

MD-200 User Manual

Mitchell **Diagnostics**



en User Manual

Technical Support 1-800-533-6127

For technical questions on your product, contact (800) 533-6127, and select the option for technical support.

For assistance with internet or wireless connectivity, contact (800) 533-6127, and select the option for connectivity.

or email tech@otctools.com.

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Safety Definitions

Follow all DANGER, WARNING, and IMPORTANT messages. These safety messages are defined as follows:



DANGER or WARNING: Risk of bodily harm and/or possible loss of life.

IMPORTANT: The information demands special attention or risks damage to the vehicle or tool.

The safety messages cover situations of which Bosch Automotive Service Solutions is aware. Bosch Automotive Service Solutions cannot know, evaluate, or advise as to all of the possible hazards. You must be certain that any conditions or service procedures encountered do not jeopardize personal safety.

Safety Precautions

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 serious personal injury or loss of life.

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) 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.

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 damage or personal injury.

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 Bosch Automotive Service Solutions rechargeable batteries for the handset product with the supplied charger. Other types of batteries may burst causing injury to persons and peoperty 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, fireplace, stove, electric heater, or other heatgenerating appliance or otherwise expose it to temperatures in excess of 140 °F (60°C). When heated to excessive temperatures, battery cells could explode or vent, posing a 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.

IMPORTANT: 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.

General Information

Introduction



1. Vehicle Identification Window

- Where vehicle information is displayed.
- 2. Navigation Help button

3. Main Menu Functions

- Select Vehicle allows you to manually choose the vehicle, AutoID to automatically identify the vehicle or enter the VIN.
- OBDII (also referred to as Generic OBDII) Provides limited engine control and monitors the diagnostic control network of the vehicle.
- Saved Diagnostic Data allows the user to view previously run and saved DTC reads, All System DTC scan, and Automated System Test scans and data stream recordings.
- Browser Fast Touch[™] sites and internet.
- Heavy Duty allows the user to read Heavy Duty
- Diagnostic information.
- Settings change settings of the tool.

4. Android Applications Button

• Displays the Apps screen.

5. Power Button

• Press to power ON handset or if running press to access menu to: Power Down.

6. Recent apps button

• Opens a list of thumbnail images of currently running apps.

7. Page indicator

- Displays the page currently being displayed.
- 8. Home Button
 - Displays the Main Menu screen.

9. 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 lower center front of the Handset.



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).



1. Power port

Handset Ports

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- 2. DLC cable Port
- 3. SD card slot
- 4. Audio out port (3.5mm)
- 5. USB Type "A" port
 - Print to or store data as needed
 - Connect add-on hardware
 - USB Drive (optional) USB Type "A" port
- 6. USB Type "B" port

Software Descriptions

Handset Software

The handset comes with the diagnostic software pre-loaded.

The first time the handset is powered up, the user needs to accept the license agreement. 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 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.

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 onscreen help when desired.

Battery Charging

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

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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 15 volt power supply provided with the kit.*

Power Port

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, register now or demo mode will need to be entered.
- Demo Mode: This mode demonstrates the functions by displaying random data.



1. Press the power button to turn on the handset. ss01719



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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You've got the right tool! End User License Agreement Quick Setup Register my Device Now Software Product License Agreement Register my Device Later 1) Read & agree to the EULA. Copyright (c) 2014-2017, Bosch Automotive Service Solutions Inc. All Rights Reserved Demo Mode 2) Setup Wi-Fi. SOFTWARE PRODUCT LICENSE AGREEMENT 3) Activate your warranty. IMPORTANT: Do not continue until you have read this Software Product License Agreement ("Agreement"). By clicking the I Agree button (or authorizing any other person to do so), you accept this Agreement and are bound bv its terms. If you I Agree

3. Select the correct Time Zone.

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4. Enable Wi-Fi and select Next

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| 0 | | |
|--------------------------|--|-----------------|
| Register my Device Now | Setup WI-FI | |
| | Add Wi-Fi Network | |
| Register my Device Later | This is needed for networks that do not broadcast their SSID | |
| Demo Mode | | |
| | Wi-Fi is not enabled | |
| | Please enable Wi-Fi | |
| | ок | |
| | | |
| | Wi-Fi OFF | Next: Your Name |

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.

| 0002000 | | |
|--------------------------|--|-----------------|
| You've got the | e right tool! | |
| Register my Device Now | Setup Wi-Fi | |
| | Add Wi-Fi Network | |
| Register my Device Later | This is needed for networks that do not broadcast their SSID | |
| Demo Mode | | |
| | | |
| | | |
| | | |
| | Wi-Fi OFF | Next: Your Name |
| | | |

5. Select a network and select Next

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| You've got the right tool! | | | | |
|----------------------------|--|--|--|--|
| Register my Device Now | Setup Wi-Fi | | | |
| Register my Device Later | Shop Secured with WPA2 | | | |
| Demo Mode | Office | | | |
| | Add WiFi Network This is needed for networks that do not broadcast their SSID | | | |
| | Wi-Fi ON Next: Your Name | | | |

6. If a Network password is required the Android

Wi-Fi screen will be displayed. Follow the prompts on the screen.

| 01722 | |
|-------|--|
| | |

| | Select Wi-Fi | 8 | |
|----|---------------------|------|--|
| On | | Ø | |
| | ℅ Shop Connected | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| В | ack | Next | |

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

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

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| You've got the right tool! | | | | |
|----------------------------|------------------------------|--|--|--|
| Register my Device Now | Activate Warranty | | | |
| Register my Device Later | John | | | |
| Demo Mode | Smith | | | |
| | City Service Center | | | |
| | City Service Center | | | |
| | Set Clock Next: Contact Info | | | |

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

| Register my Device Now | Activate Warra | nty | | |
|-------------------------|--------------------|-----|-------|--|
| egister my Device Later | cityshop@gmail.co | m | | |
| emo Mode | 3135551212 | | | |
| | 1234 Main St | | | |
| | Address 2 (optiona | I) | | |
| | Detroit | МІ | 48123 | |
| | United States | | | |
| | | | | |

10. Confirm information. Follow the prompts on the screen and activate warranty. ss01727

. .



11. Setup Printer. This can be completed later by going to Settings



12. Follow the prompts on the screen.



13. MD-200 is ready to use.

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30 Day Trial

 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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1. MD-200 is ready to use.

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Demo

1. Select Demo mode

| ss01825 | | | | |
|--------------------------|---|---|--|--|
| You've got the I | ou've got the right tool! | | | |
| Register my Device Now | Enter Demo Mode | End User License Agreement | | |
| Register my Device Later | 1) Read & agree to the EULA. | Software Product License Agreement | | |
| Demo Mode | Demo Mode can be used for | Copyright (c) 2014-2017, Bosch Automotive Service Solutions Inc. All Rights Reserved | | |
| | familiarization. Yo can select various vehicles and | SOFTWARE PRODUCT LICENSE AGGREEMENT | | |
| | review the tool's features and functions. Demo Mode does not allow communication to a car. | IMPORTANT: Do not continue until you have read this Software Product license Agreement ("AGreement"). | | |
| | | By clicking the I Agree button (or authorizing any other person to do so) you accept this | | |
| | | I Agree | | |
| | | | | |
| | | | | |

2. MD-200 is ready to use.

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Scan Tool Cable Connections

- 1. OBD II / DLC cable
- 2. 12 volt power cable (Use with vehicles that do not supply power through DLC)

3. Scan tool

- **Power via vehicle DLC**
- 1. Connect the OBD II / DLC cable to the scan tool.
- Connect the OBD II / DLC cable to the DLC on vehicle. Located within 18 inches (45.7 cm) of steering wheel. Typically located on the driver's side, under dash.

3. Turn ignition ON.

Non-powered vehicle DLC setup

Some vehicles do not supply power through DLC. In this case use the following procedure.

- 1. Connect OBD II / DLC cable to scan tool.
- 2. Connect OBD II / DLC cable to DLC on vehicle. Typically located on the driver's side under the dash.
- 3. Connect the 12 volt power cable to the scan tool power port.
- 4. Connect the 12 volt power connector to the vehicle power outlet
- 5. Turn ignition ON.



Scan Tool Connected to Vehicle

- 1. OBDII/DLC Cable
- 2. DLC
- 3. Scan Tool

Turning off handset:



1. Press and release the power button.

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2. Select OK. The tool will now shutdown.

Test Startup and Vehicle Connection

- 1. Turn ON the handset.
- 2. Connect the OBDII/DLC cable to the scan tool.
- 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 Main Menu screen.
- 6. Enter the vehicle information one of two ways:
 - AutoID
 - Manual entry
- 7. From the Vehicle selected screen, select any diagnostic function.

Settings

Settings allow the user to make adjustments to the following:

- Applications
- Software information
- Software update
- Printer Setup
- Subscriptions
- User Detail
- Language
- Direct-Hit
- Service
- Report Options

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1. Select Settings from the Main Menu.

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

| ss02670 | | |
|----------------------|----------------------------|-------------------|
| Settings | | Menu |
| Application Settings | Demo Mode | OFF |
| Software Information | Units of Measure | Standard |
| Software Update | Use TPR | Ask during test 👻 |
| Printer Setup | Data Stream Scroll Ontions | Always Ask - |
| Subscriptions | | Always Ask • |
| User Details | | |
| Contact Us | | |
| Language | | |
| | | |

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.



Software Update

From the Settings screen select Software Update.

- Manually check for updates.
- 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.

