

OBDII WIRELESS SCANNER

Instruction Manual 51004



! WARNING

**READ AND UNDERSTAND THIS INSTRUCTION MANUAL
PRIOR TO USING THIS PRODUCT. FAILURE TO DO SO
MAY RESULT IN SERIOUS INJURY OR DEATH.**





Keep this instruction manual for future reference.


This instruction manual is intended for your benefit. Please read and follow the safety, installation, maintenance and troubleshooting steps described within to ensure your safety and satisfaction. The contents of this instruction manual are based upon the latest product information available at the time of publication. The manufacturer reserves the right to make product changes at any time without notice.

The safety instructions provided in this manual are not intended to cover all possible conditions and practices that may occur when operating, maintaining and cleaning the tool.

Always use common sense and pay particular attention to **all** DANGER, WARNING, CAUTION and NOTICE statements in this manual.

WARNING SYMBOLS AND DEFINITIONS

| | |
|---|--|
|  | This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death. |
|  DANGER | Indicates a hazardous situation which, if not avoided, will result in death or serious injury. |
|  WARNING | Indicates a hazardous situation which, if not avoided, could result in death or serious injury. |
|  CAUTION | Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. |
| NOTICE | Addresses practices not related to personal injury. |
| CAUTION | |

| Symbol | Property or Statement |
|---|--|
|  | Read and understand this instruction manual prior to using this product. |

SPECIFICATIONS

| Specification | Value |
|---------------|-------------------------------|
| Display: | 2.8 in., 320 x 240 pixels |
| Power: | 4V to 30V via Vehicle Battery |

| Specification | Value |
|------------------------|--|
| Operating Temperature: | 32° to 140°F (0° to 60°C) |
| Storage Temperature: | -4° to 158°F (-20° to 70°C) |
| Size: | 5-3/4 x 1-3/8 x 1-1/16 in. (146 x 86 x 27 mm) |
| Weight: | 8 Oz. (228 g) |

FEATURES

- Supports all 10 modes of OBD II functionality.
- Diagnoses and clears trouble codes.
- Views freeze frame data.
- Displays monitor and I/M readiness status (emissions).
- Estimates battery life and monitoring battery voltage.
- Displays live O2 sensor test data.
- Includes enhanced OBD II mode 6 capability.
- Supports EVAP System Leak Testing.
- Reads live PCM data stream.
- Retrieves vehicle information, such as: VIN, CALID, and CVN.
- Component Testing
- Custom F1/F2 shortcut keys.

SUPPORTED PROTOCOLS

| | |
|---|---|
| 1. SAE J1850 PWM (41.6 Kbaud) | 6. ISO 15765-4 CAN (11 bit ID, 500 Kbaud) |
| 2. SAE J1850 VPW (10.4 Kbaud) | 7. ISO 15765-4 CAN (29 bit ID, 500 Kbaud) |
| 3. ISO 9141-2 (5 baud init., 10.4 Kbaud) | 8. ISO 15765-4 CAN (11 bit ID, 250 Kbaud) |
| 4. ISO 14230-4 KWP (5 baud init., 10.4 Kbaud) | 9. ISO 15765-4 CAN (29 bit ID, 250 Kbaud) |
| 5. ISO 14230-4 KWP (fast init., 10.4 Kbaud) | |

INTENDED USE

The OBD II Code Reader is a diagnostic tool designed to interface with a vehicle's On-Board Diagnostics system, retrieving live data from the Engine Control Unit (ECU) and allowing the reading and interpretation of Diagnostic Trouble Codes (DTCs). Compatible with OBD II-compliant vehicles (typically those made after 1996), it helps identify issues in the engine, transmission, and emissions systems, assists in troubleshooting, and enables routine performance monitoring. The tool also allows resetting of fault codes and check engine lights. Note that it only provides diagnostic codes and does not offer repair instructions; professional expertise and further inspection is required for proper repairs.

UNPACKING

When unpacking, please inspect the product carefully to ensure the product is intact and undamaged. If any parts are missing or broken, please call 1-800-386-0191 as soon as possible.



WARNING

Do not use this product if damaged during shipment, handling, or after misuse.

Do not use the product until the parts have been replaced or the fault rectified. Failure to do so may result in serious personal injury or property damage.

Remove the parts and accessories from the packaging and inspect for damage. Make sure that all items in the contents are included.

Package contents :

- ODB II Reader (1 pc)
- Instruction Manual

GENERAL SAFETY RULES



WARNING

READ ALL SAFETY WARNINGS AND ALL INSTRUCTIONS. Failure to follow the warnings and instructions may result in property damage, electric shock, serious injury and/or DEATH.

Save this instruction manual for future reference.

Observe the following precautions at a minimum whenever working on a vehicle:

- Operate in a safe work environment. Keep your work area clean, well-lit and free of distractions. Place lights so you are not working in a shadow.
- Keep anyone not wearing appropriate safety equipment away from the work area.
- If working alone, always arrange to have someone check on you at pre-arranged, regular intervals.
- Store properly and in a safe and dry location to prevent rust or damage. Keep out of reach of children.
- Wear Personal Protective Equipment (PPE) approved by the American National Standards

Institute (ANSI) or the Canadian Standards Association (CSA).

- Always wear impact safety goggles or eyewear that provide front and side protection for the eyes. Eye protection equipment should comply with ANSI Z87.1 or CSA Z94.3-07 standards based on the type of work performed.
- Control the tool, personal movement and the work environment to avoid personal injury or damage to the equipment.
- DO NOT operate this tool when tired or under the influence of drugs, alcohol, or medications.
- AVOID wearing clothes or jewelry that can become entangled with the moving parts of a tool. Keep long hair covered and bound.
- DO NOT overreach when using.

