

Search Bluetooth: Tap to search for the available VCI dongle.

\* Note: Bluetooth connection is not required to run the DEMO program.

OK: Tap it to go to next step.

2). Select test vehicle (varies with different versions): Select the desired vehicle (take "TOYOTA" for example) to continue.



3). Confirm the vehicle information: Double check if the vehicle information is correct or not. If Yes, tap "Diagnostic" to go to the next step.

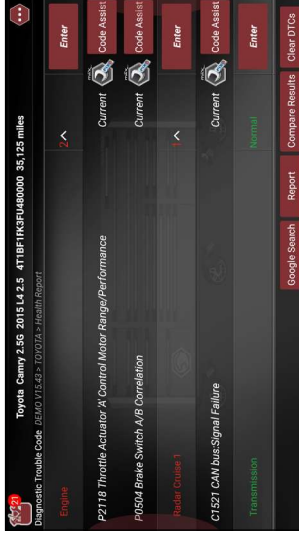


4). Select test item: Select the desired test item to proceed.



### 5.3.2.1 Health Report (Quick Test)

This function varies from vehicle to vehicle. It enables you to quickly access all the electronic control units of the vehicle and generate a detailed report about vehicle health. Tap "Health Report" on the test item selection screen to scan the vehicle control modules. When scanning is complete, the following screen appears.



The systems with fault code are displayed in red and systems functioning normally are displayed in white.

**On-screen Buttons:**

- Tap to view detailed Diagnostic Trouble Codes (DTCs) information. Tap to hide it.

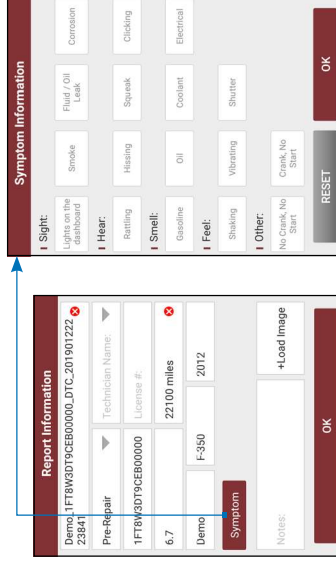
\*Note: Diagnostic Trouble Codes or Fault Codes can be used to identify which engine systems or components that are malfunctioning. Never replace a part based only on the DTC definition. Retrieving and using DTCs for troubleshooting vehicle operation is only one part of an overall diagnostic strategy. Follow testing procedures (in vehicle's service manual), instructions and flowcharts to confirm the locations of the problem.

- Tap to retrieve it and find possible cause & verified solution from the Maximus Fix (sold separately).
- Code\_Assist: Tap to check more details on the current DTC from the Maximus Code Assist (sold separately).

Google Search: Highlight the desired DTC, and tap it to search in the Google engine for more detailed information about the selected DTC.



Report: Tap to save it as a report of the current data in text format.



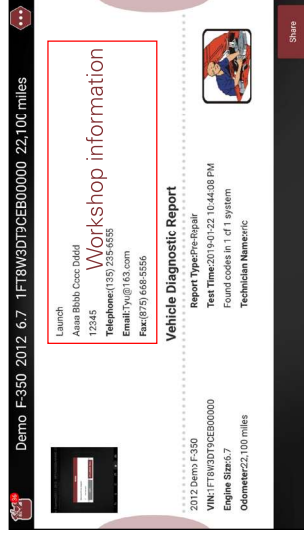
While filling the report information,

- Tap to choose the right report type from the pull-down list.

\*Note: Diagnostic report is classified into two categories: Pre-Repair report and Post-Repair report.

To facilitate the comparison of the pre-repair and post-repair reports and get accurate test result, please make sure you saved the right type of the diagnostic report.

- In Technician Name field, input the technician name (\*if you have entered the technician name before, tap ▼ directly to select it from the pull-down list).
  - Tap "Symptom," select the fault symptom information from the list and tap "OK" to confirm.
  - In Notes text box, write down more description about the diagnostic trouble codes.
  - To make the fault symptom more intuitive, you may also tap "Load Image" to take a photo or upload a local photo.
- After filling it, tap "OK" to save it as a diagnostic report and navigate to the report details page.