Downloading the software will occur in the background and varies with Wi-Fi connection speed and quality. Installing the software can take up to 45 minutes. Please be sure to have your handset fully charged and allow sufficient time for the installation.

| Settings | | Menu |
|----------------------|---|------|
| Application Settings | Please ensure the tool is connected to the internet | |
| Software Information | Check for Updates Install Update | |
| Software Update | | ٦ |
| Printer Setup | | |
| Subscriptions | Updates Ready to Install | |
| User Details | L Current Revision: 3.0.0.1 | 1 |
| Contact Us | | |
| Language | | |

Printer setup

- Ensure device is connected to internet and that network has unrestricted access to Google services.
- 2. Follow the prompts on the screen.

|--|

| Settings | Menu | |
|----------------------|--------------------|--|
| Application Settings | Printer Setup | |
| Software Information | Printer setup help | |
| Software Update | | |
| Printer Setup | | |
| Subscriptions | Print test page | |
| User Details | | |
| Contact Us | | |
| Language | | |
| | | |

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.

| SSU2674 | | |
|----------------------|--|------|
| Settings | | Menu |
| Application Settings | Heavy Duty | |
| Software Information | All Coverage Subscription: Expires 5/21/2017 | |
| Software Update | | |
| Printer Setup | | |
| Subscriptions | | |
| User Details | | |
| Contact Us | Enter Subscription Code Reload Subscriptions | |
| Language | | |
| | | |

2. Select Enter Subscription Code.



3. Enter Subscription Code and select OK.



User Details

1. From the Settings screen select User Details. ss02677

| Settings © | | | Menu |
|----------------------|----------------------|-------------------------|------|
| Application Settings | Owner's First Name | John Doe | |
| Software Information | Owner's Last Name | Technician | _ |
| | Distribution Name | City Service | _ |
| Software Update | Email | JohnDoe@cityservice.com | |
| Printer Setup | Phone | 3195551234 | |
| Subscriptions | Address 1 | 123 Main Street | _ |
| Subscriptions | Address 2 (optional) | ۹ | |
| User Details | City | Detroit | |
| Contact Us | | Sa | ve |
| Language | | | |
| | | | |

2. Select field to modify.

ss02678

| Settings | | Menu |
|------------------------------|--|------|
| Application Settings | Owner's First Name John Doe | |
| Software Information | Owner's Last Name Technician | _ |
| | Distribution Name City Service | |
| | | |
| q w e | r t y u i o p | Ø |
| a s d | f g h j k l | Vext |
| | c v b n m , ¹ . [?] | Ŷ |
| ?123 幸 / [@] | · · · · · · · · · · · · · · · · · · · | :-) |
| | | |

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
- 3. English
- 4. Spanish
- 5. French

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Selecting Vehicle

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

💎 🖻 9:40 ? 🙈 🔘 💼 MAIN MENU - Tap Below To Begin Your Diagnostic Experience 8 ۲ **6** OBDI ed Diagnostic Dal 0 (:::) Today is Thu, 04 Jan 2018.

- 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.

AutoID

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

AutoID Operation:

1. Handset must be on and connected to the vehicle.

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2. Select AutoID.

1. Select Vehicle from the Main Menu screen

communicating with the vehicle.

- 4. The vehicle must have the key on, engine off (KOEO).
- 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 AutoID to finish.

| VIN Match Results (4) | 1FTPW14V28FC5432 |
|---|------------------|
| FORD 2008 Ford F - 150 King Ranch 5.4, FLEX -, Naturally Aspirated, SOHC | |
| FORD Ford F-150 XLT 5.4, FLEX, Naturally Aspirated, SOHC | |
| | |

8. Select the desired vehicle from the list.

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--00710



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

3. Once selected the handset will begin ©Mitchell International, Inc.

Manual Entry

The handset must be turned on, and connected to the vehicle. Once those conditions are met, complete the following:

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1. Select Vehicle.

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2. Select Manual Selection.



3. Select the model year of the vehicle.



4. Select the make of vehicle.



5. Select the model.



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

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| YEAR | MAKE | MODEL | SUBMODEL | ENGINE | |
|-------------------------------------|--|-------------------------------|---|--------|--------|
| 3.5, GAS, Naturally SOHC v | J35Y4, Aspirated, _N . | 3.5, GAS Naturally SOHC | , J35Y5, / Aspirated, ^{VIN-} | | |
| Selected | 2015 Acura MDX Bas | No VIN | | | Cancel |

7. Select the engine.

Note: Some vehicles may not require this selection.

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| 🗢 🕰 🖉 2015 Acura ME | DX Base 3.5L | | | | | |
|------------------------|----------------------------|-------------------|----------------|--|--|--|
| Read DTCs | Read DTCs | | | | | |
| All Systems | Select Systems | Data Stream | Special Tests | | | |
| Ł | \$ * | × | | | | |
| Diagnostic information | Automated System Test | Maintenance Tests | Enhanced OBDII | | | |
| | Today is Tue, 09 Jan 2018. | | | | | |
| | | | | | | |

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

Recent

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1. Select Vehicle.

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2. Select Recent Vehicles.

| 2004 Volkswagen 1999 Chevrolet 2007 Your Ford 2008 Ford 2007 Jeep Passat C2500 2WD F-150 Wrangle GLS 2.8 LS 5.7 King Ranch 5.4 Unlimited Rubico | MDX Base 3.5 | 335i Coupe/C Base 3.0 | Mustang Shelby GT500 5.4 | Unlimited X 3.8 |
|---|---------------------------|-----------------------------|-----------------------------|-----------------------|
| GLS 2.8 LS 5.7 King Ranch 5.4 Unlimited Rubicon | 2004 Volkswagen Passat | 1999 Chevrolet C2500 2WD | 2008 Ford F-150 | 2007 Jeep Wrangler |
| | GLS 2.8 | LS 5.7 | King Ranch 5.4 | Unlimited Rubicon |

- 3. Press and hold a recent vehicle tile and select one of two choices:
 - Set as current vehicle.
 - Delete from recents.
- 4. Or just tap on the recent vehicle tile.

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

Search by VIN

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1. Select Vehicle.

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2. Select Search By VIN.

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3. Enter 17-digit VIN then OK.

ss02710

| /IN Match Results (4) | 1FTPW14V28FC5432 |
|--|--------------------------------|
| FORD 2008 Ford F-15 King Ranch 5.4, FLEX. | 0 Naturally Aspirated. SOHC |
| FORD FORD | 0 Naturally Aspirated, SOHC |

4. Select the desired vehicle from the list.

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| ë | \$ | | | 💎 🖻 4:09 |
|---|--------------------------|-----------------------------|-------------------|----------------|
| | 🚑 © 2008 Ford F-1 | 50 King Ranch 5.4L | | |
| | | | | |
| | Read DTCs All Systems | Read DTCs Select Systems | Data Stream | Special Tests |
| | 1 | ¢ * | ★ | |
| | Diagnostic information | Automated System Test | Maintenance Tests | Enhanced OBDII |
| | | Today is Tue, 09 |) Jan 2018. | |
| | | | | |

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

OBDII

Overview

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: Enhanced OBDII may be selected from the Diagnostics menu with a vehicle loaded for more specific Mode 6 test information.

Diagnostic Functions

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- 1. Select OBD-II from the Main Menu 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.



- 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.

| Read | liness Mode Button Definitions |
|------|---|
| | Menu Button Tapping the Menu button displays a pop-up link that takes the user to more buttons. |
| 2 | View Help Selecting View Help will open an online user 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/Stan- dard Units. |
| 0 | 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 electronic control unit (ECU).

ss02719



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



2. Select scrolling preference.

| Data Stream ∣ for Global OBDII ⋑ | | Expand | Custom | ^A 2 Sort | Playback | Capture | Men |
|---|------------|---------------------------------|------------|------------------------|----------|---------|---------|
| Evaporative Emissions System Vapor Pressure | 0.12 inH2O | Distance MI | L Active | | | 11 | miles |
| Distance Since DTC Clear | 16 miles | Catalyst Ter | nperature | Bank 1 S | ensor 1 | | 39 °F |
| Catalyst Temperature Bank 1 Sensor 2 | 95 °F | Catalyst Ter | nperature | Bank 2 S | ensor 1 | | 57 °F |
| Catalyst Temperature Bank 2 Sensor 2 | 124 °F | Ambient Air Temperature Degrees | | | 95 °F | | |
| Engine Coolant Temperature | 163 °F | Intake Air Te | emperature | e | | | 126 °F |
| Fuel Rail Pressure Gauge | 4.0 psi | Fuel Rail Pr | essure Ga | uge | | | 0.0 psi |
| Fuel Rail Pressure Relative To Manifold Vacuum | 7.8 psi | Vehicle Spe | ed | | | 3 | 2 mph |
| EGR Error | 53 % | Calculated E | Engine Loa | ad | | | 3.8 % |

3. Follow the prompts on the screen.

| Da | ata Stream Button Definitions | | | |
|---------|--|--|--|--|
| × | Enlarge Screen View Function To view the data in the enlarge view, press the Enlarge button. | | | |
| Ø_ | 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. | | | |
| A z | 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. | | | |

| Da | ta Stream Button Definitions |
|----|--|
| | 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. |
| 0 | 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. |
| | Use English/Standard Units Selecting English/Standard Units will switch from Metric Units to English/Stan- dard 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.



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.

| Fre | eze Frame Button Definitions |
|-----|---|
| | Menu Button Tapping the Menu button displays a pop-up link that takes the user to more buttons. |
| 2 | View Help Selecting View Help will open an online user 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/Stan- dard Units. |
| :0 | 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.

SS02722 Ceneric OBDI Ceneric O

1. Select DTCs Modes from the Generic OBDII screen.

| ss02723 | | | | | | |
|--------------------|---|------|-------|------------------|------|--|
| Diagnostic Trouble | Clear | Read | Share | <u>↓</u> Save | Menu | |
| B0001 | Driver Frontal Stage 1 Deployment Control (Subfault) | | | | | |
| B0002 | Driver Frontal Stage 2 Deployment Control (Subfault) | | | | | |
| B0003 | Driver Frontal Stage 3 Deployment Control (Subfault) | | | | | |
| OBDII PENDI | NG CODES | | | | | |
| B0001 | Driver Frontal Stage 1 Deployment Control (Subfault) | | | | | |
| B0002 | Driver Frontal Stage 2 Deployment Control (Subfault) | | | | | |
| B0003 | Driver Frontal Stage 3 | | | | | |

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

OBDII DTC Nomenclature



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

| • | 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 off 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 |

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 options. Depending on what's available at the time. Share a list containing all the DTCs set by email or Bluetooth or USB. Menu Button Tapping the Menu button displays a popup 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

controller.

