SP61155

ON BOARD DIAGNOSTICS II
CODE READER: OBDII, EOBD, JOBD, CAN BUS

CHECK

CHECK ENGINE

SERVICE ENGINE SOON!

OBDII/EOBD/JOBD
SCANNER CODE READER

SP61155

Take charge of your vehicles testing, servicing and maintenance needs.

INSTRUCTION MANUAL

Table of Contents

1. Safety Precautions and Warnings

   To prevent personal injury or damage to vehicles and/or the scan tool, read this instruction manual first and observe the following safety precautions at a minimum whenever working on a vehicle:

1. Always perform automotive testing in a safe environment.
2. Wear safety eye protection that meets ANSI standards.
3. Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts.
4. Operate the vehicle in a well ventilated work area: Exhaust gases are poisonous.
5. Put blocks in front of the drive wheels and never leave the vehicle unattended while running tests.
6. Use extreme caution when working around the ignition coil, distributor cap, ignition wires and spark plugs. These components create hazardous voltages when the engine is running.
7. Put the transmission in PARK (for automatic transmission) or NEUTRAL (for manual transmission) and make sure the parking brake is engaged.
8. Keep a fire extinguisher suitable for gasoline/chemical/electrical fires nearby.
9. Don't connect or disconnect any test equipment while the ignition is on or the engine is running.
10. Keep the scan tool dry, clean, free from oil/water or grease. Use a mild detergent on a clean cloth to clean the outside of the scan tool, when necessary.

2. General Information

2.1 On-Board Diagnostics (OBD) II

   The first generation of On-Board Diagnostics (called OBD I) was developed by the California Air Resources Board (ARB) and
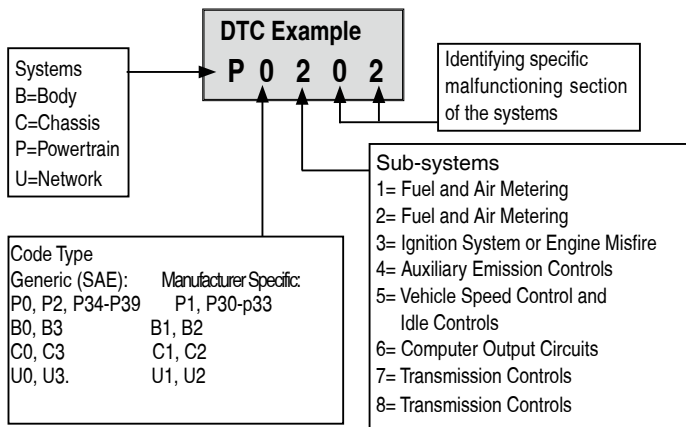
implemented in 1988 to monitor some of the emission control components on vehicles. As technology evolved and the desire to improve the On-Board Diagnostic system increased, a new generation of On-Board Diagnostic system was developed. This second generation of On-Board Diagnostic regulations is called "OBD II".

The OBD II system is designed to monitor emission control systems and key engine components by performing either continuous or periodic tests of specific components and vehicle conditions. When a problem is detected, the OBD II system turns on a warning lamp (MIL) on the vehicle instrument panel to alert the driver typically by the phrase of "Check Engine" or "Service Engine Soon". The system will also store important information about the detected malfunction so that a technician can accurately find and fix the problem. Here below follow three pieces of such valuable information:

1). If Malfunction Indicator Light (MIL) is commanded 'on' or 'off';
2). Which, if any, Diagnostic Trouble Codes (DTCs) are stored;
3) Readiness Monitor status.

2.2 Diagnostic Trouble Codes (DTCs)

OBD II Diagnostic Trouble Codes are codes that are stored by the on-board computer diagnostic system in response to a problem found in the vehicle. These codes identify a particular problem area and are intended to provide you with a guide as to where a fault might be occurring within a vehicle. OBD II Diagnostic Trouble Codes consist of a five-digit alphanumeric code. The first character, a letter, identifies which control system sets the code. The other four characters, all numbers, provide additional information on where the DTC originated and the operating conditions that caused it to set. Here below is an example to illustrate the structure of digits:

```
                    ┌──────────────────┐
                    │   DTC Example    │
Systems             │                  │        Identifying specific
B=Body         ────▶│  P  0  2  0  2   │        malfunctioning section
C=Chassis           │                  │        of the systems
P=Powertrain        └──────────────────┘
U=Network
```

Systems	
B=Body	
C=Chassis	
P=Powertrain	
U=Network	

Identifying specific malfunctioning section of the systems

Sub-systems
1= Fuel and Air Metering
2= Fuel and Air Metering
3= Ignition System or Engine Misfire
4= Auxiliary Emission Controls
5= Vehicle Speed Control and Idle Controls
6= Computer Output Circuits
7= Transmission Controls
8= Transmission Controls

Code Type	
Generic (SAE):	Manufacturer Specific:
P0, P2, P34-P39	P1, P30-p33
B0, B3	B1, B2
C0, C3	C1, C2
U0, U3.	U1, U2

2.3 Location of the Data Link Connector (DLC)

The DLC (Data Link Connector or Diagnostic Link Connector) is the standardized 16-cavity connector where diagnostic scan tools interface with the vehicle's on-board computer. The DLC is usually located 12 inches from the center of the instrument panel (dash), under or around the driver's side for most vehicles. If Data Link Connector is not located under dashboard, a label should be there telling location. For some Asian and European vehicles, the DLC is located behind the ashtray and the ashtray must be removed to access the connector. If the DLC cannot be found, refer to the vehicle's service manual for the location.
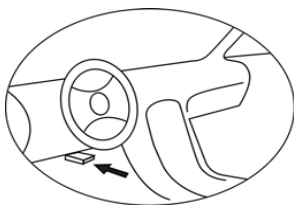
2.4 OBD II Readiness Monitors

An important part of a vehicle's OBD II system is the Readiness Monitors, which are indicators used to find out if all of the emissions components have been evaluated by the OBD II system. They are running periodic tests on specific systems and components to ensure that they are performing within allowable limits.

