System Adaptors and Connectors

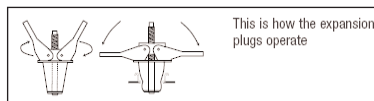
Application	Picture	Type	Reference	33180000	33189000	33189500	33189600
318' Series - Threaded Connect System Adaptors and Connectors				Kit Contents			
Daihatsu, Honda, Mazda, Mitsubishi, Nissan, Subaru, Toyota Post - '97 models		Cap Adaptor Japanese bayonet	03186700				
Volkswagen , Audi (use with 03182600 to connect to M58 threads)		System Connector Threaded adaptor M48/M58	03182000			●	●
BMW, Ford, GM, Land Rover Range Rover, Vauxhall/Opel.		Cap Adaptor Threaded adaptor M52	03186600		●	●	
Citroën, Fiat, Austin Rover, Peugeot, Renault, Rover, Saab, Volvo.		Cap Adaptor Threaded adaptor M45	03187700		●	●	
Audi, Volkswagen		Cap Adaptor Threaded adaptor M48	03189600			●	
Volkswagen Golf, Passat '97 onwards Audi A3, A4, A6 onwards (use with 03182600 )		System Connector Threaded adaptor	33180600				●
BMW 3,5,7 series, Rover 75, Range Rover '94 on		Cap Adaptor Threaded adaptor	33180800				
Galaxy, Sharan (use with 03182600)		System Connector Threaded Adaptor	33180900				
Volkswagen Polo (all models), Golf to '97		Cap Adapter Threaded adaptor	33181000				
Ford Scorpio, Transit '95 onwards		Cap Adaptor Threaded adaptor	33181200				
Volkswagen Golf, Passat'97 onwards Audi A3, A4, A6 '97 onwards (use with 03182600)		Cap Adaptor Threaded adaptor	33181300				
Galaxy, Sharan. (use with 03182600)		System Connector Threaded adaptor	33181500				●
Ford Focus , C-Max '03 onwards		Cap Adaptor	33181800				
Ford Transit '02 onwards, LDV		Cap Adaptor	33181900				



## '319' Series - Universal expansion plug system

For use with hand pump, or with airline adaptor (for HGV)

- Also compatible with '318' Series threaded caps and adaptors to extend applications coverage.
- Features a self-testing metal hand pump and precision gauge, with specially designed pressure release valve for safe de-pressurising of cooling systems.
- Designed to cover three types of system test :-
  - leak detection
  - thermostat and thermo-switch operation
  - temperature testing



The special patented design of the Expansion Plugs, features a tapering rubber cone to fit a variety of radiator and header tank neck diameters. With a range of just 5 plug sizes, it is possible to cover a very wide range of applications, from small cars through to commercial vehicles and heavy plant.

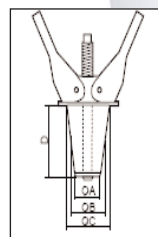
The Safety Retaining Clamp has been specially designed to provide added safety in certain applications, eg plastic expansion bottles, situations of extreme cold, or very high water temperatures, and when it is not practical to fully clean the surfaces of the aperture neck. The Safety Retaining Clamp greatly reduces the risk of the expansion clamp slipping from its fixed position, particularly under high pressure, and it is recommended to be used for all applications.

Blanking caps are also provided with the '319' series System Testers, in order to perform Radiator Sealing tests, off the vehicle. Temperature testing can be carried out by using the Thermometer in conjunction with the appropriate expansion plug, and by observing the change (or lack of change) in the fluid temperature, and by measuring the rate of change of temperature.

## Cooling System Pressure Testing '319' Series Expansion Plug System Test Kit - Car Kit 33190000

- 03190100 Pump, gauge and hose assembly  
Universal expansion plugs x 3  
(applications range from 21mm to 50mm apertures)  
Safety retaining clamp  
Thermometer  
Small bayonet adaptor for Japanese vehicles

- 03191500 Optional extra : Stepped expansion plug for Mercedes  
(applications range from 27mm to 44mm)



Technical: 33190000 Expansion Plugs							
	D	ØA	ØA Expanded	ØB	ØB Expanded	ØC	ØC Expanded
03191100	70	21	24	30	32	38	38
03191200	70	27	29	35	37	42	42
03191300	70	33	36	41	44	50	50

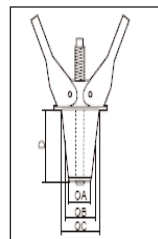
Note: All dimensions in millimetres



## Cooling System Pressure Testing '319' Series Expansion Plug System Test Kit - Commercial Kit 33190500

- 03193000 Airline adaptor and gauge assembly, for fast pressurising of large capacity systems on Commercial Vehicles and Plant equipment  
Universal expansion plugs x 2  
(applications range from 33mm to 65mm apertures)  
Safety retaining clamp  
Thermometer  
Small bayonet adaptor for Japanese vehicles

- 03191500 Optional extra : Stepped expansion plug for Mercedes  
(applications range from 27mm to 44mm)



Technical: 33190000 Expansion Plugs							
	D	ØA	ØA Expanded	ØB	ØB Expanded	ØC	ØC Expanded
03191300	70	33	36	41	44	50	50
03191400	70	40	44	53	56	65	65

Note: All dimensions in millimetres







## COOLING SYSTEM TESTING

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### '319 series - Expansion Plug System Adaptors and Connectors

Application	Picture	Type	Reference	33190000	33190500
<b>Radiator System Connectors : 319 series - threaded connectors</b>					
No.1 Universal Expanding Connector		Expansion Plug (21 - 38mm)	03191100	•	
No.2 Universal Expanding Connector		Expansion Plug (27 - 42mm)	03191200	•	
No.3 Universal Expanding Connector		Expansion Plug (33 - 50mm)	03191300 03193300 (less handle)	•	•
No.4 Universal Expanding Connector		Expansion Plug (40 - 65mm)	03191400		•
No.5 Stepped Expanding Connector (Mercedes)		Expansion Plug (27 - 44mm)	03191500		
Daihatsu, Mazda, Mitsubishi, Nissan, Subaru, Toyota, Some Honda motorcycles.		System connector:- Small Japanese Bayonet	03191600	•	
Cooling System Thermometer			03192500	•	•
Airline Adaptor & Gauge Connector			03193000		•

**Note : 319 Series is compatible with all 318 series system connectors and adaptors.**

Technical: Specifications							
	D	ØA	ØA Expanded	ØB	ØB Expanded	ØC	ØC Expanded
03191300	70	33	36	41	44	50	50
03191400	70	40	44	53	56	65	65
03191100	70	21	24	30	32	38	38
03191200	70	27	29	40	42	44	44
03191500	70	27	29	40	42	44	44

Note: All dimensions in millimetres

Full Range of Expansion Plugs for Cars, LCV's & HGV's.