\*Note: By default, the workshop information is blank. You can configure and revise it from the "Shop Information" in "Toolbox" -> "Settings".

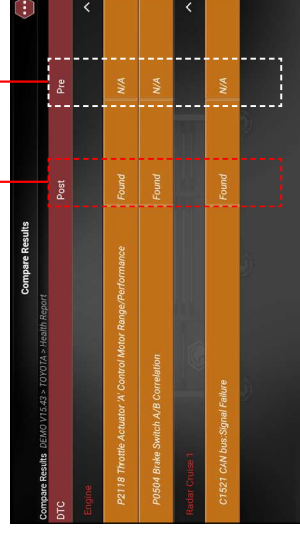
Once you configured the information, it will be automatically generated every time the diagnostic report is saved. All vehicle and workshop information will be appended as a tag on the diagnostic report, which allows you to easily retrieve the desired report while performing "Filter" function of Diagnostic Report.

On the report details page, tap "Share" to share it to others. All diagnostic reports can be accessed from "Toolbox" -> "Saved Reports" -> "Health Report".

**Compare Results:** After you have made some repairs based on the pre-repair diagnostic report and re-diagnose the vehicle, tap "Compare Result" to select the pre-repair report to compare. By comparison of the pre- and post-repair reports, you can easily identify which DTCs are cleared and which remain unfixed.

The DTC status of **post-repair**

The DTC status of **pre-repair**



\*Note: Before performing this function, please make sure that:  
 You have saved a pre-repair report of the currently tested vehicle,  
 and

You have already made some repairs and service and cleared the  
 DTCs after the pre-repair reported is generated. Otherwise, no  
 differences exist between the pre- and post-repair reports.

Clear DTC: Tap to clear the existing diagnostic trouble codes.

\*Note: Clearing DTCs does not fix the problem(s) that caused  
 the code(s) to be set. If proper repairs to correct the problem that  
 caused the code(s) to be set are not made, the code(s) will appear  
 again and the check engine light will illuminate as soon as the  
 problem that cause the DTC to set manifests itself.

### 5.3.2.2 System Scan

Use this option to quickly scan and identify which systems are  
 installed on the vehicle.

Tap “System Scan” on the test item selection screen to scan the  
 vehicle control modules. When scanning is complete, the following  
 screen appears.

System Name	Result
Engine	Equipped
Transmission	Equipped
ABS/ASC/Trac/EPB	Equipped
SRS Airbag	Equipped
Main Body	Equipped
Theft Deterrent	Equipped
Steering Angle Sensor	Equipped
Tire Pressure Monitor	Equipped

Tap the desired system to navigate to the test function selection  
 screen. For detailed operations on test function, please refer to  
 Chapter 5.3.2.3.

### 5.3.2.3 System Selection

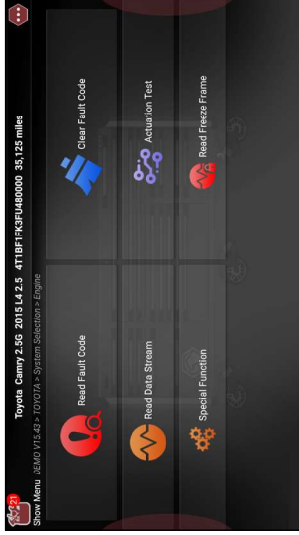
This option allows you manually select the test system and function  
 step by step.

Tap “System Selection” on the test item selection screen to enter the  
 following screen:

System	Function
Engine	Transmission
ABS/ASC/Trac/EPB	SRS Airbag
Main Body	Theft Deterrent
Steering Angle Sensor	Tire Pressure Monitor
Telematics	D-Door Motor
P-Door Motor	Combustion Meter

Swipe the screen from the bottom to view the vehicle system on the  
 next page.

Tap the desired system (take “Engine” for example) to jump to the  
 test function selection screen.

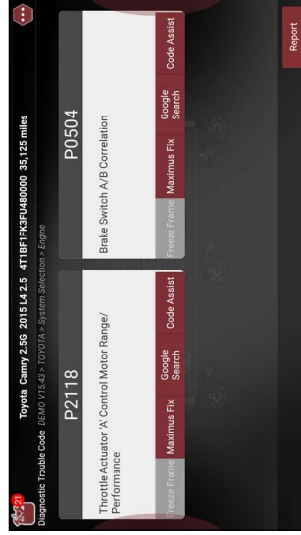


\*Note: Different vehicle has different diagnostic menus.