Oxygen (O2) Sensors

Mode 5 views O2 sensor monitor test results.

| ss02724 | | | | | |
|--------------------------------|--|--------|-------|-------|----------|
| Generic OBDII | | | | Sh | are Menu |
| READINESS MODE 1 | Oxygen Sensor Tests (| Mode 5 |) | | |
| DATA STREAM MODE 1 | Description | Min | Value | Max | Linite |
| FREEZE FRAME MODE 2 | Bank 1 Sensor 1 | Will | Value | Wax | Onits |
| DTCs MODES 3, 4, 7, A | Maximum Sensor Voltage For Test Cycle | 0.000 | 0.003 | 1.275 | v |
| 02 SENSORS MODE 5 | eshold Voltage | 0.000 | 0.003 | 1.275 | v |
| NON-CONTINUOUS TESTS MODE 6 | High Sensor Voltage ⊢or Switch Time Calculation | 0.000 | 0.003 | 1.275 | v |
| SPECIAL TESTS MODE 8 | Minimum Sensor Voltage For Test Cycle | 0.000 | 0.003 | 1.275 | v |
| VEHICLE INFO MODE 9 | | | | | |

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.

| Oxyge | n (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 user 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/Stan- dard Units. |
| 0 | 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.

| Generic OBDII | | | Share | Menu |
|--------------------------------|----------------|--------------------------------|-------|------|
| READINESS MODE 1 | Non-Continuous | y Monitored Tests | | |
| DATA STREAM MODE 1 | (Mode 6) | | | |
| FREEZE FRAME MODE 2 | 'Not Ready'. | e valid if Readiness Status is | | |
| DTCs MODES 3, 4, 7, A | ок | Cancel | | |
| O2 SENSORS MODE 5 | | | | |
| NON-CONTINUOUS TESTS MODE 6 | | | | |
| SPECIAL TESTS MODE 8 | | | | |
| VEHICLE INFO MODE 9 | | | | |

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

| 5502720 | | | | | | |
|--------------------------------|----------------------|-----------------------|---------------|--------------|-------------------|------|
| Generic OBDII | | | | | ¢ Share | Menu |
| READINESS MODE 1 | Non-Continu | uously Mor | nitored Tests | i | | |
| DATA STREAM MODE 1 | (Mode 6) | | | | | |
| FREEZE FRAME MODE 2 | ECU: ENGINE | | | | | |
| DTCs MODES 3, 4, 7, A | TID 1 TID 1 | | | Failed | | |
| O2 SENSORS MODE 5 | CID 1 TID 1 | | | Falleu | | |
| NON-CONTINUOUS TESTS MODE 6 | N/A | 31744 VALUE | 28832 MAX | N/A UNITS | | |
| SPECIAL TESTS MODE 8 | TID 2 CID 2 TID 2 | | | Failed | | |
| VEHICLE INFO MODE 9 | N/A MIN | 31744 VALUE | 28832 MAX | N/A UNITS | | |

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.

--00700

- 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-Co | ontinuous Tests Button Definitions |
|--------|---|
| | Menu Button |
| | Tapping the Menu button displays a pop-up link that takes the user to more buttons. |
| 8 | View Help Selecting View Help will open an online user 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/Stan- dard Units. |
| 0 | 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.

| ss02727 | |
|--------------------------------|--------------------------------------|
| Generic OBDII | Menu |
| 0 | |
| READINESS MODE 1 | |
| DATA STREAM MODE 1 | |
| FREEZE FRAME MODE 2 | |
| DTCs MODES 3, 4, 7, A | TAP 'SPECIAL TESTS MODE 8' TO REOPEN |
| O2 SENSORS MODE 5 | |
| NON-CONTINUOUS TESTS MODE 6 | |
| SPECIAL TESTS MODE 8 | |
| VEHICLE INFO MODE 9 | |

1. Select Special Tests from the Generic OBDII screen.

| ss02728 | | |
|--------------------------------------|--|------|
| SPECIAL TESTS | | Menu |
| ALL TESTS DPF TESTS EVAP TESTS | All Special Tests Search All Special Tests DPF Tests Diesel Particulate Filter Regeneration EVAP Tests Evaporative System Leak Check | Q |

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.

| Sp | 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 user 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. | | | | |
| 0 | 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).

ss02729

| Generic OBDII | Meru |
|--------------------------------|--|
| READINESS MODE 1 | Vehicle Information (Mode 9) |
| DATA STREAM MODE 1 | |
| FREEZE FRAME MODE 2 | Make sure the key is ON and the Engine is OFF. |
| DTCs MODES 3, 4, 7, A | OK Cancel |
| O2 SENSORS MODE 5 | |
| NON-CONTINUOUS TESTS MODE 6 | |
| SPECIAL TESTS MODE 8 | |
| VEHICLE INFO MODE 9 | |

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

ss02730

| Generic OBDII | | Menu | |
|--------------------------------|----------------------------|-----------------------------------|---|
| READINESS MODE 1 | Vehicle Infor | mation (Mode 9) | |
| DATA STREAM MODE 1 | | | - |
| FREEZE FRAME MODE 2 | Vehicle identification Nu | nber | _ |
| | Controller | Vehicle Identification Number | |
| DTCs MODES 3, 4, 7, A | ENGINE | 1FTPW14V28FC54321 | 1 |
| O2 SENSORS MODE 5 | Calibration identification | Number | 1 |
| NON-CONTINUOUS TESTS MODE 6 | Controller | Calibration Identification Number |] |
| SPECIAL TESTS MODE 8 | ENGINE | BOSCHA1037366956 | 1 |
| VEHICLE INFO MODE 9 | | | - |

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 AutoID 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 user 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/Stan- dard Units. | | | |
| 0 | Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen. | | | |

Saved Diagnostic Data

Overview

The Saved Diagnostic Data functions allows the capability to recall previously run tests and Data Stream Records.

ss02828

| C 🚔 🚳 MAIN MENU - Tap Below To Begin Your Diagnostic Experience | | | | |
|---|----------|-----------------------|---------|--|
| Select Vehicle | OBDII | Saved Diagnostic Data | Browser | |
| Heavy Duty | Settiny- | | | |
| Today is Thu, 04 Jan 2018. | | | | |
| | | | | |

1. Select Saved Diagnostic Data from the Main Menu Screen.

ss02814

| Saved Diagnostic Data | Delete | ² ♠ Sort | Share | Menu |
|--------------------------------|----------|-------------|-------|------|
| © 2004 Ford F-150 XL 5.4L | Selected | | | |
| O1/15/2018 OBDII | | | | |
| 09:27 Recorded Data Stream | | | | |
| ✓ 09:24 DTC Report | | | | |
| ⊙ 01/15/2018 2004 Ford F-150 | | | | |
| | | | | |
| ⊙ 01/12/2018 2003 Cadillac CTS | | | | |
| | | | | |
| 🕤 01/10/2018 2008 Ford F-150 | | | | |

- 2. Navigate down to the desired saved test.
- 3. Select Specific file.

ss02815



4. View the report. When finished tap the back button.

ss02816



- 5. Navigate down to the desired saved recording.
- 6. Select Specific file.

ss02817

| Recorded Data Stream Global OBDII | | |
|---|------------|---|
| © 2004 Ford F-150 XL 5.4L | | p |
| Evaporative Emissions System Vapor Pressure | 0.13 inH2O | Distance MIL Active 15 miles |
| Distance Since DTC Clear | 21 miles | Catalyst Temperature Bank 1 Sensor 1 91 °F |
| Catalyst Temperature Bank 1 Sensor 2 | 77 °F | Catalyst Temperature Bank 2 Sensor 1 108 °F |
| Catalyst Temperature Bank 2 Sensor 2 | 108 °F | Ambient Air Temperature Degrees 154 °F |
| Engine Coolant Temperature | 129 °F | Intake Air Temperature 131 °F |
| Fuel Rail Pressure Gauge | 2.7 psi | Fuel Rail Pressure Gauge 2.5 psi |
| Fuel Rail Pressure Relative To Manifold Vacuum | 10.8 psi | Vehicle Speed 25 mph |
| EGR Error | 5 % | Calculated Engine Load 48.2 % |
| Recorded: 1 minutes ago | | 70/1 fames |

7. View recording.

| Saved Diagnostic Data Button Definitions | | | |
|--|--|--|--|
| d I | Clear All Data Select Clear Data to clear displayed data stream. This function will reset the timeline frame counter and clear graphed data. | | |
| Azt | 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. | | |
| < | Share DTCs Button Tapping the Share button opens the app and initiates options. Depending on what's available at the time. Share a list containing all the DTCs set by email or Bluetooth or USB. | | |

Saved Diagnostic Data 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 user 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.

ss02829



 Select Browser from the Main Menu 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.



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



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

| ss02734 | | | | | | |
|---|-----------------|-----------------|---------|------------|-------|-------------------|
| | Fast Touch Webs | | | | | \$ ♥ ∎ 10:38 + |
| Generation file:///data/info/fasttouch/oem.html | | | | × |] ୯ ☆ | • |
| Fast Touch Web | sites O | EM | | | | |
| CREPAIR INFORMATION | ACURA | ASTON MARTIN | AUDI | BENTLEY | BMW | В |
| | DODGE | EAGLE | FERRARI | FORD | GM | но |
| f ser You | JAGUAR | JEEP | KIA | LAND ROVER | LEXUS | |
| f ¥ ඎ | | | | | | |

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

Heavy Duty

ss02830



1. Select Heavy Duty.

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

ss02371



2. Select a Cable.

ss02838



3. 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, Automated 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 All Systems

Overview

The Read DTCs All Systems 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 top of the screen.

ss02845



1. Select Read DTCs All Systems from the Screen.

| ss02739 | |
|---------------------------------------|------|
| DTC Scan | Menu |
| © 2004 Volkswagen Passat GLS 2.8L | |
| Building controller list. Please Wait | |
| Finding ABS (03) controllers | |
| | |
| | |
| | |
| Select Controller Qualifer | |
| Skip controller | |
| ABS Bosch 5.3 | |
| ABS Bosch 5.7 | |
| | |

2. Select all controller qualifiers.

Note: Not all vehicles will have qualifiers.

ss02740

| DTC Scan © 2004 Volkswagen Passat | GLS 2.8L | Menu |
|--------------------------------------|------------------------------------|---|
| | Reading DTCs from INSTRUMENTS (17) | |
| | 18% | |
| ENGINE (01) | | 6 DTC(s) found |
| AUTO TRANSMISSION (02) | | 6 DTC(s) found |
| AIRBAG (15) | | 6 DTC(s) found |
| INSTRUMENTS (17) | | $\frac{2^{1/2}}{\sqrt{1}}$ Reading DTC: |
| ABS (03) | | |
| SUSPENSION ELECTRONICS | S (14) | |

3. Scan progress will be indicated by the progress bar in the middle of the screen.

Note: If any of the controllers have DTC's go to step 6.

| | | | • | < | | : |
|-----------------------|------------|------------------|---------|-------|---------------|-------------|
| DTC Scan | | Clear | Refresh | Share | Save | Menu |
| 2004 Volkswagen Passa | t GLS 2.8L | | | | | |
| | Report re | ady for viewing. | | | _ | |
| | | 100% | | | View Repor | |
| RADIO (56) | | | | | 6 DTC(s) f | ound 🔰 |
| TV TUNER (57) | | | | | 6 DTC(s) f | ound 🔰 |
| AUX FUEL TANK (58) | | | | | 6 DTC(s) f | ound 🔰 |
| PARK ASSIST (76) | | | | | 6 DTC(s) f | ound 🔰 |
| TELEPHONE (77) | | | | | 6 DTC(s) f | ound 🔰 |
| TELEPHONE (77) | | | | | | 6 DTC(s) fi |

4. Wait for scan to finish.

ss02742

| DTC Scan Report | KÖ) Clear | Refresh | Share | ↓ Save | Menu |
|--|--------------|---------|-------|-----------|---------|
| © 2004 Volkswagen Passat GLS 2.8L | | | | | |
| ENGINE (01) | | | | | |
| 00001 (P0001) Fuel Delivery Control: Open Circuit | | | | Rea | d Codes |
| 00002 (P0002) Fuel Delivery Control: Outside Specified | d Range | | | Rea | d Codes |
| 00003 (P0003) Fuel Delivery Control: Signal Too Large | | | | Rea | d Codes |
| 16394 Camshaft Position A Actuator Circuit (Bank 1) | | | | Rea | d Codes |
| 16395 Camshaft Position A - Timing Over-Advanced (Performance (bank 1) | Or Syster | n | | Rea | d Codes |
| 16396 Camshaft Position A - Timing Over-Retarded (E | Bank 1) | | | Rea | d Codes |
| AUTO TRANSMISSION (02) | | | | | |
| | | | | | |

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

- 5. The controller without a DTC has no DTC line that is selectable and clicking on the line has no effect.
- 6. 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.

| R | ead DTCs Button Definitions |
|---|--|
| 3 | 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 options. Depending on what's available at the time. Share a list containing all the DTCs set by email or Bluetooth or USB. |
| | 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 user manual. |
| 0 | Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen. |

Read DTCs Select Systems

Overview

The Read DTCs Select Systems 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 and the handset must now be displaying the Screen.

ss02839



1. Select Read Select Systems from the screen.

ss02743

| O 2007 Jeep Wrangler Unlimited X 3.8L O | |
|---|--|
| Please select one or more controlle | rs and tap 'Continue' to start DTC scan. |
| ENGINE | Select All |
| TRANSMISSION | Deselect A |
| ABS | |
| WIRELESS CTRL MODULE(TPMS) | |
| OCCUPANT CLASSIFCATION | |
| | ntinue |

2. Select the desired vehicle controller then select continue.

| ss02744 | | | | | | |
|----------------------------|--|-------|------------------|-------|-----------|----------|
| Diagnostic Trouble | Codes | Clear | C Read | Share | → Save | Menu |
| O 2007 Jeep Wran | gler Unlimited X 3.8L ENGINE | | | | | |
| Active | | | | | | |
| B1000 | Air Conditioning Switch Request Input Circuit/ Performance | | | | [| OTC Info |
| B1001 | Air/Conditioning Switch Request Input Circuit Low | | | | 1 | DTC Info |
| B1002 | Air Conditioning Switch Request Input Circuit High | | | | [| OTC Info |
| Pending | | | | | | |
| B1000 | Air Conditioning Switch Request Input Circuit/ | | | | 1 | DTC Info |

- 3. DTCs will be read from the selected vehicle controller.
 - 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.

| R | ead DTCs Button Definitions |
|----|--|
| ÷ | Ford/Lincoln/Mercury Self Diagnostics button displays a pop up menu allowing the user to choose between specific special tests. |
| 0 | GM/GMC Status button displays a pop up menu allowing the user to view the status on DTCs. |
| μÕ | 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: <i>NOTE:</i> |
| | Clearing DTCs will erase current Mode 1 Readiness monitor informa- tion 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 off 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 options. Depending on what's available at the time. Share a list containing all the DTCs set by email or Bluetooth or USB. |
| | 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 user 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.

ss02840



1. Select Read DTCs from the screen.

ss02745

| Shelby GT500 5.4L | |
|---|----------------------------|
| Please select one or more controllers and tap 'Co | ntinue' to start DTC scan. |
| PCM | ✓ Select All |
| ABS / TRACTION CONTROL | Deselect All |
| GEM MODULE / TPMS | |
| AIRBAG | |
| OCCUPANT CLASSIFCATION | |
| Continue | <u> </u> |

2. Select the desired vehicle controller then select continue.

ss02746 Diagnostic Trouble Codes Image: Menu 2012 Ford Mustang Shelby GT\$00 5.4L PCM Select Option Read DTCS KOEO KOER Reset KAM Reset KAM

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

| Diagnostic Trouble C | odes | Self-Diag | Clear | 🚭 Read | Share | ↓ Save | Menu |
|----------------------|---|-----------|-------|-----------|-------|-----------|----------|
| 2012 Ford Mustan | g Shelby GT500 5.4L PCM | | | | | | |
| Current Codes | 3 | | | | | | |
| B10A2-00 | Crash Input | | | | | [| OTC Info |
| B1200-00 | Crash Input Mismatch - CAI Inactive Hardwired Active | N | | | | [| OTC Info |
| B1207-00 | Crash Input Hardwired Signa | al | | | | [| OTC Info |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

- 4. DTCs will be read from the selected vehicle controller.
 - 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.

Manual DTCs

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

ss02748



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

ss02749

| Clear | 🔁 Read | Share | ↓ Save | iii\ Library | Menu |
|-----------------------|---|---------------------|---|--|-------------------------------|
| | | | | ▲ | |
| | | | | | |
| ver's sea | t heater | unit. | | - 8 | |
| | | | | | |
| agnosis te | erminal. | | | | |
| | | | | | |
| de and bli | inks to i | dentify tr | ouble co | des. | |
| stic troub naximum | le codes of 3 min | s (DTC) v iutes. | will be st | nown in | order |
| | Clear ver's sea agnosis t de and bl stic troub naximum | Clear Read | Clear Read Share ver's seat heater unit. agnosis terminal. de and blinks to identify tr stic trouble codes (DTC) v naximum of 3 minutes. | Clear Read Share Lave Clear Read Share Save ver's seat heater unit. agnosis terminal. de and blinks to identify trouble co stic trouble codes (DTC) will be sl naximum of 3 minutes. | Clear Read Share Save Library |

2. Select Library button.

ss02750

| Diagnostic Trouble Codes | Diagnostic 1 | Frouble Codes | | → Save | iji) Library | Menu |
|---|--------------|---|---|------------|-----------------|--------|
| 2002 Subaru Forester Manual Codes Pro | 11 | Start Code: Trouble Cod After Start Code Only St Shown In Norma | le Is Shown tart Code Is al Condition | | | |
| 1) Take out diagno- | 21 | Abnormal ABS Sensor (O | pen Circuit | | | |
| 2) Turn ignition swi | | Or Input Voltage Too H Right A | igh) - Front ABS Sensor | | | |
| 3) Connect diagno | 22 | Abnormal ABS Sensor | (Abnormal | | | |
| 4) Turn ignition swi | | ABS Sensor Signal) - A A | Front Right BS Sensor | | | |
| 5) ABS warning lig | 23 | Abnormal ABS Sensor (O | pen Circuit | uble cod | es. | |
| After the start co of the last informat | | Or Input Voltage Too H | ligh) - Front | ill be sho | own in o | order |
| 7) NOTE: When the | | Close | | nly the st | art cod | e (11) |

3. Follow the prompts on the screen.

ss02751

| Diagnostic Trouble Codes | Clear | C Read | Share | ↓ Save | iii) Library | Menu |
|--|-----------------|-----------------------|---------------------|------------|-----------------|-------|
| 2002 Subaru Forester Base 2.5L ABS | | | | | | |
| Manual Codes Procedure | / | | | | | |
| 1) Take out diagnosis connector from side of drive | ·T | ₁t heater | unit. | | | |
| 2) Turn ignition switch Off. | | | | | | |
| 3) Connect diagnosis connector terminal 6 to diag | nosis | terminal. | | | | |
| 4) Turn ignition switch On. | | | | | | |
| 5) ABS warning light is set in the diagnostic mode | and b | links to i | dentify tr | ouble co | des. | |
| 6) After the start code (11) is shown, the diagnosti of the last information first. These repeat for a ma | c trou ximum | ole codes of 3 min | s (DTC) v iutes. | will be st | nown in (| order |

