English

Sykes-Pickavant

Workshop SPe

USER'S GUIDE

User Manual

Release 4.1

Produced by the Manufacturer

Copyright information

1.1 Foreword to User Manual

Dear Customer, thank you for choosing our diagnostic equipment that will enable you to keep the pace with the ever-changing technology of Vehicles, Motorbikes and Trucks on-board electronics.
Please read this manual carefully and follow the indications provided in paragraph Safety rules.

1.1.1 Contents of the User Manual

The User Manual is divided into sections:

Product Description	Product description, list of components
Product installation	Software and Hardware installation
Operating instructions	Description of functions, legend of icons and commands
Troubleshooting	Solutions to frequently encountered problems/FAQ's

1.1.2 Symbols and glossary of safety-related terms and warnings

The following symbols are used throughout the manual to highlight important indications or information:

 ***Warning***	This symbol is used to call your attention to certain particular operations and the relevant instructions
 ***Important***	This symbol is designed to draw your attention to important information.
 ***Note***	This symbol is used to highlight useful indications on how to use the product.

1.1.3 Safety rules

Signs and symbols:

The symbols used in this paragraph have the following meanings.

DANGER: **Failure to comply with or improper use of the information identified by this symbol may result in severe injury or death.**

WARNING: **Failure to comply with or improper use of the information identified by this symbol may result in personal injury and equipment or property damage.**

CAUTION: **Failure to comply with or improper use of the information identified by this symbol may result in improper operation of device and/or software.**

Precautions required during operation/installation:

DANGER:

- **Abnormal conditions**: Continued operation when the device has been producing smoke or abnormal odours may create a fire or electric shock hazard. Cut off power supply immediately and contact a service centre.
- **Water and foreign matter**: If foreign matter (metal, water or other fluids) enter the device, cut off power supply immediately and contact a service centre.
- **Shocks and damage**: If the device is damaged, unplug it from the power mains and contact a service centre.
- **Disassembly**: Never attempt to dismantle or make changes to the device, as this may result in a risk of fire or electric shock.
- **Placement**: Keep device away from heat, oil fumes or vapour. Such ambient conditions might create a risk of fire and electric shock. Keep the device away from fluids and volatile flammable materials. Non compliance may create a fire hazard.

WARNING:

- **Placement**: Do not place the device on unstable surfaces, high shelves or other unstable locations or the unit may fall, leading to injury and/or damage.
- **Foreign bodies**: Do not insert any foreign bodies into the connectors as this may lead to device failure.
- **Maintenance**: Never use thinners, cosmetics or other volatile agents to clean the exterior of the device. Clean with a cloth wetted with a diluted solution of water and mild detergent.

WARNING:

- **Recharging the device:** The device must be recharged in compliance with the manufacturer's instructions. The Manufacturer shall not be liable for damage in the event the device is recharged using other power sources.

WARNING

- For the maintenance of packages containing the equipment and the relocation of the equipment once installed, the provisions of Italian Law Decrees DDLL 626 of 19/9/94 and 242 of 19/3/96 apply. Use appropriate tools to open package.

WARNING:

- **Usage conditions:** This appliance has been designed and tested to ensure safe operation. The user is required to observe the information and warnings provided in this manual to ensure safe operation and preserve the safety features of the appliance.

  Do not allow operation of this equipment by unqualified persons.
  It is the owner's responsibility to keep warning labels and rating plates clean and legible.

  This manual is subject to changes and updates.
  Be sure to read the update and customisation instructions included in this manual.
  The manual is divided into sections for ease of reference. Manual instructions - especially those concerning maintenance - are intended for use by specialised technical personnel with good knowledge of mechanics, electro mechanics or of the operation of computerised unit-based systems. The system has been designed to facilitate operation and troubleshooting, with a wide range of display messages providing detailed indications to help locate problems.

  Please read these instructions carefully before operating the equipment.
  Collect this manual and all literature supplied with the equipment in a file folder and keep it with the machine where operators can easily access it.

  Make sure installation has been performed in compliance with all applicable regulations and standards.
  Read this manual carefully and learn how to use the equipment properly and safely.
  Be sure to observe applicable accident prevention rules when operating and servicing the equipment.
  In the event of unauthorised changes to the equipment, the manufacturer shall not be liable for any resulting damage or incident. Please note that bypassing or removing safety devices is in violation of workplace safety rules in force in the user's country.

1.2 Hardware Specifications of the EQUIPMENT

Dimensions	Height	200mm
	Length	120mm
	Depth	35mm
Processor:	Intel/Marvell II PXA270	
	416MHz Internal Clock	
	208MHz Bus	
Memory:	32MB RAM	
	16MB StratFlash	
	SD Removable >= 1GB	
LCD:	Resolution 320x240 Size 3.5”	
	262144 Colours – Brightness 300 cd/m2	
Keyboard:	6 Navigation keys	
	10 Alphanumeric keys	
	1 Function key	
	1 On Button: **(N.B. Not A Tool Off Button)**	
Power supply:	8-36Vdc (diagnostic socket, 240Volt AC power mains adapter.	
Current draw:	250mA (12Vdc)	
Battery:	NiMh 7.2V 700mA/H	
	Battery life: Full charge = Circa 60 minutes use	
	Automatic recharge from vehicle diagnostic socket; or 240Volt AC mains adaptor.	
Lithium Battery (optional):	Li 7.4V 2200mA/H	
	Battery life: Full charge = Circa 240 minutes use	
	Automatic recharge from vehicle diagnostic socket; or 240Volt AC mains adaptor.	
Total weight:	500g	
Serial port	RS232 serial port	
MASTER USB 1.1 port	USB 1.1 port for printer, Bluetooth module, other	
SLAVE USB 1.1 port	USB 1.1 port for PC updates	

Supported Hardware Protocols:

Blink code, CAN ISO 11898, ISO 15765-4, K-L, ISO 9141-2, ISO 14230, SAE J1850 PWM, SAE J1850 VPW,
ISO 11519-2, SAE J1708, SAE J2411, SAE J1939, RS485

1.3 Software Specifications of the EQUIPMENT

The EQUIPMENT software was developed on a Linux Embedded 2.6.x platform.
This operating system ensures high stability, high safety level, software complete control, real-time hardware control, and real-time processors control.

The EQUIPMENT software is based on images, animations and strings.

The navigation is intuitive, quick and efficient.

The QUICK MENU function key allows selecting Home page, on-line Help (it indicates what can be done in the selected page), language (it allows selecting the language from any software point), Equipment SW switch-off, date and time.

The Equipment software supports many languages, which are always available on-line during vehicle connection as well as off-line, *i.e.* during software pages standard navigation.

The EQUIPMENT software can work both in the traditional diagnosis mode and in the innovative FUNCTIONS mode (EXPERT MODE).
Another new feature is the Instrument Cluster Page which is displayed as soon as the communication with the selected vehicle control unit is started or after function is selected: the most important parts for the diagnosis of the selected system, or anyway the most-frequently used, are displayed.
Any error is immediately displayed and can be immediately deleted (even if a special page devoted to errors is available).

1.4 Foreword - EQUIPMENT

1.4.1 Upon receipt

Upon receipt, check packing and product components for damage in the presence of the carrier. Liability for transport damage attaches to the forwarding agent or carrier. Report any damage, giving details of the nature and severity of the damage, in the shipping document and file a claim against forwarding agent or carrier.

1.4.2 How to obtain your User Password

Contact Sykes-Pickavant directly to obtain your User's Password directly so that it can be entered into the EQUIPMENT upon its first start-up, so that the diagnostic software module can operate.
Sykes-Pickavant recommend saving a copy of the password inside the battery compartment.

1.4.3 Product Identification Number

A label with product serial number is stuck on the package. This Identification Number is used when service or warranty return is required.

1.4.4 Maintenance and care

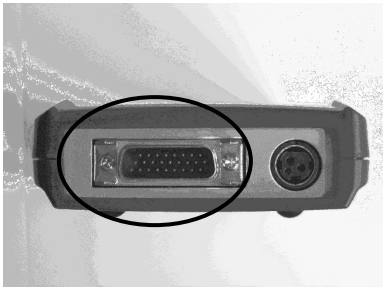
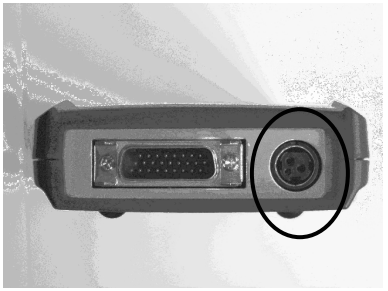
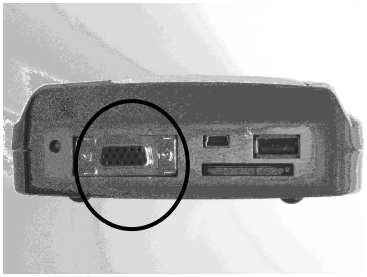
Please follow these instructions to avoid malfunction or unexpected failure:

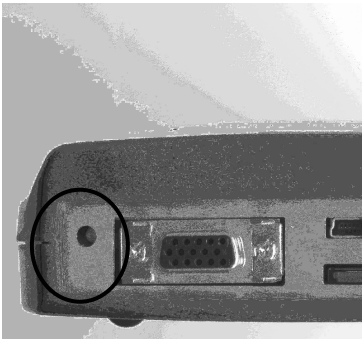
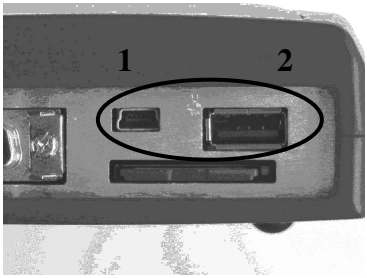
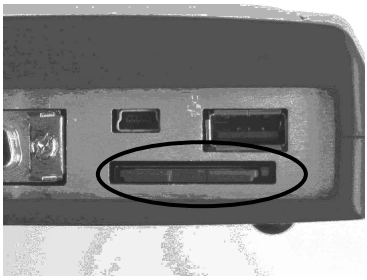
- Do not drop or knock the Equipment.
- Avoid spilling fluids on the Equipment.
- Do not use batteries other than those specified in this manual.
- Do not service the Equipment when it is in operation.
- Do not clean the Equipment when it is in operation.
- Keep the package for safe handling.