#### **A. Read Fault Code**

This function displays the detailed information of DTC records retrieved from the vehicle's control system.

On the test function selection screen, tap "Read Fault Code," the screen will display the diagnostic result.



On-screen Buttons:

**Freeze Frame:** When an emission-related fault occurs, certain vehicle conditions are recorded by the on-board computer. This information is referred to as freeze frame data. Freeze frame data includes a snapshot of critical parameter values at the time the DTC is set. If it is illuminated, tap it to view the freeze frame data.

**Maximus Fix:** Tap to retrieve it and find possible cause & verified solution from the Maximus Fix (sold separately).

**Google Search:** Highlight the desired DTC, and tap it to search in the Google engine for more detailed information about the selected DTC.

**Code Assist:** Tap to check more details on the current DTC from the Maximus Code Assist (sold separately).

**Report:** To save the current data in text format. All diagnostic reports can be accessed from "Toolbox" -> "Saved Reports" -> "Health Report".

\*Note: Retrieving and using DTCs for troubleshooting vehicle operation is only one part of an overall diagnostic strategy. Never replace a part based only on the DTC definition. Each DTC has a set of testing procedures, instructions and flow charts that must be followed to confirm the location of the problem. This information can be found in the vehicle's service manual.

#### **B. Clear Fault Code**

After reading the retrieved codes from the vehicle and certain repairs have been carried out, you can use this function to erase the codes from the vehicle. Before performing this function, please be sure the vehicle's ignition key is in the ON position with the engine off.

Clearing DTCs does not fix the problem(s) that caused the code(s) to be set. If proper repairs to correct the problem that caused the code(s) to be set are not made, the code(s) will appear again and the check engine light will illuminate as soon as the problem that cause the DTC to set manifests itself.

On the test function selection screen, tap "Clear Fault Code"; a confirmation dialog box pops up on the screen. Tap "Yes" and the system will automatically delete the currently existing trouble code.

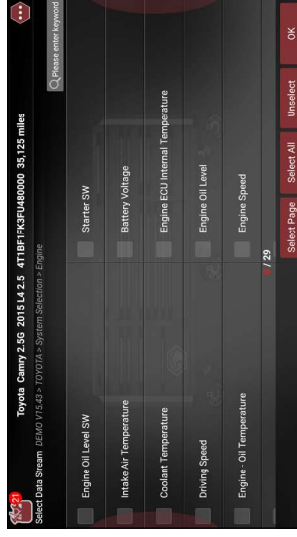
\*Note: After clearing, you should retrieve trouble codes once more or turn ignition on and retrieve codes again. If there are still some trouble codes in the system, please troubleshoot the code using a factory diagnosis guide, then clear the code and recheck.

### C. Read Data Stream

This option lets you view and capture (record) real-time Live Data. This data including current operating status for parameters and/or sensor information can provide insight on overall vehicle performance. It can also be used to guide vehicle repair.

\* DANGER: If you must drive the vehicle in order to perform a troubleshooting procedure, ALWAYS have a second person help you. Trying to drive and operate the diagnostic tool at the same time is dangerous, and could cause a serious traffic accident.

On the test function selection screen, tap "Read Data Stream"; the system will display data stream items.



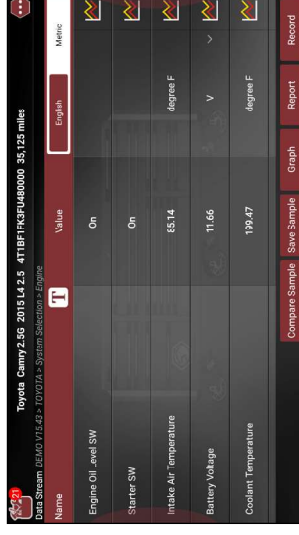
### On-screen Buttons:

**Select All:** Tap it to select all items of the current page. To select certain data stream item, just check the box before the item name.