4. Select Clear DTCs button.

ss02752

| Diagnostic Trouble Codes | i Clear | Q Read | Share | → Save | ii) Library | Menu |
|---|-----------------------|------------------|----------|-----------|----------------|--------|
| 2002 Subaru Forester Base 2.5L ABS | | | | | | |
| Manual Codes Procedure | | | | | | |
| 1) After calling up a diagnostic trouble code (D from diagnosis terminal. | TC), disco | nnect di | agnosts | connect | or termir | nal 6 |
| Repeat 3 times within approx. 12 seconds; o diagnosis terminal for at least 10 seconds each | connecting h time. | and dis | connecti | ng termi | nal 6 an | d |
| 3) NOTE: After diagnostics is completed, make | e sure to cl | ear men | nory. Ma | ke sure o | only star | t code |

5. Follow the prompts on the screen.

Code Criteria

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

ss02753

| Diagnostic Trouble | Diagnostic Trouble Codes | | C Read | < Share | <u>↓</u> Save | Menu |
|--------------------|--|---------|-----------|------------|------------------|----------------|
| © 2003 GMC Yuko | n XL 1500 SLT 5.3L PCM | | | | | |
| Fail Since Cl | ear | | | | | |
| P0016 | Crankshaft Position (CKP) - Camshaft Posiion (CMP) Correlation | | | DTC Sta | tus | DTC Info |
| P0101 | Mass Air Flow Sensor Performance | Failure | Record | DTC Sta | tus | DTC Info |
| P0102 | Mass Air Flow Sensor Circuit Low Frequency | | | DTC Sta | tus | 24 DTC Info |
| MIL Codes | | | | | | |
| P0016 | Crankshaft Position (CKP) - Camshaft Posiion (CMP) | | | DTC Sta | tus | 2 DTC Info |

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

ss02754

| B1213 Less Than Two Ko | eys Programmed To Pass Ranch 5.4L PCM / PATS | sive Anti-Theft System | | Menu |
|--------------------------|--|------------------------|-----------|---------------------------|
| DESCRIPTION | Code Assist | | | Repair Hotline |
| Code Criteria | Description | Element | Action | DENTIFIX DIRECT-HIT |
| CODE ASSIST | Frequently Reported Fixes | Battery Cable(s) | Replaced | Google |
| PCM Pin | Frequently Reported Fixes | Ignition Key(s) | Replaced | Mitchell <u>i</u> |
| | Frequently Reported Fixes | Starter | Replaced | |
| SCAN TEST | Frequently Reported | Vehicle Theft | Performed | System Wiring Diagrams |
| IN// Discom | | Detection (VID) | 1 | 1 1 |

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.

Data Stream

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

ss02841



- 1. From the screen, select Data Stream.
- 2. If the vehicle is NOT a Volkswagen/Audi then go to step 7.

ss02755

| 🖨 💿 2008 Audi A4 Quattro Avant 3.2I | |
|-------------------------------------|---|
| Please select controller to proceed | |
| ENGINE (01) | 0 |
| AUTO TRANSMISSION (02) | 0 |
| ABS (03) | 0 |
| TIRE PRESSURE MONITOR (65) | 0 |
| AIRBAG (15) | 6 |
| Continue | |

- 3. Select the desired vehicle controller then select continue.
- 4. Follow the prompts on the screen.

1 . Data Stream © 2008 Audi A4 Quattro Avant 3.2L | ENGINE (01) Volkswagen/Audi Group All Data Groups Ω All Data Groups Search all Data Streams Select System Specific Data Volkswagen/Audi Group Select Customize Syatem Specific Data Accelerator Pedal Angle
 Combustion Failure Detection onditioner Radiator Fan Requ oustion Failure Total Combustion Failure: Cylinder 1
 Combustion Failure: Cylinder 3 Combustion Failure: Cylinder 2
 Combustion Failure: Cylinder 4 Combustion Failure: Cylinder 5 Combustion Failure: Cylinder 6 nm. With Strng.Column Swit. Module nmun.With Steering Wh.Angle Sens m. With Suspension Control Unit munic. With Engine management

Data Groups

ss02757

ss02756

- 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.
- 5. Follow the prompts on the screen. Select or customize a group.

| Data Strea | am | _ | | | | | | Playback | Menu |
|------------|---|----|-------|--------------|-------|-----|-----|----------|------|
| © 2008 A | Audi A4 Quattro A Volkswagen/Audi Group | | | | | | | | |
| Volkswage | gen/Audi Group | | | | | | | _ | |
| All Data G | roups | | | ОК | | Can | cel | | |
| System S | pecific Dat | ta | Volks | vagen/Audi C | Group | | [| Select | |
| | - | + | | 1 | | 2 | 3 | • | |
| | * | 1 | , | 4 | | 5 | 6 | Done | |
| | (|) | = | 7 | | 8 | 9 | | |
| | | | | * | | 0 | # | | |

6. Enter the Volkswagen/Audi Group. When finished go to Step 10.

ss02758

- 7. Select the desired vehicle controller then select continue.
- 8. Follow the prompts on the screen.

- 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.
- Follow the prompts on the screen. Select, Select or Customize a group.
- 9. The selected data will be displayed.

ss02760

| Data Stream All Data Items | | |
|--|-----------|---|
| 2003 Cadillac CTS Luxury Sport 3.2L | ENGINE | |
| Calculated Converter Temperature | 1719 °F | Startup Engine Coolant Temperature 48 °F |
| Fuel Level | 16.70 gal | Fuel Tank Pressure -0.6 inH20 |
| Del Torque PWM Duty | 53 % | Generator F-Terminal Signal 82 % |
| Heated Oxygen Sensor Heater Bank 1 Sensor 1 | 61.0 % | Heated Oxygen Sensor Heater Bank 1 81.7 % |
| Left Front Bank 2 Cruise/Acceleration | -63 % | Short Term Fuel Trim Bank 1 -119 % |
| Short Term Fuel Trim Bank 2 | 28 % | Engine Oil Life Left 7 % |
| Volumetric Efficiency | 552 % | Evaporative Emissions Purge Solenoid 87 % |
| Battery Voltage | 10.20 V | Accelerator Pedal Position Sensor 2 1.1 V |
| BUFFERING DATA. | | 200 / 200 frames |

10. The selected data will be displayed.

Enlarge Screen View Function

ss02761

| Data Stream All Data Items | | Expand Custom Soft Playback Capture Mer |
|--|-----------|---|
| 2003 Cadillac CTS Luxury Sport 3.2L | ENGINE | |
| Calculated Converter Temperature | 1719 °F | ingine Coolant Temperature 48 °F |
| Fuel Level | 16.70 gal | -0.6 inH2O |
| Del Torque PWM Duty | 53 % | erator F-Terminal Signal 82 % |
| Heated Oxygen Sensor Heater Bank 1 Sensor 1 | 61.0 % | heated Oxygen Sensor Heater Bank 1 81.7 % |
| Left Front Bank 2 Cruise/Acceleration | -63 % | Short Term Fuel Trim Bank 1 -119 % |
| Short Term Fuel Trim Bank 2 | 28 % | Engine Oil Life Left 7 % |
| Volumetric Efficiency | 552 % | Evaporative Emissions Purge Solenoid B7 % |
| Battery Voltage | 10.20 V | Accelerator Pedal Position Sensor 2 1.1 V |
| BUFFERING DATA. | | 200/ 200 frames |

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

| ss02762 | | | |
|--|---|--|---|
| Data Stream All Data Item | is y Sport 3.2L ENGINE | Shrink Expand Custom So | rt Playback Capture Menu |
| Converter Temperature 986 'r 72 | Fuel Level 14.19 gai 1.19 9.31 21.14 Low Avg High | rque PWM 30 % 2 46 98 Low Avg High | Heated Oxygen Sensor Heater Bank 1 Sensor 1 64.2 % 7.8 48.2 95.8 Low Avg High |
| Colorn Co | Fuel Tank Pressure | Cenerator F- Terminal Signal | Heated Oxygen Sensor Heater Bank 1 Sensor 2 Bank 1 Sensor 2 9.5 53.6 Might 10/200 terms |

1. Press the Enlarge button again.

ss02763

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.

| Da | ta 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. |
| ж | 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.

ss02764

Note: The left graph will be shown full size.

ss02765

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.

ss02766

| Dis | splay 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. |
| \mathcal{M} | Line Graph To change to line graph, select the Line Graph button. |
| | Bar Graph To change to bar graph, select the Bar Graph button. |
| 9 | Change Color To change the color of a graph, select the Change Color button. |
| Î | Clear All Data Select Clear Data to clear displayed data stream. This function will reset the timeline frame counter and clear graphed data. |
| .0 | 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

ss02767

| Data Stream All Data Items | Shrink Expand Custom Sort Playback Capture Menu |
|--|--|
| 2003 Cadillac CTS Luxury Sport 3.2L ENGINE | / |
| Calculated Converter Temperature | Dut M Heated Oxygen Sensor Heater Bank 1 Sensor 1 |
| | |
| *F 72 Low Avg High | 2 46 98 7.8 48.2 95.8 Low Avg High Low Avg High |
| Coolant Fuel Tank Pressure | Generator F- Terminal Signal Early Sensor Heater Bank 1 Sensor 2 |
| | 34 % 52.7 |
| 1 1 · F -49 -12.6 | 5 47 94 9.5 53.6 98.4 Low Avg High Low Avg High |
| BUFFERING DATA. | 1 of 3 100 / 200 frames |

1. Select the Custom button.

ss02768

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

Sort Function

ss02769

1. Select Sort to sort data items.

ss02770

| ata Stream All Data Items | | Shrink | Expand | Custom | ^A ₂ ♠ Sort | Playback | Capture | Menu |
|--|--|--------|--------------|------------------------|--------------------------|----------|---------|------|
| 2003 Cadillac CTS Luxury S | port 3.2L ENGINE | | | | | | | |
| Greet Level 1 28.05 28.04 23.41 0.74 0.74 0.74 | Heated Oxygen Sensor Heater Bank 1 Seesor 1 View Only Sele C View Only Sele C Sort By Alpha C Heated C Sort By Clipha | Eng | ine Oil Life | -33 % 47 High | _ | | | |
| 11.7 11.7 11.9 11.9 11.9 11.20 12.0 | Bank 1 Sensor 2 53.6 % 0.8 42.2 92.2 Low Avg High | | | L | | | | |

2. Data may be sorted alphabetically or by graph.

NOTE: Some of the instruction text may not exactly match what is

NOTE: Sorting data items will reset the timeline frame counter, so sort these items before recording data.

