

WARNING SYMBOLS AND DEFINITIONS	
	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	Addresses practices not related to personal injury.

IMPORTANT SAFETY INFORMATION

WARNING

Read all safety warnings and instructions.

Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

Work Area Safety

1. Keep work area clean and well lit. Cluttered benches and dark areas may cause accidents.
2. Do not connect or disconnect the Scanner while the ignition is on or the engine is running.
3. **DO NOT attempt to operate the Scanner while driving the vehicle. Have a passenger operate the Scanner.**
4. Before testing a vehicle, put the transmission in PARK (for automatic transmission) or NEUTRAL (for manual transmission). Engage the parking brake and chock the tires.
5. NEVER smoke or allow a spark or flame in vicinity of battery or engine.
6. **Operating a vehicle indoors CAN KILL YOU IN MINUTES.** Engine exhaust contains carbon monoxide. This is a poison you cannot see or smell. NEVER operate vehicle inside a home or garage, EVEN IF doors and windows are open. Only use OUTSIDE and far away from windows, doors, and vents.
7. Do not operate the Scanner in explosive atmospheres, such as in the presence of flammable liquids, gases, or heavy dust.
8. Never leave the vehicle unattended while running tests.
9. Keep a fire extinguisher suitable for gasoline/ chemical/electrical fires nearby.
10. Use extreme caution when working around the ignition coil, distributor cap, ignition wires and spark plugs. These components create hazardous voltages when the engine is running.
11. Keep bystanders, children and visitors away while operating the Scanner.
12. This product is not a toy. Do not allow children to play with or near this item.
13. Use as intended only. Do not modify.
14. Inspect before every use; do not use if parts are loose or damaged.

15. Do not place the Scanner on any unstable surface.
16. Handle the Scanner with care. If the Scanner is dropped, check for breakage and any other conditions that may affect its operation.
17. Keep the Scanner dry, clean, free from oil, water or grease. Use a mild detergent on a clean cloth to clean the outside of the Scanner when necessary.
18. Store the Scanner and accessories in a locked area out of the reach of children.
19. Maintain product labels and nameplates. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.

Electrical Safety

1. Do not use the Scanner while standing in water.
2. Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.
3. **Do not expose the Scanner Tablet or Power Adapter to rain or wet conditions.** Water entering the Scanner or Power Adapter increases the risk of electric shock.

Personal Safety

1. Wear ANSI-approved safety goggles during use.
2. Do not wear loose clothing or jewelry. Keep hair, clothing, hands, tools, and test equipment away from moving or hot engine parts. Loose clothes, jewelry, or long hair can be caught in moving parts.
3. Do not use the Scanner while tired or under the influence of drugs, alcohol, or medications. A moment of interruption can result in serious personal injury.
4. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure.
5. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Service

There are no user serviceable parts. Have the Scanner serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the equipment is maintained.



SAVE THESE INSTRUCTIONS.

Specifications

Scanner Tablet	
Operating System	Android
Processor	4-core 2.0GHz
Display	10.1 inch capacitive touch screen
Memory	4GB
Storage	128GB
Camera	Front-facing 5.0MP + Rear-facing 8.0MP camera
Connectivity	Wi-Fi: 802.11 b/g/n/ac 2.4G/5G dual frequency
Operating Temperature	32°F -113°F
Storage Temperature	-4°F -158°F

WSM (Wireless Scan Module)	
Working Voltage	9-18 VDC
Working Current	≤150 mA
Standby Current	95 mA
Working Temperature	14°F -122°F
Storage Temperature	-4°F -140°F
Operating Humidity	<60%
Storage Humidity	<80%

WSM (Wireless Scan Module)

Product Name: Wireless Scan Module ICON HD Truck Scanner

Product Model: 73243

Overview

OBD II On-Board Diagnostics

It is required by the EPA that all 1996 and newer vehicles sold in the United States be equipped with an OBD II computer system.

OBD II is an early warning system designed to monitor engine, transmission, and emissions control components by performing specific diagnostic tests.

When a fault condition is detected, the system captures important data and activates the “Check Engine” light.

If the light comes on, the vehicle might have a condition that wastes fuel, shortens engine life, or causes excessive air pollution. If the problem that caused the light to come on is addressed, for instance a loose gas cap is tightened, the light will go out.

If the light comes on and stays on, a minor engine fault condition is occurring and should be addressed as soon as possible

If the light is blinking, a severe engine fault condition is occurring and should be addressed immediately.

The Scanner connects to the vehicle’s computer system and captures information that can help identify the fault condition.

Vehicle Coverage

This Scanner is designed to work with all OBD II/CAN, J1587, J1708 and J1939 compliant vehicles.

OBD II was installed in some 1994 and 1995 model year gasoline vehicles.

To verify if a 1994 or 1995 vehicle is OBD II compliant, check the Vehicle Emissions Control Information label, which is located in the engine compartment.

Definitions

- **PCM: Powertrain Control Module**
The OBD II terminology for the on-board computer that controls the engine and drive train.
- **DLC: Data Link Connector**
The 16-cavity connector on the vehicle that allows communication between the computer system and the Scanner.
- **Drive Cycle**
A set of driving procedures that, when met, provide the Enabling Criteria for the I/M Monitors to run and complete their diagnostic tests.
- **Control Modules**
Individual computers that operate and monitor different systems in the vehicle. Control Modules vary depending on manufacturer.
- **MIL: Malfunction Indicator Lamp**
The vehicle’s “Check Engine” warning light that activates when a DTC is stored.
- **DTC: Diagnostic Trouble Code**
A code stored in the computer system’s memory, which helps to identify the fault condition that is causing the MIL to activate.
- **Freeze Frame Data**
Operating conditions that are stored when a DTC is stored.
- **PID: Parameter Identification Data**
Data returned by the vehicle’s Control Modules to the Scan Tool.

I/M Monitors

Inspection and Maintenance diagnostic tests that the Control Modules perform on specific sub-systems of the vehicle.

There are two types of Monitors:

- **Continuous:** Monitors that perform tests all the time while the engine is running.
- **Non-Continuous:** Monitors that require specific operating conditions to be met during a Drive Cycle in order for the Monitors to run their testing sequences.

Note: Not all Monitors are supported by all vehicles.

Gasoline Engine Monitors

Continuous

MIS – Misfire

FUEL – Fuel System

CCM – Comprehensive Components

Non-Continuous

CAT – Catalyst

HCAT – Heated Catalyst

EVAP – Evaporative System

AIR – Secondary Air System

O2S – Oxygen Sensors

HTR – Oxygen Sensor Heater

EGR – EGR System

Diesel Engine Monitors

Continuous

MIS – Misfire

FUEL – Fuel System

CCM – Comprehensive Components

Non-Continuous

HCCAT – NMHC Catalyst

NCAT – NOx Aftertreatment

BP – Boost Pressure System

EGS – Exhaust Gas Sensor

PM – PM Filter

EGR – EGR System

Diagnostic Trouble Code

A five digit alphanumeric identifier for a fault condition identified by the OBD II system. There are three types of Diagnostic Trouble Codes:

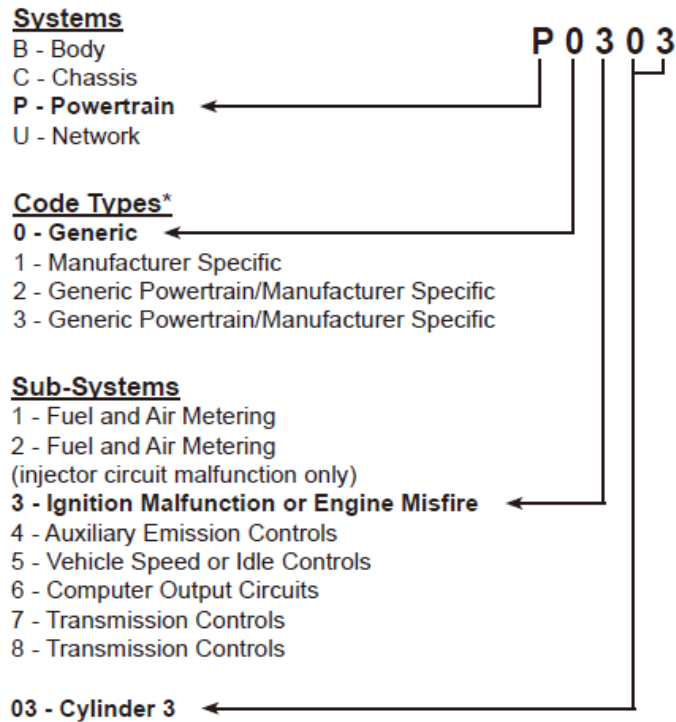
1. **Pending** - When a fault condition is identified during a Drive Cycle, but does not meet enough criteria to activate the MIL.

If the fault condition occurs during two consecutive Drive Cycles, it will turn into a Stored DTC and the MIL

will activate.