1.4.5 Description of the EQUIPMENT

1.4.5.1 Connector identification

The self-diagnosis module features the following ports:

	“Diagnosis” 26-pin high-density D connector for connection to vehicle ECU.
	KYCON “Power Supply” connector to feed module where vehicle diagnostics socket does not provide for power supply
	“Serial” 9-pin sub-D connector for connection to PC

	Diagnostic module status LED. GREEN LED FLASHING: Module powered and ready to start diagnostic session GREEN/RED LEDs FLASHING ALTERNATELY: Module powered, starting diagnostic session with selected system.
	1 SLAVE USB 1.1 port USB port for updates (connection to PC). 2 MASTER USB 1.1 port for exporting the Report on a USB Pen Drive.
	SD Memory Card slot

1.4.5.2 Power supply

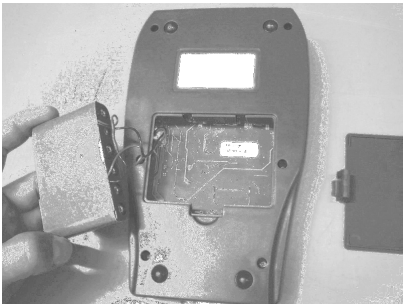
The EQUIPMENT incorporates a rechargeable battery that ensures operation and power-up.
It may also be powered from one of the following sources:

- Diagnostic cable
- 220-240 Volt AC power supplier

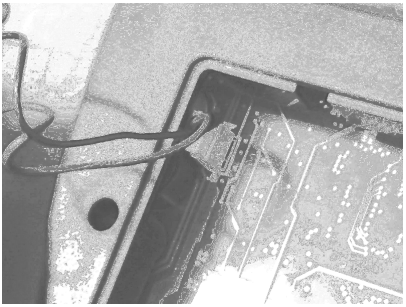
1.4.5.3 Battery installation or replacement

The Equipment comes with the batteries installed in the battery compartment and ready for use. If a further recharge is required, the Equipment can be connected to a vehicle using the EOBD cable or the 12Vdc battery power supply cable or mains 230Vac power cable.
If the battery is flat, the time needed for a complete recharge is 20 hours approximately for NiMH batteries type, whereas the time needed is 5 Hours approximately for Lithium batteries type.

Remove the cover at the back of the Equipment to access the battery.

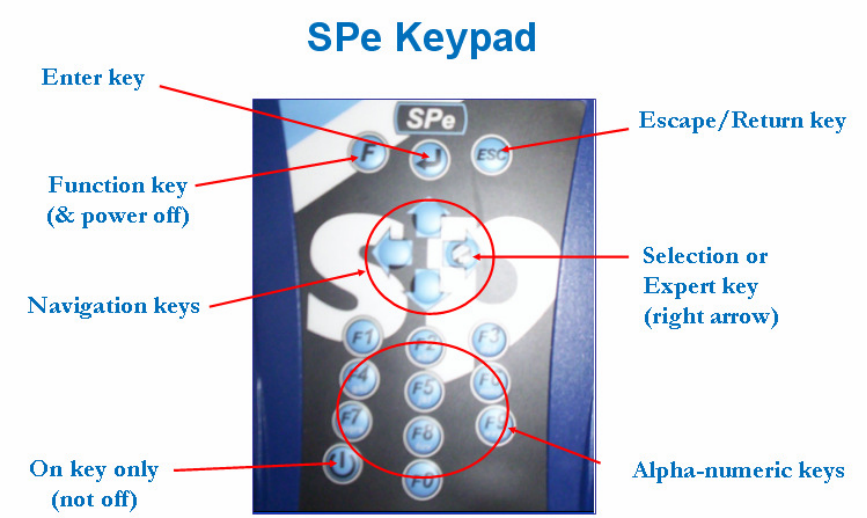


Take great care when working inside the battery compartment.



In case of display flickering, it is recommended to recharge the batteries as soon as possible as they are running flat. Whenever possible re-charge the batteries fully.

1.4.6 **Keypad**


SPe Keypad
Enter key
Function key
(& power off)
Navigation keys
On key only
(not off)
Escape/Return key
Selection or
Expert key
(right arrow)
Alpha-numeric keys
SPe
F
ESC
F1
F2
F3
F4
F5
F6
F7
F8
F9
F0


Sykes-Pickavant
SPe
Vehicle selection
Last 10 vehicl
Last 10 dia stics
Last 10 Maintenances
Sykes-Pickavant
SPe
F
ESC
F1
F2
F3
F4
F5
F6
F7
F8
F9
F0

Description of keyboard

On key	Press this button only to switch on the SPe (brief press though – do not hold on, release when click is heard). Do not press this button to switch off the equipment, as this can corrupt the SD card.	
Escape key	This button is used for cutting the communication with the vehicle. Is possible to go on by using the Equipment in off-line mode. This button is also used for stepping back in the previous menu pages.	
Enter key	This button is the ENTER key, used to confirm any User action.	
Function key	This button is used for all the functions concerning Equipment set-up and software facilities, and to select equipment power off option.	
Navigation Keys	Left Arrow selection key 'EXPERT' Key *This key allows the User to select the vehicle and go on until the execution of the selected function, without need of any other operation.* Vertical Arrows selection keys	   

Alphanumeric keypad	In the Alphanumeric Keypad are present all the keys necessary for the proper use of the software.	Button function Press multiple times quickly for later values
	F0	Number 0 SHIFT (capital letters) DEL (delete)
	F1	Number 1 SPACE (space) During the connection with a vehicle's system, the F1 key will save the actual live parameters' values into the Report
	F2	Number 2 Letter a,b,c (A,B,C)
	F3	Number 3 Letter d,e,f (D,E,F)
	F4	Number 4 Letter g,h,i (G,H,I)
	F5	Number 5 Letter j,k,l (J,K,L)
	F6	Number 6 Letter m.n.o (M,N,O)
	F7	Number 7 Letter p,q,r,s (P,Q,R,S)
	F8	Number 8 Letter t,u,v (T,U,V)
	F9	Number 9 Letter w,x,y,z (W,X,Y,Z)

1.5 Installation and preliminary operations

The EQUIPMENT requires no particular installation procedure.

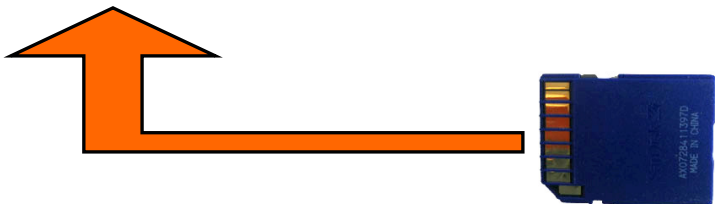
Important
Before powering on the display for the first time, make sure you have the User Password supplied by the Manufacturer handy or Dealer.

Note
If you experience any problems with installation, please read the manual section that discusses
Troubleshooting

1.5.1 Installation

Warning
Make sure the Equipment is off before performing the following inspection.

Make sure the SD memory card is in place in its slot:



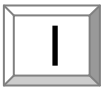
Example of SD Memory Card

1.5.2 **Connections**

Warning
Make sure the Equipment is off before performing the following inspection.

	Connect the diagnostic cable across the vehicle connector and the “Diagnosis” 26-pin connector. If the connector has been plugged correctly to the EQUIPMENT, you will hear the retaining clip click into place, indicating the connector has locked into place in the mating piece. To remove the connector, press the tab on the side and then pull.
	Connect the round connector of the power supply cable to the EQUIPMENT if power supply through the OBD connector is not available. While inserting the connector, its armour will slide to lock the connector into place. To remove this connector, pull on the sliding armour and the connector will come clear.

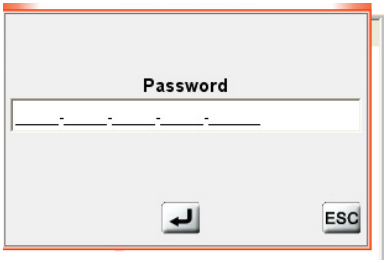
1.5.3 **EQUIPMENT power-up**

	After connecting the cables as required, press the indicated key to power on the Equipment. **Do not try to power off the Equipment by using this button**.

	To turn the SPe off, press the F Function button and follow prompts.

1.5.4 How to enable the EQUIPMENT Self-diagnosis software

On first power-up, you will need to enter the User Password

	Power on EQUIPMENT. Enter the User Password from the alphanumeric keypad. Press the Enter key to confirm.

Important
The EQUIPMENT software will not work if the enable procedure has been aborted.

Important
If you enter a wrong User Password, a warning message appears on the display and the password entry window remains displayed so the correct password can be entered.

Note
A Password can be entered. If this is the case, the Equipment software works in XDEMO mode (*virtual demonstrative vehicle to check software and electronic board status).*
To select the XDEMO mode, follow points under section 1.6.2, then select "Vehicles Systems Diagnosis"". To continue, refer to section 'Traditional Diagnosis Example ' selecting the XDEMO vehicle.

1.6 How to use the EQUIPMENT

1.6.1 How to start

Warning:
Before connecting the diagnosis connector to the vehicle system, ensure that the cable is the number specified by the software when selecting the ECU to be diagnosed.

For correct vehicle diagnosis, all specifications of the system to be diagnosed must be selected correctly.

The status of communication with ECU can be monitored on a dedicated graphic display.

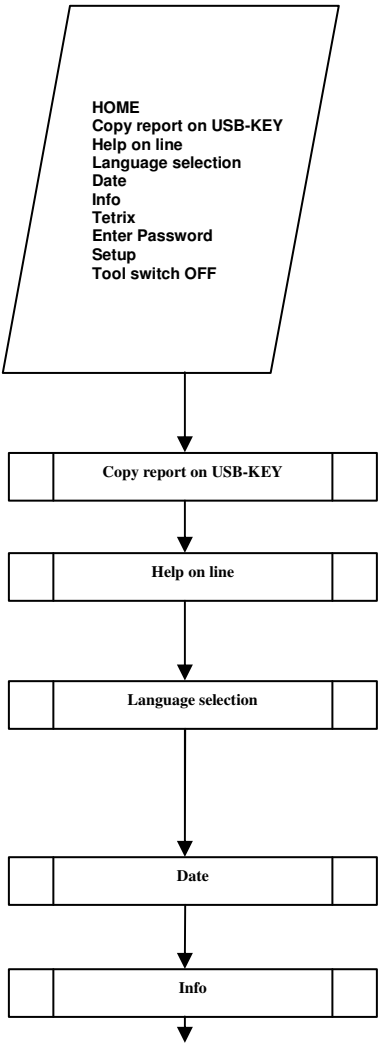
If there are any errors stored in the ECU, the corresponding graphic display is turned on.

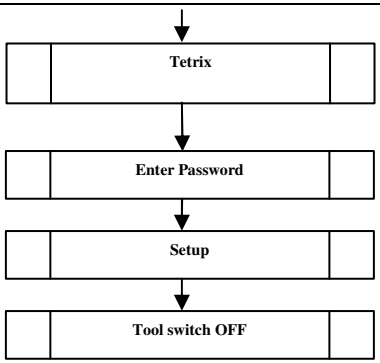
The software start automatically as the Equipment is being switched on (see 1.4.6).
Select the right option from the Main Menu.
To set the user parameters, make use of the '**F**' key.

Always ensure that all vehicle doors (including boot and bonnet) are closed, and that time delayed interior lights are turned off (or timed off) before attempting any vehicle scan or diagnostic session with SPe.

Failure to do this may limit SPe communication with on board ECU's, and prevent successful tool operation.

Function key F

***Functions* Key** 	Function F key allows selecting the following options. To select the option, use Arrow keys (up and down), and confirm with right Arrow key or with Enter.	
Copy report on USB-KEY	To copy Reports, connect a USB pen drive inside the special Equipment USB-connector, and launch the digital printout. Reports will be copied on the USB pen drive	
Help on line	Help on line	
Language selection	Select the diagnosis displaying language. To select the language, use Arrow keys (up and down), and confirm with right Arrow key or with Enter.	
Date	Date and Time can be set in the Set-Up menu. Use the alphanumeric keypad, and press Enter to confirm.	
Info	Information relating to displaying software version and Diagnosis Data Base.	

Tetrix	This function is used to check display quality and keys operation.	
Enter Password	User's Password Entering	
Setup	Workshop Data Entering	
Tool switch off	Switching Off the Equipment Software.	