Contents: 33190500			
03192870	03192100	03192500	
03192900	03193000	03191300	03191400

Contents: 33190000		
03190100	03191600	03192100
03192870	03192900	03192500
03191100	03191200	03193300



## Petrol Engine Compression Tester 31400000

**Checks cylinder compression to assist in the diagnosis of faulty valves, piston rings, cylinder heads and gaskets.**

Large, shock protected, easy to read dual scale gauge, for quick and accurate checks

- Pressure relief valve allows repeated cylinder tests, without removing the gauge
- Dual threads (M14 & M18) for quick and easy connection to spark plug ports

### Specification:-

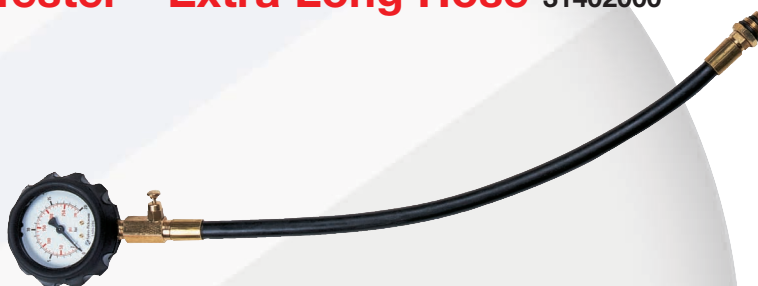
- 300mm flexible rubber hose
- M14 / M18 dual thread coupling
- Gauge scale 0 - 20bar, 0 - 190psi.
- Gauge diameter 83mm
- Gauge to DIN16005, DIN16063, BS1780 standards



## Petrol Engine Compression Tester - Extra Long Hose 31402000

**Similar to 31400000 Petrol Compression Tester, but with extra-long flexible rubber hose for easy access to restricted plug ports**

- Fitted with extra-long 460mm rubber hose
- Specification as per 31400000



## Petrol Engine Compression Tester Kit

**31400300**

**Comprehensive kit, based on the 31400000 Petrol Compression tester. Suitable for vehicles with M10, M12, M14 and M18 Spark plug threads. Supplied complete with extensions, thread chasers and service kit.**

### Contents 31400300

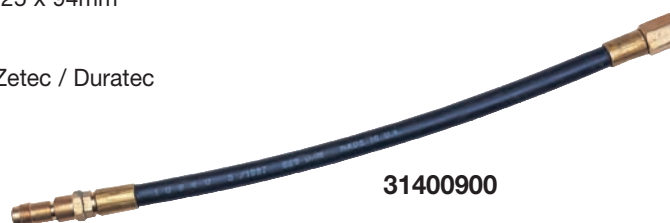
- Petrol Compression Tester Gauge 31400000 - 1
- Spark Plug Port extensions M10, M12, M14 (2) , M18 - 5 in total
- Thread Chaser M14 / M18 - 1
- Thread Chaser M10 / M12 - 1
- Service Kit of non-return valves and O-rings - 1

### Optional Individual Spark Plug port extensions:

- 31400200 Deep Extension M14 x 1.25 x 63mm
- 31400400 M14 Extension Set - M14 x 1.25 x 63mm and M14 1.25 x 94mm
- 31400600 Deep Extension M14 x 1.25 x 94mm
- 31400700 M18 Extension - M18 x 1.5 x 57mm
- 31400900 Extra-Long Flexible Adaptor M14 x 158mm for Ford Zetec / Duratec
- 31401000 M10 Extension - M10 x 1.0 x 57mm
- 31401200 M12 Extension - M12 x 1.25 x 57mm

### Spare Parts:

31400500 Service Kit for 31400000 Compression Tester



**31400900**



## COMPRESSION AND OIL PRESSURE

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### Diesel Engine Compression Testing - Standard Car Kit 314200V2

Comprehensive test kit for both direct and indirect diesel injected engines

- Checks engine compression under cranking conditions
- Enables cylinder access through dummy injector and glow plug adaptors
- Built-in pressure relief valve enables repeat tests without dismantling
- Recently updated contents to cover the latest 2006 / 07 applications.

#### Specification:

- 560mm Rubber Hose
- Gauge Scale 0 - 60bar, 0 - 860psi
- Gauge Diameter 83mm
- Gauge to DIN16005, DIN16063, BS1780 standards

#### Contents 314200V2

31420100	Gauge and Hose Assembly
31473070	Elbow Connector



Part No.	Thread	LENGTH	DESCRIPTION	314200V2
31421000	M10x1.25mm	73MM	GLOW PLUG	✓
31421570	M8X1.00MM	102MM	GLOW PLUG	✓
31422070	M10x1.0MM	63MM	GLOW PLUG	✓
31422500	M24X2.00MM	64MM	INJECTOR	✓
31423570	M20X1.5MM	75MM	INJECTOR	✓
31424000	M12X1.25MM	47MM	GLOW PLUG	✓
31424370	M10x1.0MM	90MM	GLOW PLUG	✓
31424970	M10x1.0MM	113MM	GLOW PLUG	✓
31425270	M10x1.0MM	93MM	GLOW PLUG	✓
31425470	M10x1.0MM	83MM	GLOW PLUG	✓
31425970	M10x1.0MM	83MM	GLOW PLUG	✓

Refer to pages 36/37 for full model application details.

Use with Optional Kit 31420500 to upgrade for  
HGV / Industrial / Plant applications  
(in conjunction with gauge 31420100)

Spare Parts : 31400500 Service Kit  
for 31420100 Compression Tester  
01420500 Seals and Washers

### Diesel Engine Compression Tester - Premier Car kit 314295V2

Premier Car Kit containing a wide variety of popular dummy glow plug and injector applications. additional applications coverage :-

- Contains additional glowplug adaptors and dummy injectors, for Mercedes, VW/Audi, Land Rover and PSA applications

#### Contents 314295V2

31420100	Gauge and Hose Assembly
31473070	Elbow Connector



Refer to pages 36/37 for  
full model application details

Part No.	Thread	LENGTH	DESCRIPTION	314295V2
31421000	M10x1.25mm	73MM	GLOW PLUG	✓
31421570	M8X1.00MM	102MM	GLOW PLUG	✓
31422070	M10x1.0MM	63MM	GLOW PLUG	✓
31422500	M24X2.00MM	64MM	INJECTOR	✓
31423370	M10x1.25mm	114MM	GLOW PLUG	✓
31423470	M10x1.0MM	119MM	GLOW PLUG	✓
31423570	M20X1.5MM	75MM	INJECTOR	✓
31423670	M22X1.5MM	73MM	INJECTOR	✓
31423970	M24X1.5MM	88MM	INJECTOR	✓
31424000	M12X1.25MM	47MM	GLOW PLUG	✓
31424100	M10x1.25mm	64MM	GLOW PLUG	✓
31424370	M10x1.0MM	90MM	GLOW PLUG	✓
31424570	M22X1.5MM	118MM	INJECTOR	✓
31424970	M10x1.0MM	113MM	GLOW PLUG	✓
31425270	M10x1.0MM	93MM	GLOW PLUG	✓
31425370	M10x1.0MM	133MM	GLOW PLUG	✓
31425470	M10x1.0MM	83MM	GLOW PLUG	✓
31425970	M10x1.0MM	83MM	GLOW PLUG	✓
31426770	M10x1.0MM	162MM	GLOW PLUG	✓
31426870	M10x1.0MM	113MM	GLOW PLUG	✓
31426970	M10x1.25MM	135MM	GLOW PLUG	✓
31427170	M10x1.25MM	145MM	GLOW PLUG	✓
31427370	M9X1.00MM	122MM	GLOW PLUG	✓





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## COMPRESSION AND OIL PRESSURE

### Diesel Engine Compression Tester HGV / Commercial Starter Kit 31430000

A starter kit of Adaptors and Clamping plates for checking compression on both direct and indirect Commercial Diesel Injected Engines. Suitable for all types of heavy duty diesel engines - HGV, Industrial, Plant, Marine, Agricultural

#### Contents 31430000

- Injector Mandrel Set (31420500)
- Diesel Compression Gauge (31420100)

#### Specification:-

- Hose Assembly length : 560mm
- Gauge scale range : 0 - 60 bar , 0 - 860 psi
- Gauge diameter : 83mm
- Gauge to DIN16005, DIN16063, BS1780 standards

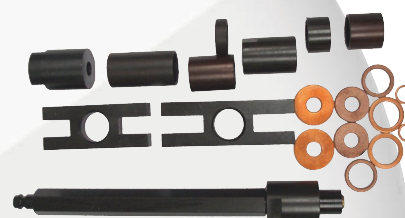
Spare Parts: 31400500 Service Kit for 31420100 Compression Tester  
01420500 Seals and Washers



### Diesel Engine Compression Tester Upgrade Kit 31420500

For owners of Car Application Diesel Compression Kits:-

- Injector Mandrel Set to upgrade 314200V2 or 314295V2, for HGV
- Extends applications coverage to commercial vehicles
- Also suitable for use with older generations of SP Diesel Compression kits



