NGDV Oshkosh Diagnostic Tool (OKDT)Quick Start Guide

Contents

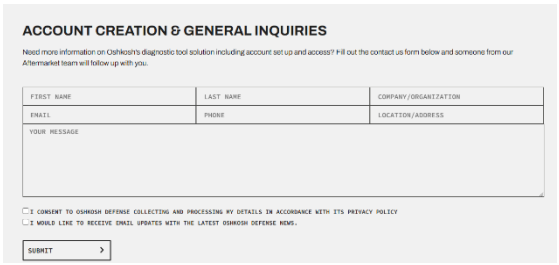
Getting Started

Hardware Requirements:

a. Win10 or higher PC
b. Tested and approved J2534 pass thru device
c. Refer to the diagnostics tab on the NGDV portal site (https://oshkoshngdv.com/oshkosh-diagnostics/) for specific details related to PC requirements and J2534 device recommendations

Create account/purchase subscription:

a. A subscription based user account is required to utilize the Oshkosh Diagnostic Tool (OKDT) software. The required form to start this can be found at the bottom of the NGDV portal/Oshkosh Diagnostics tab (https://oshkoshngdv.com/oshkosh-diagnostics/) site

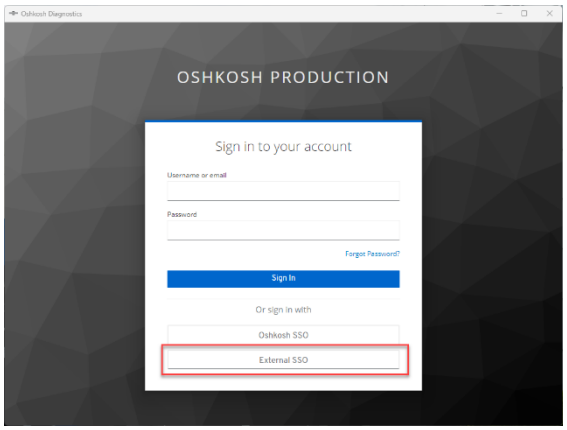


b. After the form is completed, new users will receive and email with next steps when their new user account has been created. New users will be provided with a user name and initial password. Users will be required to change their
c. Download and install SW
    a. The following SW components will require installation:
        i. Oshkosh Diagnostic Tool (OKDT) – link to SW will be provided when specific user account has been created (Oshkosh provided)
        ii. J2534 to DPDU API Interface - https://oshkoshngdv.com/oshkosh-diagnostics/ (Oshkosh provided)
        iii. J2534 Device Specific Driver – (user provided) This is the driver that is unique to the VCI device that you purchased. It will be on the manufacturer software download page

Logging In

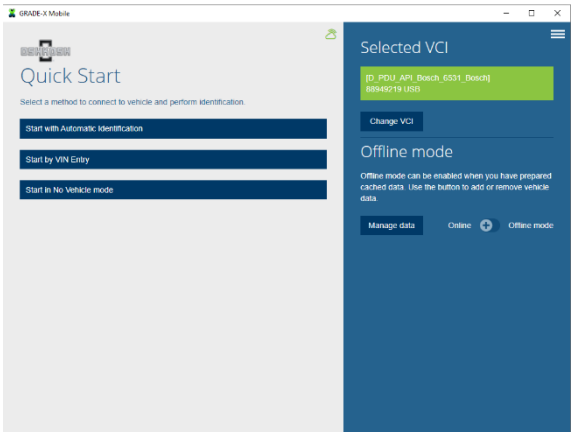
Method of Log

a. External SSO (Single Sign On)



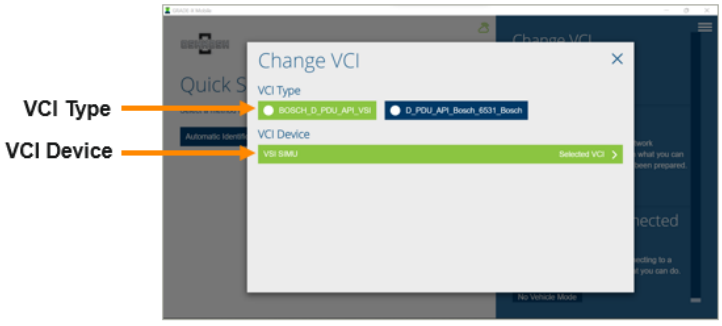
OKDT Main Menu (Quick Start) Screen

a. Allows automatic, manual or no vehicle mode entry
b. Allows user to select the J2534 device being used
c. Allows user to start the tool in on-line or off-line mode



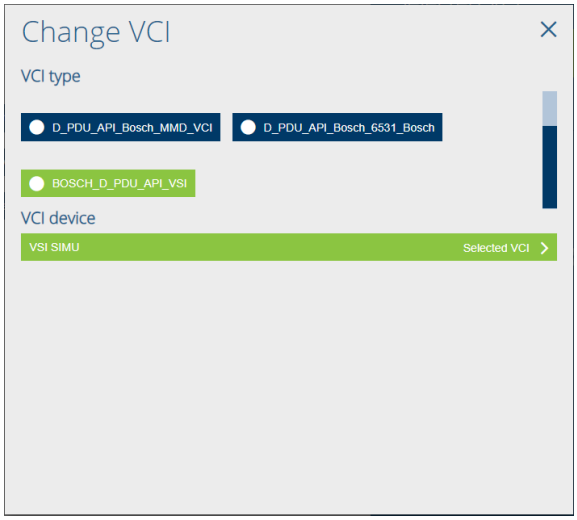
VCI Selection

a. This allows the user to pair OKDT with the specific J2534 VCI being used. Users must select the correct device to allow for communications between the vehicle and the OKDT software.
b. The initial selection will default to [FAULTY] until user selects the correct VCI to be used.
c. To make the correct VCI selections:
    a. Choose the VCI Type
        i. The VCI type is either “DPDU_API” or “DPDU_API_to_J2534 Interface”. It is important that the user know what type of connection is being made so that the correct connection type can be selected.
    b. Choose the VCI Device
        i. The VCI device is the specific brand of VCI being used.