1. Select the option 'Language selection ' (press 'ENTER' to go in the language setup page) and choose the right language.
   Press 'ENTER' to confirm.
2. Select the option 'Date' (press 'ENTER' to go in the Date/Time setup page).
   Make use of the Navigation keys and Alphanumeric keyboard to set the Time.
   Press 'F' to set the Date.
   Press 'ENTER' to confirm, 'ESC' to return in the main Menu.
3. Select the option 'Setup' to insert the Workshop Details.
   Select the option 'Workshop' and press 'ENTER' to go in the Workshop Details page.
   Select all the records present on the list using the Navigation Keys and press 'ENTER' to modify the record. Make use of the Alphanumeric Keyboard to fill the record up.
   Press 'ENTER' to confirm, 'ESC' to exit, 'F' to delete.
   When the Workshop records are properly filled up, press 'ESC' to return to the Main Menu.

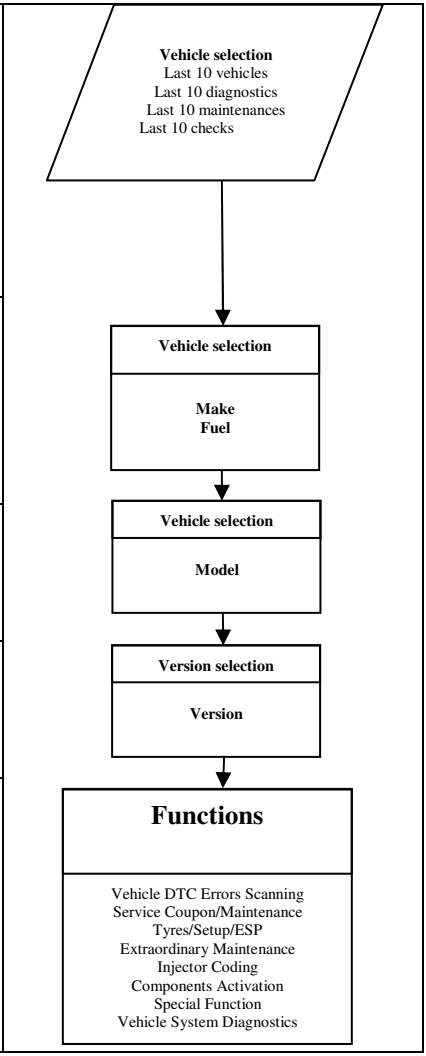
1.6.2 Vehicle and system selection

Vehicle can be selected in one of two ways:

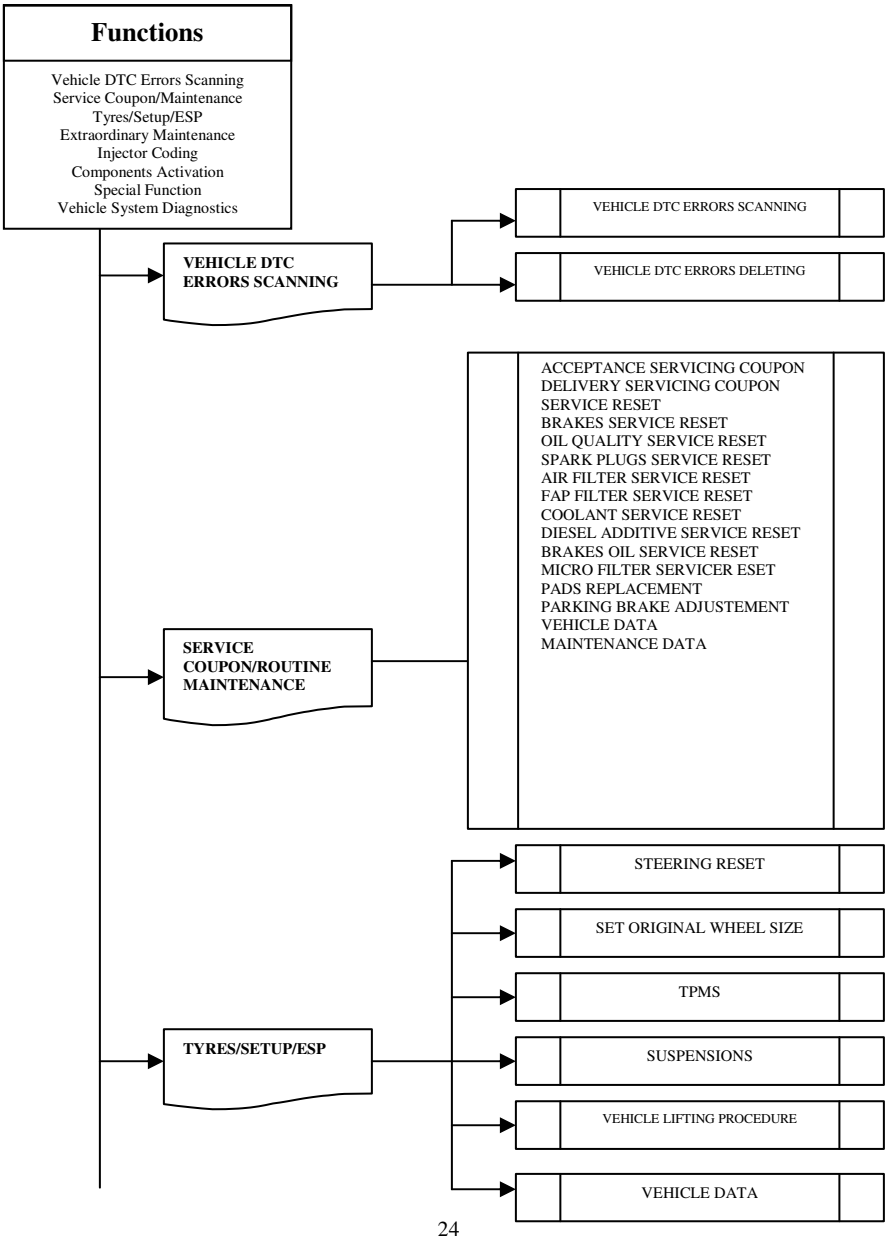
- Select in the order: make, fuel, vehicle model and version.
- Choose from the last ten vehicles selected.

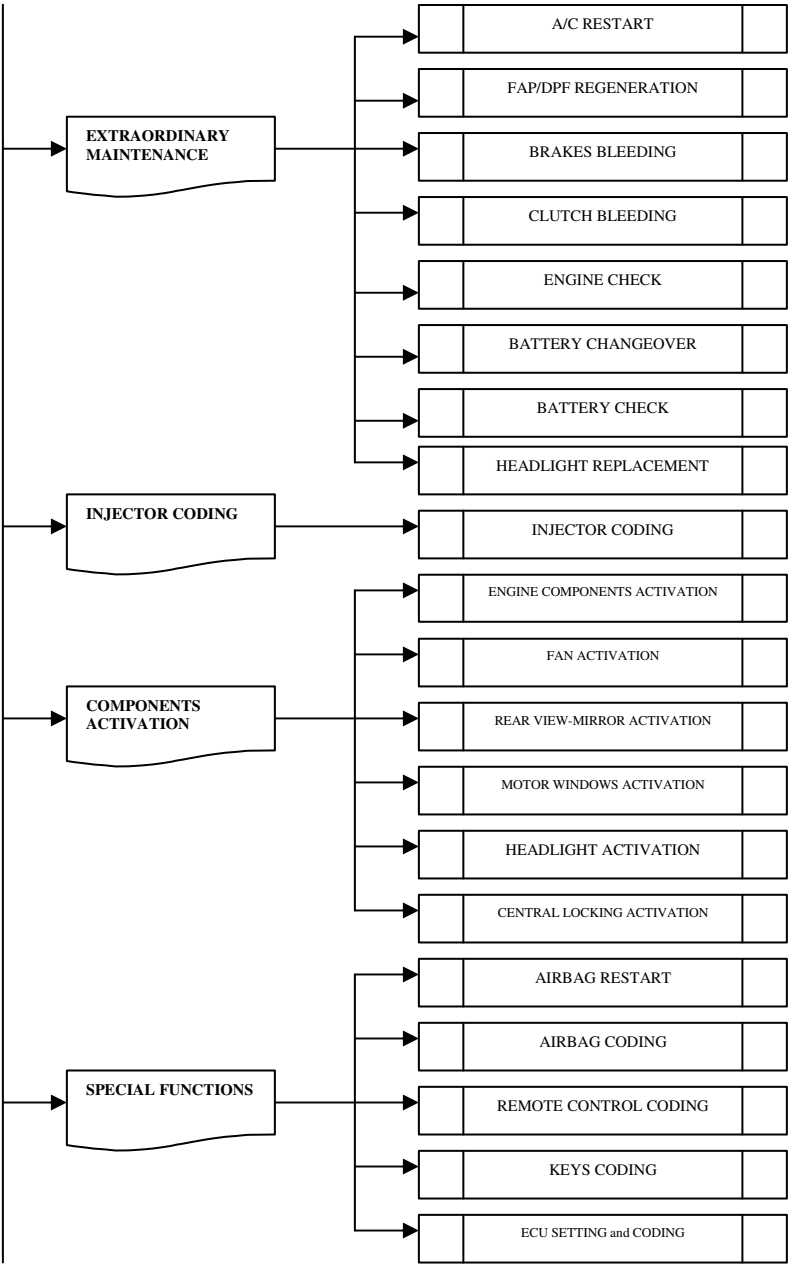
NAVIGATION

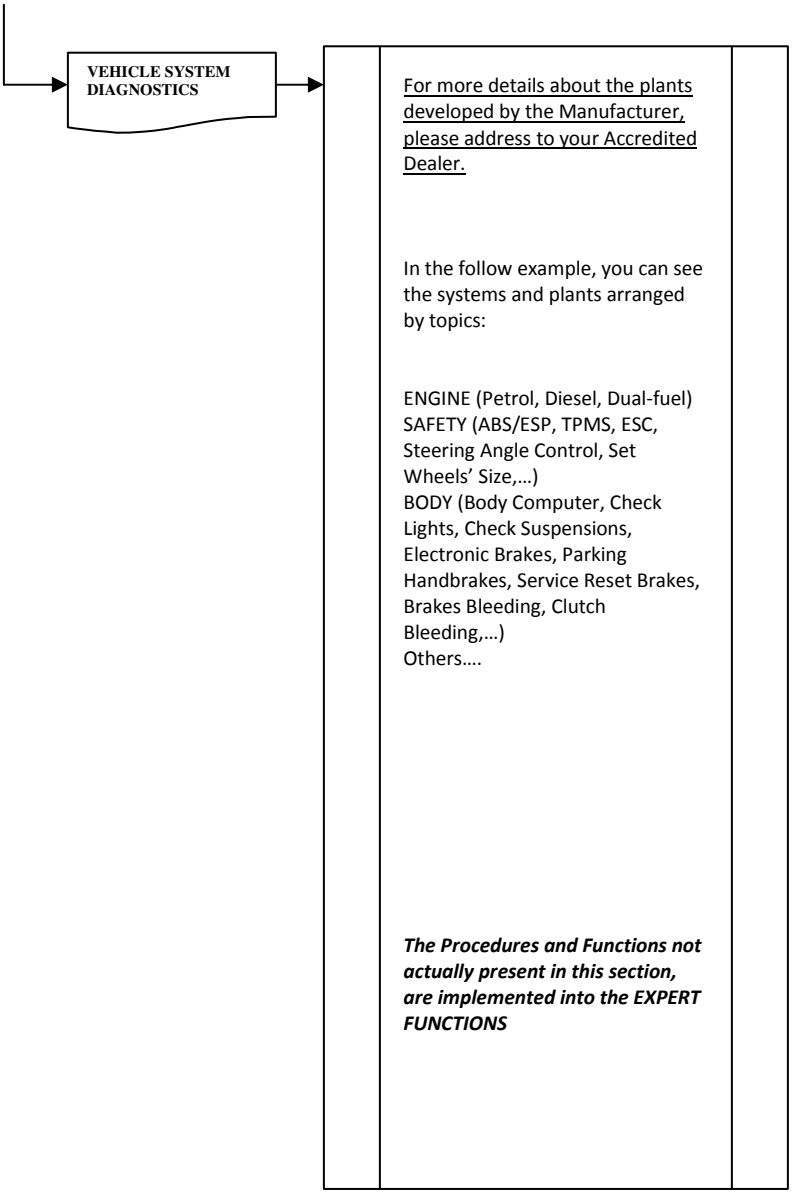
Main Page	1. Vehicle selection. 2. Selection of the last 10 diagnosed vehicles. 3. Selection of the Reports of the last 10 diagnosed vehicles. 4. Selection of the Reports of the 10 last Coupons made To select, use Arrow keys (up and down), and confirm with right Arrow 'EXPERT' key or with Enter.
Vehicle selection	To select the vehicle, use Arrow keys (up and down), and confirm with right Arrow 'EXPERT' key or with Enter. For quick selection, press the letter corresponding to vehicle.
Model selection	Selection of the previously-selected vehicle make model (confirm with right Arrow 'EXPERT' key or with Enter).
Version selection	Selection of the previously-selected vehicle make version (confirm with right Arrow 'EXPERT' key or with Enter).
Functions	Selection of the Functions dedicated to the Maintenance, Tyres, Extraordinary Maintenance, Body Shop and specific Vehicle systems.