Recording

ss02771

| Data Stream All | Data Item | S | | | Shrink | Expand | Custom | ZA Sort | Playback | Capture | Menu |
|--|-------------|-------------|-------------|----------------|----------|----------------------------|----------------------|------------|-------------------------|------------------------------------|--------------|
| © 2003 Cadillac C | TS Luxur | y Sport 3.2 | L ENG | INE | | | | | | | |
| Calculated Converter Temperature | I | Fuel Lo | evel | I | | el Torque P uty | WM | | Heater Senso Bank | d Oxygen r Heater I Sensor 1 | I |
| | 2178 986 | | | 14.19 gal | | | 30 | | | | 64.2 % |
| · /** | °F 72 | 1.19 Low | 9.31 Avg | 21.14 High | 2 Low | 46 Avg | 98 High | | 7.8 Low | 48.2 Avg | 95.8 High |
| Startup Engine Coolant Temperati | _ i | Fuel Ta | ank Press | iure | | enerator F- rminal Sigr | nal | _ | Heater Senso Bank | d Oxygen r Heater I Sensor 2 | i |
| | 289 -4 | 1 | W | 11.2 -0.5 | | |] ³⁴ % | | | | 52.7 % |
| | °F -49 | | 14. | inH2O -12.6 | 5 Low | 47 Avg | 94 High | | 9.5 Low | 53.6 Avg | 98.4 High |
| BUFFERING DATA. | | | | | | | | | | 100 / | 200 frames |

- 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.

ss02772

| Data Stream All Data Items | Shrink Expand Custom Sort Playback Capture Menu |
|--|--|
| O 2003 Cadillac CTS Luxury Sport 3.2L ENGINE | |
| Calculated Converter Temperature ALLL MML 1 1177 Calculated Transfer at the second secon | Del Torque PWM Image: Constraint of the constraintof the constraint of the constraint of the constraint of the const |
| | 2 56 99 1.4 33.8 71.9 Low Avg High Low Avg High |
| Star Star Star Star Star Star Star Star | Generator F- Terminal Signal Bank 1 Sensor 4 Bank 1 Sensor 2 |
| | 80 41.7 % |
| | 26 70 99 1.4 45.9 93.1 Low Avg High Low Avg High |
| RECORDING LIVE DATA. | 1 ol 275 frames |

2. To stop recording select the check mark.

Recordings

ss02773

- 1. Select Playback 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.
 - To view recordings, select the Recordings button near the top of the display.
- 2. Select the desired recording.

Playback Instructions

ss02774

| Recorded Data Stream 2003 Cadillac CTS Luxury Sport ENGINE | | | | | Shrink | Expand | Custom | ZA Sort | Playback | Capture | Menu |
|---|-------------------------|--------------|-------------------------|------------------------------|--------------------------|--|-----------------------|------------|-------------------------------|-----------------------------------|---------------------------|
| 2003 Cadillac (Calculated Converter Temperature | 2233 1724 | y Sport 3.2L | vel | 1NE 7.98 | Del Dut | Torque PV y | ^{VM} | - | Heated Senso Bank 1 | I Oxygen Heater Sensor 1 | 27.6 |
| Startup Engir Coolant | °F 1141 | 2.32 Low | 8.08 Avg nk Press | 14.06 High ure | 12 Low Ger Terr | 39 Avg nerator F- minal Signa | 56 High | | 4.5 Low Heater Senso | 29.2 Avg I Oxygen Heater | 62.3 High |
| | 289 225 °F 131 | | ť | 3.8 0.6 inH20 -11.5 | 20 Low | 45 Avg | 33 % 74 High | - | 45.1 Low | 68.0 Avg | 62.0 % 89.7 High |
| Recorded: 1 m | inutes ago | | | | | | | | 1 / 420 frames | • | • |

To pause the display select Pause.

- To resume the recording, select Pause.
- To advance the recording frame-by-frame:
- Select ">".
- Select either "<" or ">".
- 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 of 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 difficult to test using traditional methods.

ss02842

1. Select Special Tests from the screen.

ss02775

2. Select the desired vehicle controller then select continue.

ss02776

ss02777

| SPECIAL TESTS | Menu | |
|----------------------|---------------------------|---|
| © 2007 Jeep Wrangler | Unlimited X 3.8L ENGINE | |
| ALL TESTS | All Special Tests | |
| ACCESS VIN | Search All Special Tests | Q |
| DIESEL CONTROLS | Access VIN | |
| DPF TESTS | Read VIN | |
| EGR TESTS | Write VIN | |
| ENGINE TESTS | Diesel Controls | |
| FAN TESTS | DPF Tests | |
| | Diritola | |

3. 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.

| SPECIAL TESTS | | Menu |
|-----------------------|--------------------------|------|
| 2007 Jeep Wrangler Un | nlimited X 3.8L ENGINE | |
| ALL TESTS | Engine Tests | |
| ACCESS VIN | Idle Sped Setpoint | |
| DIESEL CONTROLS | | |
| DPF TESTS | | |
| EGR TESTS | | |
| ENGINE TESTS | | |
| FAN TESTS | | |
| | | |

4. 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.

| ss02778 | | |
|--|---------|------|
| SPECIAL TESTS © 2007 Jeep Wrangler Unlimited X 3.8L ENGINE | Capture | Menu |
| Idle Speed Setpoint Set RPM | | |
| Idle Speed Setpoint 0.00 | | |
| Start Exit | | |

5. 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.

| SPECIAL TESTS © 2007 Jeep Wrangler Unlimited X 3.8L ENGINE | Capture Menu |
|--|--------------|
| Idle Speed Setpoint Set RPM | |
| Idle Speed Setpoint 0.00 | |
| | |

6. 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.

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.

| Sp | Special Tests 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 user manual. | | | | | |
| O. | 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.

ss02843

1. Select Diagnostic Information from the screen.

ss02858

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 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.

ss02792

| Code-Assist Lib | Code-Assist Library Press DTC for Repair information | | | | | | | |
|-----------------|--|------------------|--|--|--|--|--|--|
| P Codes | angi | | | | | | | |
| B Codes (26) | - > | | | | | | | |
| C Codes (15) | - > | | | | | | | |
| U Codes (31) | > | Select DTC Type. | | | | | | |
| | - | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

ss02793

- 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.

Repair Trac [®]

This function uses the AutoDetect Result Number Indication feature described on the previous page.

 Select Repair Trac[®] from the Diagnostic Information screen to view previously reported repairs for the selected vehicle/controller combination. ss02794

| Repair-Trac® | Menu |
|--|------|
| © 2007 Jeep Wrangler Unlimited X 3.8L ENGINE | |
| Systems | |
| Engine Performance | > |
| Starting and Charging | > |
| | |
| | |
| | |

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[™]

ss02795

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

1. Select Symptom Assist from the Diagnostic Information screen.

| Symptom Assist | | | Menu |
|--|--|--------------|---------------------------|
| © 2003 GMC Yukon XL 1500 SL | LT 5.3L PCM | | |
| A/C COMPRESSOR CLUTCH PROBLEM | A/C Compress | or Clutch Pr | oblem |
| A/C PERFORMANCE PROBLEM | Element Name | Action Name | Level Name |
| ABS PUMP RUNS CONTINUOUSLY | Air Conditioning (A/C) Compressor | Replaced | Top Reported Fix |
| ADJUSTABLE PEDAL PROBLEM | Heater Ventilation Air Conditioner (HVAC) Control Head | Replaced | Frequently Reported Fixes |
| MESSAGE PROBLEM | A/C Low Side Pressure Switch | Replaced | Frequently Reported Fixes |
| CONTROL - FALSE CYCLING/ FAULTY OPERATION | Air Conditioning (A/C) | Replaced | Frequently Reported Fixes |

- 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.

ss02796

| Symptoms List | | Menu |
|----------------------------------|---|------|
| © 2007 Jeep Wrangler Unlimite | U X3.8L EINGINE | |
| ENGINE WILL NOT START | Engine Will Not Start | |
| ENGINE LOSS OF POWER | | 1 |
| ENGINE MISSES ON ACCELERATION | Description Weak battery, corroded or loose battery connections, faulty starter, faulty coil(s) or | |
| ENGINE STALLS OR IDLES ROUGH | Control unit, incorrect spark plug gap, contamination in fuel system, faulty fuel pump, incorrect engine timing. | |
| ENGINE MISSES AT HIGH SPEED | | |
| ENGINE WILL NOT START | | |
| ENGINE LOSS OF POWER | | |

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 a list of videos. These videos will illustrate how to perform various functions on the handset.

