



Buffalo Automation – Raven

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Document Information

Version History

Version	Date	Author	Reviewer
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Sign Off

Buffalo Automation

Title	Name	Signature	Date

Partner Name

Title	Name	Signature	Date



Change Log

This section includes the following pages with the modified section details:

Page	Modified Section
Page 10	Updated 2.1.1 Set Hours of Service
Page 14	Updated 2.1.4 Driving Rules>Region
Page 16	Added 2.1.4 Driving Rules>Cycle (North Dakota 70hr7days)
Page 19	Added 2.1.4 Driving Rules>Exceptions (30 Minute Break Exemption for Petroleum Tank Drivers)
Page 20	Added 2.1.4 Driving Rules>Exceptions (No Logs for CDL Short-haul Drivers operating within 100 air miles (12 hour shift))
Page 20	Added 2.1.4 Driving Rules>Exceptions (No Logs for Short-haul Asphalt, Ready-Mixed Concrete Drivers or Non-CDL-Drivers operating within 150 air miles (14 hour shift))
Page 25	Updated 2.1.4 Driving Rules>Email Sender
Page 28	Updated 2.1.4 Driving Rules>Language
Page 33	New 3.3 Changing the Driver's Ruleset
Page 34 & 35	Updated 3.5 Start Break
Page 41	Updated 3.6 Data Transfer (Transfer via Web Service)
Page 54	Updated 5.2.10 Certify a Log
Page 55	Updated 5.2.11 Email a Log (via Server and via Mobile App)
Page 58	Added 5.2.12 Edit a Log > Change Current Status via Grid View Mode
Page 59	Added 5.2.12 Edit a Log > Modify Log Event via Grid View Mode
Page 76	Updated 5.4.2 DVIR Feature – Hours of Service Main Screen
Page 83	Updated 5.4.8 Finishing / Certifying Your DVIR
Page 84	Updated 5.4.9 Submit or Certify the DVIR
Page 88	Updated 6.3 Inspection Screen – Start Review
Page 93	7.4 Switching Equipment
Page 121	16 Warning Features>Lock Screen
Page 122	17 List of Login Errors>Login Errors



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Change History

This section details what changes have been made in order to prompt a new version of this product specification:

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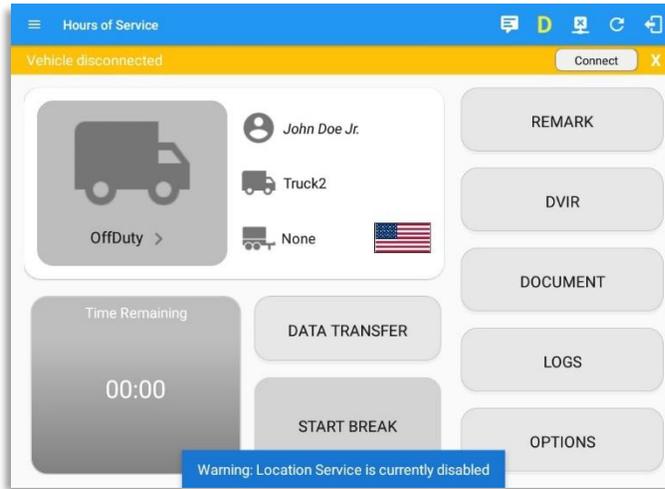
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1 Main Screen

The Hours of Service main screen is where you log your duty status events and which, in turn, determines your compliance with FMCSA Hours of Service Regulations. This screen also serves as your gateway to the rest of the app’s features.



The main screen also provides essential information about the app’s user:

- **Driver Name:** Displays the name of the driver who is logged in and whose logs are displayed.
- **Vehicle Name:** Displays the driver’s vehicle name.
- **Trailer Name:** Display’s the driver’s trailer name.

Note: Can tap Vehicle and Trailer name to display Switch Vehicle Dialog.

1.1 Using the HOS Action Bar

The HOS Action Bar is the starting point for navigating to the different pages within the app and is always present in the app’s topmost portion:



The action bar features the following navigational controls of the app:

Action Tool Name	Action Tool Icon	Description
Main navigation hamburger		Tap to open the main navigation menu of the application
Refresh Button		Tap to manually refresh the data in the app page. Hidden under submenu icon once all icons are present.



Logout Button		Tap to log out of the app, this will also set your status to Off Duty. Hidden under  submenu icon once all icons are present.
Malfunction Button		Tap to see uncleared Malfunctions
Data Diagnostics Button		Tap to see uncleared Data Diagnostics. Turns into an accent color (based on the app's theme) if there are new events and turns white when already viewed.
VBUS Connectivity		Indicates that the device is connected to a VBUS device and turns to  when disconnected. Hence, connection interruptions may occur which will turn into flashing icon  while in a reconnecting state.
Pending Edit Request Button		Tap to display the pending edit request dialog, edit request is from Motor Carrier Edit Suggestions, correction of errors with Team Drivers, and Events logged under Unidentified Driver Profile.
Connect Button		Tap to display a dialog to Connect to Vehicle's VBUS Device. It has the same capabilities as the VBUS icon  .

2 Customizing the Raven Preferences

The app's settings and preferences can be customized in the Hours of Service Preferences screen.

To navigate to this part of the app, select the  icon or swipe the screen to the right to display the main navigation menu, select the **Settings** option and then select the **Hours of Service** option, this will display the Settings screen.



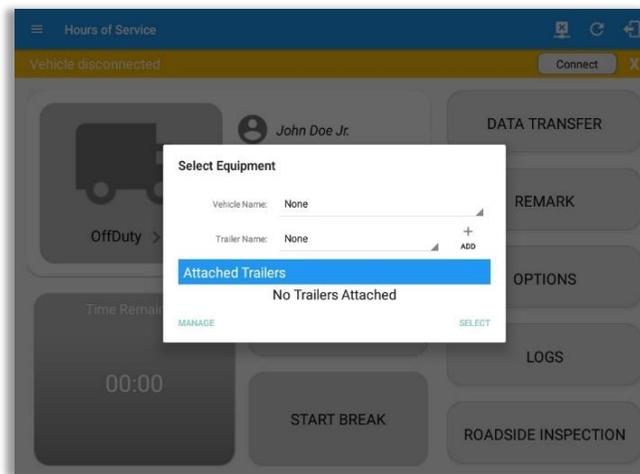
2.1 Hours of Service Settings

2.1.1 Set Hours of Service Preferences

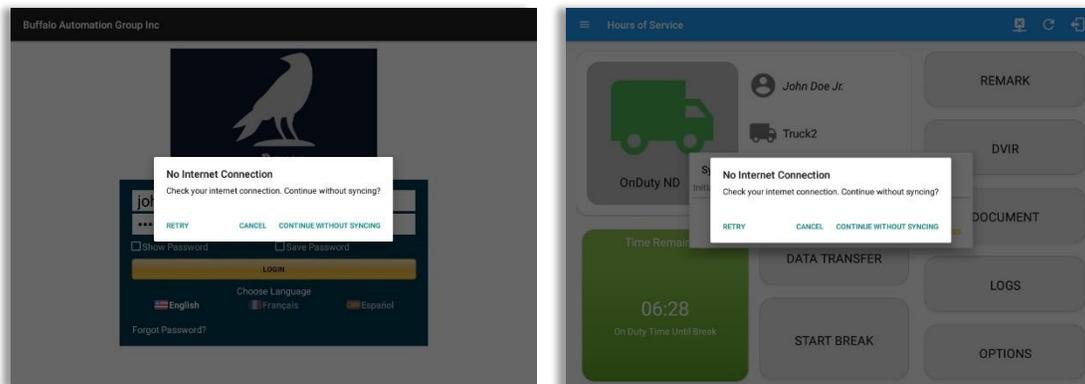
This is where the basic driver, vehicle, carrier and shipping data is entered and stored within the app. The identification data stored here is then used by the app, web portal and in the driver's daily log report.

After logging in to the app for the first time

When the app is used for the first time, the driver is taken directly to the Main Dashboard after which a Select Equipment dialog box will be displayed. It will continue to display until the user chooses a specified vehicle and trailer (if needed) to use. Driver can select option 'None' to use the app without selecting a vehicle.

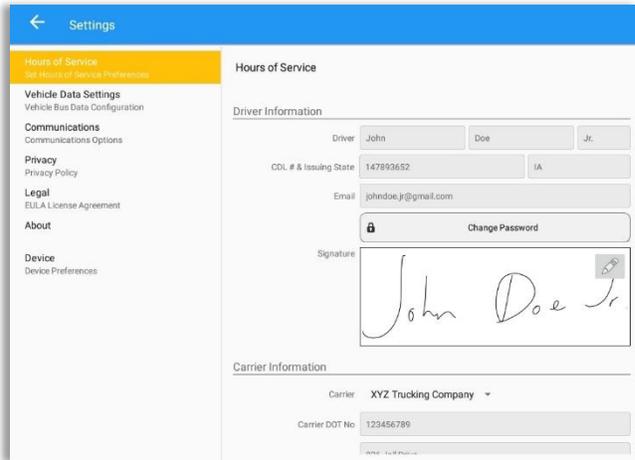


Note: If you are logging in to the device that has no internet connection, the driver can login successfully to the app only if driver have logged in to the device before. Tap 'Continue without syncing' button to login. Logging into the app when app server is down will prompt a dialog stating that 'Unable to Communicate with HOS server. Check your internet connection displayed'.



2.1.2 Capturing the Driver's Signature

The application can capture the signature of the driver which is then used for digitally certifying a log. To create the driver signature, select the main navigation hamburger , select the **Settings** option and then select **Hours of Service**:



The Driver Information section of the screen will be displayed along with any signature that has been created for the driver. Tap on the  icon to create or change the signature.



Create or update your signature in the app by using your finger to create your signature.



Tap the Done button to save your signature. You can also select the Clear button to clear the captured signature and start again.



2.1.3 Customizing the Carrier Information

The carrier information can also be set from within the Hours of Service section (**main navigation hamburger > Settings > Hours of Service**). You can scroll the screen down to the **Carrier Information** section:

The screenshot shows the 'Settings' app interface. The top bar is blue with a back arrow and the word 'Settings'. Below it, there's a yellow header for 'Hours of Service' with the subtitle 'Set Hours of Service Preferences'. A left sidebar lists various settings categories: GPS, Vehicle Data Settings, Privacy, About, and Device. The main content area is titled 'Hours of Service' and contains two sections: 'Carrier Information' and 'Driving Rules'. The 'Carrier Information' section includes fields for Carrier (XYZ Company LLC), Carrier DOT No (258963147), Main Office (926 Jail Drive, Macomb, IL, 61455), Phone # (309-997-2116), and Home Terminal (926 Jail Drive, Macomb, IL, 61455). The 'Driving Rules' section includes Country (USA), Cycle USA (US 70hr8days), Home Terminal Time Zone (Central (CST6CDT)), and Start Hour of Day (12 am).

Enter details for the following:

Carrier Name
 Carrier DOT Number
 Main Office Address
 Phone Number
 Home Terminal Details of the driver

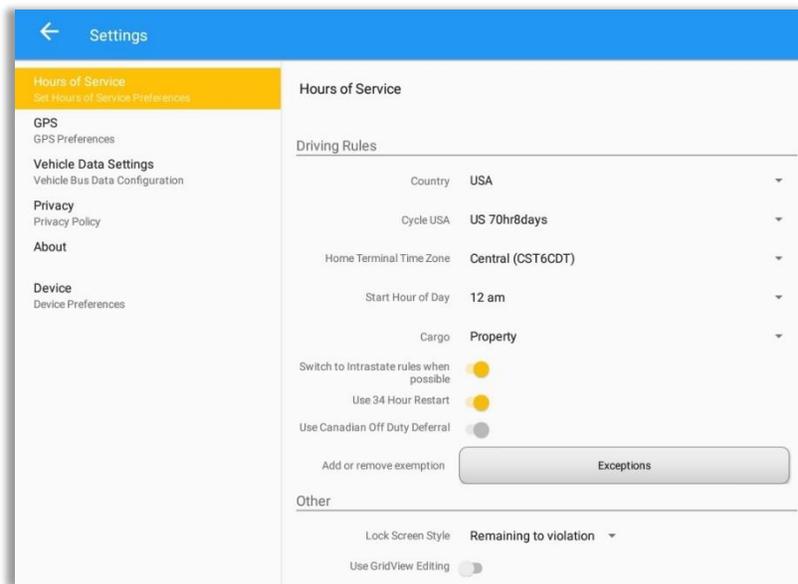
Note: The driver is allowed to select a specific Carrier Information if 'Allow driver ability to change carrier in portal->settings->account setting under Portal Controls and 'Allow Carrier Change' in Drivers Management page are enabled.



2.1.4 Driving Rules

This is where you change the HOS rules or the Federal Motor Carrier Safety Administration's (FMCSA) regulations that govern the hours that a commercial vehicle driver can legally accumulate driving or being on duty for a motor carrier in a working day and week. This is also where you apply the HOS rules exceptions.

The driving rules can also be set from within the Hours of Service section (**main navigation hamburger > Settings > Hours of Service**). You can scroll the screen down to the **Driving Rules** section:

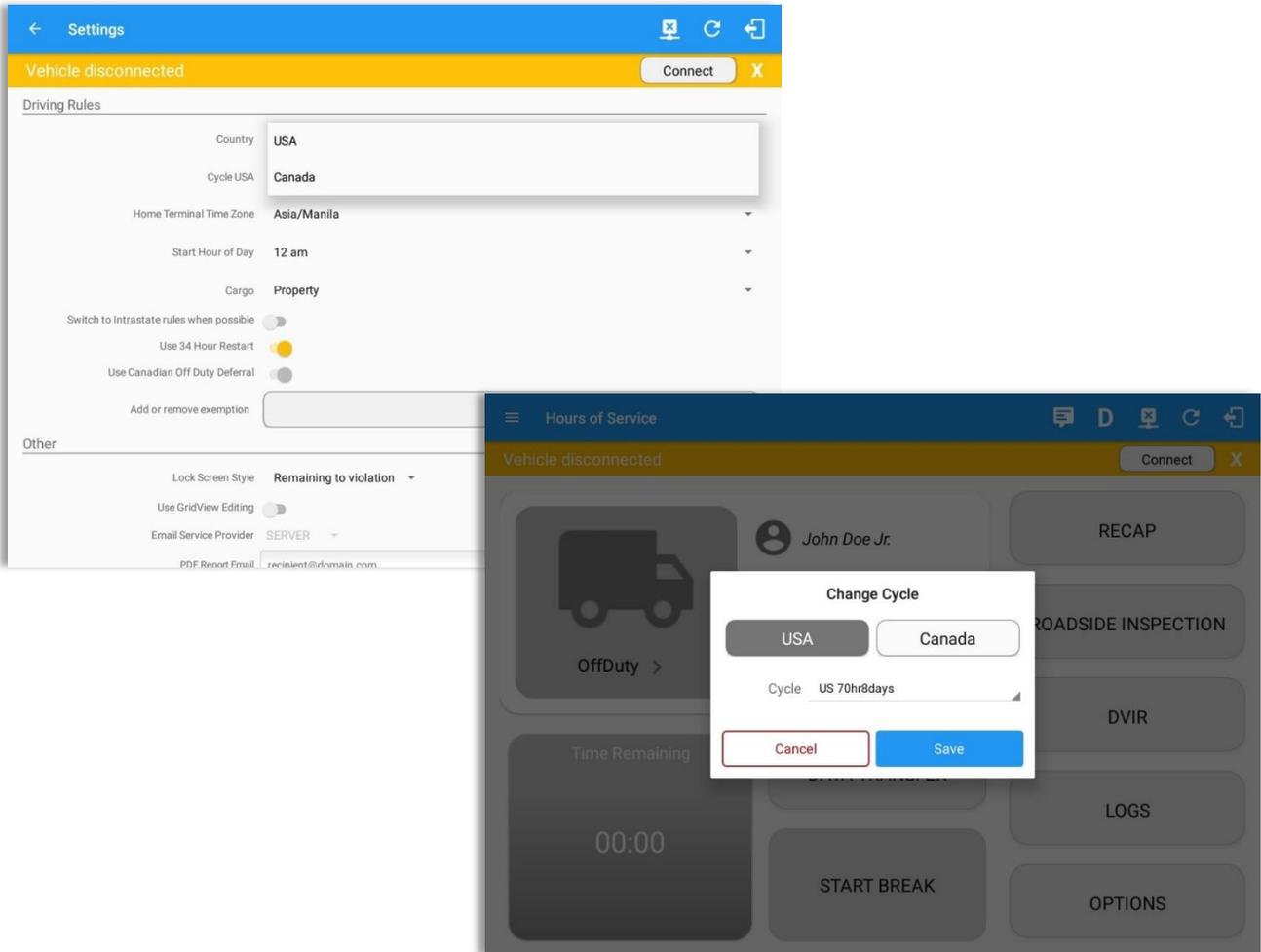


Select the appropriate HOS rules that you would like the app to use from the drop-down list. You can customize the region, cycle, cargo, exceptions and time zone rules



Region

This is where you can set the region. The options are USA and Canada. The cycle and exceptions displayed are dependent on which region has been set by the driver.



Note:

- If the region selected is Canada, then the condition “Canada Off-Duty Deferral” is enabled. This means that you are allowed to get an extra two hours of driving and on duty in a 24-hour period (day 1) and take the required extra two hours off on the following day (day 2). The Deferral status is shown on the Driver’s Daily Logs.
- A remark will be recorded in Edit Logs screen with a note ‘Changed to USA ruleset’ or ‘Change to Canada ruleset’ if region is changed via the Setting screen or in Main Dashboard screen>Change Cycle dialog.



Cycle

This is where you can set the consecutive multi-day duty period which the driver will follow. Choosing a cycle will take into effect the corresponding legal limitations on the hours that can be used by the driver in a 7 day or 8 day working cycle.

Available Cycle Rules Options**Interstate - Federal Rules**

	Cycle	Shift Limit	Drive Limit	Until Break	Break Left
US60hr7days	7 days	14 hours	11 hours	8 hours	30 minutes
US70hr8days	8 days	14 hours	11 hours	8 hours	30 minutes
Alaska70hr7days	7 days	20 hours	15 hours	8 hours	30 minutes
Alaska80hr8days	8 days	20 hours	15 hours	8 hours	30 minutes
California80hr8days	8 days	16 hours	12 hours	N/A	N/A

Intrastate Cycle Rules

	Cycle	Shift Limit	Drive Limit	Break Limit
Alabama60hr7days	7 days	15 hours	10 hours	N/A
Alabama 70hr8days	8 days	15 hours	10 hours	N/A
Florida 70hr7days	7 days	16 hours	12 hours	N/A
Florida 80hr8days	8 days	16 hours	12 hours	N/A
Illinois 60hr7days	7 days	14 hours	11 hours	N/A
Illinois 70hr8days	8 days	14 hours	11 hours	N/A
Maryland 70hr7days	7 days	16 hours	12 hours	N/A
Maryland 80hr8days	8 days	16 hours	12 hours	N/A
Massachusetts 60hr7days	8 days	14 hours	11 hours	N/A
Massachusetts 70hr8days	8 days	14 hours	11 hours	N/A

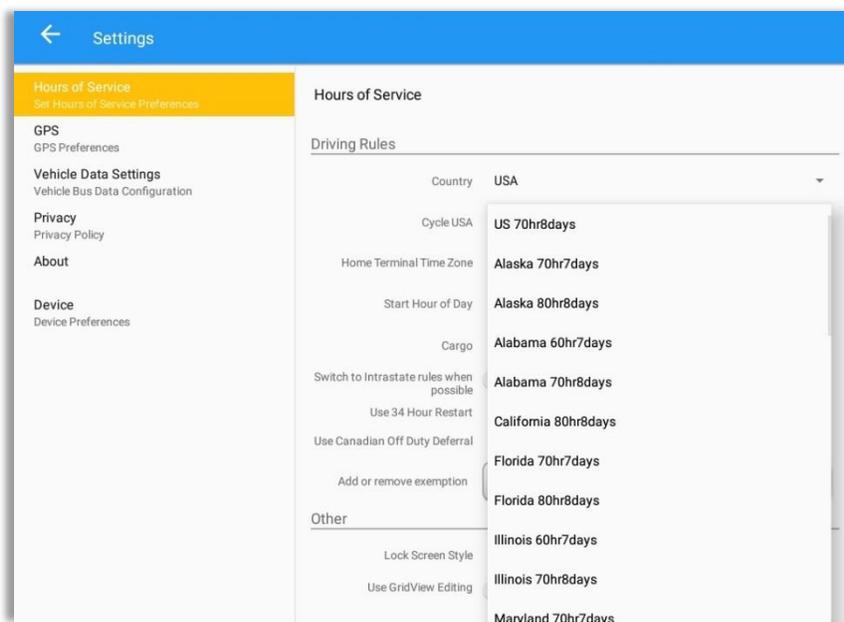


Michigan 60hr7days	7 days	14 hours	11 hours	30 minutes
Michigan 70hr8days	7 days	14 hours	11 hours	30 minutes
New Hampshire 60hr7days	7 days	14 hours	11 hours	N/A
New Hampshire 70hr8days	8 days	14 hours	11 hours	N/A
New York 60hr7days	7 days	14 hours	11 hours	N/A
New York 70hr8days	8 days	14 hours	11 hours	N/A
North Carolina 70hr7days	7 days	16 hours	12 hours	N/A
North Carolina 80hr8days	8 days	16 hours	12 hours	N/A
North Dakota 70hr7days	7 days	16 hours	12 hours	N/A
Pennsylvania 60hr7days	7 days	14 hours	11 hours	N/A
Pennsylvania 70hr8days	8 days	14 hours	11 hours	N/A
South Carolina 70hr7days	7 days	16 hours	12 hours	N/A
South Carolina 80hr8days	8 days	16 hours	12 hours	N/A
Tennessee 60hr7days	7 days	14 hours	11 hours	N/A
Tennessee 70hr8days	8 days	14 hours	11 hours	N/A
Texas 70hr7days	7 days	15 hours	12 hours	N/A
Wisconsin 70hr7days	70 days	16 hours	12 hours	30 minutes
Wisconsin 80hr8days	80 days	16 hours	12 hours	30 minutes
Vermont 60hr8days	7 days	14 hours	11 hours	N/A
Vermont 70hrs8days	8 days	14 hours	11 hours	N/A
Virginia 70hr7days	7 days	16 hours	12 hours	N/A
Virginia 80hr8days	8 days	16 hours	12 hours	N/A



Canada Cycle Rules

	Cycle	Shift Limit	Drive Limit	Break Limit
Canada 70hr7days South	7 days	16 hours	13 hours	30 minutes
Canada 120hr14days South	7 days	16 hours	13 hours	30 minutes
Canada 80hr7days North	7 days	20 hours	15 hours	30 minutes
Canada 120hr14days North	7 days	20 hours	15 hours	30 minutes
Alberta Province		15 hours	13 hours	30 minutes



Any of the above cycle rules are depending on the region selected and can be applied given the appropriate rule from the region drop down list

- ***Intrastate to Interstate driving rules***

If the driver is operating in intrastate mode and is crossing over a state line then the app automatically switches to federal rules. A dialog will display confirming that the driving rules have changed right after crossing boundaries.

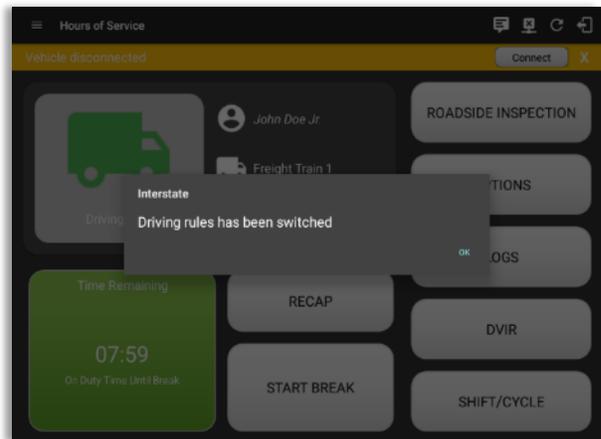


Example:

SouthCarolina80hr8days to US70hr8days

or

SouthCarolina70hr7days to US60hr7days

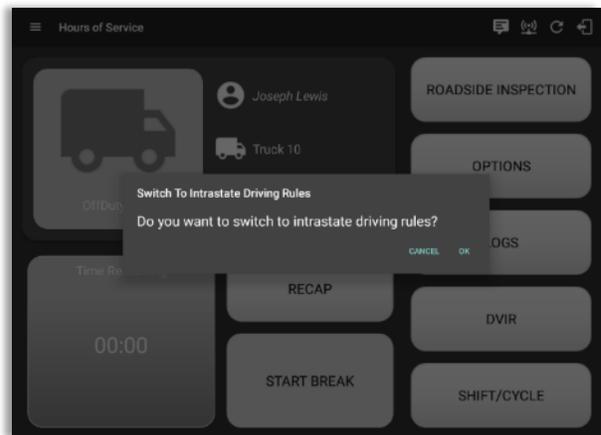


- **Interstate to Intrastate driving rules**

The driver must also follow the Federal HOS regulations for a short period of time while operating in interstate commerce. If the driver were using the 60-hour/7-day schedule, he must follow the Federal HOS regulations for the next 7 days having done operating in interstate commerce. If you were using the 70-hour/8-day schedule, you must follow the Federal hours-of-service regulations for the next 8 days after you finish operating in interstate commerce.

Note:

To perform intrastate check, enable the option available in the Settings > HOS Preferences (however this check is optional). The user has the ability to whether or not perform to the checking.



Also, it is important for the driver to monitor the cycle used for the past 7 or 8 days.

Cargo

This will set the applicable Hours of Service rules for property carrying or passenger carrying commercial vehicles.



Available Cargo Rules Options

- Property – the 11 and 14 hours rule will apply
- Passenger – the 10 and 15 hours rule will apply

The screenshot shows the 'Settings' application with the 'Hours of Service' section selected. The 'Hours of Service' section includes a 'Home Terminal' field with the address '790 James Avenue', 'Wichita', 'IL', and '61455'. Below this is the 'Driving Rules' section with dropdown menus for 'Country' (USA), 'Cycle USA' (US 70hr8days), 'Home Terminal Time Zone' (Central (CST6CDT)), and 'Start Hour of Day' (12 am). The 'Cargo' dropdown menu is open, showing 'Property' and 'Passenger' options. There are also toggle switches for 'Switch to Intrastate rules when possible', 'Use 34 Hour Restart', and 'Use Canadian Off Duty Deferral'. An 'Exceptions' button is visible at the bottom.

Either of the above cargo rules can be applied by selecting the appropriate rule from the drop down

Exceptions

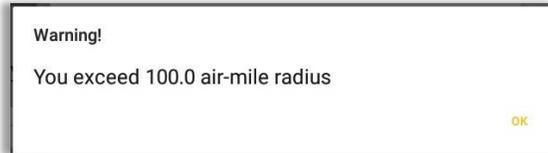
The options that appear when tapping the **Exceptions** button will allow the driver to avail of exceptions from the Hours of Service rules for as long as certain conditions are met as stipulated the Hours of Service section of the Code of Federal Regulations (49 CFR Part 395.1-Hours of Service of Drivers-Scope of rules in this part) and other pertinent FMCSA regulations.

