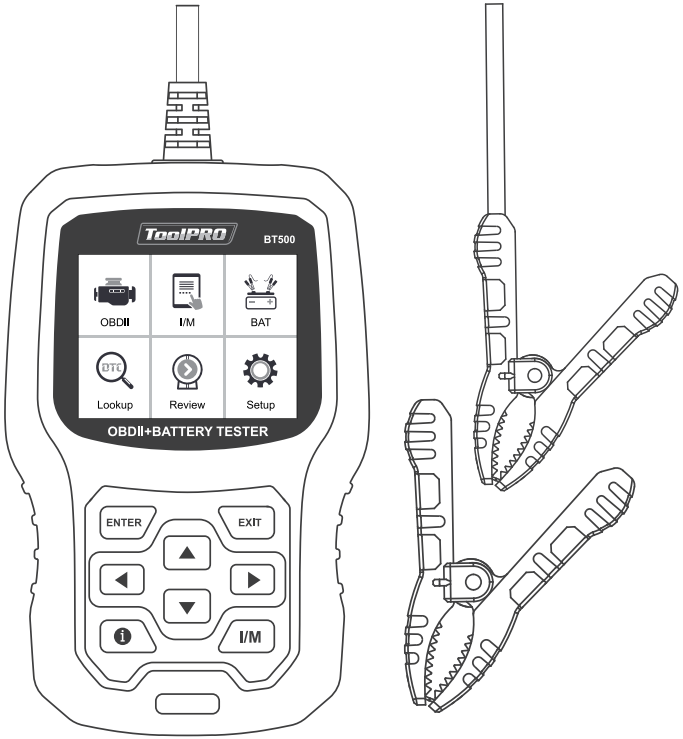
ToolPRO

PLU: 642358
Code: BT500
Manufactured and packaged for
SRGS PTY. LTD.
ABN 23 113 230 050
6 Coulthards Avenue, Strathpine,
Queensland 4500, Australia.
COUNTRY OF MANUFACTURE.

ToolPRO

3 YEAR WARRANTY



BT500

USER'S MANUAL

AUTO DIAGNOSTIC SCANNER
& BATTERY TESTER

1. Safety Precautions and Warnings

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

- Turn the ignition off first,then connect 16-pin to plug,then turn the ignition on.
- Always perform automotive testing in a safe environment.
- Do not attempt to operate or observe the tool while driving a vehicle. Operating or observing the tool will cause driver distraction and could cause a fatal accident.
- Wear safety eye protection that meets AS standards.
- Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts.
- Operate the vehicle in a well ventilated place: Exhaust gases are Poisonous.
- Put blocks in front of the drive wheels and never leave the vehicle unattended while running tests.
- Use extreme caution when working around the ignition coil, distributor cap, ignition wires and spark plugs. These components create hazard ous voltages when the engine is running.
- Put the transmission in PARK (for automatic transmission) or NEUTRAL (for manual transmission) and make sure the parking brake is engaged.
- Keep a fire extinguisher suitable for gasoline/chemical/electrical fires nearby.
- Keep the scan tool dry, clean, free from oil/water or grease. Use a mild detergent on a clean cloth to clean the outside of the scan tool, when needed.

2. General Information

2.1 On-Board Diagnostics (OBD) II

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

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

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

2.2 Diagnostic Trouble Codes (DTCs)

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

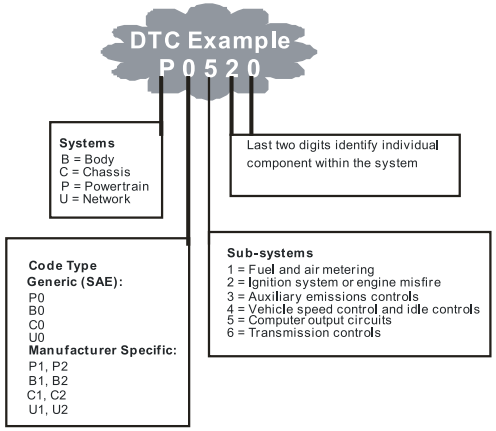


Figure 1-2: Explanation of a diagnostic trouble code.

2.3 Location of the Data Link Connector (DLC)

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

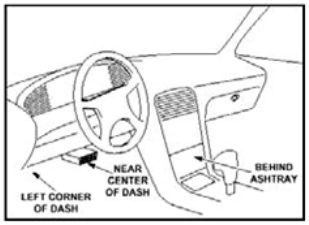
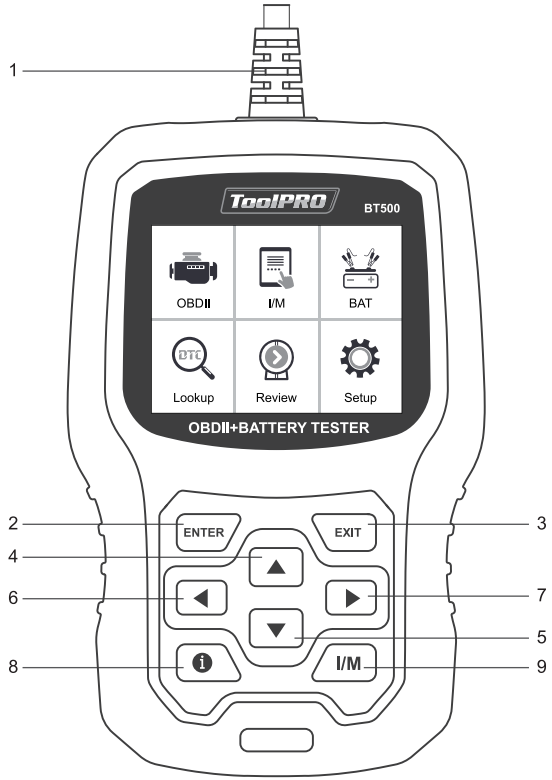


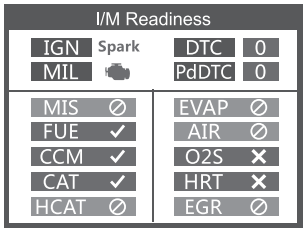
Figure 1-3: The DLC connector (left) can be found in the area of the car interior seen at right (black arrow).

