MDT 10
Operators Manual

ET7200

WARNING

To reduce the risk of injury, read and understand these safety warnings and instructions before using the tool. Keep these instructions with the tool for future reference. If you have any questions, contact your **MAC TOOLS** representative or distributor.

Scan Tool

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INTRODUCTION

The **Mac Tools™ MDT 10** is a professional scan tool built into a durable AndroidTM tablet. Up to four hours of battery run time. Extremely fast boot time and Swift On function. Wi-Fi and web browser allow full internet access. Built-in training videos to learn scan tool and vehicle test procedures. AutoDetectTM alerts technician when repair information is available. Auto IDTM. Automatically identifies CAN vehicles to quickly set up year, make, model, and engine. Deep Link In-session to Direct-HitTM for identifix® subscribers. NOTE: Additional safety measures may be required because of your particular application of the tool. Contact your Mac Tools representative or distributor with any questions concerning the tool and its use.

Mac Tools
505 North Cleveland Avenue
Suite 200
Westerville, Ohio 43082

WARRANTY

We warrant that this tool shall be free from manufacturing defects for a period of TWO YEARS from the original purchase date. Our obligation to the original purchaser shall be limited to repairing or replacing, at our expense (not including shipping charges) a defective tool if returned by the original purchaser within two years from the date of purchase, all incoming shipping charges prepaid. THIS WARRANTY DOES NOT COVER DEFECTS OR DAMAGES TO THE TOOL (i) after the warranty period expires; (ii) resulting from misuse or abnormal operation; (iii) resulting from a failure to properly lubricate, maintain or operate the tool; or (iv) resulting from any repair or maintenance services performed by any party other than Mac Tools.

SAFETY DEFINITIONS

⚠ DANGER	DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
⚠ WARNING	WARNING indicates a potentially hazardous situation which if not avoided, could result in death or serious injury.
⚠ CAUTION	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
CAUTION	CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

SAFETY PRECAUTIONS

BEFORE OPERATING THIS TOOL, ALL OPERATORS SHOULD READ AND UNDERSTAND THIS MANUAL AND FOLLOW ALL SAFETY WARNINGS AND INSTRUCTIONS.

KEEP THESE INSTRUCTIONS WITH THE TOOL FOR FUTURE REFERENCE. IF YOU HAVE ANY QUESTIONS, CONTACT YOUR MAC REPRESENTATIVE OR DISTRIBUTOR.

⚠ DANGER:

When an engine is operating, keep the service area well ventilated or attach a building exhaust removal system to the engine exhaust system. Engines produce carbon monoxide, an odorless, poisonous gas that causes slower reaction time and can lead to death or serious personal injury.

⚠ WARNING:

- **When working with hydraulic or fuel lines, be careful that liquids under pressure do not escape and create a dangerous condition. Use adequate ventilation and make sure there are no sparks or possibility of sparks that may ignite any vapor.**
- **Wear an American National Standards Institute (ANSI) Z87.1 approved eye shield when testing or repairing vehicles.**
- **Objects propelled by whirling engine components or pressurized liquids escaping may cause personal injury.**
- **Set the parking brake and block the wheels before testing or repairing a vehicle. It is especially important to block the wheels on front-wheel drive vehicles because the parking brake does not hold the drive wheels.**
- **Do not drive the vehicle and operate the software at the same time. Any distractions may cause an accident. Have one person operate the software as another person drives the vehicle.**
- **Maintain adequate clearance around moving components or belts during testing.**
- **Moving components and belts can catch loose clothing, body parts, or test equipment and cause serious personal injury or tool damage.**
- **Automotive batteries contain sulfuric acid and produce explosive gases that can result in serious injury ignition of gases, keep lit cigarettes, sparks, flames, and other ignition sources away from the battery at all times.**
- **Refer to the service manual for the vehicle being serviced. Adhere to all diagnostic procedures and precautions Failure to do so could result in personal injury or otherwise unneeded repairs.**
- **Use only specially designed replacement parts (brake hoses and lines) for ABS equipped vehicles.**

- **After bleeding the brake system, check the brake pedal for excessive travel or a "spongy" feel. Bleed again if either condition is present.**
- **When installing transmitting devices (Citizen Band radio, telephone, etc) on ABS-equipped vehicles, do not locate the antenna near the ABS control unit or any other control unit.**
- **This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and radiates radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.**
- **To reduce risk of injury, charge only Mac Tools rechargeable batteries for the handset product with the supplied charger. Other types of batteries may burst causing injury to persons and damage.**
- **Use of an attachment not recommended or sold by the battery charger manufacturer may result in fire, electric shock, or personal injury.**
- **Do not operate the tool with a damaged cord or connector. Replace damaged cords and connectors immediately.**
- **Do not operate the charger if it has received a sharp blow, been dropped, or otherwise damaged in any way. Take the charger to a qualified service person.**
- **Do not disassemble the charger. Take the charger to a qualified service person if service or repair is necessary. Incorrect reassembly may result in electric shock or fire Unplug charger before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.**
- **To prevent possible hearing damage, avoid using the tool at high volume levels for long periods.**
- **Do not expose tool or charger to rain, moisture, or snow.**
- **Verify that cords are located where they will not be stepped on, tripped over, or otherwise become a safety hazard or subjected to damage or stress.**
- **Use only batteries that are approved for use with this tool. Use of other types may increase the risk of fire or explosion.**
- **Do not carry a battery in your pocket, purse, or other container where metal objects (such as car keys or paper clips) could short-circuit the battery terminals. The resulting excessive current flow can cause extremely high temperatures and may result in damage to the battery pack or cause fire or burns.**
- **The battery poses a burn hazard if you handle it improperly. Do not disassemble it. Handle a damaged or leaking battery with extreme care. If the battery is damaged, electrolyte may leak from the cells and may cause personal injury.**
- **Keep the battery away from children.**
- **Do not store or leave your tool or battery near a heat source such as a radiator, replace, stove, electric heater, or other heat-generating appliance or otherwise expose it to temperatures in excess of 60ºC (140ºF). When heated to excessive temperatures, battery cells could explode or vent, causing personal injury or risk of fire.**
- **Do not dispose of your tool's battery in a fire or with normal household waste. Battery cells may explode. Discard a used battery according to the manufacturer's instructions or contact your local waste disposal agency for disposal instructions. Dispose of a spent or damaged battery promptly.**

CAUTION:

- **To avoid damage or generation of false data, make sure the vehicle battery is fully charged and the connection to the vehicle Data Link Connector (DLC) is clean and secure.**
- **Do not place the tool on the distributor of a vehicle. Strong electromagnetic interference can damage the tool.**
- **Never disconnect or reconnect any electrical connector while the ignition is on. Powertrain Control Module (PCM) damage may result.**

Introduction

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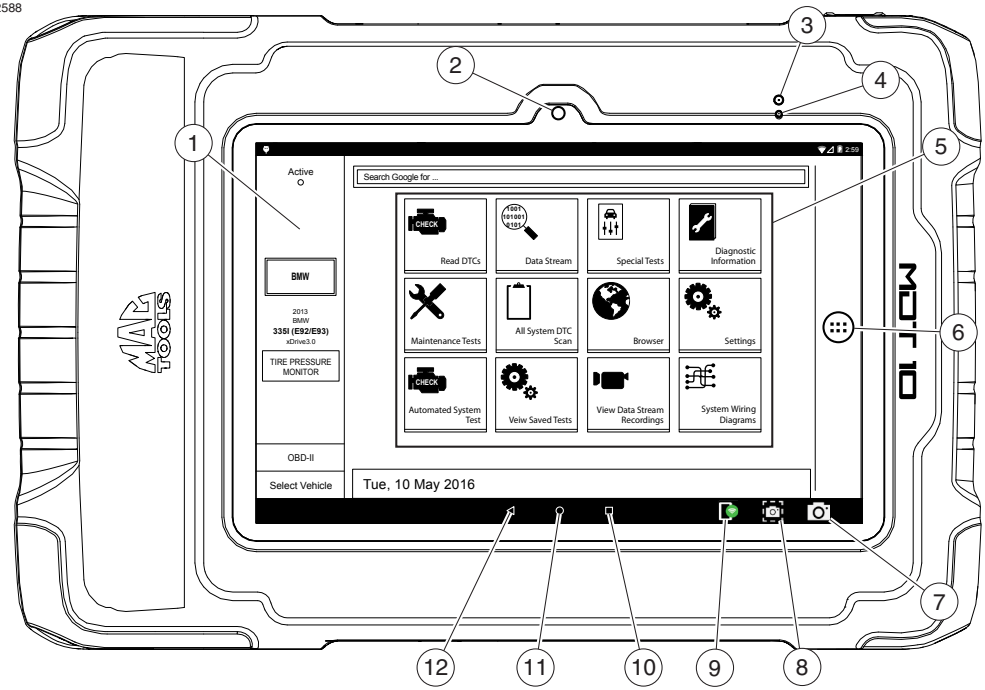

Handset Front

1. **Vehicle Identification Window**
   - Where vehicle selections can be made and modified.
2. **Camera**
   - Front facing camera is 5MP.
3. **Microphone**
   - Front facing microphone.
4. **Ambient Light Sensor**
5. **Home Screen Functions**
   - Read DTCs allows reading, clearing, and printing of vehicle DTCs.
   - Data Stream shows live sensor and solenoid data streaming from the vehicle ECU.
   - Special Tests Available dependent upon the vehicle and controller selected.
   - Diagnostic Information provides diagnostic, repair, and reset information for the selected vehicle.
   - Maintenance Tests common scan resets after vehicle service.
   - All System DTC Scan will scan all available controllers on the selected vehicle for DTCs.
   - Browser Fast Touch™ sites and internet.
   - Settings change settings of the tool.
   - Automated System Test is a comprehensive vehicle scan containing all DTCs on the vehicle and available OBDII Data.
   - View Saved Tests allows the user to view previously ran and saved DTC reads, All System DTC scan, and Automated System Test scans.
   - View Data Stream Recordings allows the user to view previously saved data stream recordings.

- System Wiring Diagrams provides OEM specific, Full color, Full system diagrams.

6. **Android Applications Button**
   - Displays the Apps screen.
7. **Camera Button**
   - Opens the camera application.
8. **Screen Shot Button**
   - Press to take a picture of the current screen.
9. **VCI Connection Manager Button**
   - Opens the VCI Manager.
10. **Recent apps button**
    - Opens a list of thumbnail images of currently running apps.
11. **Home Button**
    - Displays the central home screen.
12. **Back Button**
    - Returns to the previous screen or option.

Handset

The handset is a ruggedized touchscreen tablet equipped with the Android operating system. The power button is located on the top right of the Handset next to the connector panel.

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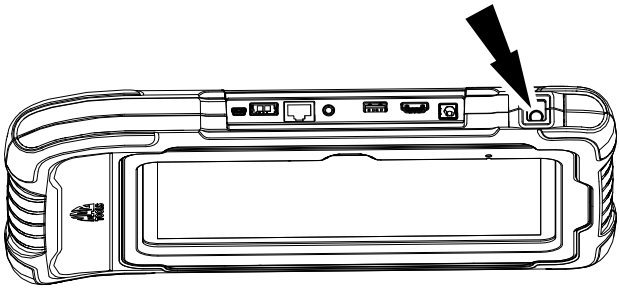


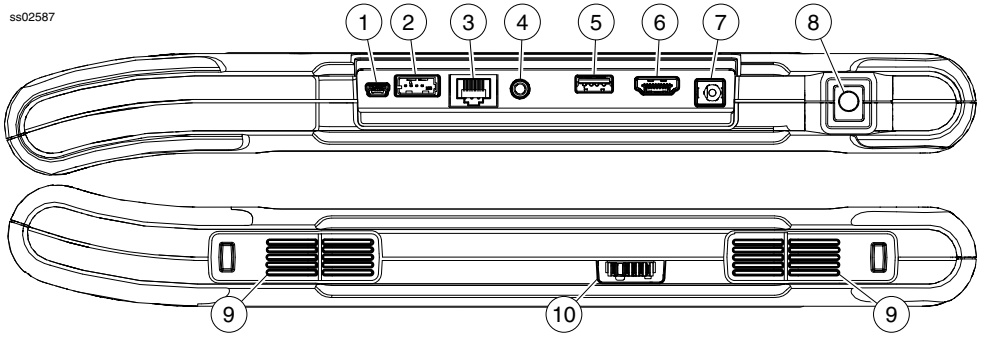
Handset Power Button

Power Button Functions

The power button has four functions

a. ON: Press the power button to turn the handset on.
b. OFF: Press and release the power button. A pop up window will appear to shut down the handset.
c. ON: If the screen times out or is in standby mode, press and release the power button to wake up the handset. Turn ON: With tool off, press to turn ON
d. OFF: Press the power button and hold for 5 seconds to turn the handset off completely (not recommended).

Handset Ports



Handset Ports

1. **Mini USB**
2. **VCI Port**
3. **Ethernet Connector**
4. **Audio port**
5. **USB Type “A” port**
6. **HDMI Port**
7. **Power port**
8. **Power Button**
9. **Speakers**
10. **Docking Station Port**

Handset Back

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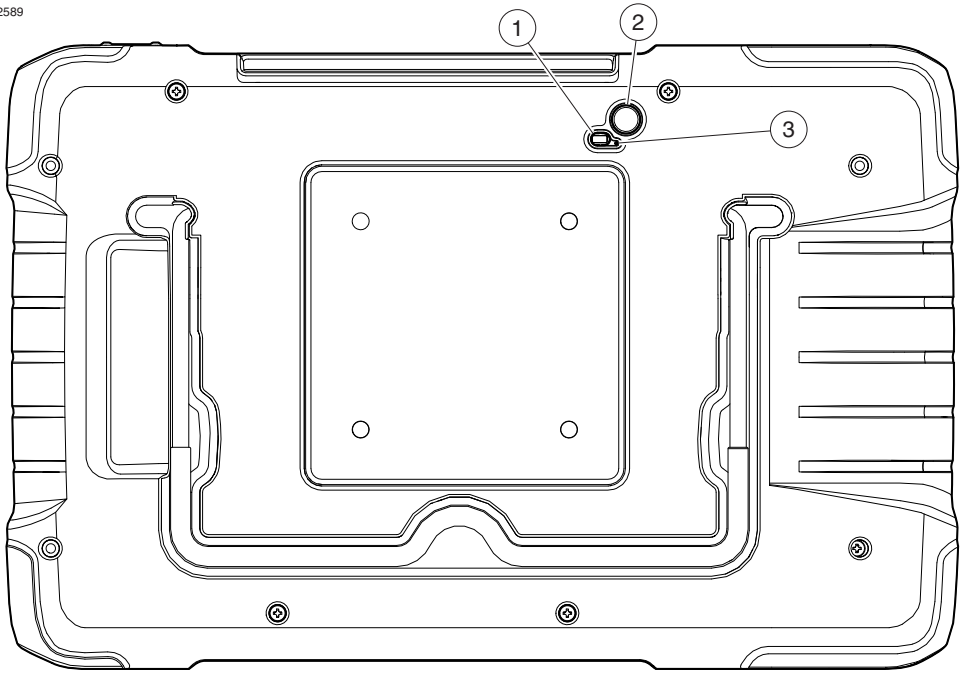
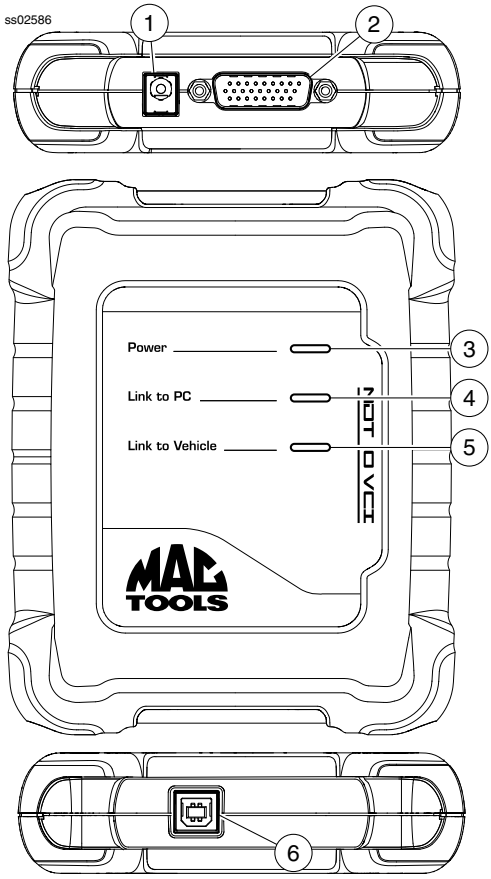


Handset Back

1. **Light**
   - The light has two functions
     - Camera Flash mode
     - Flash Light mode
2. **Camera**
   - Rear Facing Camera is 5MP.
3. **Microphone**
   - Rear Facing Microphone.

Vehicle Communication Interface (VCI)

The Vehicle Communication Interface (VCI) translates vehicle diagnostic data link information for the handset using Wi-Fi wireless technology or a linked cable. The wireless capability of the tool is designed to communicate with the VCI when it is within a range of roughly 30 feet, even though it is possible to go farther. Every shop has different noise that can interfere and hamper the distance of a wireless network. Some types of noise include cordless phones, certain lighting, other wireless networks in the area, and other signals.



VCI

1. **Power port (used when necessary)**
2. **DLC/OBDII cable port**
3. **Power**
   - Indicates the VCI has received power.
4. **PC Connection**
   - Indicates the VCI is communicating with the PC.
5. **Vehicle Connection**
   - Indicates the VCI is communicating with vehicle by wireless Wi-Fi or USB
6. **USB "B" Port**

Add-on Hardware Modules (Optional)

TPMS Tire Pressure Reset (TPR) Tool

The Tire Pressure Reset (TPR) is a fast, simple, easy-touse TPMS activation tool that can be used with the handset or as a stand-alone tool. It works on vehicle TPMS sensors and automatically adjusts activation output power to eliminate cross-activation of near sensors.

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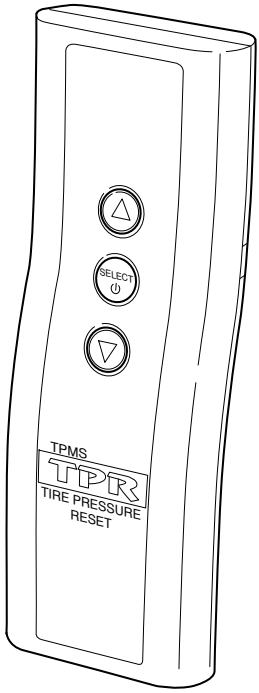


TPR

Software Descriptions

Handset Software

The handset comes with the diagnostic software pre-loaded. Set up Docking Station, attach power supply provided with kit and charge battery before use.
The first time the handset is powered up, the user needs to accept the license agreement and review opportunities to provide input that will help improve the handset. Then, the user will have three choices:

- Register Now: Unlocks all functions of handset.
- Trial mode: Unlocks all functions for 30 days.
- Demo Mode: Displays what functions may look like.

Periodically, updates will become available and the user will be notified by an icon on the screen. To update the handset, there must be Wi-Fi or Ethernet connection available.

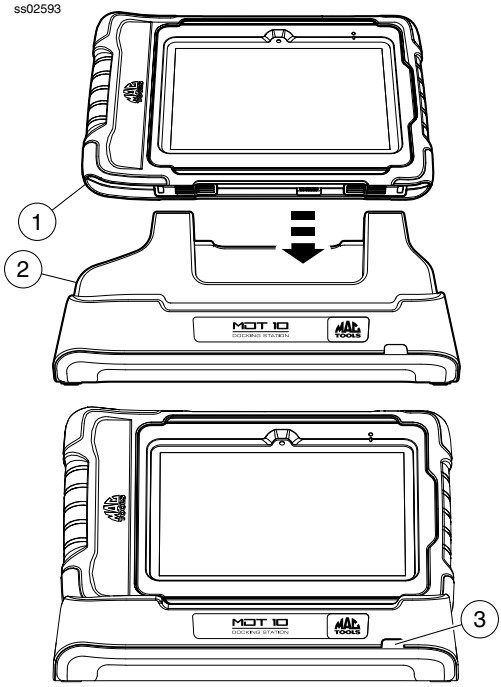
Software Applications Overview

The handset allows users to diagnose problems on a wide variety of vehicles (from electric to heavy duty vehicles). Users are able to perform common service procedures, maintenance tests, and special tests to find deficiencies with vehicle systems or components.

The handset will display DTCs from OBDI or OBDII systems. Real-time sensor data can be viewed in data stream mode. The user can also obtain diagnostic information regarding repairs.
With the purchase of the Tech-Scope, the user is able to test sensors and systems for proper function. Browser mode allows the user to connect to the internet to find websites that may help with the repair of the vehicle. The handset comes with wireless communication for ease of use and on-screen help when desired.

SETUP

Docking Station



Docking Station

1. **Handset**
2. **Docking Station**
3. **LED**

The Docking Station can be used to store the Handset when not in use. The Docking station can also charge the handset.
There is a storage bin at the rear of the Docking Station to store the VCI/OBD-II Cable when the handset is charging.
The LED state shall be as follows:

- Off indicates no power connected
- Green flashing indicates charging handset
- Green steady indicates charged handset

Note: LED shall flash momentarily even if the handset is completely charged when the handset is first attached to the charging station to indicate contact has been made.

Battery Charging

Connect the handset to AC power and fully charge the battery.

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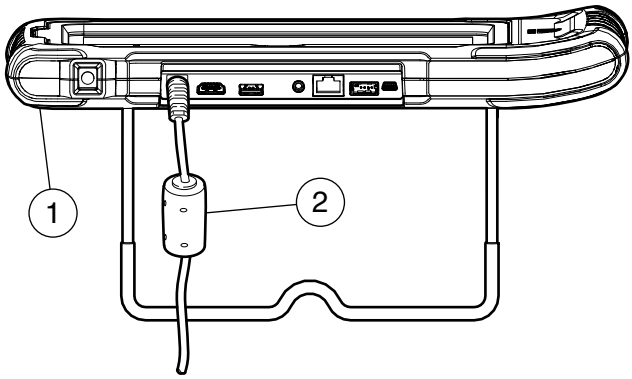

Power Port

1. **Handset**
2. **AC Power cord**

When the handset is turned on, the level of battery charge is indicated in the upper right corner of the screen. *NOTE: The tool can be used while charging. The battery can also be charged using the 18 volt power supply provided with the kit.*

Using the handset

There are three options for use.

- Register Now: It is recommended to register for full functionality of tool and tech support.
- Trial Mode: This allows use of the handset for 30 days before it must be registered. If the 30 day trial period is over before it is registered, the handset functions will be locked out. At that time, registered mode or demo mode will need to be entered.
- Demo Mode: This mode demonstrates the functions by displaying random data.

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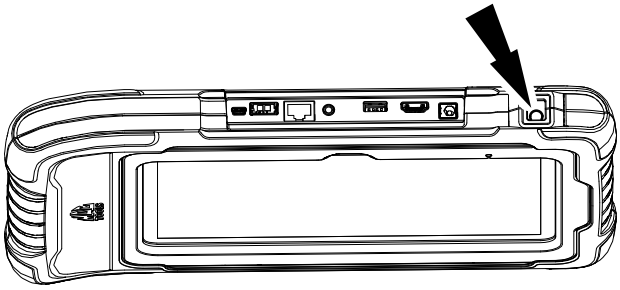

1. Press the power button to turn on the handset.

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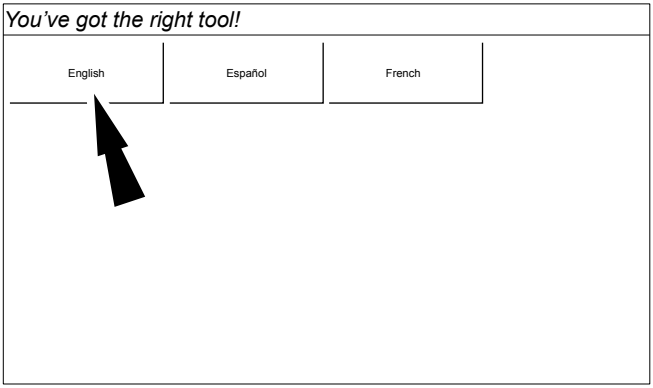

2. Select a language.

REGISTRATION

It is important to register the handset right away. To register, it will need a Wi-Fi internet connection. To connect to Wi-Fi, refer to steps 2 through 6. Register now enables the unit. Register later causes the device to go into a 30-day trial mode. Demo Mode is for training and demonstration purposes only, it cannot communicate with a vehicle. Demo Mode will use sample data.

1. Select Register my Device Now.
2. Read and accept the user agreement.

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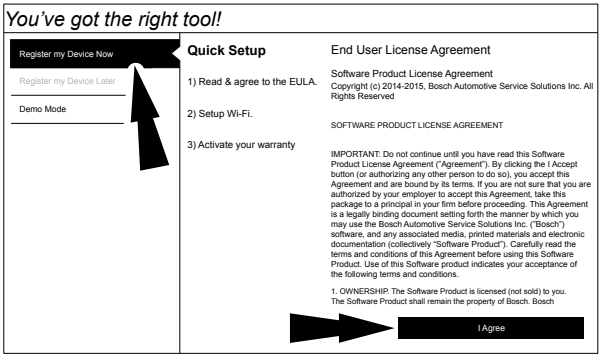

Note: Wi-Fi Must be ON. If Wi-Fi is OFF slide the Wi-Fi switch to the ON position and follow the prompts on the screen.

