FIVE FAST FACTS
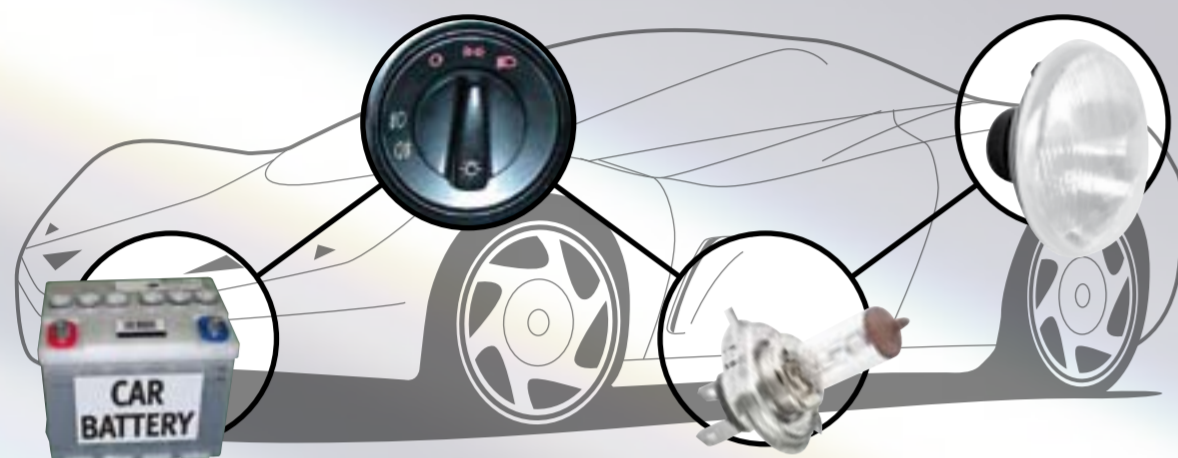
- Require around 50,000 volts to start.
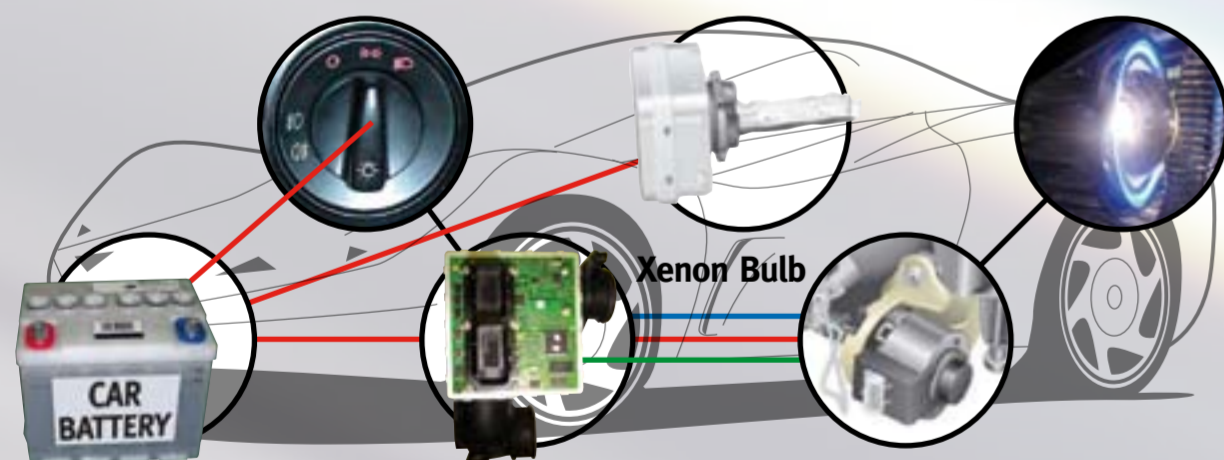- Also called HID – High Intensity Discharge.

The Old Way of Lighting

- Xenon lamps typically have dynamic height adjustment built-in to compensate for the vehicle ride height so they do not dazzle other drivers.
- Xenon lamps produce around 3000 lumens whilst only consuming around 36 watts compared to a traditional headlight which produces around 1500 lumens and consums around 55 watts.

