EQP-103 – OBDII Code Reader & Reset Tool

USER'S MANUAL

This compact, multi-function tool can be used on local and imported vehicles that support the OBDII vehicle communication system.

Table of Contents

1. Safety Information

For your safety, and to prevent damage to the equipment and vehicles, read this manual thoroughly before operating your EQP-103 EOBD code reader. The safety messages presented below and throughout this user's manual are reminders to the operator to exercise extreme care when using this device. Always refer to and follow safety messages and test procedures provided by the manufacturer of the vehicle or equipment being tested. Read, understand and follow all safety messages and instructions in this manual.

1.1 Conventions Used

We provide safety messages to help prevent personal injury and equipment damage. Below are signal words we used to indicate the hazard level in a condition.

No.	Signal Word	Hazard Level
1	⚠DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or to bystanders.
2	⚠WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders.
3	⚠CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury to the operator or to bystanders.

1.1 Important Safety Instructions

Always use your code reader as described in the user's manual, and follow all safety messages.

⚠WARNING Do not route the test cable in a manner that would interfere with driving controls.

WARNING Do not exceed voltage limits between inputs specified in this user's manual.

WARNING Always wear ANSI approved goggles to protect your eyes from propelled objects as well as hot or caustic liquids.

WARNING Fuel, oil vapors, hot steam, hot toxic exhaust gases, acid, refrigerant and other debris produced by a malfunction engine can cause serious injury or death. Do not use code reader in areas where explosive vapor may collect, such as in below-ground pits, confined areas, or areas that are less than 18 inches (45 cm) above the floor.

WARNING Do not smoke, strike a match, or cause a spark near the vehicle while testing and keep all sparks, heated items and open flames away from the battery and fuel / fuel vapors as they are highly flammable.

WARNING Keep a dry chemical fire extinguisher suitable for gasoline, chemical and electrical fires in work area.

WARNING Always be aware of rotating parts that move at high speed when an engine is running and keep a safe distance from these parts as well as other potentially moving objects to avoid serious injury.

WARNING Do not touch engine components that get very hot when an engine is running to avoid severe burns.

WARNING Block drive wheels before testing with engine running. Put the transmission in park (for automatic transmission) or neutral (for manual transmission). And never leave a running engine unattended.

WARNING Do not wear jewelry or loose fitting clothing when working on engine.

CAUTION Make sure to turn off ignition before connecting or disconnecting the code reader.

2. Using This Manual

We provide instructions for the usage of your code reader in this manual. Below is a list of conventions we used in the manual.

Safety Information

See *Safety Information* on pages 2-3.

Bold Text

Bold emphasis is used in procedures to highlight selectable items such as buttons and menu options.

Example:

Use the **UP/DOWN** key to select the desired measurement unit.

Bold-Italic Text

Bold-italic text is used in the procedures to highlight the menus on the code reader screen.

Example:

Use the **UP/DOWN** key to select **Language** from ***System Setup*** screen.

Symbols and Icons

√ Check Note

Additional information about the subject in the preceding paragraph is introduced by a √ Check Note.

Example:

√ The code reader is set to display English menus by default.

● Solid Spot

Operation tips and lists that apply to specific tool are introduced by a solid spot ●.

Example:

System Setup allows you to:

- Select menu languages.
- Change measurement unit.
- Adjust display contrast.

IMPORTANT

IMPORTANT indicates a situation which, if not avoided, may result in damage to the test equipment or vehicle.
Example:

IMPORTANT Do not soak keypad as water might find its way into the code reader.

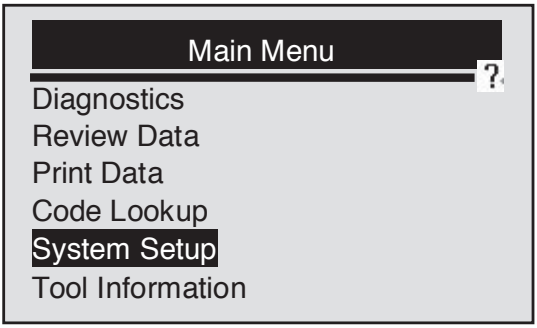
NOTE

NOTE provides helpful information such as additional explanations, tips, and comments.
Example:

NOTE Not all data are supported by all vehicles.

Screens

Some help messages, information, and data displayed on the code reader are also shown in graphical text boxes. The screens presented are examples only and actual test screen may vary for each vehicle being tested.
Example:



Arrow Icon

▶ An arrow icon indicates a procedure.
Example:
To change menu language:

▶ 1. Use the **UP/DOWN** key to select **Language** from ***System Setup*** screen.

3. Introduction

The EQP-103 is specially designed to support all 9 OBDII service modes, including live data, O2 sensor test and more, on OBDII / EOBD compliant cars, SUVs, light-duty truck and mini-vans sold worldwide since 1996.

3.1 About OBDII / EOBD

What is OBD?

The first generation of On-Board Diagnostics or OBD I was introduced in early 1980's to control engine functions and diagnose engine problems by vehicle manufacturers. As the OBDI lacked standardisation of protocols and interface, it allowed different interpretations among vehicle manufacturers.

OBDII, the second generation On-Board Diagnostics, improved in both capability and standardisation, is a system developed in mid 1990s by the Society Automotive Engineers (SAE) to standardise automotive electronic diagnosis. EOBD is European version of OBDII required in Europe since 2001.

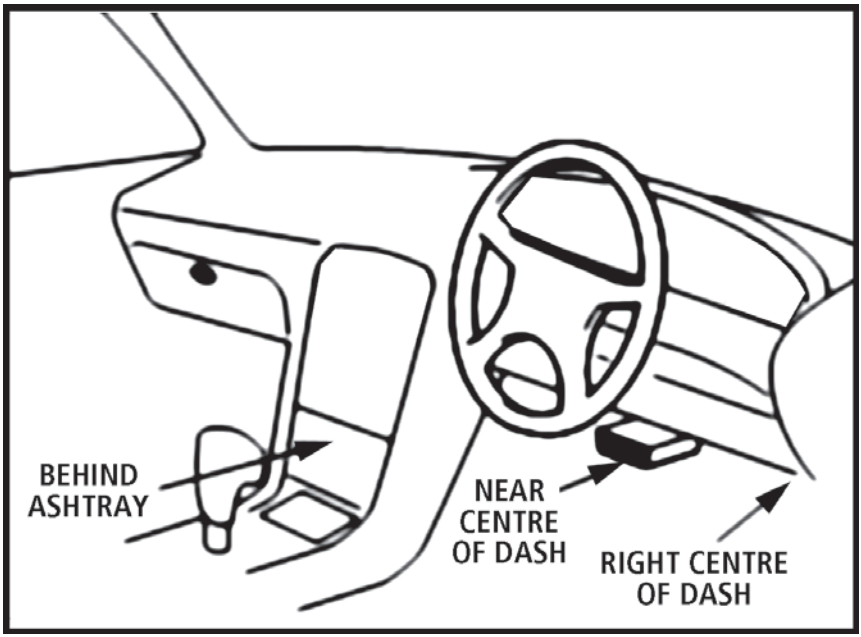
The OBDII standard specifies:

- A generic diagnostic port (Data Link Connector) and its pinout;
- The protocols and the messaging format;
- A standard list of vehicle parameters identifications;
- A standard list of diagnostic trouble codes (DTCs);

Data Link Connector

The Data Link Connector (DLC) is a standard 16-pin interface located under the dashboard on the driver's side of the passenger compartment. If the DLC is not located under the dashboard as stated, a decal describing its location should be attached to the dashboard in the area the DLC should have been located.

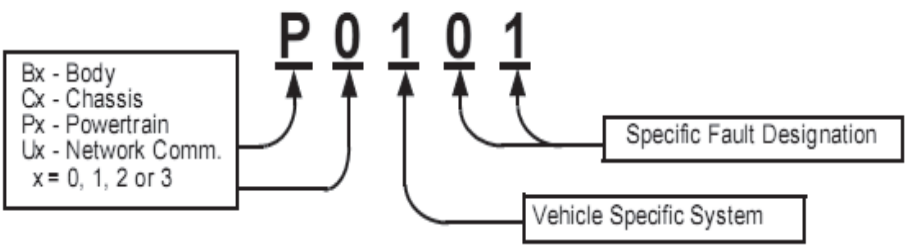
NOTE On some Asian and European vehicles the DLC is located behind the "ashtray", which must be removed to access it, or on the far right corner of the dash. If the DLC cannot be found, consult the vehicle's service manual for the location.



Diagnostic Trouble Codes (DTCs)

Diagnostic Trouble Codes (DTCs) are faults stored by vehicle computers when problems that affect engine performance and emissions are detected. DTCs are used to help identify the cause of a trouble or troubles with a vehicle, and determine the fault location(s). DTCs consist of a five-digit alphanumeric code.

Please see below for the DTCs format and code types.



Example:
P0101 - Mass or Volume Air Flow Circuit Range/Performance Problem

Powertrain Codes
P0xxx *- Generic (SAE)*
P1xxx *- Manufacturer Specific*
P2xxx *- Generic (SAE)*
P30xx-P33xx *- Manufacturer Specific*
P34xx-P39xx *- Generic (SAE)*

Chassis Codes
C0xxx *- Generic (SAE)*
C1xxx *- Manufacturer Specific*
C2xxx *- Manufacturer Specific*
C3xxx *- Generic (SAE)*

Body Codes
B0xxx *- Generic (SAE)*
B1xxx *- Manufacturer Specific*
B2xxx *- Manufacturer Specific*
B3xxx *- Generic (SAE)*

Network Communication Codes
U0xxx *- Generic (SAE)*
U1xxx *- Manufacturer Specific*
U2xxx *- Manufacturer Specific*
U3xxx *- Generic (SAE)*

3.2 About the Code Reader

Code Reader Controls

A. **OBD II Port** –provides communication for vehicle DLC.
B. **LCD Display** –shows menus, test results and operation tips.
C. **UP Key** –moves selection up. Scrolls back and forth through codes retrieved. Press it from home screen to enter the DTC update mode when doing upgrading.
D. **DOWN Key** –moves selection down. Scrolls back and forth through codes retrieved. Press it from home screen to do language selection.