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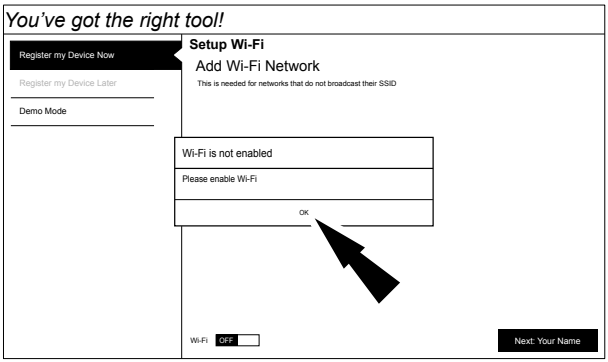

3. Enable Wi-Fi and select Next

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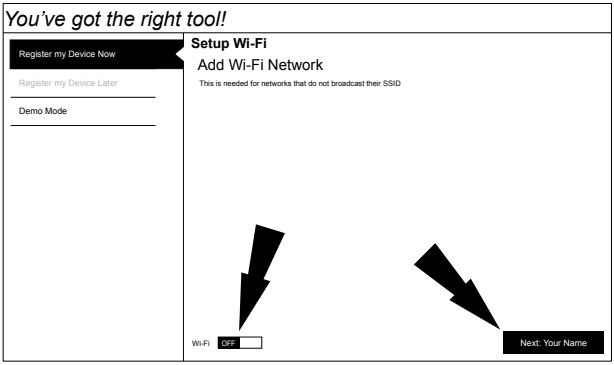

4. Select a network and select Next

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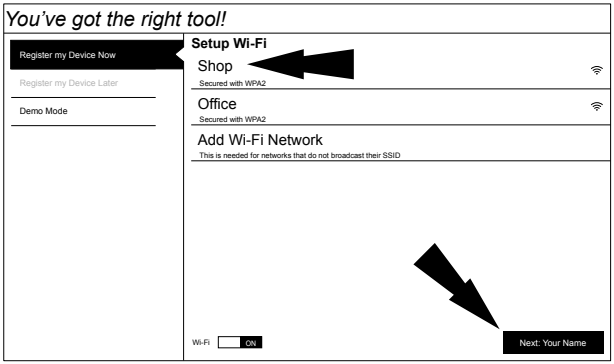

5. If a Network password is required the Android Wi-Fi screen will be displayed. Follow the prompts on the screen.

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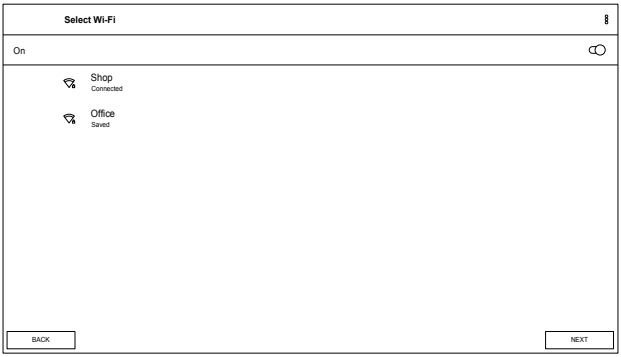

6. If an internet connection could not be established, follow the prompts on the screen and try again.

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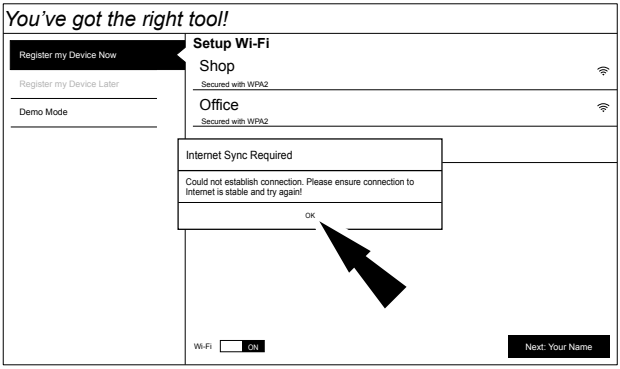

7. Enter your Name . Follow the prompts on the screen to activate warranty.

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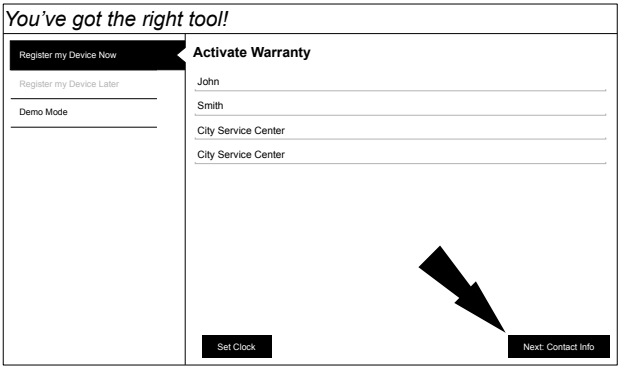

8. Enter contact information. Follow the prompts on the screen.

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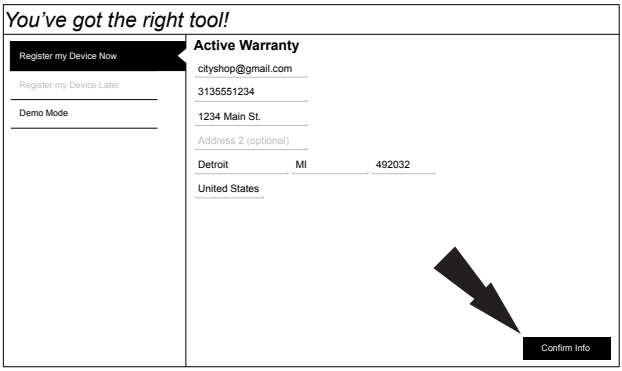

9. Confirm information. Follow the prompts on the screen.

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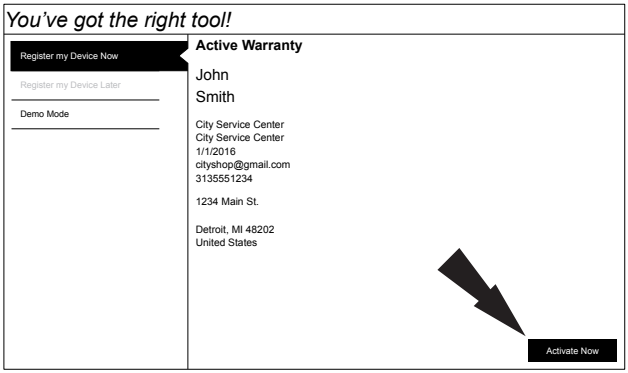

10. MDT 10 is ready to use.

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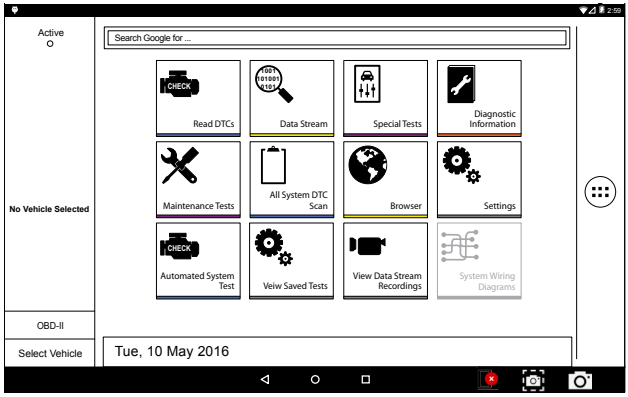

30 Day Trial

1. Select Register my Device Later for 30 days of full use of the tool before registration is required. If the handset is not registered within the 30 day trial period, after 30 days it will only function in Demo Mode.

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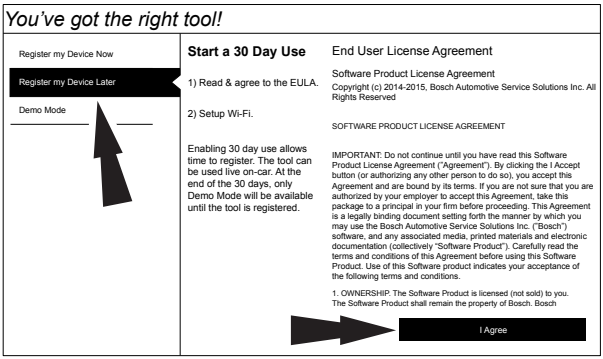

2. MDT 10 is ready to use.

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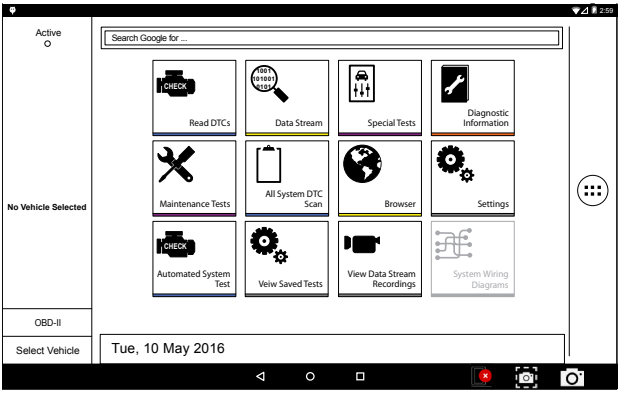

Demo

1. Select Demo mode

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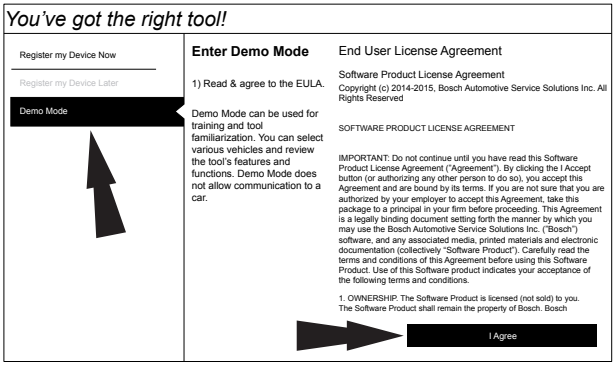

2. MDT 10 is ready to use.

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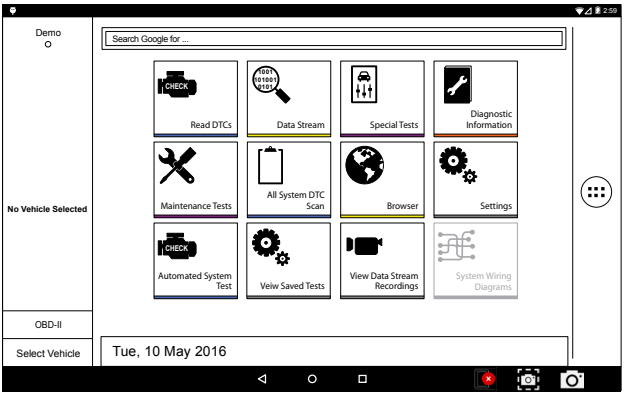

Provide Power to VCI

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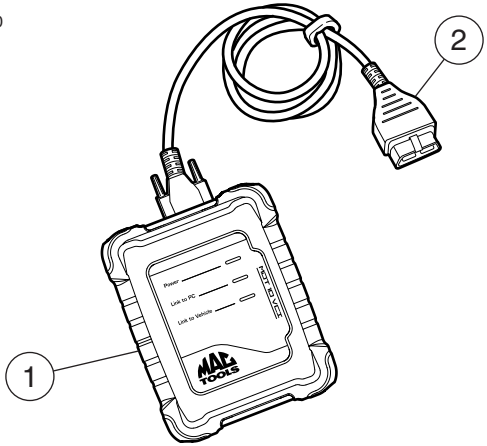
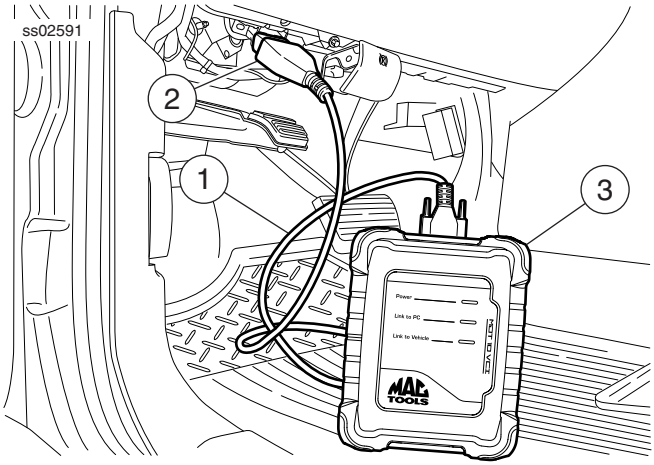


VCI Cable Connections

1. **VCI**
2. **OBDII/DLC cable**

1. Connect the OBDII/DLC cable to the VCI.
2. Connect the OBDII/DLC cable to the DLC on vehicle (typically located on the driver's side within 18 inches (45.7 cm) of the steering wheel).
3. Turn ignition ON.
   - Power indicator illuminates when the VCI is receiving power.
   - PC connection illuminates when the VCI is connected to handset.
   - Vehicle connection illuminates when the VCI is communicating with the handset and vehicle.



VCI Connected to Vehicle

1. **OBDII/DLC Cable**
2. **DLC**
3. **VCI**

Manual Pairing

The first use will automatically pair.

1. Connect the VCI to the vehicle DLC.
2. Turn on handset and wait for it to display the home screen.
3. Select the VCI Connection Manager icon.

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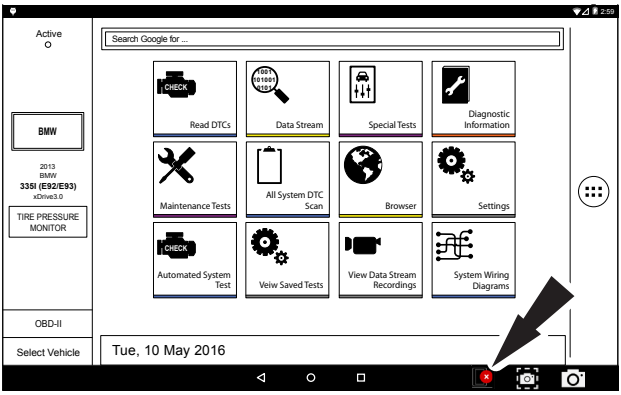
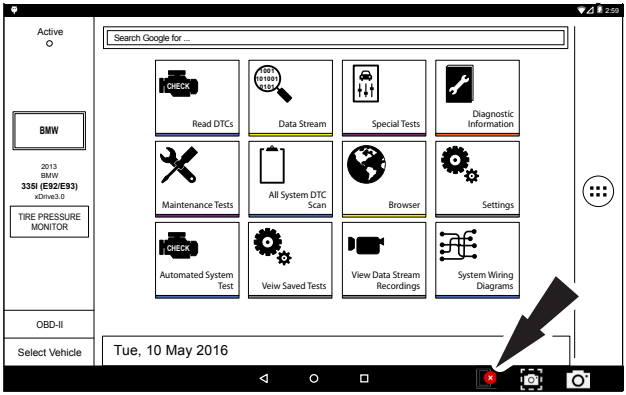


VCI Connection Manager icon

VCI Connection Manager Icon Definitions	
	No VCI is paired with the handset.
	VCI is paired on the hardware level, but software check had failed. VCI cannot be used without software update.
	VCI is connected via Wi-Fi. Software check is successful, VCI is ready for use, but Wi-Fi signal is degraded.
	VCI is connected via USB. Software check is successful, VCI is ready for use.
	VCI is connected via Wi-Fi. Software check is successful, VCI is ready for use.

4. Once VCI Connection Manager icon is selected, VCI Connection Manager dialog is displayed, displaying discovered VCIs. Select Refresh to rediscover available VCIs if needed.
5. Select “Connect” next to desired VCI. VCI Connection Manager dialog will refresh to show successful connection.

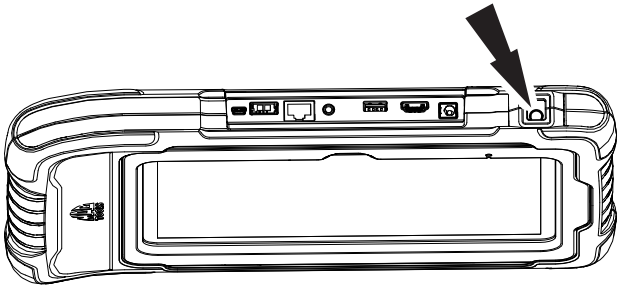
ss02401



At this point the icon will change from “No VCI is paired with the handset” to VCI is connected via Wi-Fi The handset is now paired to a VCI. To use a different VCI in the future, repeat the steps for manually pairing the VCI.

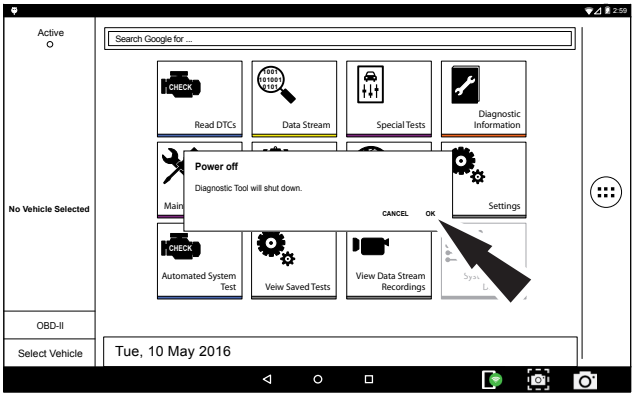
Restarting the tool:

ss02585



1. Press and release the power button.

ss02403



2. Select OK. The tool will now shutdown and restart automatically.
When switching vehicles, it is best to return to the home screen before disconnecting the VCI from the vehicle to avoid communication errors.

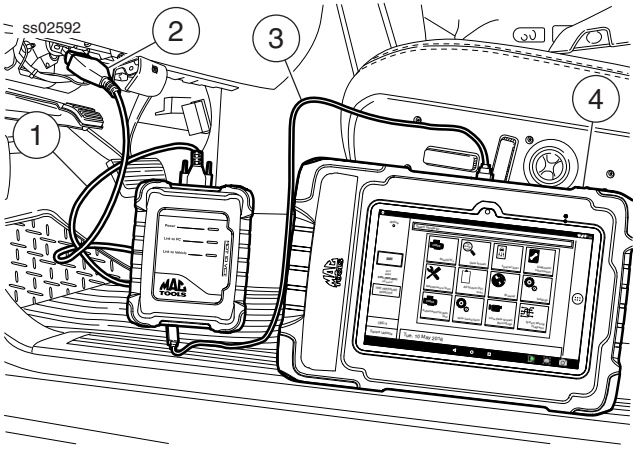
Automatic Pairing

Automatic pairing will reconnect the last paired VCI to the handset during the start up process, as well as after unplugging and plugging the VCI back into an OBDII/DLC connector.
NOTE: After booting the handset, automatic pairing works immediately and ready when tool is booted. If it does not pair within a minute, repeat the manual VCI pairing procedure for that VCI. Typical connection time after Connect to VCI message is displayed is 5-15 seconds. If this happens, reboot the handset and allow it to auto-pair. If it still fails to auto-pair then repeat the manual VCI pairing procedure.
VCI connection status icon will typically take 10-20 seconds to update after pairing the VCI to the handset. When connection is lost, the VCI connection status Icon will typically take 10-20 seconds to update.

Cable connection

Connect the VCI OBDII/DLC cable into the vehicle. Using the Using the VCI Communication cable provided in the kit, plug the appropriate end (B) of the cable into the VCI, then the opposite end into a USB VCI port on the handset. VCI Connection Manger will switch icons to the USB icon.

The same principle applies to switching vehicles as it did for wireless. Return to the home screen and then unplug and switch.



USB Cable

1. **OBDII/DLC Cable**
2. **DLC Connector**
3. **USB Cable**
4. **Handset**

Wireless Range

The wireless internet capability of the tool is designed to communicate with the router when it is within a range of roughly 90 feet, depending on the shop environment, even though it is possible to go farther. Every shop has different noise that can interfere and hamper the distance of a wireless network, such as cordless phones, certain lighting, other wireless networks in the area, and other signals.

Test Startup and Vehicle Connection

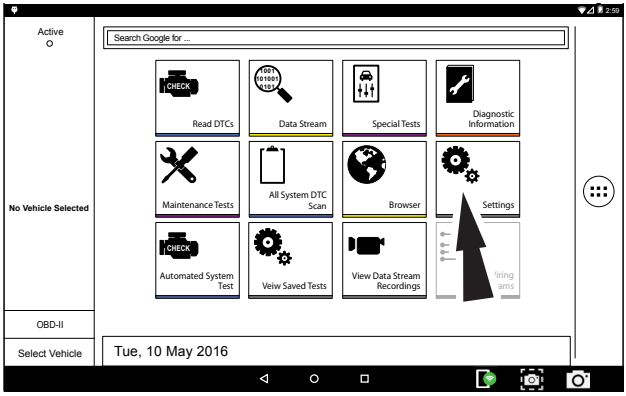
1. Turn ON the handset.
2. Connect the OBDII/DLC cable to the VCI.
3. Connect the OBDII/DLC cable to the DLC on the vehicle.
4. Turn the ignition ON, but keep the engine OFF (KOEO).
5. Select vehicle from the Home screen.
6. Enter the vehicle information one of two ways:
   - Auto ID
   - Manual entry
7. From the home screen, select any diagnostic function.

Adjust Settings

Settings allow the user to make adjustments to the following:

- Applications
- Software information
- Software update
- Subscriptions
- User Detail
- Language
- Direct-Hit

ss02404



1. Select Settings from the home screen.

Application Settings

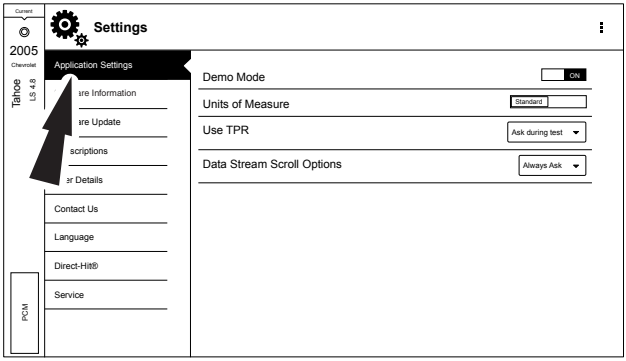
From the Settings screen select Application Settings. Follow the prompts on the screen to make changes to the following.

- Demo Mode
  - Turn Demo mode ON or OFF

NOTE: Select/deselect demo mode can be switched from the home screen as well.

- Units of measure
  - Switch between Standard or Metric
- Use TPR
  - Enable TPR
- Data Stream Scroll Options
  - Select scrolling options

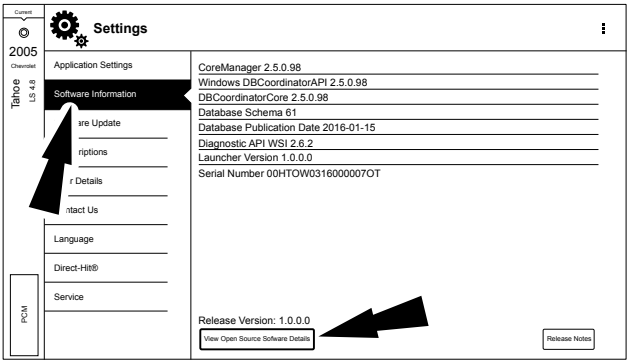
ss02405



Software Information

From the Settings screen select Software Information. The current software versions will be displayed. Select View Open Source Software Details to view more in-depth information.

ss02406



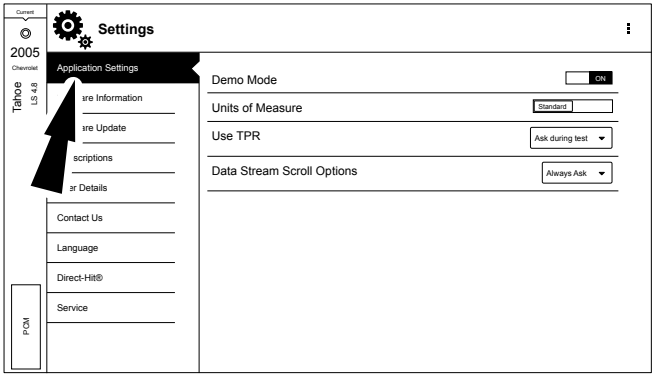
Software Update

From the Settings screen select Software Update.

- Manually check for updates
- Set update strategy
- Automatic download

NOTE: Active internet connection is required for this function.
If an update is available follow the prompts on the screen to update the handset.
Installing the software can take up to 45 minutes depending on Wi-Fi connection speed and quality.

ss02405

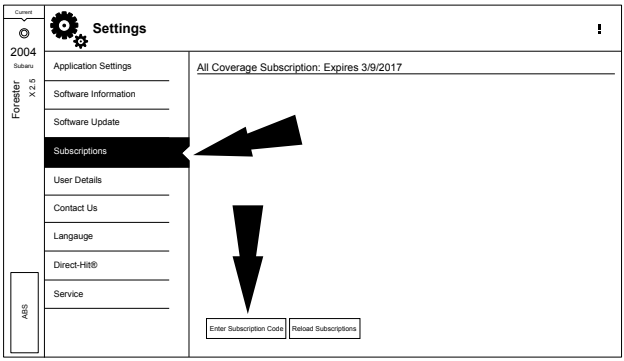


Subscription

The tool must be registered to see this tab.

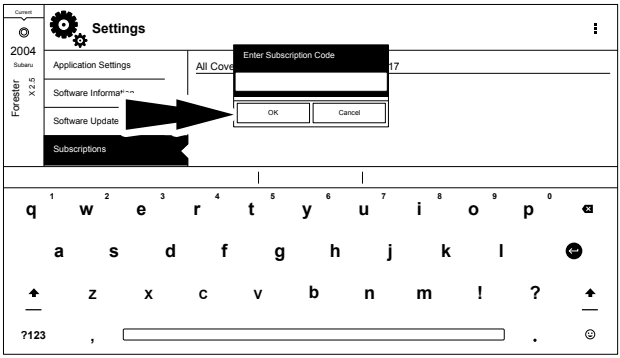
1. From the Settings screen select Subscription.
   - Heavy duty vehicle function is locked and must be unlocked.
   - Need to obtain subscription code.
   - After one year, the user will be required to renew the subscriptions to receive product updates.

ss02408



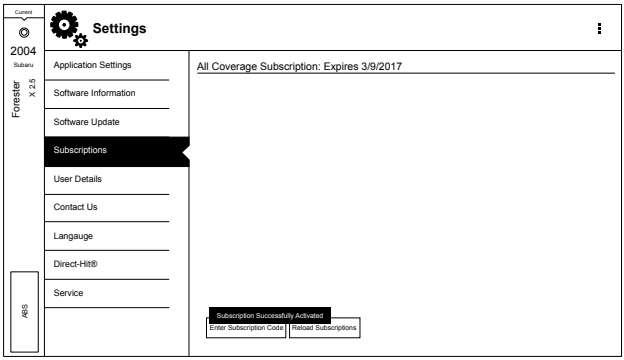
2. Select Enter Subscription Code.

ss02409



3. Enter Subscription Code and select OK.

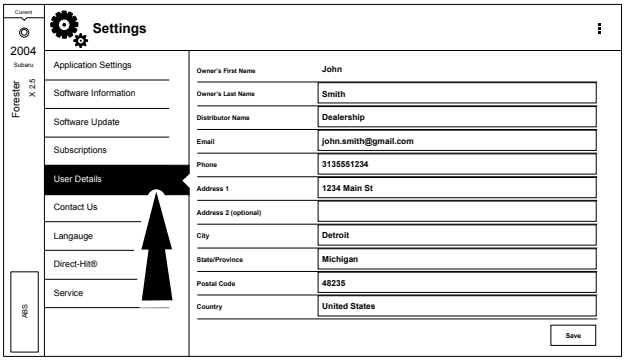
ss02410



User Details

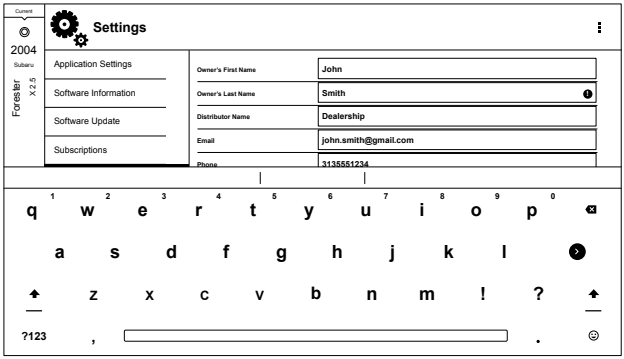
1. From the Settings screen select User Details.

ss02411



2. Select field to modify.

ss02412

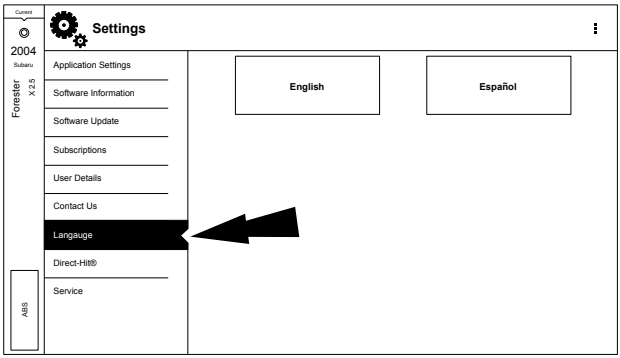


Note: The information saved in User Details will also update registration information.

