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# OBDII Engine Code Reader / Diagnostic Tool

TECHNICIAN



## User Manual

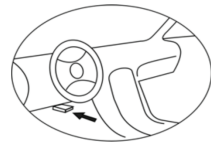
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## OVERVIEW:

A great way to accurately identify car problems and avoid unnecessary or costly maintenance. This handy diagnostic tool plugs into the OBDII port of your car and displays the data from the engine system directly on the backlit 2.4" colour LCD screen. See engine performance real-time, quickly read and clear engine Diagnostic Trouble Codes (DTC), turn off MIL light, perform an electric cranking or charging test, check state emission monitor status, drive cycle verification, and much more. Works with most OBD2 compliant cars, SUVs and light duty vehicles sold worldwide since 1996.

### Location of the Data Link Connector (DLC)

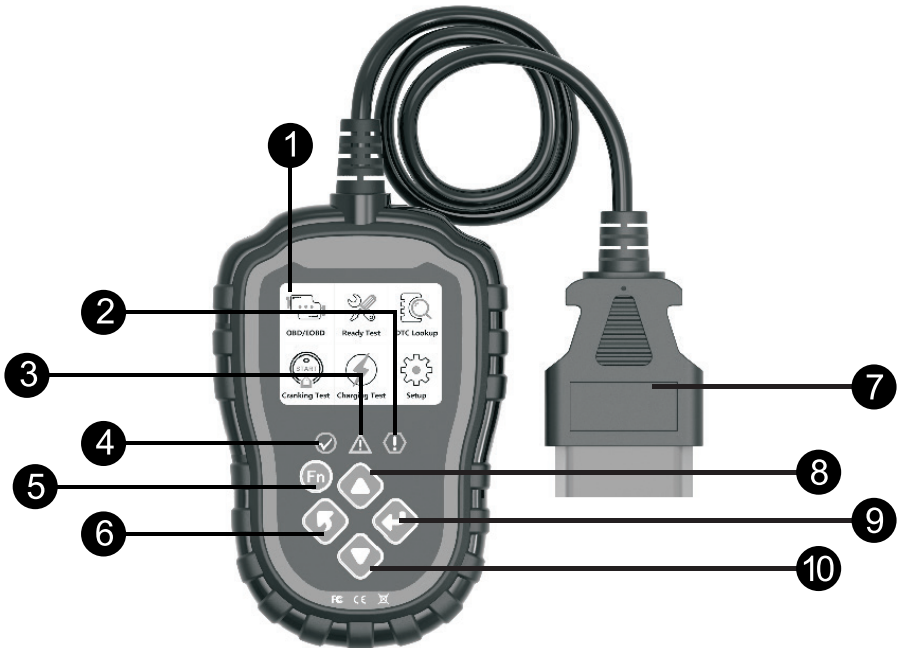
The DLC is usually located 30 cm (12") from the centre of the instrumental panel (dash), above or around the driver's knees for most vehicles.



## PRODUCT SPECIFICATIONS:

Operating Voltage:	8V ~ 25V
Operating Current:	52mA
Operating Temperature:	-20°C ~ 70°C (-4°F ~ 158°F)
Storage Temperature:	-30°C ~ 80°C (-22°F ~ 176°F)
LCD Screen:	2.4" TFT Colour Screen
Dimensions:	132 (L) x 85 (W) x 22 (H) mm
Support Data Stream Type:	249
Fault Code Analysis Number:	16929

## PRODUCT OVERVIEW:



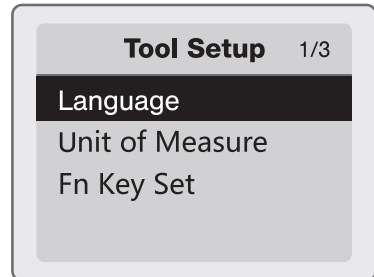
<b>1</b>	LCD Display
<b>2</b>	Red LED: indicates a problem from the engine. The “MIL” (Malfunction Indicator Light) may be on.
<b>3</b>	Yellow LED: indicates a possible problem. Some diagnostics could not be performed and/or a DTC is pending.
<b>4</b>	Green LED: indicates correct engine operation. No diagnostic trouble codes.
<b>5</b>	Fn Button
<b>6</b>	Back or Exit Button
<b>7</b>	OBDII Connector
<b>8</b>	Up Button
<b>9</b>	Enter Button
<b>10</b>	Down Button

## PRODUCT FEATURES:

1. Dual-system diagnostic, optional engine and transmission.
2. Quickly indicate engine fault codes, with green / yellow / red LED indicators as fault lights.
3. To read or clear engine fault codes, 16929 diagnostic trouble code definitions can be inquired.
4. Dynamic display of sensor data stream information, supporting 249 types of sensors.
5. View freeze frame data and I/M status information.
6. Read vehicle information: vehicle identification number (VIN), calibration identification number (CIN), calibration verification number (CVN).
7. Test cranking and charging system of the vehicle.
8. Multi-language support.