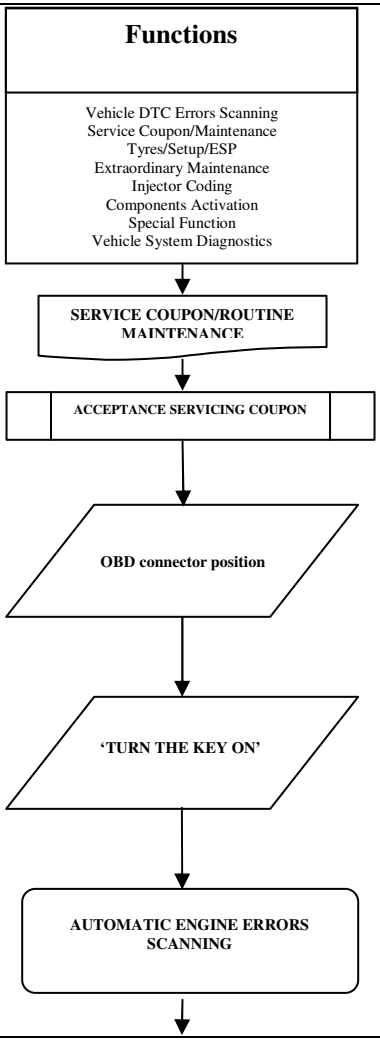
1.6.2.1 'EXPERT' functions

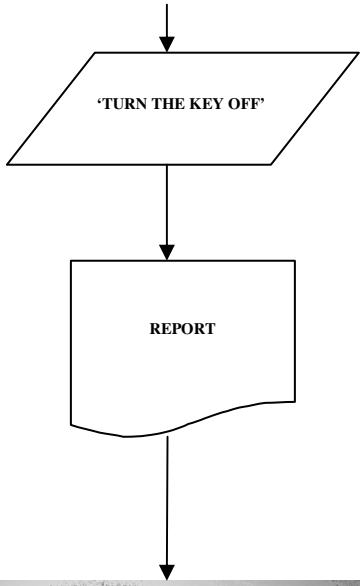
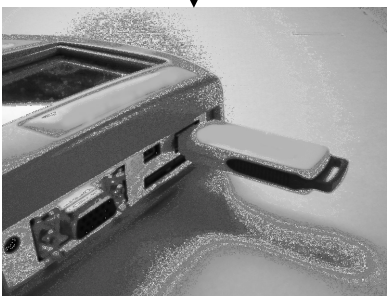


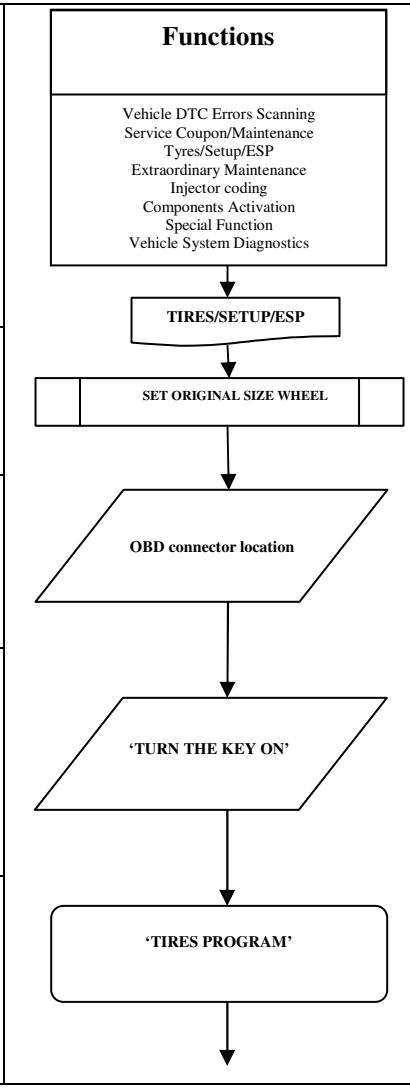

EXTRAORDINARY MAINTENANCE
A/C RESTART
FAP/DPF REGENERATION
BRAKES BLEEDING
CLUTCH BLEEDING
ENGINE CHECK
BATTERY CHANGEOVER
BATTERY CHECK
HEADLIGHT REPLACEMENT
INJECTOR CODING
INJECTOR CODING
COMPONENTS ACTIVATION
ENGINE COMPONENTS ACTIVATION
FAN ACTIVATION
REAR VIEW-MIRROR ACTIVATION
MOTOR WINDOWS ACTIVATION
HEADLIGHT ACTIVATION
CENTRAL LOCKING ACTIVATION
SPECIAL FUNCTIONS
AIRBAG RESTART
AIRBAG CODING
REMOTE CONTROL CODING
KEYS CODING
ECU SETTING and CODING

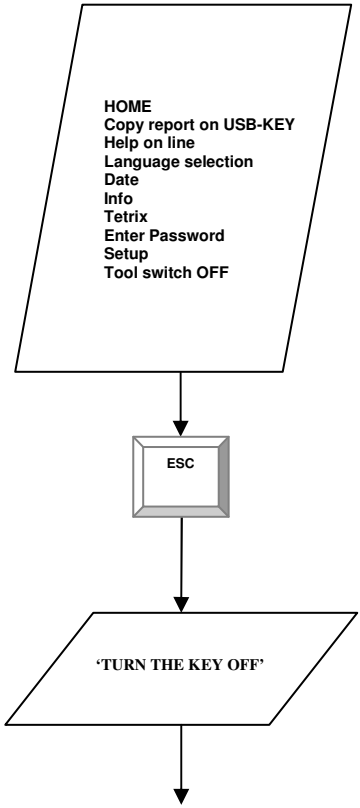

VEHICLE SYSTEM DIAGNOSTICS
For more details about the plants developed by the Manufacturer, please address to your Accredited Dealer.
In the follow example, you can see the systems and plants arranged by topics:
ENGINE (Petrol, Diesel, Dual-fuel)
SAFETY (ABS/ESP, TPMS, ESC, Steering Angle Control, Set Wheels' Size,…)
BODY (Body Computer, Check Lights, Check Suspensions, Electronic Brakes, Parking Handbrakes, Service Reset Brakes, Brakes Bleeding, Clutch Bleeding,…)
Others….
The Procedures and Functions not actually present in this section, are implemented into the EXPERT FUNCTIONS

1.6.2.2 EXPERT Functions: how to use it

EXAMPLE		
WORK to BE DONE	**Vehicle ordinary maintenance and change of tyres having a different diameter.**	
Actions to be taken		
ACCEPTANCE SERVICING COUPON	Select vehicle, make and model. The function is used upon vehicle receipt to check for any engine failure together with the customer. Select "Ordinary Maintenance Coupon" Functions Menu Press 'EXPERT' key or ENTER to confirm	
	Select the "Acceptance Servicing Coupon" function. Press 'EXPERT' key or ENTER to confirm	
	Check vehicle connector position, connect test equipment, and proceed as follows. Press 'EXPERT' key or ENTER to confirm	
	Wait for the "Turn key to ON" message to be displayed. Turn vehicle key to switch instrument cluster ON. Wait 1 second and then Press ENTER to confirm.	
	Vehicle engine errors automatic search.	

	Once errors automatic search is completed, turn vehicle key to switch instrument cluster OFF, and continue. Press ENTER to confirm	
	Once search is completed, the Vehicle Acceptance Report will be displayed. Continue pressing ENTER key or EXPERT key To print, press the ENTER key	
	Connect a USB pen drive inside Equipment USB port. Press ENTER to confirm To go back to 'Functions' menu, press ESC key.	

SET ORIGINAL SIZE WHEEL	Select “Tyres/Track alignments/ESP” Functions menu. This function is to be used in case of tyres or rims size change. Press ‘EXPERT’ key or ENTER to confirm	
	Select the “Set Original Size Wheel” Function Press ‘EXPERT’ key or ENTER to confirm	
	Check vehicle connector position, connect the Equipment, and proceed as follows. Press ‘EXPERT’ key or ENTER to confirm	
	Wait for the “Turn key to ON” message to be displayed. Turn vehicle key to switch instrument cluster ON. Wait 1 second and then Press ENTER to confirm.	
	Select the correct tyres set-up programme inside this Function. Press ‘EXPERT’ key or ENTER to confirm	

	A Report of the operations made can always be printed. Press the Right Arrow key until the Report is displayed. To copy the Report, connect a USB pen drive to the Equipment. Press the Equipment **F** push-button, and select the option "Copy report on USB-KEY". Press ENTER to confirm	
	When the operation is successfully completed, press ESC to disconnect the Equipment.	
	Turn vehicle key to switch instrument cluster OFF, and continue. Press ENTER to confirm To go back to 'Functions' menu, press ESC	

DELIVERY SERVICING COUPON

The function shall be used after a Coupon is completed and before the vehicle is delivered to the Customer.