- Non-skid footwear is recommended to maintain proper footing and balance to enable better control in unexpected situations.
- DO NOT let comfort or familiarity with the product (gained from repeated use) replace strict adherence to the tool safety rules. If you use this tool unsafely or incorrectly, you may suffer serious personal injury.
 - DO NOT modify or alter this tool or use it for an unintended purpose. Use the correct tool for the job. This tool was designed for a specific function.
 - DO NOT use the tool if any parts are damaged, broken, or misplaced. Repair or replace the parts, and inspect before each use.
 - DO NOT operate the vehicle in an enclosed area. Exhaust gases are poisonous. Operate the vehicle in a well ventilated area.
 - NEVER leave a vehicle unattended while running tests.
 - ALWAYS chock the wheels prior to testing.
 - 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.
 - Ensure the parking brake is set, and put the transmission in PARK (for automatic transmissions) or NEUTRAL (for manual transmissions).
 - Always keep a fire extinguisher nearby that is suitable for gasoline, chemical, and electrical fires.
 - DO NOT connect or disconnect the Code Reader or other test equipment while the ignition is on or engine is running.
 - Keep the Code Reader dry, clean, free from oil, water, or grease. Use a small amount mild detergent on a clean damp cloth to clean the outside of the reader, if necessary. Dry with a paper towel or cloth immediately after cleaning.

ABOUT OBD II

OBD II Compliance:

This OBD II Code Reader is designed to work with all OBD II compliant vehicles, including those equipped with the next-generation protocol - Control Area Network (CAN). In 1996, the United States Environmental Protection Agency required that all new vehicles sold in the United States be compliant to the OBD II standard, and because of this, all domestic, Asian, and European vehicle manufacturers adopted and implemented the standard.

A small number of 1994 and 1995 model year gasoline vehicles are OBD II compliant. To verify if a 1994 or 1995 vehicle is compliant, check the Vehicle Emissions Control Information (VECI) Label, located near the radiator and under the hood, states "OBD II Certified". The OBD II standard requires compliant vehicles to have a common sixteen-pin Data Link Connector (DLC) located 12 in. (300 mm) from the center of the steering wheel, under or around the driver's side in most vehicles. Refer to the vehicle's service manual for the location if you

cannot locate it. NOTE: The DLC on some vehicles may have a plastic cover that will need to be removed before the OBD II Connector can be plugged in.

DIAGNOSTIC TROUBLE CODES (DTCs):

OBD II Diagnostic Trouble Codes (DTCs) are codes that are stored by the vehicle's 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 be used as a guide to determine where a fault might be occurring within the vehicle. The codes begin with a two digit alphanumeric designator which are followed by a three digit numeric code.

DTCs are specified in SAE J2012-DA, and because of the complexity of some vehicle systems, some codes may be specified by the manufacturer.

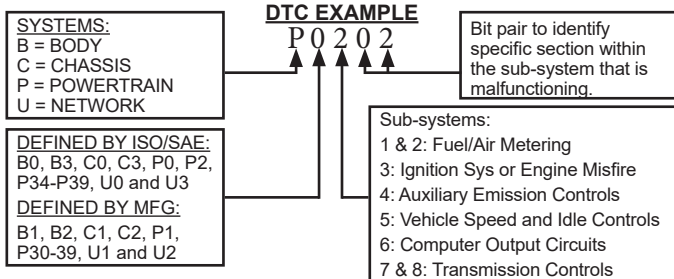
GENERAL DTC STRUCTURE:

| 1st Two Digits | Control System | Applicable Systems (in general) |
|----------------|-------------------------------|---|
| B0 - B3 | Body | Passenger Compartment Accessories that provide passenger assistance, comfort, convenience and safety. |
| C0 - C3 | Chassis | External to Passenger Compartment, such as brakes, steering, and suspension. |
| P0 - P3 | Powertrain | Engine, Transmission, Associated Drivetrain Accessories |
| U0 - U3 | Network & Vehicle Integration | Computer and System Shared Functions |

DTC CONTROL SYSTEM GROUPINGS:

The two digit prefix in the Control System codes are grouped by which governing body controls and defines the code. Codes that begin with B0, B3, C0, C3, P0, P2, P34-P39, U0 and U3 are defined by ISO and SAE standards.

Codes that begin with B1, B2, C1, C2, P1, P30-39, U1 and U2 are defined by the vehicle manufacturer.



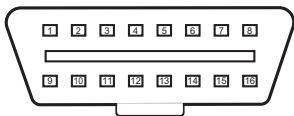
General definitions for codes may be found by searching online or in the Code Reader DTC Library. However, because the codes may be specific to the make, model, engine size, and configuration of your vehicle, it is important that you **consult with your vehicle's repair manual** for the exact definition of the DTC. This manual only discusses the operation of the Code Reader and does not have specific information about your vehicle's OBD system.

Also note that although ISO and SAE have defined some DTCs, the vehicle manufacturer may have a slightly different definitions. For example, SAE defines code P0740 as "Torque Converter Clutch Circuit Malfunction", whereas Chrysler refers to the code as "Torque Converter Out of Range".

Finally, remember that DTCs give an idea of where to begin the troubleshooting process and they do not specify exactly what may be wrong with the vehicle. Professional expertise and further inspection is required for proper repairs.

DATA LINK CONNECTOR (DLC):

The OBD II Code Reader Data Link Connector is a 16-pin connector that is specified by the standards SAE J1962 / ISO 15031-3, and allows easy communications between the vehicle and the Code Reader.



Data Link Connector Location: The Data Link Connector is usually located 12 in. (300 mm) from the center of the steering wheel, under or around the driver's side in most vehicles. Refer to the vehicle's service manual for the location if you cannot locate it. **NOTE: The DLC on some vehicles may have a plastic cover or a panel that will need to be removed before the OBD II Connector can be plugged in.**

OBD II READINESS MONITORS (I/M Monitors):

OBD II Readiness Monitors, also referred to as Emissions Monitors or I/M Monitors, are indicators that perform periodic tests on components of the vehicle's emission system to allow the technician to check that the emission system is performing within allowable limits. The exact number and configuration of these monitors are determined by the vehicle manufacturer. Refer to the vehicle's service manual for specific information about the emission control strategy used in your vehicle.

There are two types of readiness monitors, Continuous and Non-Continuous I/M Monitors.