2. **Stored** - A Diagnostic Trouble Code is stored when a fault condition has occurred that meets enough criteria to activate the MIL.
3. **Permanent** - A stored DTC that can only be cleared by the OBD II system, after repairs are made, and a set number of Driving Cycles have been completed.

Example Code: P0303 – Cylinder 3 Misfire



* The Scanner supports the following Code Types:

Generic (SAE):

B0, B3
C0, C3
P0, P2, P34-P39
U0, U3

Manufacturer Specific:

B1, B2
C1, C2
P1, P30-P33
U1, U2

HD Protocols and Diagnostic Trouble Codes

HD Protocols

J1708, J1587, J1939, SAE J1708, SAE J1587 and SAE J1939 are automotive diagnostic protocol standards developed by the Society of Automotive Engineers (SAE).

SAE J1587 is used for Heavy Duty and Medium Duty vehicles built after 1985.

SAE J1708 is used for serial communications between the ECU and computer on Heavy Duty Vehicles. It defines the physical layer with (OSI) Open System Interconnection model.

SAE J1587 and **SAE J1922** are common higher layer protocols that operate on top of J1708.

J1587 protocol uses different diagnostic connectors. Individual OEMs used their own connectors until 1995.

- **6-pin Deutsch-connector** was standard from 1996-2001.
- OEMs converted to **9-pin Deutsch** in 2001.
- Some OEMs still use **6-pin Deutsch** which has mostly been used for American made vehicles and some foreign.

SAE J1708 makes up physical and data link layers. SAE J1587 makes up transport and application layers with (OSI) Open System Interconnection model.

SAE J1587 is used in conjunction with SAE J1708 for automobile communication.

SAE J1939 may be considered the replacement for SAE J1708 and SAE J1587 specifications. It is a vehicle bus standard used for communication and diagnostics among vehicle components by the automotive and Heavy Duty Vehicle industry. With a different physical layer it is used between tractor and trailer and is specified in ISO 11992.

Adopted by diesel engine manufacturers, it can now be found in a range of diesel-powered applications, on and off-road vehicles, marine propulsion, power generation and industrial pumping.

Applications of J1939 now include off-highway, truck, bus and even some passenger car applications.

Diagnostic Trouble Codes

1. Protocols J1587/J1708:

- a. (SID) Subsystem Identifier, indicates what function on ECU has failed.
- b. (FMI) Failure Mode Indicator, indicates in what way function failed.
- c. (OC) Occurrence, indicates occurrence times of fault codes.

2. Protocol J1939:

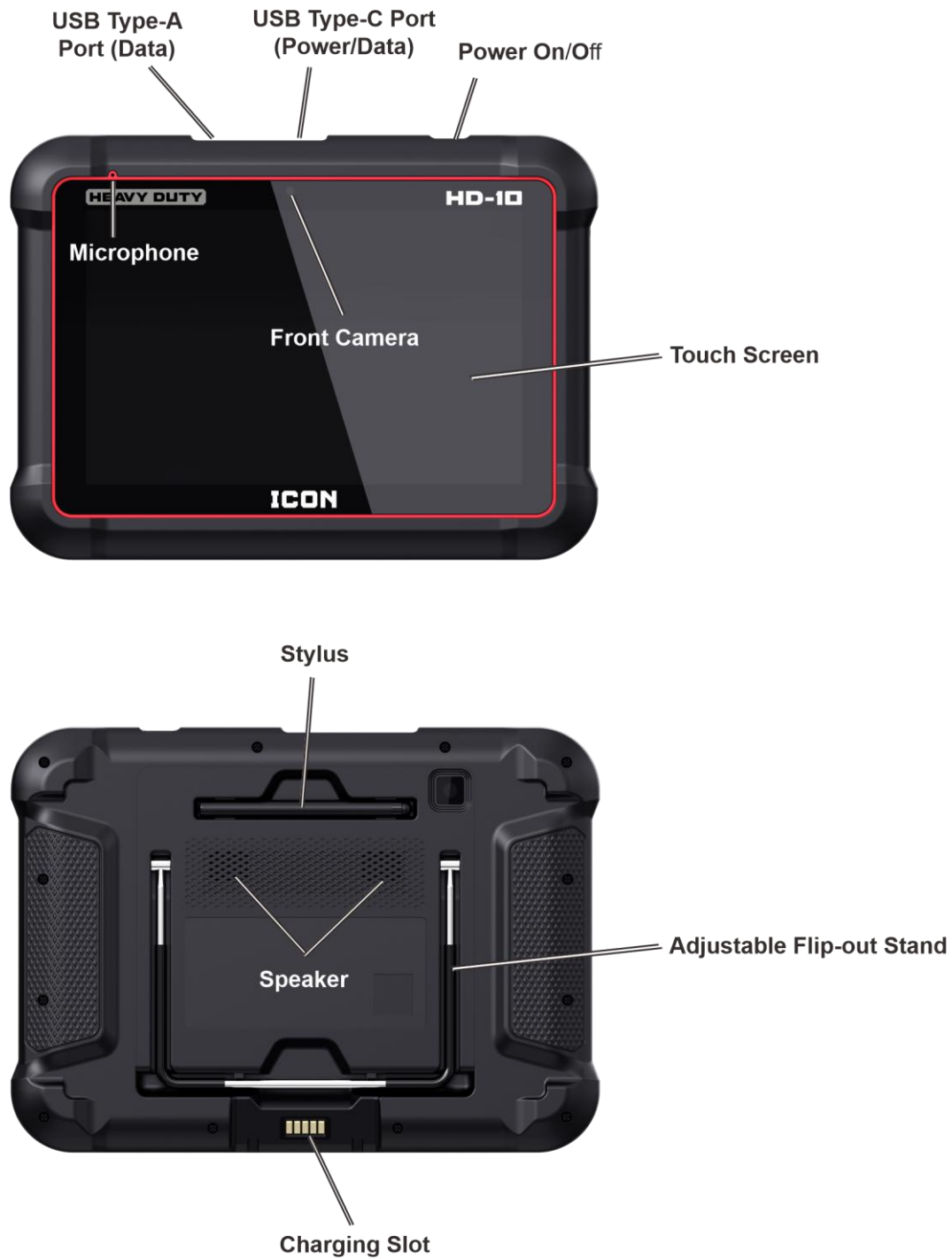
- a. (SPN) Suspect Parameter Number, indicates what function on ECU has failed.
- b. (FMI) Failure Mode Indicator, indicates in what way the function failed.
- c. (OC) Occurrence, indicates occurrence times of fault codes.

Components and Controls



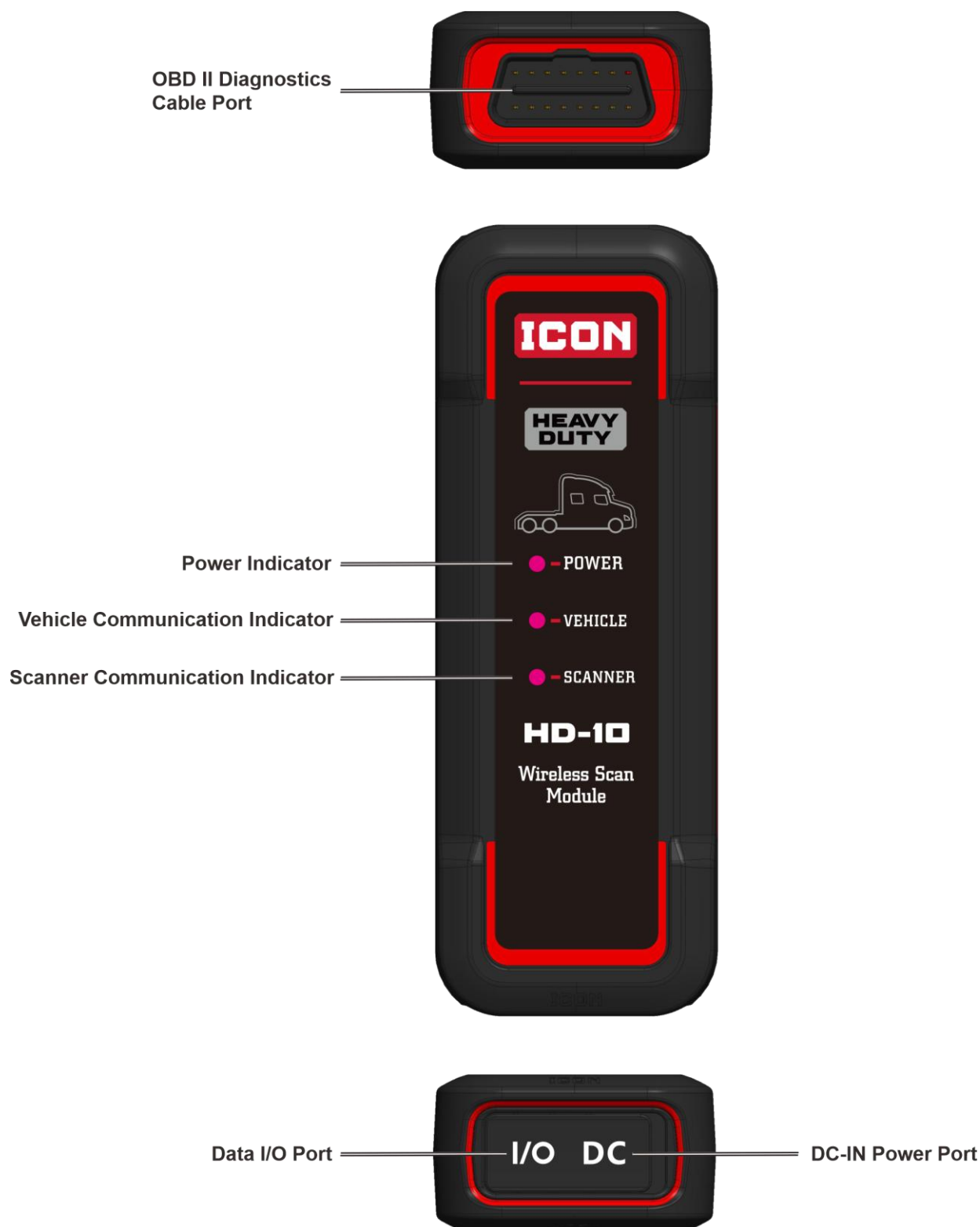
Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Tablet Top and Front Panel