**Unselect:** Tap it to deselect all data stream items.

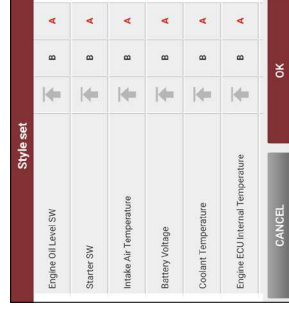
**OK:** Tap it to confirm and jump to the next step.

After selecting the desired items, tap "OK" to enter the data stream reading page.



\*Notes:

1. Tap **T** , the following popup will appear.



Here the user can set different display style for each selected item.

**T** indicates sticky top. If it is tapped, it will change into **T**. On the data stream display screen, the data stream item with **T** will be shown on the top of the selected data stream list. To remove it from the top of the list, just tap it again.

B indicates this item will be displayed in Bold.

A indicates this item will be displayed in Red.

2. Tap English or Metric to switch the measurement unit.

3. If the value of the data stream item is out of the range of the standard (reference) value, the whole line will display in red. If it complies with the reference value, it displays in blue (normal mode).

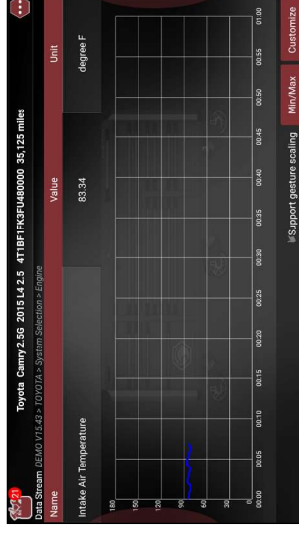
4. The indicator 1/X shown on the bottom of the screen stands for the current page/total page number. Swipe the screen from the right/left to advance/return to the next/previous page.

There are 3 types of display modes available for data viewing, allowing you to view various types of parameters in the most suitable way.

- Value – this is the default mode which displays the parameters in texts and shows in list format.
- Graph – displays the parameters in waveform graphs.
- Combine – this option is mostly used in graph merge status for data comparison. In this case, different items are marked in different colors.

#### On-screen Buttons:

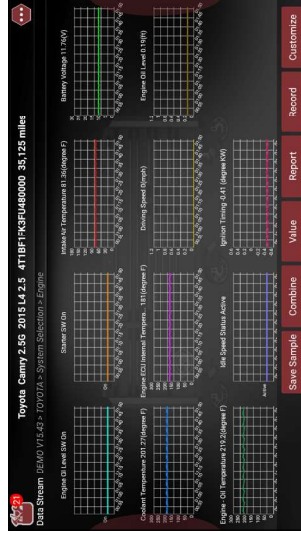
Tap it to view the waveform graph of the current data stream item.



- **Min/Max:** Tap “Min/Max” to define the maximum/minimum value. Once the value goes beyond the specified value, the system will alarm.
- **Customize:** If desired, you can customize to show only those PIDs you are interested in viewing. Tap “Customize” to add/change other data stream items.

\*Note: The real time (Live Data) vehicle operating information (values/status) that the on-board computer supplies to the tool for each sensor, actuator, switch, etc. is called Parameter Identification Data (IPD).

Graph: Tap it to view the waveform.

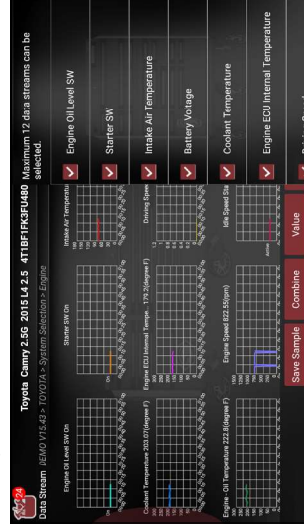


- Combine: This option is mostly used in graph merge status for data comparison.



- Value: Tap to display the parameters in texts.

- Customize: This option allows you to select only the PIDs that you wish to display. Tap it; a pull-down list of the data stream items appears on the screen. Select (Up to 12 data stream items can be selected)/deselect the desired items and then screen will display/remove the corresponding waveforms immediately.