Available US Exceptions Options

- 2 Hour Driving Extension for Adverse Driving Conditions
- Relief from all driving rules for Emergency Conditions
- Oilfield Operations with 24-hour restart
- 30 Minute Break Exemption for Petroleum Tank Drivers
- 30 Minute Break Exemption for Short-Haul Drivers
- 30 Minute OnDuty break for Asphalt drivers

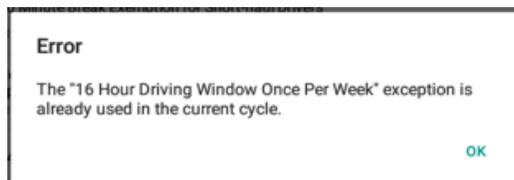


- No Logs for CDL Short-haul Drivers operating within 100 air miles (12-hour shift)
Note: A warning dialog is displayed if the short haul driver broken the 100 air miles from the home terminal.



- No Logs for Short-haul Asphalt, Ready-Mixed Concrete Drivers or Non-CDL-Drivers operating within 150 air miles (14-hour shift)
- 24 Hour Restart for Construction, Groundwater well-drilling
- 16 Hour Driving Window

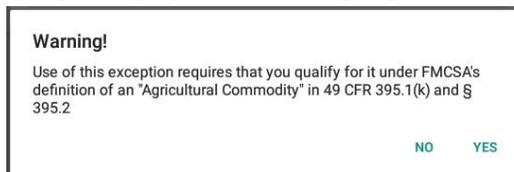
Note: '16 Hour Driving Window' exception can only be used once for the last 7 days or in every 70hr cycle, if the driver attempted to enable the exception an error dialog will display stating the following:



However, it is possible for the driver to add another '16 Hour Driving Window' exception when a cycle reset has occurred. Nevertheless, the driver will need to wait for the current cycle to end to be able to add the exception again.

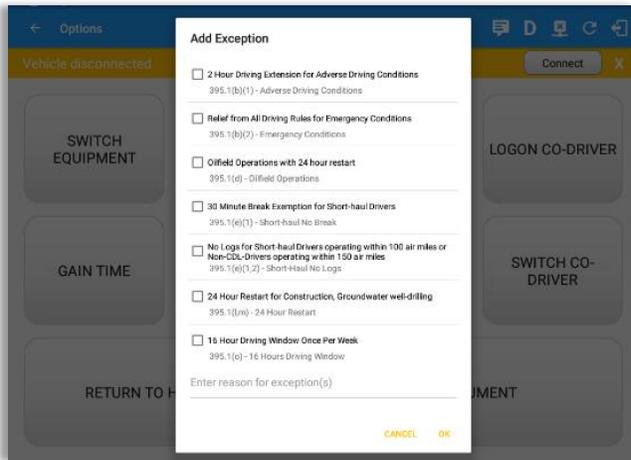
- Utility Service Vehicle
- 30 Minute Break Exemption for Specialized Carriers & Rigging Association (SC&RA)
- Agricultural Operations

Note: A confirmation dialog is displayed when using 'Agricultural Operations' exception.



- Transport of Commercial Bees, Livestock
- Hi-rail 2-hour travel exclusion - 395.1(w)
- Driver salesperson - 395.1(c)
- Relief from Driving rules for State of Emergency - 390.23
- California flammable tank drivers may drive 10 hours within a work shift



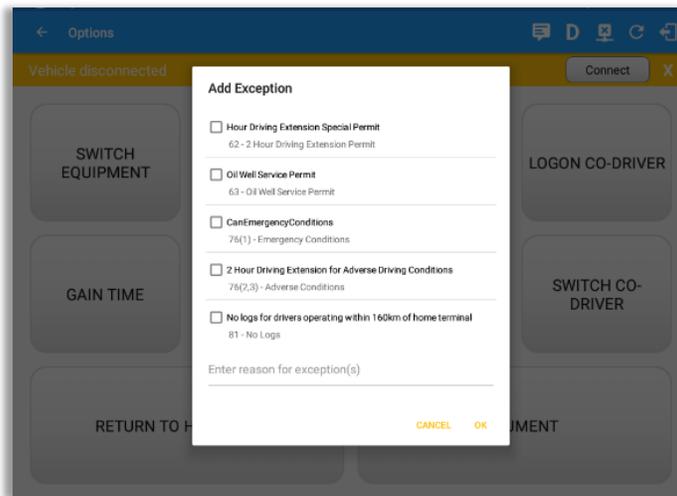


Select the appropriate exception from the list. You must then enter a reason for applying the exception in the Enter reason for exception(s) field. Once complete, select the **OK** option to apply the selected exception.

Note: Exceptions are different depending on the Region selected.

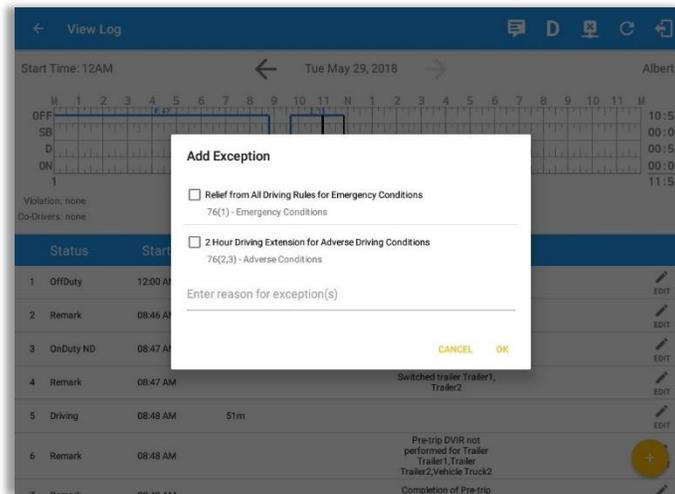
Available Canada Exceptions Options

- 2 Hour Driving Extension Special Permit
- Oil Well Service permit
- CanEmergencyConditions
- 2 Hour Driving Extension for Adverse Driving Conditions
- No Logs for drivers operating within 160km of home terminal

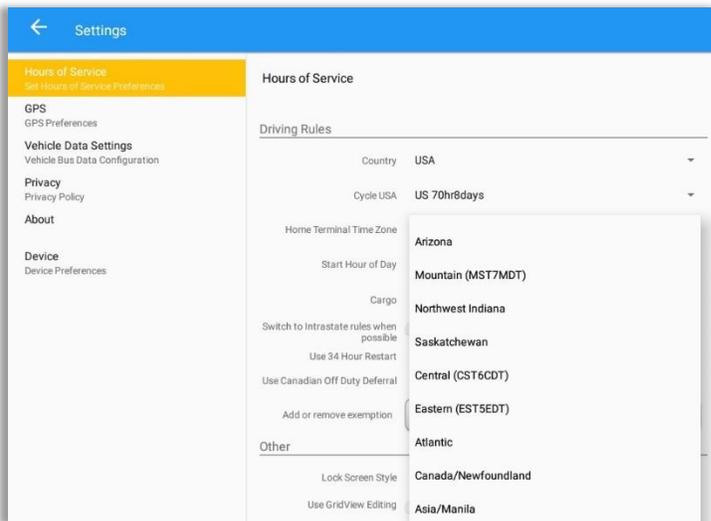


Available Alberta Province Exceptions Options

- CanEmergencyConditions
- 2 Hour Driving Extension for Adverse Driving Conditions



Time Zone



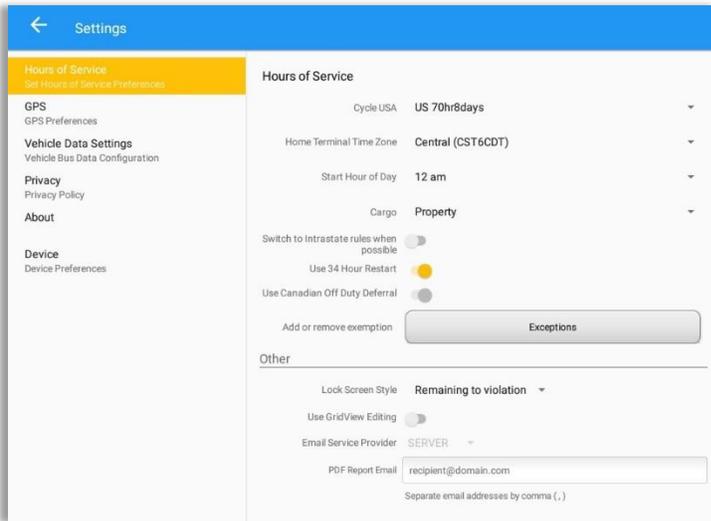
Select the driver's Home Terminal time zone. Time zones available are:

Hawaii
 America/Anchorage
 Pacific Time (PST8PDT)
 Mountain Time (MST7MDT)
 Saskatchewan
 Central Time (CST6CDT)
 Eastern Time (EST5EDT)
 Atlantic
 Canada/Newfoundland
 Asia/Manila



PDF Report Email Recipients

You can set the default recipients of your Driver Daily Log PDF report in the part of the Settings Menu.



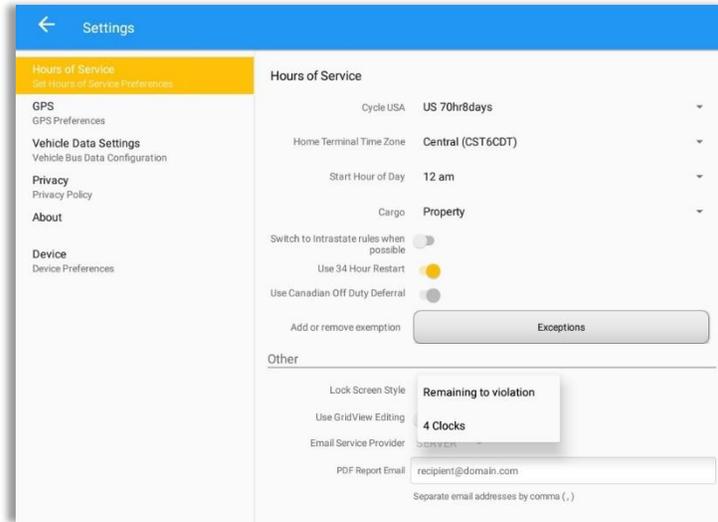
Enter the email address or addresses that will become a recipient or recipients of the Raven app Daily Driver Log PDF report.

The email addresses must be separated by a comma (,).

Lock Screen Style

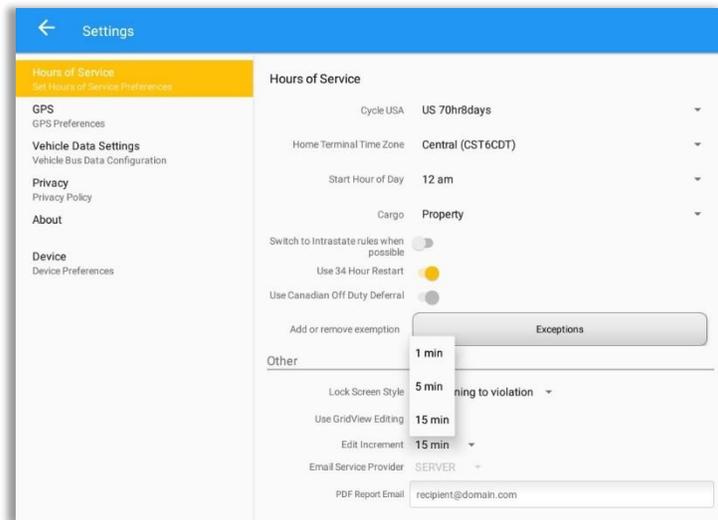
The user has the ability to control the lock screen display. There are two (2) types available: new 'Remaining to violation' lock screen or the old '4 clocks' lock screen.





Use Grid View Editing

The user has the ability to use grid view editing. Once enabled, user can also set the edit increment time. (See Section 5.2.12 Editing a Log) Grid View Editing feature is in Android app only.

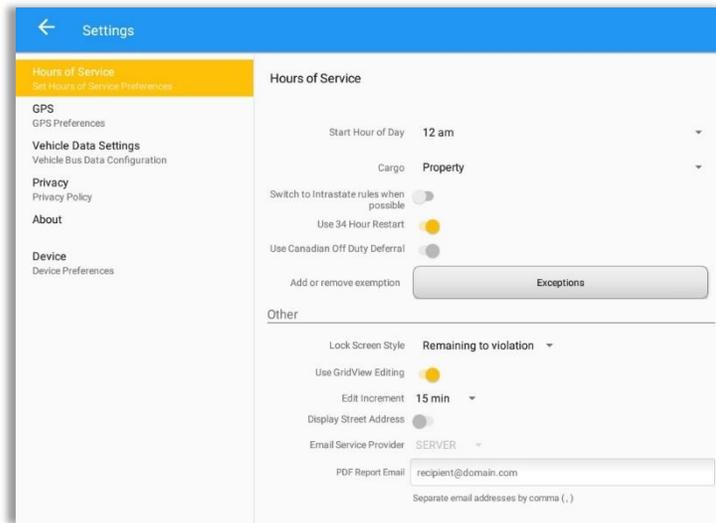


Display Street Address

Display Street address option will allow drivers to select where to get the location if it is the actual location or the nearest City with 5,000 population when in AOB RD mode. The option will only display for drivers that have permission which is set by the personnel in

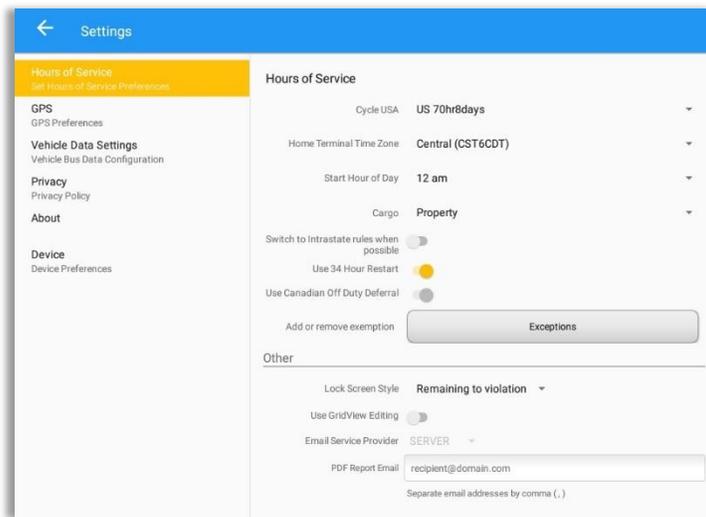


the portal->Account Settings under App Controls > 'Display Street Address for AOBRD mode'.



Email Sender

There are (2) two email sender options: via Server or Mobile App. Email Sender setting can be change on the portal->account settings under App Controls -> Email Sender.



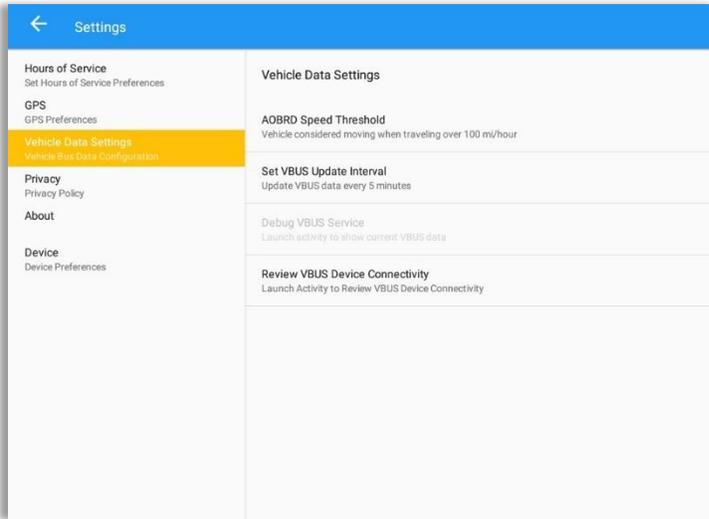
2.2 Vehicle Data Settings

AOBRD Speed Threshold

For vehicle in AOBRD mode, speed threshold setting is dependent on what is set on the portal->account settings under App Controls -> AOBRD Speed Threshold. The default value is 100 Mph/Kph. (For example: When the set AOBRD Speed Threshold is 100



Mph/Kph, lock screen will be shown and the app will be in driving state once the vehicle speed threshold reached to 100 mi/hour)

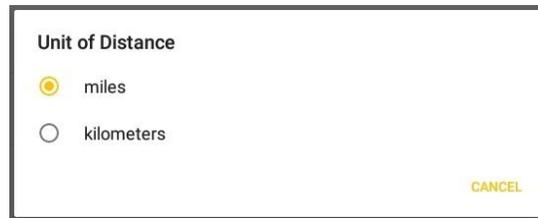


Also, drivers have the ability to set speed threshold on the app->Vehicle Data Settings->AOBRD Speed Threshold only if the driver is allowed. To allow a specific driver, enable the option which can be seen in portal->Drivers Management Page->Set AOBRD Speed Threshold option.

2.3 Device Preferences

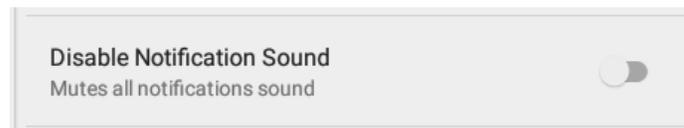
Unit of Distance

Setting the default unit of measures



Disable Notification Sound

The application has a Mute button to silence all sounds that could come from the application. Also, the ELD rules state that all application sounds should be muted during Sleeper status. However, the mobile device should not be muted so that sound will be available for phone calls.

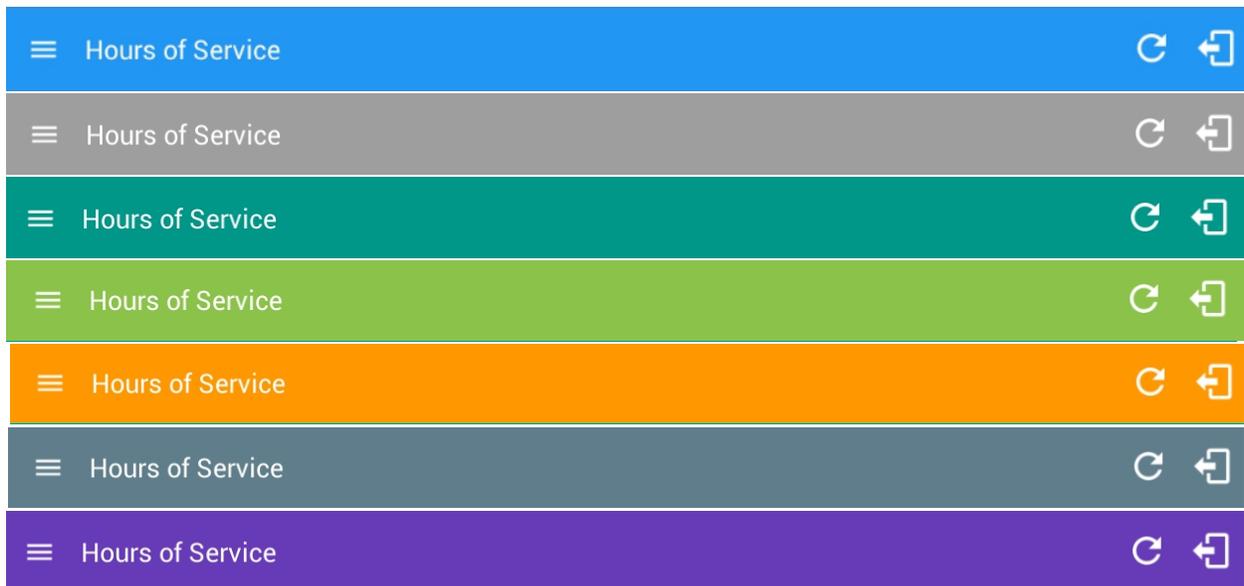
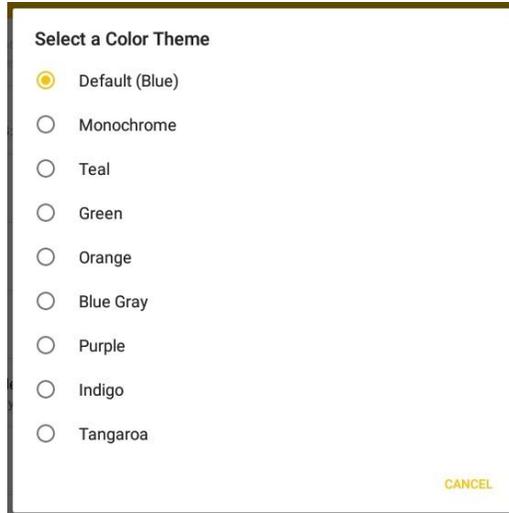


Note: When the current status is Sleeper Berth, it automatically mutes the application sound.



Color Theme

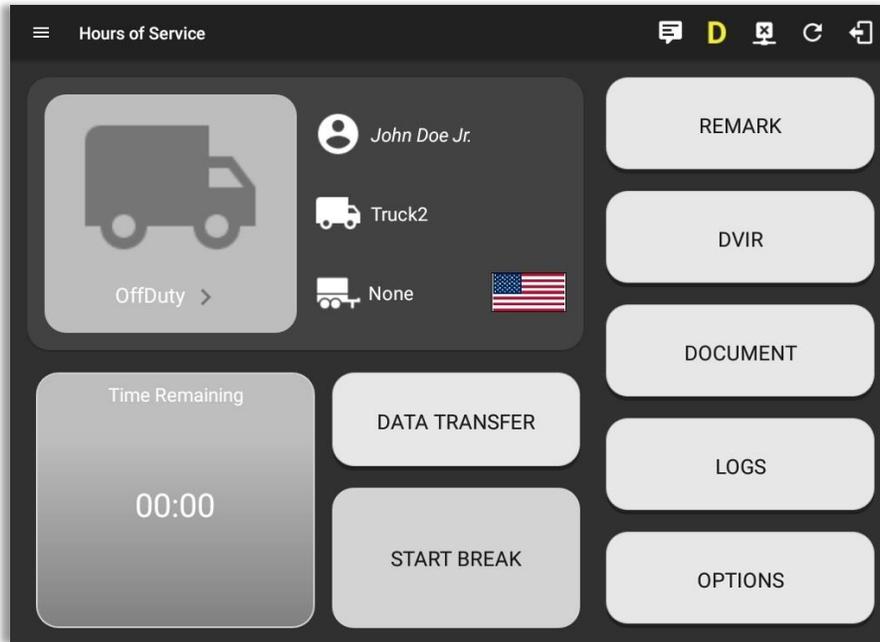
Displays option for selecting Color Theme



Night Theme



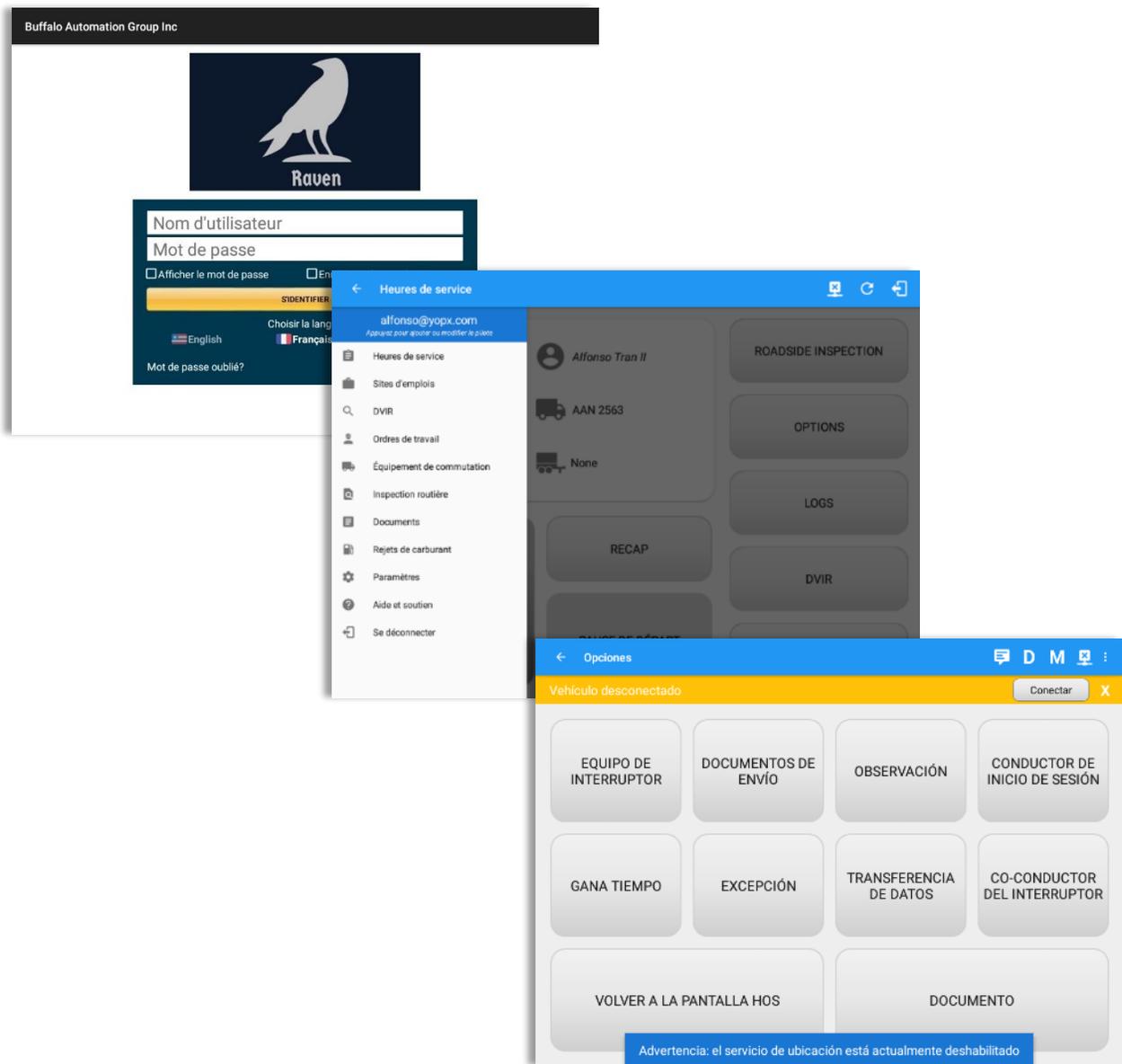
By default, the application automatically changes to a night theme based on the sunset time calculated from the device's location. If location is not available, the local time of the device is used.



Language Support

The application supports language translation for French-Canadian (Français (Canada)) and Spanish (Español (Estados Unidos)).

To enable the desired translation, select the supported language located below the Login button and the translation will take effect immediately.