WSM (Wireless Scan Module)

The WSM (Wireless Scan Module) is used to read vehicle data and send it to the Scanner Tablet wirelessly.



OBD II Diagnostics Cable Port: Connect to vehicle's OBD II DLC port via the diagnostic cable.

Power Indicator: Light up when the WSM Connector is plugged into the vehicle's Data Link Connector (DLC).

Vehicle Communication Indicator: Flashes when the WSM connector is communicating with the vehicle.

ICON

Scanner Communication Indicator: Flashes when the WSM Connector is communicating with the Scanner.

Data I/O Port: For wired communication.

DC-IN Power Port: For connecting the power adaptor (It is not required when connecting the WSM connector to the vehicle's DLC port).

Setup



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Charging the Battery

NOTICE: Only use the Power Adapter included with the Scanner. Use of any other adapter will damage the unit. Always charge on a non-flammable surface in a well-ventilated area.

1. To check the battery power level, press and hold the Power Button about one second to turn on the Scanner Tablet.
2. Power level is indicated as a percentage (%) in the upper right-hand corner of the screen.

Note: If the power level drops below 10% while the Scanner Tablet is on a *Connect Charger* notification will appear on the screen. If the power level becomes very low the unit will shut itself off.

120 VAC Charging

1. Insert one end of the Power Adapter into the USB Type C Interface on the top of the Scanner Tablet.
2. Plug the other end of the Power Adapter into a 120 VAC outlet.
3. The charging symbol  will appear on the upper right corner of the Scanner Tablet screen, indicating the battery is charging.
4. After charging is finished, unplug the 120 VAC Power Adapter from its outlet.

Charging with Docking Station

1. Insert one end of the Power Adapter into the USB Type C Interface on the docking station.
2. Plug the other end of the Power Adapter into a 120 VAC outlet. The power indicator on the docking station will illuminate solid green.
3. Locate the charging slot on the bottom of the Scanner tablet and docking station. Align the charging slots, and then dock the Scanner tablet into the station to ensure that it is firmly seated on the docking station.
4. The charging symbol  will appear on the upper right corner of the Scanner Tablet screen, indicating the battery is charging.
5. After charging is finished, unplug the 120 VAC Power Adapter from its outlet.

Charging with a Computer

1. Insert the Type C end of the USB Cable into the USB Type C Interface on the top of the Scanner Tablet.
2. Plug the other end of the USB Cable into a USB port on the computer.
3. The charging symbol  will appear on the upper right corner of the Scanner Tablet screen, indicating the battery is charging.
4. After charging is finished, disconnect the USB Cable from the Scanner Tablet and the computer.

Power ON/OFF

1. Press and hold the Power Button about one second to turn on the Scanner Tablet. The system starts initializing and then enters the **Home** screen.
2. To turn the Scanner Tablet off, press and hold the Power Button until an option menu appears. Touch **Power Off** and then **OK**.

Screen Layout

On-Screen Buttons

There are five on-screen controls located at the bottom of the Scanner Tablet screen.



Home – Touch the symbol to return to the Scanner Tablet home screen.



Recent App – Touch the symbol to view recently launched applications and any applications currently running.



WSM Connection – Shows whether the WSM is properly connected or not.



Screenshot – Touch the symbol to capture the current screen.



Back – Touch the symbol to return to the previous screen.

Screen Preview

On the **Home** screen, touch and hold any blank area. A function menu will appear at the bottom of the screen displaying wallpapers, widgets, settings, applications, etc.

Desktop

Adjusting Screen Brightness

1. On the **Home** screen, touch **Settings > Display > Brightness Level**.
2. Move the slider left or right to adjust screen brightness.

Note: Reducing the brightness of the screen will help conserve battery power.

Setting Standby Time

If the Scanner Tablet is on but not used within the defined standby period, the screen will be locked automatically and the system enters sleep mode to save power. To set the standby time interval:

1. On the **Home** screen, touch **Settings > Display > Sleep**.
2. Select the desired standby time from the **Sleep** menu.

Changing Language

The Scanner Tablet supports multiple languages. Use the following procedure to change the language of the Tablet:

1. On the **Home** screen, touch **Settings > Languages & Input > Languages**.
2. Touch **Add a Language** and choose the desired language from the list.
3. Touch and hold the desired language, drag it to the top of the screen and release. The system will change to the chosen language.

File Transfer Setup

There are two USB interfaces available on this Scanner Tablet: USB Type A and USB Type C. The former is reserved for external USB storage device and the latter is used with PC when performing system data backup. It is strongly recommended to use the USB Type C interface for this operation.

A. If exchanging data with an external USB storage device,

1. Plug the USB storage device into the USB Type A interface.

2. Swipe the screen from the top to select the USB drive.
3. Now you can exchange the data with the USB storage device.

B. If exchanging data with a PC.

1. On the **Home** screen, touch **Settings > USB Management**. Slide the USB Switch to OFF to enable the USB Type C interface.

Note: By default, the USB Switch is set as ON. In this case, the USB Type C interface is only for charging and disabled for data exchange.

2. Plug the Type C end of the included USB cable into the USB Type C interface of the Scanner Tablet, and the other end to the USB port of the PC.
3. After the PC successfully identifies the Scanner Tablet, you can perform data backup.

Wi-Fi Setup

Connect to a Wi-Fi Network

1. On the **Home** screen, touch the **Settings > Network & internet** icon and then **Wi-Fi** to configure the Wi-Fi setting.
2. Move the Wi-Fi switch to ON – the unit searches for available wireless LANs.
3. Select the desired Wi-Fi network from the list. If the chosen network is open, you can connect directly. A password may be required for secured networks.

Note: To add a new network select *Add Network* from the list.

4. When Connected appears on the screen, it indicates that the unit is properly connected to the network. Touch on the connected network from the list to view its name, status, signal strength, link speed, security type, etc.

Note: Turning OFF the Wi-Fi switch when not in use will help conserve battery power.

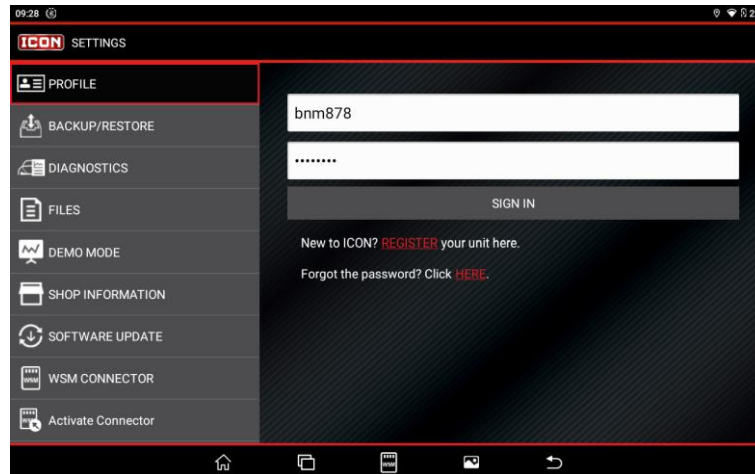
Disconnect from a Wi-Fi Network

1. On the **Home** screen, touch **Settings > Network & internet**.
2. Touch on the network with a *Connected* status, then touch **Forget**.