Currently, there are eleven OBD II Readiness Monitors (or I/M Monitors) defined by the U.S. Environmental Protection Agency(EPA). Not all monitors are supported by all vehicles and the exact number of monitors in any vehicle depends on the motor vehicle manufacturer's emissions control strategy.

Continuous Monitors -- Some of the vehicle components or systems are continuously tested by the vehicle's OBD II system, while others are tested only under specific vehicle operating conditions. The continuously monitored components listed below are always ready:

1. Misfire
2. Fuel System
3. Comprehensive Components (CCM)

Once the vehicle is running, the OBD II system is continuously checking the above components, monitoring key engine sensors, watching for engine misfire, and monitoring fuel demands.

Non-Continuous Monitors -- Unlike the continuous monitors, many emissions and engine system components require the vehicle to be operated under specific conditions before the monitor is ready. These monitors are termed non-continuous monitors and are listed below:

1). EGR System
2). O2 Sensors
3). Catalyst
4). Evaporative System

5). O2 Sensor Heater
6). Secondary air
7). Heated Catalyst
8). A/C system

2.5 OBD II Monitor Readiness Status

OBD II systems must indicate whether or not the vehicle's PCM's monitor system has completed testing on each component. Components that have been tested will be reported as "Ready", or "Complete", meaning they have been tested by the OBD II system. The purpose of recording readiness status is to allow inspectors to determine if the vehicle's OBDII system has tested all the components and/or systems.

The powertrain control module (PCM) sets a monitor to "Ready" or "Complete" after an appropriate drive cycle has been performed. The drive cycle that enables a monitor and sets readiness codes to "Ready" varies for each individual monitor. Once a monitor is set as "Ready" or "Complete", it will remain in this state. A number of factors, including erasing of diagnostic trouble codes (DTCs) with a scan tool or a disconnected battery, can result in Readiness Monitors being set to "Not Ready". Since the three continuous monitors are constantly evaluating, they will be reported as "Ready" all of the time. If testing of a particular supported non-continuous monitor has not been completed, the monitor status will be reported as "Not Complete" or "Not Ready".

In order for the OBD monitor system to become ready, the vehicle should be driven under normal operating conditions. These operating conditions may include a mix of highway driving and stop and go, city type driving, and at least one overnight-off period. For specific information on getting your vehicle's OBD monitor system ready, please consult your vehicle owner's manual.

2.6 OBD II Definitions

Powertrain Control Module (PCM) -- OBDII terminology for the on-board computer that controls engine and drive train.

Malfunction Indicator Light (MIL) -- Malfunction Indicator Light (Service Engine Soon, Check Engine) is a term used for the light on the instrument panel. It is to alert the driver and/or the repair technician that there is a problem with one or more of vehicle's systems and may cause emissions to exceed federal standards. If the MIL illuminates with a steady light, it indicates that a problem has been detected and the vehicle should be serviced as soon as possible. Under certain conditions, the dashboard light will blink or flash. This indicates a severe problem and flashing is intended to discourage vehicle operation. The vehicle onboard diagnostic system can not turn the MIL off until necessary repairs are completed or the condition no longer exists.

DTC -- Diagnostic Trouble Codes (DTC) that identify which section of the emission control system has malfunctioned.

Enabling Criteria --Also termed Enabling Conditions.They are the vehicle-specific events or conditions that must occur within the engine before the various monitors will set, or run. Some monitors require the vehicle to follow a prescribed "drive cycle" routine as part of the enabling criteria. Drive cycles vary among vehicles and for each monitor in any particular vehicle.

OBD II Drive Cycle -- A specific mode of vehicle operation that provides conditions required to set all the readiness monitors applicable to the vehicle to the "ready" condition. The purpose of completing an OBD II drive cycle is to force the vehicle to run its onboard diagnostics. Some form of a drive cycle needs to be performed after DTCs have been erased from the PCM's memory or after the battery has been disconnected. Running through a vehicle's complete drive cycle will set the readiness monitors so that future faults can be detected. Drive cycles vary depending

on the vehicle and the monitor that needs to be reset. For vehicle specific drive cycle, consult the vehicle's Owner's Manual.

Freeze Frame Data -- When an emissions related fault occurs, the OBD II system not only sets a code but also records a snapshot of the vehicle operating parameters to help in identifying the problem. This set of values is referred to as Freeze Frame Data and may include important engine parameters such as engine RPM, vehicle speed, air flow, engine load, fuel pressure, fuel trim value, engine coolant temperature, ignition timing advance, or closed loop status.

3. Using the Scan Tool
3.1 Tool Description
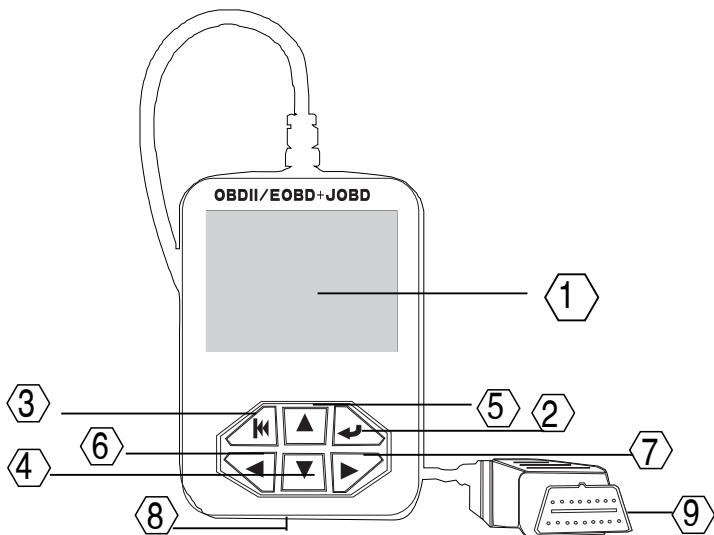
1. LCD DISPLAY -- Indicates test results.

2. ENTER BUTTON--Confirms a selection (or action) from a menu.

3. ESC BUTTON -- Returns to previous menu.

4/5. UP/DOWN BUTTONs-- Move cursor up or down for selection.

