Cache County
Vehicle Inspection System
Operator's Manual

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Cache County Vehicle Inspection System Operator's Manual

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1.Introduction

This manual provides important operating information, features, and helpful tips concerning the Cache County inspection system and associated components. This introductory section describes the conventions used in this manual as well as general safety tips.

1.1 Conventions and safety

1.1.1 Conventions

This operator's manual is organized to facilitate quick access to sections and topics related to the Cache County inspection system and the vehicle inspection process. Occasionally, text of particular importance will be emphasized using the conventions described below.

Text pertaining to features appearing on the DriveClean touchscreen such as buttons or bars that activate functions or display data are highlighted in **bold green type**.

The **stop icon** draws attention to issues concerning safety of personnel and equipment. Please read carefully and follow all instructions.

The **important information icon** draws attention to important procedural tips or inspection system features.

1.1.2 Important general safety instructions

Please read the following instructions carefully before using equipment.

- Read and follow all inspection system instructions.
- When using your Cache County inspection system and DriveClean tablet, follow all safety instructions.
- Only use Cache County inspection system equipment as described in this manual.
- Remain in the vehicle as needed during emissions testing.
- Please handle equipment with care. Inspection system components can be damaged through carelessness.
- Do not drop equipment.
- Do not let cables or cords hang over edge of a table, bench, or counter; or contact hot manifolds or moving fan blades.
- Care should be taken to arrange cables and cords so that they will not create a tripping hazard or become pulled out causing equipment to malfunction or shut down.

- Always have adequate ventilation when working on vehicles with the engine running.
- Use only manufacturer-designated peripherals and accessories.
- Follow all Cache County and Bear River Health Department policies and procedures. In case of discrepancy, Cache County and Bear River Health Department policies and procedures supersede this manual.

2. Mobile source air toxics and improving air quality through testing

Mobile source air toxics[1] are compounds emitted from highway vehicles and nonroad equipment that are known or suspected to cause cancer or other serious health and environmental effects. Mobile sources are responsible for direct emissions of air toxics and contribute to precursor emissions that react to form secondary pollutants. Examples of mobile source air toxics include benzene, 1,3-butadiene, formaldehyde, acetaldehyde, acrolein, polycyclic organic matter (POM), naphthalene, and diesel particulate matter.

Cancer and noncancer health effects can result from exposures to air toxics.

In February 2007, EPA finalized a rule to reduce hazardous air pollutants from mobile sources. The rule limits the benzene content of gasoline and reduces toxic emissions from passenger vehicles and PAS cans. EPA estimates that in 2030 this rule will reduce total emissions of mobile source air toxics by 330,000 tons and VOC emissions (precursors to ozone and PM2.5) by more than 1 million tons.

EPA has adopted many mobile source emission control programs that, in addition to controlling pollutants such as hydrocarbons, particulate matter, and nitrogen oxides, will also result in large air toxic reductions.

Inspection and maintenance programs

Vehicle inspection and maintenance programs (I/M) help improve air quality by identifying high-emitting vehicles in need of repair (through visual inspection, emissions testing, and/or the downloading of fault codes from a vehicle's onboard computer) and causing them to be fixed as a prerequisite to vehicle registration within a given non-attainment area. The 1990 Amendments to the Clean Air Act made I/M mandatory for several areas across the country, based upon various criteria, such as air quality classification, population, and/or geographic location.

On-board diagnostics

On-Board Diagnostics, or OBD, is a computer-based system built into all 1996 and later light-duty vehicles and trucks to monitor a vehicle's engine, transmission, and emissions control components. If a vehicle's **Check Engine** light comes on and stays on, the vehicle's OBD system is alerting the motorist that it has detected a problem with the vehicle.

In addition to protecting the environment, the Check Engine light and the OBD system behind it can save motorists time and money by identifying minor problems before they become major repair bills.

[1] From http://www3.epa.gov/otaq/toxics.htm

3.Features and capabilities

3.1 Introducing the Cache County inspection system

The Opus team is very pleased to introduce the Cache County inspection system for OBD testing in the Cache County I/M program. This high-tech emission testing system integrates an **Opus IVS DriveClean** mobile tablet, providing the best possible operational functionality and flexibility. This solution maximizes customer convenience and test efficiency by enabling the entire test system to remain with the inspector.

All DriveClean tablets and peripheral equipment are networked and tied into the Opus Cache County VID, communicating wirelessly in real-time. All equipment meets or exceeds the specifications contained in the EPA, State of Utah, and Bear River Health Department regulations, guidance, or requirements.

Cache County inspection system components include:

- DriveClean tablet with integrated OBD, including:
  - 4-foot OBD cable
  - 2D barcode scanner
  - Rear camera
  - Front camera with fingerprint reader
- Docking station with power cord
- Wi-Fi printer
- Wi-Fi router
- Cache County Win10 Baseline—DriveClean tablet system
- Operator's manual

With the DriveClean tablet, authorized inspectors can perform a test in any bay or exterior area of the station.

3.1.1 DriveClean tablet—front view

Figure 1: DriveClean tablet—front view

The front view of the DriveClean tablet (Figure 1) shows the location of the dual purpose front-mounted camera used for fingerprint identity verification and for capturing an image of the inspector upon login. The power switch is also located just below the screen. Also shown is the location of the barcode reader on the top of the tablet housing and the kickstand that can be pulled out for upright operation, hung on a steering wheel, or snapped in-place on the back so the tablet can lay flat.

3.1.2 DriveClean tablet—rear view

Figure 2: DriveClean tablet—rear view

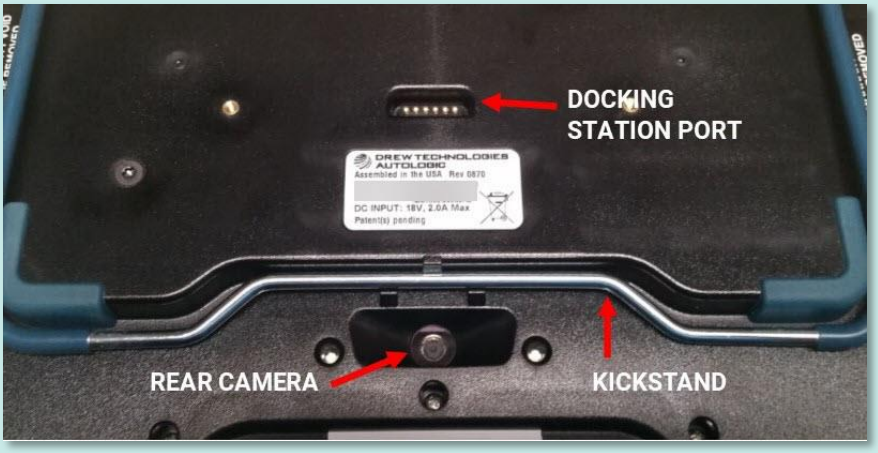


Figure 2 shows part of the rear of the DriveClean unit. The slightly recessed rear camera—used to document license plates, door labels, and VINs—is located near the bottom. When the DriveClean unit is set into its docking station, the docking station plug will engage with the port on the back of the DriveClean. The kickstand is also shown in its stored position, allowing the DriveClean unit to lay flat.

3.1.3 DriveClean tablet—top view

Figure 3: DriveClean tablet-top view

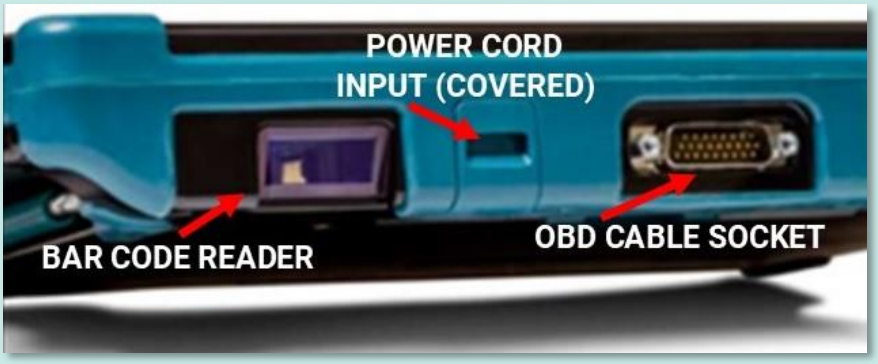


Figure 3 shows the top of the DriveClean tablet unit housing. The 2D barcode reader, located at the top right, illuminates with a red light when activated and features a bright red central dot for centering the scan. The power cord input is for the supplied 18-volt, 2.0-amp DC connector. The OBD cable plugs securely into the top center of the DriveClean unit.

3.2 Inspection system software—security and convenience

The Cache County inspection system is automated to the highest degree possible to minimize the potential for fraud and/or human error and is exceedingly secure from tampering and/or abuse.

Inspectors are guided through the testing process by the inspection software and are not allowed to deviate from approved test procedures. Opus engineers carry this security strategy to its logical conclusion by:

- Automating pass, fail, and rejection decisions; and
- Performing system integrity checks before each test, as applicable;

In short, the system:

- Uses automation to decrease, to the highest degree possible, the potential for intentional fraud and/or human error;
- Provides security from tampering and/or abuse; and
- Is based on detailed written specifications.

The software is designed to automatically:

- Make pass/fail decisions for all measurements;
- Record and store all equipment check, calibration, and test data; and
- Initiate immediate lockouts for violation of pre-defined security parameters of failure to conduct or pass required quality assurance procedures.

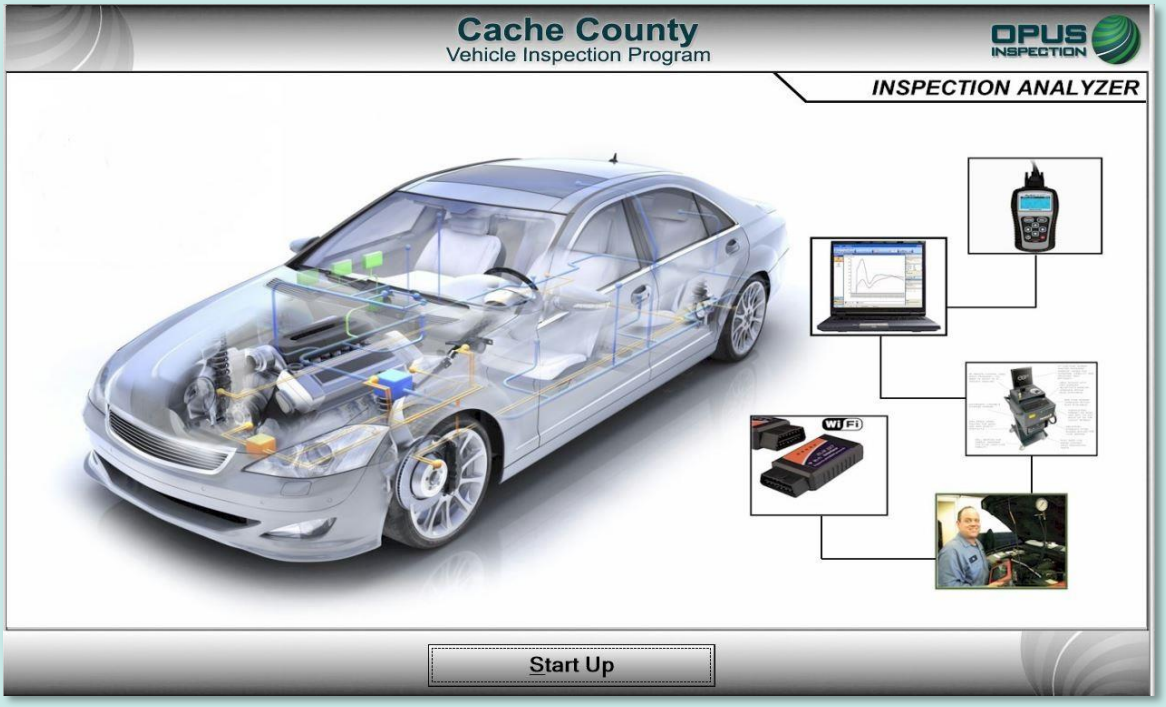
4.System startup, operation, and shut down

The DriveClean's menu system provides access to the functions you need to perform vehicle inspections. The menu system also allows you or your station manager to carry out necessary administrative tasks. This chapter explains these features and how to apply them to the routine operation of your inspection system. Detailed descriptions of selected functions referenced in this section are contained in other chapters in this manual.

4.1 Startup menu

The startup screen (Figure 4) appears when the computer is turned on. Select **Start Up** to prepare the analyzer, refresh data, and then display the **Main Menu**.

Figure 4: Inspection system startup



During the startup sequence, screens will briefly appear displaying activities such as synchronizing with the vehicle inspection database (VID) server (Figure 5), checking for and applying pending software updates, reconciling test records with the VID, and updating vehicle lookup tables (Figure 6).

Typically, the inspection system startup should take only a minute or two. If any problems or errors are encountered during startup, you will be prompted to seek assistance.

Figure 5: System startup in progress

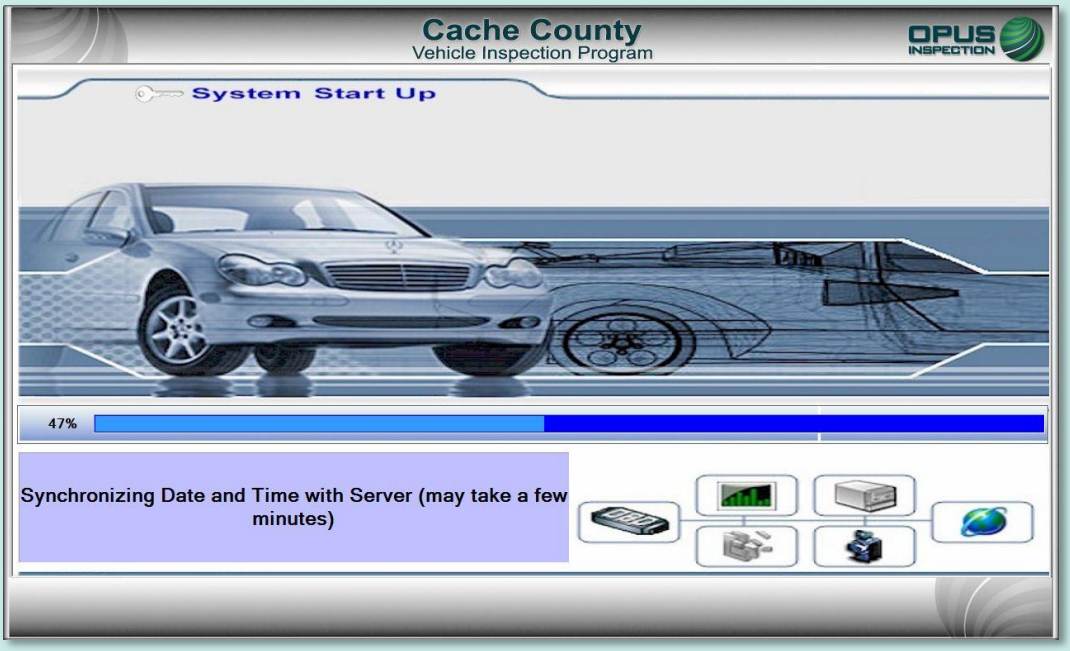
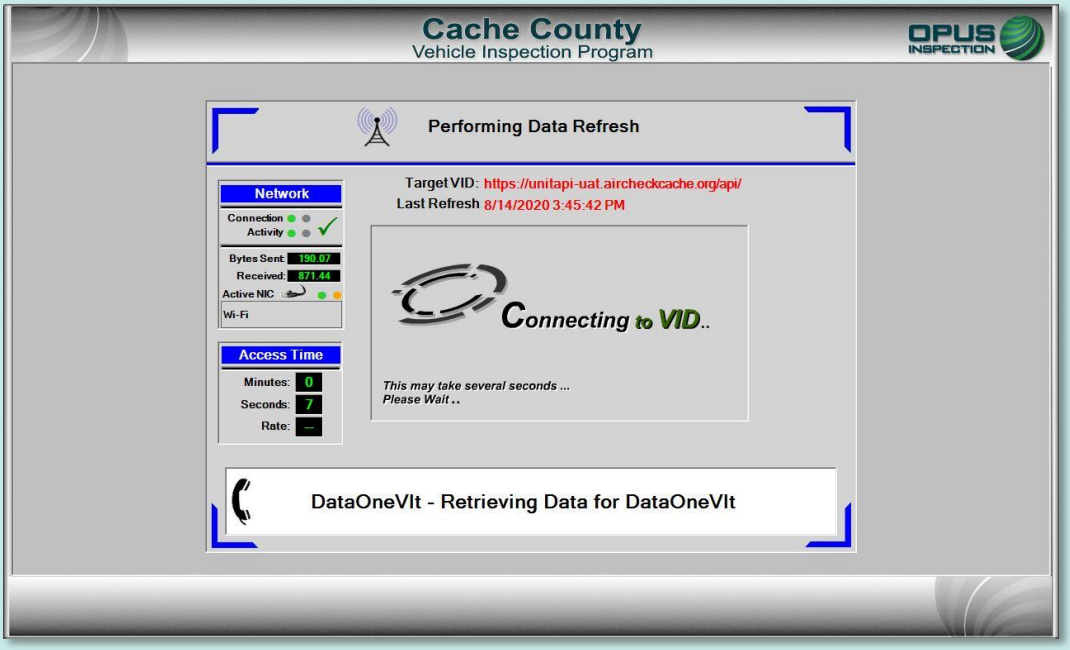


Figure 6: System startup—connecting to VID



4.1.1 Software update prompt

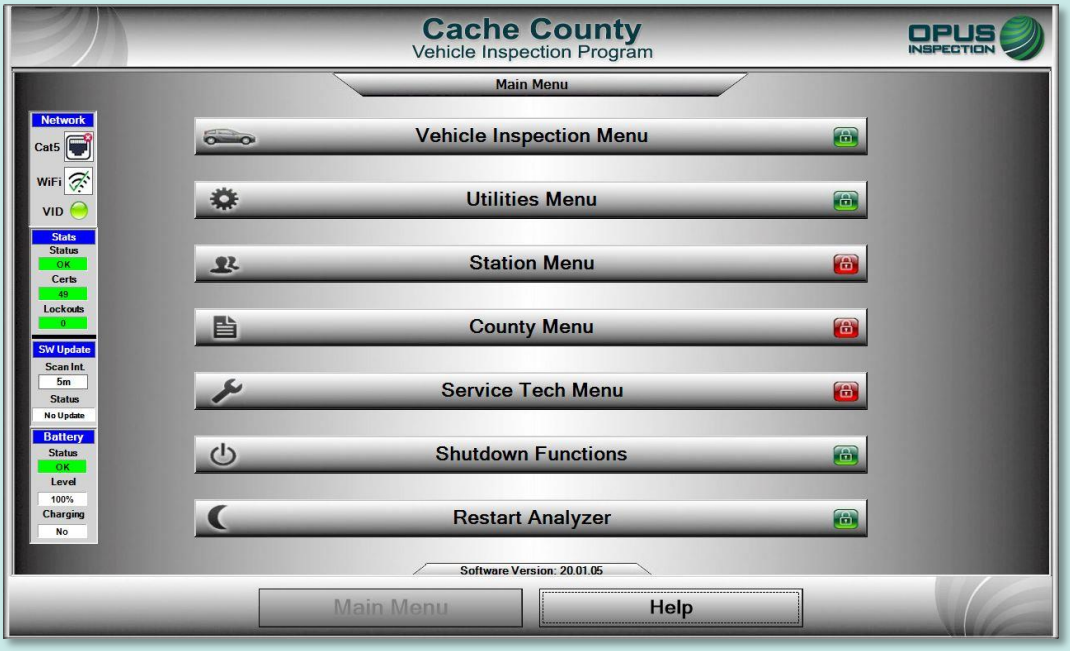
Occasionally, a pop-up box will appear notifying you of a pending inspection system software update. This may occur at any time; most often at startup, but never during an actual inspection. You will be prompted to tap **Yes** to initiate the update, or **No** to defer the update to a more optimal time. Typically, software updates will only take five to ten minutes and during the update the DriveClean tablet may reboot one or more times. You will be notified when the software update has been completed.

If you choose to defer the update (such as when a customer is waiting or other time-sensitive issue arises), the inspection system will allow you to continue; however, the update pop-up box will soon reappear. To ensure optimal system performance and compliance with any changes to the inspection process, we highly recommend initiating the software update as soon as possible. Prolonged deferment of the software update may trigger a lockout.

4.2 Inspection system operation

4.2.1 Main menu

Figure 7: Main menu



The menu options listed below are available from the **Main Menu** (Figure 7). Note that options labeled with a red lock icon are only available to authorized station, County, or Opus personnel.

- **Vehicle Inspection Menu:** Authorized station users can select this menu to perform a vehicle inspection, view remaining certificates, perform an OBD self-check, or run the system in demo or training mode.
- **Utilities Menu:** Any user can select this menu to check equipment consoles, reprint a VIR, view workstation information, view/print documents, initiate communications sessions, or view lockouts.
- **Station Menu:** Authorized station users can select this menu to view inspector information, purchase certificates, access a certificate usage report, resend test records to the VID, and access the web portal.
- **County Menu:** Authorized County officials can select this menu to perform designated activities, such as view inspection information, manage biometric login functions, perform referee inspections, monitor compliance, set and view lockouts, and more.
- **Service Tech Menu**: Authorized Opus users utilize this selection to check and manage consoles, perform an OBD self-check, view analyzer status, manage biometric login functions, access communications tools, set and view lockouts, and modify workstation configurations.
- **Shutdown Functions:** Any user can use this menu to shut down or restart the DriveClean tablet.
- **Restart Analyzer:** Activating this button restarts the DriveClean tablet.
- **Help:** Selecting this button displays the system documentation. The **Help** button is available on multiple screens.

4.2.2 On-screen keyboard

The DriveClean tablet features an on-screen keyboard that either appears automatically when manual input functions are activated or appears when a **Keyboard** command button available on certain screens is tapped by the user. The keyboard is movable on the screen to avoid situations where important information may be covered up.

4.2.3 Inspection screen dashboards

An on-screen dashboard (Figure 8) appears at the top of screens pertaining to vehicle inspection, training/demo mode, and diagnostic processes. The dashboard displays:

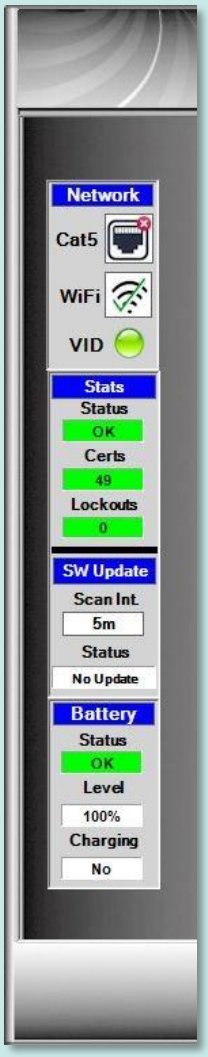
- Test mode
- Inspector
- Plate
- Lockout status
- Inspection start time
- Current time
- Duration of inspection

A green thermometer is integrated with the dashboard that tracks the progress of the five-stage vehicle inspection process, from vehicle entry to the printing of the VIR.

Figure 8: Inspection screen dashboard

A vertical dashboard (Figure 9) also appears on inspection and menu screens. This dashboard monitors communication, unit information (such as lockout and certificates), software, and battery status.

Figure 9: Vertical dashboard



4.2.4 Printer connection

The DriveClean portable tablet and the printer are connected via the Wi-Fi connection to the wireless access point (WAP).

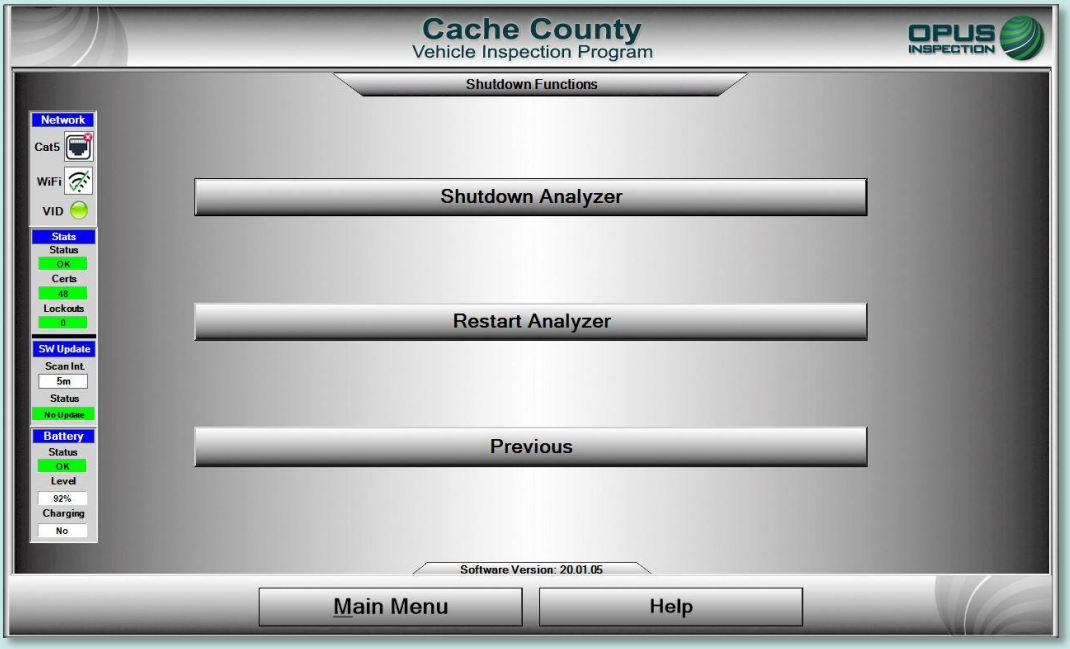
4.2.5 Offline operation

If the DriveClean is not online with the VID, the system allows transactions to queue up to be sent as soon as the unit is back online, and communication is re-established with the VID. The software for Cache County allows transactions to be processed by comparing a time stamp of when the system was last connected to the VID to the current date.