Compare Sample: Tap it to select the sample DS file, the values you customized and saved in process of DS sampling will be imported into the "Standard Range" (See below) column for your comparison.

\*Note: Before executing this function, you have to sample the values of data stream items and save it as an sample DS file.



Name	Value	Standard Range(Sample)	Metric
Engine Oil Level SW	On	0 - 100	
Starter SW	On	0 - 100	
Intake Air Temperature	85.14	81.36 - 85.68	degree F
Battery Voltage	11.96	11.56 - 11.96	V
Coolant Temperature	203.07	199.47 - 206.67	degree F

**Save Sample:** This item enables you to customize the standard range of live data stream items and save it as DS sample file. Each time you run the data stream items, you can call out the corresponding sample data to overwrite the current standard range.

Tap it to start recording the sample data (\*Only data stream items with units will be recorded), and the screen displays as below:

Name	Value	Metric
Engine Oil Level SW	On	
Starter SW	On	
Intake Air Temperature	81.36	degree F
Battery Voltage	11.76	V
Coolant Temp.	201.27	degree F

Once recording is complete, tap to stop it and navigate to the data revision screen.

Name	Min Value	Max Value	Unit
A/T Oil Temperature (No.)	71.52	75.54	degree C
Atmospheric Pressure	101.12	101.92	kpa
Battery Temperature	61.52	63.54	degree C
Battery Voltage	11.56	11.96	V
Coolant Temperature	93.04	97.04	degree C

Tap the Min./Max. value to change it. After modifying all desired items, tap "Save" to save it as an sample DS file. All DS files are stored under the "Data Samples" file of "Save Report" in "Toolbox".

**Report:** To save the current data as a diagnostic report. All diagnostic reports can be accessed from "Toolbox" -> "Saved Reports" -> "Health Report".

**Record:** Tap to start recording diagnostic data. Recorded live data can serve as valuable information to help you in troubleshooting of vehicle problems. All diagnostic records can be replayed from "Toolbox" -> "Saved reports" -> "Recorded Data".

\*Note: The saved file follows the naming rule: It begins with vehicle type, and then the record starting time and ends with .x431 (To differentiate between files, please configure the accurate system time).

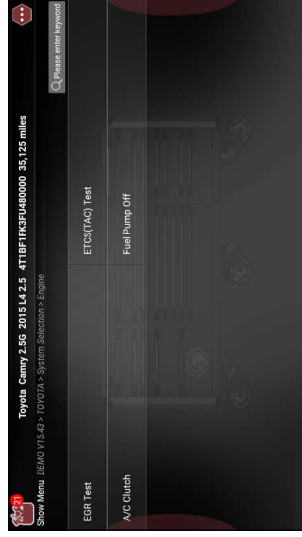
**Help:** Tap to view the help information.

#### D. Actuation Test

This option is used to access vehicle-specific subsystem and component tests. Available test vary by vehicle manufacturer, year,

and model. During the actuation test, the MAXIMUS PLUS tablet outputs commands to the ECU in order to drive the actuators, and then determines the integrity of the system or parts by reading the ECU data, or by monitoring the operation of the actuators, such as switching a injector between two operating states.

On the test function selection screen, tap "Actuation Test," the system will display as follows:

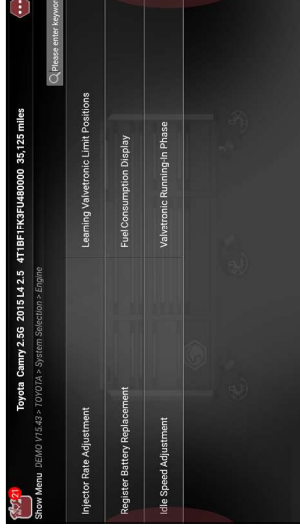


Simply follow the on-screen instructions and make appropriate selections to complete the test. Each time when an operation is successfully executed, "Completed" displays.

#### **E. Special Function**

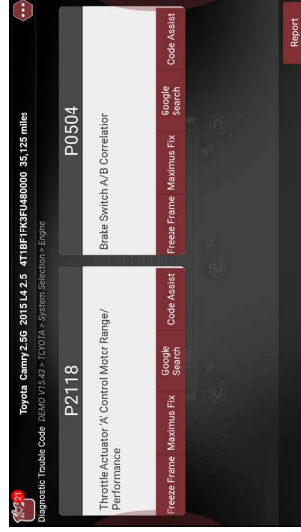
It offers coding, reset, relearn and more service functions, to help vehicles get back to functional status after repair or replacement.