The Xenon Way of Lighting

High Voltage Starter Unit   Polyellipsoidal Lens

Xenon Bulb

CAR BATTERY

Light Control ECU   Dynamic Height Adjuster Unit

- Xenon last three times as long as traditional bulb can cost six times more, and are far more complicated to diagnose in case of problems.

New for 9.2 is the addition of Hyundai
This very popular Asian manufacturer has been making substantial in-roads into the European market, with a 127% growth in new car registrations from 2001 – 2005* In 9.2 we introduce this new manufacturer with the following coverage.
- 2002 – 2006 Model year coverage
- 10 Most popular models
- Petrol engines covered – Read and clear codes + live data
- ABS – Read and clear codes, live data and functional tests
  *Figures sourced from SMMT reports.

Toyota
- Model year coverage extended to 2007
  - Coverage 1999 - 2007
  - 3 New models added
- Petrol and Diesel Engines covered on new models
- NEW Injector programming for 2.0l Avensis 2003 - 2007
- Systems covered
  - Engine - Read and clear codes + live data
  - ABS - Read and clear codes + live data
  - Airbag - Read and clear codes
  - Transmission - Read and clear codes
  - Functional Actuator Tests

Honda
- Model year coverage extended to 2006
  - Coverage 1999 – 2006
- Diesel engine CRV and FRV Models
  - 2.2 CTDi N22A1 Diesel CRV and FRV 2004 - 2006
- Systems covered on Diesel CRV and FRV models
  - Engine – Read and clear codes + live data
  - ABS – CRV only
  - Airbags – CRV and FRV

Renault
- Coverage extended to include Logan
  - Coverage 2005 – 2007
  - Engines – Read, clear codes + live data
  - Transmission - Read, clear codes + live data
  - ABS - Read, clear codes + live data
  - Airbag - Read, clear codes + live data
- New Actuator Tests for CAN and Non CAN Models
  - 2000 Model year coverage onwards
  - Fuel Pump Relay
  - Idle air motor
  - EGR
  - Reset fuel trims

BMW
- Model year coverage extended to 2007
  - Coverage 1992 – 2007
  - Read and clear codes + live data on 2007 models
- New CAN system diagnostics for
  - Engines – Read and clear codes + live data
  - ABS – Read and clear codes + live data
  - Airbags – Read and clear codes
  - Transmissions – Read and clear codes + live data
- New Adaptations for Transmissions 1994 – 2007
  - Re-set transmission adaptations after repair or replacement.
- Expanded DDE6 MAFF adaptation
  - The BMW DDE6 engine management is a smart system which can adapt to cope with wear and tear on the engine and its sensors.
  - The Mass Air Flow (MAF) sensor is a key component to smooth and economical engine running.
  - MAF sensors can be considered as a consumable item, they wear out during normal operation.

- When the MAF is replaced with a new unit, the ECU must be informed that a new unit is being fitted.
  - Failure to do this will lead to poor running and reduced economy.
- Additional Airbags on E60, E65 & E85
  - Codes only
  - New Models added

Land Rover
- Model year coverage extended to 2007
  - Coverage 1991 – 2007
- 4 New Models added
- New Model Systems Coverage
  - Engine – Read and clear codes + live data
  - SRS – Read and clear codes + live data
  - ABS – Read and clear codes + live data
  - ATM – Read and clear codes + live data
- Expanded Systems Coverage
  - Airbags – Range Rover 99–01 – Read, clear codes + live data
  - ABS – Range Rover 95–98 – Read, clear codes + live data
  - Airbags – Discovery II 00–05 – Read, clear codes + live data
  - Airbags – Freelander 02–05 – Read, clear codes + live data

PSA Citroen – Peugeot
- Model year coverage extended to 2007
  - Coverage 1995 – 2007
- 5 New Models – 14 Engine Combinations
- Systems Covered on New Models
  - Engines – Read, clear codes + live data
  - Airbags – Read, clear codes
  - ABS – Read, clear codes and live data
  - Functional tests
- ABS – Electro Valves and pump motor
- Engine – Injector, Fan Control, EGR, Check for spark
  - SIR – where applicable
- BSI (Body Systems Interface) Expanded
  - 407 Models covered 2004 - 2007
  - CAN gateway to ancillary systems
- New ABS System added
  - ABS Mk 60.0 added for 207, New Look C3 and 1007 Restyle models
- New TPMS (Tyre Pressure Monitoring System) added
  - C6 Models – Read, clear codes + live data