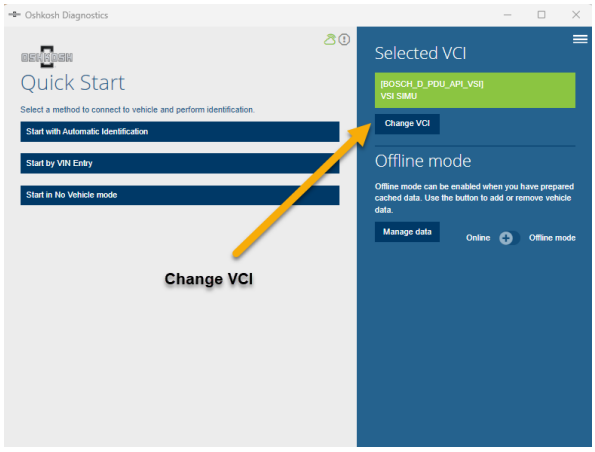
c. A successful connection to both the VCI Type and VCI Device will be indicated by the selection turning green. When the VCI device is green, select the “Select VCI” button on the right to return to the Quick Start vehicle connection screen

d. When VCI type and VCI device are recognized, both selections will be green.

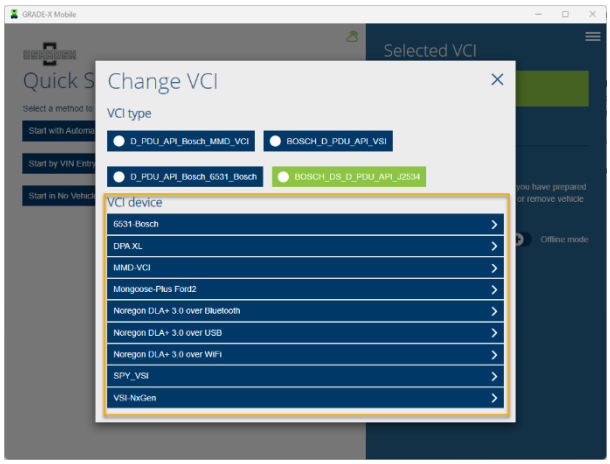


Change vehicle communication interface (VCI)

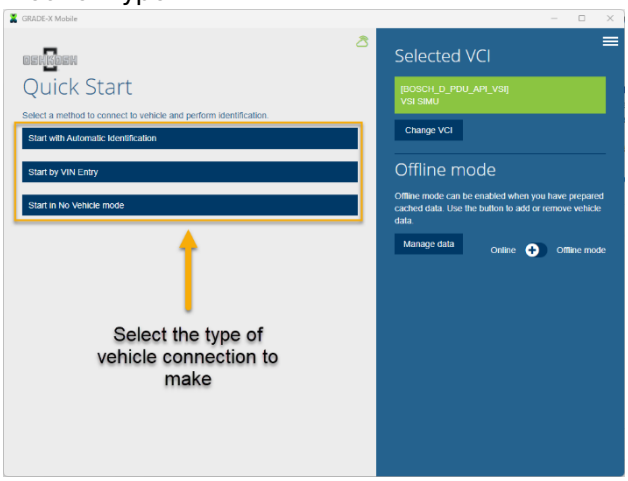
a. Change VCI allows the user to select a different J2534 device to use with the diagnostic tool. The laptop must have the correct J2534 specific drivers installed on the laptop in order device selection to be available in the list
b. Click Change VCI



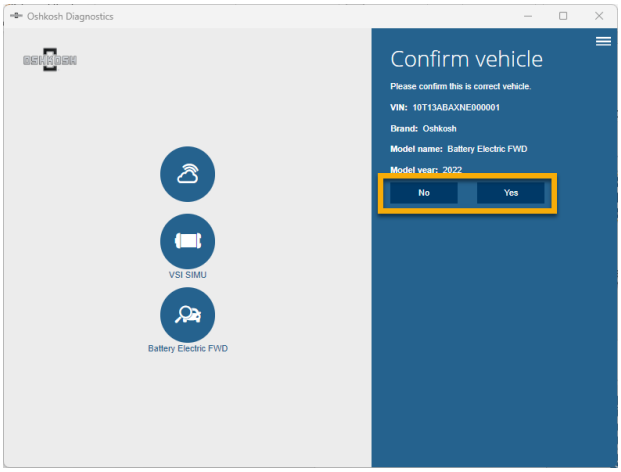
c. Select the VCI device you are using from the list of available devices



d. Select the type of connection type



e. Once the vehicle is recognized, click Yes to connect or No to return to Quick Start



Modes of operation

Online

a. Allows full functionality of the diagnostic tool.
b. All features of the diagnostic tool are available for use.
c. Connected to Oshkosh server for file downloads.

