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Declare under their sole responsibility that the product: • erklärt hiermit eigenverantwortlich, dass das Produkt: • déclare, qü le produit: • dichiara sotto la sua responsabilità, che qüsto prodotto: • declara bajo su entera responsabilidad, qü este producto:

Name • Bezeichnung • Description • Descrizione • Descripción

5700 Hellion OBD II

Type • Produkt • Model • Modelo • Tipo

Diagnostic Tool • Diagnostik-Gerät • Outil de diagnostiqü • Attrezi diagnosi

• Herramienta de diagnóstico

Is in accordance with the following specifications: • folgenden Normen entspricht: • correspond aux normes suivantes: • corrisponde agli norme segünti: • corresponde a las normas siguientes:

EMC: EN 55o22 (1994) Class B; EN 50082-1 (1992); IEC 801-2 (1991), 4kV CD; 8kV AD;

IEC 801-3 (1984), 3 V/m, CW

Therefore the product fulfills the demands of the following EC-Directives: • Das Produkt erfüllt somit die Forderungen folgender EG-Richtlinien: • Le produit satisfait ainsi aux conditions des directives suivantes de la CE: • Il prodotto soddisfa le richieste dei direttive de la CE: • El producto satisface las demandas de las directivas de la CE:

89/336/EWG: Directive relating to electromagnetic compatibility • Richtlinien über elektromagnetische Verträglichkeit • Directive relatives à la compatibilité électromagnétiqü • Direttiva relativa a la compatibilità elettromagnetica • Directiva relativa a la compatibilidad electromagnética

Signature / Date • Unterschrift / Datum • Signature / Date • Firma / Data • Firma / Fecha

June, 2001.

Typed Name and Title • Name und Titel • Nom et Position • Nome e Titolo • Nombre y Posición

Tawfik Zakak / President

CONTENTS

Introduction

These instructions explain the use of the Hellion OBD II, taking you through every function step-by-step with illustrated examples. The use of factory manuals and/or microfiche is recommended. The Hellion OBD II applies to all vehicles with the OBD II diagnostic socket.

Connecting the Hellion OBD II

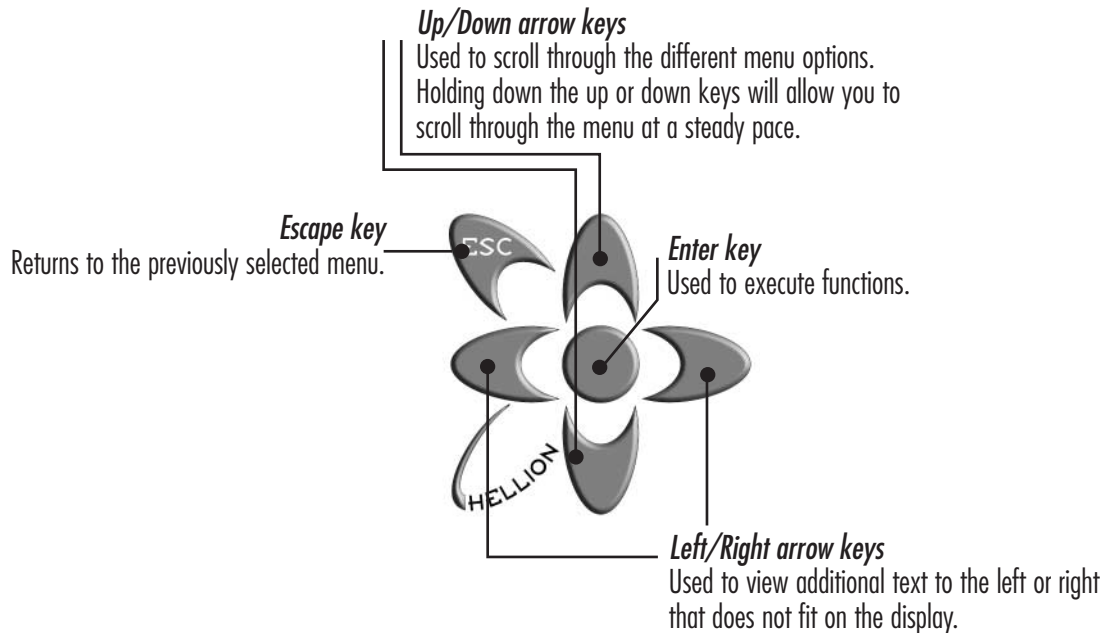Connect the cable to the vehicle and to the tool. For diagnostic socket location, please refer to specific vehicle.