E. **HELP Key** – accesses the Help function.

F. **BACK Key** – cancels an action and returns to previous screen or level. Also, press it to enter system setup menu from home screen.

G. **ENTER Key** – confirms an action or movement and moves to next level. Starts recording live data under manual trigger mode. Selects or deselects PID when viewing or recording custom PID(s). Hold the **ENTER** key for 2 seconds to view or record customized PID list. When doing playback of live data, use this key to scroll back and forth through frames of data. Use the key to view PID graphs when the **G** icon appears. Also, press it to go to next screen of information when code definition covers more than 1 screen.

H. **Power Switch** - Turns on/off the scan tool when powered by cell battery; resets the code reader when powered by vehicle battery.

I. **USB Port** –provides a USB connection between the code reader and PC or laptop.

IMPORTANT Do not use solvents such as alcohol to clean keypad or display. Use a mild nonabrasive detergent and a soft cotton cloth.

IMPORTANT Do not soak keypad as water might find its way into the code reader.

Accessories Included

No.	Part	Description
1	User's Manual	Provides operation instructions for the usage of code reader.
2	USB Cable	Provides USB communications for updates of software and DTCs.
3	OBDII Cable	Provides connection for vehicle's DLC.

Specifications

No.	Item	Specification
1	Display	Backlit, 160 x 105 pixel display with contrast adjustment.
2	Working Temperature	0 to 60℃ (32 to 140℉)
3	Storage Temperature	-20 to 70℃ (-4 to 158℉)
4	External Power	8-18 Volts powered by vehicle battery
5	Internal Power	9V
6	Dimensions (L*W*H)	185mm*85mm*35mm (7.28*3.35*1.38in)
7	Weight	0.7Kg

Display Indicators

Below is a list indictors used to help navigate through menus.

No.	Indicator	Description
1	$	Indicates the control module number.
2		Indicates more than one screen of information is available.
3	?	Indicates help information available.
4	G	Indicates graphic viewing of PID is available.
5		Indicates internal battery level.

Power

The code reader is powered up by vehicle battery when diagnosing; and it is powered up by internal battery when off-vehicle reviewing test results and printing.

√ Refer to **Code Reader Does Not Power Up** on page 56 of **Troubleshooting** if there are problems.

Internal Battery

To power on the code reader by internal battery:

1. Install 9V battery.
2. Press the **POWER** key to turn on the code reader.

√ When the icon appears, refer to **Battery Replacement** in on page 60 of **Troubleshooting** to replace the battery.

√ When powered from the battery, the code reader disables the display's backlighting and turns off automatically after a period of inactivity.

IMPORTANT If the code reader will not be used for an extended period of time, remove the battery to prevent battery leakage from damaging the battery compartment.

IMPORTANT Do not use a Lithium (Li) battery.

External Power

To power on the code reader by vehicle battery

1. Locate the diagnostic interface on vehicle.
2. Plug in the code reader's OBDII connector to the DLC.

NOTE A plastic DLC cover may be found on some vehicles. Remove the cover before plugging the OBD2 cable.

System Setup

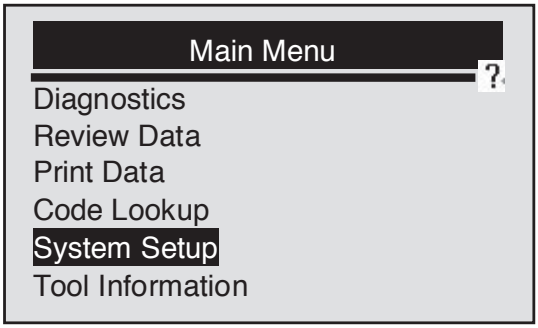
System Setup allows you to:

- Select menu languages.
- Change measurement unit.
- Adjust display contrast.
- Change auto matic power-off time.
- Turn on/off beeper.
- Check LCD display and operation of keypad.

√ *System Setup* settings remain until change to the existing setups are made.

To do system setup:

1. Press the **BACK** key to enter *System Setup* from home screen or use the **UP/DOWN** key to select **System Setup** from *Main Menu* screen.



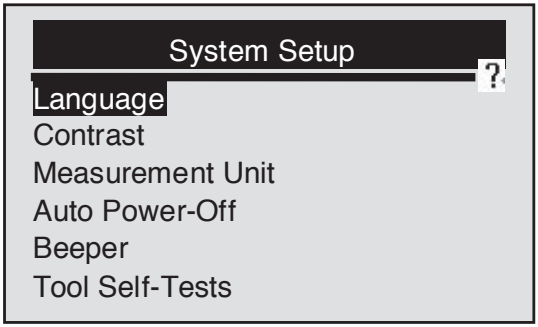
√ Follow on-screen instructions to program the code reader to meet your specific needs.

Changing Language

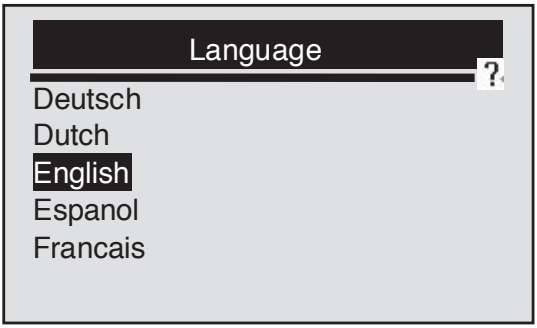
√ The code reader is set to display English menus by default.

To change system language:

1. Use the **UP/DOWN** key to select **Language** from *System Setup* screen.
2. Press the **ENTER** key to confirm.



3. Use the **UP/DOWN** key to select desired language.

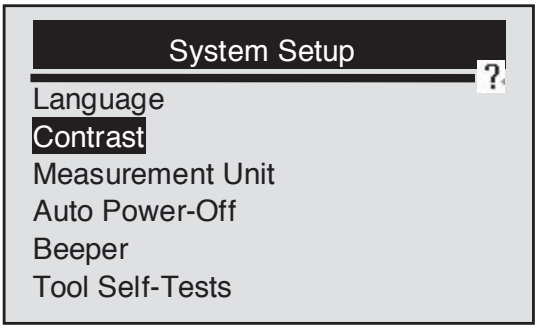


4. Press the **ENTER** key to save language setting and return.

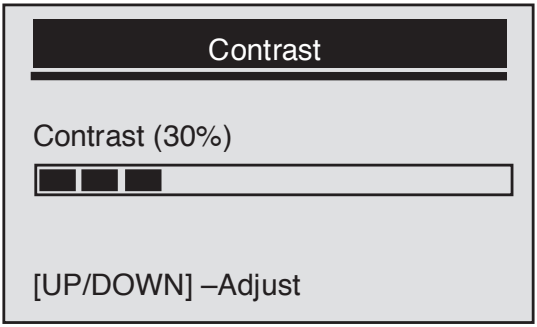
Adjusting Display Contrast

To adjust display contrast:

1. Use the **UP/DOWN** key to select **Contrast** from ***System Setup*** screen.
2. Press the **ENTER** key to confirm.



3. Use the **UP/DOWN** key to adjust contrast.



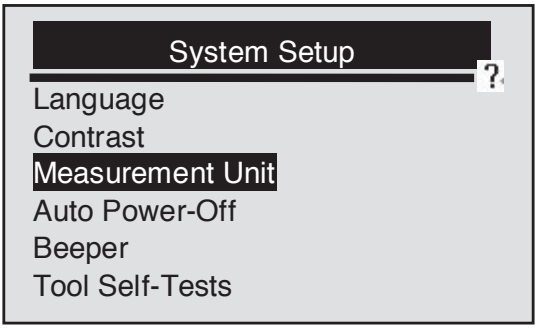
4. Press the **ENTER** key to save contrast setting and return.

Changing Measurement Unit

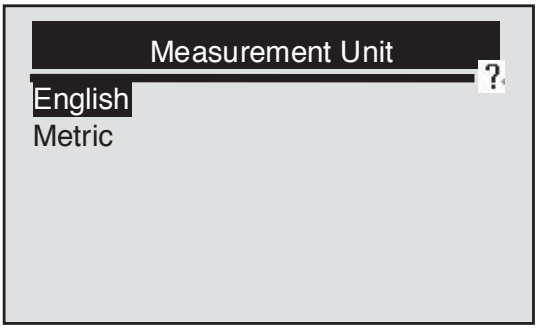
√ Metric is the default measurement unit.

To change measurement unit:

1. Use the **UP/DOWN** key to select **Measurement Unit** from ***System Setup*** screen.
2. Press the **ENTER** key to confirm.



3. Use the **UP/DOWN** key to select desired measurement unit.



4. Press the **ENTER** key to save measurement setting and return.

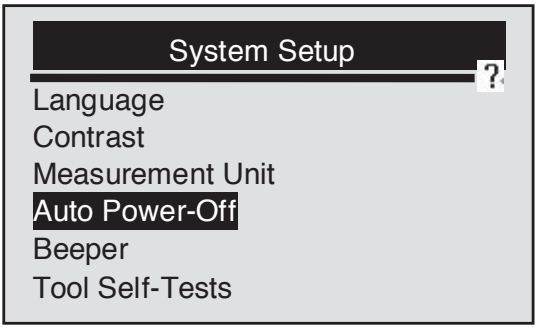
Changing Auto Power-Off

√ The minimum auto power-off time is 1 minute, and the maximum is 20 minutes.

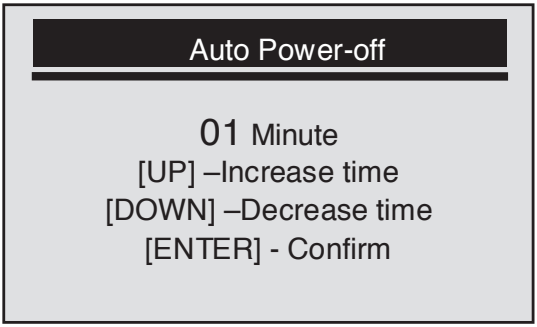
√ The *Auto Power-Off* function is available only when the code reader is powered by internal battery.