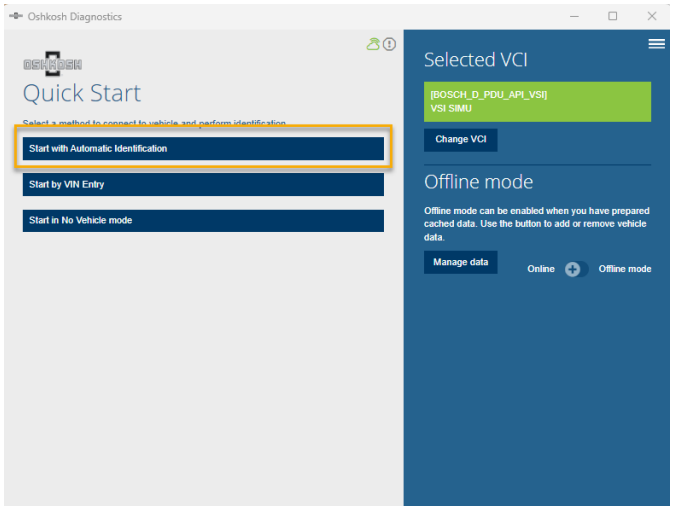
Offline

a. Restricted functionality of the diagnostic tool.
b. Allows partial functionality of the diagnostic tool by pre-selecting tools for download over an internet connection to be used in the diagnostic session when an internet connection is not available during the diagnostic session.
c. Available tools must be selected in advance while online.
d. Vehicle and diagnostic tool must be prepared for offline use.
e. Tests are downloaded from the server and stored locally for 14 days, then deleted.
f. Some tools (i.e., ECU reprogramming, ECU replacement, parameter reset) will not be available in offline mode.

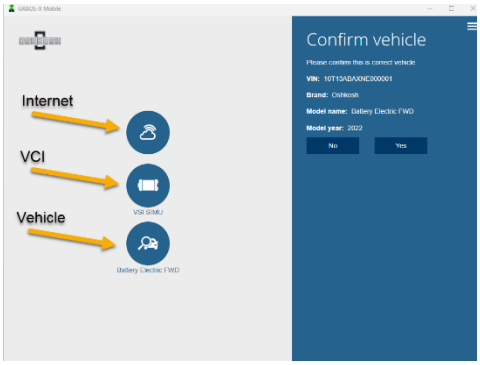
Startup Configuration

Automatic ID

a. Used to connect to the vehicle automatically.
b. Click Automatic Identification on the Quick Start screen.

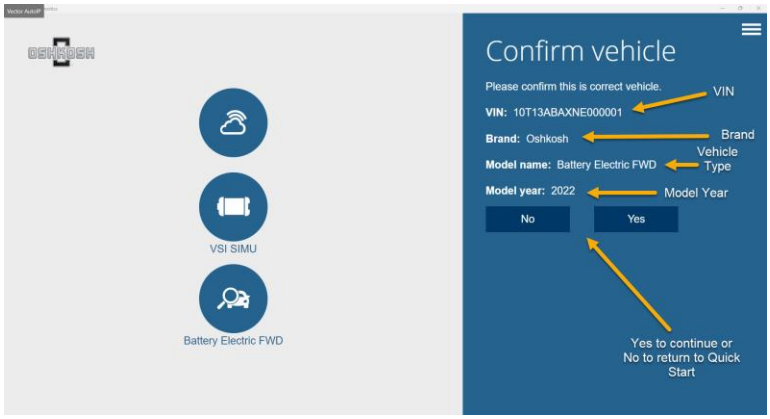


c. It attempts to make the following connections and checks for the following conditions to be met in order to make a successful connection with vehicle.
    I. Internet (On-line mode only)
    II. Vehicle communication interface (VCI)
    III. Vehicle



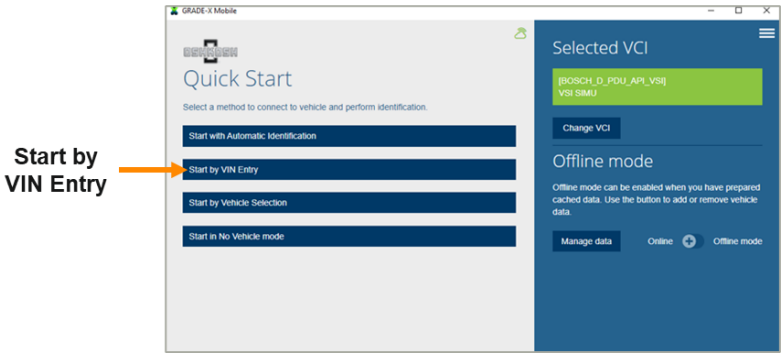
d. It scans the vehicle and asks the user to confirm the following:
    IV. Vehicle identification number (VIN)
    V. Brand
    VI. Model name
    VII. Model year
e. Click Yes to connect to the vehicle.

f. Click No to return to Quick Start.



Manual ID

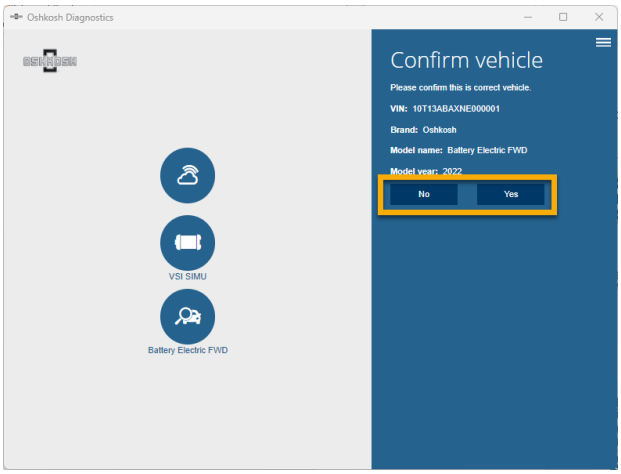
a. Use when automatic ID won't connect
b. Click Start by VIN Entry