The ignition must be ON for the tool to communicate with the vehicle. Some tests may require the engine to be running or the vehicle to be driven.

9AC connector - external power source

(for future support of
Downloads / Printing capabilities)

Display window

4 lines x 20 characters

OBD II connector and cable

Tacticle keypad

DB9 RS232 connector

(for future Internet updates and
printing capabilities)

Keypad Description

Up/Down arrow keys
Used to scroll through the different menu options.
Holding down the up or down keys will allow you to
scroll through the menu at a steady pace.

Escape key
Returns to the previously selected menu.

ESC

Enter key
Used to execute functions.

HELLION

Left/Right arrow keys
Used to view additional text to the left or right
that does not fit on the display.

On-Board Diagnostic (OBD).

Since discussion of the "Car Oil Programme" initiated by the
EU and the resulting EURO-3 Exhaust Emissions Directive, the
abbreviation "OBD" (On-Board Diagnostic) or also "E-OBD" (European
OBD) has become a much-used term throughout Europe although
this concept has long been know to motor-vehicle manufacturers.

As a result of low fuel costs, together with a high standard of living and
a dense population, the US state of California was affected
particularly heavily by air pollution. This spurred the state to pass
the most comprehensive and stringent emissions and consumption
laws in the world. As is usual in the USA, the car manufacturers
were reminded of their obligations and this drove them on
to comply with the new regulations at enormous expense.

Since January 1996, OBD II has been compulsory on all vehicles on the
US market. The main difference from OBD I is that not only are the purely
electrical components monitored but also all the systems and processes
that affect exhaust emissions. This also includes the fuel system.

Operating the Tool

Once the tool is connected to power (without any key pressed), the screen
will display the tool BIOS (Basic Input Output System) software version.
The tool is performing a self-test procedure.

```
Hellion OBD II BIOS
V   4  .  0   6
      Loading...
```
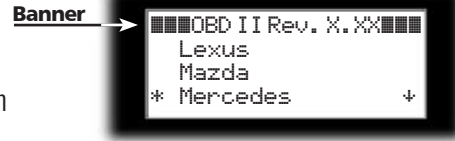
```
■■■OBD II Rev. X.XX■■■
        Loading

     Please wait...
```

```
Hellion OBD II BIOS
V   4  .  0   6
      Loading...
```

After a few seconds a list composed by different car models will be displayed. The display is able to show up to three different vehicle systems at one time. The banner on the first line of LCD display indicates the current software revision of the cartridge.

An asterisk is shown in front of one of the car model, indicating the one to be selected. Press the up or down arrow keys to move the asterisk.

A flashing up or down arrow on the right indicates there are more choices available. They can be viewed using the up or down arrow keys.

A flashing right or left arrow on the right indicates the text is wider than the display and can be viewed using the right or left arrow keys.
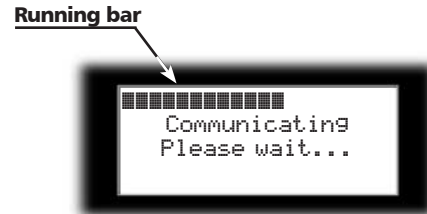
Banner

```
███OBD II Rev. X.XX███
   Lexus
   Mazda
*  Mercedes          ↓
```

List of car models
Currently supported models are as follow:

Acura	*Audi*	*BMW*	*Dodge*
Ford	*Geo*	*GM**	*Honda*
Hyundai	*Infiniti*	*Kia*	*Lincon/Mercuri*
Lexus	*Mazda*	*Mercedes*	*Mercedes Diesel*
Mitsubishi	*Nissan*	*Saturn*	*Seat*
Skoda	*Subaru*	*Suzuki*	*Toyota*
Volkswagen			

*GM has a submenu with: Catera, Metro, Prizm, Tracker/Sunrunner-2.0 L, Tracker/Sunrunner-1.6L, All other Models.