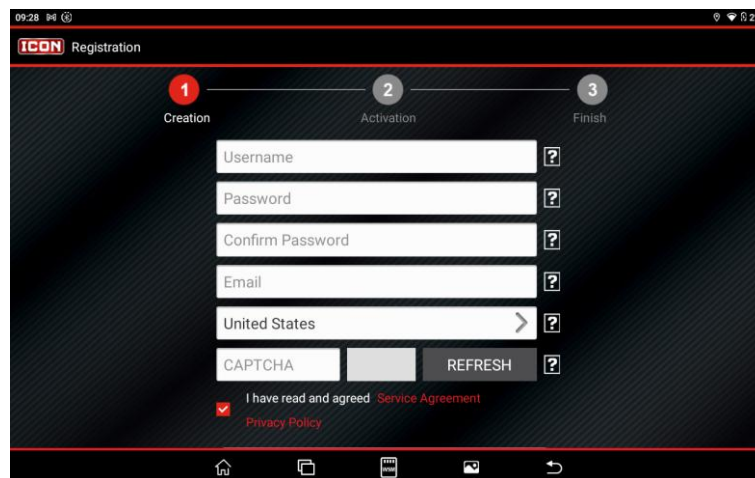
User Registration / Download Diagnostic Software

Note: Ensure the Scanner Tablet has strong Wi-Fi connection.

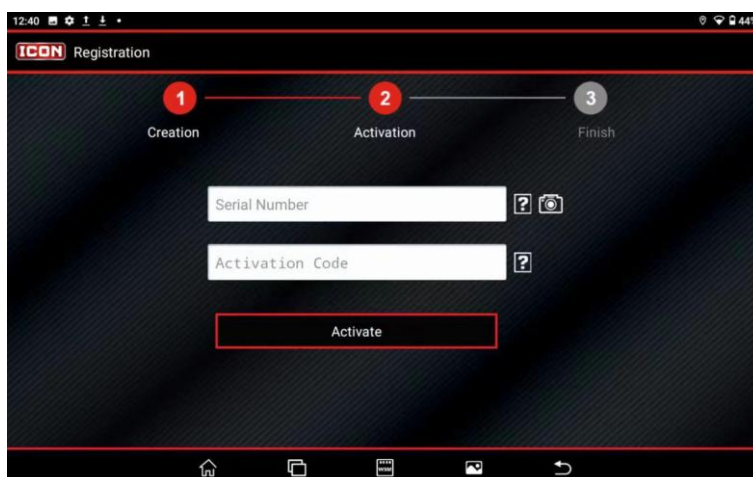
1. Turn on the Scanner Tablet and touch the ICON application icon on the Home screen. Touch the **Settings** icon  in the Main Menu and then **PROFILE** to enter the Sign in page.



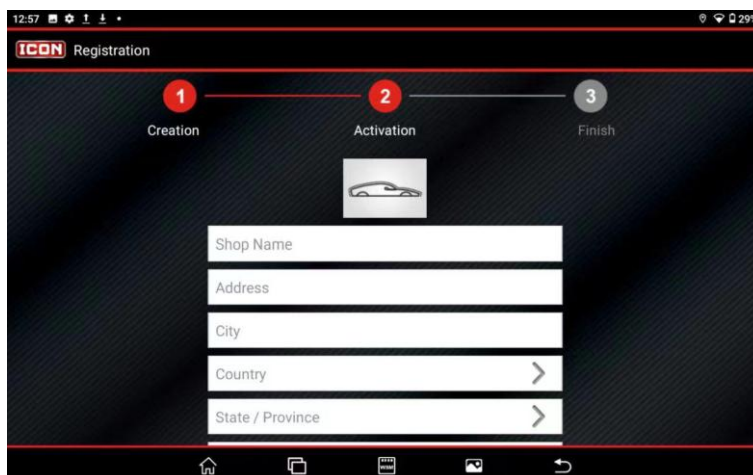
2. Touch **REGISTER** in the Profile page and input information.
3. Touch **JOIN**.



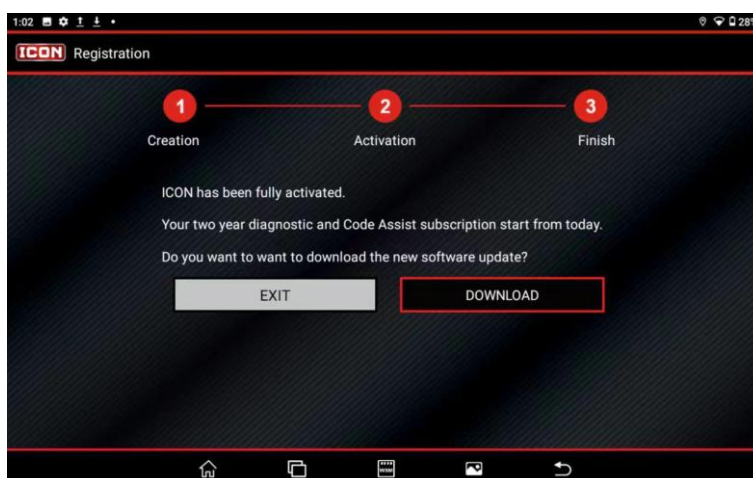
4. **Activate WSM connector:** Input the Product Serial Number (12-digit number starting with 98878) and Activation Code (8-digit number) which can be found in the supplied password envelope. Touch **Activate** to complete registration.



5. **Enter shop information:** Input the information to create workshop information, touch **FINISH** to register.
Note: Configured information is automatically generated each time the diagnostic report is saved if *Includes Shop Information* is checked.
6. Touch **SKIP** to finish the registration without shop information, which can be entered later in **SETTINGS > SHOP INFORMATION**.



7. **Update diagnostic software:** To download the diagnostic software, touch **DOWNLOAD** on the Finish Registration screen to enter the Vehicle Software Download page.



ICON

Update

TASKS

SETTINGS

SELECT ALL

DESELECT ALL

REFRESH

49 Upgradable

49 Selected

00 Downloading

00 Downloaded

00 Installed

00 Errors

0% Complete

Exp.09/16/55

Name	Status	Description
☒ Firmware upgrade program	New	Software optimization and update
☒ DiagBase Service	New	Software optimization and update
☒ VINScan Service	New	Software optimization and update
☒ VIN_RECOGNITION_APP	New	Software optimization and update

Update

Home

App

More

More

More

Note: All available upgradable software is selected by default.

8. Touch **Update** to start downloading. To pause downloading, touch Stop. To resume, touch **Continue**. When downloading is complete, the system will install the software package automatically.
9. To download and install the software later, touch **EXIT**. In this case, enter the **Main Menu** and touch **UPDATE** to download the diagnostic software.

Existing Account

1. For an existing account, turn on the Scanner Tablet and touch the ICON application icon on the Home screen. Touch the **SETTINGS** icon  and then **PROFILE** to enter the sign in page.
2. Touch **SIGN IN** to sign into the system directly.

Note: After the username and password are entered first time, the system's auto-save function automatically stores it. After initial set up it is no longer necessary to input the account information manually to sign in.

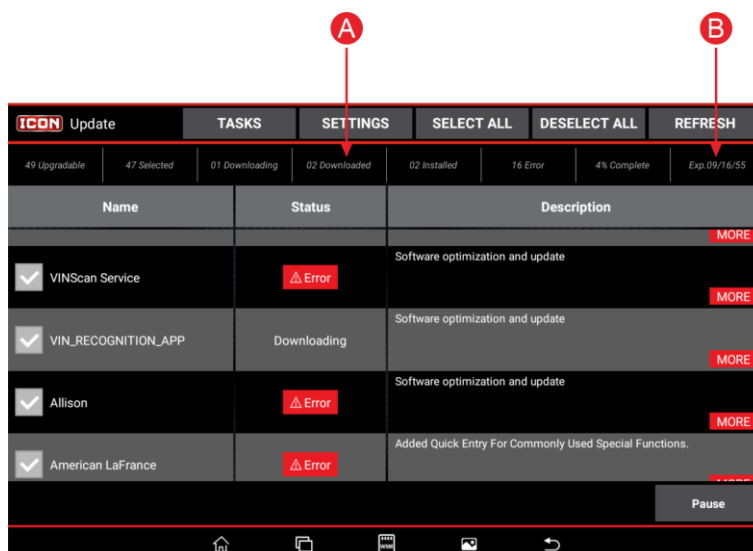
Software Upgrade

Note: Before diagnosing a vehicle, corresponding vehicle diagnosis software must be downloaded. It is also recommended to check for updates on a regular basis to keep current with the latest available software.

If **Automatically Download** in the **SETTINGS > SOFTWARE UPDATE** is set to ON, all selected software under the *Preferred Brands List* will be automatically downloaded in background.

Note: Ensure the Scanner Tablet has strong Wi-Fi connection.

1. Touch the **Update** icon in the **Main Menu** to enter the Update screen where a list of diagnostic software will be displayed.
2. All diagnostic software that is upgradable will be selected by default. To select particular vehicle software, touch **NONE** and then check the box next to the desired vehicle make(s).
Touch **MORE** to check the detailed information of the current software.
Touch **REFRESH** to refresh the current page.
Touch **TASKS** to switch to other running in-app modules.
Touch **SETTINGS** to quickly access to the setting screen of the app.