d. Enter vehicle VIN and click Continue

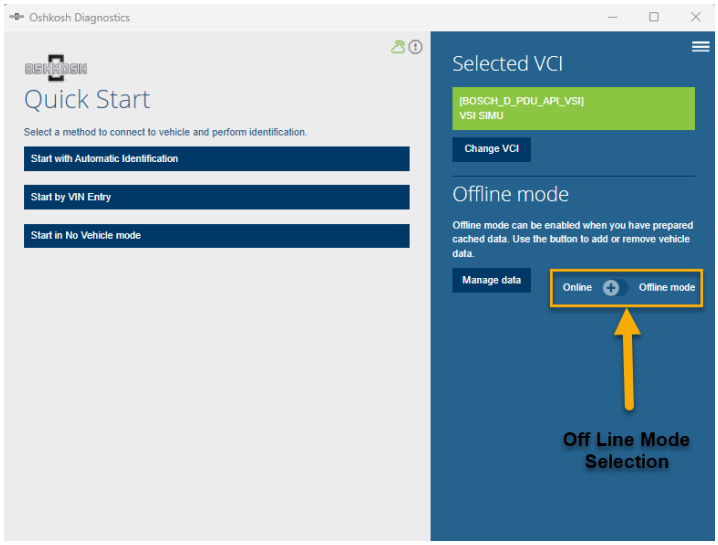
e. Confirm vehicle information & connections

f. Click Yes to connect or No to return to Quick Start



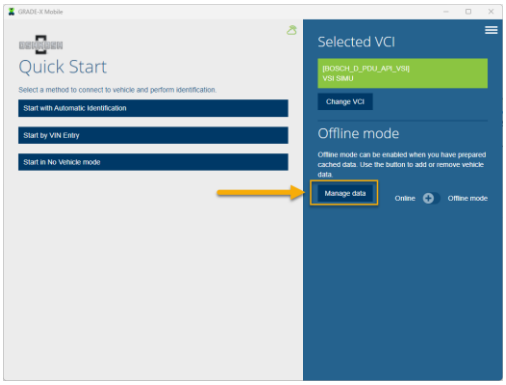
Offline Mode

a. Offline mode allows the user to use OKDT without being connected to the internet. In order to enter this mode an initial internet connection is require in order to download the tests required for the vehicle under test. Note that some OKDT functionality is not available in offline mode and will not be selectable for download. The vehicle must be prepared for offline use with diagnostic tool while online.

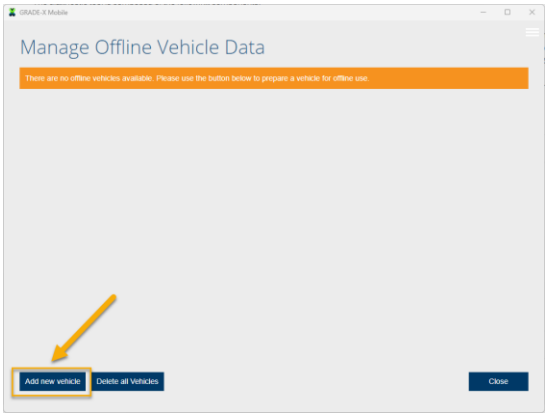


i. To prepare for Offline mode select

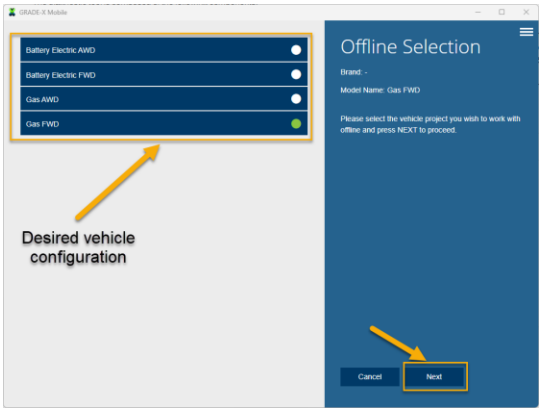
a. Manage Data



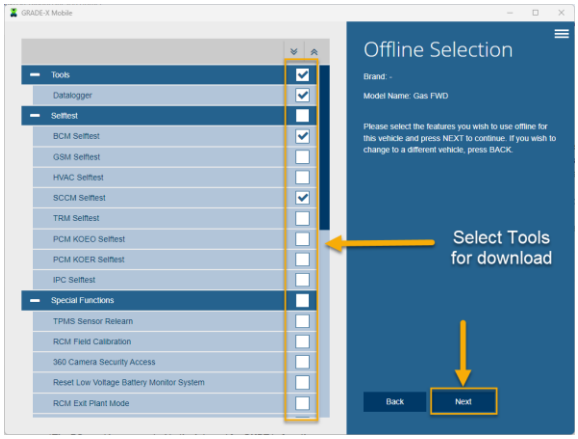
b. Add new vehicle



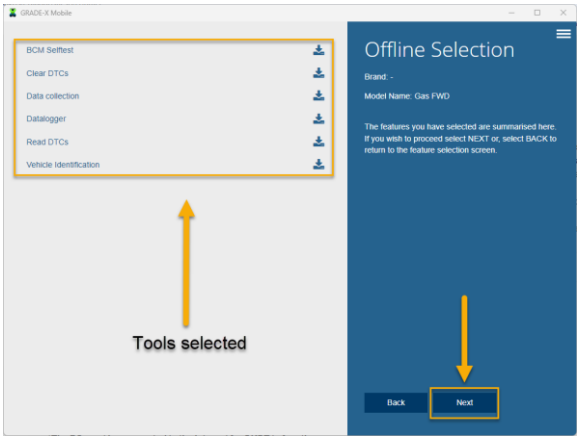
c. Desired vehicle configuration, the select Next