### Diesel Engine Compression Tester Comprehensive HGV / Commercial Master Kit 314395V2

A comprehensive Master Kit covering the majority of HGV, Industrial, Plant, Marine and Agricultural applications

- A universal mandrel system allows the user to duplicate a wide variety of injectors
- A selection of common dummy injectors are also included

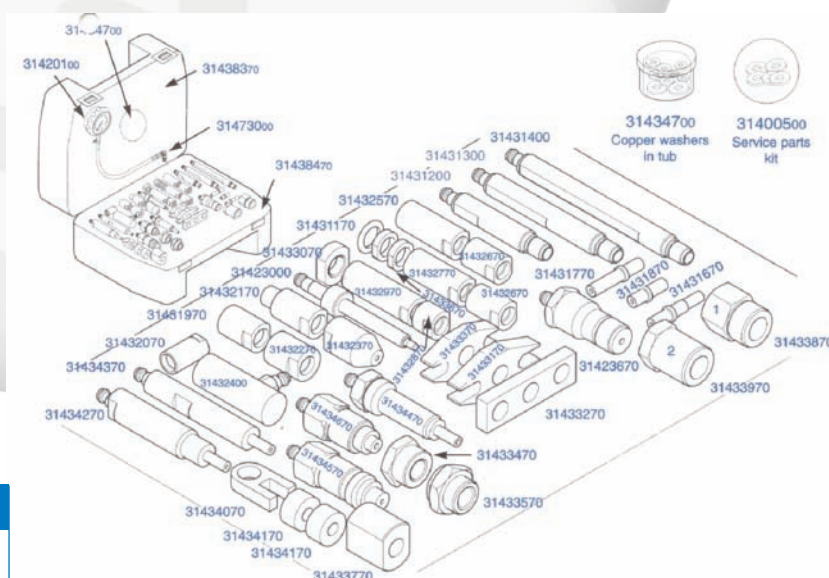
The kit is supplied with detailed applications information. For each application, the user is able to assemble the required components to create the necessary 'dummy' injector. The correct combination of components for each application is clearly identified in the applications & instructions booklet, with a scale diagram showing the order of assembly.

#### Specification:

- Hose Assembly length: 560mm
- Gauge scale range: 0 - 60 bar , 0 - 860 psi
- Gauge diameter: 83mm
- Gauge to DIN16005, DIN16063, BS1780 standards
- Kit supplied with comprehensive vehicle applications information book

#### Contents 314395V2

- 31420100 Diesel Compression Tester
- Dummy Injectors (7)
- Centre Pillars, Pilot Pins, Clamping Plates (3 of each)
- Collars & Shoulder Nuts (3 of each)
- Spacers, End Adaptors (6 of each)
- Special Application adaptors (2)
- Service Kit of seals and washers (1)



## Cylinder Leak Tester 31380000

An alternative to conventional compression testers, which provides a direct indication of the location of the leak, by measuring the rate of loss of compression for individual cylinders.

- Helps to diagnose worn and broken pistons or rings, burnt and leaking valves and faulty head gaskets
- Supplied with a wide variety of adaptors to fit the majority of petrol & diesel engines, on cars, LCV's, motorcycles, marine engines etc.
- Can be used with any additional adaptors from the Sykes-Pickavant Compression Testing range - petrol or diesel

### Specification:

- Air Input Pressure : 5 bar (min) - 8 bar (max)
- Pressure Gauge diameter : 70mm

### Contents 31380000

- Glowplug Adaptors - 5
- Dummy Injectors - 4
- Spark Plug Port extensions - 5
- Test Unit c/w airline connections
- Hose Assembly 2m
- Test Reports Pad - 1 x 50



## Oil Pressure Test Set 31470000

Helps to diagnose worn oil pumps and engines, faulty oil pressure switches and pressure warning indicators

- Shock protected dual scale gauge, for quick and accurate oil pressure checks
- Permanently oil primed, long flexible hose, enables access to difficult to reach oil switch ports.
- Small profile, quick coupling adaptors with built-in shut-off valve for fast secure connection

### Specification:

- 1m flexible oil primed hose
- Gauge Scale 0 - 10bar, 0 - 150psi
- Gauge diameter 80mm
- Gauge to DIN16005, DIN16063, BS1780 standards

### Contents 31470000

- 31470100 Oil Pressure Test Gauge c/w 1m Oil Primed Hose  
Oil Switch Port Adaptors x 10
- |                   |                |
|-------------------|----------------|
| 1 - R1/8 DIN 2999 | 6 - M10 x 1.0  |
| 2 - 1/8 x 27 NPT  | 7 - M12 x 1.5  |
| 3 - 1/4 x 18 NPT  | 8 - M14 x 1.5  |
| 4 - 3/8 x 20 UNF  | 9 - M16 x 1.5  |
| 5 - 1/2 x 20 UNF  | 10 - M18 x 1.5 |
| 90° Elbow x 1     |                |



Optional: 31470200  
2M Oil Primed Hose & Test Gauge

## Auto Gearbox Oil Pressure Tester 31475000

A dual gauge, high pressure tester, for assisting in the diagnosis of auto gearbox and engine faults on vehicles with automatic transmission

- Two dual scale gauges allow for both high and low pressure testing
- Quick coupling adaptors with built-in shut-off valve for fast secure connections

### Specification:

- 2m flexible oil primed hose
- Gauge scales:-
  - Low pressure 0 - 20bar, 0 - 300psi
  - High pressure 0 - 40bar, 0 - 600psi

### Contents 31475000

- |          |                               |           |           |
|----------|-------------------------------|-----------|-----------|
| 31475100 | Low Pressure Gauge Assembly   |           |           |
| 31475200 | High Pressure Gauge Assembly  |           |           |
|          | 2M Oil Primed Hose Assembly   |           |           |
|          | Oil Switch Port Adaptors x 10 |           |           |
|          | 1/8 BSPT                      | 1/4 BSPT  | 1/8 NPT   |
|          | 1/4 NPT                       | 5/16 UNF  | 90° Elbow |
|          | M8 x 1.0                      | M8 x 1.25 | M10 x 1.0 |
|          | M20 x 1.0                     | M8 Male   |           |
|          | Service kit of copper washers |           |           |





## Fuel Injection Pressure Testing Kit for Multi-Point Systems

314800V2

A universal kit which covers a wide range of both mechanical and electronic multi-point fuel injection systems, to assist in the diagnosis of common fuel injection problems.

- Shock protected and fuel resistant dual scale gauge
- Relief valve for safe depressurisation
- Fits the self-test point on modern Ford and GM vehicles
- Quick coupling adaptors and hose connections, with built-in shut-off valves for fast and secure connections
- Convenient hook for suspending the gauge assembly under-bonnet

### Specification:

- 450mm rubber fuel hose, and additional hose extensions
- Gauge scale 0 - 10bar, 0 - 145psi.
- Gauge diameter 100mm
- Gauge to DIN16005, DIN16063, BS1780 standards



### Applications

- Check faulty regulators and fuel pumps
- Diagnose blocked filters and fuel feed lines
- Identify leaking injectors
- Determine blocked or faulty non-return valves
- Measure mechanical injection main system pressure
- Measure fuel pump delivery pressure
- Check residual pressure
- Measure regulated system pressure
- Measure mechanical injection control pressure

### Contents 314800V2

31487100	Multi-Point Fuel Pressure Gauge Assembly x 1
	Rubber Fuel Hose Extensions x 5
	Fuel Tap and Connector Assembly x 1
	Threaded Connector Sets x 4 (M8, M10, M12, M14)
	Standard System Connectors x 4
	Specialist System Connectors x 4 (Ford, GM, Fiat, Renault)

### Optional extra :

314856V2 - Upgrade kit to allow testing on Low Pressure Single Point Injection Systems

Consists of 31487200 Low Pressure Gauge and Hose Assembly (0 -2 bar : 0 - 30 psi) and M14 x 1.5 QR Conical Adaptor