To change auto power off time:

1. Use the **UP/DOWN** key to select **Auto Power-Off** from *System Setup* screen.
2. Press the **ENTER** key to confirm.



3. Use the **UP/DOWN** key to increase or decrease time.



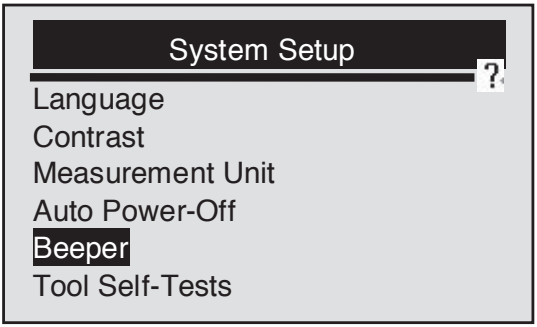
4. Use the **ENTER** key to save.

Turning on/off Beeper

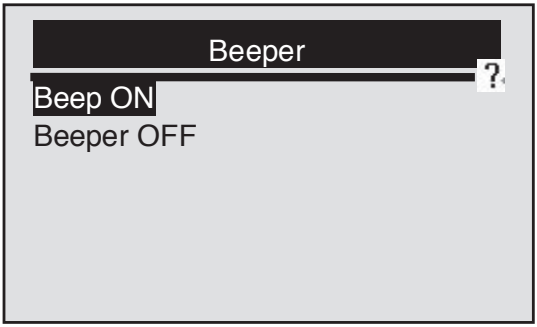
√ The beeper is on by default.

To turn beeper on/off:

1. Use the **UP/DOWN** key to select **Beeper** from ***System Setup*** screen.
2. Press the **ENTER** key to confirm.



3. Use the **UP/DOWN** key to select desired choice.



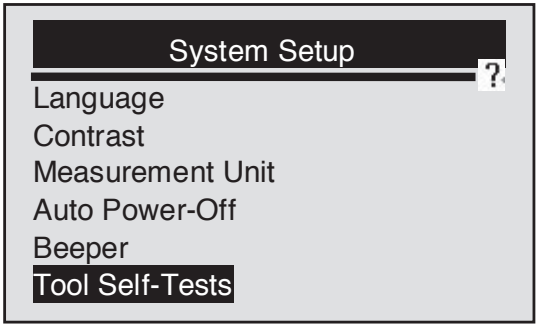
4. Use the **ENTER** key to save beeper sound setting.

Checking LCD and Keypad

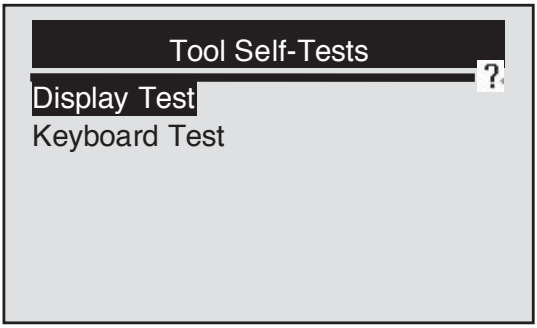
The *Tool Self-Tests* function is used to check if the LCD display and the operation of keypad are working correctly.

To check LCD

1. Use the **UP/DOWN** key to select **Tool Self-Tests** from *System Setup* screen.
2. Press the **ENTER** key to confirm.



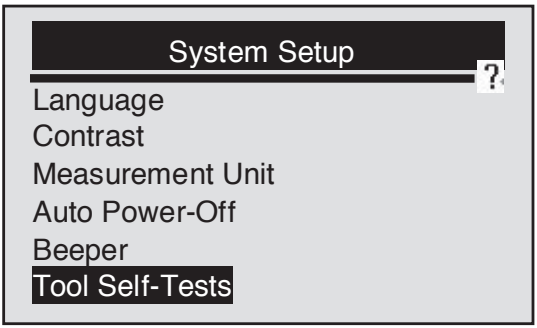
3. Use the **UP/DOWN** key to select **Display Test** from *Tool Self-Tests* screen.



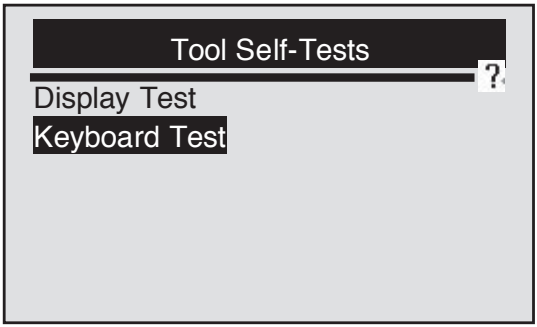
4. Use the **ENTER** key to confirm and start testing.
5. When completed, use the **ENTER** key to return.

To check keypad

1. Use the **UP/DOWN** key to select **Tool Self-Tests** from ***System Setup*** screen.
2. Press the **ENTER** key to confirm.

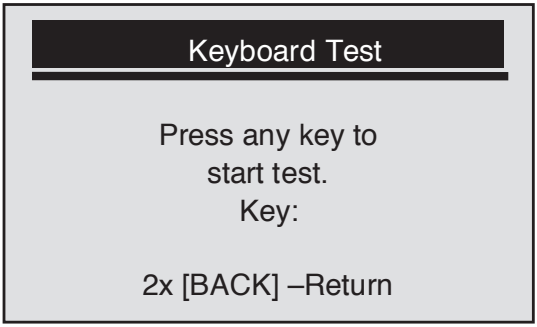


3. Use the **UP/DOWN** key to select **Keyboard Test** from ***Tool Self-Tests*** screen.



4. Press any key to start. Key name or scroll direction should show on display when you press a key.

√ The only exception is the **POWER** key. When you press and hold the key, its name does not display on the screen, but resets the code reader when powered by vehicle battery, or turns off the tool when powered by cell battery. If it does not reboot or power off the code reader, the key is not working properly.

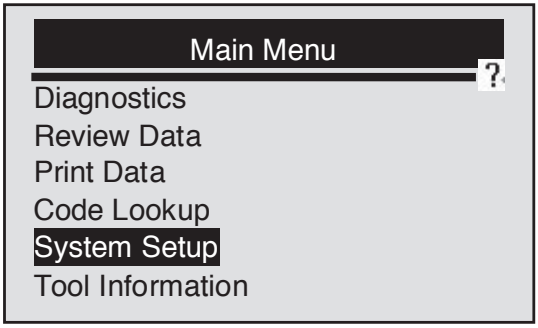


5. Double press the **BACK** key to return.

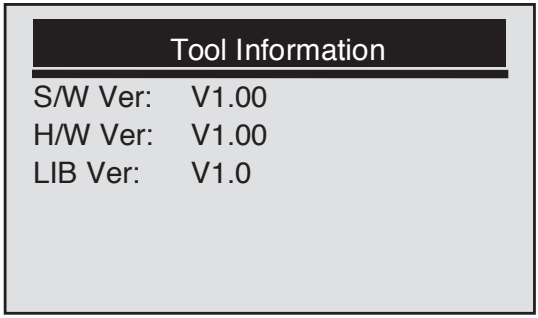
Tool Information

The *Tool Information* function is used to view tool information such as software version that may be needed when contacting customer service. To view tool information:

1. Use the **UP/DOWN** key to select **Tool Information** from *Main Menu* screen.



2. Press the **ENTER** key to view information.

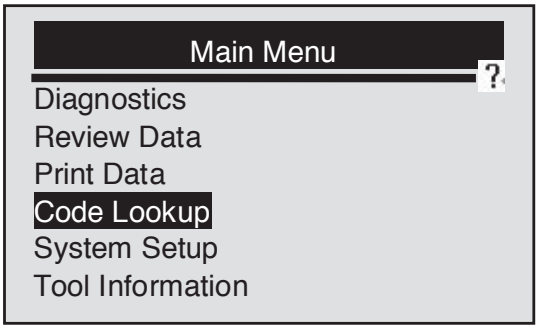


Code Lookup

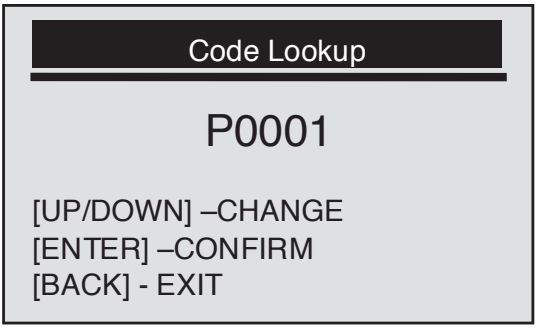
This function is used to request DTC definitions stored in the code reader.

To look up DTCs:

1. Use the **UP/DOWN** key to select **Code Lookup** from *Main Menu* screen.



2. Use the **ENTER** key to confirm.
3. Use the **UP/DOWN** key to change highlighted character, press the **ENTER** key to confirm and the cursor moves to the next character automatically.



4. Press the **ENTER** key to view the DTC definition.
5. To view next or previous DTC, use the **UP/DOWN** key.

√ If definition could not be found (SAE or Manufacturer Specific), the code reader displays "DTC definition not found! Please refer to vehicle service manual!"

√ For manufacturer specific codes, you need to select a vehicle make on an additional screen to look for DTC definitions.

6. To quit *Code Lookup*, press the **BACK** key.

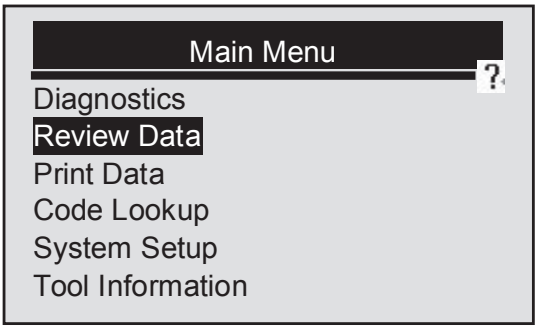
4. Data Review

The *Review Data* function is used to view test results from last vehicle tested.