Continuous I/M Monitors test vehicle components or systems continuously while the engine is running. Examples of continuous monitors are: 1. Engine Misfire, 2. Fuel System Demand, and 3. Comprehensive Components (CCM) that are made up of key engine sensors.

Non-Continuous I/M Monitors, on the other hand, test vehicle components when specific vehicle operating conditions are met. These sensors differ between spark ignition vehicles (gasoline engines) and compression ignition vehicles (diesel engines). Examples of non-continuous monitors are:

| Spark Ignition | Compression Ignition |
|---------------------------------|-------------------------|
| Catalyst (CAT) | NMHC Catalyst |
| Heated Catalyst | NOx/SCR After-treatment |
| Evaporative (EVAP) Sys. | Boost Pressure |
| Secondary Air Sys | Exhaust Gas Sensor |
| Oxygen (O ₂) sensor | PM Filter |
| EGR and/or VVT Sys. | EGR and/or VVT Sys |

READINESS MONITOR STATUS:

Each Readiness Monitor test results in one of three status outputs:

- **COMPLETE** or ready, meaning that the test has been completed. The OBD II system has checked the emission control system and it has passed the test.
- **INCOMPLETE** or not ready, meaning that the test was not completed. The OBD II system was unable to run this test or the test failed.
- **DISABLED** meaning the test has been disabled for the rest of the monitoring cycle.

NOTE: Vehicles may not support all monitors. In this case, the monitor may result in NA or not available which means that monitor cannot be tested.

An incomplete, or “not ready”, status may be indicated on one or more monitors after clearing a DTC or Check Engine Light during or after a vehicle repair. Additionally, during a power failure, such as when the battery has been disconnected, the readiness status monitors will be reset. Finally, the current monitoring cycle, or “this drive cycle”, status is set to incomplete upon starting a new monitoring cycle which is normal on starting the engine.

PENDING TROUBLE CODES AND FREEZE FRAME DATA:

Pending Trouble Codes (Pd) are codes that indicate a fault has been detected momentarily, however the fault has not yet repeated. If the fault repeats under similar driving conditions, it will usually cause the pending code to become a Stored Code and cause the Vehicle’s Check Engine Light or Malfunction Indicator Light (MIL) to illuminate.

Freeze Frame Data is diagnostic data that is stored in a table within the vehicle’s OBD system. The data in the table are referred to by their Parameter ID (PIDs). The Freeze Frame is a snapshot of sensor or component readings

and Diagnostic Trouble Codes (DTCs), which were captured at the moment when the control unit detected a malfunction.

Because sometimes multiple DTCs may have caused the vehicle's MIL to illuminate, this information may help to identify the initial DTC that caused the malfunction. Conditions for storing freeze frame data is manufacturer specific, and it is possible that a MIL is illuminated without freeze frame data. Conversely, an intermittent problem may cause the recording of freeze frame data without a MIL, and checking freeze frame data may assist in troubleshooting intermittent issues.

NOTE: Experience with emission control systems and engines is necessary for proper analysis and troubleshooting. It is highly recommended to consult a professional automotive technician whenever troubleshooting or fixing a vehicle.

DRIVE CYCLE NECESSARY TO COMPLETE OBDII MONITOR TESTS:

OBDII Readiness Monitors are used to test the vehicle during normal operation, and if the OBDII system has been reset, it is necessary to operate the vehicle in order to obtain accurate test status of the monitors.

The vehicle operation requirement is more than a simple, short, drive, and may require about a week or more of combined city and highway driving. Some vehicle repair or owner's manuals detail the specific driving conditions required to operate the readiness monitors, and because the drive cycle may vary greatly for each vehicle model and manufacturer, it is recommended to review your vehicle's repair or owner's manual for more information.

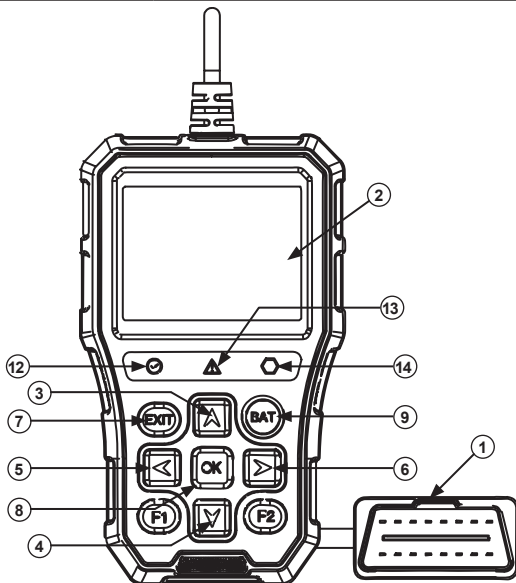
Prior to starting a drive cycle, it's recommended the following be performed:

1. Ensure the Check Engine Light or Malfunction Indicator Light (MIL) is not commanded on. Stored or pending DTCs may affect OBD II Readiness Monitor tests.
2. Ensure the vehicle has enough fuel. Some OBD II Readiness Monitors require the fuel level to be between 35% and 85% for testing.

TOOL IDENTIFICATION

| No. | Name | Description |
|------------|-------------------------|---|
| ① | OBD II Connector | SAE J1962 Type A Connector to connect to vehicle. |
| ② | LCD Display | Displays and indicates test results. |
| ③ | UP button | Rolls Menu and Submenu UP in menu screen. |
| ④ | DOWN button | Rolls Menu and Submenu DOWN in menu screen. |
| ⑤ | LEFT button | Moves Menu and Submenu LEFT in menu screen. |
| ⑥ | RIGHT button | Moves Menu and Submenu RIGHT in menu screen. |

| No. | Name | Description |
|-----|-------------|--|
| ⑦ | EXIT button | Cancels an operation or EXITS a menu. |
| ⑧ | OK button | Confirms a selection (or action) from a menu list. |
| ⑨ | BAT button | Enters the Battery Test menu. |
| ⑩ | F1 Button | Settable Quick Function button #1. |
| ⑪ | F2 Button | Settable Quick Function button #2. |
| ⑫ | Green LED | Indicates no DTCs are found or fault(s) are cleared. |
| ⑬ | Yellow LED | Indicates Pending DTCs exist. |
| ⑭ | Red LED | Indicates problems exist in one or more systems. |



NAVIGATION CHARACTERS

Navigation characters are used to help navigate the different screens in the Code Reader:

1. “▶” Cursor to indicate the current selection.
 2. “Pd” Identifies a pending Diagnostic Trouble Code (DTC) when viewing DTCs.
 3. “\$” Identifies the control module from which the data is retrieved.
-

CODE READER POWER

The Code Reader derives its power from the vehicle through the OBD II Connector when connected to the vehicle's Data Link Connector (DLC). Ensure the vehicle's battery has sufficient voltage to operate the vehicle by checking with a volt meter at the battery terminals prior to connecting the Code Reader. The battery voltage should be between 9 and 18 volts.