3 Familiarizing the Hours of Service Main Screen Tiles

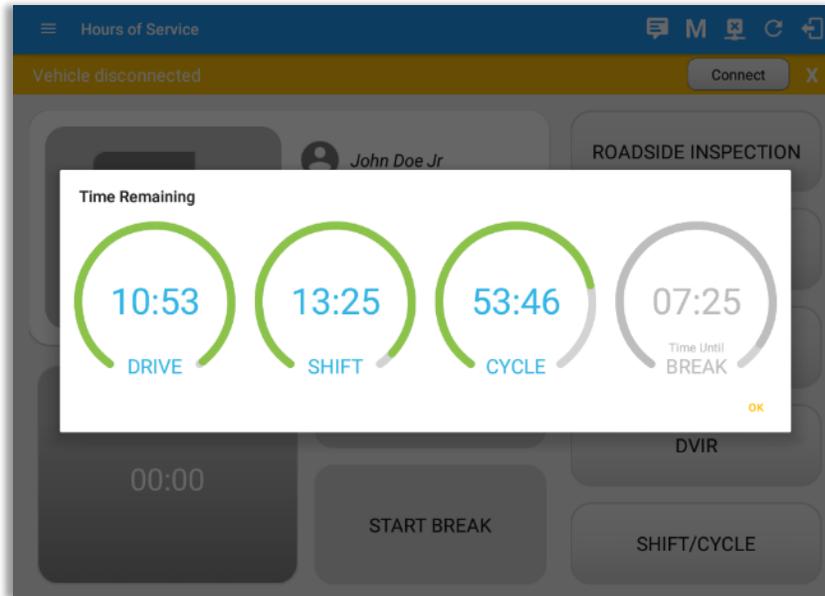
3.1 Time Remaining Tile

When the time remaining tile displays a grey color, it indicates that the driver is Off Duty, Sleeper or Waiting at Well Site; when the tile displays a green color, it indicates that the driver's status is Driving or On Duty; when the tile displays an amber color, it indicates that the driver's status is Driving or On Duty and has less than 3 hours left; when the tile displays a red color, it indicates that the driver's status is Driving or On Duty and has less than 1 hour left or has already ran out of time.



Tap the time remaining panel to view the Time Remaining Clocks.

Note: For Canadian Rules, a 14 hour On Duty limit on time remaining clock is shown



The time remaining clocks are color coded to match the time remaining panel.

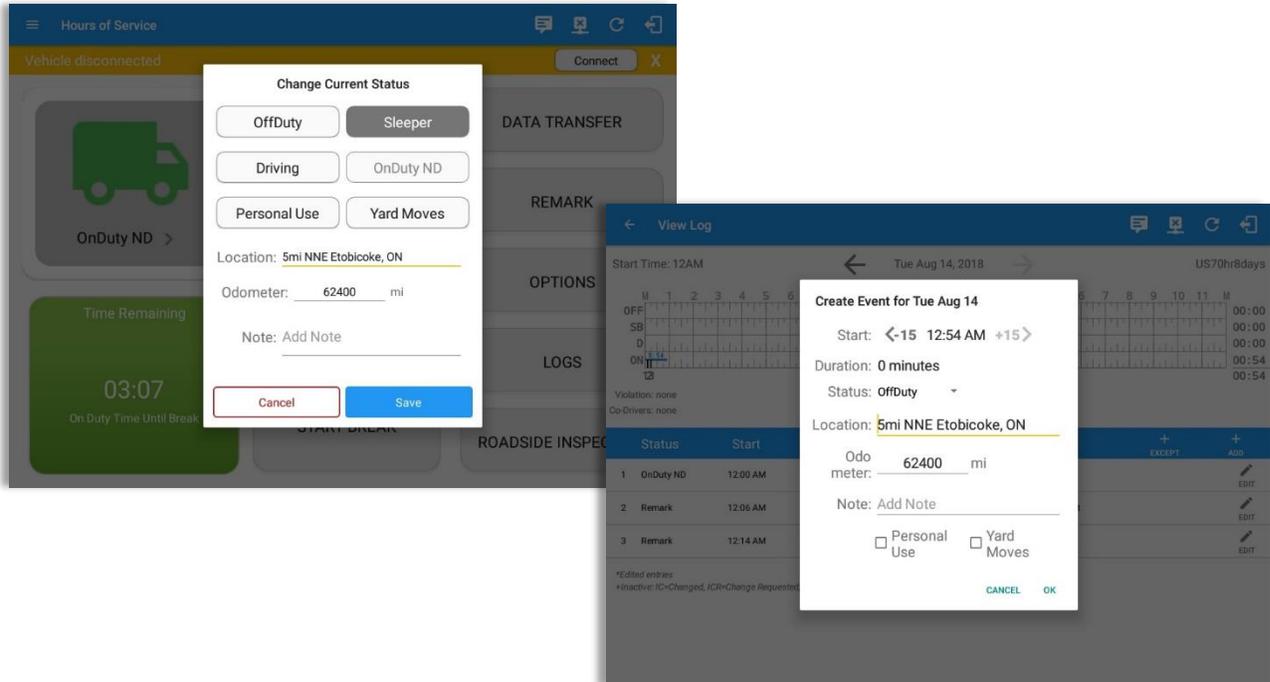
3.2 Changing the Driver's Duty Status

To change the duty status of the driver, tap the Duty Status button and select the appropriate driver duty status.

Available Duty Status Options

Duty Status Icon	Duty Status	Duty Status Icon	Duty Status
	Off Duty		On Duty
	Sleeper Berth		Waiting at Site
	Driving		





Tapping the duty status button will show the **Change Current Status** pop up dialog. While creating event in Edit Logs screen, you can adjust the duration of the duty status event by tapping the Previous 15 minutes Time Interval button to increase the time duration and the Next 15 minutes Time Interval button to decrease the time duration. However, these buttons are disabled prevent time from going before or after the current day. (eg. 12:00AM – 11:59PM).

- If Personal Use is enabled, the status will be set to Off Duty automatically and will disable the other checkboxes. Selection of this option will be recorded within the events history. Events except Off Duty will not be displayed in the grid but is displayed in the event history list. Off duty will always be the display in the grid and when the driver makes an automatic event, lock screen will also be shown.
- If Yard Moves is enabled, the status will be set to On Duty automatically and will disable the other checkboxes. Selection of this option will be recorded within the events history. Events except On Duty will not be displayed in the grid but is displayed in the event history list. On Duty will always be the display in the grid and when the driver makes an automatic event, lock screen will also be shown.

Notes:

- A static notification on screen is visible when driver is currently in Personal Use or Yard Moves.
- Attempt to create or edit an event such as Off Duty, On Duty, Sleeper Berth in the middle of an automatically Driving event is not allowed, instead an error dialog is displayed stating "Error: shortening of prior driving event is not allowed. Select a time before or after the driving event."



When the app is able to obtain a valid GPS fix, the **Location** field will be automatically populated with the current location information of the user. If there is no GPS fix, the **Location** field will remain blank, in this instance; you must manually input the relevant details.

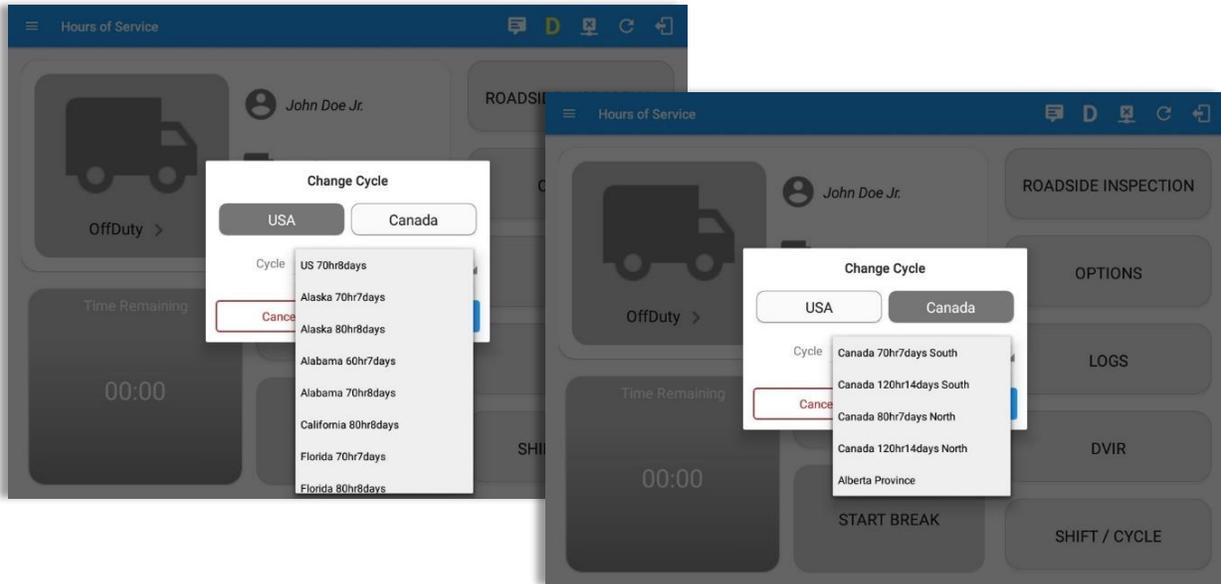
Once all relevant details have been entered and the correct duty status selected, tap the **OK** button to save the new duty status event. You can also select the **Cancel** button to cancel adding the selected duty status.

Changing the status to On Duty or Driving also enables the options for ‘**Personal Use**’ and ‘**Off Road**’. Personal Use is mentioned in the FMCSA’s Supplemental Proposal, which was published on March 28, 2014, that mandates ELDs for most drivers of CMVs that currently log. The proposal says that ELDs may be set up to allow drivers to put themselves in a special driving category called “personal use.” When a driver selects this option, the ELD will record the time as off duty until the driver de-selects the option. **Off Road**, on the other hand, means that the vehicle is running on rough terrain. Lastly, **Yard Moves**, has been established under a mandate which allows a driver or another personnel to perform duties like moving trucks around the home yard by establishing a single set of thresholds for all ELDs in an On Duty, not Driving status without triggering the device by reaching the thresholds.



3.3 Changing the Driver's Ruleset

The country flag (US  or Canadian ) indicates the ruleset the driver is currently using. To change the drivers' ruleset, tap the on the country flag and select the appropriate driver country/ruleset from the dialog.



Note: For new drivers, the set default country in the driving rules is based on the device's location.

3.4 Recap

Recap				
Day	Date	Hours Worked	Available Time	Hours Gained
Tue	May 01	00:00	70:00	
Wed	May 02	00:00	70:00	
Thu	May 03	00:00	70:00	
Fri	May 04	00:00	70:00	
Sat	May 05	00:00	70:00	
Sun	May 06	00:00	70:00	
Mon	May 07	07:04	62:56	
Tue	May 08	03:21	59:35	
34 Cycle Reset on Wednesday				
Wed	May 09	00:00	70:00	
Thu	May 10	00:00	70:00	
Fri	May 11	02:35	67:24	
34 Cycle Reset on Saturday				
Sat	May 12	00:00	70:00	
Sun	May 13	00:00	70:00	

Tap the Recap button to bring up the recap information for the specified duty day and corresponding cycle data.

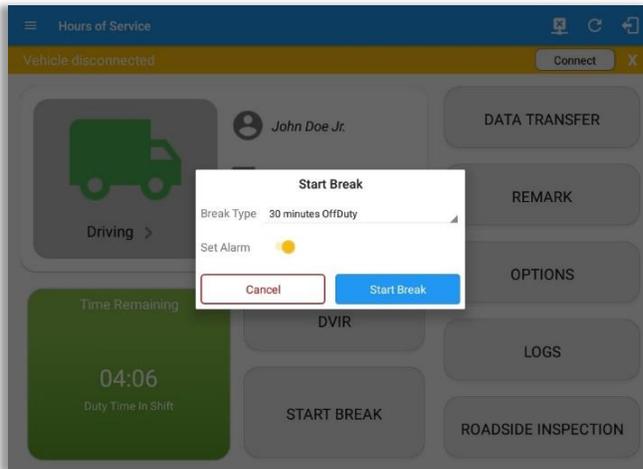
Recap				
Day	Date	Hours Worked	Available Time	Hours Gained
Thu	May 10	00:00	70:00	00:00
Fri	May 11	02:35	67:24	00:00
34 Cycle Reset on Saturday				
Sat	May 12	00:00	70:00	00:00
Sun	May 13	00:00	70:00	00:00
Mon	May 14	00:00	70:00	07:04
Total hours worked since cycle reset: 00:00				
Tue	May 15	07:00	62:58	03:21
Wed	May 16	00:00	62:58	00:00
Thu	May 17	00:00	62:58	00:00
Fri	May 18	00:00	62:58	02:35
Sat	May 19	00:00	62:58	00:00
Sun	May 20	00:00	62:58	00:00
Mon	May 21	00:00	62:58	00:00
Tue	May 22	00:00	70:00	07:00



3.5 Start Break

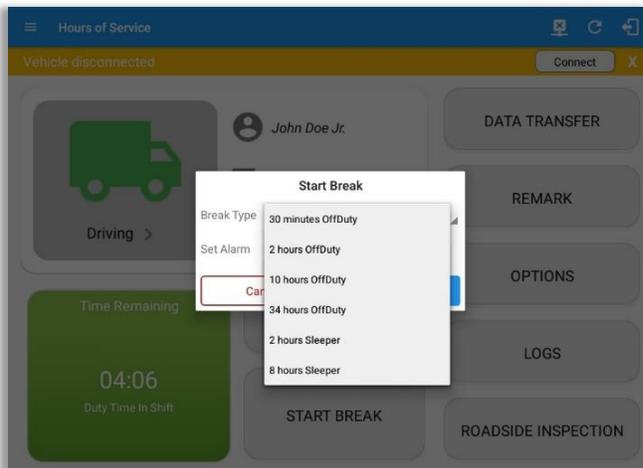
The **Start Break** button will be disabled when the duty status is **Off Duty**, **Sleeper Berth** or **Waiting at Well Site**.

The **Start Break** button will be enabled when the duty status is **On Duty** or **Driving**.



Once you tap the **Start Break** button, a pop-up dialog will be displayed with the following options:

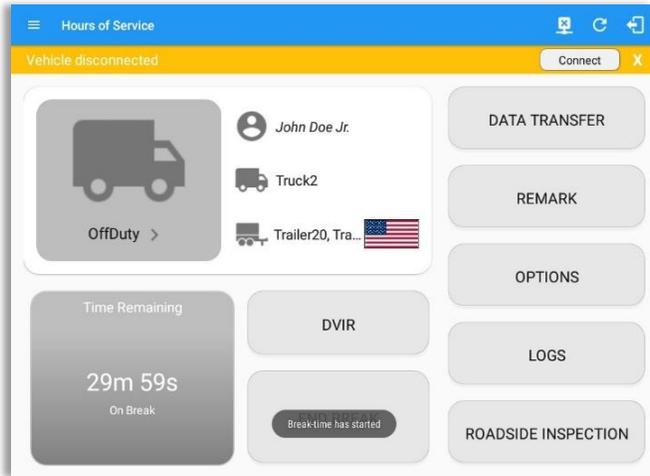
Break Type: Select from the dropdown list how long you would like your break to be.
Set Alarm: (Enabled by default) Toggle button to disable or enable. If enabled, an audio alarm is played when break is over. If disabled, no audio alarm when break is over.



Break Type Options:

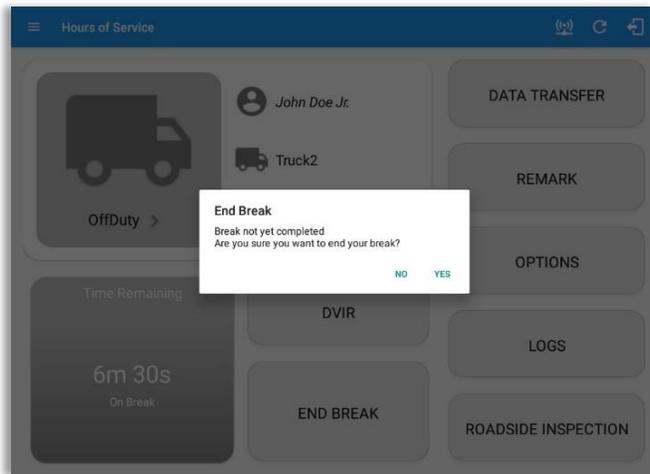
- 30 minutes OffDuty
- 2 hours OffDuty
- 10 hours OffDuty
- 34 hours OffDuty
- 2 hours Sleeper
- 8 hours Sleeper





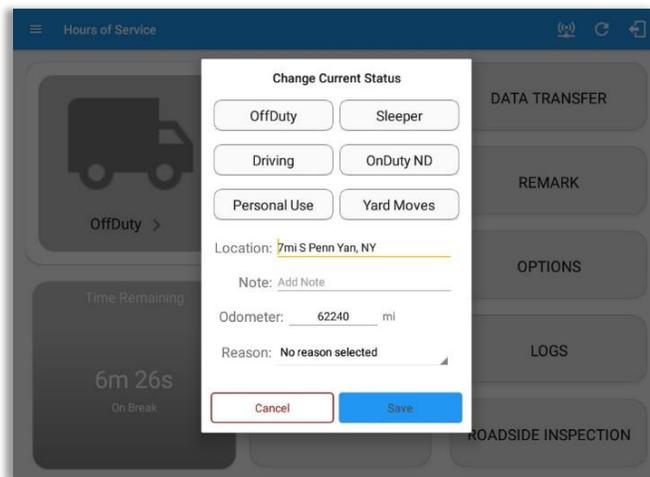
If **Start Break** button is being tapped, then:

- It sets the status to OffDuty/Sleeper (depending on the break type selected)
- The 'Start Break' button turns to 'End Break'.
- The Time Remaining button turns to On Break.



If **End Break** button is being tapped, then:

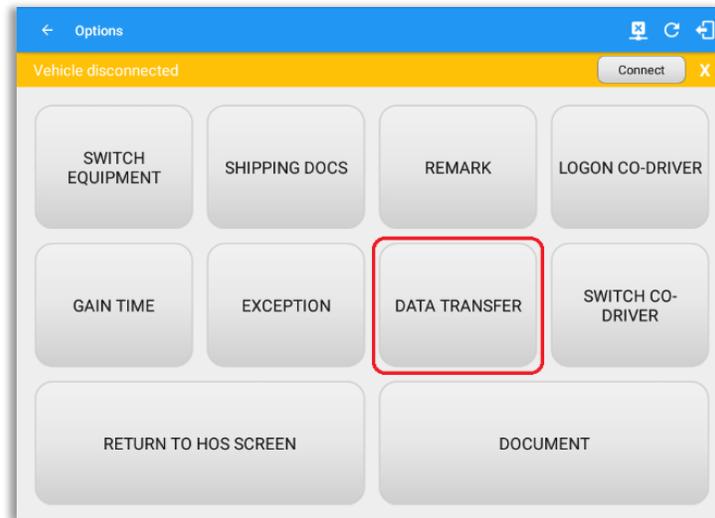
- It set status 'Driving' (if the vehicle is moving) and driver can set status manually (if the vehicle is not moving).



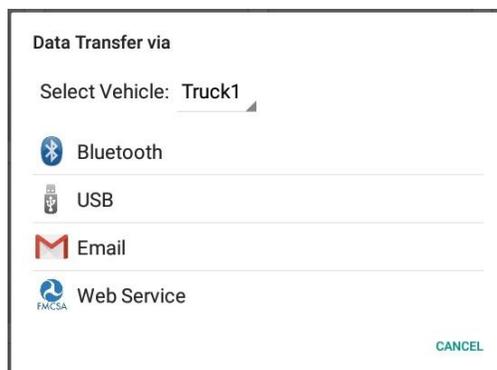
3.6 Data Transfer

Selecting the **Data Transfer** button from the **Options Screen** will display the list of supported data transfer options.

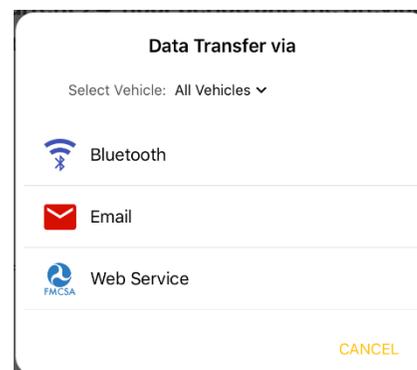
The ELD provides a standardized single-step compilation for the driver's ELD records and initiation of the data transfer to authorized safety officials when requested during a roadside inspection.



Tap the **Data Transfer** button to transfer data of the compilation of the driver's ELD records. Once tapped, a selection of the supported data transfer options by the ELD will prompt to the user. For iOS app, the available data transfer services are thru Bluetooth, Email and Web Services only.



Android app Data Transfer options



iOS app Data Transfer options

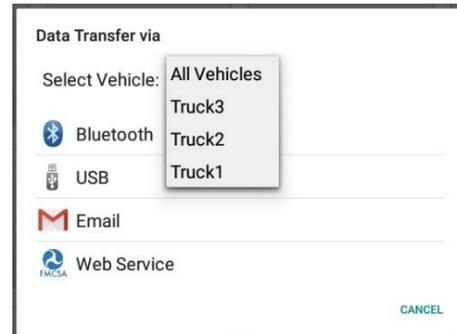
- **Select Vehicle** - this option enables the ELD to produce a data file or a series of data files of ELD records for a subset of its vehicles used by the driver.



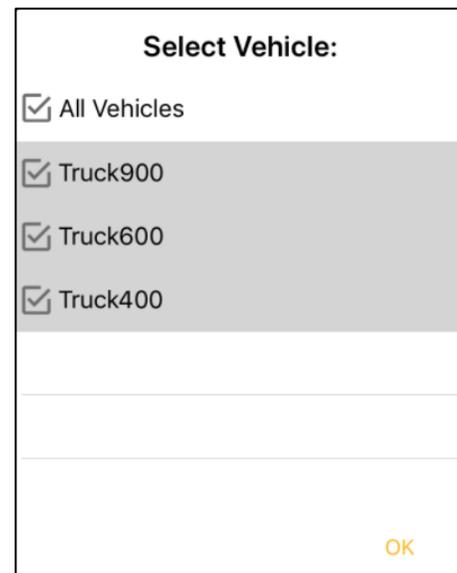
Tap the **Select Vehicle** menu to show the list of vehicles used by the driver.

The 'All Vehicles' option will only display on the list when the driver has already driven multiple vehicles for the day.

For **Android app**, list of vehicle/s are displayed in drop down list which allows to select a specific vehicle or 'All Vehicles' in Data Transfer.

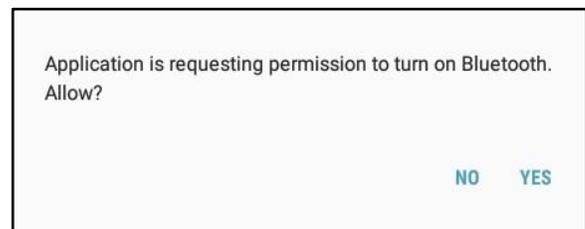


For **iOS app**, list of vehicle/s are displayed in checkboxes. The app allows to select specific vehicle(s) to be included in ELD output file. The list of vehicles displayed are the vehicles that the driver used within the current cycle.

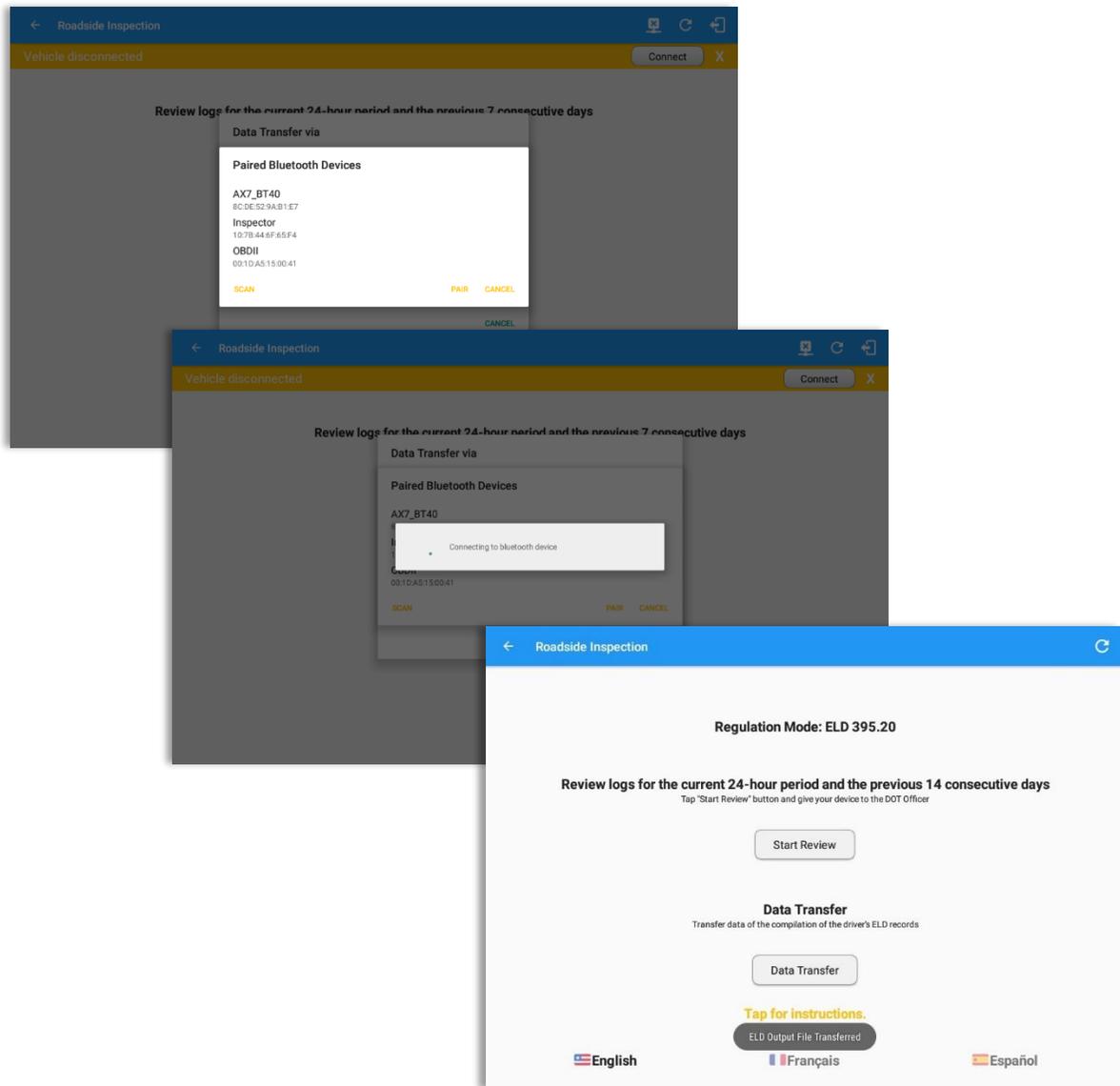


Select or deselect a vehicle by tapping the checkbox button. Tap OK button to save selection.

- **Transfer via Bluetooth Tethering** - this option enables the user to transfer files through Bluetooth tethering. The ELD prompts for an output file comment which the driver may enter (optional). After the input, if Bluetooth is not yet turned on, a prompt will appear asking you to turn it on.



You will then be asked to pick the device to which the ELD output file will be transmitted via Bluetooth tethering.

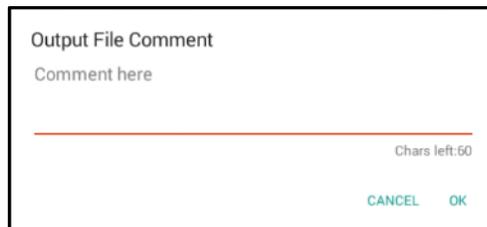


After the data transfer process is successful, a toast message will then display at the bottom stating that the 'ELD Output File Transferred'.

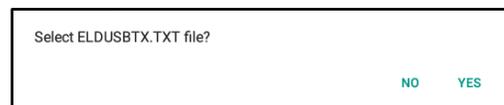
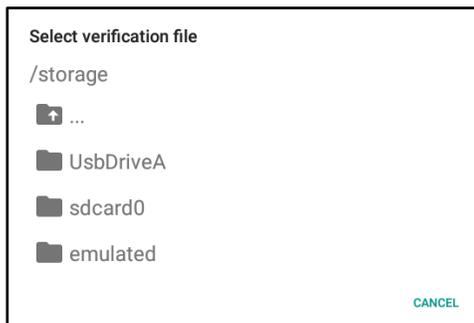


- **Transfer via USB (Android Only)** - this option enables the user to transfer files through USB (external devices).

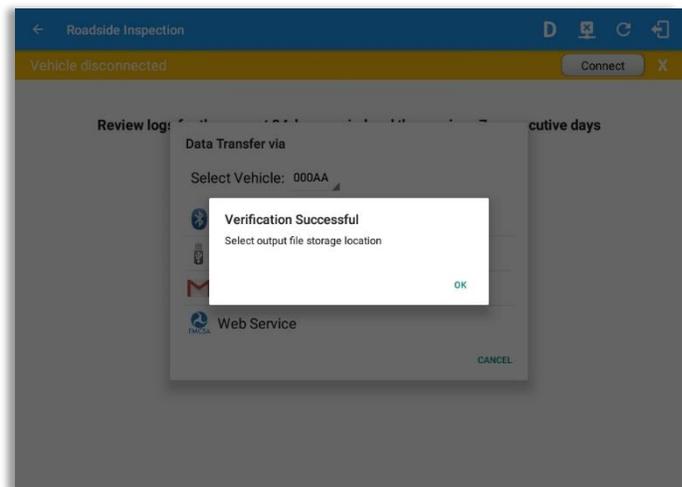
After selecting a data transfer option, the ELD prompts for an output file comment which the driver may enter (optional). The ELD accommodates the entry of an output file comment up to 60 characters long.



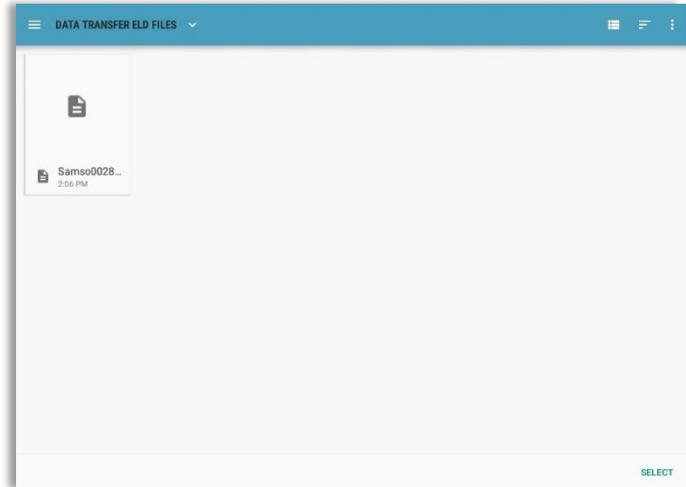
Prior to saving the driver’s ELD file to an external storage/device, the ELD must read a verification text file from the USB device provided by the Authorized Safety Officials. This can be done by selecting the path where the verification file is located on the Safety Official’s USB device.



If the verification process is successful, a ‘Verification Successful’ dialog will display.



Once 'OK' button is tapped, then the driver can now select on where to save the ELD file.



Upon confirmation, the ELD generates the compliant output file and performs the data transfer. A toast message will display at the bottom stating that the 'ELD Output File Transferred'.

Note: You cannot transfer a file via USB when the verification file on the device is not the same as the verification file on the inspector's USB drive. If this issue occurs a toast message will display stating 'Invalid verification file'.

- **Transfer via Email** - this option enables the user to transfer files through email. The ELD output file transferred is encrypted using AES-256 in FIPS Publication 197. Before sending, the ELD prompts for an output file comment which the driver may enter (optional).

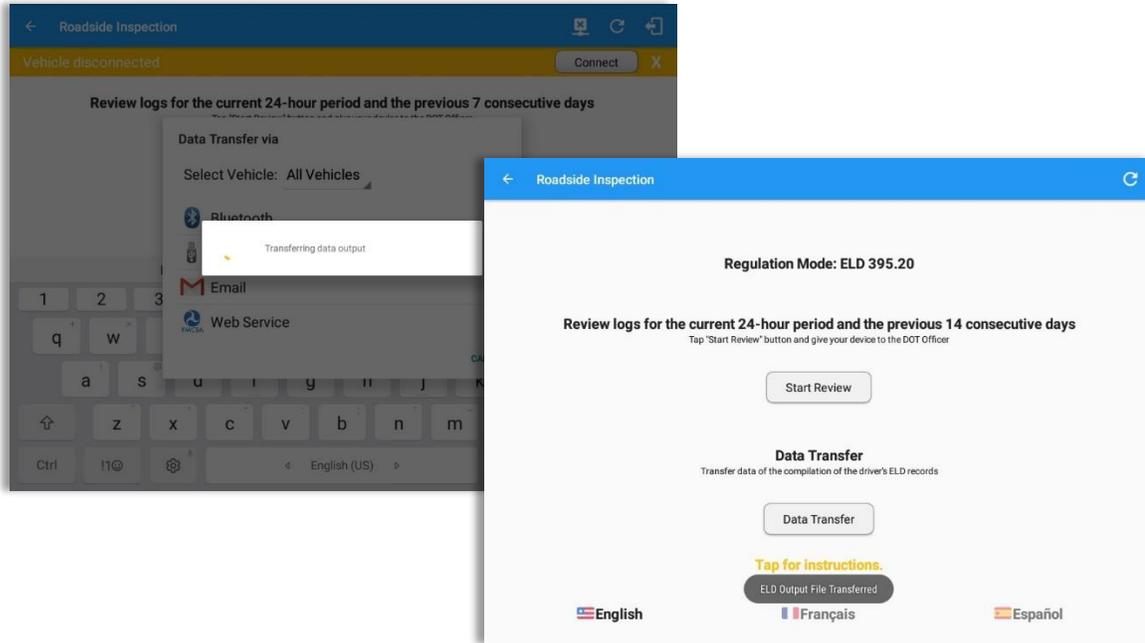
 A screenshot of a dialog box titled "Output File Comment". It contains a text input field with the placeholder text "Comment here". Below the input field, there is a red horizontal line and the text "Chars left: 60". At the bottom right, there are two buttons: "CANCEL" and "OK".

After the data transfer process is successful, a toast message will then display at the bottom stating that 'ELD Output File Transferred'.

Note: Data transfer via email is sent to fmcsaeldsub@dot.gov.

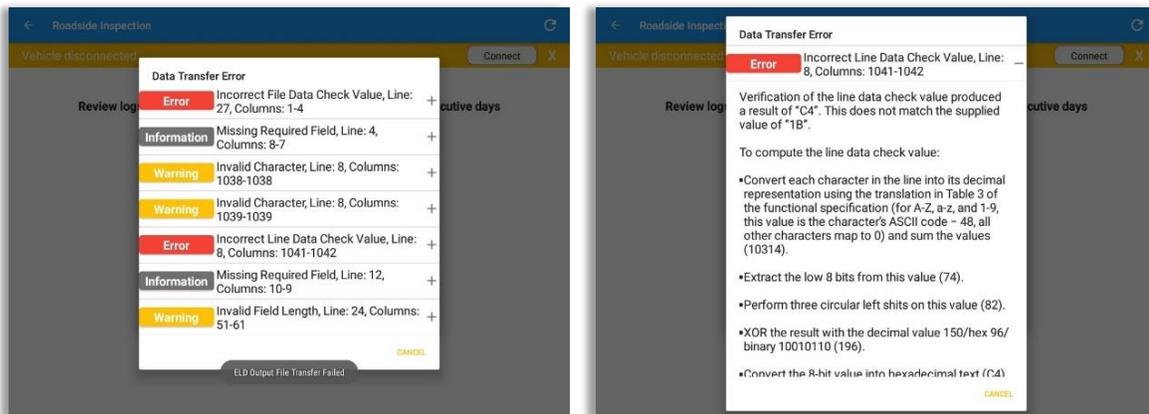


- **Transfer via Web Service** - this option enables the user to submit ELD output files, and verify that the ELD’s certificate, ELD Identifier, and Registration ID are still valid.



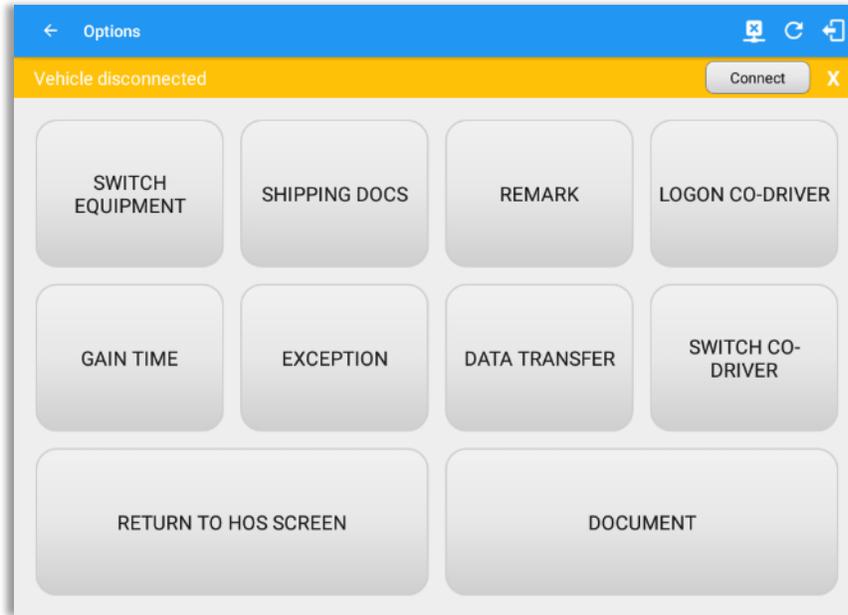
After the data transfer process is successful, a toast message will then display at the bottom stating that ‘ELD Output File Transferred’.

However, if data transfer is not successful, a toast message will then display at the bottom stating that ‘ELD Output File Transfer Failed’ with corresponding data transfer error messages.



3.7 Options

Selecting the **Options** button from the **HOS Main Screen** will display the **Options** module:



The functions within the Options module will be covered in more detail throughout this document.

3.8 Logs

Selecting the **Logs** button from the **HOS Main Screen** will display the current days log and provide the ability to navigate backwards to view the previous seven logs:

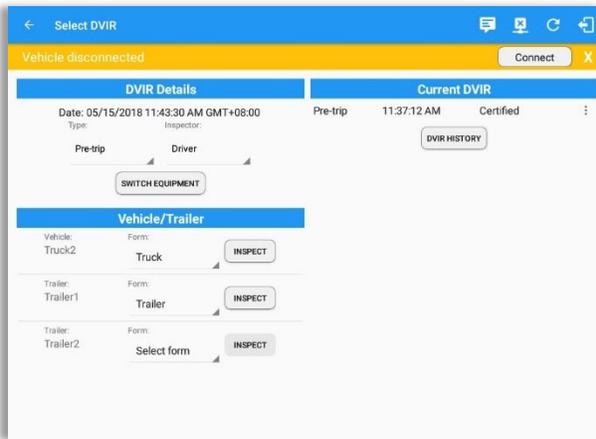


Scroll the screen to view all of the information, or, tap the log grid to view the log events.



3.9 DVIR

Selecting the **DVIR** button from the **HOS Main Screen** will display the Select DVIR screen:



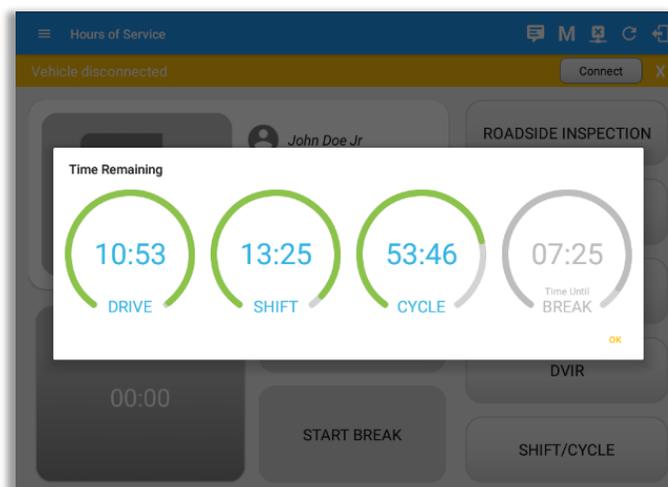
- DVIR can be created to suit the vehicle types, all DVIRs will be displayed on this screen.
- DVIR History can be viewed by tapping the DVIR History button in the DVIR screen.

Note:

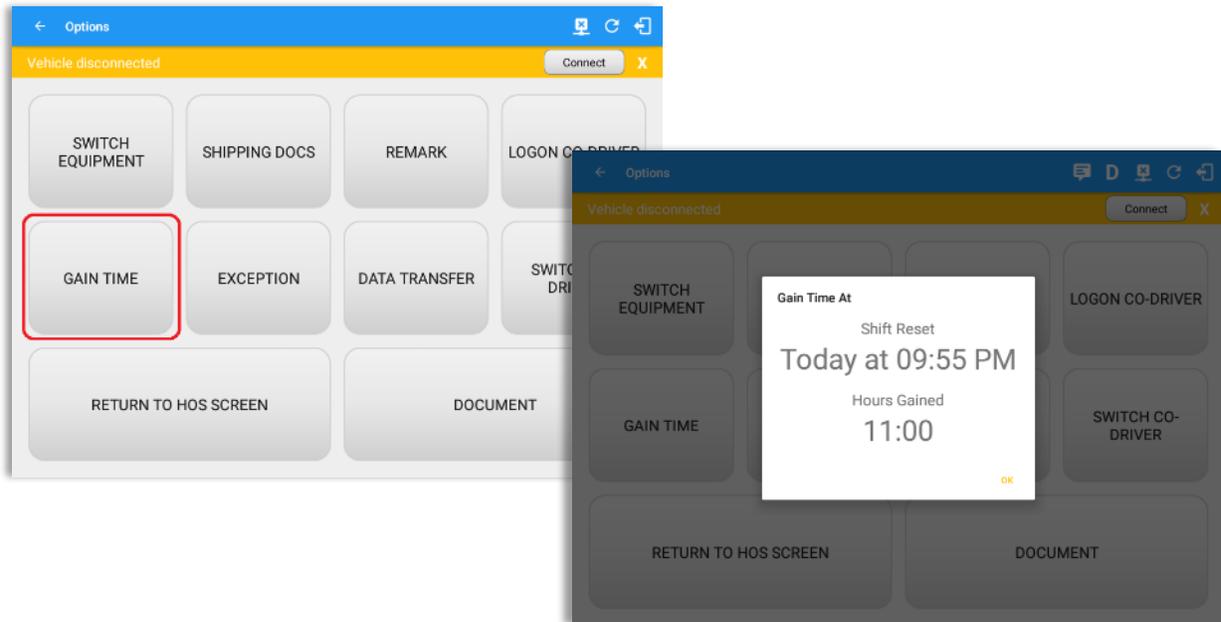
- When switching the vehicles, the equipment's will be displayed along with their associated forms. Changing the forms used will pop up a message dialog stating "Are you sure you want to use a different form?" with a 'Cancel' or 'Ok' button.
- Highlighted text only displays when conducting an inspection for the first time and that no DVIR forms are associated to the current equipment used.

3.10 Shift/Cycle

Selecting the Shift/Cycle button from the HOS Main Screen will display the total work hours of the driver's current work shift and the total working hours that the driver can legally accumulate over a certain cycle or a consecutive multi-day period:



4 Check Driver Availability

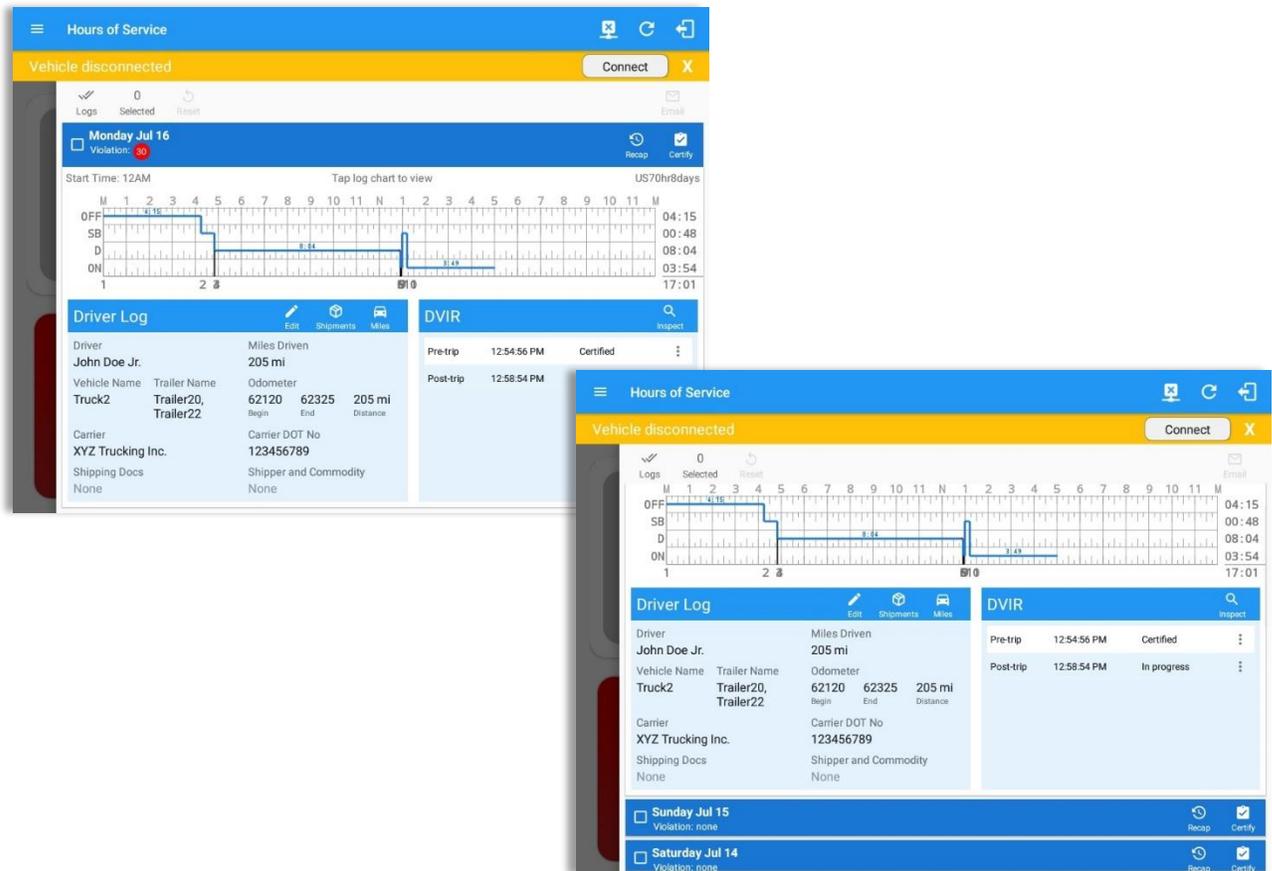


From the **Hours of Service Main Screen**, tap the **Options** button and then tap the **Gain Time** button, this will then display a date & time of when the driver will gain his/her maximum hours.



5 Driver Logs

The **Driver Logs** allows you to view and update the electronic recording of your duty status events in the Raven app's online driver logs. This is where you also store shipment data, send the certified logs to its intended recipients and manage other driving duty information.



Scroll the screen to view all of the information, or, tap the log grid to view the log events. The daily log for the current day will be in expanded view by default. The daily driver logs for the previous days will be in collapsed view.

To expand or collapse a daily log, tap the Collapsible Menu Header.

Cycles and the **Start Hour** time used are also shown in the Log, it is found on the upper right corner just above the **Grid Chart**.



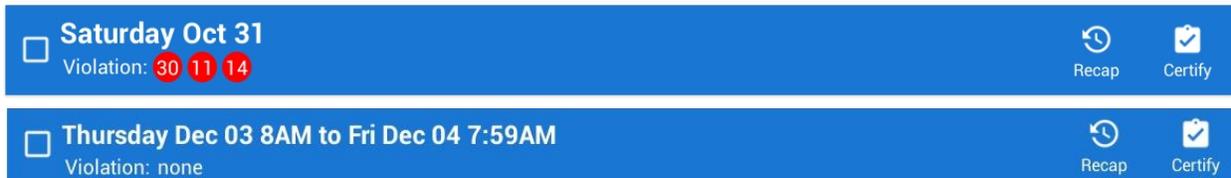
5.1 Using the Driver Logs Bulk/ Multiple Selection Functions

The first part of the Driver Logs user interface feature controls and information for the bulk/multiple selection features. These controls will allow you to perform features for multiple selected driver logs.

Function icon	Function	Description
	Selection Button	Tap the button to select all certified logs
	Selected Logs Counter	This shows the number of selected certified driver logs
	Reset Button	This clears/deselects all of the selected driver logs

5.2 The Driver Logs Accordion Header Features

To expand or collapse a daily log, tap the Driver Logs Accordion/Collapsible Menu Header:



Note: Driver Logs title shows the full-time range when the **Start Hour** time is not zero. You can change the time by going to Settings > HOS Preferences

5.2.1 Daily Driver’s Log Entry Check-box (Uncertified Log)

Tap the check-box to certify the selected daily log:



5.2.2 Daily Driver’s Log Entry Check-box (Already Certified)

Tap the check-box to uncertify the selected daily log:



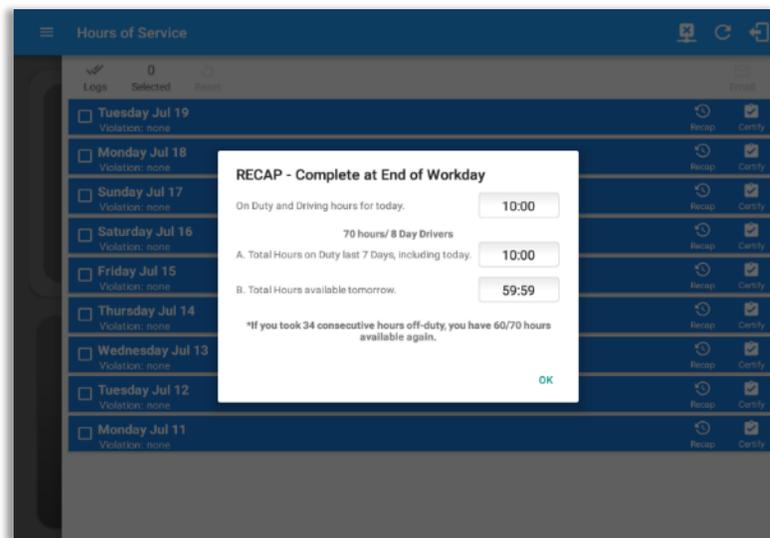
5.2.3 Daily Driver's Title Log (Recertify Log)



When a certified log has been edited in the portal, it prompts the driver to either accept or reject the proposed changes through the “Edit Suggestions” dialog. Once the driver accepts an edit request, it will display a note on the daily driver’s title log stating “**Recertify**”, which indicates the log needs to be certified again in order to include the records changes.

5.2.4 Recap

Tap the Recap button to bring up the recap information and corresponding cycle data for the specified duty day



Tapping the **Recap** button will display a complete recap for the end of the workday including:

- On Duty & Driving Hours, - Total hours on duty last 7 days (including current day), - Total hours available tomorrow, - Total hours On Duty last 8 days (including current day)



5.2.5 Daily Drivers Log Grid

Driver Log

Driver: John Doe Jr. Miles Driven: 15 mi

Vehicle Name: Truck2 Trailer Name: Trailer20, Trailer22 Odometer: 62120 62135 15 mi

Carrier: XYZ Trucking Inc. Carrier DOT No: 123456789

Shipping Docs: None Shipper and Commodity: None

View Log

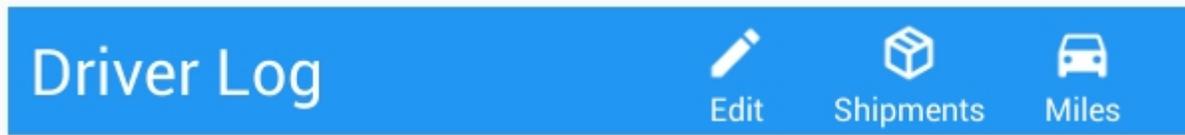
Start Time: 12AM Fri May 11, 2018

Violation: none
Co-Drivers: John Doe Jr.

Status	Start	Duration	Location	Note	+	+
					EXCEPT	ADD
1 OffDuty	12:00 AM	10h 44m				
2 Remark	07:58 AM			Authenticate		EDIT
3 OnDuty ND	10:44 AM	00m	4mi NNW Red Oak, IA			EDIT
4 ELD Login	10:45 AM		4mi NNW Red Oak, IA	ELD Connection		NOTE
5 Power On	10:45 AM		4mi NNW Red Oak, IA	Automatic Transition		NOTE
6 Driving	10:45 AM	1h 34m	4mi NNW Red Oak, IA	Automatic Transition		EDIT
9 Personal Use	12:26 PM		6mi NNE I, Knobs, NE			EDIT

Tap the driver's log grid to view the log events and edit the log. Scroll up/down the screen to view the Daily Driver's Form; this is where you can view the other required information that must appear in the driver's daily log. In addition, not all of the events statuses are displayed on the grid chart. Personal Use and Yard Moves are also displayed on the grid chart as an Amber color line to be visually different with the other event statuses, a **dashed line** represents the Personal Use event and a **dotted line** represents the Yard Moves event. The legends for Personal Use and Yard Moves event will only display when the said events occurred.





