





SMART DIAGNOSTIC SYSTEM

OE-Level Diagnostic Tablet







HELLO...

On behalf of everyone at INNOVA, we want to welcome you and thank you for purchasing the **INNOVA® 7111 Smart Diagnostic System (SDS)** scan tool tablet! Our **2021 Motor Top 20** award winning tablet includes tons of pro-level features designed to help maximize your OBD2 diagnostic routine. In this manual, we will guide you on how to access a comprehensive library of time-saving diagnostic and service tools including:

☑ Che	eck Engin	e Light Di	agnostics
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☑ Bi-Directional Active Tests

✓ Special Functions

☑ Enhanced Data Stream

☑ TPMS / Tire Pressure Readings

✓ Transmission Temperature Readings

☑ Hybrid Battery Cell Voltage Readings

☑ EPB / ABS Servicing

✓ Full OEM Network Scans

✓ Battery Reset

✓ Oil Light Reset

☑ SRS / Safety System Inspection

☑ 10 OBD II Modes

☑ Oil Level Checks

☑ Battery System Check

✓ Stream Live Data PIDs

✓ Smog / Emissions Readiness

✓ ABS Inspections

☑ OEM Level Diagnostics

✓ And Much More...

Plus, gain the benefit of having unlimited access to real world solutions:



RepairSolutionsPRO™ increases the power of your INNOVA OBD2 diagnostic tablet by delivering the most complete automotive repair database with verified fixes from ASE Certified Master Technicians. Get the right fix and the right parts instantly right on your SDS Scan Tool Tablet.

Enjoy using your INNOVA SDS Scan Tool Tablet!

Yours sincerely,

The Innova Technical Team

P.S.: Connect with us to see what we're up to...









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LEGAL INFORMATION

FCC COMPLIANCE STATEMENT

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, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC ID: 2AWLZ-7111

FCC RF Radiation Exposure Statement

- The transmitters within this device must not be co-located or operating in conjunction with any other antenna or transmitter.
- This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. To maintain with IC RF exposure compliance requirements please follow operation instruction as documented in this manual.

TRADEMARKS

Title, ownership rights, and intellectual property rights in the Products and Services shall remain in Innova and/or its licensors and other suppliers. Licensee and End Users acknowledge such ownership, confidential information, and intellectual property rights and will not take any action to jeopardize, limit or interfere in any manner with Innova's or its licensors' or other suppliers' ownership of or rights with respect to the Products and Services. The Products and Services may be protected by Patent, Trademark, Copyright and/or other intellectual property laws and by international treaties. All trademarks used in connection with the Products and Services are owned by Innova, its affiliates or its licensors and other suppliers, and no license to use any such trademarks is provided hereunder. Licensee and End Users agree that Innova may use in any manner and without limitation all comments, suggestions, complaints and other

feedback Licensee and End Users provide relating to the Products and Services. For more information and current listing of trademarks, please visit https://www.innova.com/pages/trademarks.

PATENTS

Innova Electronics Corp. protects its intellectual property with numerous U.S. patents, which were used to research, design and manufacture this product. Please visit https://www.innova.com/pages/patents for additional information.

SCAN TOOL VERSION

Please note that the images and functions on this manual may differ based on the current **Firmware Version (FW)** and **Software Version** you have. To check your tablet's current version and to check for updates, please see the **SETTINGS** tab under the **Version Information** section. [See page 86]

CALIFORNIA PRODUCT WARNINGS

MARNING

This product can expose you to chemicals including DiNP, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SAFETY PRECAUTIONS

SAFETY FIRST!

It is important that every user utilizing this product read all instructions and warnings included within this manual to ensure your safety, the safety of others, and to prevent damage to this product & vehicles being diagnosed and repaired. This manual describes common test procedures used by experienced service technicians. It is inferred that the user has a good understanding of vehicle systems before using this product.

Many test procedures require precautions to avoid accidents that can result in personal injury, and/or damage to your vehicle or test equipment. At a minimum, the following safety standards should be followed whenever using this product, or whenever working on a vehicle.

- When an engine is running, it produces carbon monoxide, a toxic and poisonous gas. To prevent serious injury or death from carbon monoxide poisoning, operate the vehicle ONLY in a well-ventilated area.
- □ To protect your eyes from propelled objects as well as hot or caustic liquids, **always wear** approved safety eye protection.
- □ When an engine is running, many parts (such as the coolant fan, pulleys, fan belt etc.) turn at high speed. To avoid serious injury, always be aware of moving parts. Keep a safe distance from these parts as well as other potentially moving objects.
- □ Engine parts become very hot when the engine is running. To prevent severe burns, **avoid** contact with hot engine parts.
- □ Before starting an engine for testing or troubleshooting, make sure the parking brake is engaged. **Put the transmission in park** (for automatic transmission) **or neutral** (for manual transmission). **Block the drive wheels** with suitable tire blocks.
- □ Connecting or disconnecting test equipment when the ignition is ON can damage test equipment and the vehicle's electronic components. Turn the ignition OFF before connecting the tablet to or disconnecting the tablet from the vehicle's Data Link Connector (DLC).
- □ To **prevent damage to the on-board computer** when taking vehicle electrical measurements, always use a digital multimeter with at least 10 Megohms of impedance.
- ☐ Fuel and battery vapors are highly flammable. To prevent an explosion, keep all sparks, heated items, and open flames away from the battery and fuel vapors. **DO NOT SMOKE NEAR THE VEHICLE DURING TESTING**
- □ Don't wear loose clothing or jewelry when working on an engine. Loose clothing can become caught in the fan, pulleys, belts, etc. Jewelry is highly conductive and can cause a severe burn if it makes contact between a power source and ground.

Safety Alert Icons

SAFETY ALERT ICONS

As you read this manual, color-coded icons are used throughout to identify safety alerts and warnings. These are provided to help prevent serious injury to you, injury to bystanders, and damage to property or equipment. They are characterized as follows:



Yellow Icon – Provides a "**NOTE**:" statement to offer special information or tip on what is being instructed.



Orange Icon – Potential hazardous situation. Provides a "*WARNING*:" statement on how to proceed to avoid serious injury to the user, bystanders, and/or equipment.



Red Icon – Imminent hazardous situation. Provides an immediate "**DANGER**:" alert on what must be done to prevent serious injury or death to the user or bystanders.



INTRODUCTION

TABLET CONTROLS

See Figure 1 for the locations of items 1 through 9, below.

- 1. **OPOWER Button** Turns the tablet "On" and "Off." When tablet is off, press and hold for approximately 3 seconds to turn on. When tablet is on, press and hold for approximately 3 seconds to display the "power down" options menu.
- **2. USB Charging Port** Supports charging of the tablet battery using provided USB cable and power adapter.
- **3. TF-Card Port** Supports installation of a TF (expandable memory) card. Functionality is currently disabled.
- **4. Mini HDMI Port** Supports connection of an external HDMI (High-Definition Multimedia Interface) compatible external display.
- **5. Graphone Port** Supports connection of external headphones. (Future expansion)
- **6. Display** 7-inch color LCD display shows menus and sub-menus, test results, tablet functions and vehicle status information.
- DLC Cable Connects the tablet to the vehicle's on-board Data Link Connector (DLC).
- **8. Rear Kickstand** Lets you freely stand the tablet on a solid surface.

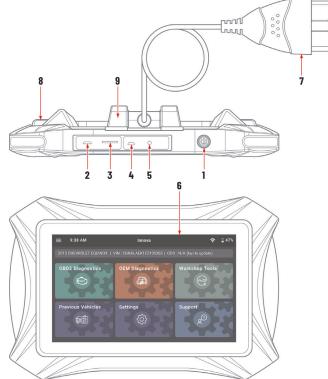


Figure 1: Tablet Controls

9. **Detachable VCI Connector** – The detachable Vehicle Communication Interface (VCI) connector allows mobility and flexibility around the vehicle by detaching the tablet from the DLC cable and wirelessly connecting via Bluetooth®.

Power ON and Power OFF

To power ON the tablet:

- 1. With the tablet off, press and hold the 0 **POWER** button for approximately 3 seconds, then release.
 - The screen displays the message "LOADING" while the software loads.
 - When the software has been loaded, the Home Page displays. [See page 8]

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INTRODUCTION

Initial Tablet Setup

2. If the tablet is connected to a vehicle, the message "*Retrieving vehicle information...*" automatically shows while the tablet establishes communication with the vehicle.

To restart or power OFF the tablet:

- **3.** With the tablet on, press and hold the \cup **POWER** button for approximately 3 seconds.
 - The "power down" options menu displays at the right side of the screen.
- **4.** To restart the tablet:

 - The screen displays the message "LOADING" while the software loads.
 - The Home screen displays once the software is loaded. [See page 8]
 - If the tablet is connected to a vehicle, the message "Retrieving vehicle information..." displays while the tablet establishes communication with the vehicle.
- **5.** To power off the tablet:
 - Tap the **① POWER** icon.
 - The tablet powers down and turns off.

INITIAL TABLET SETUP

Follow these steps to setup the tablet for the first time.

- **1. Charge Tool** use the included charging cable to completely charge your tool before conducting your first scan.
- 2. Power On Once fully charged, press and hold the **O POWER** button for approximately 3 seconds.
- 3. Create Your Account Allows complete access to all of the tablet's powerful features. [See page 7]
- 4. Check for Updates We're continuously making free software, data, and firmware updates. It is important to keep your tablet up to date to ensure its best performance. Please follow the steps to check and automatically update your tablet under SETTINGS / Version Information. [See page 86]
- 5. Enjoy your INNOVA® Smart Diagnostic System!

Have questions? We're here to help:

■ Live Chat: <u>www.innova.com</u>

■ Email Us: support@innova.com

■ Call Us: 800-544-4124 (Monday through Friday, 6am - 6pm PST)

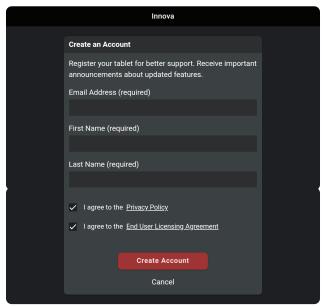
CREATE YOUR ACCOUNT

The first time you power on your tablet, you will be asked to create a **RepairSolutionsPRO™** account. Although it is optional, having a personal account will help keep your tablet updated with the latest updates and future enhancements. Plus, get access to our extensive database of verified DTC fixes – curated by our network of ASE Certified master technicians.



Note: Please make sure your tablet is properly connected to your wireless network before registering. A "No Internet Connection" displays if the device is not connected to the Internet. Follow the prompts to complete your connection.

 Complete the displayed Create an Account form with your name, email address, your desired password, and other personal information.



- 2. Agree to the terms and tap on the Create Account button at the bottom of the form.
- 3. Continue by selecting your tablet preferences:
 - □ Date and Time
 - Wi-Fi Connection
 - Preferred Units
 - □ Idle Time
 - Volume Level
 - □ Brightness Level
 - □ Theme Preference
- **4.** Tap the **Continue** button to confirm your selections.

The Home Screen

*** Please reference the Settings tab to make additional account changes and edits. [See page 78]

THE HOME SCREEN

The Home screen provides access to all the tablet's primary functions. See **Figure 2** for the explanation of items 1 through 9, below.



- 1. **Main Menu** Quick access to Home, Previous Vehicle, Support, Settings and Updates (when available).
- 2. **Vehicle Info Bar** When connected to a vehicle, dialog displays vehicle's make, model, year, VIN, and current mileage (ODO).
- OBD2 Diagnostics Tab Use to perform OBD2 scans, view & record Live Data, create a RepairSolutionsPRO Report, and Erase OBD2 DTCs. [See page 14]
- **4. Previous Vehicles Tab** Access and view reports for all previously tested vehicles, including pre-recorded Live Data streams. [See page 75]
- **5. OEM Diagnostics Tab** Provides enhanced OEM level diagnostics that are not available over generic OBD2. Access ABS, Airbag, Transmission, Tire Pressure, Battery, and many Body control modules to view and erase their DTCs. Perform bi-directional tests on fuel pump, injectors, ignition coils, and much more. Plus, get access to hundreds of additional parameters that you can view in real-time. [See page 29]
- **6. Settings Tab** Setup your tablet's settings, including Wi-Fi, update software, and other personal settings. [See page 78]
- 7. Workshop Tools Tab Perform several OEM service reset procedures, including: Oil Maintenance

Technical Specifications

Reset, Battery Reset, Electronic Parking Brake Reset, Steering Angle Sensor (SAS) Reset, ABS Bleeding, Battery/Alternator Test, and EV/HEV/PHEV Battery Health. Access dealership level re-learn procedures to complete repairs or maintenance and much more. [See page 41]

- **8. Support Tab** Access the tablet's Tool Library for DTC and tool icon definitions; connect with Innova's ASE Certified Technical Team for support. [See page 89]
- 9. Wi-Fi Icon Tap to access and edit the tablet's Wi-Fi settings [See page 81]

TECHNICAL SPECIFICATIONS

The following table provides the tablet's current technical specifications*:

Display Type	7" Touch Panel / 1024x600 pixels
J1962 DLC Cable	6-foot Detachable 16-pin OBDII Compliant Connector
Detachable Vehicle Communication Interface (VCI) with Bluetooth® Connectivity	Maximum communication range of 30 feet.
Operating System	Proprietary user interface running on Android 9.0
Battery	Built-in 6000mAH rechargeable battery / 6-hour life
Wi-Fi	802.11b/g/n
Operating Temperature	23°F to 113°F (-5°C to 45°C)
Memory	16GB Memory for Report and Image Storage
I/O Interface	Micro USB2.0, HDMI Port, TF Card Slot, Headphone, and USB Charging Port.
Tablet Case	Rugged ABS Shock & Drop Resistant
Included Accessories	Molded Storage Case, Power Supply, Quick Start Guide

^{*}Manufacturer reserves the right to change technical specifications at any time.



RepairSolutionsPRO™ (RSPRO)

RepairSolutionsPRO™ (RSPRO)

Innova's **RepairSolutionsPRO™** (**RSPRO**) is embedded into your scan tool tablet and offers a free web-based service created to assist professional technicians simplify and augment their vehicle diagnostic process.



In essence, it helps you decode the diagnostic data collected by your INNOVA® OBD2 Scan Tool Tablet to arrive at a most likely fix. At its core, it links to a database of millions of real-world verified fixes-collected over the last 25 years by ASE Master Technicians across the U.S.- that is cross-referenced to your specific vehicle's problem to instantly arrive at a verified fix. Think of it as a second opinion from your most trusted peers to help you diagnose and repair more vehicles.

RSPRO OFFERS...

- **Verified Fixes** Provides the most likely fix(es) with recommended parts to repair the problem. These fixes are reported and verified by ASE Technicians for the specific vehicle's retrieved DTCs. [See page 16]
- **TSBs & Recalls** Learn if there are any special NHTSA safety recalls or Technical Service Bulletins (TSBs) issued by the tested vehicle's manufacturer. [See page 28]
- **Scheduled Maintenance** Offers the vehicle manufacturer's recommended maintenance intervals, which can be used to guide your customer on scheduled service routines. Plus, conveniently order the correct maintenance part(s) right from the tablet. [See page 27]
- **Predicted Failures** With millions of verified repair solutions, get a statistical probability of what failures may occur within the next 12 months. Use this to guide your customer on potential issues to look out for. [See page 28]

GETTING STARTED

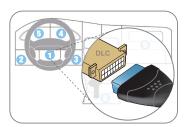
CONNECTING THE TABLET

- 1. Turn the vehicle's ignition OFF.
- 2. Locate the vehicle's 16-pin Data Link Connector (DLC). [See page 84]



NOTE: Some DLCs have a plastic cover that must be removed before connecting the Scan Tool.

- **3.** Connect the tablet to the vehicle's DLC. The cable connector is keyed and will only fit one way.
 - If you have problems connecting the cable to the DLC, rotate the connector 180°.
 - If you still have problems, check the DLC on the vehicle and on the tablet.



AUTOLINK CONNECTION

The tablet features an "**AutoLink Connection**" function, which automatically retrieves vehicle information upon plugging the tablet into the vehicle's Data Link Connector (DLC) port.

Using the AutoLink Function

- 1. Verify that the tablet is connected as indicated above (Connecting the Tablet).
- **2.** If the tablet is off, power ON the tablet by pushing the 0 **POWER** button for 3 seconds.
- **3.** Turn the ignition ON. **DO NOT** start the engine.
 - Tablet begins communicating and displays "Retrieving Vehicle Information..."
 - If an "Information" dialog appears, follow the on-screen instructions to establish a connection.
- **4.** Once complete, tablet displays the vehicle's Year, Make, Model, VIN, and mileage on the Vehicle Info Tab.







NOTE: With certain vehicles, you may be required to manually input some of the vehicle's information. This may include the vehicle's Year, Make, Model, Trim, Body Code, Engine; vehicle's VIN; and/or the vehicle's mileage.

Providing Vehicle's VIN Information

1. A dialog appears requesting a Vehicle Identification Number (VIN)

GETTING STARTED

Scanning a Vehicle

- 2. Tap the dialog window and enter the vehicle's 17-digit VIN number
 - The Submit button becomes "active" once all 17-digits are entered
- 3. Tap the Submit button
 - An error dialog will display if the VIN is unable to be decoded. Re-enter VIN.
 - If you are still unable to decode the VIN, tap Select Vehicle (see steps below).

Providing Vehicle Selection Information

- 1. A dialog appears requesting Vehicle Selection
- 2. Tap on each of the available entries (Year, Make, Model, Trim, Body Code, Engine)
 - A grayed-out selection means that an entry is not available or not necessary for this vehicle.
- 3. Make a selection under each option.
- **4.** Tap **Continue** to save your selections and return to the Home screen.
- 5. Tap **Cancel** to exit without selecting and return to the Home screen.

Providing Vehicle's Mileage

If mileage is missing, the Vehicle Info Bar will show "ODO: N/A (tap to update)".

15 CHEVROLET EQUINOX | VIN : 1GNALAEK1FZ105363 ODO : N/A (tap to update)



NOTE: Please be aware that correct mileage is necessary to generate accurate diagnostic reports.

- 1. Tap on the Vehicle Info Bar "(tap to update)".
- 2. Tap Pull From Vehicle to auto retrieve the vehicle's stored mileage.
 - A progress bar appears "One moment please..."
- 3. If successful, the screen returns to the Home page and displays mileage in the Vehicle Info Bar.
- 4. If unsuccessful, an error dialog appears
 - Tap on the entry box and enter mileage.
 - Tap **Submit** to confirm entry and return to the Home page.