1. Select Video Library from the Diagnostic Information screen.

| ss02797 | | | | |
|---------------------|---|-----|----------|------|
| ø | | | Ψŝ | 2:44 |
| Fast touch Websites | Video Search X C G Google + | | | |
| | https://scantool.service-solutions.com/VideoLibrary/VideoLibrary_ET.htm | ☆ | Q | |
| | Please enter search term(s) Please enter search term(s) 1997 GMC Camshaft Position Sensor 1997 GMC Catalyst Efficiency | | <u>.</u> | |
| | | 191 | Ō | |

2. Search 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 Drive Cycle from the Diagnostic Information screen.

ss02798

| Drive Cycle | | Menu |
|--|--|------|
| 2003 GMC Yukon XL 1500 SL [*] | T 5.3L PCM | |
| A/C SYSTEM REFRIGERANT MONITOR | Cold start engine coolant temperature < 50 degrees Celsius, with air conditioning & rear defrost on idle 2.5 minutes in drive. Before | r |
| CATALYST MONITOR | procedding turn accessories off. | |
| COMPREHENSIVE COMPONENT MONITOR | 2) Acceleration to 55 miles per hour, 1/2 throttle, air conditioning off. | |
| EGR SYSTEM MONITOR | 3) 3 minutes steady state cruise 55 & 60 miles per hour. | |
| EVAP SYSTEM MONITOR | 4) Deceleration to 20 miles per hour (clutch out) no brake. | |
| FUEL SYSTEM MONITOR | Acceleration at 3/4 throttle to 55-60 miles per hour, then steady state cruise for 5 minutes. | |
| FULL DRIVE CYCLE | 6) Deceleration no brake, end of cycle. | |

- 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.

ss02799

- 2. Select Oil Light Reset from the Diagnostic Information menu screen.
- 3. Follow the prompts on the screen to turn off the indicator lamp.

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.

ss02800

| PCM Pin | Menu |
|---|-------------------------|
| © 2003 GMC Yulon XL 1500 SLT 5.3L PCM | |
| PCM Pin | |
| Pin Number | Description |
| C1-1 | Ground |
| C1-2 | 12 Volt Reference |
| C1-3 | Fuel Injector 3 Control |
| C1-4 | Fuel Injector 2 Control |
| C1-7 | 5 Volt Reference |

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

ss02801

| PCM Pin | | |
|---------------|--------------------|--|
| PCM Pin | | |
| Connector: | C1 | |
| Connector Col | or:Blue | |
| Pin Number: | 1 | |
| Wire Color: | Black/White | |
| Description: | Ground | |
| KOEO | N/A N/A N/A N/A | |

Technical Service Bulletin (TSB) References

Displays TSBs associated with the vehicle/controller combination.

1. Select TSB Reference from the Diagnostic Information screen.

ss02802

| TSB Reference | | Menu |
|---------------|---|-------|
| TSB Number | TSB Description | |
| 02-09-41-001 | Computers & Controls - DTC's Set When Replacing Modules | |
| 01-07-30-002C | Electrical - Malfunction Indicator Lamp ON / Automatic Transmission Stuck in 3rd Gear | |
| 01-07-30-036C | Automatic Transmission - Diagnostic Trouble Code P0756 Dianostic Tips | |
| 01-07-30-038B | Automatic Transmission - 4L60-E / 4L65-E Malfunction Indi Lamp ON / Diagnostic Trouble Code P0757 / Slipping | cator |
| 02-06-05-004A | Emissions - Catalytic Converter Damage / Misfire Codes Set | |

1. 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.

ss02803

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.

ss02804

| Location | | Menu | |
|------------------------|---------|---|---|
| © 2003 GMC Yukon XL 15 | 500 SLT | 5.3L PCM | |
| FUSE BOX LOCATION | K | Instrument panel fuse boxes are on the right and left side of the instrument panel - there are two boxes. Underwood fuse box is located on | |
| ECU LOCATION | | the left side of engine near the battery. | _ |
| DLC LOCATION | | | |
| COMPONENT LOCATION | _ | | |
| | | | |
| | | | |
| | | | |

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.

ss02805

| Brake Bleed Procedure | Menu |
|---|------|
| © 2004 Ford F-150 XL 5.4L ABS (4WABS) | |
| ABS Bleed Procedures | |
| Brake Bleed Sequence: RR, LR, RF, LF | |
| GRAVITY BLEED | |
| 0) Refill the brake master cylinder reservoir as necessary. | |
| 0) Warning: brake fluid contains polyglycol ethers and polyglycols. Avoid contact with eyes. Wash hands thoroughly after handling. If brake fluid contacts eyes, flush eyes with running water for 15 minutes. | |
| 0) Fill the brake master cylinder reservoir with brake fluid. | |
| 0) Get medical attention if irritation persists. If taken internally, drink water and induce vomiting. Get med | ical |

2. It may be necessary to change controllers at the 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.

ss02806

| Tune Up Specs © 2004 Ford F-150 XL 5.4L PCM / PATS | | Menu |
|---|------------------------------|------|
| Injector | Specification: 11 to 18 Ohms | |
| Starter | | |
| Regulator | | |
| Timing | | |
| Spark Plug | | |
| Firing Order | | |
| Battery | | |
| | | |

- 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.

ss02807

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.

ss02808

| Battery Disconnect | | Menu |
|---------------------------------|----------------------|------|
| 2004 Ford F-150 X | L 5.4L ABS (4WABS) | |
| Battery Location | Battery Location | |
| General information | See image | |
| Before Battery Disconnection | | |
| Before Battery Connection | | |
| | | |

- 2. Follow the prompts on the screen to disconnect and connect 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.

ss02809

| TPMS Quick Information | 2.4L TIRE PRESSURE MONITOR | Menu |
|----------------------------|---|--------------------------------------|
| DESCRIPTION | Description | |
| RESET PROCEDURES | System Description: When the vehicle speed exceeds 28 mph (45 km/l | h), |
| RESET TRIGGER | the Tire Pressure Monitor System (TPMS) Control Unit monitors the pressure in all four tires and the system itself. System Operation: The TPMS has two LED indicators that are part of the gauge module; a low- pressure indicator and a system indicator. When the TPMS Control Unit detects low pressure in a tire (or a problem in the system) it turns on the | _ |
| TORQUE SPECS | | t e |
| TPMS SENSOR PART NUMBER | appropriate indicator(s). If low time pressure is detected, the low pressu indicator comes on. If a problem in the system is detected, the TPMS indicator comes on. If low tire pressure and a problem in the system a detected, only the TPMS indicator comes on. With the system functioni properly, the low pressure indicator should come on when the ignition i turned ON. It should then go off 2 seconds later. If this is not the case, is a problem with the system. If the system detects low pressure in any | re e ng s there there |

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

| Diagnos | Diagnostic Information Button Definitions | |
|---------|---|--|
| X | Change Controller Button Tapping the Change Controller button displays the select controller screen. | |
| | 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. | |
| 8 | View Help Selecting View Help will open an online user manual. | |
| 0 | Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen. | |

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.

ss02846

| 45 | | | 🗢 🖻 4:09 | | |
|----------------------------|----------------------------|-------------------|----------------|--|--|
| 🖨 🔘 2007 Jeep Wr | angler Unlimited X 3.8L | | | | |
| | | 101001 | | | |
| Read DTCs All Systems | Read DTCs Select System | Data Stream | Special Tests | | |
| 1 | ¢° | × | \bigcirc | | |
| Diagnostic information | Automated System Test | Maintenance Tests | Enhanced OBDII | | |
| Today is Tue, 09 Jan 2018. | | | | | |
| | ⊲ 0 | | | | |

1. Select Automated System Test from the Screen.

| ss02780 | | |
|---|---------|--------------|
| Automated System Test | | Menu |
| © 2007 Jeep Wrangler Unlimited Rubicon 3.8L | | |
| Reading DTCs from TRANSMISSION | | |
| 3% | | |
| TRANSMISSION | <u></u> | Reading DTCs |
| ENGINE | | |
| WIRELESS CTRL MODULE (TPMS) | | |
| TIPM CENTRAL GATEWAY | | |
| STEERING ANGLE | | |
| CABIN COMP NODE | | |

2. Wait for the list to be completed.

| ss02781 | |
|---|-----------------|
| Automated System Test © 2007. Jeep Wrangler Unlimited X 3.81 | Menu |
| Getting GLOBAL OBDI Mode 2 Freeze Frames | |
| | |
| 58% | |
| AUTO SWAY BAR | 9 DTC(s) found |
| AUDIO | 9 DTC(s) found |
| Check supported OBDII modes | |
| OBDII DS Snapshot (Mode 1) | 20 DTC(s) found |
| Readiness Monitor Tests (Mode 1) | 11 DTC(s) found |
| Freeze Frame Data(Mode 2) | Reading |

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

| ss02782 | |
|---------|--|
| | |

| Automated System Test | ا Clear | Refresh | Share | → Save | Menu |
|---|--------------------|---------|-------|-----------|-------------|
| © 2007 Jeep Wrangler Unlimited X 3.8L | | | | | |
| Report | ready for viewing. | | | - | _ |
| | 100% | | | Re | lew port |
| Freeze Frame Data (Mode 2) | | | | 1 item(s |) found |
| Oxygen Sensor Tests (Mode 5) | | | • | 80 item(s |) found |
| Non Continuously Monitored Tests (Mode 6) | | | | 20 item/r | ····· > |
| VIN (Mode 9) | | | | | , found |
| | | | | | - |

- 4. Select Green Arrow to review summary report.
- 5. If available select arrow at end of line to view information on item.

ss02783

| Automated | System Test | | r Ö Clear | Refresh | Share | L Save | Menu |
|-------------|------------------------|--------------|---------------------|---------|-------|-----------|------------|
| © 2007 Jee | ep Wrangler Unlimited | X 3.8L | | | | | |
| | | Report ready | for viewing. | | | | |
| | VIN (Mode 9) Res | ults | | | | Vi Rej | ew port |
| Freeze Fran | ENGINE - 1FTPW14 | /28FC54321 | | | | n(s |) found |
| Oxygen Sen | | Clos | se | | | n(s |) found |
| Non Continu | uously Monitored Tests | (Mode 6) | | | | 20 item(s |) found |
| VIN (Mode 9 | 9) | | | | | 1 item(s |) found |
| | | | | | | | - |

6. Follow the prompts on the screen.

NOTE: Available items will vary from vehicle to vehicle.