For more information on detailed operations, refer to Chapter 5.4.



#### **F. Read Freeze Frame**

This option is used to view the freeze frame data at the time the DTC is set.

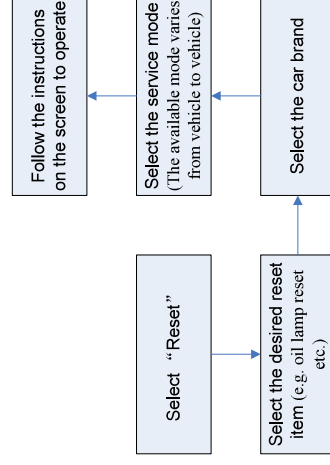


### **5.4 Maintenance Reset**

In addition to amazing & powerful diagnostic function, MAXIMUS PLUS also features various service functions. The most commonly performed service functions contain:

- Oil Reset Service
- Electronic Parking Brake Reset
- Steering Angle Calibration
- ABS Bleeding
- TPMS (Tire Pressure Monitor System) Reset
- Gear Learning
- IMMO Service
- Injector Coding
- Battery Maintenance System
- Diesel Particulate Filter (DPF) Regeneration
- Electronic Throttle Position Reset

There are two methods to reset service lamp: Manual reset or Auto reset. Auto reset follows the principle of sending command from the tool to vehicle's ECU to do resetting. While using manual reset, users just follow the on-screen instructions to select appropriate execution options, enter correct data or values, and perform necessary actions, the system will guide you through the complete performance for various service operations.



#### 5.4.1 Oil Reset Service

This function allows you to perform reset for the engine oil life system, which calculates an optimal oil life change interval depending on the vehicle driving conditions and climate.

This function can be performed in the following cases:

1. If the service lamp is on, you must provide service for the car. After service, you need to reset the driving mileage or driving time so that the service lamp turns off and the system enables the new service cycle.
2. After changing engine oil or electric appliances that monitor oil life, you need to reset the service lamp.

#### 5.4.2 Electronic Parking Brake Reset

1. If the brake pad wears the brake pad sense line, the brake pad sense line sends a signal sense line to the on-board computer to replace the brake pad. After replacing the brake pad, you must reset the brake pad. Otherwise, the car alarms.
2. Reset must be performed in the following cases:
  - a) The brake pad and brake pad wear sensor are replaced.
  - b) The brake pad indicator lamp is on.
  - c) The brake pad sensor circuit is short, which is recovered.
  - d) The servo motor is replaced.

#### 5.4.3 Steering Angle Calibration

To reset the steering angle, first find the relative zero point position for the car to drive in straight line. Taking this position as reference, the ECU can calculate the accurate angle for left and right steering.

After replacing the steering angle position sensor, replacing steering mechanical parts (such as steering gearbox, steering column, end tie

rod, steering knuckle), performing four-wheel alignment, or recovering car body, you must reset the steering angle.

#### 5.4.4 ABS Bleeding

This function allows you to perform various bi-directional tests to check the operating conditions of Anti-lock Braking System (ABS).

1. When the ABS contains air, the ABS bleeding function must be performed to bleed the brake system to restore ABS brake sensitivity.
2. If the ABS computer, ABS pump, brake master cylinder, brake cylinder, brake line, or brake fluid is replaced, the ABS bleeding function must be performed to bleed the ABS.

#### 5.4.5 Tire Pressure Monitor System Reset

This function allows you to quickly look up the tire sensor IDs from the vehicle's ECU, as well as to perform TPMS replacement and sensor test.

1. After the tire pressure MIL turns on and maintenance is performed, the tire pressure resetting function must be performed to reset tire pressure and turn off the tire pressure MIL.
2. Tire pressure resetting must be performed after maintenance is performed in the following cases: tire pressure is too low, tire leaks, tire pressure monitoring device is replaced or installed, tire is replaced, tire pressure sensor is damaged, and tire is replaced for the car with tire pressure monitoring function.