This upgrade, when used in conjunction with the Multi Point Kit (314800V2) provides the capacity to test a wide range of Low Pressure Single Point Systems (eg Bosch Mono Motronic, Magnetti Marelli Mono, Weber CFI, Bosch SPI, Rover MEMS SPI, GM Multec SPI)

## Combined Fuel Injection Pressure Testing Kit for Multi-Point & Single-Point Systems

314860V2

Combines all the components required for single and multi-point testing

- Combined contents of:-
- 314800V2 Multi-Point Testing Kit
- 314856V2 Single-Point Upgrade Kit

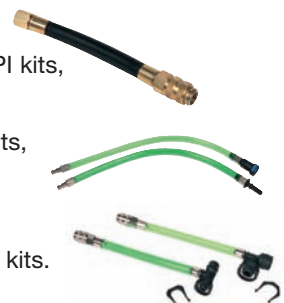
### Contents 314860V2

31487100	Multi-Point Fuel Pressure Gauge Assembly x 1
31487200	Single-Point Fuel Pressure Gauge Assembly x 1
	Rubber Fuel Hose Extensions x 5
	Fuel Tap and Connector Assembly x 1
	Threaded Connector Sets x 4 (M8, M10, M12, M14)
	Standard System Connectors x 4
	Specialist System Connectors x 4 (Ford, GM, Fiat, Renault)



### Individual Adaptors

- 31488000 - Fuel Injection Special Adaptors - Ford EECIV Flexible Adaptor - included in standard MPI kits, but available separately as an add-on for owners of older kits.
- 31488500 - Fuel Injection Special Adaptors - Fiat / GM quick-connect - included in standard MPI kits, but available separately as an add-on for owners of older kits. Special male and female quick connectors, allow easier access where conventional methods do not give access.
- 31489000 - Fuel Injection Special Adaptors - Renault Fuel Pressure Plastic T Connectors (2) included in standard MPI kits, but available separately as an add-on for owners of older kits.





## Diesel Injector Tester & Aspirator (DITA)

31450000

**A mechanical pressure tester and aspirator, for checking the correct operation of diesel injectors.**

- Tests nozzle opening pressure, injector spray pattern and correct needle seating  
Helps in the diagnosis of injector chatter and back leakage
- Suitable for testing all mechanical injectors with 12mm & 14mm screw fittings  
Bench mounted
- Safety features:-
  - Mechanically damped gauge, prevents over-pressurisation
  - Built-in aspirator removes test fluid spray away from the operator  
Visual inspection of the injector spray pattern against the mirrored disc
  - Safety viewing screen
  - Universal clamp for holding injectors securely
  - Reservoir level indicator (test fluid can be re-used)

### Technical Specifications

- Gauge Diameter - 107mm
- Gauge Scale - 0 to 400 bar / 6000 psi.
- Maximum injector diameter 70mm
- Supplied with 12mm and 14mm quick-fit injector adaptors
- Handle length - 420mm
- Clamp spread - 70mm
- H - 500mm W - 520mm D - 410mm

### Tests Available

- Nozzle opening pressure
- Injector spray pattern
- Injector condition and chatter
- Injector back leakage and needle seating

### Special Features:

- 0 - 400 bar / 6000 psi damped gauge
- 12mm and 14mm quick fit injector adaptors
- Safety viewing screen
- Atomised fluid extractor
- Injector nozzle inspection disc
- Test fluid storage and recovery system
- PCL compatible compressed air connection

### Spare Parts:

- 31450500 Injector Pipe Assy
- 31451900 Injector Clamp



## Vacuum Systems Tester Kit 01390000

### Suitable for a wide variety of engine diagnostic tests

- Also suitable for brake bleeding, brake servo tests, and identifying leaks in fuel lines, air-con systems, heater cores etc
- Precision die-cast metal hand pump develops and holds the vacuum
- Supplied with a comprehensive range of nozzles, plugs and adaptors for most vacuum test applications, and with bleed nipple adaptors and fluid jar for brake bleeding

For identifying faults on vacuum operated and controlled fuel and ignition systems, emission control systems and automatic transmissions.

Assists in the diagnosis of mechanical engine faults ; checks fuel and vacuum pumps ; vacuum advance / retard timing mechanisms ; exhaust gas re-circulation systems ; canister purge valves ; fuel pressure regulators and MAP sensors. Also suitable for bleeding brakes and checking brake servos.

Identifies leaks in fuel lines, air-conditioning systems, heater cores, motorcycle and marine engine crank cases



### Technical Specifications

- Dual scale gauge 0 - 76cm (0 - 30in) Hg mercury
- 32mm rubber cap adaptor for obtaining vacuum where standard tapered nozzles are not suitable
- Supplied with 3 snap-over bleed nipple adaptors as well as 120ml reservoir jar for brake bleeding applications
- Can be upgraded for testing Turbo Charger waste gates
- Complete with comprehensive instruction manual and storage case

### Optional Extra

- Converter for use with turbo chargers - 01390800

## Vacuum & Pressure Pump Kit 01391000

**A complete workshop test kit designed for a variety of Automotive Vacuum and Pressure related diagnostic tasks. Ergonomically designed hand help pump, used to generate Vacuum or Pressure.**

**Includes a selection of connectors for Vacuum and Pressure system testing, along with variety of fittings and accessories for the siphoning of fluids and for brake bleeding.**

Large integral gauge gives clear and accurate readings

Pressure - max. 60 psi. (0 to 4 bar)

Vacuum - max. 30"Hg (0 to -1 bar)

Can be used to check the following

- Vacuum Systems : MAP / EGR Valve / Brake Servo / Brake bleeding / Siphoning fluids etc
- Pressure Systems : Turbo waste gate / actuators / valve seats etc

Additional System Tests which can be carried out:

- Fuel Systems - pressure regulators
- Ignition Systems - advance and retard
- Brake Systems - bleeding
- Air Con Systems - heater control

The fittings supplied with this kit, allow access to even the smallest of vacuum pipes.

Spare Parts

01391500 Replacement Bottles & Fittings Set





## Vacuum Testing - Vacuum Gauge Test Kit 01397000

Suitable for testing a wide range of Automotive Vacuum applications. Tests vacuum related systems, including ignition, carburetors, automatic transmissions, computer systems, fuel systems etc

### Specification:-

- Heavy duty 80mm dual scale compound gauge
- Gauge scales 0-30in Hg mercury / 1 bar, or mmHg / psi
- Supplied with a selection of suitable connectors and 1 metre of 3/16 (od) x 1/16 (id) polyurethane hose
- Complete with comprehensive instruction manual

Also suitable for bleeding brakes and checking brake servos. Identifies leaks in fuel lines, air-conditioning systems, heater cores, motorcycle and marine engine crank cases



### Contents 01397000

- |           |   |
|-----------|---|
| 013975000 | Vacuum Gauge Assembly x 1               |
|           | Polyurethane Hose 1/16 id (3/16 od) x 1 |
|           | Set of vacuum connectors (4) x 1        |

### Spare Parts :-

- |          |                  |          |                          |
|----------|------------------|----------|--------------------------|
| 01397270 | Vacuum Hose Pipe | 01397600 | Pipe Connection Fittings |
|----------|------------------|----------|--------------------------|

## Catalyst Back Pressure / Vacuum Tester 31440000

- Measures the back pressure (or vacuum) via the Lambda Sensor socket, to indicate blocked or damaged catalytic converters. A blockage usually indicates a blocked or broken catalytic converter
- Calibrated gauge scale indicates progressive pass / fail for tests at idle speed and for tests under load - coloured indication

### Specification:-

- Gauge scale = -1 to +2 bar
- 2m heat resistant pipe for dynamic testing
- Suitable for M12 x 1.25 and M18 x 1.5 Lambda (Oxygen) Sensor sockets
- Fits most European, Asian, Japanese vehicles
- Gauge to DIN16005, DIN16063, BS1780 standards