Ford
- Model year coverage extended to 2007
  - Coverage 1992 – 2007
  - Codes, data and special functions on 2007 models as below
- New Model added
- New Xenon Light Module Programming
  - Reprogram Xenon Light Modules and realign headlamps on some models
  - Mondeo 2001 – 2007 Codes – Data and module reprogramming
  - Focus 2005 – 2007 Codes – Data and module reprogramming
  - Galaxy 2006 – 2007 Codes and data
  - S-Max 2006 – 2007 Codes and data

VAG – VW – Audi – SEAT – Skoda
- Brake Bleed Procedure Added Mk60/70, Mk25 ESP25
  - This procedure is an essential service function, and is also required when replacing the ABS pump or changing brake fluid.
  - Models covered 2005 - 2007
- Long Coding Comfort System
  - This new and important feature enables the technician to modify the configuration of the convenience module on the Passat 3C chassis i.e. modify door locking configuration, selective door locking, Flashing indicators on locking/unlocking etc.
- Long Coding CAN Gateway

- Another new and important feature enables the technician to add or modify systems on the CAN Gateway, i.e. add a trailer module, Xenon lights etc.
- New Data Lists for 9.2
  - Over 20 new Engine data lists added
  - 2 New Airbag data lists added

Mercedes Benz
- Model year coverage extended to 2007
- 2 New Models
- Systems Coverage New Models
  - Sprinter
  - Engines, ATM, ABS, SRS, Instruments – Read and clear codes + live data
  - SIR – Diagnostics service reset
  - SLR McLaren
  - Engines, ATM, ABS, SRS, Steering column module, Passenger control module, Upper control module – Read and clear codes + live data
  - Control module rear, Power supply unit, TPM – Read and clear codes
- Expanded Systems Coverage
  - S Class 221 body 2006 onwards
  - New instrument panel – Read, clear codes + live data and actuator tests
  - C Class 204 body 2007 onwards
  - New instrument panel – Read, clear codes + live data
  - E Class 210 body 2000 – 2003
  - New instrument panel – Read, clear codes + live data and actuator tests
  - ATM – Read and clear codes + live data
- Expanded Adaptation Capabilities
  - Reset Crank Sensor
  - Reset Mixture
  - Reset Throttle Valve Actuator
  - Reset Transmission Shift Values – EGS 52 ATM
- Expanded Diagnostic SIR Capabilities
  - S Class 2006 221 body code
  - Read service data and clear service indicator
  - Program and configure service warning indicator
  - Oil minimum warning
  - National version factor
  - C Class 204 body code 2007 model year
  - Read service data and clear service indicator
  - Reset mistaken service – If performed
  - E Class 210 body code 2000 – 2003 model year
  - Newer type Kombi Instruments
  - Read service data and clear service indicator
- Xenon light – Bi-Xenon Light Diagnostics
  - 2001 Model year onwards
  - Read, clear codes + live data
  - Perform special functions, like bulb removal procedure and curve illumination tests and tourist mode

Opel – Vauxhall
- Model year coverage extended to 2007
  - Coverage 1992 – 2007
- New Antara Model Added
  - Engines Z20DM, Z20DMH and Z24XE
  - Systems Covered on Antara
  - Engines - Read, clear codes + live data
  - ATM – Read, clear codes + live data
  - ABS – Read, clear codes + live data
  - Airbags – Read and clear codes + live data
  - Instruments – Read, clear codes + live data
- Expanded CIM Module Capabilities
  - Vectra C - CIM (steering column module) unit reconfigure and replace including transponder and remote key programming