4.3 System shut down

To shut down the inspection system, select **Shutdown Functions** from the **Main Menu**. The **Shutdown Functions** screen will appear (Figure 10, next page). Tap **Shutdown Analyzer** to shut down the system and power down the components. You also have the option of restarting the analyzer should it be necessary to do so.

Figure 10: Shut down functions menu



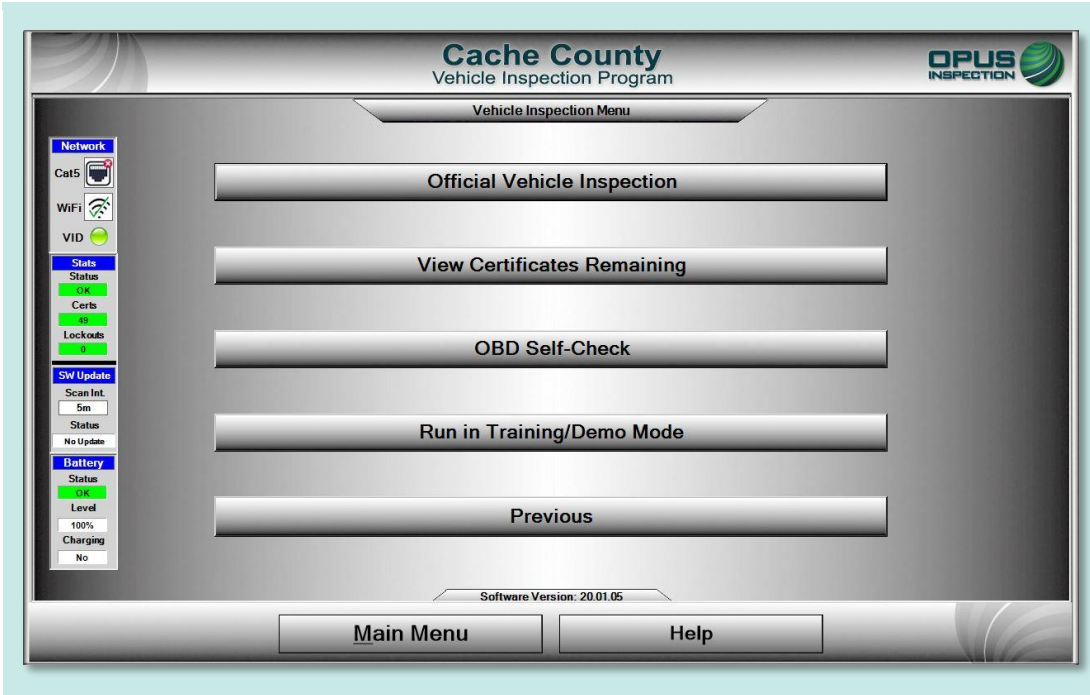
5.OBD-II vehicle inspection

This section of the Cache County inspection system operator's manual describes the entire OBD-II vehicle inspection process, including vehicle identification, performing the OBD test, and issuing the vehicle inspection report.

5.1 Vehicle inspection

From the **Main Menu**, select the **Vehicle Inspection Menu** (Figure 11). To begin the inspection, select **Official Vehicle Inspection** from the **Vehicle Inspection Menu**.

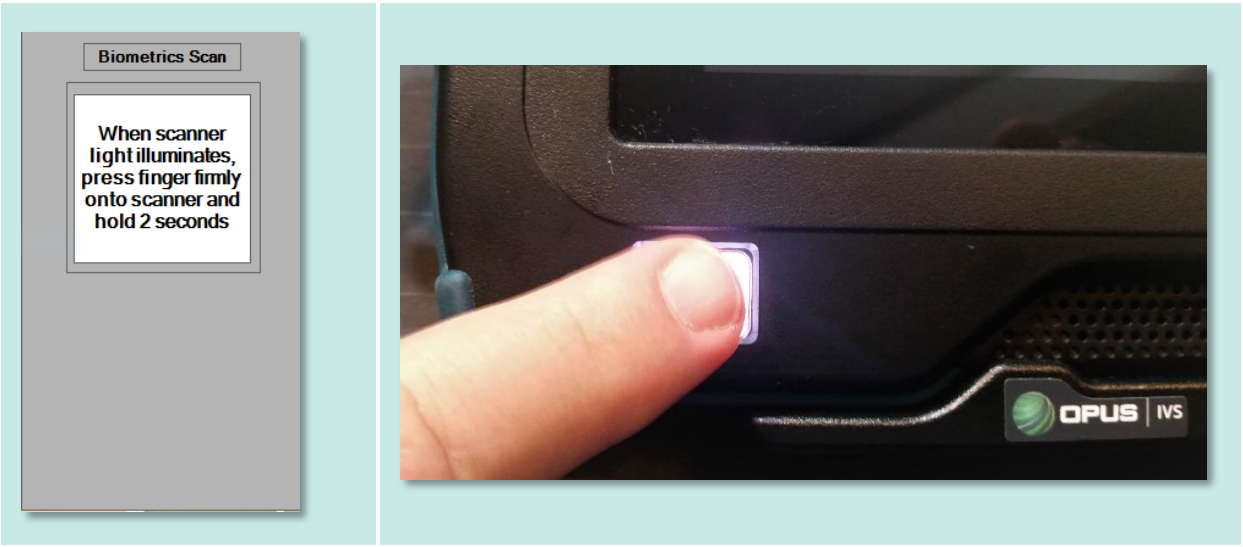
Figure 11: Vehicle inspection menu



5.1.1 Biometric verification and login

Before beginning the vehicle inspection, the inspector must login using the biometric validation procedure. The front camera on the Drive Clean tablet contains the biometric verification fingerprint scanner which will illuminate when activated (Figure 12). To login to the system, press your finger on the fingerprint scanner when illuminated and hold for two (2) seconds. If the fingerprint scan fails, remove your finger from the scanner, place it again directly in the center of the scanner, and tap **Re-scan** from the **Manual Validation** screen (Figure 13).

Figure 12: Using the fingerprint scanner



If a biometric scan is unavailable, the user can login using the **Manual Validation** method (Figure 14). Tap **Use Manual Validation**, then enter your inspector number (or select from the drop-down list) and password in the indicated fields and tap **Continue**. The inspection system will display an error message on invalid entries.

Figure 13: Login—biometric security validation prompt

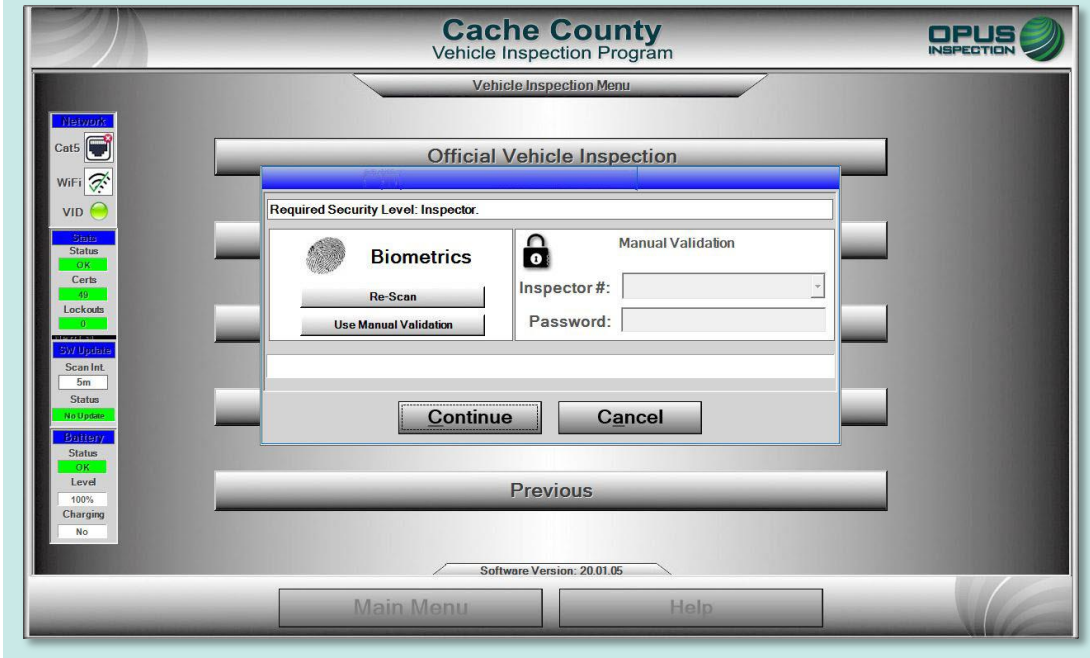
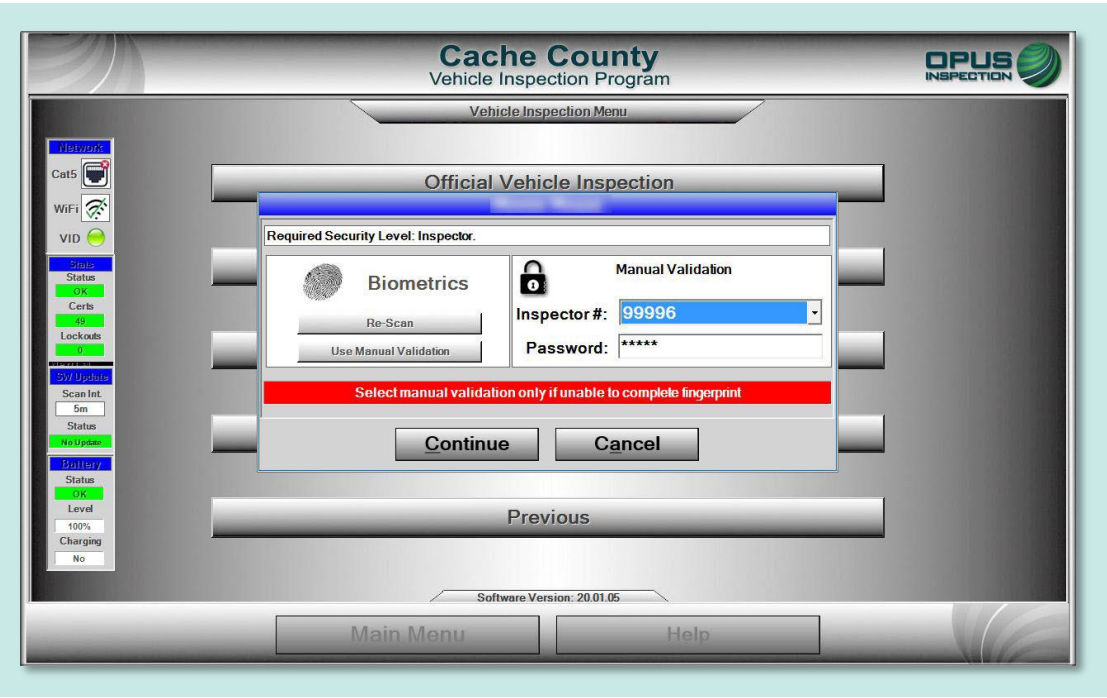


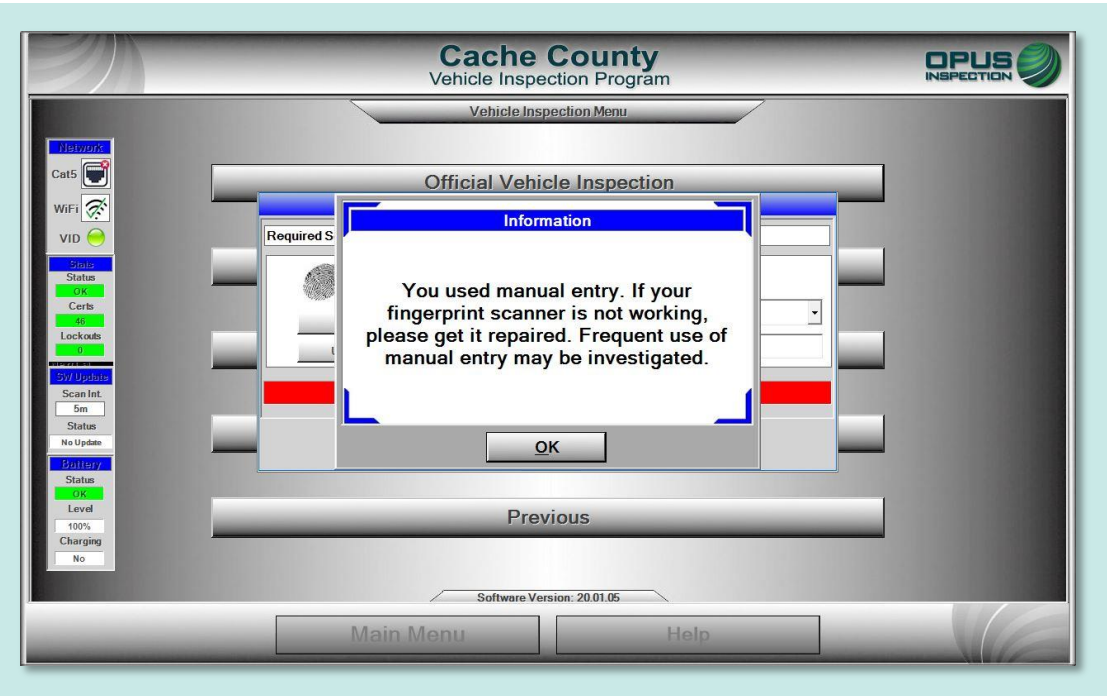
Figure 14: Logging on using manual validation



When manually entering in your **inspector number** and **password,** the touchscreen keyboard will automatically appear on the screen of your DriveClean tablet. Tap **X** on the upper-right corner to exit out of the keyboard.

When using the **Manual Validation** login function, the inspection system will automatically display the informational message seen in Figure 15.

Figure 15: Manual entry caution message



Select **OK** to proceed. The system will take a few seconds to run through a series of validation functions before proceeding to the next screen in the inspection process.

Photo verification

At login, the camera on the front of the DriveClean tablet will take a picture of the inspector. This picture will help verify that authorized personnel are performing vehicle tests.

Inspection system messaging

In the interim between login and commencement of the vehicle inspection, the inspection system may display screens indicating the following:

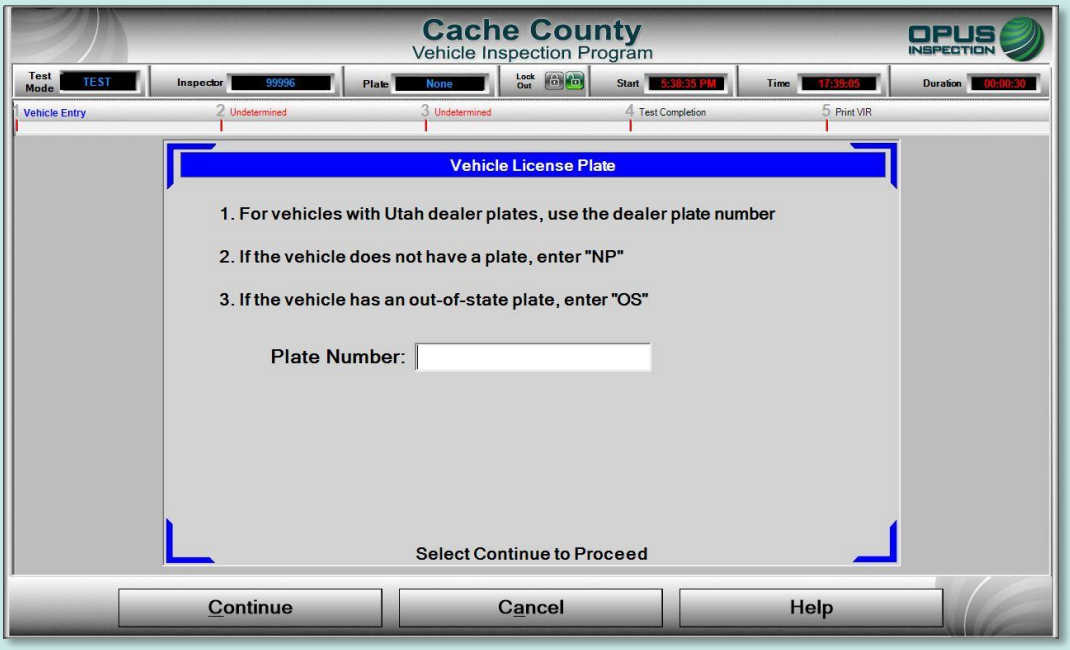
- Validation of inspector name and password through the vehicle inspection database (VID);
- Notification of an expired account;
- Notification of inspection system lockout;
- Messages posted by County officials or Opus technical support; or
- Other system notifications.

Depending on the nature of the communication, you may be requested to standby or provided with instructions for resolving any issues prior to beginning the inspection process.

5.1.2 Vehicle license plate entry procedure

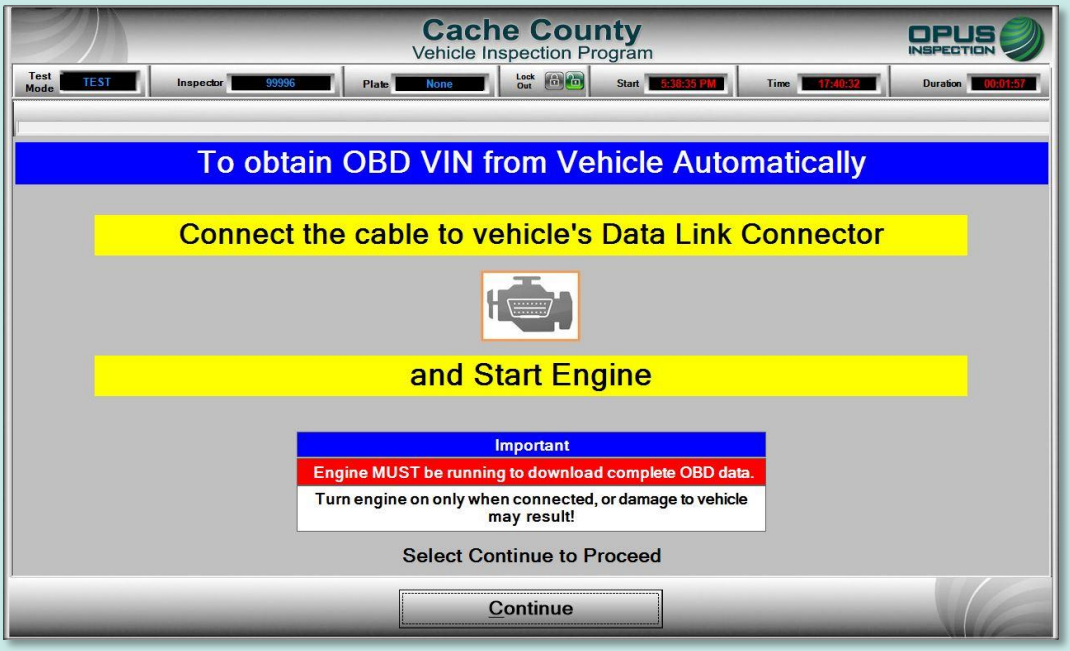
The **Vehicle License Plate** entry screen (Figure 16) will appear. Enter the vehicle's plate number in the field provided using the DriveClean tablet's on-screen keyboard. As necessary, follow the instructions on the screen pertaining to a vehicle with a Utah dealer's plate, a vehicle with no plate at all, or a vehicle with an out-of-state license plate. Tap **Continue** when finished.

Figure 16: Entering the vehicle license plate



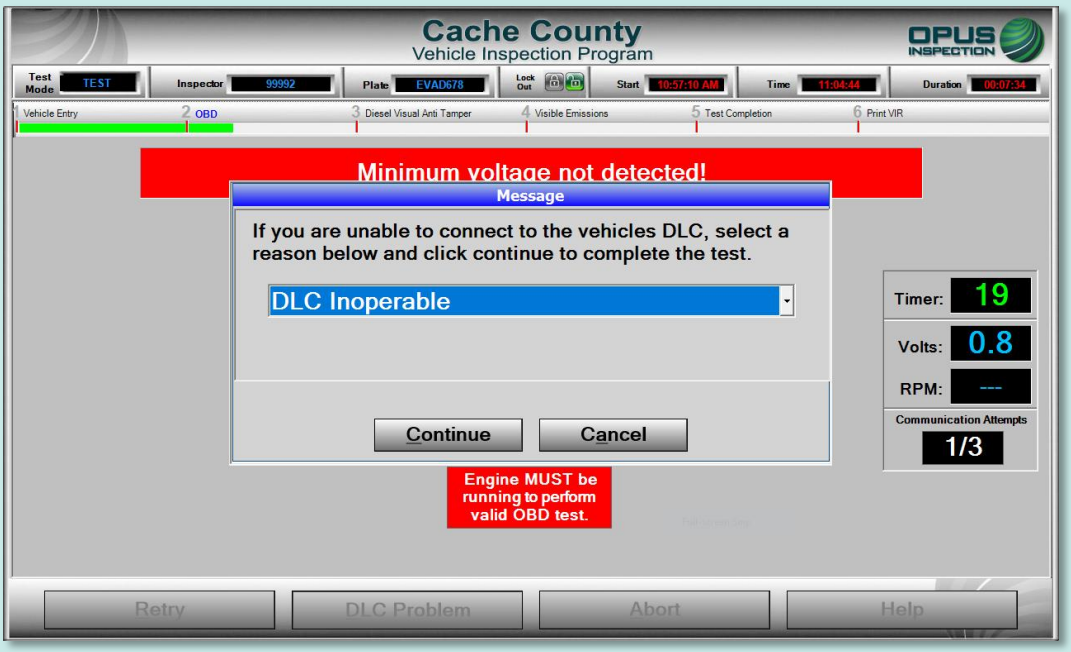
Following the license plate entry, you will be prompted to connect the OBD data link connector and start the vehicle's engine (Figure 17).

Figure 17: Prompt to connect OBD data link connector



In the event you are unable to successfully connect to the vehicle's DLC, tap **DLC Problem** at the bottom of the screen. A message box will appear with a drop-down list for documenting the cause of the connection failure (Figure 18). Tap **Continue** to complete the testing process.

Figure 18: DLC connection failure reason prompt



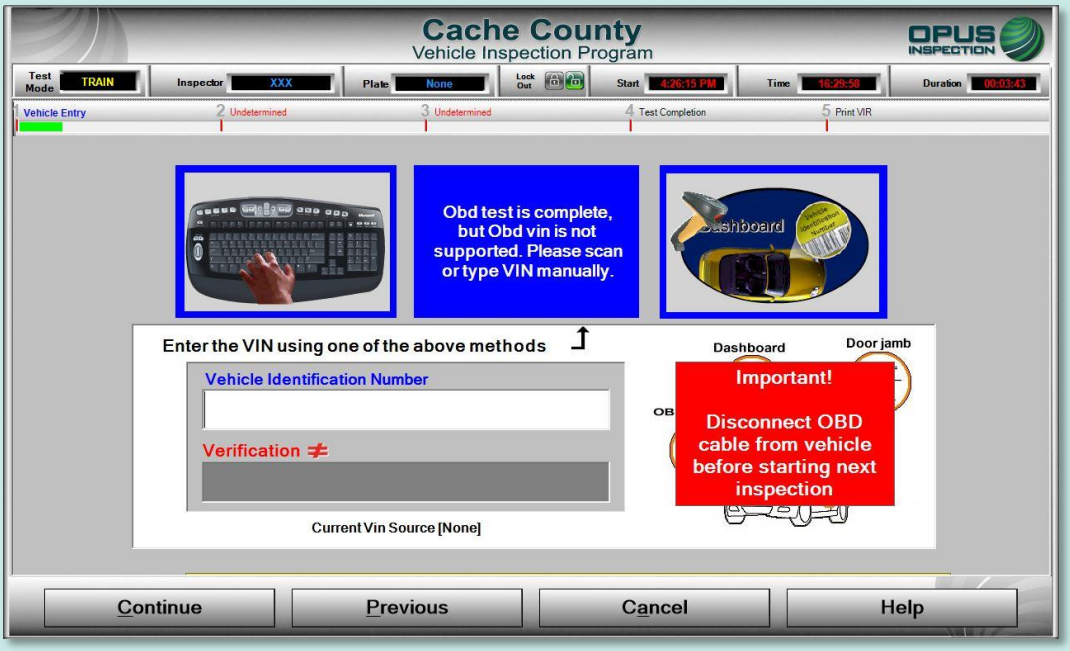
5.1.3 VIN entry

The inspection system will automatically perform the OBD test and scan the vehicle's system for the vehicle identification number (VIN).

- If the VIN is obtained through the OBD connection, you will be prompted to disconnect the OBD cable and proceed to the next step in the inspection.
- If the vehicle does not support obtaining the VIN through the OBD connection, the VIN will need to be either entered manually or scanned using the barcode reader at top of the DriveClean tablet. The DriveClean tablet's touchscreen will provide both options (Figure 19).

Note that to ensure accuracy, manual entry of the VIN is a double-blind process.