Summary Report

ss02784

| Automated System Test I | Clear | C Refresh | Share | ¥ Save | Menu | |
|---------------------------|--|---|-------|---------------|-------------|---|
| SUMMARY | Summarv | | | | | |
| DTCs | VIN:1FTPW14V28FC54321 CONTROLLER: ENGINE | | | | | |
| DATA STREAM SNAPSHOT | CALIBRATION ID(S):BOSCHA1 | 037366956, 4EF7033C | | | | |
| MODE 1 | DTCs Found | Data Items | F | reeze Frame D | ata (Mode 2 |) |
| FREEZE FRAME | 108 | 20 | | 19 | | |
| MODE 5 | Oxygen Sensor Tests (Mode 5) | Non Continuously Monitored Tests (Mode 6) | | | | |
| MODE 6 | 80 | 6 Passed 14 Failed | | | | |

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

ss02785

| Automated System Test Report | | | Refresh | k Share | <u>↓</u> Save | Menu | |
|--------------------------------|--|-------|---------|-------------------|------------------|--------|--|
| SUMMARY | Diagnostic Trouble | Codes | | | | | |
| DTCs | | | | | | | |
| DATA STREAM SNAPSHOT | P0078 Exhaust Valve Control Circuit (Bank 1) | | | | Active | | |
| MODE 1 | P0560 Battery System Voltage | | | | , | Active | |
| FREEZE FRAME | P0613 Internal Transmission Processor | | | | | Active | |
| MODE 5 | P0078 Exhaust Valve Control Circuit (Bank 1) | | | | Pending | | |
| MODE 6 | P0560 Battery System Voltage | | | | | ending | |

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

Data Stream Snapshot

ss02786

| Automated System Test F | Report imited X 3.8L | Clear | Refresh | Share | <u>↓</u> Save | Menu |
|---------------------------|------------------------------|------------------|--------------|-------------|------------------|--------|
| SUMMARY | Data Stream Sna | apshot | | | | |
| DTCs | Global OBDII | | | | | |
| MODE 1 | Evanarativa Emissions Sustam | Distance MIL Act | ive | Distance S | ince DTC C | lear |
| FREEZE FRAME | Vapor Pressure | | | | | |
| MODE 5 | -23.84 inH20 | 18657 | niles | 1260 |)1 miles | |
| MODE 6 | Catalyst Temperature Bank 1 | Catalyst Tempera | iture Bank 1 | Catalyst Te | mperature E | Bank 2 |

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

Mode 1 (Readiness Monitor)

ss02787

| Automated System Test Report | | | Q Refresh | ¢ Share | ↓ Save | Menu |
|--------------------------------|--------------------------------|--|---------------------|-------------------|-----------|------|
| SUMMARY | Readiness (Mode 1) | | | | | |
| DTCs | Monitor Description | | | Status | | |
| DATA STREAM SNAPSHOT | A/C System Refrigerant Monitor | | | Ready | | |
| MODE 1 | EGR System Monitor | | | Ready | | |
| FREEZE FRAME | Catalyst Monitor | | | Ready | | |
| MODE 5 | Heated Catalyst Monitor | | | Ready | | |
| MODE 6 | Misfire Monitor | | | Ready | | |

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

ss02788

| Automated System Test Report © 2007 Jeep Wrangler Unlimited X 3.8L | | Clear | Refresh | ¢ Share | <u>↓</u> Save | Menu |
|---|--------------------------------|-------|---------|-------------------|------------------|------|
| SUMMARY | Mode 2 Freeze Fram | es | | | | |
| DTCs | | | | | | |
| DATA STREAM SNAPSHOT | Freeze Frame 0 - P0123 - ENGIN | E | | | | |
| MODE 1 | | | | | | |
| FREEZE FRAME | | | | | | |
| MODE 5 | | | | | | |
| MODE 6 | | | | | | |

1. Select a frame.

ss02789

| Automated System Test I | Report limited X 3.8L | Clear Refresh | ≮ <u>↓</u> ∎ Share Save Menu |
|---------------------------|--|---|---|
| SUMMARY | Mode 2 Freeze | Frames | |
| DTCs | | | |
| DATA STREAM SNAPSHOT | Evaporative Emissions System Vapor Pressure | Distance MIL Active | Distance Since DTC Clear |
| MODE 1 | 16.06 inH20 | 13026 miles | 3881 miles |
| FREEZE FRAME | | | |
| MODE 5 | Catalyst Temperature Bank 1 Sensor 1 | Catalyst Temperature Bank 1 Sensor 2 | Catalyst Temperature Bank 2 Sensor 1 |
| MODE 6 | 7065₅ | 4408 | 1265 ₅ |

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.

ss02790

| Automated System Test F | teport imited X 3.8L | © Clear | Q Refresh | Share | <u>↓</u> Save | Menu |
|---------------------------|--|------------|---------------------|-------|------------------|--------|
| SUMMARY | Oxygen Sensor Tests | s (Mod | e 5) | | | |
| DTCs | Description | | | | | 11-11- |
| DATA STREAM SNAPSHOT | Bank 1 Sensor 1 | MII | n Va | lue | мах | Units |
| MODE 1 | Maximum Sensor Voltage For Test Cycle | 0.00 | 0.0 | 003 | 1.275 | v |
| FREEZE FRAME | Lean To Rich Sensor Threshold Voltage | 0.00 | 0.0 | 003 | 1.275 | v |
| MODE 5 | High Sensor Voltage For Switch Time Calculation | 0.00 | 0.0 | 003 | 1.275 | v |
| MODE 6 | Minimum Sensor Voltage For Test Cycle | 0.00 | 0.0 | 003 | 1.275 | v |

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.

ss02791

| Automated System Test F | Report | | O Clear | Refresh | < Share | ↓ Save | Menu |
|---------------------------|---------------|---------------|-------------------|--------------------|------------|-----------|------|
| 2007 Jeep Wrangler Un | imited X 3.8L | | | | | | |
| SUMMARY | Non-Contin | uously Mo | nitor | ed Tes | sts | | |
| DTCs | (Mode 6) | | | | | | |
| DATA STREAM SNAPSHOT | ECU: ENGINE | | | | | | |
| MODE 1 | TID 1 TID 1 | | | | Pas | sed | |
| EREEZE ERAME | CID 1 TID 1 | | | | | | |
| MODE 6 | N/A MIN | 9667 VALUE | 2 | 5292 MAX | N/ UNI | A TS | |
| WODE 5 | TID 2 TID 2 | | | | Fai | led | |
| MODE 6 | CID 2 TID 2 | | | | | | |

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 | | | |
|---|--|--|--|
| 2 | 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 options. Depending on what's available at the time. Share a list containing all the DTCs set by email or Bluetooth or USB. | | |

| Automated System Test (AST) Button Definitions | | | | |
|---|---|--|--|--|
| | Menu Button Tapping the Menu button displays a pop- up link that takes the user to help content related to reading DTCs. | | | |
| | required. | | | |
| 2 | View Help Selecting View Help will open an online user manual. | | | |
| . | Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen. | | | |

Maintenance Tests

Overview

ss02844

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.

| ss02810 | | |
|---------|------------------------------------|--|
| | | |
| | | |
| | | |
| | | |
| | | |
| | Select a Maintenance Test Catagory | |
| | Battery/Charging | |
| | Brake Service | |
| | Cancel | |
| | | |
| | | |
| | | |
| L | | |

2. 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.

| ss02811 | | |
|---------|-----------------------------|---|
| | | |
| | | |
| | | |
| | | |
| | | 1 |
| | Select a Maintenance Test | |
| | Battery Saver relay Control | |
| | Generator Lamp | |
| | Cancel | |
| | | |
| | | |
| | | |

3. Select the desired test to be performed.

1. Select Maintenance Test from the Screen.

| ss02812 | | |
|--|---------|-------|
| SPECIAL TESTS | Ó | Manu |
| © 2004 Ford F-150 XL 5.4L INSTRUMENT CLUSTER | Capture | Merid |
| Battery Saver Relay Control | | |
| Engine Must Not be Running | | |
| For this test | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Continue Abort | | |

4. Follow prompts on the screen.

5. Run the test.

Note: For more information refer to Special Tests section.

| Maintenance Tests 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. | | |
| 0 | Take Screen Capture Selecting Take Screen Capture will save a copy of the current open screen. | | |

Enhanced OBDII

Overview

Enhanced OBDII provides all of the same functions and features as Generic OBDII with the addition of OEM specific MID/TID and TID/CID descriptions for Non-Continuously Monitored Tests in Mode 6. This gives the user more insight as to what is actually being tested when viewing the Mode 6 data. ss02850

1. Select Enhanced OBDII from the screen.

Note: For more information refer to the OBDII section in the beginning of the manual.

Saved Diagnostic Data

Overview

The Saved Diagnostic Data functions allows the capability to recall previously run tests and Data Stream Records.

ss02847

1. Select View Saved Tests from the Screen.

Note: For more information refer to the Saved Diagnostic section in the beginning of the manual.

Browser

Overview

An internet browser window is available for direct internet access.

ss02849

1. Select Browser from the Screen.

Note: For more information refer to the Browser section in the beginning of the manual.Select the keyboard icon to input text.

Settings

Overview

Select the settings icon to view and change handset default settings.

ss02851

1. Select Settings from Screen

Note: For more information refer to Setting section in the begining of the manual.

Customer Support

Order Information

Replacement and optional parts can be ordered from www.otcparts.com or an OTC authorized tool supplier.

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, go to https:// repairtrack.bosch-automotive.com and follow the online instructions.

This website will also have the latest service policies and service center locations. If you do not have internet access, please call (800) 344-4013.

Bosch Automotive Service Solutions Inc.

655 Eisenhower Drive Owatonna, MN 55060 USA Telephone: 507-455-7000

Customer Service (800) 533-6157 Fax (800) 283-8665 Technical Service (800) 533-6127 Fax (800) 955-8329

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