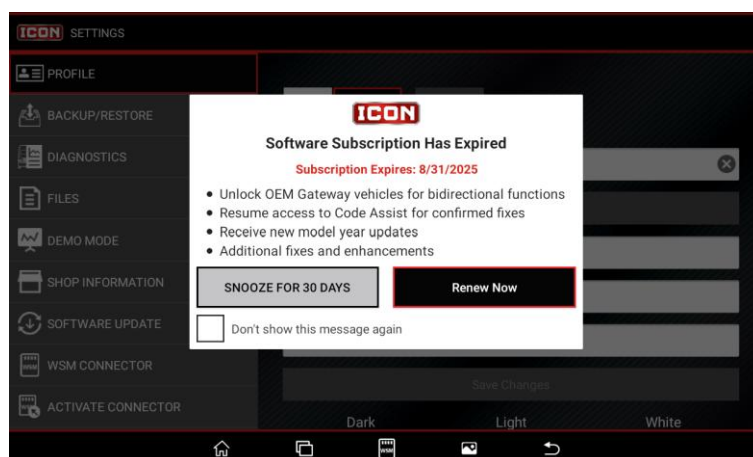
A – Indicates update state.

B – Indicates expiration date.

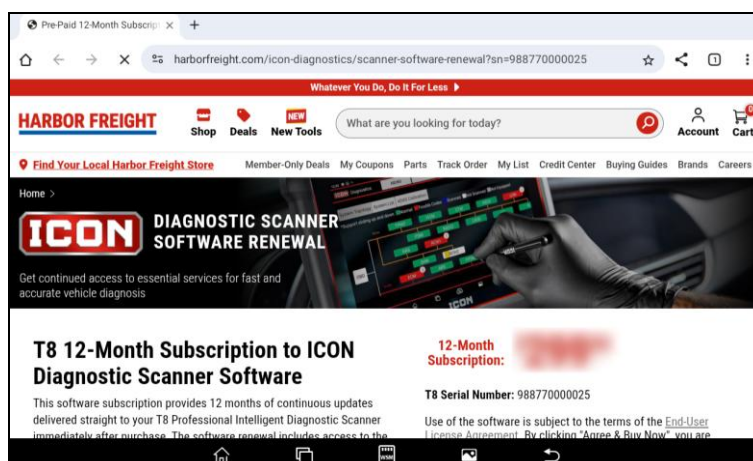
3. Touch **Update** to start downloading. When downloading is complete, the system will install the software packages automatically.

Renew Software Subscription

If the software subscription is due or expires, a message box similar to the following screen will pop up on the screen, prompting you to renew the software subscription.



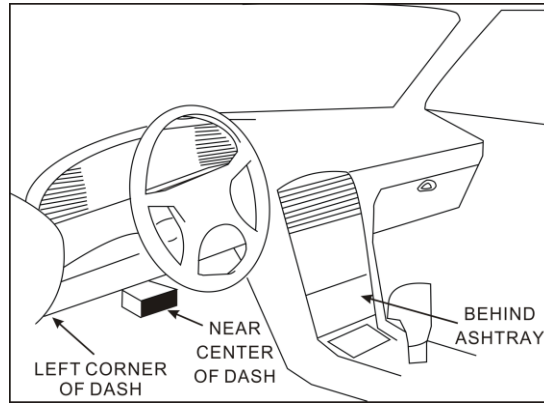
Touch **Renew Now**, the following screen will display.



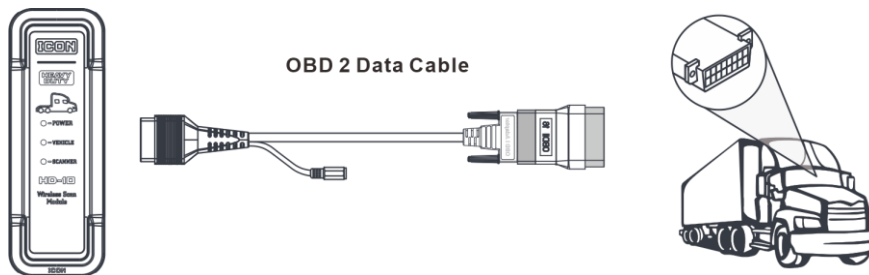
Follow the on-screen prompts to finish the subscription renewal.

OBD II Vehicle Connection

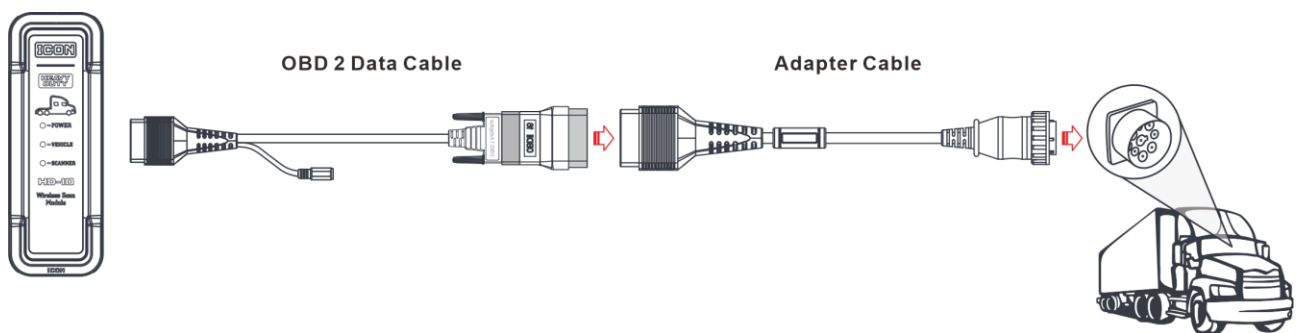
1. Locate the vehicle's Data Link Connector (DLC). The 16-pin DLC is usually located under the dashboard, within 12 inches of the center of the panel, on the driver's side of most vehicles. Check the vehicle's service manual for the exact location.



2. For most vehicles, use the included OBD2 diagnostic cable to connect the DLC and the WSM. Power indicator on the WSM will light up when connected.



3. If you are diagnosing a vehicle with non-OBD II diagnostic socket, the corresponding adaptor cable is required. Follow the illustration below to make connection.



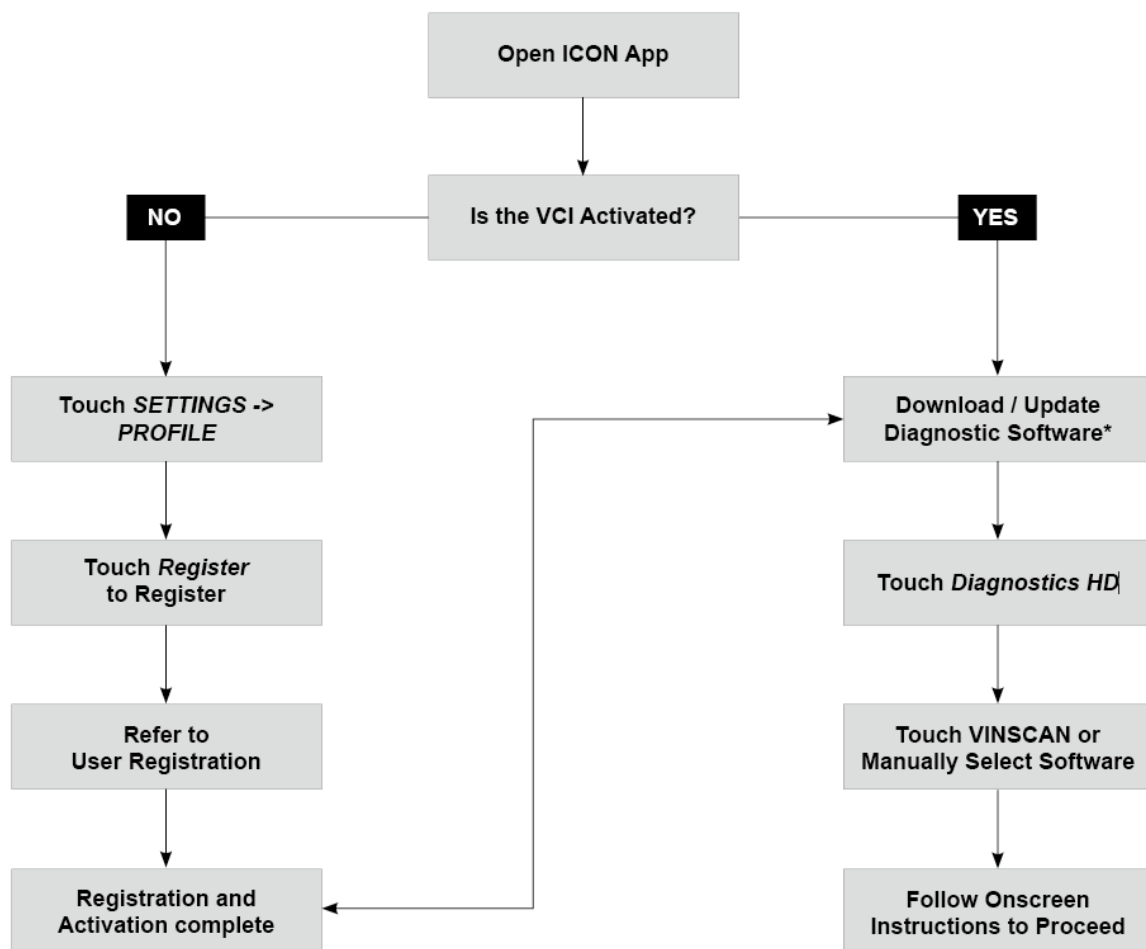
Operations

Diagnostic Toolbar

The diagnostics toolbar contains a number of buttons that enable various procedures. It is displayed at the top of the vehicle diagnostic pages throughout the diagnostic session. Refer to the table below for a brief description of the functions of the diagnostics toolbar buttons.