- New ABS Pump and Solenoid Functional Tests for
  - Corsa C, Astra G, Zafira B, Meriva and Tigra B models
- 9 New Engines Added for Corsa D, Astra H and Vectra C Models
- Z14XEL, Z16LET, Z16XE1, Z16XER, Z1DTR, Z16LER, Z28NEL, Z28NET and Z28HEH
  - All new Engines – Read, clear codes + live data
- Actuator tests include
  - Fuel pump relay
  - Ignition coil
  - EGR Solenoid
  - EGR cooler bypass solenoid
  - Fuel tank vent valve
  - Cooling fan speed
  - A/C relay test
  - Port deactivation
  - Intake manifold valve
  - Malfunction Indicator Lamp (MIL)
  - SVS lamp
  - Injector shut off
  - Boost pressure valve
  - Glow time relay
  - Throttle solenoid valve
  - Fuel leakage
  - Swirl level control solenoid
  - Turbo bypass solenoid
  - Loop status
  - Secondary air pump relay
- Special functions include
  - Electronic throttle control
  - Program idle speed
  - Reset O2 block learn map
  - Reset learned values
  - Diesel Injector programming
  - Replace Mass Air Flow Sensor
  - Replace Rail Pressure Sensor
  - Replace Pre-Catalyst
  - Compression test

AFL – Alfa – FIAT - Lancia
- Model year coverage to 2007
  - Coverage 1995 – 2007
  - Read, clear codes and live data
  - Functional tests
  - SIR
- New Fiat 500 Model Added
  - Engine – Read, clear codes + live data
  - ABS – Read, clear codes + live data
  - Airbag – Read, clear codes + live data
  - Injector coding
  - SIR
- New Engines
  - 1.9 Diesel – EDC16CC39 – Alfa 147 – 2007
  - 2.2 Petrol – MED 7.6.1 – Alfa 159
- Expanded Injector Coding Capabilities
  - Injector coding added for 2.4 5 cylinder AFL engine – EDC16C39
  - Alfa 159
  - Croma Restyle
- New and updated ABS systems for Alfa GT
  - Bosch ABS 8 system
  - Bosch 8 ASR ABS
  - Bosch 8 VDC ABS up to 2007

Nissan
- Model year coverage to 2007
- New Engines and Airbag systems
  - Kubistar – 1.5 Diesel
  - Interstar – Airbags added
  - Primastar – Airbags added and Injector coding on 2.0 M9R engine
- New Tiida Model added
  - Petrol engine – Read, clear codes + live data
  - ABS – Read and clear codes
  - Airbags – Read and clear codes
  - Actuator tests
- Disable injectors
- Vary ignition timing
- Cooling fan
- ABS motor
- ABS solenoid valves

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WHAT'S NEW
9.2 Vehicle Application Software

9.2 VEHICLE COMMUNICATIONS SOFTWARE – IT MEANS BUSINESS

SO WHAT'S NEW IN 9.2?

- Hyundai has been added covering the 10 most popular models.
- 18 major vehicle manufacturer software titles are updated and enhanced with model year coverage extended to 2007.
- Over 2,100 new vehicle selections have been added.
- Plus 5,300 new and extra data PID's (Parameter Identification).
- Trouble codes and descriptions give the technician a guide to tracing the route cause of the problem, and with 9.2 a further 23,000 have been introduced taking the total to an exstensive 172,000.
- Over 800 new functional tests are added at 9.2 with more than 5,200 available in total.

Software and information development remains at the heart of our business, because we believe that it's essential to yours. Our focus on delivering accurate information, linked to fast vehicle communications software with built in functionality enables our customers to deal with the fundamental diagnostic tasks faced every day on modern vehicles. In addition to this, we are dedicated to supporting our Customers with effective product support, user training plus informative and knowledge building TechEd seminars.

JOB CARD

MAKE Vauxhall **MODEL** Vectra C
FUEL Diesel **YEAR** 2004

INSTRUMENT PANEL PROBLEM DETAILS

Whilst driving the vehicle the instrument cluster lights up like a Christmas tree, all of the gauges including the speedo and the rev counter drop to zero. After the vehicle is turned off with the key, the instrument panel remains illuminated.