6/7. RIGHT/LEFT BUTTONs -- Move cursor right or left for selection; Or turn page up or down when more than one page is displayed.

8. USB PORT -- Connects to computer to update the AUTO SCANNER online.

9. Cable with OBD II CONNECTOR -- Connects the AUTO SCANNER to the vehicle.

3.2 Specifications

Display: 2.8" TFT color LCD screen

Input voltage range: 8~16V

Operating temperature: 0 to 50℃ (32 to 122°F)

Storage temperature: -20 to 70℃ (-4 to 158°F)@ RH60%

Outline dimension: 11.5*8*2CM (L *W *H)

Weight : 200g (7.12 oz)

3.3 Accessories Included

User Manual -- Show the user how to operate the tool.

CD -- Include the software.

USB cable -- Connect to a computer for upgrading online.
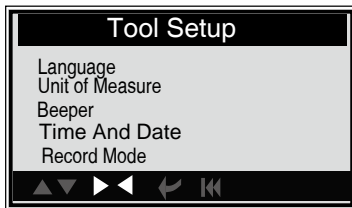
3.4 Power supply

The power of the Car scanner is provided via the vehicle Data Link Connector (DLC). Follow the steps below to power it up:

A. Find DLC on vehicle: A plastic DLC cover may be found for some vehicles and you need to remove it before plugging the OBDII cable.

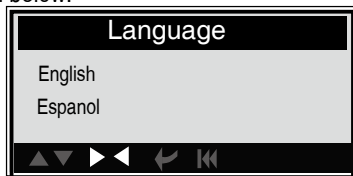B. Plug the connector at the end of OBD II cable to the vehicle.

3.5 Tool Setup

Select [Tool Setup] in the Main Menu and press [ENTER], the screen will display the interface as shown below:

```
┌─────────────────────────────┐
│        Tool Setup           │
├─────────────────────────────┤
│  Language                   │
│  Unit of Measure            │
│  Beeper                     │
│  Time And Date              │
│  Record Mode                │
│  ▲▼  ►◄  ↵  |◄◄             │
└─────────────────────────────┘
```

to make the following adjustments, settings:

1). Select language: Selects desired language.

Choose [Language] and press [ENTER], the screen will display the interface as shown below:

```
┌─────────────────────────────┐
│         Language            │
├─────────────────────────────┤
│  English                    │
│                             │
│  Espanol                    │
│                             │
│  ▲▼  ►◄  ↵  |◄◄             │
└─────────────────────────────┘
```

You can press [UP] [DOWN] key to select any language and press [ENTER] The system will convert to the chosen language interface at once.

2). Unit of measure.

Choose [Unit of measure] and press [ENTER], the screen will display the interface as shown below:

```
┌─────────────────────────────┐
│      Unit of measure        │
├─────────────────────────────┤
│  Flow            lb/min     │
│  Speed           mph        │
│  Distance        miles      │
│  Pressure 1      psi        │
│  Pressure 2      inHg       │
│  ▲▼  ►◄  ↵  |◄◄             │
└─────────────────────────────┘
```
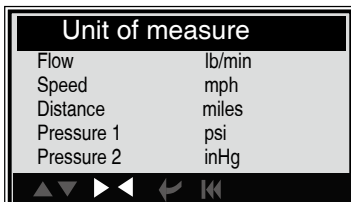
Press [UP] or [DOWN] to select it and press [LEFT] and [RIGHT] to change, then press [ENTER] to confirm.

3). Beeper: ON/OFF the Beeper.
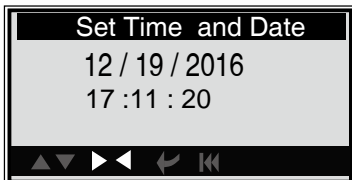
Choose [Beep] and press [ENTER], the screen will display the interface as shown below:

```
┌──────────────────────────┐
│          Beeper          │
│                          │
│   ON                     │
│                          │
│   ▲▼  ▶◀  ↩  ◄◄           │
└──────────────────────────┘
```

Press [ENTER] to select ON/OFF and press [ESC] to confirm.

4). Time And Date : Set Time and Date.

Choose [Time And Date] and press [ENTER], the screen will display the interface as shown below:

```
┌──────────────────────────┐
│     Set Time  and Date   │
│       12 / 19 / 2016     │
│       17 :11 : 20        │
│                          │
│   ▲▼  ▶◀  ↩  ◄◄           │
└──────────────────────────┘
```

Press [UP] or [DOWN] to change input, press [LEFT] or [RIGHT] to select position ,then press [ENTER] to confirm.

5). Record: ON/OFF the Record.

Choose [Record Mode] and press [ENTER], the screen will display the interface as shown below:

```
┌──────────────────────────┐
│       Record Mode        │
│                          │
│   ON                     │
│                          │
│   ▲▼  ▶◀  ↩  ◄◄           │
└──────────────────────────┘
```
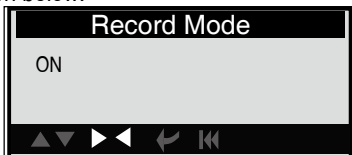
Press [ENTER] to select ON/OFF and press [ESC] to confirm.

When this function is ON, and the icon record Datastream and record Freeze Frames.

3.6 Vehicle Coverage

This model OBDII/EOBD Scanner is specially designed to work with all OBD II compliant vehicles, including those equipped with next-generation protocol -- Control Area Network (CAN). It is required by EPA that all 1996 and newer vehicles (cars and light trucks) sold in the world must be OBD II compliant and this includes all America, Asian and European vehicles.

A small number of 1994 and 1995 model year gasoline vehicles are OBD II compliant. To verify if a 1994 or 1995 vehicle is OBD II compliant, check the Vehicle Emissions Control Information (VECI) Label which is located under the hood or by the radiator of most vehicles. If the vehicle is OBD II compliant, the label will designate "OBDII Certified". Additionally, Government regulations mandate that all OBDII compliant vehicles must have a "common" sixteen-pin Data Link Connector (DLC).

For your vehicle to be OBD II compliant it must have a 16-pin DLC (Data Link Connector) under the dash and the Vehicle Emission Control Information Label must state that the vehicle is OBD II compliant.