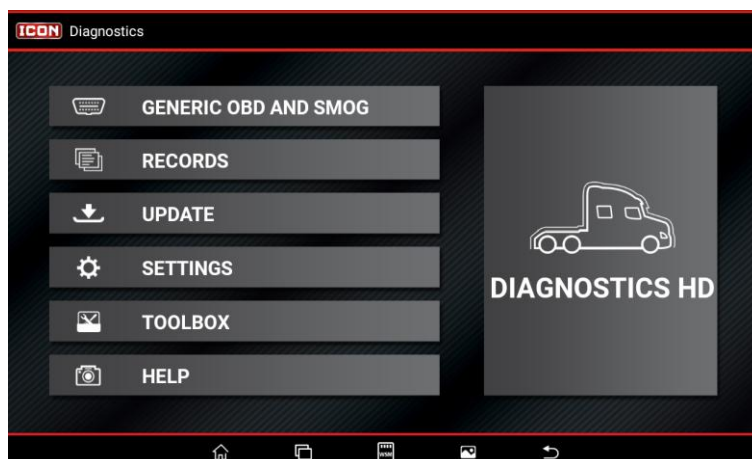
MENU	Return to Main Menu page.
EXIT	Exit the current diagnosis.
TASKS	Switch to different running in-app modules.
SETTINGS	Quick access to Settings.
ALL	Select all.
NONE	Unselect all.
Print	Prints the current diagnostic report.
Email	Sends the diagnostic report to others via Email.
Delete	Delete the selected item.
More	Share the diagnostic report with others.

Basic Operation Chart



Job Menu

Turn on the Scanner Tablet and touch the ICON application icon on the **Home** screen to enter the **Main Menu**.



Diagnose HD:

Enter Diagnostics Menu.

Generic OBD and Smog:

Quick way to check for Diagnostic Trouble Codes and isolate cause for illuminated malfunction indicator lamp (MIL), check monitor status prior to emissions certification testing, verify repairs, and perform a number of other services that are emissions related.

Records:

Manage diagnostic reports, data stream records and live data streams.

Update:

Update all vehicle diagnostic software and diagnostic App.

Settings:

Manage personal information, WSM connectors, files, shop information and make some system settings.

Toolbox:

Additional tools including Repair Information, Image, Feedback, Backup and Restore.

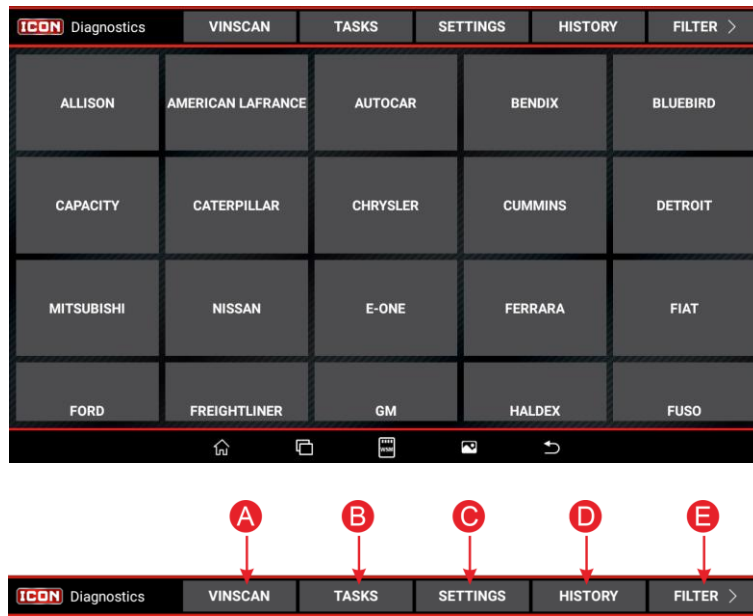
Help:

Include FAQs, User Manual, Coverage Lookup, Technical Support and About.

Diagnose

Diagnostic Preparation

1. Touch the **DIAGNOSE** icon in the **Main Menu** to enter the Vehicle Selection page.



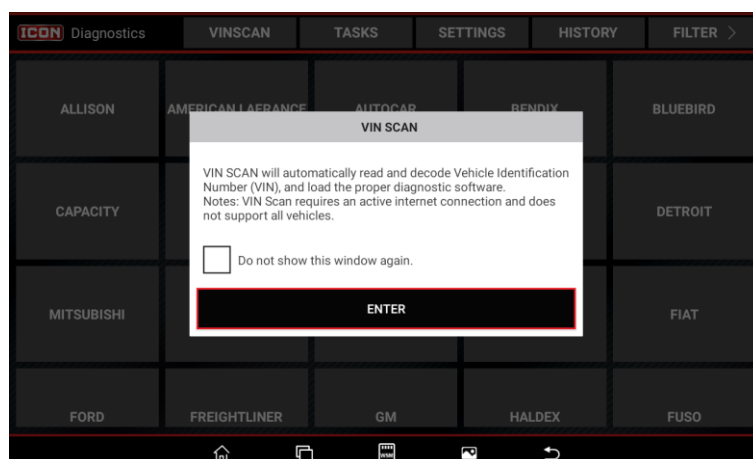
- A. Touch to scan the Vehicle Identification Number (VIN) code of your vehicle. Auto Read and INPUT VIN are included.

Note: The corresponding diagnostic software and Auto search file need to be downloaded first when downloading the diagnostic software. An active internet connection is required.

- B. Touch to switch to other different running in-app modules.
- C. Touch to quickly access to the setting page of the app.
- D. When a vehicle diagnosis is performed, the Scanner Tablet records the detailed diagnostic information. Touch **HISTORY** to access diagnostic reports from previously tested vehicles. Testing can be resumed from the previous operation without starting from scratch.
- E. Touch to switch between Heavy-duty, Medium-duty, Component and All.

2. Two methods are available to access the vehicle diagnostic software:

- a. From the Vehicle Selection screen, touch **VINSCAN** to enter the Enter VIN screen.



Connect the WSM connector to the vehicle's DLC port. Touch **ENTER** to decode the vehicle VIN. When decoding is complete the Scanner will enter the diagnostic software of the vehicle.

- b. From the Vehicle Selection page, touch the appropriate vehicle brand, then follow the on-screen instructions to access the diagnostic software.

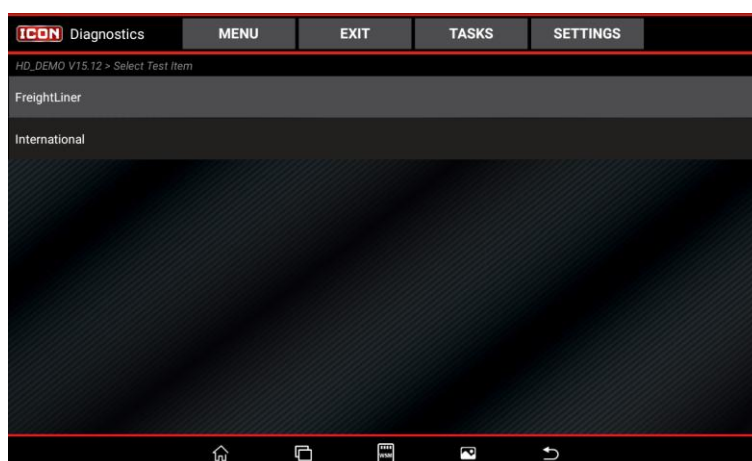
Diagnostic System Demonstration

The following information demonstrates the basic procedures on how to diagnose a vehicle:

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

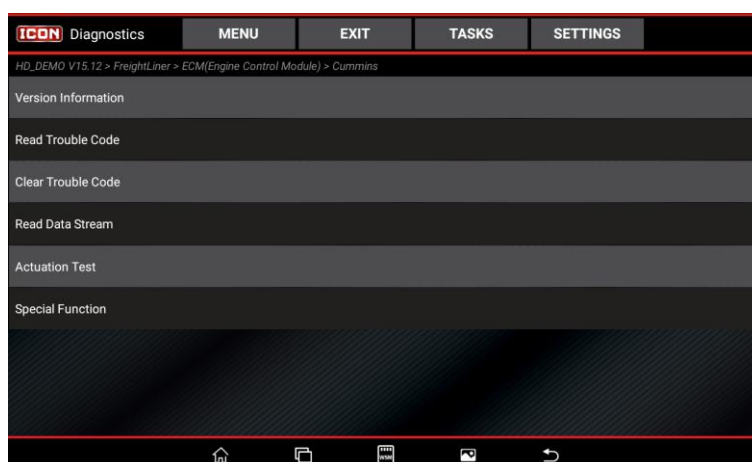
Note: If the DEMO does not appear on the vehicle selection page, please go to **SETTINGS** and set the DEMO MODE as ON.