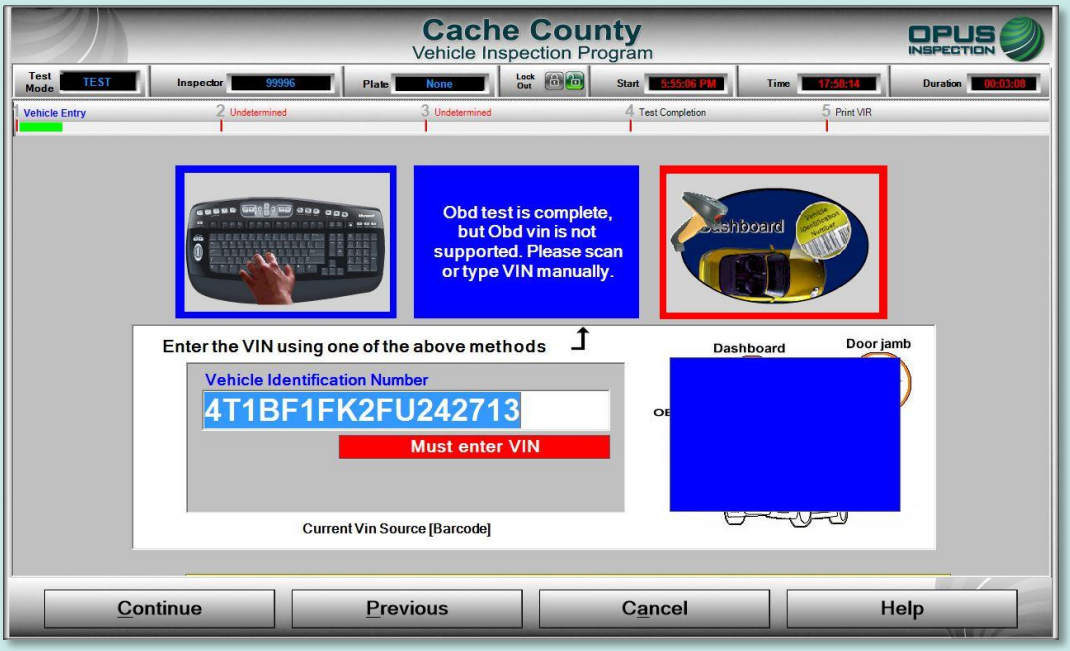
Figure 19: VIN not supported via OBD link



The VIN entry screen features a blinking red/blue reminder in the lower-right corner to disconnect the OBD cable before proceeding to the next step in the inspection.

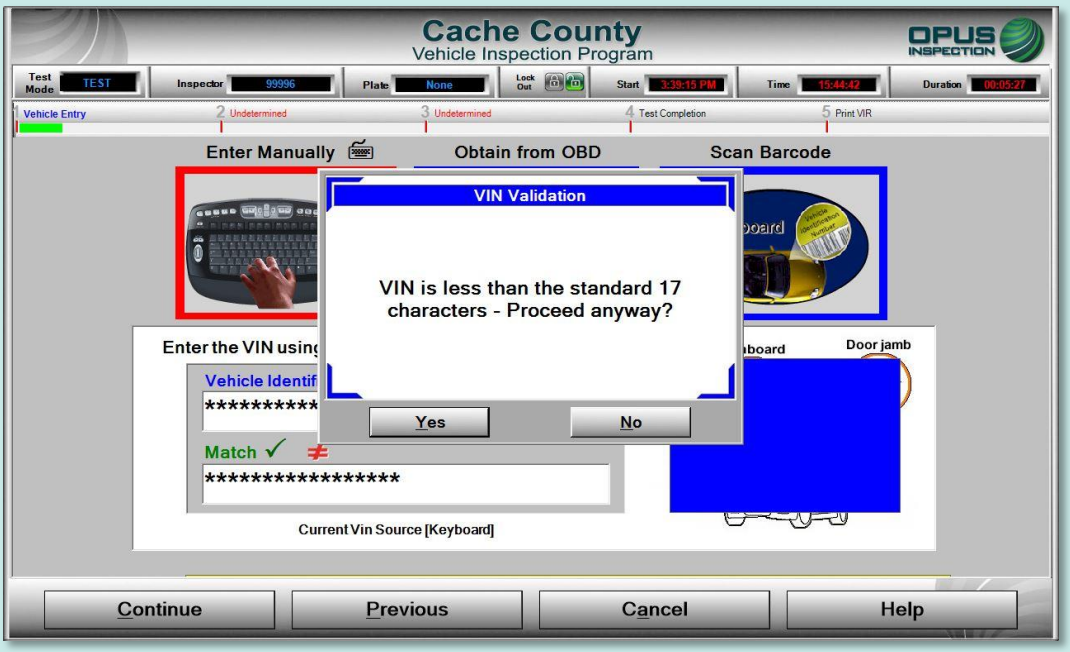
After the vehicle's VIN has been entered, either using the barcode scanning feature or through manual entry using the tablet's on-screen keyboard, tap **Continue** (Figure 20).

Figure 20: Barcode scan or manual entry of vehicle VIN



If the inspection system detects an incomplete or invalid VIN number, a pop-up box (Figure 21) will appear prompting you to choose between proceeding with the inspection with the VIN as entered (tap **Yes**) or going back to reenter the VIN (tap **No**).

Figure 21: VIN validation error pop-up box

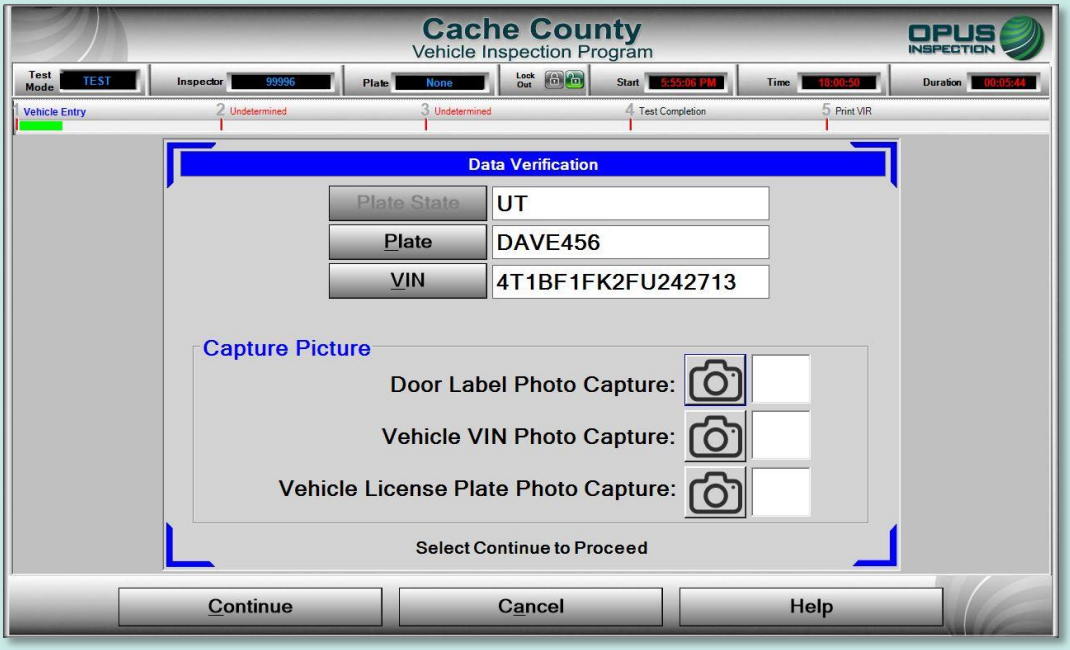


5.1.4 Data verification

Data verification is an important step in documenting the vehicle inspection process. The **license plate state**, **plate number**, and **VIN** will appear on the **Data Verification** screen (Figure 22). Using the camera on the back of the DriveClean tablet, take pictures of the driver's door label, vehicle VIN label, and license plate by first tapping the camera icon for each photo, then tapping **Take Photo** when the shot has been correctly lined up. Note that the inspection system allows you to retake photos as necessary to ensure optimal quality.

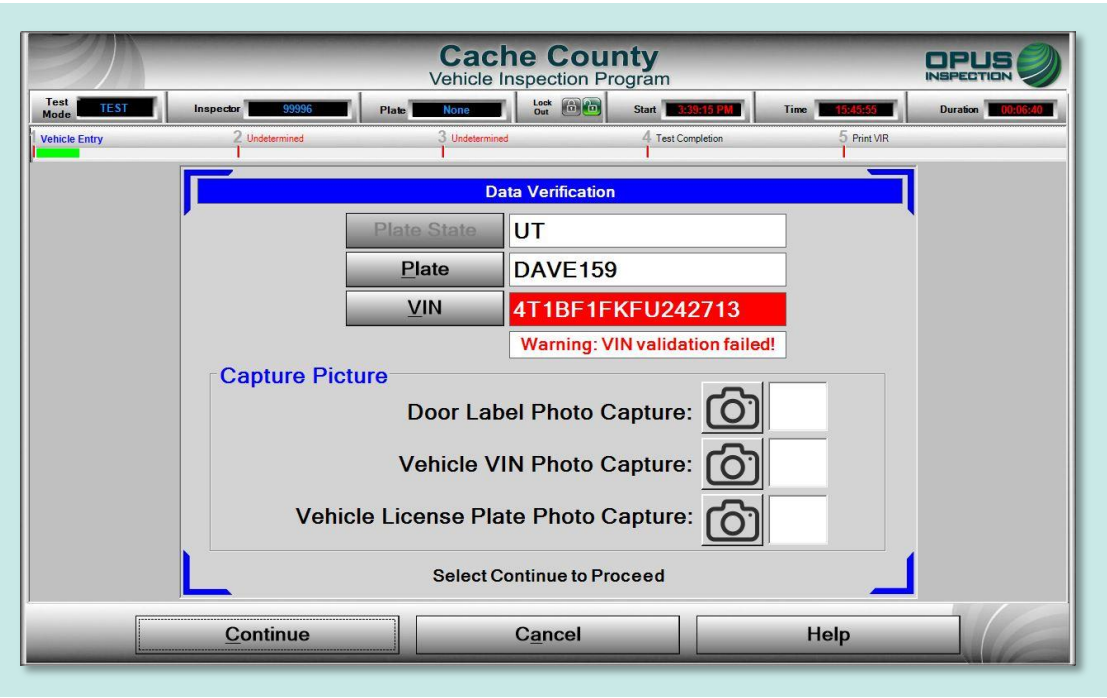
When you have verified license plate details and VIN and taken the required photographs, tap **Continue**.

Figure 22: Data verification screen



In circumstances where the VIN has been flagged as invalid and the inspector chooses to proceed (see Figure 21, above), a VIN validation warning message will appear on the **Data Verification** screen (Figure 23). Note that the inspection may be flagged for follow-up investigation. Particular care should be exercised in the documentation of vehicle data.

Figure 23: VIN validation failure message



5.1.5 Vehicle information and vehicle data lookup

Once the VIN has been entered and verified, the inspection system will request additional vehicle information from the VID. When communication with the VID is complete, the inspection system will display the results and whether the vehicle information and/or previous test data were found.

- If a previous record found notice appears on the **VID lookup** screen (Figure 24), tap **Continue** to view the results (Figure 25), then **Continue** again to continue the inspection. (If previous vehicle information is available, then some of the vehicle information prompts described in the following subsections will be omitted.)
- If no previous record is found, data will be acquired via VIN decode (Figure 26). Tap **Continue** to proceed to additional data entry screens.

Figure 24: Previous test lookup/previous test record found

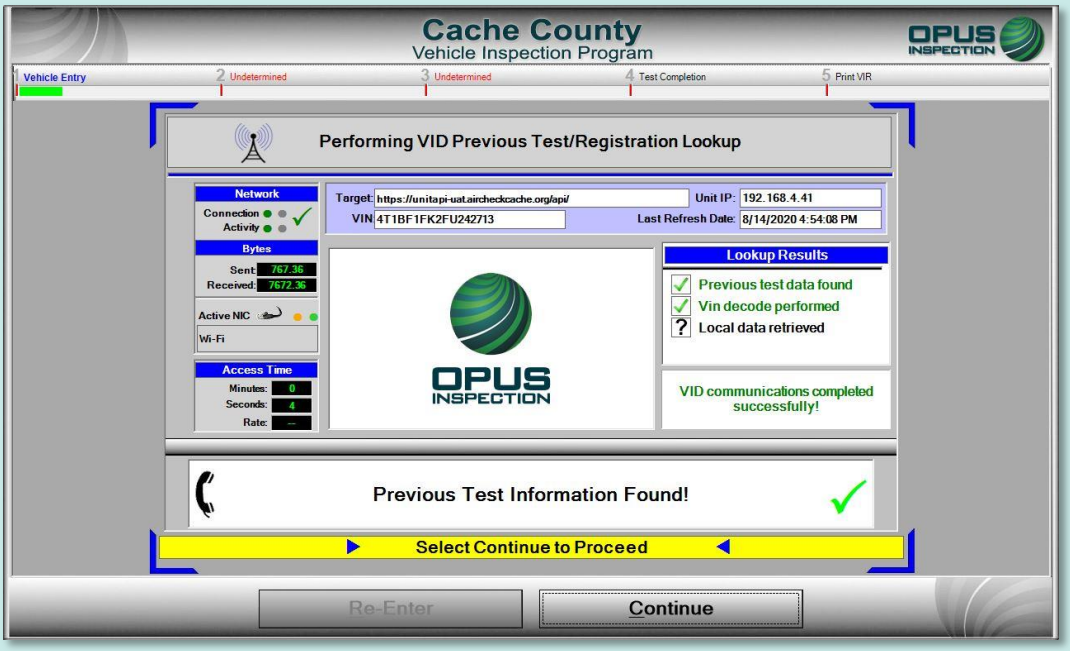


Figure 25: Previous test information

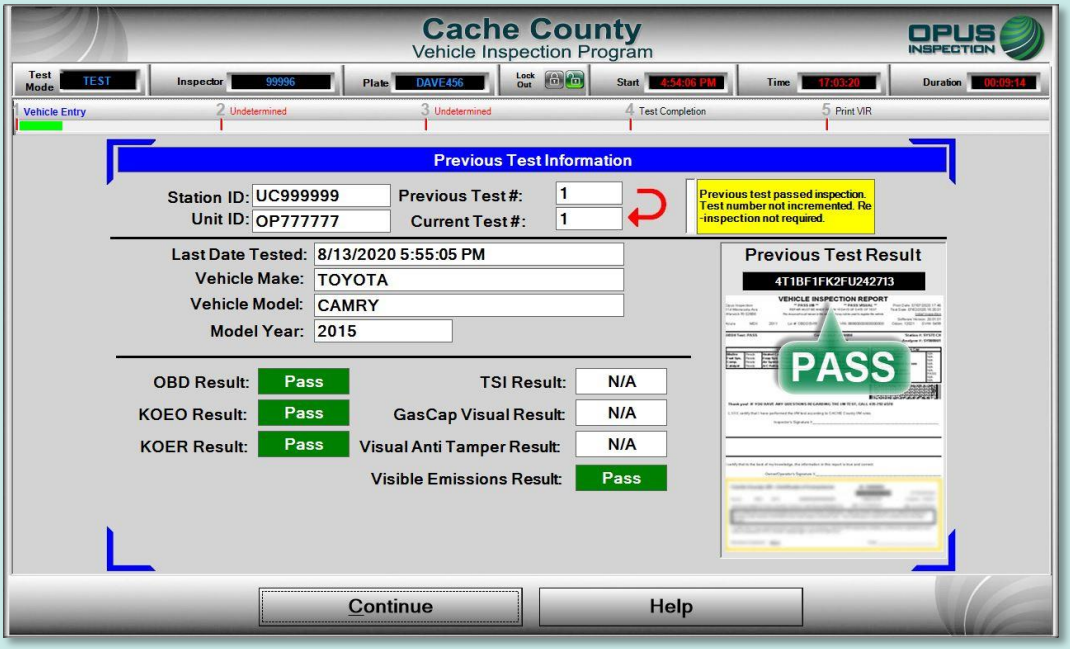
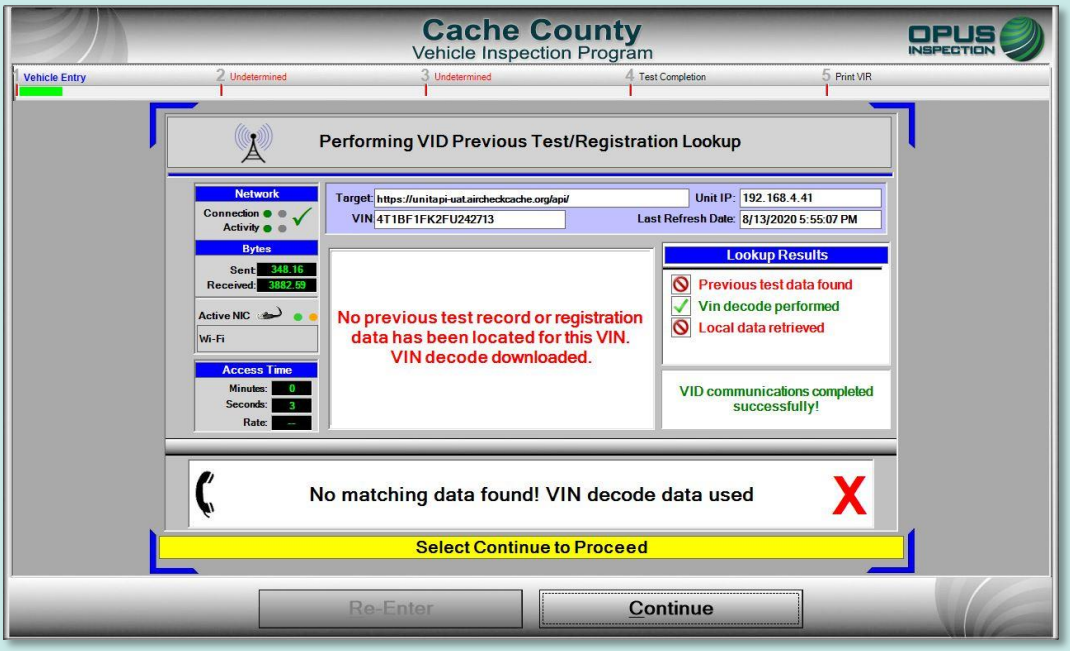


Figure 26: No previous test record/Data located from VIN decode

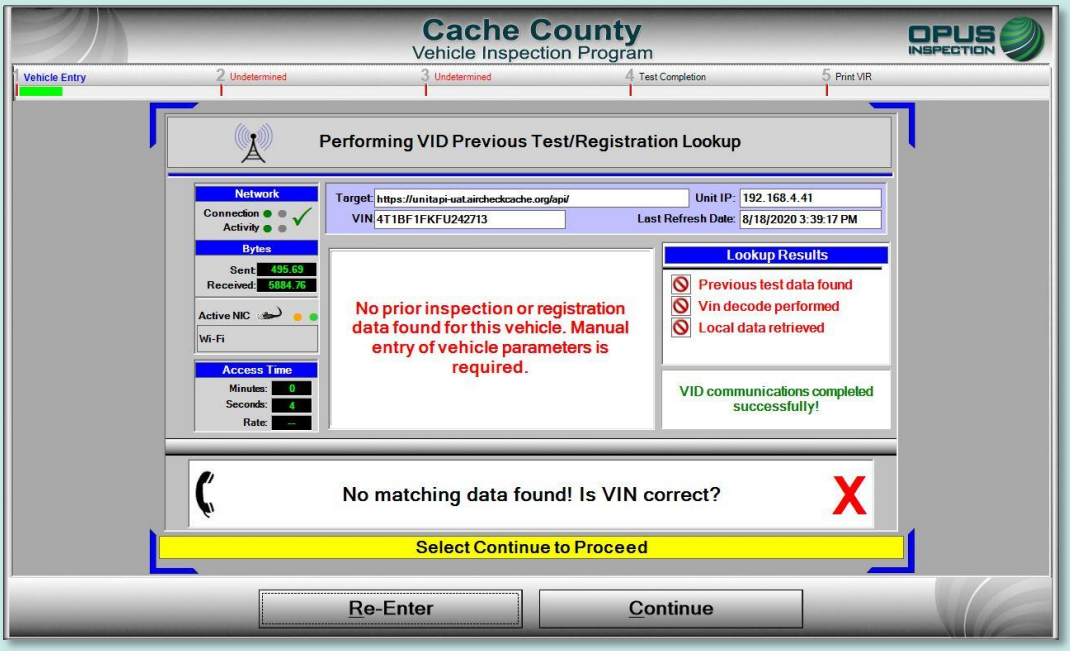


In circumstances where vehicle data lookup finds no previous data, a VIN decode was unable to be performed, and no local data was retrieved, the screen will deliver the following message (Figure 27):

No matching data found! Is VIN correct?

In addition, the screen will notify you that manual entry of vehicle parameters is required. You may choose to tap **Re-Enter** to correct the VIN error or tap **Continue** to proceed with the inspection.

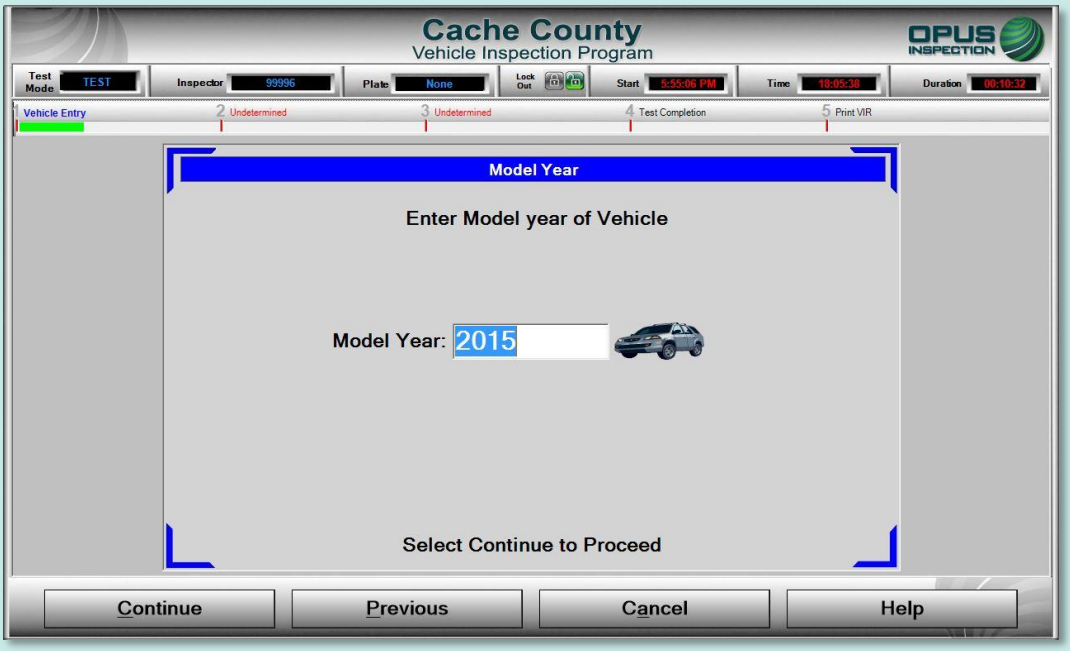
Figure 27: No matching vehicle data found—manual entry required



5.1.6 Vehicle model year entry

On the model year screen (Figure 28) enter the vehicle's model year in the field provided, then tap **Continue**.

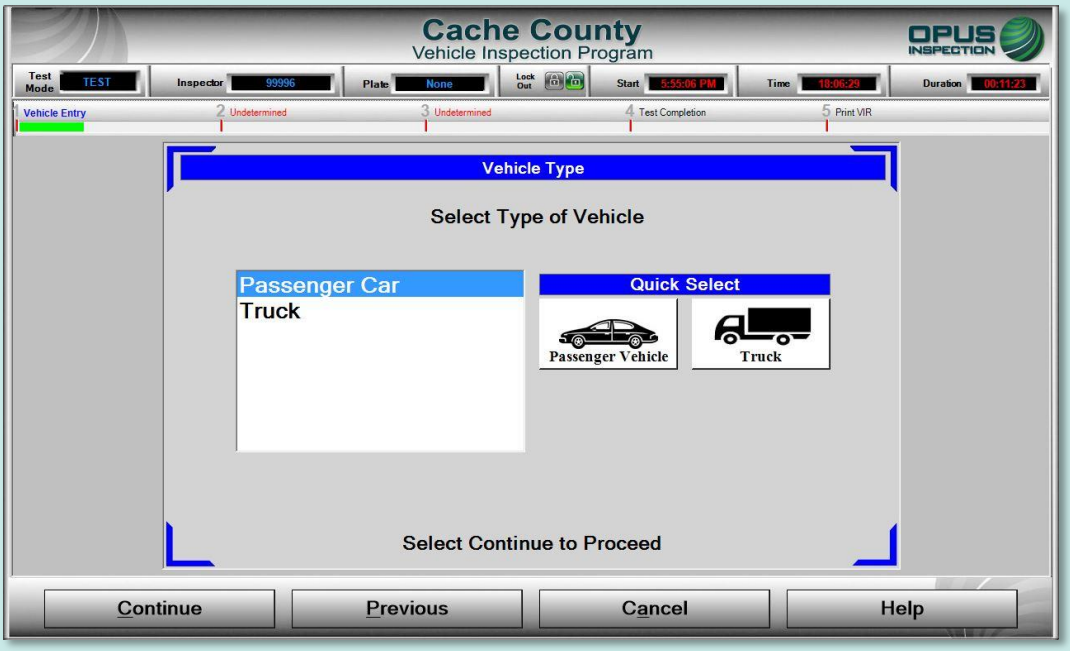
Figure 28: Enter model year of vehicle



5.1.7 Vehicle type entry

In the **Vehicle Type** screen (Figure 29), enter the type of vehicle by selecting **Passenger Car** or **Truck** in the left-side field or by tapping the appropriate icon under the **Quick Select** header. Tap **Continue** when finished.