### Contents 31440000

- |          |  |
|----------|--|
| 31440100 | Pressure Gauge and Hose Assembly x 1           |
|          | Lambda Sensor Socket connectors x 2 (M12, M18) |
|          | Thread Cleaners x 2 (M12 x 1.25, M18 x 1.5)    |
|          | Special Adaptor for Toyota vehicles x 1        |
|          | Service Kit of seals and washers x 1           |





## Diesel Compression Testing - Applications Listing

314295V2 314200V2			
<b>ALFA ROMEO</b>			
33/75	1.8D/2.0TD	*	*
145/146/155	1.9TD	*	*
145/146/147/156/159	1.9JTD	*	*
147/156/159	1.9JTD/JTDM 16V	*	*
156/166	2.4JTD	*	*
155/164	2.5TD	*	*
164	2.5TD	*	*
166	2.4JTD	*	*
<b>AUDI</b>			
80/90/100	1.6/1.9/2.0/2.4	*	*
100	2.5TD/DTI	*	*
A2	1.2/4TDI PD	*	*
A3/A4/A6	1.9TDI/DP	*	*
A3/A4/A6	1.9TDI/DP	*	*
<b>BMW</b>			
1 SER 118/120	2.0D	*	*
318TDS	1.7D	*	*
318/320	1.9/2.0D	*	*
324/325	2.4D/2.4TD	*	*
330D	3.0D	*	*
520D	2.0D	*	*
524D/524TD	2.4D	*	*
525TD/TDS	2.5D	*	*
525D	2.5D	*	*
530D/535D	3.0D	*	*
725TDS	2.5D	*	*
730D/740D	3.0D/3.9D	*	*
X3/X5	2.0D/3.0D/DT	*	*
<b>CHRYSLER</b>			
JEEP/CHER	2.5DT	*	*
JEEP G/C	2.5DT	*	*
JEEP G/C	2.7CRD	*	*
JEEP G/C	3.1DT	*	*
PT CRUISER	2.2D	*	*
VOYAGER/GRAND	2.5DT/CRD	*	*
<b>CITROEN</b>			
AX	1.4D	*	*
AX	1.5D	*	*
BERLINGO	1.6HDI	*	*
BERLINGO	1.8D/1.9D	*	*
BERLINGO	1.9D(DW8)	*	*
BERLINGO	2.0HDI	*	*
BX	1.7D/1.9D	*	*
C1/C2	1.4HDI	*	*
C3	1.4/1.6HDI	*	*
C4/C5	1.6HDI	*	*
C5/C8	2.0HDI	*	*
C15D	1.7D	*	*
C15D	1.9D	*	*
C25D	1.9/2.5D/DT	*	*
DISPATCH	1.9D/DT	*	*
DISPATCH	1.9D(DW8)	*	*
DISPATCH	2.0HDI	*	*
DISPATCH	2.1DT	*	*
EVASION	1.9/2.1DT	*	*
EVASION	2.0HDI	*	*
JUMPY	1.9D/DT	*	*
JUMPY	1.9D(DW8)	*	*
JUMPY/2	2.0HDI	*	*
JUMPY	2.1/2.5DT	*	*
PICASSO	1.6HDI	*	*
PICASSO	2.0HDI	*	*
RELAY	1.9D/DT	*	*
RELAY	2.5D/DT	*	*
RELAY 2	2.0HDI	*	*
SAXO	1.5D	*	*
SYNERGIE	1.9/2.1DT	*	*
SYNERGIE	2.0HDI	*	*
XANTIA	1.9/2.1DT	*	*
XANTIA	2.0HDI	*	*
XM	2.1/2.2/2.5D	*	*
XSARA	1.4HDI	*	*
XSARA	1.5D	*	*
XSARA	1.5D 99>	*	*
XSARA	1.8/1.9D	*	*
XSARA	1.9(DW8)	*	*
XSARA	2.0HDI	*	*
ZX	1.8/1.9D	*	*

314295V2 314200V2			
<b>DAEWOO</b>			
KORANDO/MUSO	2.3/2.9D	*	*
<b>DAIHATSU</b>			
CHARADE	1.0TD	*	*
FOURTRACK	2.7/2.8DT	*	*
<b>DAEWOO</b>			
HI-JET	1.2D	*	*
<b>FIAT</b>			
BRAVA/BRAVO	1.9D/TD	*	*
BRAVA/BRAVO	1.9JTD	*	*
CROMA	1.9JTD 8V	*	*
CROMA	1.9JTD 16V	*	*
CROMA	2.4D MULTIJET	*	*
CROMA	2.5DT	*	*
DOBLO	1.9D/TD	*	*
DOBLO	1.9JTD	*	*
DUCATO	1.9/2.5D	*	*
DUCATO	2.0DJTD	*	*
FIORINO	1.3/1.7D	*	*
IDEA	1.9JTD	*	*
MAREA	1.9/2.4TD	*	*
MAREA	1.9/2.4JTD	*	*
MULTIPLA	1.9JTD	*	*
PALIO WEEKEND	1.7D	*	*
PALIO WEEKEND	1.9JTD	*	*
PANDA	1.3D	*	*
PUNTO	1.7D/1D	*	*
PUNTO	1.9JTD	*	*
SCUDO	1.9D/TD	*	*
SCUDO	1.9(DW8)	*	*
SCUDO	2.0DJTD	*	*
SCUDO	1.9JTD 8V	*	*
STILO	1.9JTD/M/J	*	*
STRADA	1.7TD	*	*
STRADA	1.9JTD	*	*
TEMPRA	1.9D/TD	*	*
TIPO	1.7/1.9D/TD	*	*
ULYSSE	1.9/2.1TD	*	*
ULYSSE	2.0DJTD	*	*
UNO	1.3/4/7/9D	*	*
<b>FORD</b>			
ESCORT/ORION>02	1.6/8D/DT	*	*
FIESTA	1.4/6TDCI	*	*
FIESTA >02	1.8D	*	*
FIESTA	1.8TD	*	*
FOCUS	1.8TDCI/DI	*	*
FOCUS 2	1.6TDCI	*	*
<b>FORD</b>			
FOCUS CMAX	1.6TDCI	*	*
FUSION	1.4/6TDCI	*	*
GALAXY	1.9TDI/DP	*	*
GRANADA/SCOR>94	2.5D	*	*
GRANADA/SCOR94>	2.5D	*	*
MAVERICK	2.7D	*	*
MONDEO	1.8D	*	*
MONDEO	2.0D/DTCI	*	*
MONDEO	2.0TDDI	*	*
MONDEO	2.2TDCI	*	*
P100	1.8D	*	*
RANGER	2.5D	*	*
TRANSIT CONNECT	1.8D TDCI	*	*
TRANSIT	1.8DTDI	*	*
TRANSIT	2.0/4D	*	*
<b>FSO</b>			
CARO	1.9D	*	*
<b>HONDA</b>			
ACCORD	20T	*	*
CIVIC	20T	*	*
<b>HYUNDAI</b>			
H100	2.5/2.6D	*	*
STAREX	2.5D	*	*
<b>ISUZU</b>			
CAMPO	2.5/3.1D	*	*
NKR	3.1D	*	*
NPR	3.9D	*	*
TROOPER	2.8D	*	*
TROOPER	3.0/1D	*	*