## TOOL SETUP:

1. **Language:**  
The factory default in English, other languages can be selected manually.
2. **Unit of Measure:**  
Supports metric and imperial units. Factory default is metric.
3. **Fn Key Set:**  
Set up Fn key as one-click quick test among "Usual Datastream", "All Datastream", "I/M Readiness", "Read Codes".



## DIAGNOSTICS:

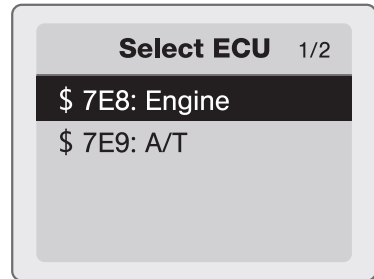
### Dual-system Selection

Start the car's engine and plug the OBDII connector into the car's OBDII interface.

Enter the main interface, click the Enter key to start scanning the vehicle's (DLC) system, if only a single (engine) system is detected it will automatically provide options for the engine system.

If dual-systems are detected, it will allow you to select which system to diagnose.

1. \$7E8: Engine - Engine System
2. \$7E9: A/T - Transmission system



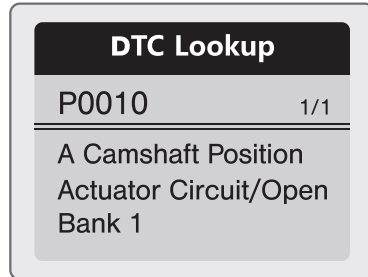
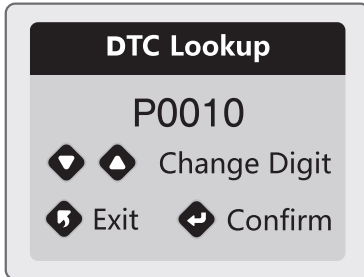
### Diagnostic Menu

1. **Read codes:** Read the Diagnostic Trouble Code (DTC) in the engine or transmission system and display the standard definition.
2. **Erase Codes:** Clear all DTCs in the system.
3. **Data Stream:** Read and display all supported sensor data, up to 249 type of sensor.
4. **Freeze Frame:** The freeze frame data records the vehicle operating status information (fault code, vehicle speed, water temperature, etc.) at the moment when an emission-related fault occurs.
5. **I/M Readiness:** I/M Readiness function is used to check the operations of the Emission System on OBDII compliant vehicles. Some latest vehicle models may support two types of I/M Readiness tests:
  - A. **Since DTCs Cleared** - indicates status of the monitors since the DTCs are erased.
  - B. **This Drive Cycle** - indicates status of monitors since the beginning of the current drive cycle.
    - "OK" : completed diagnostic testing
    - "INC" : diagnostic testing is incomplete
    - "N/A" : not supported
6. **Vehicle Information:** Review vehicle identification number (VIN) / calibration identification number (CIN) / calibration verification number (CVN)

## DTC LOOKUP:

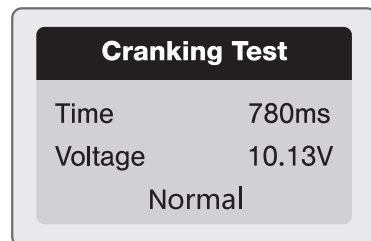
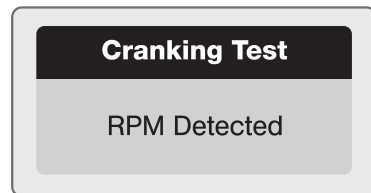
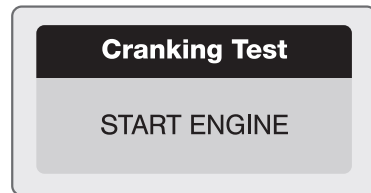
There are 16929 DTC definitions in the database, input DTC and press Enter key.

Displays detailed fault code definition for maintenance reference.



## CRANKING SYSTEM TEST:

1. Select "Cranking Test" and press the Enter key to start.
2. Start the engine when prompted, the tester will automatically complete the cranking test and display the result.
3. When the RPM is detected this will be displayed on the screen.
4. Normally a cranking voltage value lower than 9.6V is regarded as abnormal.
5. The test results will include actual cranking voltage and actual cranking duration.
6. This is for the convenience of the maintenance personnel to quickly know the whole state of the cranking system according to data.



## CHARGING SYSTEM TEST:

1. Select "Charging Test" and press enter key to start.

**Note:** Do not shut down the engine during this test. Follow the steps according to the screen instructions.

2. After the test has finished, the tester displays the loaded and unloaded charging voltages, ripple voltage and charging test result.

**Note:** "NO OUTPUT" means there is no output coming from the Charging system. The vehicle will stop working when the battery is exhausted. Please check the alternator or contact the maintenance service centre immediately.

### Ripple Test

Turn off headlights and air conditioner, keep 10 seconds.  
Press ENTER continue

### Unloaded Test

Turn off all devices, increase RPM to 2500-3000r/min and keep 10 seconds  
Press ENTER continue

### loaded Test

Turn on headlights and air conditioner to the maximum, keep RPM idle for 10 seconds  
Press ENTER continue

### Charging Test

Unloaded	14.39V
Loaded	14.16V
Ripple	15mV
Normal	