Figure 29: Enter vehicle type

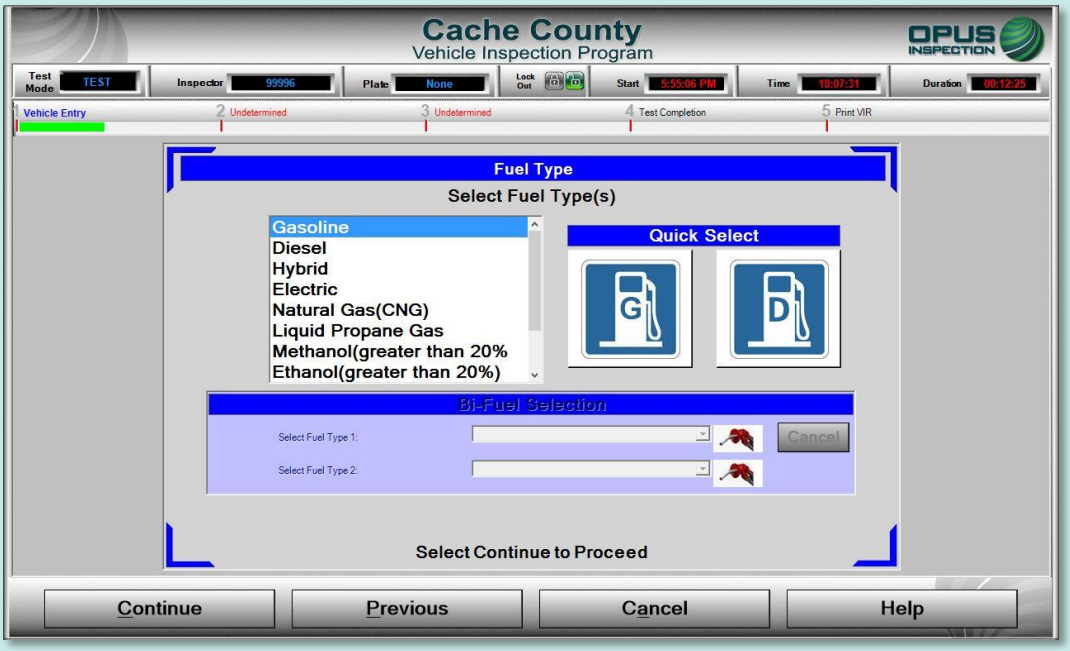


5.1.8 Fuel type entry

In the **Fuel Type** screen (Figure 30), select the vehicle's fuel type from the list at the left-side of the screen or tap the appropriate icon under the **Quick Select** header, then **Continue**.

Note that a third field is available for entering data for vehicles that are bi-fuel capable. You may be prompted with a pop-up box to confirm the vehicle's bi-fuel status.

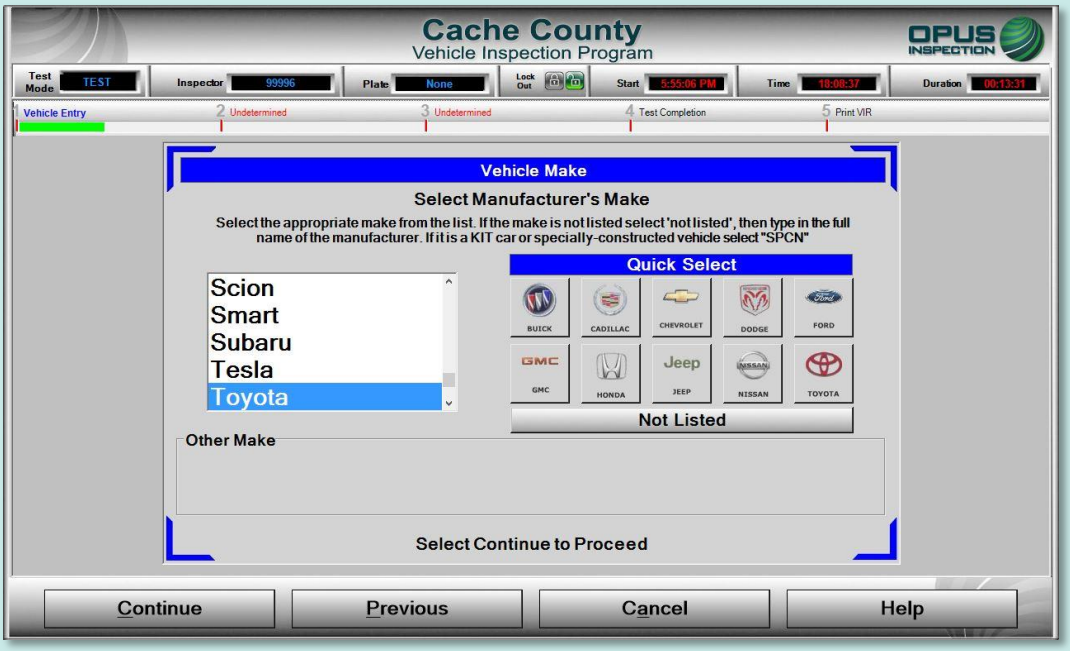
Figure 30: Select fuel type



5.1.9 Vehicle make entry

On the **Vehicle Make** screen (Figure 31), select vehicle make from the scrollable list on the left side of the screen or from the **Quick Select** icons on the right. Tap **Continue** to proceed. If the vehicle's make is not listed, tap **Not Listed** under the **Quick Select** icons. A field will appear for manually entering the vehicle make.

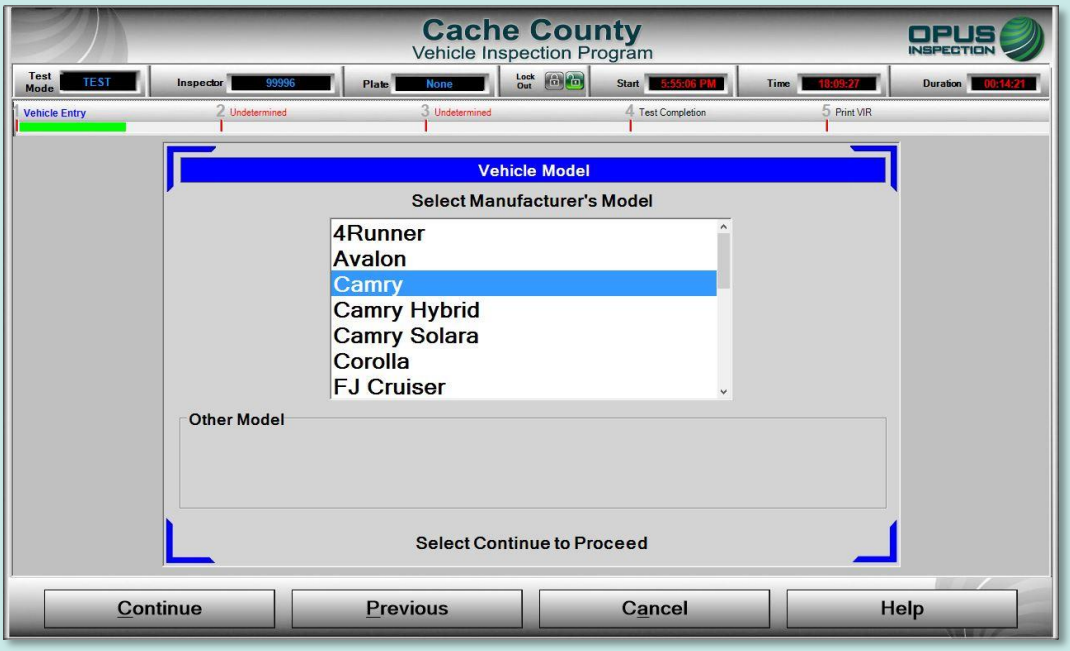
Figure 31: Select vehicle make



5.1.10 Vehicle model entry

From the **Vehicle Model** screen (Figure 32), select the vehicle's model from the scrollable list, then tap **Continue**.

Figure 32: Enter vehicle model



5.1.11 Additional manual entry screens

For those vehicles where vehicle data is unavailable from lookup tables, manual entry of vehicle parameters is required. You will be stepped through entry of **Engine Displacement** (Figure 33), number of **Engine Cylinders** (Figure 34), **Transmission Type** (Figure 35), **Vehicle Body Style** (Figure 36), and the **Odometer Reading** (Figure 37). Tap **Continue** to proceed to the next step in the inspection process or **Previous** to access the prior screen.

Figure 33: Enter engine displacement

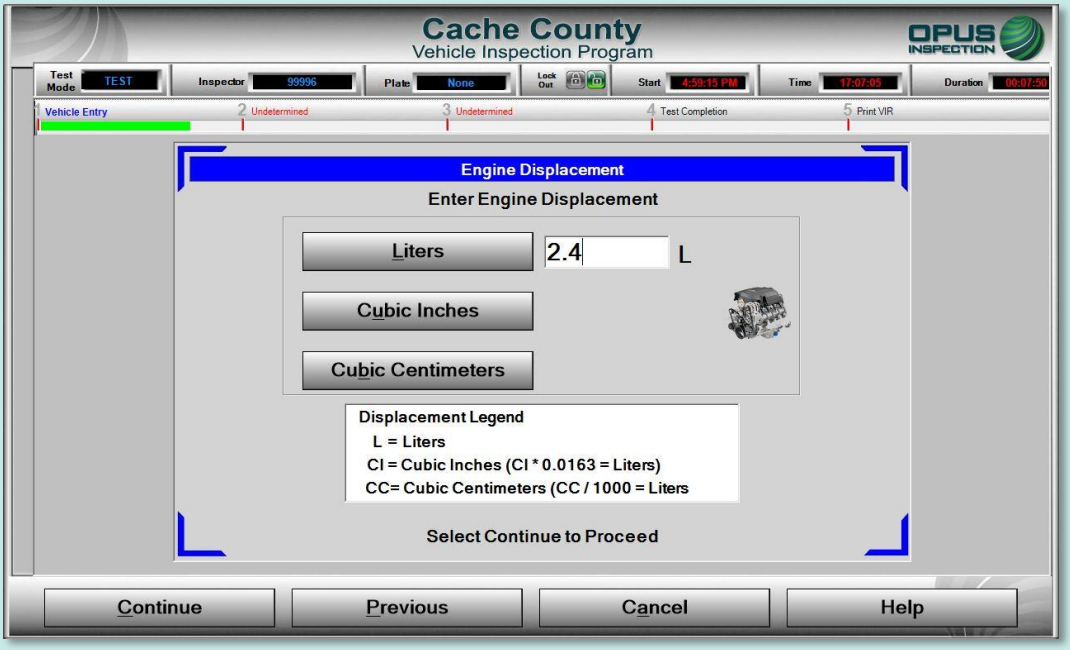


Figure 34: Enter number of engine cylinders

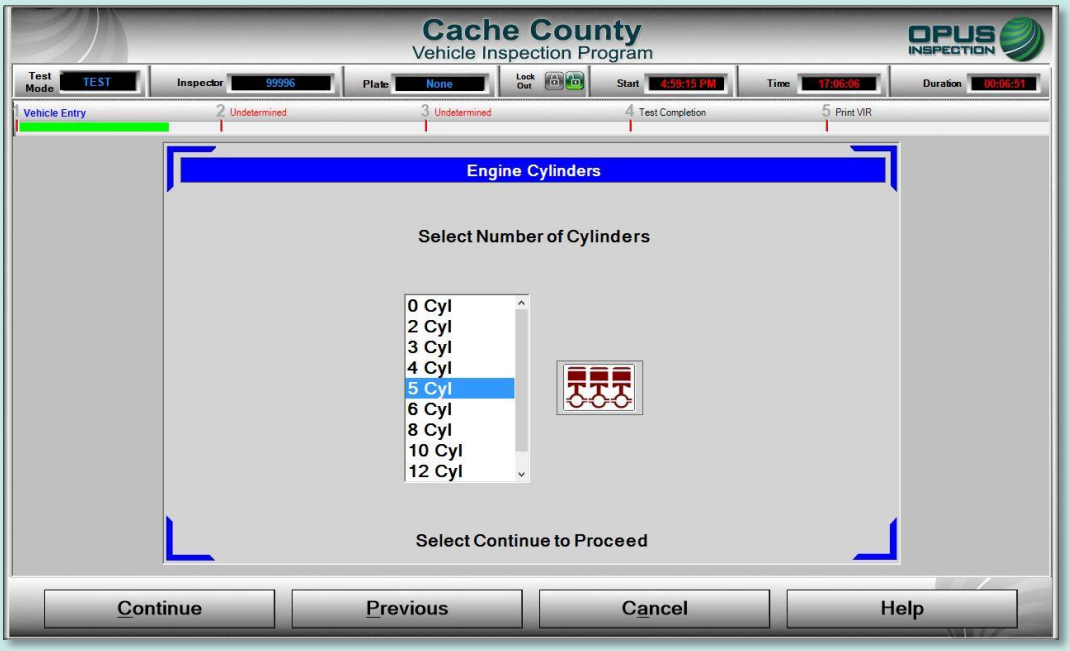


Figure 35: Enter transmission type

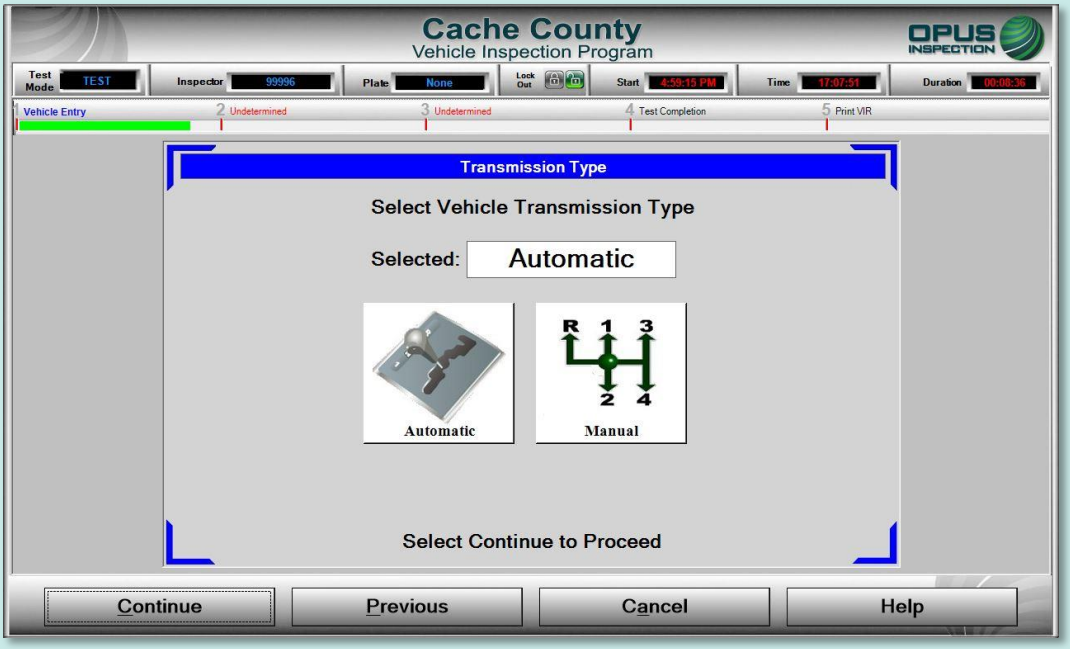


Figure 36: Enter vehicle body style

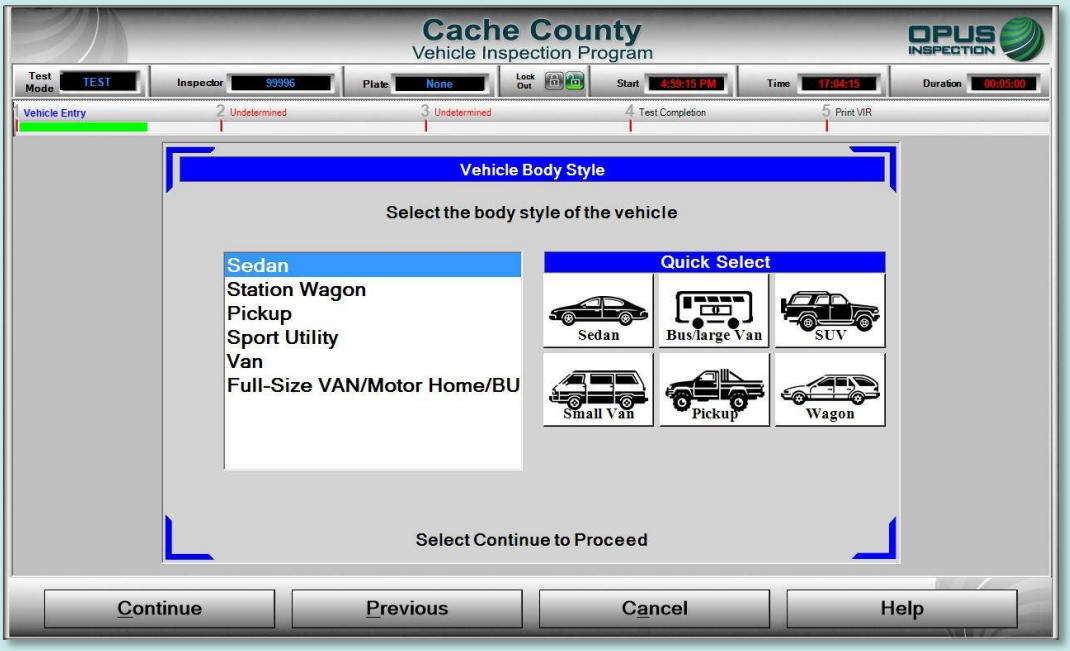
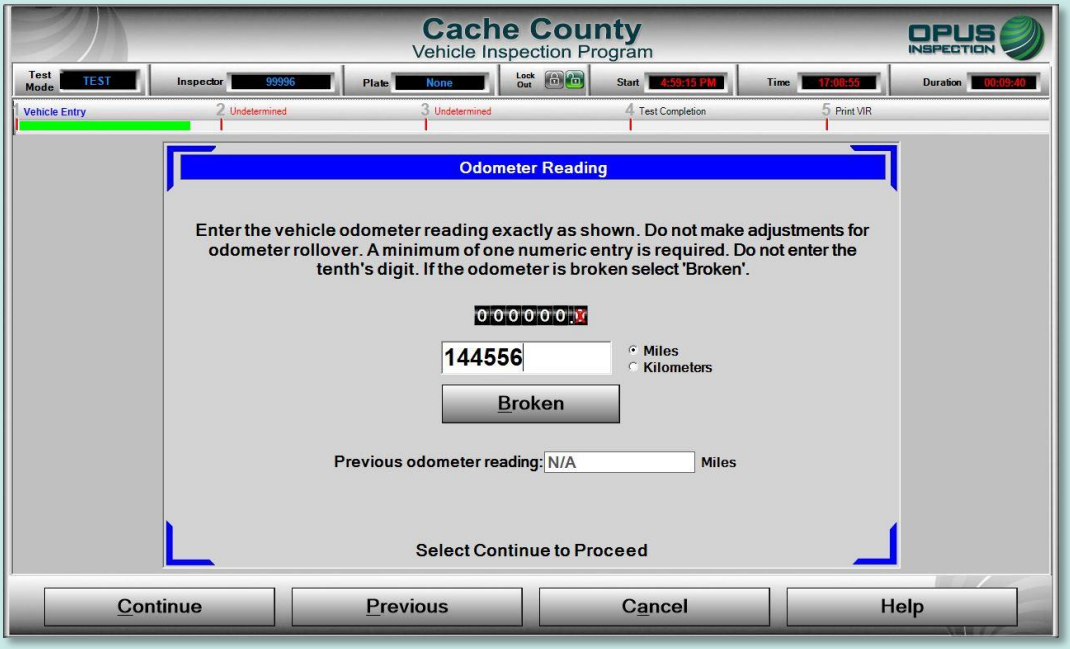


Figure 37: Enter odometer reading



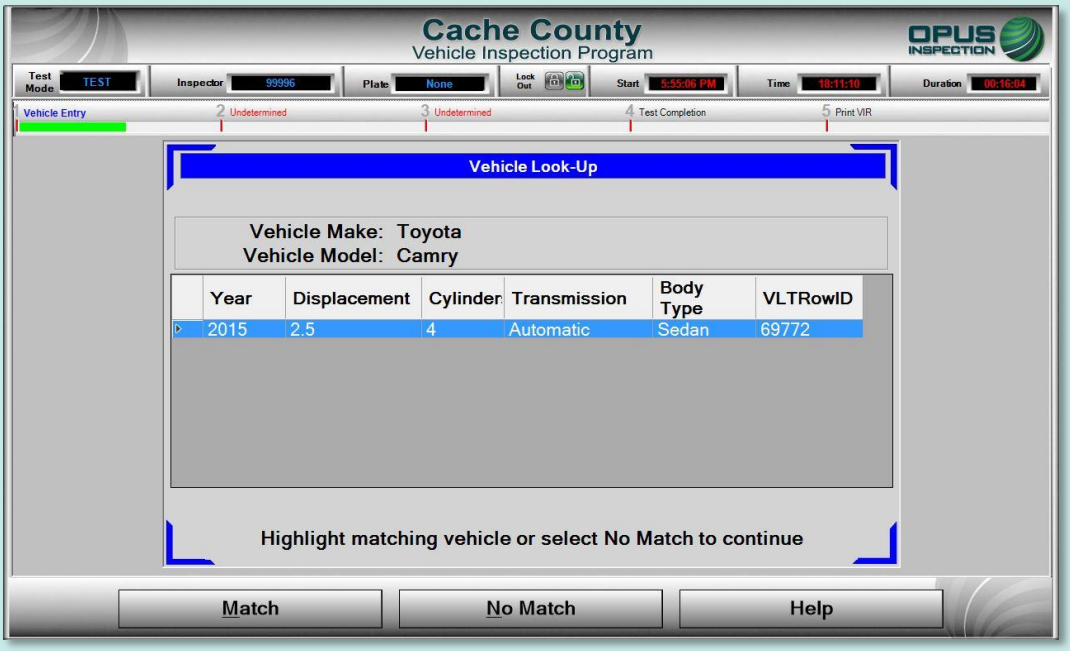
The **Odometer Reading** screen (Figure 37) includes detailed instructions for entry. Tapping **Broken** will result in a default entry of zero (0).

5.1.12 Vehicle lookup table match selection

The **Vehicle Look-Up** screen (Figure 38) displays the vehicle's make, model, year, displacement, number of cylinders, transmission type, body type, and vehicle lookup table (VLT) row ID. If the information displayed matches the vehicle under test, tap **Match** to continue with the inspection process.

If the information displayed on the screen does not match, tap **No Match**. You will be prompted through a series of screens to enter the vehicle data manually.

Figure 38: Vehicle lookup and match screen

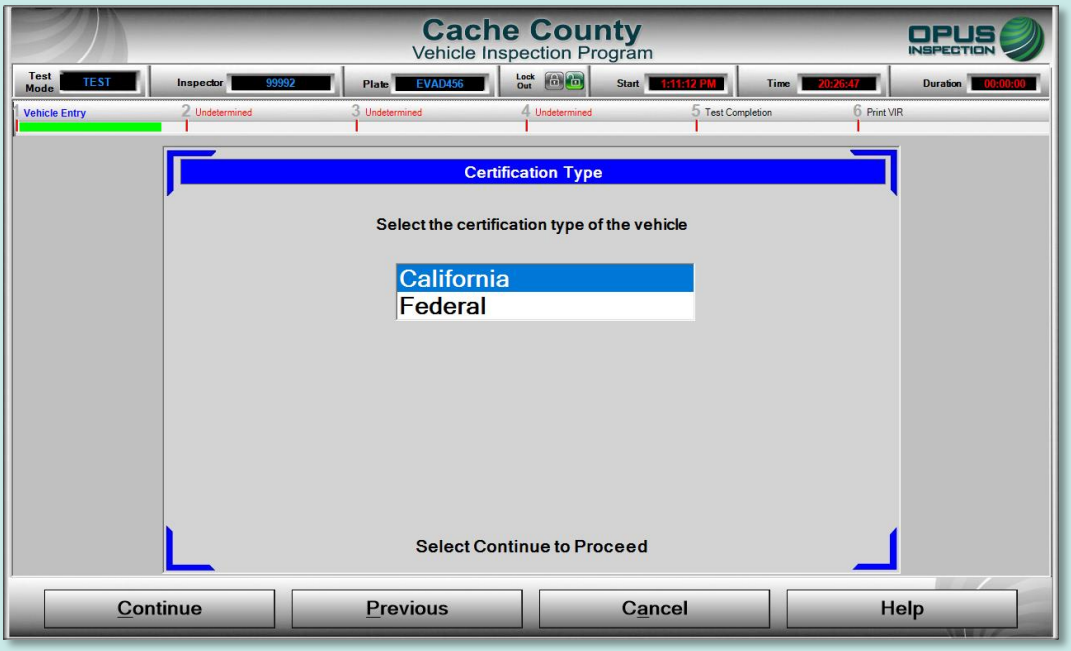


5.1.13 Certification type (diesel only)

During an inspection of a diesel engine vehicle, a **Certification Type** screen (Figure 39) will appear following the **Vehicle Lookup** screen. There are only two choices. Select **California** or **Federal**, then tap **Continue**.

More information about the diesel inspection process can be found in section 5.1.17, below.

Figure 39: Selecting the vehicle's certification type (diesel vehicles)



5.1.14 Vehicle weight class entry

On the **Gross Vehicle Weight** screen (Figure 40), enter the vehicle's gross vehicle weight. If the gross vehicle weight is not available, tap **Not Available** and the inspection system will fill in the field with a default number (5999 for passenger cars). Tap **Continue** to proceed with the inspection.

The GVWR is typically located near the vehicle's VIN—that is, on the driver's side doorjamb or under the hood.

Some vehicles requiring manual entry of data will cause additional instructions to pop up when you tap **Not Available** (Figure 41). These instructions will direct you to enter a default weight number depending on the vehicle make, model, or other parameters.