Language

1. From the Settings screen select Language
2. Follow the prompts on the screen
   - English
   - Spanish
   - French (when available)

ss02413



Direct-Hit®

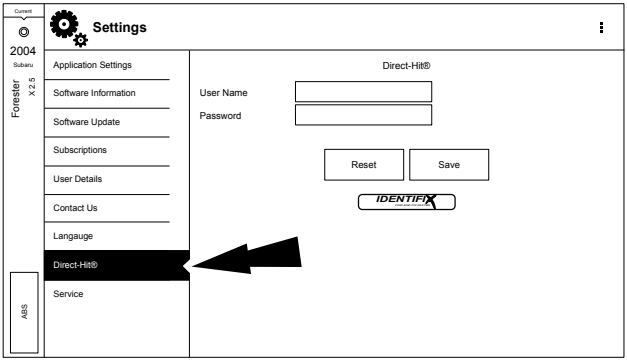
Identifix® Direct-Hit® provides:

- OEM specific information
- Wiring diagrams
- Technical Service Bulletins (TSBs)
- Diagnostic procedures
- Past reported fixes

Subscription is required to access Identifix®. To obtain username and password, select Identifix® link and subscribe.

1. From the Settings screen select Direct-Hit®
2. Follow the prompts on the screen

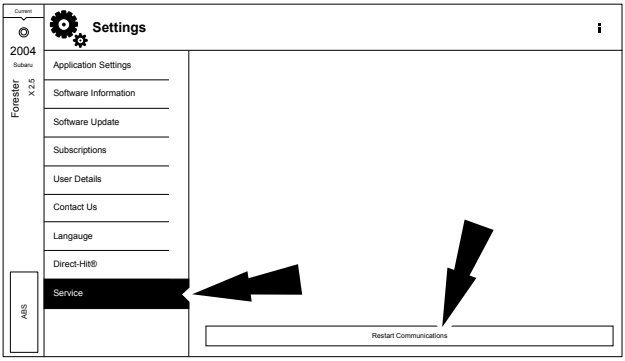
ss02414



Service

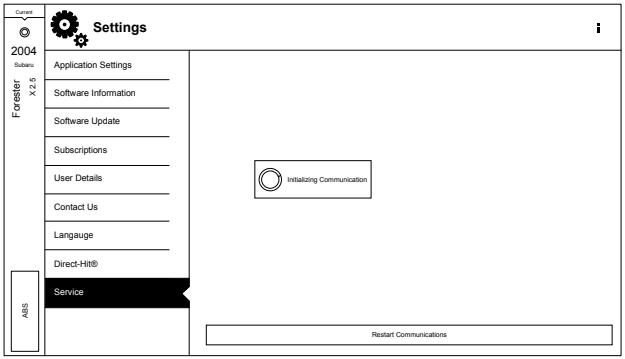
1. From the Settings screen select Service
2. Select Restart Communications

ss02415



3. Handset will Restart Communications

ss02416



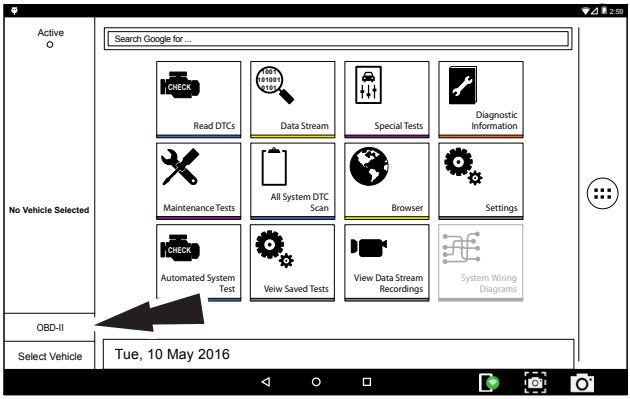
GLOBAL OBDII APPLICATIONS

Overview

Global OBDII (also referred to as Generic OBDII) provides limited engine control and monitors the diagnostic control network of the vehicle. When a fault in the control network occurs, a DTC is recorded in the vehicle computer. This system is not vehicle specific so it is NOT necessary to select the vehicle to run a generic test.
NOTE: Global OBDII may be selected as a controller for a more specific General test.

Diagnostic Functions

ss02417

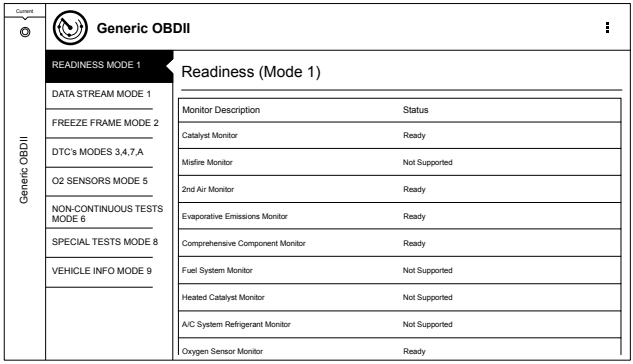


1. Select OBD-II from the home screen.
2. Follow the prompts on the screen.

Readiness Monitors

Mode 1 displays available monitor information.
The OBDII system has a series of systems that run self-tests. These systems or components have to be made ready by either turning on the ignition or manipulating the system in some other manner. This is called drive cycle.
Each system requires specific vehicle drive cycle and operating requirements to take place before the monitor self-check will run. OBDII systems require one monitor for current systems, or two monitors for older systems, are ready before testing can begin.
If the system is ready, no further action is required.
If the system is not ready, a drive cycle may need to be performed for that system.
Use the following procedure to verify the system is ready to be monitored.

ss02418



1. View the readiness table to verify system status.
   - Ready: No further action is required.
   - Not ready: Further action is required. Drive Cycle needs to be performed.
   - Monitor not supported: Data is not supported on vehicle.

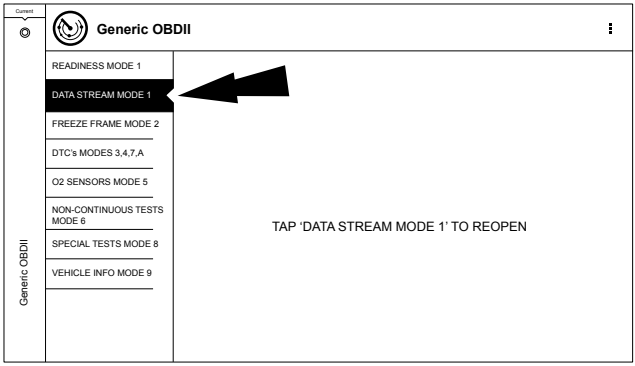
NOTE: A vehicle must be selected before diagnostic Information becomes available. Refer to diagnostic hub, Start New Section.

Readiness Mode Button Definitions	
	Menu Button Tapping the Menu button displays a pop-up link that takes the user to more buttons.
	View Help Selecting View Help will open an online operators manual.
	Use Metric Units Selecting Metric Units will switch from English/ Standard Units to Metric Units
	Use English/Standard Units Selecting English/Standard Units will switch from Metric Units to English/Standard Units.
	Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen.

Data Stream

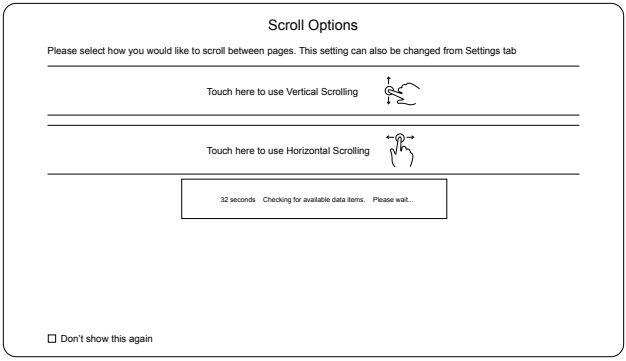
Mode 1 views live vehicle sensor data.
The data stream function shows live sensor and solenoid
data streaming from the vehicle's ECU (electronic control unit).

ss02419



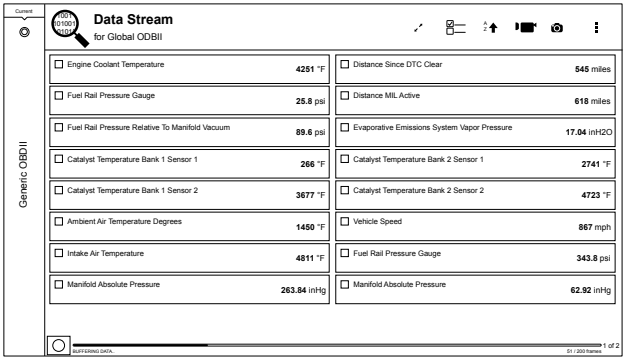
1. Select Data Stream Mode 1 from the Generic OBDII screen

ss02420



2. Select scrolling preference.

ss02421



3. Follow the prompts on the screen.

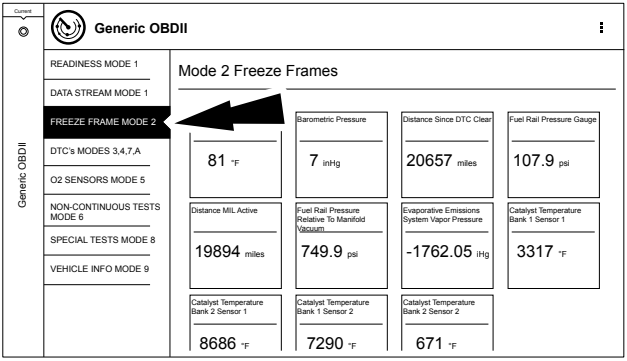
Data Stream Button Definitions	
	Enlarge Screen View Function To view the data in the enlarge view, press the Enlarge button.
	Select Function: 1. Choose only the data you want to view by checking the box in front of each desired data item. 2. Select the Sort button.
	Sort Function • Select Sort to sort data items. • Data may be sorted alphabetically, by graph, or by selection (checkbox checked). • Sorting data items will reset the timeline frame counter, so sort these items before recording data. If sorting data while recording the recording will have a period of time where there is no data available.
	Recording • Select Recordings to view previously recorded data streams. • Recordings are listed from newest to oldest. When the folder is full, the newest recording pushes the oldest one out of the list. Currently, there is no way to manually delete recordings. • To view recordings, select the Recordings button near the top of the display. • Select the desired recording.
	Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen.
	Menu Button Tapping the Menu button displays a pop-up link that takes the user to more buttons.
	Erase All Recordings
	Clear All Data Select Clear Data to clear displayed data stream. This function will reset the timeline frame counter and clear graphed data.
	Use Metric Units Selecting Metric Units will switch from English/ Standard Units to Metric Units

Data Stream Button Definitions	
	Use English/Standard Units Selecting English/Standard Units will switch from Metric Units to English/Standard Units.

Freeze Frame

Mode 2 views data captured when a fault occurred. Freeze frame shows a data stream snapshot that was automatically recorded by the ECU when one or more DTCs occurred.

ss02422



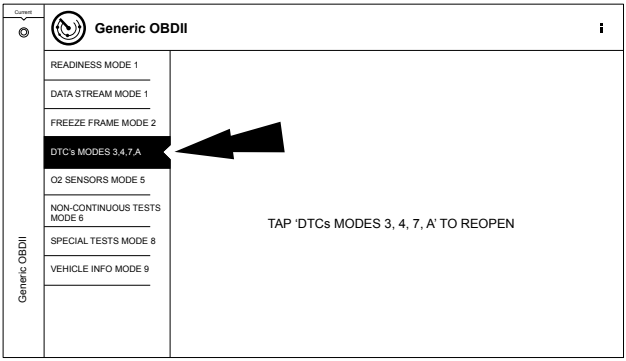
Freeze frame records each sensor's current information at the time a DTC sets. This feature could be used when diagnosing an intermittent condition that requires certain conditions are met before the fault is active.
NOTE: DTCs are not always stored in Mode 2 freeze frame.

Freeze Frame Button Definitions	
	Menu Button Tapping the Menu button displays a pop-up link that takes the user to more buttons.
	View Help Selecting View Help will open an online operators manual.
	Use Metric Units Selecting Metric Units will switch from English/Standard Units to Metric Units
	Use English/Standard Units Selecting English/Standard Units will switch from Metric Units to English/Standard Units.
	Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen.

DTCs Modes

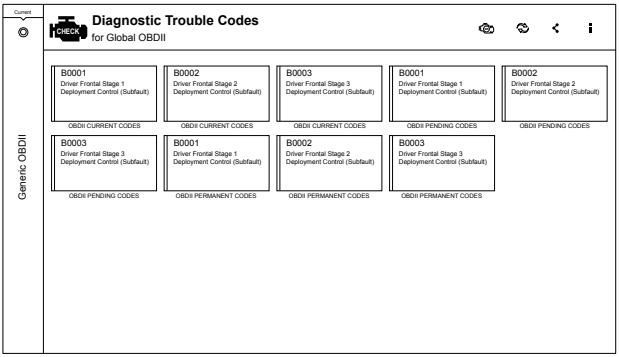
Modes 3, 4, 7, and A read and clear DTCs.

ss02423

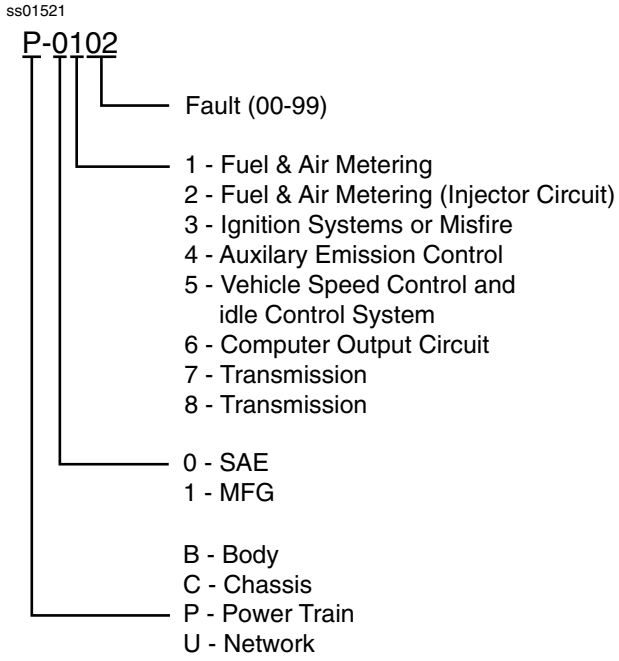


1. Select DTCs Modes from the Generic OBDII screen

ss02424



2. Use the buttons and follow the prompts on the screen.



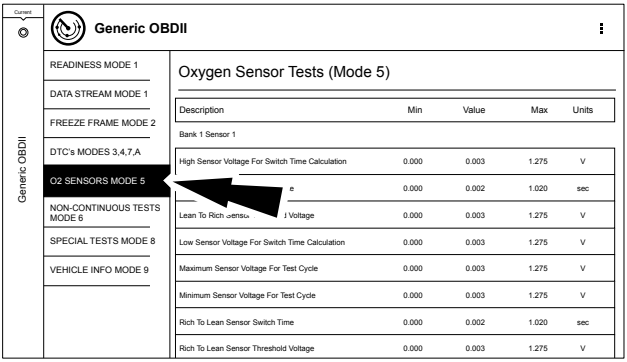
Example: P0102 Mass Air Flow Performance

DTCs Modes 3, 4, 5, A Button Definitions	
	Clear DTCs Button The Clear DTCs button is used to clear codes and remove all but permanent DTCs on the selected controller. To clear codes, complete the following: *NOTE:* *Clearing DTCs will erase current Mode 1 Readiness monitor information and require the user go through necessary drive cycles over again. So, if Mode 1 information needs to be reviewed, be sure to view it before clearing codes.* *If a code will not clear, turn the ignition o for at least 10 seconds; turn it back on to KOEO, then retry. Some controllers will go to sleep after a period of inactivity and prevent clearing DTCs. This key cycle may be needed when attempting to communicate with other controllers after a period of time on a different controller.*
	Refresh DTCs Button Tapping the Refresh button initiates a fresh scan of DTCs from the vehicle.
	Share DTCs Button Tapping the Share button opens the app and initiates one of two options, share by email or Bluetooth email concontaining a list of all the DTCs set.
	Menu Button Tapping the Menu button displays a pop-up link that takes the user to help content related to reading DTCs. *Note: an active internet connection will be required.*
	Use Metric Units Selecting Metric Units will switch from English/ Standard Units to Metric Units
	Use English/Standard Units Selecting English/Standard Units will switch from Metric Units to English/Standard Units.
	Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen.

Oxygen (O2) Sensors

Mode 5 views O2 sensor monitor test results.

ss02425



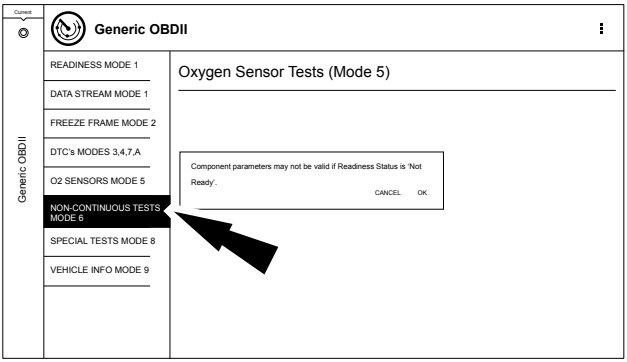
Mode 5 displays the average of the O2 sensor monitor test results measured over a period of time. The parameters of this measurement vary between manufacturers. It may be necessary to run the vehicle for a period of time to allow the O2 sensors to fully warm up and begin operating as intended.

Oxygen (O2) Sensors Button Definitions	
	Menu Button Tapping the Menu button displays a pop-up link that takes the user to more buttons.
	View Help Selecting View Help will open an online operators manual.
	Use Metric Units Selecting Metric Units will switch from English/ Standard Units to Metric Units
	Use English/Standard Units Selecting English/Standard Units will switch from Metric Units to English/Standard Units.
	Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen.

Non-Continuous Tests

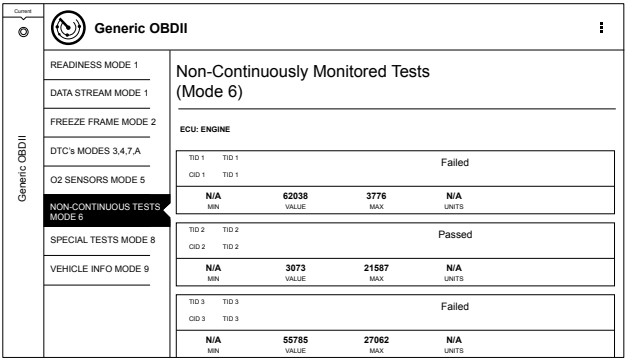
Mode 6 views onboard monitoring test results for noncontinuous monitor systems.

ss02425



1. Select Non-Continuous Tests from the Generic OBDII screen
2. Follow the prompts on the screen.

ss02427



Non-Continuous Monitor Tests (Mode 6) are a pass/fail test. Some examples are certain EVAP tests, catalyst, and EGR. The following information is reported:

- ECU.
- TID (test identification) which indicates the system monitor.
- CID (component identification) which indicates the component tested and its test value.
- Minimum value, maximum value, and current value for each non-continuous monitor supported.
- Pass or fail test results.

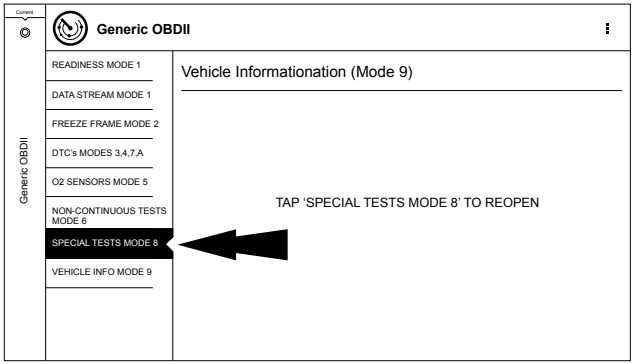
Each vehicle manufacturer assigns a code number to their system monitors and components. Refer to the vehicle manufacturers Mode 6 code chart to determine the failure indicated by the TID and CID. If this chart is not available, run an automated system test (AST) from the DTC screen and select Mode 6. See Read DTCs section for more information regarding steps to complete that action.

Non-Continuous Tests Button Definitions	
	Menu Button Tapping the Menu button displays a pop-up link that takes the user to more buttons.
	View Help Selecting View Help will open an online operators manual.
	Use Metric Units Selecting Metric Units will switch from English/ Standard Units to Metric Units
	Use English/Standard Units Selecting English/Standard Units will switch from Metric Units to English/Standard Units.
	Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen.

Special Tests

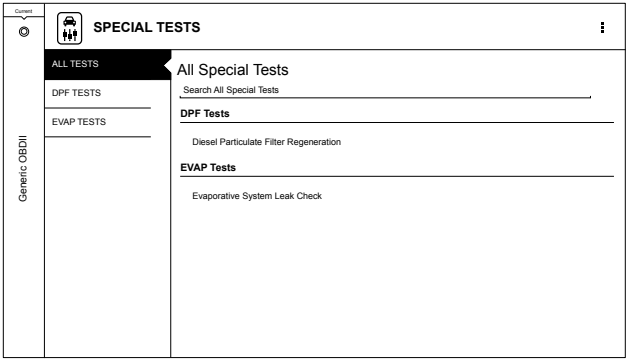
Mode 8 controls the operation of an onboard system, test, or component which is typically the EVAP system or diesel particulate filter (DPF) test.

ss02428



1. Select Special Tests from the Generic OBDII screen.

ss02429



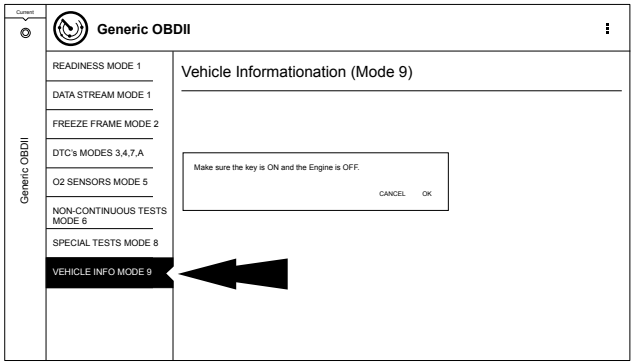
When available, this selection will automatically take the user to the special test screen where the test group menu will be displayed. Make a selection to enter the test, then follow the on-screen prompts. Mode 8 will not be supported on all vehicles. If you wish to run an EVAP test on a vehicle that does not support Mode 8, enter vehicle specific mode and refer to the Special Tests section on how to run a special test.

Special Tests Button Definitions	
	Menu Button Tapping the Menu button displays a pop-up link that takes the user to more buttons.
	View Help Selecting View Help will open an online operators manual.
	Use Metric Units Selecting Metric Units will switch from English/ Standard Units to Metric Units
	Use English/Standard Units Selecting English/Standard Units will switch from Metric Units to English/Standard Units.
	Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen.

Vehicle Info

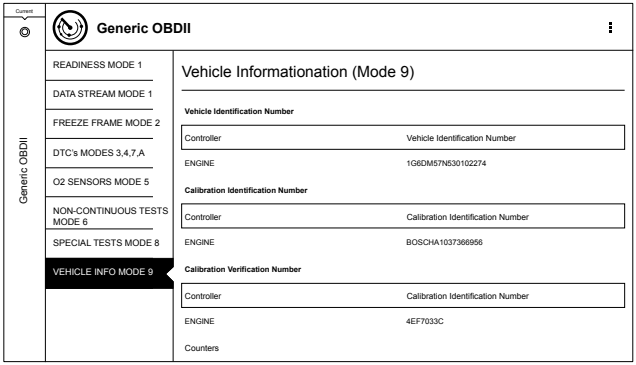
Mode 9 views Vehicle Identification Numbers (VINs), calibration ID(s), and verification number(s).

ss02430



1. Select Vehicle Info from the Generic OBDII screen.
2. Follow the prompts on the screen.

ss02431



The 17 digit VIN provides information on the vehicle including year of manufacture, engine and possibly transmission type, vehicle body style, and color.

Mode 9 is not supported on older vehicles, so a visual check of the VIN through the windshield or on the door sticker would be required to obtain that VIN. Mode 9 is used on the tool to Auto ID the vehicle and for calibration verification to see if a newer calibration is available for re-flashing the ECU.

Vehicle Info Button Definitions	
	Menu Button Tapping the Menu button displays a pop-up link that takes the user to more buttons.
	View Help Selecting View Help will open an online operators manual.
	Use Metric Units Selecting Metric Units will switch from English/ Standard Units to Metric Units
	Use English/Standard Units Selecting English/Standard Units will switch from Metric Units to English/Standard Units.
	Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen.

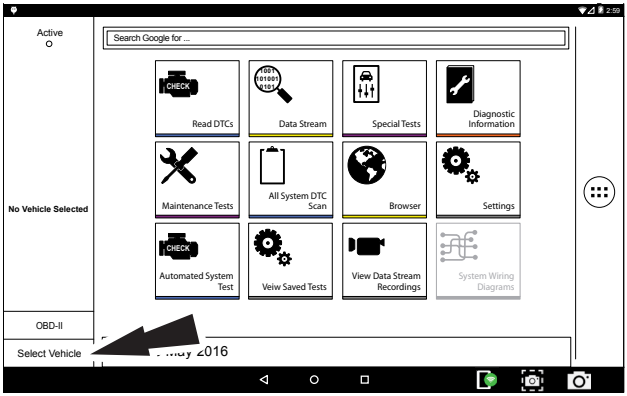
SELECTING VEHICLE

WARNING

Before performing any diagnostic functions, refer to the Safety Precautions and the warnings provided by the vehicle manufacturer. In addition, follow any warnings and instructions provided on the handset.

Note: Select Demo to generate simulated data for demonstration purposes.

ss02432



1. Select, Select Vehicle to manually choose the vehicle, AutoID to automatically identify the vehicle or enter the VIN.
2. Select the vehicle specification options on each screen until the complete vehicle information is entered.

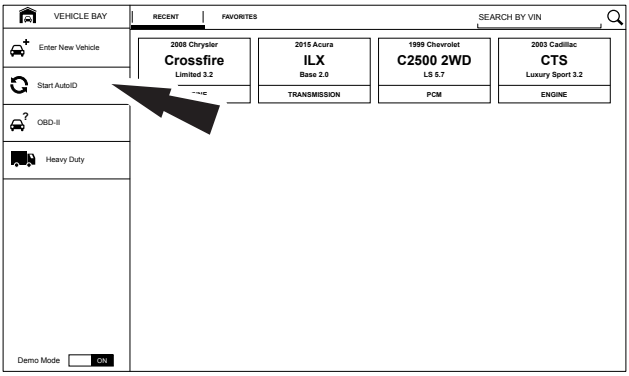
Auto ID

Auto ID uses the vehicle's Mode 9 VIN information, when available. Most vehicles from 2004 and newer support Auto ID, but some other older vehicles may support Mode 9 too.