4. OPERATION

4.1 Connection

1). Turn the ignition off.

2). Locate the vehicle

3). Plug the OBDII cable into the vehicle

4). Turn the ignition on. Engine can be off or running.

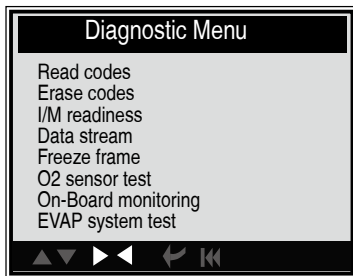After finishing, press [ENTER] button to enter Main Menu as following picture:

Main Menu
OBDII Diagnose
JOBD Diagnose
DTC LOOKUP
REVIEW History
Tool Setup
Help
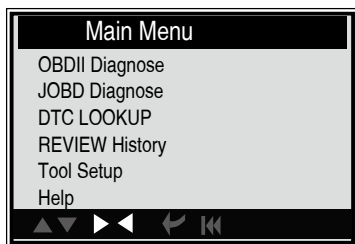
CAUTION: Don't connect or disconnect any test equipment with ignition on engine running.

4.2 OBDII Diagnose

Select [OBDII Diagnose] in Main Menu and press [ENTER], the screen will display Monitor Status interface as following.

Monitor Status	
MIL status	OFF
DTCs in this ECU	5
Readiness supported	6
Readiness complete	0
Readiness not supported	4
Datastream supported	20
Ignition	Spark
Protocol type	VPW

Press [ENTER] to the Main Diagnostic Menu, the screen will display as following.

```
                    Diagnostic Menu
         Read codes
         Erase codes
         I/M readiness
         Data stream
         Freeze frame
         O2 sensor test
         On-Board monitoring
         EVAP system test
         ▲▼ ►◄ ↵ |◄◄
```
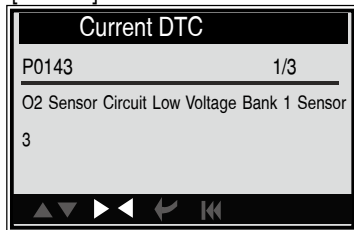
4.2.1 Read Codes

Select [Read Codes] and press [ENTER] in Diagnostic Menu. If there are some codes, the screen will display the codes as shown below:

```
                    Read Codes

         Current DTCs ($03)
         Pending DTCs($07)
         Permanent DTCs($0A)

         ▲▼ ►◄ ↵ |◄◄
```
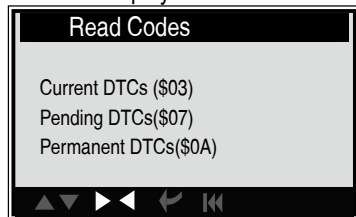
According to the above figure to select different item by pressing [UP] or [DOWN] and press [ENTER] to confirm.

```
                    Current DTC
         P0143                          1/3
         O2 Sensor Circuit Low Voltage Bank 1 Sensor
         3

         ▲▼ ►◄ ↵ |◄◄
```

1/3 indicates there are 3 codes totally and now P0143 is the first code to display.
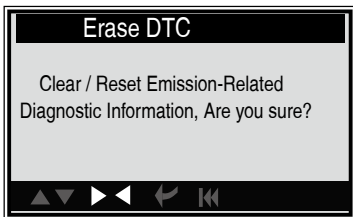
The screen will also show the content of the code below the number of code.

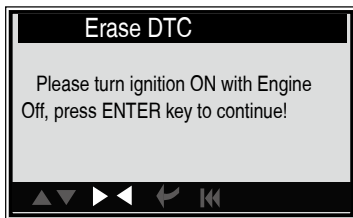You can use [UP] or [DOWN] key to view the next code.

After viewing all the codes, you can press [ESC] to return to the Diagnostic Menu.
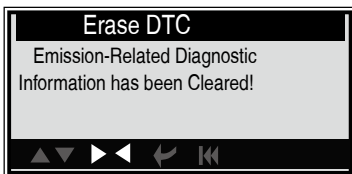
4.2.2 Erase Codes

Select [Erase Codes], the screen will display the interface as shown below:

```
┌─────────────────────────────┐
│         Erase DTC           │
├─────────────────────────────┤
│                             │
│   Clear / Reset Emission-Related │
│  Diagnostic Information, Are you sure? │
│                             │
│                             │
│  ▲▼  ►◄   ↵    I◄◄          │
└─────────────────────────────┘
```

Press [ENTER] to erase DTC shown below:

```
┌─────────────────────────────┐
│         Erase DTC           │
├─────────────────────────────┤
│                             │
│   Please turn ignition ON with Engine │
│  Off, press ENTER key to continue!  │
│                             │
│                             │
│  ▲▼  ►◄   ↵   I◄◄          │
└─────────────────────────────┘
```

According to the above figure to press [ENTER] and the screen will display the interface as shown on the next page:

```
┌─────────────────────────────┐
│        Erase DTC            │
│   Emission-Related Diagnostic │
│ Information has been Cleared! │
│                             │
│  ▲▼  ▶◀  ↵  ◄◄              │
└─────────────────────────────┘
```

Notes:

Before performing this function, make sure to retrieve and record the trouble codes.

After clearing, you should retrieve trouble codes once more or turn ignition on and retrieve codes again. If there are still some trouble codes in the system, please troubleshoot the code using vehicle manufacturer diagnosis guide ,then clear the code and re-check.
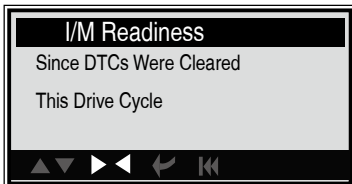
4.2.3 I/M Readiness

I/M refers to Inspection and Maintenance that is legislated by the Government to meet federal clean-air standards. I/M Readiness indicates if or not the various emissions-related systems on the vehicle operating properly and ready for I/M testing.

The purpose of the I/M Readiness Monitor Status is to indicate which of the vehicle described in Chapter 2.5), and which ones have not yet run and completed testing and diagnosis of their designated sections of the vehicle system.