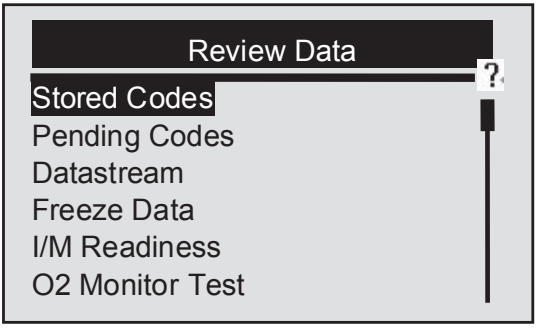
√ Depending on vehicle tested, the code reader may have different types of data to review.

To review stored data:

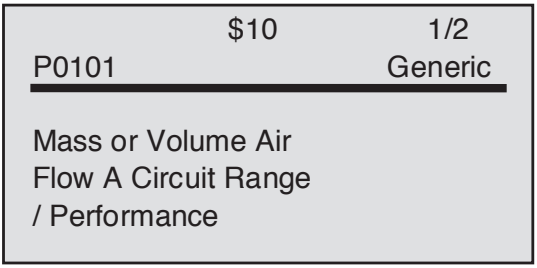
1. Use the **UP/DOWN** key to select **Review Data** from *Main Menu* screen.



2. Press the **ENTER** key to confirm.
3. Use the **UP/DOWN** key to scroll to the desired item and press the **ENTER** key.



√ If no data from last vehicle tested is recorded only **Module Present** has information (module ID and protocol type) to be reviewed.



√ If no data exists for function selected to review, a "No Data Found! " message displays.

5. OBDII / EOBD Diagnosis

Diagnostic Menu allows you to:

- Read DTCs.
- Clear DTCs.
- View live datastream.
- View freeze data.
- View I/M Readiness data.
- O2 sensor test information.
- View on-board monitor test results.
- Perform component tests.
- Retrieve vehicle information.
- Read modules ID and protocol information.

√ The code reader detects the communication protocol when it is connected to the vehicle and uses the protocol throughout the testing till another vehicle is diagnosed.

√ If the code reader fails to communicate with the vehicle a "Communication Error!" message displays. Make sure the OBDII connector is securely attached, and the ignition key is on. Turn vehicle key to off for 10 seconds, then on. If problem still exists, refer to **"Error Messages"** on page 55 of **Troubleshooting.**

√ When the code reader links to vehicle, it checks the status of I/M Monitors, and gives a summary report on the display as illustrated below.

System Status	
MIL Status	ON
Code Found	3
Monitors N/A	3
Monitors OK	3
Monitors INC	5

√ If vehicle is equipped with more than one computer module (for example a powertrain control module [PCM] and a transmission control module [TCM]), the code reader identifies them by their identification names (ID) assigned by manufacturer (i.e. Engine or Module $A4).

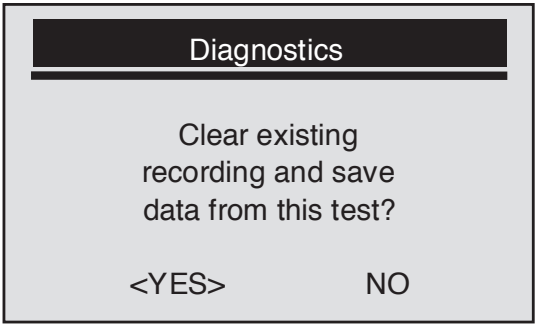
To perform diagnosis:

1. Press the **ENTER** key from home screen to view ***Main Menu***.
2. Use the **UP/DOWN** key to select **Diagnostics** from ***Main Menu*** screen.

Main Menu

Diagnostics
Review Data
Print Data
Code Lookup
System Setup
Tool Information

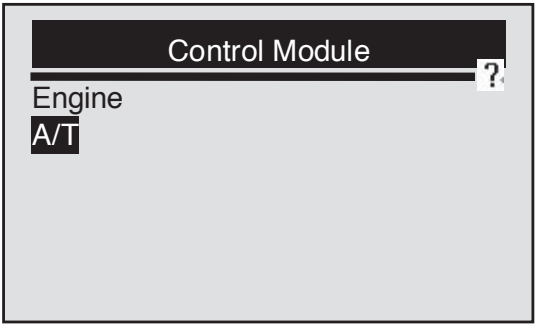
3. Select **YES** to erase previous recording and make a new one.



√ If previous recording not to be erased, select **NO**.
√ If no data exist in the tool, above prompt is not displayed.

NOTE The code reader keeps one recording ONLY. If data from previous testing is not cleared, information of current test can not be stored.
NOTE Review stored data completely before erasing.

4. Use the **UP/DOWN** key to select a control module where the data may be retrieved when more than one module is detected.



√ To view information of another control unit, quit current test and select another module.
√ If only one control module is equipped with the vehicle being tested, the above screen is not displayed.

5.1 Reading DTCs

The *Read Codes* function is used to read DTCs (stored codes), which are used to help identify the cause of a trouble or troubles with a vehicle, and pending codes from the vehicle's control modules.

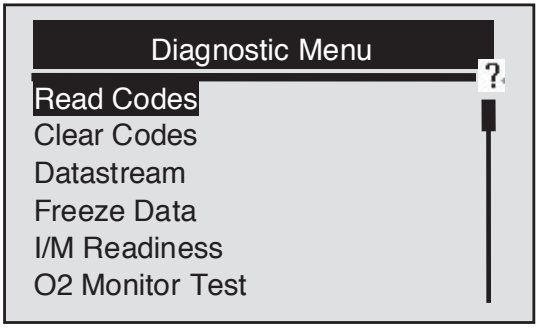
√ When emission-related or driveability fault occurs the control module illuminates the malfunction indicator lamp (MIL).

√ Pending Codes are also referred to as continuous monitor or maturing codes that indicate intermittent faults. If the fault does not occur within a certain number of drive cycles (depending on vehicle), the code clears from memory. If fault occurs a specific number of times, the code matures into a DTC and the MIL illuminates or blinks.

√ This function can be performed with KOEO or KOER.

To read codes from vehicle control modules:

1. Use the **UP/DOWN** key to select **Read Codes** from *Diagnostic Menu* screen.



2. Press the **ENTER** key to confirm.
3. View DTCs and their definitions.

```
                $10          1/2
P0101                      Generic
------------------------------------

Mass or Volume Air
Flow A Circuit Range
/ Performance
```

√ If no DTCs are present a message stating "No (Pending) Codes Found!" is displayed.

√ If any manufacturer specific or enhanced codes detected, a "Manufacturer specific codes are found! Press any key to select vehicle make!" message displays prompting you to select vehicle make before viewing DTC(s).

√ If manufacturer of the vehicle being tested is not listed, select **Other.**

4. Use the **UP/DOWN** key to move back and forth through codes when more than one code is retrieved. Use the **ENTER** key to move to next screen when the code definition covers more than one screen.
5. Press the **ENTER** key to return to *Diagnostic Menu* screen.

5.2 Clearing DTCs

The *Clear Codes* function is used to delete DTCs and I/M Readiness data from vehicle's control module(s). It may also erase freeze data, and set monitors to incomplete or not ready.

√ Perform *Clear Codes* function only after systems have been checked completely.

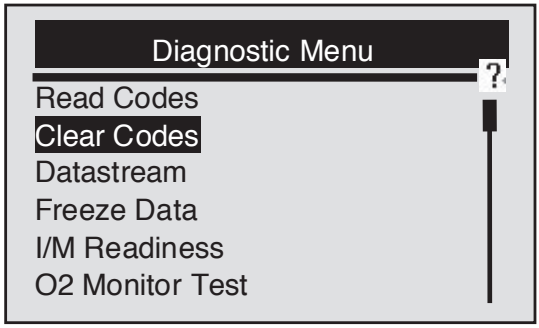
√ After servicing the vehicle, erase stored DTCs and verify no codes have been reset. If a DTC returns, problem has not been fixed or other faults are present.

√ Depending on which monitor sets a code, the vehicle may need to be driven and the monitor run before concluding that the fault is repaired.

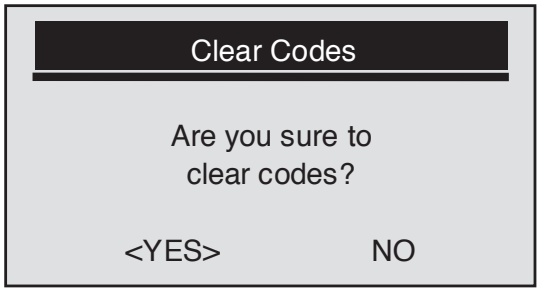
√ This function is performed with KOEO. Do not start the engine.

To erase codes from vehicle control modules:

1. Use the **UP/DOWN** key to select **Clear Codes** from *Diagnostic Menu* screen.



2. Press the **ENTER** key to confirm.
3. If codes and diagnostic results are to be cleared, use the **UP/DOWN** key to select **YES** and press the **ENTER** key.



√ If codes and test data not to be deleted, select **NO**, and a "Command Cancelled!" message displays. Wait a few seconds or press any key to return to *Diagnostic Menu*.

4. Wait a few seconds until a "Codes Cleared!" message shows indicating codes are cleared successfully.

√ If the code reader fails to clear the codes, a "Clear Error! Turn Key on with Engine off!" message displays.

5. Wait a few seconds or press any key to return to *Diagnostic Menu*.

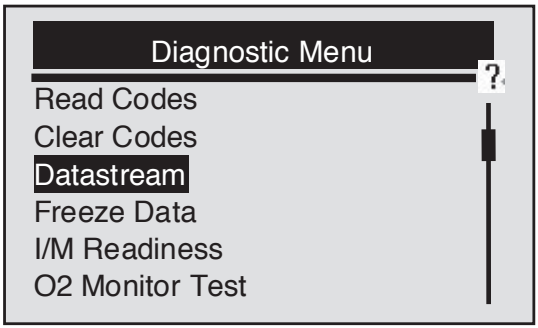
5.3 Live Datastream

Viewing Data

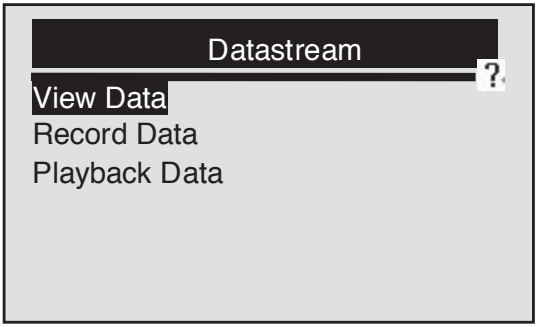
The *View Data* function allows real time viewing of the vehicle's electronic control unit's PID data, including sensor data, operation of switches, solenoids and relays.