Figure 40: Enter Gross Vehicle Weight

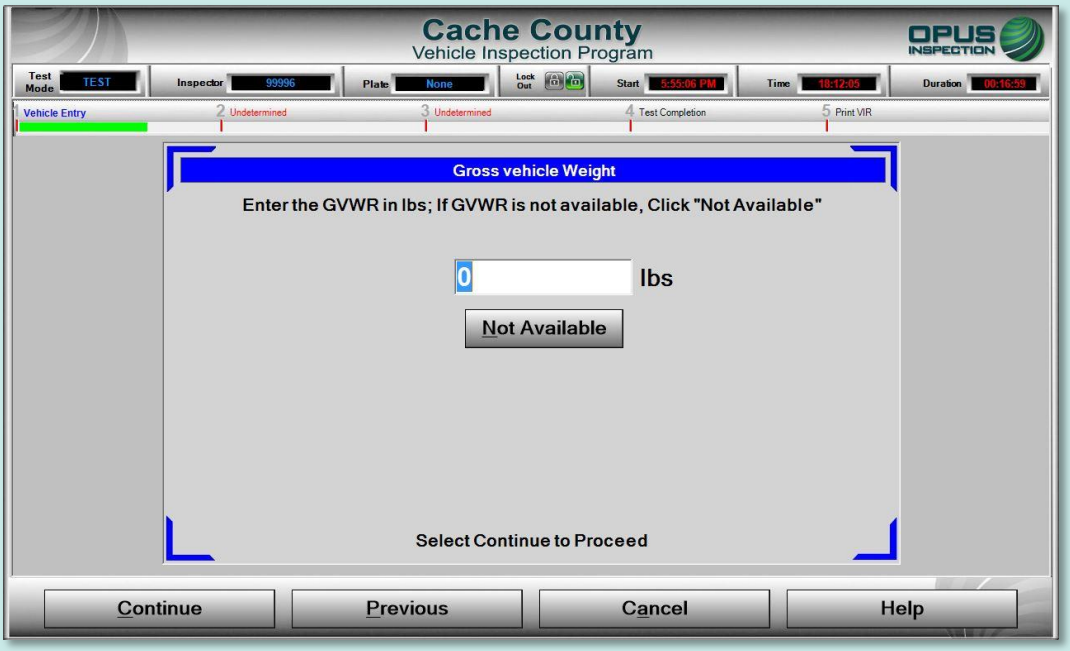
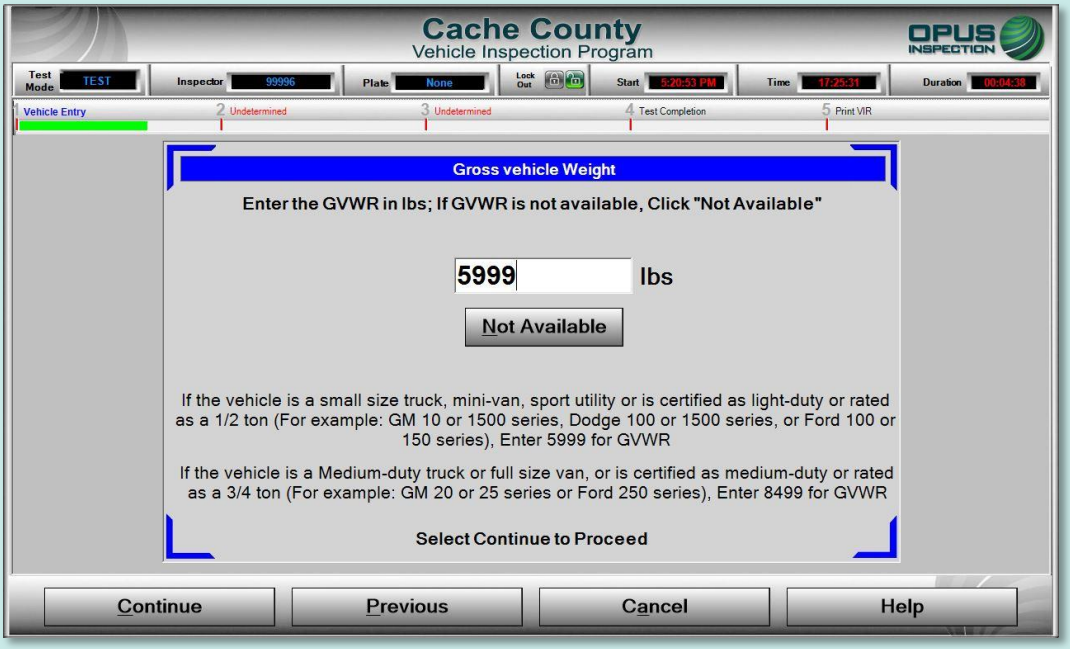


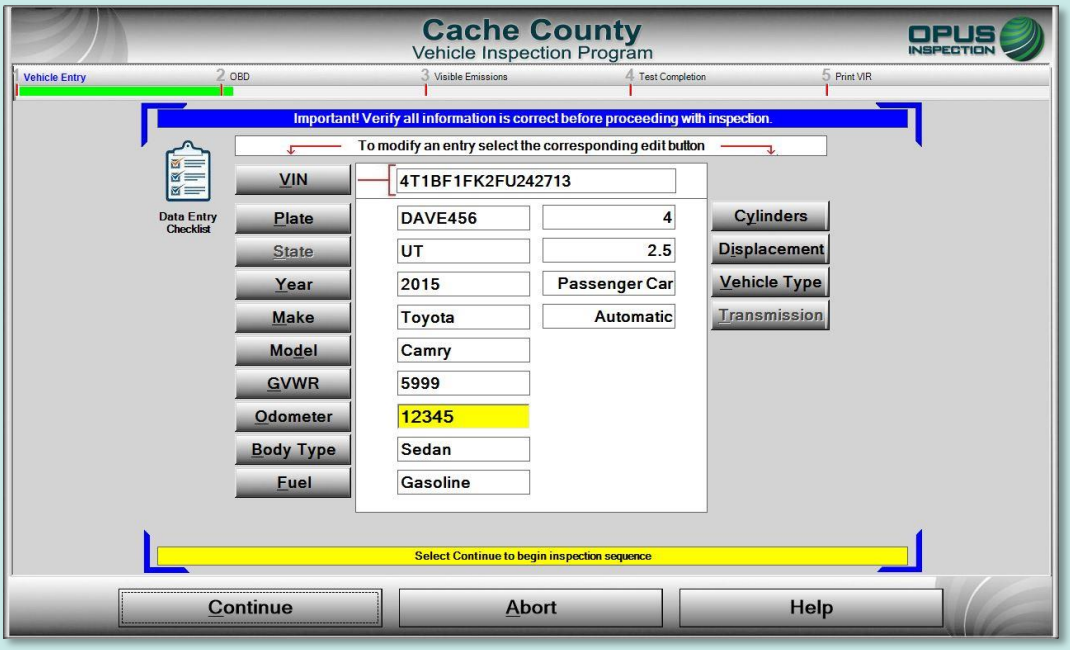
Figure 41: Enter Gross Vehicle Weight—with special instructions



5.1.15 Verify information and enter odometer reading

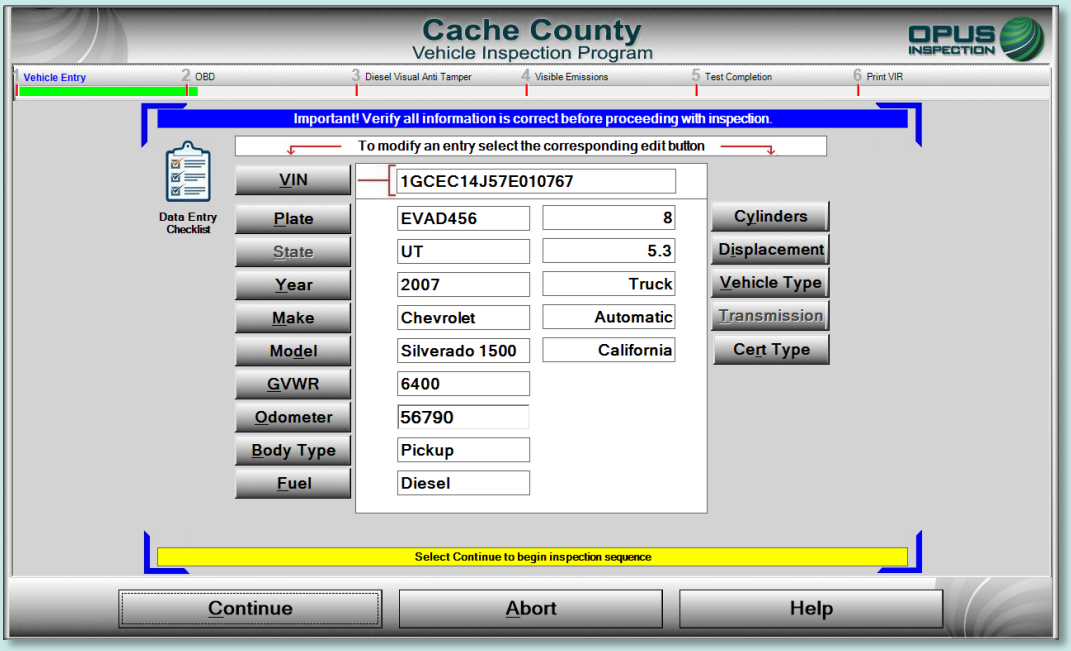
The **Verify all information** screen (Figure 42) provides a data entry checklist. Review each entry carefully before tapping **Continue**. If it has not yet been recorded, enter the **Odometer** reading in the field provided. Also, correct any errors that appear in the data fields shown on the screen by tapping on the button to the left or right of the appropriate data field.

Figure 42: Verify all information screen



For diesel vehicles, the **Verify all information** screen includes an extra field for **Certification** in the right-side column, just below the **Transmission** field (Figure 43).

Figure 43: Verify all information screen—Diesel vehicle



5.1.16 MIL lamp status

On the **OBD Dashboard MIL (Check Engine) light verification** screen, follow the directions for **KOEO** (Figure 44) and **KOER** (Figure 45) checks, selecting **Yes** or **No** depending on the outcome. The inspection system will proceed to the next screen following the **KOER** check.

Figure 44: OBD Dashboard MIL Verification-KOEO

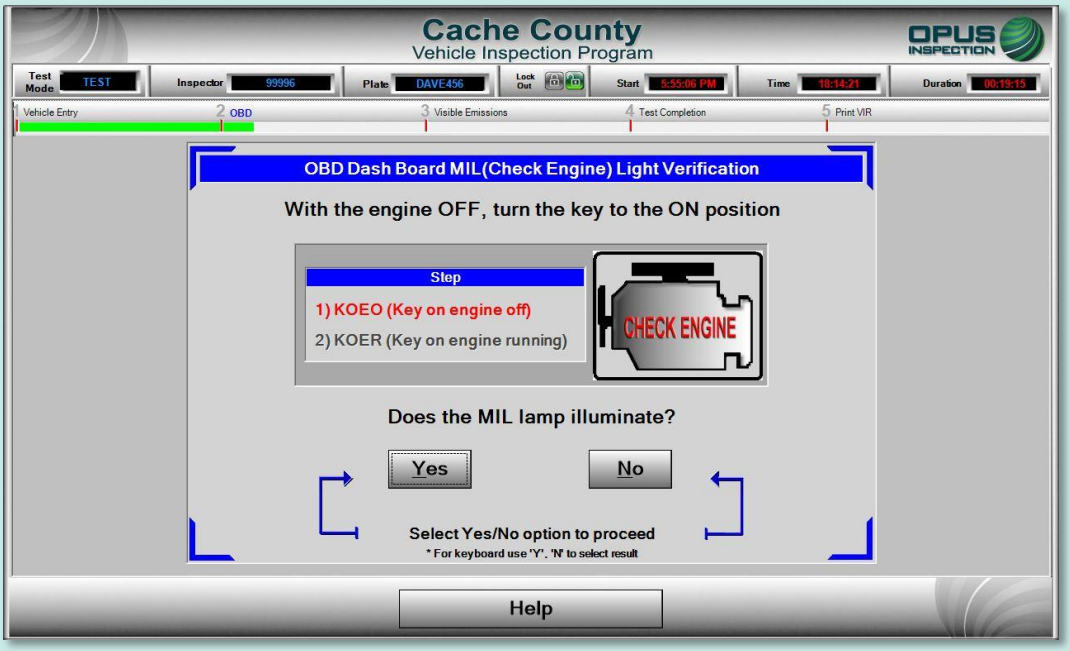
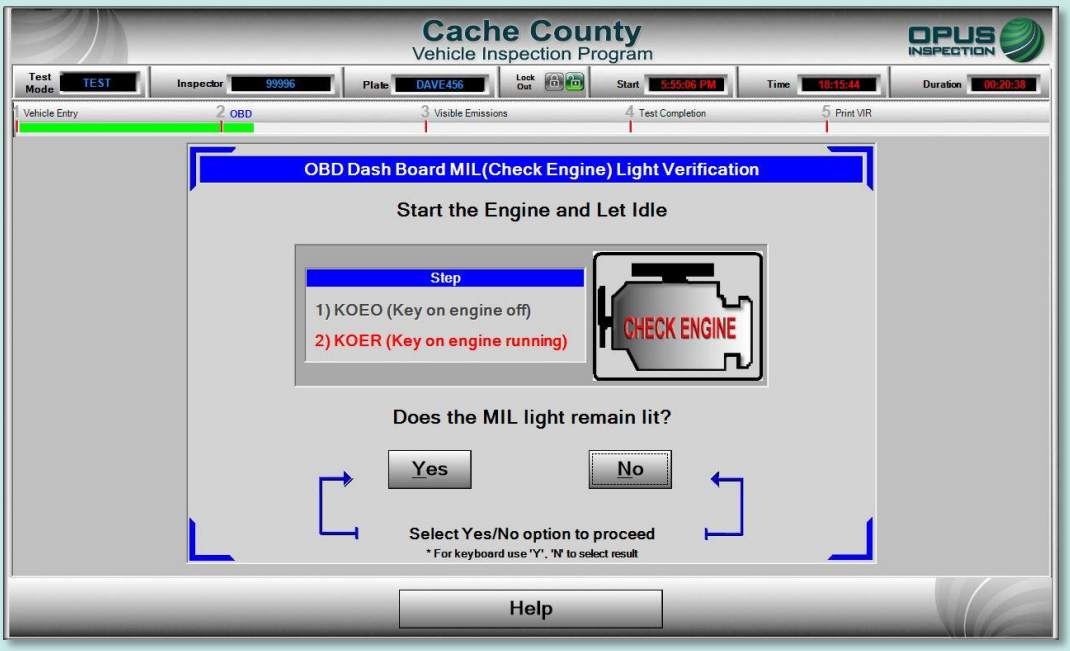


Figure 45: OBD Dashboard MIL Verification-KOER

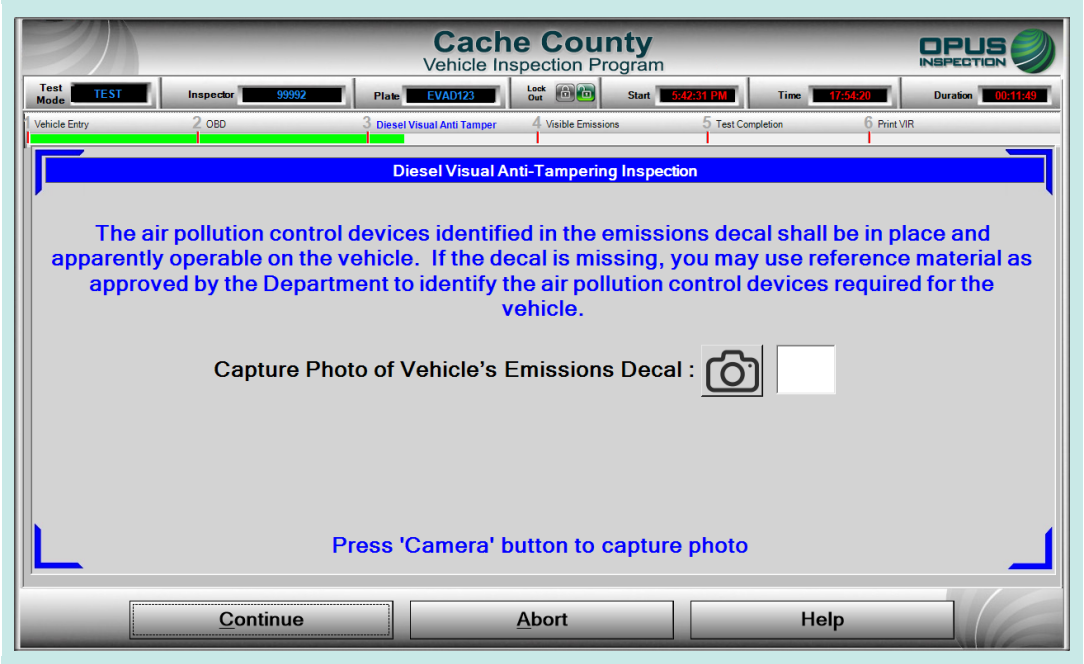


5.1.17 Diesel inspection sequence

In addition to the **Certificate Type** screen (Figure 39) described in section 5.1.13, two additional anti-tampering documentation screens are added to the inspection sequence for diesel vehicles.

The **Diesel visual anti-tampering inspection** screen for capturing a photo of the vehicle's **emissions decal** (Figure 46) utilizes the tablet's rear camera. Tap the camera icon to activate the camera and tap **Take Photo** when the decal is in the frame. You will have the option to retake the photo if the captured image is unsatisfactory. Tap **Close** to save the photo and **Continue** to proceed with the inspection. The screen also includes instructions for how to proceed if the decal is missing.

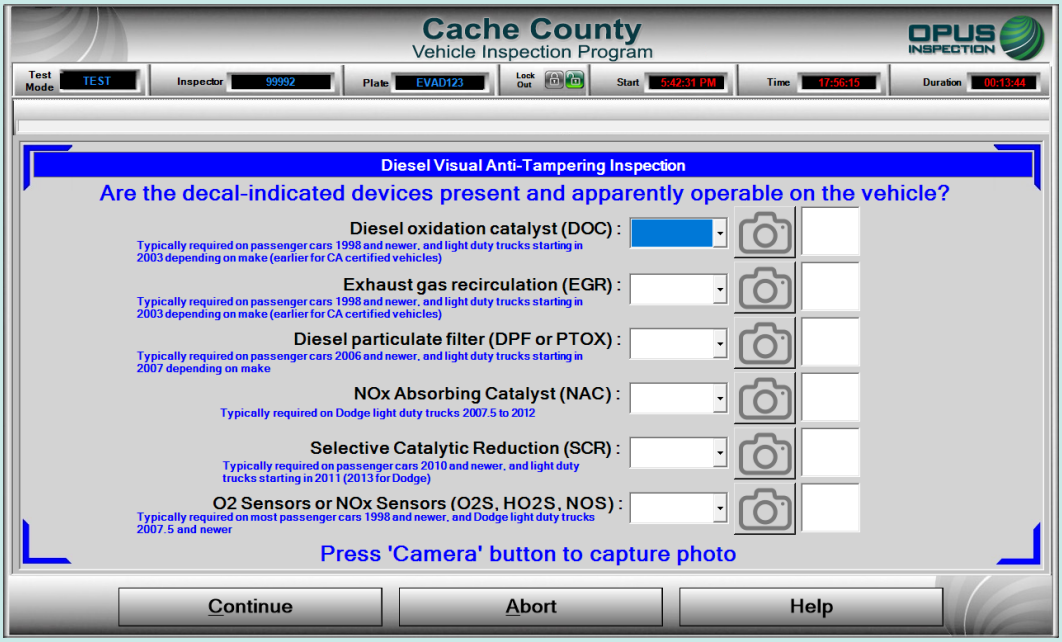
Figure 46: Diesel visual anti-tampering inspection—emissions decal



Next in the diesel vehicle inspection sequence is the **Diesel visual anti-tampering inspection** screen for documenting the presence and apparent operating condition of **emissions devices indicated on the emissions decal** (Figure 47). There are six devices listed on the screen. For each device use the drop-down list to select **Yes**, **No**, or **N/A**, as appropriate; then tap the corresponding camera icon to take a photo of the device. As with other image capture functions using the rear camera, tap **Take Photo** when the device is centered in the frame. You will have the option to retake the photo if the image is unsatisfactory. Tap **Close** when a satisfactory photo has been captured.

When all devices have been documented and photos taken of each device present, press **Continue** to proceed to the visible emissions check.

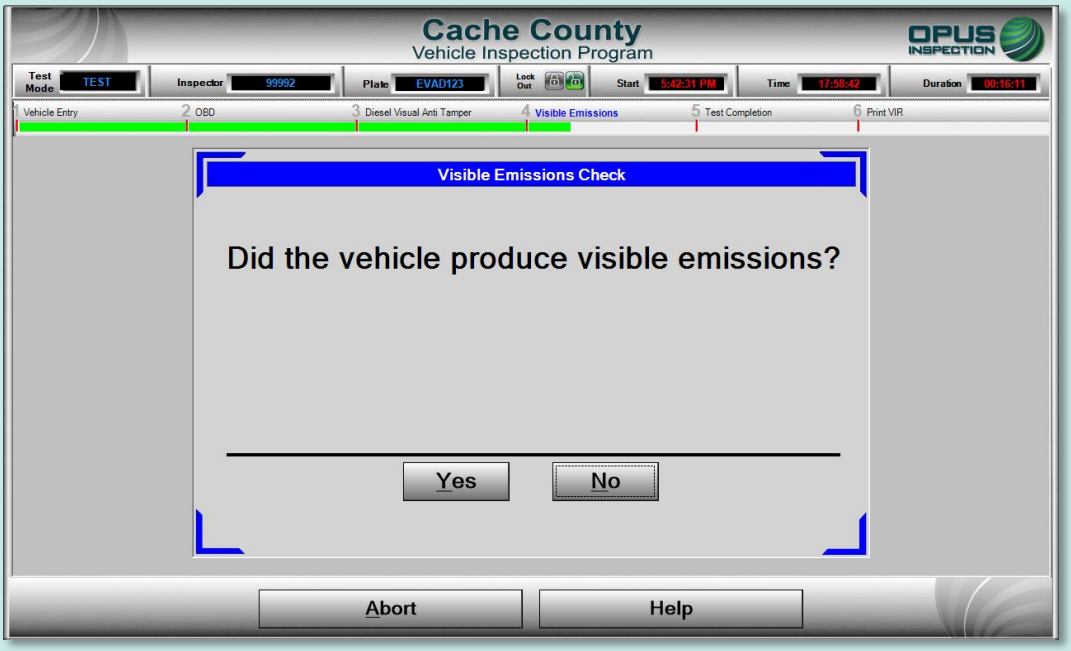
Figure 47: Diesel visual anti-tampering inspection—decal-indicated devices



5.1.18 Visible emissions check

On the **Visible Emissions Check** screen (Figure 48), indicate whether the vehicle produced visible emissions by selecting **Yes** or **No.** A pop-up box will appear prompting for confirmation. When confirmed, tap **Continue** to proceed to the final step in the inspection process. (A **Yes** answer to the visible emissions question will result in a failed inspection regardless of the outcome of the OBD test.)

Figure 48: Visible emissions check



5.1.19 Printing the vehicle inspection report (VIR)

The final screen displays a copy of the **vehicle inspection report** (VIR) of the inspection result, whether a passing inspection (Figure 49) or one that failed (Figure 50 and Figure 51). The VIR is automatically sent to the printer.

To print a second copy of the VIR, tap **Reprint Form**. To conclude the inspection process, tap **Continue**. The inspection system display will return back to the **Vehicle Inspection Menu**.