Press ESC until reaching the Functions menu.
Select “Ordinary Maintenance Coupon” Functions Menu

Press ‘EXPERT’ key or ENTER to confirm

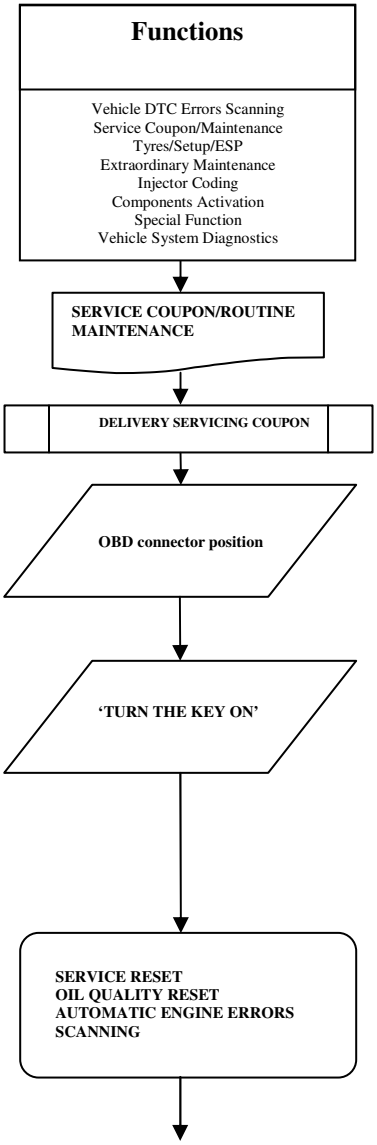
Select the “Delivery Servicing Coupon” function.
Press ‘EXPERT’ key or ENTER to confirm

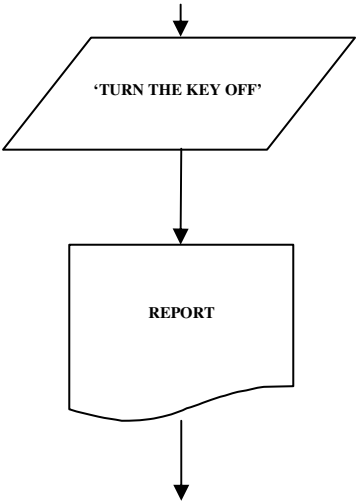
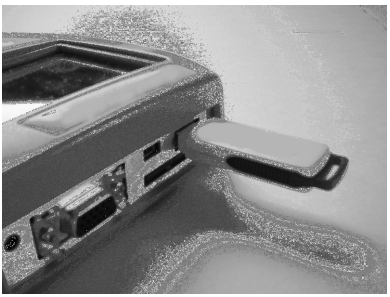
Check vehicle connector position, connect the Equipment, and proceed as follows.
Press ‘EXPERT’ key or ENTER to confirm

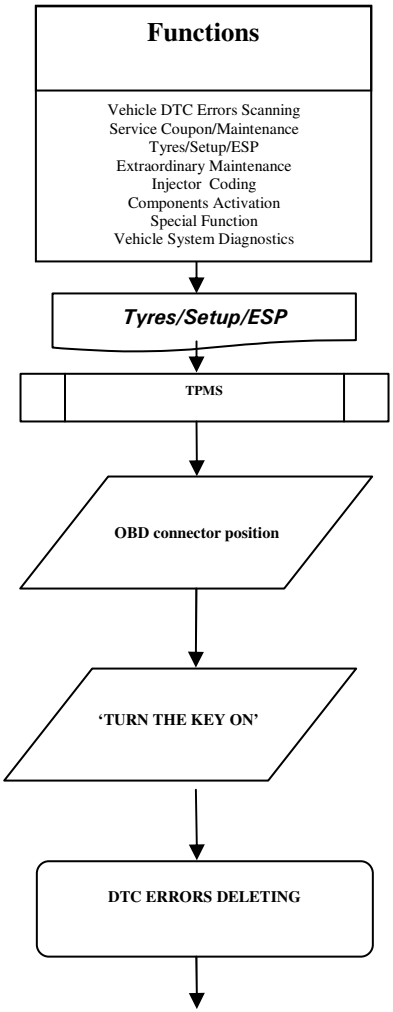
Wait for the “Turn key to ON” message to be displayed.
Turn vehicle key to switch instrument cluster ON. Wait 1 second and then Press ENTER to confirm.

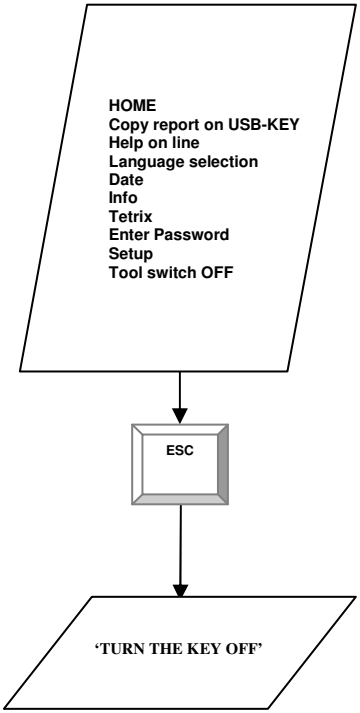
Before starting the operation, always read the displayed information messages, and confirm with ENTER

Several operations are automatically carried out during this phase. In particular:
1. Service Reset
2. Oil Quality Reset (if the system is present on the vehicle).
3. Engine Errors Check (Engine Check).

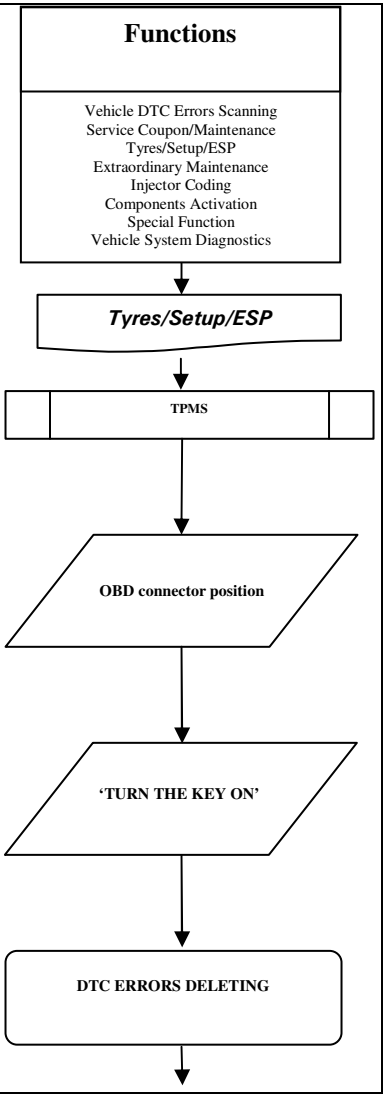


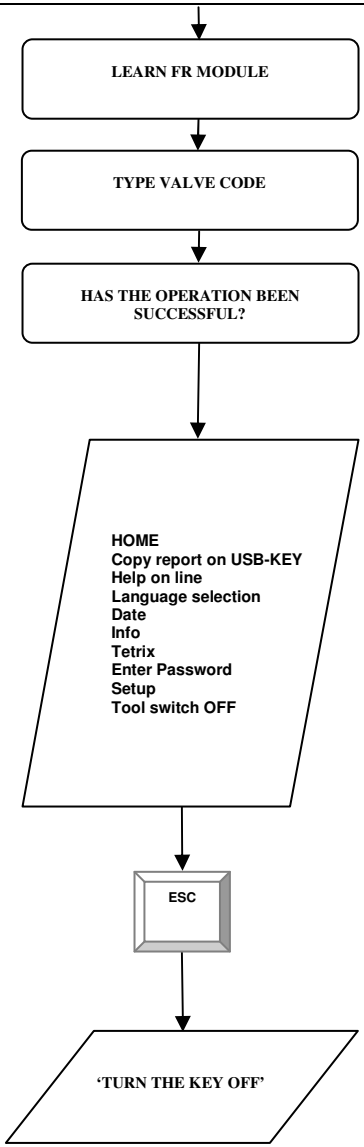
	Once Function is completed, turn vehicle key to switch instrument cluster OFF, and continue. Press ENTER to confirm	
	Once search is completed, the Vehicle Maintenance Report will be displayed. Continue pressing ENTER key or 'EXPERT' key To print press ENTER key	
	Connect a USB pen drive using the Equipment USB port. Press ENTER to confirm	

EXAMPLE		
WORK to BE DONE	**Front Right TPMS sensor replacement**	
Actions to be taken		
Tyres/Setup/ ESP	Select vehicle, make and model. Select the function 'Tires/Setup/ESP' Press 'EXPERT' key or ENTER to confirm	
	Select the 'TPMS' function. Press 'EXPERT' key or ENTER to confirm	
	Check vehicle connector position, connect the Equipment, and proceed as follows. Press 'EXPERT' key or ENTER to confirm	
	Wait for the "Turn key to ON" message to be displayed. Turn vehicle key to switch instrument cluster ON. Wait 1 second and then Press ENTER to confirm.	
	Delete all the DTC errors present in the ECU's memory. Select the ERRORS page with the 'EXPERT key and press 'ENTER' to confirm. Identify the faulty TPMS sensor.	

	A Report of the operations made can always be printed. Press the Right Arrow key until the Report is displayed. To copy the Report, connect a USB pen drive to the Equipment. Press the Equipment **F** push-button, and select the option "Copy report on USB-KEY". Press ENTER to confirm	
	When the operation is successfully completed, press ESC to disconnect the Equipment.	
	Turn vehicle key to switch instrument cluster OFF, and continue. Press ENTER to confirm To go back to 'Functions' menu, press ESC	

1. Fix all the possible problems of the TPMS systems (printed on the Report), remove the wheel and tyre and replace the faulty TPMS sensor.
2. Fit tyre onto wheel, then fit on the vehicle and proceed.

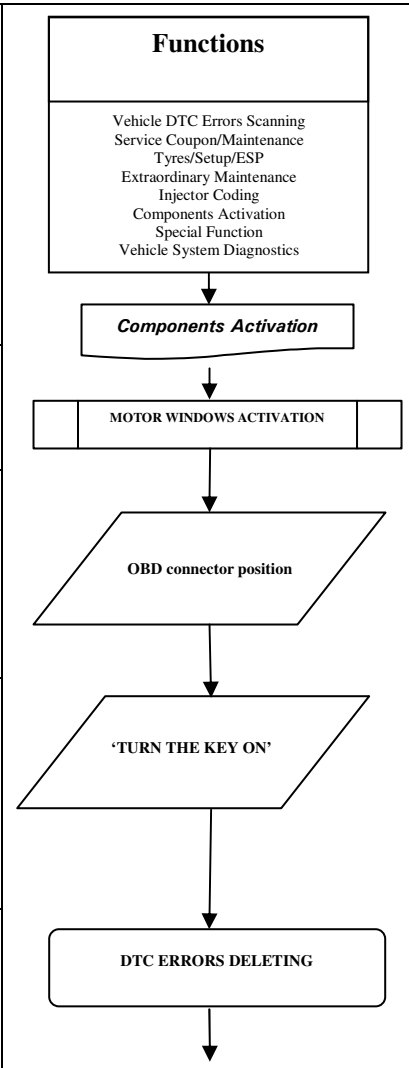
TPMS	Select the function 'Tyres/Setup/ESP' Press 'EXPERT' key or ENTER to confirm	
	Select the 'TPMS' function. Press 'EXPERT' key or ENTER to confirm	
	Check vehicle connector position, connect the Equipment, and proceed as follows. Press 'EXPERT' key or ENTER to confirm	
	Wait for the "Turn key to ON" message to be displayed. Turn vehicle key to switch instrument cluster ON. Wait 1 second and then Press ENTER to confirm.	
	Delete all the DTC errors present in the ECU's memory. Select the ERRORS page with the 'EXPERT key and press 'ENTER' to confirm.	