To view live datastream:

1. Use the **UP/DOWN** key to select **Datastream** from *Diagnostic Menu* screen.



2. Press the **ENTER** key to confirm.
3. Use the **UP/DOWN** key to select **View Data** from *Datastream* screen.



4. Press the **ENTER** key to confirm.

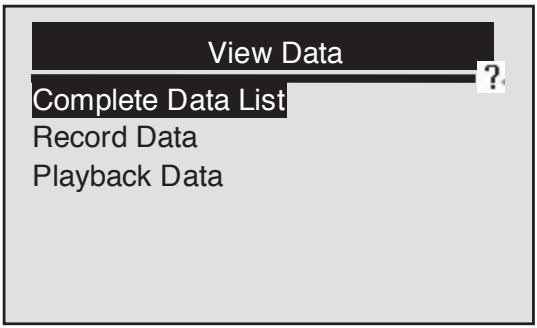
√ Some vehicles may not support this function.

Viewing Complete List

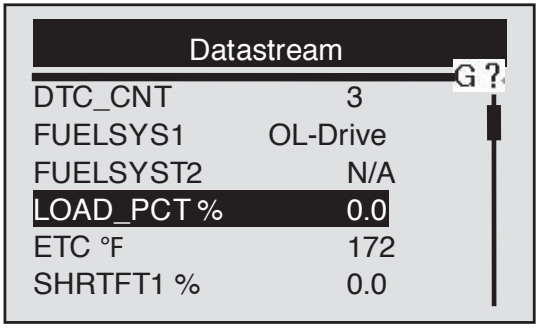
Complete Data List displays all supported PIDs of the vehicle being tested.

To view entire data list:

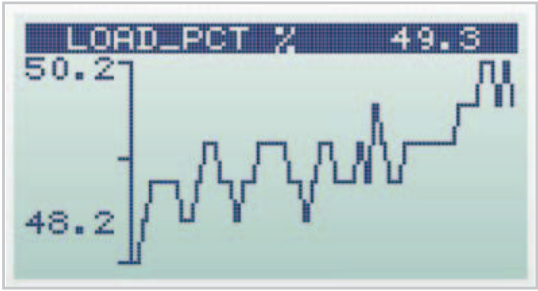
1. Use the **UP/DOWN** key to select **Complete Data List** from ***View Data*** screen.



2. Press the **ENTER** key to confirm your selection.
3. View PIDs on code reader. Use the **UP/DOWN** key when more than one screen of information is retrieved.



√ If the "**G**" icon shows when a PID is selected, press the **ENTER** key to view graph. And press the **BACK** key to return to live PID screen.



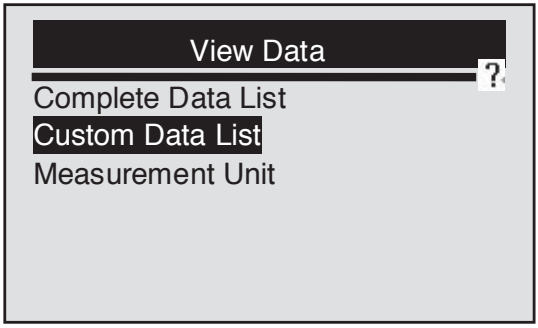
4. Press the **BACK** key to return to previous level.

Viewing Custom Data List

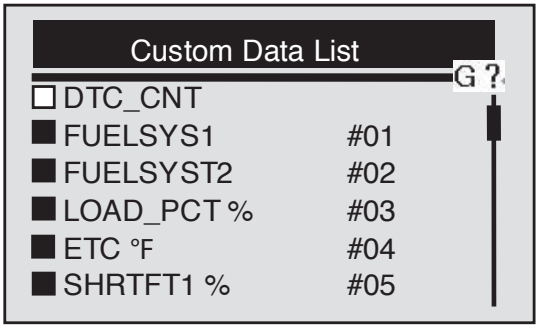
Custom Data List allows certain PIDs from *Complete Data List* to be selected.

To view custom data list:

1. Use the **UP/DOWN** key to select **Custom Data List** from *View Data* screen.



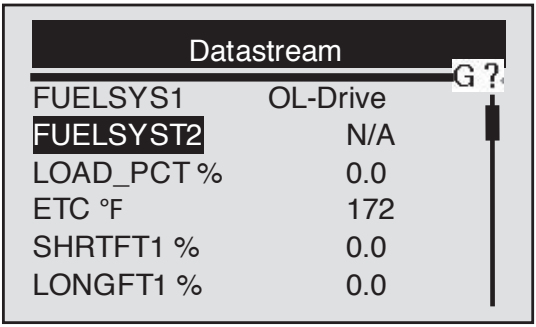
2. Press the **ENTER** key.
3. Use the **UP/DOWN** key to move up or down, and press the **ENTER** key to select or deselect PIDs to view. Selected parameters are marked with solid squares.



√ The number to the right is the order that the PIDs were selected and will be displayed.

√ You are allowed to pick up a maximum of 18 PIDs. If you selected more than 18 PIDs, a "The selected data list is full!" message displays on the screen.

4. Hold the **ENTER** key for 2 seconds to view selected PIDs.



√ If the **G** icon displays while a PID is selected press the **ENTER** key to view graph.

5. Use the **BACK** key to return to *View Data* screen.

Changing Measurement Unit

Refer to "Changing Measurement Unit" on page 15 of System Setup.

Recording Data

The **Record Data** function is used to record PIDs to help diagnose intermittent drivability problems that can not be determined by any other method.

A recording consists of 5 frames of data before trigger point and several frames after trigger.

√ There are 2 types of trigger methods used:

- Manual Trigger – triggers recording whenever the operator presses the **ENTER** key.
- Trigger On DTCs – automatically triggers recording when a code is detected by vehicle.

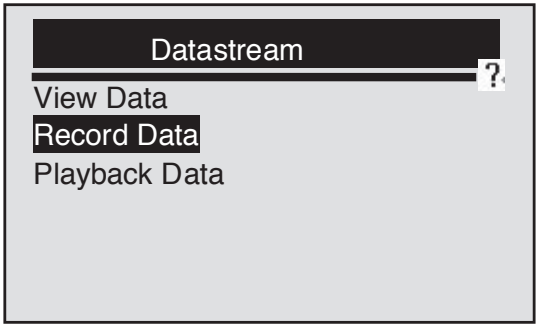
√ Trigger On DTCs is not available on all vehicles.

√ Some vehicles need to be driven for a long period of time to store a code after a drivability fault occurs. If *Trigger On DTCs* is selected to make a recording, there might not be drastic change in the data before and after trigger.

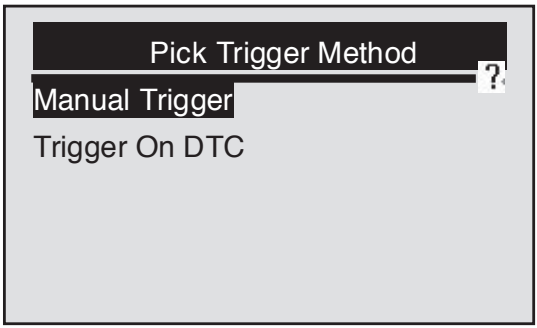
⚠CAUTION Do not operate the code reader while driving; always have two persons in vehicle when recording – one to drive and the other to operate the code reader.

To record live data:

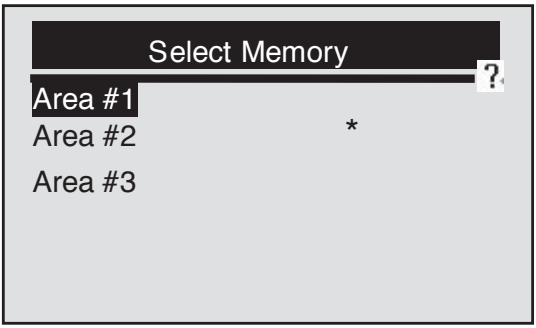
1. Use the **UP/DOWN** key to select **Record Data** from *Datastream* screen.



2. Press the **ENTER** key to confirm.
3. Refer to *View Data* to set up *Complete Data List* or *Customer Data List* to record.
4. Use the **UP/DOWN** key to pick a trigger mode.

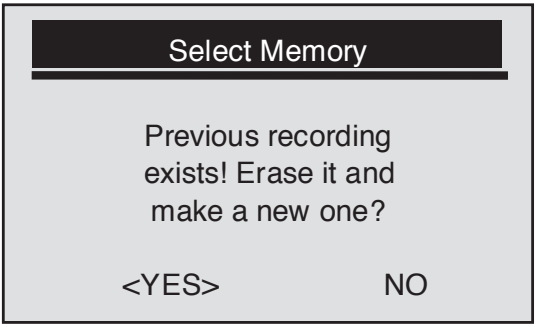


5. Press the **ENTER** key to confirm.
6. Use the **UP/DOWN** key to pick a memory area.

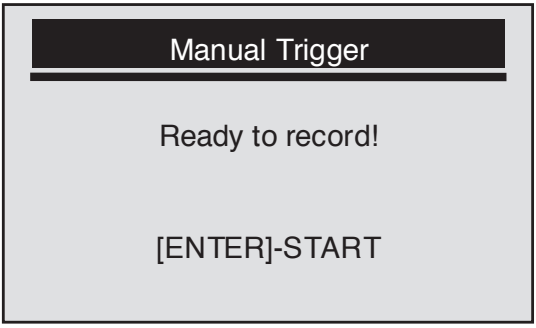


√ The asterisk (*) on the screen indicates that a recording currently exist in this memory area.