Figure 49: Vehicle inspection report (VIR)—Pass

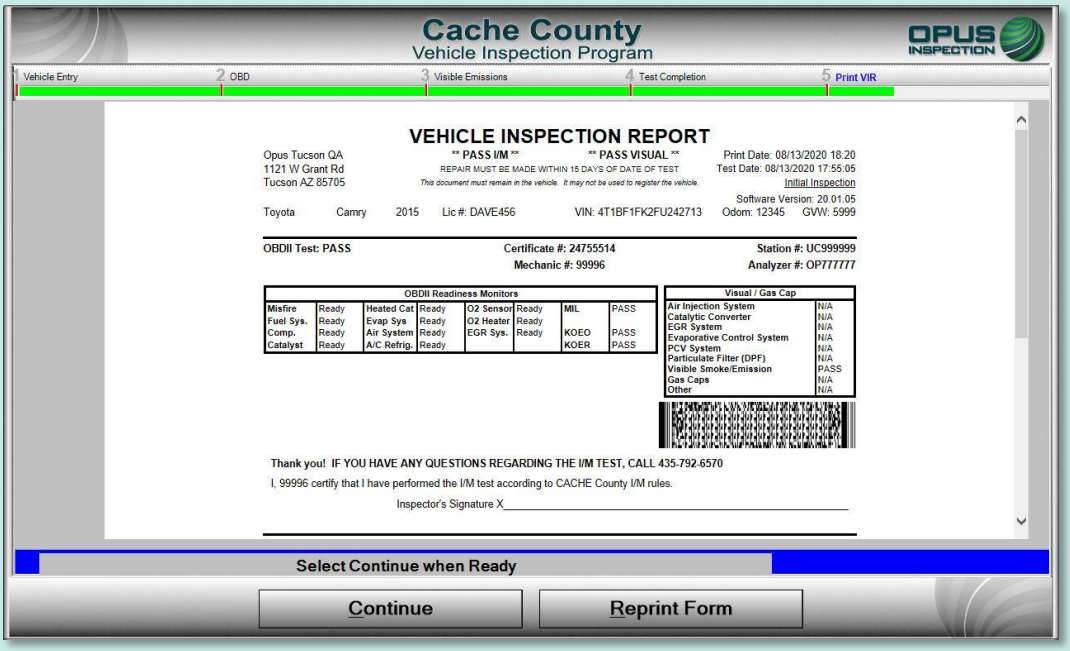


Figure 50: Vehicle inspection report (VIR)—Fail

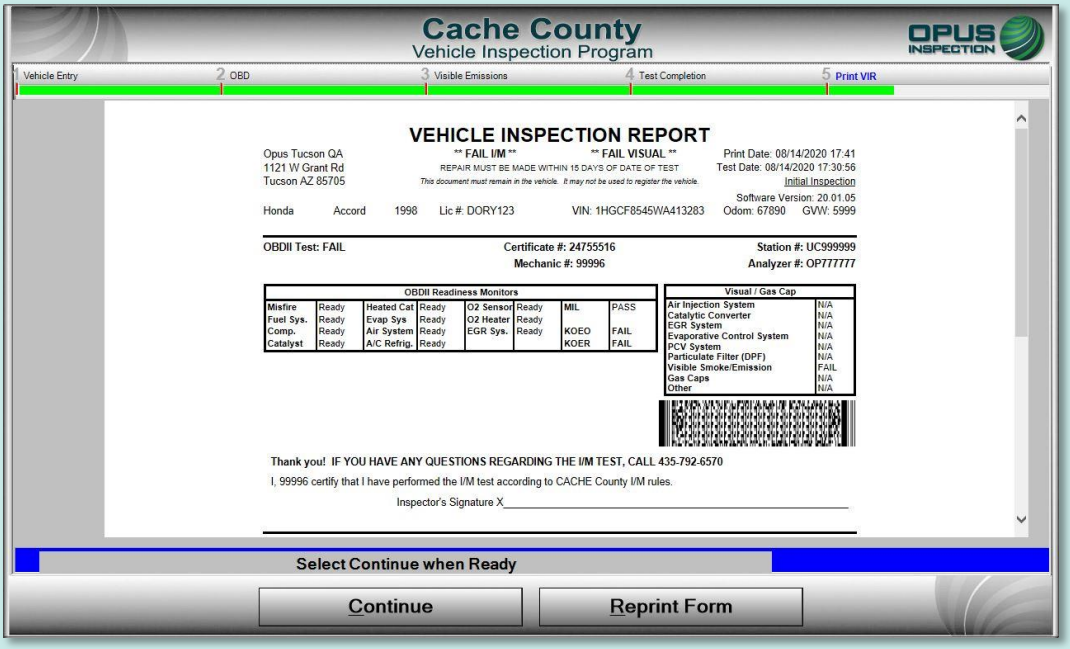
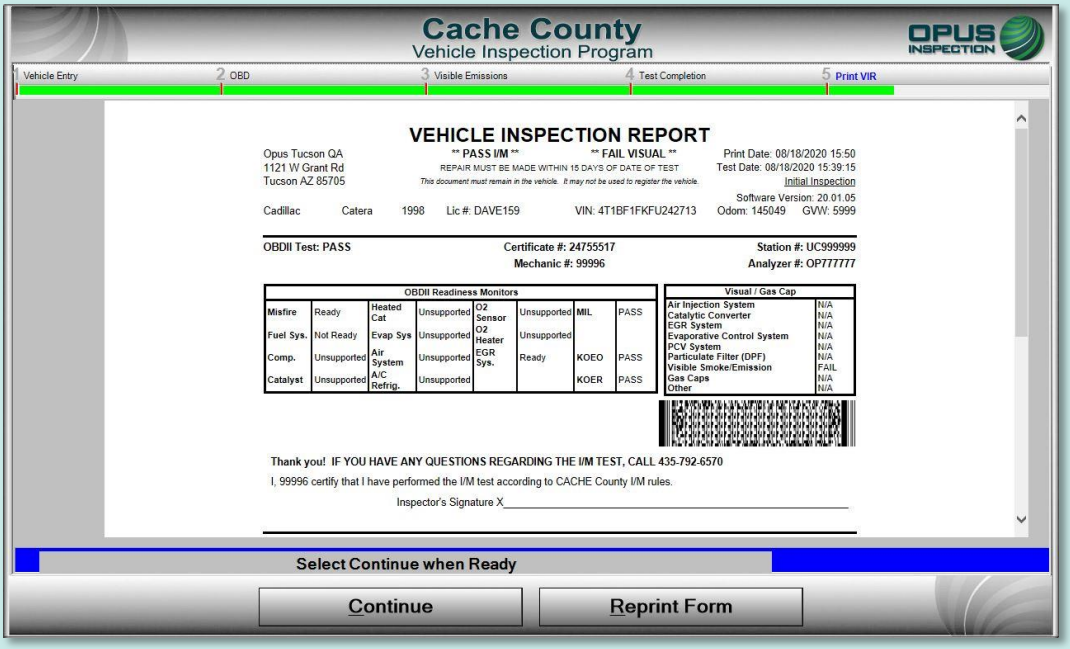


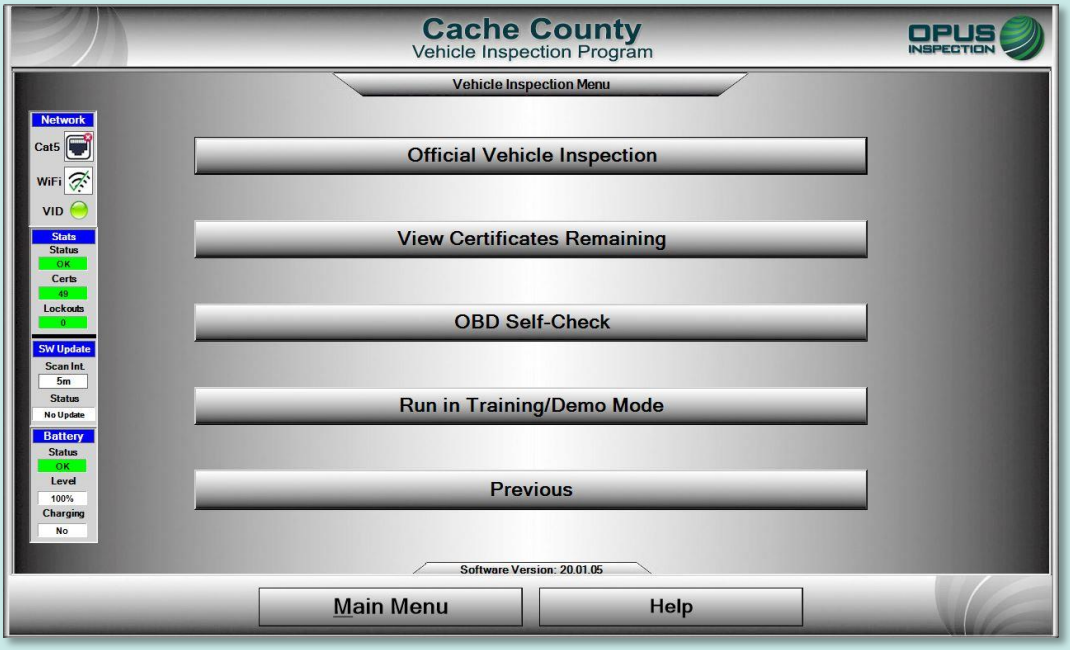
Figure 51: Vehicle inspection report (VIR)—Failed visual emissions



5.2 Other vehicle inspection menu items

Besides the **Official Vehicle Inspection**, the **Vehicle Inspection Menu** (Figure 52) includes several additional utilities, as described in the subsections below.

Figure 52: Vehicle inspection menu



5.2.1 View certificates remaining

Tapping **View Certificates Remaining** provides a quick check of available stock (Figure 53).

Figure 53: Certificates remaining

5.2.2 OBD self-check

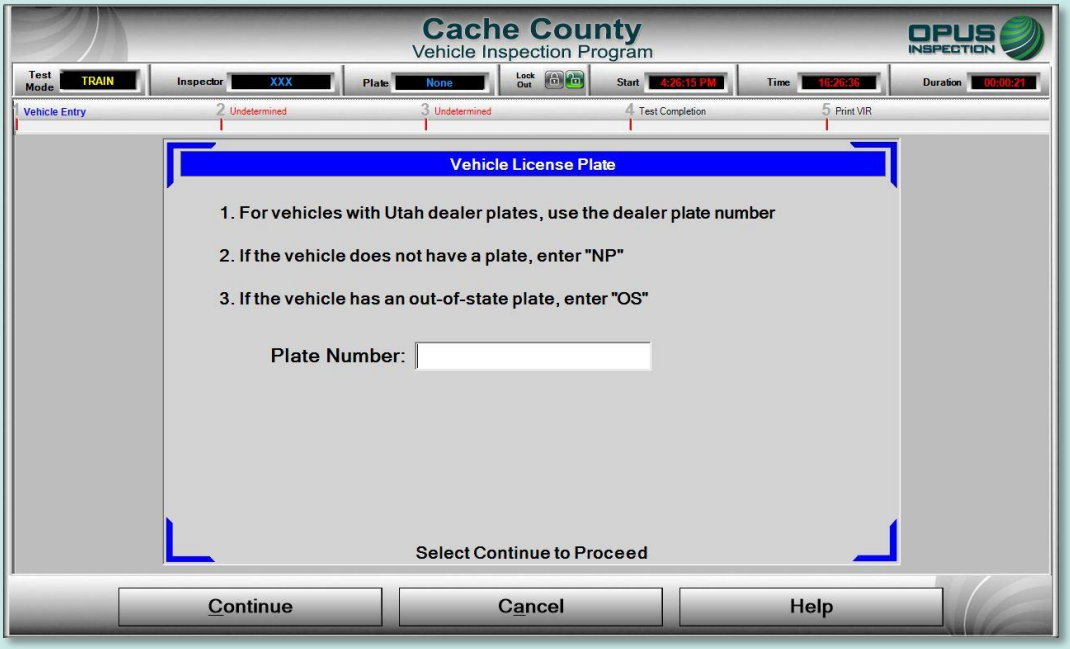
The **OBD Self-Check** function is a feature that will be available in future inspection system software and DriveClean tablet hardware.

5.2.3 Running in Training/Demo mode

The inspection system provides users with the ability to run inspections in **Training/Demo Mode**. Training/demo mode emulates the official inspection process (see example in Figure 54) and connects with the VID, though no test results are recorded or reported.

Note in the example (Figure 54), **TRAIN** appears in **Test Mode** window on the dashboard.

Figure 54: Running inspection in training mode (enter plate number)



5.2.4 Previous

Tapping **Previous** from the **Vehicle Inspection Menu** returns the user to the **Main Menu**.

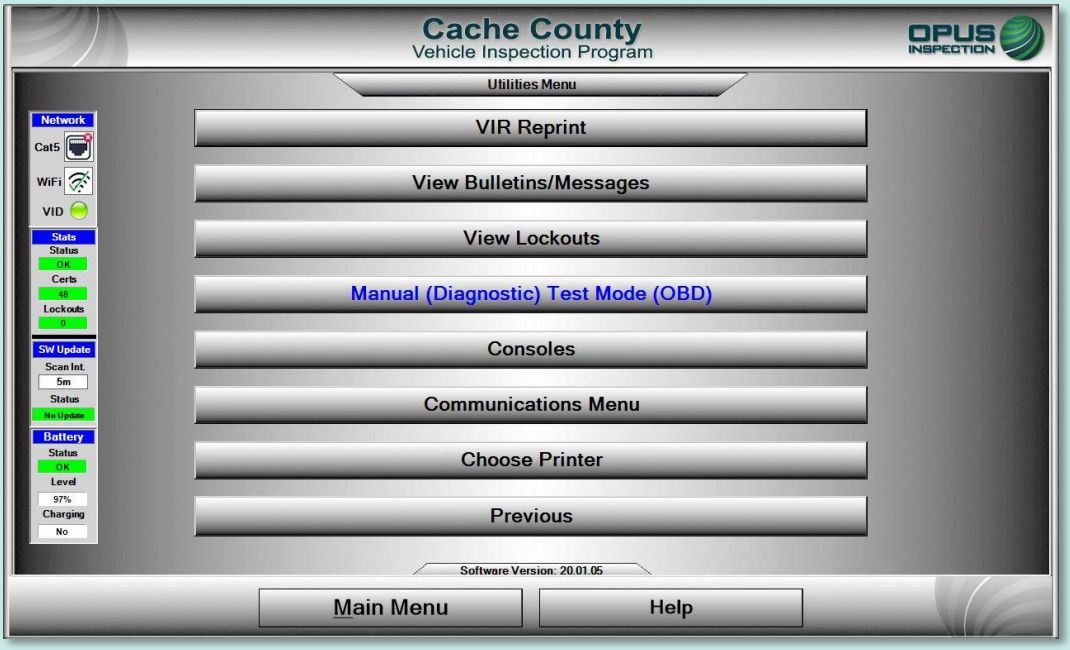
6.Utilities menu

The **Utilities Menu** (Figure 55) includes a variety of useful functions, such as:

- VIR reprint
- View bulletins and messages
- View lockouts
- Manual (diagnostic) test mode (OBD)
- Consoles
- Communications menu
- Choose printer
- Previous

Each utility is described in a subsection below.

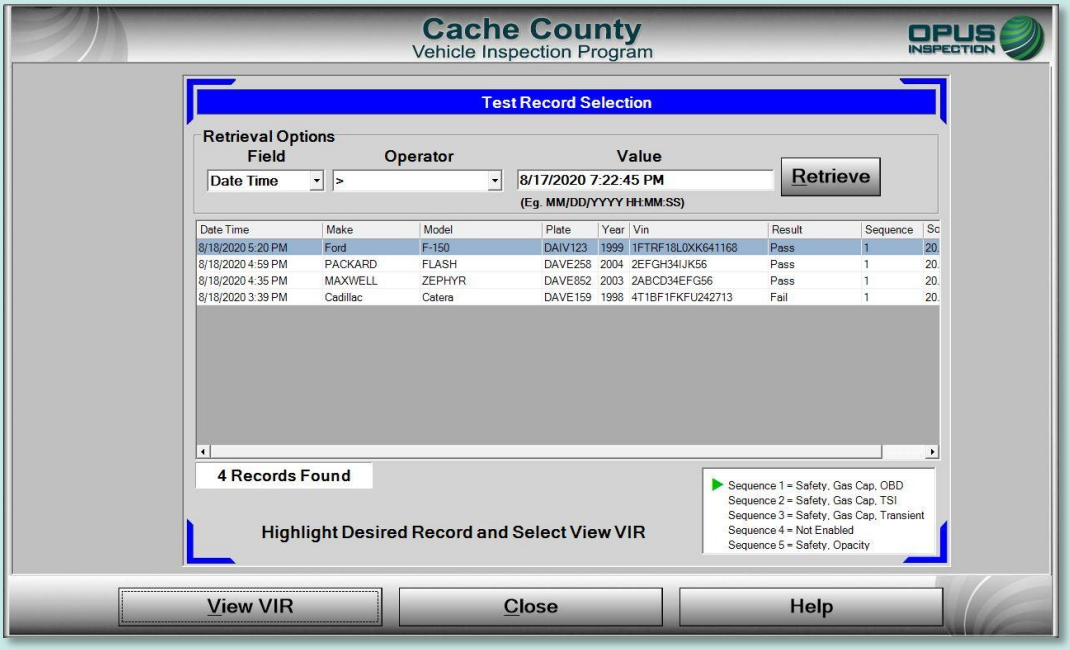
Figure 55: Utilities menu



6.1 VIR reprint

From the **Utilities Menu** tap **VIR Reprint** to bring up a list of test records (Figure 56), searchable by date/time and operator, from which a VIR can be viewed and printed.

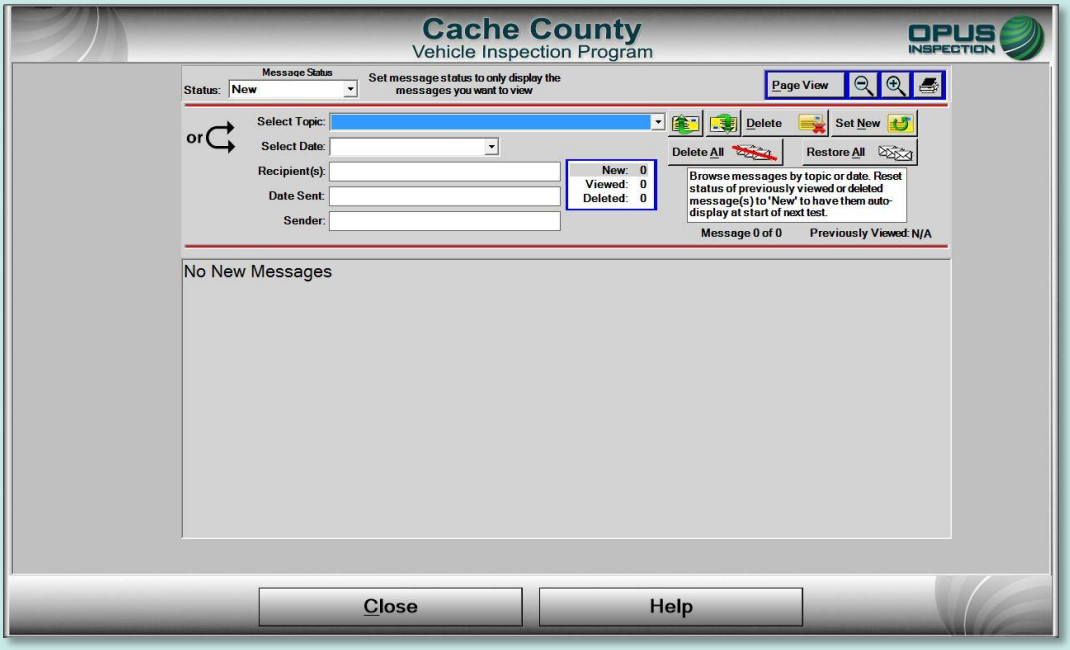
Figure 56: VIR reprint



6.2 Viewing bulletins and messages

Tap Vi**ew Bulletins/Messages** to bring up a screen (Figure 57) providing searchable parameters and several message-handling functions.

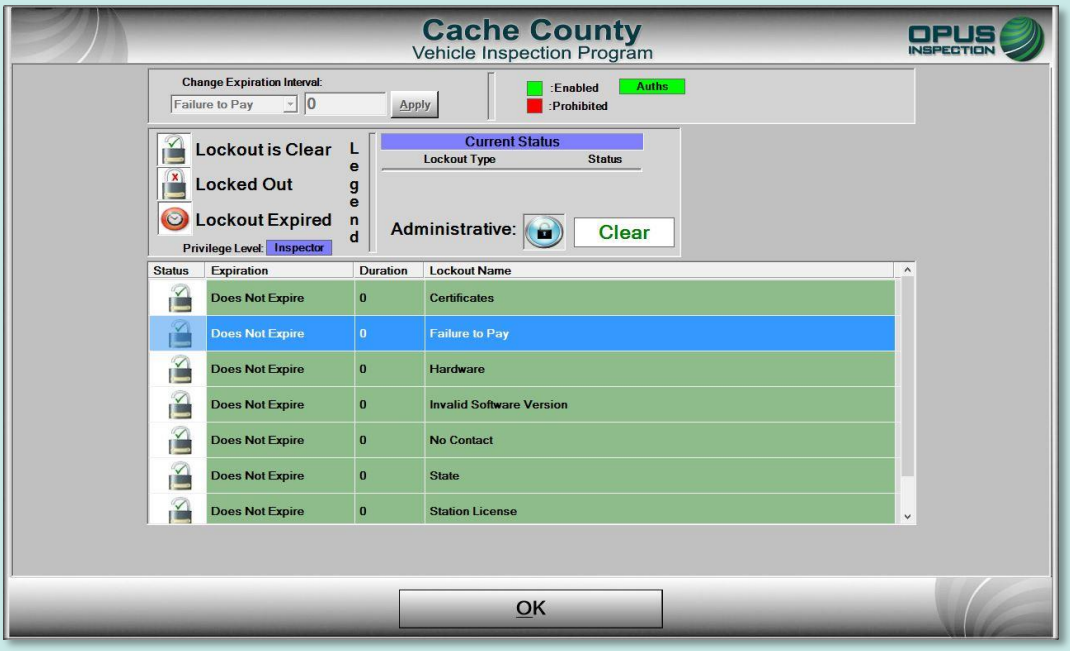
Figure 57: View bulletins and messages



6.3 Viewing lockouts

Lockouts impact your ability to perform inspections. Most lockouts are due to lack of certificates or a result of administrative actions. Tap **View Lockouts** to display a screen (Figure 58) of lockouts and their current status. You can scroll down to see additional lockouts.

Figure 58: View lockouts



6.4 Manual (diagnostics) test mode (OBD)

Tapping the **Manual (Diagnostics) Test Mode (OBD)** bar enables the user to run an OBD test that is not part of an official or training/demo inspection. No records are retained; this function is for diagnostic purposes only.

The first screen (Figure 59) prompts you to select the test mode. At this time, only the **OBD** test is available. You will be prompted for additional vehicle details in subsequent screens. At any time, tap **Close** to exit the utility, or **Help** to access operator documentation.

Enter basic vehicle information in the next screen (Figure 60).

Figure 59: OBD diagnostic test mode

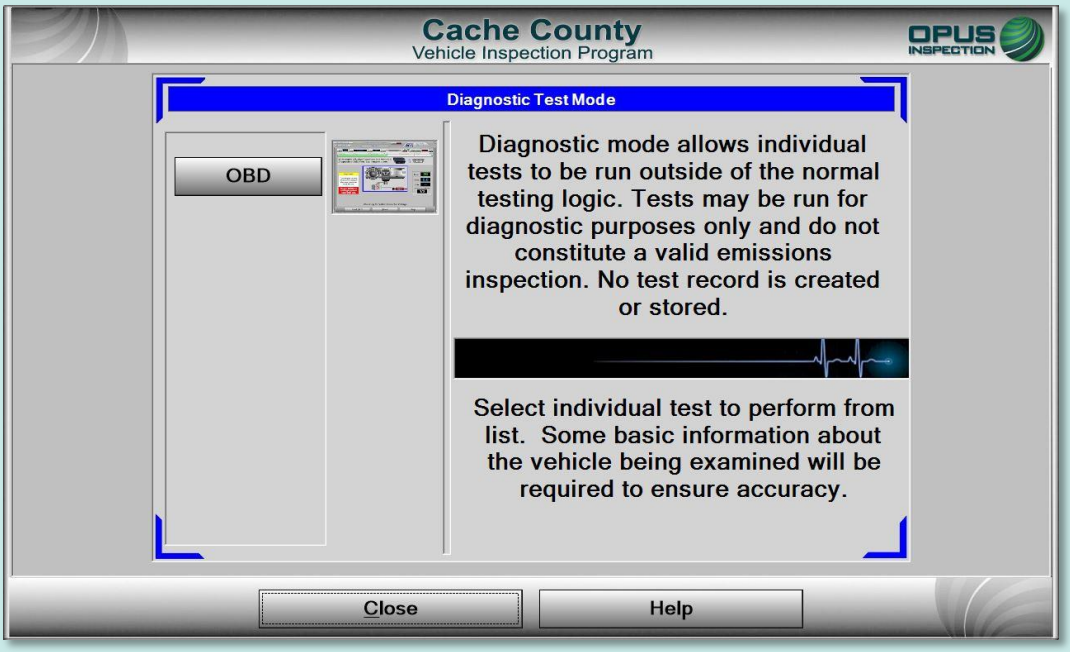
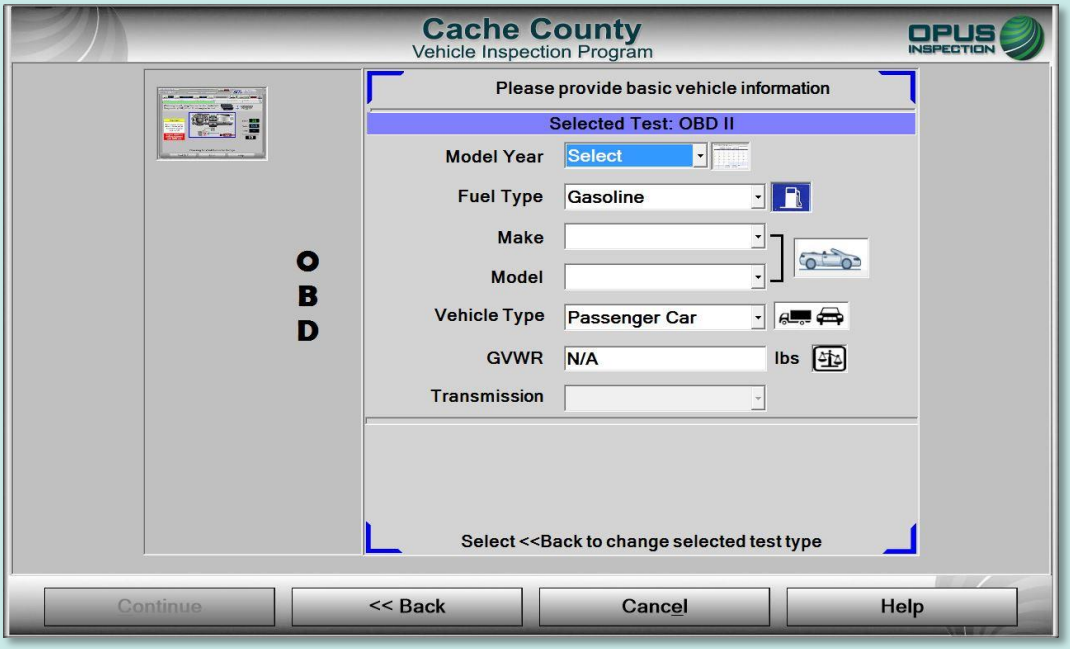


Figure 60: OBD diagnostic test—entering basic vehicle information



The next screen (Figure 61) will prompt you to connect the OBD cable to the vehicle's data link connector and start the engine. Tap the **DLC Locator** button to access a diagram of common DLC connector locations (Figure 62). Note that the **Test Mode** window on the dashboard reads **DIAG**.