#### 5.4.6 Gear Learning

The crankshaft position sensor learns crankshaft tooth machining tolerance and saves to the computer to more accurately diagnose engine misfires. If tooth learning is not performed for a car equipped with Delphi engine, the MIL turns on after the engine is started. The

diagnostic device detects the DTC P1336 'tooth not learned'. In this case, you must use the diagnostic device to perform tooth learning for the car. After tooth learning is successful, the MIL turns off.

After the engine ECU, crankshaft position sensor, or crankshaft flywheel is replaced, or the DTC 'tooth not learned' is present, tooth learning must be performed.

#### 5.4.7 IMMO Service

An immobilizer is an anti-theft mechanism that prevents a vehicle's engine from starting unless the correct ignition key or other device is present. Most new vehicles have an immobilizer as standard equipment. An important advantage of this system is that it doesn't require the car owner to activate it since it operates automatically. An immobilizer is considered as providing much more effective anti-theft protection than an audible alarm alone.

As an anti-theft device, an immobilizer disables one of the systems needed to start a car's engine, usually the ignition or the fuel supply. This is accomplished by radio frequency identification between a transponder in the ignition key and a device called a radio frequency reader in the steering column. When the key is placed in the ignition, the transponder sends a signal with a unique identification code to the reader, which relays it to a receiver in the vehicle's computer control module. If the code is correct, the computer allows the fuel supply and ignition systems to operate and start the car. If the code is incorrect or absent, the computer disables the system, and the car will be unable to start until the correct key is placed in the ignition.

To prevent the car being used by unauthorized keys, the anti-theft key matching function must be performed so that the immobilizer control system on the car identifies and authorizes remote control keys to normally use the car.

When the ignition switch key, ignition switch, combined instrument panel, ECU, BCM, or remote control battery is replaced, anti-theft key

matching must be performed.

#### 5.4.8 Injector Coding

Write injector actual code or rewrite code in the ECU to the injector code of the corresponding cylinder so as to more accurately control or correct cylinder injection quantity.

After the ECU or injector is replaced, injector code of each cylinder must be confirmed or re-coded so that the cylinder can better identify injectors to accurately control fuel injection.

#### 5.4.9 Battery Maintenance System Reset

This function enables you to perform a resetting operation on the monitoring unit of vehicle battery, in which the original low battery fault information will be cleared and battery matching will be done.

Battery matching must be performed in the following cases:

- a) Main battery is replaced. Battery matching must be performed to clear original low battery information and prevent the related control module from detecting false information. If the related control module detects false information, it will invalidate some electric auxiliary functions, such as automatic start & stop function, sunroof without one-key trigger function, power window without automatic function.
- b) Battery monitoring sensor. Battery matching is performed to re-match the control module and motoring sensor to detect battery power usage more accurately, which can avoid an error message displaying on the instrument panel.

#### 5.4.10 Diesel Particulate Filter (DPF) Regeneration

DPF regeneration is used to clear PM (Particulate Matter) from the DPF filter through continuous combustion oxidation mode (such as high temperature heating combustion, fuel additive or catalyst reduce

PM ignition combustion) to stabilize the filter performance.

DPF regeneration may be performed in the following cases:

- a) The exhaust back pressure sensor is replaced.
- b) The PM trap is removed or replaced.
- c) The fuel additive nozzle is removed or replaced.
- d) The catalytic oxidizer is removed or replaced.
- e) The DPF regeneration MIL is on and maintenance is performed.
- f) The DPF regeneration control module is replaced.

#### 5.4.11 Electronic Throttle Position Reset

This function enables you to make initial settings to throttle actuators and returns the "learned" values stored on ECU to the default state. Doing so can accurately control the actions of regulating throttle (or idle engine) to adjust the amount of air intake.

#### 5.4.12 Gearbox Matching

1. This function can complete the gearbox self-learning to improve gear shifting quality.
2. When the gearbox is disassembled or repaired (after some of the car battery is powered off), it will lead to shift delay or impact problem. In this case, this function needs to be done so that the gearbox can automatically compensate according to the driving conditions so as to achieve more comfortable and better shift quality.