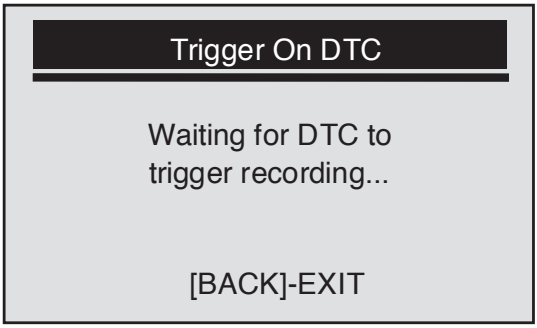
√ If an area with an asterisk (*) was picked, a message prompting to erase data displays.



√ If *Manual Trigger* is selected, following screen displays:

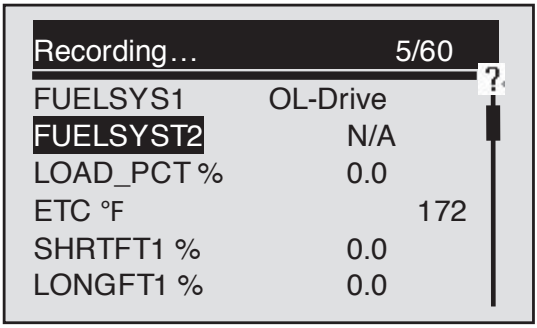


√ If *Trigger on DTCs* is picked, following screen displays:



√ If data is to be erased, select **YES**; if data is not be erased, pick **NO** to return to *Select Memory* screen and pick another one.

7. Press the **ENTER** key to start recording or wait for codes to trigger.

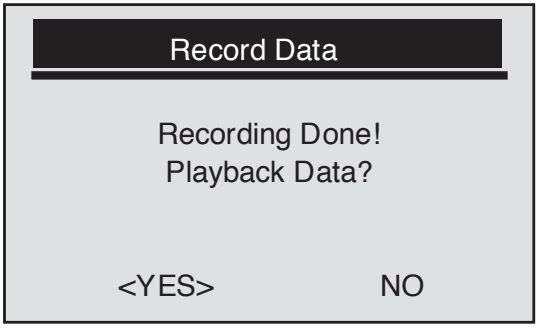


√ The code reader keeps saving data until:

- memory is full;
- the operator presses the **BACK** key.

NOTE Different vehicles communicate at different speeds and support a different number of PIDs. Therefore, the maximum number of frames that can be recorded varies.

8. After recording the code reader display a prompt to *Playback Data*.

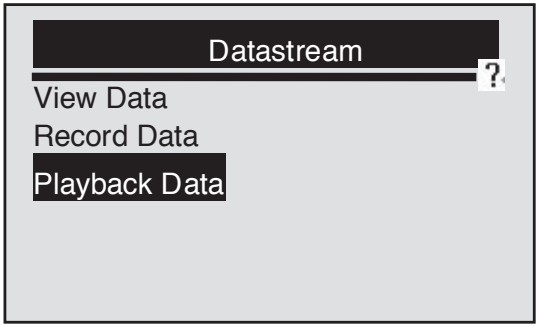


9. Select **YES** to view recorded data; pick **NO** or press the **BACK** key to return to ***Record Data***.

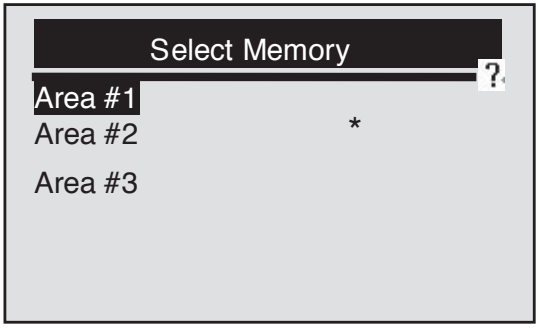
Playback Data

The ***Playback Data*** is used to playback recorded PID data.
To playback data:

1. Use the **UP/DOWN** key to select **Playback Data** from ***Datastream*** screen.

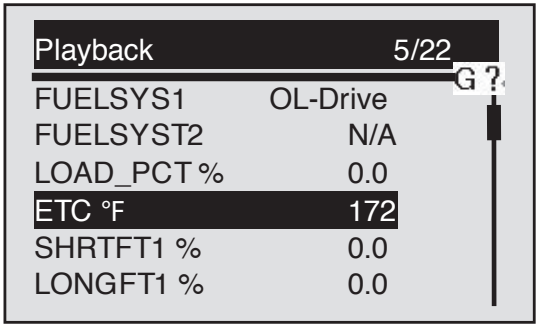


2. Press the **ENTER** key.
3. Use the **UP/DOWN** key to select a memory area that is marked with an asterisk (*).



√ If no recording exists, the code reader displays a "No Recording Found!" message.

4. Press the **ENTER** key to playback.
5. Use the **UP/DOWN** key to view PIDs of each frame; or use the **ENTER** key to move back and forth through frames.



√ The number to the upper right corner of display indicates the total number of recorded frames and sequence of currently displayed frame.

√ Negative frame indicates data recorded before trigger point and positive frame indicates data recorded after trigger.

√ The **G** icon indicates graphing is available for the selected PID. Use the **ENTER** key to view graphing and use the **UP/DOWN** key to scroll back and forth through graphs.

6. Use the **BACK** key to return to *Playback Data*.

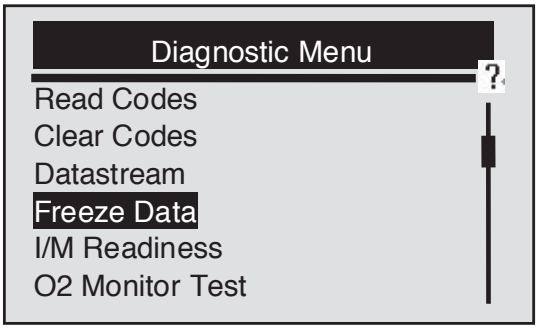
5.4 Viewing Freeze Data

The *Freeze Data* function is used to view freeze frame data, a snapshot of vehicle operating conditions recorded by the on-board computer at the time of an emission-related fault.

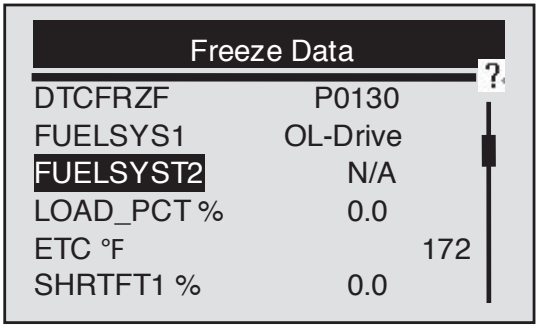
√ If codes were cleared, freeze data may not be stored in vehicle memory depending on vehicle.

To view freeze frame data:

1. Use the **UP/DOWN** key to select **Freeze Data** from *Diagnostic Menu* screen.



2. Press the **ENTER** key to confirm.
3. View freeze frame data on screen.



√ If more than one screen of information is retrieved, use the **UP/DOWN** key to view additional data.

√ If no freeze frame detected, a "No Freeze Data Found !" message displays.

√ Some vehicles may not support this function, and a "Not Support This Function!" message displays.

4. Press the **ENTER** key to return to *Diagnostic Menu*.

5.5 Reading I/M Readiness Status Data

The *I/M Readiness* function is used to view a snapshot of the operations for the emission system on OBDII/EOBD vehicles.

√ I/M Readiness is a useful function used to check if all monitors are OK or N/A.

√ The vehicle's computer performs tests on the emission system during normal driving conditions. After a specific amount of drive time (each monitor has specific driving conditions and time required), the computer's monitors decide if the vehicle's emission system is working correctly. When the monitor's status is:

- OK - vehicle was driven enough to complete the monitor.
- INC (Incomplete) - vehicle was not driven enough to complete the monitor.
- N/A (Not Applicable) - vehicle does not support that monitor.

√ *I/M Readiness* function is performed with the KOER or KOEO.

√ There are two types of I/M Readiness tests:

- Since DTCs Cleared - shows status of the monitors since the DTCs were last cleared.
- This Drive Cycle - shows status of monitors since the start of the current drive cycle.

√ Below is a list of abbreviations and names of OBD II monitors supported by the code reader.

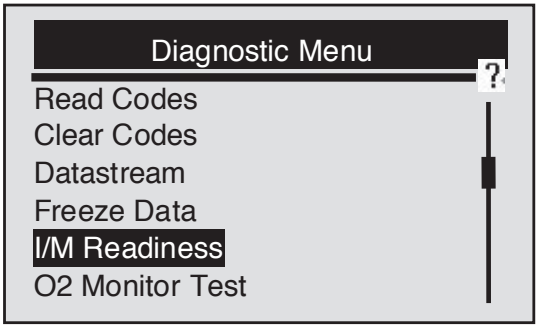
No.	Abbreviation	Name
1	Misfire Monitor	Misfire Monitor
2	Fuel System Mon	Fuel System Monitor
3	Comp. Component	Comprehensive Components Monitor

4	Catalyst Mon	Catalyst Monitor
5	Htd Catalyst	Heated Catalyst Monitor
6	Evap System Mon	Evaporative System Monitor
7	Sec Air System	Secondary Air System Monitor
8	A/C Refrig Mon	Air Conditioning Refrigerant Monitor
9	Oxygen Sens Mon	Oxygen Sensor Monitor
10	Oxygen Sens Htr	Oxygen Sensor Heater Monitor
11	EGR System Mon	Exhaust Gas Recirculation System Monitor

NOTE Not all monitors are supported by all vehicles.