314295V2 314200V2			
<b>JAGUAR</b>			
X-TYPE	2.0D	*	*
<b>LANCIA</b>			
DEDRA/DELTA	1.9D	*	*
KAPPA	2.4D	*	*
KAPPA	2.4JTD	*	*
LYBRA	1.9D/2.4DJTD	*	*
MUSA	1.9 MULTIJET	*	*
PHEDRA	2.0DJTD 8V	*	*
PRISMA	1.9D	*	*
THEMA	2.5D	*	*
THESIS	2.4JTD	*	*
<b>LAND ROVER</b>			
90/110>92	2.5D	*	*
90/110	200TDI	*	*
DEFENDER	300TDI	*	*
DEFENDER	10P TD5	*	*
DISCOVERY	19LTD5	*	*
DISCOVERY	200/300TDI	*	*
FREELANDER	2.0D	*	*
RANGE ROVER	200/300TDI	*	*
<b>LDV</b>			
200/PILOT	1.9D	*	*
200/SHERPA	2.0D	*	*
400/CONVOY	2.5D	*	*
<b>MAZDA</b>			
2	1.4CD	*	*
121	1.8D	*	*
323	1.7/2.0D	*	*
626	2.0D	*	*
MPV	2.5DT	*	*
PREMACY	2.0D	*	*
<b>MERCEDES</b>			
190D	2.0/2.5D	*	*
200/250/300D	2.0/2.5/3.0D	*	*
C200/220/250D	2.0D	*	*
C200/220/270CDI	2.0/2.2/2.7D	*	*
CLK	2.7D	*	*
E200/250D	2.0/2.5D	*	*
E200/220/270CDI	2.0/2.2/2.7D	*	*
E290/E300DT	2.9/3.0D	*	*
ML270CDI	2.7D	*	*
S300TD	3.0D	*	*
SCLASS220	4.0D	*	*
SPRINTER	2.3/2.9D	*	*
SPRINTER	2.2/2.7CDI	*	*
VITO	2.3D	*	*
VITO	2.2CDI	*	*
V CLASS	2.2CDI	*	*
V CLASS	2.3DT	*	*
<b>MINI</b>			
CARISMA	1.9D	*	*
CANTER T35	2.5D	*	*
CHALLENGER	2.5D	*	*
GALANT	1.8/2.0D	*	*
LANCER	2.0D	*	*
L200/300	2.5D	*	*
SHOGUN	2.3/2.5D	*	*
SPACE RUNNER	2.0D	*	*
SPACE WAGON	1.8/2.0D	*	*
<b>NISSAN</b>			
ALMERA>00	2.0D	*	*
ALMERA 00>	2.2D	*	*
ALMERA 11	1.5DCI	*	*
CABSTAR	2.3/2.5/2.7D	*	*
INTERSTAR	1.9D DCI	*	*
INTERSTAR	2.2/5D DCI	*	*
MICRA	1.5D/DCI	*	*
NAVARA>02	2.5D	*	*
PATROL	4.2D	*	*
PICK-UP	TD25	*	*
PRIMASTER	1.9D DCI	*	*
PRIMERA>02	2.0D	*	*
PRIMERA	2.2DI/DDI	*	*
SUNNY	1.7/2.0D	*	*
TERRANO	2.7D	*	*
VANETTE CARGO	2.3D	*	*
URVAN	2.3/2.5D	*	*
X-TRAIL	2.2D	*	*

## Diesel Compression Testing - Applications Listing

		314295V2	314200V2
<b>PEUGEOT</b>			
106	1.4D	*	*
106	1.5D	*	*
205	1.8/1.9D	*	*
205CC	1.6HDI FAP	*	*
206	1.4/1.6HDI	*	*
206	1.9D	*	*
206	2.0 HDI	*	*
206SW	1.6HDI FAP	*	*
207	1.4/1.6HDI	*	*
305	1.8/1.9D	*	*
306	1.8/1.9D	*	*
306	1.9D(DW8)	*	*
306	2.0 HDI	*	*
307/SW	1.4/1.6HDI	*	*
307/CC/SW	2.0HDI	*	*
309	1.8/1.9D	*	*
405	1.9D	*	*
406	1.9D	*	*
406	2 HDI	*	*
406	2.1D	*	*
407/SW	1.6HDI FAP	*	*
407/SW	2.0HDI	*	*
605	2.1/2.2/2.5D	*	*
607	2.0HDI	*	*
806	1.9/2.1D	*	*
806/807	2 HDI	*	*
1007	1.4HDI	*	*
BOXER	1.9/2.5D	*	*
BOXER	2.0 HDI	*	*
EXPERT	1.9/2.1D	*	*
EXPERT	1.9D (DW8)	*	*
EXPERT	2.0HDI	*	*
J5/J9/	1.9/2.5D	*	*
PARTNER	1.8/1.9D	*	*
PARTNER	1.9D (DW8)	*	*
PARTNER	2 HDI	*	*
<b>PROTON</b>			
PERSONA	2.0D	*	*
<b>RENAULT</b>			
AVANTIME	2.2D	*	*
CLIO	1.9D	*	*
CLIO 2	1.9/1.5DCI	*	*
ESPACE	1.9/2.2DT	*	*
ESPACE	2.1D	*	*
ESPACE 1V	1.9D DCI	*	*
ESPACE	2.2D DCI	*	*
KANGOO	1.5/1.9DCI	*	*
LAGUNA	1.9D/DTI	*	*
LAGUNA	2.2D	*	*
LAGUNA 2	1.9DCI	*	*
LAGUNA 2	2.2D DCI	*	*
MASTER	1.9D DCI	*	*
MASTER	2.2/2.5D DCI	*	*
MASTER	2.5D/DT	*	*
MEGANE	1.5D DCI	*	*
MEGANE	1.9D>98	*	*
MEGANE	1.9DCI/DTI	*	*
R5D/EXTRA	1.6/1.9D	*	*
R19/21/25	1.9/2.1D	*	*
SAFRANE	2.1/2.5D	*	*
SAFRANE	2.2D	*	*
SCENIC	1.9DCI/DTI	*	*
SCENIC II	1.5/1.9DCI	*	*
TRAFFIC	1.9D/DCI	*	*
TRAFFIC	2.1/2.5D	*	*
TRAFFIC	2.2/2.5D DCI	*	*
VEL SATIS	2.2D DCI	*	*
<b>ROVER</b>			
CDV	2.0D	*	*
METRO/100	1.4D	*	*
115	1.5D	*	*
MG/ZR/ZS/ EXPRESS	2.0D	*	*
25/45/75	2.0D	*	*
218/418	1.8D	*	*
220/420/620	2.0D	*	*
825	2.5D	*	*

		314295V2	314200V2
<b>SAAB</b>			
9-3	1.9TID	*	*
9-3	2.2D	*	*
9-5	2.2D	*	*
<b>SEAT</b>			
ALHAMBRA	1.9TDI/PD	*	*
ALTEA	1.9 TDI	*	*
AROSA	1.4D TDI PD	*	*
AROSA	1.7SDI	*	*
IBIZA/CORDOBA	1.7D	*	*
IBIZA/CORDOBA>99	1.9D	*	*
IBIZA/CORDOBA<99	1.9D	*	*
CORDOBA	1.9TDI	*	*
INCA	1.9D SDI	*	*
INCA	1.9D TDI	*	*
LEON	1.9SDI/TDI	*	*
RONDA	1.7/9D	*	*
TERRA	1.3/4D	*	*
TOLEDO	1.9D	*	*
TOLEDO	1.9TDI/PD	*	*
<b>SKODA</b>			
FABIA	1.4/1.9SDI/TDI	*	*
FELICIA	1.9D	*	*
OCTAVIA	1.9D/SDI/TDI	*	*
ROOMSTER	1.4/1.9TDI	*	*
SUPERB	1.9TDI/ PD	*	*
<b>SUZUKI</b>			
BALENO	1.9D	*	*
GRAND VITARA	2.0D	*	*
SAMURAI	1.9D	*	*
<b>SUZUKI</b>			
VITARA	1.9D	*	*
<b>TATA</b>			
207/GURKHA	1.9D	*	*
AVENSIS >99	2.0D	*	*
<b>TOYOTA</b>			
AVENSIS	2.0D	*	*
CARINA E	2.0D	*	*
COROLLA	1.8D	*	*
COROLLA	1.9D	*	*
COROLLA >99	2.0D	*	*
COROLLA<99	2.0D	*	*
DYNA	2.5/2.8D	*	*
HI ACE	2.5D	*	*
HI-LUX	2.5D	*	*
LANDCRUISER>99	2.4/3.0D	*	*
LANDCRUISER 00>	3.0D	*	*
LITE-ACE >95	1.8/2.0D	*	*
PICNIC	2.2D	*	*
PREVIA	2.0D	*	*
RAV4	2.0D	*	*
4-RUNNER	2.4/3.0D	*	*
<b>VAUXHALL</b>			
ARENA	1.9D	*	*
ARENA	2.5D	*	*
ASTRA F >00	1.7DT	*	*
ASTRA >00	1.7D	*	*
ASTRA G	1.7D/DTI/CDTI	*	*
ASTRA G	2.0D DTI	*	*
ASTRA H	1.7CDTI	*	*
ASTRA H	1.9CDTI	*	*
CORSA B	1.5/1.7D	*	*
CORSA C	1.7D/ DTI/CDTI	*	*
FRONTERA	2.3D	*	*
FRONTERA	2.5D	*	*
FRONTERA B	2.2D	*	*
MERIVA	1.7D/ DTI/CDTI	*	*
MIDI	2.0/2D	*	*
MONTEREY	3.1D	*	*
MOVANO	1.9DTI/CDTI	*	*
MOVANO	2.2/2.5 DTI	*	*
MOVANO	2.5D	*	*
OMEGA	2.3D	*	*
OMEGA B	2.5D	*	*
OMEGA B	2.0D/2.2DTI	*	*
SINTRA	2.2D	*	*
Signum	1.9CDTI	*	*
Signum	2.0/2.2DTI 16V	*	*