SCANNING A VEHICLE

Never replace a part based only on the DTC definition. Each DTC has a set of testing procedures, instructions and flow charts that must be followed to confirm the location of the problem. Always refer to the vehicle's service manual for detailed testing instructions.

NOTE: Check your vehicle thoroughly before performing any test.

Retrieving and using
Diagnostic Trouble Codes
(DTCs) for troubleshooting
vehicle operation is only
one part of an overall
diagnostic strategy.

GETTING STARTED

13

Scanning a Vehicle



WARNING: ALWAYS observe safety precautions whenever working on a vehicle.

Refer to the appropriate diagnostic test you wish to perform:

- OBD2 Diagnostics See page 14
- OEM Diagnostics <u>See page 29</u>
- Workshop Tools See page 41

Performing a Scan – OBD2 Diagnostics

OBD2 DIAGNOSTICS

The **OBD2 Diagnostics** function allows you to perform OBD2 scans, view & record Live Data, create a RepairSolutionsPRO Report, and Erase OBD2 DTCs.



PERFORMING A SCAN - OBD2 Diagnostics

- 1. Follow the **AutoLink Connection** steps. [See page 11]
- 2. Tap OBD2 Diagnostics.
 - The tablet automatically starts a check of the vehicle's computer to determine which communication protocol it is using. When the tablet identifies the computer's communication protocol, a communication link is established.



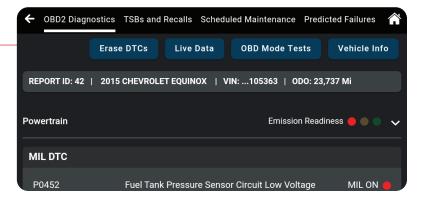
NOTE: A PROTOCOL is a set of rules and procedures for regulating data transmission between computers, and between testing equipment and computers. As of this writing, five different types of protocols (ISO 9141, Keyword 2000, J1850 PWM, J1850 VPW and CAN) are in use by vehicle manufacturers.

- If the Scan Tool fails to link to the vehicle's computer, a "Scan Failed" message shows.
 - Ensure the vehicle is OBD2 compliant-check vehicle emission control information (VECI) label located in the vehicle's engine compartment.
 - Verify the connection at the DLC, and verify the ignition is ON.
 - Turn the ignition OFF, wait 5 seconds, then back ON to reset the computer.
 - Tap Try Again to try again, or tap Cancel to return to the Home Page.
- **3.** A progress dialog displays while the tablet retrieves any Diagnostic Trouble Codes, Monitor Status and Freeze Frame Data from the vehicle's computer memory.
- **4.** When the retrieval process is complete, the **OBD2 Diagnostics** screen displays with the scan results.

VIEWING SCAN RESULTS - OBD2 Diagnostics

Scan results are shown immediately following completion of a scan; and can also be viewed later using the **PREVIOUS VEHICLE** function available through the Home page [See page 75].

Scan results are shown in a multipage display, which includes **OBD2**



Viewing Scan Results - OBD2 Diagnostics

Diagnostics, TSBs and Recalls, Scheduled Maintenance, and Predicted Failures.

Each report begins with a vehicle information bar that includes a **Report ID**, the vehicle's description **(year/make/model)**, the last six digits of the **Vehicle Identification Number (VIN)** and the **odometer reading (ODO)** at the time the scan was performed.

REPORT ID: 2 | 2018 FORD EXPLORER | VIN: ...A75690 | ODO: 39,999 Mi

EMISSIONS READINESS - Interpreting Results

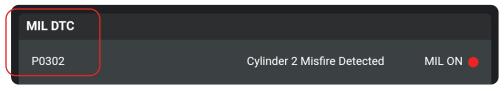
Indicates whether the vehicle is ready for an Emissions Test (Smog Check) through a "traffic light" type display. When viewing the **Emission Readiness** field, use the following definitions to identify the vehicle's Emissions Test readiness status:



- **Green** Indicates all engine systems are operating normally. The vehicle is ready for an Emissions Test (Smog Check), and there is a good possibility it can be certified.
- Yellow Indicates one of the following two conditions is present:
 - A "Pending" Diagnostic Trouble Code is present. It is possible the vehicle can be tested for emissions and certified. Many areas (states / countries) allow an Emissions Test to be performed if the only code present is a "PENDING" code.
 - One or more monitors "Have Not Run" their diagnostic testing. The issue of the vehicle being ready for an Emissions Test will depend on the emissions regulations and laws of your local area.
 - Some areas require that all Monitors indicate a "Has Run" status before an Emissions Test (Smog Check) can be performed. Other areas only require that some, but not all, Monitors indicate a "Has Run" status before an Emissions Test can be performed.
- Red Indicates there is a problem with one or more of the vehicle's systems, and Diagnostic Trouble Code(s) (DTCs) are present. The vehicle is not ready for an Emissions Test. The problem(s) that caused the DTCs to set must be repaired before an Emissions Test can be performed.

MIL DTC Code

This is the code that has commanded the vehicle's Malfunction Indicator Lamp (MIL) "on," and is the code for which *Freeze Frame* data stored. This field includes the DTC number, description, and MIL status (ON or OFF).





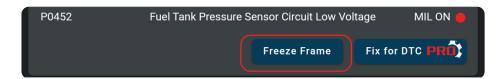
Viewing Scan Results - OBD2 Diagnostics

In OBD2 systems, when an emissions-related engine malfunction occurs that causes a DTC to set, a record or snapshot of engine conditions at the time that the malfunction occurred is also saved in the vehicle's computer memory. The record saved is called Freeze Frame data.

Viewing Freeze Frame Data

Under Freeze Frame, saved engine conditions can include, but are not limited to engine speed, open or closed loop operation, fuel system commands, coolant temperature, calculated load value, fuel pressure, vehicle speed, air flow rate, and intake manifold pressure. These values are typically used to further diagnose and pinpoint the issue.

■ Tap the **Freeze Frame** button to view the captured results.



FIX FOR DTCs (RSPRO)



Innova's **RepairSolutionsPRO**™ (RSPRO) reports offer a fix, which is cross referenced for accuracy against a database of millions of verified fixes. It is real-world data that has been collected for over 25 years by Innova's network of ASE Master Technicians across the U.S.

If available, it includes the most likely fix(es) for the MIL DTC and the parts required to repair it. If not, it only shows the OBD2 Report.

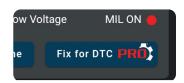


NOTE: Certain fields and pages require that you create a RepairSolutionsPRO report to access, download and display the associated "enhanced" data...

1. Tap the **Fix for DTC** in the OBD2 Diagnostics screen.



NOTE: Verify the tablet is registered to the RepairSolutionsPRO App.



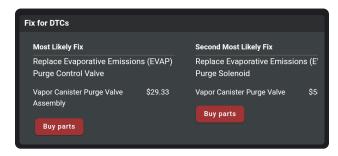
- If you haven't registered for the RSPRO app yet or you are logged out, a screen displays asking to either log it to your account, or create an account.
- 2. With the tablet paired and registered with the RepairSolutionsPRO App.
 - The tablet also verifies if it's connected to a Wi-Fi network.



NOTE: The tablet can be connected to a Wi-Fi network by using the RepairSolutionsPRO app, or by using the Settings tab on the tablet. [See page 81]

Viewing Scan Results - OBD2 Diagnostics

- **3.** The tablet's screen displays *Fix for DTCs*, and includes:
 - Most Likely Component/System Cause for the DTC.
 - Includes recommended parts, cost, and a Buy parts button.



- Second Most Likely Component/System Cause for the DTC.
- Third Most Likely Component/System Cause for the DTC.
 - Swipe right to view other likely fixes.
- Other Most Likely Component/System Cause for the DTC.

NOTE: If a Fix is not available for DTC, an advisory message displays.



NOTE: The Buy Parts button can be activated or disabled in the Settings tab under the RepairSolutionsPRO section. [See page 81]

MONITOR STATUS

Shows the current status for all **Monitors** supported by the vehicle. Available monitors are listed and identified as follows (*The CCM - Comprehensive Component Monitor is being used as an example.*):

Green Solid Icon = CCM

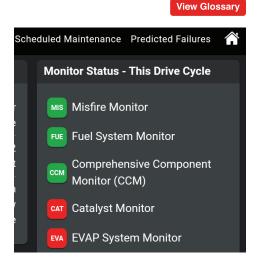
Description: This icon indicates the monitor has completed both Since DTCs Cleared (KOEO) and This Driving Cycle testing (KOER).

Tips: The monitor has met all conditions required to complete self-diagnosis and testing of the assigned system.

Red Flashing Icon = CCM

Description: This icon indicates that the monitor has not completed testing Since DTCs Cleared (KOEO).

Tips: The monitor has not met all conditions required to complete self-diagnosis and testing of the assigned system. A drive cycle may need to be performed to complete the testing.



OBD2 DIAGNOSTICS

Viewing Scan Results - OBD2 Diagnostics

Green/Gray Flashing Icon = CCM

Description: This icon indicates that the monitor has not completed testing This Driving Cycle (KOER).

Tips: The monitor has not met all conditions required to complete self-diagnosis and testing of the assigned system. A drive cycle may need to be performed to complete the testing.

Red/Gray Flashing Icon = CCM

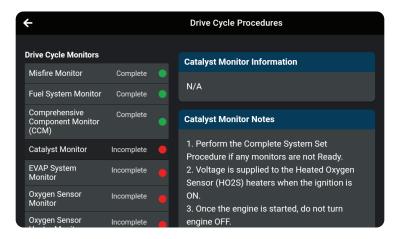
Description: This icon indicates that the monitor has been disabled This Driving Cycle (KOER).

Tips: The monitor is unable to complete self-diagnosis and testing of the assigned system. The monitor is disabled for this driving cycle, check for failed OBD Monitor Test and refer to the service information before continuing.

Viewing Drive Cycle Procedures

A Drive Cycle for a monitor requires that the vehicle is driven in such a way that all the required "Enabling Criteria" for the monitor to run and complete its diagnostic testing are met. You can use the tablet to view the Drive Cycle procedures for a selected Monitor.

- 1. From the Monitor Status field on the OBD2 Diagnostic page, tap the View Drive Cycles button.
 - The Drive Cycle Procedures page displays.



- The Drive Cycle Monitors column on the left lists the monitors supported by the vehicle; and shows the status of each monitor at the time the scan was run (Complete, Incomplete, or Disable).
- The right column of the page shows the **Drive Cycle** procedure for the currently selected monitor.
- **2.** Tap a monitor name to view the Drive Cycle procedure for the selected monitor.
 - The page refreshes to display Monitor information and the Drive Cycle procedure for the selected monitor.

Additional Testing Utilities

3. Follow the provided steps to perform and complete the monitor's "Enabling Criteria".

STORED DTC

Shows all "stored" powertrain DTCs for the vehicle. Each entry in the list includes the DTC number and description.

Stored DTC P0332 Knock Sensor 2 Circuit Low Input (Bank 2)

PENDING DTC

Shows all "pending" powertrain DTCs for the vehicle. Each entry in the list includes the DTC number and description.

Pending DTC P1233 Fuel Pump Driver Module Disabled Or Off Line (Fuel Pump Driver Module) P0302 Cylinder 2 Misfire Detected

PERMANENT DTC

Shows all "permanent" powertrain DTCs for the vehicle. Each entry in the list includes the DTC number and description.



ADDITIONAL TESTING UTILITIES

The following utilities are also included under the OBD2 DIAGNOSTICS scan results.

ERASING OBD2 DTCS



NOTE: When the Erase function is used to erase DTCs from the vehicle's on-board computer, "Freeze Frame" data and manufacturer-specific-enhanced data are also erased. "Permanent" DTCs ARE NOT erased by the Erase function.



NOTE: When DTCs are erased, the I/M Readiness Monitor Status program resets the status of all Monitors to a not run condition. To set all Monitors to a COMPLETE status, an OBD2 Drive Cycle must be performed.

Erase DTCs from the vehicle's computer memory as follows:

- 1. Perform the **AutoLink Connection** steps. [See page 11]
 - If the tablet is already connected and linked to the vehicle's computer, proceed directly to Step 2.



OBD2 DIAGNOSTICS

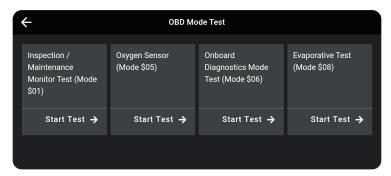
Additional Testing Utilities

- Ensure that the ignition is in the Key ON, Engine OFF position
- **2.** Tap the **Erase DTCs** button at the top of the OBD2 Diagnostic results page.
 - The tablet displays an attention message confirming deletion.
 - If you want to proceed, tap Erase DTCs to continue.
 - If you do not want to proceed, choose Cancel to exit the erase procedure.
- 3. By selecting to Erase DTCs, a "One moment please..." progress dialog displays during the erase process.
 - If the erase was successful, a confirmation message shows.
 - After 3 seconds, the tablet automatically re-scans the vehicle to confirm DTC deletion.
- 4. If the erase was not successful, an advisory dialog displays indicating to either:
 - Place the vehicle in the Key ON, Engine OFF position (OR)
 - Place the vehicle in park or neutral; set the parking brake; and start the engine.

OBD MODE TESTS

OBD mode tests are accessed from the OBD2 Diagnostic results page. [See page 14]

- 1. Tap the **OBD Mode Test** button.
- **2.** The OBD Mode Test screen is displayed with the following selections:



- Inspection/Maintenance Monitor Test (\$01) Lets you view the Drive Cycle Procedures for all monitors supports by the vehicle.
- Oxygen Sensor (Mode \$05) Retrieves and displays O2 sensor monitor test results from your vehicle's on-board computer.
- Onboard Diagnostics Mode Test (Mode \$06) Retrieves test results for emission-related powertrain components and systems that are not continuously monitored.
- **Evaporative Test (Mode \$08)** Performs a leak test for the vehicle's EVAP system.

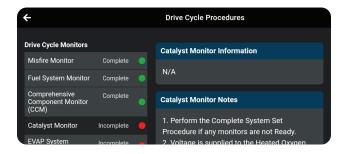


NOTE: In cases where a function is not supported by the vehicle under test, the unsupported function is "grayed out," and cannot be selected.

Inspection/Maintenance Monitor Test (Mode \$01)

The Inspection/Maintenance Monitor Test (\$01) lets you view the Drive Cycle Procedures for all monitors supported by the vehicle. A Drive Cycle for a monitor requires that the vehicle is driven in such a way that all the required "Enabling Criteria" for the monitor to run and complete its diagnostic testing are met. You can use the tablet to view the Drive Cycle procedures for a selected Monitor.

- 1. From the OBD Mode Test screen, tap Inspection/Maintenance Monitor Test (\$01).
 - The Drive Cycle Procedures page displays. [See page 18]



- The Drive Cycle Monitors column on the left lists the monitors supported by the vehicle; and shows the status of each monitor at the time the scan was run (Complete, Incomplete or Disabled).
- The column on the right shows the Drive Cycle procedure for the currently selected monitor.
- 2. Tap a monitor name to view the Drive Cycle procedure for the selected monitor.
 - The page refreshes to display the Drive Cycle procedure for the selected monitor.

Oxygen Sensor (Mode \$05)

The **Oxygen Sensor (Mode \$05)** lets you view the test results of the vehicle's two or more O2 sensors. These sensors are designed to help identify problems that can reduce fuel efficiency or increase emissions. Each O2 sensor has a unique name that identifies its location in the exhaust system – cylinder bank location (bank 1 or bank 2) and its location in relation to the catalytic converter (*upstream* or *downstream*). Please reference the vehicle's service manual for further information.



NOTE: Service Mode \$05 is not supported in ISO 15765-4 (CAN) applications – it includes the majority of 2008 and older vehicles. For CAN applications, the functionality of Service Mode \$05 was implemented in Service Mode \$06.

- 1. From the OBD Mode Test screen, tap Oxygen Sensor (Mode \$05).
 - The Oxygen Sensor page displays.
- 2. Tap the X icon on the top right to return to the OBD Mode Test selection screen.



Additional Testing Utilities

Onboard Diagnostics Mode Test (Mode \$06)

The **Onboard Diagnostics Mode Test (Mode \$06)** retrieves and displays test results for emission-related powertrain components and systems that are not continuously monitored. The tests available are determined by the vehicle manufacturer.



NOTE: The tablet does not perform the OBD mode test. Instead, it retrieves results from the most recently performed tests from the onboard computer's memory.

- 1. From the OBD Mode Test screen, tap Onboard Diagnostics Mode Test (Mode \$06).
- 2. When test results have been retrieved, the test results screen displays. The following information is provided for each available test:
 - Test ID number
 - Component ID
 - Test Value
 - Min or Max test limit



NOTE: Only one test limit, either **Min** or **Max**, is shown for any given test.

- Unit of measurement
- Status



NOTE: Status is calculated by the tablet by comparing the test Value against the displayed test limit (either Min or Max). Status is shown as either Low, High or OK.

3. Tap the X icon to close the test results screen and return to the OBD Mode Test screen.

Evaporative Test (Mode \$08)

The Evaporative Test (Mode \$08) function lets you initiate a leak test for the vehicle's EVAP system.

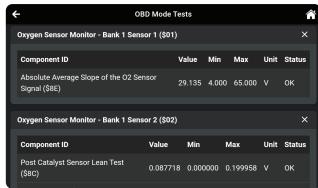


NOTE: The tablet does not perform the leak test, but signals to vehicle's on-board computer to initiate the test. The vehicle manufacturer determines the criteria and method for stopping the test once it has been started. BEFORE using the Evaporative Test function, refer to the vehicle's service manual to determine the procedures necessary to stop the test.

- 1. From the OBD Mode Test selection screen, tap Evaporative Test (Mode \$08).
- 2. When the EVAP leak test has been initiated, a confirmation screen shows the message "OK." Tap the X icon to close the message and return to the OBD Mode Test screen.



NOTE: If the Evaporative Test (Mode \$08) is not supported by the vehicle, an advisory screen shows the message "**Not support.**"



LIVE DATA MODE

The tablet allows you view and/or record "real-time" Live Data for further vehicle analysis. This information includes values (volts, rpm, temperature, speed, etc.) and system status information (open loop, closed loop, fuel system status, etc.) generated by the various vehicle sensors, switches, and actuators.

The real time (Live Data) vehicle operating information (values/status) that the computer supplies to the tablet for each sensor, actuator, switch, etc. is called **Parameter Identification Data (PID)**.