#### 5.4.13 AFS (Adaptive Front-lighting System) Reset

This feature is used to initialize the adaptive headlamp system. According to the ambient light intensity, the adaptive headlamp system may decide whether to automatically turn on the headlamps, and timely adjust the headlamp lighting angle while monitoring the

vehicle speed and body posture.

#### 5.4.14 Sunroof Initialization

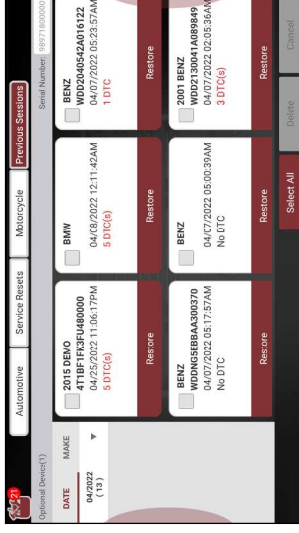
This function can set the sunroof lock off, closed when it rains, sliding / tilting sunroof memory function, temperature threshold outside the car etc.

#### 5.4.15 Suspension Calibration

1. This function can adjust the height of the body.
2. When replacing the body height sensor in the air suspension system, or control module or when the vehicle level is incorrect, you need to perform this function to adjust the body height sensor for level calibration.

#### 5.5 Diagnostic History (Previous Session)

Generally once a vehicle diagnosis is performed, MAXIMUS PLUS will record the every details of diagnostic process. The History function provides a quick access to the tested vehicles and users can resume from the last operation, without the necessity of starting from scratch. Tap "Previous Session"; all diagnostic records will be listed on the screen in date sequence.

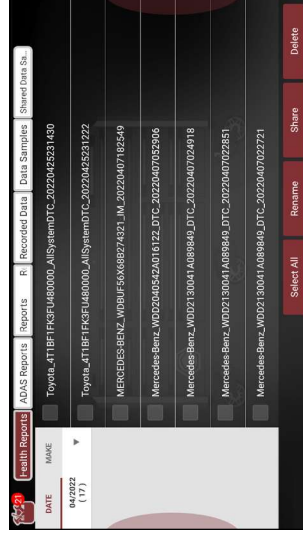


- Tap certain vehicle model to view the details of the last diagnostic report.
- To delete certain diagnostic history, select it and then tap "Delete".
- To delete all historical records, tap "Select All" and then tap "Delete".
- Tap "Restore" to directly navigate to the function selection page of last diagnostic operation. Choose the desired option to proceed.

## 6 Toolbox

### 6.1 Saved Reports

Tap "Saved Reports," a screen similar to the following appears.



#### 6.1.1 Health Report

This module stores all diagnostic reports generated in process of vehicle diagnosis.

All the diagnostic reports are sorted by Date and Make. Tap the desired type to re-arrange and filter it.

- To select certain report, check the box before the report. To select all reports, tap "Select All". To deselect all, tap "Unselect".
- To revise the filename of the report, select the desired one and tap "Rename".
- To share the report with others, select the desired one and then tap "Share".
- Select the desired report and then tap "Delete" to delete it.

#### 6.1.2 ADAS Report

This option lists all ADAS diagnostic reports saved in process of ADAS calibration operations.

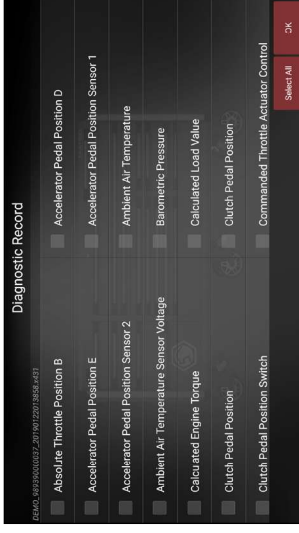
#### 6.1.3 Remote Report

This option lists all diagnostic reports generated in process of remote diagnostics.

#### 6.1.4 Recorded Data

If user records the running parameters or waveform graphs while reading data stream, it will be saved as diagnostic records and appear under this tab. You can use this option to view recorded live data. Frame playback and auto playback are supported.

Tap "Recorded Data"; and select certain diagnostic record to enter:



Select the desired data stream items and tap "OK" to jump to the playback page: