Davis County Vehicle Inspection System Operator's Manual DriveClean Inspection System

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1.Introduction

This manual provides important operating information, features, and helpful tips concerning the Davis 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 Davis 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 Davis County DriveClean inspection system, follow all safety instructions.
- Only use Davis 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 Davis County and Davis County Health Department policies and procedures. In case of discrepancy, Davis County Health Department policies and procedures supersede this manual.



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

Mobile source air toxics¹ 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 highemitting 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 lightduty 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 Davis County inspection system

The Opus team is very pleased to introduce the Davis County inspection system for emissions testing in the Davis County I/M program. The high-tech Opus IVS **DriveClean** OBD-only tablet inspection system provides the best possible operational functionality and flexibility, maximizing customer convenience and test efficiency.

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

Davis County inspection system components include:

- Integrated tablet unit with touchscreen
- Integrated OBD with 4-foot cable, 2D barcode scanner, front/rear cameras
- OBD Self-Check Cable
- OBD Self-Check 12 VDC power supply
- Docking station with power cord
- Wi-Fi Printer
- Wi-Fi Router
- Davis County Win10 Baseline—DriveClean Tablet Systems
- Operator's Manual

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



3.1.1 DriveClean tablet—front view



The front view of the DriveClean tablet (Figure 1) shows the location of the dual-purpose frontmounted 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 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 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 Davis County inspection system is automated to the highest degree possible to minimize the potential for fraud and human error and is exceedingly secure from tampering and 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 menus provide 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 DriveClean tablet is turned on. Select **Start Up** to prepare the tablet (analyzer), refresh data, and then display the **Main Menu**.



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.









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** on the touchscreen 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 | |
|--------------------------------|--|--|
| <u>en</u> | Davis County Vehicle Inspection Program | |
| Network Cat5 | Main Menu Vehicle Inspection Menu | |
| WiFi 🚿 VID 😑 | 🗱 Utilities Menu | |
| Stats Status OK Certs | Station Menu | |
| 98 Lockouts 0 | County Menu | |
| Scan Int. 5m Status | Service Tech Menu | |
| NoUpdate | ひ Shutdown Functions | |
| | Restart Analyzer | |
| | Software Version: 23.02.04 | |
| | Main Menu Help | |

The menu options listed below are available from the Main Menu (Figure 7).



Menu 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, perform calibrations, 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 analyzer status information, access diagnostic test modes, initiate communications sessions, choose printers, or view lockouts.
- Station Menu: Authorized station users can select this menu to view inspector information, purchase certificates, access a certificate usage report, and access the web portal.
- County Menu: Authorized County officials can select this menu to perform designated activities, such as view inspection information, perform waiver vehicle inspections, perform compliance/referee inspections, access the camera console, set and view lockouts, modify workstation (DriveClean tablet analyzer) configuration, and access the overt audit checklist.
- Service Tech Menu: Authorized Opus users utilize this selection to check and manage consoles, perform an OBD self-check, view analyzer status, 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 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 s | screen dash | board | | |
|-------------------|--------------------------|------------|--------------------------------|------------------------|-------------------|-------------------|--|
| | - | V | Davis Cou ehicle Inspection | inty Program | - | | |
| Test Mode TEST | Inspector Christy | Plate CL | H Lock Out | Start 16:23:49 | Time 16:42:01 | Duration 00:18:12 | |
| Vehicle Entry | 2 Gas Visual Anti Tamper | 3 Fuel Cap | 4 Idle | 5 Visible Emissions | 6 Test Completion | 7 Print VIR | |

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.

4.2.3 Printer connection

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

4.2.4 Offline operation

If the DriveClean tablet 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 Davis 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 shutdown

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 DriveClean tablet and power down the components. You also have the option of restarting the DriveClean should it be necessary to do so.









5. Vehicle inspection

This section of the Davis County inspection system operator's manual describes the entire vehicle inspection process, including vehicle identification, analyzer calibration, performing OBD and TSI inspections, and issuing the vehicle inspection report.

5.1 Official vehicle inspection

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



The same sequence of inspection screens will appear when **Waiver Vehicle Inspection** and **Compliance/Referee Assurance Vehicle Inspection** options are selected from the **County Menu**, with overrides appropriate to the these tasks.

5.1.1 Inspector login

Before beginning the vehicle inspection, the inspector must login using manual validation. (Figure 12). From the touchscreen keyboard, enter your five-digit 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).



| Figure 12: Mai | nual validation login prompt |
|-------------------------------------|--|
| Required Security Level: Inspector. | |
| Select your Inspector ID | Manual Validation Inspector #: Password: |
| <u>C</u> ontinue | e C <u>a</u> ncel |

| Figure 13: Inco | rrect ID or password entered |
|-------------------------------------|--|
| Required Security Level: Inspector. | |
| Select your Inspector ID | Manual ValidationInspector #:888880Password: |
| Incorrec | t ID/Password Entered |
| <u>C</u> ontinue | e C <u>a</u> ncel |

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 14) will appear. Enter the vehicle's plate number in the field provided using the DriveClean's touchscreen 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 14: Entering the vehicle license plate | | | | | |
|--|--|--|--|--|--|
| Davis County Vehicle Inspection Program Test Test Inspector Christy Plate Nonc Lot Bioline Time 17/21/26 Duration 00005/62 | | | | | |
| Vehicle License Plate 1. For vehicles with Utah dealer plates, use the dealer plate number 2. If the vehicle does not have a plate, enter "NP" 3. If the vehicle has an out-of-state plate, enter "OS" | | | | | |
| Plate Number: | | | | | |
| <u>C</u> ontinue <u>Previous</u> <u>Cancel</u> Help | | | | | |

Following the license plate entry, you will be prompted to connect the OBD data link connector and start the vehicle's engine (Figure 15).



| Figure 15: Prompt to connect OBD data link connector | | | | |
|--|--|--|--|--|
| Davis County Devise Vehicle Inspection Program INSPECTION Mode TEST Inspector Christy Plate None Image: Christy Plate None | | | | |
| To obtain OBD VIN from Vehicle Automatically | | | | |
| Connect the cable to vehicle's Data Link Connector | | | | |
| | | | | |
| and Start Engine | | | | |
| Important Engine MUST be running to download complete OBD data. Turn engine on only when connected, or damage to vehicle may result! | | | | |
| Select Continue to Proceed | | | | |
| Continue | | | | |

In the event you are unable to successfully connect to the vehicle's DLC, a message will appear in the center box (Figure 16). Enter the VIN using one of the other methods indicated on the screen.

| Figure 16: DLC connection failure | | | | |
|--|--|--|--|--|
| Davis County Dispection Program Test Inspector Christy Plate None Start 17/202/2 Time 17/202/2 Time 17/202/2 | | | | |
| OBD Communication not Established | | | | |
| Enter the VIN using one of the above methods Vehicle Identification Number Verification ≠ | | | | |
| Current Vin Source [None] | | | | |



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 (see Figure 16), the VIN will need to be either entered manually or scanned using the barcode scanner. The screen will provide both options.



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

After the vehicle's VIN has been entered, either using the DriveClean tablet's barcode scanner (Figure 17). or through manual entry using the touchscreen keyboard, tap **Continue**

| Figure 17: Barcode scan of vehicle VIN | | | | |
|--|--|--|--|--|
| Test Test Christy Plate Noncome Start 18001022 Time 18002013 Duration 00201315 | | | | |
| | | | | |
| Enter the VIN using one of the above methods Vehicle Identification Number IFBNE31S36H851732 Disconnect OBD cable from vehicle before starting next inspection | | | | |
| <u>Current vin Source [Barcode]</u> | | | | |



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.



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 18). This screen will require you to select emissions **Decal PRESENT** or **Decal MISSING**, then confirm the selection (Figure 19).

| Figure 18: Data verification screen | | | | | |
|---|----------------------|--|--|----------------|--|
| Test TEST Ins | spector Marjan Pi | Davis County Vehicle Inspection Program | 3347347 PM | Dursion 000120 | |
| | | Data Verification | | | |
| | Plate State Plate | UT 123L | To change an incorrect value, click on the | | |
| | | WBA73BJ06MC600250 | corresponding button | | |
| Capture Picture The air pollution control devices identified in the emissions decal shall be in place and apparently operable on the vehicle. If the decal is missing, you may use reference material as approved by the Department to identify the air pollution control devices required for the vehicle. Decal PRESENT Decal MISSING | | | | | |
| Continu | e Tal | ce Pictures | ncel | Help | |



| Figure 19: Data verification—prompt to confirm decal present |
|--|
| Test Mode TEST Inspector Marjan Plate 122L Lock Mide Start 2017/07 PM Time 1528/05/35 Duration 0000/2005 |
| Plate St Plate St Plate St Plate St Vin You have indicated the emissions decal is present. Confirm? Capture P The air polluplace and agting place and agting plutton column (yes) Ves No Decal PRESENT Decal MISSING |
| Continue Take Pictures Cancel Help |

The next screen (Figure 20) will provide you with the opportunity to change incorrect license plate or VIN information, if necessary. Follow the procedure below to begin taking the required photos.

| Figure 20: Data verification—prompt to capture pictures | | | | |
|---|--|--|--|--|
| Davis County Inspection Vehicle Inspection Program Inspectron Test Inspector Marjan Plate 121 Start Start Start Start Start Start | | | | |
| Data Verification | | | | |
| Plate UT Plate 123L VIN WBA73BJ06MC600250 | | | | |
| Capture Picture Door Label/VIN: | | | | |
| Vehicle Emissions Decal: | | | | |
| Select Continue to Proceed | | | | |
| <u>Continue</u> <u>Cancel</u> Help | | | | |



Taking data verification photos is a two-step process, as described below:

- Using the DriveClean tablet's internal camera, take photos of the vehicle (in this case: license plate, decal, VIN plate) (Figure 21).
- When all required photos have been taken (Figure 22) tap Continue to verify the correct assignments on the next screen.

| Figure 21: D | Data verification—positioning the DriveClear | n camera |
|--------------|--|----------------------|
| Pic | icture | EGG Duration COCOSCE |
| | Click 'Take Photo' When Vehicle Is Positioned. | |
| | Take Photo Flash ON Close | |
| | ue C <u>a</u> ncel Help | |



| Figure 22: Data verification—Pictures taken and assigned | | | | |
|--|---|--|--|--|
| Davis County Device Vehicle Inspection Program INSPECT Mode TEST Inspector Marjan Plate 1231 Coat Coat Start 331/31/21/21 Time 13552/23 Duration | | | | |
| Data Verification | | | | |
| Plate State UT To change an incorrect Plate 123L value, click on the corresponding button VIN WBA73BJ06MC600250 | | | | |
| Capture Picture Door Label/VIN: | | | | |
| License: O | | | | |
| Vehicle Emissions Decal: | | | | |
| Select Continue to Proceed | | | | |
| <u>C</u> ontinue C <u>a</u> ncel Help | 6 | | | |
| | | | | |

5.1.5 Vehicle information and vehicle data lookup

Once the VIN has been entered and verified, and mandatory photos captured, 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 23), tap Continue to view the results (Figure 24), 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 25). Tap Continue to proceed to additional data entry screens.

Note that in the Figure 24 example, the inspector is alerted to the fact that the vehicle failed the previous inspection.



| Fig | ure 23: Previous test lookup/previous test record for | ound | | |
|-----|---|------|--|--|
| | Davis County Vehicle Inspection Program | | | |
| Г | Performing VID Previous Test/Registration Lookup | | | |
| | Notwork Target https://unitapi-uatainchookdavis.org/api/ Unit IP: 192.168.4.76 Connection • ✓ ✓ VIN IVWCA7A36JC600305 Last Refresh Date: 6/21/2023 16:54:58 Bytes ✓ ✓ ✓ ✓ ✓ ✓ ✓ | | | |
| | Sent 1010.77 Received: B100.27 Active NIC | | | |
| | Access Time Minutes: 0 Seconds: 1 Rate: - | d | | |
| | C Previous Test Information Found! | | | |
| | Select Continue to Proceed | | | |
| | Re-Enter <u>Continue</u> | | | |

Figure 24: Previous test information

| | | Dav Vehicle I | IS County nspection Program | | |
|---------------|--|---|--|---|-------------------|
| Test Mode | Inspector Christy | Plate VWP86 | Lock Ot Start 16 | 54:58 Time 16:57:47 | Duration 00:02:49 |
| Vehicle Entry | 2 Undetermined 3 Un | determined 4 Unde | stermined 5 Undeterr | ined 6 Test Completion | 7 Print VIR |
| | | Pre | vious Test Information | | |
| | Station ID: OPUS Unit ID: QA00 | QA1 Previous 0001 Curren | Test#: 1 tTest#: 2 | C | |
| | Last Date Tested Vehicle Make: Vehicle Model: Model Year: | : 6/8/2023 15:32:08 VOLKSWAGEN PASSAT 2018 | | Previous Te IVWCA7A66 VB/CLE BAPFOT | |
| | OBD Result: Pa KOEO Result: Pa | iss GasCap Iss GasCa | /isual Result: N/A o Test Result: N/A | | |
| | TSI Result: N | /A Visible Emis | sions Result: Pass | | the relation |
| | | | | | - |
| | | <u>C</u> ontinue | | Help | |



| Figure | 25: No previous test record/Data located from VIN d | ecode | | | |
|---|--|-------|--|--|--|
| <u> In an an</u> | Davis County Vehicle Inspection Program | | | | |
| Г | Performing VID Previous Test/Registration Lookup | ן ד | | | |
| | Network Target https://unitapi-uat.aircheckdavia.org/api/ Unit IP: 192:168:4.76 Connection ✓ VIN 1FBNE31S36H851732 Last Refresh Date: 6/21/2023 14:41:29 Bytes Los Interview Los Interview Los Interview Los Interview | | | | |
| | Sent 7724 Received: 9107 22 Active NIC Image: Sent Sent Sent Sent Sent Sent Sent Sent | | | | |
| | Access Time Minute: 0 Second: 2 Rate: 0 VID communications completed successfully! | | | | |
| | C No Previous Test Information Found! | | | | |
| | Select Continue to Proceed Activa | | | | |
| _ | Re-Enter <u>C</u> ontinue | | | | |



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:

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.



5.1.6 Vehicle model year entry

On the model year screen (Figure 26) enter the vehicle's model year in the field provided, then tap **Continue**.

| Figure 26: Enter model year of vehicle |
|--|
| Davis County Vehicle Inspection Program |
| Mode LSS inspect Cullisy Plate SUZZE Over COM Start 1002000 Unraken COM Start 1002000 Unraken COM SUZE |
| Enter Model Year of Vehicle |
| Model Year: 2012 |
| Select Continue to Proceed |
| <u>Continue</u> <u>Previous</u> <u>Cancel</u> Help |



5.1.7 Vehicle type entry

In the Vehicle Type screen (Figure 27), 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 27: Enter vehicle type |
|---|
| Davis County Vehicle Inspection Program DPUS Test Inspector Christy Plate JWR000 Los Griffic Start 1525509 Time 1525509 Time 1525308 |
| Vehicle Type Select Type of Vehicle |
| Passenger Car Quick Select Truck Image: Car Passenger Vehicle Image: Car |
| Select Continue to Proceed |

5.1.8 Fuel type entry

In the **Fuel Type** screen (Figure 28), 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.



| Davis County |
|---|
| Vehicle inspection Program INSPECTION |
| Fuel Type |
| Select Fuel Type(s) |
| Gasoline Ouick Select Diesel Hybrid Electric Natural Gas(CNG) Liquid Propane Gas Methanol(greater than 20%) |
| Select Continue to Proceed |
| <u>Continue</u> <u>Previous</u> <u>Cancel</u> Help |

5.1.9 Vehicle make entry

On the Vehicle Make screen (Figure 29), 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.

| Davis County Vehicle Inspection Program Test Test Inspector Christy Plate SOTI234 Lock Gim Start Time Time Duration GOE 100 277 |
|--|
| Vehicle Make |
| Select Manufacturer's Make Select the appropriate make from the list. If the make is not listed select 'not listed', then type in the full name of the manufacturer. If it is a KIT car or specially-constructed vehicle select "SPCN" |
| Rolls-Royce Saab Scion Smart Subaru Other Make |
| Select Continue to Proceed |
| Continue Previous Cancel Help |



5.1.10 Vehicle model entry

From the Vehicle Model screen (Figure 30), select the vehicle's model from the scrollable list, then tap Continue.

| Figure 30: Enter vehicle model |
|---|
| Davis County Vehicle Inspection Program DELS () Test Inspector Christy Plate South County Start 1552500 Duration 0033525 |
| Vehicle Model Select Manufacturer's Model |
| B9 Tribeca Forester Impreza Legacy Outback Not Listed |
| Other Model |
| Select Continue to Proceed Continue Previous Cancel Help |

5.1.11 Additional manual entry screens

For those vehicles where vehicle data is unavailable from lookup tables, additional manual entry of vehicle parameters may be required. As necessary, you will be stepped through entry of engine displacement, number of engine cylinders, transmission type, vehicle body style, and the odometer reading. Tap **Continue** to proceed to the next step in the inspection process or **Previous** to access the prior screen.

5.1.12 Vehicle lookup table match selection

The **Vehicle Look-Up** screen (Figure 31) 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 31: Vehicle lookup and match screen |
|--|
| Davis County Device Inspection Program Test Test Inspector Christy Plate S01224 Start TE2208 Time Inspector Oursion |
| Vehicle Look-Up Vehicle Make: Subaru Vehicle Model: Outback |
| Year Displacement Cylinder Transmission Body Type VLTRowID > 2012 2.5 4 Automatic Wagon 69321 |
| |
| Highlight matching vehicle or select No Match to continue |
| Match No Match Help |

5.1.13 Vehicle weight class entry

On the **Gross Vehicle Weight** screen (Figure 32), 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). 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.** These instructions will direct you to enter a default weight number depending on the vehicle make, model, or other parameters.



| Figure 32: Enter gross vehicle weight |
|---|
| Davis County Devise Vehicle Inspection Program INSPECTION Test Test Inspector Christy Vehicle Inspection Program Use Inspector Duration |
| Gross Vehicle Weight Enter the GVWR in Ibs; If GVWR is not available, Click "Not Available" |
| Ibs |
| |
| Select Continue to Proceed |
| <u>Continue</u> Previous Cancel Help |

5.1.14 Verify information and enter odometer reading

The **Verify all information** screen (Figure 33) 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.

| 3 | - | - | Davis C Vehicle Inspecti | ounty on Program | | |
|---------------|--------------------------|------------------|-----------------------------|-----------------------------|--------------------------|-------------|
| Vehicle Entry | 2 Gas Visual Anti Tamper | 3 Visual Gas Cap | 4 ово | 5 Visible Emissions | 6 Test Completion | 7 Print VIR |
| | | | | | the Second second Second | |
| | | | any an mormation is co | arrect before proceeding wi | in inspection. | |
| | | 10 | modify an entry select | the corresponding edit but | on | |
| | | | 4S4BRBFC0C3 | 659867 | | |
| | Data Entry Checklist | Plate | SO1234 | 4 | Cylinders | |
| | | State | UT | 2.5 | Displacement | |
| | | Year | 2012 | Passenger Car | Vehicle Type | |
| | | Make | Subaru | Automatic | Transmission | |
| | | Mo <u>d</u> el | Outback | No | Hybrid | |
| | | GVWR | 4585 | | | |
| | | <u>O</u> dometer | 78001 | | | |
| | | Body Type | Sedan | | | |
| | | Euel | Gasoline |] | | |
| | 100 | | | | | |
| | | | Select Continue to be | egin inspection sequence | | |


5.1.15 Visual anti-tampering inspection

The visual anti-tampering inspection process for gasoline and diesel vehicles involves visually confirming the presence of mandatory components (catalytic converter and O_2 sensor) and other emissions-related devices.

As with the data verification process (see section 5.1.4), taking photos for documenting antitampering compliance is a two-step process, as described below:

- Using the DriveClean tablet's internal camera, take photos of the required devices.
- When all required photos have been taken tap Continue to verify the devices on the next screen. Use the buttons on the screen to assign the different photos to the correct description (Figure 34). At the completion of the visual anti-tampering inspection process, answer all questions on the inspection screen (Figure 35) and tap Continue.

After the visual anti-tampering inspection process has been completed, the photos will automatically be deleted from the DriveClean camera.

| Davis County Depuis Vehicle Inspection Program INSPECTION |
|---|
| Test Inspector Marian Plate 121 Lock Cole Start 347/47 PM Time 15:53:30 Duration 00:05:43 Mode First 2 Gas Visual Anti Tamper 3 Visual Gas Can 4 ORD 5 Visible Firstainee 6 Test Completion 7 Print VIS |
| Gas Visual Anti-Tampering Inspection |
| Are the decal-indicated devices present and apparently operable on the vehicle? |
| Typically required on passenger cars 1998 and newer, and light duty trucks starting in 2003 depending on make (earlier for CA certified vehicles) Exhaust Gas Recirculation (EGR) System : |
| Typically required on passenger cars 1998 and newer, and light duty trucks starting in 2003 depending On make (earlier for CA certified vehicles) Positive Crankcase Ventilation (PCV) Valve System : |
| Evaporative Emission Control (EVAP) System : |
| Air Injection System (Pulse Air or Air Pump) : |
| Dodge) O2 Sensor: |
| Press 'Camera' button to capture photos |
| <u>Continue</u> <u>Abort</u> Help |





| Davis County Vehicle Inspection Program |
|--|
| Davis County OPUS |
| |
| Test TEST Inspector Marjan Plate 123L Out Out Start 347477 PM Time 19557507 Duration 0000920 |
| Vehicle Entry 2 Gas Visual Anti Tamper 3 Visual Gas Cap 4 OBD 5 Visible Emissions 6 Test Completion 7 Print VIR |
| Gas Visual Anti-Tampering Inspection |
| Are the decal-indicated devices present and apparently operable on the vehicle? |
| Typically required on passenger cars 1998 and newer, and light duty trucks starting in 2003 depending on make (earlier for CA certified vehicles) |
| Exhaust Gas Recirculation (EGR) System : Typically required on passenger cars 1998 and newer, and light duty trucks starting in 2003 depending on make (earlier for CA certified vehicles) |
| Positive Crankcase Ventilation (PCV) Valve System : Yes Valve System : Yes Ventilation (PCV) Valve System : Yes Ventilatio |
| Evaporative Emission Control (EVAP) System : Yes |
| Air Injection System (Pulse Air or Air Pump): Yes |
| O2 Sensor : Yes Typically required on most passenger cars 1998 and newer, and Dodge light duty trucks 2007.5 and newer Press 'Camera' button to capture photos |
| <u>Continue</u> <u>Abort</u> Help |

5.1.16 Gas cap visual inspection

The gas cap visual inspection process follows the visual anti-tampering inspection. The screen (Figure 36) will walk you through the process.

| Figure 36: G | as cap visual inspection—Prompt | to confirm pass |
|--|---|---|
| Test TEST Inspector Christy Mode Entry 2 Gas Visual Arts Tamper | Davis County Vehicle Inspection Program Image: State Strate County 3 Tuel Cap 4 Ide 5 Visible Emissions | Duration Constraint 6 Test Completion 7 Print VIR |
| 1) 2) 3) 5) | Gas Cap Visual Result P Rei Exc PASS If v You have indicated that the fuel cap has no obvious defects. Confirm? | |
| <u>Continue</u> | <u>Yes</u> <u>No</u> Pass <u>F</u> ail <u>A</u> bort | Help |



Two additional questions, as seen in (Figure 37) and (Figure 38), need to be answered before proceeding to the gas cap pressure test.

| Figure 37: Gas cap visual inspection—Prompt to determine if gas cap is missing |
|---|
| Davis County Vehicle Inspection Program Dispection Program Test Inspector Christy Plate WRR000 Core Start 15:25:00 Time 15:25:00 Duration 00:15:22 |
| Is the vehicle's gas cap missing? |
| YES, gas cap is missing NO, gas cap is not missing |
| Continue Abort Help |





5.1.17 Gas cap pressure test

Follow the instructions on the screen (Figure 39) for connecting the correct adapter and running the gas cap pressure test. When a passing test has been completed, you will be prompted to be sure to remove the adapter and replace the vehicle's gas cap (Figure 40). Tap **Continue** to proceed.

| Figure 39: Gas cap pressure test—Prompt to attach adapte | er |
|---|----|
| Davis County Vehicle Inspection Program Test Inspector Christy Plate JWR000 Start 1522505 Time 152257 Durston Vehicle Entry 2 Gas Visual Anti Tamper 3 Fuel Cap 4 Ide 5 Visible Emissions 6 Test Completion 7 Print | VR |
| I) Make sure tester is properly connected and is on. 2) Connect the correct adapter (as shown) to the das Cap Tester. Adapter Stection Recommended adapter color: Unknown Some vehicles may require a different adapter than indicated. 3) Verify that the gas cap seal is free of debris and attach cap firmly to the adapter. Status Test Idle | |
| Idle Continue Abort Previous He | lp |





Following the gas cap pressure test, you will be prompted to determine if a second gas cap needs to be tested (Figure 41). Tap **Yes** to repeat the gas cap pressure test for the second gas cap or **No** to continue to the next step in the vehicle inspection process.





5.1.18 MIL lamp status

On the **OBD Dashboard MIL (Check Engine) light verification** screens, follow the directions for **KOEO** (Figure 42) and **KOER** (Figure 43) checks, selecting **Yes** or **No** depending on the outcome. The inspection system will proceed to the next screen following the **KOER** check.

| Figure 42: OBD Dashboard MIL Verification-KOEO |
|---|
| Test Inspector Christy Place Solitization Start Test Time Test Duration Control Vehicle Entry 2 Gas Visual Arts Tamper 3 Visual Gas Cap 4 OBD 5 Visable Emissions 6 Test Completion 7 Priet Vis |
| OBD Dash Board MIL(Check Engine) Light Verification With the engine OFF, turn the key to the ON position Step |
| 1) KOEO (Key on engine off) 2) KOER (Key on engine running) Does the MIL lamp illuminate? |
| Select Yes/No option to proceed *For keyboard use 'Y'. 'N to select result |
| Abort Help |





5.1.19 Visible emissions check

On the **Visible Emissions Check** screen (Figure 44), indicate whether the vehicle produced visible emissions by selecting **Yes** or **No**. A pop-up box will appear prompting for confirmation (Figure 45). 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 44: Visible emissions check | |
|--|-------------|
| Davis County | |
| Vehicle Inspection Program | |
| Mode LEST Inspector Christy Plate JWRA33 Cor C0100 Start E00122 Time E00163 Vehicle Entry 2 Gas Visual Arti Tamper 3 Fuel Cap 4 Idle 5 Visible Emissions 6 Test Completion | 7 Print VIR |
| Visible Emissions Check | |
| | |
| Did the vehicle produce visible emissions? | |
| | |
| | |
| | |
| | |
| <u>Y</u> es <u>No</u> | |
| | J |
| Continue <u>A</u> bort Help | |



| Figure 45: Visible emissions check—Confirm Yes or No |
|---|
| Veicle Entry 2 Ges Visual Ard Tamper 3 Fuel Cap 4 life 5 Visible Emissions 6 Text Completion 7 Print VR Visible Entrissions Check Result Did th You have indicated that the vehicle did not produce visible emissions. Confirm? Yes |
| Yes No Continue Abort |

5.1.20 Printing the vehicle inspection report (VIR)

The final screen displays a copy of the **vehicle inspection report** (VIR) of the inspection result. The VIR is automatically sent to the printer.

The examples below depict a vehicle that has passed both the I/M and visual inspections (Figure 46) and one that failed the I/M portion of the inspection but passed the visual (Figure 47).

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**.



| | | | Davis C Vehicle Inspect | ounty | m | | | |
|---------------|--|--|--|---|---|---|-------------|--|
| Vehicle Entry | 2 Gas Visual Anti Tamper | 3 Visual Gas Cap | 4 OBD | 5 vi | ible Emissions | 6 Test Completion | 7 Print VIR | |
| | OPUSQA1 1121 W Gr Tucson A2 Subaru OBDII Test Mastre Fuel Sys. Catalyst | Cuthack 2012 Cuthack 2012 Cuthack 2012 PASS PASS Possy Peace Call Fire Ready Ar System Ready Ar System Ready Ar Crefng, Re | ** PASS IM ** REPAR MUST EE MADE WTHM REPAR MUST EE MADE Lic #: SO1234 Certificate & Mechanic & Readimess Monitors May 02 Seneor Ready ady 02 Reater Ready DE Ready EGR Sys. Ready | "PASS VISU "PASS VISU (18 DAYS O DATE OF DATE OF DATE OF DATE OF DATE (18 DAYS OF DATE OF TIST22 (2 Christy MIL PASS KOEP PASS KOEP PASS | AL TEST Print Date TEST Test Date C southern Southern CaseSosof Odom: 75 Od | 06/21/2023 16.49 02/1/2023 16.49 02/1/2023 16.24 04 1/16/21 16/2023 16.24 04 1/16/21 16/2023 16.24 04 1/16/21 16/2024 1/16/21 1/1 | v | |
| | | 5 | Select Continue w | hen Ready | | | | |

Figure 47: Vehicle inspection report (VIR)—Failed I/M but passed visual

| | | | venicie inspec | uon Program | | |
|---------------|--|---|--|--|--|-------------|
| Vehicle Entry | 2 Gas Visual Anti Tamper | 3 Visual Gas Cap | 4 OBD | 5 Visible Er | nissions 6 Test Completion | / Print VIR |
| | OPUSQ 1121 W Tucson / Volkswa | VI Grant Rd ملاح 85705 77 gen Passat 2 est: FAIL | HICLE INSPE ** FAIL UM ** REPAR MUST BE MADE WITH is document must remain in the vehicle D18 Lic #: VWP86 Certificate | CTION REPO ** PASS VISUAL ** IN 15 DAYS OF DATE OF TEST # may not be used to register the vel VIN: 1WWCA7A36JC6(#: 7118270 | RT Print Date: 06/21/2023 17:00 Test Date: 06/21/2023 16:54:58 rest Date: 06/21/2023 16:54:58 rest Date: 06/21/2023 16:54:58 rest Date: 06/21/2023 17:00 Test Date: 06/21/2023 16:54:58 Software Version: 23:02:04 Odom: 56056 GVW: 4497 Station #: OPUSQA1 | ^ |
| | | | Mechanic | #: Christy | Analyzer #: QA000013 | |
| | Misfire | OBDI Ready Heated Cat R | Readiness Monitors adv O2 Sensor Readv | MIL FAIL Air | Visual / Gas Cap Injection System PASS | |
| | Fuel Sys Comp. Catalyst | Ready Evap Sys R Ready Air System R Ready A/C Refrig. R | eady O2 Heater Ready EGR Sys. Ready eady | KOEO PASS Eva KOER PASS PCV | alytic Converter PASS aust Gas Recirculation (EGR) PASS porative Control (EVAP) System PASS / System PASS | |
| | Fault coc | de(s) = P2000 - NOx Adsorbe | r B1 Efficiency Below Thresho | Uas Gas Gas | rission PASS Cap (Visual) PASS Cap (Functional) N/A | |
| | | | | | | , |
| | | | Select Continue v | when Ready | | |
| | | Free | Retest - No Certificat | tes have been decre | emented. | |
| | | | | | | |

5.2 Other vehicle inspection menu items

Besides the **Official Vehicle Inspection**, the **Vehicle Inspection Menu** (Figure 48) includes several additional utilities, as described in the subsections below.



5.2.1 View certificates remaining

Tapping View Certificates Remaining provides a quick check of available stock (Figure 49).





5.2.2 OBD self-check

The **OBD Self-Check** function (Figure 50) offers a method to check the System's OBD link. Follow the instructions on the screen and tap **Continue**. Tap **OK** when the check has been completed to return to the Vehicle Inspection Menu.

| Figure 50: OBD Self-check |
|--|
| Davis County |
| Vehicle Inspection Program NEFECTION Plug OBDII Link into the Test Connector and Connect the Power Cable |
| OBD Check |
| |
| |
| Select 'Continue' to perform the check |
| Activate Windows Go to Settling: to activate Windows |
| |

5.2.3 Calibrations

No calibrations are necessary for the OBD-only DriveClean tablet inspection system. While this menu item is applicable to Gen3 TSI/OBD-II Systems, it may be disregarded for the OBD-only DriveClean tablet.



5.2.4 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 and connects with the VID, though no test results are recorded or reported.

Note in the example in Figure 51, **TRAIN** appears in **Test Mode** window on the dashboard at the top left of the screen.

| Figure 51: Running inspection in training mode (enter plate number) |
|--|
| Davis County INSPECTION OF Test TRAIN Inspector XXX Plate None Start 223561 Time Z223655 Duration Counting |
| |
| Enter the VIN using one of the above methods Vehicle Identification Number Verification # Disconnect OBD cable from vehicle before starting next inspection Current Vin Source [None] |
| Activate Windows Continue Cancel Help |

5.2.5 Previous

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



6.Utilities menu

The Utilities Menu (Figure 52) includes a variety of useful functions, such as:

- VIR reprint
- View bulletins and messages
- View lockouts
- Analyzer status
- Manual diagnostic test mode
- Consoles
- Communications menu
- Choose printer
- Previous

Each utility is described in a subsection below.

| | Figure 52: Utilities menu | |
|-----------------------|--|---------------------------------|
| | | |
| | Davis County Vehicle Inspection Program | |
| | Utilities Menu | |
| Network | VIR Reprint | |
| WiFi 🚿 | View Bulletins/Messages | |
| VID 🔶 | View Lockouts | |
| Status OK Certs | Analyzer Status | |
| Lockouts | Manual Diagnostic Test Modes | _ |
| Scan Int. 5m | Consoles | |
| Status No Update | Communications Menu | |
| | Choose Printer | |
| | Previous | |
| | Software Version: 23.02.04 | to Settings to activate Windows |
| | Main Menu Help | |



6.1 VIR reprint

From the **Utilities Menu**, tap **VIR Reprint** to bring up a list of test records (Figure 53), searchable by date/time and operator, from which a VIR can be viewed and printed.

| | Vehicle I | Inspecti | on Program | | | |
|---|-------------------|---------------------|--|------------|-----------------|-----------------|
| Retrieval Options Field O Date Time V | perator | 6/20/20 (Eg. MM/ | Value 23 19:15:14 DD/YYYY Htt:MM:SS) | | <u>R</u> etriev | /e |
| LinitiD Data Timo Maka | Madal | lata Vor | or Vin | Popult S | oquoneo | SoftwareVersion |
| 04000013 6/22/2023 19:07 Volkswage | n letta IF | T567 198 | 6 WV/WGA0162GW29084 | F 2 | equence | 23.02.04 |
| QA000013 6/21/2023 16:54 Volkswage | n Passat VV | WP86 201 | 8 1VWCA7A36JC600305 | F 1 | | 23.02.04 |
| QA000013 6/21/2023 16:24 Subaru | Outback SC | 01234 201 | 2 4S4BBBEC0C3659867 | P 1 | | 23 02 04 |
| QA000013 6/21/2023 16:01 Jeep | Wrangler JV | VRA33 198 | 8 2BCCZ8122JB836203 | P 2 | | 23.02.04 |
| QA000013 6/21/2023 15:25 Jeep | Wrangler JV | WR000 198 | 8 2BCCZ8122JB836203 | A 2 | | 23.02.04 |
| QA000013 6/21/2023 14:41 Ford | E-Series Wagon 77 | 777W 200 | 6 1FBNE31S36H851732 | A 2 | | 23.02.04 |
| QA000013 6/21/2023 14:33 Volkswager | n Jetta 32 | 232R 198 | 6 WVWGA0162GW29084 | 5 A 2 | | 23.02.04 |
| QA000013 6/21/2023 14:27 Ford | E-Series Wagon 22 | 2222G 200 | 6 1FBNE31S36H851732 | A 2 | | 23.02.04 |
| | | | | | | |



6.2 Viewing bulletins and messages

Tap Bulletins/Messages to bring up a screen (Figure 54) providing searchable parameters and several message-handling functions.

| | Davis Vehicle Inspe | County ection Program | | |
|---|---|--|--|--|
| | Select Topic: Frest Message from TDC OA Select Date: 5/25/2023 13:54:50 • Recipient(s): All Inspectors Date Sent: 5/25/2023 13:54:50 Sender: nchodos Browse messages by topic or date. Messages that have not yet been viewed by an viewed only in Message Center. Select Texel To return a message to unreved that Reading Message 1 of 2 | Message ID Viewed All Message ID 13 Viewed Date 6/20/2023 10-5 impoctor will display advanticably at the beginning of an impoction, after which they can be the selected impoctor in the Viewell by user flat. Current User: XXX | | |
| Davis County Vehicle Inspection Program <messages alerts="" and="" for="" opusqa1=""> All Units test message from TDC QA.</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 55) of lockouts and their current status. You can scroll down to see additional lockouts.

| | | Veh | Davis County icle Inspection Program | |
|-----------|--|---------------------------|--|-----|
| Cha | nge Expiration Interval: | Дрр | ly Enabled Auths | |
| L Priv | ockout is Clear ocked Out ockout Expired | L g e n d Adr | Current Status Lockout Type Status ninistrative: Clear | ted |
| Status | Expiration | Duration | Lockout Name | |
| | Does Not Expire | 0 | Certificates | |
| | Does Not Expire | 0 | Failure to Pay | |
| | Does Not Expire | 0 | Hardware | |
| | Does Not Expire | 0 | Invalid Software Version | |
| | Does Not Expire | 0 | No Contact | |
| 2 | Does Not Expire | 0 | State | |
| | | | | |



6.4 Analyzer status

The Analyzer status screen (Figure 56) provides a quick snapshot of relevant analyzer functions useful for troubleshooting, viewing calibration status, data communications, and more.

| -// | | Davis Cour | - | _ | |
|-----|---------------------------|--|--------------------|-------------------------|-----|
| | | Vehicle Inspection Pr | rogram | | |
| | Stat | us of analyzer as of: 6/ | 22/2023 19:1 | 9:44 | |
| | VID Communication | on Enabled (Check box to enable | e/disable VID comm | unication on this ur | it) |
| | Station ID: | OPUSQA1 | | | |
| | Analyzer Number: | QA000013 | Computer Name: | QA000013 | |
| | Target VID: | https://unitapi-uat.aircheckdavis.org/api/ | IP Address: | 192.168.4.76 | |
| | Total Records: | 12 | Lockout Status: | Clear | |
| | Untransmitted Records: | 0 | | | |
| | Unit Date Time: | 6/22/2023 19:19:44 | | | |
| | Software Version #: | 23.02.04 | | | |
| | Last Network Access: | 5/20/2007 10:05:31 PM | | | |
| | Last Data Refresh: | 6/22/2023 19:07:53 | | | |
| | Certificates: | 94 | Don | ot use unless instructe | 1 |
| | Last Gas Calibration: | 21-Jun-2023 2:59 PM | | otherwise by Opus | |
| | Last Leak Check: | 21-Jun-2023 2:54 PM | | Clear Authorizations | |
| | Last Gas Cap Calibration: | 21-Jun-2023 3:19 PM | | Clear Transmit Queue | |
| | | | | | |



6.5 Manual diagnostic test modes

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

Figure 57 displays a menu of test modes. You will be prompted for additional vehicle details in subsequent screens (see Figure 58 for OBD, disregard for Gas). At any time, tap **Help** to access operator documentation.

| | Figure 57: Utilities—Diagnostic test mod | de |
|--|--|----------------|
| | Davis County Vehicle Inspection Program | |
| Network Cat5 | Manual Diagnostic Test Modes | |
| WiFi 🖉 VID 🦳 Stats Stats | Manual (Diagnostic) Test Mode (OBD) | |
| Certs 94 Lockads 9 | Manual (Diagnostic) Test Mode (GAS) | |
| Sea Int. Sea Int. Sm Status Na Upter | | |
| - | Previous | |
| | Softwore Version: 23.02.04 <u>Main Menu</u> Help | Strate Windows |



| Figure 58: Utilities—OBD manual diagnostic test mode | | | | | |
|---|-------------------------------|--|--|--|--|
| Davis County Vehicle Inspection Program | | | | | |
| OBD Diagnostic mode allows individual tests to be run outside of the normal testing logic. Tests may be run for diagnostic purposes only and do not constitute a valid emissions inspection. No test record is created or stored. Select individual test to perform from list. Some basic information about the vehicle being examined will be required to ensure accuracy. | vate Windows | | | | |
| <u>Close</u> Help | Settinge to settivate Windows | | | | |

6.6 Consoles

The **Consoles** menu (Figure 59) provides access to the **OBD link Console** and the **Bay Camera Console** cameras for diagnostic purposes.

| | Figure 59: Utilities—Consoles menu | I |
|--|--|--------------|
| | Davis County Vehicle Inspection Program Consoles | |
| Network Cat5 💭 WiFi 🔗 VID 🔶 | OBD Link Console | |
| Slatus 06 Certs 34 Lockots 9 SW Update Scalat | Bay Camera Console | |
| 5m Status Mautosei | Previous | |
| | Software Version: 23.02.04 Main Menu Help | Wate Windows |



6.7 Communications menu

The **Communications Menu** (Figure 60) offers several simple functions primarily used with inspection system troubleshooting, including:

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



6.7.1 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 will appear. With the DataOne refresh, a pop-up prompt requesting confirmation will appear (Figure 61); tap **YES** to proceed or **NO** to abort the action.





6.7.2 VID communications check

Selecting **Check VID Communications** from the **Communications Menu** will display a screen (Figure 62) 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 62: VID communi | cations check in-progress |
|--|---|
| Davis O Vehicle Inspec | ounty |
| VID Commu | nications Check |
| | Stats |
| VID State: Enabled | Service Timeout: 30 Secs |
| Assigned VID: https://unitapi-uat.aircheckdavis.org | pi/ Test Type: Loop-Back |
| Last Contact: 5/20/2007 10:05:31 PM | Analyzer #. QA000013 |
| Common Causes of Failed Communications Test 1) Local router is blocking incoming traffic 2) Ethernet cable is loose or disconnected 3) Assigned VID address is incorrect 4) Invalid credentials 5) Internet is down 6) Unit not registered on VID 7) VID is down | Comm Status Comm Status Undetermined Failed Success |
| Addition Informa No info pending Select Close | to Exit Comm Test |
| <u>T</u> estCI | Help |



6.8 Choose printer

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

6.9 Previous

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



7.Station menu

The Station Menu (Figure 63) 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
- Previous

These functions are described in the subsections below:

| | Figure 63: Station menu | |
|---------------------------------------|--|---|
| | Davis County Vehicle Inspection Program Station Menu | |
| Network Cat5 | View Inspector Information | _ |
| VID 🔶 | Purchase Certificates | |
| Certs | Certificate Usage Report | |
| Scan Int 5m Status Nistipsee | Web Portal | |
| | Previous | |
| | Software Version: 23.02.04 Main Menu Help | |
| | | |



7.1 View inspector information

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

7.2 Purchase certificates

Selecting **Purchase Certificates** from the **Station Menu** will take you to the login screen on program website. Enter the username and password and follow instructions on the website.