3. Using the Scan Tool

3.1 Tool Description - ToolPRO BT500



1. OBDII Connector- Connect the tool to the vehicle's Data Link Connector(DLC).
2. ENTER BUTTON- Confirm a selection (or action) from a menu.
3. EXIT BUTTON- Cancel a selection (or action) from a menu or returns tothe menu.
4. [▲] UP BUTTON- Moves up through menu and submenu items in menu mode.
5. [▼] DOWN BUTTON- Moves down through menu and submenu items in menu mode.
6. [◀] LEFT BUTTON- When looking up datastream, if the datasttream display mor than one screen, or turn page up or down when more than one page is displated.
7. [▶] RIGHT BUTTON- When looking up datastream, if the datasttream display mor than one screen, or turn page up or down when more than one page is displated.
8. [ⓘ] HELP BUTTON- Provides help information, Press the help button will obtain more the fault code explanation.
9. "I/M" BUTTON- Quick State Emissions readiness check and drive cycle verification.



Remarks:

MIL Yellow- Dashboard MIL ON

MIL Gray-Dashboard MIL OFF

⊘ -not support

✓ -complete

✕ -not complete

3.2 Specifications

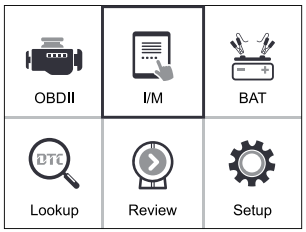
1) Display: 2.8" TFT true color
2) Operating Temperature: 0 to 50°C(32°F to 140 °F)
3) Storage Temperature: -20 to 70°C(-4°Fto 158 °F)
4) External Power: 6 to 36V power provided via vehicle battei
5) Dimensions: 155.30 x 97.60 x 31.80 mm

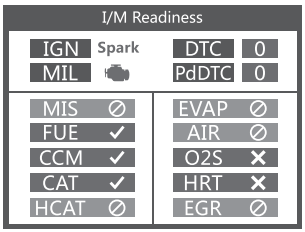
3.3 Accessories Included

1) User's Manual - Instructions on tool operations.
2) USB cable - Used to upgrade the scan tool.
3) Alligator clamp cable - Used for battery detection.

3.4 I/M

A snapshot of the emission systems operations for all OBD II vehicles - i.e., misfire monitor, evap systems monitor and more. Choose [I/M] and it displays as follow:



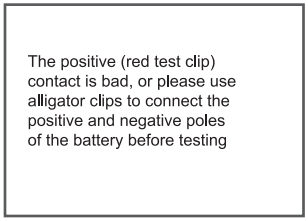


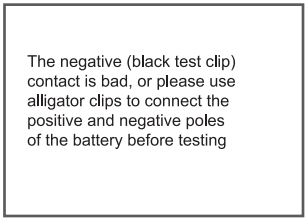
3.5 BAT

Preparations before the Test
If you are testing in the vehicle, make sure all accessory loads are off, the key is not in the ignition, and the doors are closed.

Connecting the Tester

1) Connect the red clamp to the positive (+) terminal and the black clamp to the negative (-) terminal.
2) Fora proper connection, rock the clamps back and forth. The tester requires that both sides of each clamp be firmly connected before testing. A poor connection will produce pictures as below:



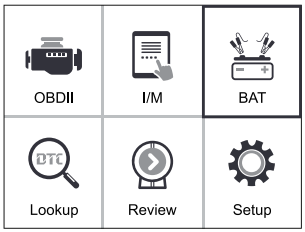


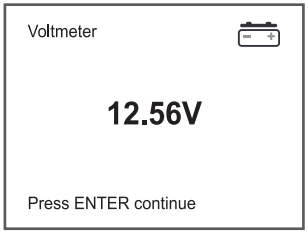
Clean the terminals and reconnect the clamps.

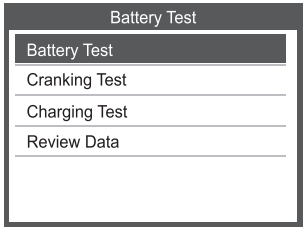
3) The preferred test position is at the battery terminals. If the battery is not accessible, you may test at the jumper post; however, the available power measurement may be lower than the actual value.

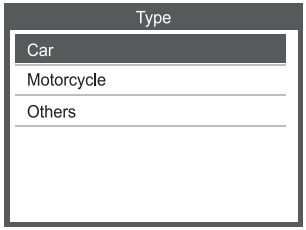
1. Battery Test

From the Main menu, use the LEFT/ RIGHT scroll button to select the BAT menu and press the ENTER button. The screen will display the interface as shown below:







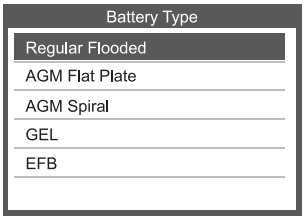


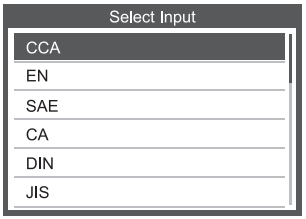
Battery Type:Scroll to and select Regular Flooded,AGM Flat Plate, AGM Spiral, GEL or EFB where applicable.

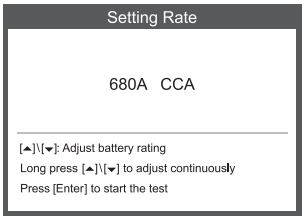
Battery Standard:Scroll to and select the battery's rating system.Not all rating systems are available for each application.

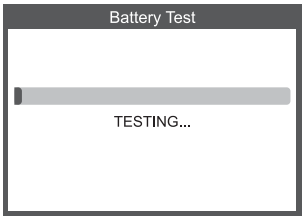
Standard	Description	Range
CCA	Cold Cranking Amps,as specified by SAE.The most common rating for cranking batteries at 0℉ (-17.8℃)	100-2000
DIN	Deutsche Industrie-Norm	100-1200
JIS	Japanese Industrial Standard,shown on a battery as a combination of numbers and letters.	26A17 thru 245H52
EN	Europa-Norm	100-2000
IEC	International Electrotechnical Commission	100-1200
SAE	Society of Automotive Engineers Standard	100-2000

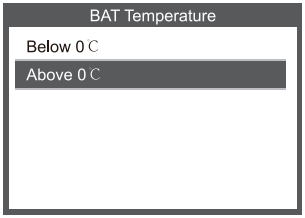
MCA	Marine Cranking Amps standard, effective starting current value at 0 ℃	100-2000
BCI	Battery Council International standard	100-2000
CA	Cranking Amps standard, effective starting current value at 0 ℃	100-2000
GB	China National Standard	30-220Ah

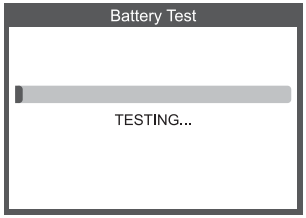


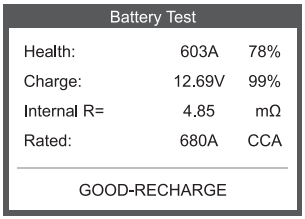












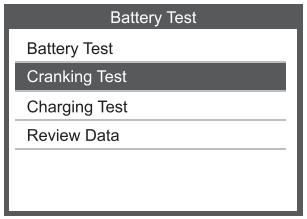
Battery Test Results

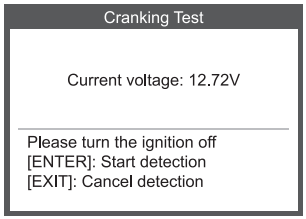
Decision	Interpretation
GOOD BATTERY	Return the battery to use
GOOD-RECHARGE	Fully charge the battery and return it to use
CHARGE&RETEST	Fully charge the battery and retest.Failure to fully charge the battery before retesting may cause inaccurate result.If CHARGE&RETEST appears again after you fully charge the battery,replace the battery.

REPLACE BATTERY	Replace the battery and retest.A REPLACE BATTERY result may also mean a poor connection between the battery cables and the battery.After disconnecting the battery cables,retest the battery using the out-of-vehicle test before replacing it.
BAD CELL-REPLACE	Replace the battery and retest.

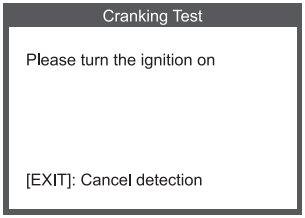
Note: In the battery test, select the corresponding data according to the actual situation of the battery, and finally get the health status of the battery.
When selecting the battery current size, press the [▲] button once to adjust the 5A current upward, and press the [▼] button once to adjust the 5A current downward. You can adjust the current according to the actual situation of the battery.

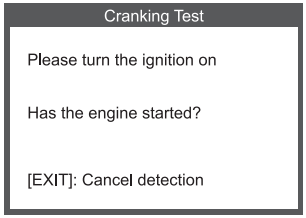
2. Cranking Test
The function is used to read real time battery voltage.

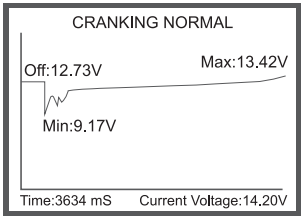




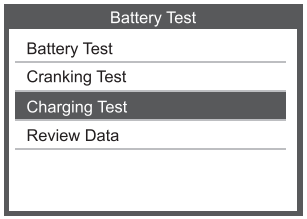
When press [ENTER] button and Start detection, it's display interface:

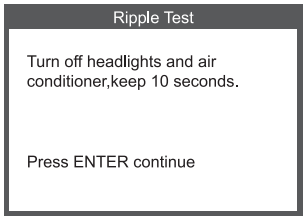


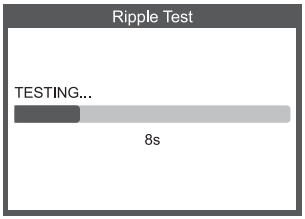


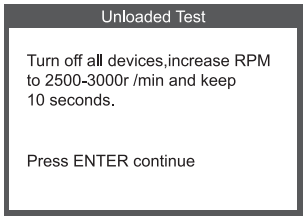


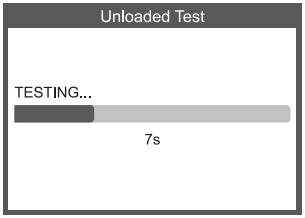
3. Charging Test
Press Charging Test and it displays as follows:

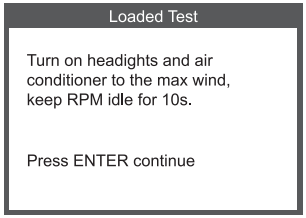


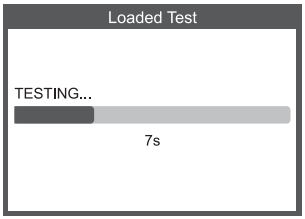


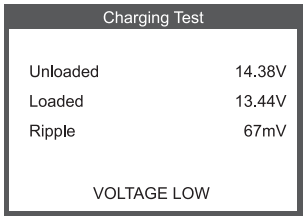






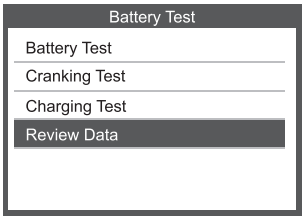


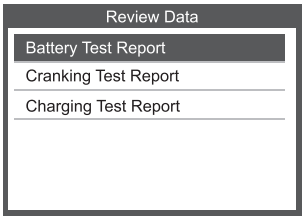


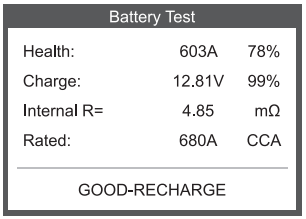


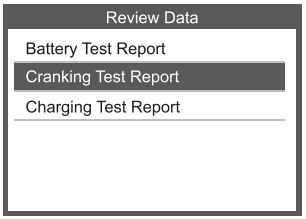
4. Review Data

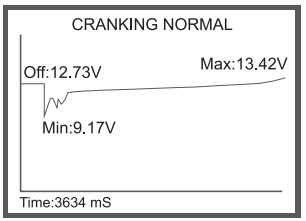
Press review data, the data of the last Battery Test will be displayed, as follows:

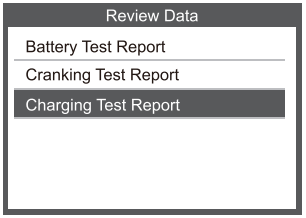


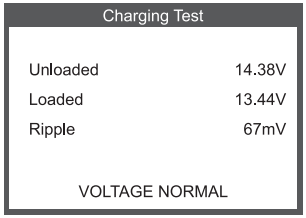






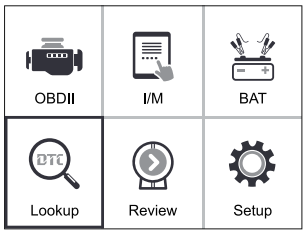


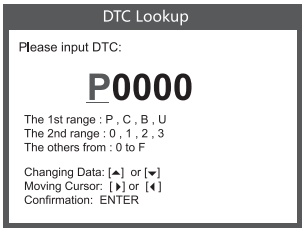




3.6 DTC Lookup

The DTC Lookup function is used to search for definitions of Code stored in the built-in Code library.
1) From the Main Menu, use the [▼] button to select the Code Lookup and press the ENTER button.





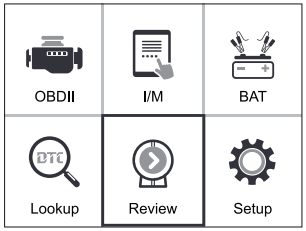
For manufacturer specific codes , you'll need to select a vehicle make on an additional screen to look for DTC definitions.

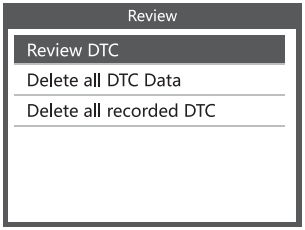
If definition could not be found (SAE or Manufacturer Specific), the scan tool displays "DTC definition not found! Please refer to vehicle service"manual!"

2) To exit to the Main Menu, press the EXIT button.

3.7 Review

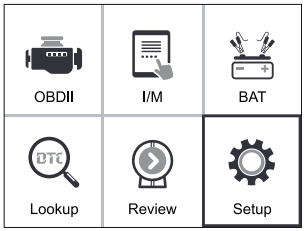
This function is used to review the recorded DTC. Select Review in the Main Menu and press Enter and the screen will display the interface as shown below:



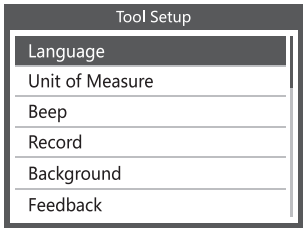


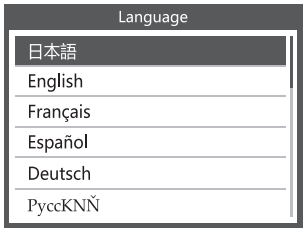
3.8 Tool Setup

The scan tool allows you to make the following adjustments and settings:
1) Select Language: Select the desired language.
2) Unit of Measure: Set measure to English or Metric.
3) Beep Set: Turns ON/OFF beep.
4) Record: ON/OFF the Record.
5) Background: Night mode/Day mode.
6) Feedback
7) Tool information

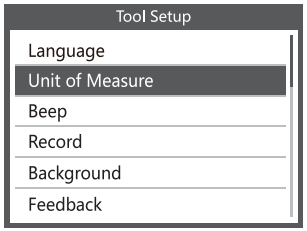


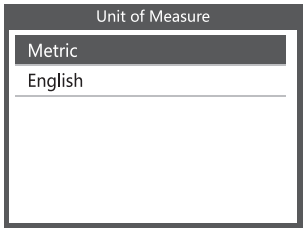
Choose [Language] and it displays as follows:



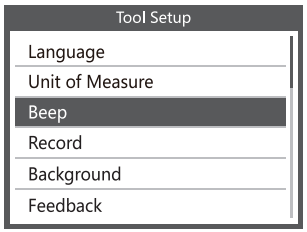


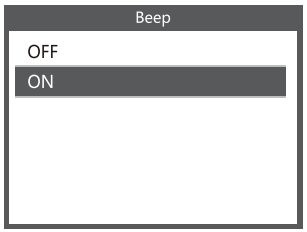
Choose [Unit of Measure] and it displays as follows:



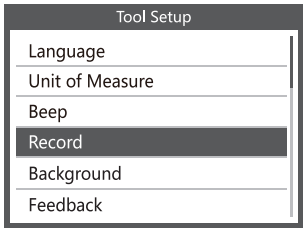


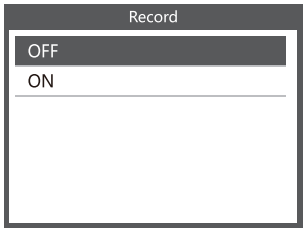
Choose [Beep] and it displays as follows:



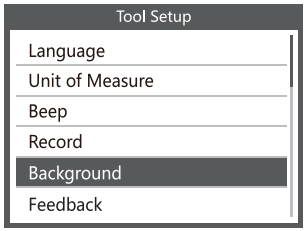


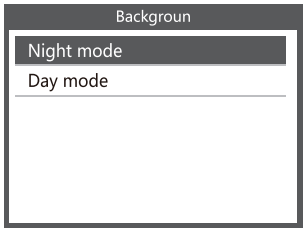
Choose [Record] and it displays as follows:



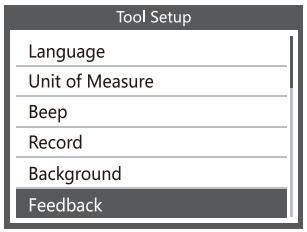


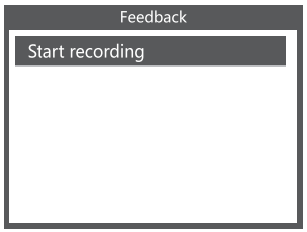
Background: choose different background colors according to different times.



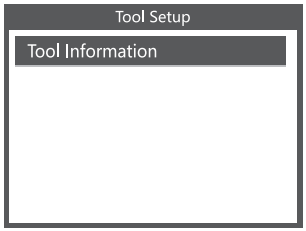


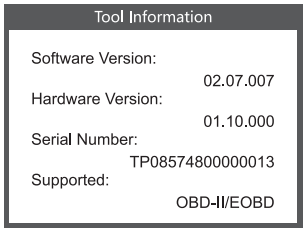
Choose [feedback] and then choose [Start recording], you can send us the feedback documents to help solve your after-sales problems.





Choose [Tool information] and it displays as follows:

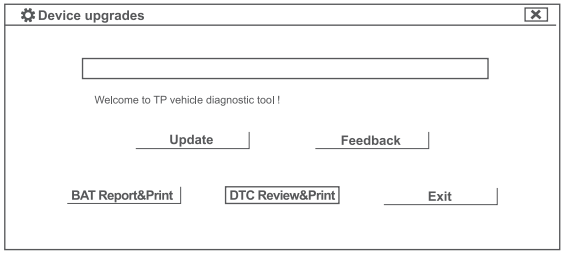


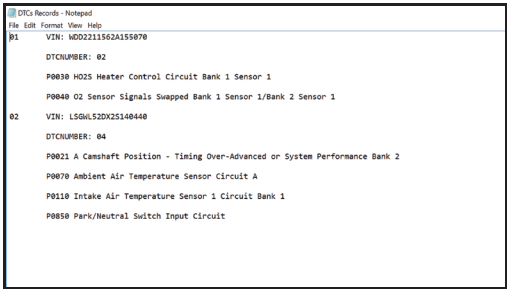


3.9 Review&Print diagnostic reports

1. Download upgrade file from AUTOPHIX website.
2. The device is connected with computer through USB cable.
3. Open the "update" application.

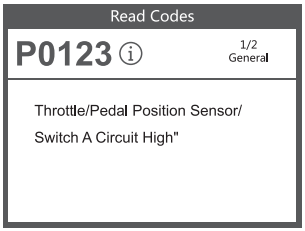
4. Click "DTC Review & print" and automatically generate diagnostic reports.



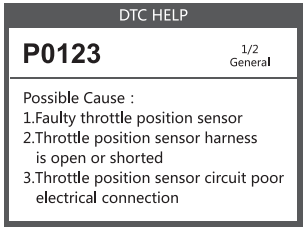


3.10 Help Function

1. When the device read the fault codes, the screen will display the codes as shown below



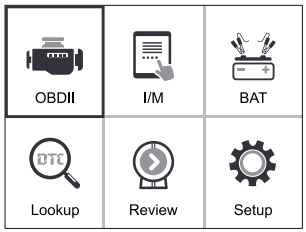
if users view the help icon picture in the menu, please press the help function key , it can read more about the codes information, and why this fault codes occurred, the screen will display the help information as shown below:

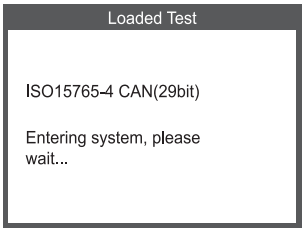


4. OBD II Diagnostics

CAUTION: Don't connect or disconnect any test equipment with ignition on or engine running.

1) Turn the ignition off.
2) Locate the vehicle's 16-pin Data Link Connector (DLC).
3) Plug the scan tool cable connector into the vehicle's DLC.
4) Turn the ignition on. Engine can be off or running.
5) Press ENTER to enter Main Menu . UP /DOWN button to select "OBDII" from the menu.





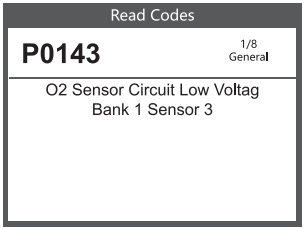
6) Press ENTER to confirm.

If "LINKING ERROR!" message shows on the display.