Locate and Plug In the OBD II Connector: With the vehicle ignition OFF, locate the vehicle's DLC. This connector is usually located 12 in. (300 mm) from the center of the steering wheel, under or around the driver's side in most vehicles. Refer to the vehicle's service manual for the location if you cannot locate it.

NOTE: The DLC on some vehicles may have a plastic cover or panel that will need to be removed before the OBD II Connector can be plugged in.

The OBD II Code reader screen should illuminate when the vehicle ignition is switched to the ACCESSORY ON position, or if the vehicle is started and the ignition is in the ON position.

CODE READER SYSTEM SETUP

The Code Reader can be set up when connected to the DLC and the vehicle ignition in the ACCESSORY ON position. The following adjustments and settings can be made:

1. Language: Select the desired language to be displayed.
2. Units of measurement: Select between Imperial and Metric measurements.
3. Backlight: Adjust the amount of backlight illumination on the LCD Display.
4. Key Beep: Turns the button key audio function on or off.
5. F1 Key Function: Select the F1 button function.
6. F2 Key Function: Select the F2 button function.

To enter the System Setup Menu:

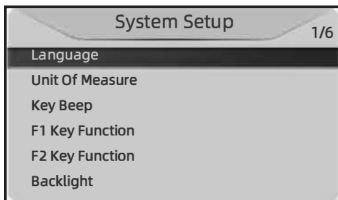
From the **Main Screen**, press the **UP/DOWN/LEFT/RIGHT** buttons to select the **Setup** icon, then press the **OK** button to enter the **System Setup** menu.

The System Setup menu will be displayed and the number at the top right of the display will show **x/y**, with **x** being the current selected item number and **y** being the total number of items in that menu.

Use the following instructions as a guide for setting up the Code Reader:

SETTING THE LANGUAGE:

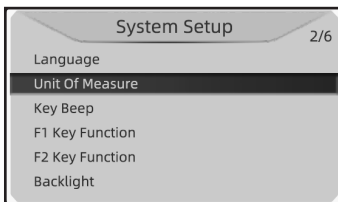
Use the **UP/DOWN** buttons to move the Cursor to item **Language** from the System Setup Menu, then press the **OK** button.

**SET THE LANGUAGE:**

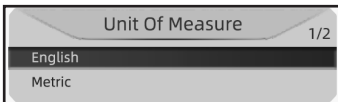
Use the **UP/DOWN** buttons to select a language. Once the desired language is selected, press the **OK** button to save and return to the System Setup Menu. NOTE: English is the default language.

**SELECT THE UNITS OF MEASUREMENT:**

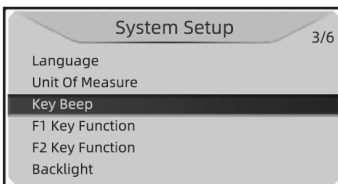
Use the **UP/DOWN** buttons to move the Cursor to item **Unit Of Measure** from the System Setup Menu, then press the **OK** button.

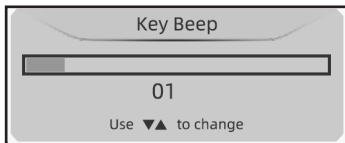
**SET THE UNITS:**

Use the **UP/DOWN** buttons to select either English (Imperial) or Metric units. Once the desired units is selected, press the **OK** button to save and return to the System Setup Menu. NOTE: Metric is the default units.

**ADJUST THE KEY AUDIO:**

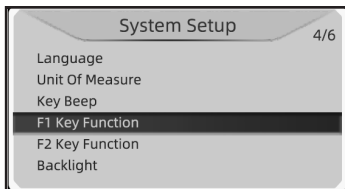
Use the **UP/DOWN** buttons to move the Cursor to item **Key Beep** from the System Setup Menu, then press the **OK** button.





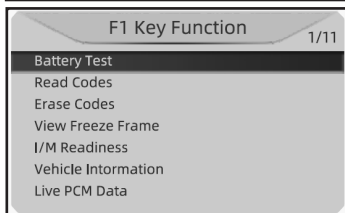
SET THE KEY AUDIO:

Use the **UP/DOWN** buttons to adjust the Key Audio to the desired level, then press the **OK** button to save and return to the System Setup Menu.

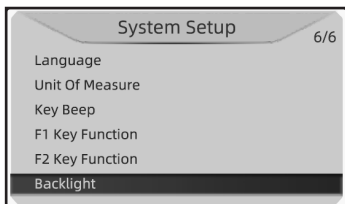


SET F1 AND F2 KEY FUNCTIONS:

Use the **UP/DOWN** buttons to select either **F1 Key Function** from the System Setup Menu. Once the key function is selected, press the **OK** button.



Use the **UP/DOWN** buttons to select the desired function for the Key Function button, then press the **OK** button to save and return to the **System Setup Menu**. Repeat for the **F2 Key Function** button.

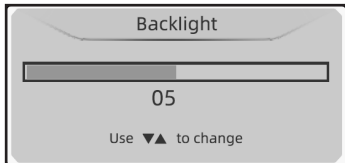


SETTING THE BACKLIGHT:

Use the **UP/DOWN** buttons to move the Cursor to item **Backlight** from the System Setup Menu, then press the **OK** button.

CHANGING THE BACKLIGHT:

Use the **UP/Down** buttons to adjust, then press the **OK** button to save and return to the System Setup Menu.



Return to the Main Menu:

When the screen has returned to the System Setup Menu, press the **EXIT** button to return to the Main Menu.

OPERATION



WARNING

DO NOT connect or disconnect diagnostic test equipment to the vehicle with the ignition **ON** or with the engine **Running**.

Follow these steps to begin use:

1. Ensure the ignition is in the OFF position and the engine is not running.
2. Locate the vehicle's Data Link Connector (DLC). See previous section.
3. Plug the Code Reader's OBD II Connector into the vehicle's DLC.
4. Put the ignition into the ACCESSORY ON or the ON position. The engine can be either off or running.
5. Use the UP/DOWN button and select the OBDII icon on the Main Screen and press the OK button to enter the Diagnostic Menu. The Code Reader will display OBDII protocols while detecting the protocol used by the vehicle.

NOTE: If the Code Reader fails to communicate with the vehicle's ECU (Engine Control Unit), an error message, "LINKING ERROR!", will be displayed. Check the following:

- Verify the ignition is in the ACCESSORY ON or ON position.
- Check that the Code Reader OBD II Connector is securely connected to the vehicle's DLC.
- Verify that the vehicle is OBD II compliant by checking the VECI Label as previously discussed.
- Turn the ignition OFF and wait for about 10 seconds. Turn the ignition back to the ACCESSORY ON or ON position.
- If the error message continues, contact the tool distributor or call 1-800-386-0191 for assistance.

6. The system status (Check Engine Light / Malfunction Indicator Light status, and DTC Monitor status) will be displayed, then press any key for the Diagnostic Menu to come up.

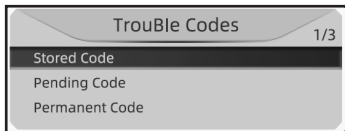
| System Status | |
|---------------|-----|
| MIL Status | OFF |
| Codes Found | 0 |
| Monitors N/A | 11 |
| Monitors Ok | 0 |
| Monitors INC | 0 |

1. READING CODES

1. On the Main Menu, use the **UP/DOWN** buttons to select the **OBD II icon**.
2. Use the **UP/DOWN** buttons to select **Read Codes** in the Diagnostic Menu and press the **OK** button.

| Diagnostic Menu | |
|---------------------|--|
| 1/10 | |
| Read Codes | |
| Erase Codes | |
| View Freeze Frame | |
| I/M Readiness | |
| Vehicle Information | |
| Live PCM Data | |
| Realtime Curve | |

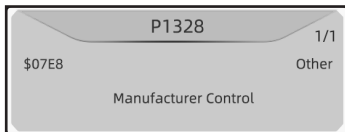
- Use the **UP/DOWN** buttons to select the type of trouble codes to view in the **Trouble Codes** menu, then press the **OK** button.
- View the DTCs and their definitions on the display.



NOTE: The control module number, sequence of the DTCs, total number of codes detected, and type of codes (generic, manufacturer specific, stored, or pending codes) will be observed in the upper right hand corner of the display.

- If more than one DTC is found, use the **UP/DOWN** buttons to view each.

When no codes are detected, **“No codes are stored in the module!”** will be displayed. DTCs that contain manufacturer specific or enhanced codes will display “Manufacturer control”.



- Press the **EXIT** button to return to the previous menu.

2. ERASING CODES



CAUTION

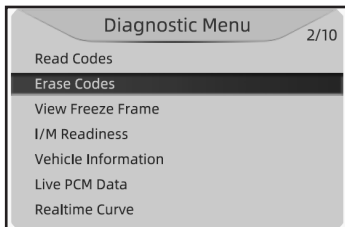
Erasing DTCs will not only delete Diagnostic Trouble Codes, it will erase both “Freeze Frame” and manufacturer enhanced data from the vehicle’s OBD

computer. Additionally, the I/M Readiness Monitors will be reset to “Incomplete” or “Not Ready”. **DO NOT erase DTCs** before the system has been checked completely by a service technician.

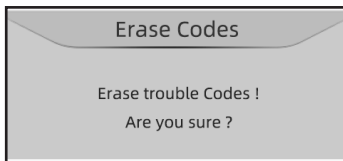
ERASING CODES WITHOUT HAVING YOUR VEHICLE CHECKED COMPLETELY BY A SERVICE TECHNICIAN IS NOT RECOMMENDED.

Code erasure must be performed with the Key ON and Engine OFF (KOEO). Do not start the engine.

- Use the **UP/DOWN** buttons to select **Erase Codes** in the Diagnostic Menu and press the **OK** button.



- A warning message will be displayed asking for confirmation.
- To stop, use the **UP/DOWN** buttons to select **NO** and press **OK**. “**Command Canceled**” will be displayed.
- To proceed with erasing the codes, select YES and press **OK** to erase.



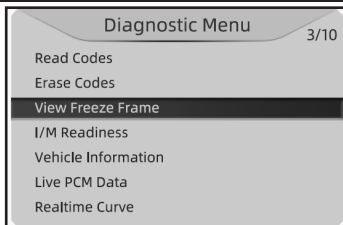
When the codes are successfully cleared, “**Erase Done!**” is displayed.

If the codes are not cleared, then “**Erase Failure. Turn Key on with Engine Off!**” is displayed.

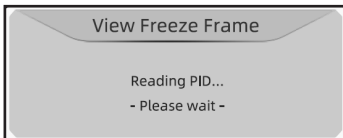
- Wait a few seconds or press any key to return to the Diagnostic Menu.

3. VIEWING FREEZE FRAME DATA

- Use the **UP/DOWN** buttons to select **View Freeze Frame** in the Diagnostic Menu and press the **OK** button.



- The Code Reader will require a few seconds to read and validate the **PID MAP**.



- If the retrieved information requires more than one screen, use the **UP/DOWN** buttons to view the other screens.