1. Touch the **DIAGNOSE** icon in the **Main Menu** to enter the Vehicle Selection page, then touch the **DEMO (take Version 15.12 for example)** icon to display the following window.



Note: WSM connection is not required to run the DEMO program.

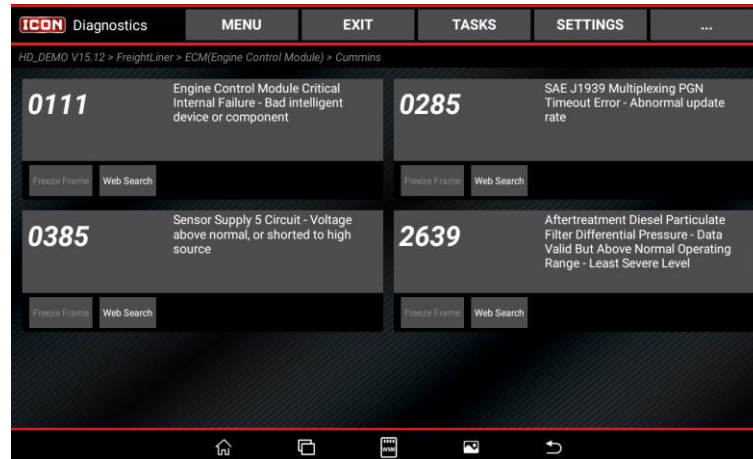
2. Touch the desired vehicle (**FreightLiner for example**) and system to enter the diagnostic function selection page.



Note: On this screen different vehicles will display different diagnostic menus.

3. Touch **Version Information** to read the version information of system mode, vehicle VIN, software and ECU.
4. Touch **Read Trouble Code** to display detailed information on Diagnostic Trouble Codes retrieved from the

vehicle's control system. The following screen will appear showing the diagnostic results.



On-Screen Buttons

- **Freeze Frame:** When an emission-related fault occurs, certain vehicle conditions are recorded by the on-board computer. This information is referred to as freeze frame data and includes a snapshot of critical parameter values at the time the DTC is set.
- **Web Search:** Conducts an internet search with trouble code and vehicle information pre-filled.
- **...:** Touch any selection of this button drop list will save the result as a report. All reports can be found under **Main Menu > RECORDS > Reports**.

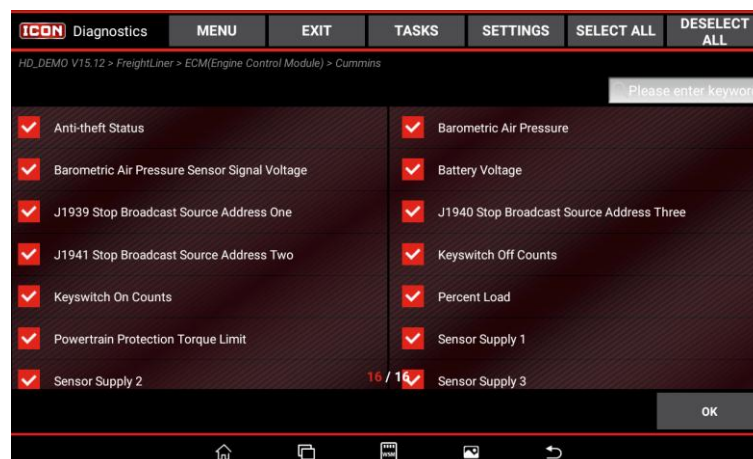
5. Touch **Clear Trouble Code** to erase retrieved Diagnostic Trouble Codes from the vehicle after repairs have been made.

Notes:

- To read and clear the trouble codes, set the ignition to KEY ON ENGINE OFF Position. Do not start the engine.
- Clearing DTCs does not fix the problem(s), and If proper repairs to correct the problem that caused the code(s) to be set are not made, the code(s) will appear again and the check engine light will illuminate as soon as the problem that cause the DTC to set manifests itself.

6. Touch **Read Data Stream** to retrieve and display live data and parameters from the vehicle's ECU.

Note: If you must drive the vehicle in order to perform a troubleshooting procedure, always have a second person help you. Trying to drive and operate the Scanner at the same time is dangerous and could cause a serious traffic accident.

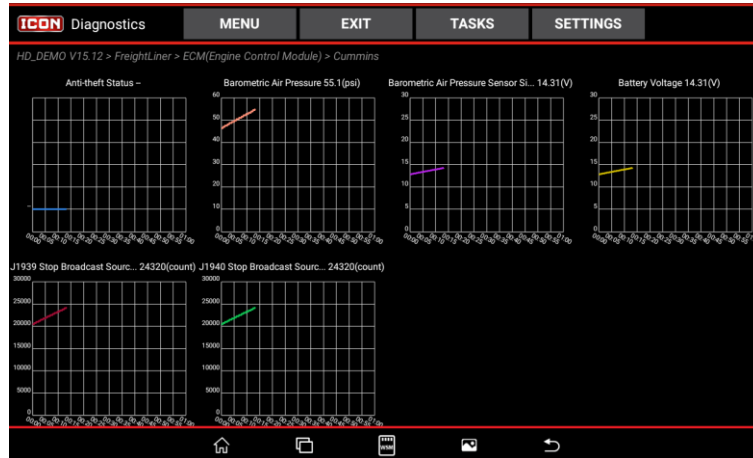


Note: If the value of the data stream is out of the standard range, the value is shown in red.

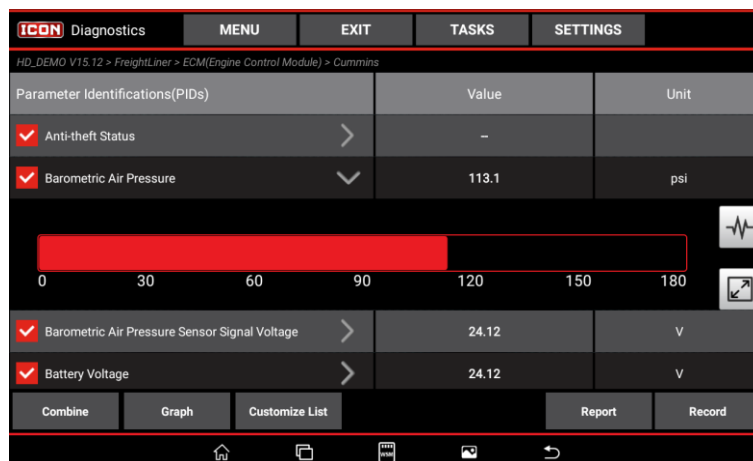
On-Screen Buttons

Two types of display modes are available for viewing the various parameters.

- **Value Mode:** The default mode displays the parameters in text mode.
- **Graph Mode:** Displays parameters in waveform or progress bar mode. Touch  to activate, use  and  to switch between progress bar and waveform mode.

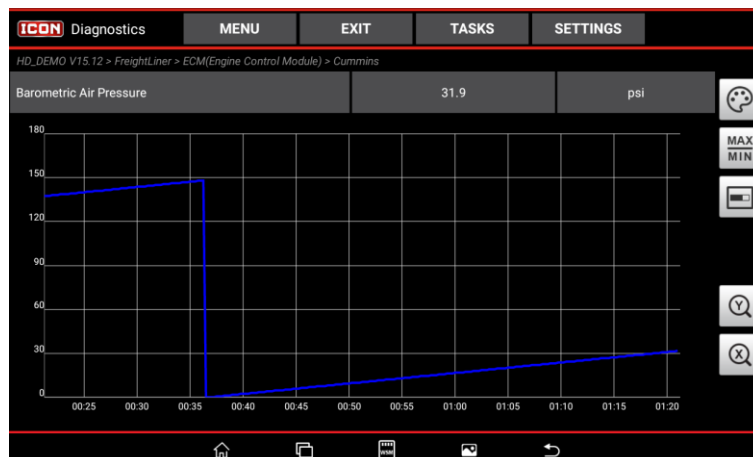


Waveform Mode



Progress Bar Mode

- Touch “Zoom icon” to take the screen into full-screen mode.