Figure 61: OBD diagnostic test mode—connect cable to DLC

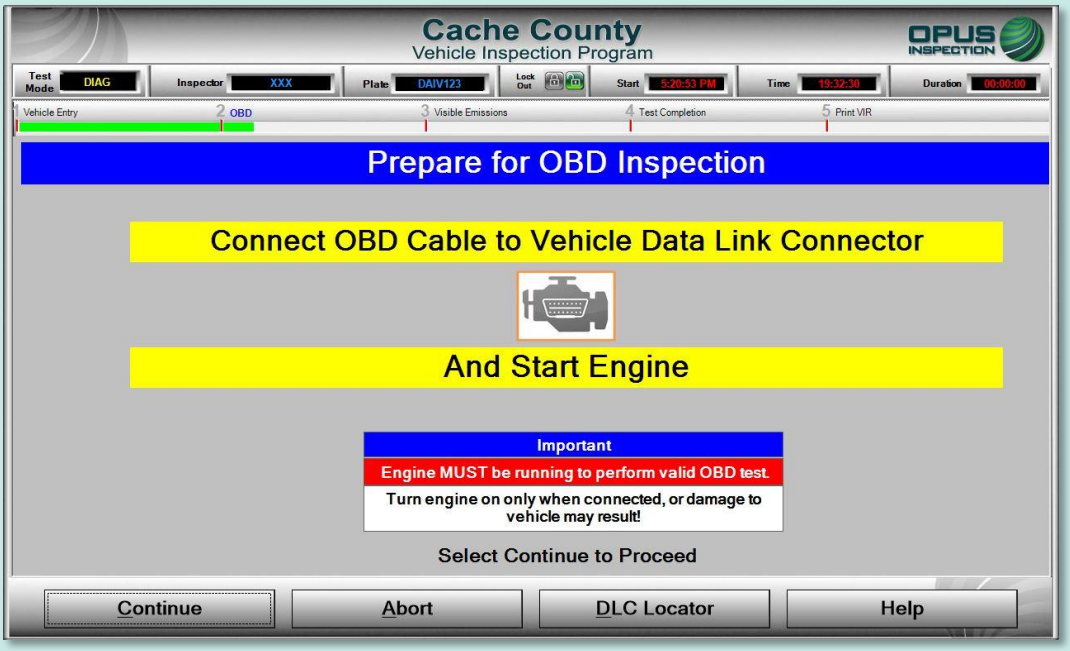


Figure 62: OBD diagnostic test mode—find DLC

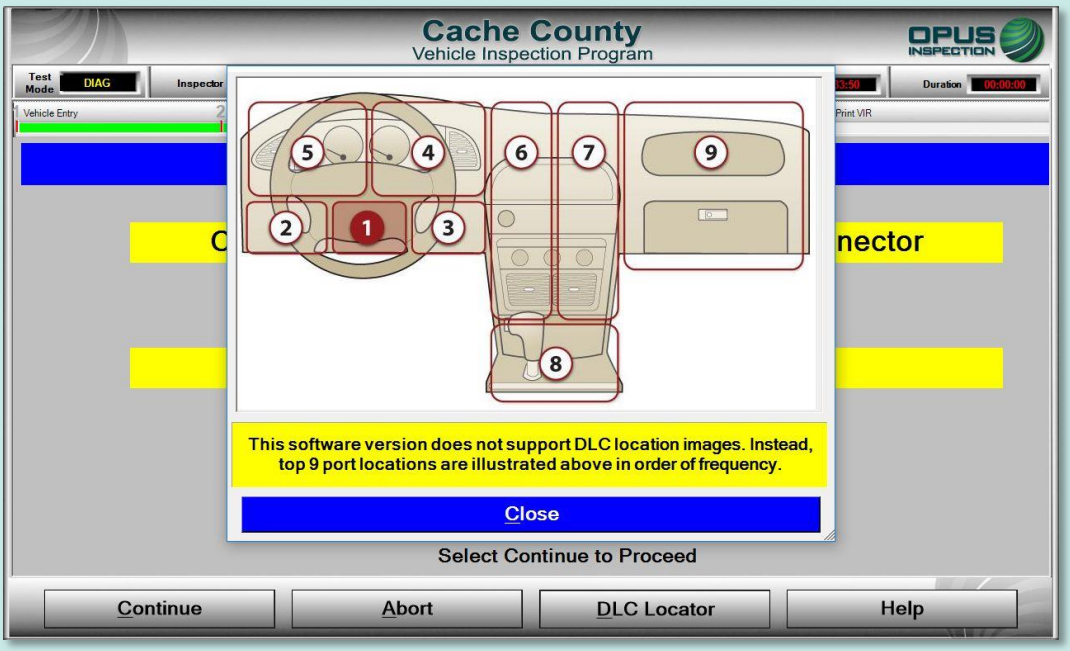


Figure 63 shows the OBD test in progress. The actions at the bottom of the screen (**OK**, **Retry**, **Abort**, and **Help**) are available after the test is completed. Figure 64 shows a report of test data that appears when **OK** is selected from the previous screen. Use the scroll bar to scroll across to see additional data fields. The test data screen also provides a drop-down selectable list of tables with additional test data.

Figure 63: OBD diagnostic test in progress

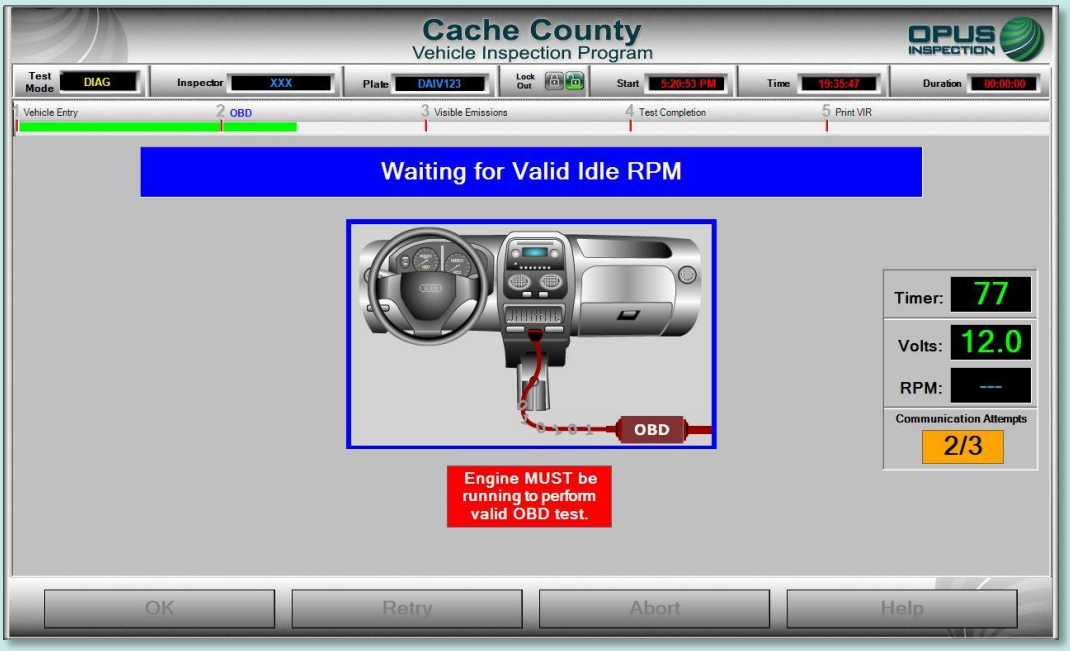
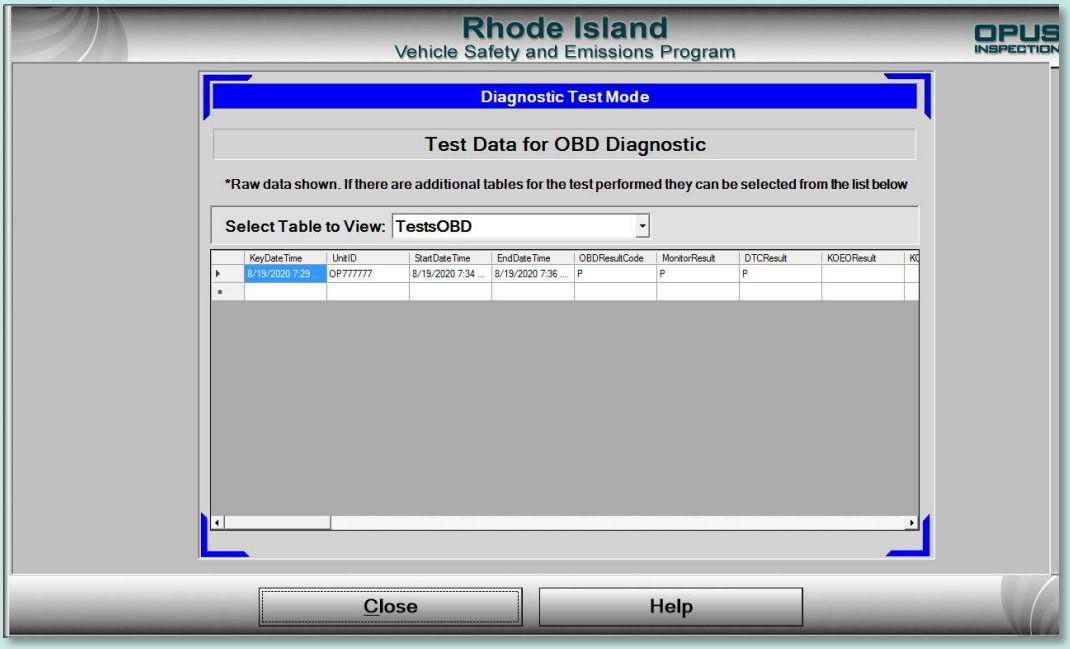


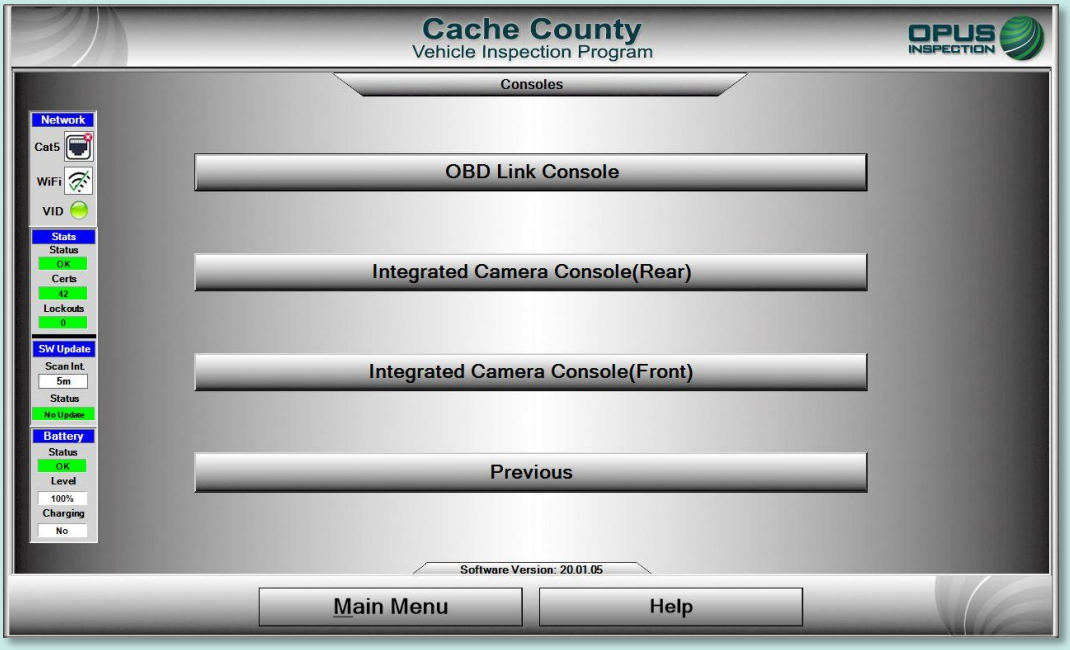
Figure 64: OBD diagnostic test mode—test data



6.5 Consoles

The **Consoles** menu (Figure 65) provides access to the OBD link and the DriveClean tablet front and rear cameras for diagnostic purposes. Each function is described in the subsections below.

Figure 65: Consoles menu



6.5.1 OBD link console

Tapping the **OBD Link Console** bar from the **Consoles** menu brings up the screen seen in Figure 66. You will be prompted if the utility does not detect voltage on the line. Note that on the **OBD-II Diagnostics** results screen (Figure 67) the parameters, trouble codes, and monitors are populated and the action buttons at the bottom (**Print**, **PID Data, Close**, and **Help**) are all illuminated.

Figure 66: OBD link console

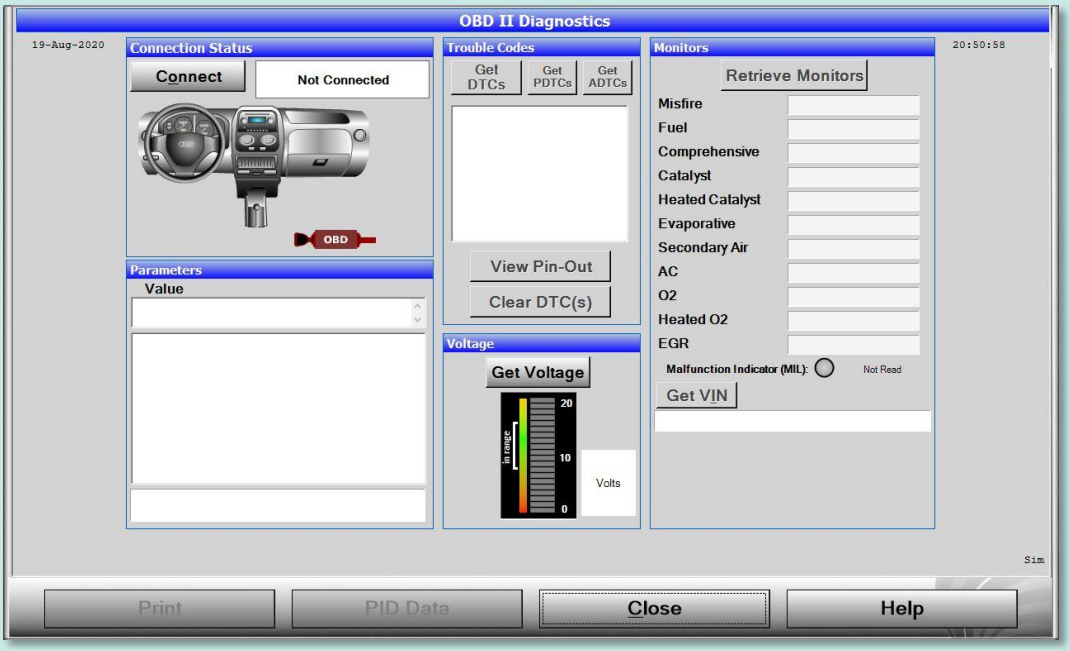
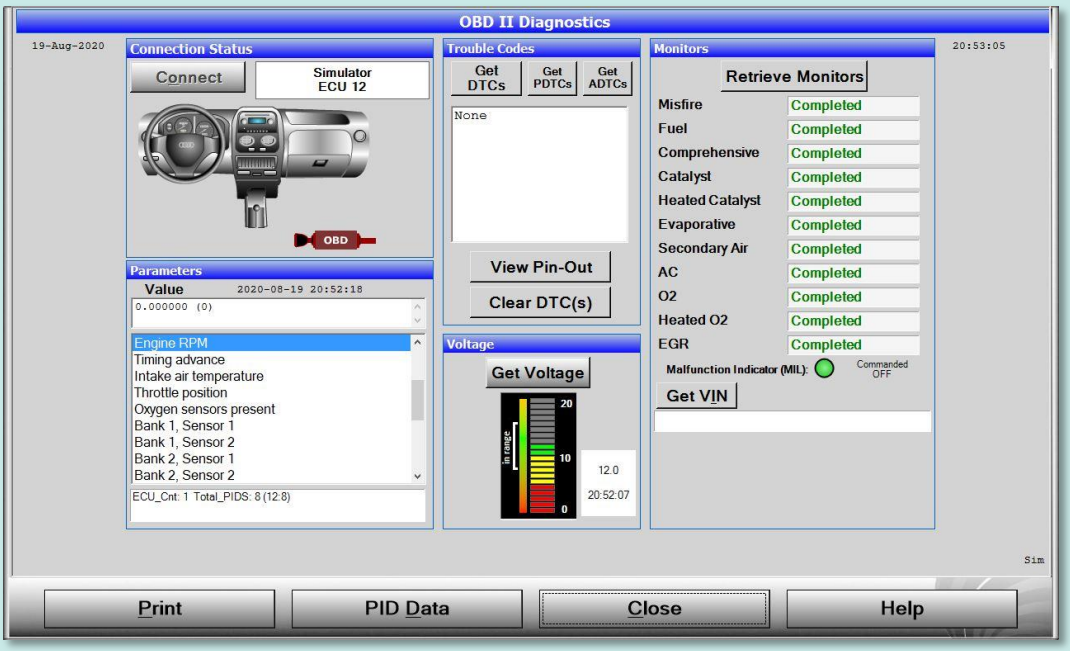


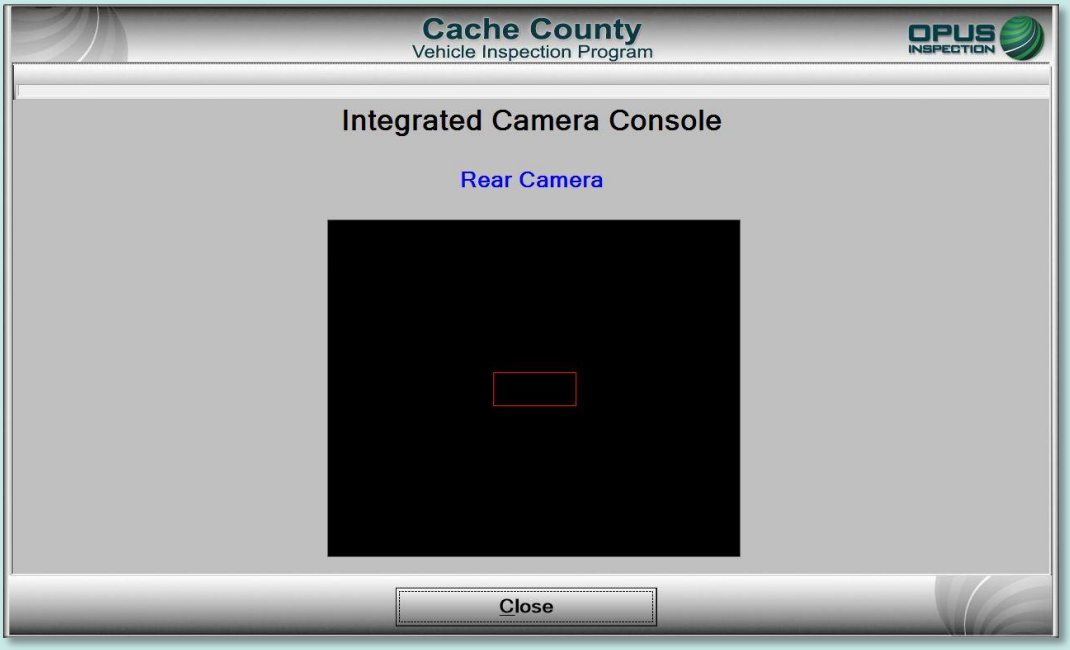
Figure 67: OBD link console diagnostic results



6.5.2 Integrated camera consoles

Selecting the **Integrated Camera Console (Rear)** from the **Consoles** menu will activate the camera on the back of the DriveClean tablet. Use this utility (seen in Figure 68) to take sample photos and become familiar with how the camera works. The same function occurs with the camera on the front of the DriveClean tablet when the **Integrated Camera Console (Front)** is selected from the **Consoles** menu.

Figure 68: Integrated camera console

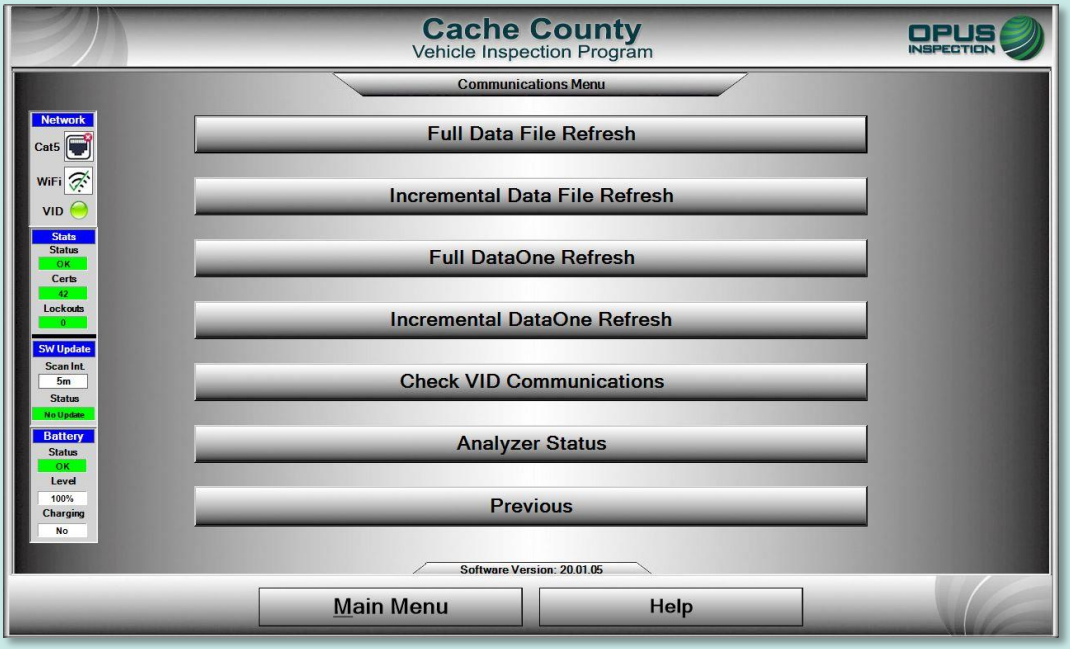


6.6 Communications menu

The **Communications Menu** (Figure 69) offers several simple functions primarily used with inspection system troubleshooting, including

- Full data file refresh
- Incremental data file refresh
- Full DataOne refresh
- Incremental DataOne refresh
- Check VID communications
- Analyzer status
- Previous

Figure 69: Communications menu



6.6.1 Data file and DataOne file refresh functions

Data files (inspection and vehicle data) and DataOne (vehicle data lookup) files can be refreshed by selecting either **Full** or **Incremental** refresh options from the Communications Menu. A screen indicating that the inspection system is connecting with the VID (Figure 70) will appear. With the DataOne refresh, a pop-up prompt requesting confirmation will appear (Figure 71); tap **YES** to proceed or **NO** to abort the action.

Figure 70: Performing full data file refresh

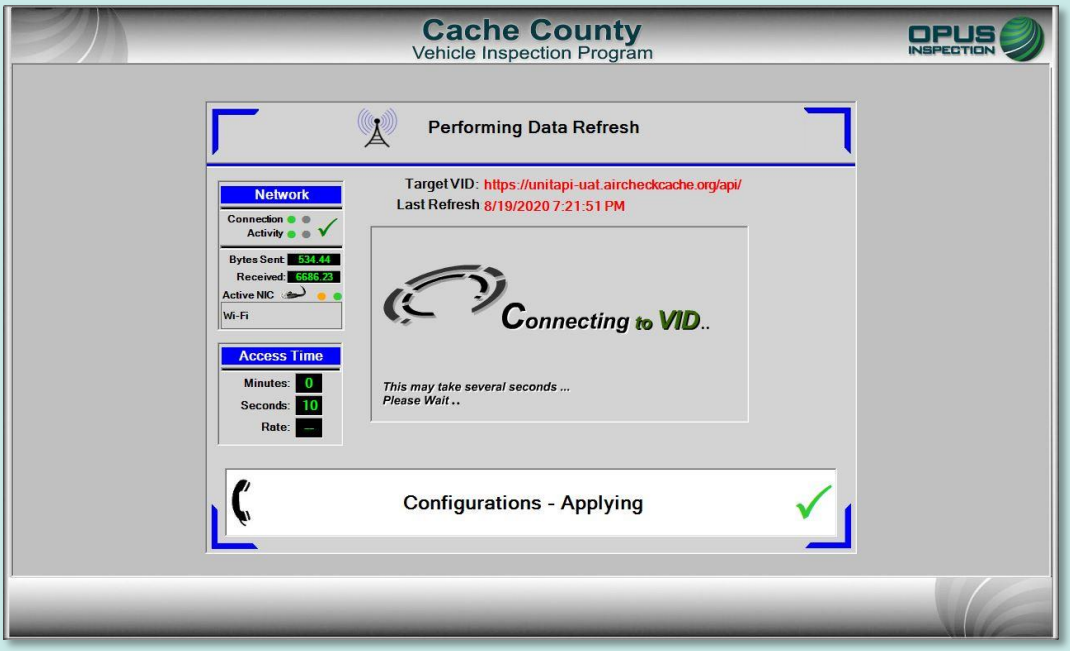
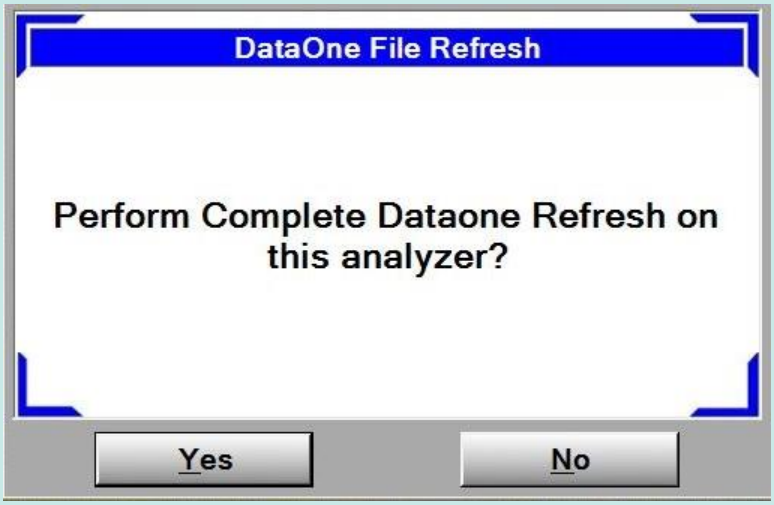


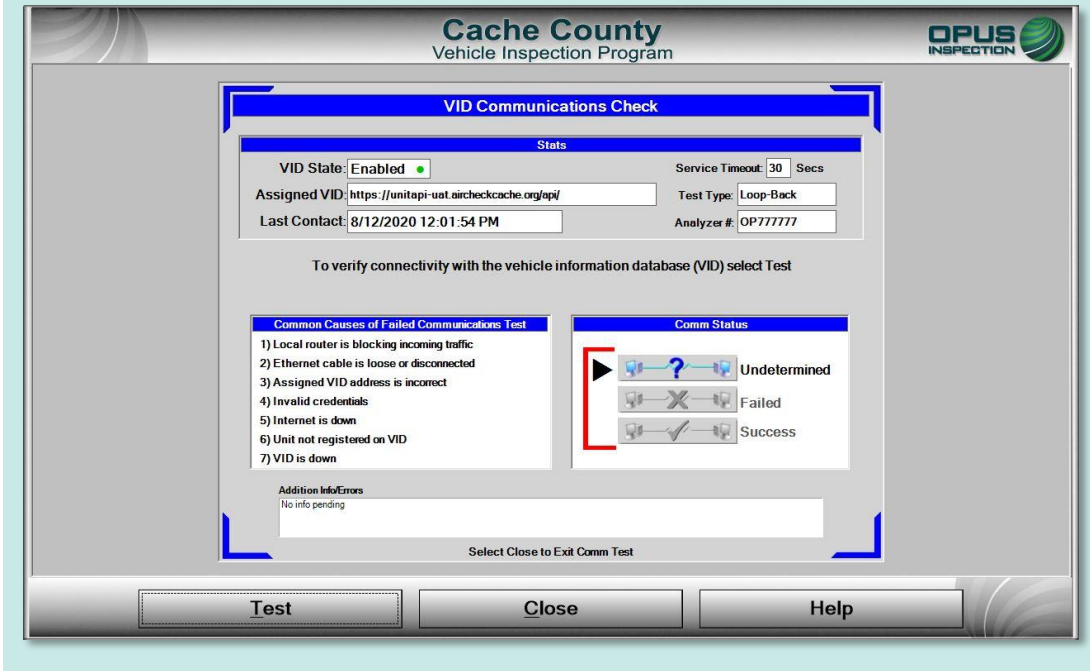
Figure 71: Performing complete DataOne refresh—confirmation prompt



6.6.2 VID communications check

Selecting **Check VID Communications** from the **Communications Menu** will display a screen (Figure 72) that produces relevant stats when the **Test** button is selected. The results screen includes a list of common failure causes and the current comm status.