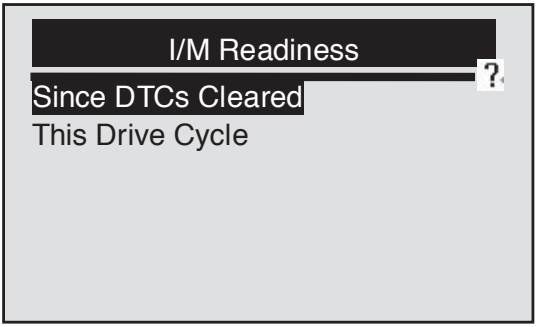
To retrieving I/M Readiness Status data:

1. Use the **UP/DOWN** key to select **I/M Readiness** from *Diagnostic Menu* screen.



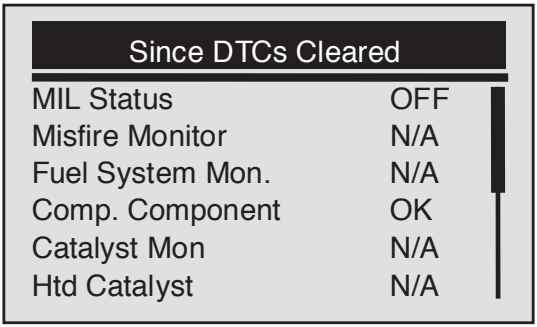
2. Press the **ENTER** key to confirm.

√ If vehicle supports both types of monitors, following screen displays:

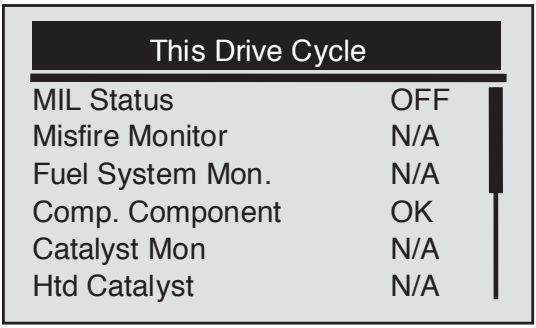


√ Use the **UP/DOWN** key to select a monitor type and press the **ENTER** key to confirm.

3. Depending on readiness test, one of these 2 screens will be present.



Or



√ If more than one screen of information is retrieved, use the **UP/DOWN** key to view additional data.

√ Some vehicles may not support this function, and a "Not Supported Function!" message displays.

4. Press the **BACK** key to return to ***Diagnostic Menu***.

5.6 O2 Monitor Test

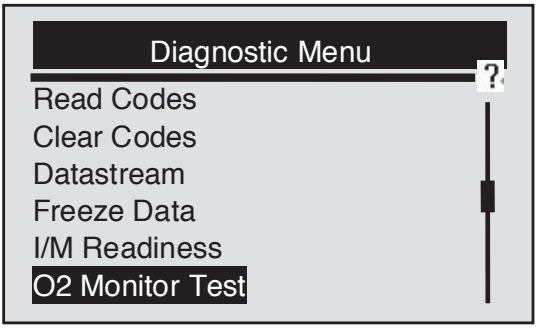
OBD II regulations require certain vehicles to monitor and test oxygen (O2) sensors to isolate fuel and emissions related faults.
The O2 Monitor Testfunction is used to retrieve completed test results.

√ The ***O2 Monitor Test*** is not an on-demand test. O2 sensors are not tested when selected via the menu but tested when engine operating conditions are within specified limits.

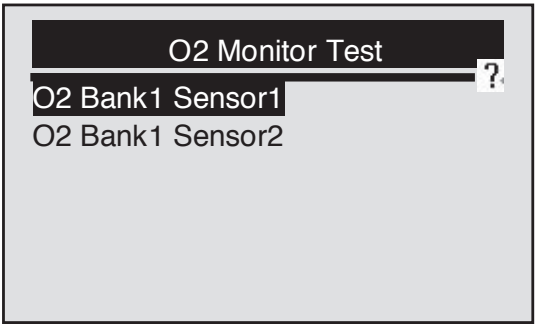
√ If the vehicle uses a controller area network (CAN) protocol to communicate, this function is not supported by vehicle. Refer to "***On-Board Monitor Tests***" on page 45 for O2 monitor data of CAN-equipped vehicles.

To retrieve O2 monitor data:

1. Use the **UP/DOWN** key to select **O2 Monitor Test** from ***Diagnostic Menu*** screen.

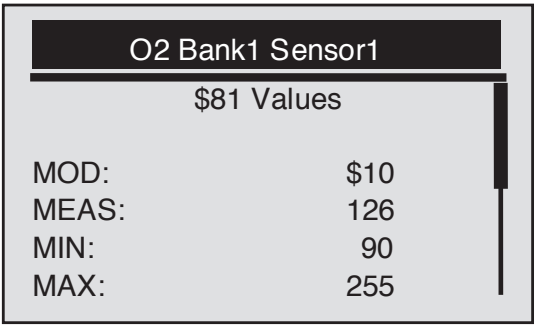


2. Press the **ENTER** key to confirm.
3. Use the **UP/DOWN** key to pick desired O2 sensor.



√ If the vehicle being tested does not support this function, the code reader displays a "Not Support This Function!" message.

4. Press the **ENTER** key to view data of selection.



√ When more than one screen of data is retrieved, use the **UP/DOWN** key to view additional information.

5. Press the **BACK** key to return to ***O2 Monitor Test*** screen.

5.7 On-Board Monitor Test

The ***On-Board Monitor Test*** function is useful after servicing or after clearing a vehicle ECU's memory.

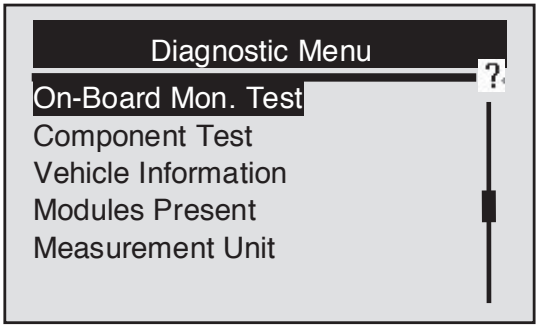
This function receives test results for emission-related powertrain components and systems that are not continuously monitored for Non-CAN vehicles.

For CAN vehicles, it receives test data for emission-related powertrain components and systems that are and are not continuously monitored.
It is the vehicle manufacturer who is responsible for assigning test and component IDs.

NOTE Test results do not necessarily indicate a faulty component or system.

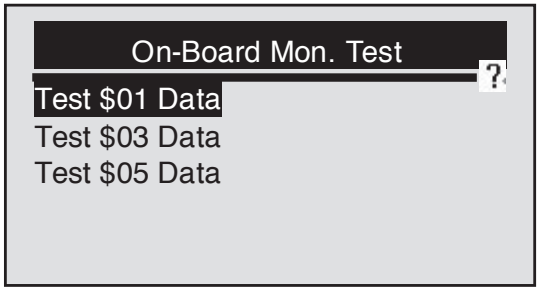
To request vehicle information:

1. Use the **UP/DOWN** key to select **On-Board Monitor Test** from *Diagnostic Menu* screen.



2. Use the **ENTER** key to confirm.
3. Use the **UP/DOWN** key to pick desired test results.

√ For non-CAN vehicles, test screen is illustrated as below:



√ For CAN vehicles, test screen is illustrated as below:

On-Board Mon. Test

O2 Mon. B1S1
O2 Mon. B1S2
Catalyst Mon. B1
EGR Mon. Bank1

√ If vehicle being tested does not support this function, the code reader displays a "Not Support This Function!" prompt.

4. Use the **ENTER** key to view details of selected test results.

√ For non-CAN vehicles, test screen is illustrated as below:

Test $01 Data

ID:	00
MOD:	$10
MEAS:	0
MAX:	0
MIN:	----
STS:	OK

√ For CAN vehicles, test screen is illustrated as below:

O2 Mon. B1S1

Rich-Lean Threshd mV

MEAS:	0.450
MIN:	0.312
MAX:	0.630
STS:	OK

√ When more than one screen of data is retrieved, use the **UP/DOWN** key to view additional information.

5. Press the **BACK** key to return to *On-Board Monitor Test*.

5.8 Component Test

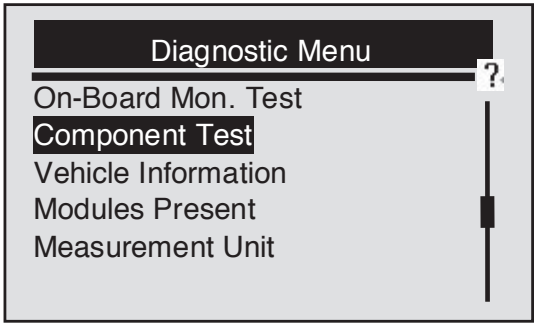
The *Component Test* allows the code reader to control operation of vehicle components, tests or systems.

√ Some manufacturers do not allow tools to control vehicle systems.

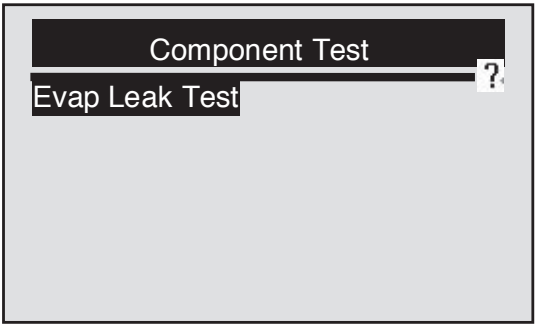
√ The manufacturer sets the criteria to automatically stop test. Refer to appropriate vehicle service manual before using this function.

To do component test:

1. Use the **UP/DOWN** key to select **Component Test** from *Diagnostic Menu* screen.



2. Press the **ENTER** key to confirm.
3. Use the **UP/DOWN** key to pick an available system or component.



4. Press the **ENTER** key to start testing, and the code read displays a "Command Sent!" message.

√ If vehicle being tested does not support this function, the code reader displays a "Not Support This Function!" prompt.

5. Press the **BACK** key to return to **Diagnostic Menu**.

5.9 Reading Vehicle Information

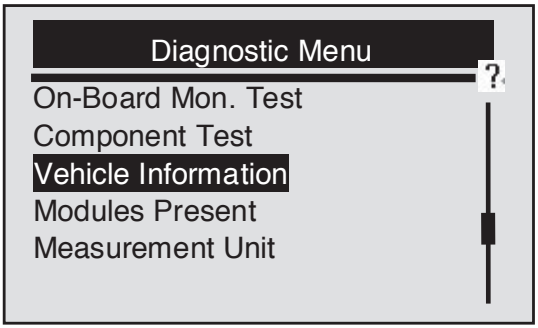
The ***Vehicle Information*** function is used to request the vehicle's VIN number, calibration ID(s) which identifies software version in vehicle control module(s), calibration verification numbers (CVN(s)) and in-use performance tracking on model year 2000 and newer OBD II compliant vehicles.