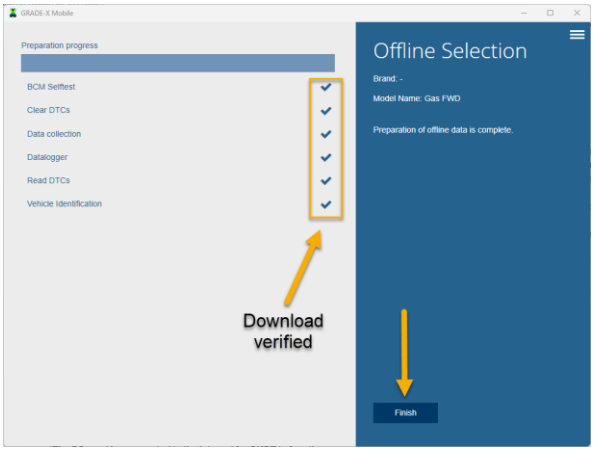
d. Select the tools needed for offline mode to be downloaded from server and Next



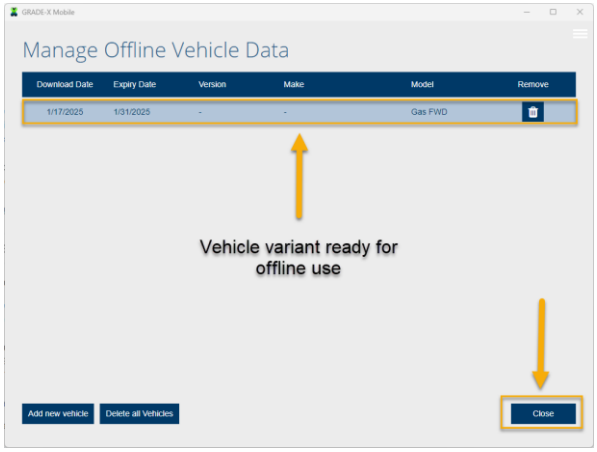
e. Verify tools selected are correct and select Next to start the download from the server



f. Once downloaded, select Finish.

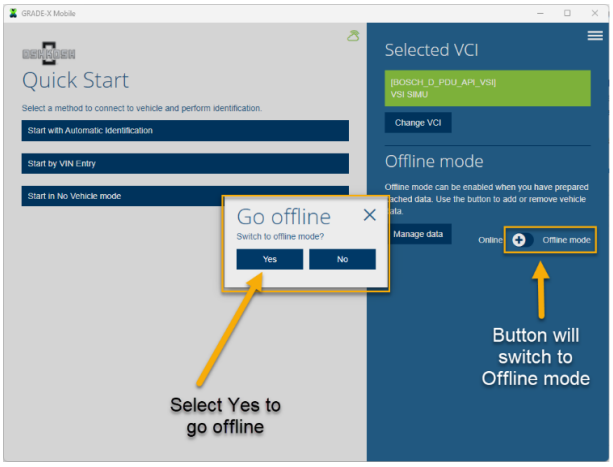


g. The vehicle variant selected is now prepared for offline use. Select Close to continue.



h. Repeat the steps for additional vehicle variants required for offline use. Off Line use for the variant(s) selected is valid for 14 days, after which time the selections will need to be made again. ECU Reprogramming, ECU Replacement and Parameter Reset are not available for Offline mode

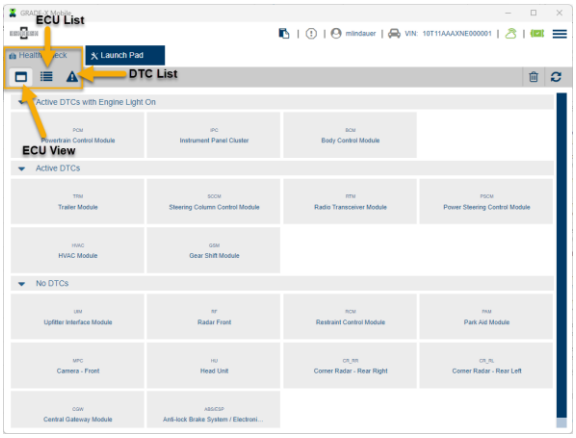
i. User may now select the Offline Mode



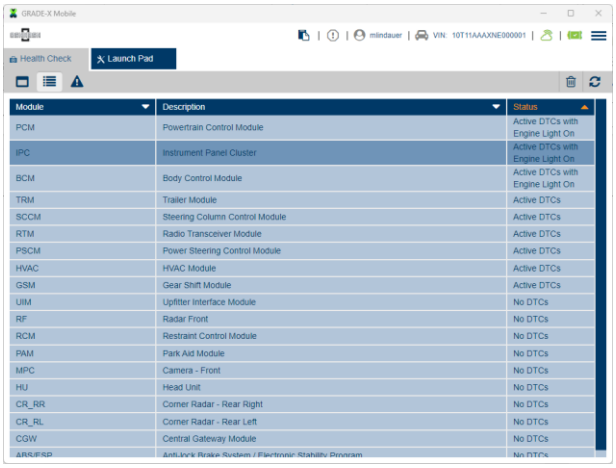
Health Check

Read DTCs

a. Automatically reads status of all modules on CAN network and reports DTC and part number status.
   I. Module/DTC views
      a. ECU view shows the communication status of all modules on the CAN network in tile format grouped by DTC type