Note: The number at the top right of the display will show **x/y**, with **x** being the current frame and **y** being the total number screens in the retrieved freeze frame. When no freeze frame data is available, “**No Freeze Frame Data Stored!**” will be displayed.

| View Freeze Frame | | 1/2 |
|-------------------|--|-------|
| DTCFRZF | | P0082 |
| LOAD_PCT(%) | | 13.3 |
| ECT(°F) | | 235 |
| MAP (inHg) | | 45 |
| RPM (/min) | | 248 |
| VSS (mph) | | 68 |
| MAF (lb/min) | | 11.59 |

- Press the **EXIT** button to return to the **Diagnostic Menu**.

4. RETRIEVING I/M READINESS STATUS

The I/M Readiness Function is an excellent tool to check the operations of the vehicle's emission system prior to any state emissions compliance testing program.

Depending on the vehicle make and model, some vehicles may support two **I/M Readiness** test types:

- **Since DTCs Cleared** - indicates the I/M Readiness status since any DTCs have been erased.
- **This Drive Cycle** - indicates the I/M Readiness status since the beginning of the current drive cycle.

An I/M Readiness status result of "**NO**" does not necessarily indicate that the tested vehicle will fail a state emissions compliance testing, and some states allow one or more I/M Readiness monitors to be "INCOMPLETE" or "Not Ready" to pass emissions inspection. The following monitor indicators may be displayed when using the I/M Readiness Function:

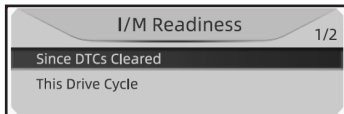
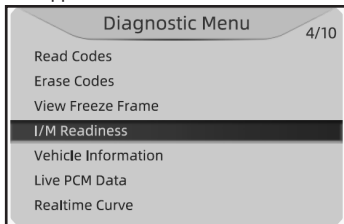
1. "**OK**" - Indicates the monitor has completed its diagnostic testing.
2. "**INC**" - Indicates the monitor has not completed its diagnostic testing.
3. "**N/A**" - Indicates the monitor is not supported on this vehicle.

To use the I/M Readiness Function:

1. Use the **UP/DOWN** buttons to select **I/M Readiness** in the Diagnostic Menu and press the **OK** button.
2. If your vehicle supports both test types, then both types will appear on the display. Use the **UP/DOWN** buttons to select the **I/M Readiness** test type to perform. The default test is "Since DTCs Cleared"
3. Use the **UP/DOWN** buttons to view the status of the MIL indicator and the listed monitor indicator.

Note: The number at the top right of the display will show **x/y**, with **x** being the current screen and **y** being the total number screens in the retrieved I/M Readiness Monitor.

4. Press the **EXIT** button to return to the **Diagnostic Menu**.



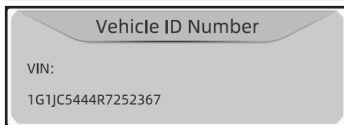
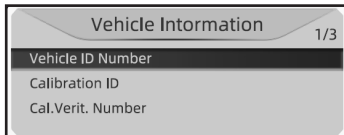
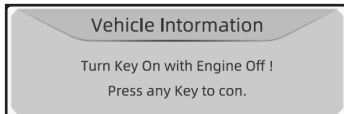
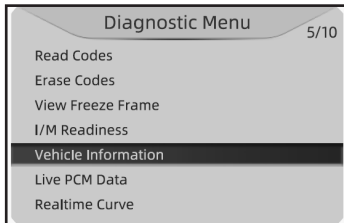
| Since DTCs Cleared 1/2 | |
|------------------------|-----|
| MIL Status | ON |
| Mistire Monitor | N/A |
| Fuel System Mon. | N/A |
| Comp.Component | N/A |
| Catalyst Mon. | N/A |
| HTD Catalyst | N/A |
| EVAP System Mon. | N/A |

5. VIEW VEHICLE INFORMATION

The Vehicle Information Function enables retrieval of the Vehicle Identification Number (VIN), Calibration ID(s), Calibration Verification Numbers (CVNs), and In-use Performance Tracking on vehicles that support Mode 9, which is normally vehicle model year 2000 and newer.

NOTE: If the vehicle does not support this mode, a message that states, “**The selected mode is not supported!**” will be displayed.

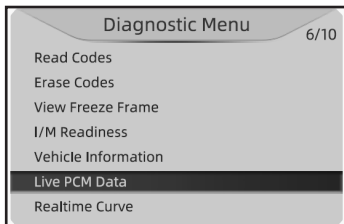
1. Use the **UP/DOWN** buttons to select **Vehicle Information** in the Diagnostic Menu and press the **OK** button.
2. Wait a few seconds, or press the **OK** button to continue.
3. Use the **UP/DOWN** buttons to select an item and press the **OK** button to view the information.
4. View the retrieved information on the display.
5. Press the **EXIT** button to return to the **Diagnostic Menu**.



6. LIVE POWER CONTROL MODULE (PCM) DATA

Vehicles that support Mode 1 allow the retrieval of real-time vehicle data.

1. Use the **UP/DOWN** buttons to select **Live PCM Data** in the Diagnostic Menu and press the **OK** button.



- Use the **UP/DOWN** to view each page.
- Press the **EXIT** button to return to the **Diagnostic Menu**.

| Live PCM Data | | 1/12 |
|----------------|--|-------|
| FUELSYS 1 | | CL |
| FUELSYS 2 | | CL |
| LOAD_PCT(%) | | 13.3 |
| ECT(°F) | | 217 |
| SHRTFT 1 (%) | | -97.6 |
| LONGFT 1 (%) | | -14.0 |
| SHRTFT 2 (%) | | 3.9 |

7. Viewing Realtime Curves

Vehicles that support Mode 1 allow the retrieval of real-time vehicle data which can then be plotted and displayed on a curve.

- Use the **UP/DOWN** buttons to select **Realtime Curve** in the Diagnostic Menu and press the **OK** button.
- Use the **UP/DOWN** buttons to select the item to be displayed.
- Once an item is selected and displayed, use the **UP/DOWN** button to change the update speed of the curve.
- Press the **EXIT** button to return to the **Diagnostic Menu**.

| Realtime Curve | | 1/73 |
|----------------|--|------|
| LOAD_PCT(%) | | |
| ECT(°F) | | |
| SHRTFT 1 (%) | | |
| LONGFT 1 (%) | | |
| SHRTFT 2 (%) | | |
| LONGFT 2 (%) | | |
| FRP (PSI) | | |

8. Performing the O2 Sensor Test

The O2 Sensor test is for retrieval and viewing of the most recent O2 sensor monitor test results stored in the vehicle's on-board computer.

- Use the **UP/DOWN** buttons to select **O2 Sensor Test** in the Diagnostic Menu and press the **OK** button.
- The Code Reader will require a few seconds to read and validate the **PID MAP**.
- Use the **UP/DOWN** buttons to button to select the O2 sensor and press the **OK** button.

| Diagnostic Menu | | 8/10 |
|--------------------|--|------|
| O2 Sensor Test | | |
| On- Board Mon.Test | | |
| Component Test | | |

| O2 Sensot Test | | 1/8 |
|----------------|--|-----|
| O2S Mon. B1S1 | | |
| O2S Mon. B1S2 | | |
| O2S Mon. B2S1 | | |
| O2S Mon. B2S2 | | |
| O2S Mon. B3S1 | | |
| O2S Mon. B3S2 | | |
| O2S Mon. B4S1 | | |

- Use the **UP/DOWN** buttons to button to select the O2 sensor test result then press the **OK** button to view additional data.
- Press the **EXIT** button to return to the **Diagnostic Menu**.

| Max For Cycle (CAL) | |
|---------------------|--------|
| Module | \$00 |
| Test Value | 0.005V |
| Min Limit | 0.970V |
| Max Limit | 0.000V |

9. Viewing On-Board Monitor Test

The On-Board Mon. Test Function retrieves and displays test results for emission-related power train components and systems that are not continuously monitored.

- Use the **UP/DOWN** buttons to select **On-Board Mon. Test** in the Diagnostic Menu and press the **OK** button.
- The Code Reader will require a few seconds to read and validate the **PID MAP**.
- Use the **UP/DOWN** buttons to select the item to be displayed and press the **OK** button.
- Use the **UP/DOWN** buttons to select the test result and press the **OK** button to view additional data.
- Press the **EXIT** button to return to the **Diagnostic Menu**.

| Diagnostic Menu | | 9/10 |
|---------------------------|--|------|
| O2 Sensor Test | | |
| On- Board Mon.Test | | |
| Component Test | | |

| On-Board Mon.Test | | 1/6 |
|----------------------|--|-----|
| O2S Mon. B1S1 | | |
| O2S Mon. B1S2 | | |
| Catalyst Mon. B1 | | |
| O2S HTR Mon. B1S1 | | |
| O2S HTR Mon. B1S2 | | |
| HTD Catalyst Mon. B1 | | |

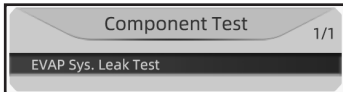
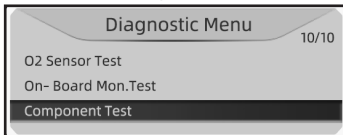
| O2S Mon. B1S1 | | 1/3 |
|----------------------------|--|-----|
| Lean-Rich Threshold | | |
| High For Switch | | |
| Lean-Rich Switch(CAL) | | |

| Lean - Rich Threshold | |
|-----------------------|--------|
| Test Value | 5.728V |
| Min Limit | 4.497V |
| Max Limit | 5.496V |
| Status | Fail |

10. Performing the Component Test

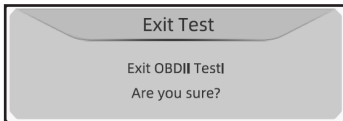
The Component test is initiated by the Code Reader for the vehicle's on-board computer to perform a leak test for the vehicles EVAP system. Each vehicle manufacturer has different criteria and methods for stopping the test once it has been initiated. Refer to the vehicle's repair or owner's manual for detailed information.

1. Use the **UP/DOWN** buttons to select **Component Test** in the Diagnostic Menu and press the **OK** button.
2. The Code Reader will require a few seconds to read and validate the **PID MAP**.
3. Press the OK button to send the test initiation command to the on-board computer.
4. Press the **EXIT** button to return to the **Diagnostic Menu**.



11. Exiting OBD II Testing

1. To exit OBD II testing, press the **EXIT** button while in the **Diagnostic Menu**.
2. The warning message, "**Exit OBDII Test! Are you sure?**"
3. Press the **OK** button to Exit OBD II testing, and the **Main Menu** will be displayed.
4. If you do not want to exit, press the **UP/DOWN** button to select **NO**, then press the **OK** button to return to the **OBD II Diagnostic Menu**.



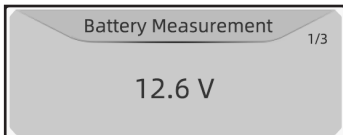
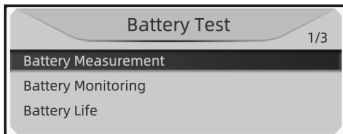
12. Battery Testing

The Battery Test function measures battery voltage, views the battery voltage curve, and tests the battery life. To enter the **Battery Test Menu**:

On the Main Menu, use the **UP/DOWN** buttons to select the **BAT** icon.

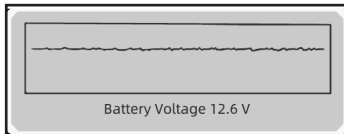
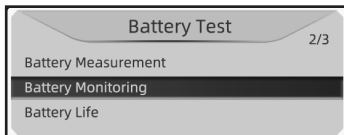
MEASURING BATTERY VOLTAGE:

1. Use the **UP/DOWN** buttons to select **Battery Measurement** in the Battery Test Menu and press the **OK** button.
3. The **Battery Measurement** feature will display the battery voltage.
4. Press the **EXIT** button to return to the Battery Test Menu.

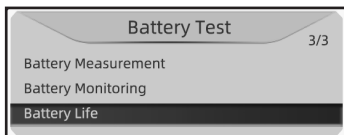


PERFORM BATTERY MONITORING:

1. Use the **UP/DOWN** buttons to select **Battery Monitoring** in the Battery Test Menu and press the **OK** button.
2. A plot of the battery voltage level and the battery voltage will be displayed.
3. Press the **EXIT** button to return to the Battery Test Menu.

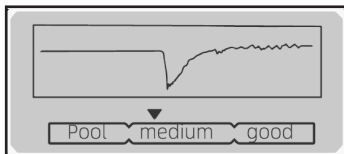
**PERFORM BATTERY LIFE TEST:**

1. Use the **UP/DOWN** buttons to select **Battery Life** in the Battery Test Menu and press the **OK** button.
2. Follow the prompts on the display to obtain accurate results.
3. It will be necessary to start and stop the engine to display the battery life test results.
4. The battery life test result will show a plot of the battery voltage before, during, and after starting the vehicle and will show a simple chart at the bottom that rates the battery life on a scale from poor, to medium, to good.
5. Press the **EXIT** button to return to the Battery Test Menu.



Before testing , turn on the engine and run it for a while to make sure the battery is fully charged and turn off high - powered equipment such as A/C

Press any Key to con.

**13. DIAGNOSTIC TROUBLE CODE LOOKUP**

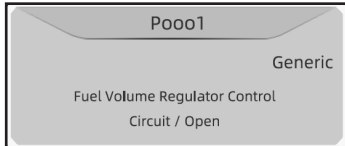
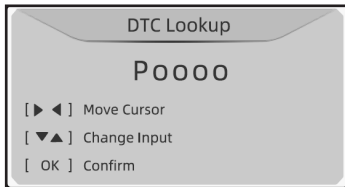
The DTC Lookup function is used to search for definitions of Diagnostic Trouble Codes (DTCs) stored in the Code Reader's library which is based on general ISO and SAE Diagnostic Trouble Codes. For exact definitions of DTCs and for manufacturer specific DTCs, refer to the vehicle repair or owner's manual.

To look up a DTC definition:

On the Main Menu, use the **UP/DOWN** buttons to select the **DTC icon**.

Looking up a DTC:

1. Enter the DTC by using the **UP** button to move the cursor (underlining the character/digit), then use the **DOWN** button to change the character/digit.
2. Once the DTC is entered correctly, press the **OK** button to lookup the DTC definition.
3. To return to the DTC Lookup screen and enter another DTC, press the **EXIT** button.
4. To return to the Main Menu, press the **EXIT** button again, while in the DTC Lookup screen.



CARE AND MAINTENANCE

1. This tool is a PRECISION TEST AND MEASURING INSTRUMENT. Take care to operate it correctly as described in this manual. Store the Code Reader in a clean and dry environment.
2. Before connecting and disconnecting the Code Reader from the vehicle, be sure the vehicle engine is shut off, and the ignition is in the OFF position.
3. Clean the Code Reader after each use by wiping away any dirt, grease, or oil with a clean, dry, lint free cloth. DO NOT IMMERSE in any type of liquid or cleaner. This will damage the electronics and render the tool unusable.
4. This tool does not need calibration.



WARNING

- DO NOT exceed the voltages and temperatures specified in the beginning of this manual.
- This tool is NOT waterproof, dust-proof, or weatherproof. Protect the Code Reader from dust or liquids when using. Clean after each use. Avoid exposing the tool to excessive heat, humidity, or direct sunlight.
- Avoid using solvents such as alcohol or paint thinner when cleaning.
- This tool is NOT vibration resistant. Avoid excessive vibration and dropping that may cause permanent damage.
- DO NOT apply excessive force to the LCD display which may cause damage to the display or render it inoperable.
- Avoid exposing the electronics in this tool to magnetic fields.

DISPOSAL

- Recycle a tool damaged beyond repair at the appropriate facility.
- Contact your local municipality for a list of disposal facilities or by-laws for electronic devices, batteries, oil or other toxic liquids.

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Star Asia-USA, LLC (hereinafter "seller") warrants to the original purchaser only, that this product will be free from defects in material or workmanship for a period of 90 days from date of purchase for home domestic use.

Warranty Performance

Warranty coverage is conditioned upon purchaser furnishing seller or its authorized service center with adequate written proof of the original purchase date. Products returned, freight prepaid and insured, to our factory or to an Authorized Service Center will be inspected and repaired or replaced, at seller's option, free of charge if found to be defective and subject to warranty. Defective parts not subject to normal wear and tear will be repaired or replaced, at our option during the above stated warranty periods. In any event, reimbursement is limited to the purchase price paid. Other than the postage and insurance requirement, no charge will be made for repairs or replacements covered by this warranty. Under no circumstances shall the manufacturer bear any responsibility for loss of the unit, loss of time or rental, inconvenience, commercial loss or consequential damages, There are no warranties which extend beyond the description of the face hereof.

Exclusions

This warranty does not cover parts damaged due to normal wear, abnormal conditions, misapplication, misuse, abuse, accidents, operation at other than recommended pressures or temperatures, improper storage of freight damage. Parts damaged or worn by operation in dusty environments are not warranted. Failure to follow recommended operating and maintenance procedures also voids warranty. Additional items not covered under warranty: product failure caused by rain, excessive humidity, corrosive environments or other contaminants; cosmetic defects that do not interfere with product's functionality. This warranty shall not apply when: the product has been used for commercial or rental purposes; defects in materials or workmanship or damages result from repairs or alterations which have been made or attempted by others or the unauthorized use of nonconforming parts; this damage is due to abuse, improper maintenance, neglect or accident; or the damage is due to use of the product after partial failure or use with improper accessories. Warranty does not apply to accessory items. Seller will not be liable for: labor charges, loss or damage resulting from improper operation, maintenance or repairs made by persons other than a Star Asia-USA, LLC Authorized Service Center. The use of other than genuine Star Asia-USA, LLC repair parts will void warranty.

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