		314295V2	314200V2
<b>VAUXHALL ( contd )</b>			
VECTRA	1.7D	*	*
VECTRA/ B	1.7D(IZUZU)	*	*
VECTRA B	2.0D/DTI	*	*
VECTRA C	1.9CDTI	*	*
VECTRA C	2.0D/DTI	*	*
VIVARO	1.9DI/TDI	*	*
VIVARO	2.5D DTI	*	*
ZAFIRA	1.7D DTI	*	*
ZAFIRA	1.9CDTI	*	*
<b>VOLKSWAGEN</b>			
BEETLE	1.9TDI/PD	*	*
BORA	1.9TDI/PD/SD	*	*
CADDY	1.6/1.9D	*	*
CADDY	1.7D SDI	*	*
CADDY	1.9D SDI/DTI	*	*
FOX	1.4D TDI	*	*
GOLF 111	1.9D/1.9TD	*	*
GOLF 111	1.9D SDI/DTI	*	*
GOLF IV	1.9TDI	*	*
GOLF V	1.9TDI PD	*	*
JETTA 3	1.9TDI PD	*	*
LT	2.4D	*	*
LT	2.5TD/SDI/DTI	*	*
LT	2.8D	*	*
LUPO	1.2/4TDI PD	*	*
LUPO	1.7D SDI	*	*
MULIVAN	1.9/2.5TDI	*	*
PASSAT	1.6/1.9D>96	*	*
PASSAT	1.9D TDI/ PD	*	*
PHAETON	5.0TDI V10	*	*
POLO	1.3/4D	*	*
POLO	1.4TDI/ PD	*	*
POLO	1.9D<98	*	*
POLO	1.7/9D/ SDI	*	*
POLO	1.9D TDI/ PD	*	*
SHARAN	1.9D TDI/ PD	*	*
TOUAREG	2.5/5.0 TDI	*	*
TOURAN	1.9TDI PD	*	*
TRANSPORTER	1.6/7/9D/2.4D	*	*
TRANSPORTER	1.9TDI	*	*
TRANSPORTER	2.5TDI (5)	*	*
VENTO	1.9D>96	*	*
VENTO	1.9D/DTI	*	*
<b>VOLVO</b>			
740/760/940/960	1.9/2.4D	*	*
850TDI	2.5D TDI	*	*
S40/2/V50	1.6D	*	*
S40	1.9D>99	*	*
S40/V40	1.9D	*	*
S70/S80/V70	2.5D TDI	*	*

### Individual Optional Applications

#### Dummy Glow Plugs

	Thread	Length	Reference
AUDI V6	M10 x 1.0	126mm	31426670 <b>NEW</b>
FIAT 1.3JTD	M8 x 1.0	102mm	31427570 <b>NEW</b>
JAGUAR 2.7D			31427770 <b>NEW</b>
LAND ROVER 2.25D	M14 x 1.25	71mm	31421400
NISSAN 1.5DCi	M10 x 1.0	102mm	31427470 <b>NEW</b>
PEUGEOT 2.7Hdi			31427770 <b>NEW</b>
RENAULT 1.5DCI	M10 x 1.0	102mm	31427470 <b>NEW</b>
VAUXHALL 1.3CDTI	M8 x 1.0	102mm	31427570 <b>NEW</b>
VOLVO 2.4D			31427770 <b>NEW</b>

#### Dummy Injectors

	Length	Reference
FORD TRANSIT 2.5D	112mm	31423000
LT / CARBODIES 2.3D/2.7D	114mm	31422100
LANDROVER 2.5D CAV	104mm	31424470
LANDROVER TDI 300	152mm	31424270
PEUGEOT 2.1D	114mm	31422100
PEUGEOT 2.2 Hdi	172mm	31427670 <b>NEW</b>
VW / AUDI 1.9 Tdi	174mm	31423870

01390000	34	30212400	6	3142XXXX	36 & 37
01390800	34	30212500	6	31430000	30
01391000	34	30212600	6	314395V2	30
01397000	35	302128V2	6	31440000	35
01397500	35	30212900	6	31450000	33
03170100	20	30213000	6	31470000	31
03180100	22	30213300	6	31470100	31
03190100	27	30213400	6	31470200	31
03201000	17	30214100	6	31475000	31
30040000	11	30214400	6	31475100	31
30041000	11	30214600	6	31475200	31
30042000	9	30214700	6	314800V2	32
30042100	9	30214800	6	314856V2	32
30042400	9	30214900	6	314860V2	32
30042400	9	30215000	6	31487100	32
30042500	16	30255400	5	31487200	32
30043000	15	30255500	5	31488000	32
30043500	15	30255600	5	31488500	32
30045000	12	30307000	15	31489000	32
30049000	16	30354500	6	31495000	14
30049100	16	30355000	6	32370000	14
30049200	16	30355500	6	32420000	13
30049300	16	30356000	6	32423200	13
30049400	16	30356500	6	32424000	13
30049500	16	30357000	6	32424200	13
30049600	16	30357500	6	32425000	13
30049700	16	30358000	6	32427000	13
30049900	16	30358500	6	32428000	13
30050000	10	30359000	6	32429000	13
30050200	16	30359500	6	32430000	13
30050300	16	303648V2	6	33073500	8
30053500	10	30464200	4	33160000	17
30064500	9	30464300	5	33162200	18
300691V5	7	30464600	4	33167500	18
30069200	7	30464700	5	33167600	18
300693V2	7	304712SUB	4	33169000	18
30069400	14	304713SUB	5	33169500	18
30070100	14	304715SUB	4	3316XXXX	19
30070200	14	304716SUB	5	331700V2	20
30070500	14	31380000	31	331795V2	20
30071000	15	31400000	28	33179700	20
30071100	15	31400200	28	3317XXXX	21
300735V2	7	31400300	28	33180000	22
30074500	12	31400400	28	33189000	22
30080000	16	31400600	28	33189500	22
30211500	6	31400700	28	33189600	23
30211600	6	31400900	28	3318XXXX	24 & 25
30211700	6	31401000	28	33190000	26
30211800	6	31401200	28	33190500	26
30211900	6	31402000	28	33194000	17
30212000	6	314200V2	29	33194200	17
30212100	6	31420100	29	33194400	17
302122V3	6	31420500	30	3319XXXX	27
30212300	6	314295V2	29	34031200	15