DIAGNOSIS

With 9.2 software, the CIM and the instrument cluster are interrogated. Multiple fault codes are present in the CIM. A screen capture is made of the codes using the S button and saved to a USB stick drive. The codes are cleared, but CIM fault codes remain. A meter is used to check the CAN wiring between the affected modules, all O.K. The live data also checks out O.K on the instrument cluster.

SOLUTION

A replacement CIM unit is ordered from the main dealer, and then fitted and more importantly coded to suit the configuration of the vehicle using 9.2 software. Problem solved – job completed.

JOB CARD

MAKE Ford **MODEL** Mondeo ST220
FUEL Petrol **YEAR** 2005

FAILED XENON UNIT PROBLEM DETAILS

Whilst driving at night the customer receives a dash board notification of a failed headlamp bulb.

DIAGNOSIS

This vehicle is fitted with Xenon headlamps. The Near side lamp is inoperative. With 9.2 software our technician assesses the Xenon headlamp unit for fault codes and retrieves a diagnostic trouble code for a failed Xenon unit. There is a special procedure to replace this unit, and also to set the unit up correctly after fitting.

SOLUTION

In order to fit a new headlamp unit, the system has to be set into a special mode and a specific replacement procedure has to be followed. This is because the system uses around 40,000 volts to start the Xenon bulb, and the system sets the direction of the light beam relative to the ride height of the vehicle. 9.2 software allows the technician to safely replace the unit and to ensure that it is correctly reinitialised ready for service.

JOB CARD

MAKE Mercedes **MODEL** SLK 350 Auto
FUEL Petrol **YEAR** 2002

GEAR SHIFT MODULE PROBLEM DETAILS

When driving the vehicle in full auto mode it 'jumps' gears. When driving the vehicle in manual mode, moving up through the gears using the stick, the gearbox changes O.K. The vehicle is also O.K. when driven in W (winter mode). The vehicle owner had been quoted £1200 for a gearbox refurbishment.

DIAGNOSIS

Using 9.2 Mercedes application the technician reviewed fault codes and the live data stream for the EGS (Electronic Gear System). As the shift lever was moved through the gear selection range the data parameter for currently selected gear read F (rather than the gear number) when in gear position 1 and 2. The wiring was checked on the gear shift module, which was ok.

SOLUTION

A new gear shift module was fitted. The adaptation values for the shift module, which are stored by the EGS, were reset by the 9.2 software. The vehicle was road tested and the problem has been resolved.

JOB CARD

MAKE Hyundai **MODEL** Santa Fe 2.0 TD
FUEL Diesel **YEAR** 2003

BRAKE SYSTEM PROBLEM DETAILS

Brake system problem. When the customer slows to a stop the brake pedal pulses.

DIAGNOSIS

With 9.2 software the technician assesses the vehicles fault codes, but none are stored. Looking through the live data in graphing mode whilst driving the vehicle the technician notices that the off side front wheel speed data value has dropped to zero, whilst the other three wheel speeds are registering 11mph.

SOLUTION

The technician uses a multimeter to check the sensor output and wiring which checks out fine. Disconnecting the sensor with the ignition on flagged a fault code. A replacement sensor is fitted. 9.2 software clears the code no problem. A roadtest proves that the job has been successfully completed.

JOB CARD

MAKE Volkswagen **MODEL** Passat
FUEL Diesel **YEAR** 2006

ABS SYSTEM PROBLEM DETAILS

ABS Warning Lamp Illuminated permanently.
No ABS system function. No codes or data available.

DIAGNOSIS

The ABS control unit was checked for powers and earths, all were present. The ABS unit has failed internally. A replacement ABS unit was sourced and fitted to the vehicle. When the key is turned on the ABS performs a self test and the warning lamp goes out. The ABS unit requires the air, which was trapped inside during the change procedure, to be bled from the brake system before the car can be driven.

SOLUTION

Using 9.2 software, the technician can select the Bleed ABS function from the Volkswagen menu. 9.2 sends an instruction to the ABS ECU for it to enter the factory bleed mode. This causes the hydraulic system to pressurise and enables the technician to bleed the brakes to rid them of the air trapped inside. Previously, this job would have to have been sent to the dealer. 9.2 enables the independent workshop to complete the job.

9.2

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