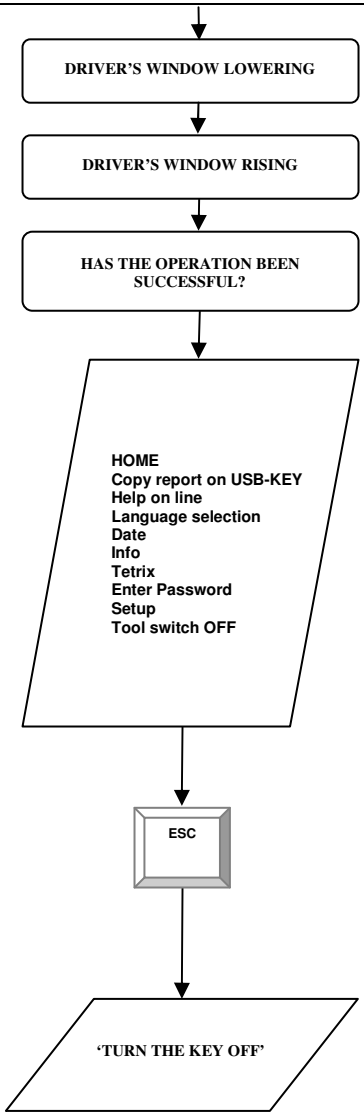
	Select the option 'LEARN FR MODULE' (Front Right) and press ENTER to confirm. Type the ID code of the new TPMS sensor using the keyboard and press ENTER to confirm. Press 'ENTER' to validate the operation has been carried out properly.	
	A Report of the operations made can always be printed. Press the Right Arrow key until the Report is displayed. To copy the Report, connect a USB pen drive to the Equipment. Press the Equipment **F** push-button, and select the option "Copy report on USB-KEY". Press ENTER to confirm	
	When the operation is successfully completed, press ESC to disconnect the Equipment.	
	Turn vehicle key to switch instrument cluster OFF, and continue. Press ENTER to confirm To go back to 'Functions' menu, press ESC	

EXAMPLE	
WORK to BE DONE	**Motor Windows Activation (driver side) after repairing**

Actions to be taken

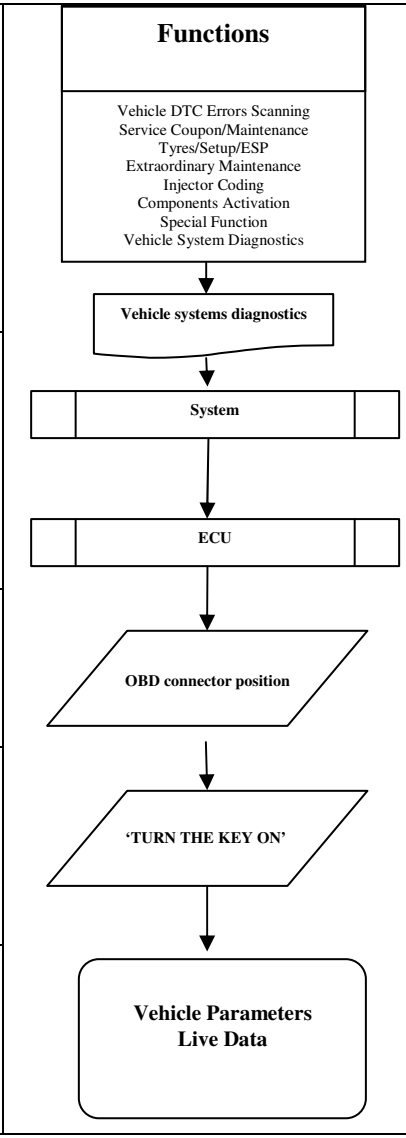
MOTOR WINDOWS ACTIVATION

Select vehicle, make and model. Select “Components Activation” Functions Menu Press ‘EXPERT’ key or ENTER to confirm	
Select the ‘Motor Windows Activation’ function. Press ‘EXPERT’ key or ENTER to confirm	
Check vehicle connector position, connect the Equipment, and proceed as follows. Press ‘EXPERT’ key or ENTER to confirm	
Wait for the “Turn key to ON” message to be displayed. Turn vehicle key to switch instrument cluster ON. Wait 1 second and then Press ENTER to confirm.	
Delete all the DTC errors present in the ECU’s memory. Select the ERRORS page with the ‘EXPERT key and press ‘ENTER’ to confirm.	

	Select the 'Driver's window lowering' and 'driver's window rising' OPTIONS for checking the window motor. Press ENTER to confirm Press 'ENTER' to validate the operation has been carried out properly.	
	A Report of the operations made can always be printed. Press the Right Arrow key until the Report is displayed. To copy the Report, connect a USB pen drive to the Equipment. Press the Equipment **F** push-button, and select the option "Copy report on USB-KEY". Press ENTER to confirm	
	When the operation is successfully completed, press ESC to disconnect the Equipment.	
	Turn vehicle key to switch instrument cluster OFF, and continue. Press ENTER to confirm To go back to 'Functions' menu, press ESC	

1.6.2.3 Vehicle Complete Diagnosis

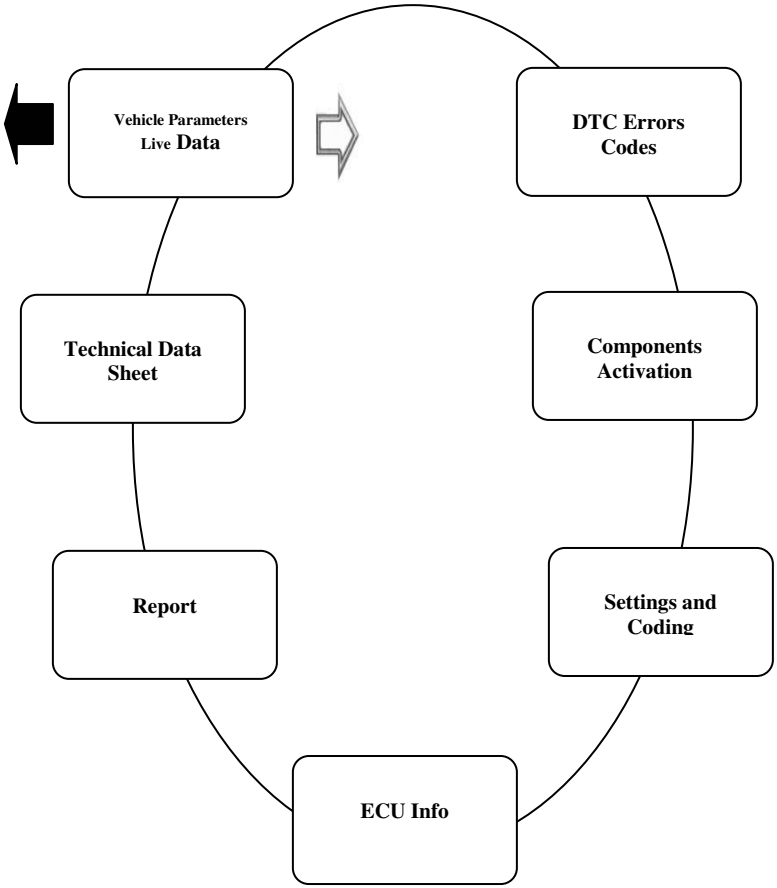
System selection	Select vehicle, make and model. Select 'Vehicle Systems Diagnosis'. Press 'EXPERT' key or ENTER to confirm
ECU selection **Please, whenever possible select the specific option for the actual vehicle's year of production.**	Select the type of system. Select the type of ECU. Press 'EXPERT' key or ENTER to confirm
Position of the OBD connector	Diagnosis outlet location diagram. Press 'EXPERT' key or ENTER to confirm
Guide message	Wait for the "Turn key to ON" message to be displayed. Turn vehicle key to switch instrument cluster ON. Wait 1 second and then Press ENTER to confirm.
Vehicle Parameters Live Data	Displaying of diagnosis first page.



1.6.2.3.1 ON-LINE & OFF-LINE Mode

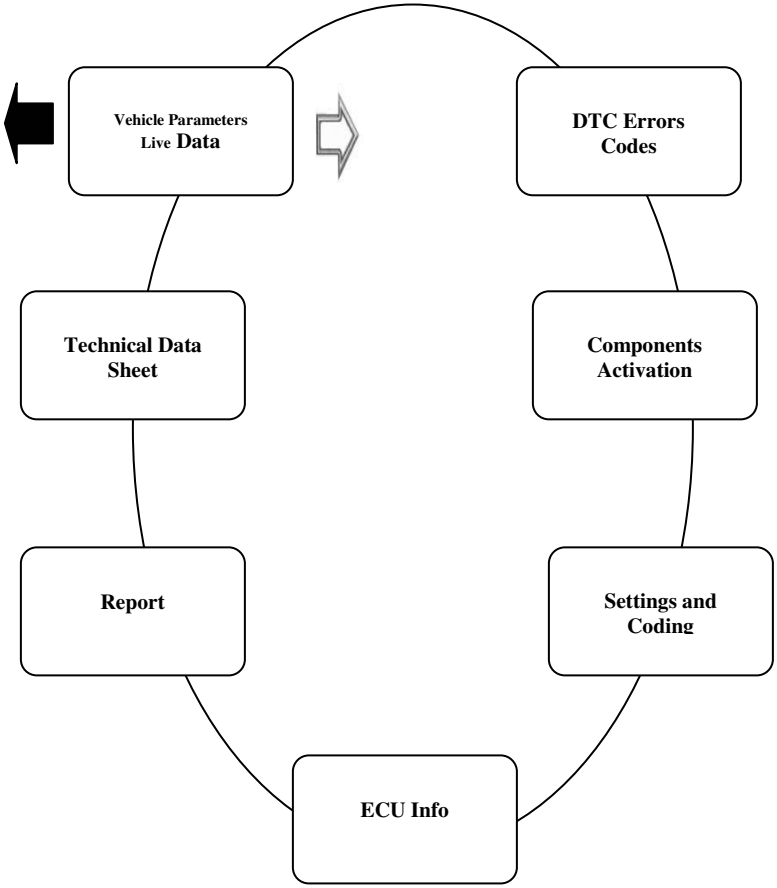
ON-LINE Mode: is being used when a Vehicle is linked to the Equipment though the Diagnostic Cable and the connection has been established.
In this case is possible to take advantage of all the functions possible for the selected plant. The pages are the same for all the plants, but obviously the parameters will be different respect the plants selected.

'Scroll Menu' Example



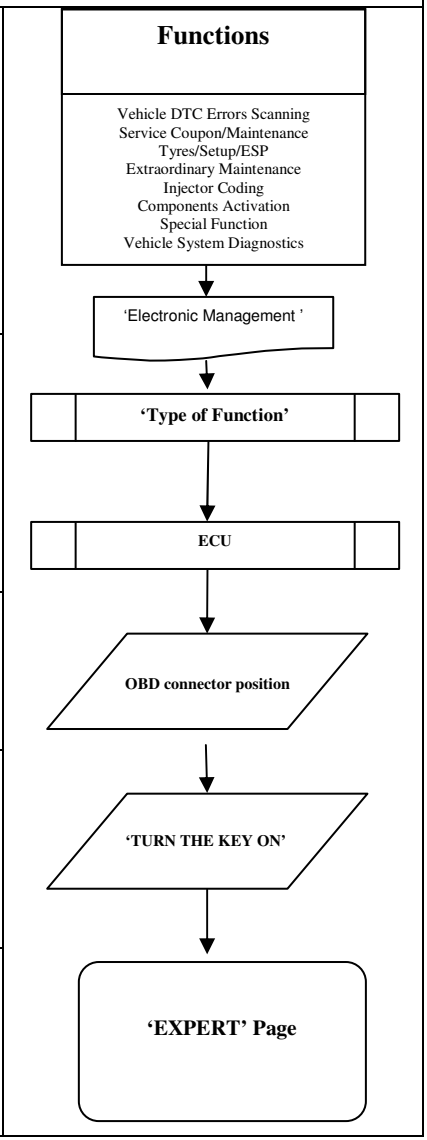
OFF-LINE Mode: is being used when the vehicle is not present and consequently the tool is not connected to any vehicle's ECU through a Diagnostic Cable.
In this case the OFF-LINE Mode is very useful because is always possible to see the Technical Notes regarding the selected vehicle.