Running bar

```
██████████████
   Communicating
   Please wait...
```

While in the list, the banner (first line of LCD display) will indicate the current cartridge software revision. Using the up or down arrow keys move the asterisk pointer next to the car model of your choice. Press the Enter key to initiate the data connection between the Hellion OBD II and the selected vehicle. In this case we will take Mercedes as an example of how to use this cartridge. The main banner will be replaced with a "running bar". Once communication has been established, "Integration/Manufacturer" will be displayed on the banner, or, depending on the car you may see the first system menu as follow:
Integration/Manufacturer; Engine and/or Transmission.

Using the up or down arrow keys move the asterisk next to the desired system and press "Enter".

The procedure is similar for all vehicles.

General Data
In this case we will check the "general data".
The procedure is similar on all vehicles.
Verify that the ignition is ON.
The asterisk must be next to "general data".
Then press "Enter".
The "General Data" is displayed at the top of the screen.

General Data Menu
    Systems Monitoring   *Readiness code*
    Fuel System Status   *Secondary air system*
    Oxygen Sensors Location   *Input Supported*
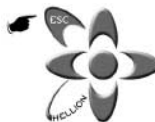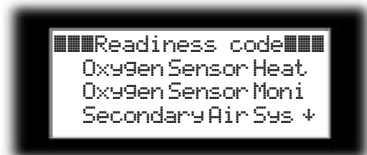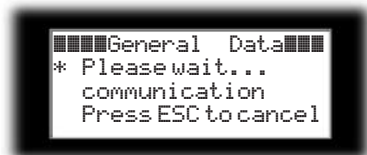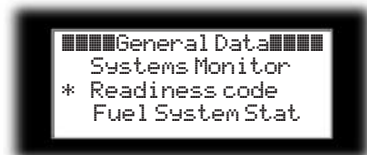
After successful communication, the current system is displayed at the top of the screen (system banner).
The asterisk should be next to the "Readiness Code" function.
Press the "Enter" key.

The readiness codes are displayed. There will usually be additional text, indicated by a flashing down arrow on the lower right of the display. You may use the up or down arrow keys to view it.
Press Esc key once to return to the menu.

DTC/MIL Status

We will check now the "DTC/MIL Status". The procedure on other models is similar.

Press the down arrow key until the asterisk is next to the "DTC/MIL Status" function, that tells you how many DTCs are present, if there are some and the MIL lamp status ON/OFF.

To communicate with the system, press the Enter key.

After successful communication, the current function is displayed at the top of the screen (system banner).
The details of the function will be displayed on the screen.

```
▇Integeration/Manufac
   General Data
 * DTC/MIL Status
   Trouble codes    ↓
```



```
▇Integration/Manufac
    Please wait...
    communication
 Press ESC to cancel
```



```
▇▇▇▇DTC/MIL Status▇▇
  # of DTCs=
  MIL ON
  Press ESC to cont
```
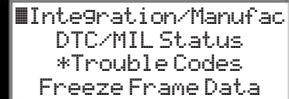
Trouble Codes
We will check the "Trouble Codes". By pressing the down arrow key the asterisk will be moved next to "Trouble Codes" function.

```
■Integration/Manufac
  DTC/MIL Status
 *Trouble Codes
 Freeze Frame Data
```

Then press "Enter".

This function allows you to read DTCs or erase them (if any present). Move the asterisk next to "Read DTCs" and press "Enter".

```
   Trouble Codes
*  Read DTCs
   Erase DTCs and Fre
```

"Read DTCs" gives you two options "Stored DTCs" and "Pending DTCs".

Stored DTCs are those that have already been stored as faults. The Pending DTCs are those that have yet to be considered as faults, and may not always be shown.

To see the stored faults put the asterisk next to "Stored DTCs" and press "Enter".

```
      Read DTCs
*  Stored DTCs
   Pending DTCs
```

The display will look like this while the tool checks for faults. In our example, there are two faults. Only one fault will be displayed at a time. This is fault 1 of 2.

The number on the left is the OBD II "P" code. The fault text is also displayed.

```
      Fault 1 of 2
P0305 Misfire
detection Cyl. 5
```

The flashing right arrow indicates that there is more text to the right. To view it, press the right arrow key. Press the left arrow key to view the beginning of the text.
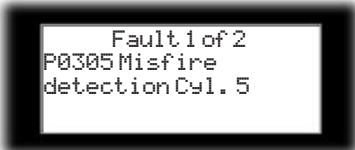
To display the second fault, press the up arrow key.