Auto ID Operation:

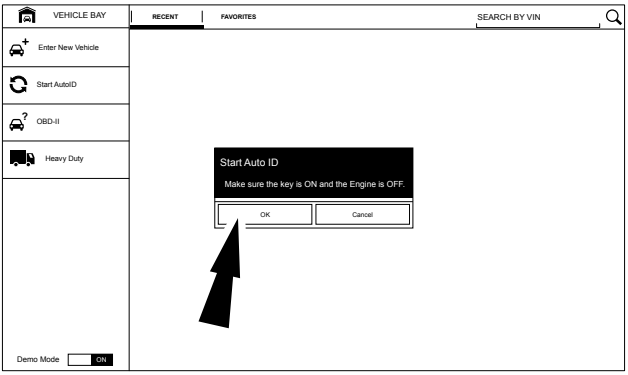
1. Handset must be on and and paired with the VCI which is connected to a vehicle.

ss02433



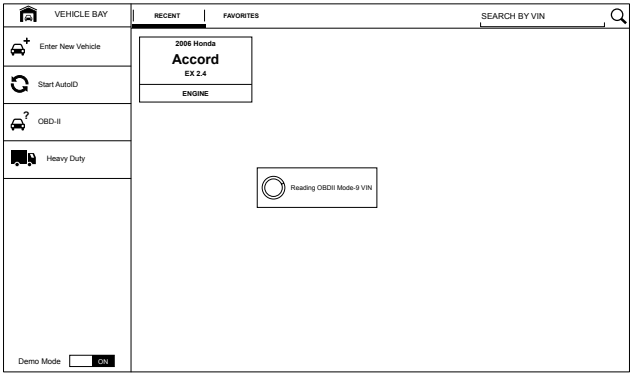
2. Select Start Auto ID
3. Once selected the handset will begin communicating with the vehicle.

ss02434



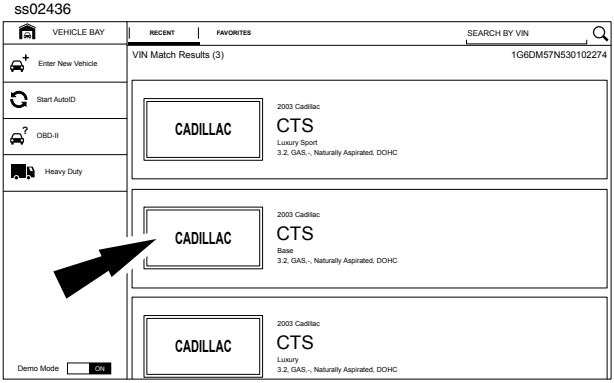
4. The vehicle must have the key on, engine off (KOEO).

ss02435



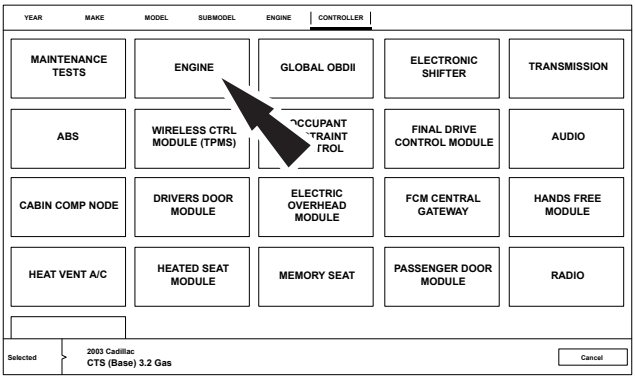
5. Once the VIN is retrieved it is compared to the vehicle database.
6. If a match is found the vehicle selection information will be displayed on the screen.
7. Wait for Auto ID to finish

ss02436



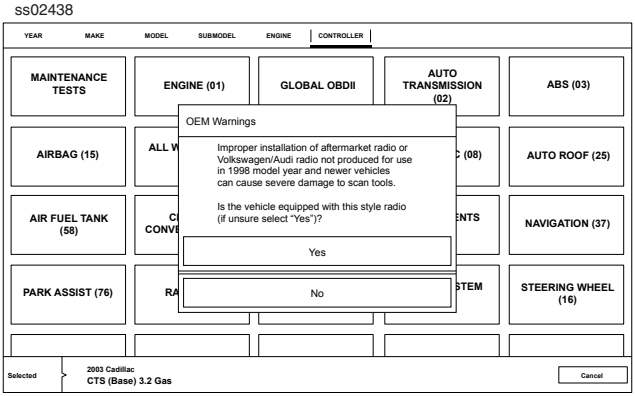
8. Select the desired vehicle from the list.

ss02437



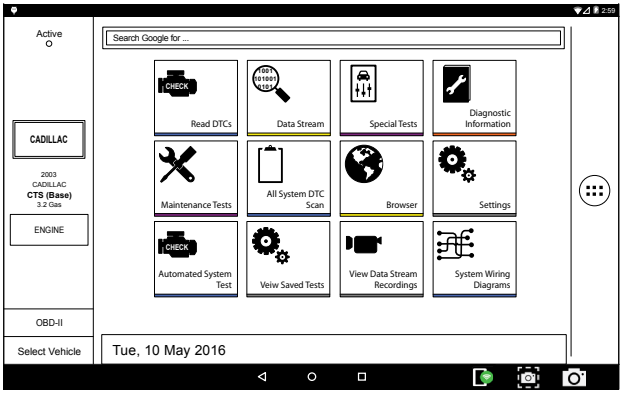
9. Select the desired vehicle controller.

ss02438



10. OEM warnings or qualifiers may pop up. Answer appropriately.

SS02439

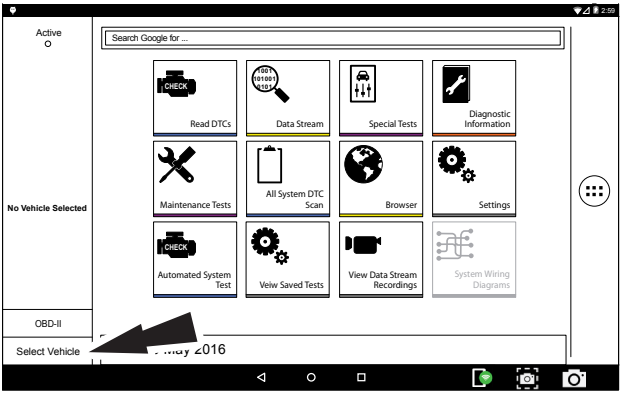


11. At this point vehicle entry will disappear and the user will be able to begin using diagnostic functions on the vehicle.

Manual Entry

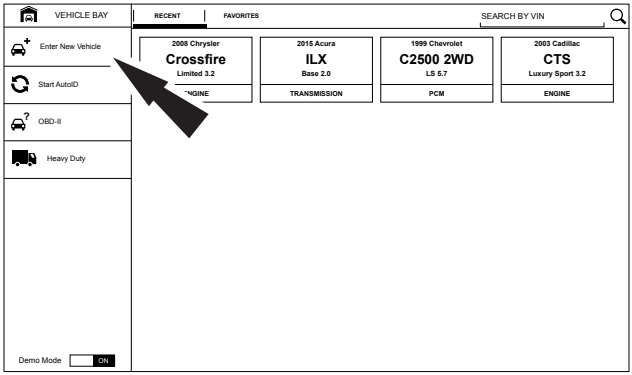
The handset must be turned on, be paired with the VCI which is connected to the vehicle and currently displaying the home screen. Once those conditions are met, complete the following:

ss02432



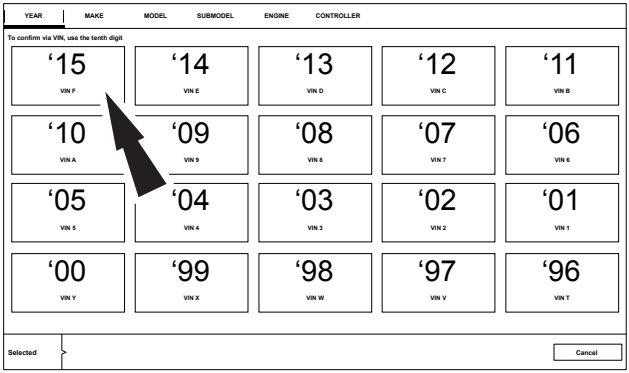
1. Select “Select Vehicle”

ss02440



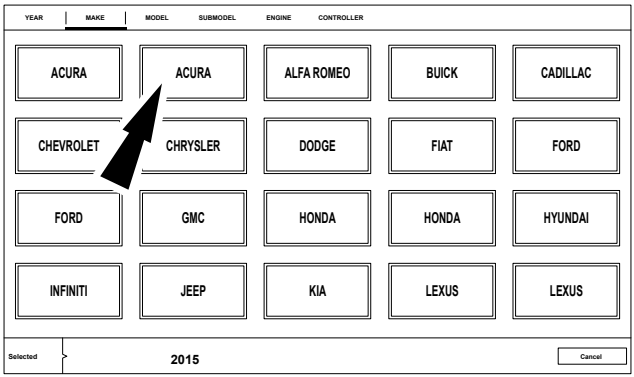
2. From the Vehicle Bay, select Enter New Vehicle.

ss02441



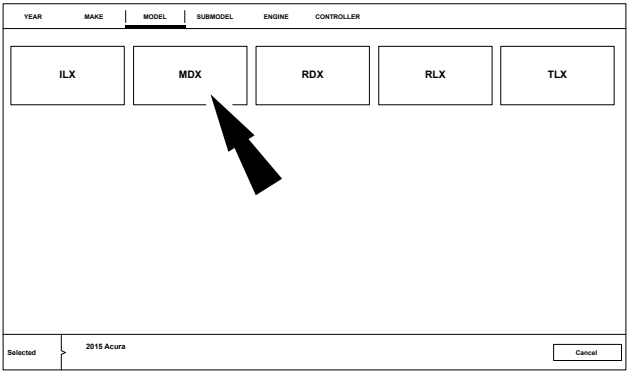
3. Select the model year of the vehicle.

ss02442



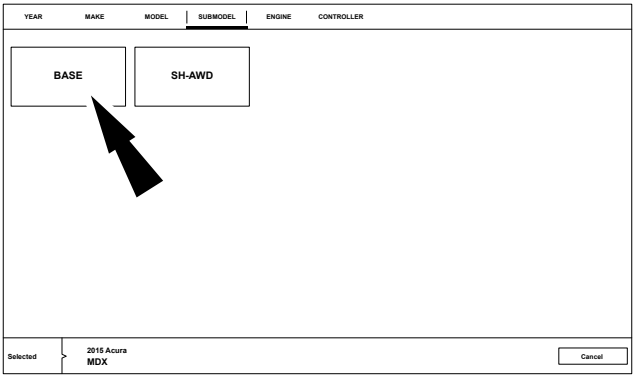
4. Select the make of vehicle.

ss02443



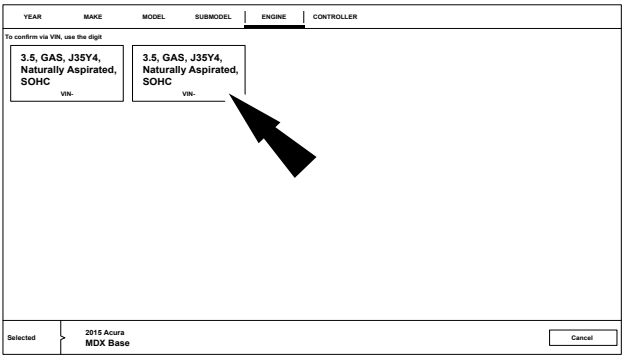
5. Select the model.

ss02444



6. Select the sub-model (trim level).

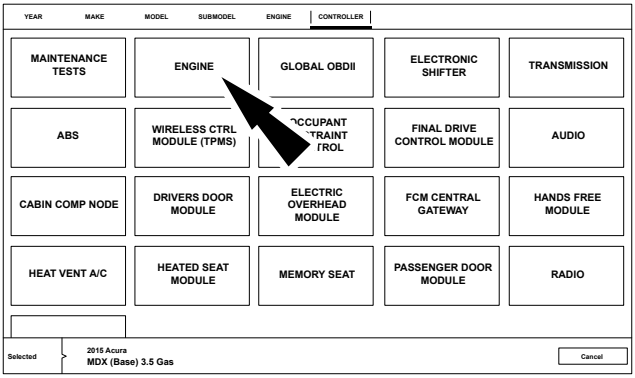
ss02445



7. Select the engine.

Note: Some vehicles may not require this selection.

ss02446

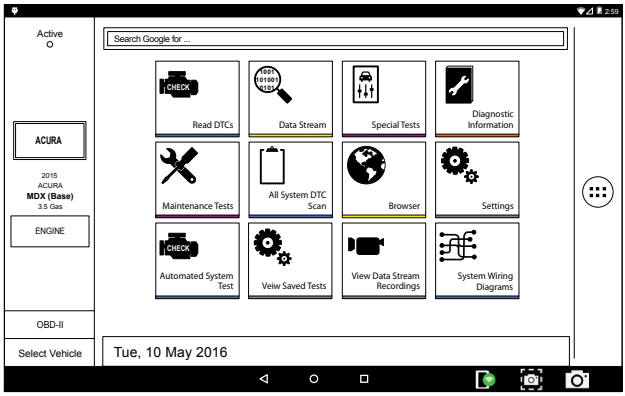


8. Select the desired vehicle controller.

The following information may be necessary to identify the vehicle or inform the user of special conditions:

- Transmission type
- With or without TPMS
- ABS may be disabled during this test.

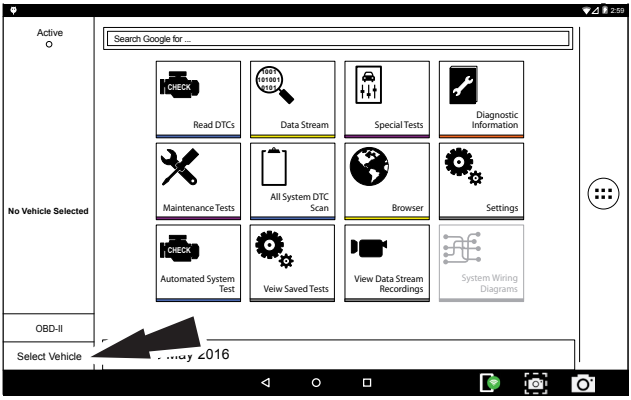
ss02447



9. At this point vehicle entry will disappear and the user will be able to begin using diagnostic functions on the vehicle.

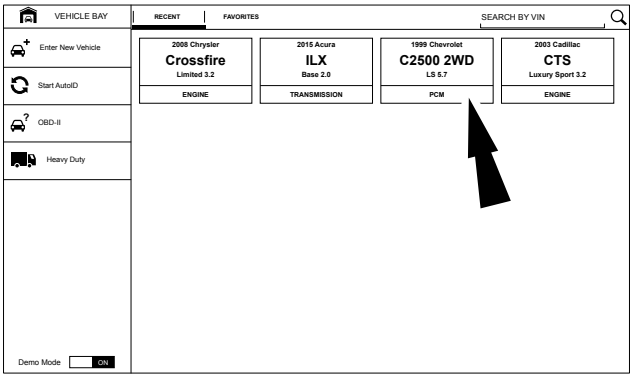
Recent

ss02432



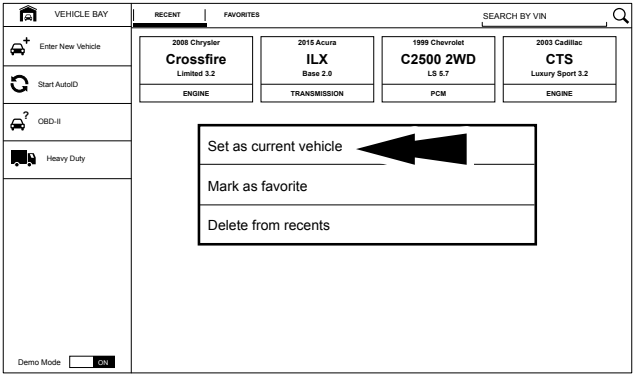
1. Select, Select Vehicle.

ss02448



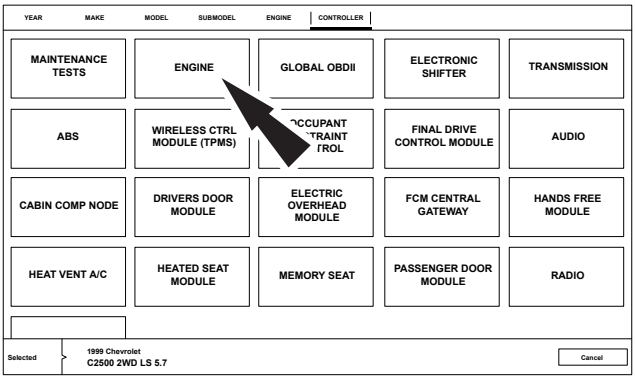
2. The Recent tab will show the most recent vehicles selected.

ss02449



3. Press and hold a recent vehicle tile and select one of three choices:
   - Set as current vehicle
   - Mark as favorite
   - Delete from recents
4. Select Set as current vehicle or just tap on the recent vehicle tile.

ss02450

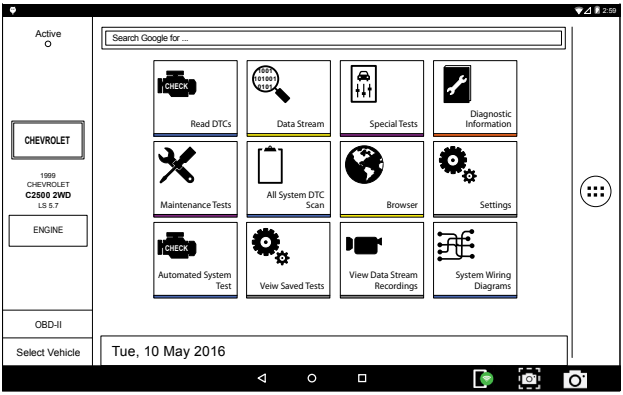


5. Select the desired vehicle controller.

The following information may be necessary to identify the vehicle or inform the user of special conditions:

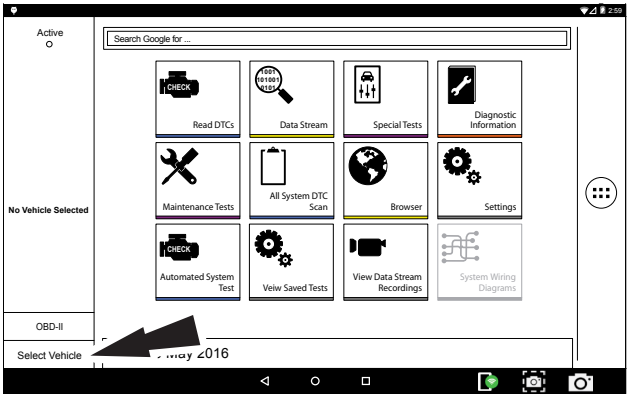
- Transmission type
- With or without TPMS
- ABS may be disabled during this test.

ss02451



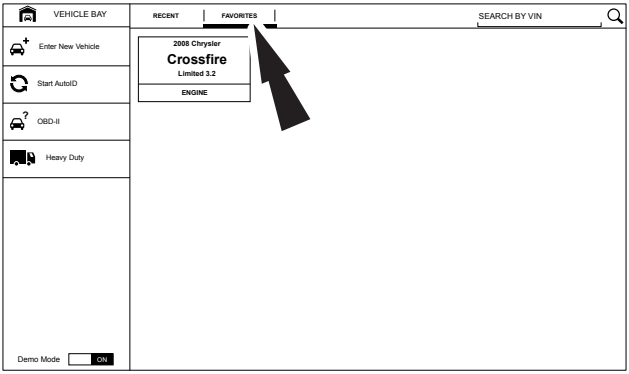
6. At this point vehicle entry will disappear and the user will be able to begin using diagnostic functions on the vehicle.

ss02432



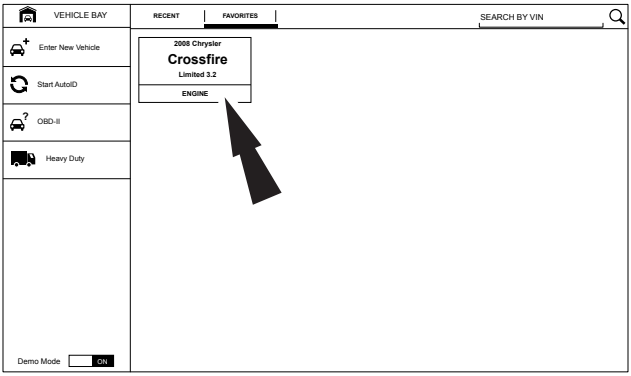
1. Select, Select Vehicle.

ss02452



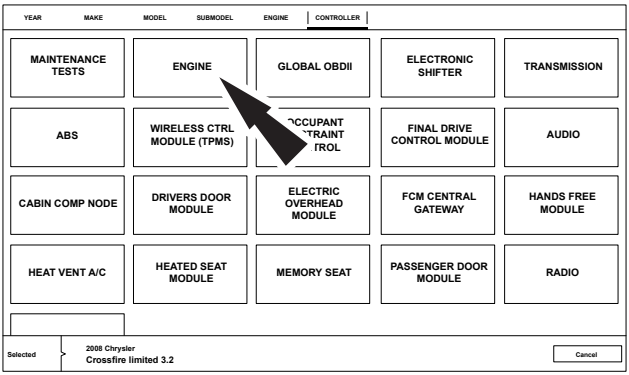
2. Select Favorites tab.

ss02453



3. Select a vehicle.

ss02454

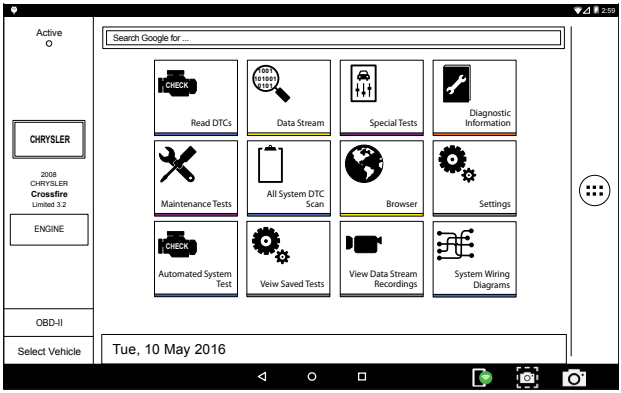


4. Select the desired vehicle controller.

The following information may be necessary to identify the vehicle or inform the user of special conditions:

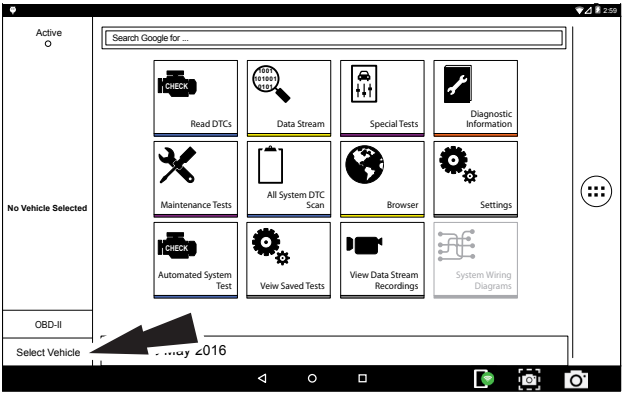
- Transmission type
- With or without TPMS
- ABS may be disabled during this test.

ss02455



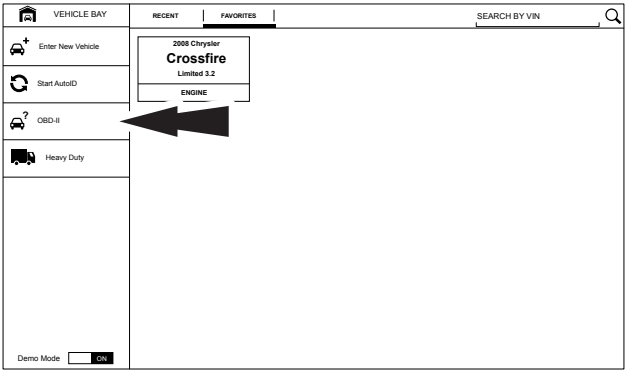
5. At this point vehicle entry will disappear and the user will be able to begin using diagnostic functions on the vehicle.

ss02432



1. Select, Select Vehicle.

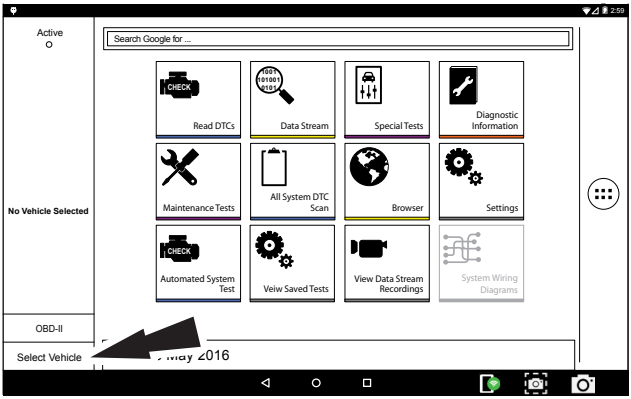
ss02456



2. Select OBD-II

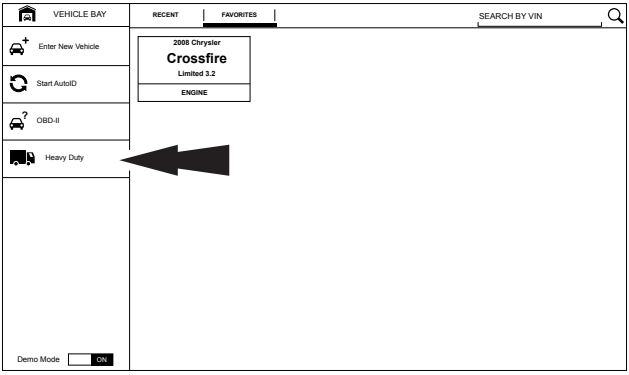
Note: For more information refer to the Global OBDII section.

ss02432



1. Select, Select Vehicle.

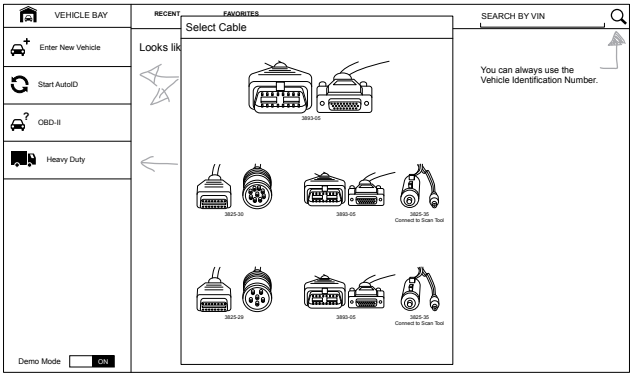
ss02457



2. Select Heavy Duty.

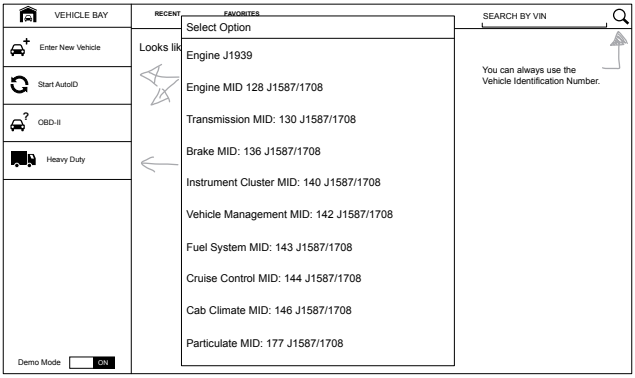
Note: You need to have a Heavy Duty subscription in order for Heavy Duty to be selectable.

ss02458



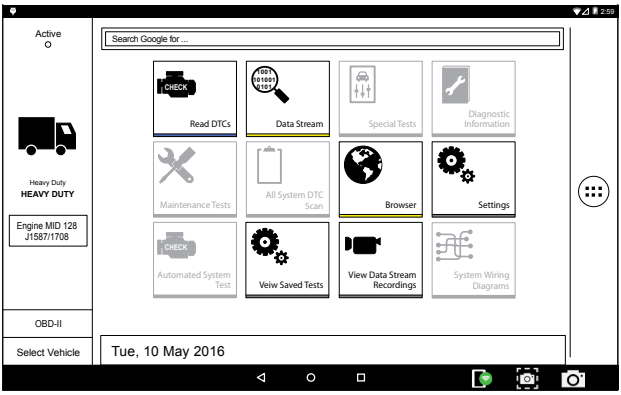
3. Select a Cable.

ss02459



4. Select a controller.

ss02460



5. At this point vehicle entry will disappear and the user will be able to begin using diagnostic functions on the vehicle.