'Scroll Menu' Example



1.6.2.4 ‘Electronic Management’

System selection	Select vehicle, make and model. Select a ‘Electronic Management’ Function. Press ‘EXPERT’ key or ENTER to confirm
ECU selection **Please, whenever possible select the proper option, regarding the vehicle production’s year.**	Select the type of function. Select the type of ECU. Press ‘EXPERT’ key or ENTER to confirm
Position of the OBD connector	Diagnosis outlet location diagram. Press ‘EXPERT’ key or ENTER to confirm
Guide message	Wait for the “Turn key to ON” message to be displayed. Turn vehicle key to switch instrument cluster ON. Wait 1 second and then Press ENTER to confirm.
‘EXPERT’ Page	Displaying of diagnosis first page.

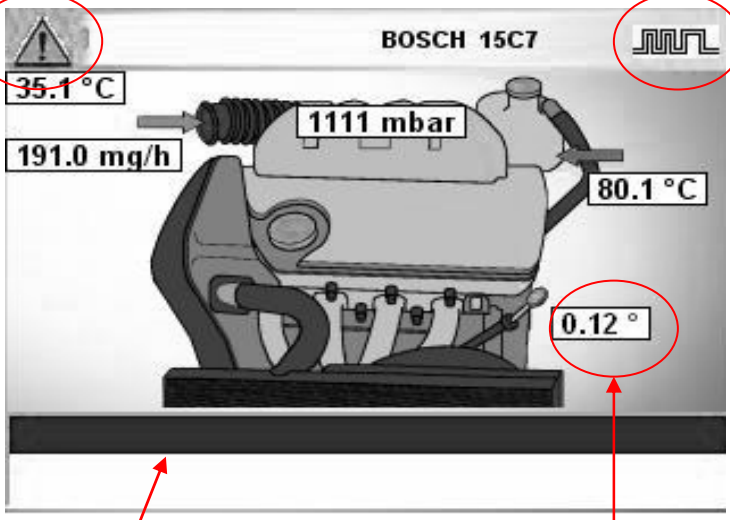


The initial electronic Management page, called 'EXPERT' Page, provides the following:

Example of 'EXPERT' Page

DTC Errors Alarm

The Tool is linked with the Vehicle



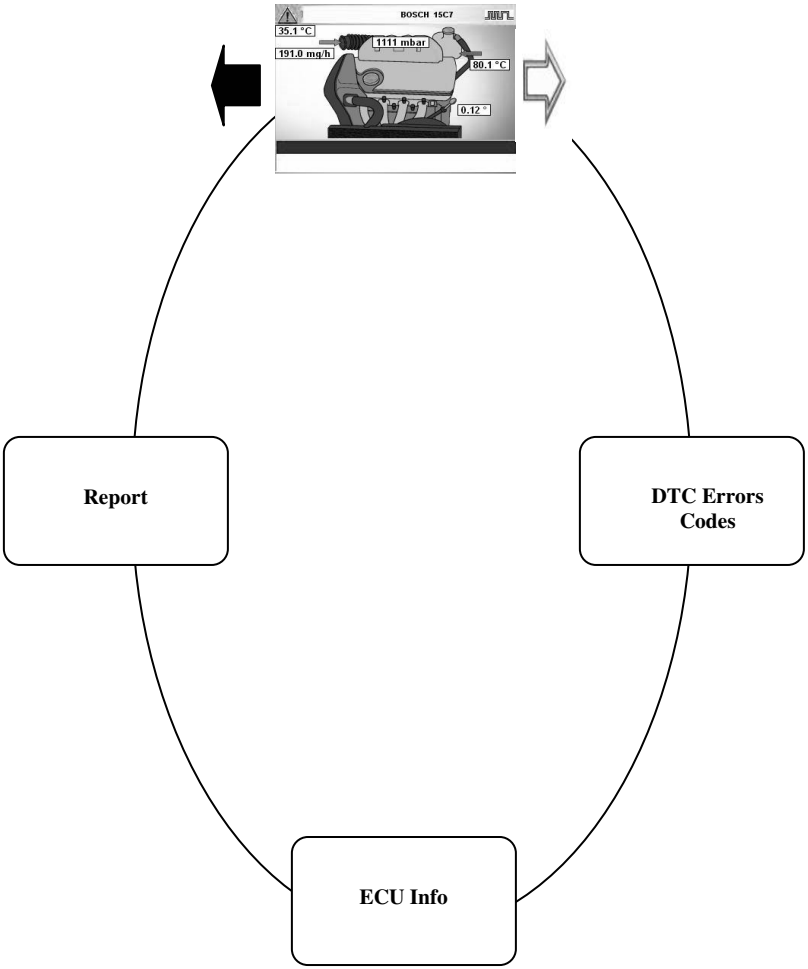
FUNCTIONS LIST.
Locate the cursor on a desired function by using the 'vertical arrow keys'.
A brief description is shown if the cursor is left on a function for a while.
For carrying out the Function confirm with 'Enter'

Display of initial and default live parameters. To change the viewed parameters use the Enter button and select up to 10, press Enter again to confirm and change view.

All the following Electronic Management pages can be scrolled from Instrument Cluster Page using the following navigation keys. To quit vehicle communication, simply press **ESC.** Always press ESC to go back to Main Page.

NOTE
During navigation, the Equipment is always connected to the vehicle, whatever action is taken.

'Scroll Menu' Example



Vehicle Complete Diagnosis or Electronic Management	Description
'EXPERT' Page (Electronic Management only)	The 'EXPERT' Page is the first one to be displayed when the Equipment communicates with the selected System. In case of Communication Failure, the Instrument goes in Off-line mode.
ECU errors codes (DTC)	This page can display the possible errors of the selected System. To delete them, press the confirmation key
Vehicle Parameters Live Data (Vehicle Complete Diagnosis only)	This page is used to display selected system parameters. 10 parameters can be displayed simultaneously. To select further parameters, press Enter key, then use Arrow keys to look for the desired parameters. Press Right Arrow key to confirm parameters (the parameter will be underlined in blue), then press Enter key again to go back to displaying.
Components Activation (Vehicle Complete Diagnosis only)	The Components Activation Page is used to enable the several parts of the selected system (usually when the engine is not running).
Setting and Coding (Vehicle Complete Diagnosis only)	The Set-Up phase allows carrying out all the coding and set-up operations for the selected system.
ECU Info	Control Unit INFO Page allows displaying all the information relating to the control unit of the selected system. The information displayed may be restricted by the electronic control unit.
Diagnosis Report	The Diagnosis Report is automatically updated. All the operations carried out by the operator or any system error are recorded on this Report. This Report can always be printed on a USB pen drive connected with the Equipment.
Technical Data Sheet (Vehicle Complete Diagnosis only)	Selected System Technical Specifications

1.6.3 ‘EXPERT’ FUNCTIONS – How to use it

‘EXPERT’ FUNCTIONS		Description
VEHICLE DTC ERRORS SCANNING	**VEHICLE DTC ERRORS SCANNING**	**WHEN IT IS USED:** When is needed to perform a complete test of the DTC Errors Codes memorised in the Vehicle’s ECUs. The possible Error Codes will be save on the Report. **THE OPERATIONS IT MAKES:** Vehicle’s ECUs DTC Errors Codes Scanning. Vehicle Delivery Report Creation
	VEHICLE DTC ERRORS DELETING	**WHEN IT IS USED:** Before delivering the vehicle **THE OPERATIONS IT MAKES:** Vehicle’s ECUs DTC Errors Codes Deleting and further Scanning Vehicle Acceptance Report Creation

'EXPERT' FUNCTIONS		Description
SERVICE COUPON/ MAINTENANCE	**ACCEPTANCE SERVICING COUPON**	**WHEN IT IS USED:** When a vehicle is taken in/accepted before ordinary maintenance, or before any other type of repair work. **THE OPERATIONS IT MAKES:** Engine Check and Errors Deletion Vehicle Acceptance Report Creation
	DELIVERY SERVICING COUPON (Do not perform this Function, if has been already carried out no matter what Service Reset different Function)	**WHEN IT IS USED:** Before a vehicle subjected to maintenance or repair operations is delivered. **THE OPERATIONS IT MAKES:** Service Reset Brakes Service Reset Oil Quality Service Reset (if FAP is on-board) Spark Plugs Service Reset Air Filter Service Reset FAP Filter Service Reset Coolant Service Reset Diesel Additive Service Reset Brakes Oil Service Reset Micro filter Service Reset Engine DTC Error Codes reading and Deleting Vehicle Delivery Report Creation
	SERVICE RESET (do not perform this Function, if has been already carried out the 'delivery servicing coupon' Function)	**WHEN IT IS USED:** Whenever the Service light has to be turned OFF, and the mileage to be covered before next Service has to be Set. **THE OPERATIONS IT MAKES:** Reset of mileage covered for next Service Service Indicator turning OFF
	BRAKES SERVICE RESET	**WHEN IT IS USED:** After replacing the Pads of the Brakes **THE OPERATIONS IT MAKES:** Reset of the Pads Brakes Indicator
	OIL QUALITY SERVICE RESET	**WHEN IT IS USED:** Present on the vehicle provided with FAP. After replacing the Engine Oil **THE OPERATIONS IT MAKES:** Reset of the Oil Quality Indicator Reset of the Oil Quality Counter
	SPARK PLUGS SERVICE RESET	**WHEN IT IS USED:** After replacing the Spark Plugs (Petrol / Gasoline engines) **THE OPERATIONS IT MAKES:** Reset of the Spark Plugs Counter
	AIR FILTER SERVICE RESET	**WHEN IT IS USED:** After replacing the Air Filter **THE OPERATIONS IT MAKES:** Reset of the Air Filter Counter
	FAP/DPF FILTER SERVICE RESET	**WHEN IT IS USED:** Present on the vehicle provided with FAP/DPF. After replacing the Filter or after a FAP/DPF Regeneration **THE OPERATIONS IT MAKES:** Reset of the FAP/DPF Filter Indicator
	COOLANT SERVICE RESET	**WHEN IT IS USED:** After replacing the Engine Coolant **THE OPERATIONS IT MAKES:** Reset of the Engine Coolant Counter