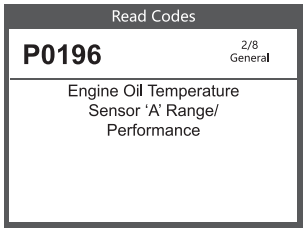
- Verily that the ignition is ON;
- Check if the scan tool's OBD II connector is securely connected to the vehicle's DLC;
- Turn the ignition 'off' and wait for about 10 seconds. Turn the ignition back to 'on' and repeat the procedure from step 5.

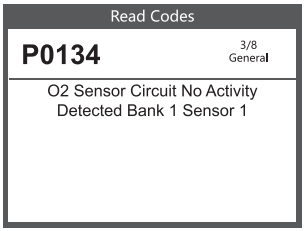
4.1 Read Codes

1) Select Read Codes and press ENTER in Diagnostic Menu. If there are some codes, these pictures of fault codes are displayed:



2) Press the [▲] and [▼] buttons to view other fault codes.

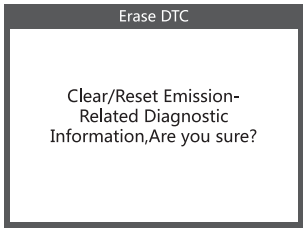


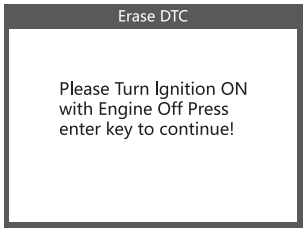


3) After viewing all the codes, you can press EXIT to return to the previous menu.

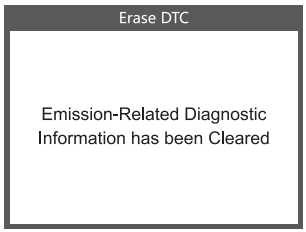
4.2 Erase Codes

1) Select Erase Codes, the screen will display the interface as shown below. Press ENTER to erase DTC's, and the screen will display the interface as shown below:





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

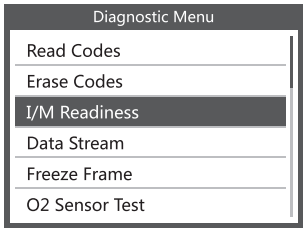


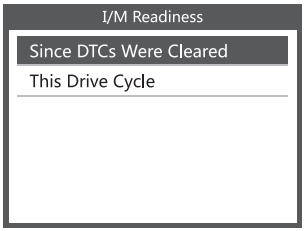
Notes:

- Before performing this function, make sure to retrieve and record the trouble codes.
- After clearing, you should retrieve trouble codes once more or turn ignition on and retrieve codes again. If there are still some trouble codes in the system, please troubleshoot the codes using a factory diagnosis guide, then clear the codes and recheck.

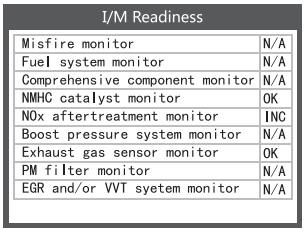
4.3 I/M Readines

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





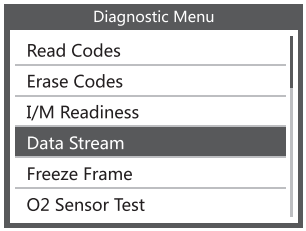
I/M readiness is to test Misfire / Fuel system / Com prehensive component, You can use [▲] or [▼] button to select and press ENTER, shown as follow:

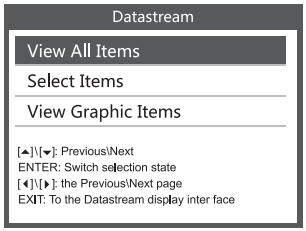


N/A means not available on this vehicle, INC means incomplete or not ready, OK means Completed or Monitor Ok.

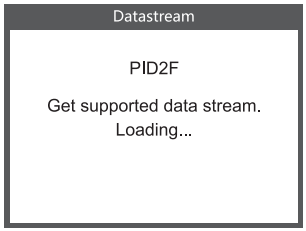
4.4 Data Stream

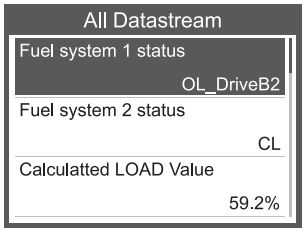
Press [▲] or [▼] button to select Data Stream in Main Menu interface and then press ENTER button to con firm, the screen will display the interface as shown below:



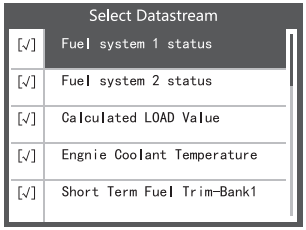


Select [View All Items] and press ENTER button, the screen will display the interface as shown below:

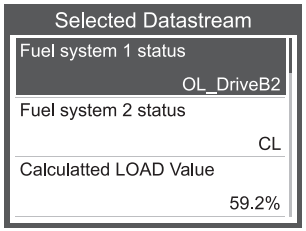




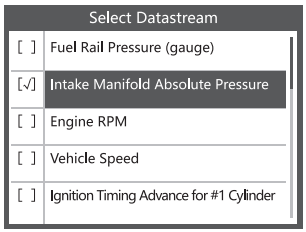
Choose [select items] and press enter button. After that, press enter button again, shown as follow:



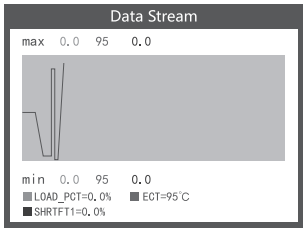
After selected items and press exit, the screen will display as follow:



Press ENTER to select [View Graphic Items] in Data stream menu, after selected items, the screen will display the interface as shown below:



Press EXIT to return to display :



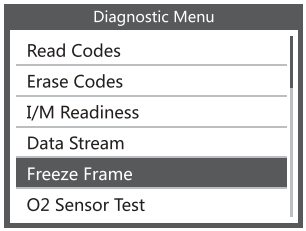
Max lines are 3.
Press EXIT to return to previous menu.
You can view all data stream items or select a certain item of live data with a graph.