Each PID (sensor, actuator switch, status, etc.) has a set of operating characteristics and features (parameters) that serve to identify it. The tablet displays this information for each sensor, actuator, switch, or status that is supported by the vehicle under test.



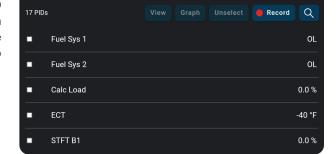
DANGER: If the vehicle must be driven to perform a troubleshooting procedure, ALWAYS have a second person help you. One person should drive the vehicle while the other person observes the tablet data. Trying to drive and operate the tablet at the same time is dangerous and could cause a serious injury to you and bystanders.

Viewing Live Data

- Connect with the vehicle by following the steps for OBD2 DIAGNOSTICS / PERFORMING A SCAN. [See page 14]
- **2.** While linked to the vehicle, start the engine.
- **3.** Tap the **Live Data** button to place the tablet in Live Data mode.
 - A progress dialog displays while the vehicle is scanned, and Live Data mode is activated.
 - Tap Cancel to exit the procedure.
- 4. The results screen displays all of the vehicle's available PIDs with reported values. Each PID is unselected to offer customization on which component you wish to select and explore further. A total PID count is provided at the top left of the screen.



NOTE: The View, Graph, and Unselect buttons remain "disabled" until a PID is selected from the list.



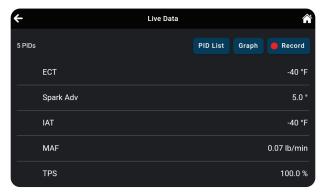
Live Data

- **5.** Select the **PID(s)** you wish to explore.
 - A "checkmark" indicates the associated PID is selected for viewing.
 - An "empty checkbox" indicates the PID is *not selected* for viewing.
 - Tapping a checkbox repeatedly will toggle it on and off.
 - Tap the **Unselect** button to unselect *all* PIDs.
- **6.** Tap the "**search**" \bigcirc icon to quickly search for the PID(s) you wish to view or graph.

OBD2 DIAGNOSTICS

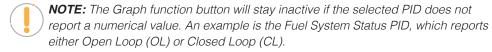
Additional Testing Utilities

- Use the keyboard to type in the name of the PID(s) and select as desired.
- Tap the "hide search" 🕮 icon to exit the search function and return to the PID list.
- 7. Tap the View button to view the selected PIDs data in tabular mode.
 - Each entry in the table shows the name of the PID, and a numerical representation of the current value for the PID.

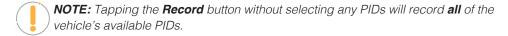


- Tap **PID List** to return to the full PID results list. (Step 4 above)
- 8. Tap the **Graph** button to view the selected PIDs in graph mode.





9. Tap the **Record** button to record the selected PIDs in real time. [See page 25]



- **10.** When troubleshooting vehicle problems, use the Live Data / PID results displayed on the tablet and compare them against the specifications found in the vehicle's repair manual.
- 11. Tap the ← icon to return to the *OBD2 Diagnostics* results page, or the **↑ Home** icon to exit.

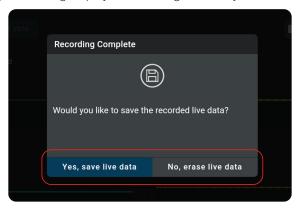
Additional Testing Utilities

Recording (Capturing) Live Data

The tablet allows you to record and save Live Data information for each PID supported by the vehicle.

Place the tablet in *Live Data* mode as indicated in **Live Data Mode** [See page 23]

- 1. Tap **Record** to begin recording Live Data. Tap **Stop** to stop recording.
- 2. A "Recording Complete" dialog displays the message "Would you like to save the recorded live data?"



- Tap **Yes, Save Live Data** to save the recorded data to the tablet's memory for later playback [See page 77].
- Tap **No, Erase Live Data** to discard the recorded data.

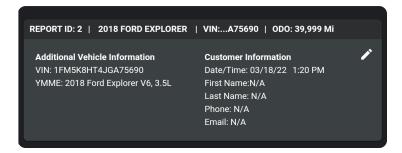
VEHICLE INFORMATION

The **OBD2 DIAGNOSTICS** test results page includes additional information, which can be accessed by tapping the **Vehicle Info** button on the results page. This page allows you to view **Customer Information**, **Vehicle ID**, **Available Modules**, and **In-Use Performance Tracking** (IPT).

- 1. Tap on the **Vehicle Info** button to display the details.
- 2. A dialog screen shows. Scroll to view each section.

Additional Vehicle Information & Customer Information

■ Additional Vehicle Information – offers basic information such as VIN and Year, Make and Model of vehicle. More details are accessible with the Vehicle Information button.



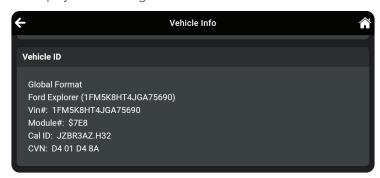
■ **Customer Information** – Includes the Date/Time at which the scan was run and the customer's information, which can be edited using the ✓ icon. [See page 27]



Additional Testing Utilities

Vehicle ID

The Vehicle ID section displays the following information:



- VIN: The complete Vehicle Identification Number.
- YMME: The vehicle's year, make, model and engine.
- **Module No:** The control module identification number(s).
- Cal ID: The vehicle's calibration ID(s). These IDs uniquely identify the software version(s) for the vehicle's control module(s).
- **CVN:** The Vehicle's Calibration Verification Number(s) (CVNs) required by OBD2 regulations. CVNs are used to determine if emission-related calibrations for the vehicle under test have been changed.

Available Modules

The Available Module section displays the following information:

- OBD2: Confirms the vehicle's onboard diagnostic system is OBD2 compliant.
- **Protocol:** Lists the vehicle's OBD2 communication protocol. This can be either ISO 9141, Keyword 2000, J1850 PWM, J1850 VPW or CAN.
- Module\$: Lists the primary control module's identification number.



In-Use Performance Tracking (IPT)

The tablet can retrieve In-use Performance Tracking (IPT) statistics for monitors supported by the vehicle under test. Two values are returned for each monitor; the number of times that all conditions necessary for a specific monitor to detect a malfunction have been encountered (XXXCOND), and the number of times that the vehicle has been operated under the specific conditions for the monitor (XXXCOMP). Statistics are also provided for the number of times the vehicle has been operated in OBD

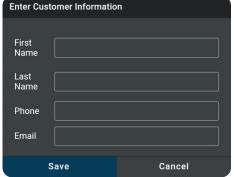
lr	n-Use Performance Tracking	
	Description	Count
	OBDCOND	516
	IGNCNTR	1717
	CATCOMP1	572

monitoring conditions (OBDCOND), and the number of times the vehicle's engine has been started (IGNCNTR).

EDITING CUSTOMER INFORMATION

Each vehicle scan can be personalized by adding the customer's information, including their **First Name**, **Last Name**, **Phone** and **Email**.

- 1. Tap the icon to display the Edit Customer Information fields.
- 2. Tap the field you wish to edit, then enter the desired value using the keyboard.
 - Enter the Phone number (including area code) as a 10-digit number, without spaces or other characters (Example: 8005551212).
 - Be sure to use a properly formatted Email address (*Example*: yourname@gmail.com).
- When all desired information has been entered, tap Save to save your changes.
 - A confirmation message displays when customer information has been successfully saved.
 - If an invalid Phone number or Email address has been entered, an advisory message displays. Tap Close to return to the Edit Customer Information fields. Make the necessary correction(s), then tap Save to save your changes.



SCHEDULED MAINTENANCE

The **Scheduled Maintenance** page provides a listing of scheduled maintenance procedures due at the next service interval. The **Next Service** field shows the odometer reading at which the associated service procedures are due.

Each entry in the list shows a scheduled inspection or repair/ replacement procedure. In cases of replacement procedures, the entry shows the required replacement

← 01	3D2 Diagnostics	TSBs and Recalls	Scheduled Maintenance	Predicted Failures	A
Next	Service: 30000				
Inspe	ct For Fluid Leal	ks			
Lube	Chassis, Susper	nsion and Steering	Systems		
inst	ACDelco GM Equipment 12 Synthetic Mul Glycol Lubrica Spray	2346241 Iti-Purpose	.79 (\$1.25 / Ounce)	x 1	
Buy Parts					

OBD2 DIAGNOSTICS

Additional Testing Utilities

part(s), the "per unit" part cost, and the number of parts required for the procedure.

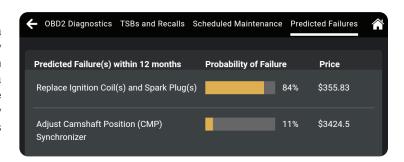
Tap the Buy Parts button to access the web page for your preferred online parts supplier.



NOTE: The tablet uses the value entered in the **Retailer** section of the **SETTINGS** page to determine your preferred parts supplier. [See page 80]

PREDICTED FAILURES

The **Predicted Failure** page provides a listing of components and systems that may experience a failure within the next 12-month period. Each is based on historical data taken from millions of real-world vehicle repair records collected for over 25 years by Innova's network of ASE Master Technicians across the U.S.



Each entry in the list provides the following information:

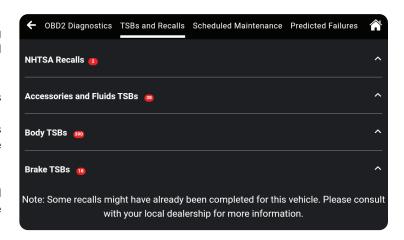
- Predicted Failure(s) within 12 months: A brief description of the predicted failure/repair/ maintenance procedure required.
- **Probability of Failure:** Expressed as a percentage of 100; shows a bar graph and numerical value. The higher the value, the most likely the failure will occur.
- **Price:** Estimated cost to accomplish the associated repair/ maintenance procedure.

TSBs AND RECALLS

The **TSBs and Recalls** page provides a listing of all Technical Service Bulletins (TSBs) and Recalls issued against the vehicle.

TSBs and Recalls are grouped in categories (NHTSA Recalls, Body TSBs, Electrical TSBs, Factory Recalls, etc.). The number of items in each category is shown following the category name.

Tap the \(\shcap \) icon for a category to expand the category and view the full text of the associated TSBs or recalls.





NOTE: Some TSBs and/or recalls for the vehicle may have already been accomplished.

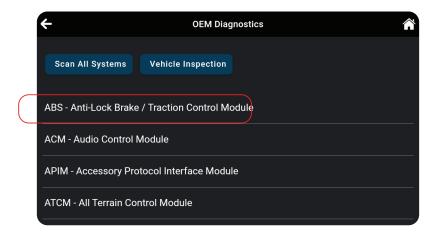
OEM DIAGNOSTICS

The **OEM Diagnostics** function allows you to perform enhanced, OEM level diagnostics not available over generic OBD2. Access ABS, Airbag, Transmission, Tire Pressure, Battery, and many body control modules to view and erase their DTCs. Perform bi-directional tests on fuel pumps, injectors, ignition coils, and much more. Plus, get access to hundreds of additional parameters that you can view in real-time.



PERFORMING A SCAN - OEM DIAGNOSTICS

- 1. Follow the AutoLink Connection steps to connect with the vehicle [See page 11].
- 2. Tap **OEM Diagnostics**.
- 3. A selection dialog is provided.
- **4.** Select the type of test you wish to perform.
 - Tap **Scan All Systems** to perform a comprehensive vehicle scan of all available network modules [See page 30].
 - Tap **Vehicle Inspection** to perform a complete vehicle health status report, including: OBD2 check, all network system scan, service checks, warning lights, tire pressures, and more [See page 37].
 - Tap the "individual" listed control module name (for example: ABS Anti-Lock Brake / Traction Control Module) to perform a diagnostic check on that single module. [See page 31]

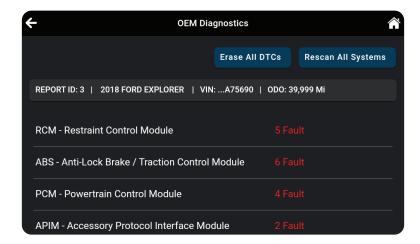


SCAN ALL SYSTEMS

- 1. From the OEM Diagnostics results screen, tap Scan All Systems.
- **2.** A progress bar appears, "*Retrieving Vehicle Information...*", while the tablet scans all the vehicle's equipped modules. Please note that it will take a few moments while it scans all of the vehicle's systems.
 - Tap "Cancel" to stop the scan and return to the previous screen.
 - On BMW models only follow this process:
 - Turn the ignition OFF, then back ON
 - Tap Continue to complete the scan
 - If the Scan Tool fails to link to the vehicle's computer, a "Scan Failed" message shows.
 - Ensure the vehicle is OBD2 compliant.
 - Verify the connection at the DLC, and verify the ignition is ON.
 - Turn the ignition OFF, wait 5 seconds, then back ON to reset the computer.
 - Tap Try Again to try again; or tap Cancel to return to the Home Page.
- 3. The Scan All Systems screen displays the diagnostic test results.

VIEWING THE "SCAN ALL SYSTEMS" TEST RESULTS

Scan results are shown immediately following completion of a scan; and can also be viewed later using the **PREVIOUS VEHICLE** function available through the Home page. [See page 75]



Each report begins with a vehicle information bar that includes a **Report ID**, the vehicle's description (**year/make/model**), the last six digits of the Vehicle Identification Number (**VIN**) and the odometer reading (**ODO**) at the time the scan was performed.

The results window lists all tested Control Modules with its corresponding result:

- # Fault Indicates the number of reported DTCs.
- No Fault Indicates that no DTCs were found.
- Available Indicates that the module is part of the system but does not report DTCs.

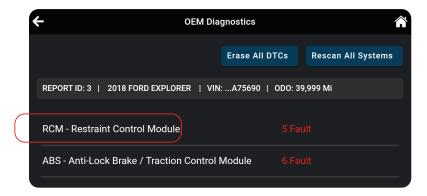
The results screen also allows to either:

- **Erase All DTCs** Erases ALL of the vehicle's retrieved Diagnostic Trouble Codes (DTC). [See page 36]
- Rescan All Systems Performs a complete "Scan All Systems" report. [See page 30]

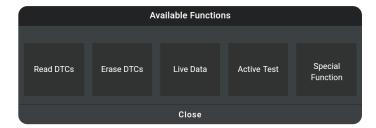
VIEWING & SCANNING AN INDIVIDUAL CONTROL MODULE

Perform diagnostics for a single, selected vehicle module. Depending on the module selected, you can **Read DTCs**, **Erase DTCs**, view **Live Data**, and perform **Active Test** and/or **Special Function** procedures.

1. From the Scan All Systems results page, tap the name of the module you wish to explore further.



2. The *Available Functions* dialog selection screen is provided.



3. Tap on the corresponding button to perform the function you would like to run. Or, tap Close to exit.



NOTE: Actions that are not available for the selected module are "grayed" out.

- Read DTCs See page 32
- Erase DTCs See page 32

OEM DIAGNOSTICS

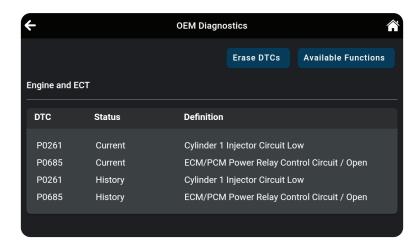


Scan All Systems

- Live Data See page 33
- Active Test See page 34
- Special Function See page 35

Reading DTCs for a Selected Module

- 1. Select the module for which you wish to read DTCs. [See page 31]
- 2. Tap Read DTCs in the "Available Functions" menu.
 - The tablet retrieves and displays DTCs stored in the vehicle's computer for the currently selected module.
 - Each entry shows the DTC number, type, and definition.



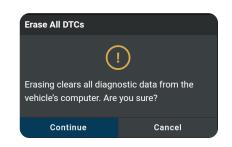


NOTE: If no DTCs for the selected module are currently stored in the vehicle's computer, the message "No DTCs" displays.

- 3. Continue as desired:
 - Tap the **Erase DTCs** button to erase ALL retrieved Diagnostic Trouble Codes (DTCs)
 - Tap the **Available Functions** button to open its selection menu.
 - Tap the ← icon at the top left of the screen to return to the *All Systems Scan* screen.

Erasing DTCs for a Selected Module

- Select the module for which you wish to read its DTCs. [See page 31]
- Tap Erase DTCs in the "Available Functions" menu. A confirmation message shows.
 - Ensure that the ignition in the Key ON, Engine OFF position.
 - If you are sure you want to proceed, tap **Continue**.

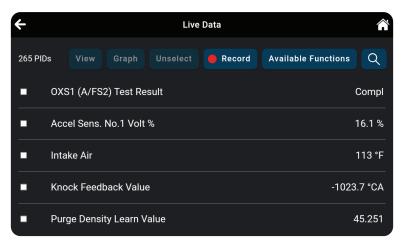


- If you do not want to proceed, tap Cancel to cancel the erase procedure.
- 3. If you chose to erase DTCs, an "Erasing DTCs..." message displays while the erase function is in progress.
 - If the erase was successful, a confirmation message shows. Tap Scan Again to re-scan the currently selected module; or tap Close to exit and return to the test results screen.
 - If the erase was not successful, an advisory message shows. Make sure the tablet is properly connected to the vehicle's DLC, then tap **Try Again** to repeat the erase procedures.
 - Tap Cancel to cancel the erase procedure and close the message.

Viewing Live Data for a Selected Module

You can view Live Data for the currently selected module.

- **1.** While linked to the vehicle, start the engine.
- 2. Select the module for which you wish to view Live Data. [See page 31]
- 3. Tap Live Data in the "Available Functions" menu to place the tablet in Live Data mode.
- 4. The results screen displays all of the vehicle's available PIDs with reported values. Each PID is unselected to offer customization on which component you wish to select and explore further. A total PID count is provided at the top left of the screen.



- **5.** Select the PIDs you wish to explore further and continue as desired:
 - Tap the **View** button to view PID data in a tabular format.
 - Tap the **Graph** button to view PID data in graphical format.
 - Tap the **Unselect** button to unselect all PID parameters.
 - Tap **Record** to record the selected Live Data PID(s) in real time.
 - **NOTE:** Tapping the **Record** button without selecting any PIDs will record **all** of the vehicle's available PIDs.
 - Tap the **Available Functions** button to open its selection menu.



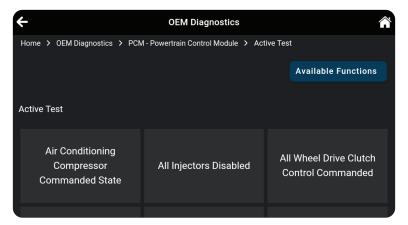
Scan All Systems

- Tap the Q icon to quickly search and select desired PID(s).
- Tap the ← icon at the top left of the screen to return to the All Systems Scan screen

Performing Active Tests for a Selected Module

Active Tests let you perform active tests for various vehicle actuators and systems. The specific tests available depend on the vehicle make and model.

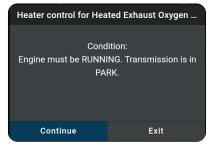
- 1. Select the module for which you wish to perform Active Tests. [See page 31]
- 2. Tap Active Test in the "Available Functions" menu.
 - The tablet retrieves and displays a menu of Active Tests available for the vehicle under test.

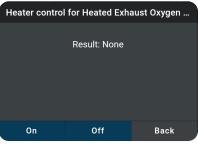




NOTE: If Active Tests are not supported for the vehicle under test, the message "Active Test is not supported for this vehicle" displays. Tap **Exit** to return to the previous page.

- Choose the desired test.
- The tablet may display one or more instructional screens to prepare the vehicle for testing.
- **3.** Prepare the vehicle for testing, as necessary.
 - The tablet displays a "control" screen to run the test.
- **4.** Tap the appropriate control to operate the actuator as desired.
 - The screen refreshes to show the result.
- 5. Repeat step 3 as desired.
- **6.** Tap **Back** to return to the Active Test menu.

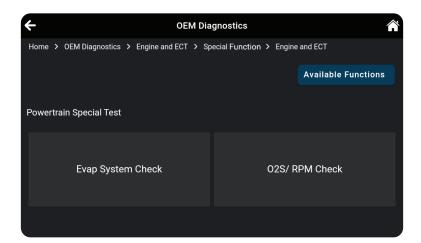




Performing Special Functions for a Selected Module

Special Functions let you perform diagnostic and calibration procedures for various vehicle actuators and systems. The specific tests available depend on the vehicle make and model.

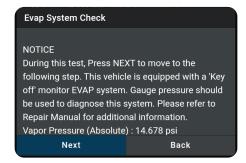
- 1. Select the module for which you wish to perform Special Functions. [See page 31]
- 2. Tap **Special Function** in the "Available Functions" menu.
 - The tablet retrieves and displays one or more menus of Special Functions available for the vehicle under test.





NOTE: If Special Functions are not supported for the vehicle under test, the message "Special Function is not supported for this vehicle" displays. Tap **Exit** to return to the previous page.

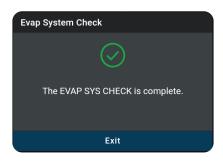
- 3. Make the necessary selections to choose the desired test.
 - A series of instructional screens display.





Scan All Systems

- **4.** Follow the on-screen prompts to prepare the vehicle for testing, and to perform the selected test procedure.
 - A "results" screen displays when the test procedure has completed.

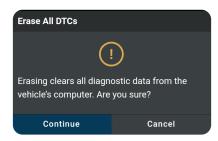


- **5.** Tap **Finish** or **Exit** to return to the previous menu.
- **6.** Tap the \leftarrow icon at the top left of the screen to return to previous page.

ERASE ALL OEM DTCs

Erase all the stored OEM DTCs from the vehicle's computer memory as follows:

- 1. Perform the **Scan All Systems** steps. [See page 30]
- 2. If the tablet is already connected and linked to the vehicle's computer, proceed directly to Step 2.
 - Ensure that the ignition in the Key ON, Engine OFF position
- 3. Tap the **Erase All DTCs** button at the top of the Scan All Systems results page.
 - The tablet displays an attention message confirming deletion.



- If you want to proceed, tap Continue.
- If you do not want to proceed, choose Cancel to exit the erase procedure.
- **4.** By selecting to Erase DTCs, a "One moment please..." progress dialog displays during the erase process.
 - If the erase was successful, a confirmation dialog displays.
- **5.** If the erase was not successful, an advisory dialog displays with instructions with either:
 - "Turn the ignition off, then turn the ignition on" = follow steps and tap Erase DTCs to resume.
 (Or)
 - "Erase has failed" = tap Erase Again to try again.

Vehicle Inspection Health Report

- 6. Once all DTCs are erased, tap Scan Again to confirm that all DTCs were erased.
 - Or tap **Close** to exit.

RESCAN ALL SYSTEMS

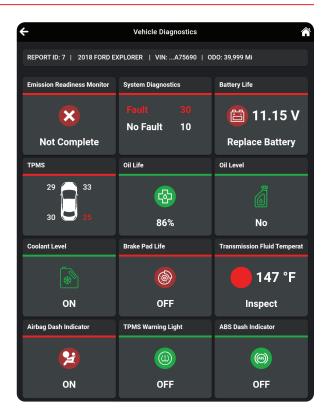
Use this function to get the most current diagnostic status for the vehicle under test – particularly as you continue to troubleshoot each individual control module.

- 1. From the "Scan All Systems" result page, tap Rescan All Systems button at the top right of the page.
- 2. Tool generates a new report and updates the "Scan All Systems" results page. [See page 30]

VEHICLE INSPECTION HEALTH REPORT

The **Vehicle Inspection** report, also considered a full *Network Scan*, provides a complete overview of the vehicle's current health status. It reports the vehicle's emission readiness status, system status, service status, dashboard warning light status, and a RepairSolutions2 diagnostic report.

- **1.** Follow the **Scan All Systems** steps to connect with the vehicle. [See page 30]
- 2. From the OEM Diagnostics results screen, tap the **Vehicle Inspection** button.
- **3.** A progress bar appears, "Retrieving Vehicle Information...", while the tablet scans all of the vehicle's equipped modules.
 - It can take several minutes depending on the number of available systems available on the vehicle being tested. Tap Cancel to abort the scan.
 - If the Vehicle Inspection was recently performed, a "...Are you sure?" warning dialog appears prior to the scan. Tap Continue to complete the scan, or tap Cancel to return to the previous screen.



VIEWING THE VEHICLE INSPECTION TEST RESULTS

Scan results are shown immediately following completion of a scan; and can also be viewed later using the **PREVIOUS VEHICLE** function available through the **EMenu** or **Home** page. [See page 75].

Vehicle Inspection Health Report

Each report begins with a vehicle information tab that includes a **Report ID**, the vehicle's description (**year/make/model**), the last six digits of the Vehicle Identification Number (**VIN**) and the odometer reading (**ODO**) at the time the scan was performed.

Emissions Readiness Monitors Status

Indicates whether the vehicle is ready for an Emissions Test (Smog Check) based on DTCs present, Freeze Frame data, Monitor Status, MIL (Check Engine Light) status, State/Region, and Engine Type. Results are shown as "Complete" or "Not Complete".

■ Emission Readiness Monitor - For a "Not Complete" result, Drive Cycle Procedures can be found in the OBD2 Diagnostics screen. [See page 18]

System Diagnostics (DTC Status Overview)

Gives a quick snapshot of all Diagnostic Trouble Codes (DTCs) found on the vehicle with "Fault – DTCs reported" or "No Fault – no DTCs present".

■ Tap the **Systems Diagnostics** tab to open the Scan All Systems window to view scan details [See page 30]

Vehicle Service Status

Some vehicles are capable of checking and reporting on its various service items. If available, the tablet displays these as individual tab segments as defined below. Use these results to share with customer or to create a service due task list.

- **Battery Life:** Indicates the current battery charge voltage and suggests if the battery requires replacement. The Battery Life field is color-coded to provide a visual indication of battery status: *Green = good; Yellow = poor; Red = replace battery.*
- **TPMS / Tire Pressure Readings:** Shows the status of the vehicle Tire Pressure Monitoring System (TPMS) and the individual tire pressures for all vehicle tires. The TPMS field is color-coded to provide a visual indication of tire pressure status: *Green = good*; *Red = low pressure*.
- **Oil Life:** Shows the current oil life for the vehicles lubricating oil as a percentage of 100. The Oil Life field is color-coded to provide a visual indication of oil life status: *Green = good; Red = poor.*
- **Oil Level:** Shows if the level is normal or below the manufacturer's set threshold: *Green = Good; Red: Low Level Warning*
- Coolant Level: Indicates if the coolant reservoir is filled to the recommended manufacturer specifications. The Coolant Level is color-coded and provides a visual status: Green = OK; Red = Low
- Brake Pad Life Front & Rear: Shows the current measured brake pad life for the Front and Real axle as a percentage of 100. The Brake Pad Life is color-coded and provides a visual status: Green = OK: Red = Not OK

FCA Secure Gateway (Fiat, Chrysler, Alfa Romeo, Dodge, RAM, Jeep)

■ Transmission Fluid Temperature: Shows the current measure temperature of the vehicle's Transmission Fluid Temperature. The temperature is color-coded and provides a visual status: Green = Good Condition; Red = Inspect

Dashboard Warning Light Status

The tablet can read if the vehicle's systems are reporting a dashboard warning light status. If available for the vehicle under test, the tablet displays these as individual tab segments as defined below. Use these as part of the inspection process to confirm a lit dashboard warning light.

- **Airbag Dash Indicator:** Reports if the airbag dashboard light is currently ON or OFF. It is color-coded to provide a quick visual status: *Red = ON; Green = OFF*.
- **TPMS Warning Light:** Reports if the Tire Pressure Monitoring System (TPMS) dashboard light is currently ON or OFF. It is color-coded to provide a quick visual status: Red = ON; Green = OFF.
- **ABS Dash Indicator:** Reports if the Anti-Lock Brake System (ABS) dashboard light is currently ON or OFF. It is color-coded to provide a quick visual status: *Red = ON; Green = OFF*.

FCA SECURE GATEWAY (Fiat, Chrysler, Alfa Romeo, Dodge, RAM, Jeep)

Innova has partnered with FCA and AutoAuth® to grant authentic access to FCA's Secure Gateway (SGW). Our partnership allows us to offer SGW-unlocking solutions. This feature applies only to Fiat, Chrysler, Dodge, RAM, Jeep, and Alfa Romeo (FCA) models from 2018 and above.

WHAT IS SGW?

Starting with 2018 models, a Secure Gateway Module (SGW) was implemented in the electrical architecture to secure the vehicle's network and control access. This module is similar to a firewall that prevents unauthorized vehicle network access, which may put vehicle systems and customers at risk.

FUNCTIONS LIMITED BY SGW

Certain functions are restricted due to SGW implementation:

- Erase OEM DTCs
- OEM Special Functions/Active Tests
- Workshop Tools (Resets, Relearns, Routines, Calibrations)

However, you can still carry out the following:

- OBD2 Diagnostics
- Reading OEM DTCs



FCA Secure Gateway (Fiat, Chrysler, Alfa Romeo, Dodge, RAM, Jeep)

Viewing OEM Live Data

PREPARING THE 7111 FOR FCA SECURE GATEWAY ACCESS

- 1. Make sure your 7111 tool is up-to-date by installing the latest firmware [See page 86].
- 2. Register for an authorized AutoAuth® account.
 - Click **Register** to create your account.
 - Fill in the necessary 'User Signup' fields and agree to the AutoAuth Terms & Conditions.
 - Click the Sign-Up button.
 - Check your email for account verification.
 - Follow the steps to signup as a Service Center or as an Independent Technician.
- **3.** Register your device.
 - Tap **Settings** to view and copy your tool's serial number [See page 78].
 - On your AutoAuth account, navigate to Manage Tools and select Add Tool
 - Select "Innova Electronics" as the manufacturer.
 - Under model, select "All Models".
 - Enter, or paste, your tool's serial number.



NOTE: Be cautious with the number '0' and the letter 'O.' Both can look quite similar.

- Click Add Tool to complete the process.
- 4. Your 7111 is SGW ready!

UNLOCKING THE FCA SECURE GATEWAY

Follow these steps when working on a Fiat, Chrysler, Dodge, RAM, Jeep, or Alfa Romeo with a secure gateway.

- 1. Ensure you have a stable and constant Internet connection [See page 81].
- 2. Select the **OEM Diagnostics** or **Worksphop Tools** function you wish to perform.
 - A login window appears.
- **3.** Enter your AutoAuth login credentials and tap **Continue**.
- 4. Proceed as usual to complete your diagnosis.

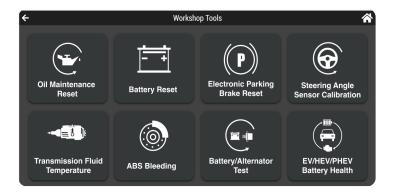
WORKSHOP TOOLS

The **WORKSHOP TOOLS** tab allows you to perform over 30 OEM service reset procedures. Depending on the vehicle being tested, the tablet will only display the procedures which are specific to your vehicle. It can include a combination from any of the following reset procedures.

Workshop Tools

AVAILABLE WORKSHOP TOOLS

Steering Angle Sensor A/F Setting **Headlamp Calibration** Calibration **ABS Bleeding Immobilizer Reset Suspension Calibration** Throttle Body Relearn/TEC **AC System Relearn Injector Coding** Learn **AdBlue Reset Key Coding Procedure Tire Size Reset Battery Reset Language Change Reset TPMS Relearn Transmission Fluid Level Battery/Alternator Test Maintenance Reset** Check **Transmission Fluid** Clutch Relearn **NOx Sensor Reset Temperature Coolant Bleeding Occupant Seat Sensor Calibration Transmission Reset DPF Reset Odometer Reset Transport Mode Electric Parking Brake (EPB) Oil Maintenance Reset** Window Door Roof Reset **Reset Electric Traction System EV/HEV/PHEV Battery Health**



OIL MAINTENANCE RESET

Resetting the Oil Maintenance Light

- 1. Tap Oil Maintenance Reset on the Workshop Tools screen.
 - An "instructional" dialog displays to confirm selection.



Battery Reset

Select Yes to continue. Or, No to cancel.



- A "One moment" message displays while the procedure is in process.
- When the reset process has competed, a confirmation message displays. Tap Exit to return to the Workshop Tools screen.
 - If the oil reset was not successful, an advisory message displays.



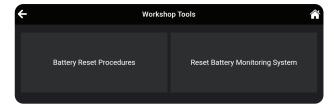
NOTE: If the Scan Tool cannot reset the Oil Maintenance Light, an "instructional" dialog displays, showing the manual procedures for resetting the indicator light. When finished viewing the instructions, tap **Back** to return to the Workshop Tools screen.

BATTERY RESET

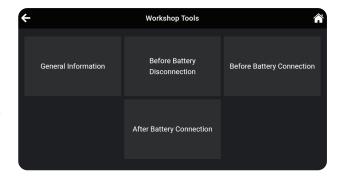
You can use the tablet to view the procedures for resetting the battery monitor system following battery replacement or perform battery reset OBD service (for Audi, BMW, Ford, Volkswagen, and Volvo models only).

To view battery reset procedures:

- 1. Tap Battery Reset on the Workshop Tools screen.
 - The Battery Reset menu displays.



- 2. Tap Battery Reset Procedures.
 - The Battery Reset Procedures menu displays. The menu provides access to GeneralInformation, and procedures to be followed Before Battery Disconnection, Before Battery Connection, and After Battery Connection.

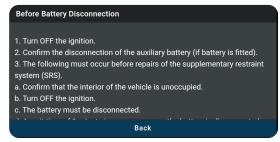


Electronic Parking Brake (EPB) Reset



NOTE: If battery reset procedures are not available, an advisory message shows. Tap **Back** to return to the Workshop Tools screen.

- **3.** Tap the procedure you wish to view.
 - The selected procedure displays.
- **4.** When you have finished viewing the retrieved information, tap **Back** to return to the Battery Reset Procedures menu. Repeat step # 3 to view additional procedures.
 - When you have finished viewing all desired procedures, tap on the ← icon at the top of the page to return to the Workshop Tools screen.



To perform battery reset OBD service:

- 1. Tap Battery Reset on the Workshop Tools screen.
 - The Battery Reset menu displays.
- **2.** Tap **Reset Battery Monitoring System** or **Battery Replacement Registration** available selection depends on the vehicle being serviced.
 - An "instructional" message displays.



- **3.** Follow the instructions provided to prepare the vehicle for battery reset OBD service. When all necessary procedures have been performed, tap **Next** to continue.
 - A "One moment please..." message displays while battery reset is in process.
- **4.** If the battery reset process is successful, a "Reset Complete" message displays. Tap **Exit** to return to the Workshop Tools screen.
 - If the battery reset process is not successful, a "Reset Fail" message displays. Tap **Exit** to return to the Workshop Tools screen.

ELECTRONIC PARKING BRAKE (EPB) RESET

The Electronic Parking Brake (EPB) reset procedures vary between vehicle makes and models.

WORKSHOP TOOLS

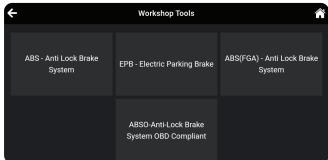
Steering Angle Sensor (SAS) Calibration



NOTE: If an error occurs while performing calibration procedures, an "advisory" message displays. Tap Exit to return to the Workshop Tools screen.

- **1.** Tap **Electronic Parking Brake Reset** on the Workshop Tools screen.
 - For some vehicles, one or more submenus display. Tap the desired module and/or option, as appropriate. Proceed to step 2.

NOTE: If Electric Parking Brake reset is not supported by the vehicle under test, an "advisory" message displays. Tap OK to return to the Workshop Tools screen.



- 2. A "One moment" message displays, followed by one or more "informational/ instructional" or "selection" screens.
 - Perform test procedures as directed. Tap **Next**, as appropriate, to continue to the next step.
- **3.** For some vehicles, "status" screens display as each phase of the calibration procedure is successfully completed. Tap **Next**, as appropriate, to scroll to the next screen.
 - A "One moment" message displays while the procedure is in process.
 - A "results" screen displays when the calibration procedure has completed.





NOTE: If the procedure is stopped due to a communication error, an "advisory" message displays. Tap Exit to return to the Workshop Tools screen.

4. Tap on the ← icon at the top of the page to return to the Workshop Tools screen..

STEERING ANGLE SENSOR (SAS) CALIBRATION

The **Steering Angle Sensor (SAS) Calibration** function is available for BMW, Chrysler, Ford, GM, Hyundai/KIA, Nissan, Toyota, Honda, Mitsubishi, Subaru, Jaguar, Volkswagen and Volvo vehicles only. Calibration procedures vary between vehicle makes and models.

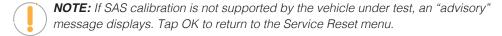


NOTE: If an error occurs while performing calibration procedures, an "advisory" message displays. Tap Exit to return to the Service Reset menu.

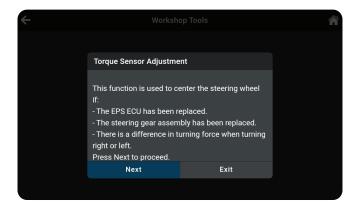
Steering Angle Sensor (SAS) Calibration

- 1. Tap **Steering Angle Sensor Calibration** on the Workshop Tools screen.
 - For some vehicles, one or more sub-menus display. Tap the desired **module** and/or **option**, as appropriate. Proceed to **step 2**.

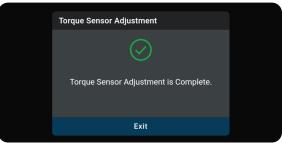




2. A "One moment" message displays, followed by one or more "informational/ instructional" screens.



- Perform test procedures as directed. Tap **Next** or **Continue**, as appropriate, to scroll to the next screen. Or, tap **End** or **Exit** to terminate the procedure.
- **3.** For some vehicles, "status" screens display as each phase of the calibration procedure is successfully completed. Tap **Next**, as appropriate, to scroll to the next screen.
 - A "results" screen displays when the calibration procedure has completed.
- Tap End or Exit, as appropriate, to return to the SAS Reset menu.
- **5.** Tap on the **←** icon at the top of the page to return to the Workshop Tools screen.



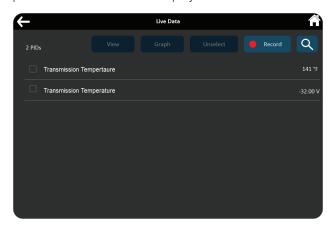


Transmission Fluid Temperature

TRANSMISSION FLUID TEMPERATURE

Depending on the vehicle under test, the tablet allows to view temperature readings from the Transmission Fluid Temperature Sensor (TFT) to help identify transmission overheating issues.

- 1. Tap **Transmission Fluid Temperature** on the Workshop Tools screen.
 - A "One one moment please..." progress dialog displays. Tap Cancel to cancel the operation.
- 2. The Transmission Temperature Live Data PID list displays.



- 3. Select the PID(s) you wish to view and tap View, Graph, or Record. [See page 23]
 - Tap **Unselect** to unselect all PID parameters.
- **4.** Tap on the ← icon at the top of the page to return to the Workshop Tools screen.

ABS BLEEDING

The **ABS Bleeding** function is available for Chrysler, GM, Hyundai/KIA, Mazda, Toyota, Ford, Honda, Nissan, Mitsubishi, Subaru, Volvo, Mercedes, Volkswagen, BMW, and Jaguar vehicles only. Procedures vary between vehicle makes and models.



NOTE: If an error occurs while performing ABS bleeding procedures, an "advisory" message displays. Tap **Exit** or **Back**, as necessary, to return to the Service Reset menu.



NOTE: If ABS bleeding is not supported for the vehicle under test, an "advisory" message displays. Tap **Retry**, as necessary, to return to the Service Reset menu.

- 1. Tap **ABS Bleeding** on the Workshop Tools screen.
 - One or more sub-menus will display. Select the desired options, then proceed to step 2.

Battery / Alternator Test

Workshop Tools

Alternator Test

Battery Test

- 2. One or more "informational/ instructional" screens display.
 - Perform test procedures as directed. Tap **Next** to scroll to the next step.
- **3.** For some vehicles, "status" screens display as each phase of the calibration procedure is successfully completed. Tap **Next** to scroll to the next step.
 - A "results" message displays when the procedure has completed.
- **4.** Tap **End** to close the results message.



5. Tap on the \leftarrow icon at the top of the page to return to the Workshop Tools screen.

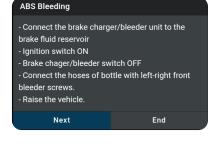
BATTERY / ALTERNATOR TEST

The tablet can check the vehicle's battery and alternator systems to ensure operations are within acceptable limits. You can test just the battery (Battery Test) or check both the battery and alternator (Alternator Test).

BATTERY TEST ONLY

To perform a battery check ONLY:

- 1. Tap Battery / Alternator Test on the Workshop Tools screen.
 - The Battery / Alternator Test menu displays.
- 2. Tap Battery Test.
 - An "instructional" message displays, showing the procedures to prepare the vehicle for the battery check.
- 3. Prepare the vehicle for the battery check:
 - Turn the engine off.
 - Place the transmission in PARK or NEUTRAL, and set the parking brake.
 - Make a visual check of the battery's condition. If the battery terminals are corroded or other damage is present, clean or replace the battery as appropriate.



WORKSHOP TOOLS

Battery / Alternator Test

- For "unsealed" batteries, make sure the water level in each cell is above the battery plates.
- Turn the ignition on. **DO NOT** start the engine.
- 4. Tap Continue to proceed.



NOTE: If the engine is running, an advisory message shows. Turn the engine off, then turn the ignition on. **DO NOT start the engine. Tap Continue to proceed.**

- An "instructional" message displays.
- **5.** Turn the vehicle's headlights on, then tap **Continue** to proceed.
 - A "countdown" message shows while the battery check is in process.
 - If battery voltage is less than 12.1 volts, an advisory message shows. Tap Home to return to the Home Page. Turn the ignition off and disconnect the tablet from the vehicle. Fully charge the battery, then repeat the battery check.
 - If battery voltage is *greater than* 12.1 volts, an "instructional" message shows.
- **6.** Turn the vehicle's headlights off, then tap **Continue** to proceed.
 - An "instructional" message shows.
- 7. Start the vehicle's engine. Allow the engine to run for several seconds, then turn the engine off.

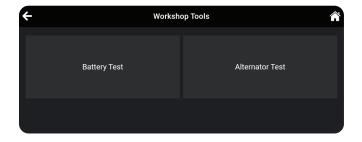
NOTE: If the tablet did not detect "cranking status" for the vehicle's engine, an advisory message shows. Tap **Retest** to repeat the battery check, or choose **Exit** to return to the Home Page.

- 8. When the battery check is complete, a results screen displays the battery status.
- **9.** Tap **End** to return to the Battery / Alternator Test menu.
- **10.** Tap on the ← icon at the top of the page to return to the Workshop Tools screen.

ALTERNATOR / CHARGING SYSTEM TEST

To perform a charging system (alternator) check:

- 1. Tap Battery / Alternator Test on the Workshop Tools screen.
 - The Battery / Alternator Test menu displays.
- 2. Tap Alternator Monitor.
- **3.** An "instructional" message shows. Start and warm the engine to normal operating temperature. Turn on the headlights. Tap **Continue** to proceed.
 - An "instructional" message shows.
 - Follow the instructions.



EV / HEV / PHEV Battery Health

- 4. When the alternator check is complete, a results screen shows charging system voltage and indicates whether the charging system is within acceptable limits.
- 5. Tap **Exit** to return to the Battery / Alternator Test menu.
- **6.** Tap on the \leftarrow icon at the top of the page to return to the Workshop Tools screen.

EV / HEV / PHEV BATTERY HEALTH

The tablet offers the ability to check the battery health for a variety of electric powered vehicles, including: Electric Vehicle (EV), Hybrid-Electric Vehicle (HEV), and Plug-In Hybrid Electric Vehicle (PHEV).

- 1. Tap **EV/HEV/PHEV Battery Health** on the Workshop Tools screen.
- 2. The Live Data dialog page displays with corresponding PIDs.

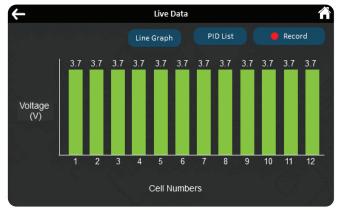


3. Tap **Graph** to view all PIDs in bar graph format, or select the PIDs you wish to view and tap either the **View**, **Graph**, or **Record** buttons to proceed.



NOTE: When using the Graph function, selecting more than 10 PIDs will result with an alert dialog "**Recording more than 10 PIDs may decrease frequency**". If prompted, tap the **Continue** button to view the graph or **Back** buttons to return to the PID values page.

- 4. The View button displays the selected voltage PIDs in tabular format.
- **5.** The **Graph** button displays the selected PIDs in bar graph format. A voltage below recommended specs will appear "red" in color on the bar graph.





A/F Setting

6. The **Line Graph** button displays battery voltage PIDs in line graph format.



- The PID List button returns to the PID selection screen.
- 7. The **Record** button records selected PIDs. [See page 25]
- 8. Tap on the ← icon at the top of the page to return to the Workshop Tools screen.

A/F SETTING

Allows you to set or re-learn new Air/Fuel ratio mix parameters.

The A/F Setting is only available for Nissan and Volvo vehicles. Procedures vary between vehicle makes and models.

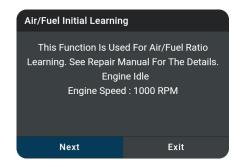


NOTE: If an error occurs while performing A/F Setting, an "advisory" message displays. Choose **Exit**, as necessary, to return to the Workshop Tools screen.



NOTE: If A/F Setting is not supported for the vehicle under test, an "advisory" message displays. Tap **Exit**, as necessary, to return to the Workshop Tools screen.

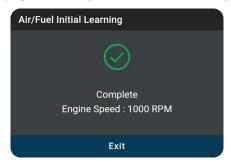
- 1. Select A/F Setting in the Workshop Tools screen.
 - A "One moment please..." message may display.
 - One or more sub-menus will display. Select the desired options, then proceed to step 2.
- **2.** One or more "informational/ instructional" screens display.
 - Perform test procedures as directed. Choose Next or Continue, as appropriate, to scroll to the next screen.
- 3. For some vehicles, "status" screens display as each phase of the



AC System Relearn

calibration procedure is successfully completed. Choose **Next** or **Continue**, as appropriate, to scroll to the next screen.

■ A "results" screen displays when the procedure has been completed.



- **4.** Tap **Exit** to close the results message.
- **5.** Tap on the ← icon at the top of the page to return to the Workshop Tools screen.

AC SYSTEM RELEARN

Use this to re-learn the A/C equipment status after a vehicle's PCM has been replaced.

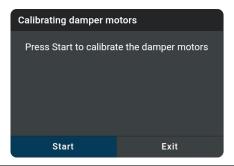


NOTE: If an error occurs while performing AC System Relearn, an "advisory" message displays. Choose **Exit**, as necessary, to return to the Workshop Tools screen.



NOTE: If AC System Relearn is not supported for the vehicle under test, an "advisory" message displays. Tap **Exit**, as necessary, to return to the Workshop Tools screen.

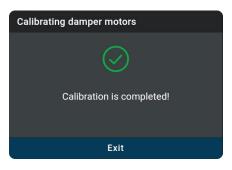
- 1. Select **AC System Relearn** in the Workshop Tools screen.
 - A "One moment please..." message may display.
 - One or more sub-menus will display. Select the desired options, then proceed to step 2.
- 2. One or more "informational/ instructional" screens display.
 - Choose **Start**, as appropriate, to perform the function.





Adblue Reset

3. The screen refreshes to show results.



- **4.** Tap **Exit** to close the results message.
- **5.** Tap on the ← icon at the top of the page to return to the Workshop Tools screen.

ADBLUE RESET

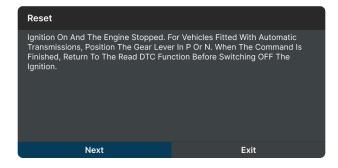
After the diesel exhaust treatment fluid is replaced or filled up, urea reset operation is required. The Adblue reset function allows you to reset the system to the specified fill level.

1. Tap **Adblue Reset** on the Workshop Tools screen.



NOTE: If the Adblue Reset is not supported by the vehicle under test, an "advisory" message displays. Tap **Exit** to return to the Workshop Tools screen.

- A "One moment please..." progress dialog displays. Tap Cancel to cancel the operation.
- Once ready, the Adblue Reset menu will displays. Select Reset to perform the test procedures as directed.
- Tap Next, as appropriate, to scroll to the next screen. Or, tap Exit or Cancel to terminate the procedure.



4. A "results" screen displays when the reset procedure has been completed. Tap Exit to terminate the procedure.



5. Tap on the \leftarrow icon at the top of the page to return to the Workshop Tools screen.

CLUTCH RELEARN

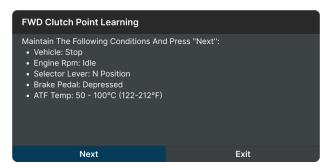
Use to re-learn the clutch pedal up-stop and down-stop values after an ECU or clutch pedal replacement.

1. Tap Clutch Relearn on the Workshop Tools screen.

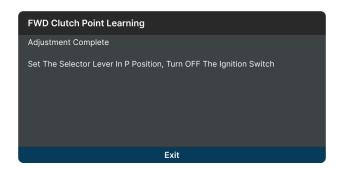


NOTE: If the Clutch Relearn is not supported by the vehicle under test, an "advisory" message displays. Tap **Exit** to return to the Workshop Tools screen.

- A "One moment please..." progress dialog displays. Tap **Cancel** to cancel the operation.
- 2. Once ready, the Clutch Relearn menu displays.



- 3. Select the desired option. Then perform the test procedures as directed. Tap **Next** or **Continue**, as appropriate, to scroll to the next screen. Or, tap **Exit** or **Cancel** to terminate the procedure.
- 4. A "results" screen displays when the reset procedure has been completed. Tap Exit to terminate the procedure.



5. Tap on the ← icon at the top of the page to return to the Workshop Tools screen.

COOLANT BLEEDING

Use this function whenever the coolant or antifreeze fluids are drained and/or refilled. Performing this routine removes any air pockets that may have built up when adding new coolant.

Coolant Bleeding allows activation of the electronic water pump before venting the cooling system. This function is only available for Honda vehicles. Procedures vary between vehicle makes and models.

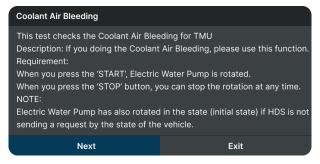


NOTE: If an error occurs while performing Coolant Bleeding, an "advisory" message displays. Choose **Exit**, as necessary, to return to the Workshop Tools screen.

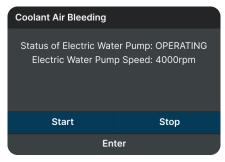


NOTE: If Coolant Bleeding is not supported for the vehicle under test, an "advisory" message displays. Tap **Exit**, as necessary, to return to the Workshop Tools screen.

- 1. Select Coolant Bleeding in the Workshop Tools screen.
 - A "One moment please..." message may display.
 - One or more sub-menus will display. Select the desired options, then proceed to step 2.
- 2. One or more "informational/ instructional" screens display.
 - Perform test procedures as directed. Choose Next, as appropriate, to scroll to the next screen.



- 3. Tap Start or Stop as desired.
 - The screen is refreshed to show the result.



- 4. Tap Enter to finish the function.
 - One or more "instructional" screens will display. Follow the instructions on the screen.

- **5.** Tap **Exit** to close the results message.
- 6. Tap on the ← icon at the top of the page to return to the Workshop Tools screen.

DPF RESET

Use this function to initialize the regeneration of the vehicle's diesel particulate filter, or DPF, to prevent it from causing damage because of stuck of soot and ash in the vehicle's exhaust system. It also initializes the sensor and DPF component after they are replaced, when the DPF warning light came on, or when replacing the DPF pressure sensor.

1. Tap **DPF Reset** on the Workshop Tools screen.

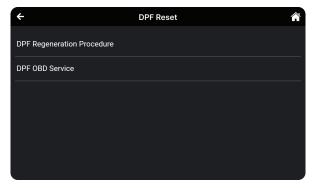


NOTE: If the DPF Reset is not supported by the vehicle under test, an "advisory" message displays. Tap **Exit** to return to the Workshop Tools screen.

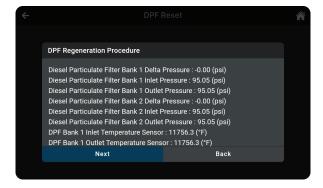


NOTE: The DPF Reset is only performed on Diesel vehicle.

- An "instructional" dialog displays to confirm selection. Select **Yes** to continue. Or, **No** to cancel.
- A "One moment please..." progress dialog displays.
- 2. The DPF Reset menu displays, select the desired option.



- 3. Tap the DPF Regeneration Procedure.
 - The DPF Regeneration Procedure screen displays.



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WORKSHOP TOOLS

Headlamp Calibration



NOTE: If the vehicle under test does not support DPF Regeneration Procedure, an "information" screen displays the procedures for "passive" DPF regeneration. Choose **Back** to return to the DPF Reset menu.

- 4. Choose **Next** to continue.
 - An "informational" screen displays the procedures for "passive" or "active" DPF regeneration, as applicable. Choose **Back** to return to the DPF Reset Menu.
- 5. Tap the **DPF OBD Service**.
 - A "One moment" message displays, followed by the Diesel Particulate Filter Reset menu. Select the desired option.
 - An "instructional" screen displays. Prepare the vehicle for test as directed.
- 6. Choose Next to continue.
 - A series of "status" screens display while the routine is in process.
 - A "confirmation" screen displays when the routine is completed.





NOTE: If the routine does not complete successfully, an "advisory" message displays. Choose **Exit** to return to the DPF Reset menu.

7. Tap **End** to return to the DPF Reset menu, then tap on the **\(\sigma \)** icon at the top of the page to return to the Workshop Tools screen.

HEADLAMP CALIBRATION

Calibration is required in most cases after installing a new headlamp capsule or replacing the sensors and modules used to operate the headlamps. This function allows you to adjust the ride height to the manufacturer's recommended specifications.

This function is only available for Audi, BMW, Chrysler, Ford, GM, Hyundai-KIA, Mazda, Mercedes-Benz, Nissan, Subaru, Toyota, Volkswagen, and Volvo vehicles. Procedures vary between vehicle makes and models.

Headlamp Calibration

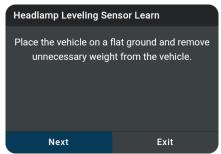


NOTE: If an error occurs while performing Headlamp Calibration, an "advisory" message displays. Choose **Exit**, as necessary, to return to the Workshop Tools screen.

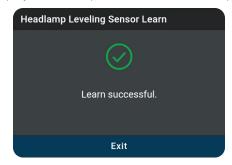


NOTE: If Headlamp Calibration is not supported for the vehicle under test, an "advisory" message displays. Tap **Exit**, as necessary, to return to the Workshop Tools screen.

- 1. Select **Headlamp Calibration** in the Workshop Tools screen.
 - A "One moment please..." message may display.
 - One or more sub-menus will display. Select the desired options, then proceed to step 2.
- **2.** One or more "informational/ instructional" screens display.
 - Perform test procedures as directed. Choose Next or Continue, as appropriate, to scroll to the next screen.



- **3.** For some vehicles, "status" screens display as each phase of the calibration procedure is successfully completed. Tap **On, Off** or **Start** as desired, to perform the function.
 - A "results" screen displays when the procedure has been completed.



- **4.** Tap **Exit** to close the results message.
- 5. Tap on the ← icon at the top of the page to return to the Workshop Tools screen.



IMMOBILIZER RESET

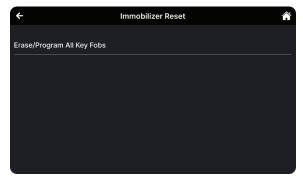
Allows you to reset the ignition immobilizer after the ignition switch key, ignition switch, combined instrument panel, ECU, BCM, or remote-control battery is replaced.

1. Tap Immobilizer Reset on the Workshop Tools screen.

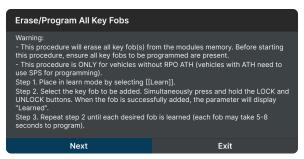


NOTE: If the Immobilizer Reset is not supported by the vehicle under test, an "advisory" message displays. Tap **Exit** to return to the Workshop Tools screen.

- A "One moment please..." progress dialog displays. Tap Cancel to cancel the operation.
- 2. Once ready, the Immobilizer Reset menu displays.



3. Select the desired option. Then perform the test procedures as directed. Tap Next or Learn, as appropriate, to scroll to the next screen. Or, tap Exit or Cancel to terminate the procedure.



4. A "results" screen displays when the reset procedure has been completed. Tap Exit to terminate the procedure.



Injector Coding



5. Tap on the \leftarrow icon at the top of the page to return to the Workshop Tools screen.

INJECTOR CODING

Sets the injector adjustment values after installing new diesel fuel injectors so it can properly communicate with the vehicle's digital Electronic Control Unit, or ECU.

Only available for Audi, Chrysler, GM, Nissan, and Volkswagen vehicles. Procedures vary between vehicle makes and models.

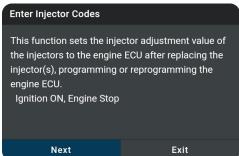


NOTE: If an error occurs while performing Injector Coding, an "advisory" message displays. Choose **Exit**, as necessary, to return to the Workshop Tools screen.



NOTE: If Injector Coding is not supported for the vehicle under test, an "advisory" message display. Tap **Exit**, as necessary, to return to the Workshop Tools screen.

- 1. Select **Injector Coding** in the Workshop Tools screen.
 - A "One moment please..." message may display.
 - One or more sub-menus will display. Select the desired options, then proceed to **step 2**.
- 2. One or more "informational/ instructional" screens display.
 - Perform test procedures as directed. Choose Next or Continue, as appropriate, to scroll to the next screen.



- **3.** For some vehicles, "status" screens display as each phase of the calibration procedure is successfully completed. Choose **Next** or **Continue**, as appropriate, to scroll to the next screen.
 - A "results" screen displays when the procedure has been completed.
- **4.** Tap **Exit** to close the results message.
- 5. Tap on the ← icon at the top of the page to return to the Workshop Tools screen.



KEY CODING PROCEDURE

Use this function to add (program) a new key fob and remotely disable a lost key – preventing the vehicle to be stolen in the future.

The Key Coding Procedure is only available for Audi, BMW, Chrysler, Ford, GM, Jaguar/ Land Rover, Honda, Hyundai-KIA, Mazda, Mitsubishi, Nissan, Subaru, Toyota, and Volkswagen vehicles. Procedures vary between vehicle makes and models.



NOTE: If an error occurs while performing Key Coding Procedure, an "advisory" message display. Choose **Exit**, as necessary, to return to the Workshop Tools screen.



NOTE: If Key Coding Procedure is not supported for the vehicle under test, an "advisory" message display. Tap **Exit**, as necessary, to return to the Workshop Tools screen.

- 1. Select **Key Coding Procedure** in the Workshop Tools screen.
 - A "One moment please..." message may display.
 - The Key Coding Procedure menu displays.
- 2. Tap the procedure you wish to view.
 - The screen shows the procedure for the option you selected.

Programming The Remote Procedure

IMPORTANT: Before entering programming mode, have in possession all of the transmitters you will be using on the vehicle. Once you program the transmitter, all previous codes will be erased from the memory. The other transmitters will not be functional until you program the transmitters again.

Close and lock all doors with the driver's side power lock/unlock switch.
 Insert key into ignition and remove it from the ignition key cylinder at least 6 times within 10 seconds. Your Hazard Lamps will flash if you have

Exit

- **3.** Tap **Exit** to close the results screen.
- **4.** Tap on the ← icon at the top of the page to return to the Workshop Tools screen.

LANGUAGE CHANGE RESET

Allows changing the displayed language of the cabin compartment or update the language displayed in the cluster.

1. Tap Language Change Reset on the Workshop Tools screen.

Maintenance Reset



NOTE: If the Language Change Reset is not supported by the vehicle under test, an "advisory" message displays. Tap **Exit** to return to the Workshop Tools screen.

- A "One moment please..." progress dialog displays. Tap Cancel to cancel the operation.
- 2. Once ready, the Language Change Reset menu displays.



3. Select the desired language. Tap **Exit** to terminate the procedure.



4. Tap on the **←** icon at the top of the page to return to the Workshop Tools screen.

MAINTENANCE RESET

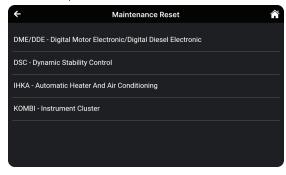
The Maintenance Reset function gives you access to view the procedures, or send a command, for resetting the scheduled maintenance counter to zero after servicing the vehicle.

1. Tap Maintenance Reset on the Workshop Tools screen.



NOTE: If the Maintenance Reset is not supported by the vehicle under test, an "advisory" message displays. Tap Exit to return to the Workshop Tools screen.

- A "One moment please..." progress dialog displays. Tap Cancel to cancel the operation.
- **2.** Once ready, the Maintenance Reset menu displays.
 - Select the desired option. Then perform the test procedures as directed. Tap **Next**, as appropriate, to scroll to the next screen. Or, tap **Exit** or **Cancel** to terminate the procedure.



3. A "results" screen displays when the reset procedure has been completed. Tap **End** to terminate the procedure.



4. Tap on the **←** icon at the top of the page to return to the Workshop Tools screen.

NOX SENSOR RESET

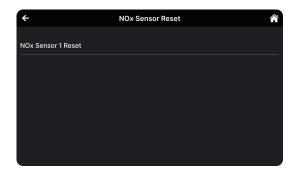
NOx sensor helps detect the content of nitrogen oxides (NOx) within the engine's exhaust. Use this function to reset the catalytic converter correct values in the vehicle's Electronic Control Unit (or ECU) whenever a NOx fault is reinitialized and the NOx catalytic converter is replaced.

1. Tap NOx Sensor Reset on the Workshop Tools screen.



NOTE: If the NOx Sensor Reset is not supported by the vehicle under test, an "advisory" message displays. Tap **Exit** to return to the Workshop Tools screen.

- A "One moment please..." progress dialog displays. Tap **Cancel** to cancel the operation.
- 2. Once ready, the NOx Sensor Reset menu displays.
- Select the desired option. Tap Reset to perform reset NOx sensor selected. Or, tap Exit to return to the NOx Sensor Reset menu.





4. Tap on the \leftarrow icon at the top of the page to return to the Workshop Tools screen

Passenger Seat Belt Reminder Indicator

On

Commanded State: None

Exit

Off



OCCUPANT SEAT SENSOR CALIBRATION

Use this to reset or calibrate the vehicle's seat sensors after making repairs after an accident or seat service routine. This feature helps set the zero point for the passenger seat.

The Occupant Seat Sensor Calibration is only available for Audi, BMW, Chrysler, Ford, GM, Hyundai-KIA, Honda, Mazda, Mitsubishi, Nissan, Subaru, Toyota, Volkswagen, and Volvo vehicles. Procedures vary between vehicle makes and models.



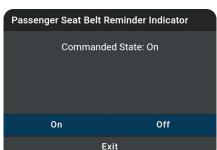
NOTE: If an error occurs while performing Occupant Seat Sensor Calibration, an "advisory" message displays. Choose Exit, as necessary, to return to the Workshop Tools screen.



NOTE: If Occupant Seat Sensor Calibration is not supported for the vehicle under test, an "advisory" message displays. Tap Exit, as necessary, to return to the Workshop Tools screen.

- 1. Select Occupant Seat Sensor Calibration in the Workshop Tools screen.
 - A "One moment please..." message may display.
 - One or more sub-menus will display. Select the desired options, then proceed to step 2.
- One or more "informational/ instructional" screens display.
 - Perform test procedures as directed. Select On or Off, as appropriate.
- 3. For some vehicles, "status" screens display as each phase of the calibration procedure is successfully completed.
 - The screen is refreshed to show the result.





- Tap **Exit** to close the results message.
- Tap on the ← icon at the top of the page to return to the Workshop Tools screen.

ODOMETER RESET

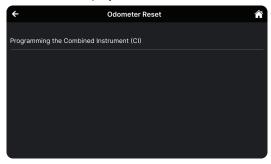
When the mileage is not correct due to a damaged vehicle speed sensor or odometer failure, it is necessary to perform an odometer reset after repairs. Use this function to copy, write, or rewrite the miles/kilometers back to the legally correct mileage in the vehicle's odometer chip.

1. Tap Odometer Reset on the Workshop Tools screen.



NOTE: If the Odometer Reset is not supported by the vehicle under test, an "advisory" message displays. Tap **Exit** to return to the Workshop Tools screen.

- A "One moment please..." progress dialog displays. Tap Cancel to cancel the operation.
- 2. Once ready, the Odometer Reset menu displays.



3. Select the desired option. Then perform the test procedures as directed. Tap **Next** or Programming, as appropriate, to scroll to the next screen. Or, tap **Exit** or **Cancel** to terminate the procedure.



4. A "results" screen displays when the reset procedure has been completed. Tap **Back** to terminate the procedure.



5. Tap on the \leftarrow icon at the top of the page to return to the Workshop Tools screen.



RESET ELECTRIC TRACTION SYSTEM

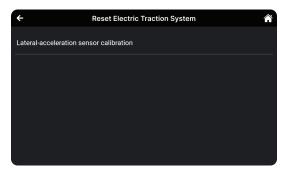
Use this feature to calibrate the Yaw Rate Sensor after replacement of the ABS ECU and Yaw Rate / G sensor.

1. Tap Reset Electric Traction System on the Workshop Tools screen.

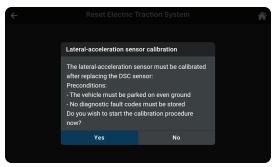


NOTE: If the Reset Electric Traction System is not supported by the vehicle under test, an "advisory" message displays. Tap **Exit** to return to the Workshop Tools screen.

- A "One moment please..." progress dialog displays. Tap **Cancel** to cancel the operation.
- 2. Once ready, the Reset Electric Traction System menu displays.



3. Select the desired option. Then perform the test procedures as directed. Tap **Yes** or **Continue**, as appropriate, to scroll to the next screen. Or, tap **No/Exit** or **Cancel** to terminate the procedure.



4. A "results" screen displays when the reset procedure has been completed. Tap **Exit** to terminate the procedure.







Suspension Calibration

5. Tap on the \leftarrow icon at the top of the page to return to the Workshop Tools screen.

SUSPENSION CALIBRATION

Use this function to reset the height for the vehicle's 4 suspensions on each wheel when the heights are different, or after replacing the vehicle height sensor or control module in the vehicle's air suspension system.

Suspension Calibration is only available for Audi, BMW, Chrysler, GM, Mercedes-Benz, Nissan, Toyota, and Volkswagen vehicles. Procedures vary between vehicle makes and models.

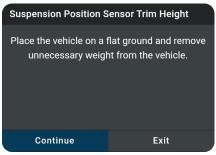


NOTE: If an error occurs while performing Suspension Calibration, an "advisory" message displays. Choose **Exit**, as necessary, to return to the Workshop Tools screen.

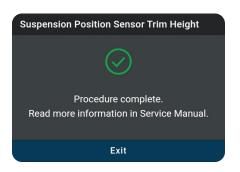


NOTE: If Suspension Calibration is not supported for the vehicle under test, an "advisory" message displays. Tap **Exit**, as necessary, to return to the Workshop Tools screen.

- 1. Select **Suspension Calibration** in the Workshop Tools screen.
 - A "One moment please..." message may display.
 - One or more sub-menus will display. Select the desired options, then proceed to step 2.
- 2. One or more "informational/ instructional" screens display.
 - Perform test procedures as directed. Choose Next or Continue, as appropriate, to scroll to the next screen.



- **3.** For some vehicles, "status" screens display as each phase of the calibration procedure is successfully completed. Choose **Next** or **Continue**, as appropriate, to scroll to the next screen.
 - A "results" screen displays when the procedure has been completed.
- **4.** Tap **Exit** to close the results message.
- Tap on the ← icon at the top of the page to return to the Workshop Tools screen.



THROTTLE BODY RELEARN/TEC LEARN

Today's modern vehicles are being equipped with fly-by-wire electronic throttle body sensors. Over time, carbon buildup can accumulate around the throttle plate, changing its home position. If the buildup occurs gradually, the PCM learns the new home position. But if you clean or replace the throttle body, the PCM won't know and will continue to use the adaptive settings as if the carbon buildup is still there. Another instance is when your battery goes dead or you disconnect it to work on your vehicle, the PCM will again forget its adaptive home position.

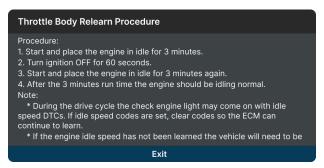
This function allows you to help the PCM relearn the new throttle position anytime the throttle body is cleaned, replaced or disconnected. Doing so ensures that idle position of the throttle plate is kept idle within the specified range.

1. Tap Throttle Body Relearn/TEC Learn on the Workshop Tools screen.



NOTE: If the Throttle Body Relearn/TEC Learn is not supported by the vehicle under test, an "advisory" message displays. Tap **Exit** to return to the Workshop Tools screen.

- A "One moment please..." progress dialog displays. Tap **Cancel** to cancel the operation.
- 2. Once ready, the Throttle Body Relearn/TEC Learn menu displays.
- 3. Tap Throttle Body Relearn Procedure.
 - The TPMS Relearn Procedure screen displays. Tap Exit to return to the Throttle Body Relearn/ TEC Learn menu.



- 4. Tap Idle Learn Reset.
 - An "instructional" screen displays. Tap **Reset** to perform the test procedures as directed. Or, tap **Exit** or **Cancel** to terminate the procedure.

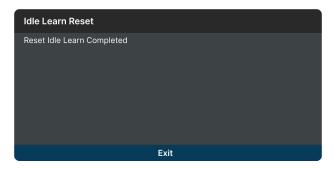






Tire Size Reset

5. A "results" screen displays when the reset procedure has been completed. Tap Exit to terminate the procedure.



6. Tap on the \leftarrow icon at the top of the page to return to the Workshop Tools screen.

TIRE SIZE RESET

Whenever different size tires are installed on a vehicle the speedometer will no longer read the correct speed. With larger tires, the speedometer may indicate a slower speed than in actuality; and in smaller tires, the speedometer will indicate a faster speed. Use this function to reset the tires after installing different size tires on a vehicle.

The Tire Size Reset function is available for Chrysler, GM, and Volvo vehicles only. Procedures vary between vehicle makes and models.



NOTE: If an error occurs while performing Tire Size Reset, an "advisory" message display. Choose **Exit**, as necessary, to return to the Workshop Tools screen.



NOTE: If Tire Size Reset is not supported for the vehicle under test, an "advisory" message display. Tap **Exit**, as necessary, to return to the Workshop Tools screen.

- 1. Select **Tire Size Reset** in the Workshop Tools screen.
 - A "One moment please..." message may display.
 - One or more sub-menus will display. Select the desired options, then proceed to step 2.
- One or more "informational/ instructional" screens display.
 - Perform test procedures as directed. Choose Next or Continue, as appropriate, to scroll to the next screen.

BCM Program Tire Size

This function is used to update the tire circumference value stored in the BCM after changing the size of the tires on the vehicle.

To restore the tire circumference to its original factory programmed value based on the Sales Code, please run Restore Vehicle Configuration function.

NOTE: Run the Initialize EGS Misc that function found in the TCM module if equipped.

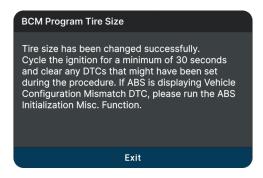
Do you want to continue?

Continue

Exit



- **3.** For some vehicles, "status" screens display as each phase of the calibration procedure is successfully completed. Choose **Next** or **Continue**, as appropriate, to scroll to the next screen.
 - A "results" screen displays when the procedure has been completed.



- **4.** Tap **Exit** to close the results message.
- **5.** Tap on the \leftarrow icon at the top of the page to return to the Workshop Tools screen.

TPMS RELEARN

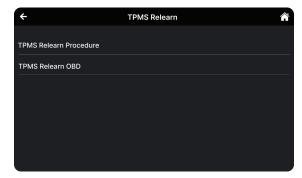
Use this to initialize / relearn the Tire Pressure Monitoring System, or TPMS, and turn off a TPMS light/message on the dashboard. Also, use this function to write the ID of new sensor to the control module whenever the TPMS sensor is replaced.

1. Tap **TPMS Relearn** on the Workshop Tools screen.



NOTE: If the TPMS Relearn is not supported by the vehicle under test, an "advisory" message displays. Tap **Exit** to return to the Workshop Tools screen.

- A "One moment please..." progress dialog displays. Tap Cancel to cancel the operation.
- 2. Once ready, the TPMS Relearn menu displays.

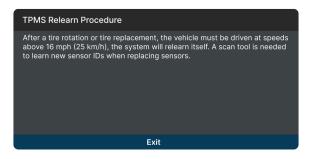


3. Tap the TPMS Relearn Procedure.

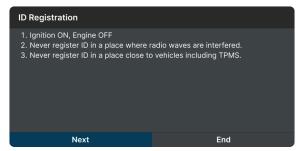
WORKSHOP TOOLS

Transmission Fluid Level Check

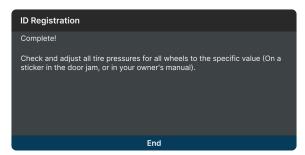
■ The TPMS Relearn Procedure screen displays. Tap **Back** to return to the TPMS Relearn menu.



- 4. Tap the TPMS Relearn OBD.
 - An "instructional" screen displays. Prepare the vehicle for testing as directed.



- Select the desired option. Then perform the test procedures as directed. Tap Next or Continue, as appropriate, to scroll to the next screen. Or, tap End or Cancel to terminate the procedure.
- 5. A "results" screen displays when the reset procedure has been completed. Tap **End** to terminate the procedure.



6. Tap on the \leftarrow icon at the top of the page to return to the Workshop Tools screen.

TRANSMISSION FLUID LEVEL CHECK

Allows you to check the vehicle's transmission fluid level.

The Transmission Fluid Level Check function is available for Audi, BMW, Chrysler, GM, Mazda, and Volkswagen vehicles only. Procedures vary between vehicle makes and models.

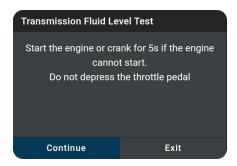


NOTE: If an error occurs while performing Transmission Fluid Level Check, an "advisory" message displays. Choose **Exit**, as necessary, to return to the Workshop Tools screen.

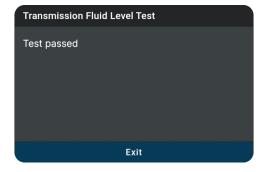


NOTE: If Transmission Fluid Level Check is not supported for the vehicle under test, an "advisory" message displays. Tap **Exit**, as necessary, to return to the Workshop Tools screen.

- 1. Select **Transmission Fluid Level Check** in the Workshop Tools screen.
 - A "One moment please..." message may display.
 - One or more sub-menus will display. Select the desired options, then proceed to step 2.
- **2.** One or more "informational/ instructional" screens display.
 - Perform test procedures as directed. Choose Next or Continue, as appropriate, to scroll to the next screen.



- **3.** For some vehicles, "status" screens display as each phase of the calibration procedure is successfully completed. Choose **Next** or **Continue**, as appropriate, to scroll to the next screen.
 - A "results" screen displays when the procedure has completed.



- **4.** Tap **Exit** to close the results message.
- **5.** Tap on the **←** icon at the top of the page to return to the Workshop Tools screen.

TRANSMISSION RESET

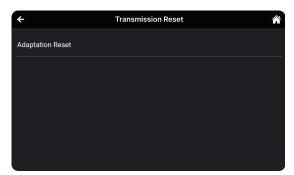
When replacing the Transmission Control Module (TCM) or the Hydraulic Control Unit (HCU), use this function to reset the vehicle's TCM and HCU values to their default values.

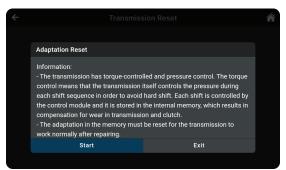
1. Tap Transmission Reset on the Workshop Tools screen.



NOTE: If the Transmission Reset is not supported by the vehicle under test, an "advisory" message displays. Tap **Exit** to return to the Workshop Tools screen.

- A "One moment please..." progress dialog displays. Tap **Cancel** to cancel the operation.
- **2.** Once select a module to perform Transmission Reset function, the Transmission Reset menu will displays.
 - Select the desired option. Then perform the test procedures as directed. Tap Start or Continue, as appropriate, to scroll to the next screen. Or, tap Exit or Cancel to terminate the procedure.





3. A "results" screen displays when the reset procedure has been completed. Tap **End** to terminate the procedure.



4. Tap on the \leftarrow icon at the top of the page to return to the Workshop Tools screen.

TRANSPORT MODE

In order to reduce power consumption while the vehicle is in transit, the following functions may be disabled, including limiting the vehicle speed, not waking up the door opening network, and disabling the remote-control key, etc. Use this function to deactivate the vehicle's transport mode to restore the vehicle to normal operation.

Transport Mode is only available for GM and Mitsubishi vehicles. Procedures vary between vehicle makes and models.

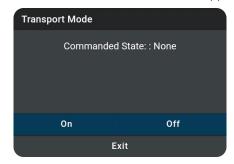


NOTE: If an error occurs while performing Transport Mode, an "advisory" message display. Choose **Exit**, as necessary, to return to the Workshop Tools screen.

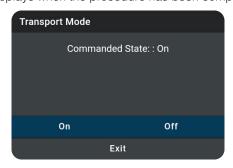


NOTE: If Transport Mode is not supported for the vehicle under test, an "advisory" message display. Tap **Exit**, as necessary, to return to the Workshop Tools screen.

- 1. Select **Transport Mode** in the Workshop Tools screen.
 - A "One moment please..." message may display.
 - One or more sub-menus will display. Select the desired options, then proceed to step 2.
- 2. One or more "informational/ instructional" screens display.
 - Perform test procedures as directed. Select **On** or **Off**, as appropriate.



- 3. For some vehicles, "status" screens display as each phase of the procedure is successfully completed.
 - A "results" screen displays when the procedure has been completed.



- **4.** Tap **Exit** to close the results message.
- **5.** Tap on the \leftarrow icon at the top of the page to return to the Workshop Tools screen.

WINDOW DOOR ROOF

With this function, you can reset the zero point (stop point) for the window, door, or sunroof sensors after being replaced or serviced. This function can also set the sunroof to be locked off, close when it rains, the memory function of the sliding/tilting sunroof, the outside temperature threshold, etc.

Window Door Roof is only available for BMW, Chrysler, Ford, GM, Honda, Hyundai-KIA, Nissan, Subaru, Toyota, and Volvo vehicles. Procedures vary between vehicle makes and models.

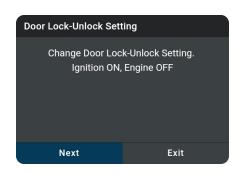


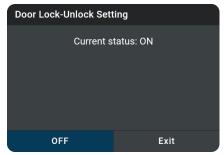
NOTE: If an error occurs while performing Window Door Roof, an "advisory" message display. Choose **Exit**, as necessary, to return to the Workshop Tools screen.



NOTE: If Window Door Roof is not supported for the vehicle under test, an "advisory" message display. Tap **Exit**, as necessary, to return to the Workshop Tools screen.

- 1. Select **Window Door Roof** in the Workshop Tools screen.
 - A "One moment please..." message may display.
 - One or more sub-menus will display. Select the desired options, then proceed to step 2.
- 2. One or more "informational/ instructional" screens display.
 - Perform test procedures as directed. Choose Next or Continue, as appropriate, to scroll to the next screen.
- **3.** For some vehicles, "status" screens display as each phase of the calibration procedure is successfully completed. Choose **Next** or **Continue**, as appropriate, to scroll to the next screen.
 - A "results" screen displays when the procedure has been completed.
- **4.** Tap **Exit** to close the results message.
- Tap on the ← icon at the top of the page to return to the Workshop Tools screen.





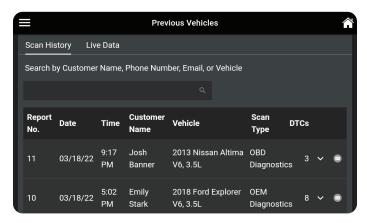
PREVIOUS VEHICLES

The INNOVA® Smart Diagnostic System permanently stores the results of the most recent vehicle scans you have performed. The **PREVIOUS VEHICLES** tab allows you to retrieve these historical scan records and view them as needed. The page includes two options: **Scan History** and **Live Data**.



SCAN HISTORY REPORTS

Entries on the **Scan History** tab are listed in reverse chronological order (most recent scan first). Each entry in the list provides the following information:



- **Search Bar** Tap the search bar to enter a search criterion Customer Name, Phone Number, Email or Vehicle.
- **Report No.** The auto-generated reference report number for the scan.
- Date The date on which the scan was performed.
- **Time** The time at which the scan was performed.
- Customer Name The name of the customer, if provided [See page 27].
- **Vehicle** The year, make, model, trim and engine size of the tested vehicle.
- Scan Type Identifies if the scan was an OBD Diagnostics scan [See page 14] or an OEM Diagnostics scan [See page 29].
- DTCs The total number of Diagnostic Trouble Codes retrieved by the scan.
- Email Icon ☐ If present, allows you to email the corresponding report.
- **lcon** If present, expands to show customer's contact information.

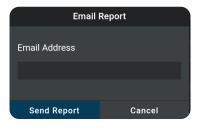
VIEWING SCAN HISTORY REPORTS

- 1. Tap an entry on the **Scan History** tab.
- **2.** The report view differs based on the *Scan Type* listed on the entry:
 - OBD Diagnostics the OBD2 Diagnostic test result screen displays. [See page 14]
 - OEM Diagnostics the Vehicle Inspection Report test result screen displays. [See page 37]
 - Navigate as usual to view the report.

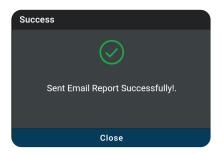
EMAILING & PRINTING REPORTS

The Scan History report results lets you email a PDF version of the report to a customer or yourself.

- 1. Tap the email icon at the end of the entry.
 - If the email icon is missing:
 - Tap on the report entry you wish to send.
 - Scroll to the "Fix for DTCs" section.
 - Tap the **Tap For Details** button to generate the report [].
 - Tap the Menu icon and tap Previous Vehicle to return to the Scan History tab.
- 2. The Email Report dialog entry window displays.



- 3. Enter the recipient's email address
 - Be sure to use a properly formatted Email address (Example: yourname@gmail.com).
- 4. Tap the Send Report button to proceed; or tap Cancel to exit
 - Confirmation dialog screen displays



5. Tap Close to finish and exit

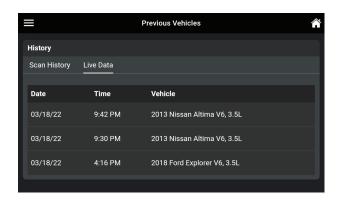
Playback Recorded Live Data

- Report icon turns from a "gray" to a "green" when a report is sent.
- 6. Recipient receives an email with a PDF copy of their report, which can be saved and printed.

PLAYBACK RECORDED LIVE DATA

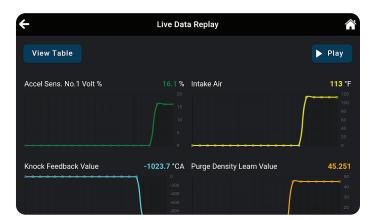
Entries on the **Live Data** tab are listed in reverse chronological order (*most recent scan first*). Each entry in the list provides the following information:

- Date The date on which the recording was made.
- **Time** The time at which the recording was made.
- **Vehicle** The year, make, model and engine size of the vehicle for which the recording was made.



To View & Playback Recorded Live Data:

- 1. Tap on **Live Data** tab to view all recoded entries.
- 2. Tap an entry on the Live Data tab to play back recorded data.
 - Loading Live data dialog displays
- 3. Tap Play to start the playback.
 - If desired, use the View Table and View Graph buttons to toggle the display between graph mode and tabular mode during playback.
 - In the View Table mode, tap on Unselect Parameters to unselect all mode parameters, or tap on each individual parameter to "select" and "unselect" each parameter you wish to view during playback.
- 4. Tap Pause to pause the playback.
- **5.** Tap **Stop** to stop the playback.
- 6. To exit, tap on the ← icon to return to the Previous Vehicle main screen, or the Home icon to return to the Home screen.



SETTINGS

Technical Support (Send an Email)

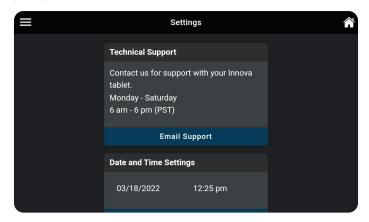
SETTINGS

The **SETTINGS** tab allows you to customize several personal preferences including date and time, retailer selection, Wi-Fi, language, and other options. In addition, you can contact technical support, report any issues, and search for the vehicle's Data Link Connector (DLC) location.



To enter the Settings mode:

- 1. Tap the **SETTINGS** tab on the Home page to access the selection page.
 - You can also access this page by tapping on the Menu icon in the upper left corner of the page and tapping on ③ Settings.
 - The Settings page displays.



- 2. Swipe up or down to scroll to the desired option.
- **3.** Make adjustments and settings as outlined in the next pages.

To exit the Settings mode:

- Tap the Menu icon on the top left to open the Menu panel and make another selection, or
- Tap the Home icon on the top right to return to the Home page.

TECHNICAL SUPPORT (Send an Email)

The Innova Electronics technical team is here to help if you encounter any issues or if you have any questions. You can reach them directly with the tablet from **Monday through Saturday**, 6:00AM to 6:00PM, Pacific Time.

To connect with Technical Support:

From the Home page, tap SETTINGS. (You can also access it from the

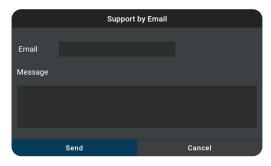
Main Menu by tapping on

Settings)

The Settings screen displays.

2. Tap Email Support.

The Support by Email dialog displays.



The Email field shows the most recently entered email address for the tablet. If no address was previous entered, the Email field shows an empty text box.

NOTE: You MUST provide a personal email address to receive a reply from Innova Technical Support via email.

- **3.** To enter an **Email** address for the first time:
 - Tap the **Email** text box, then enter your personal email address.
- **4.** To change an existing **Email** address:
 - Tap **Change**. The current Email address displays in an editable text box.
- 5. Tap the **Send** button to send your email to Innova Technical Support.
 - To cancel your message without sending, tap **Cancel** to return to the Technical Support dialog.
 - A confirmation message displays. Tap **Close** to close the message.

DATE AND TIME SETTINGS

Here you can set the current date and time for the tablet.

Setting Date and Time Formats

- 1. Tap the **SETTINGS** tab on the Home screen and scroll to the Date and Time Settings field.
 - The Date and Time Settings field shows the currently set date and time for the tablet.



80

SETTINGS

Retailer Selection

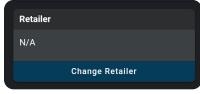
- **2.** To specify the current date:
 - Tap the date format field.
 - The Set Date dialog displays.
 - Scroll the "month," "day," and "year" fields to set the current calendar date, then click DONE.
 - Click CANCEL to close the Set Date dialog and retain the previous date.
- **3.** To specify the current time:
 - Tap the time format field.
 - The Set Time dialog displays.
 - Scroll the "hour," "minute," and "am/pm" fields to set the current time, then tap DONE.
 - Tap CANCEL to close the Set Time dialog and retain the previous time.
- **4.** Tap **Set Date and Time** to save your changes.
 - A confirmation message displays. Tap **Close** to close the message.

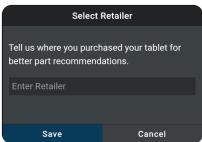
RETAILER SELECTION

To get the best possible parts recommendations, provide the name of the retailer where you purchased your INNOVA Smart Diagnostic System tablet.

Specifying the Retailer

- 1. Scroll the Settings page to the Retailer field.
 - If you previously specified a retailer, the name of the retailer is shown in the upper left corner of the Retailer field.
- 2. Tap Change Retailer.
 - The Select Retailer dialog displays.
- Tap the Enter Retailer text box, then enter the name of the location from which you purchased your tablet (or another local retailer, as desired) using the keyboard.
- **4.** When the desired retailer has been entered, tap the **Save** button to save your changes and return to the Retailer field.
 - To cancel changes and retain the current retailer, tap Cancel to return to the Retailer field.

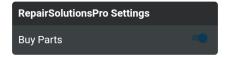




RepairSolutionsPRO SETTINGS

You have the option and convenience to purchase the associated part for each recommended fix. Each part includes a button, which links to your selected retailer and provides an estimated cost. This feature can be turned on and off as desired.

- 1. Scroll the Settings page to the RepairSolutionsPRO Settings field.
- Tap the Toggle Switch to either turn On or Off the Buy Parts feature.



WI-FI SETTINGS

To access all the features provided in your diagnostic tablet, a local WI-FI network connection is necessary.

Connecting to a Wi-Fi Network

- 1. Scroll the Settings page to the Wi-Fi Settings field.
 - If you are currently connected to a Wi-Fi network, the network name is shown; if not, it shows "Not Connected".



- 2. Tap Change Network.
 - The Sign In To Your Wi-Fi Network dialog displays.
 - The dialog lists all available Wi-Fi networks within range of the tablet.



SETTINGS

Regional Settings

- 3. Swipe up or down to scroll to the desired Wi-Fi network, then tap your network name.
 - To cancel changes and retain your current network connection, tap Cancel to return to the Wi-Fi Settings field.
 - The Enter Password dialog displays.
- 4. Tap the Password text box, then enter the Wi-Fi network password using the keyboard.



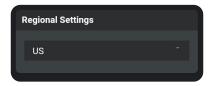
- As you type, the password displays as a series of bullets by default. Tap **show** to show the password as you type. Tap **hide** to display the password as bullets.
- 5. When the password has been entered, tap the **Connect** button to save your changes and connect to the selected Wi-Fi network.
 - Tap **Cancel** to cancel your changes and return to the Sign In To Your Wi-Fi Network dialog to select a different network.

REGIONAL SETTINGS

Allows you to set the unit of measurement for the tablet's display to US (Imperial) or Metric.

Configuring Regional Settings

1. Scroll the Settings page to the **Regional Settings** field.



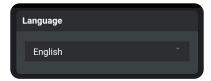
- 2. Tap the currently selected unit of measurement to display the menu. Select the radio button for the desired unit of measurement, then tap **OK.**
 - Tap **CANCEL** to close the menu and retain the previously selected unit of measurement.

LANGUAGE

Lets you set the display language for the tablet to English or Spanish.

Setting the Display Language

1. Scroll the Settings page to the *Language* field.



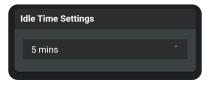
- **2.** Tap the currently active language to display the *Select Language* menu. Select the radio button for the desired language, then tap **OK.**
 - Click **CANCEL** to close the *Select Language* menu and retain the previously selected display language.
 - The display refreshes to show text in the selected language.

IDLE TIME SETTINGS

Lets you set the length of "idle" time before the tablet enters "standby" mode.

Idle Time Settings

1. Scroll the Settings page to the *Idle Time Settings* field.



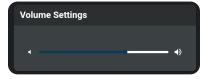
- 2. Tap the currently active idle time value to display the *Select Idle Time* menu. Select the radio button for the desired idle time value, then tap **OK.**
 - Tap **CANCEL** to close the *Select Idle Time* menu and retain the previously selected idle time value.

VOLUME SETTINGS

Sets the volume level of the tablet speaker.

Adjusting Speaker Volume

1. Scroll the Settings page to the Volume Settings field.





SETTINGS

Brightness Settings

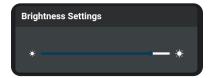
- **2.** Use the Volume "slider" to increase or decrease speaker volume:
 - Touch and slide right to make the volume louder.
 - Touch and slide left to make the volume softer.
 - The current Volume setting shows above the slider as you adjust the slider position.

BRIGHTNESS SETTINGS

Lets you adjust the brightness of the display screen.

Adjusting Display Brightness

1. Scroll the Settings page to the *Brightness Settings* field.



- 2. Use the Brightness "slider" to increase or decrease display brightness:
 - Touch and slide right to make the display brighter.
 - Touch and slide left to make the display darker.
 - The current Brightness setting shows above the slider as you adjust the slider position

DLC LOCATOR

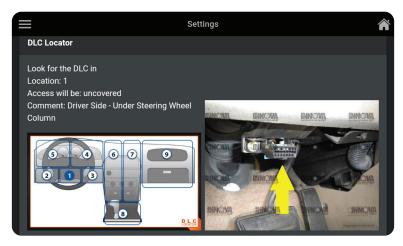
Use this search function to quickly find the location of the Data Link Connector (DLC) for a specified vehicle.

Using the DLC Locator

- 1. Scroll the Settings page to the *DLC Locator* field.
- **2.** Tap **Make** to display the *Select Make* menu. Select the radio button for the desired vehicle manufacturer, then tap **OK**
- **3.** Tap **Year** to display the *Select Year* menu. Select the radio button for the vehicle model year, then tap **OK.**
- Tap Model to display the Select Model menu. Select the radio button for the desired vehicle model, then tap OK.
- 5. Tap the Search button.
 - The DLC Locator screen for the selected vehicle displays.
 - The DLC Location screen shows a description of the DLC location and whether the DLC is



"covered" or "uncovered," and includes a picture of the DLC location.



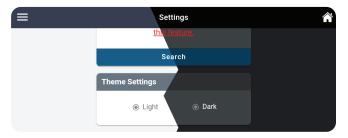
6. Tap the Close button to close the DLC Locator screen and return to the Settings page.

THEME SETTINGS

Allows you to change the appearance of the tablet screens.

Changing Theme Settings

- 1. Scroll the Settings page to the *Theme Settings* field
 - Tap the **Light** selection to make the tablet's screen contrast to white / brighter mode.
 - Tap the **Dark** selection to make the tablet's screen contrast to dark gray / darker mode.



ACCOUNT INFORMATION

Create, access, and edit your RepairSolutionsPRO™ account.

CREATE AN ACCOUNT

- 1. Tap on **Settings** on the home screen and scroll down to the "Account Information" section.
- 2. Tap the Create an Account button to begin.

SETTINGS



Version Information

- 3. Complete the displayed form with your name, email address, your desired password, and other personal information.
- Complete your registration by reviewing the terms and tap on the Create Account button at the bottom of the form.
 - A confirmation message displays with "The account has been created successfully". If properly signed in, the Account Information screen displays your account name and email.

EDIT ACCOUNT INFORMATION

Allows you to change your password and other personal information.

- 1. Tap on **Settings** on the home screen and scroll down to the "Account Information" section.
- 2. Make any necessary changes as desired and tap on the Save Changes button to confirm your edits.

ACCOUNT LOG IN

- 1. Tap on **Settings** on the home screen and scroll down to the "Account Information" section.
- 2. Tap the Log In button.
 - The RSPRO "Log In" dialog displays
- **3.** Enter your credentials and tap the **Login** button.

RESET ACCOUNT PASSWORD

- 1. Tap on **Settings** on the home screen and scroll down to the "Account Information" section.
- 2. Tap the Log In button.
 - The RSPRO "Log In" dialog displays
- 3. Tap on Forgot password and follow the prompts.

VERSION INFORMATION

The Version Information field shows the tablet's Software Version, Tool Version, and other related specifications. This screen also lets you check for software updates or report an issue with the tablet.

Viewing "Version Information"

- 1. Scroll the Settings page to the *Version Information* field.
 - The field shows the tablet's current Software Version, Tool ID, firmware version (FW), database version (DB), bootloader version (BL), Android Version and Build Number for the tablet.
 - Tap **View Release Notes** to see what was updated with the current



version.

- 2. Tap Check for Updates to check and download any updates.
 - Tablet verifies an Internet connection and checks for any updates. If an update is available, user is given the option to view the release notes, update the tool, or enable an update reminder.



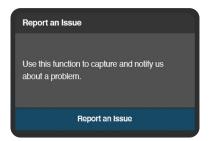
NOTE: If the tablet is connected to the Internet and an update is available, the tool will automatically display an update notification dialog on the Home screen. If presented, simply tap the **More Info** button to proceed, or tap the **Remind Me Later** button to update at a later time.

REPORT AN ISSUE

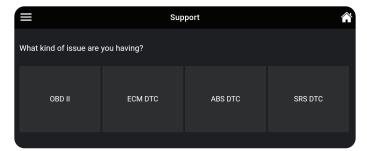
Did you encounter an OBD II connection issue or a DTC specific problem? Use this feature to record a log of the issue and send a direct message to Innova's Technical Team to get support.

To report an issue:

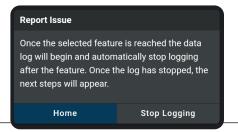
1. Scroll to the Report an Issue field.



- 2. Tap the Report an Issue button.
 - A selection page displays.



- Tap the type of issue you wish to report; OBD II, ECM DTC, ABS DTC or SRS DTC.
 - An instructional dialog displays:
- Tap the Home button to begin.



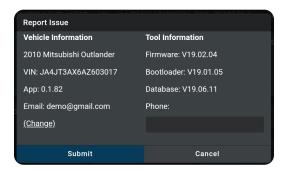


View User's Manual

The display returns to the Home Page, and the red Data Log On icon shows in the lower left corner of the screen.



- **5.** Proceed to perform the steps to demonstrate where you encountered the issue.
- 6. Tap the Data Log On icon to return to the instructional dialog
- 7. Tap the Stop Logging button
 - A dialog screen displays with the vehicle's information and tool information



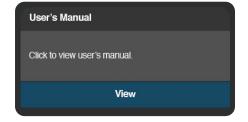
- 8. Enter your Email, Phone, and Issue Description (these are required fields).
 - If an email is displayed, tap (Change) to enter a new email address
- 9. Tap **Submit** to send your report, or **Cancel** to exit and return to the Home screen.

VIEW USER'S MANUAL

Get access to the most current version of the tablet User's Manual.

Viewing the User's Manual:

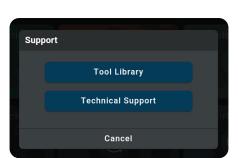
- 1. Scroll to the User's Manual field.
- 2. Tap **View** to download and read a PDF version of the tablet's most current User's Manual.



SUPPORT

The **SUPPORT** tab includes various support resources, including:

- **Tool Library** access tool definitions and terminology
- **Technical Support** directly connect with Innova's Technical Support team via the tablet's email function



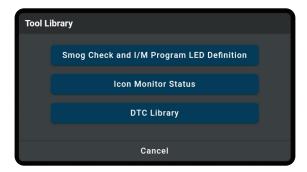


TOOL LIBRARY

Accesses definitions of tool icons and Diagnostic Trouble Codes (DTCs).

Using the Tool Library:

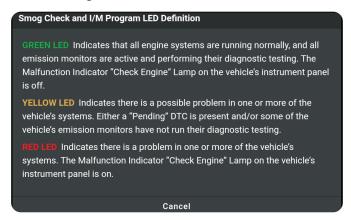
- 1. From the Home page tap **SUPPORT**. (You can also access it from the **Main Menu** by tapping on Support)
 - The Support selection dialog displays.
- **2.** Tap the **Tool Library** button.
 - The Tool Library dialog appears.
- 3. Select from the provided options.



Tap Cancel to return to the Support dialog screen.

SMOG CHECK AND I/M PROGRAM LED DEFINITION

1. Tap the Smog Check and I/M Program LED Definition button



- The Smog Check and I/M Program LED Definition dialog displays
- 2. Tap Cancel to return to the Tool Library selection screen

ICON MONITOR STATUS

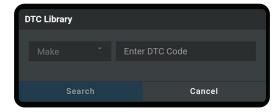
Defines the icon monitor status' color coding and provides tips on how to proceed.

- 1. Tap the Icon Monitor Status button
 - The Icon Monitor Status dialog displays
- 2. Tap Cancel to return to the Tool Library selection screen

DTC LIBRARY

Searches for the Diagnostic Trouble Code (DTC) definitions for most 1996 and newer vehicles.

- 1. Tap the DTC Library button.
 - The DTC Library dialog displays.



- 2. Tap on Make and scroll to select the vehicle's make from the pull-down menu.
- 3. Tap on Enter DTC Code box, enter the numeric DTC you want to define using the keyboard.
 - Be sure to include all characters letters and numbers.
- **4.** Tap **Search** to begin the search.
 - Search dialog appears with the retrieved definition.
- 5. Tap Cancel to return to the Tool Library selection screen

TECHNICAL SUPPORT

The Innova Electronics technical team is based in Irvine, California and is always ready to help!

To connect with Technical Support:

- 1. From the Home page, tap **SUPPORT**. (You can also access it from the Main Menu by tapping on Support)
 - The Support selection dialog displays.
- 2. Tap the **Technical Support** button.
 - The Technical Support dialog appears.
- 3. Tap Email Support.
 - The Support by Email dialog displays.
 - The **Email** field shows the most recently entered email address for the tablet. If no address was previous entered, the Email field shows an empty text box.



NOTE: You MUST provide a personal email address to receive a reply from Innova Technical Support via email.



- **4.** To enter an **Email** address for the first time:
 - Tap the **Email** text box, then enter your personal email address.
- 5. To change an existing **Email** address:
 - Tap Change. The current Email address displays in an editable text box.
- **6.** Tap the **Send** button to send your email to Innova Technical Support.
 - To cancel your message without sending, tap Cancel to return to the Technical Support dialog.
 - A confirmation message displays. Tap **Close** to close the message.

WARRANTY+ CUSTOMER SERVICE

LIMITED WARRANTY

The Manufacturer warrants to the original purchaser that this unit is free of defects in materials and workmanship under normal use and maintenance for a period of one (1) year from the date of original purchase.

If the unit fails within the one (1) year period, it will be repaired or replaced, at the Manufacturer's option, at no charge, when returned prepaid to the Service Center with Proof of Purchase. The sales receipt may be used for this purpose. Installation labor is not covered under this warranty. All replacement parts, whether new or remanufactured, assume as their warranty period only the remaining time of this warranty.

This warranty does not apply to damage caused by improper use, accident, abuse, improper voltage, service, fire, flood, lightning, or other acts of God, or if the product was altered or repaired by anyone other than the Manufacturer's Service Center.

The Manufacturer, under no circumstances shall be liable for any consequential damages for breach of any written warranty of this unit. This warranty gives you specific legal rights, and you may also have rights, which vary from state to state. This manual is copyrighted with all rights reserved. No portion of this document may be copied or reproduced by any means without the express written permission of the Manufacturer. THIS WARRANTY IS NOT TRANSFERABLE. For service, send via U.P.S. (if possible) prepaid to Manufacturer. Allow 3-4 weeks for service/repair.

CUSTOMER SERVICE

Our ASE Certified technical staff is here to help if you have any questions or require service. For information on UPDATES and OPTIONAL ACCESSORIES, please contact your local store, distributor or Innova's Service Center.

USA & Canada: (800) 544-4124

Monday through Friday: 6:00 AM to 6:00 PM PST

All others: (714) 241-6802

Monday through Friday: 6:00 AM to 6:00 PM PST

FAX: (714) 241-3979 (24 Hr.)

Web: <u>www.innova.com</u>



GLOSSARY

OBD2 TERMINOLOGY

The following terms and their definitions are related to OBD2 systems.

- Powertrain Control Module (PCM) The PCM is the OBD2 accepted term for the vehicle's "on-board computer." In addition to controlling the engine management and emissions systems, the PCM also participates in controlling the powertrain (transmission) operation. Most PCMs also have the ability to communicate with other computers on the vehicle (ABS, ride control, body, etc.).
- Monitor Monitors are "diagnostic routines" programmed into the PCM. The PCM utilizes these programs to run diagnostic tests, and to monitor operation of the vehicle's emissions-related components or systems to ensure they are operating correctly and within the vehicle's manufacturer specifications. Currently, up to fifteen Monitors are used in OBD2 systems. Additional Monitors will be added as the OBD2 system is further developed.



NOTE: Not all vehicles support all fifteen Monitors

- Enabling Criteria Each Monitor is designed to test and monitor the operation of a specific part of the vehicle's emissions system (EGR system, oxygen sensor, catalytic converter, etc.). A specific set of "conditions" or "driving procedures" must be met before the computer can command a Monitor to run tests on its related system. These "conditions" are known as "Enabling Criteria." The requirements and procedures vary for each Monitor. Some Monitors only require the ignition key to be turned "On" for them to run and complete their diagnostic testing. Others may require a set of complex procedures, such as, starting the vehicle when cold, bringing it to operating temperature, and driving the vehicle under specific conditions before the Monitor can run and complete its diagnostic testing.
- Monitor Has/Has Not Run The terms "Monitor has run" or "Monitor has not run" are used throughout this manual. "Monitor has run," means the PCM has commanded a particular Monitor to perform the required diagnostic testing on a system to ensure the system is operating correctly (within factory specifications). The term "Monitor has not run" means the PCM has not yet commanded a particular Monitor to perform diagnostic testing on its associated part of the emissions system.
- **Trip** A Trip for a particular Monitor requires that the vehicle is being driven in such a way that all the required "Enabling Criteria" for the Monitor to run and complete its diagnostic testing are met. The "Trip Drive Cycle" for a particular Monitor begins when the ignition key is turned "**On**." It is successfully completed when all the "Enabling Criteria" for the Monitor to run and complete its diagnostic testing are met by the time the ignition key is turned "**Off**." Since each of the fifteen monitors is designed to run diagnostics and testing on a different part of the engine or emissions system, the "Trip Drive Cycle" needed for each individual Monitor to run and complete varies.
- OBD2 Drive Cycle An OBD2 Drive Cycle is an extended set of driving procedures that takes into consideration the various types of driving conditions encountered in real life. These conditions may include starting the vehicle when it is cold, driving the vehicle at a steady speed (cruising), accelerating, etc. An OBD2 Drive Cycle begins when the ignition key is turned "On" (when cold) and ends when the vehicle has been driven in such a way as to have all the "Enabling Criteria" met for all its applicable Monitors. Only those trips that provide the Enabling Criteria for all Monitors applicable to the vehicle to

run and complete their individual diagnostic tests qualify as an OBD2 Drive Cycle. OBD2 Drive Cycle requirements vary from one model of vehicle to another. Vehicle manufacturers set these procedures. Consult your vehicle's service manual for OBD2 Drive Cycle procedures.



NOTE: Do not confuse a "Trip" Drive Cycle with an OBD2 Drive Cycle. A "Trip" Drive Cycle provides the "Enabling Criteria" for one specific Monitor to run and complete its diagnostic testing. An OBD2 Drive Cycle must meet the "Enabling Criteria" for all Monitors on a particular vehicle to run and complete their diagnostic testing.

■ Warm-up Cycle - Vehicle operation after an engine off period where engine temperature rises at least 40°F (22°C) from its temperature before starting, and reaches at least 160°F (70°C). The PCM uses warm-up cycles as a counter to automatically erase a specific code and related data from its memory. When no faults related to the original problem are detected within a specified number of warm-up cycles, the code is erased automatically.

OBD2 MONITORS

To ensure the correct operation of the various emissions-related components and systems, a diagnostic program was developed and installed in the vehicle's on-board computer. The program has several procedures and diagnostic strategies. Each procedure or diagnostic strategy is made to monitor the operation of, and run diagnostic tests on, a specific emissions-related component or system. These tests ensure the system is running correctly and is within the manufacturer's specifications. On OBD2 systems, these procedures and diagnostic strategies are called "Monitors."

Currently, fifteen Monitors are supported by OBD2 systems. Additional monitors may be added because of Government regulations as the OBD2 system grows and matures. Not all vehicles support all fifteen Monitors. Additionally, some Monitors are supported by "spark ignition" vehicles only, while others are supported by "compression ignition" vehicles only.

Monitor operation is either "Continuous" or "Non-Continuous," depending on the specific monitor.

CONTINUOUS MONITORS

Three of these Monitors are designed to constantly monitor their associated components and/or systems for proper operation. Continuous Monitors run constantly when the engine is running.

CCM = Comprehensive Component Monitor (CCM)

MIS = Misfire Monitor

FUE = Fuel System Monitor



NON-CONTINUOUS MONITORS

The other twelve Monitors are "non-continuous" Monitors. "Non-continuous" Monitors perform and complete their testing once per trip.

- 025 = Oxygen Sensor Monitor
- HTR = Oxygen Sensor Heater Monitor
- **CAT** = Catalyst Monitor
- HCA = Heated Catalyst Monitor
- **EGR** = EGR (Exhaust Gas Recirculation) System Monitor
- **EVA** = **EVAP** System Monitor
- AIR = Secondary Air System Monitor
 - **NOTE:** The following Monitors became standard beginning in 2010. The majority of vehicles produced before this time will not support these Monitors.
- HCC = NMHC (Non-Methane Hydrocarbon Converting) Catalyst Monitor
- NOx = NOx Adsorber Monitor
- **BPS** = Boost Pressure System Monitor
- **EGS** = Exhaust Gas Sensor Monitor
- **DPF** = PM (Particulate Matter) Filter Monitor

ADDITIONAL TERMINOLOGY + ACRONYMS

- **ABS** = Anti-Lock Brakes
- **DLC** = Data Link Connector (vehicle's data port)
- **DTC** = Diagnostic Trouble Codes
- **KOEO** = Key On, Engine Off
- KOER = Key On, Engine Running
- MIL = Malfunction Indicator Lamp (Check Engine Light)

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GLOSSARY

Additional Terminology + Acronyms

- **OBD** = On Board Diagnostics
- OBD2 / OBD II = On Board Diagnostics, Second Generation
- **OEM** = Original Equipment Manufacturer
- **PID** = Parameter Identification Data
- SRS = Safety Restraint System
- **TPMS** = Tire Pressure Monitoring System
- **TSBs** = Technical Service Bulletins