Note: Special Test, Diagnostic Information, Maintenance Tests, All System DTC Scan, Atuomated System Test are not available.

J1587/1708 DTC Nomenclature

MID - Message Identification

The MID Identifies the Component
Example: MID 128 = Engine
MID 130 = Transmission
MID 136 = Brakes (ABS)

PID - Parameter Identification

The PID Identifies the data from a components electrical parts
Example: PID 084 = Road Speed (MPH)
PID 100 = Engine Oil Pressure (PSI)
PID 177 = Transmission Oil Temperature (Degrees)

SID - Subsystem or Status Identification

The SID identifies the status of a components electrical part
Example: SID 001 = Injector Cylinder #1 (on/off)
SID 034 = Reverse Switch (Open/Closed)
SID 163 = Transmission Range (HI/LO)
Note: MID related SID's start with Number 1 and sequentially increase. Common SID's start at Number 255 and sequentially increase.

FMI - Failure Mode Identifier

The FMI describes the type of failure detected in the part identified by the PID or SID. The FMI, and either the PID or SID combined to form a given diagnostic Fault code.
Example: FMI 002 = Data erratic, Intermittent or incorrect
FMI 005 = Current below normal or Open circuit
FMI 007 = Mechanical System Not Responding
FMI 011 = Failure Mode not Identifiable

Normal Message

MID-PID/SID-FMI
or
128-084-002
128 = Engine
084 = Vehicle Speed Sensor
002 = Data erratic, Intermittent or incorrect
Example: The Vehicle speed sensor circuit is bad.

J1939 DTC Nomenclature

SA - Source Address

The SA field contains the ECU that is sending the message
Example: SA 0 = Engine
SA 3 = Transmission
SA 11 = Brakes System Controller

SPN - Suspect Parameter Number

The SPN is used to identify the item for which diagnostics are being reported
Example: SPN 156 = Injector Timing Rail 1 Pressure
SPN 031 = Transmission Range Position
SPN 639 = J1939 Network

FMI - Failure Mode Identifier

The FMI describes the type of failure detected in the part identified by the SPN. The FMI, and either the SPN combined to form a given diagnostic Fault code.
Example: FMI 002 = Data erratic, Intermittent or incorrect
FMI 005 = Current below normal or Open circuit
FMI 007 = Mechanical System Not Responding
FMI 011 = Failure Mode not Identifiable

Normal Message

SA/SPN/FMI
or
3-639-02
03 = Transmission
639 = J1939
002 = Data erratic, Intermittent or incorrect
Example: The Transmission has detected the J1939 network has an error.

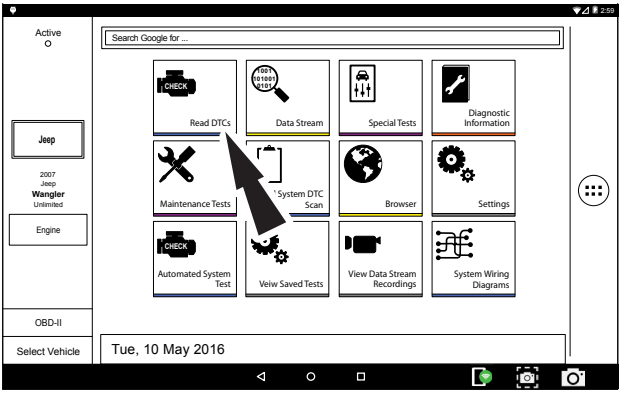
READ DTCS

Overview

The Read DTCs function allows reading, clearing, printing, and sharing (wireless or email) of vehicle DTCs. Onboard Code Assist information may also be available, for selection when DTCs are found. This information contains pertinent details regarding the selected DTC. For more detailed comprehensive information, go to Service and Settings, Direct-Hit® to subscribe.

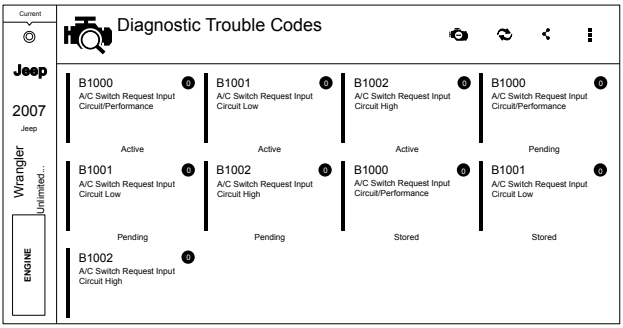
Vehicle must be selected from the Vehicle Bay and the handset must now be displaying the Home Screen.

ss02461



1. Select Read DTCs from the home screen.

ss02462



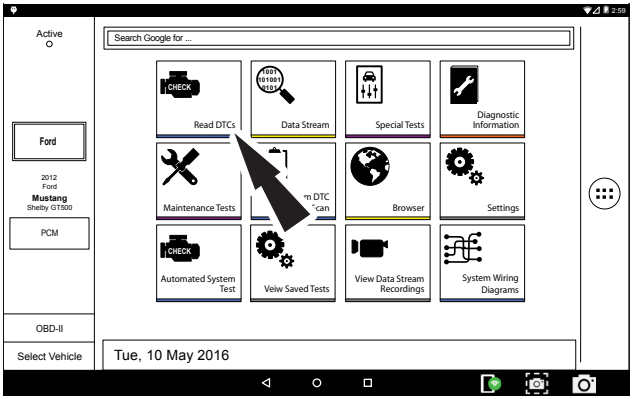
2. Codes will be read from the selected controller and displayed on the screen.

Read DTCs Button Definitions	
	Ford/Lincoln/Mercury Self Diagnostics button displays a pop up menu allowing the user to choose between specific special tests.
	GM/GMC Status button displays a pop up menu allowing the user to view the status on DTCs
	Clear DTCs Button The Clear DTCs button is used to clear codes and remove all but permanent DTCs on the selected controller. To clear codes, complete the following: *NOTE:* *Clearing DTCs will erase current Mode 1 Readiness monitor information and require the user go through necessary drive cycles over again. So, if Mode 1 information needs to be reviewed, be sure to view it before clearing codes.* *If a code will not clear, turn the ignition o for at least 10 seconds; turn it back on to KOEO, then retry. Some controllers will go to sleep after a period of inactivity and prevent clearing DTCs. This key cycle may be needed when attempting to communicate with other controllers after a period of time on a different controller.*
	Refresh DTCs Button Tapping the Refresh button initiates a fresh scan of DTCs from the vehicle.
	Share DTCs Button Tapping the Share button opens the app and initiates one of two options, share by email or Bluetooth email concontaining a list of all the DTCs set.
	Menu Button Tapping the Menu button displays a pop-up link that takes the user to help content related to reading DTCs. *Note: an active internet connection will be required.*
	View Help Selecting View Help will open an online operators manual.
	Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen.

Ford/Lincoln/Mercury

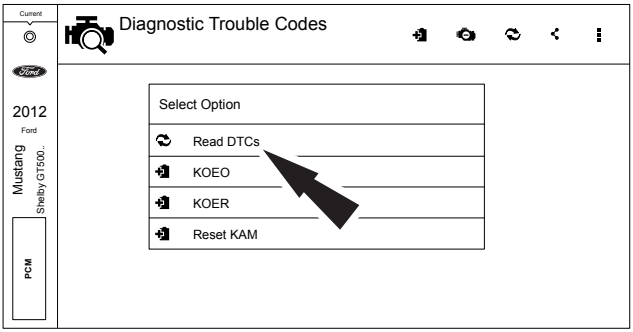
When connected to a Ford/Lincoln/Mercury vehicle a pop up menu allowing the user to choose between specific special tests.

ss02463



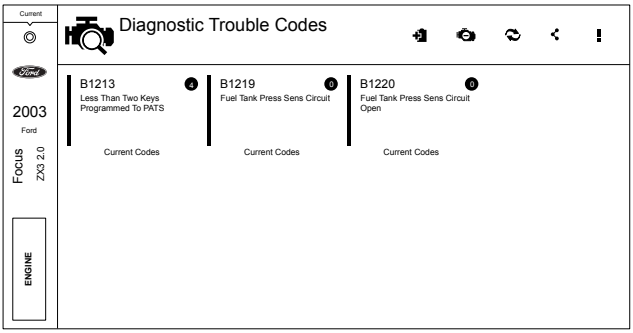
1. Select Read DTCs from the home screen.

ss02464



2. Tapping an option in the menu takes the user to that test. Follow the prompts on the screen.

ss02465

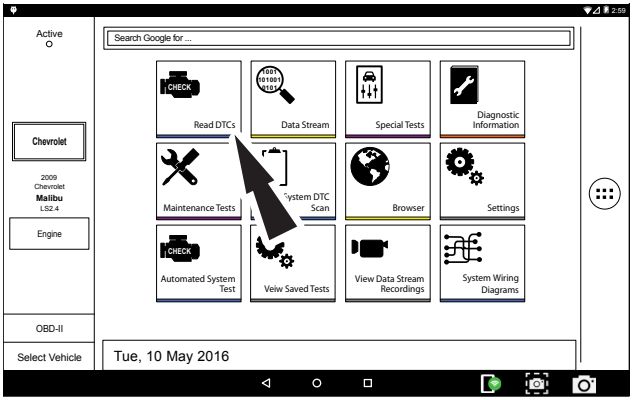


3. Codes will be read from the selected controller and displayed on the screen.

GM/GMC

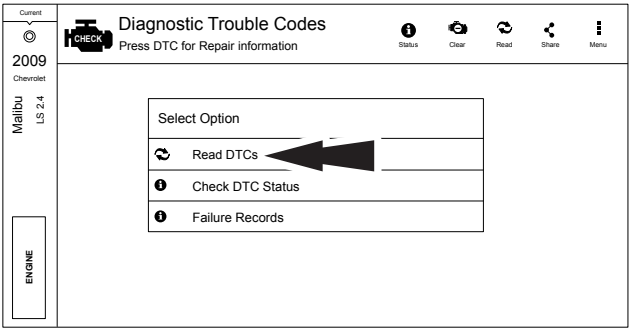
When connected to a GM/GMC vehicle a pop up menu appears, allowing the user to choose between specific special tests.

ss02466



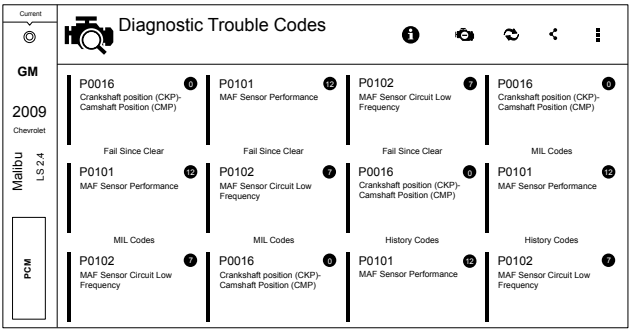
1. Select Read DTCs from the home screen.

ss02467



2. Tapping an option in the menu takes the user to that test. Follow the prompts on the screen.

ss02468

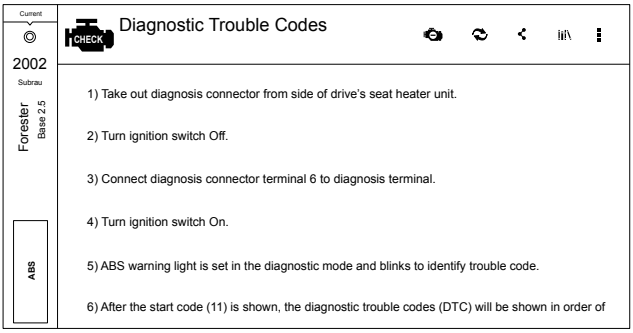


3. Codes will be read from the selected controller and displayed on the screen.

Manual DTCs

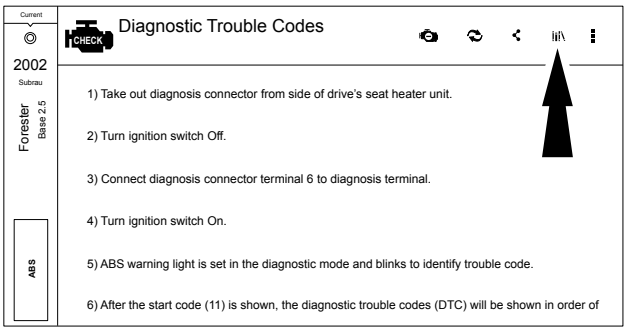
Certain vehicles do not support standard DTC protocol and will require a manual process for retrieving and clearing codes.

ss02469



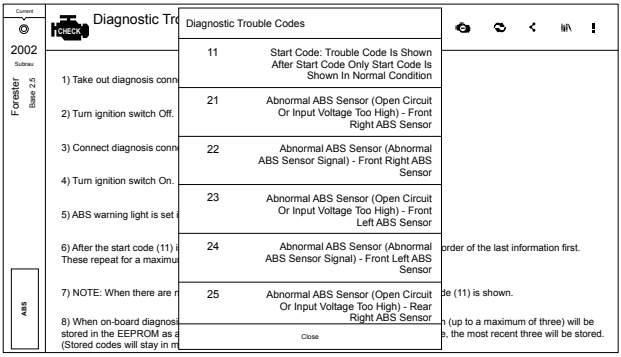
1. Follow the prompts on the screen for retreiving DTCs.

ss02470



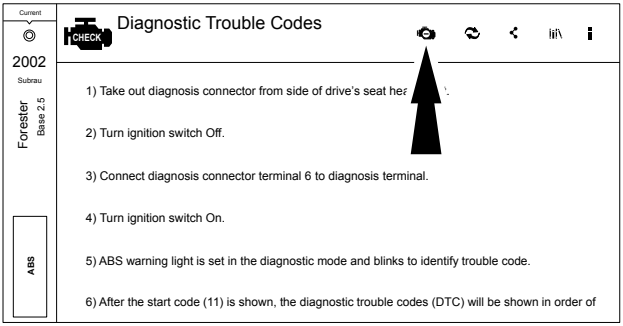
2. Select Diagnostic Trouble Codes button.

ss02471



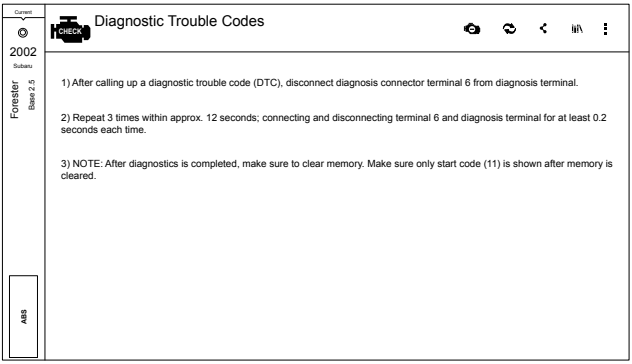
3. Follow the prompts on the screen.

ss02472



4. Select Clear DTCs button.

ss02473

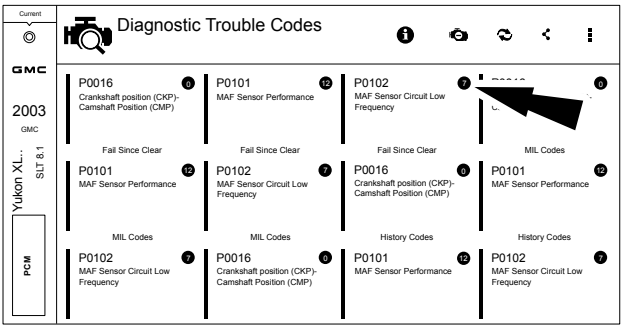


5. Follow the prompts on the screen.

Code Criteria

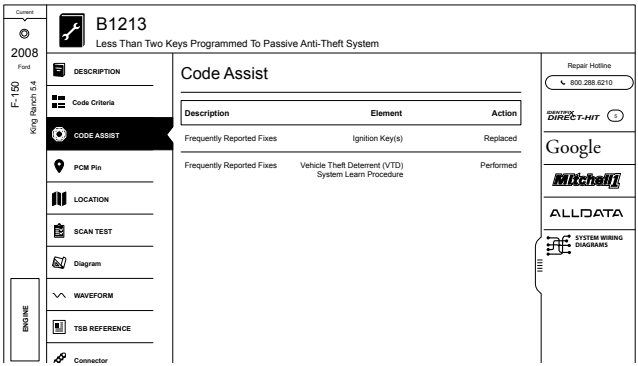
Codes will be read from the selected controller and displayed on the screen.

ss02474



If a DTC has code criteria available there will be an indication in the upper right corner of the listed DTC.

ss02475



DTC Info

DTC Info allows the technician to find details related to a given DTC.

Description

Displays the description associated with the selected DTC.

Code Criteria

Provides information regarding how the DTC is set.

Code Assist

Provides information regarding the kind of action other technicians found successful when faced with the same DTC.

PCM Pin

Provides detailed information related to the actual pins on the PCM that are associated with the selected DTC.

Location

Aids the technician in determining where on the vehicle their attention should be directed.

Scan Test

Provides the technician with detailed test steps.

Diagram

Provides a circuit diagram related to the selected DTC.

Waveform

Presents reference waveform information to help the technician understand and fix the problem.

TSB Reference

Provides the technician with TSBs associated with the selected DTC.

Connector

Presents information related to the connector to help the technician understand and fix the problem.
Identifix® Direct-Hit®
A subscription is required to access Identifix® Direct Hit®. To obtain a username and password, go to www.identifix.com and fill out the necessary steps to acquire an account.
Once account is setup with Identifix®:

- Select Settings button from the Home screen.
- Select Direct-Hit® from the available tabs on the left margin of the screen.

- Input the username and password acquired from Identifix® by selecting the empty field.
- Using the virtual keyboard enter the required information for both fields.
- Select GO.

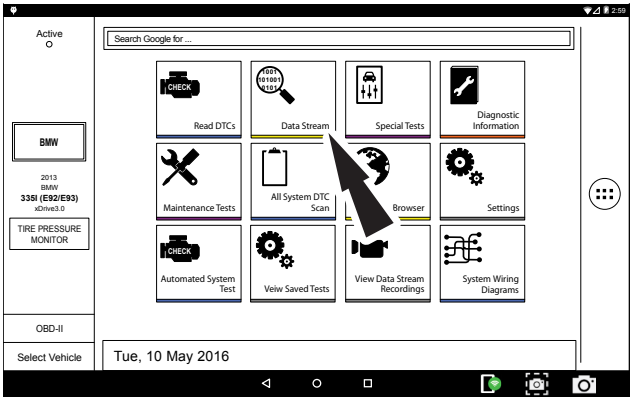
DATA STREAM

Overview

The data stream function shows live sensor and solenoid data streaming from the vehicle ECU (electronic control unit). Connect the VCI with the vehicle at key on engine off or key on engine running to see live dynamic data, instead of static live data. Each data item has a selection checkbox and a display format menu.

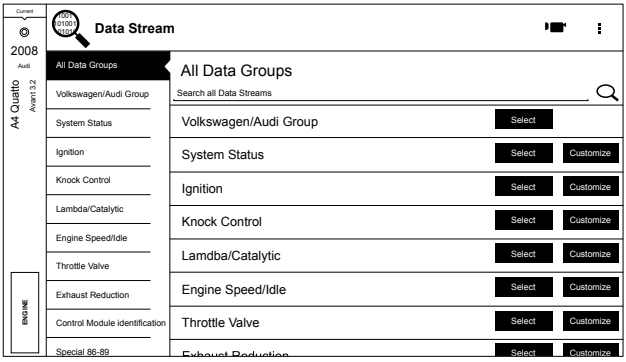
Basic Data Stream Procedure

ss02476



1. From the home screen, select Data Stream.
2. If the vehicle is NOT a Volkswagen/Audi then go to step 5.

ss02477



3. Follow the prompts on the screen. Select or customize a group.

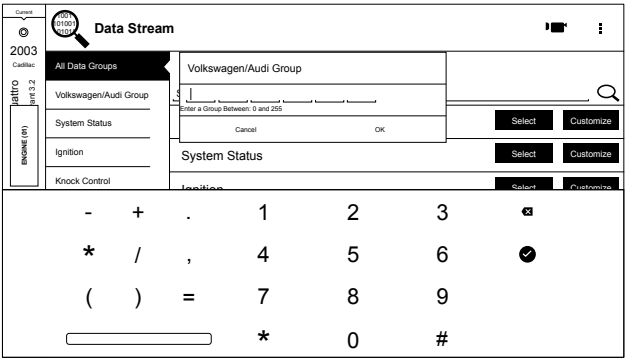
Data Groups

- Data groups may be selected at any time within data stream.
- Select the data group menu button from the top of the screen.
- Scroll through the menu until the desired data group is found, then select it.

Note: It is possible to change controllers while in data stream.

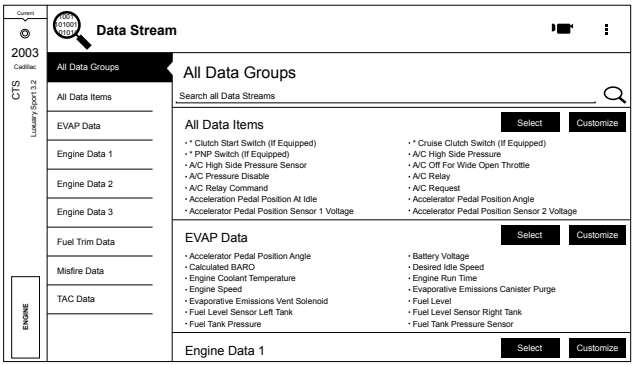
- Select the controller selection button.
- Select the desired controller.
- Once controller is selected, select the data group menu button.
- Select the desired data group.

ss02478



4. Select the Volkswagen/Audi Group. When finished go to Step 6.

ss02479



5. Follow the prompts on the screen. Select or Customize a group.

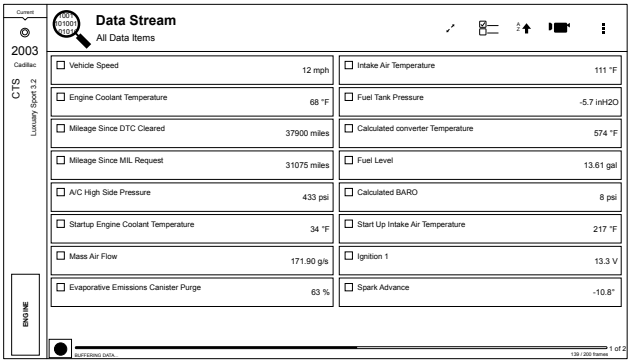
Data Groups

- Data groups may be selected at any time within data stream.
- Select the data group menu button from the top of the screen.
- Scroll through the menu until the desired data group is found, then select it.

Note: It is possible to change controllers while in data stream.

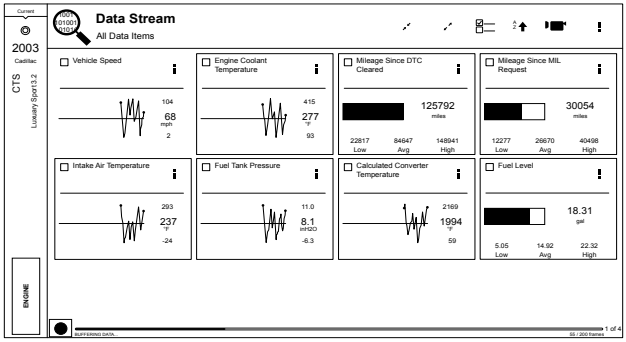
- Select the controller selection button.
- Select the desired controller.
- Once controller is selected, select the data group menu button.
- Select the desired data group.

ss02480



6. Follow the prompts on the screen.

ss02481

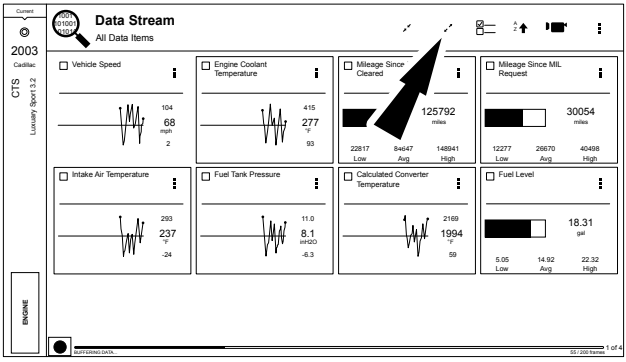


7. The selected data will be displayed.

Enlarge Screen View Function

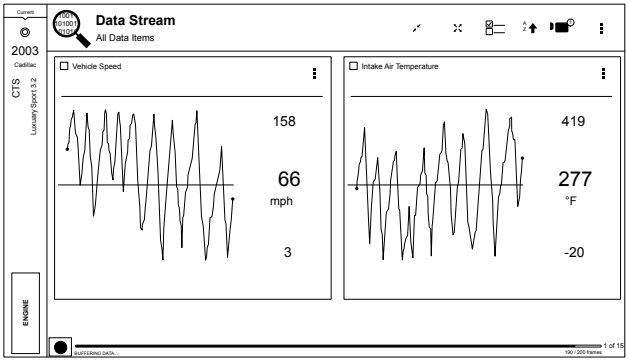
1. Enhanced data stream provides OEM specific information.

ss02482



To view the data in the Enlarge view, press the Enlarge button.

ss02483



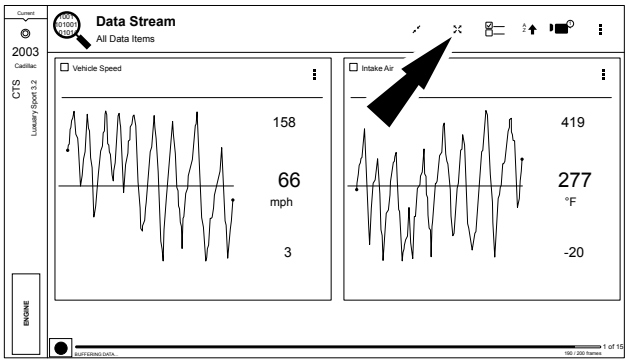
Note: The far left 2-data tiles will be enlarged to select the specific data tiles to be enlarged.
To see more graphs use your finger to swipe the screen.
Note: Depending on your Scroll Options preference either horizontally or vertically.