The I/M Readiness Monitor Status function also can be used (after repair of a fault has been performed) to confirm that the repair has been performed correctly, and/or to check for Monitor Run Status.

Select [I/M Readiness] and press [ENTER], the screen will display the interface as shown below:

```
┌─────────────────────────────┐
│       I/M Readiness         │
│   Since DTCs Were Cleared   │
│                             │
│   This Drive Cycle          │
│                             │
│  ▲▼  ▶◀  ↵  ◄◄              │
└─────────────────────────────┘
```

You can use [UP] or [DOWN] button to select and press [ENTER], the screen will display the interface as shown below:

| I/M Readiness	
Misfire monitor	OK
Fuel system monitor	N/A
Comprehensive component monitor	OK
Catalyst monitor	OK
Heated catalyst monitor	N/A
Evaporative system monitor	OK
Secondary air system monitor	N/A
Oxygen sensor monitor	OK
Oxygen sensor heater monitor	N/A
EGR and/or VVT sensor monitor	OK
▲▼ ►◄ ↵ ◄◄	1/2

You can use [LEFT] [RIGHT] button to view other data of vehicle. Press [ESC] to return to Diagnostic Menu.

N/A means not available on this vehicle, INC means incomplete or not ready, OK means Completed or Monitor OK.

4.2.4 Data Stream

Press [UP] or [DOWN] button to select Data Stream in Main Menu interface and then press [ENTER] button to confirm, the screen will display the interface as shown below:

Datastream
View All Items
Select Items
View Graphic Items
▲▼ ►◄ ↵ ◄◄
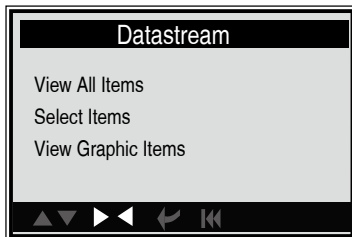
Select [View All Items] and press [ENTER] button, the screen will display the interface as shown below:

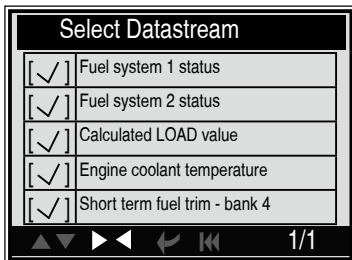| All Datastream	
Fuel system 1 status	N/A
Fuel system 2 status	N/A
Calculated LOAD value	2.0%
Engine coolant temperature	-35 C
Short term fuel trim - bank 4	-36.1%
▲▼ ►◄ ↵ ◄◄	1/8

You can use [LEFT] [RIGHT] button to view other data streams. Press [ESC] to return to Diagnostic Menu.
Select [select Items] in Data stream menu and press [ENTER], the screen will display the interface as shown below:
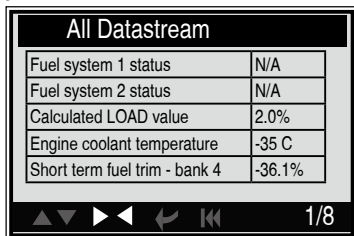
Select Datastream	
[ ]	Fuel system 1 status
[ ]	Fuel system 2 status
[ ]	Calculated LOAD value
[ ]	Engine coolant temperature
[ ]	Short term fuel trim - bank 4
▲▼ ►◄ ↵ ◄◄	1/1

You can use [UP] [DOWN] button to select data stream items, and press [LEFT] [RIGHT] button to turn page, the screen will display the interface as shown on the next page:
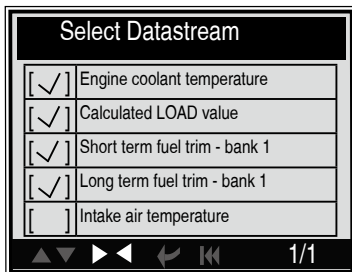
Select Datastream	
[✓]	Fuel system 1 status
[✓]	Fuel system 2 status
[✓]	Calculated LOAD value
[✓]	Engine coolant temperature
[✓]	Short term fuel trim - bank 4
▲▼ ►◄ ↵ |◄◄	1/1

After selected items and press [ESC], the screen will display the interface as shown below:

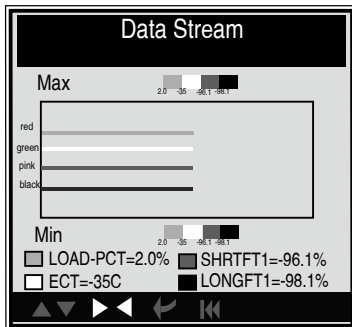| All Datastream	
Fuel system 1 status	N/A
Fuel system 2 status	N/A
Calculated LOAD value	2.0%
Engine coolant temperature	-35 C
Short term fuel trim - bank 4	-36.1%
▲▼ ►◄ ↵ |◄◄	1/8

Press [ESC] to return to Diagnostic Menu.
Select [View Graphic Items] in Data stream menu and press [ENTER], the screen will display the interface as shown below:

Select Datastream	
[✓]	Engine coolant temperature
[✓]	Calculated LOAD value
[✓]	Short term fuel trim - bank 1
[✓]	Long term fuel trim - bank 1
[ ]	Intake air temperature
▲▼ ►◄ ↵ |◄◄	1/1

You can use [UP] [DOWN] button to select single data stream items to view item of live data with a graph, and press [ENTER] button, the screen will display the interface as shown below:

Note: There are four lines with different color: red, green, blue, black, they stand for different datastream choosed.

Press [ESC] to return to Diagnostic Menu.

You can view all data stream items or select a certain item of live data with a graph.

4.2.5 View Freeze Frame

When an emission-related fault occurs, certain vehicle conditions are recorded by the on-board computer. This information is referred to as freeze frame data. Freeze Data is a snapshot of the operating conditions at the time of an emission-related fault.

Note: if DTCs were erased, Freeze Data may not be stored in vehicle memory depending on vehicle.

Select [Freeze Frame] in main menu interface, the screen will display the interface as shown below:

Freeze Frame	
DTC that caused required freeze frame data storage	B3376
Short term fuel trim - bank 1	16.4%
Short term fuel trim - bank 3	71.1%
Long term fuel trim - bank 1	0.0%
Long term fuel trim - bank 3	64.1%

▲▼ ►◄ ↵ ◄◄   1/5
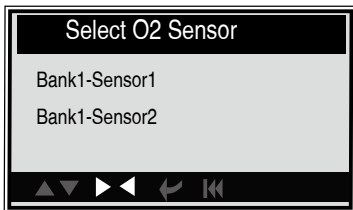
You can use [LEFT] [RIGHT] button to view the data.

Press [ESC] to return to Diagnostic Menu.
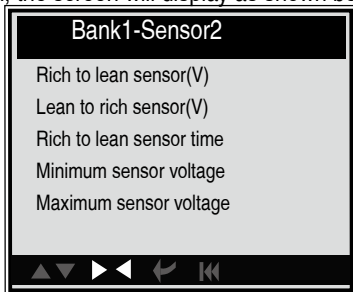
4.2.6 O2 sensor test

The results of O2 sensor test are not live values but instead the results of the ECU live sensor screens such as Graph Screen.

Not all test values are applicable to all vehicles. Therefore, the list generated will vary depending on vehicle. In addition, not all vehicles support the Oxygen Sensors screen.
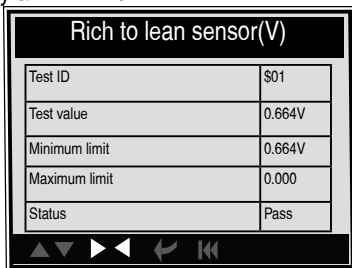
Select [O2 Sensor Test] in Diagnostic menu and press [ENTER] and the screen will display as shown below

```
┌──────────────────────────────────┐
│        Select O2 Sensor          │
├──────────────────────────────────┤
│  Bank1-Sensor1                   │
│  Bank1-Sensor2                   │
│                                  │
│                                  │
│  ▲▼ ►◄  ↵  ◄◄                    │
└──────────────────────────────────┘
```

Press [ENTER] button, the screen will display as shown below:

```
┌──────────────────────────────────┐
│          Bank1-Sensor2           │
├──────────────────────────────────┤
│  Rich to lean sensor(V)          │
│  Lean to rich sensor(V)          │
│  Rich to lean sensor time        │
│  Minimum sensor voltage          │
│  Maximum sensor voltage          │
│                                  │
│  ▲▼ ►◄  ↵  ◄◄                    │
└──────────────────────────────────┘
```

You can use [UP] [DOWN] button to select an item and press [ENTER], the screen will display as shown below:

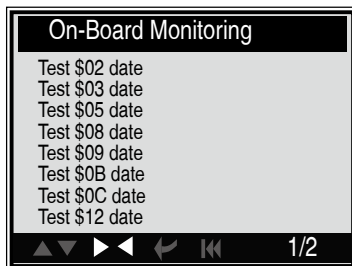| Rich to lean sensor(V)	
Test ID	$01
Test value	0.664V
Minimum limit	0.664V
Maximum limit	0.000
Status	Pass

▲▼ ►◄ ↵ ◄◄

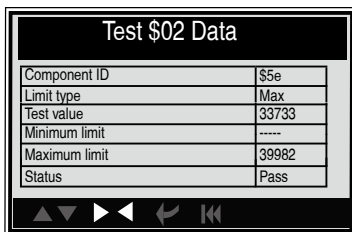Press [ESC] to return to Diagnostic Menu.

4.2.7 On-board monitor test

This function can be utilized to read the results of on-board diagnostic monitoring tests for specific components/systems.

Select [On-board Monitoring] in main menu and press [ENTER] and the screen will display as shown below:

```
┌──────────────────────────────┐
│      On-Board Monitoring      │
│ Test $02 date                 │
│ Test $03 date                 │
│ Test $05 date                 │
│ Test $08 date                 │
│ Test $09 date                 │
│ Test $0B date                 │
│ Test $0C date                 │
│ Test $12 date                 │
│ ▲▼ ▶◀ ↵ I◀◀            1/2     │
└──────────────────────────────┘
```

You can use [UP] [DOWN] button to select an item and press [ENTER], the screen will display as shown below:

```
┌──────────────────────────────┐
│          Test $02 Data        │
│                               │
│ Component ID          │$5e    │
│ Limit type            │Max    │
│ Test value            │33733  │
│ Minimum limit         │-----  │
│ Maximum limit         │39982  │
│ Status                │Pass   │
│ ▲▼ ▶◀ ↵ I◀◀                   │
└──────────────────────────────┘
```
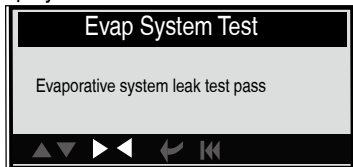
Press [ESC] to return to Diagnostic Menu.

4.2.8 EVAP System Test

The EVAP test function lets you initiate a leak test for the vehicle system. The AUTO SCANNER does not perform the leak test, but signals to vehicle function, refer to the vehicle procedures necessary to stop the test. Select [EVAP System Test] and press [ENTER], the screen will display the relative information about EVAP system. Some vehicle manufacturers do
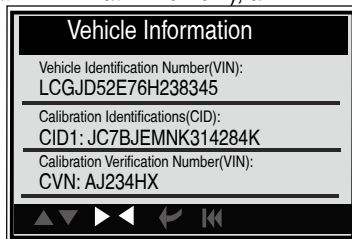
not allow external devices to control vehicle system. If the car supports this function, it will display as below:

```
Evap System Test

Evaporative system leak test pass

▲▼  ▶◀   ↵  ◄◄
```

Press [ESC] to return to Diagnostic Menu.

4.2.9 Vehicle Information

Select [Vehicle Info] and press [ENTER], the screen will display the information, such as VIN (Vehicle identification Number), CID (Calibration ID) and CVN (Calibration verification number), as shown below:

```
Vehicle Information

Vehicle Identification Number(VIN):
LCGJD52E76H238345
Calibration Identifications(CID):
CID1: JC7BJEMNK314284K
Calibration Verification Number(VIN):
CVN: AJ234HX

▲▼  ▶◀   ↵  ◄◄
```

Press [ESC] to return to Diagnostic Menu.