√ CVNs are calculated values required by OBD II regulations. They are reported to check if emission-related calibrations have been changed. Multiple CVNs may be reported for a control module. It may take several minutes to do the CVN calculation.

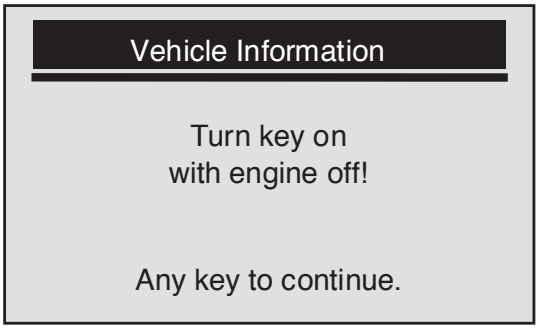
√ In-use performance tracking tracks performance of key readiness monitors.

To request vehicle information:

1. Use the **UP/DOWN** key to select **Vehicle Information** from ***Diagnostic Menu*** screen.

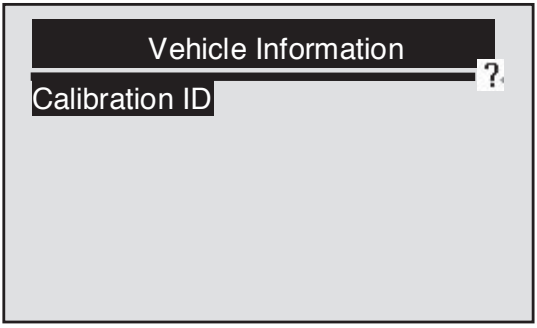


2. Press the **ENTER** key to confirm.
3. Observe on-screen instruction and wait a few seconds or press any key to continue.

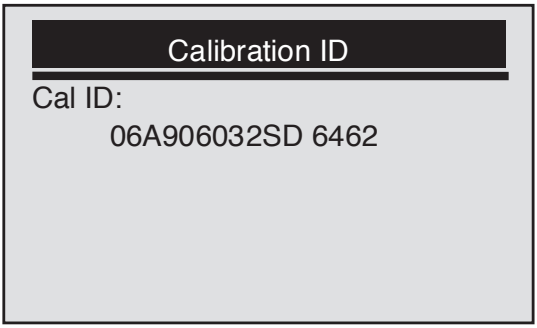


√ Some vehicle may not support this function, and a "Not Support This Function!" message displays.

4. Press the **ENTER** key to confirm.
5. Use the **UP/DOWN** key to select an available item from ***Vehicle Information*** screen.



6. Press the **ENTER** key to view retrieved information.



7. Press the **ENTER** key return.

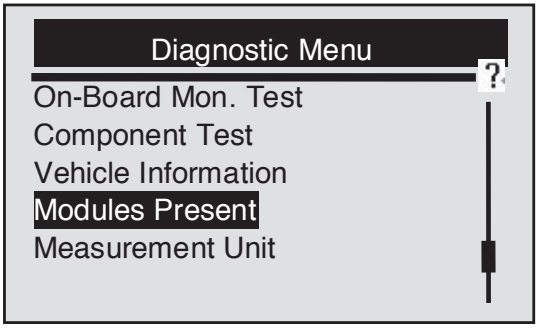
NOTE Not all data is supported by all vehicles.

5.10 Modules Present

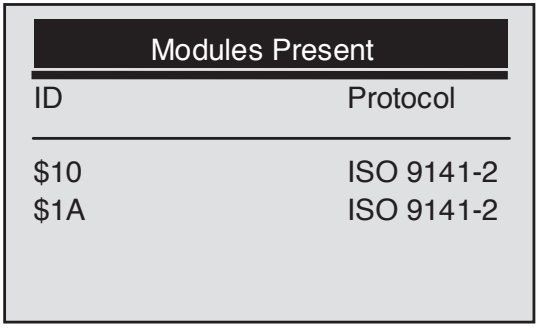
The code reader identifies module IDs and communication protocols for OBD2 modules in the vehicle.

To view module IDs and communication types:

1. Use the **UP/DOWN** key to select **Modules Present** from *Diagnostic Menu* screen.



2. Press the **ENTER** key to view information.



6. Updating and Printing

EQP-103 is able to be updated to keep you current with the latest development of diagnosis. Also, it allows you to upload recorded test results to your PC or laptop for analysis and printing.

6.1 Updating the Code Reader

The update of EQP-103 consists of two parts:
program upgrade and DTC upgrade.

√ To update the code reader, you need the following tools:

- EQP-103 EOBD Code Reader
- Update Tool PC-Link
- PC or laptop with USB Ports and Internet Explorer
- USB cable

√ To be able to use the update tool, your PC or laptop must meet the following minimum requirements:

- Operating System: Win98/NT, Win ME, Win2000, Win XP, VISTA or Windows 7
- CPU: Intel PIII or better
- RAM: 64MB or better
- Hard Disk Space: 30MB or better
- Display: 800*600 pixel, 16 byte true color display or better
- Internet Explorer 4.0 or newer

IMPORTANT Do not disconnect the code reader from computer, or power off the computer during the process of updating.

To update program:

1. Download the update tool EQP-103 PC-Link and update files from our website www.plusquip.com.au download page. Download and save the applications and files onto your computer disk (EQP-103 PCLink Update Software).
2. Unzip the update software file.
3. Double click the .exe file and follow instructions on computer screen to install the tool and driver.
4. Double click the 

desktop icon to launch the application.
5. Connect EQP-103 to computer with the USB cable provided, and the application detects the device automatically.

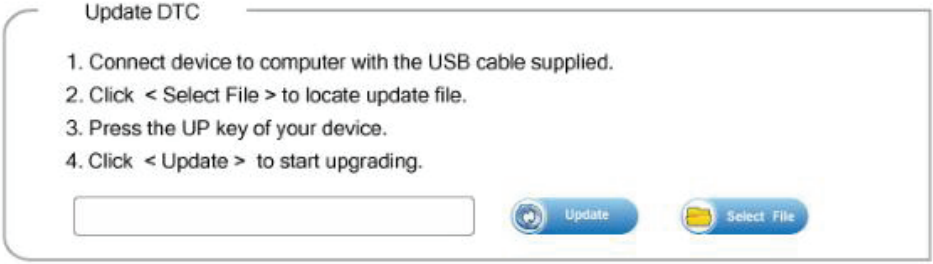
6. Use <Select File> to locate update file downloaded.

7. Click <Update> to start updating.

To update DTCs:

√ It may take several minutes to update the DTCs.

1. Use <Select File> to locate update file downloaded.



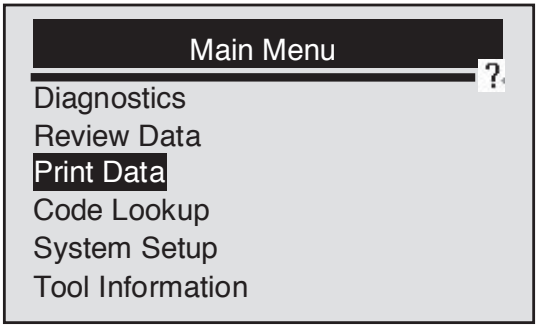
2. Press the **UP** key and a "Connecting to PC" message shows on EQP-103 screen.
3. Click <Update> to start updating.

6.2 Printing

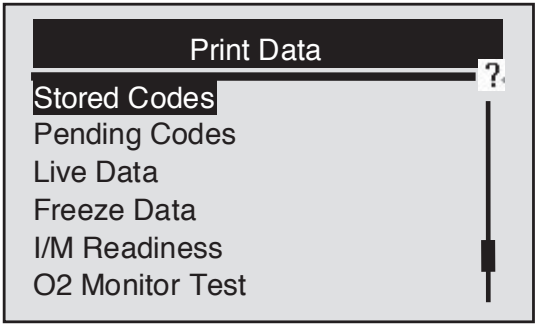
The ***Print Data*** function is used to print test results through computer.

To print test results:

1. Download and launch PC-Link as instructed on page 53 of **6.1 Updating the Code Reader.**
2. Start the printing application by selecting the Print tab.
3. Connect EQP-103 to computer with the USB cable supplied to power it on.
4. Use the **UP/DOWN** key to select **Print Data** from ***Main Menu*** screen.



5. Press the **ENTER** key to confirm.
6. Use the **UP/DOWN** key to select desired data to print.



√ If all recorded data to be printed, use the **UP/DOWN** key to select **Print All**.

7. Press the **ENTER** key to load data to your computer.
8. Use the **BACK** key to return to **Main Menu**.

7. Troubleshooting

7.1 Error Message

When a "Communication Error!" message displays, please check the following:

- Verify ignition key is in the ON position.
- Make sure the code reader is correctly attached to vehicle's Data Link Connector (DLC).
- Check DLC for cracked or recessed pins, or for any substance that could prevent a good electrical connection.
- Check EQP-103 OBDII connector for bent or broken pins.
- Make sure the vehicle is OBDII/EOBD compliant.
- Cycle the vehicle key to OFF for 10s and then back to ON.
- Verify battery voltage is at least 8.0V with KOEO.
- Verify that the control module is not defective.

7.2 Code Reader Does Not Power Up

If EQP-103 will not power up, communicate with vehicle's control module, or functions incorrectly in any other way, do the following:

- Check DLC for broken or bent pins and clean the pins if need be.
- Make sure EQP-103 is correctly connected to vehicle's DLC.
- Verify battery voltage is at least 8.0V with KOEO.

7.3 Battery Replacement

EQP-103 needs a 9V cell battery to operate when disconnected from the vehicle.

√ When the icon appears, replace the battery as instructed below.

To replace battery:

1. Place the code reader face down.
2. Remove battery cover with a screw driver.
3. Remove battery and discard according to your local rules.
4. Install a new 9V alkaline battery.
5. Reinstall the battery cover with the screw driver.