- : Display the waveform in desired color.
- : Touch to define the maximum / minimum value. Once the value goes beyond the specified value, it will trigger the sound alert, which could be turned on/off under Settings>Diagnostics.
- : Display the waveform in bar chart.
- : Zoom in the Y-axis scale.
- : Zoom in the X-axis scale.
- **Combine**: Use to merge graphs for data comparison. Different items are coded in different colors. Select a maximum of eight items at a time and touch **OK** to view the merged waveforms as shown below. Item without units will not be available for selection, such as “Start SW” item in the picture.
- **Report**: Touch to save the current data in text format. All reports are saved under the **REPORTS** tab in **Main Menu > RECORDS**.
- **Record**: Touch to record diagnostic data for playback and analysis later. Touch the Stop  button to stop recording the data stream and save the file. The system will use the following saved file naming convention: File name includes vehicle type, product S/N, date, and record starting time. Make sure the record starting time is accurate to help identify files. All files are saved under the **DATA STREAM** tab in **Main Menu > RECORDS**. Refer to the Records section for further information on playback operations.

7. Touch **Read Freeze Frame** to read the freeze frame data.

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

8. Touch **Actuation Test** to access vehicle-specific subsystem and component tests.

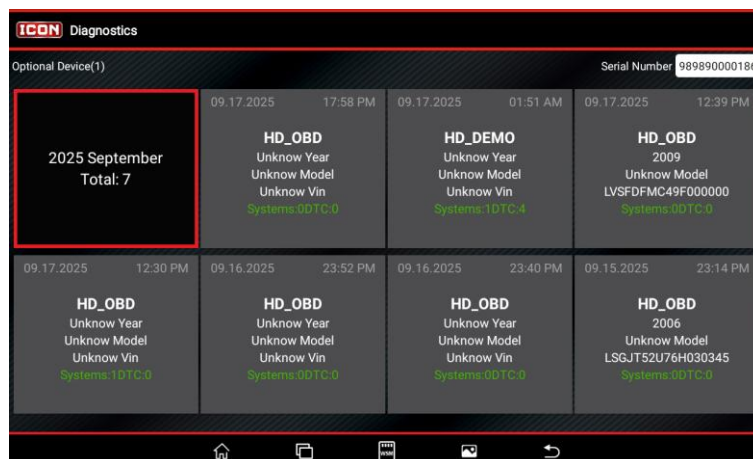
Available tests vary by vehicle manufacturer, year, and model. During the actuation test, the Scanner Tablet outputs commands to the ECU in order to drive the actuators, and then determines the integrity of the system or parts by reading the ECU data, or by monitoring the operation of the actuators, such as switching an injector between two operating states.

9. Touch **Special Function** to perform coding, reset, relearning and more service functions, to help vehicles get back to functional status after repair or replacement.

Viewing Diagnostic History Demonstration

1. When a vehicle diagnosis is performed, the Scanner Tablet records the detailed diagnostic information.

The History function allows access to previously tested vehicle records. Testing can be continued from the previous operation without starting from scratch.



2. Touch **History** on the *Vehicle Selection Screen Toolbar* to display all the diagnostic records from previously tested vehicles listed by date.

Touch on the desired record to view the details of the last *Vehicle Diagnostic Report*.

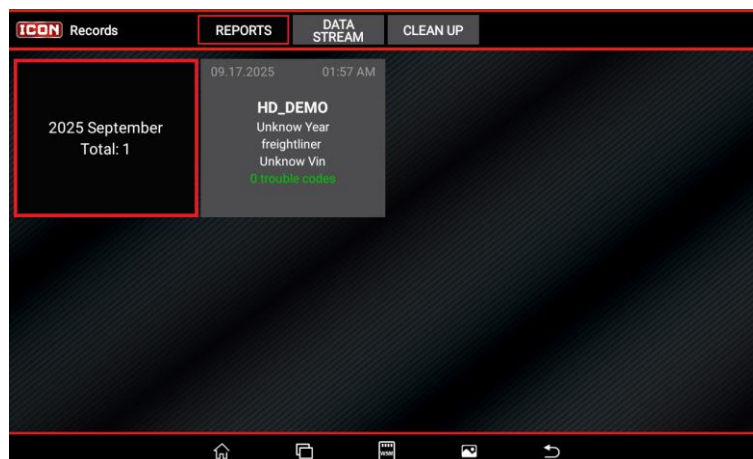
On-Screen Buttons

- *Individual Record*: Touch this button on the desired record to enter the Test Selection screen of that record's last diagnostic operation. Select the desired option to continue from the previous operation.
- *Multiple Records*: Press and hold the desired record, the following screen appears, Add History Page without All, NONE, DELETE buttons image.

Records

This function is used to manage diagnostic reports, data stream records and diagnostic software.

1. Touch the **RECORDS** icon in the **Main Menu** to enter. There are four tabs on the records screen: REPORTS, DATA STREAM and CLEAN UP.
2. Diagnostic Trouble Code results saved on the *Diagnostic Trouble Code* screen will be listed under the **REPORTS** tab in date sequence. Touch on the individual reports to view their details.



3. Diagnostic live data and parameters recorded from the *Read Data Stream* screens will be listed under the **DATA STREAM** tab in date sequence.
4. All downloaded and installed diagnostic software is listed under the **CLEAN UP** tab. This option allows you to remove some diagnostic software that is not frequently used to free up some storage space.

Update

Use this function to update diagnostic software and APK.

Settings

Use this function to manage personal information, WSM connector, files, shop information and make some system settings.

1. Touch the **SETTING** icon in the Main Menu to enter the Settings screen.
2. Touch the desired selection in the *Settings* column on the left to make modifications or settings.
 - **PROFILE:** Use to manage personal information, set email address, change login password, login and logout etc.
 - **BACKUP/RESTORE:** Use to set the default backup file types, folder path and restore file types, folder path.
 - **DIAGNOSTICS:** Use to set the units of measurement, and the over range sound alert of data stream. Touch on to listen to the sound, check either default sound, or touch SELECT FROM FOLDER to select the supported sound file.
 - **FILES:** Automatically adds the emission test report and shop information on all health reports, and deletes records and reports without confirmation or not.
 - **DEMO MODE:** Show or hide the DEMO software.
 - **SHOP INFORMATION:** Use to view and enter or modify workshop information. Saved information is

automatically generated each time diagnostic report is saved.

- **SOFTWARE UPDATE:** Use to make some settings on software update, including automatic download, expiration reminder, preferred brands list.

If **Automatically Download** is set to ON, all selected software under the *Preferred Brands List* will be automatically downloaded.

- **WSM CONNECTOR:** Manage the WSM connector and upgrade and fix the WSM firmware. During upgrade, make sure the WSM connector is paired with the tablet and do not perform other operations, switch to other interfaces, or cut off power to the WSM connector.

Note: To pair/unpair the WSM connector, please make sure that the WSM connector is powered on.

- **Activate CONNECTOR:** Activate the WSM connector if you ignore the Activate WSM step in process of product sign-up.

Toolbox

Repair Information

This function provides you quick accesses to some renowned and popular repair and maintenance website links. These may include general information about a component or system, diagnostic and troubleshooting procedures and/or repair instructions.

Image

Use this function to manage the screenshots. All screenshots created during vehicle diagnosis are saved in this module.

Feedback

Use this function to submit diagnostic problems to us for analysis.

Restore

Use this function to restore the diagnostic information/data from previous backup.

Note: If the default restore file types and restore folder path are preset in the BACKUP/RESTORE module in SETTINGS in the Main Menu, just touch **Restore**.

Backup

Use this function to back up the diagnostic information/data to avoid loss.

Help

FAQ, User Manual, Vehicle Coverage Lookup, Technical Support and About are included.

Maintenance



There are no user serviceable parts. Have the Scanner serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the equipment is maintained.

Maintenance

⚠ WARNING

TO PREVENT SERIOUS INJURY FROM ELECTRIC SHOCK: Shut down the Scanner Tablet and unplug the Power Adapter from its electrical outlet before inspection, maintenance, or cleaning.

1. PERIODICALLY, inspect the general condition of the Scanner components. Check for:

- loose hardware
- damaged cord/electrical wiring
- cracked or broken parts
- any other condition that may affect its safe operation.

9. PERIODICALLY, wipe external surfaces with clean cloth. Clean the Scanner Tablet screen with soft cloth and mild glass cleaner.

Note: Do not use harsh chemicals or abrasive cleansers on any Scanner components.

10. Store Scanner components in the Carry Case in a dry, locked area out of the reach of children.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

Record Product's Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

Note: 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.

RF warning:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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The Android robot is reproduced or modified from work created and shared by Google and used according to terms described in the Creative Commons 3.0 Attribution License.

Other trademarks and trade names are those of their respective owners.

Limited 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. To the extent that this product is used with software other than what is provided, we shall in no event be liable for any damage to your computer or loss of data. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.