	DIESEL ADDITIVE SERVICE RESET	**WHEN IT IS USED:** Present on the vehicle provided with FAP. After replacing or refilling the Additive Tank **THE OPERATIONS IT MAKES:** Reset of the Diesel Additive Counter
	BRAKE FLUID SERVICE RESET	**WHEN IT IS USED:** After replacing the Brake Fluid **THE OPERATIONS IT MAKES:** Reset of the Brake Fluid Counter
	MICRO FILTER SERVICE RESET	**WHEN IT IS USED:** After replacing the Micro Filter **THE OPERATIONS IT MAKES:** Reset of the Micro Filter Counter
	PADS REPLACEMENT	**WHEN IT IS USED:** When brake pads have to be replaced on vehicles equipped with Electric Drive Brakes or every time is expected to use the tester (Brakes Opening, User's Safety,…) **THE OPERATIONS IT MAKES:** Brakes automatic opening
	PARKING BRAKE REPLACEMENT	**WHEN IT IS USED:** When parking brake shall be adjusted on vehicles equipped with Electric Drive Brakes **THE OPERATIONS IT MAKES:** Brakes automatic opening Brakes automatic closing Automatic Brakes Adjustment/Reset
	VEHICLE DATA	**WHEN IT IS USED:** For vehicles technical specifications consultation **THE OPERATIONS IT MAKES:** Technical Specifications displaying
	MAINTENANCE DATA	**WHEN IT IS USED:** For maintenance chart consultation **THE OPERATIONS IT MAKES:** For maintenance chart displaying

'EXPERT' FUNCTIONS		Description
TYRES/SETUP/ESP	STEERING RESET	**WHEN IT IS USED:** With all vehicles equipped with ESP/Electronic Power Steering system. After Wheels Track Alignment , need to reset the Steering Angle Sensors (example in case battery needs to be removed or parts replacement) **THE OPERATIONS IT MAKES:** Steering angle position reset
	SETUP ORIGINAL SIZE WHEEL	**WHEN IT IS USED:** When tyres or wheels sizes are changed. On vehicles requiring this parameter to be set. **THE OPERATIONS IT MAKES:** Tyres or wheels size setting
	TPMS	**WHEN IT IS USED:** In case of system malfunctioning, TPMS sensors replacement or tyres rotation when requested to be set the TPMS Sensors position **THE OPERATIONS IT MAKES:** System diagnosis, new TPMS Sensors coding or TPMS Sensors position setting
	SUSPENSIONS	**WHEN IT IS USED:** In case of system malfunctioning, Before Wheels Track Alignment on vehicles equipped with electronic suspensions. **THE OPERATIONS IT MAKES:** System diagnosis, Suspensions height setup and system setup
	VEHICLE LIFTING PROCEDURE	**WHEN IT IS USED:** **When it is necessary to lift up a vehicle where the suspension must to be locked first to not drop outside of parameter range** **THE OPERATIONS IT MAKES:** Locking the Suspension
	VEHICLE DATA	**WHEN IT IS USED:** For vehicles technical specifications consultation **THE OPERATIONS IT MAKES:** Technical Specifications displaying

'EXPERT' FUNCTIONS		Description
EXTRAORDINARY MAINTENANCE	**A/C RESTART**	**WHEN IT IS USED:** On those vehicles requiring the A/C system to be re-enabled after recharging **THE OPERATIONS IT MAKES:** A/C system check Errors deletion System reset for vehicle restart
	FAP/DPF FILTER REGENERATION	**WHEN IT IS USED:** On those vehicles equipped with the system, when the FAP/DPF Filter is dirty or obstructed **THE OPERATIONS IT MAKES:** PF forced regeneration through special procedure
	BRAKE BLEEDING	**WHEN IT IS USED:** For ABS/ESP Hydraulic group bleeding on those vehicles requiring a special procedure **THE OPERATIONS IT MAKES:** ABS/ESP Hydraulic group bleeding guided procedure
	CLUTCH BLEEDING	**WHEN IT IS USED:** For clutch bleeding on those vehicles requiring a special procedure (example mechanical gear box with electronic drive) **THE OPERATIONS IT MAKES:** Clutch bleeding guided procedure
	ENGINE CHECK	**WHEN IT IS USED:** For engine automatic check. Any possible error will be displayed. **THE OPERATIONS IT MAKES:** Engine Check and Errors Deletion Vehicle Test Report Creation
	BATTERY CHANGEOVER	**WHEN IT IS USED:** **When it is necessary to change the Battery of a vehicle when it is mandatory to run a setup procedure** **THE OPERATIONS IT MAKES:** Setup of the new Battery
	BATTERY CHECK	**WHEN IT IS USED:** **When it is needed to verify the Battery's condition on vehicle where the electronic system is present** **THE OPERATIONS IT MAKES:** Check of the Battery condition
	HEADLIGHT REPLACEMENT	**WHEN IT IS USED:** After a problem on the lighting system has been solved on the vehicles requiring system electronic check. **THE OPERATIONS IT MAKES:** Lights failure warning light reset

'EXPERT' FUNCTIONS		Description
INJECTORS CODING	**INJECTORS CODING**	**WHEN IT IS USED:** Whenever injectors have to be coded after replacement or, in general, after a engine reparation **THE OPERATIONS IT MAKES:** Injectors coding

'EXPERT' FUNCTIONS		Description
COMPONENTS ACTIVATION	**ENGINE COMPONENTS ACTIVATION**	**WHEN IT IS USED:** For checking the electronic patrs working when they are activated by the ECU **THE OPERATIONS IT MAKES:** Selected engine electric part ON-OFF enable
	FAN ACTIVATION	**WHEN IT IS USED:** For checking the Electric Fan working, especially when is not possible to crank or warm up the engine **THE OPERATIONS IT MAKES:** Vehicle electric fan speeds enable
	REAR VIEW-MIRROR ACTIVATION	**WHEN IT IS USED:** For checking the Rear View-mirror working, especially when the manual hand control doesn't work and it needs to identify the malfunctioning part (hand control or electronic drive) **THE OPERATIONS IT MAKES:** Rear-view mirrors adjustment motor enable Rear-view mirrors closing motor enable Rear-view mirrors heating enable Rear-view mirrors anti-dazzling enable
	MOTOR WINDOW ACTIVATION	**WHEN IT IS USED:** For checking the Window Electronic Drive working, especially when the manual hand control doesn't work and it needs to identify the malfunctioning part (hand control or electronic drive) **THE OPERATIONS IT MAKES:** Window lifter motor enable
	HEADLIGHT ACTIVATION	**WHEN IT IS USED:** Or checking the Headlight working, especially when the manual hand control doesn't work and it needs to identify the malfunctioning part (hand control or electronic drive) **THE OPERATIONS IT MAKES:** Headlights and Parking Lights Enable (turning on) Turn Indicators Enable (turning on) Puddle lights enable Lights washer pump enable Headlights height adjustment motor enable Lights displacement motor enable
	CENTRAL LOCKING ACTIVATION	**WHEN IT IS USED:** For checking the Central Locking working, especially when the manual hand control doesn't work and it needs to identify the malfunctioning part (hand control or electronic drive) **THE OPERATIONS IT MAKES:** Doors locking/unlocking motors enable Boot locking/unlocking motors enable

'EXPERT' FUNCTIONS		Description
SPECIAL FUNCTIONS	**AIRBAG RESTART**	**WHEN IT IS USED:** After the AIRBAG activation, when is not needed to replace the Central Unit **THE OPERATIONS IT MAKES:** DTC fault codes reading and deleting System reset
	AIRBAG CODING	**WHEN IT IS USED:** After vehicle Airbag is restored and, in general, when an Airbag control unit has to be coded. **THE OPERATIONS IT MAKES:** Airbag control units coding
	REMOTE CONTROL CODING	**WHEN IT IS USED:** Whenever doors opening remote controls shall be coded **THE OPERATIONS IT MAKES:** Doors opening remote controls coding
	KEYS CODING	**WHEN IT IS USED:** Whenever a new ignition keys shall be coded **THE OPERATIONS IT MAKES:** Coding of ignition keys
	ECU SETTING and CODING	**WHEN IT IS USED:** When vehicle control units have to be coded after replacement **THE OPERATIONS IT MAKES:** Vehicle control unit coding and/or setting

1.7 Troubleshooting

1.7.1 Problems during operation

Problem:	**After a vehicle is selected correctly, the Equipment shows message :"Warning, password used for updating is wrong"**
Solution	*The registration or update procedure has been omitted or was not successful because the password for another BBAD self-diagnosis module was used.* *Check your ID and Password* *Repeat the update procedure.*
Problem:	**After a vehicle is selected correctly, the Equipment shows message :"Warning, system not enabled under current subscription"**
Solution	*Registration or update procedure has been omitted or was unsuccessful because the password is linked to an old subscription (e.g. 2007 system, 2006 password).* *Apply for current-year subscription.* *Repeat update procedure when you receive the new password.*
Problem:	**Failure to establish communication with vehicle's ECU**
Solution	*Make sure the vehicle and ECU selected in the software match the system you wish to diagnose (check type and year).*
Problem:	***Equipment does not power on when the on key is pressed.***
Solution	*Internal battery may be flat. Connect OBD cable to vehicle (or battery cable or mains adapter if available) and try again*

1.8 Warranty information.

Warranty Coverage

SYKES-PICKAVANT LTD warrants the Product for 12 (Twelve) Months starting from the date of the Product's activation or the date of the original purchase turning out by the Purchase Documents. Any operation performed under the Warranty Period, doesn't extend the Expiry date of the Warranty.

Repair & Replacement

The Warranty includes the Repairing or Replacement of the original Components which, by the unchangeable sentence of SYKES-PICKAVANT LTD, came out faulty from the Manufacturer, cause manufacture defects or flaw material.
The Warranty doesn't include the complete Equipment.
The Repairing under Warranty is being carried close the Service Assistance Department indicated by SYKES-PICKAVANT LTD.
The Warranty excludes the repairing close the Customer.
The Service Assistance Department doesn't guarantee any Repairing Time, but is engaged to repair the Equipment as soon as possible.

Remedy

To take advantage of the Warranty, the Customer has to send the Product in 'Carriage Paid Shipment' to the Service Assistance Department indicated by SYKES-PICKAVANT LTD, as soon the problem has been forwarded to the Service Assistance Department.
The Product must to be packed properly and safely, in order to avoid possibly damages during the transport.
SYKES-PICKAVANT LTD shall not be under liability in respect of possible damages arising from the transport.
The Product sent under Warranty must to be provided by the copy of the Purchase Document.
The Product will be returned back to the Customer in 'Carriage Forward Shipment'.

Warranty Exclusions

The Warranty does not extend to de-graded parts caused by the incorrect use of the Equipment due to working conditions outside of the Technical Specifications.
The Warranty will be not extended to Product in the following cases:

- Transport Damages due to the inappropriate package
- Wrong use of the Product
- Thunderbolt, Tempest, Explosion, Flood, Fire
- Inappropriate Installation or Maintenance
- Mechanical Damages
- Setup carried out by a non-authorized Personnel
- Repairing and Replacement or product Modification carried out by a non-authorized Personnel
- Use of not original Parts
- Damages due to Humidity, Dust, Power Supply Leakage or High Voltage, and any others abnormal conditions
- Equipment use into inappropriate places
- Any kind of Display damages
- Any kind of Action or Event not attributable to the SYKES-PICKAVANT LTD liability

In case of the Product sent for Repairing is not under Warranty, the Customer will be advised and will have to authorise the Repairing out-of-Warranty. The cost of the Repairing will be charged to the Customer.
In case of unjustified demand of Warranty, the labor cost for checking and verifying the Product will be charged to the Customer.