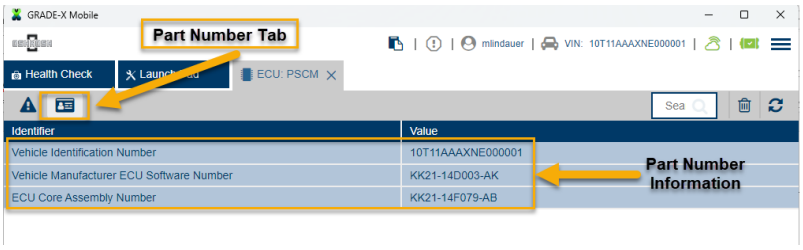
      b. ECU list shows the communication of all modules on the CAN network in a list format listed by DTC type



c. DTC list shows all DTCs reported by all modules in a comprehensive list view

Module Part Number View

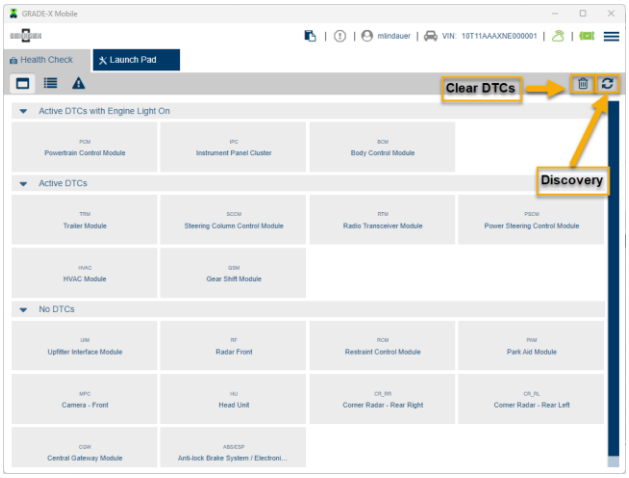
b. Shows the hardware and software part number information of the individual modules. Part number can be seen from either the ECU view or ECU list tabs by selecting the module



I. Clear DTCs and Discovery

a. Clear DTCs button will rerun health check and clear all DTCs capable of being cleared at a module or vehicle level

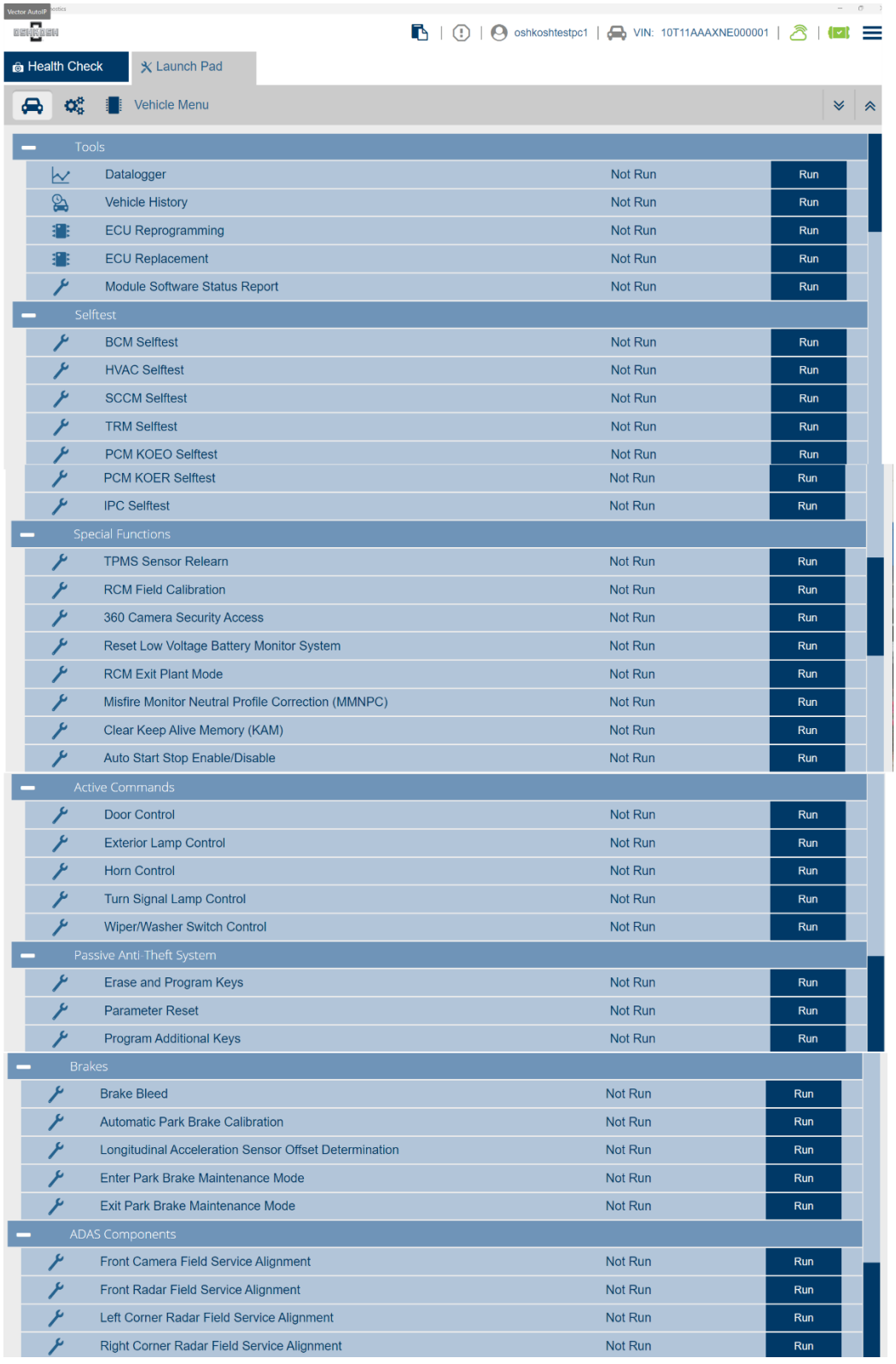
b. Discovery button will rerun health check and read back the current status of DTCs at a module or vehicle level