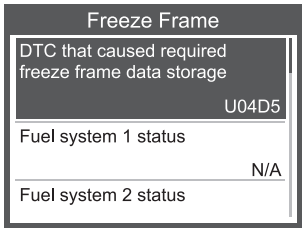
4.5 View Freeze Frame

When an emission-related fault occurs, a snapshot of current vehicle parameter are recorded by the ECU.

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

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





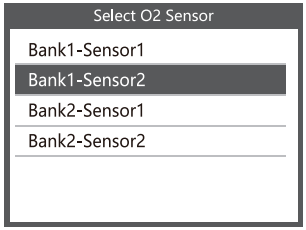
You can use [▲]/[▼] button to view the data. Press EXIT to reum to Diagnostic Menu.

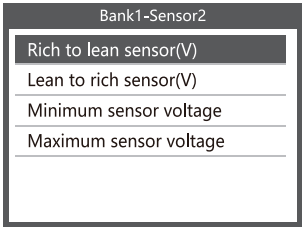
4.6 O2 sensor test

OBD II regulations set by the SAE require that relevant vehicles monitor and test the oxygen (O2) sensors to identify problems related to fuel efficiency and vehicle emissions. These tests are not on-demand tests and they are done automatically when engine operating conditions are within specified limits. These test results are saved in the on-board computer's memory.
The O2 Sensor Test function allows retrieval and viewing of O2 sensor monitor test results for the most recently performed tests from the vehicle's on-board computer.
The O2 Sensor Test function is not supported by vehicles which communicate using a controller area network (CAN). For O2 Sensor Test results of CAN-equipped vehicles, see chapter "On-Board Mon. Test".

Select 02 Sensor Test in Diagnostic menu and press ENTER and the Screen will display as shown below.

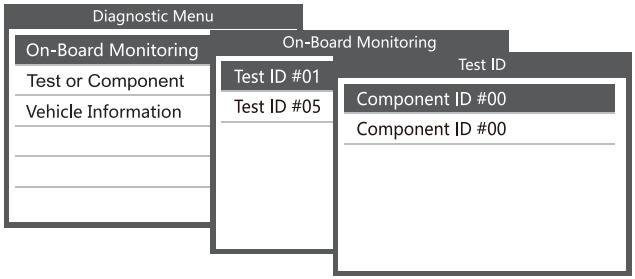
Press ENTER button, the screen will display as shown below (Data will be different every time):



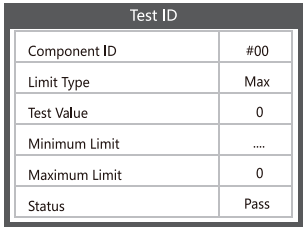


4.7 On-board monitor test

This function can be utilized to read the results of on-board diagnostic monitoring . Tests for specific components/systems.
Select On-board Monitoring in Diagnostic Menu and press ENTER and the screen will display as shown below (Data will be different every time):



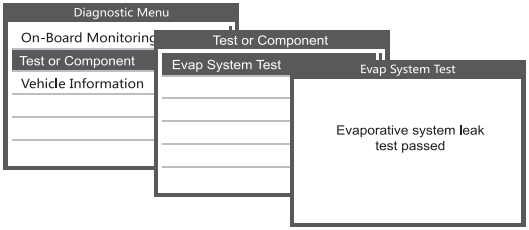
You can use [▲] / [▼] button to select an item and press ENTER, the screen will display as shown below (Data will be different every time):



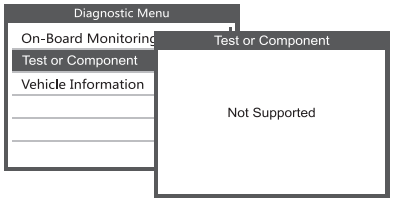
Press EXIT to return to Diagnostic Menu.

4.8 Test or Component (Evap System Test)

The EVAP test function lets you initiate a leak test for the vehicle's EVAP system. The device does not perform the leak test, but signals to vehicle's on-board Computer to initiate the test. Before using the system test function, refer To The vehicle's service repair manual to determine the procedures necessary to stop the test.
Select EVAP System Test and press ENTER, the screen will display the relative information about EVAP system. Some vehicle manufacturers do not allow External devices to control vehicle system. If the car supports this function, it will display as below:

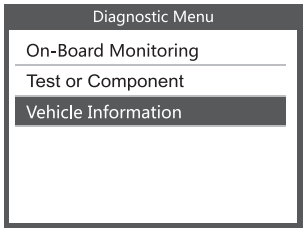


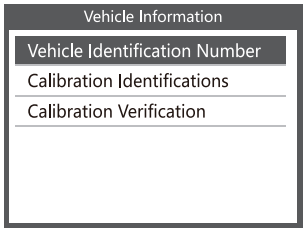
If the car not supported the function ,it will display as below:



4.9 Vehicle Info

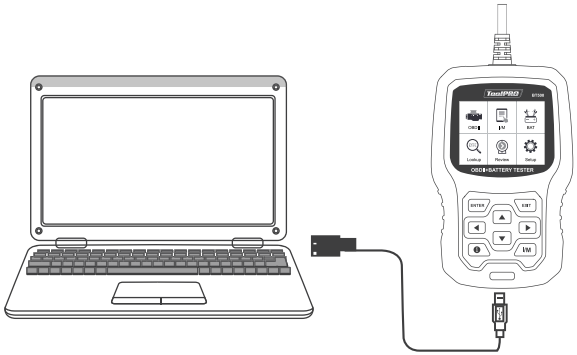
Select [Vehicle Info] and press ENTER, the screen will display the information, such as VIN (Vehicle identification Number), CID (Calibration ID) and CVN (Calibration verification number), as shown below (different cars will shown different data):





Press EXIT to return to Diagnostic Menu.