4.3 JOBD Diagnose

Select [JOBD Diagnose] in Main Menu and press [ENTER], the screen will display the following menu.

```
JOBD Diagnose
▶ Toyota
  Honda
  Nissan
  Mitsubishi
  Suzuki
  Mazda
  Subaru
  Daihatsu
▲▼  ▶◀   ↵  ◄◄
```
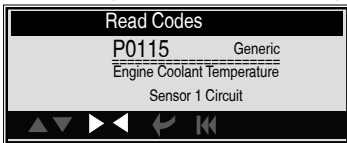
Use Up or Down button to select the brand name and press ENTER button. the brand status is displayed (Read Codes , Erase Codes , Data Stream).

4.3.1 Read Codes

1) Use Up or Down button to select Reade Codes and press ENTER button to read Codes.
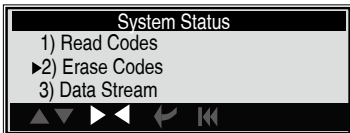
```
System Status
▶ 1) Read Codes
  2) Erase Codes
  3) Data Stream
▲▼  ▶◀  ↵  |◀◀
```
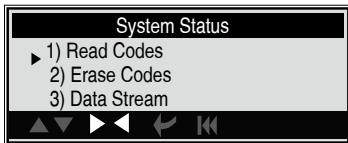
2) View the code and definition, press exit to return the previous menu

```
Read Codes
P0115          Generic
Engine Coolant Temperature
      Sensor 1 Circuit
▲▼  ▶◀  ↵  |◀◀
```

4.3.2 Erase Codes

1) Use Up or Down button to select Erase Codes and press ENTER button.

```
System Status
  1) Read Codes
▶2) Erase Codes
  3) Data Stream
▲▼  ▶◀  ↵  |◀◀
```

2) Press enter button to erase the codes and return to previous menu; press exit button to exit.
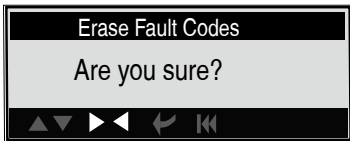
```
Erase Fault Codes
   Are you sure?

▲▼  ▶◀  ↵  |◀◀
```

4.3.3 Data Stream

Press [UP] or [DOWN] button to select Data Stream in Main Menu interface and then press [ENTER] button to confirm, the screen will display the interface as shown below:

```
┌─────────────────────────────┐
│          Datastream          │
├─────────────────────────────┤
│  View All Items              │
│  Select Items                │
├─────────────────────────────┤
│   ▼    ► ◄    ↵    ◄◄         │
└─────────────────────────────┘
```
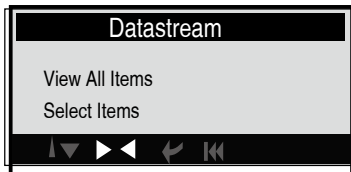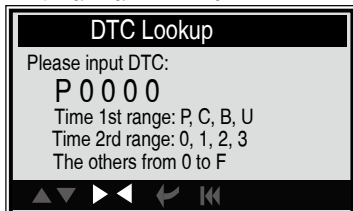
Press [UP] or [DOWN] button to select View All Items / Select Items and press [ENTER] button to confirm, the screen will display the relative data.

You can use [LEFT] [RIGHT] button to view other data streams. Press [ESC] to return to Datastream Menu.

Note: during the operation to view different items of data stream, it might take several seconds to hold [LEFT] [RIGHT] button for different pages.

4.4 DTC Lookup

Select [DTC Lookup] in the Main Menu and press [ENTER] and the screen will display the interface as shown below

```
┌─────────────────────────────┐
│          DTC Lookup          │
├─────────────────────────────┤
│  Please input DTC:           │
│     P 0 0 0 0                │
│     Time 1st range: P, C, B, U│
│     Time 2rd range: 0, 1, 2, 3│
│     The others from 0 to F   │
├─────────────────────────────┤
│   ▲ ▼   ► ◄    ↵    ◄◄        │
└─────────────────────────────┘
```
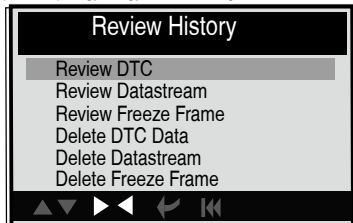
You can use [UP] [DOWN] key to change the first letter. It can be switched among. Press [LEFT] [RIGHT] key to input number. After you input the code number, press [ENTER] to view the definition of the code.
After viewing the definition, press [ESC] to return to the Main Menu.

4.5 Review History

This function is used to review the recorded Data Streams, DTC, and Freeze Frame.

Select [Review History] in the Main Menu and press [ENTER] and the screen will display the interface as shown below:

Review History
Review DTC
Review Datastream
Review Freeze Frame
Delete DTC Data
Delete Datastream
Delete Freeze Frame
▲▼ ►◄ ↵ I◄◄

CAUTION: About the record function, please view the chapter Tool Setup

1). Review DTC

Select [Review DTC] in the Review and press [ENTER] and the screen will display the interface as shown below:

Review DTC		
Date & Time	DTC No.	DTC Type
2010-05-10(18:42:05) LCGJD52E76H238456	18	Current
2010-05-10(18:42:05) LCGJD54S74Q236546	18	Pending
▲▼ ►◄ ↵ I◄◄		

The recorded DTC will be displayed as shown above.
You can use [UP] [DOWN] key and press [ENTER] button to view detailed information,
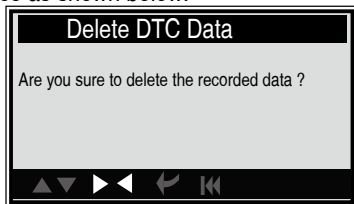
2). Review Data stream
The operation is similar to the "Review DTC" function.

3). Review Freeze Frame
The operation is similar to the "Review DTC" function.