Data Stream View Button Definitions	
	Reduce View Function To Zoom Out, press the Reduce View button.
	Enlarge View Function To view the data in the enlarge view, press the Enlarge View button.
	Zoom Out Function To Zoom Out, press the Zoom Out button.
	Zoom In Function To view the data in the Full Screen Mode, press the Zoom In button.

Full Screen View Function

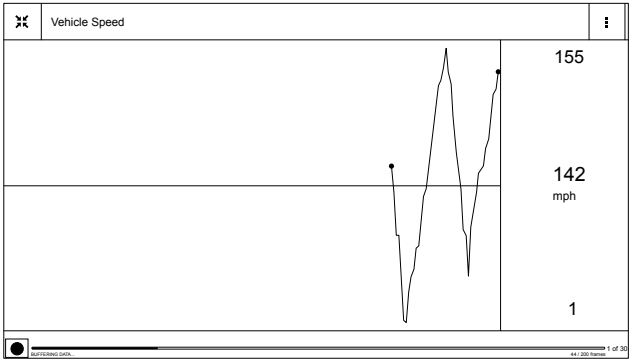
To view the data full screen, press Full Screen button.

ss02484



To view the data in Full Screen view, press the Zoom In button.

ss02485

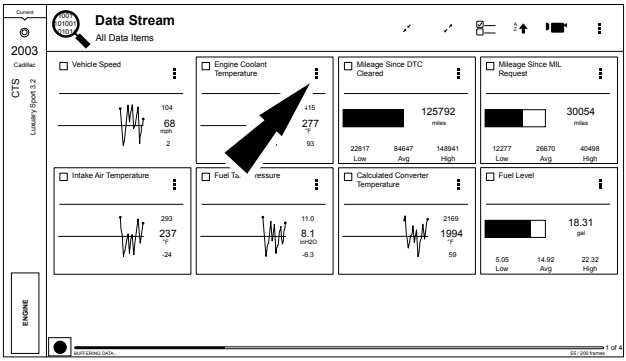


Note: The top right graph will be shown full size.
To see more graphs use your finger to swipe the screen.
Note: Depending on your Scroll Options preference either horizontally or vertically.

Display Types

To change data item display types, select the data item menu button located in upper right

ss02488



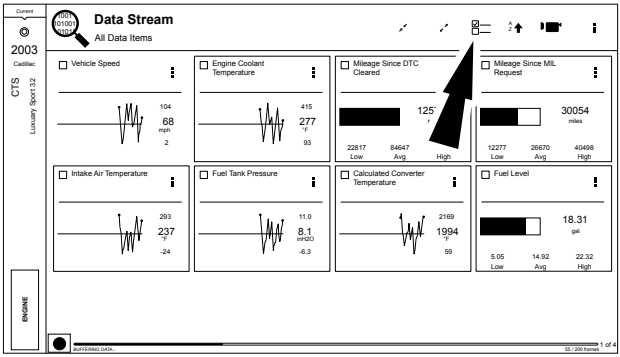
Display Type Button Definitions	
	Menu Button Tapping the Menu button displays a pop-up link that takes the user to more buttons.
##	Digital To change to digital form, select the ## Digital button.
	Line Graph To change to line graph, select the Line Graph button.
	Bar Graph To change to bar graph, select the Bar Graph button.
	Change Color To change the color of a graph, select the Change Color button.
	Clear All Data Select Clear Data to clear displayed data stream. This function will reset the timeline frame counter and clear graphed data.
	Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen.
	Use Metric Units Selecting Metric Units will switch from English/ Standard Units to Metric Units.

Display Type Button Definitions	
	Use English/Standard Units Selecting English/Standard Units will switch from Metric Units to English/Standard Units.

NOTE: Not all display types are available for all data items

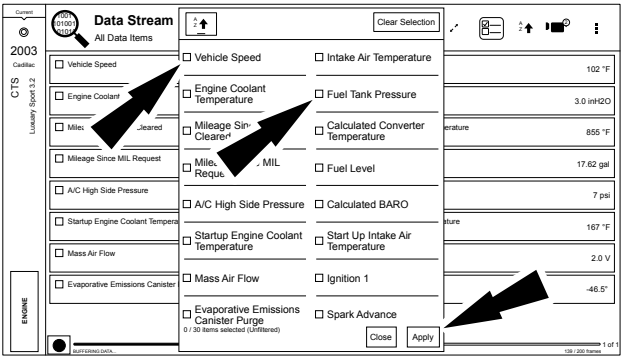
Select Function

ss02489



1. Select the Select button.

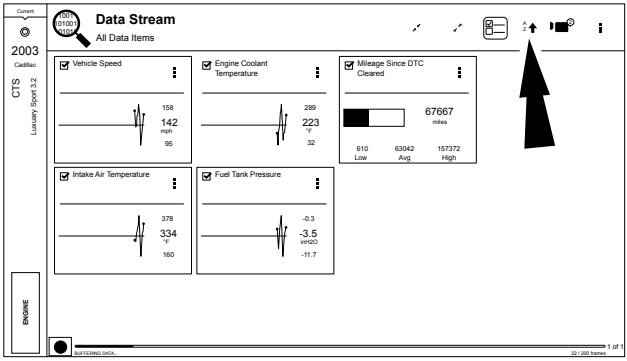
ss02490



2. Choose only the data you want to view by checking the box in front of each desired data item.
3. Select apply

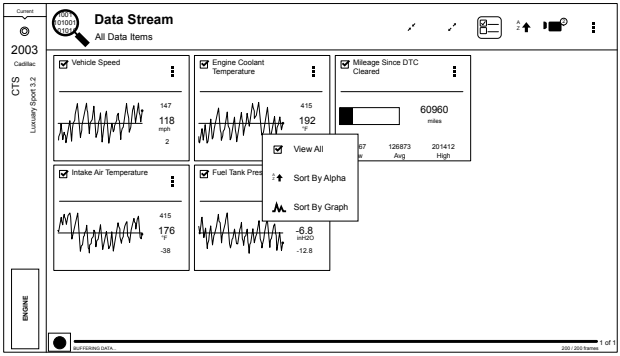
Sort Function

ss02491



1. Select Sort to sort data items.

ss02492

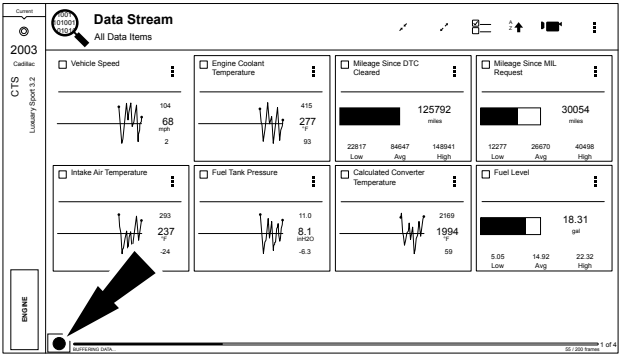


2. Data may be sorted alphabetically, by graph, or by selection (checkbox checked).

Note: Sorting data items will reset the timeline frame counter, so sort these items before recording data. If sorting data while recording the recording will have a period of time where there is no data available.

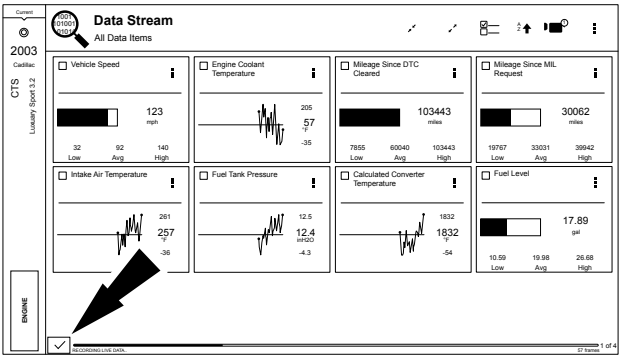
Recording

ss02493



1. Select the red record button located at the bottom left of screen.
   - When recording the red record button will turn into a check mark.

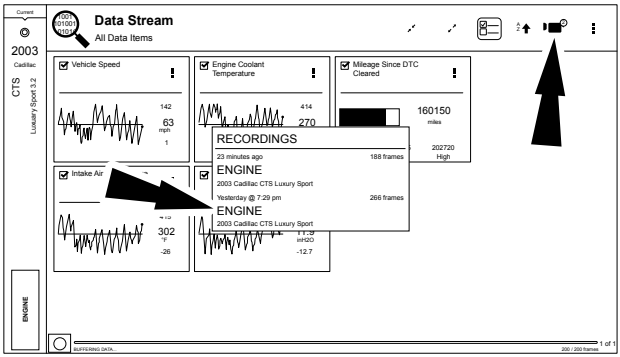
ss02494



2. To stop recording select the check mark

Recordings

ss02495



1. Select Recordings to view previously recorded data streams.
   - Recordings are listed from newest to oldest. When the folder is full, the newest recording pushes the

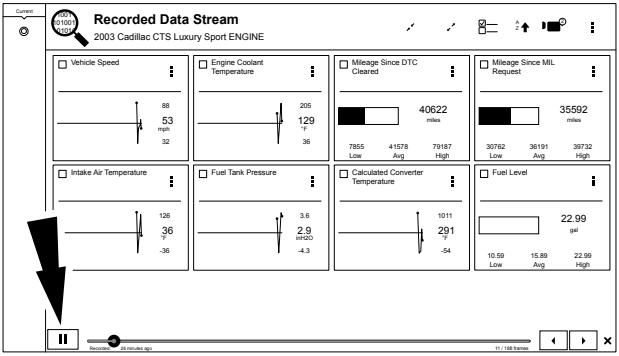
oldest one out of the list. Currently, there is no way to manually delete recordings.

- To view recordings, select the Recordings button near the top of the display.

2. Select the desired recording.

Playback Instructions

ss02496



To pause the display select Pause.

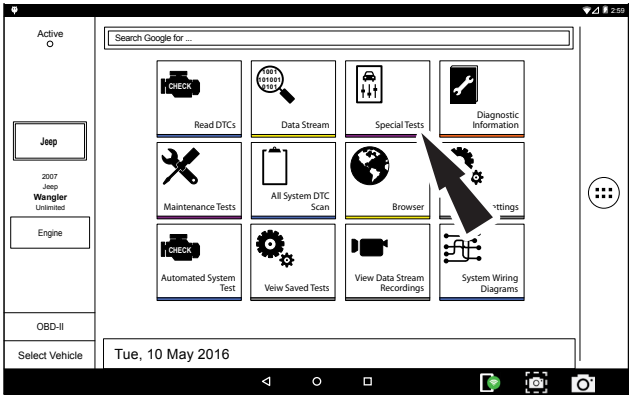
- To resume playing the recording, reselect Pause.
- To advance the recording frame-by-frame:
- Select “>”.
- Select either “<” or “>”.
- To resume playing the recording, select Pause.
- If replay is desired, click and drag the timeline marker back to the beginning of the timeline and release.

SPECIAL TESTS

Overview

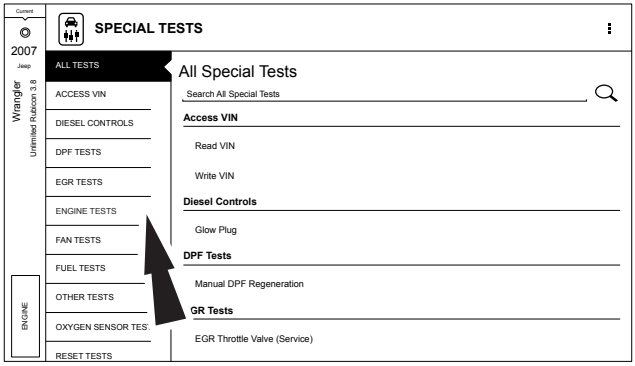
Depending on the vehicle and controller selected, special tests are available.
The special test function is a key component to the tool because it allows circuit testing without ever touching a circuit with a DVOM or other electrical testing equipment. This will also protect electrical circuits from being contaminated or damaged from manual testing with electrical troubleshooting equipment. It is also a quick and easy way to test vehicle controller operation which is dicult to test using traditional methods.

ss02497



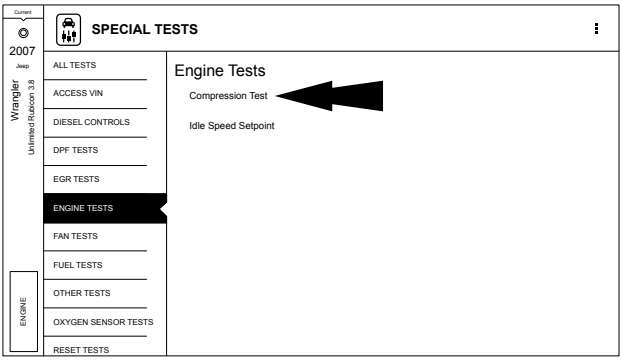
1. Select Special Tests from the home screen.

ss02498



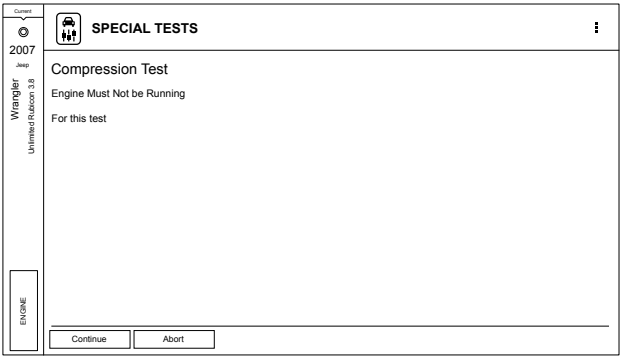
2. At the special test screen select a special test group from the group selection menu, then select the desired special test within the desired test group.

ss02499



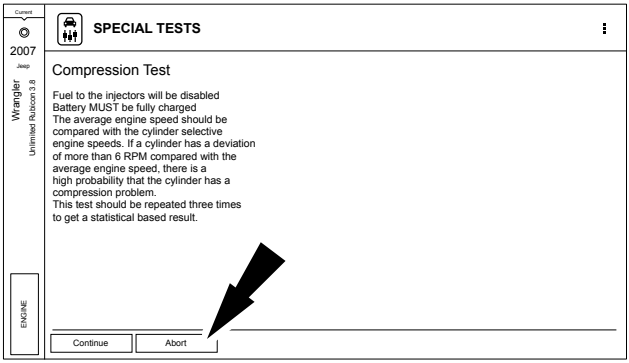
3. Only the tests meeting the search criteria are displayed. Select the desired test to be executed.
Note: Some tests may require a registration like Tire Pressure Sensor Test

ss02500



4. Follow the prompts on the screen.
NOTE: Some of the instruction text may not exactly match what is on the screen. This will be updated as product updates are released.

ss02501



5. To terminate a test at any time, use the emergency stop button. To exit special tests normally, select the exit or abort button.
Note: Exit or abort will both stop the current special test and take you back to the start of Special Tests

Note: If there is data streaming attached to the Special Test then you will be taken to Special Tests in Data Stream.

It is possible to change controllers within the special test menu screen after exiting the current test. All features outside the special test are locked out until the test is terminated to protect the vehicle and the person running the special test. If a function outside the special test is desired, terminate the test and proceed to the desired function. Special tests are not available for all vehicles and controllers. The air bag controller will rarely provide special tests, as actuating the air bag would cause damage to the steering wheel or cabin components. It would also be necessary to replace air bag modules after running the test and clean the interior. Special tests will be continuously updated as more are added; in addition, tests which do not function may be removed during updates as well. There may be tests listed that do not function on the selected vehicle. This is likely due to the fact that many vehicles have different systems depending on sub-model types.

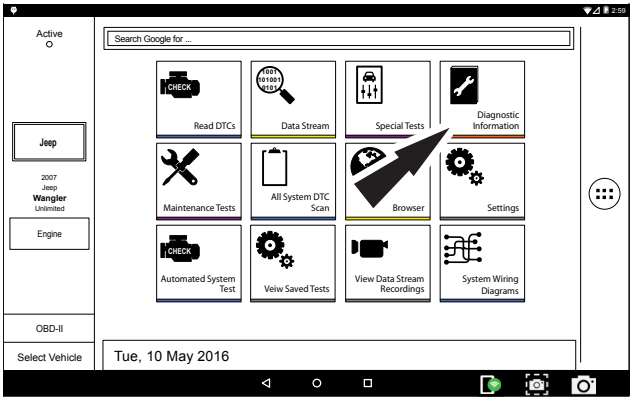
Read DTCs Button Definitions	
	Menu Button Tapping the Menu button displays a pop-up link that takes the user to help content related to reading DTCs. *Note: an active internet connection will be required.*
	View Help Selecting View Help will open an online operators manual.
	Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen.

DIAGNOSTIC INFORMATION

Overview

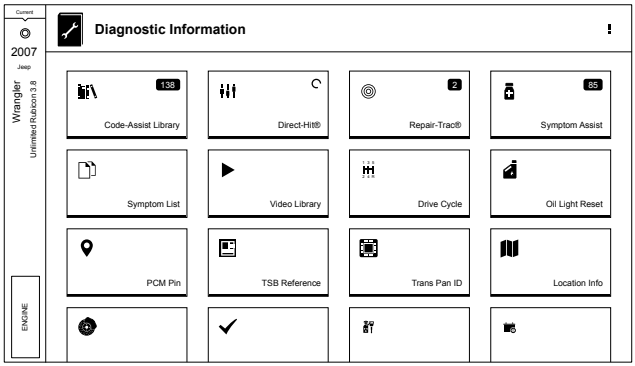
Diagnostic Information provides diagnostic, repair, and reset information for the selected vehicle.

ss02502



1. Select Diagnostic Information from the home screen.

ss02503



2. Select the desired function from within the Diagnostic Information menu.

AutoDetect Results Number Indication

Diagnostic Information provides diagnostic, repair, and reset information for the selected vehicle.

- Each vehicle and controller will have its own set of indications.
- The indication is displayed on top of the Diagnostic Information selection.
- When entering diagnostic information, the application will conduct a search in the background for the selected vehicle/controller combination to determine the number of items it will contain.

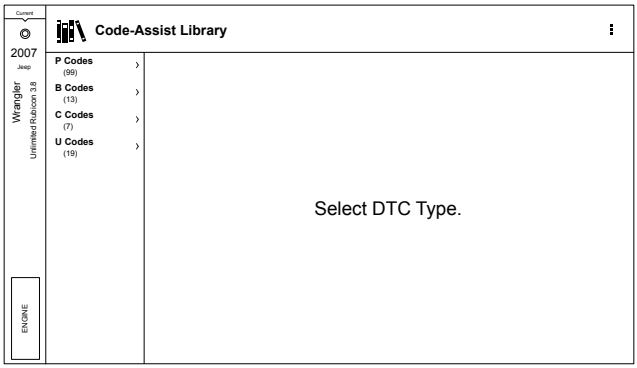
NOTE: If diagnostic information is desired for a different controller or vehicle, return to the Home Screen and change the controller or vehicle there, then re-select Diagnostic Information. Failure to follow this could lead to display errors or communication errors.

NOTE: Not all assets within the Diagnostic Information menu will utilize the AutoDetect Results Number indication feature.

Code Assist™ Library

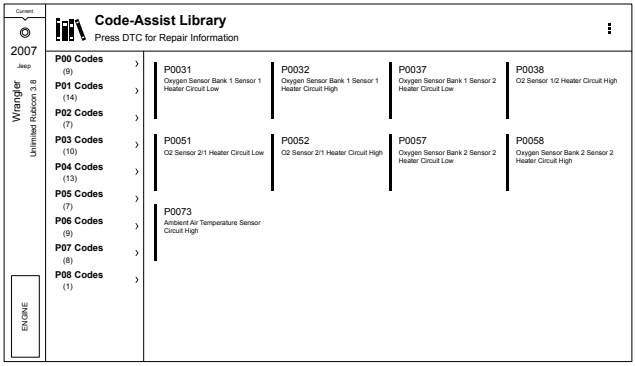
This function will allow a search for DTCs by letter/number designation.

ss02504



1. Select Code-Assist library from the Diagnostic Information screen.

ss02505



2. The next selection divides the information into subcategories B, C, P and U codes. The next selection divides previous groups even more
3. Remaining selections will eventually filter the list down to a shortened DTC list where the user is able to scroll and select the desired DTC
4. Select the DTC to display the DTC information.
5. To return to previous menu screens, select the back arrows at the top of the screen.

Identifix® Direct-Hit®

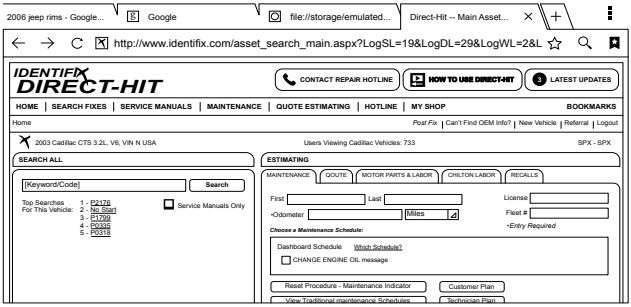
Identifix® Direct-Hit® requires an account setup with Identifix®. To set up an account, go to www.identifix.com and complete the necessary steps.

Once an account is set up with Identifix®:

- Select Settings button from the home screen.
- Select Direct-Hit® from the available tabs on the left margin of the screen.
- Input the username and password acquired from
- Identifix® by selecting the empty field.
- Using the virtual keyboard, enter required information for both fields.
- Select Save.
- Information saved will be displayed.

1. Select Identifix® Direct-Hit® from the Diagnostic Information screen.

ss02506



Identifix® Direct-Hit® is now set up for use on the handset. There are a few areas where Identifix® Direct-Hit® may be selected:

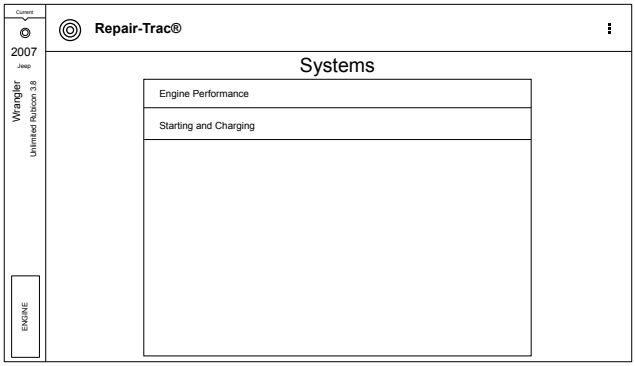
- From DTC information screen after having selected Read DTCs from the Home Screen and a listed DTC
- After running an “All DTC Scan” from the “Read DTCs” screen and after having selected a listed DTC in the All DTC Report screen.
- After running an AST from the Read DTCs screen, and after having selected a DTC under the DTC tab at the AST report screen.
- From the “Diagnostic Information” screen, after having selected Diagnostic Information from the Home Screen.

Repair Trac®

Uses the AutoDetect Results Number Indication feature described above.

1. Select Repair Trac® from the Diagnostic Information screen to view previously reported repairs for the selected vehicle/controller combination.

ss02507



Select the desired system.

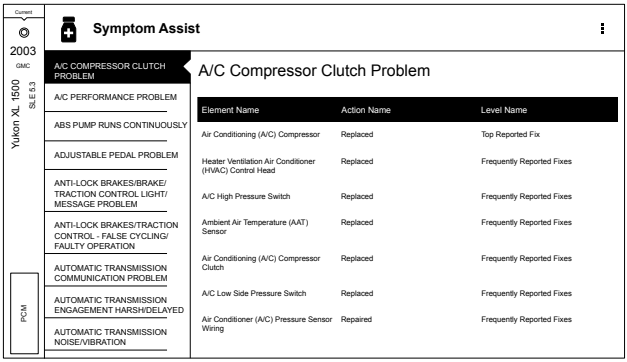
- Select the category.
- Select the deficiency.
- Select the symptom.
- Report is displayed describing the problem, how to test and fix, and related DTCs.

Symptom Assist™

This function assists in diagnosing a problem with a vehicle component by selecting apparent symptoms.

1. Select Symptom Assist from the Diagnostic Information screen.

ss02508



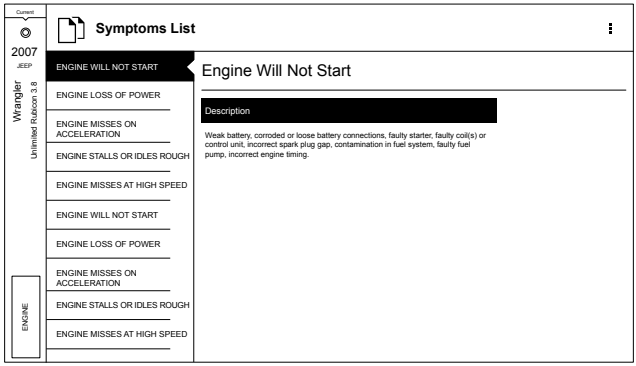
2. Select the desired component or component group.
3. Select the desired symptom within the component or component group.
4. To go back to previous screens use the back arrows near the top of the screen.

Symptom List

Diagnostic Information provides diagnostic, repair, and reset information for the selected vehicle.

1. Select Symptom List from the Diagnostic Information screen.
   - Displays a list of symptoms associated with the selected vehicle/controller combination.
   - Select Symptoms List from the Diagnostic Information menu.

ss02509



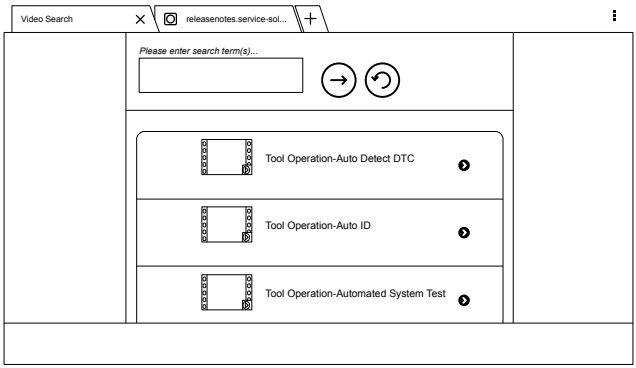
2. Select the symptom that is currently being exhibited by the vehicle on the vehicle.

Video Library

When Video Library is selected the user will be taken to YouTube videos. These videos will illustrate how to perform various functions on the handset.

1. Select Video Library from the Diagnostic Information screen.

ss02510



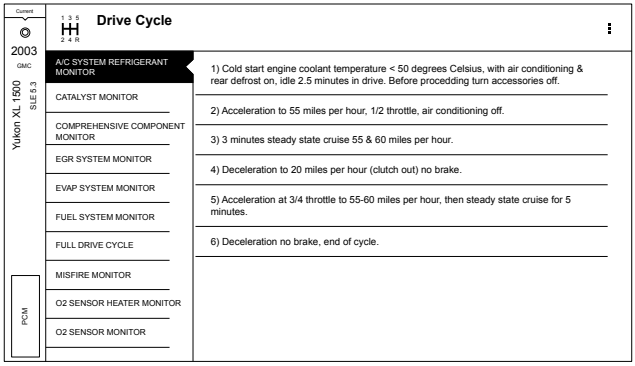
2. Search YouTube website for videos.