5. Update

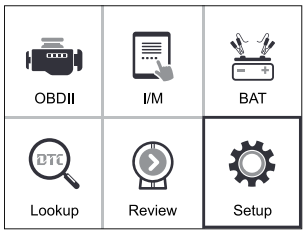


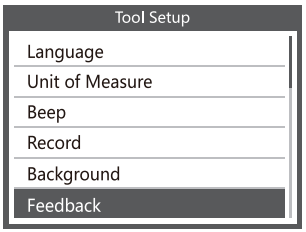
1. Please connect device and computer with USB cable before upgrading.
2. The update software is only supported by windows 7/8/10. (Win8/10 can run update software directly, only windows 7 need to install the driver.)
3. Click "install driver.bat" in the driver file to install the driver.

6. Feedback

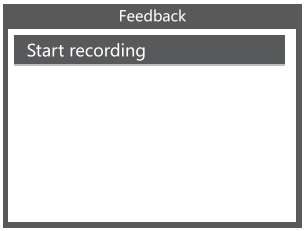
1. When the [OBDII] function shows connected error with vehicle, please using the feedback function.

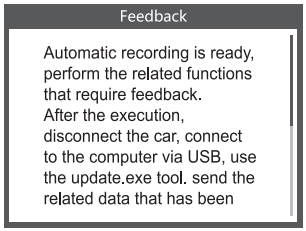
Choose [Feedback] and it displays as follow:

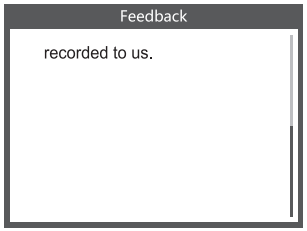




Choose [Start recording] to open record function and it displays as follow:



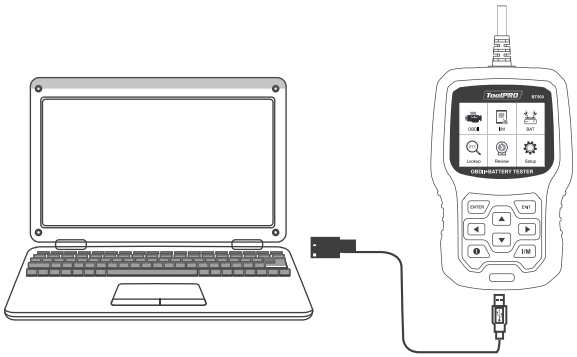




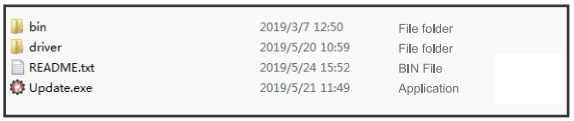
Next: Press EXIT Button and return to the main menu.
Choose [OBDII] menu to detecting again and it will record the data.

2. Transfer data to your computer and generate feedback file.
Download upgrade file on the computer from AUTOPHIX website.

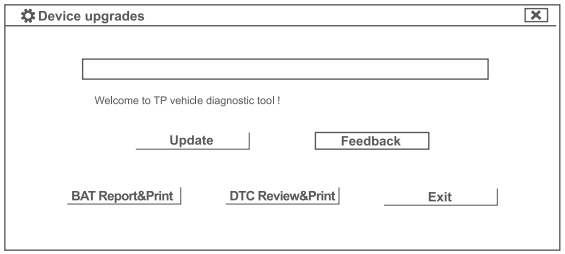
The device is connected with computer through USB cable.



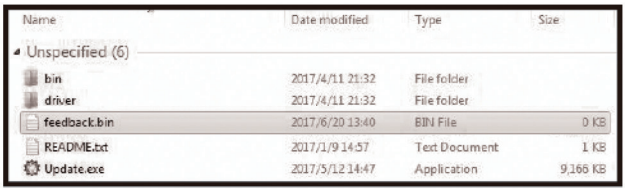
Choose "Update" file and it displays as follow:



Click Teed back" and it displays as follow:



Please send the feedback.bin file to support@autophix.com.



Note: The above results are examples; please refer to the actual test vehicle for real results.

Our product is guaranteed to be free from quality and manufacturing defects for a period of 3 year warranty statement.

If your product becomes defective during this period, SRGS PTY LTD will offer you either a replacement, credit or refund where a product is faulty; wrongly described; different from the sample shown to you or do not do what they are supposed to do.

This warranty will not cover substantially modified product; misuse or abuse of the product contrary to user instructions or packaging label; change of mind and normal wear and tear.

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

To claim the warranty, take the product to the front Service Desk of your nearest store of purchase. You will need to show receipt or other proof of purchase. Additional information may be required to process your claim. Should you not be able to provide proof of purchase with a receipt or bank statement, identification showing name, address and signature may be required to process your claim.

Any expenses relating to the return of your product to the store will normally have to be paid by you. For online store purchases, SRGS PTY LTD will pay for the return freight for any product assessed as having a major failure.

The benefits to the customer given by this warranty are in addition to other rights and remedies of the Australian Consumer Law in relation to the goods or services to which this warranty relates.

This warranty is provided by SRGS PTY LTD, 6 Coulthards Avenue, Strathpine QLD 4500, Australia. Phone: 1300 175 010.