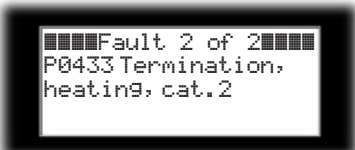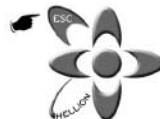If there are no faults in the system, the display will read "No Fault Found".

```
████Fault 2 of 2████
P0433 Termination,
heating, cat. 2
```

To return press "ESC" two times.

Note: See page 21 for "P1" notes.

Once repairs are completed, proceed with the fault code reset.
Press the Down arrow key until the asterisk is next to the
"Erase DTCs and Freeze Frame".

*Note: Make sure that the key is in Second Position, and Engine is Off.
Faults will not reset with Engine Running.*

To reset the faults, press the "Enter" key.

The faults have been reset.
To return to the function menu, press the "Esc" key two times.

*Note: It is recommended that you check for faults again after test
driving the vehicle.*

████Trouble Codes██
Read DTCs
∗Erase DTCs and Fr

████Trouble Codes███
█Reset completed.

Press ESC to cont.
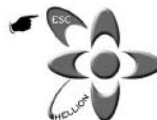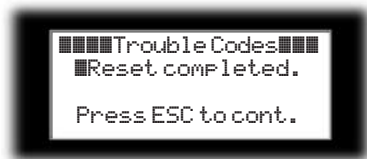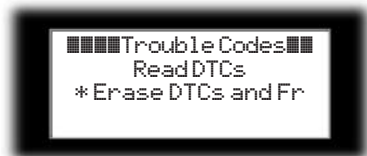
Freeze Frame Data

We will continue with the "Freeze Frame Data". The Freeze Frame Data represents the current engine operating conditions at the instant an OBD II System fault is detected.

Move the asterisk pointer next to "Freeze Frame Data". To establish the communication press "Enter".

Once communication has been established, the display will show a list of the "Freeze Frame Data".

If there are no Freeze Frame Data the display will read "No Freeze Frame Data".

Oxygen Sensors

In this example we will scroll untill the "Oxygen Sensors", which shows you their locations. The procedure is similar on any other system.

Press the down arrow key until the asterisk is next to the "Oxygen Sensors" system.

To communicate with the system, press the "Enter" key.

A flashing down arrow on the right indicates there are more text available. It can be viewed using the down arrow key.

To return to "General Data" press "ESC" once.

```
████General  Data████
  Trouble Codes
  Freeze Frame Data
* Oxygen Sensors  ↓
```

```
  Oxygen Sensors
  Bank 1 – Sensor 1
  Bank 1 – Sensor 2
  Bank 2 – Sensor 1↓
```

Real Time Data
The Real Time Data will show you some live data values.

Pressing the down arrow key, move the asterisk next to "Real Time Data".
Press then "Enter".

This submenu is displayed. The asterisk should be next to the
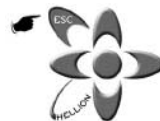"Show All Values" function.

Press the "Enter" key.

The first four Actual Values are shown. The flashing down arrow on the
right of the display indicates there are more values to see.

The Flashing right arrow on the right indicates the text is wider than the
display and can be viewed using the right arrow key.

Press the "Esc" key one time to return to the system menu.

■■■Genral   Data■■■
  Freeze Frame Data
  Oxygen Sensors
* Real Time Data   ↓

■■■Real Time Data■■■
* Show all Values
  Select Values

 0.00% Calculate
  -40C Eng.Cool
 -0.11% Short term
 -0.11% Long term ↓→

Select Values
In this example we will use the more advanced feature of the Hellion OBD II, the "Select Values" function. It will allow us to choose Actual Values of interest from the list.