Drive Cycle

The OBDII system has a series of systems that run self-tests. These systems or components have to be made ready either by simply turning on the ignition or by manipulating the system in some manner. This is called Drive Cycle. Drive cycle information is listed for continuous and non-continuous monitors.

1. Select Drvice Cycle from the Diagnostic Information screen.

ss02511



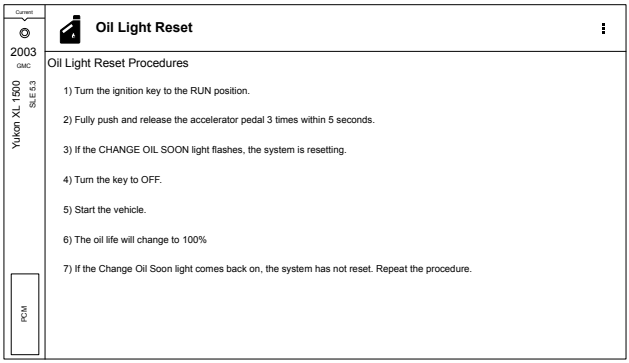
2. Scroll through the list until the desired monitor or drive cycle is found.
3. Select the desired drive cycle and follow the instructions.

Oil Light Reset

On newer vehicles, the oil light reset procedure will indicate how the oil life information can be reset after an oil change.

1. Select Oil Light Reset from the Diagnostic Information screen.

ss02512



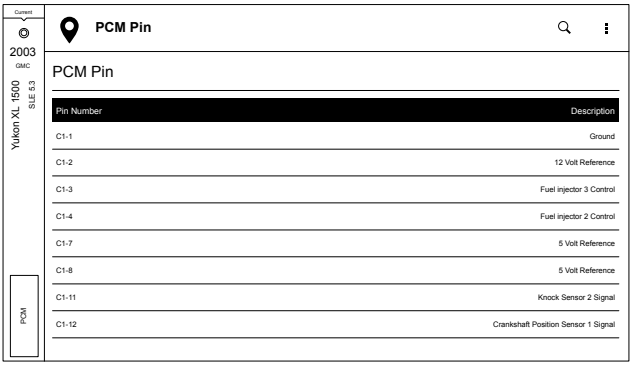
2. Select Oil Light Reset from the Diagnostic Information menu screen.

PCM Connector Pin Information

Displays a list of which connector and pin a component or sensor is received through on the PCM.

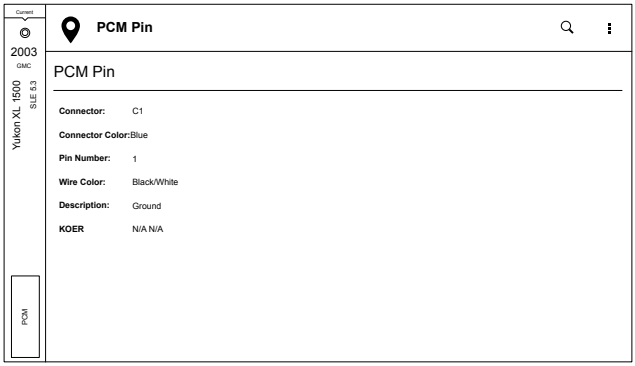
1. Select PCM Pin Information from the Diagnostic Information screen.

ss02513



2. Scroll through the list and select the desired sensor or component is listed.

ss02514

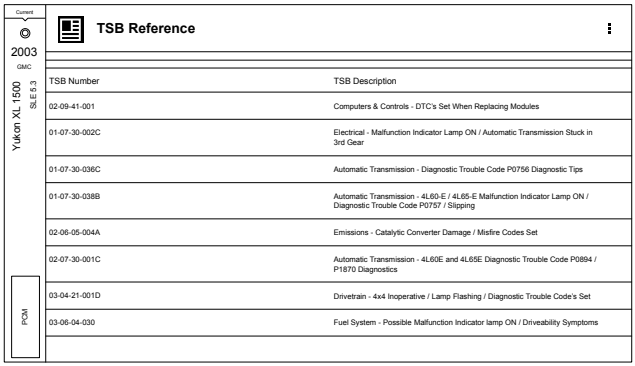


Technical Service Bulletin (TSB) References

Displays TSBs associated with the vehicle/controller combination.

1. Select TSB Reference from the Diagnostic Information screen.

ss02515



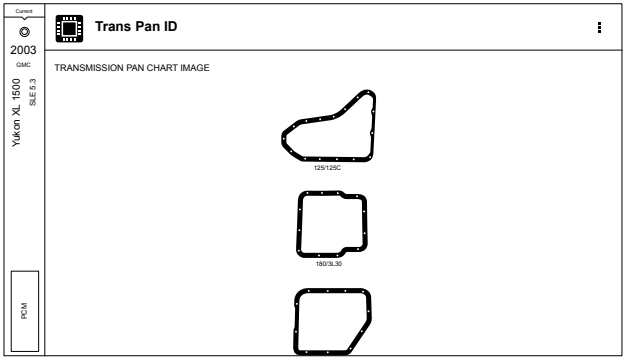
2. Scroll through the list until the desired TSB is found

Trans Pan ID

Displays a list of gasket images that correspond to specific transmissions.

1. Select Trans Pan ID from the Diagnostic Information screen.

ss02516



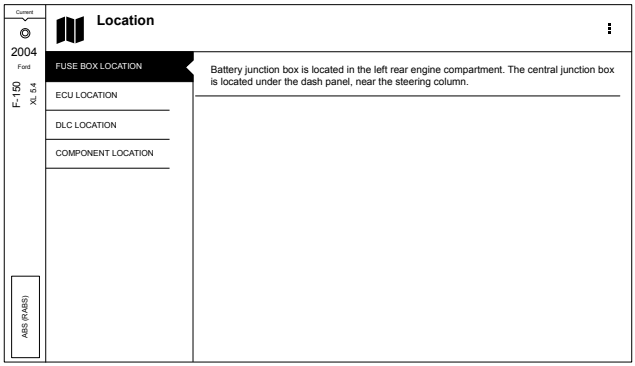
2. Scroll through the list of gasket images until the matching gasket is found. Corresponding information is listed below each image.

Location

Used to find where specific components are located.

1. Select Location Info from the Diagnostic Information screen.

ss02517



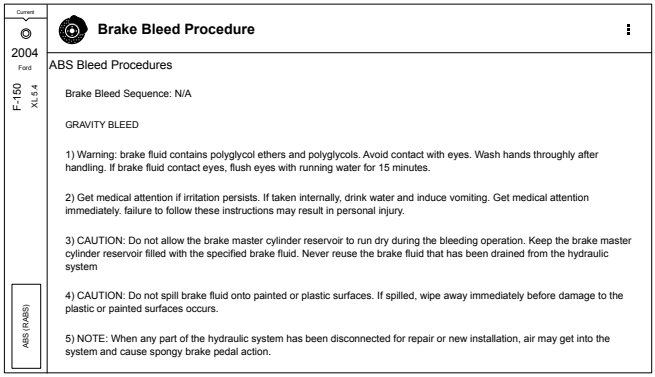
2. Scroll through the list and select the desired component.

Brake Bleed Procedure (ABS)

Provides the procedure on how to bleed the brakes after replacing brake calipers or opening a brake line to atmosphere.

1. Select Brake Bleed Procedure from the Diagnostic Information screen.

ss02518



2. It may be necessary to change controllers at the Home Screen, then re-enter diagnostic information for this selection to become available (ABS, ABS/VSES).

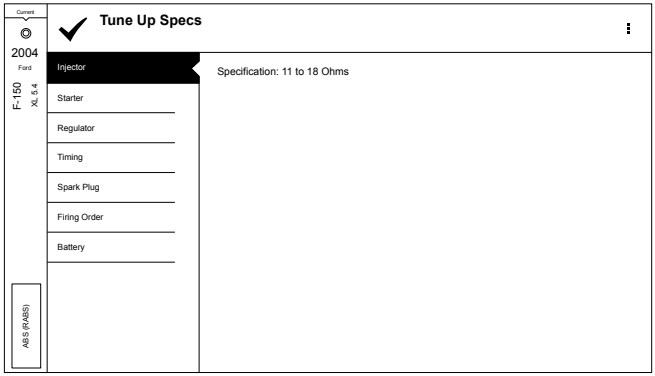
NOTE: The sequence may be contained within the previous brake bleed procedure section if it is not separately listed on the Diagnostic Information screen.

Tune Up Specifications

Provides specifications for specific components when a tune up is performed.

1. Select Tune Up Specs from the Diagnostic Information screen.

ss02519



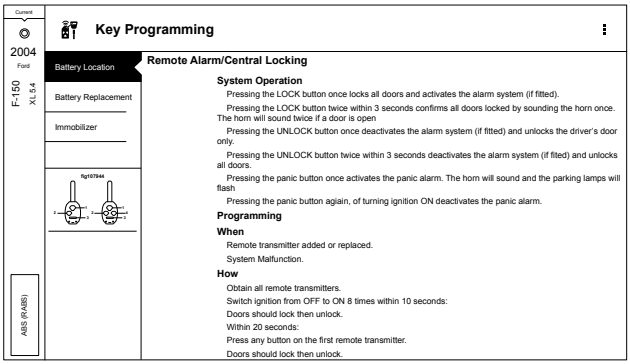
2. Some of the tune up specifications contained in this section include the following:
   - Starter
   - Generator
   - Regulator
   - Spark plug
   - Idle speed
   - Fuel pressure
   - Compression
   - Firing order

Key Programming

Displays instructions for the selected vehicle for programming a key.

1. Select Key Programming from the Diagnostic Information screen.

ss02520



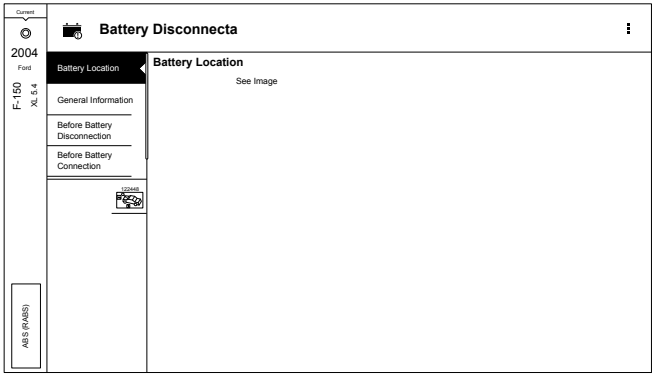
2. Follow the prompts on the screen to program a key and or replace battery in key.

Battery Disconnect

Displays procedures for disconnect the battery on the selected vehicle.

1. Select Battery Disconnect from the Diagnostic Information screen.

ss02521



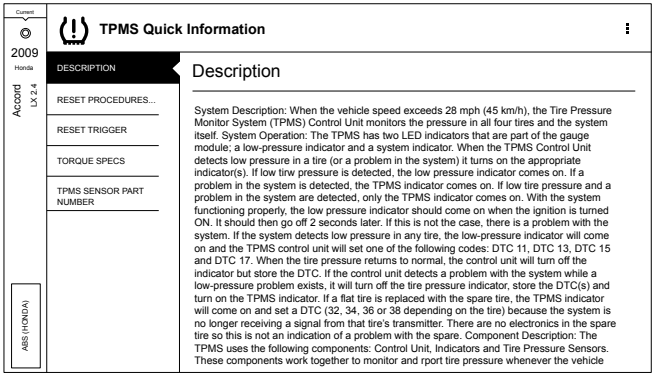
2. Follow the prompts on the screen to disconnect and reconnect the battery.
3. Follow procedures for updating vehicle systems after battery has been disconnected.

TMPS Quick Info

Describes the operating procedures for the Tire Pressure Monitor System (TPMS) for the selected vehicle.

1. Select TMPS Quick Info from the Diagnostic Information screen.

ss02522



2. Follow the prompts on the screen to reset the tire pressure monitors.

Read DTCs Button Definitions	
	Menu Button Tapping the Menu button displays a pop-up link that takes the user to help content related to reading DTCs. *Note: an active internet connection will be required.*
	View Help Selecting View Help will open an online operators manual.
	Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen.

MAINTENANCE TESTS

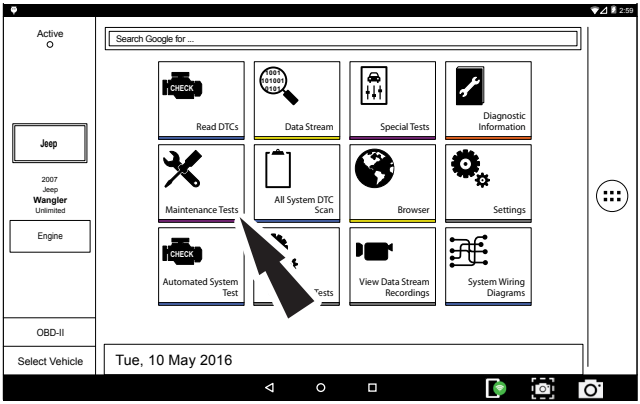
Overview

Maintenance Tests provide a way for specific systems to be recalibrated or reset after service. Maintenance test availability will vary from vehicle to vehicle, and will be updated over time.

Maintenance tests are the same as special tests, but this is a shortcut to most frequently used tests on the selected vehicle. These specific tests can also be found
under special tests.

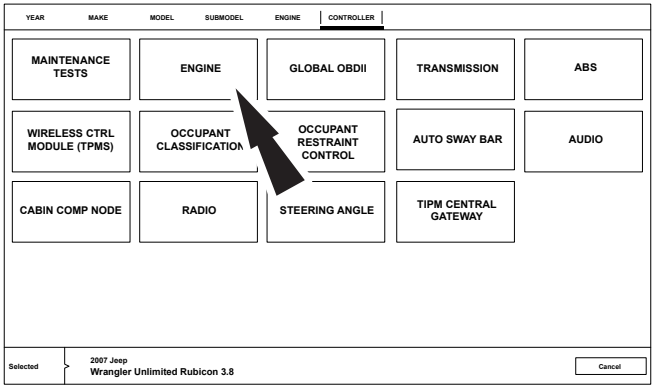
Maintenance tests can be selected at the time of controller selection for the current vehicle being worked on.

ss02525



1. Select Maintenance Test from the Home Screen.

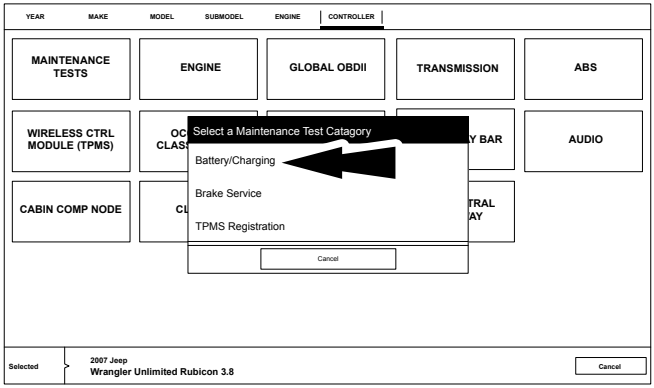
ss02526



2. Select the controller.

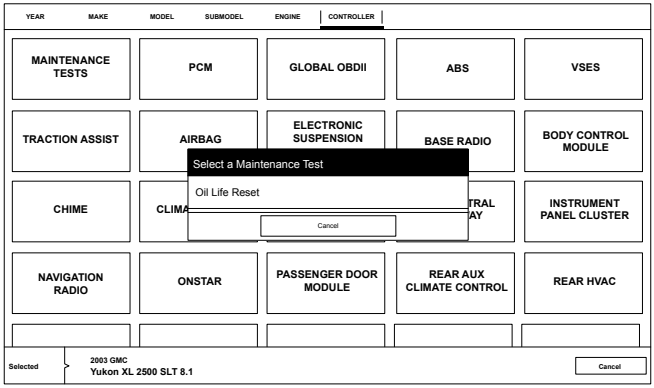
Note: If no maintenance tests are found for selected vehicle select a different controller.

ss02527



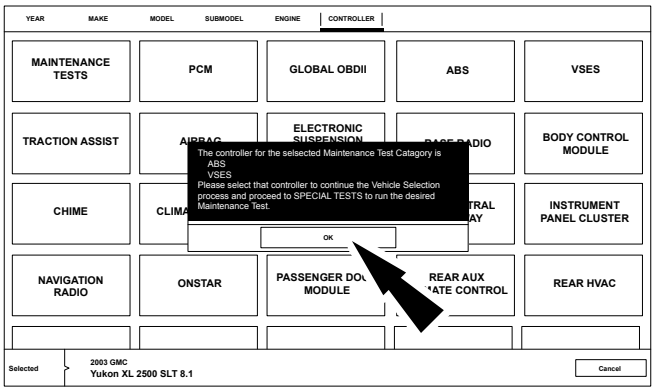
3. Select the desired category for the component or system being worked on.
Note: If there are no sub-sections available for the selected category go to step 5.

ss02528



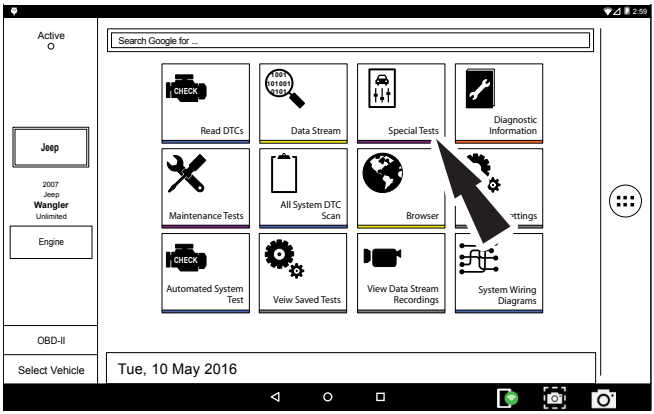
4. Select the desired test to be performed.

ss02529



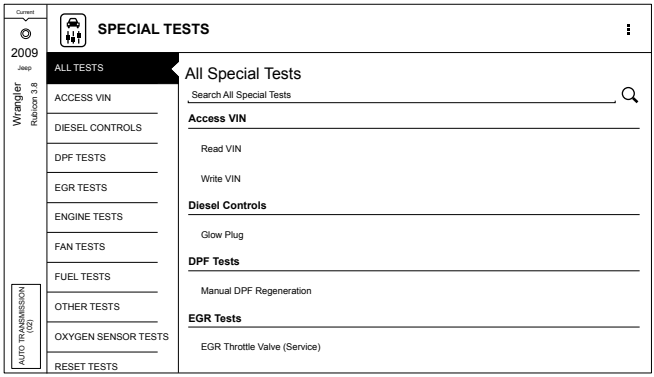
5. Follow prompts on the screen.

ss02497



6. Select Special Tests from the Home Screen.

ss02530



7. At the special test screen select a special test group from the group selection menu, then select the desired special test within the desired test group.

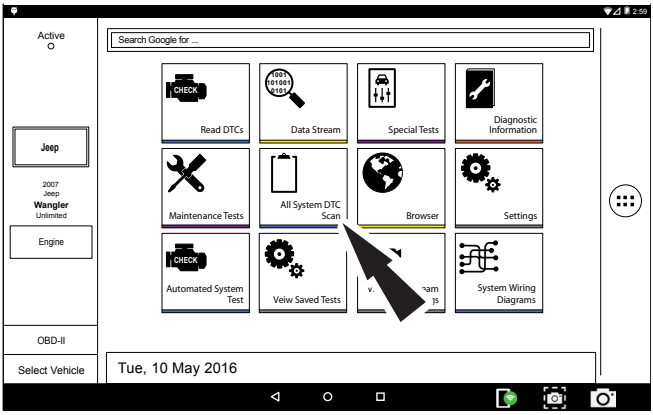
Note: For more information refer to Special Tests section.

ALL SYSTEM DTC SCAN

Overview

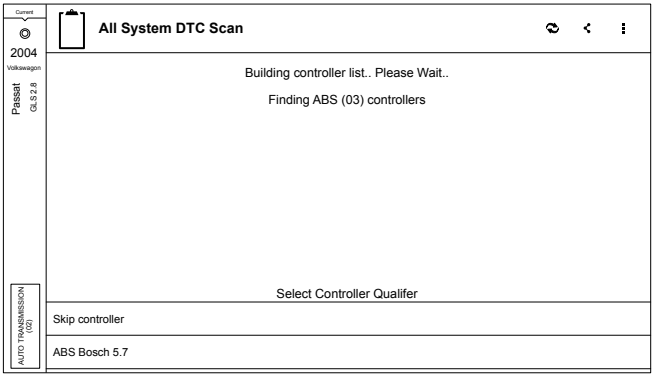
The All System DTC Scan will scan all available controllers on the selected vehicle.
Depending on the vehicle, the handset may ask qualifying questions concerning particular controller types for the vehicle being scanned. If unsure what selection to pick find the manufacturer's Regular Production Option (RPO) Code list sticker on the vehicle, then find the corresponding code for the desired controller. Typical locations for the RPO are the trunk, glove box, or doorjamb area.
These questions may be skipped by selecting Skip Controller. Scan progress will be indicated by the progress bar near the bottom of the screen.

ss02531



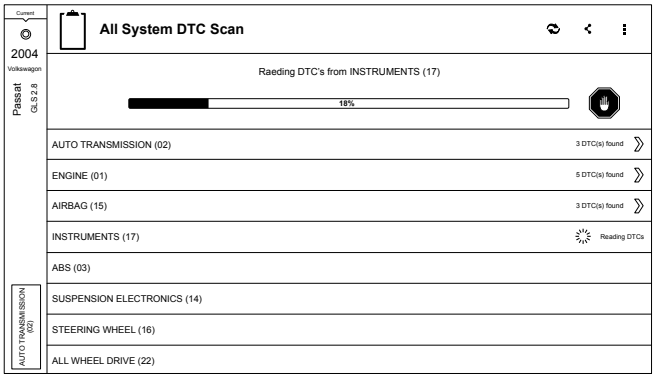
1. Select All System DTC Scan from the Home Screen.

ss02532



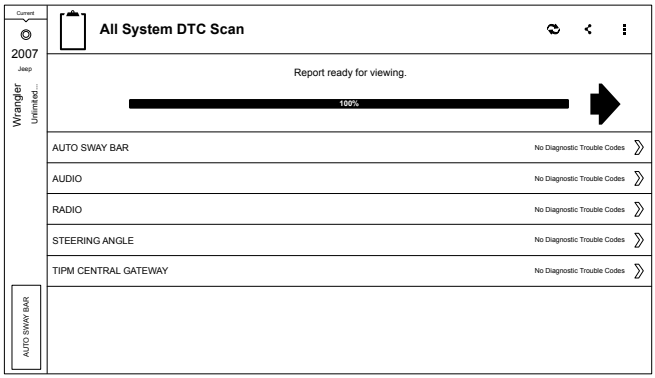
2. Select all controller qualifiers
Note: Not all vehicles will have qualifiers

ss02533



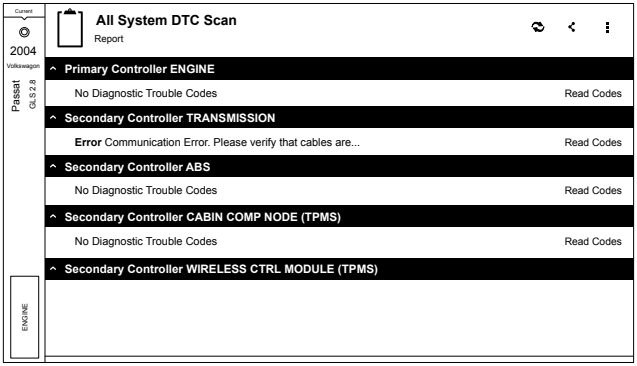
3. Scan progress will be indicated by the progress bar in the middle of the screen.
Note: If any of the conrollers have DTC's go to step 6.

ss02534



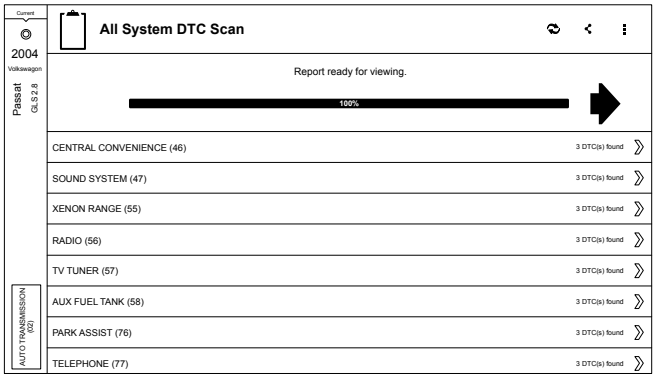
4. Wait for scan to finish.
Note: There is no arrow beside controller without a DTC and clicking on that line does nothing.

ss02535



5. The controller without a DTC has no DTC line that is selectable and clicking on the line has no effect.

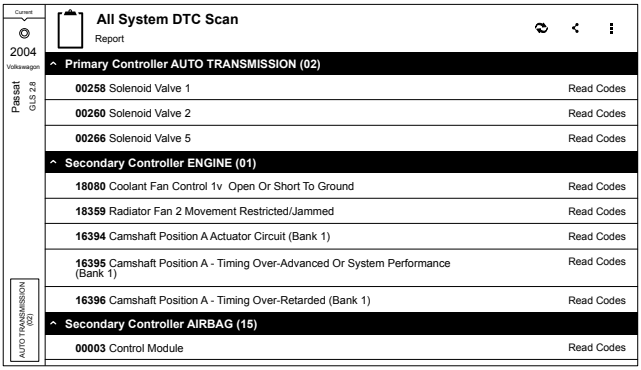
ss02536



6. Wait for scan to finish.

Note: There is no arrow beside controller without a DTC and clicking on that line does nothing

ss02537



7. DTCs will be read from all available vehicle controllers.
   - Select a listed DTC for Related Diagnostic Information See Diagnostic Information section
   - If a DTC has Code Criteria available there will be an "*" next to the DTC.

Once completed the handset will display a list of all the DTCs found on the vehicle and group them by controller. If the handset was unable to communicate with a controller, it will be indicated under the specific controller. Communication problems on certain controllers may be attributed to the vehicle not having that controller. Controllers are sometimes listed for a particular vehicle that do not actually exist.

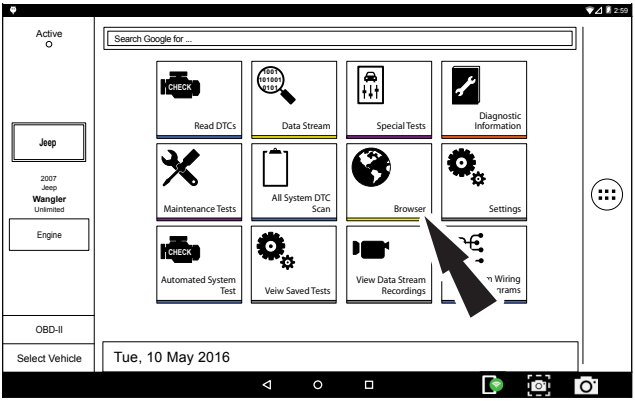
Read DTCs Button Definitions	
	Refresh DTCs Button Tapping the Refresh button initiates a fresh scan of DTCs from the vehicle.
	Share DTCs Button Tapping the Share button opens the app and initiates one of two options, share by email or Bluetooth email concontaining a list of all the DTCs set.
	Menu Button Tapping the Menu button displays a pop-up link that takes the user to help content related to reading DTCs. *Note: an active internet connection will be required.*
	View Help Selecting View Help will open an online operators manual.
	Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen.