7.3 Certificate usage report

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

7.4 Web portal

Selecting Web Portal from the Station Menu will bring up the Davis County program website.

7.5 Previous

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



8.County menu

The County menu (Figure 64) includes the following options:

- View inspector information
- Waiver vehicle inspection
- Compliance/referee assurance vehicle inspection
- Camera console
- Set/view lockouts
- Modify workstation configuration
- Overt Audit Checklist

Each menu option is described briefly below.

| | Figure 64: County menu | |
|----------------------------|--|-----------|
| EN . | Davis County Vehicle Inspection Program | |
| | County Menu | |
| Cat5 | View Inspector Information | |
| WiFi 🔗 | Waiver Vehicle Inspection | |
| VID | Compliance/Referee Assurance Vehicle In | nspection |
| Certs 94 Lockods | Camera Console | |
| 0 SW Update Scan Int | Set/View Lockouts | |
| 5m Status No Upter | Modify Workstation Configuration | |
| | Overt Audit Checklist | |
| | Log Off | |
| | Software Version: 23.02.04 | |
| _ | Main Menu He | lp |

8.1 View inspector information

This option enables the County user to view a table of inspectors authorized to perform inspections using the analyzer.



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8.2 Waiver vehicle inspection

Selecting this option enables the authorized user to perform a waiver vehicle inspection. The waiver inspection emulates the standard vehicle inspection process with the addition of certain overrides.

8.3 Compliance/referee assurance vehicle inspection

As with the waiver vehicle inspection, selecting this option enables the authorized compliance officer/referee to perform a vehicle inspection that emulates the standard vehicle inspection process with the addition of certain overrides.

8.4 Camera console

The Camera console menu (Figure 65) provides access to the Bay Camera Console.

| | Figure 65: County–Camera console mer | iu |
|--|--|----|
| <u>En</u> | Davis County Vehicle Inspection Program | |
| Network Cats 💽 WiFi 🔆 | Camera Console | |
| VID O | Bay Camera Console | |
| Lockods 0 SW Update Scan Int. 5m | | |
| Status Wallgaten | Previous | |
| | Software Version: 23.02.04 | |
| | Main Menu Help | |



8.5 Set/view lockouts

The Set/view lockouts option (Figure 66) provides the user with ability to view and manage the analyzer's lockouts.

| | Veh | Davis County nicle Inspection Program | |
|---|------------------------------|---|----------|
| Change Expiration Interval: | Арг | Ply Enabled Auths | |
| Lockout is Clear Locked Out Lockout Expired | L e g e d Adr | Current Status Lockout Type Status ministrative: Image: Clear | ected |
| Status Expiration | Duration | Lockout Name | <u>^</u> |
| Does Not Expire | 0 | Certificates | |
| Does Not Expire | 0 | Failure to Pay | |
| Does Not Expire | 0 | Hardware | |
| Does Not Expire | 0 | Invalid Software Version | |
| Does Not Expire | 0 | No Contact | |
| Does Not Expire | 0 | State | |
| Does Not Expire | 0 | Station License | |

8.6 Modify workstation configuration

Selecting the modify workstation configuration option brings you to a menu (Figure 67) that provides the utilities listed below. Most of these options are self-explanatory.

- Update workstation information (seen in Figure 68)
- Software update
- Reset workstation date and time
- Choose printer
- Previous





Figure 68: County–Update workstation information

| Unit Initializa | ition System Parameters Test Parameters Device | Parameters |
|---|--|--|
| Server Address | ses l | Initialization Information |
| Vid Url: ht | ttps://unitapi-uat.aircheckdavis.org/api/ Check Address Vid Communications Enabled: 19 | Unit Type: Clean/Gen3 Program: UD Analyzer #: QA000013 PC Name: QA000013 |
| Station Informa | tion | |
| Name O Address 1: 11 Address 2: 11 ID #: 0 ZIP Code 8 Phone: Status: A Expiration: 4 | PUSQA1 121 W Grant Rd 1 W Grant Rd PUSQA1 State: AZ 5705 City: Tucson ctive | P Rename PC Full Refresh Domain: OPUS Name: 0A000013 Pwd: **** Pwd: **** Fencryption P Use Credentials Optional Parameters Enable Fee Collection: □ Display Previous Tests: □ |



8.7 Overt Audit Checklist

This County menu option sends the authorized user to a screen for logging on to the Opus VID Central database management console.



9.Service tech menu

The service tech menu (Figure 69) provides the authorized Opus field service technician with the following options:

- Consoles (see Figure 70)
- OBD-II Self-check
- Analyzer status
- Communications menu
- Set/view lockouts
- Modify workstation configuration
- Log off

Most of these functions are also found under the Utilities menu and are described in in Section 6 of this manual.

| | Figure 69: Service Tech Menu | |
|--------------------------------------|--|---|
| E | Davis County Vehicle Inspection Program | |
| Network | Service Tech Menu Consoles | |
| WiFi 🚿 | OBDII Self-Check | |
| Stats Status OK Certs 96 | Analyzer Status | _ |
| Scan Int. | Communications Menu | _ |
| Status No Upter | Modify Workstation Configuration | |
| | Log Off | |
| | Software Version: 2302.04 Main Menu Help | |



| | Figure 70: Service Tech–Consoles menu | |
|---------------------------------------|--|---|
| Z | Davis County Vehicle Inspection Program | |
| Network Cat5 | Consoles Barcode Scanner Console | |
| | Bench Console | |
| Statu Status OK Certs | OBD Link Console | _ |
| Lockada 0 SW Update Seas Int | Gas Cap Console | _ |
| Status | RPM Console | _ |
| | Previous | _ |
| | Software Version: 23.02.04 | |
| | Main Menu Help | |



10. System shut down

The **Shutdown Functions** menu (Figure 71) provides three self-explanatory functions:

- Shut down analyzer, 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
- Previous, which returns the user to the Main Menu without initiating shut down functions.

| E | Davis County Vehicle Inspection Program | |
|---|--|---|
| Network | Shutdown Functions | |
| ViFi 🖉 | Shutdown Analyzer | |
| Status Lockads 4 Swill Update Screen Int. | Restart Analyzer | _ |
| Status No Update | Previous | _ |
| | Software Version: 23.02.04 | |
| | Main Menu Help | |

Figure 71: Shut down functions menu



11. Maintenance

The Davis 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.



12. 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**.



Davis County Vehicle Inspection System Operator's Manual Gen3 TSI/OBD-II System

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1.Introduction

This manual provides important operating information, features, and helpful tips concerning the Davis 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 Davis 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 Gen3 System monitor, 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 Davis County Gen3 inspection system, follow all safety instructions.
- Only use Davis 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 Davis County and Davis County Health Department policies and procedures. In case of discrepancy, Davis County Health Department policies and procedures supersede this manual.



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

Mobile source air toxics¹ 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 highemitting 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 lightduty 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 Davis County inspection system

The Opus team is very pleased to introduce the Davis County inspection system for emissions testing in the Davis County I/M program. The high-tech Opus **Gen3 TSI/OBD-II System** provides the best possible operational functionality and flexibility, maximizing customer convenience and test efficiency.

All Gen3 TSI/OBD-II Systems and peripheral equipment are networked and tied into the Opus Davis County VID, communicating wirelessly in real-time. All equipment meets or exceeds the specifications contained in the EPA, State of Utah, and Davis County Health Department regulations, guidance, or requirements.

Davis County inspection system components include:

- Dell Optiplex 3000 computer with keyboard and wired mouse
- 19" wide screen LCD monitor
- Microsoft Windows 10 software
- 4-GAS Sample System featuring Crestline IR
- Bench and all associated peripherals (see gas analyzer system details below)
- Opus IVS IMclean DAD OBD interface (including OBD RPM monitor)
- Additional Capelec 8510 Non-Contact RPM
- Monitor (for vehicles without OBD monitoring capability)
- Gas cap tester with fuel cap adapters
- Xenon 1950 1D/2D barcode scanner
- Reolink 511 IP lane camera
- Ricoh WG-70 Handheld video capable digital camera
- HP M406 laser printer
- LAN port
- Zero gas
- One (1) high gas
 - High Range Calibration Gas per DCHD Regulation, Appendix E, Section 3.2:
 - HC = 3200 ppm propane
 - CO = 8.0 percent
 - CO₂ = 12.0 percent
 - O₂= 20.9%
 - N₂ = Balance 99.99 percent pure
- Operator's Manual



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3.1.1 Gen3 TSI/OBD-II System

The front view of the Gen3 TSI/OBD-II System with cabinet and peripherals is shown in Figure 1.



3.2 Inspection system software—security and convenience

The Davis County inspection system is automated to the highest degree possible to minimize the potential for fraud and human error and is exceedingly secure from tampering and 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 Gen3 TSI/OBD-II System menus provide 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 2) appears when the computer is turned on. Select **Start Up** to prepare the analyzer, refresh data, and then display the **Main Menu**.



During the startup sequence, screens will briefly appear displaying activities such as synchronizing with the vehicle inspection database (VID) server (Figure 3), checking for and applying pending software updates, reconciling test records with the VID, and updating vehicle lookup tables (Figure 4).

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.









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 click **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 Gen3 TSI/OBD-II System 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 5: Main menu | |
|----------------------------------|----------|--|--|
| | | Davis County Vehicle Inspection Program | |
| Network Cat5 | <u></u> | Main Menu Vehicle Inspection Menu | |
| WiFi 😤 VID 🔶 | ۰ | Utilities Menu | |
| Status Status OK Certs | <u>P</u> | Station Menu | |
| 98 Lockouts 0 SW Update | <u>B</u> | County Menu | |
| Scan Int. 5m Status | ¥ | Service Tech Menu | |
| Houpaan | Ċ | Shutdown Functions | |
| | (| Restart Analyzer | |
| | | Software Version: 23.02.04 | |
| _ | | Main Menu Help | |

The menu options listed below are available from the Main Menu (Figure 5).



Menu 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, perform calibrations, 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 analyzer status information, access diagnostic test modes, initiate communications sessions, choose printers, or view lockouts.
- Station Menu: Authorized station users can select this menu to view inspector information, purchase certificates, access a certificate usage report, and access the web portal.
- County Menu: Authorized County officials can select this menu to perform designated activities, such as view inspection information, perform waiver vehicle inspections, perform compliance/referee inspections, access the camera console, set and view lockouts, modify workstation (analyzer) configuration, and access the overt audit checklist.
- Service Tech Menu: Authorized Opus users utilize this selection to check and manage consoles, perform an OBD self-check, view analyzer status, 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 Gen3 TSI/OBD-II System.
- **Restart Analyzer:** Activating this button restarts the Gen3 System.
- Help: Selecting this button displays the system documentation. The Help button is available on multiple screens.

4.2.2 Inspection screen dashboards

An on-screen dashboard (Figure 6) 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 6: | Inspection s | creen dash | board | | |
|-------------------|--------------------------|------------|--------------------------------|-------------------------|-------------------|-------------------|---|
| ZM | - | V | Davis Cou ehicle Inspection | I nty Program | - | | |
| Test Mode TEST | Inspector Christy | Plate | Lock Out | Start 16:23:49 | Time 16:42:01 | Duration 00:18:12 | |
| Vehicle Entry | 2 Gas Visual Anti Tamper | 3 Fuel Cap | 4 Idle | 5 Visible Emissions | 6 Test Completion | 7 Print VIR | 6 |

A vertical dashboard (Figure 7) also appears on inspection and menu screens. This dashboard monitors communication, unit information (such as lockout and certificates), software, and battery status.

Figure 7: Vertical dashboard

4.2.3 Printer connection

The laser printer is located in the Gen3 TSI/OBD-II System cabinet and connected via printer cable.

4.2.4 Offline operation

If the Gen3 System 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 Davis 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 shutdown

To shut down the inspection system, select **Shutdown Functions** from the **Main Menu**. The **Shutdown Functions** screen will appear (Figure 8, next page). Click **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.









5. Vehicle inspection

This section of the Davis County inspection system operator's manual describes the entire vehicle inspection process, including vehicle identification, analyzer calibration, performing OBD and TSI inspections, and issuing the vehicle inspection report.

5.1 Official vehicle inspection

From the **Main Menu**, select the **Vehicle Inspection Menu** (Figure 9). To begin the inspection, select **Official Vehicle Inspection** from the **Vehicle Inspection Menu**.





The same sequence of inspection screens will appear when Waiver Vehicle Inspection and Compliance/Referee Assurance Vehicle Inspection options are selected from the County Menu.

5.1.1 Inspector login

Before beginning the vehicle inspection, the inspector must login using manual validation. (Figure 10). Enter your five-digit inspector number (or select from the drop-down list) and password in the indicated fields and click **Continue**. The inspection system will display an error message on invalid entries (Figure 11).



| Figure 10: Mar | hual validation login prompt |
|-------------------------------------|--|
| Required Security Level: Inspector. | |
| Select your Inspector ID | Manual Validation Inspector #: Password: |
| <u>C</u> ontinue | e C <u>a</u> ncel |

| Figure 11: Inco | rrect ID or password entered |
|-------------------------------------|--|
| Required Security Level: Inspector. | |
| Select your Inspector ID | Manual ValidationInspector #:888880Password: |
| Incorrec | t ID/Password Entered |
| <u>C</u> ontinue | e C <u>a</u> ncel |

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 12) will appear. Enter the vehicle's plate number in the field provided using Gen3 System's 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. Click **Continue** when finished.

| Figure 12: Entering the vehicle license plate |
|--|
| Davis County Vehicle Inspection Program Test Test Mode Test Test Christy Plate None Lot Old Start 17/2632 Time 1/2/264 |
| Vehicle License Plate 1. For vehicles with Utah dealer plates, use the dealer plate number 2. If the vehicle does not have a plate, enter "NP" 3. If the vehicle has an out-of-state plate, enter "OS" Plate Number: |
| Select Continue to Proceed |
| <u>Continue</u> <u>Previous</u> <u>Cancel</u> Help |

Following the license plate entry, you will be prompted to connect the OBD data link connector (if applicable) and start the vehicle's engine (Figure 13).



| Figure 13: Prompt to connect OBD data link connector |
|---|
| Davis County INSPECTION OF Vehicle Inspection Program INSPECTION OF Mode TEST Inspector Christy Plate None Lot Cole Start 17:14:55 Duration D005035 |
| To obtain OBD VIN from Vehicle Automatically |
| Connect the cable to vehicle's Data Link Connector |
| |
| and Start Engine |
| Important Engine MUST be running to download complete OBD data. Turn engine on only when connected, or damage to vehicle may result! |
| Select Continue to Proceed |
| Continue |

In the event you are unable to successfully connect to the vehicle's DLC, a message will appear in the center box (Figure 14). Enter the VIN using one of the other methods indicated on the screen.

| Figure 14: DLC connection failure |
|--|
| Davis County Dispection Program Test Inspector Christy Plate None Start 17/202/2 Time 17/202/2 Time 17/202/2 |
| OBD Communication not Established |
| Enter the VIN using one of the above methods Vehicle Identification Number |
| Current Vin Source [None] |



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 (see Figure 14), the VIN will need to be either entered manually or scanned using the barcode scanner. The screen will provide both options.



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

After the vehicle's VIN has been entered, either using the barcode scanner (Figure 15). or through manual entry using the Gen3 System keyboard, click **Continue**

| Figure 15: Barcode scan of vehicle VIN |
|--|
| Davis County INSPECTION OF Vehicle Inspector Program Test Test Inspector Christy Plate Noncom Start 1261192 Time 11801133 Duration Colspan="2">Colspan="2">Colspan="2" |
| |
| Enter the VIN using one of the above methods Vehicle Identification Number IFBNE31S36H851732 Dashboard Door jamb Disconnect OBD cable from vehicle before starting next inspection |
| Current Vin Source (Barcode) Continue Cancel Help |



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.



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 16). This screen will require you to select emissions **Decal PRESENT** or **Decal MISSING**, then confirm the selection (Figure 17).

| Test TEST Inspector Christy | Figure 16: Data verificat Davis County Vehicle Inspection Program | n | Duration | |
|---|---|--|----------|--|
| | Data Verification | | | |
| Plate 3 | State UT te 4545 | To change an incorrect value, click on the corresponding button | | |
| <u> </u> | VIN JH4DA1750JS236271 | | | |
| Capture The air po place and use refere pollution o | Picture Ilution control devices identified in the e apparently operable on the vehicle. If t ince material as approved by the Depart control devices required for the vehicle. Decal PRESENT Dec | missions decal shall be in ne decal is missing, you may ment to identify the air al MISSING | ſ | |
| Continue | Take Pictures | Cancel | Help | |



| Figure 17: Data verification—prompt to confirm decal present |
|--|
| Tet: Tet: |
| Continue Take Pictures Cancel Help |

The next screen (Figure 18) will provide you with the opportunity to change incorrect license plate or VIN information, if necessary. Follow the procedure below to begin taking the required photos.

| Figure 18: Data verification—prompt to capture pictures | | | | | |
|---|--|--------------------------------------|------------------|--|--|
| Test TEST Inspector Christ | Davis Con Vehicle Inspection | Program Start 102230 Time 1025303 | Duration COUNTED | | |
| | Data Verif | ication | | | |
| PI | late State UT | | | | |
| | Plate CLH To change an incorrect value, click on the | | | | |
| | VIN JH4DA1750JS236271 | | | | |
| Capt | Capture Picture | | | | |
| Door Label/VIN: | | | | | |
| License: | | | | | |
| | Vehicle Emissions Decal: | | | | |
| Select Continue to Proceed | | | | | |
| Continue | Take <u>P</u> ictures | Cancel | Help | | |
| | | | | | |



Taking data verification photos is a two-step process, as described below:

- Unplug the handheld camera and take photos of the vehicle (in this case: license plate, decal, VIN plate).
- When all required photos have been taken, plug in the handheld camera to the PC and click Take Pictures button (see Figure 18), followed by Connect on the next screen (Figure 19) to access the photos on the camera.

Use the buttons on the screen to assign the different photos to the correct description (Figure 20). The photos will automatically be deleted from the camera after the process has been completed.





| Figure | 20: Data verification | -required photo rec | ords |
|---|---|--|--|
| | Vehicle Inspection | Program | |
| Test Inspector Christy | Plate CLH Out Out | Start 16:23:49 Time 16:27:43 | Duration 00:03:54 |
| Plug the camera into the USB comore than 10 s | Innector. Push the power button on ecconds. Wait for the power button to controls << Previous Next >> Select DeSelect Skip | ce if the camera is powered off or o display solid green and then cliv res\RIMG1337C50.JPG res\RIMG1339C50.JPG res\RIMG1339C50.JPG U.S. EP Cation No adar | The power button blinks for ck Connect. |
| Door | ibel/VIN t) Picture names in RED a | (*) Vehicle Emissi Decal (*) are MANDATORY | ons |
| Continu | Cance | el He | elp |

5.1.5 Vehicle information and vehicle data lookup

Once the VIN has been entered and verified, and mandatory photos captured, 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 21), click Continue to view the results (Figure 22), 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 23). Click Continue to proceed to additional data entry screens



| Figure 21: Prev | vious test lookup/pre | vious test record four | nd |
|--|---|--|----|
| 2)) | Davis County Vehicle Inspection Progra | m | |
| | Performing VID Previous Test/Regi | stration Lookup | 1 |
| Network Connection • • • • Activity • • • | Target: https://unitapi-uatairchockdavis.org/api/ VIN WWGA0162GW290845 | Unit IP: 192.168.4.76 Last Refresh Date: 6/21/2023 14:33:59 | |
| Sent 228.17 Received: 9550.45 Active NC 45 Ethernet | 0 | Previous test data found Vin decode performed Local data retrieved | |
| Access Time Minutes: 0 Seconds: 2 Rate: | | VID communications completed successfully! | |
| (| Previous Test Information | n Found! | |
| | Select Continue to Proc | eed Activate | |
| | Francesson | | |

Figure 22: Previous test information

| Test Mode TEST | Inspector Christy | Plate 3232R | Lock Ot | Start 14:33:59 | Time 14:38:02 | Duration 00:04:03 |
|-------------------|-------------------------------|--------------------------------------|---------------------------------|----------------|--|---|
| Vehicle Entry | 2 Undetermined | Undetermined | Undetermined | 5 Undetermined | 6 Test Completion | 7 Print VIR |
| | | | Previous Test Info | rmation | | |
| | Station ID: OP Unit ID: QA | USQA1 Prev 000001 Cu | ious Test#: 1 rrent Test#: 1 | _ | | • |
| | Last Date Test Vehicle Ma | ed: 6/8/2023 15:27 ke: VOLKSWAGEN | 34 I | | Previous Tes www.cA0162 | St Result W290845 N REPORT |
| | Model Ye | ar: 1986 | | | | |
| | OBD Result: | N/A GasC | ap Visual Result | Pass | | |
| | KOEO Result: | N/A Gas | Cap Test Result: | Pass | These year it has not any constraint to consider the constraint (). This willy had have performed to AP and according to (ACAP ()) ingenity's Department r | IN, GALA ABUATAN Ay UNIV |
| | KOER Result: | N/A Visual Ant | ti Tamper Result: | Pass | | |
| | TSI Result: | Pass Visible E | missions Result: | Pass | - and the true is the of a spreading of a discretion of the spread of th | |
| | | | | | | Activate Windows |
| | | Continue | | Help | | Activate Wind ows to to Setting to only ate Wind |



| Figure 23: No previous test record/D | Data located from VIN decode |
|--|---|
| Davis Coun Vehicle Inspection Pr | ogram |
| Performing VID Previous Test/ | Registration Lookup |
| Nětvorik Connecton • • • • • • • • • • • • • • • • • • • | Unit IP: 192 168.4.76 Last Refresh Date: 6/21/2023 14.4129 Lookup Results |
| Sent 972.4 Received 9807.22 Active NIC 2 6 Ethernet | O Previous test data found Vin decode performed Vin decode performed O Local data retrieved |
| Access i me Minuta: 0 Second: 2 Rate | VID communications completed successfully! |
| No Previous Test Inform | mation Found! |
| Select Continue to | Proceed Activate |
| Re-Enter | Continue |



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:

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 click **Re-Enter** to correct the VIN error or click **Continue** to proceed with the inspection.

5.1.6 Vehicle model year entry

On the model year screen (Figure 24) enter the vehicle's model year in the field provided, then click **Continue**.



| | Figure 24: Enter model year of ve | ehicle |
|-----------------------------|--|---------------------------------|
| EN. | Davis County Vehicle Inspection Program | |
| Test TEST Inspector Christy | Plate JWR000 Lock Com Start 1923509 | Time 15:27:16 Duration 00:02:07 |
| | Model Year | |
| | Enter Model Year of Vehicle | |
| | Model Year: 1988 | |
| L | Select Continue to Proceed | |
| Continue | Previous Cancel | Help |



5.1.7 Vehicle type entry

In the Vehicle Type screen (Figure 25), enter the type of vehicle by selecting Passenger Car or Truck in the left-side field or by clicking the appropriate icon under the Quick Select header. Click Continue when finished.

| | Figure 25: Ent | er vehicle type | |
|-----------------------------|-----------------------------|----------------------|------|
| Test TEST Inspector Christy | Davis C Vehicle Inspecti | ounty on Program | |
| | Vehic | sle Type | |
| Passe Truck | select Ty | Quick Select | |
| | | Passenger Vehicle Tr | uck |
| | Select Contir | nue to Proceed | |
| Continue | Previous | Cancel | Help |

5.1.8 Fuel type entry

In the **Fuel Type** screen (Figure 26), select the vehicle's fuel type from the list at the left-side of the screen or click 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 26: Select fuel type |
|--|
| Inspector Christy Plate GWR000 Lock Eine Eine |
| Fuel Type |
| Gasoline Diesel Hybrid Electric Natural Gas(CNG) Liquid Propane Gas Methanol(greater than 20%) |
| Select Continue to Proceed |
| <u>C</u> ontinue <u>P</u> revious <u>Cancel</u> Help |

5.1.9 Vehicle make entry

On the Vehicle Make screen (Figure 27), select vehicle make from the scrollable list on the left side of the screen or from the Quick Select icons on the right. Click Continue to proceed. If the vehicle's make is not listed, click Not Listed under the Quick Select icons. A field will appear for manually entering the vehicle make.

| Test TEST Inspector Christy | Plate Witton | CUNTY COUNTY COUNTY COUNTY Start 10/2000 Time | CORPUS OF CONTRACTION OF CONTRACTOR CONTRACT |
|--|---|--|--|
| | Vehi | cle Make | |
| Selecti | Select Manu he appropriate make from the list. If the n ame of the manufacturer. If it is a KIT car | facturer's Make nake is not listed select 'not listed', then ty or specially-constructed vehicle select "SI | rpe in the full PCN" |
| Hond Hyur Isuzu Jagu Jeep Other Mak | la dai I ar | BUICK Image: Constraint of the second seco | |
| | Select Conti | nue to Proceed | |
| Continue | Previous | Cancel | Help |



5.1.10 Vehicle model entry

From the Vehicle Model screen (Figure 28), select the vehicle's model from the scrollable list, then click Continue.

| Davis County Vehicle Inspection Program DPLIS Test Inspector Childly Plate Uwink0000 Lock Start 15925092 Time 16511435 Duration 00005055 |
|---|
| |
| Vehicle Model Select Manufacturer's Model |
| Cherokee Comanche Grand Wagoneer J-10 Pickup J-20 Pickup Wagoneer |
| Wrangler V Other Model |
| Select Continue to Proceed |

5.1.11 Additional manual entry screens

For those vehicles where vehicle data is unavailable from lookup tables, additional manual entry of vehicle parameters may be required. As necessary, you will be stepped through entry of engine displacement, number of engine cylinders, transmission type, vehicle body style, and the odometer reading. Click **Continue** to proceed to the next step in the inspection process or **Previous** to access the prior screen.

5.1.12 Vehicle lookup table match selection

The **Vehicle Look-Up** screen (Figure 29) 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, click **Match** to continue with the inspection process.

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



| Figure 29: Vehicle lookup and match screen |
|--|
| Davis County Devise County Devise County Devise County Test Test Inspector Christy Plate Own Start 1022588 Time 1022258 Duration 0000740 |
| Vehicle Look-Up Vehicle Make: Jeep Vehicle Model: Wrangler |
| Year Displacement Cylinder Transmission Body Type VLTRowID > 1988 4.2 6 Automatic SUV 52146 |
| |
| Highlight matching vehicle or select No Match to continue |
| Match No Match Help |

5.1.13 Vehicle weight class entry

On the **Gross Vehicle Weight** screen (Figure 30), enter the vehicle's gross vehicle weight. If the gross vehicle weight is not available, click **Not Available** and the inspection system will fill in the field with a default number (5999). Click **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 click **Not Available** These instructions will direct you to enter a default weight number depending on the vehicle make, model, or other parameters.



| Figure 30: Enter gross vehicle weight |
|---|
| Davis County Devise Vehicle Inspection Program Inspector Program Trat. Test Inspector Inspector Mode Test Inspector Inspector Inspector |
| Gross Vehicle Weight Enter the GVWR in Ibs; If GVWR is not available, Click "Not Available" |
| Ibs Not Available |
| |
| Select Continue to Proceed |
| Continue Previous Cancel Help |

5.1.14 Verify information and enter odometer reading

The **Verify all information** screen (Figure 31) provides a data entry checklist. Review each entry carefully before clicking **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 clicking on the button to the left or right of the appropriate data field.

| 21 | | | Davis Co | ounty | | |
|---------------|--------------------------|----------------|------------------------------|----------------------------|-------------------|-------------|
| /ehicle Entry | 2 Gas Visual Anti Tamper | 3 Fuel Cap | 4 Idle | 5 Visible Emissions | 6 Test Completion | 7 Print VIR |
| | | | | | | |
| | | Important! V | erity all information is col | rrect before proceeding wi | th inspection. | |
| | | | o modify an entry select t | ne corresponding edit but | | |
| | | | 2BCCZ8122JB83 | 36203 | | |
| | Data Entry Checklist | Plate | JWR000 | 6 | Cylinders | |
| | | State | UT | 4.2 | Displacement | |
| | | Year | 1988 | Passenger Car | Vehicle Type | |
| | | <u>M</u> ake | Jeep | Automatic | Transmission | |
| | | Mo <u>d</u> el | Wrangler | No | Hybrid | |
| | | GVWR | 5999 | | | |
| | | Odometer | 199990 | | | |
| | | Body Type | Sedan | | | |
| | | <u>F</u> uel | Gasoline | | | |
| | 100 | | · | | | - 4 |
| | | | Select Continue to be | gin inspection sequence | | |



5.1.15 Visual anti-tampering inspection

The visual anti-tampering inspection process for gasoline and diesel vehicles involves visually confirming the presence of mandatory components (catalytic converter and O₂ sensor) and other emissions-related devices.

As with the data verification process, taking photos for documenting anti-tampering compliance is a two-step process, as described below:

- Unplug the handheld camera and take photos of the indicated devices.
- When all required photos have been taken, plug in the handheld camera to the PC and click Take Pictures button (see Figure 32), followed by Connect (look for the red camera icon) on the next screen (Figure 33) to access the photos on the camera. Follow the instructions on the screen for connecting and powering up the camera.

| | | - | Davis Co Vehicle Inspection | on Program | | | |
|-------------|---|--|---|---|-------------------|-------------------|---|
| est TEST | Inspector Christy | Plate | | Start 16:23:49 | Time 16:29:36 | Duration 00:05:47 | |
| nicle Entry | 2 Gas Visual Anti Tamper | 3 Fuel Cap | 4 Idle | 5 Visible Emissions | 6 Test Completion | 7 Print VIR | - |
| | | | Gas Visual Anti-Tan | npering Inspection | | | |
| | Are the decal-i | ndicated de | evices present | and apparently o | perable on the | e vehicle? | - |
| | Typically required or on make (earlier for C | passenger cars 1998 A certified vehicles) | and newer, and light duty truc | Catalytic Converter ks starting in 2003 depending | r: | | |
| | Typically required or on make (earlier for C | Ex passenger cars 1998 (A certified vehicles) | chaust Gas Recircu | Jlation (EGR) System | | | |
| | Typically required or on make | Positive Cra | ankcase Ventilation and newer, and light duty truc | n (PCV) Valve System ks starting in 2007 depending | ı: <u> </u> | | |
| | Typically required or | Evapo 1 Dodge light duty truc | rative Emission Co ks 2007.5 to 2012 | ontrol (EVAP) System | • | | |
| | Typically required or Dodge) | Air I passenger cars 2010 a | njection System (F and newer, and light duty truc | Pulse Air or Air Pump) ks starting in 2011 (2013 for | : | | |
| | Typically required or newer | most passenger cars | 1998 and newer, and Dodge li | O2 Senso ght duty trucks 2007.5 and | r: • | | |



| 2) | Davis County Vehicle Inspection Program | | | | | |
|---|--|---|---------------------------------|--|---|--|
| est TEST Inspector Christy | Plate | CLH Lock Out | 5tart 16:23:49 | Time 16:34:36 | Duration 00:10:47 | |
| Plug the camera into the USB cor more than 10 se | nnector. Push t | he power button r the power butto | once if the camer | a is powered off or i green and then clic | f the power button blinks for Connect. | |
| Click Here to | Controls | re I | | | | |
| | Next >> | | | | | |
| J. | Select | | | | | |
| Connect | DeSelec | t I | | | | |
| | Skip | | | | | |
| | | | | | | |
| | | | | | | |
| Catalytic Converter (*) | Exhaust Gas Recirculation | Positive Crankcase Ventilation (PCV) | Evaporative Emission Control | Air Injection System (Pulse Air | O2 sensor (*) | |
| | (EGR) System | Valve System Picture names in RE | (EVAP) System | or Air Pump) | | |

Use the buttons on the screen to assign the different photos to the correct description (Figure 34 and Figure 35). Click **Continue** when all photos have been assigned. The photos will automatically be deleted from the camera after the process is complete.






At the completion of the visual anti-tampering inspection process, answer all questions on the inspection screen (Figure 36) and click **Continue**.

| | | | Davis C Vehicle Inspect | ounty ion Program | | | |
|-------------------|---|--|--|---|-------------------|-------------------|---|
| Test Mode TEST | Inspector Christy | Plate | CLH Lock Out | 5tart 16:23:49 | Time 16:42:01 | Duration 00:18:12 | |
| Vehicle Entry | 2 Gas Visual Anti Tamper | 3 Fuel Cap | 4 Idle | 5 Visible Emissions | 6 Test Completion | 7 Print VIR | |
| | | | Gas Visual Anti-Ta | ampering Inspection | | | |
| | Are the decal-i | indicated d | evices presen | t and apparently | operable on the | e vehicle? | - |
| | Typically required or on make (earlier for C | passenger cars 1998 X certified vehicles) | and newer, and light duty tri | Catalytic Converte | er: Yes 🔹 | and a start | |
| | Typically required or on make (earlier for (| E passenger cars 1998 CA certified vehicles) | xhaust Gas Recire and newer, and light duty tre | culation (EGR) System ucks starting in 2003 depending | n: N/A - | | |
| | Typically required or on make | Positive Cra passenger cars 2006 | ankcase Ventilatio | on (PCV) Valve Syster ucks starting in 2007 depending | n:Yes | | |
| | Typically required or | Evapo n Dodge light duty truc | orative Emission (cks 2007.5 to 2012 | Control (EVAP) Syster | n:Yes • | | |
| | Typically required or Dodge) | Air 1 passenger cars 2010 | Injection System | (Pulse Air or Air Pump ucks starting in 2011 (2013 for |): N/A - | | |
| | Typically required or newer | n most passenger cars | : 1998 and newer, and Dodge | O2 Senso light duty trucks 2007.5 and | or:Yes 🔹 | - 3 | 1 |



5.1.16 Gas cap visual inspection

The gas cap visual inspection process follows the visual anti-tampering inspection. The screens (Figure 37) and (Figure 38) will walk you through the process.

| Figure 37: Gas cap visual inspection procedure |
|--|
| Davis County INSPECTION INSPECTION Vehicle Inspection Program Test Inspector Christy Plate WR000 Start Time 193927 Duration Cold Hill Vehicle Entry 2 Gas Visual Arts Tamper 3 Fuel Cap 4 Ide 5 Visible Emissions 6 Test Completion 7 Print VR |
| Gas Cap Visual Inspection 1) Remove the gas cap(s) from the vehicle 2) Examine cap for damage and/or poor fit 3) If vehicle equipped with capless canister system select pass 4) Click a result button to continue Pass Fail |
| Continue Abort Help |

Figure 38: Gas cap visual inspection–Prompt to confirm pass

| Test TEST | Inspector Christy | Plate JWR000 Out Out | Start 15:25:09 | Time 15:40:30 | Duration 00:15:21 | - |
|---|--------------------------------|---|-------------------------------|-------------------|-------------------|---|
| Vehicle Entry | 2 Gas Visual Anti Tamper 3 Fue | ICap 4 Idle | 5 Visible Emissions | 6 Test Completion | 7 Print VIR | 6 |
| | | | • | · · | | |
| | | Gas Cap Visual Result | | | | |
| | 1) Re | | | | | |
| | 2) Ex: | PASS | | | | |
| | 2) 2. | | | | | |
| | 3) If v | You have indicated that the obvious defects | he fuel cap has r Confirm? | 10 | | |
| | syste | | oonnin . | | | |
| | 4) Clie | | | | | |
| | | Yes | No | | | |
| | | | | | | |
| | | Pass | Fail | | | |
| | | | Lan | | 1 | |
| | <u> </u> | | | | 1 | |
| | | | | | 10.0 | |
| and the second se | <u>C</u> ontinue | Abort | | Help | | |



Two additional questions, as seen in (Figure 39) and (Figure 40), need to be answered before proceeding to the gas cap pressure test.

| Figure 39: Gas cap visual inspection—Prompt to determine if gas cap is missing |
|---|
| Davis County Vehicle Inspection Program Dissection @ Test Inspector Christy Plate WR000 Start 15:25:00 Time 15:41:37 Duration 00:15:22 |
| Is the vehicle's gas cap missing? |
| NO, gas cap is not missing |
| <u>Continue</u> <u>Abort</u> Help |





5.1.17 Gas cap pressure test

Follow the instructions on the screen (Figure 41) for connecting the correct adapter and running the gas cap pressure test. When a passing test has been completed, you will be prompted to be sure to remove the adapter and replace the vehicle's gas cap (Figure 42). Click **Continue** to proceed.

| Figure 41: | Gas cap pressure t | est–Prompt to a | attach adap | ter |
|--|---|---|------------------------------------|--------------|
| Test TEST Inspector Christy Wode 2 Gas Visual Arth Tamper | Davis C Vehicle Inspect | Start 1525000 5 Visible Emissions | 19546512 Dura Test Completion 7 | INSPECTION O |
|) Makes 2)Conne 3) Verify Tester | Sar Cap ure lester is properly connected and is or ct the correct adapter (as shown) to the G Adapter Select Recommended ada Unknown w * Some vehicles may require a differ that the gas cap seal is free of debris and Status ▶ Idle Caj | An and a second | Test Time: 0 | |
| Continue | Abort | Previous | | Help |





Following the gas cap pressure test, you will be prompted to determine if a second gas cap needs to be tested (Figure 43). Click **Yes** to repeat the gas cap pressure test for the second gas cap or **No** to continue to the next step in the vehicle inspection process.





5.1.18 MIL lamp status

On the **OBD Dashboard MIL (Check Engine) light verification** screens, 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 Dashboa | rd MIL Verific | cation-KOE | 0 |
|---------------------------------|--|--|---|------------------------------------|-----------------|
| Test TEST Mode Vehicle Entry | Inspector Christy 2 Gas Visual Arb Tamper | Davis C Vehicle Inspecti Vehicle Inspecti Vetual Gas Cap 4 080 | on Program Stat Stat Stat Stat Stat Stat Stat Sta | Time 16.42-07 6 Test Completion | Duration COLLUS |
| | | OBD Dash Board MIL(Cher With the engine OFF, turr | ck Engine) Light Verif | ication position | |
| | | 1) KOEO (Key on engine off 2) KOER (Key on engine run Does the MIL I | amp illuminate? | | |
| | | Select Yes/No *For keyboard use | Diption to proceed | | |





5.1.19 TSI emissions test

A preliminary step prior to initiating the TSI emissions test is to determine whether the vehicle under test has dual exhaust. Click Yes or No when the prompt appears on the screen (Figure 46).

The first step of the TSI emissions test is to prepare the vehicle. Follow the instructions on the screen (Figure 47) and click **Continue**.

| | Figure 47: TSI | emissions te | st—preparir | ng the vehic | cle | |
|-------------------|---|---------------------------------|---------------------------|-------------------|-------------------|---|
| Test Mode TEST | Inspector Christy Plate | Davis Cou Vehicle Inspection | Program Start 15:25:03 | Time 15:49:09 | Duration 00224000 | |
| Prep | pare vehicle for TSI e | emissions tes | t as follows: | C reat compresion | | |
| 1. T | urn engine off | | | | | |
| 2. 0 | Chock wheels | | | | | |
| 3. F | 'ut transmission in park or Varm up engine | neutral | | | | |
| 5. T | urn off accessories | | | | | |
| 6. Ir | nsert exhaust probe into ta | nilpipe | | | | |
| 7. F | Position RPM probe | | | | | |
| Sele | ct 'Continue' to proce | ed. | | | | |
| | <u>C</u> ontinue | Abort | | Help | | E |



Select the RPM source–Contact or Non-contact–on the next screen (Figure 48) then click Continue.

| Figure 48: TSI ei | missions test–Select | ing RPM source |
|--|---|---|
| Test TEST Inspector Christy Plate d | Davis County Vehicle Inspection Program | Time 14:51:43 Duration 1097933 |
| Important Engine must be running to set tachometer | RPM Source Selection Contact Non-contact | elect Source |
| Contact 1) Connect RPM device to vehicle. 2) Start engine and let idle. 3) Select Contact source from list. | 1) Start engine and 2) Select Non-com 3) Connect non-co | Non-contact d let idle. tact source from list. ontact device to vehicle. stributorless Ignition |
| Sele | ect 'Continue' when rea | dy. |
| Continue | Abort | Help |

The software will walk you through the 2500 RPM Test (Figure 49) followed by the 500 RPM Test (Figure 50). Should any failures be encountered during this sequence, you will be asked if you wish to abort the test.







When the TSI emissions test has been completed, you will be prompted to remove the RPM and exhaust probes (Figure 51).

| Figu | ıre 51: TSI er | mission | s test—Test o Davis Co | complete, pr ounty | ompt to rei | move prob | es |
|-----------|--------------------------|------------|---------------------------|-----------------------|-------------------|-------------|----|
| Test | | | Vehicle Inspectio | on Program | | INSPEC | |
| Mode TEST | 2 Gas Visual Anti Tamper | 3 Fuel Cap | JWRA33 Out Out | 5 Visible Emissions | 6 Test Completion | 7 Print VIR | |
| . | | <u>l</u> | TSI Emissions | est Complete | | | |
| | | Remo | ove RPM prob | e and exhaus | st probe. | | |
| | | | Select 'Continu | e' to proceed. | | | |
| | Continu | • | 0.6- | rt | Halm | 1000 | |



5.1.20 Visible emissions check

On the **Visible Emissions Check** screen (Figure 52), indicate whether the vehicle produced visible emissions by selecting **Yes** or **No**. A pop-up box will appear prompting for confirmation (Figure 53). When confirmed, click **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.)

| F | igure 52: Visible emissions | check | |
|--|---------------------------------|------------------------------|-------|
| | Davis County | | |
| Test TEST Inspector Christy | Vehicle Inspection Program | Time 16:08:31 Duration | |
| Vehicle Entry 2 Gas Visual Anti Tamper 3 Fue | I Cap 4 Idle 5 Visible Emission | ns 6 Test Completion 7 Print | VIR 💽 |
| | Visible Emissions Check | | |
| Did th | ne vehicle produce visible | emissions? | |
| | | | |
| | | | |
| | | | |
| | Vos No | | |
| | | 1 | |
| | | | |
| Continue | Abort | Help | |



| Test Test Test | Figure 53: Visible emissions check—Confirm Yes or No Davis County Vehicle Inspection Program Inspector Christy Place WWAX33 Duration Start 1661122 Time 1660133 Duration Control | 2 |
|----------------------|---|---|
| I Vehicle Entry | Cae Visual Are Targer Competen Piet VR | |
| [| Continue Abort Help | |

5.1.21 **Printing the vehicle inspection report (VIR)**

The final screen displays a copy of the **vehicle inspection report** (VIR) of the inspection result. The VIR is automatically sent to the printer.

The examples below depict a vehicle that has passed both the I/M and visual inspections (Figure 54) and one that passed the I/M portion of the inspection but failed the visual (Figure 55).

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



| | | | Davis Co Vehicle Inspection | ounty | | | | |
|--------------|--|--|---|--|--|--|-------------|--|
| ehicle Entry | 2 Gas Visual Anti Tamper | 3 Fuel Cap | 4 Idle | 5 Visible E | nissions 6 Test | Completion | 7 Print VIR | |
| | OPUSQ 1121 W Trucson Emissic Standar Reading Deviate Deviate Deviate | A1 Grant Rd 22 85705 72 Wrangler 1988 ns Test: PASS MIL: N/A High Speed Test High Speed Test High Speed Test NA N/A NA N/A NA N/A | PASJW AUST BE AVAGE WITHIN REPARA MUST BE AVAGE WITHIN REPARA MUST BE AVAGE WITHIN Lic #, JWR789 Certificate #: KOEC: NIA | TOTAL REPORT TASS VISULE: " PASS VISULE: " PASS VISULE: " PASS VISULE: VISULE: | Fit I Print Date: 06/22/20. Test Date: 06/22/20. Test Date: 06/22/20. Test Date: 06/22/20. Initial II. Software Version Software Version 03 Odom: 199678 (JV) Station #: Of Analyzer #: QJ Visual / Gas Cap Station #: Of Nettons System Software abstic Converter Software Software | 23 19 05 18:56 05 23:02:04 W: 5999 UISOA1 M000013 PASS | | |
| | | Inspec | or's Signature X | | | | ~ | |
| | | | Select Continue wh | nen Ready | | | | |

Figure 55: Vehicle inspection report (VIR)-Passed I/M but failed visual



5.2 Other vehicle inspection menu items

Besides the **Official Vehicle Inspection**, the **Vehicle Inspection Menu** (Figure 56) includes several additional utilities, as described in the subsections below.



5.2.1 View certificates remaining

Clicking View Certificates Remaining provides a quick check of available stock (Figure 57).





5.2.2 OBD self-check

The **OBD Self-Check** function (Figure 58) offers a method to check the System's OBD link. Follow the instructions on the screen and click **Continue**. Click **OK** when the check has been completed to return to the Vehicle Inspection Menu.

| Figure 58: OBD Self-check |
|---|
| Davis County Vehicle Inspection Program |
| Plug OBDII Link into the Test Connector and Connect the Power Cable OBD Check |
| |
| |
| Select 'Continue' to perform the check |
| Continue Cancel |

5.2.3 Calibrations

Calibrations for the Gen3 TSI/OBD-II System gas bench can be done for each individual component or via a full calibration sequence by selecting **Calibrate All** from the **Calibration Menu** (Figure 59).



| | Figure 59: Calibration menu | |
|---|--|------------------------------|
| | Davis County Vehicle Inspection Program Calibrations | |
| Network Cat5 | Calibrate All | |
| WiFi 🚿 VID 🔶 Stats | Analyzer Gas Calibration | |
| Status OK Certs 96 Lockouts | Analyzer Leak Check | |
| 6 SWUpdate Scan Int. 5m | Set Gas Bottle Data | |
| Status No Updan | Gas Cap Tester Check | |
| | Previous | |
| | Software Version: 23.02.04 | Settings to activate Windows |
| | Main Menu Help | |

Initiate the bench leak check by following the instructions on the screen (Figure 60), including applying the probe cap to the probe tip. Click **Start** to initiate the check.

| Figure 60: Calibration—Initiating bench leak check | |
|--|---|
| Davis County Vehicle Inspection Program | |
| 1) Make sure probe tip is clean. | |
| 2) Apply probe cap to probe tip. | |
| 3) Select 'Start' to initiate leak check. | |
| Low Flow: Hold (secs): Result: Pending Use Sages Idle Use Sages Us | |
| <u>Start</u> <u>C</u> ancel Help | e Windows trings to activate Windows |



In the event the bench leak check fails (Figure 61), you will be prompted with the option to repeat the check (Figure 62). Click **Yes** or **No** as appropriate.

| Z | Figure 61: Calibration—Bench leak check failure result Davis County Deputy Vehicle Inspection Program INSPECTOR | |
|---|---|------|
| | I) Make sure probe tip is clean. | |
| | 2) Apply probe cap to probe tip. | |
| | 3) Select 'Start' to initiate leak check. | |
| | | |
| | Low Flow: Hold (sees): Result: Fail Messages Unable to create a sufficient vacuum. Leak Check has failed. | |
| | <u>Continue</u> <u>Continue</u> <u>Help</u> | tows |

| Figure 62: Calibration—Re | peat leak check prompt |
|---------------------------|------------------------|
| Leak Check Failed. Do | you wish to repeat? |
| Yes | No |

When the bench leak check has been completed and passed, you will be prompted to remove the probe cap (Figure 63).



| Figure 63: Calibration—Leak check passed, remove probe ca | ıp |
|--|-----------------------------|
| Davis County Vehicle Inspection Program | |
| 1) Make sure probe tip is clean. | |
| 2) Apply probe cap to probe tip. | |
| 3) Select 'Start' to initiate leak check. | |
| | |
| Low Flow: Hold (sees): 14 Result: Pass 0 initial initial initial for the pass 1 initial initia | |
| Continue Help | ndows o activate Windows |

For Zero bottle (Figure 64) and High bottle (Figure 65) calibrations, values may be scanned with the barcode reader or entered manually. In each case, click **Save** to proceed to the next step.

| | | Davis (Vehicle Inspec | County ction Program | | |
|-----------------------|---|--|---|--------------------------------------|--|
| | | | Bottie Data | | |
| Bottle va outsid | alues are required f de of the gas bottles | or an accurate cal . Make sure the bo | ibration of the bench. They ttles are connected to the o | can be found o correct ports in t | n the content labels on the the back of the analyzer. |
| | Values may b | e typed in direct | ly or scanned with a bar | ode reader. | |
| Now Scan Bottle: ZERO | 8 | | | | |
| | | 2 02 | Lot | Expires | Label WH2000003 |
| Blend Code 37 | | 20.8 | 030620227 | (mm/dd/yyyy) | |
| Blend Code I 37 (| | 20.8 | 000020227 | (mm/dd/yyyy) | |
| Blend Code 1 | | | 0002227 | (mm/dd/yyyy) | Bar Code Scan: 1/H200000 |



| | Fiç | jure 65: C | alibration-F | igh bottle | e scan | |
|-------------|------------------------------------|--|---|--------------------------------------|---------------------------------------|---|
| 2 | | C Veh | Davis Count | y ram | - | |
| | | | Bottle Data | | | |
| | Bottle values ar outside of the | e required for an a gas bottles. Make | ccurate calibration of t sure the bottles are co | he bench. They o nnected to the c | can be found o orrect ports in | n the content labels on the the back of the analyzer. |
| | Val | ues may be type | ed in directly or scan | ned with a barc | ode reader. | |
| Now Scan Bo | ttle: HIGH | | | | | |
| Bler 35 | d Code HC d 3200 | CO CO2 7.99 11.9 | O2 Lot 0 02032022 | 2 | Expires 06/01/2027 (mm/dd/yyyy) | Label WH00000000 |
| | | | | | | BAR |
| | | | | | | Bar Code Scan: WH000000035103 |
| | | Sava | | Cancol | | |

The final steps of the calibration process will be to confirm the opening of all bottles when prompted (Figure 66). Click **Continue** to proceed to the Auto-zero step (Figure 66).

| Figure 66: Calibration—Prompt to open all bottles | |
|--|--|
| Davis County Vehicle Inspection Program | |
| Open Al Attention! Before proceeding with calibration, please confirm that the cal gas bottles are properly connected, are not empty, and the valves are fully open. Failure to do so may necessitate a service call. Id Zero. Confirm Abort | |
| Continue Cancel Help | |



| Figure 67: B | ench calibration—Aut | o zero |
|--------------|----------------------|--------|
| Ver | Davis County | |
| | Bench Calibration | |
| | Auto Zero | |
| | 80 | |
| | | |
| | | |
| Continue | Cancel | Help |

When the bench calibration has passed (Figure 68) you will be prompted to close the high gas calibration bottle. Click **Continue** to proceed to the fuel cap tester checks.

| Figure 68: Bench calibration passed—Prompt to close high calibration bottle | e |
|---|---|
| Davis County Vehicle Inspection Program | 2 |
| Bench Calibration Complete - Passed | |
| Close High Gas Calibration Bottle. | |
| | |
| Continue Cancel Help | |



The fuel cap tester check is a two-step process, one for the green pass reference cap (Figure 69) and the other for the red pass reference cap (Figure 70). In each case, click **Continue** to proceed with the checks.

| Figure 69: Calibration—Fuel cap tester check, green pass ref | erence |
|---|--------|
| Davis County Vehicle Inspection Program | |
| Fuel Cap Tenter Check Step 1: Attach the green pass reference cap to the adapter. | |
| | |
| Fuel Cap Tester is Idle | |
| Select 'Continue' when ready. | |
| Continue Cancel Help | |

Figure 70: Calibration-Fuel cap tester check, red fail reference **Davis County** OPUS Vehicle Inspection Program Fuel Cap Tester Check Step 1: Remove the green pass reference cap from the adapter. Cleanup... Completed Step 2: Remove the red fail reference cap from the adapter. Check Status Completed Fuel Cap Tester has Passed the Check. The associated lockout is clear. Select 'Continue' when ready Continue Help Cancel



5.2.4 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 and connects with the VID, though no test results are recorded or reported.

Note in the example in Figure 71, **TRAIN** appears in **Test Mode** window on the dashboard at the top left of the screen.

| Figure 71: Running inspection in training mode (enter plate number) | | | | | |
|--|--|--|--|--|--|
| Devis County Vehicle Inspection Program Test TRAIN Inspector XXX Plate None Lost Willie Start 2235657 Time 2235655 Duration Counts | | | | | |
| | | | | | |
| Enter the VIN using one of the above methods Vehicle Identification Number Verification # Current Vin Source [None] | | | | | |
| <u>C</u> ontinue C <u>a</u> ncel Help | | | | | |

5.2.5 Previous

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



6.Utilities menu

The Utilities Menu (Figure 72) includes a variety of useful functions, such as:

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

Each utility is described in a subsection below.

| | Figure 72: Utilities menu | |
|------------------------------|--|------------------------------|
| /// | | |
| | Davis County Vehicle Inspection Program | |
| | Utilities Menu | |
| Network | VIR Reprint | _ |
| Cat5 👿 WiFi 😿 | View Bulletins/Messages | |
| VID O | View Lockouts | |
| Status OK Certs | Analyzer Status | _ |
| Lockouts 0 | Manual Diagnostic Test Modes | _ |
| SW Update Scan Int. 5m | Consoles | _ |
| Status No Updan | Communications Menu | _ |
| | Choose Printer | |
| | Previous | |
| | Software Version: 23.02.04 | Settings to activate Windows |
| | Main Menu Help | |



6.1 VIR reprint

From the **Utilities Menu**, click **VIR Reprint** to bring up a list of test records (Figure 73), searchable by date/time and operator, from which a VIR can be viewed and printed.

| | | | Vehicle | e Inspe | ectior | Program | | | |
|--------|-----------------------|------------|----------------|---------|--------|-------------------|--------|----------|-----------------|
| | | | т | estRe | cord S | election | | | |
| Retr | eval Options Field | Or | erator | | | Value | | | |
| Dat | Time • | > | | - 6/20 |)/2023 | 19:15:14 | | Retri | eve |
| Jun | | 1 | - | (Eg. | MM/DD | YYYY HH:MM:SS) | | | |
| | Date Time | Make | Model | Plate | Vear | Vin | Docult | Sequence | SoftwareVersion |
| QA0000 | 13 6/22/2023 19:07 | Volkswagen | Jetta | JET567 | 1986 | WVWGA0162GW290845 | F | 2 | 23 02 04 |
| QA0000 | 13 6/21/2023 16:54 | Volkswagen | Passat | VWP86 | 2018 | 1VWCA7A36JC600305 | F | 1 | 23.02.04 |
| QA0000 | 13 6/21/2023 16:24 | Subaru | Outback | S01234 | 2012 | 4S4BRBFC0C3659867 | P | 1 | 23.02.04 |
| QA0000 | 13 6/21/2023 16:01 | Jeep | Wrangler | JWRA33 | 1988 | 2BCCZ8122JB836203 | Р | 2 | 23.02.04 |
| QA0000 | 13 6/21/2023 15:25 | Jeep | Wrangler | JWR000 | 1988 | 2BCCZ8122JB836203 | A | 2 | 23.02.04 |
| QA0000 | 13 6/21/2023 14:41 | Ford | E-Series Wagon | 7777W | 2006 | 1FBNE31S36H851732 | A | 2 | 23.02.04 |
| QA0000 | 13 6/21/2023 14:33 | Volkswagen | Jetta | 3232R | 1986 | WVWGA0162GW290845 | A | 2 | 23.02.04 |
| QA0000 | 13 6/21/2023 14:27 | Ford | E-Series Wagon | 22222G | 2006 | 1FBNE31S36H851732 | A | 2 | 23.02.04 |
| | | | | | | | | 1 | |
| | | | | | | | | | |
| - | a a a a da E a u | | | | - | | - | | |
| 16 | ecoras Fou | na | | | | | | | |



6.2 Viewing bulletins and messages

Click **View Bulletins/Messages** to bring up a screen (Figure 74) providing searchable parameters and several message-handling functions.

| Figure 74: Utilities—View bulletins and messages | | | | | | |
|--|---|-------------------------------|---------------------------------------|--|--|--|
| E | Davis County Vehicle Inspection Program | | | | | |
| or C S R Browse messages viewed only in Rec | Vehicle Inspection Program Image View Select Topic: Select Topic: | | | | | |
| | Close | Activate Go to Set Help | e Windows Inge to activate Windows | | | |



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. Click **View Lockouts** to display a screen (Figure 75) of lockouts and their current status. You can scroll down to see additional lockouts.

| Davis County Vehicle Inspection Program | | | | | | |
|--|------------|--|-----------------------------------|--|----------|--|
| | Cha | nge Expiration Interval: | Арг | ly Enabled Auths | | |
| | L Print | ockout is Clear ocked Out ockout Expired | L e g e n d Adr | Current Status Lockoul Type Status ninistrative: Clear | Selected | |
| | Status | Expiration | Duration | Lockout Name | _ | |
| | | Does Not Expire | 0 | Certificates | | |
| | | Does Not Expire | 0 | Failure to Pay | | |
| | | Does Not Expire | 0 | Hardware | | |
| | | Does Not Expire | 0 | Invalid Software Version | | |
| | | Does Not Expire | 0 | No Contact | | |
| | | Does Not Expire | 0 | State | | |
| | | | | | | |



6.4 Analyzer status

The Analyzer status screen (Figure 76) provides a quick snapshot of relevant analyzer functions useful for troubleshooting, viewing calibration status, data communications, and more.

| Figure 76: Utilities—Analyzer status | | | | | | |
|--|--|-----------------|--|--|--|--|
| Davis County Vehicle Inspection Program DPUS Status of analyzer on of: 6/02/2022 10:10:14 | | | | | | |
| | on Enabled (Check box to enable | ZZIZOZO 19.1 | 19.44 | | | |
| Station ID: | OPUSQA1 | | | | | |
| Analyzer Number: | QA000013 | Computer Name: | QA000013 | | | |
| Target VID: | https://unitapi-uat.aircheckdavis.org/api/ | IP Address: | 192.168.4.76 | | | |
| I otal Records: | 12 | Lockout Status: | Clear | | | |
| Unit Date Time: | 6/22/2023 19:19:44 | - | | | | |
| Software Version #: | 23.02.04 | _ | | | | |
| Last Network Access: | 5/20/2007 10:05:31 PM | | | | | |
| Last Data Refresh: | 6/22/2023 19:07:53 | | | | | |
| Certificates: | 94 | Dor | of use unless instructed | | | |
| Last Gas Calibration: | 21-Jun-2023 2:59 PM | | otherwise by Opus | | | |
| Last Leak Check: | 21-Jun-2023 2:54 PM | | Clear Authorizations | | | |
| Last Gas Cap Calibration: | 21-Jun-2023 3:19 PM | | ciear Transmit Queue | | | |
| | | | Activate Windows Go to Settings to activate Windows | | | |
| | <u>C</u> lose | Help | | | | |



6.5 Manual diagnostic test modes

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

Figure 77 displays a menu of test modes. You will be prompted for additional vehicle details in subsequent screens (see Figure 78 for OBD, Figure 79 for Gas). At any time, click **Help** to access operator documentation.

| | Figure 77: Utilities—Diagnostic test m | ode |
|---|--|----------------|
| ZA | Davis County Vehicle Inspection Program | |
| Network Cat5 | Manual (Diagnostic) Test Mode (OBD) | |
| VID Stats Stats OK Certs Si Lockads 0 | Manual (Diagnostic) Test Mode (GAS) | |
| SV Update Scan Int. 5m Status He Spring | Previous | |
| | Software Version: 23.02.04 | invate Windows |
| | Main Menu Help | |



| Figure 78: Utilities—OBD manual diagnostic test mode | | | | | | |
|--|--|--|--|--|--|--|
| | Davis County Vehicle Inspection Program | | | | | |
| OBD | Diagnostic Test Mode OBD Diagnostic mode allows individual tests to be run outside of the normal testing logic. Tests may be run for diagnostic purposes only and do not constitute a valid emissions inspection. No test record is created or stored. | | | | | |
| | | Select individual test to perform from list. Some basic information about the vehicle being examined will be required to ensure accuracy. | n Servate Windows Serve Settinge to activate Windows | | | |
| | <u>C</u> lose | Help | and the second sec | | | |





6.6 Consoles

The **Consoles** menu (Figure 80) provides access to the **OBD link Console** and the **Bay Camera Console** cameras for diagnostic purposes.

| | Figure 80: Utilities—Consoles menu | |
|--|--|---|
| E | Davis County Vehicle Inspection Program | |
| Network | Consoles | |
| ViD O | OBD Link Console | |
| Status OK Certs 84 Lockods | Bay Camera Console | |
| SW Update Scan Int. 5m Status Min Update | | |
| - | Previous | _ |
| | Software Version: 23.02.04 | stivate Windows Settings to activate Windows |
| | Main Menu Help | |

6.7 Communications menu

The **Communications Menu** (Figure 81) offers several simple functions primarily used with inspection system troubleshooting, including

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



| | Figure 81: Communications men | u |
|-----------------------------------|---|-----------------|
| 2) N | Davis County Vehicle Inspection Program Communications Menu | |
| Network Cat5 | Full Data File Refresh | |
| ViFi 🖉 VID 🔶 Stats Stats | Incremental Data File Refresh | |
| OK Certs 94 Lockods 0 | Check VID Communications | |
| Sean Int. 5m Status | Full DataOne Refresh | _ |
| No Updae | Incremental DataOne Refresh | _ |
| - | Previous | a trate Windows |
| | Softwore Version: 23.02.04 <u>Main Menu</u> Help | |

6.7.1 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 will appear. With the DataOne refresh, a pop-up prompt requesting confirmation will appear (Figure 82); click **YES** to proceed or **NO** to abort the action.





6.7.2 VID communications check

Selecting **Check VID Communications** from the **Communications Menu** will display a screen (Figure 83) 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 83: VID communication | ns check in-progress |
|--|--|
| Davis Count Vehicle Inspection Proc | |
| VID Communications | Check |
| VID State: Enabled | Service Timeout: 30 Secs |
| Assigned VID: https://unitapi-uat.aircheckdavis.org/api/ | Test Type: Loop-Back |
| Last Contact: 5/20/2007 10:05:31 PM | Analyzer #: QA000013 |
| To verify connectivity with the vehicle informat Common Causes of Failed Communications Test 1) Local router is blocking incoming traffic 2) Ethernet cable is loss or disconnected 3) Assigned VID address is incornect 4) Invalid credentials 5) Internet is down 6) Unit not registered on VID 7) VID is down | Comm Status Image: Comm Status |
| Addition InfoGrow No info pending Select Close to Exit Comm | Test |
| <u>T</u> est <u>Close</u> | Help |

6.8 Choose printer

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

6.9 Previous

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



7.Station menu

The Station Menu (Figure 84) 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
- Previous

These functions are described in the subsections below:

| | Figure 84: Station menu | |
|---|--|--|
| | Davis County Vehicle Inspection Program Station Menu | |
| Network Cat5 | View Inspector Information | |
| VID Stats Stats Certs B Lockads B SVU Update | Purchase Certificates | |
| | Certificate Usage Report | |
| Scan Int 5m Status No Upise | Web Portal | |
| | Previous | |
| | Software Version: 23.02.04 | |
| | | |



7.1 View inspector information

Selecting **View Inspector** Information displays a screen listing all inspectors authorized to perform inspections on the inspection system (Figure 85). Information listed includes expiration date and access level.

| 2) | Davis County Vehicle Inspection Program | |
|--|--|-------------------|
| | Station Menu | COLUMN TWO IS NOT |
| Network Cat5 💽 WiFi 🚿 | View Inspector Information | _ |
| VID 🔶 Status Status OK | Purchase Certificates | _ |
| Certs 86 Lockouts 0 SWUpdate | Certificate Usage Report | _ |
| Scan Int 5m Status No Updan | Web Portal | _ |
| | Previous | |



7.2 Purchase certificates

Selecting **Purchase Certificates** from the **Station Menu** will take you to the login screen on program website. Enter the username and password and follow instructions on the website.

7.3 Certificate usage report

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

7.4 Web portal

Selecting Web Portal from the Station Menu will bring up the Davis County program website.

7.5 Previous

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



8.County menu

The County menu (Figure 86) includes the following options:

- View inspector information
- Waiver vehicle inspection
- Compliance/referee assurance vehicle inspection
- Camera console
- Set/view lockouts
- Modify workstation configuration
- Overt Audit Checklist

Each menu option is described briefly below.

| | Davis County Vehicle Inspection Program | |
|-----------------------------|--|----------------------------|
| | County Menu | A CONTRACTOR OF THE OWNER. |
| Network Cat5 | View Inspector Information | |
| WiFi 😤 | Waiver Vehicle Inspection | |
| VID 😁 | Compliance/Referee Assurance Vehicle Inspectio | n |
| Certs 94 Lockouts | Camera Console | |
| 0 SW Update Scan Int. | Set/View Lockouts | |
| 5m Status No Updane | Modify Workstation Configuration | |
| | Overt Audit Checklist | |
| | Log Off | |
| | Software Version: 23.02.04 | |
| - | Main Menu Help | |

8.1 View inspector information

This option enables the County user to view a table of inspectors authorized to perform inspections using the analyzer.



V001r001

8.2 Waiver vehicle inspection

Selecting this option enables the authorized user to perform a waiver vehicle inspection. The waiver inspection emulates the standard vehicle inspection process with the addition of certain overrides.

8.3 Compliance/referee assurance vehicle inspection

As with the waiver vehicle inspection, selecting this option enables the authorized compliance officer/referee to perform a vehicle inspection that emulates the standard vehicle inspection process with the addition of certain overrides.

8.4 Camera console

The Camera console menu (Figure 87) provides access to the Bay Camera Console.

| Figure 87: County- | Camera console menu |
|---|--------------------------|
| Davis Vehicle Insp Car | County ection Program |
| Cats | mera Console |
| Certs Cockada Cockada Statis Statis | revious |
| | |
| Softwar Main Menu | e Version: 23.02.04 Help |


8.5 Set/view lockouts

The Set/view lockouts option (Figure 88) provides the user with ability to view and manage the analyzer's lockouts.

| | Veh | Davis County icle Inspection Program | |
|-----------------------------|------------------------------|--|----------------|
| Change Expiration Interval: | Арг | ly Enabled Auths | |
| Lockout is Clear | L e g e d Adr | Current Status Lockout Type Status ninistrative: Clear | aggle Selected |
| Status Expiration | Duration | Lockout Name | |
| Does Not Expire | 0 | Certificates | |
| Does Not Expire | 0 | Failure to Pay | |
| Does Not Expire | 0 | Hardware | |
| Does Not Expire | 0 | Invalid Software Version | |
| Does Not Expire | 0 | No Contact | |
| Does Not Expire | 0 | State | |
| Deer Net Evoire | 0 | Station Liconso | |

8.6 Modify workstation configuration

Selecting the modify workstation configuration option brings you to a menu (Figure 89) that provides the utilities listed below. Most of these options are self-explanatory.

- Update workstation information (seen in Figure 90)
- Software update
- Reset workstation date and time
- Choose printer
- Previous





Figure 90: County–Update workstation information

| Unit Initiali | ization Syste | m Parameters Tes | t Parameters | Device Par | rameters | |
|---|--|--|--------------|------------|---|--|
| Server Addre | esses | | | | Initialization Infor | rmation |
| Vid Url: | https://unitapi-ual Vid Commun | .aircheckdavis.org/api/ ications Enabled: 🔽 | << Check Add | ess 🕎 | Unit Type: Cla Program: U Analyzer#: QA PC Name: QA | 1000013 |
| Station Infor | mation | | | | | |
| Name: Address 1: Address 2: ID #: ZIP Code: Phone: Status: Expiration: | OPUSQA1 1121 W Grant Rd 11 W Grant Rd OPUSQA1 85705 Active 4/12/2026 | State: AZ City: Tucson | | | Domain: OPUS Name: QA000 Pwd: ***** Cptional Parame Enable Display R | ✓ Full Refresh ✓ |
| Т | his Analy | zer is Initiali | zed | | Barcode: Cino | |



8.7 Overt Audit Checklist

This County menu option sends the authorized user to a screen for logging on to the Opus VID Central database management console.



9.Service tech menu

The service tech menu (Figure 91) provides the authorized Opus field service technician with the following options:

- Consoles (see Figure 92)
- OBD-II Self-check
- Analyzer status
- Communications menu
- Set/view lockouts
- Modify workstation configuration
- Log off

Most of these functions are also found under the Utilities menu and are described in in Section 6 of this manual.

| Figure 91: Service Tech Menu | |
|--|--|
| Davis County Vehicle Inspection Program | |
| Service Tech Menu Consoles | |
| OBDII Self-Check | |
| Analyzer Status | |
| Communications Menu | _ |
| Set/View Lockouts | |
| Log Off | |
| Software Version: 23.02.04 Main Menu Help | |
| | Figure 91: Service Tech Menu Davis County Vehicle Inspection Program Service Tech Menu Consoles OBDII Self-Check Analyzer Status Communications Menu Set/View Lockouts Modify Workstation Configuration Log Off Set/were Version: 2302/0 |



| | Figure 92: Service Tech–Consoles menu | |
|--|--|---|
| | Davis County Vehicle Inspection Program | |
| Network Cat5 | Consoles Barcode Scanner Console | |
| | Bench Console | |
| Stats Status OK Certs 96 | OBD Link Console | |
| Lockods 0 SW Update Scan Int. | Gas Cap Console | - |
| 5m Status Notigaan | RPM Console Miscellaneous | |
| | Previous | |
| | Software Version: 23.02.04 | |
| | Main Menu Help | |



10. System shut down

The Shutdown Functions menu (Figure 93) provides three self-explanatory functions:

- Shut down analyzer (inspection system), which performs a system shut down and turns off the Gen 3 System.
- Restart analyzer (inspection system), which initiates a reboot of the Gen 3 System; and
- Previous, which returns the user to the Main Menu without initiating shut down functions.

| en al constant de la | Davis County Vehicle Inspection Program | |
|---|--|---|
| | Shutdown Functions | |
| Network Cat5 💭 WiFi 🖉 | Shutdown Analyzer | |
| VID Status Status Lock | | |
| Sir Llockada | Restart Analyzer | _ |
| Scan Int 5m Status No Update | | |
| | Previous | |
| | | |
| | Software Version: 23.02.04 | |
| | Main Menu Help | |



11. Maintenance

The Davis County Gen3 TSI/OBD-II system is designed to require little maintenance other than calibrations and periodic cleaning. Cables should be inspected on a periodic basis and worn components should be replaced.

To clean the LCD display screen and camera lenses, 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 Gen3 System surface. A solution of 70% isopropyl alcohol with distilled water is recommended.



12. 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**.