Press the down arrow key until the asterisk is next to the "Real Time Data" system.

```
█████General Data████
   Freeze Frame Dat  ↑
   Oxygen Sensors
*  Real Time Data
```

To communicate with the system, press the "Enter" key.

```
████Real Time Data████
   Show All Values
*  Select Values
```

After successful communication, the current system is displayed at the top of the screen (system banner). We used the same vehicle as in the previous example.
Move the asterisk next to the "Select Values" function.
Press the "Enter" key.

```
████Real Time Data████
*  DISPLAY VALUES
   Calculated load
   Engine Coolant T ↔
```
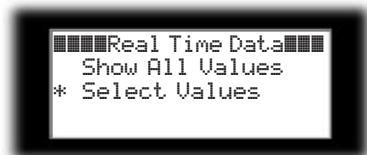
A list of all available Actual Values is displayed. Using the up or
down arrow keys, move the asterisk to the value of your interest
and press the "Enter" key.

A black "x" will appear next to the current value, indicating the value
is "marked". If you change your mind and want to unmark a particular
value, just move the asterisk next to it and press the Enter key again.
This will remove the black rectangle and unmark that value. Please note,
regardless the number of values selected only four values will be displayed
on the screen at one time.

In our example we selected the following three values: Calculated Load,
Engine Coolant Temperature and Short Term Fuel Trim Bank 1.

To view all marked Actual Values press "ESC" once, this will move the
asterisk to the first position and then press the "Enter" key.

The three Actual Values marked previously are shown and
updated periodically.

Press the "Esc" key one time to return to the system menu.

Marked value

```
■■■■■■M3.3 M60■■■■■■■
*  DISPLAY VALUES
   ▊Calculated load
   Eng.Coolant Tem ↔
```

```
   0.00% Calculate
  -40C Eng. Coolant
  -0.11% Short term
                   →
```

Vehicle Information

In this example we will see important information about the
vehicle we are checking.
For other systems the procedure is similar.

Press the down arrow key until the asterisk is next to the
"Vehicle Information" system.

To communicate with the system, press the Enter key.

The display will show a list with some choices. Using the up and
down arrow keys, place the asterisk next to the desired function and
press "Enter".

Press the "Esc" key one time to return to the system menu.

Manual Commands

This command is used to introduce manual information.
Move the asterisk next to the "Manual Commands", then press
the "Enter" key.

```
████General Data████
  Real Time Data    ↑
  Vehicle Informat
* Manual Commands ↵→
```

After a successful communication, the current system is displayed at the
top of the screen (system banner)

```
████Manual Commands███
Input Mode # : 00
PID / Test # : 00
Input Number : 00
```

To alter the numbers use the up and down arrow keys.
To move from one position to the other use the left and right arrow keys.
Then press "Enter".

The numbers in this example are totally fictitious; remember, this is just
an example.

It is very important to supply the tool with the correct data or the Hellion
OBD II may display improper information.

```
███Manual   Commands███
Input Mode # : 30
PID/Test   # : 70
Input Number : 72
```

Press "ESC" one time to return or to cancel.

Abbreviations

In this choice the Hellion OBD II will show us the meaning of the OBD II abbreviations. This can be a useful way to learn the tool better.

Place the asterisk next to "Abbreviations" and press "Enter".

The display will show three different groups.

Select one of them by placing the asterisk next to it, using the down arrow key; press "Enter" and the list will show up.

To return press to see another group press "ESC" one time or to the main menu press it two times.
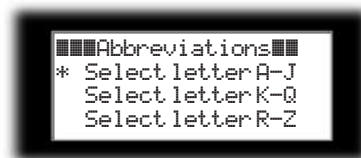
Notes:

There are "P1" faults for GM that the number is the same, but the text is different in different vehicles.

The Hellion OBD II will display: "P1XXX, Refer to Owners Manual".

Please refer to the Owners Manual Charts to get the correct fault code for the vehicle.

For vehicles with 3.1L, 3.4L or
3.8L V6 engine the fault P1653 will read:

- P1653 Low Engine Oil Lamp Control Circuit

For all other vehicles will read:

- P1653 EPR or EGR Solenoid Control Circuit

For vehicles with 3.8L V6 engine
the fault P1656 will read:

- P1656 Second (2nd) Gear Start Lamp Control Circuit

For all other vehicles will read:

- P1656 Turbocharger Waste gate Solenoid Control Circuit

For vehicles with 7.4L Diesel V8 engine
the fault P1810 will read:

- P1810 Pressure Switch Manifold

For all other vehicles will read:

- P1810 TFP Valve Position SW. Circuit Malfunction

NOTES