**ACR4 and Accessories**

ACR4 Application	BMW	6
ACR4 Application	EOBD V3	6
ACR4 Application	Fiat / Alfa	6
ACR4 Application	Ford	6
ACR4 Application	GM Opel / Vauxhall	6
ACR4 Application	Mercedes	6
ACR4 Application	PSA Peugeot / Citroen	6
ACR4 Application	Renault	6
ACR4 Application	Rover	6
ACR4 Application	Toyota	6
ACR4 Application	VAG Group	6
ACR Cable Harness	ACR 12v Power Lead	6
ACR Cable Harness	ACR Extension Lead	6
ACR Cable Harness	BMW	6
ACR Cable Harness	CAN Bus	6
ACR Cable Harness	Fiat / Alfa	6
ACR Cable Harness	Ford	6
ACR Cable Harness	Ford	6
ACR Cable Harness	Ford	6
ACR Cable Harness	G2 USB / Serial adaptor Lead	6
ACR Cable Harness	G2 USB Connection Lead	6
ACR Cable Harness	GM	6
ACR Cable Harness	GM	6
ACR Cable Harness	Mercedes	6
ACR Cable Harness	Mercedes	6
ACR Cable Harness	PSA	6
ACR Cable Harness	PSA	6
ACR Cable Harness	Renault	6
ACR Cable Harness	Rover	6
ACR Cable Harness	Suzuki	6
ACR Cable Harness	Toyota	6
ACR Cable Harness	Universal J1962	6
ACR Cable Harness	Universal Multi-Application ISO9141 J1962	6
ACR Cable Harness	VAG	6
ACR Cable Harness	Volvo	6
ACR4 KEYS Full Kit		5
ACR4 KEYS Internet Subscription		5
ACR4 KEYS Non-Internet Subscription		5
ACR4 KEYS Upgrade Kit		5
ACR4 MAP Full Kit		4
ACR4 MAP Internet Subscription		4
ACR4 MAP Non-Internet Subscription		4
ACR4 MAP Upgrade Kit		4
ACR Manufacturer Specific Cables kit (16)		6
ACR4 Large Carry Case		5
ACR4 Replacement Handset		5
ACR4 Standard Carry Case		5

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Diesel Compression Test Upgrade Kit	30
HGV Diesel Compression Test Kit - Basic Kit	30
HGV Diesel Compression Test Kit - Master kit	30

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Cylinder Leak Tester	31
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316 Series Cooling Cap Set	18
316 Series Cooling Caps Set + Hand Pump	18
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317 Series Cooling System Test Kit	20
317 Series Cooling System Test Kit	20
317 Series Cooling System Test Kit	20
318 Series - Individual System Caps & Adaptors	24 & 25
318 Series Cooling System Test Kit	22
318 Series Cooling System Test Kit	22
318 Series Cooling System Test Kit	23
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319 Series Cooling System Test Kit	26

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PC Software Kit	13
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5 Gas Analyser	13
5 Gas Analyser - OIML 1	13
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# SP tech

**SPtech is a range of Technical Support products and services, designed to provide the modern independent garage, and technicians, with the technical knowledge and support required, to enable fast and accurate fault finding on all common vehicles found in the UK today, using up to date techniques, and covering the latest vehicle technology.**

## **SPtech consists of the following elements:**

- **SP e-Solve** - an On-Line Database of searchable technical articles and information, based on real-life practical examples and solutions.
- **SP e-Data** - a CD based Technical Data and Information system, including:-
  - Adjustment Data
  - Technical Drawings
  - Repair Times
  - Diagnostic Information
  - Wiring Diagrams
- **SP Help** - Technical Helpline Support, for both Diagnostic and Mechanical fault-finding, providing both knowledge and experience, to help technicians find fast and accurate solutions
- **SP Bulletins** - monthly Technical Bulletin Service, providing technical information and repair techniques for commonly experienced technical problems
- **SP Training** - a series of one day training courses, to enable technicians to improve their knowledge and techniques on vehicle systems, and accurate fault-finding. Subjects available include:-
  - Introduction to Diagnostics
  - Code Reading
  - Use of Oscilloscopes
  - Diesel Electrics
  - Airbags
  - Key Coding





## SP Bulletins

### Syke-Pickavant Technical Bulletins

The SP Technical Bulletin Service, is a monthly publication covering a wide variety of topical technical issues, of interest to professional technicians.

Technical subjects are selected from our Helpline Database of current topical issues, which are based on questions asked most frequently through our Helpline Service.

Subjects are written as a series of 'problems' and 'solutions' to reflect the experience of technicians in real life situations.

#### Typical subjects include:

- Fuel Injection - Ignition - Engine Management - Diesel Diagnostics - ABS and Airbag.
- System and Component Functions - Test Procedures.
- Service Adjustments - Wiring Diagrams Vehicle Specific Faults - Use of Test Equipment.

SP Bulletins is a Subscription Based service - each annual subscription covering 12 monthly publications.

An extensive back catalogue of published bulletins is available. A full index of subjects covered, and bulletin publication references is available via the 'Technical Bulletins' section of the SP web-site - [www.sykes-pickavant.com](http://www.sykes-pickavant.com).

## SP Help

### Sykes-Pickavant Helpline

The SP Helpline Service exists to provide Technical Support to technicians and workshops, who are faced with the ever increasing complexity of modern vehicles.

The SP Helpline operators are all experienced automotive technicians, and combine a variety of specialist skills, in order to provide a high level of technical expertise and advice.

The SP Helpline Service uses a 'Guided Diagnostic' process, in order to quickly get to the root of the problem. This process is based upon a database of technical questions and answers, which has been continually developed over 12 years, and which continues to grow as more people use the service.

#### The SP Helpline Service provides the following benefits to callers

- Immediate access to technical Information.
- Guided Diagnostic Process.
- Rapid Problem Solving.
- Guidance available in real-time, whilst working on the vehicle.
- Information available on the full European car parc.

#### Helpline features:

- Guide Diagnostic Process.
- Individual caller history records - by question, by problem, by vehicle.
- Historic database of Vehicle problems - by make, by model, by type.
- Database also contains general topics and manufacturers' known faults.
- Practical solutions to Fault Code related problems.
- All Questions and Answers are recorded - provides continuous database development.

## SP e-Solve

### Sykes-Pickavant On-Line Database

A searchable on-line database, containing a wide variety of topical technical problems and solutions for all popular makes of modern vehicles.

#### What is it?

- An On-Line Library of Technical Support information.
- Based on Real-Life Technical problems and solutions.
- New Articles added weekly.
- Vehicle specific search or browse by subject.

#### What subjects does it cover?

- Petrol & Diesel Engine Management.
- Chassis & Transmission Controls.
- Body Electrics / Instruments / Climate Control.
- Servicing / Wheels / Tyres.
- Vehicle ID & Security.

#### Keeps you up to date!

- Servicing Issues.
- New Vehicle Technology.
- Diagnostic Procedures.
- Fault Codes and Probable Causes.
- Common Faults, their causes and their solutions.

#### On-Line Service

- Annual Subscription - Register for Subscription On-Line.
- Username & Password access.
- E-mail alert & news service.

## e-Data

### Sykes-Pickavant Technical Data & Information

Sykes-Pickavant e-Data provides vital information for maintenance, repair and diagnostics on all current European cars and light commercial vehicles.

#### e-Data includes all essential information including:-

- Service schedules.
- Adjustment data.
- Technical drawings.
- Repair Times.
- Fuses and Relays.
- Lubricants and Fluids.
- EOBD Fault Code Diagnosis.
- Air Conditioning Data.
- Engine Management Data.
- Wiring Diagrams.

#### e-Data is a very simple system to use, and is easy to navigate and locate the data you need:-

- Data is categorised in 9 modules per vehicle.
- Standardized data structure - based on, and fully compatible with OEM data.
- Graphical presentation
- Covers all current Cars and Light Commercials in the European market.
- e-Data is supplied on CD updates released twice per year.

**For further information regarding all SPtech services, visit our web-site**

**[www.sykes-pickavant.com](http://www.sykes-pickavant.com)**

**or contact our sales office on 01922 702222**