BROWSER

Overview

An internet browser window is available for direct internet access.

ss02538



1. Select Browser from the Home Screen.

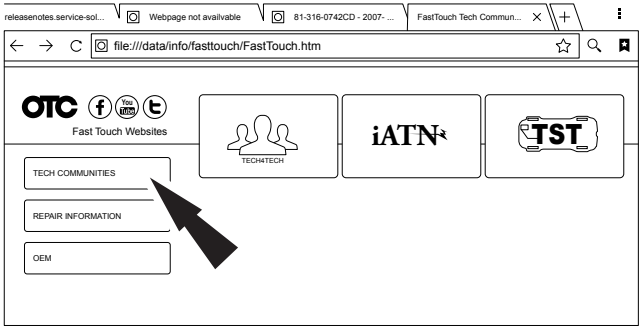
The Handset will launch the internet browser. Links to common technical and repair websites are provided. Select the keyboard icon to input text.

Note: The handset will need to have a Wi-Fi connection.

CONNECTING TO WI-FI NETWORKS

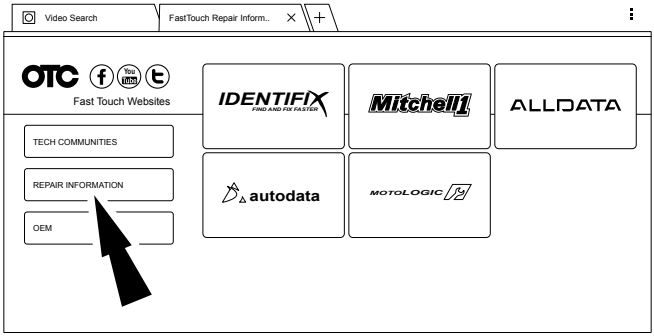
See Android Settings for more information on setting up and connecting to a wireless network.

ss02539



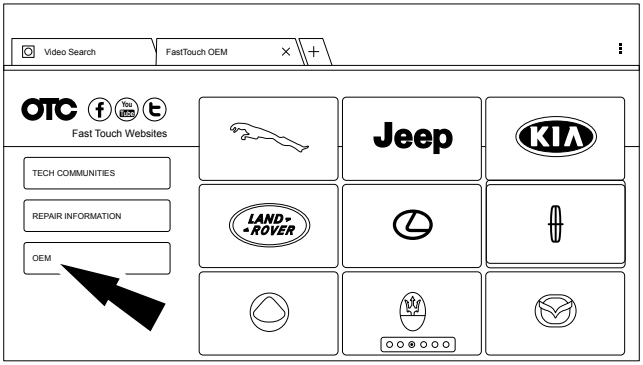
1. Select Tech Communites brings up appropriate tech community web page.

ss02540



2. Select Repair Information brings up appropriate repair information web page.

ss02541



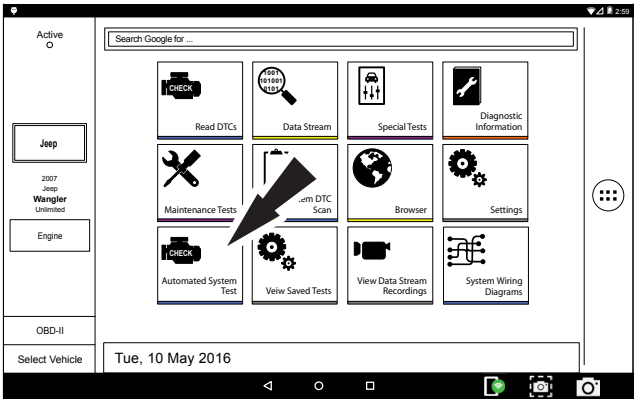
3. Select OEM brings up the manufactures technical web page.

AUTOMATED SYSTEM TEST

Overview

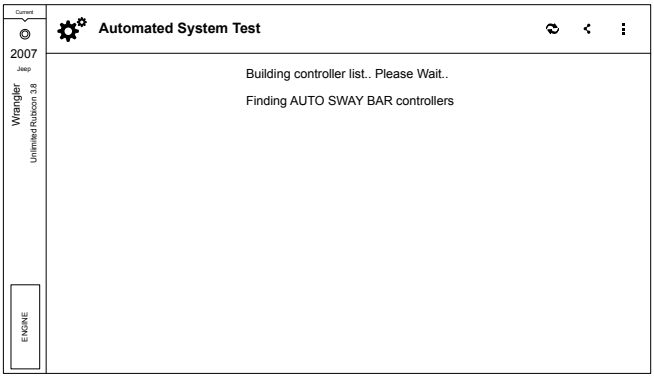
The Automated System Test (AST) will scan all available controllers on the selected vehicle for Modes 1-7. Depending on the vehicle, the handset may ask qualifying questions concerning particular controller types for the vehicle being scanned. If unsure what selection to pick, find the manufacturer's Regular Production Option (RPO) code list sticker on the vehicle, and then find the corresponding code for the desired controller. Typical locations for RPO are trunk, glove box, or doorjamb. These questions may be skipped by selecting Skip Controller.

ss02542



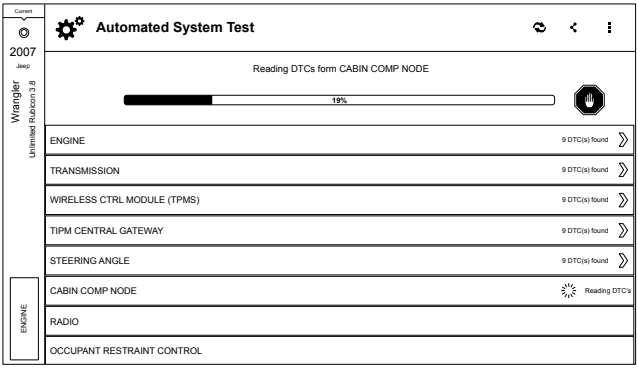
1. Select Automated System Test from the Home Screen.

ss02543



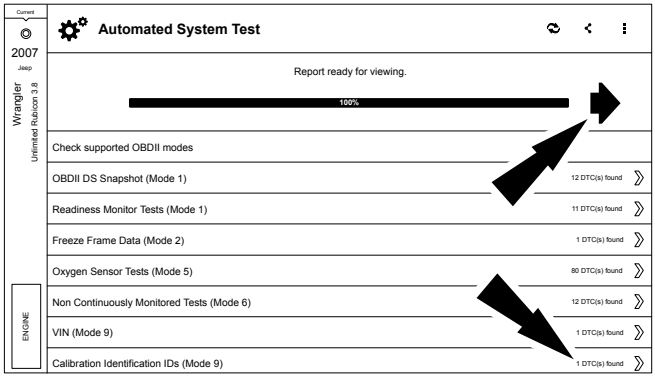
2. Wait for the list to be completed

ss02544



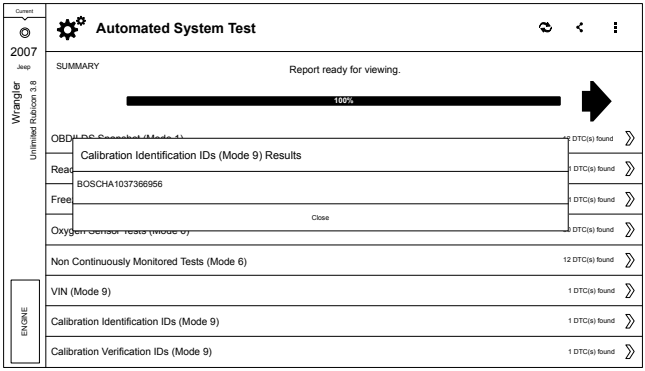
3. Scan progress will be indicated by the progress percentage bar on the screen.

ss02545



4. Scan progress will be indicated by the progress percentage bar on the screen.
   - Select Green Arrow to review summary report (step 6)

ss02546

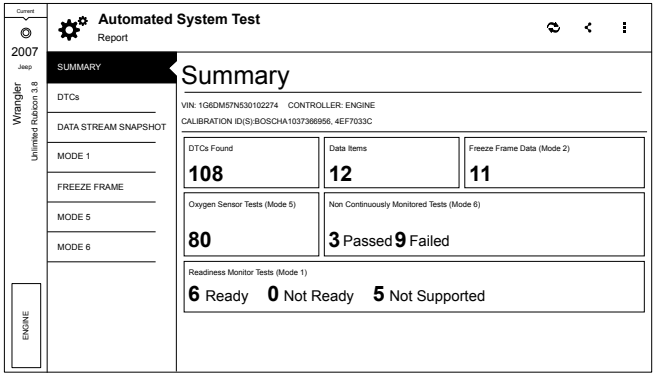


5. If available select arrow at end of line to view information on item.

NOTE: Available items will vary from vehicle to vehicle.

Summary Report

ss02547



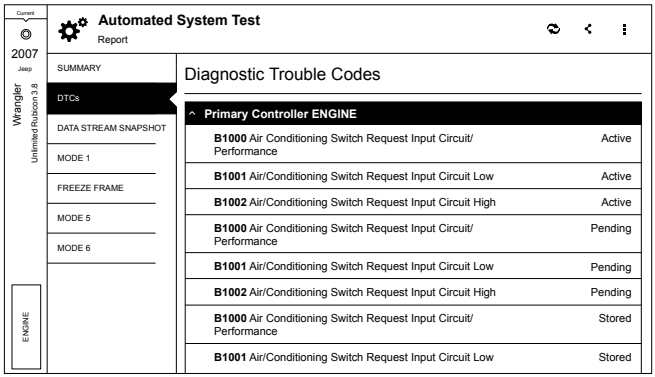
AST summary reports items found on the vehicle, such as:

- Controllers found on vehicle
- DTCs
- Data Stream Snap Shot
- Mode 1 (Readiness Monitor)
- Freeze frame
- Mode 5 (O2 sensor)
- Mode 6 (Non-continuous monitor tests)

NOTE: Available selections will vary from vehicle to vehicle.

DTCs

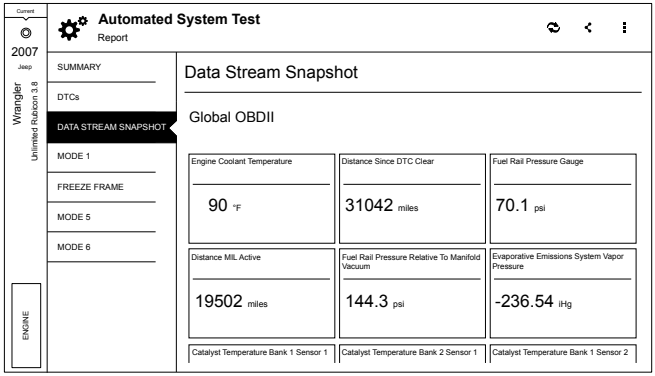
ss02548



DTCs recorded are displayed. When selecting DTCs, diagnostic information is also available (same information as the Read DTCs screen).

Data Stream Snapshot

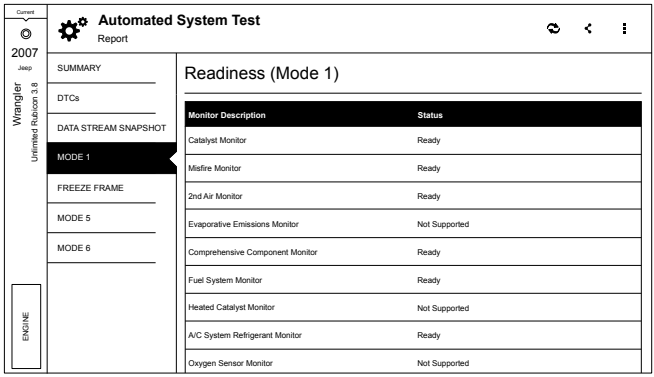
ss02549



Data stream Snapshot, is a current view of the onboard vehicle sensors.

Mode 1 (Readiness Monitor)

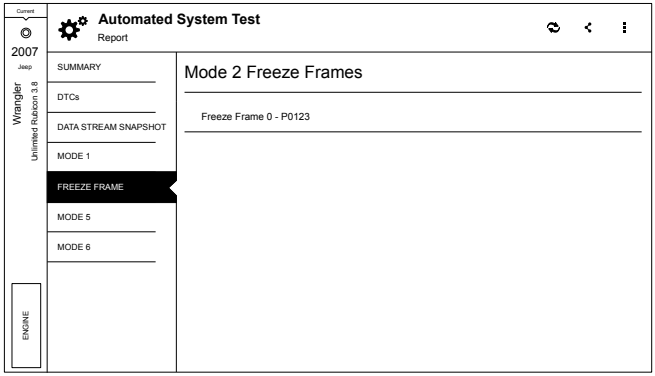
ss02550



Readiness Monitor Tests displays the results from the continuous monitors available on the selected vehicle. There are three states: ready, not ready, and not supported. If the monitor is not ready, a drive cycle must be completed prior to running this test. For more information regarding drive cycles, refer to diagnostic functions Mode 1 readiness.

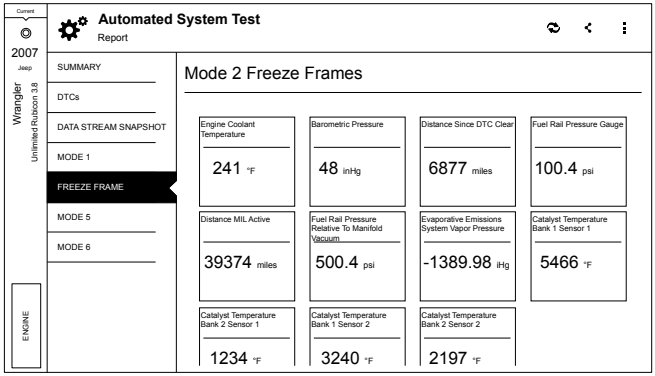
Freeze Frame

ss02551



1. Select a frame.

ss02552

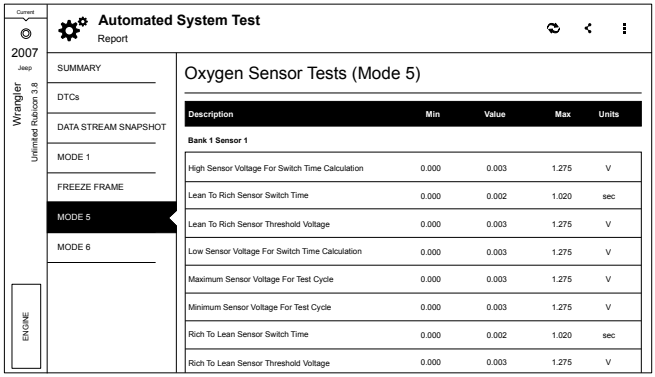


Mode 2 displays recorded data in the form of a DS snapshot by the vehicle's computer when specific DTC are set and the MIL is illuminated.

Mode 5 (Oxygen sensor tests)

Mode 5 views O2 sensor monitor test results.

ss02553

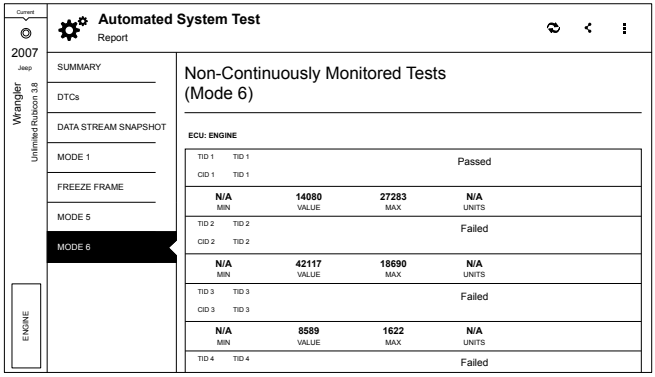


Mode 5 views O2 sensor monitor test results. Mode 5 displays the average of the O2 sensor monitor test results measured over a period of time. The parameters of this measurement vary between manufacturers. It may be necessary to run the vehicle for a period of time to allow the O2 sensors to fully warm up and begin operating. *Note: Mode 5 is not supported on all vehicles.*

Mode 6 (Non-continuous monitor tests)

Mode 6 views onboard monitoring test results for noncontinuous monitor systems.

ss02554



Non-Continuous Monitor Tests (Mode 6) are pass/fail tests, including certain EVAP tests, catalyst, and EGR. The following information is reported:

- ECU.
- TID (test identification) indicates the system monitor.
- CID (component identification) indicates the component tested and its test value.
- Minimum value, maximum value, and current value for each non-continuous monitor.
- Pass or fail test result.

Each vehicle manufacturer assigns a code number to their system monitors and components. Refer to the vehicle manufacturers Mode 6 code chart to determine the failure indicated by the TID and CID. If this chart is not readily available, run an automated system test (AST) from the DTC screen and select Mode 6. See Read DTCs section for more information regarding steps to complete this action. This may provide a more detailed description of the Mode 6 test information.

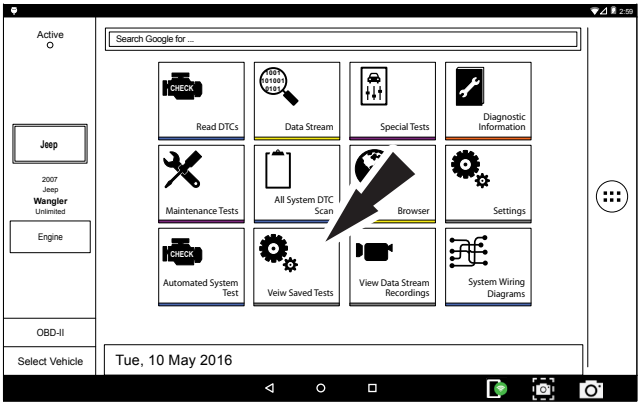
Automated System Test (AST) Button Definitions	
	Refresh DTCs Button Tapping the Refresh button initiates a fresh scan of DTCs from the vehicle.
	Share DTCs Button Tapping the Share button opens the app and initiates one of two options, share by email or Bluetooth email containing a list of all the DTCs set.
	Menu Button Tapping the Menu button displays a pop-up link that takes the user to help content related to reading DTCs. *Note: an active internet connection will be required.*
	View Help Selecting View Help will open an online operators manual.
	Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen.

VIEW SAVED TESTS

Overview

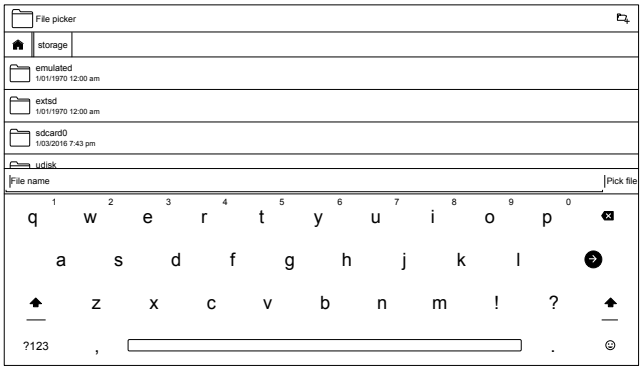
The View Saved Tests functions allows the capability to recall previously run tests.

ss02555



1. Select Veiw Saved Tests from the Home Screen.

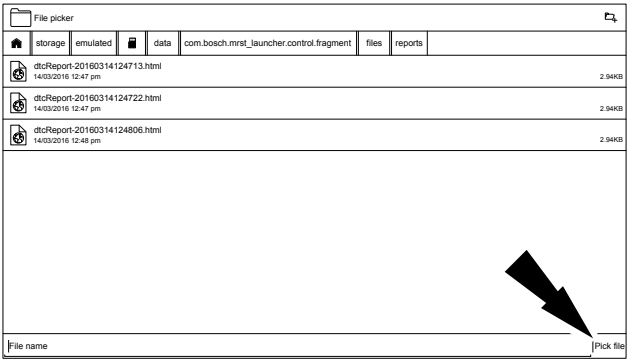
ss02556



2. Navigate down to the desired saved test.

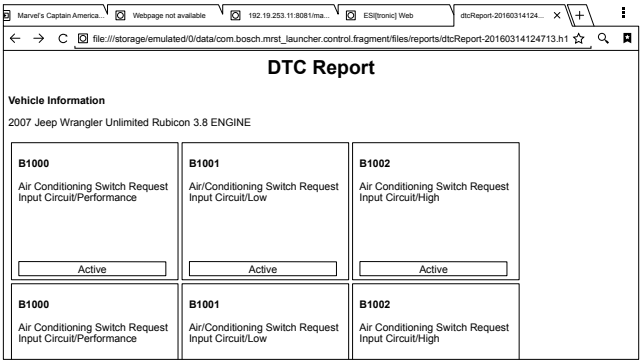
Note: Might require selecting multiple directories.

ss02557



3. Select Specfic file and hit Pick File.

ss02558



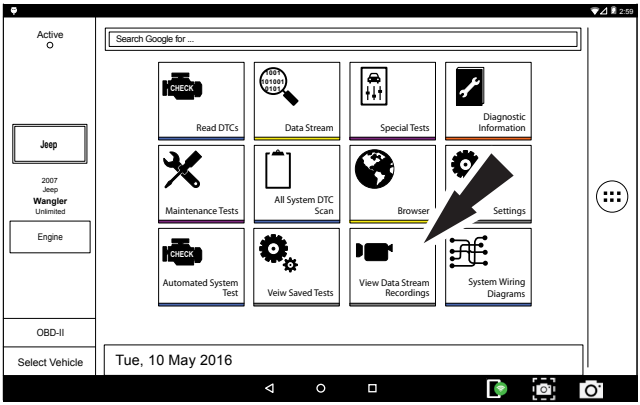
4. View results from save test.

VIEW DATA STREAM RECORDINGS

Overview

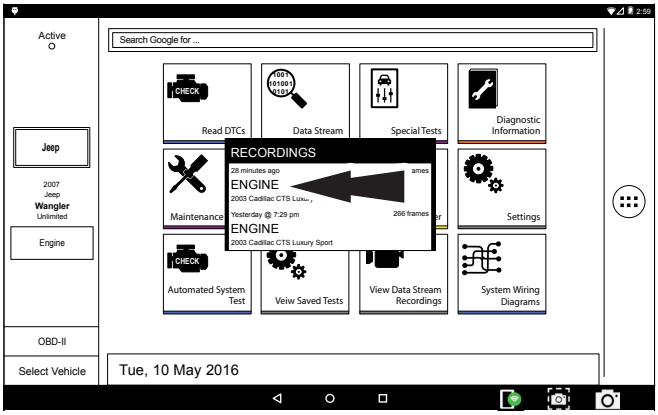
The View Data Stream Recordings allows the capability to review previously recorded data.

ss02559



1. Select View Data Stream Recordings from the Home Screen.

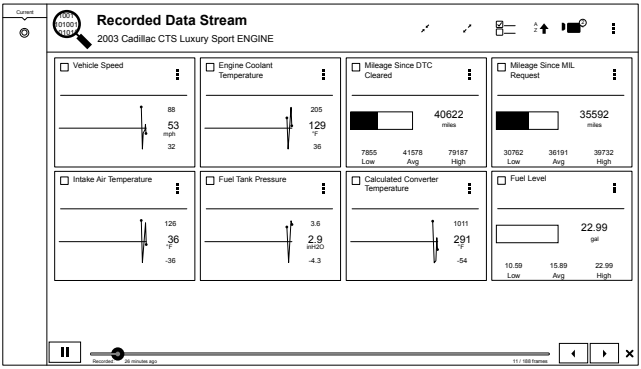
ss02560



2. Select recording.

Note: To delete recording, swipe left and click Delete.

ss02561



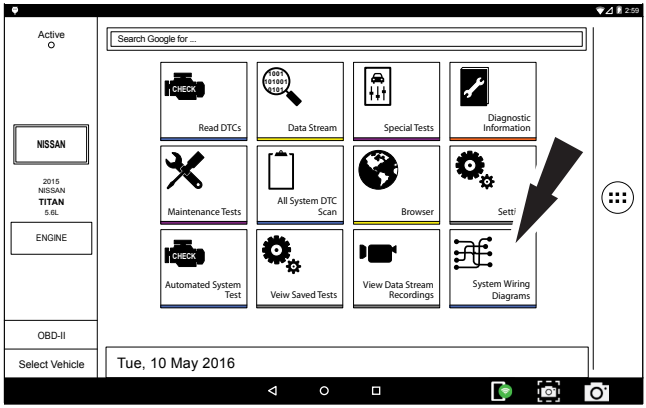
3. View recording

SYSTEM WIRING DIAGRAMS

Overview

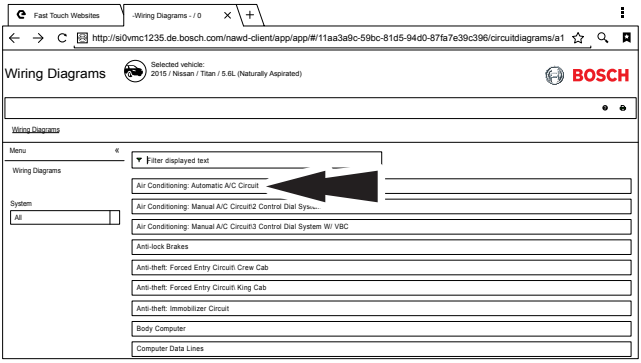
System Wiring Diagrams provides OEM specific, Full color, Full system diagrams.

SS02594



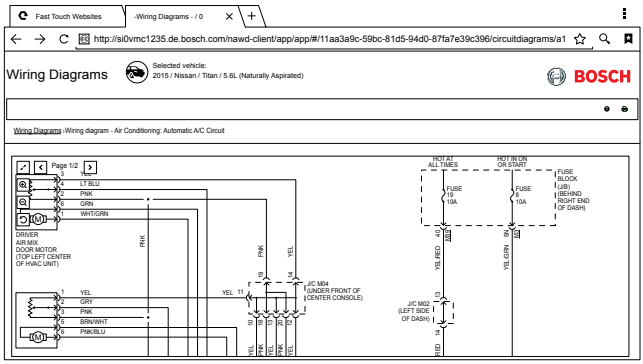
1. Select System Wiring Diagrams from the Home Screen.

ss02595



2. Select a wiring diagram to view.

ss02596



3. Use navigation buttons located on the left side of the screen to zoom and rotate wiring diagram.

CUSTOMER SUPPORT

Technical Support

For technical questions on your product, contact 800.MACTOOLS, and select the option for technical support.

Order Information

Contact your local Mac Tools Distributor for replacement parts and accessories.

Repair Service

Please contact Technical Support for troubleshooting and service options before sending any unit in for repair. To send a unit in for repair, please call 800.MACTOOLS or contact your local Mac Tools Distributor.

CUSTOMER SERVICE

We at Mac Tools are committed to our customers, please reference the following phone number for a direct contact to one of our customer technicians. They will be more than happy to help with any service or warranty questions you may have about your power tool.

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