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Safety Precautions

To avoid body hurt and damage to the device or your car, please read this manual carefully before using the scanner.
The general testing process described in this manual is got by technologist of experience. Safety precaution is required in most of the process to avoid body hurt and damage to the device or your car. Prior to your using this device, please read vehicle maintenance code and follow the safety precautions. Keep mention to the following general safety precautions.

- It generates CO and other poisonous air when engine run. To avoid this kind of hurt, please repair the car in a well-air-ventilated location.
- To protect your eyes from the damage of the exposed objects, hot and harmful liquid, please wear good eye-protection tools.
- When an engine is running, many parts (such as the coolant fan, pulleys, fan belt etc.) turn at high speed. To avoid serious injury, always be aware of moving parts. Keep a safe distance from these parts as well as other potentially moving objects.
- Engine parts become very hot when the engine is running. To prevent severe burns, avoid contact with hot engine parts.
- Before starting an engine for testing or trouble-shooting, make sure the parking brake is engaged. Put the transmission in park (for automatic transmission) or neutral (for manual transmission). Block the drive wheels with suitable blocks.
- Connecting or disconnecting test equipment when the ignition is ON can damage test equipment and the vehicle's electronic components. Turn the ignition OFF before connecting the SCANNER to or disconnecting the SCANNER from the vehicle's Data Link Connector (DLC).
- To prevent damage to the on-board computer when taking vehicle electronic measurements, please always use a digital multimeter with at least 10meg Ohms of impedance.
- Fuel and battery vapors are highly flammable. To prevent an explosion, keep all sparks, heated items and open flames away from the battery and fuel / fuel vapors. DO NOT SMOKE NEAR THE VEHICLE DURING TESTING.
- Don't wear loose clothing or jewelry when working on an engine. Loose clothing can become caught in the fan, pulleys, belts, etc. Jewelry is highly conductive, and can cause a severe burn if it makes contact between a power source and ground.

General OBD-II Information

1. What is OBD-II?

OBD-II stands for On-Board Diagnostics, II generation. It is a set of documents issued by SAE and ISO, which describe the interchange of digital information between on-board emission-related Electronic Control Units (ECUs) of road vehicles and an OBD-II scan tool. OBD-II also commonly refers to the physical on-board diagnostic system of a vehicle, which consists of an ECU (or multiple ECUs), Malfunction Indicator Light(MIL), Diagnostic Link Connector (DLC), and the wiring that connect the different elements.

2. How do I know whether my car is OBD-II compliant?

There are several ways.

1996 or newer model year vehicle sold in the United States

United States legislation requires all cars and light trucks model year (MY) 1996 and newer to be OBD-II compliant. More information is available on the EPA's website.

2001 or newer model year gasoline vehicle sold in the European Union

Commission Directive 70/220/EEC, Annex I:

Vehicles with positive-ignition engines

With effect from 1 January 2000 for new types and from 1 January 2001 for all types, vehicles of category M1, except vehicles the maximum mass of which exceeds 2500 kg, and vehicles of category N1 class I, must be fitted with an on-board diagnostic (OBD) system for emission control in accordance with Annex XI. [...]

Note that here "European Union" means countries which were members of the EU in 2000.

2004 or newer model year diesel vehicle sold in the European Union

Commission Directive 70/220/EEC, Annex I:

Vehicles with compression-ignition engines

Vehicles of category M1, except

- vehicles designed to carry more than six occupants including the driver,

- vehicles whose maximum mass exceeds 2500 kg,

from 1 January 2003 for new types and from 1 January 2004 for all types, must be fitted with an on-board diagnostic (OBD) system for emission control in accordance with Annex XI.

Note that here "European Union" means countries which were members of the EU in 2003.

Other vehicles

If your vehicle does not fall into any of the above categories, look under the hood and try to locate a label (Fig. 1) that explicitly states that the vehicle was designed to comply with OBD-II legislation.
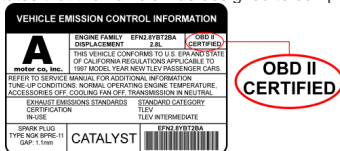
Fig. 1 - Vehicle Emission Control Information Label

In this case, OBD-II is used as a general term and can mean any of the following:

OBD II (California ARB)

EOBD (European OBD)

JOBD (Japanese OBD)

You may also consult your vehicle's owner's manual and perhaps contact your local dealer. However, be aware of the fact that many dealers do not know the difference between OBD and OBD-II.

If the vehicle is not OBD-II compliant, you cannot use a generic OBD-II scan tool such as U480 to obtain diagnostic information from your vehicle.

But my car has the 16-pin OBD connector, shouldn't it be OBD-II compliant?

No, not necessarily. A lot of European and Asian manufacturers equipped their vehicles with D-shaped 16-pin connectors long before they began installing OBD-II systems on those vehicles. One curious thing to note here is the fact that most non-EOBD compliant vehicles had a DLC that does not fully conform to SAE J1979. Compare figures 2 and 3, and notice the "ears" on the non-EOBD compliant Ford Focus.

Fig. 2 - Ford Escort DLC
(courtesy of DigitalFriction, UK)

Fig. 3 - J1962 Vehicle Connector, Type A
(courtesy of SAE)

3. Which OBD-II protocol is supported by my vehicle?

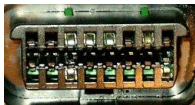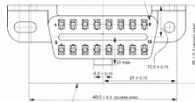All cars and light trucks built for sale in the United States after 1996 are required to be OBD-II compliant. The European Union OBD legislation is somewhat more complicated.

An OBD-II compliant vehicle can use any of the five communication protocols: J1850 PWM, J1850 VPW, ISO9141-2, ISO14230-4 (also known as Keyword Protocol 2000), and more recently, ISO15765-4/SAE J2480 (a "flavor" of CAN). US car manufacturers were not allowed to use CAN until model year 2003.

There are two types of diagnostic link connectors (DLCs) defined by SAE J1962 - Type A and Type B, shown in Figures 2 and 3, respectively. The main difference between the two connectors is in the shape of the alignment tab.

Location - According to J1962,Type A DLC "shall be located in the passenger or driver's compartment in the area bounded by the driver's end of the instrument panel to 300 mm (~1 ft) beyond the vehicle centerline, attached to the instrument panel and easy to access from the driver's seat. The preferred location is between the steering column and the vehicle centerline."
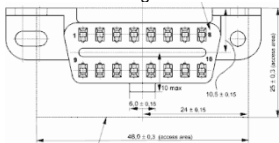
Fig. 1 - J1962 Vehicle Connector, Type A
(courtesy of SAE)

Type B DLC "shall be located in the passenger or driver's compartment in the area bounded by the driver's end of the instrument panel, including the outer side, and an imagined line 750 mm (~2.5 ft) beyond the vehicle centerline. It shall be attached to the instrument panel and easy to access from the driver's seat or from the Co-drivers seat or from the outside. The vehicle connector shall be mounted to facilitate mating and unmating."
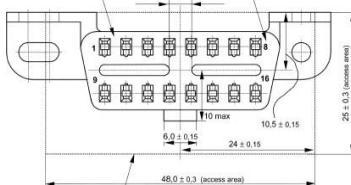
Fig.2 - J1962 Vehicle Connector, Type B
(courtesy of SAE)

As a general rule, you can determine which protocol your vehicle is using by looking at the pinout of the DLC:

Fig. 3
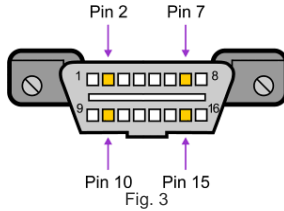
The following table explains how to determine the protocol:

Pin 2	Pin 6	Pin 7	Pin 10	Pin 14	Pin 15	Standard
must have			must have			J1850 PWM
must have						J1850 VPW
		must have			may have*	ISO9141/14230
	must have			must have		ISO15765 (CAN)

*Pin 15 (also called the "L-line") is optional in newer vehicles that use the ISO9141-2 or ISO14230-4 protocols.

In addition to pins 2, 7, 10, and 15, the connector should have pins 4 (Chassis Ground), 5 (Signal Ground), and 16 (Battery Positive). This means that:

PWM   The connector must have pins 2, 4, 5, 10, and 16

VPW   The connector must have pins 2, 4, 5, and 16, *but not* 10.

ISO   The connector must have pins 4, 5, 7, and 16. Pin 15 may or may not be present.

CAN   The connector must have pins 4, 5, 6, 14, and 16.

Product Information

1. Tool Description
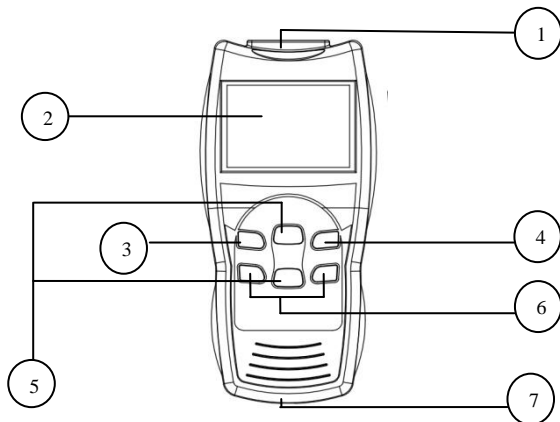
① OBDII connector cable, connect car and the scan tool
② **LCD Display:**
   V802 320*240 pixel, TFT liquid crystal displa;
   U600+: Backlit LCD, 128*64 pixel display
③ **ENTER key:** confirm selection and enter
④ **ESC key:** go back to the previous screens
⑤ **up/down arrows:** moves the selection pointer and scrolls up or down.:
⑥ **LEFT/RIGHT:** move cursor
⑦ USB interface: connect to USB cable

2. Product Specifications
- **Operating Temperature:** 0 to 50^OC(-32 to 122^OF)
- **External Power:** 10.0 to 15.5 volts provided via vehicle battery
- **Dimensions:** 200mm Length(7.87"), 92.5mm Width(3.64"),
  29mm Height (1.14"),
  OBDII connector, 870mm (34.25")

3. Product Function
V802/U600+ has powerful function, mainly included the following two:
1. **VW/AUDI/SKODA/SEAT**.
   Support all VW,AUDI, SKODA and SEAT. It matches all the functions of VAG1551/1552.
2. **CAN OBDII**.
   It Works on all 1996 and newer cars & light trucks that are OBD II compliant (including the VPW, PWM, ISO, KWP 2000 and CAN protocols)
   - Reads and clears generic and manufacturer specific Diagnostic Trouble Codes (DTCs)
   - Reading Freeze Frame Data
   - Testing I/M Reading Status
   - Reading vehicle info
   - Oxygen sensor test
   - Model 6 test

Operating Instructions

1. Preparation for Testing

V802/U600+ aids in monitoring electronic and emissions-related faults in your vehicle and retrieving fault codes related to malfunctions in these systems. Mechanical problems such as low oil level or damaged hoses, wiring or electrical connectors can cause poor engine performance and may also cause a "false" fault code. Fix any known mechanical problems before performing any test. See your vehicle's service manual or a mechanic for more information.

Check the following areas before starting any test:
- Check the engine oil, power steering fluid, transmission fluid (if applicable), engine coolant and other fluids for proper levels. Top off low fluid levels if needed.
- Make sure the air filter is clean and in good condition. Make sure all air filter ducts are properly connected. Check the air filter ducts for holes, rips or cracks.
- Make sure all engine belts are in good condition. Check for cracked, torn, brittle, loose or missing belts.
- Make sure mechanical linkages to engine sensors (throttle, gearshift position, transmission, etc.) are secure and properly connected. See your vehicle's service manual for locations.
- Check all rubber hoses (radiator) and steel hoses (vacuum/fuel) for leaks, cracks, blockage or other damage. Make sure all hoses are routed and connected properly.
- Make sure all spark plugs are clean and in good condition. Check for damaged, loose, disconnected or missing spark plug wires.
- Make sure the battery terminals are clean and tight. Check for corrosion or broken connections. Check for proper battery and charging system voltages.
- Check all electrical wiring and harnesses for proper connection. Make sure wire insulation is in good condition, and there are no bare wires.
- Make sure the engine is mechanically sound. If needed, perform a compression check, engine vacuum check, timing check (if applicable), etc.

2. Connect the V802/U600+

1) Turn the ignition on
2) Locate the 16-pin Data Link Connector (DTC), and plug into the cable connector to the DLC.
3) Connect the V802/U600+ cable connector to the vehicle's DLC. The V802/U600+ will auto start, the following screen will be displayed.

3. Diagnosis

There are two powerful functions. VW/AUDI/SKODA/SEAT and CAN OBDII.

3-1. VW/AUDI/SKODA/SEAT

Choose VW/AUDI/SKODA/SEAT and it displays as the follow.

Main Menu	AUDI/VW Diagnosis:
1) Diagnosis	1) Common
2) Special Function	2) Drivetrain
	3) Chassis
	4) Comfort/Conv.
	5) Electronics 1
	6) Electronics 2
01/02	01/06

Here system of V802/U600+ has been classified into 6 control units, each unit of which separates from each other. Take running [**Common**] for example. Click [**Common**] then press [ENTER] button. The screen will show the systems that most of the cars share. It displays as the follow.

Main System
01- Engine
02- Auto Trans
03- ABS Brakes
08- Auto HVAC
09- Cent. Elect.
15- Airbags
16- Steeting wheel
01/18

Now we can choose any one system. For example, to choose [01-Engine], then press ENTER key. The screen will display the follow.

Linking In Process.

One moment
AUTO - LINK is in
progress

Later on, it will display if succeed.

Info of ECU

P/N: 1GD906033A 1.6
1/2V SIMOS3W OOHSSCO
4
COD: 00001

WSC: 01120

If it fails it displays as the follow.

```
┌─────────────────────────────┐
│          Hints              │
├─────────────────────────────┤
│ Failed to connect!          │
│                             │
│ Please Verify the           │
│ connection at DLC           │
│ Verify the ignition         │
│ is ON.                      │
│                             │
└─────────────────────────────┘
```

1) Read ECU version details

Choose [01-Controller Infor] and then press [ENTER] button.The screen will show you the version of the tool as the follow.

```
┌─────────────────────────────┐
│        Info of ECU          │
├─────────────────────────────┤
│ P/N: 1GD906033A 1.6         │
│ 1/2V SIMOS3W OOHSSCO        │
│ 4                           │
│ COD:    00001               │
│                             │
│ WSC:    01120               │
│                             │
└─────────────────────────────┘
```
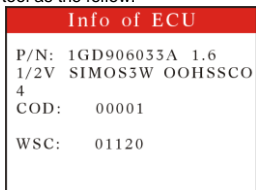
2) Read fault codes.

Choose [02-Fault Codes] and then press [ENTER] button. The screen will show fault codes. Move up or down key to check each fault code as the follow.

```
┌─────────────────────────────┐   ┌─────────────────────────────┐
│     Trouble Codes:          │   │ 17978          01/06        │
├─────────────────────────────┤   │                             │
│ Codes Total: 06             │   │                             │
│ Fault Codes:06              │   │                             │
│                             │   │ P1570 Engine control        │
│                             │   │ module disabled.            │
│ Press [OK] to view trouble  │   │                             │
│ Codes                       │   │                             │
└─────────────────────────────┘   └─────────────────────────────┘
```
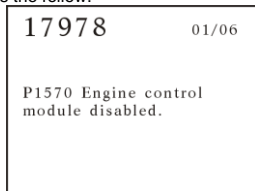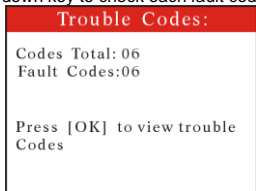
3) Clear fault code

Choose [08-Measure Blocks] and the press [ENTER] button. See the picture.

```
┌─────────────────────────────┐
│          Hints              │
├─────────────────────────────┤
│                             │
│ Do you want to erase        │
│ all the fault code(s)?      │
│                             │
│                             │
│                             │
└─────────────────────────────┘
```
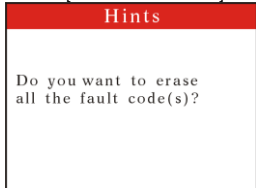
If you do wish to clear the fault codes, press [ENTER]. Meantime you can also press [Esc] button to give up clearing fault codes. It shows as the follow if succeeding in clearing the fault codes.

```
┌─────────────────────────────┐
│          Hints              │
├─────────────────────────────┤
│                             │
│ Erase fault code(s)         │
│ successfully!               │
│                             │
│                             │
│                             │
└─────────────────────────────┘
```

8
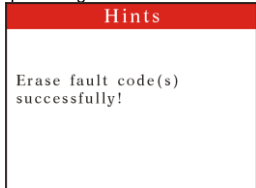
4) Read testing data value
Choose [08-Measure Blocks] and the press [ENTER] button. See the picture.

```
Please input

Input group(0-255)
000
```
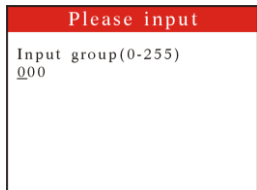
Press left or right key to select the number of place; while press up or down key to input number. Press [ENTER] to confirm. See the picture.

```
Please input

Input group(0-255)
001
```

```
Group:001

0.00 r/min
30.00 Deg c
0.00%
00100010
```
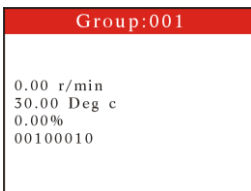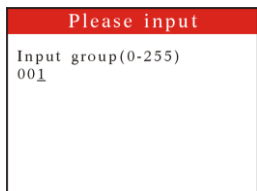
● Press [↓] key to switch to the next block, or press [↑] to the previous.

5) Output Tests
Select [03-Output Tests] and then press [ENTER] key.

```
Hints

Sencondary air inlet
valve -N112-N112
```

```
Hints

Testing...
```
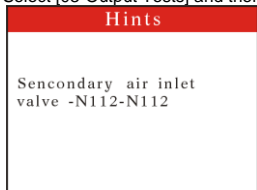
You can press **[**ENTER] button to test. Press **ESC** button to exit. If this testing is finished, you can press **[**ENTER] button to continue testing.

If successful, it will show as the follow.

```
Hints

Test end!
```

● If the function is not supported by the vehicle, a **"Function not supported by this ECU!"** message shows on the screen.
6) Basic adaptation
Choose [04-Basic Settings] and then press [ENTER] button.The operations are similar to these of "4) Read Testing Data Value"

7) Adaptation
Choose [10-Adaptation] and then press [ENTER] button, if you select group 0, It shows as the follow:

Please input
Input group(0-255) 000

Hints
Erase learned values!

Hints
Do you want to erase learned values?

If you don't select group 0, press left or right key to enter the number of places and press up or down key to input the number, press [ENTER] key to confirm, the scan tool list live data.

1. Press ENTER button, you can input adaption value that you need to adjust, after the value number is entered, press [ENTER] key to confirm.
2. The scan tool list live data, Stored value and New value.
3. Press ENTER button, you can see the stored value is adjusted.
4. Press ENTER button, a "Do you want to save new adaption value?" message will come up asking your confirmation, if you do wish to store the new value, press ENTER key.
5. If the value is stored successfully, a "Success" message shows on the screen. Press any button to return to the previous menu.

8) Coding
Choose [07-Coding] and then press [ENTER] button. It shows as the follow.

Please input
Input Software coding: 00000

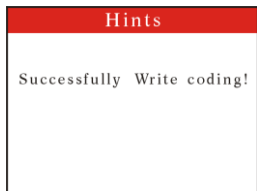Press left or right key to enter the number of places and press up or down key to input the number. Press [ENTER] to confirm.

Hints
Coding...

Info of ECU
P/N: 1GD906033A 1.6 1/2V SIMOS3W OOHSSCO 4 COD: 00001 WSC: 01120

When all finished, press [ENTER].If succeeds, it will show as the following.

10

```
┌─────────────────────────────┐
│          Hints              │
├─────────────────────────────┤
│                             │
│  Successfully Write coding! │
│                             │
│                             │
│                             │
└─────────────────────────────┘
```

If it fails, it will show "Coding Value is unacceptable".

9) Login the system

Choose [16-Security Access] and then press [ENTER] button. It shows the following.

```
┌─────────────────────────────┐
│        Please input         │
├─────────────────────────────┤
│  Input Password:            │
│  00000                      │
│                             │
│                             │
│                             │
└─────────────────────────────┘
```

Press left or right button to choose the number of places while press up or down key to input the pass code. After this, press [ENTER] button to login. If it succeeds, it will show as the follow.

```
┌─────────────────────────────┐
│          Hints              │
├─────────────────────────────┤
│                             │
│  Successfully  login!       │
│                             │
│                             │
│                             │
└─────────────────────────────┘
```
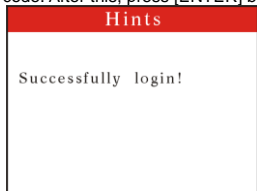
If it fails, it shows the follow.

```
┌─────────────────────────────┐
│          Hints              │
├─────────────────────────────┤
│                             │
│  Failed to communicate!     │
│                             │
│                             │
│                             │
└─────────────────────────────┘
```

10) System ready

Choose [15-Readiness] then press [ENTER] button. If succeeds, it will shows as the follow.

```
┌─────────────────────────────┐
│        DataStream           │
├─────────────────────────────┤
│  EGR System                 │
│                    Failed   │
│  O2 Sensor Heating          │
│                    Failed   │
│  O2 Sensor (s)              │
│                    Failed   │
└─────────────────────────────┘
```
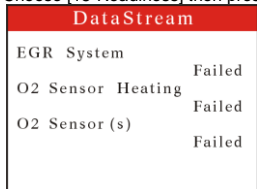
Press [down] key to read the next page, [up] key for the previous page. Press [ESC] key to exit

11) Functions for expert

11

Return to the main menu, Choose [Special Function]. Press [ENTER]. It will show the following.

```
Special Function:
1) Oil Reset
2) Srs Reset
3) Mileage Correction



01/03
```

A) Choose [Oil Reset] and then press [ENTER] key.

```
Linking In Process.

One moment
AUTO - LINK is in
progress

        TP-CAN

�+ □ □ □ □ □ □ □
```
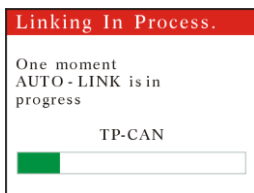
If connects successfully, it will show the follow.

```
Hints




Communicating...

```

```
Please input

Please enter the number
of miles you want to
change, Note: less than
15,000 km
00000
```

```
Please input

Please enter the number
of miles you want to
change, Note: less than
15,000 km
01000
```

```
Hints




Filish

```
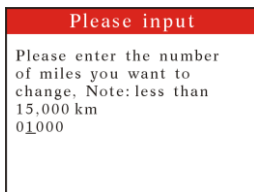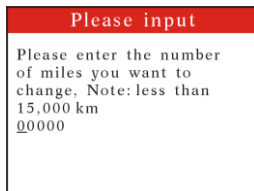
If failed connecting, it will show as the follow.

```
Hints



Failed to communicate!

```
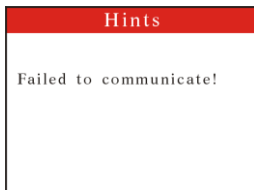
Press 0[Esc] to login out

B) Press **[Srs Reset]** and then press **[ENTER]** key. If it fails connecting, it shows as the follow.

```
SRS Reset


    Failed to connect!


```

If it connects successfully, it will read code as ordered before it returns back. If fault codes found, it will show as the follow.

```
SRS Reset

Clear DTC first! Do you
want to result forcible?


```
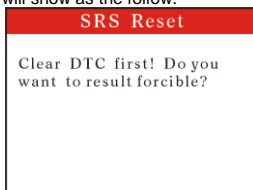
Here press **[ENTER]** key. It will force the implement of reset command and shows the follow when it succeeds.

```
SRS Reset



    Filish!


```

If you don't want to force the implementation of reset command, please press [Esc] to draw out. After finishing code erasing, you can reset airbag.

3-2. Choose CAN OBDII

Choose CAN OBDII and it displays as the follow.

```
Main Menu
1) VW/AUDI/SKODA/SEAT
2) CAN OBDII
3) SETTING




02/03
```

Select the "Diagnosis" and Press ENTER, then start to communicating with ECU, display as follows.

```
Linking In Process.

Detecting the Data
■■■■

Communicating With ECU.
Please Wait...
```

13
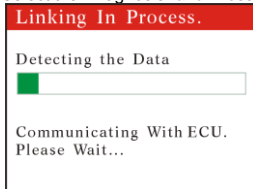
The test result from ECU as follows.

Test Result Summary

MIL Status

OFF

DTC Count

04

Readiness Complete

NO

Freeze Data Exists

YES

Press any key, then it will display diagnosis main menu.

Vehicle Diagnosis:
1) Read Fault Codes
2) Erase Codes
3) View Live Data
4) View Freeze Frame
5) I/M Readiness
6) Vehicle Info.
7) Oxygen Sensor Test
01/11

3-2.1. Read codes:

1) the trouble codes function read DTCs from the vehicle's computer modules there tow types of codes, Malfunction Indicator Lamp(MIL) Codes and pending codes
   MIL Codes: These codes cause the computer to illuminate the MIL when an emission related or driveability fault occurs. The MIL is also known as the "service Engine Soon" or "Check Engine Lamp". MIL codes remain in the vehicle's memory until the fault is repaired.
2) Pending Codes: These codes are also referred as "continuous monitor" and "maturing codes". An intermittent fault will cause the computer to store a code in memory. If the fault does not occur within 40 warm-up cycles, the code will be cleared from memory. If the fault occurs a specific number of times, the code will mature into a DTC and the MIL will turn on.
3) Select **"Read Fault codes"** and press **ENTER**, The V802/U600+ retrives the DTCs stored in the vehicle's computer modules.

Vehicle Diagnosis:
1) Read Fault Codes
2) Erase Codes
3) View Live Data
4) View Freeze Frame
5) I/M Readiness
6) Vehicle Info.
7) Oxygen Sensor Test
01/11

▲ If there are no trouble codes, it will display "NO CODES ARE FOUND"
▲ If there are any trouble codes, all information will be reported on the display

Trouble Codes:

Codes Total: 04
Fault Codes:04
Peng Codes:00

Press [OK] to viewtrouble Codes

3-2.2. Erase codes

Select Erase Codes and press the ENTER key.

Vehicle Diagnosis:
1) Read Fault Codes
2) Erase Codes
3) View Live Data
4) View Freeze Frame
5) I/M Readiness
6) Vehicle Info.
7) Oxygen Sensor Test
01/11

a message appears asking if you are sure. Press the UP/DOWN arrow keys to move the brackets to the desired response and press ENTER

Erase Codes
Erase trouble Codes! Are you sure?
YES   NO

3-2.3. Live data

1) Display the live data,

Vehicle Diagnosis:
1) Read Fault Codes
2) Erase Codes
3) View Live Data
4) View Freeze Frame
5) I/M Readiness
6) Vehicle Info.
7) Oxygen Sensor Test
01/11

2) All live data are reported on the display

DataStream	
Fuel SYS1	
	OL,not ready CL
Fuel SYS2	
	OL, not reagy CL
COOLANT(F)	
	-40
ST FTRM1(%)	
	0.0

DataStream	
LT FTRM1 (%)	
	0.0
ST FTRM2(%)	
	0.0
LT FTRM2(%)	
	0.0
ENGINE (RPM)	
	0

DataStream	
VEH SPEED(MPH)	
	0
IGN ADV(DEG)	
	5.0
IAT (F)	
	-40
MAF (1b/min)	
	0.030

DataStream		
ABSLT TPS(%)		
		0.0
O2S11	(V)	(%)
	0.000	0.0
O2S12	(V)	(%)
	0.000	N/A
O2S21	(V)	(%)
	0.000	0.0

DataStream

OBD2 STAT
                    OBD2 - CALIF

Abbreviated Name for live data specified in Appendix A

3-2.4. Freeze Frame

1) When an emission-related fault occurs, certain vehicle conditions are recorded by the on-board computer. This information is referred to as a freeze Frame data. this data can be overwritten by faults with a higher priority.

2) If codes were erased, the freeze frame data may not be stored in vehicle memory.
Select Freeze Frame from the menu and press ENTER

Vehicle Diagnosis:
1) Read Fault Codes
2) Erase Codes
3) View Live Data
4) View Freeze Frame
5) I/M Readiness
6) Vehicle Info.
7) Oxygen Sensor Test
01/11

3) All Freeze Frame data are reported on the display

Freeze Frame

TROUB CODE
                    P011
Fuel SYS1
        OL,not ready CL
Fuel SYS2
        OL,not ready CL
CALC LOAD(%)
                    0.0

Freeze Frame

COOLANT(F)
                    -40
ST FTRM1(%)
                    0.0
LT FTRM1(%)
                    0.0
ST FTRM2(%)
                    0.0

Freeze Frame

LT FTRM2(%)
                    0.0
ENGINE (RPM)
                    0
VEH SPEED (MPH)
                    0
JAT(F)
                    -40

Abbreviated Name for live data specified in Appendix A

3-2.5. IM Status

1) Select I/M Status and press ENTER

2) Using the UP/DOWN arrows to view status of the following monitors.

Abbreviated Name	Expanded Name
-Misfire Monitor	Misfire monitor
-FUEL System Mon	Fuel System Monitor
-Com Component	Comprehensive Components Monitor
-Catalyst Mon	Catalyst Monitor
-Htd Catalyst	Heated Catalyst Monitor
-Evap System Mon	Evaporative System Monitor
-Sec Air System	Secondary Air System Monitor
-A/C Refrig Mon	Air Conditioning Refrigerant Monitor
-OXYGEN Sens Mon	Oxygen Sensor Monitor
Oxygen Sens HTR	Oxygen Heater Sensor Monitor
-EGR System Mon	Exhaust Gas Recirculation System Monitor

3-2.6. Vehicle info

1) Select "Vehicle info" from the main menu, press the "ENTER" button.

2) If the vehicle supports this mode, a message will show

```
Vehicle Information
VIN:
LSGJU52P96H135976
CALID:
45052415
```

3) If the vehicle does not support this mode, a message will show "the selected mode is not supported! "

```
Hints
The selected mode is not
supproted!



Press Key to continue.
```
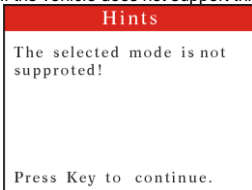
3-2.7. Oxygen Sensor

1) Select Oxygen Sensor and press ENTER

```
Vehicle Diagnosis:
1) Read Fault Codes
2) Erase Codes
3) View Live Data
4) View Freeze Frame
5) I/M Readiness
6) Vehicle Info.
7) Oxygen Sensor Test
01/11
```
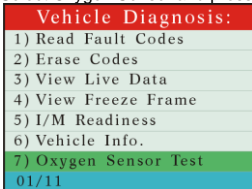
2) If the vehicle support this mode, data reported on the display . You can select "Oxygen sensor location"

```
Oxygen Sensor Test

    -Please Wait-
Oxygen Sensor test...



```

```
02 sensor location
Bank 1 - Sensor 1
Bank 1 - Sensor 2




01/02
```
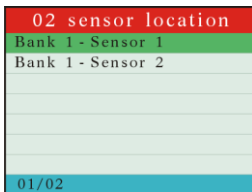
If the vehicle does not support this mode, a message will show " Not supported!"

```
Hints
The selected mode is not
supproted!



Press Key to continue.
```
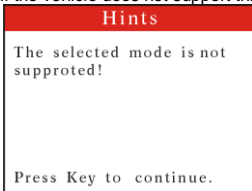
3) Select "Oxygen sensor test id".

Test ID Select
Test ID 01
Test ID 02
Test ID 03
Test ID 04
Test ID 05
Test ID 06
Test ID 09
06/07

4) Display test result.

Oxygen Test result:
Test VAL :0.000s
Min Limit: 0.000s
Max Limit: 0.000s

3-2.8. Mode 6 Test

1) Select "**Mode 6 Test**" from the main menu, press the "**ENTER**" button.

Vehicle Diagnosis:
8) Mode 6 Test
9) Component Test
10) Rescan Data
11) Modules Info.
08/11

2) start to mode 6 test

Mode6 Test
-Please Wait-
Mode6 testing...

3) If the vehicle does not support this mode, a message will show " the selected mode is not supported!"

Hints
The selected mode is not supproted!
Press Key to continue.

4) If the vehicle supports this mode, If your vehicle applies to ISO 9141-2, SAE J1850, and ISO 14230-4,

information will be reported on the display will show

Test Ids:		Component Ids:
TID 01		CID 01
TID 02		CID 02
TID 04		CID 03
TID 06		CID 04
		CID 05
		CID 06
		CID 07
02/04		03/08

Mode6 Test

```
TID  $2
CID  $3 [Max]
Value :    0
Max   :    0
Min   :  -----
Result: PASS
```

TID specified in Appendix B

5) If your vehicle applies to ISO 15765-4, information will be reported on the display

Test Ids:		Component Ids:
OBDMID $01		TID 01
OBDMID $02		TID 02
		TID 03
		TID 04
		TID 05
		TID 06
		TID 07
01/02		01/08

Mode6 Test

```
CID  $1
TID  $1
Value :    0v
Min   :    0v
Max   :    0v
Result: PASS
```

OBDMID and CID specified in Appendix C.

3-2.9. Component Test

FUNCTIONAL DESCRIPTION—The purpose of this service is to enable the external test equipment to control the operation of an on-board system, test or component.

1) Select **Component Test** and press **ENTER**
2)

20
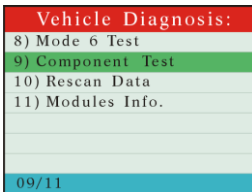
3) Test results are the following two:
   a) If you do not support this function screen will be displayed "The selected mode is not supported!"
   b) If the test is successful the screen will display "Command Sent"

3-2.10.   Rescan Data

Select "**Rescan Data**" from the main Menu, and press the "**ENTER**" button.
V802/U600+ will retest you car
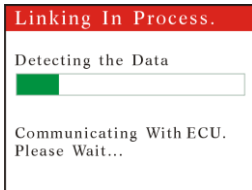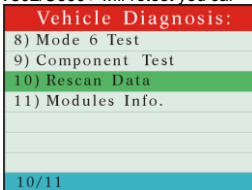
3-2.11.   Modules Info.

Select "**Modules Info.**" from the main Menu, and press the "**ENTER**" button.
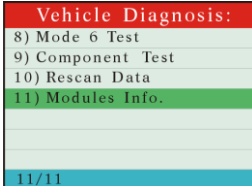
The modules information will display as follows

4. Setting

Select the "Setting", and Press ENTER, the LCD display

1) Select the "Unit Of Measure", and Press ENTER, the LCD display, you can select one of their two that will meet your demand.

2) Select the "Tool Self-test", and Press ENTER, the LCD display,

2-1) Select the "Display Test", and Press ENTER, the LCD display,

2-2) Select the "Keyboard Test", and Press ENTER, the LCD display,

Keyboard Test

Press any key to
start test to
display name.
Key: OK

Double [ESC] to exit

3) Select the "Beep Switch", and Press ENTER, the LCD display.

System Setup:
1) Unit Of Measure
2) Tool Self - test
3) Beep Switch
4) Version
03/04

Beep Switch:
1) ON(default)
2) OFF
01/02
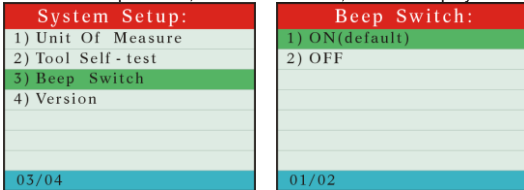
4) Select the "Version", and Press ENTER, the LCD display.

System Setup:
1) Unit Of Measure
2) Tool Self - test
3) Beep Switch
4) Version
04/04
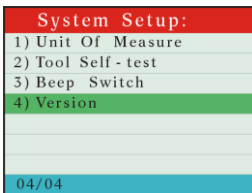
5. Location of Data Linking Connection.

Refer to the picture of OBD-II 16pin as the following. For VW GOLF, it locates in the right side of steering column; for Jetta, it locates in the left side of the bottom of the dashboard which is at the driver's ca; for Santana, it locates the dust-proof gearbox which is in the front. For more details, please refer to the vehicle repairing manual.

APPENDIX A

Abbreviated NAME FOR SERVICE $01 AND $02 SCALING AND DEFINITION

Abbreviated Name	Expanded Name
Fuel Sys1, Fuel Sys2	Fuel system 1 status, Fuel system 1 status:
CALC LOAD	Calculated LOAD Value
COOLANT	Engine Coolant Temperature
ST FTRM1	Short Term Fuel Trim - Bank 1
LT FTRM1	Long Term Fuel Trim - Bank 1
ST FTRM2	Short Term Fuel Trim - Bank 2
LT FTRM2	Long Term Fuel Trim – Bank 2
FUEL PRES	Fuel Rail Pressure (gauge)
MAP	Intake Manifold Absolute Pressure

ENGINE	Engine RPM
VEH SPEED	Vehicle Speed Sensor
IGN ADV	Ignition Timing Advance for #1 Cylinder
IAT	Intake Air Temperature
MAF	Air Flow Rate from Mass Air Flow Sensor
ABSLT TPS	Absolute Throttle Position
SECOND AIR	Commanded Secondary Air Status
O2S Location	Location of Oxygen Sensors
O2S11	Bank 1 – Sensor 1
O2S12	Bank 1 – Sensor 2
O2S13	Bank 1 – Sensor 3
O2S14	Bank 1 – Sensor 4
O2S21	Bank 2 – Sensor 1
O2S22	Bank 2 – Sensor 2
O2S23	Bank 2 – Sensor 3
O2S24	Bank 2 – Sensor 4
SHRTFT11	Short Term Fuel Trim (Bank 1 – Sensor 1)
SHRTFT12	Short Term Fuel Trim (Bank 1 – Sensor 2)
SHRTFT13	Short Term Fuel Trim (Bank 1 – Sensor 3)
SHRTFT14	Short Term Fuel Trim (Bank 1 – Sensor 4)
SHRTFT11	Short Term Fuel Trim (Bank 2 – Sensor 1)
SHRTFT12	Short Term Fuel Trim (Bank 2 – Sensor 2)
SHRTFT13	Short Term Fuel Trim (Bank 2 – Sensor 3)
SHRTFT14	Short Term Fuel Trim (Bank 2 – Sensor 4)
OBD2 STAT	OBD requirements to which vehicle is designed
PTO STATUS	Power Take Off (PTO) Status
MI Dist. Traveled	Distance Travelled While MIL is Activated
O2S W.R. EQ_RAT11	Bank 1 – Sensor 1 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R. B1,S1	Bank 1 – Sensor 1 (wide range O2S) Oxygen Sensor Voltage
O2S W.R. EQ_RAT12	Bank 1 – Sensor 2 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R. B1,S2	Bank 1 – Sensor 2 (wide range O2S) Oxygen Sensor Voltage
O2S W.R. EQ_RAT13	Bank 1 – Sensor 3 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R. B1,S3	Bank 1 – Sensor 3 (wide range O2S) Oxygen Sensor Voltage
O2S W.R. EQ_RAT14	Bank 1 – Sensor 4 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R. B1,S4	Bank 1 – Sensor 4 (wide range O2S) Oxygen Sensor Voltage
O2S W.R. EQ_RAT21	Bank 2 – Sensor 1 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R. B2,S1	Bank 2 – Sensor 1 (wide range O2S) Oxygen Sensor Voltage
O2S W.R. EQ_RAT22	Bank 2 – Sensor 2 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R. B2,S2	Bank 2 – Sensor 2 (wide range O2S) Oxygen Sensor Voltage
O2S W.R. EQ_RAT23	Bank 2 – Sensor 3 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R. B2,S3	Bank 2 – Sensor 3 (wide range O2S) Oxygen Sensor Voltage
O2S W.R. EQ_RAT24	Bank 2 – Sensor 4 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R. B2,S4	Bank 2 – Sensor 4 (wide range O2S) Oxygen Sensor Voltage //24-2b 0x1d

O2S W.R.	EQ_RAT11	Bank 1 – Sensor 1 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B1,S1	Bank 1 – Sensor 1 (wide range O2S) Oxygen Sensor Voltage
O2S W.R.	EQ_RAT12	Bank 1 – Sensor 2 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B1,S2	Bank 1 – Sensor 2 (wide range O2S) Oxygen Sensor Voltage
O2S W.R.	EQ_RAT13	Bank 2 – Sensor 1 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B1,S3	Bank 2 – Sensor 1 (wide range O2S) Oxygen Sensor Voltage
O2S W.R.	EQ_RAT14	Bank 2 – Sensor 2 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B1,S4	Bank 2 – Sensor 2 (wide range O2S) Oxygen Sensor Voltage
O2S W.R.	EQ_RAT21	Bank 3 – Sensor 1 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B2,S1	Bank 3 – Sensor 1 (wide range O2S) Oxygen Sensor Voltage
O2S W.R.	EQ_RAT22	Bank 3 – Sensor 2 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B2,S2	Bank 3 – Sensor 2 (wide range O2S) Oxygen Sensor Voltage
O2S W.R.	EQ_RAT23	Bank 4 – Sensor 1 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B2,S3	Bank 4 – Sensor 1 (wide range O2S) Oxygen Sensor Voltage
O2S W.R.	EQ_RAT24	Bank 4 – Sensor 2 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B2,S4	Bank 4 – Sensor 2 (wide range O2S) Oxygen Sensor Voltage
O2S W.R.	EQ_RAT11	Bank 1 – Sensor 1 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B1,S1	Bank 1 – Sensor 1 (wide range O2S) Oxygen Sensor Current
O2S W.R.	EQ_RAT12	Bank 1 – Sensor 2 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B1,S2	Bank 1 – Sensor 2 (wide range O2S) Oxygen Sensor Current
O2S W.R.	EQ_RAT13	Bank 1 – Sensor 3 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B1,S3	Bank 1 – Sensor 3 (wide range O2S) Oxygen Sensor Current
O2S W.R.	EQ_RAT14	Bank 1 – Sensor 4 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B1,S4	Bank 1 – Sensor 4 (wide range O2S) Oxygen Sensor Current
O2S W.R	EQ_RAT21	Bank 2 – Sensor 1 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R	B2,S1	Bank 2 – Sensor 1 (wide range O2S) Oxygen Sensor Current
O2S W.R.	EQ_RAT22	Bank 2 – Sensor 2 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B2,S2	Bank 2 – Sensor 2 (wide range O2S) Oxygen Sensor Current
O2S W.R.	EQ_RAT23	Bank 2 – Sensor 3 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B2,S3	Bank 2 – Sensor 3 (wide range O2S) Oxygen Sensor Current
O2S W.R.	EQ_RAT24	Bank 2 – Sensor 4 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B2,S4	Bank 2 – Sensor 4 (wide range O2S) Oxygen Sensor Current
O2S W.R.	EQ_RAT11	Bank 1 – Sensor 1 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B1,S1	Bank 1 – Sensor 1 (wide range O2S) Oxygen Sensor Current
O2S W.R.	EQ_RAT12	Bank 1 – Sensor 2 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B1,S2	Bank 1 – Sensor 2 (wide range O2S) Oxygen Sensor Current
O2S W.R.	EQ_RAT21	Bank 2 – Sensor 1 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B2,S1	Bank 2 – Sensor 1 (wide range O2S) Oxygen Sensor Current
O2S W.R.	EQ_RAT22	Bank 2 – Sensor 2 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B2,S2	Bank 2 – Sensor 2 (wide range O2S) Oxygen Sensor Current
O2S W.R	EQ_RAT31	Bank 3 – Sensor 1 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R	B3,S1	Bank 3 – Sensor 1 (wide range O2S) Oxygen Sensor Current
O2S W.R.	EQ_RAT32	Bank 3 – Sensor 2 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B3,S2	Bank 3 – Sensor 2 (wide range O2S) Oxygen Sensor Current

O2S W.R.	EQ_RAT41	Bank 4 – Sensor 1 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B4,S1	Bank 4 – Sensor 1 (wide range O2S) Oxygen Sensor Current
O2S W.R.	EQ_RAT42	Bank 4 – Sensor 2 (wide range O2S) Equivalence Ratio (lambda)
O2S W.R.	B4,S2	Bank 4 – Sensor 2 (wide range O2S) Oxygen Sensor Current

APPENDIX B
This applies to ISO 9141-2, SAE J1850, and ISO 14230-4 definition for service $06.