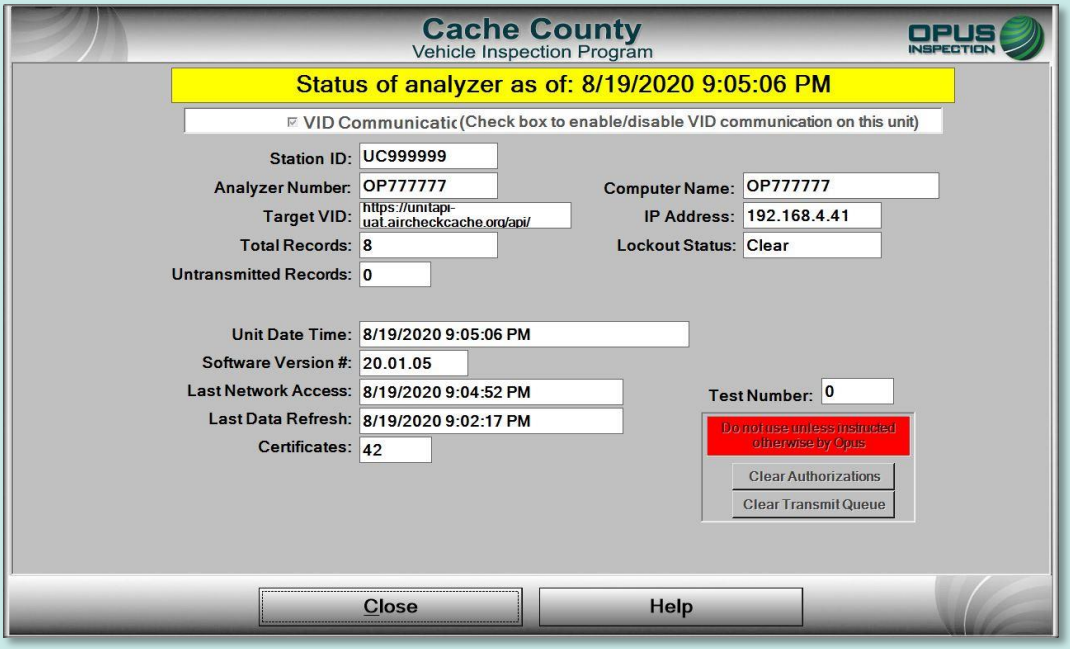
Figure 72: VID communications check in-progress



6.6.3 Analyzer (inspection system) status

Selecting **Analyzer Status** from the **Communications Menu** will provide you with a quick status report of the inspection system (Figure 73) running on the DriveClean tablet. Data includes station and unit identification, communication logs, software version, certificates, and more.

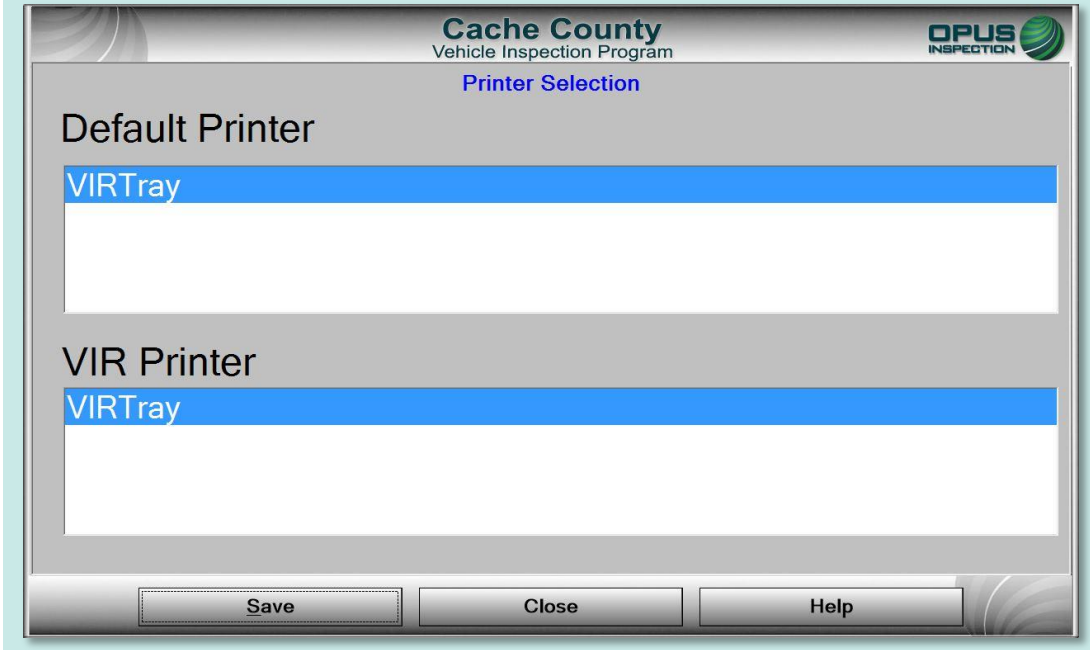
Figure 73: Inspection system (analyzer) status



6.7 Choose printer

Selecting **Choose Printer** from the **Utilities Menu** will allow you to choose from available printers detected by the inspection system.

Figure 74: Printer selection



6.8 Previous

Selecting **Previous** from the **Utilities Menu** will return you to the **Main Menu**.

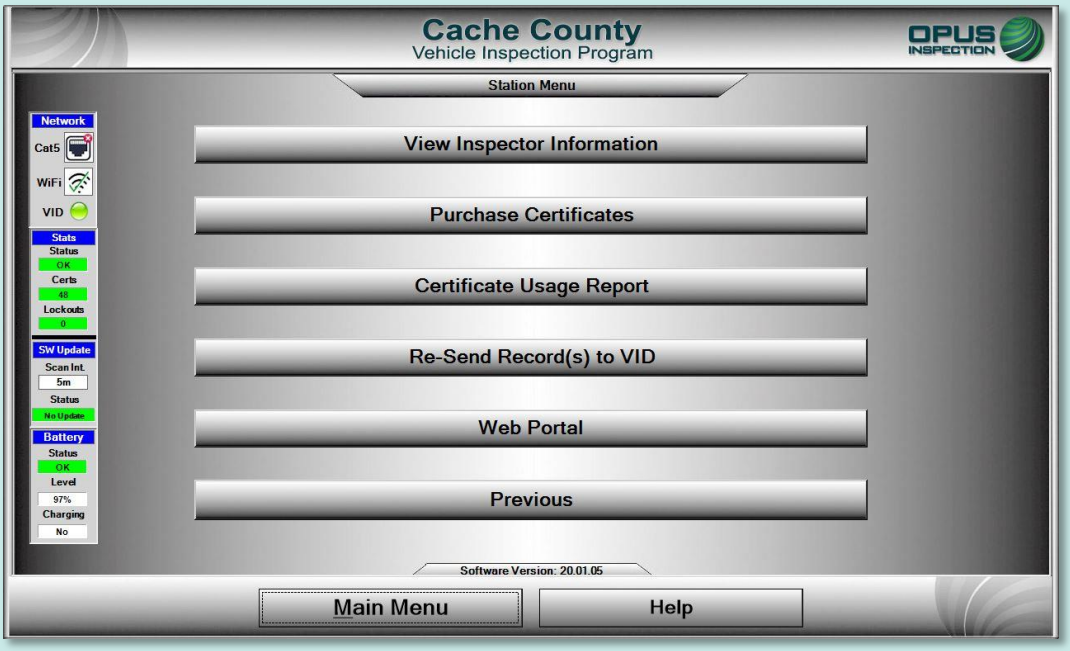
7.Station menu

The Station Menu (Figure 75) provides several important and useful functions available to authorized users, including:

- View inspector information
- Purchase certificates
- Certificate usage report
- Resend records to VID
- Web portal (access)
- Previous

These functions are described in the subsections below:

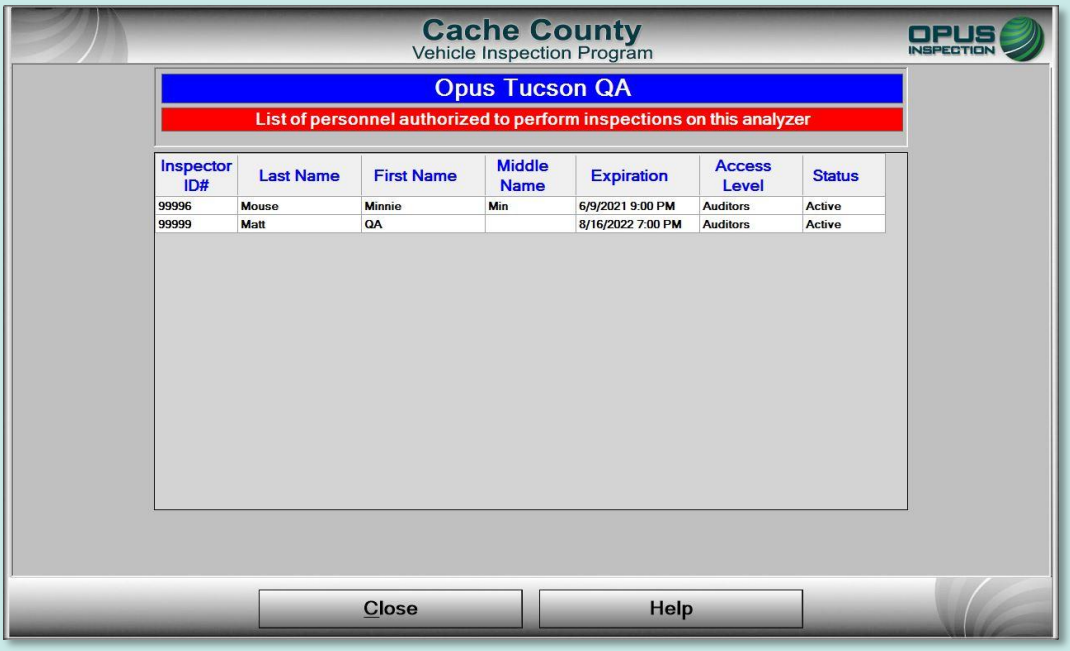
Figure 75: Station menu



7.1 View inspector information

Selecting **View Inspector** Information displays a screen listing all inspectors authorized to perform inspections on the inspection system (Figure 76). Information listed includes expiration date and access level.

Figure 76: View inspector information



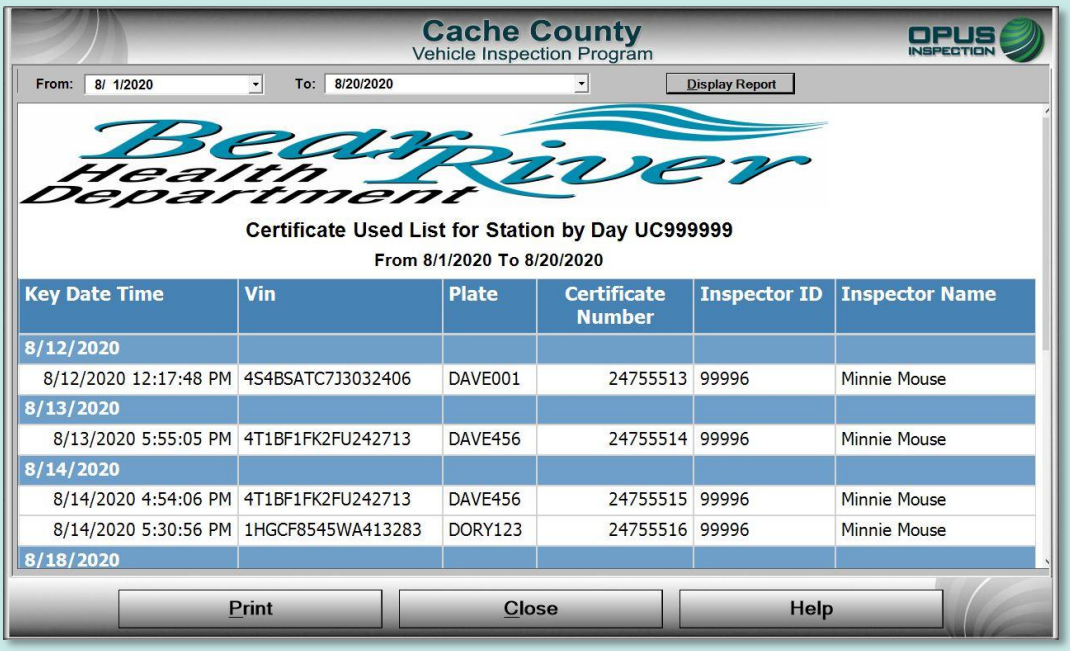
7.2 Purchase certificates

Selecting **Purchase Certificates** from the **Station Menu** will take you to the login screen on program website. Tap **Keyboard** to bring up the on-screen keyboard on the DriveClean tablet and enter in the username and password. Follow instructions on the website.

7.3 Certificate usage report

Selecting the **Certificate Usage Report** from the **Station Menu** will display a screen (Figure 77) with a table of certificates used by day and inspector.

Figure 77: Certificate usage report



7.4 Resend records to VID

Selecting **Resend Records to VID** from the **Station Menu** will bring up a screen (Figure 78) for selecting the date range and record type to be sent to the vehicle inspection database. Tap **Send**. A pop-up prompt (Figure 79) will appear requesting confirmation; tap **YES** to proceed or **NO** to abort the request.

The screen will display **Operation Complete!** when records have been sent. Tap **Close** to return to the **Station Menu**.

Figure 78: Resending records to the VID

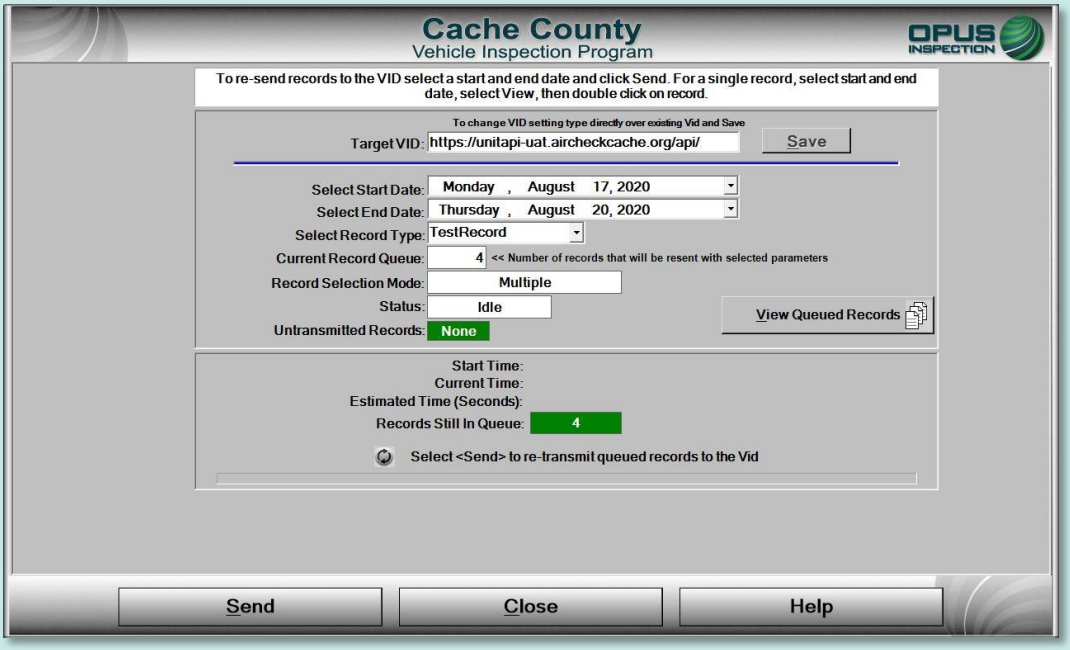
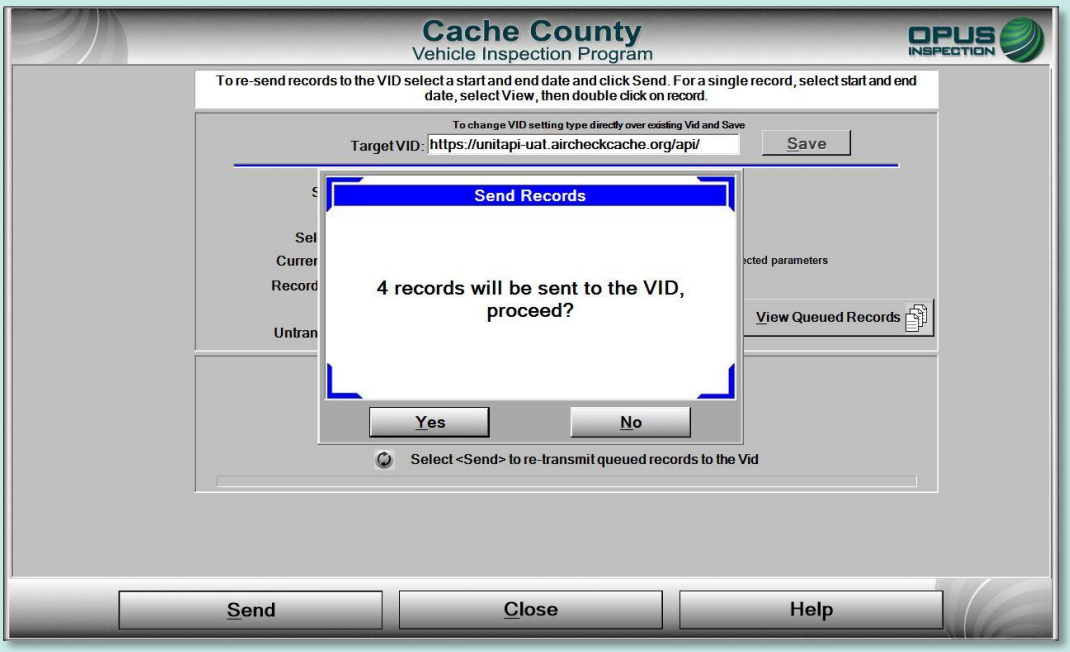


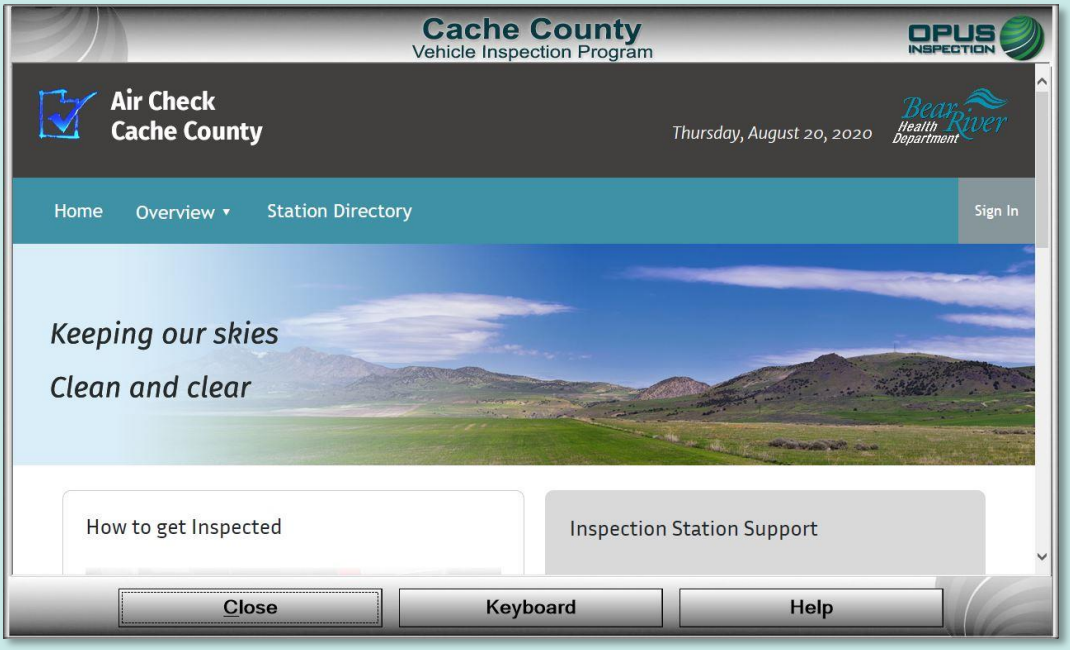
Figure 79: Resending records to the VID—confirmation prompt



7.5 Web portal

Selecting **Web Portal** from the **Station Menu** will bring up the Air Check Cache County program website (Figure 80). Tap **Keyboard** to bring up the on-screen keyboard on the DriveClean tablet to sign in or tap **Close** to return to the **Station Menu**. Only the program website is accessible via the web portal.

Figure 80: Web portal access



7.6 Previous

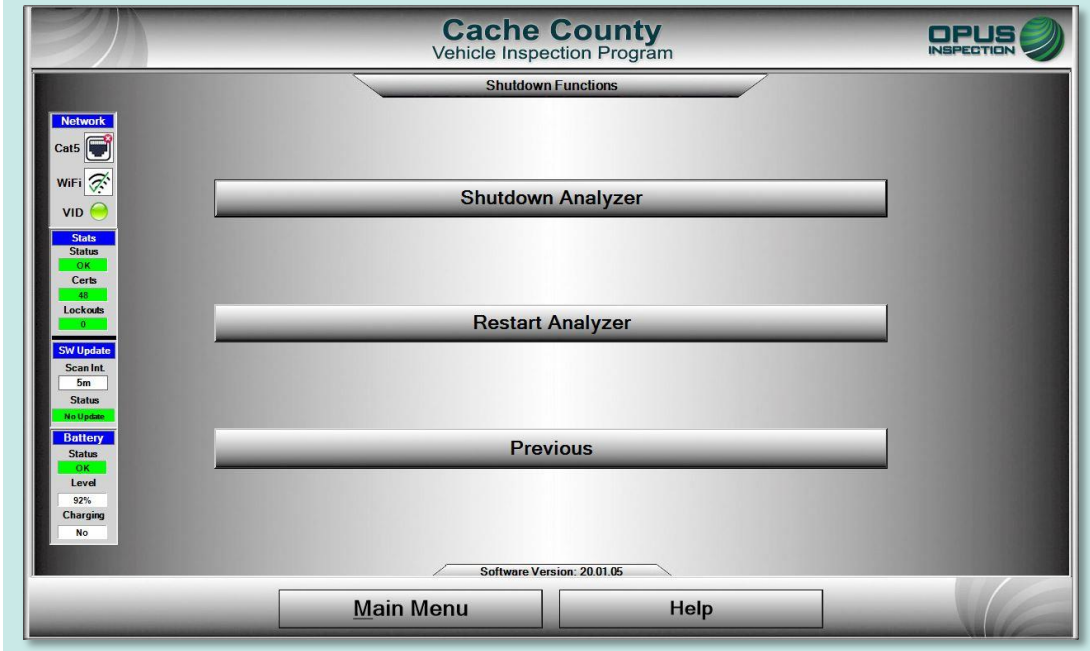
Selecting **Previous** from the **Station Menu** will return you to the **Main Menu**.

8.System shut down

The **Shutdown Functions** menu (Figure 81) provides three self-explanatory functions:

- **Shut down analyzer** (inspection system), which performs a system shut down and turns off the DriveClean tablet.
- **Restart analyzer** (inspection system), which initiates a reboot of the DriveClean tablet and Cache County inspection system; and
- **Previous**, which returns the user to the **Main Menu** without initiating shut down functions.

Figure 81: Shut down functions menu



9.Maintenance

The Cache County inspection system is designed to require little maintenance. Cables should be inspected on a periodic basis and worn components should be replaced.

To clean the touchscreen and camera lenses on the DriveClean tablet, use a soft, lint-free cloth. Paper-based wipes and paper towels must be avoided as they can leave scratches on the screen and lenses. A microfiber cloth is best for cleaning.

Avoid using solvents or cleansers on any tablet surface. A solution of 70% isopropyl alcohol with distilled water is recommended.

10. Opus contact information

If you have questions that are service related, please contact Opus Inspection at the following toll-free telephone number for assistance: **1 (800) 695-4377**.