4). Delete DTC

Select [Delete DTC] in the Review and press [ENTER] and the screen will display the interface as shown below:

```
Delete DTC Data

Are you sure to delete the recorded data ?

▲▼  ►◄  ↵  ◄◄
```

Press [ENTER] to confirm, and press [ESC] to return to Main Menu.
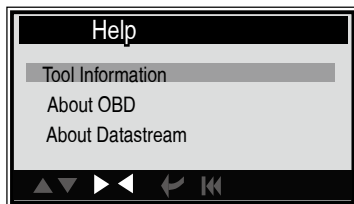
5). Delete Data stream

The operation is similar to the "Delete DTC" function.

6). Delete Freeze Frame

The operation is similar to the "Delete DTC" function.

4.6 Help

This function is used to view Tool Information, About OBD, and About Data stream.

```
Help

Tool Information
About OBD
About Datastream

▲▼  ►◄  ↵  ◄◄
```

1).Tool Information includes: software version, hardware version, serial number, supported time and date.

Select [Tool Information] in the Help Menu and press [ENTER] and the screen will display the interface as shown below:

```
         Tool Information
 Software Version
 V1.21
 Hardware Version
 V1.03
 Serial Number
 DT111249050
 ▲▼  ▶◀  ↵  ◄◄
```
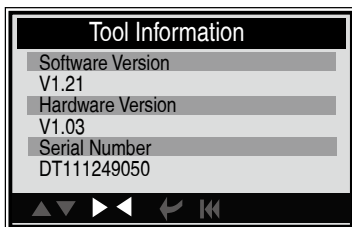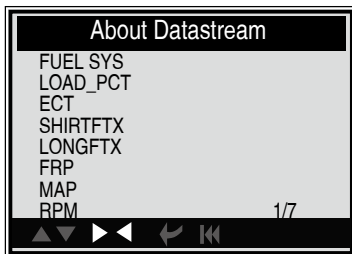
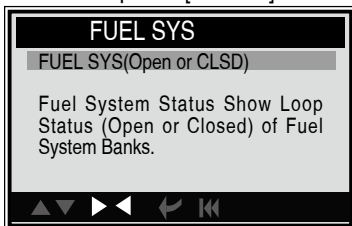Press [ESC] to return to previous menu.

2). About OBD: Relevant introductions information about OBD

3). About Data stream: Relevant introductions information about Data stream.

Select [About Datastream] in the Help Menu and press [ENTER] and the screen will display the interface as shown below:

```
        About Datastream
 FUEL SYS
 LOAD_PCT
 ECT
 SHIRTFTX
 LONGFTX
 FRP
 MAP
 RPM                     1/7
 ▲▼  ▶◀  ↵  ◄◄
```

Select the datastream item and press [ENTER] to review datastream status.

```
            FUEL SYS
 FUEL SYS(Open or CLSD)

 Fuel System Status Show Loop
 Status (Open or Closed) of Fuel
 System Banks.

 ▲▼  ▶◀  ↵  ◄◄
```

Press [ESC] to return to previous menu.

Limited Warranty Policy

This Limited Warranty applies only to new products* distributed by Austech Industries. It is a condition of this Limited Warranty Policy that all servicing requirements are completed as listed in the owner's manual, (said servicing is at the owner's expense). We recommend that all servicing is completed by an authorised service agent and that records of said servicing are retained by the purchaser as proof in the event of a warranty claim. The limited warranty period commences from the date of purchase.

Austech Industries agrees, subject to the conditions of this warranty, Austech Industries or its Authorised Service Centre will perform necessary warranty repairs on the product without charge for parts or labour if in the opinion of Austech Industries, the product does not perform in accordance with its specifications during the limited warranty period, due to any fault in manufacturing, materials and/or workmanship within the specified warranty period. This warranty only applies to items purchased through Austech Industries or its Authorised Distributors or Dealers. Warranty cover only applies if valid proof of purchase is presented when warranty service is requested.

The purchaser's attention is drawn to the following
1.   To the extent permitted by law and subject to the Limited Warranty, and as part of the terms of the sale of the equipment or part thereof: Austech Industries shall not be liable for any form of loss, damage, cost, injury or harm of any kind (whether direct, indirect, special or consequential) howsoever arising from the use or supply of the equipment to the purchaser.

The Warranty Period:
- SP Speciality Tools   - 12 months

Exclusions to Limited Warranty Policy
1.1   Fails due to an accident (including liquid spillage), abuse, misuse, neglect or normal wear and tear.
1.2   Has been used in a manner other than for which it was originally designed.
1.3   Has been tampered with or is otherwise than as supplied by Austech Industries.
1.4   Where any damage, malfunction or other failure of the equipment or any part thereof resulted directly or indirectly from unauthorized persons, adjusting or failing to adjust any part requiring normal maintenance and service. (Examples include tightening of screws, nuts and bolts, the replacement of brushes or the correct storage of batteries.
1.5   Malfunctions due to the use of defective or incompatible accessories.
1.6   Is damaged by lightning or thunderstorm activity.

Claiming warranty

The Warranty may be claimed on in the following manner:

2.1   In order to make a claim under this warranty, the purchaser must deliver the equipment or any part thereof to a repair
agent and pay all costs of transportation.

2.2   The purchaser must deliver to the repair agent written reasons why the purchaser considers that the purchaser has
a claim under the warranty and must provide all necessary details, including:

- *the place, date and from whom the unit or part was purchased.*
- *the unit or part involved, Model and Serial Number.*
- *the defect, malfunction or failure in respect of which the claim is being made.*

2.3   If the warranty claim is valid, the repair agent will carry out repairs and return the product at no charge to the
purchaser.   These repairs are limited to the warranty fault identified and as such will not include any other faults
due to misuse, abuse, failure to maintain, fair wear and tear or the replacement of serviceable items such as
brushes, bearings, batteries and the like.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law.   You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Note: **u**nits which have failed due to **non-warrantable** causes will be subject to freight, repair and or quote charges.
    * SP is a brand name of products distributed by Austech Industries.

THE PURCHASE DOCKET (OR SIMILAR PROOF OF PURCHASE) MUST BE RETAINED BY THE CUSTOMER AS IT WILL BE REQUIRED IN THE EVENT OF A CLAIM FOR WARRANTY BEING MADE.