TID(TEST ID SCALING DESCRIPTION)
$01 Rich to lean sensor threshold voltage (constant)
$02 Lean to rich sensor threshold voltage (constant)
$03 Low sensor voltage for switch time calculation (constant)
$04 High sensor voltage for switch time calculation (constant)
$05 Rich to lean sensor switch time (calculated)
$06 Lean to rich sensor switch time (calculated)
$07 Minimum sensor voltage for test cycle (calculated)
$08 Maximum sensor voltage for test cycle (calculated)
$09 Time between sensor transitions (calculated)
$0A Sensor period (calculated)
$0B-$1F reserved - to be specified by SAE and/or ISO
$21-$2F manufacturer Test ID description
$30-$3F manufacturer Test ID description
$41-$4F manufacturer Test ID description
$50-$5F manufacturer Test ID description
$61-$6F manufacturer Test ID description
$70-$7F manufacturer Test ID description
$81-$9F manufacturer Test ID description
$A1-$BF manufacturer Test ID description
$C1-$DF   manufacturer Test ID description
$E1-$FF manufacturer Test ID description

APPENDIX C
This only applies to ISO 15765-4 definition for service $06
OBDMID (ON-BOARD DIAGNOSTIC MONITOR ID) DEFINITION FOR SERVICE $06

OBDMID (Hex) On-Board Diagnostic Monitor ID name
00 OBD Monitor IDs supported ($01 - $20)
01 Oxygen Sensor Monitor Bank 1 - Sensor 1
02 Oxygen Sensor Monitor Bank 1 - Sensor 2
03 Oxygen Sensor Monitor Bank 1 - Sensor 3
04 Oxygen Sensor Monitor Bank 1 - Sensor 4
05 Oxygen Sensor Monitor Bank 2 - Sensor 1
06 Oxygen Sensor Monitor Bank 2 - Sensor 2
07 Oxygen Sensor Monitor Bank 2 - Sensor 3
08 Oxygen Sensor Monitor Bank 2 - Sensor 4

09 Oxygen Sensor Monitor Bank 3 - Sensor 1
0A Oxygen Sensor Monitor Bank 3 - Sensor 2
0B Oxygen Sensor Monitor Bank 3 - Sensor 3
0C Oxygen Sensor Monitor Bank 3 - Sensor 4
0D Oxygen Sensor Monitor Bank 4 - Sensor 1
0E Oxygen Sensor Monitor Bank 4 - Sensor 2
0F Oxygen Sensor Monitor Bank 4 - Sensor 3
10 Oxygen Sensor Monitor Bank 4 - Sensor 4
11 - 1F Reserved by document for future standardization
20 OBD Monitor IDs supported ($21 - $40)
21 Catalyst Monitor Bank 1
22 Catalyst Monitor Bank 2
23 Catalyst Monitor Bank 3
24 Catalyst Monitor Bank 4
25 – 30 Reserved by document for future standardization
31 EGR Monitor Bank 1
32 EGR Monitor Bank 2
33 EGR Monitor Bank 3
34 EGR Monitor Bank 4
35 - 38 Reserved by document for future standardization
39 EVAP Monitor (Cap Off)
3A EVAP Monitor (0.090")
3B EVAP Monitor (0.040")
3C EVAP Monitor (0.020")
3D Purge Flow Monitor
3E - 3F Reserved by document for future standardization
40 OBD Monitor IDs supported ($41 - $60)
41 Oxygen Sensor Heater Monitor Bank 1 - Sensor 1
42 Oxygen Sensor Heater Monitor Bank 1 - Sensor 2
43 Oxygen Sensor Heater Monitor Bank 1 - Sensor 3
44 Oxygen Sensor Heater Monitor Bank 1 - Sensor 4
45 Oxygen Sensor Heater Monitor Bank 2 - Sensor 1
46 Oxygen Sensor Heater Monitor Bank 2 - Sensor 2
47 Oxygen Sensor Heater Monitor Bank 2 - Sensor 3
48 Oxygen Sensor Heater Monitor Bank 2 - Sensor 4
49 Oxygen Sensor Heater Monitor Bank 3 - Sensor 1
4A Oxygen Sensor Heater Monitor Bank 3 - Sensor 2
4B Oxygen Sensor Heater Monitor Bank 3 - Sensor 3
4C Oxygen Sensor Heater Monitor Bank 3 - Sensor 4
4D Oxygen Sensor Heater Monitor Bank 4 - Sensor 1
4E Oxygen Sensor Heater Monitor Bank 4 - Sensor 2
4F Oxygen Sensor Heater Monitor Bank 4 - Sensor 3
50 Oxygen Sensor Heater Monitor Bank 4 - Sensor 4
51 - 5F Reserved by document for future standardization

60 OBD Monitor IDs supported ($61 - $80)
61 Heated Catalyst Monitor Bank 1
62 Heated Catalyst Monitor Bank 2
63 Heated Catalyst Monitor Bank 3
64 Heated Catalyst Monitor Bank 4
65 - 70 Reserved by document for future standardization
71 Secondary Air Monitor 1
72 Secondary Air Monitor 2
73 Secondary Air Monitor 3
74 Secondary Air Monitor 4
75 - 7F Reserved by document for future standardization
80 OBD Monitor IDs supported ($81 - $A0)
81 Fuel System Monitor Bank 1
82 Fuel System Monitor Bank 2
83 Fuel System Monitor Bank 3
84 Fuel System Monitor Bank 4
85 - 9F Reserved by document for future standardization
A0 OBD Monitor IDs supported ($A1 - $C0)
A1 Mis-Fire Monitor General Data
A2 Mis-Fire Cylinder 1 Data
A3 Mis-Fire Cylinder 2 Data
A4 Mis-Fire Cylinder 3 Data
A5 Mis-Fire Cylinder 4 Data
A6 Mis-Fire Cylinder 5 Data
A7 Mis-Fire Cylinder 6 Data
A8 Mis-Fire Cylinder 7 Data
A9 Mis-Fire Cylinder 8 Data
AA Mis-Fire Cylinder 9 Data
AB Mis-Fire Cylinder 10 Data
AC Mis-Fire Cylinder 11 Data
AD Mis-Fire Cylinder 12 Data
AE - BF Reserved by document for future standardisation
C0 OBD Monitor IDs supported ($C1 - $E0)
C1 - DF Reserved by document for future standardisation
E0 OBD Monitor IDs supported ($E1 - $FF)
E1 - FF Vehicle Manufacturer defined OBDM IDs
TID(STANDARDIZED TEST ID DESCRIPTION)
Range (Hex) Description
00 Reserved by document
01 Rich to lean sensor threshold voltage (constant)
02 Lean to rich sensor threshold voltage (constant)
03 Low sensor voltage for switch time calculation (constant)
04 High sensor voltage for switch time calculation (constant)
05 Rich to lean sensor switch time (calculated)

06 Lean to rich sensor switch time (calculated)
07 Minimum sensor voltage for test cycle (calculated)
08 Maximum sensor voltage for test cycle (calculated)
09 Time between sensor transitions (calculated)
0A Sensor period (calculated)
0B EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles (calculated)
Calculation: 0.1 * (current counts) + 0.9 * (previous average)
Initial value for (previous average) = 0
0C Misfire counts for last/current driving cycles (calculated)
0D - 7F Reserved for future standardisation