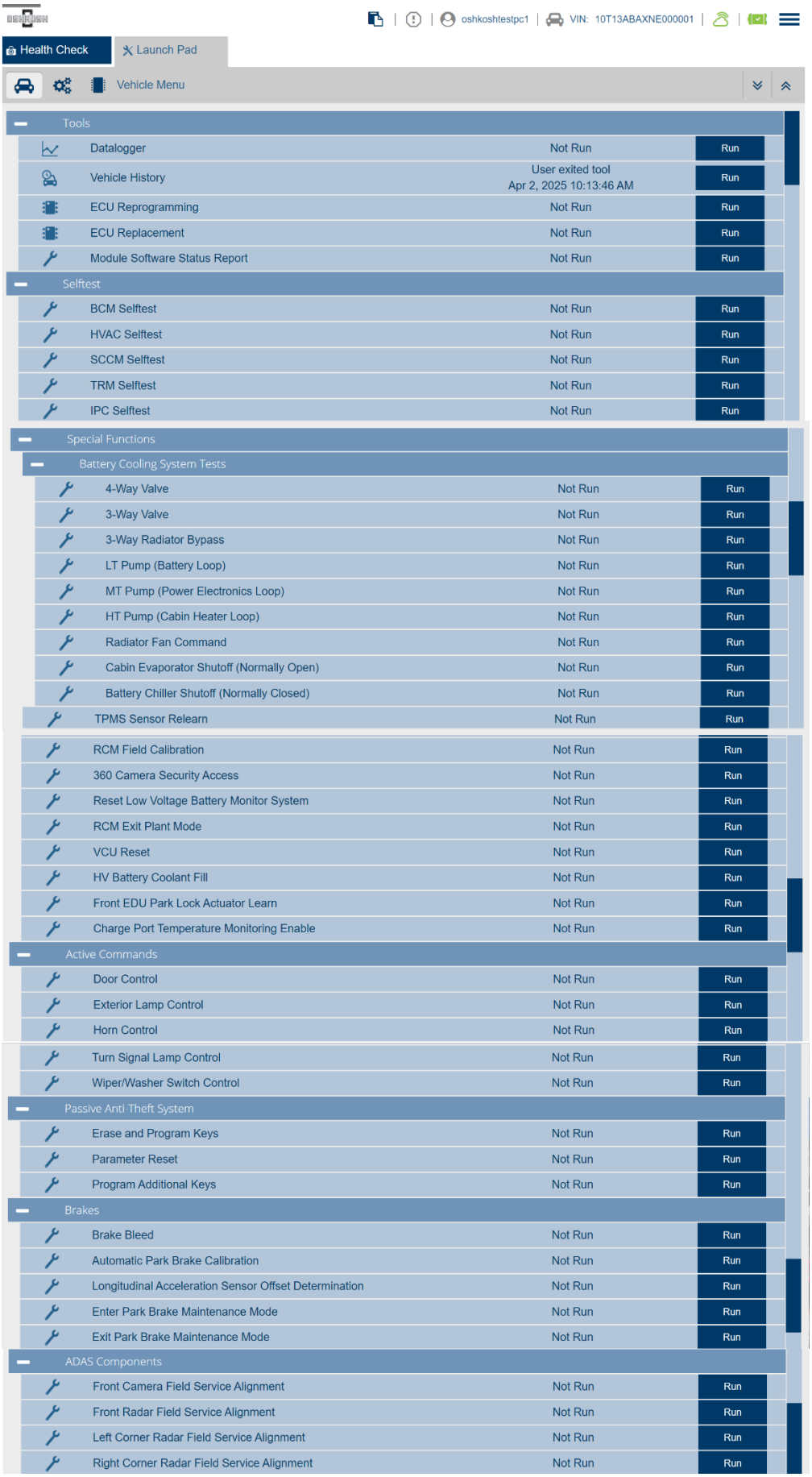
Launch Pad

a. The launch pad tab contains all tools available on for properly servicing the NGDV. Many of the tools are common to both ICE and BEV variants but there are some tools that are unique to one or the other.

I. ICE Launch Pad Tool Menu



II. BEV Launch Pad Tool Menu



Launchpad Tools Description

OKDT Functionali	Location on Tool	Definition	Vehicle Variant	
			ICE	BEV
Datalogger	Launchpad-->Tools-->Datalogger	Reads module parameters to show status of module or sensor functionality, sorted by signal group types (i.e., Exterior lighting, Engine sensors, etc) and displays as digital signals, bargraphs, histographs as defined. Records selected parameter reads for playback	Yes	Yes
ECU Reprogramming	Launchpad--Tools-->ECU Reprogramming	This allows for the re-flash of a module to the latest level when there is any question or concern that the module SW has become corrupt	Yes	Yes
ECU Relpacement	Launchpad--Tools-->ECU Replacement	This allows for the flashing/updating of a module application SW to the latest SW level after module replacement for service	Yes	Yes
Module Software Status	Launchpad--Tools-->Module Software Status Report	This reads SW versions from modules and compares it with the current released version of SW to generate a report that shows the current state of ECU Software and identifies any modules that require SW updates	Yes	Yes
On-Demand Self Test	Launchpad-->Self Test-->Select Module	Tests specific functionality within a module and reports back any DTCs or failed portions of the test. This test is specific to Ford modules only and exercises many of the module control features (i.e., PCM steering angle read, fan control on & off)	Yes	Yes
Clear Keep Alive Memory	Launchpad-->Special Functions--> Clear Keep Alive Memory (KAM)	The Clear KAM routine sends a message to the Powertrain Conrtol Module (PCM) to reset all learned adjustments the PCM has made over time.	Yes	No
Misfire Profile Correction	Launchpad-->Special Functions-->Misfire Monitor Neutral Provils Correction (MMNPC)	This test resets/relearns the misfire monitor neutral learn correctin after performing PCM replacement, any internal engine repairs, crankcase position (CKP) sensor replacement	Yes	No
Enable/Disable Start/Stop	Launchpad-->Special Functions-->Auto Start Stop Enable/Disable	Function test specific to ICE vehicles that will support turning AutoStart/Stop off or on.	Yes	No
Battery Cooling System Tests	Launchpad-->Special Functions-->Battery System Tests	These tests allow for the controlling of BEV specific cooling system components to enable efficient troubleshooting of electrical circuits by controlling module outputs to the specific pump or valve.	No	Yes
TPMS Sensor Relearn	Launchpad-->Special Functions-->TPMS Sensor Relearn	Relearn TPMS values on TPMS sensor replacement or BCM replacement.	Yes	Yes
RCM Field Calibration	Launchpad-->Special Functions-->RCM Field Calibration	Performs the RCM Field Calibration after an RCM has been replaced	Yes	Yes
Exit RCM Plant Mode	Launchpad-->Special Functions-->Exit RCM Plant Mode	Takes the RCM out of Plant Mode after the RCM has been replaced or the RCM is re-flashed	Yes	Yes
360 Camera Security Access	Launchpad-->Special Functions-->360 Camera Security Access	This is a unique process to unlock the head unit for performing SW/calibration updates, extracting VEDT (event/crash videos).	Yes	Yes
Reset Battery Monitor System	Launchpad-->Special Functions-->Reset Battery Monitor System	Erases accumulated battery data saved in BCM EEPROM, including battery statistics, time in service, etc.	Yes	Yes
VCU Reset	Launchpad-->Special Functions_-->VCU Reset	Function test that will reset a VCU crash latch DTC (P144E) after the RCM loses power or has been replaced. This DTC prevents the vehicle from going HV ready and therefore cannot be driven	No	Yes
Active Commands	Launchpad-->Active Commands	These tests allow for the controlling of system components to enable efficient troubleshooting of electrical circuits by controlling module outputs to sensors, switch inputs to modules and their associated circuits. Specific active commands are listed on the tool menu under different systems (i.e., Headlamps, I/P indicators, brake switch, etc).	Yes	Yes
Erase and Program Keys	Launchpad-->Passive Anti-Theft System-->Erase and Program Keys	This procedure allows for the erasing and reprogramming of keys on hand additional keys to the vehicle.	Yes	Yes
PATS Parameter Reset	Launchpad-->Passive Anti-Theft System-->Parameter Reset	This procedure is required to pair the BCM to either the PCM (ICE) or VCU (BEV)when replacing any one of these 3 modules.	Yes	Yes
Program Additional Keys	Launchpad-->Passive Anti-Theft System-->Program Additional Keys	This procedure allows for the programming of new keys to the vehicle, up to 4 keys, if the existing programmed kyes are available.	Yes	Yes
		This procedure is required when a new ABS hydraulic control unit (HCU)		
Automatic Park Brake Calibration	Launchpad-->Brakes-->Automatic Park Brake Calibration	Function test that will calibrate the automatic park brake when the ABS\ESP module, APB, rear caliper is replaced	Yes	Yes
Longitudinal Acceleration Sensor Offset Determination	Launchpad-->Brakes-->Longitudinal Acceleration Sensor Offset Determination	Function test that will perform a DID write when ABS/ESP or the RCM is replaced	Yes	Yes
Enter Park Brake Maintenance Mode	Launchpad-->Brakes-->Enter Park Brake Maintenance Mode	Fuction test that will remove the automatic park brake from service mode and set it to maintenance mode in order to perform rear brake service (i.e., rear pad and/or rotor replacement, rear caliper service)	Yes	Yes
Exit Park Brake Maintenance Mode	Launchpad-->Brakes-->Exit Park Brake Maintenance Mode	Fuction test that will remove the automatic park brake from maintenance mode and set it to service mode after rear brake service is complete.	Yes	Yes
Front Camera Field Service Alignment	Launchpad-->ADAS Components-->Front Camera Field Service Alignment	Calibration procedure for front camera after module or windshield replacement	Yes	Yes
Front Radar Field Service Alignment	Launchpad-->ADAS Components-->Front Radar Field Service Alignment	Calibration procedure for the front radar after module replacement	Yes	Yes
Left Corner Radar Field Service Alignment	Launchpad-->ADAS Components-->Left Corner Radar Field Service Alignment	Calibration procedure for the rear corner radars after corner radar replacement	Yes	Yes
Right Corner Radar Field Service Alignment	Launchpad-->ADAS Components-->Right Corner Radar Field Service Alignment	Calibration procedure for the rear corner radars after corner radar replacement	Yes	Yes
HV Battery Coolant Fill	Launchpad-->Special Functions-->HV Battery Coolant Fill	This function will put the BEV coolant motor into series mode so that the cooling system can be filled after battery pack service (case opened)	No	Yes
Front EDU Park Lock Actuator Learn	Launchpad-->Special Functions-->Front Park Lock Acutuator Learn	This function is used to perform the EDU park lock actuator (PLA) learn procedure after the PLA has been replaced ot any manual tuning of the PLA has occurred.	No	Yes
Charge Port Temperature Monitor	Launchpad-->Special Functions-->Charge Port Temperature Monitoring Enable	This procedure is used to write a VCU DID that enables charge port temperature monitoring. This procedure is valid ONLY for vehicles that have been retrofitted with new charge port hardware.	No	Yes