5.2.6 Edit Daily Drivers Log Form

 A screenshot of a mobile application interface. A "Driver Log Form" is overlaid on a "Hours of Service" grid. The form has three sections:

- DRIVER INFORMATION:** Driver Name: John Doe Jr.
- VEHICLE INFORMATION:** Vehicle Name: Truck2, Trailer Name: None, a "SWITCH EQUIPMENT" button, Carrier: XYZ Trucking Company, Carrier DOT No: 123456789.
- SHIPPING DOCS INFORMATION:** B/L or Manifest No. (empty), Shipper & Commodity (empty).

 At the bottom of the form are "CANCEL" and "SAVE" buttons. The background grid shows a driver's log for Wednesday May 15, with a start time of 12AM and various status indicators.

Tap the **Edit** button to open the **Driver Log Form**, from here; you can update the other required information that must appear in the driver's daily log (as listed below).

The following information can be viewed / amended within the **Daily Drivers Log Grid**:

Driver Information

- a) **Driver Name** – displays the name of the driver.
- b) **Vehicle Information**
 - Vehicle Name – displays the name of the current Vehicle of the driver.
 - Trailer Name – displays the name of the current Trailer of the driver.
 - Switch Equipment – tap this button to launch the Switch Equipment dialog to select another Vehicle or Trailer names.
 - Carrier – a non-editable field which displays the Name of the Carrier.
 - Carrier DOT Number – a non-editable field which displays the Carrier DOT Number.



c) **Shipping Information**

- Shipping docs – displays the bill of lading or manifest number entered by the driver.
- Shipper & Commodity – displays the shipper name and the type of commodity which the shipment contains.

5.2.7 Shipment Details

Tap the **Shipments** button to open the **Shipment Details Form**; you can fill in the shipment data that is to be included in the driver's daily log.

Note: The data that can be included in this form is listed on the next page

Data that can be included within the **Shipment Details Form** includes:

Shipments on Truck

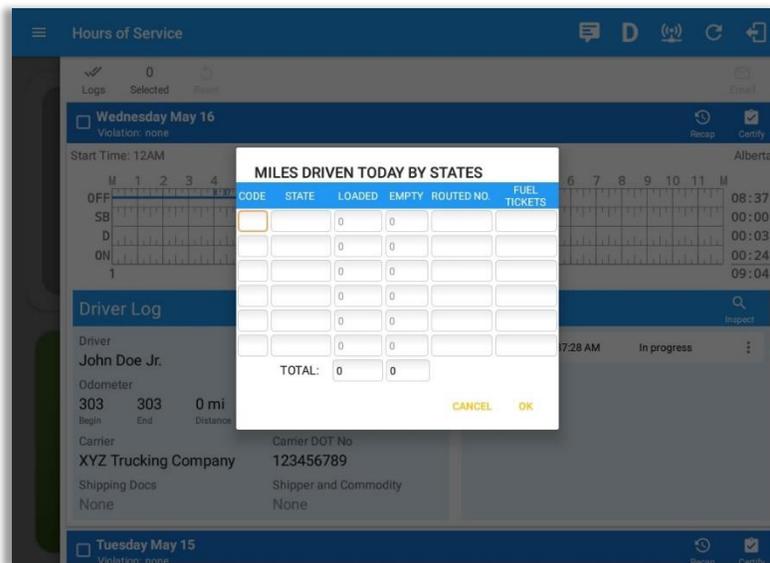
- Order Number – the order number of the specific shipment item.
- Weight – the weight of the shipments.
- From – the point of origin of the commercial motor vehicle.
- To – the destination of the commercial motor vehicle.

Shipments Unloaded Today

- Order Number – the order number of the specific shipment item.
- Collected or Billed – the preferred payment method.
- Amount Collected – the amount collected for the shipment.
- Mailed Papers From – the name of the shipment company where the shipping related documents are from.



5.2.8 Miles Driven by State

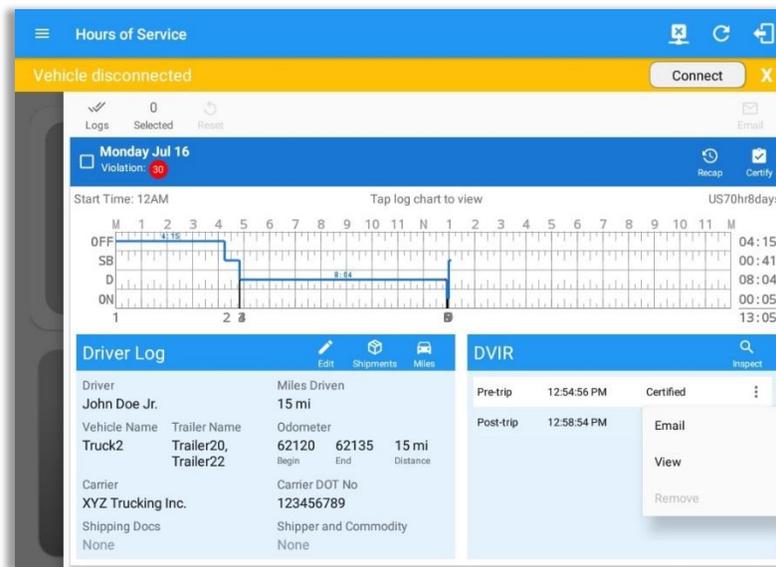


Tap the **Miles** button to open the **Miles Driven Today by States** dialog. This is where you can fill in the shipment data that is required to be included in the driver's daily log. Required data includes:

- Code
- State
- Loaded
- Empty
- Routed Number
- Fuel Purchased Tickets Attached



5.2.9 DVIR



This is where you can view a list of the DVIRs conducted during the selected working day.

Tap the  icon to open the pane for the email and view options.

Tap the **Email** button to send the completed DVIR.

Tap the **View** button to view the DVIR.

Tap the **Remove** button to remove the DVIR.

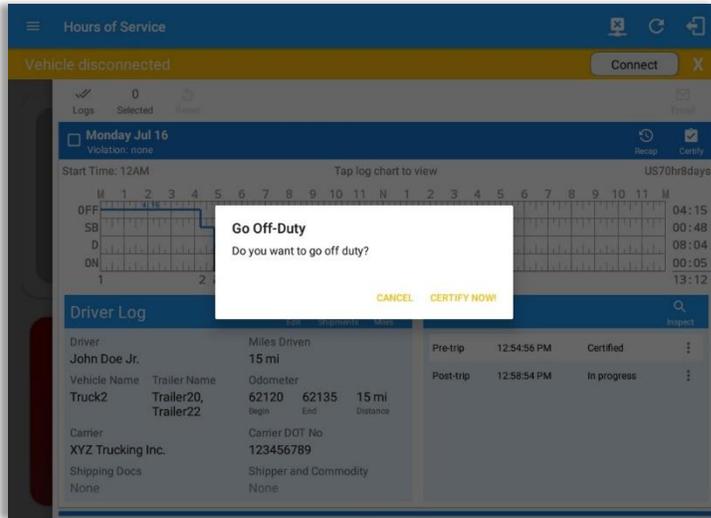
Note:

- *Email button will only be enabled if the DVIR Log is already certified.*
- *Certified logs cannot be removed (unless uncertified).*

5.2.10 Certify a Log

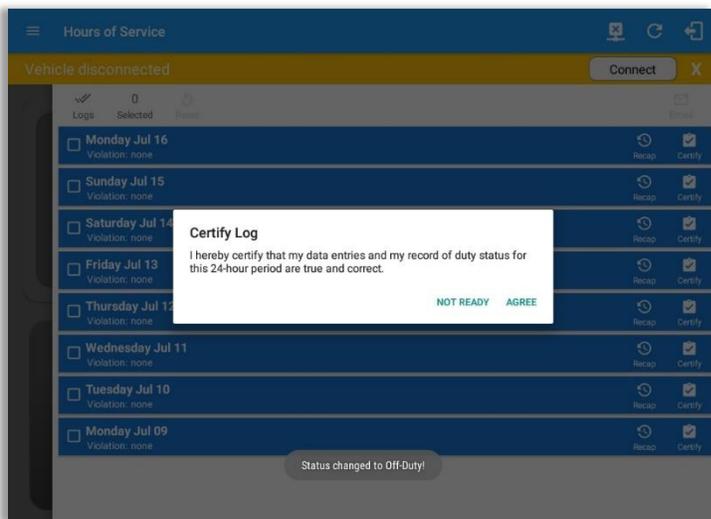
Tap the **Certify** button to certify the selected daily log. If the current status is **Driving**, a pop-up dialog will open and you will be asked to confirm changing the status to Off Duty:





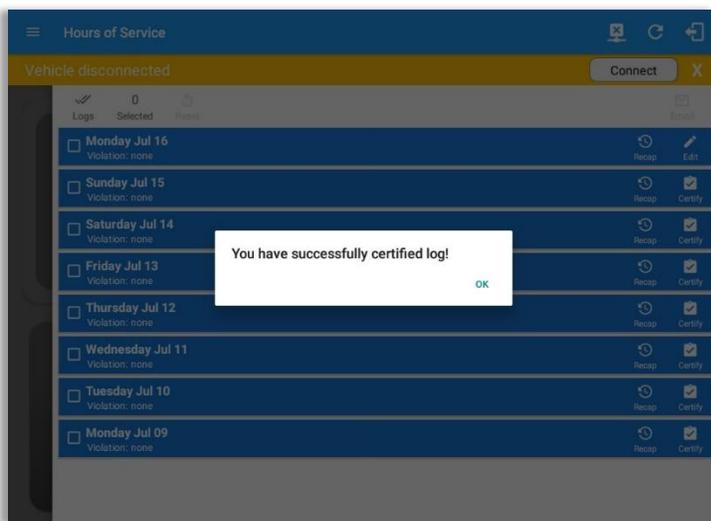
Tap the **Certify Now** button to confirm you wish to go **Off Duty**.

Tap the **Cancel** button to cancel changing the status.



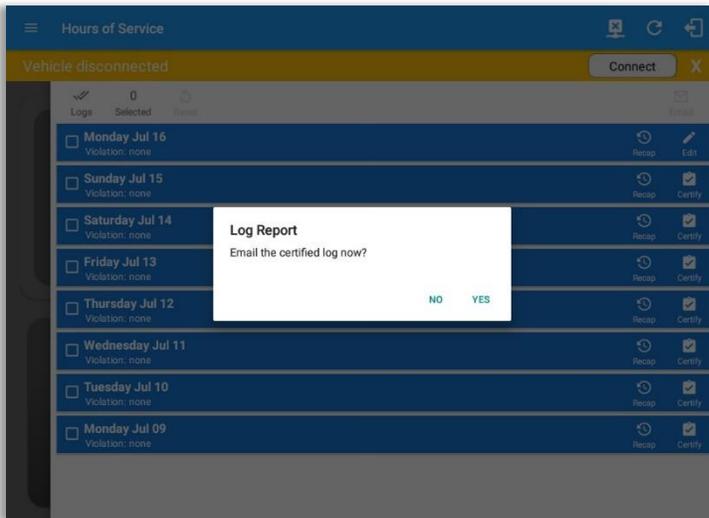
Tap the **Agree** button to confirm certifying a daily log.

Tap the **Not Ready** button to cancel certifying a log.



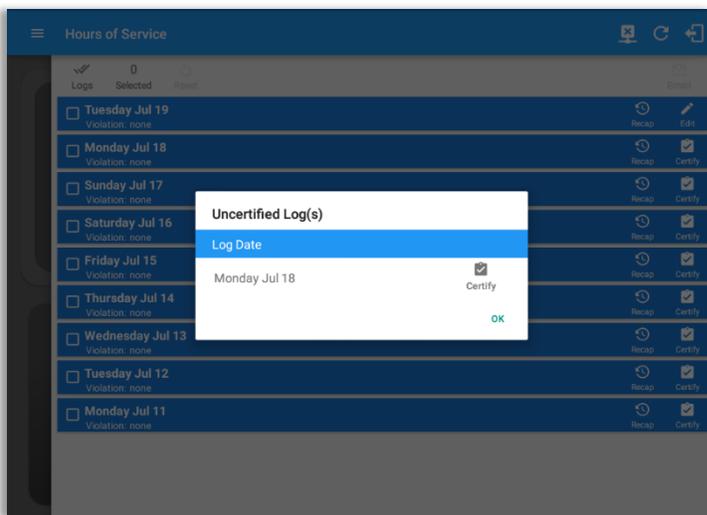
Tap the **OK** button to close the confirmation pop up dialog.





Tap the **OK** button if you wish to email the certified log to a selected recipient.

Select the **Cancel** button to close the pop-up dialog without emailing the certified log.



If the driver did not certify all the daily logs, the ELD will prompt the driver regarding uncertified logs upon logging in and logging out to the app along with the option to certify the relevant days.

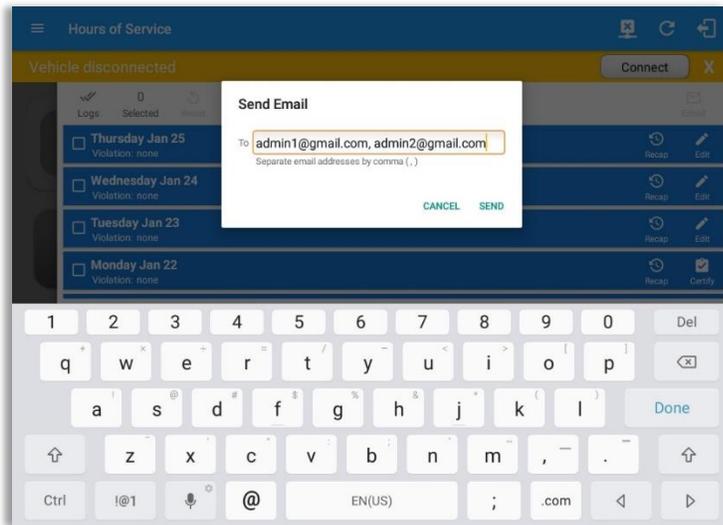
Note: During log certification, if the PDF upload fails, a copy of PDF file is saved into the PDF Archived folder under the App directory: Internal storage/ [App Name Folder]/PDF Archived/Certified Logs. This can be obtained manually if user reaches to more than two retries of failed upload.

5.2.11 Email a Log

When driver need to email a certified logs PDF to the back office, the driver can send directly from the **Mobile App** used (e.g Gmail app for Android) or have the HOS **Server** send the email instead of sending it directly from the mobile device.



Email Log via Server

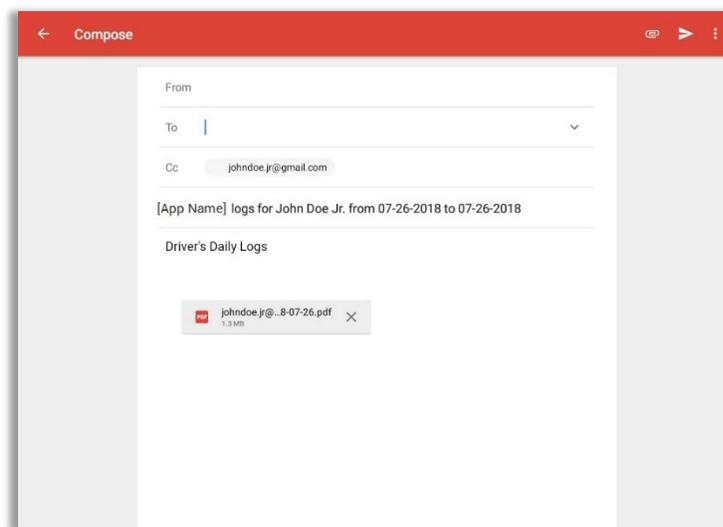


A Send Email dialog will display when the driver taps 'Yes' on the prompt to send certified log.

Enter the email address for the recipient. If the recipient is more than one, separate email addresses by comma. Tap **Send** button to send the certified log PDF.

Note: To send certified log PDF via HOS Sever, set the Email sender option to Server in the portal->account settings under App Controls -> Email Sender.

Email Log via Mobile App



A mobile app will open (e.g. Gmail app will open for Android device) with a new message that has a PDF file attached when the driver taps 'Yes' on the prompt to send certified log.

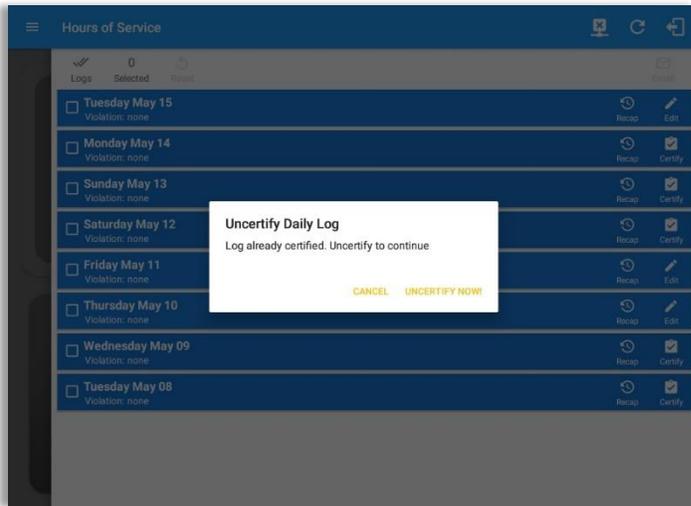
If driver has recipient email populated in the **portal>settings>drivers' management page>PDF Report** or in the **app>settings>PDF Report Email**, then recipient email is also pre-populated in the email draft.

Note: To send certified log PDF via Mobile App, set the Email sender option to Mobile App in the portal->account settings under App Controls -> Email Sender.



5.2.12 Edit a Log

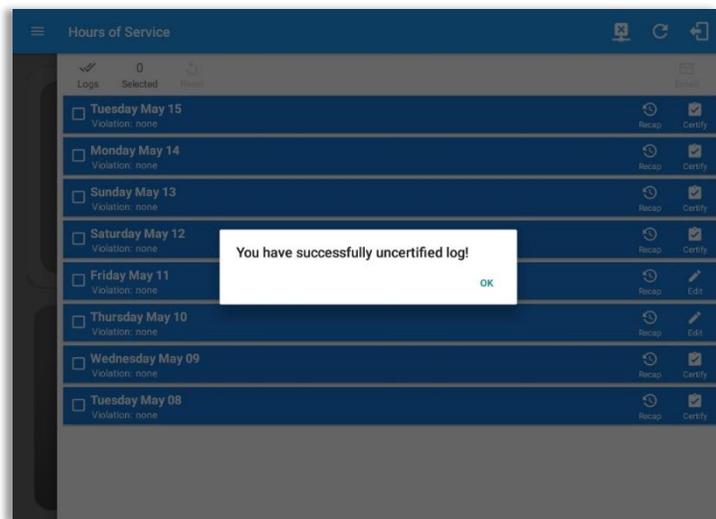
Only driver logs that have not yet been certified can be edited, you will have to uncertify a driver log in order to update its contents, to do this, tap the Edit button to uncertify the selected log and reopen it for editing:



Tap the **Uncertify Now** button to confirm uncertifying the selected log.

Tap the **Cancel** button to cancel uncertifying the selected log.

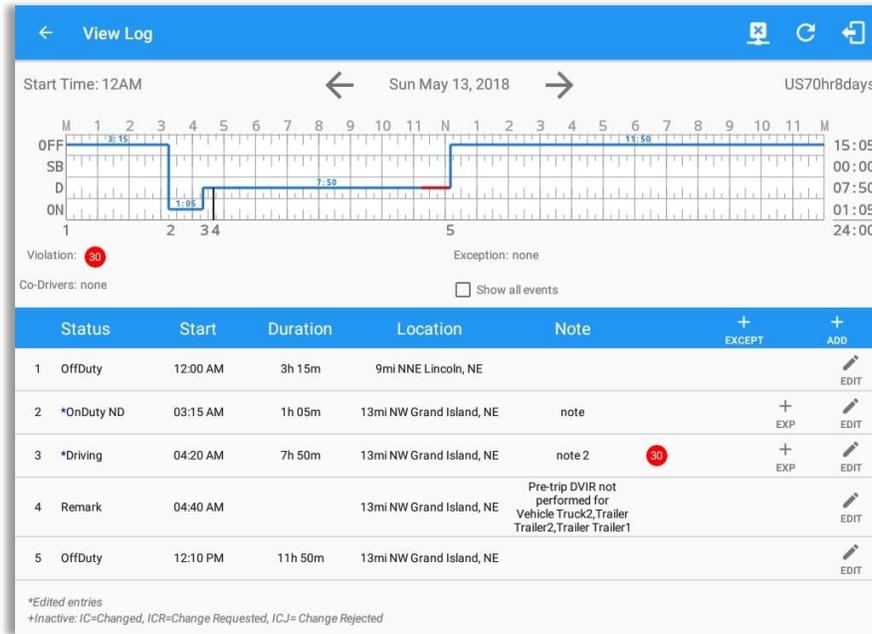
Tap the **OK** button to close the pop-up dialog.



The **Edit Log** screen can update/correct the driver's or driving duty data entries logged through the app. It can also view the history of an edited log.



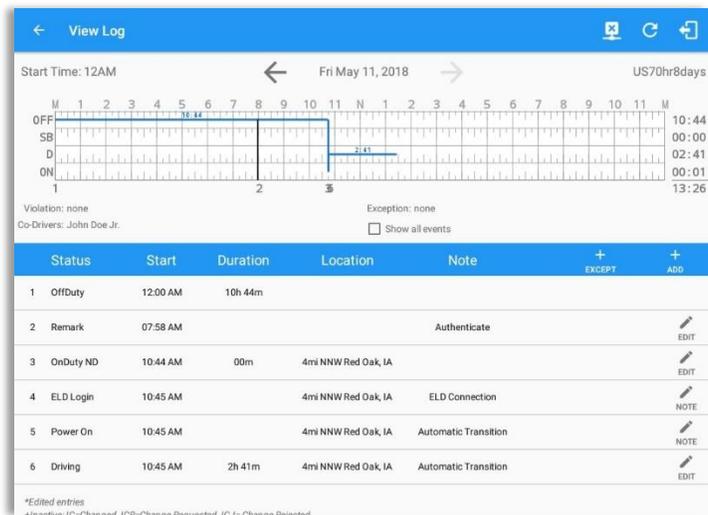
Tap the driver's log grid to start editing it:



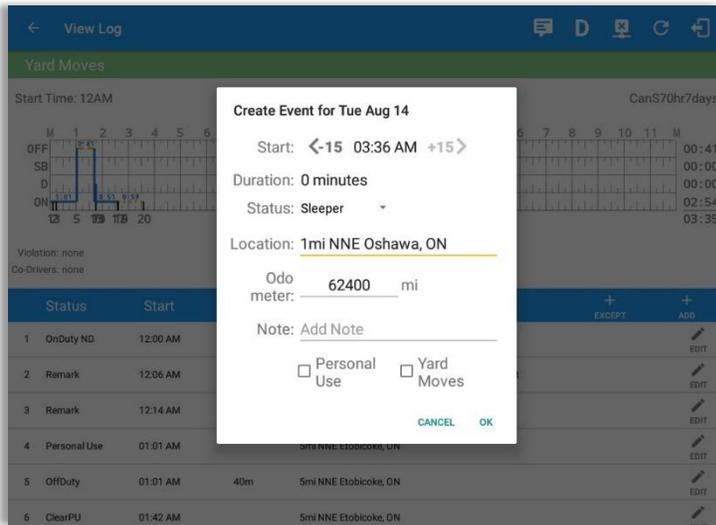
You can navigate through the daily driver logs by selecting either back or forward arrows located above the grid  

Driver will be able to add a note to the following events:

- Intermediate log
- Login/logout
- CMV Engine power up/shut down
- Malfunctions and diagnostic events

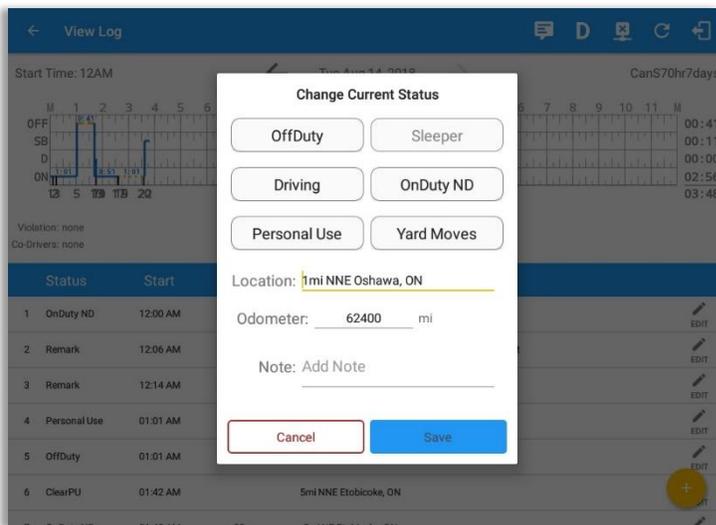


Create Log Event via Legacy Mode



To add a new event to the selected log, tap the **+** **Add** button and input the relevant details to create the event. Once complete, tap the **OK** button to save the event.

Change Current Status via Grid View Mode



To add a new event to the selected log, tap the **+** **Add** -> **Change Current Status** button and input the relevant details to create the event. Once complete, tap the **Save** button to save the event.

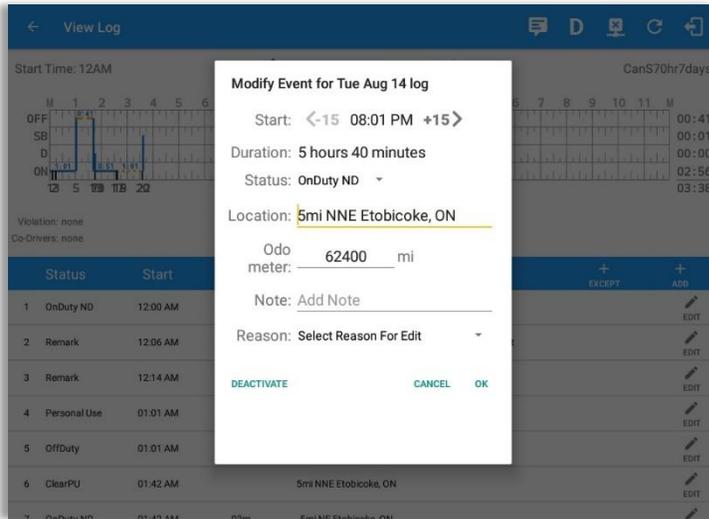
*Note: Use **GridView Editing** can be enabled in Settings->HOS Preferences.*

Notes:

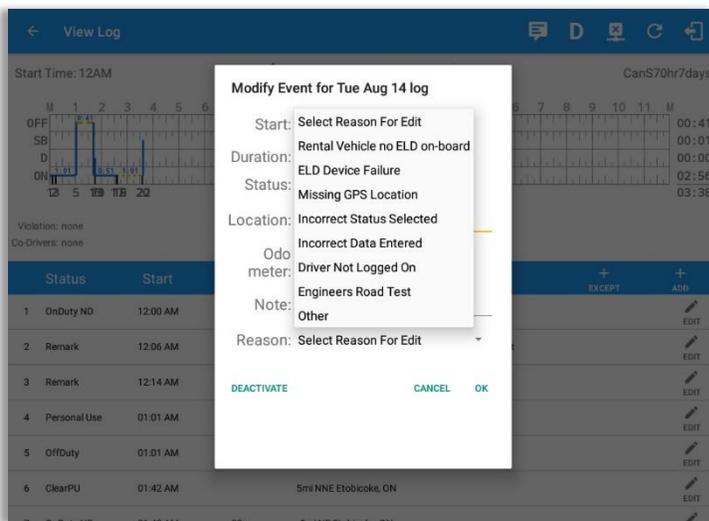
- The current status of the app is disabled to prevent adding the status consecutively.
- Refer to 3.2 Changing the Driver's Status for 'Personal Use' or 'Yard Moves'.



Modify Log Event via Legacy Mode

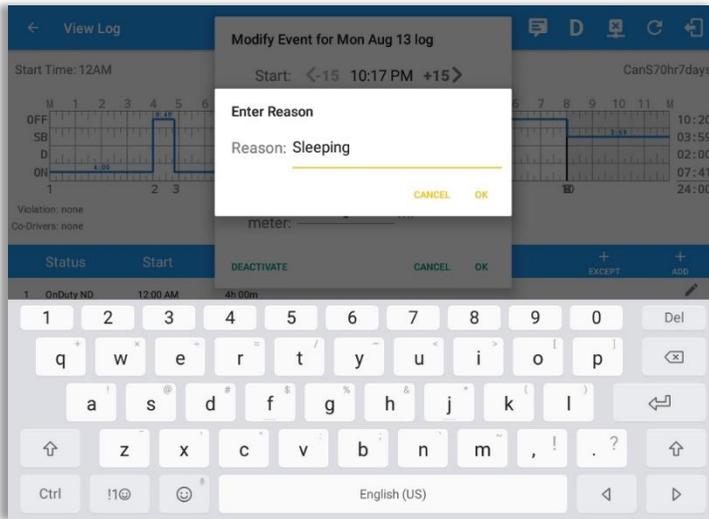


Tap the **Edit** button adjacent to any of the existing log events and make any required changes.



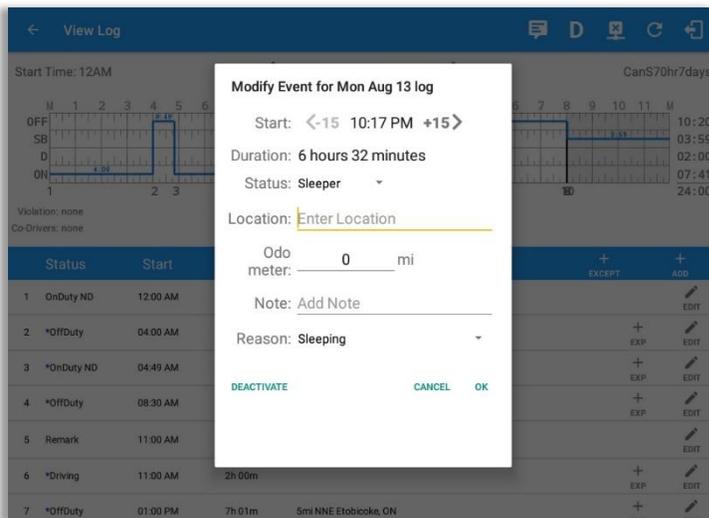
Select a reason from the **Reason** drop-down list.





Selecting **Other** option from the Reason dropdown list will prompt the Enter Reason field.

Enter a **Reason**.

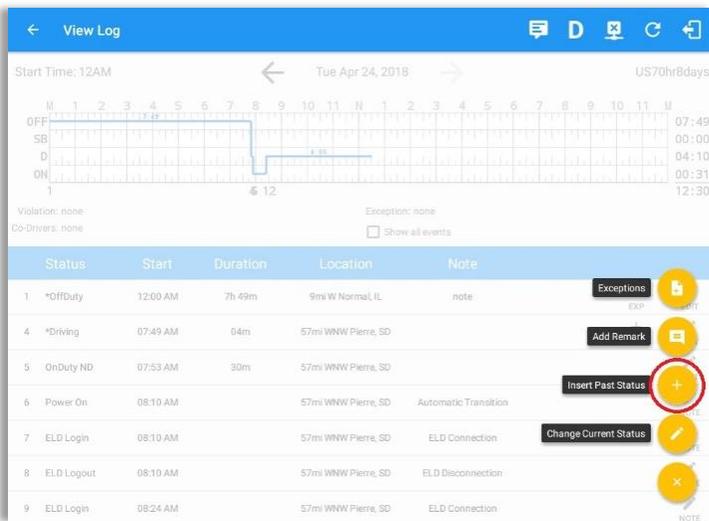
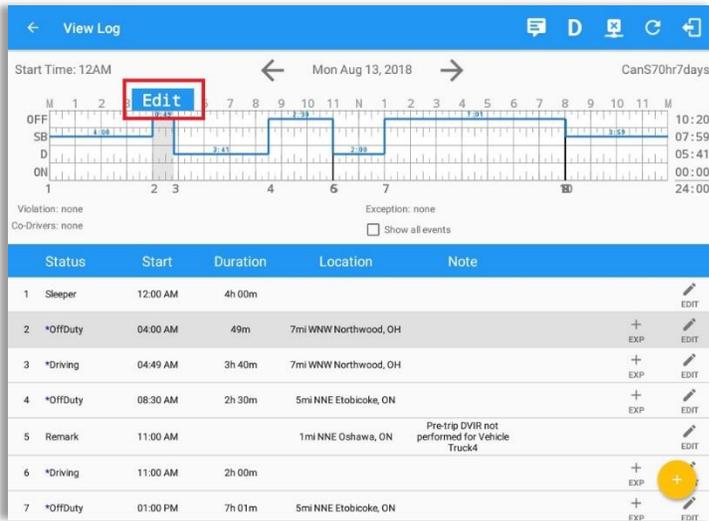


Entered reason will be populated in the Reason field.

Tap **OK** button to save changes.



Modify Log Event via Grid View Mode

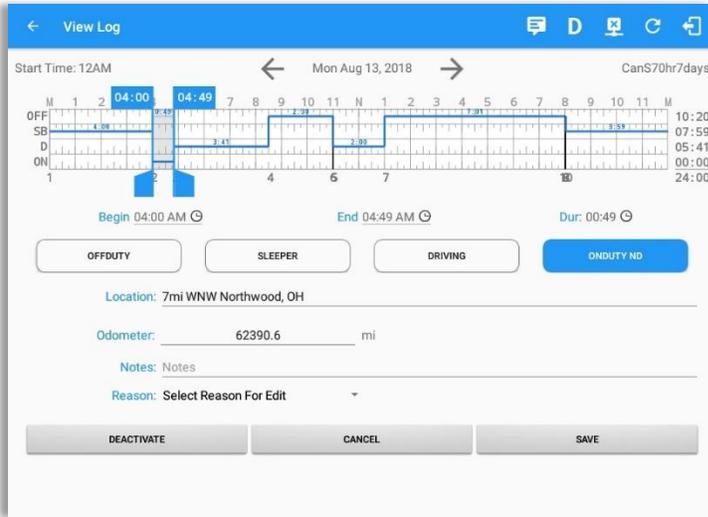


To modify log event via Grid View Editing mode:

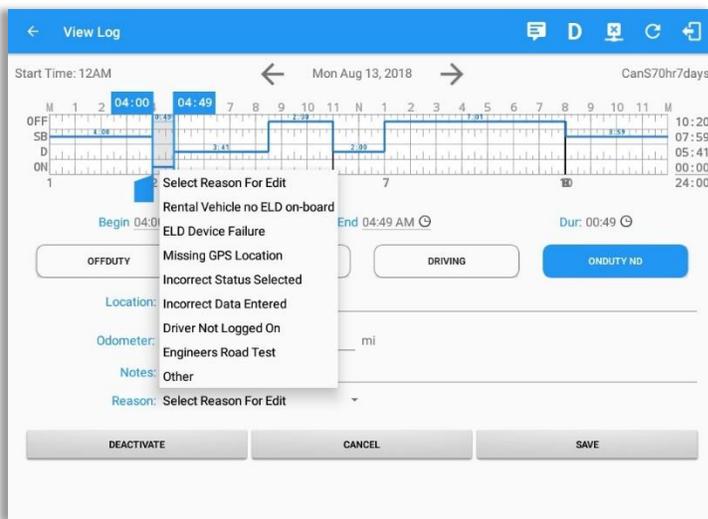
- Tap **Edit** button on any existing log events;
- Tap **Edit** button shown on the grid chart;
- Tap **Insert Past Status** button to insert a past status event.

*Note: Use **GridView Editing** can be enabled in Settings->HOS Preferences.*



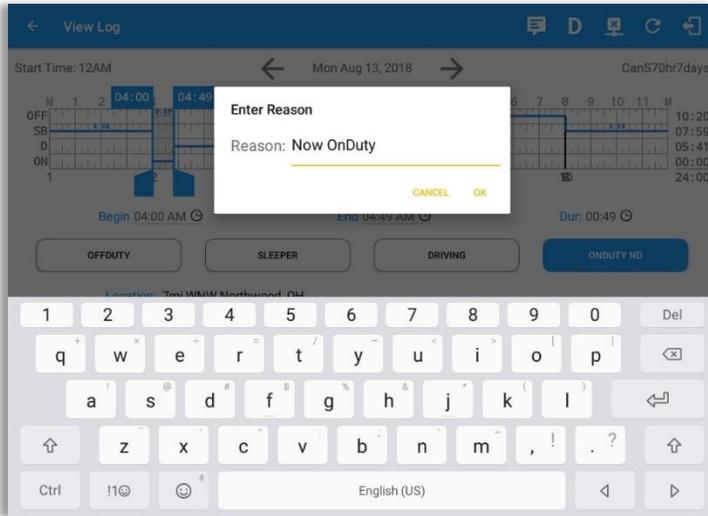


A grid view editing form will be displayed.



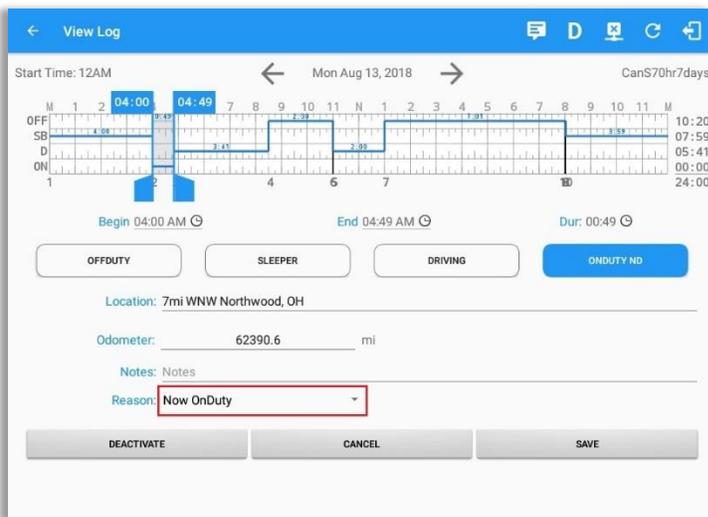
- Make any required changes using the grid view editing form:
- Drag the sliders on the grid to set the **Begin Time** and **End Time** or;
 - Tap on the time picker field and manually set time.
 - Select duty status.
 - Select a reason for the edit from the drop-down list.
 - Fill other required fields.
 - Then tap the **Save** button to save the changes.





Selecting **Other** from Reason dropdown list will prompt the Enter Reason field.

Enter **Reason**.



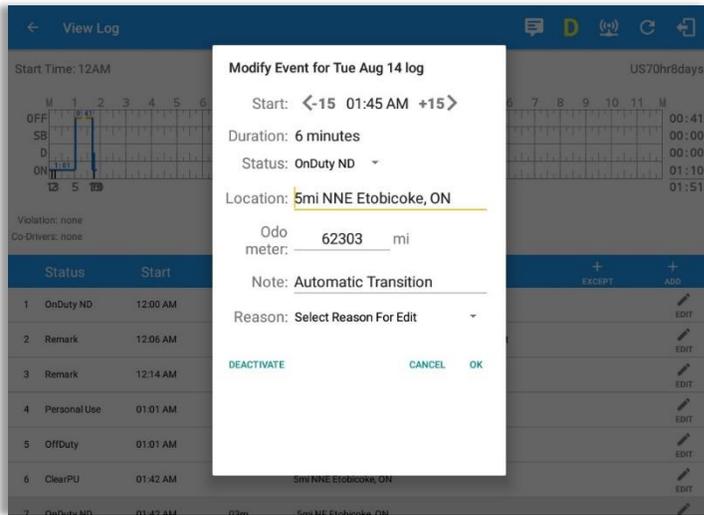
Entered reason will be populated in the Reason field.

Tap **Save** button to save changes.

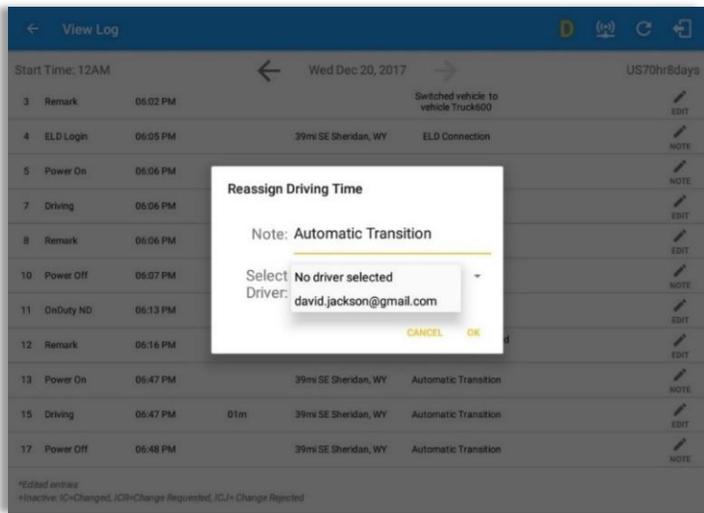
Notes:

- Upon editing a past event, the **Reason** field is a required field and must contain at least 4 characters when filled out.
- Also, Odometer is a required field when editing a past Driving event.
- Personal Use and Yard Moves options are not displayed when editing an event (both via Legacy Editing and Grid View Editing mode).
- The driver is allowed edit an event in the app if 'Allow ability to edit logs' option in Drivers Management page is enabled. If disabled, driver is prohibited to edit event in the app except for changing the notes and adding remarks.
- All log events that have been manually created or amended, will be displayed with an asterisk against it in the log events list depicting that it has been edited. Also scroll down to see check boxes for Personal Use, Yard Moves and Off Road.





Regardless if the vehicle currently used is in AOB RD or ELD mode, driver can be able to edit the **Auto OnDuty ND event** the same with editing a manually created events.

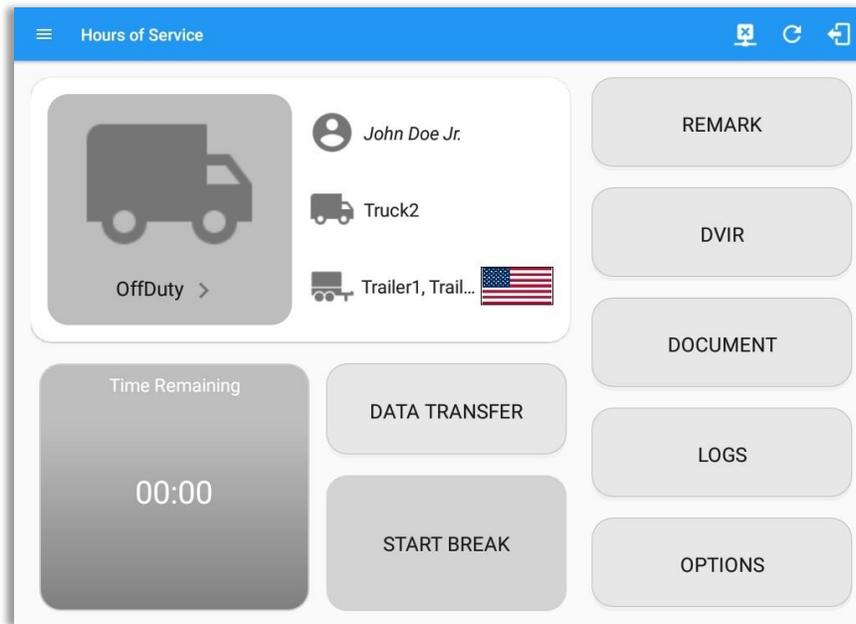


For **Auto Driving event**, driver can be able to edit a note or reassign the event to a co-driver. (See *Section 10.1 Logon Co-Driver-> Reassign Driving Time*)

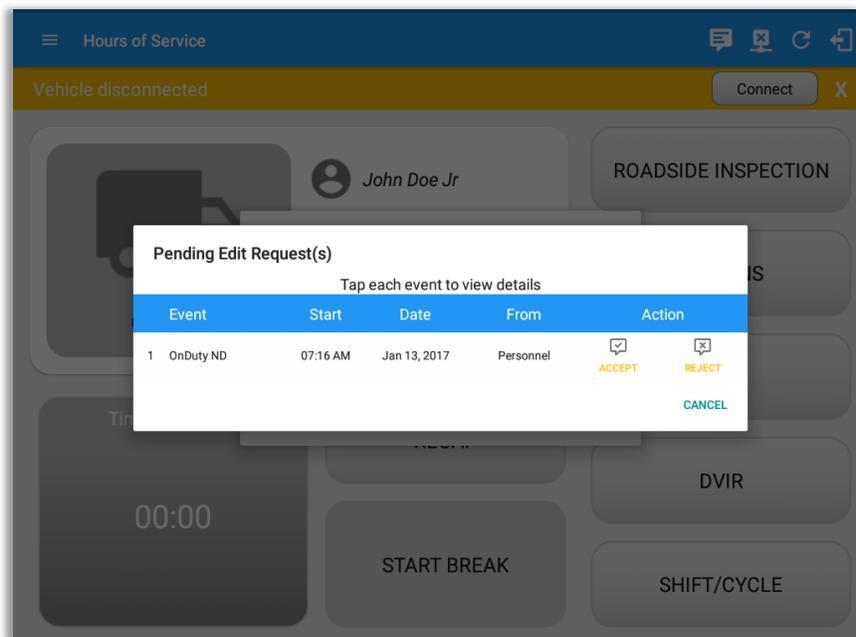


Pending Edit Requests

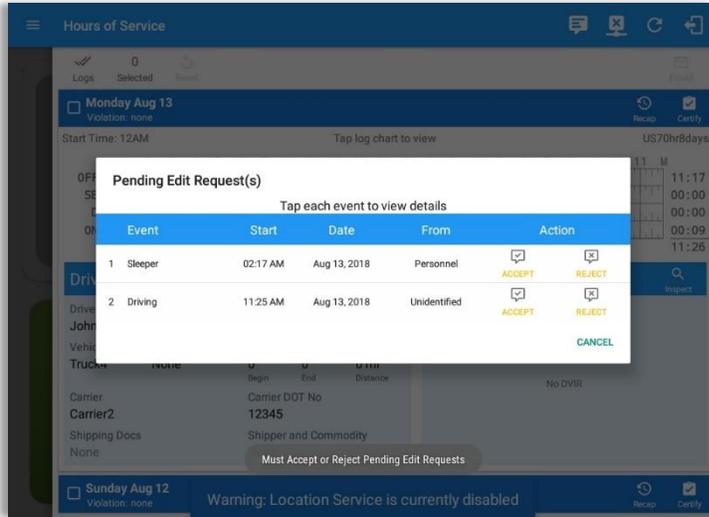
The Motor Carrier can request edits to the driver’s logs. In the application allows the driver to review the requested edits which requires the driver to take necessary action whether the driver wants to “**accept**” or “**reject**” the requested edits.



Tap the icon beside the refresh button to display the pending edit request dialog.



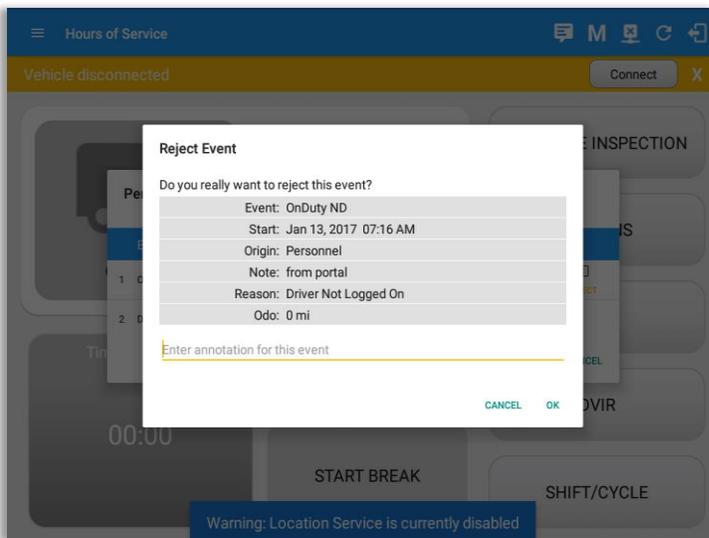
The Pending Request dialog also appears upon certifying a log only if a driver has pending requests. Driver must accept or reject the pending request(s) first before certifying the days' log.



A toast message will be displayed at the bottom of app stating, "Must Accept or Reject Pending Requests".

Note: The events from the 'Unidentified' driver does not require acceptance.

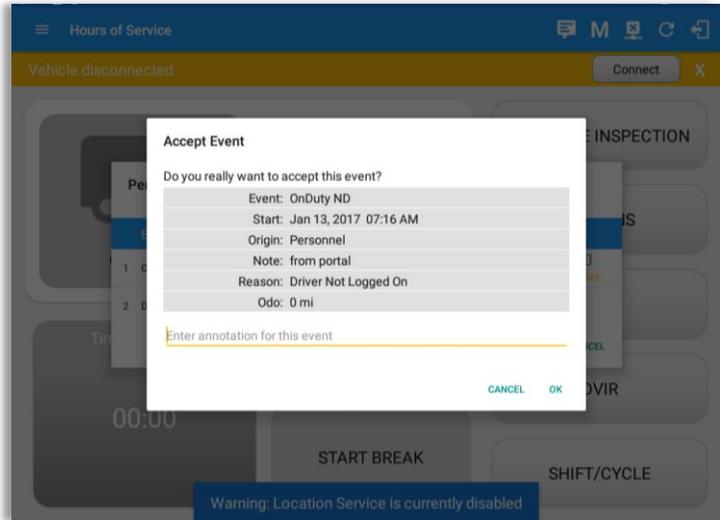
The Reject and Accept Event dialog shows the comparison of the Original status vs the changes (requested edits). Also, accepting the edits requested requires the driver to fill in the annotation field (**Required**) to successfully save the changes.



If the driver rejects the edit suggestions then the original record remains.



If the driver approves the edit suggestions, the new status will replace the old status and the changes will be reflected in the events history list.



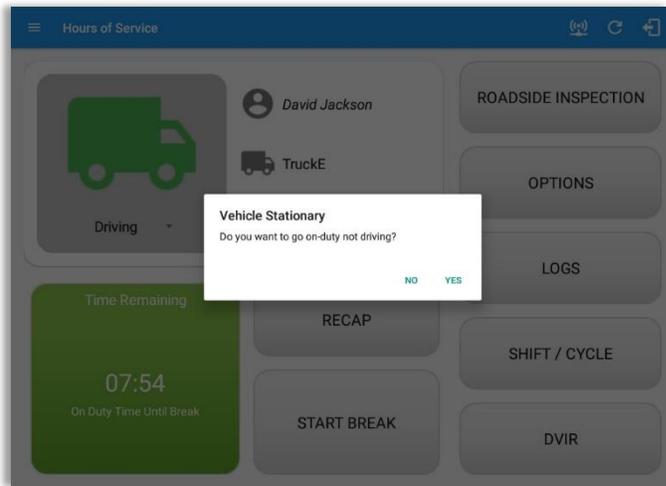
Auto Events

The ELD automatically records the driving time when the vehicle is in motion by setting duty status to driving for the driver unless, before the vehicle is in motion, the driver has sets the duty status to off-duty and indicates personal use of CMV, in which case duty status must remain off-duty until driver’s indication of the driving condition ends.



Events such as Power On, Power Off, Driving and OnDuty are automatically created when connecting to a device. Auto events created were recorded and displayed on the Events history list indicated with a note **“Automatic Transition”**.
(These events are also displayed in the Portal)





Not responding to the ELD prompt "Vehicle Stationary: Do you want to go on-duty not driving?" will automatically change duty status to On Duty ND after one (1) minute.

Status	Start	Duration	Location	Note	+ EXCEPT	+ ADD
1 OffDuty	12:00 AM	10h 58m				
2 Remark	08:44 AM			Authenticate		EDIT
3 Remark	08:45 AM		16mi S Chittenango, NY	Switched vehicle to vehicle TruckE, trailer to trailer Trailer600, Trailer700		EDIT
4 ELD Login	10:55 AM		16mi S Chittenango, NY	ELD Connection		NOTE
5 Power On	10:58 AM		16mi S Chittenango, NY	Automatic Transition		NOTE
6 Driving	10:58 AM	00m	16mi S Chittenango, NY	Automatic Transition		EDIT
7 Remark	10:58 AM		16mi S Chittenango, NY	Pre-trip DVIR not performed		EDIT
8 Power Off	10:59 AM		16mi S Chittenango, NY	Automatic Transition		NOTE
9 OnDuty ND	10:59 AM	28m	16mi S Chittenango, NY	Automatic Transition		EDIT
10 ELD Logout	11:05 AM		16mi S Chittenango, NY	ELD Disconnection		NOTE

Auto OnDuty ND event created is recorded and displayed on the Events history list indicated with a note "Automatic Transition".



Status	Start	Duration	Location	Note	+	+
					EXCEPT	ADD
1 OffDuty	12:00 AM	10h 44m				
2 Remark	07:58 AM			Authenticate	EDIT	
3 OnDuty ND	10:44 AM	00m	4mi NNW Red Oak, IA		EDIT	
4 ELD Login	10:45 AM		4mi NNW Red Oak, IA	ELD Connection	NOTE	
5 Power On	10:45 AM		4mi NNW Red Oak, IA	Automatic Transition	NOTE	
6 Driving	10:45 AM	05m	4mi NNW Red Oak, IA	Automatic Transition	EDIT	
7 Pow Diag	10:45 AM		4mi NNW Red Oak, IA		NOTE	
8 Remark	10:45 AM		9mi NNE Lincoln, NE	Crossed into Nebraska, USA from Iowa, USA	EDIT	
9 ELD Logout	10:45 AM		9mi NNE Lincoln, NE	ELD Disconnection	NOTE	

To view all the auto created events (primary or secondary events) when connecting to a device, tap on the ‘**Show all events**’ checkbox to enable.

To hide all the secondary events, tap back on the checkbox to disable.

Note: The graph-grid overlay periods of driver’s indications of authorized personal use of CMV and yard moves using a different style line (such as the dashed or dotted line in amber color).



- A Remark will be recorded with a note “Authenticate” to the events history list if Driver will login to app.
- A Remark will be recorded with a note “Unauthenticate” if driver will logout from app.
- ELD Login will be recorded with a note “ELD Connection” to events’ history list when app successfully connected to VBUS Device.
- ELD Logout will be recorded with a note “ELD Disconnection” to events’ history list when driver manually disconnect to VBUS Device by tapping the connect/disconnect icon located at the App header.



Crossing Boundaries

The border crossing calculation uses the VBUS GPS coordinates if they are available, and the android coordinates if they are not. The following instances happens when the driver crossed boundaries between Canada and US (vice versa):

- a. If the GPS coordinates are changed to a different state or province, a remark event will be recorded in the driver log.

Status	Start	Duration	Location	Note	+ EXCEPT	+ ADD
1 OffDuty	12:00 AM	10h 44m				
2 Remark	07:58 AM			Authenticate		EDIT
3 OnDuty ND	10:44 AM	00m	4mi NNW Red Oak, IA			EDIT
4 ELD Login	10:45 AM		4mi NNW Red Oak, IA	ELD Connection		NOTE
5 Power On	10:45 AM		4mi NNW Red Oak, IA	Automatic Transition		NOTE
6 Driving	10:45 AM	05m	4mi NNW Red Oak, IA	Automatic Transition		EDIT
7 Pow Diag	10:45 AM		4mi NNW Red Oak, IA			NOTE
8 Remark	10:45 AM		9mi NNE Lincoln, NE	Crossed into Nebraska, USA from Iowa, USA		EDIT
9 ELD Logout	10:45 AM		9mi NNE Lincoln, NE	ELD Disconnection		NOTE

- b. If the current location is in Canada, the driving rules will automatically switched to Canadian rules. Similarly, if the location is in the US, the driving rules automatically switched to US rules.
- c. If there is a co-driver logged in, both the remark and the rules changes will be occurring to be applied for him/her as well.



5.3 Malfunction and Data Diagnostic Events

At each instance when an ELD malfunction or data diagnostic event is detected or cleared by the ELD, the ELD records the event. The recorded malfunctions and data diagnostic events are inconsistencies found while monitoring the app/ELD against FMCSA compliance requirements. These instances are indicated in the application header and in the Android notification toolbar with the letters M and D, respectively.



Note: The ELD Data Diagnostic indicator provides notification of active data diagnostics events applicable to the active driver. The Data Diagnostics “D” icon will flash in amber color if there are new active Data Diagnostics events that is not yet reviewed by the driver and will only turn back to white once the Data Diagnostic dialog is closed after being reviewed by the driver. There will also be a notification in the Android toolbar indicating a malfunction or a data diagnostic event.

Data Diagnostics				
Code	Date	Time	Description	Action
3	Thu Aug 04, 2016	02:36:16 PM	Missing: EngineHours, Location, Odometer	
3	Thu Aug 04, 2016	02:05:49 PM	Missing: Location	
5	Thu Aug 04, 2016	12:43:18 PM	Unide	

CLEAR ALL

Malfunctions				
Code	Date	Time	Description	Action
P	Thu Aug 04, 2016	12:45:17 PM	Power Malfunction	
L	Thu Aug 04, 2016	11:08:23 AM	Position Malfunction	

CANCEL

Status	Start	End	Location	Description	Action
48 Driving	11:40 AM				EDIT
49 Miss Diag	11:40 AM	6mi S Regina, 11		Missing: EngineHours	NOTE
50 Remark	11:40 AM			Crossed into SouthDakota, USA from Saskatchewan, CANADA	EDIT
51 Miss Diag	11:40 AM			Missing: Location	NOTE
52 Power Off	11:40 AM			Automatic Transition	EDIT

The Malfunction and Data Diagnostic events note can also be edited on the edit log screen

Tap the **Clear button** to clear the malfunction or data diagnostic event detected

To clear all Data Diagnostic Events, tap the **Clear All** button.



Malfunction Events			
Requirement No.	Event Code	Event Name	Description
4.6.1.1	P / Power MF	Power Malfunction	An ELD must set a power compliance malfunction if the power data diagnostics event described in paragraph 4.6.1.1(a) of this appendix indicates an aggregated in-motion driving time understatement of 30 minutes or more on the ELD over a 24-hour period across all driver profiles, including the unidentified driver profile.
4.6.1.2	E / Sync MF	Engine Synchronization Malfunction	An ELD must set an engine synchronization compliance malfunction if connectivity to any of the required data sources specified in section 4.3.1 of this 87 appendix is lost for more than 30 minutes during a 24-hour period aggregated across all driver profiles, including the unidentified driver profile.
4.6.1.3	T / Timing MF	Timing Malfunction	The ELD must periodically cross-check its compliance with the requirement specified in section 4.3.1.5 of this appendix with respect to an accurate external UTC source and must record a timing compliance malfunction when it can no longer meet the underlying compliance requirement.
4.6.1.4	L / Pos MF	Position Malfunction	ELD records requiring location information must use the last valid position measurement and include



			<p>the latitude/longitude coordinates and distance traveled, in miles, since the last valid position measurement.</p> <p>An ELD must monitor elapsed time during periods when the ELD fails to acquire a valid position measurement within 5 miles of the CMV's movement. When such elapsed time exceeds a cumulative 60 minutes over a 24-hour period, the ELD must set and record a positioning compliance malfunction.</p>
4.6.1.5	R / DR MF	Data Recording Malfunction	<p>An ELD must monitor its storage capacity and integrity and must detect a data recording compliance malfunction if it can no longer record or retain required events or retrieve recorded logs that are not otherwise catalogued remotely by the motor carrier.</p>
4.6.1.7	S / Trans MF	Data Transfer Malfunction	<p>(a) An ELD must implement in-service monitoring functions to verify that the data transfer mechanism(s) described in section 4.9.1 of this appendix are continuing to function properly. An ELD must verify this functionality at least once every 7 days. These monitoring functions may be automatic or may involve manual steps for a driver.</p> <p>(c) After an ELD records a data transfer data diagnostic event, the</p>



			ELD must increase the frequency of the monitoring function to check at least once every 24-hour period. If the ELD stays in the unconfirmed data transfer mode following the next three 90 consecutive monitoring checks, the ELD must detect a data transfer compliance malfunction.
4.6.1.8	O / Other MF	Other Malfunction	In addition to the required monitoring schemes described in sections 4.6.1.1– 4.6.1.7 of this appendix, the ELD provider may implement additional, technology-specific malfunction and data diagnostic detection schemes and may use the ELD’s malfunction status indicator and data diagnostic status indicator (described in sections 4.6.2.1 and 4.6.3.1) to communicate the ELD’s malfunction or non-compliant state to the operator(s) of the ELD.
Data Diagnostic Events			
Requirement No.	Event Code	Event Name	Description
4.6.1.1	1 / Pwd Diag	Power Diagnostic	An ELD must monitor data it receives from the engine ECM or alternative sources as allowed in sections 4.3.1.1-4.3.1.4 of this appendix, its onboard sensors, and data record history to identify instances when it may not have complied with the power requirements specified in section 4.3.1.1, in which case, the ELD



			must record a power data diagnostics event for the corresponding driver(s), or under the unidentified driver profile if no drivers were authenticated at the time of detection.
4.6.1.2	2 / Sync Diag	Engine Synchronization Diagnostic	An ELD required to establish a link to the engine ECM as described in section 4.2 must monitor its connectivity to the engine ECM and its ability to retrieve the vehicle parameters described under section 4.3.1 of this appendix and must record an engine-synchronization data diagnostics event when it no longer can acquire updated values for the ELD parameters required for records within 5 seconds of the need.
4.6.1.4 (d)	3 / Miss Diag	Missing Data Elements Diagnostic	If a new ELD event must be recorded at an instance when the ELD had failed to acquire a valid position measurement within the most recent elapsed 5 miles of driving, but the ELD has not yet set a positioning compliance malfunction, the ELD must record the character "X" in both the latitude and longitude fields, unless location is 88 entered manually by the driver, in which case it must log the character "M" instead. Under the circumstances listed in this paragraph, if the ELD event is due to a change in duty status for the driver, the ELD must prompt the driver to enter location



			manually in accordance with section 4.3.2.7 of this appendix. If the driver does not enter the location information and the vehicle is in motion, the ELD must record a missing required data element data diagnostic event for the driver.
4.6.1.7	4 / Trans Diag	Data Transfer Diagnostic	(b) If the monitoring mechanism fails to confirm proper in-service operation of the data transfer mechanism(s), an ELD must record a data transfer data diagnostic event and enter an unconfirmed data transfer mode.
4.6.1.6	5 / Unid Diag	Unidentified Driver Diagnostic	(b) If more than 30 minutes of driving in a 24-hour period show unidentified driver on the ELD, the ELD must detect and record an unidentified driving records data diagnostic event and the data diagnostic indicator must be turned on for all drivers logged in to that ELD for the current 24-hour period and the following 7 days. (c) An unidentified driving records data diagnostic event can be cleared by the ELD when driving time logged under the unidentified driver profile for the current 24-hour period and the previous 7 consecutive days drops to 15 minutes or less.
4.6.1.8	6 / Other Diag	Other Diagnostic	In addition to the required monitoring schemes described in sections 4.6.1.1– 4.6.1.7 of this appendix, the ELD provider may



			implement additional, technology-specific malfunction and data diagnostic detection schemes and may use the ELD's malfunction status indicator and data diagnostic status indicator (described in sections 4.6.2.1 and 4.6.3.1) to communicate the ELD's malfunction or non-compliant state to the operator(s) of the ELD.
--	--	--	--

Actions for Malfunction & Data Diagnostic Events

Carrier responsibilities regarding malfunctions:

- Provide drivers with an instruction sheet describing the various ELD malfunction events and recordkeeping procedures (395.22)
- Provide drivers with a supply of 8 days' worth of blank paper driver records (395.22)
- Repair, replacement, or service
 - Motor carrier must correct the malfunction of the ELD within 8 days of discovery of the condition or a driver's notification to the motor carrier, whichever occurs first (395.34)

Record keeping responsibilities by the driver:

- Malfunction events
 - Note the ELD malfunction and provide carrier with written notice within 24hrs (395.34)
 - Reconstruct driving events for the current 24hr period and previous 7 consecutive days using paper logs (unless they can be retrieved from the ELD) (395.34)
 - Continue to manually prepare driving logs until ELD is serviced and brought back into compliance (395.34)



- During inspections which take place when a malfunction has occurred: provide safety official with manually kept driver logs (395.34)
- Data diagnostic events
 - Driver must follow the motor carriers and ELD provider's recommendations in resolving the data inconsistency (395.34)

Clearing of malfunction and data diagnostic events:

- ELD needs to capture when a malfunction or data diagnostic event has been cleared by the driver (4.5.1.7)
- Unidentified driving records data diagnostic
 - Events that drop to 15 minutes or less during the current 24hr period and previous 7 days can be cleared automatically and there is no requirement to record the automatic clear (4.6.1.6)

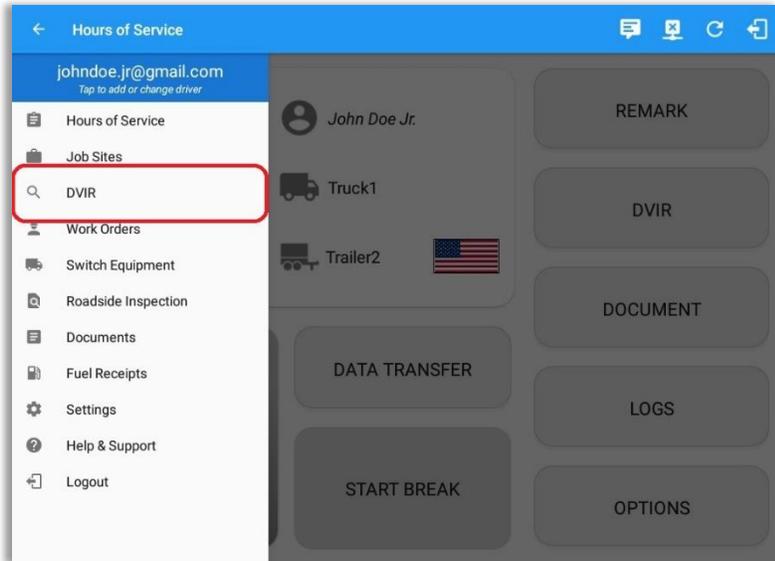


5.4 DVIR

The **DVIR** feature provides a way for you to create online vehicle DVIR reports while in the field. This helps to ensure that your vehicle confirms to the FMCSA’s safety regulations.

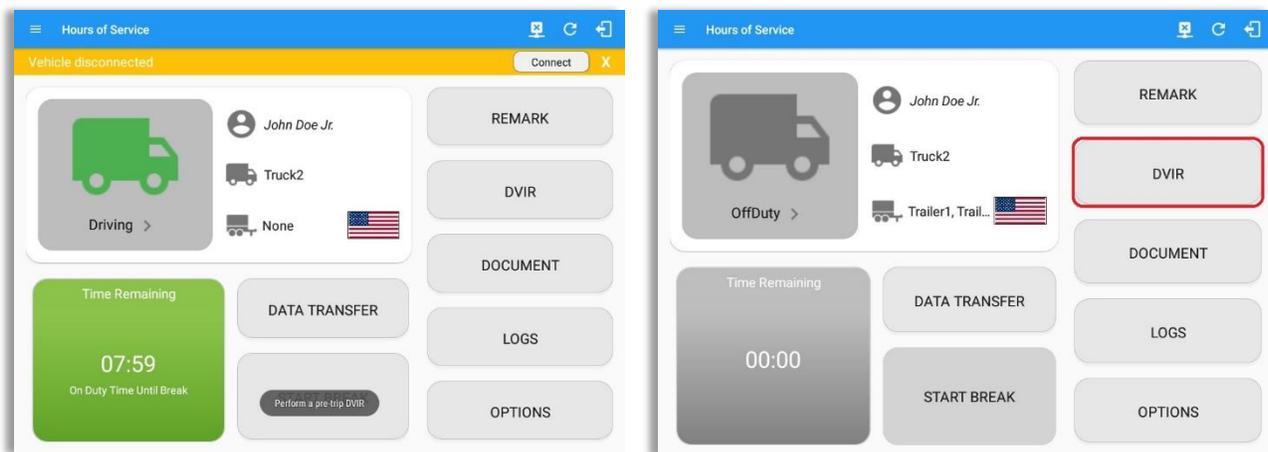
There are a number of ways to access this feature:

5.4.1 DVIR Feature – Main Navigation Menu



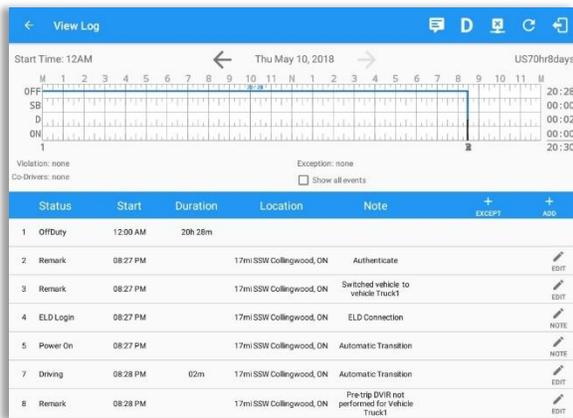
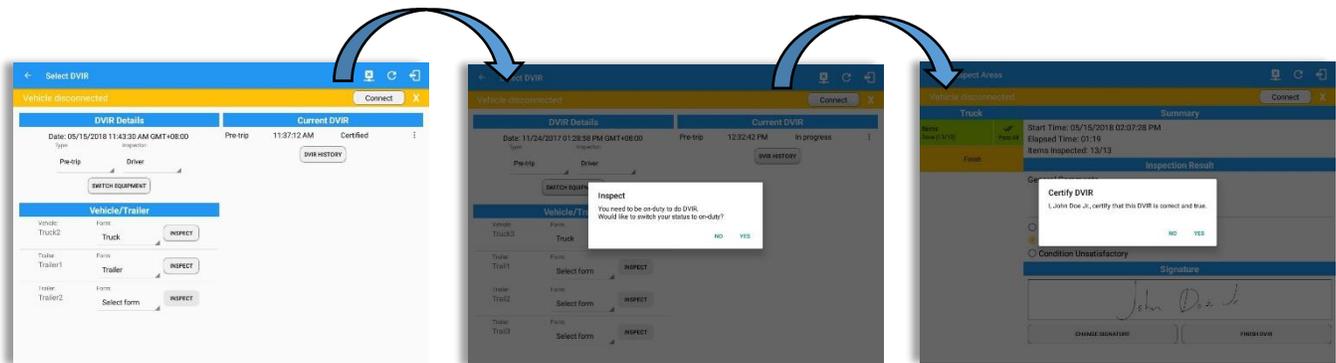
1. Slide the screen from left to right to show the **Main Navigation Menu**
 - Or
 2. Tap the **Main Navigation Hamburger icon**  to show the **Main Navigation Menu**
- Tap the **DVIR** option within the **Main Navigation Menu**

5.4.2 DVIR Feature – Hours of Service Main Screen



From the **Hours of Service Main Screen**, tap the **DVIR** button to display the **DVIR** screen.





- When driver manually/automatically change to Driving event without completing the Pre-trip DVIR, it will create a 'Remark' event with a note 'Pre-trip DVIR not performed for Vehicle [vehicle name] or Trailer [trailer name]'.
- The Remark event will only be created once per shift.
- The Remark event will be created after it detects or when a first Driving event on the shift cycle is created.
- Also, an **alert** is sent only once for each vehicle that begins to drive without having done a Pre-Trip DVIR.



5.4.3 Selecting Your DVIR Type

The screenshot shows the 'Select DVIR' interface. At the top, it says 'Vehicle disconnected' and 'Connect'. Below, there are two main sections: 'DVIR Details' and 'Current DVIR'. In 'DVIR Details', the 'Date' is 10/23/2017 06:35:10 PM CDT. Under 'Type', there are three options: 'Pre-trip', 'Post-trip', and 'Ad-hoc'. The 'Pre-trip' option is highlighted with a red box. Below this, there is a 'Vehicle/Trailer' section with a 'Form' dropdown set to 'Going merry' and an 'INSPECT' button.

Choose the appropriate **DVIR Type** from the following options.

Choose the appropriate **Inspector** from the following options.

The screenshot shows the 'Select DVIR' interface. The 'Date' is 10/25/2017 09:20:49 AM GMT+08:00. Under 'Type', there are three options: 'Pre-trip', 'Post-trip', and 'Ad-hoc'. Below this, there is a 'Vehicle/Trailer' section with a list of forms. The 'Tractor' form is highlighted with a red box. Each form has an 'INSPECT' button next to it.

Vehicle/Trailer	Form	INSPECT
Vehicle: AAN 2564	Tractor	INSPECT
Trailer: ALB2137	Trailer Trailer	INSPECT
Trailer: SER987	Trailer Trailer	INSPECT
Trailer: Vehicle27	Trailer	INSPECT
Trailer: AAN890	Trailer Trailer	INSPECT

You can select a **DVIR Form** from the 6 default DVIR forms or you can also select a **Customized DVIR Forms for Asset(s)** also from the list.

The screenshot shows the 'Select DVIR' interface. The 'Date' is 10/25/2017 09:20:49 AM GMT+08:00. Under 'Type', there are three options: 'Pre-trip', 'Post-trip', and 'Ad-hoc'. Below this, there is a 'Vehicle/Trailer' section with a list of forms. The 'Tractor' form is selected, and the 'INSPECT' button is visible next to it.

Vehicle/Trailer	Form	INSPECT
Vehicle: AAN 2564	Tractor	INSPECT
Trailer: ALB2137	Trailer Trailer	INSPECT
Trailer: SER987	Trailer Trailer	INSPECT
Trailer: Vehicle27	Trailer	INSPECT
Trailer: AAN890	Trailer Trailer	INSPECT

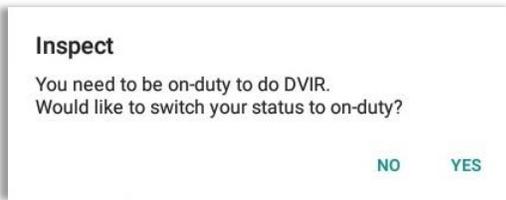
- a) **Pre:** A DVIR conducted before driving the CMV.
- b) **Post:** A DVIR conducted after driving a CMV.
- c) **Ad Hoc:** Any DVIR conducted in any other period that the ones specified in points a & b.



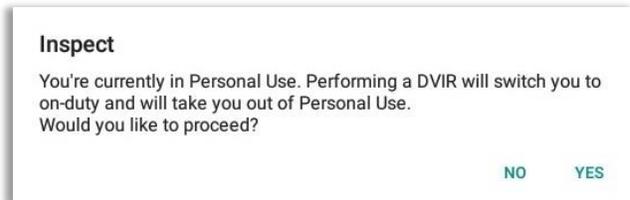
5.4.4 Starting Your DVIR

Tap the **Inspect** button in each equipment to start the DVIR, you will be directed to the **DVIR screen**.

Note: However, a dialog as shown below will display that will ask confirmation to switch you to On Duty status to do DVIR if current duty status is in Off Duty or will take you out to Personal Use if current status is Off Duty under Personal Use.

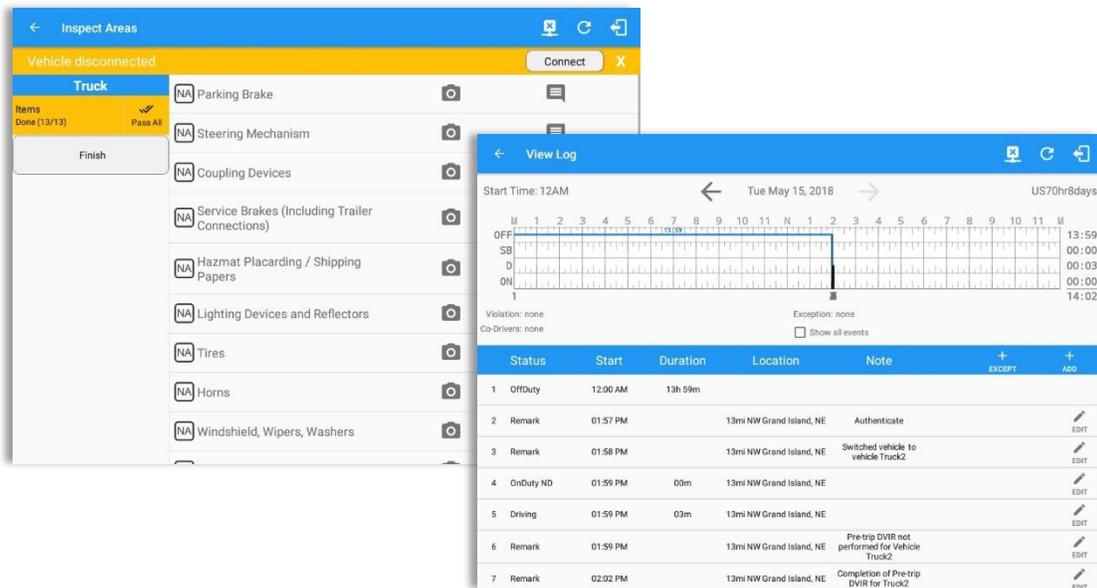


If current duty status is Off Duty



If current duty status is Off Duty under Personal Use

5.4.5 Completing the First DVIR Area



The first **DVIR Area** is selected by default. You can also tap its corresponding tab to display the DVIR items under this area.

You can select the status of each DVIR Item by tapping their respective tri-state check boxes as listed below:



Tap the unselected check box once or select the green  Thumbs Up icon to specify that the item has passed.

Tap the unselected check box twice or select the red  Thumbs Down icon to specify that the item has failed.

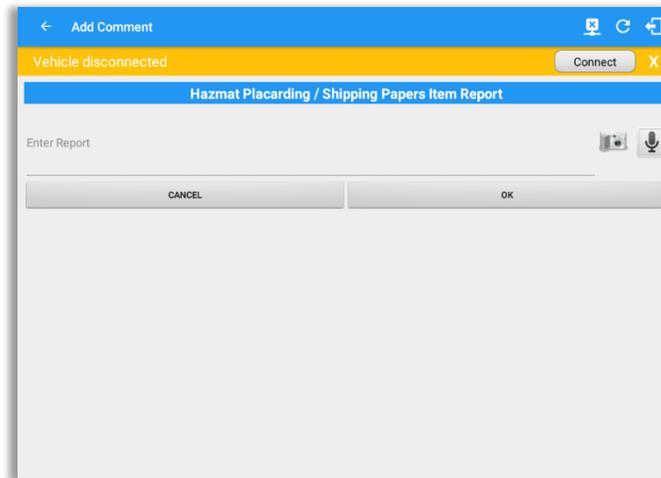
Tap the unselected check box three times or select the NA  icon if the item is not applicable for the current DVIR.

When failing a DVIR, an option for selecting a severity level will appear with its corresponding color: High – Red  , Medium – Yellow  , Low – Green  .

5.4.6 Capturing an Image of a DVIR Item

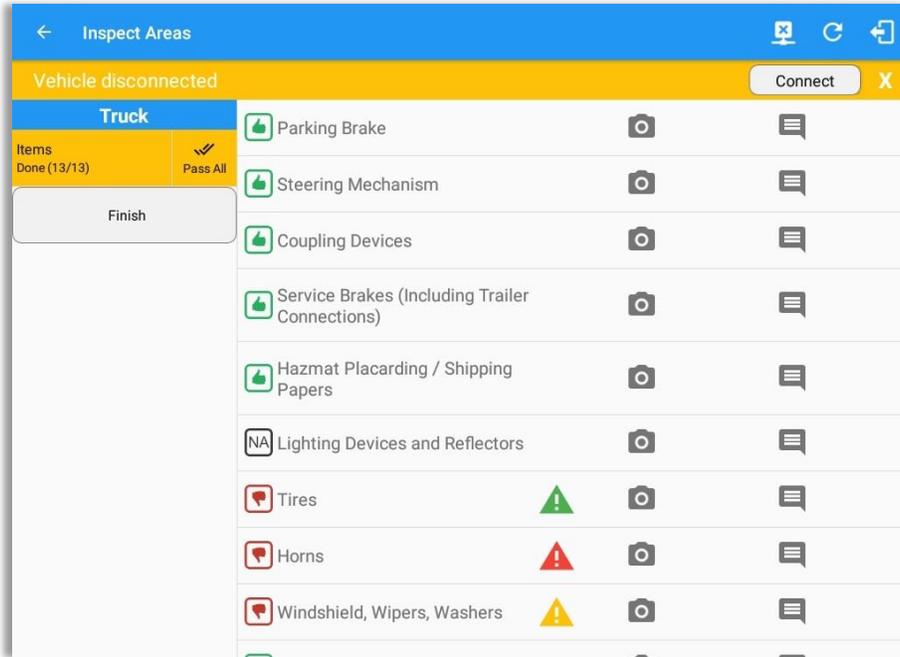
If you wish to capture an image of a DVIR item, you can tap the **Camera Button**.  The Camera app will then appear, proceed to take a picture of the DVIR item. After tapping the **Capture Image Button**, select the Save button to save the image and add it to your item report. You can also discard the captured image by selecting the **Cancel** button.

5.4.7 Add a Comment or Remark to a DVIR Item



You may add comments or remarks against a DVIR item by tapping the **Comments** button, enter the relevant comment or remark in the **Enter Report** field, tap the **Camera** button to add more images if required and select the **OK** button to finish adding your images and comments or remarks. 

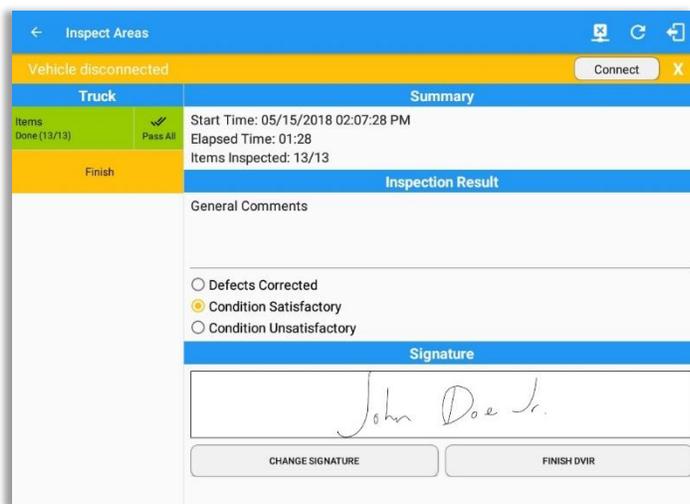




Note: You can also tap the Voice Dictation button (speech to text) to use voice dictation instead of typing your comments or remarks.

If you add an image and a comment or remark to the DVIR item, the **camera** button will have a numbered icon over it depicting the number of images that have been attached; also, any comments or remarks that have been added will be displayed and will replace the **Comments** button

5.4.8 Finishing / Certifying Your DVIR



To finish / certify your DVIR, select the **Finish** tab, this will display the information detailed on the next page.



Summary

Summary
Start Time: 09/28/2017 09:52:20 AM
Elapsed Time: 02:08
Items Inspected: 2/14

- **Start Time** – the date and time the DVIR was started.
- **Elapsed Time** – the duration of the current DVIR.
- **Items Inspected** – this is a counter for the number of items already inspected.

Remaining Items

12 Remaining Items
Trailer - Brakes

This will only be displayed if you have not yet updated all of the DVIR items, this will show the item(s) that are still to be inspected.

Inspection Result

Inspection Result
General Comments
<input type="radio"/> Defects Corrected <input type="radio"/> No Defect Found <input type="radio"/> Condition Satisfactory <input type="radio"/> Condition Unsatisfactory

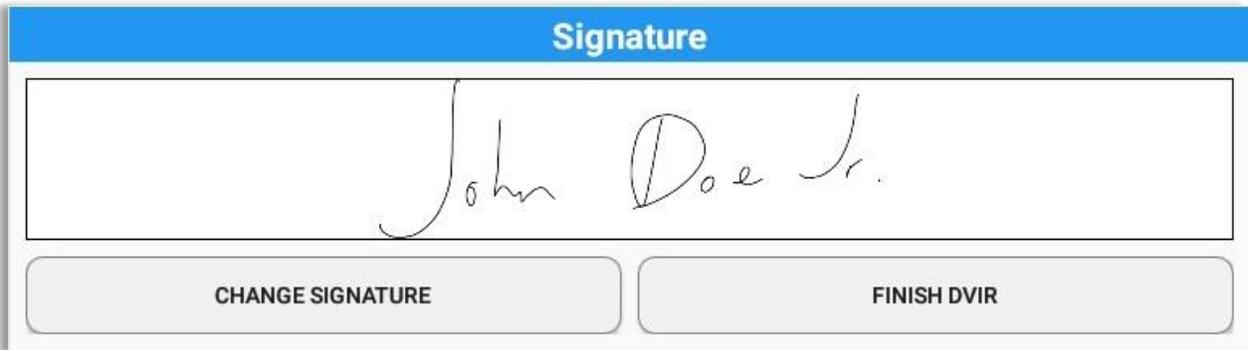
General Comments – this is where you can enter your general DVIR report comments.

One of the following options must be selected before the DVIR can be finished / certified.



- Defects Corrected
- No Defect Found (**Note:** 'No Defect Found' option is only available for Canadian cycle drivers.)
- Condition Satisfactory
- Condition Unsatisfactory

Signature



Drivers can change their signature by tapping the **Change Signature** button.

Mechanics and other inspectors can create their signatures by tapping the **Change Signature** button.

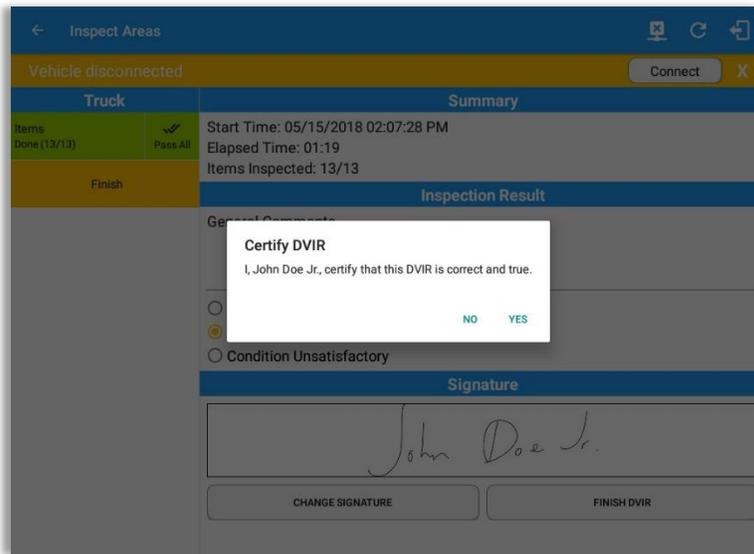
Selecting the **Change Signature** button will open the **Create Your Signature Here** screen:



Tap the **Done** button to save your signature or tap the **Clear** button to discard the signature.



5.4.9 Submit or Certify the DVIR



Tap the Finish DVIR button to finish / certify the current vehicle DVIR. Finally, after reviewing all of the DVIR details tap the **OK** button to certify the DVIR. You can also cancel certifying the DVIR by tapping the **Cancel** button.

After successfully certifying the DVIR, a remark event will be created in the Edit Logs screen stating the completion of Pre/Post/Ad-Hoc DVIRs.

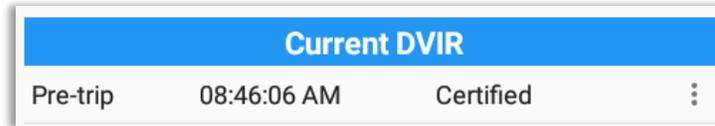


Note: A remark 'Pre-trip DVIR not performed for Vehicle [vehicle name] or Trailer [trailer name.]' will display in event history list when driver went Driving without performing Pre-trip DVIR.



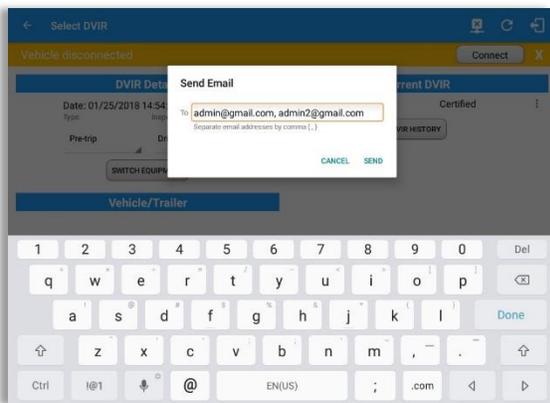
5.4.10 Deleting a DVIR

Go to the **Current DVIR** section. This is where you can view a list of the DVIRs conducted within the Vehicle DVIR screen:

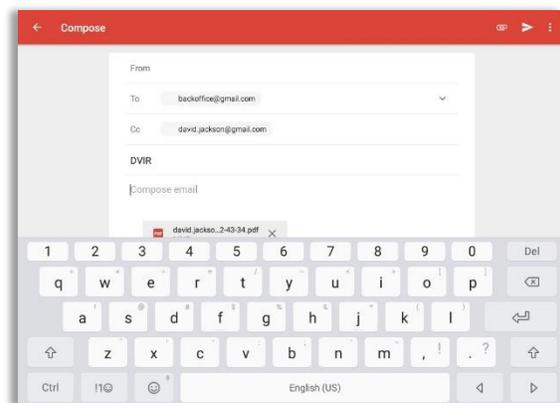


- Tap the Email button to send the completed DVIR to an intended recipient.
- Tap the View button to view the DVIR details (once submitted, this cannot be amended).
- Tap the Remove button to remove the DVIR (once submitted, this cannot be removed).

5.4.11 Emailing a DVIR



*Emailing a DVIR via **Server***



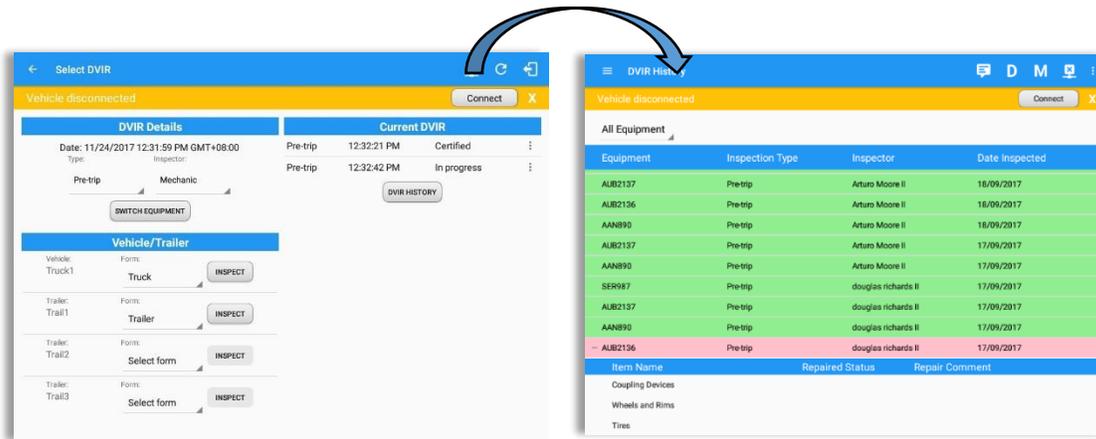
*Emailing a DVIR via **App***

- If Email Sender is set to Server, a Send Email dialog will display when the driver taps Email button to send the completed DVIR. Enter the email address for the recipient. If the recipient is more than one, separate email addresses by comma.
- If Email Sender is set to App, an app will open (e.g. Gmail app will open for Android device) with a new message that has a DVIR Report PDF file attached.

Note: Email Sender option can be set in the portal->account settings under App Controls -> Email Sender.

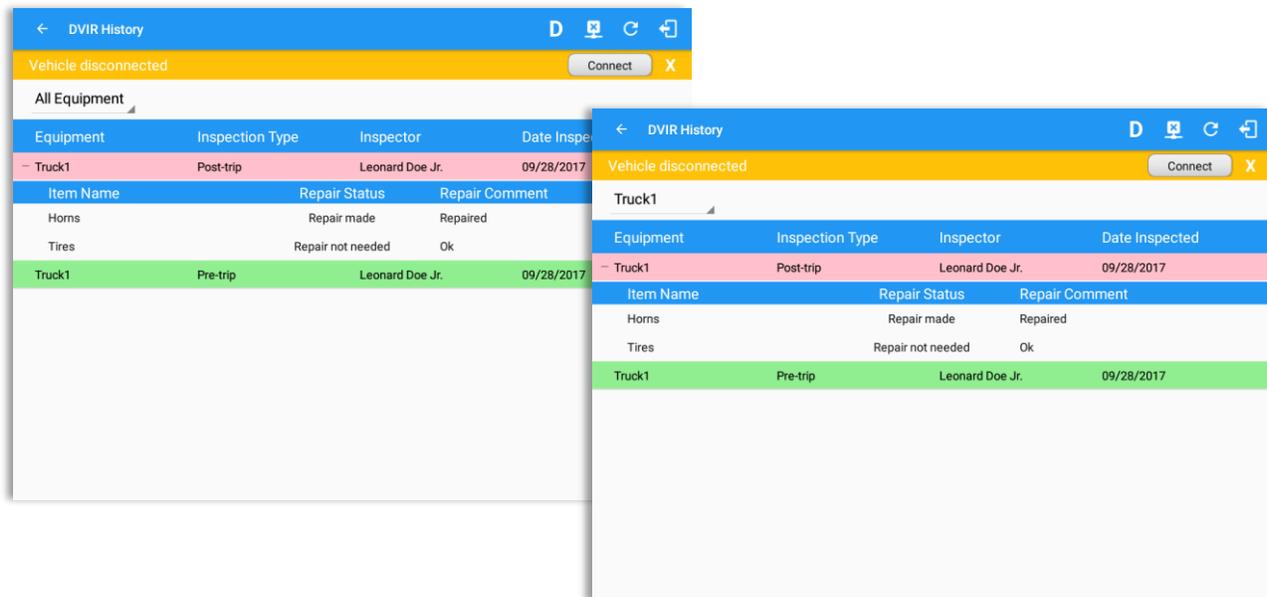


5.5 DVIR History



The **DVIR History** feature displays the DVIRs for the last 30 days for the currently selected equipment. Completed DVIRs that don't have failed items shows in a row highlighted in green color while Completed DVIRs with failed items are highlighted in red. Also, a '+' can be tap to show the details of failed items.

5.5.1 Viewing DVIR History by Vehicle



- DVIR Screen displays DVIR inspections for all equipment by default.
- Tap the Equipment name on the upper left of the screen to view the DVIR of the specified vehicle.

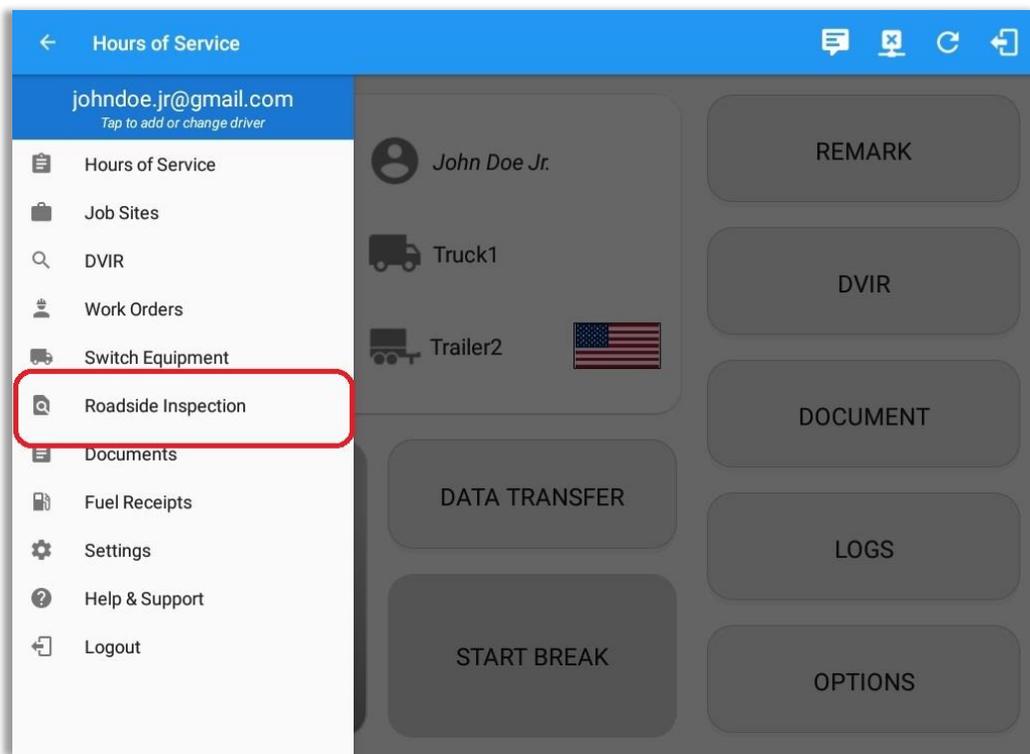


6 Roadside Inspection

The Roadside Inspection feature provides the ability to view the driver daily logs for the past one week. It includes information on the vehicle used, shipments and driving statuses. It also has the ability to send all the logs that have already been certified to an intended recipient.

There are a number of ways to access this feature:

6.1 Roadside Inspection – Main Navigation Menu



1. Slide the screen from left to right to show the **Main Navigation Menu**.

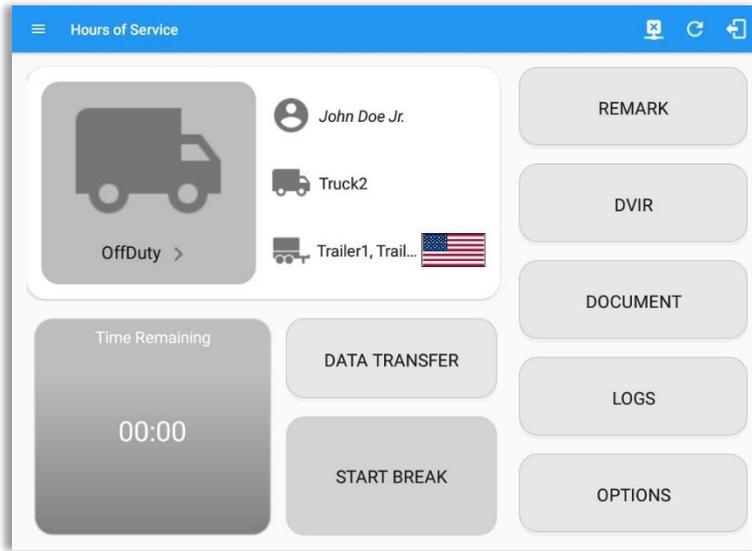
Or

2. Tap the **Main Navigation Hamburger** icon  to show the Main Navigation Menu.

Tap the **Roadside Inspection** option within the **Main Navigation Menu**.

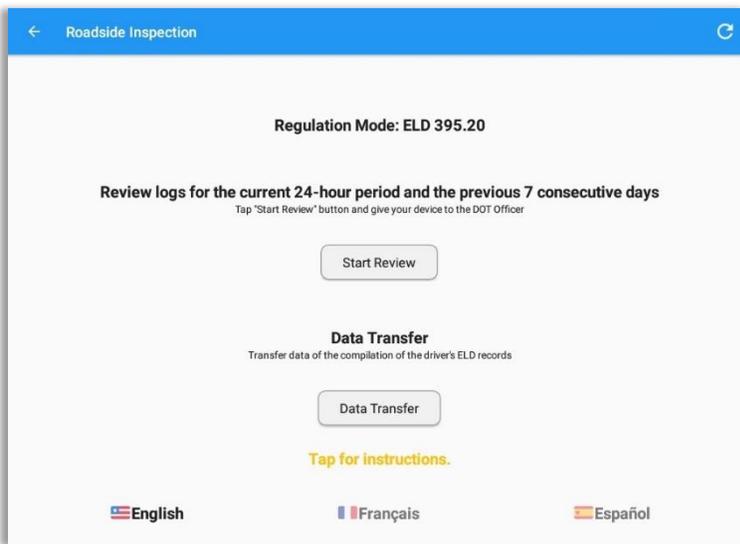


6.2 Roadside Inspection – HOS Main Menu



From the *Hours of Service Main Screen*, tap the *Roadside Inspection* button.

6.3 Inspection Screen – Start Review



From the *Roadside Inspection Screen*, tap the *Start Review* button to view the *Driver's Daily Log screen*.





Roadside Inspection screen for vehicle in ELD mode



Roadside Inspection screen for vehicle in AOBDR mode

Note:

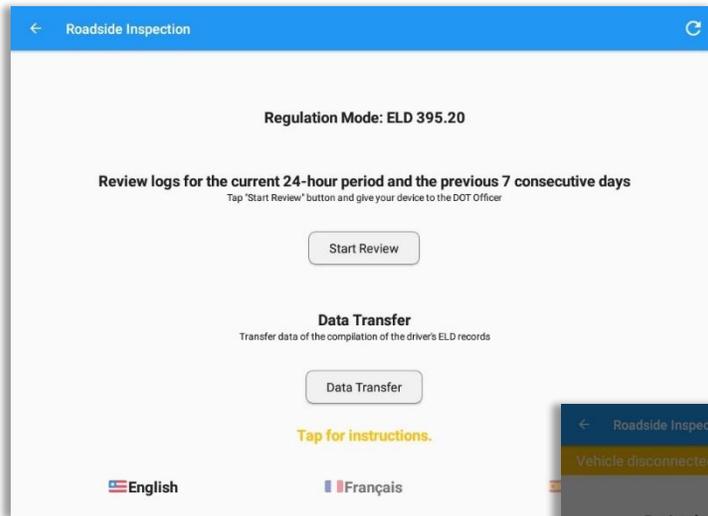
- Automatic 'Remarks' will not be displayed in the screen such as 'Pre-Trip not performed', 'Authenticate', border crossing and Inter events remarks if current vehicle is in AOBDR mode.
- Notes entered in an added event will be displayed in the Roadside Inspection screen under the "Note" column when in AOBDR mode.
- Driver that is being inspected must provide a password when exiting from the Roadside Inspection Screen.
- For Canadian HOS rules, the License Plate number is displayed for each vehicle driven and each trailer used by the driver on the day.



Tap the Previous  button to navigate to the previous log or tap the  Next button to navigate to the next log.

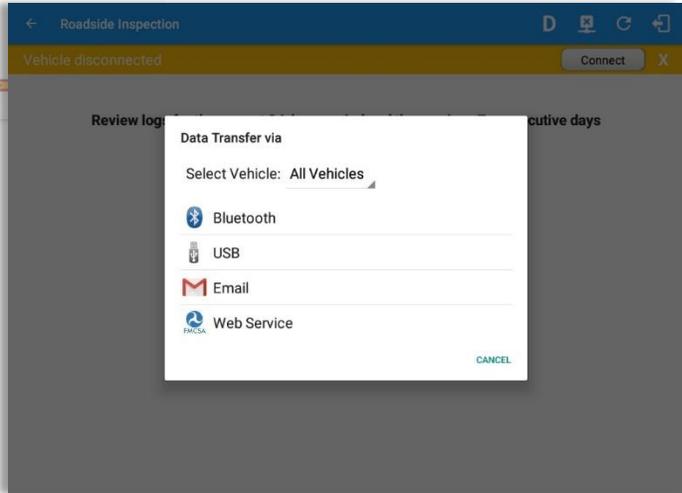


6.4 Roadside Inspection Screen – Data Transfer



From the *Roadside Inspection* Screen, tap the *Data Transfer* button.

Select an option to transfer the compilation of the driver's ELD records.

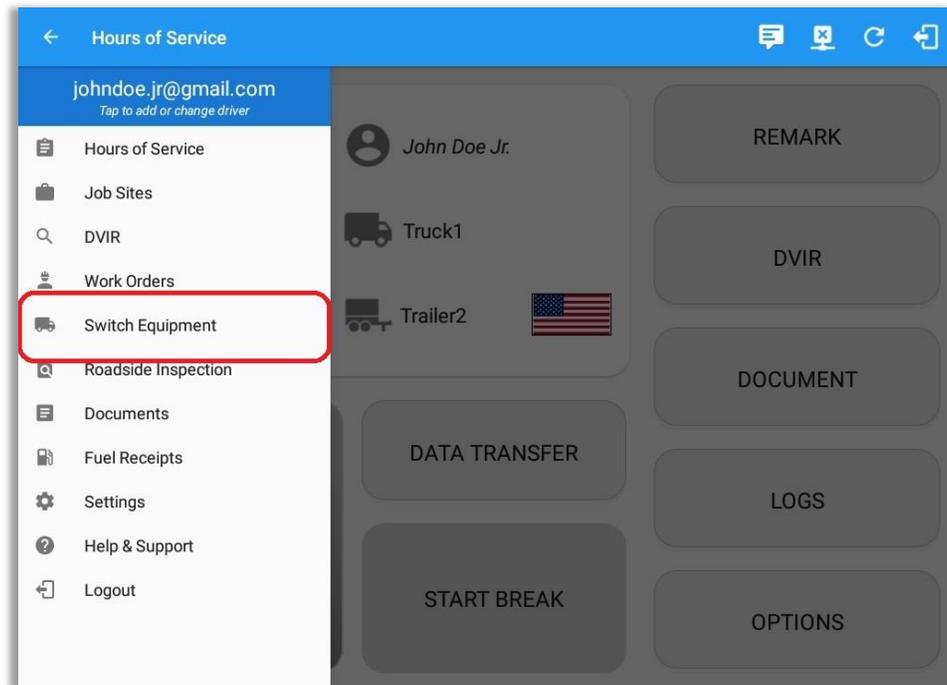


7 Switch Equipment

The Switch Equipment feature allows a driver to easily ‘switch’ from one vehicle to another. It also assists in monitoring and documenting the vehicles being used as part of their driver logs.

There are a number of ways to access this feature:

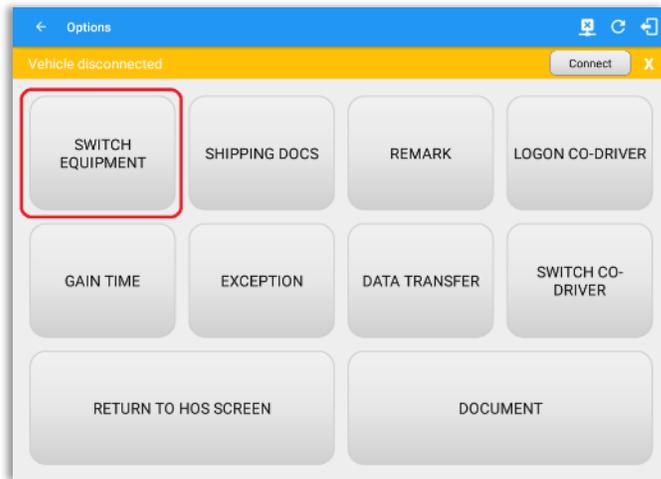
7.1 Switch Equipment – Main Navigation Menu



1. Slide the screen from left to right to show the **Main Navigation Menu**
Or
 2. Tap the **Main Navigation Hamburger** icon  to show the Main Navigation Menu
- Tap the **Switch Equipment** option within the **Main Navigation Menu**

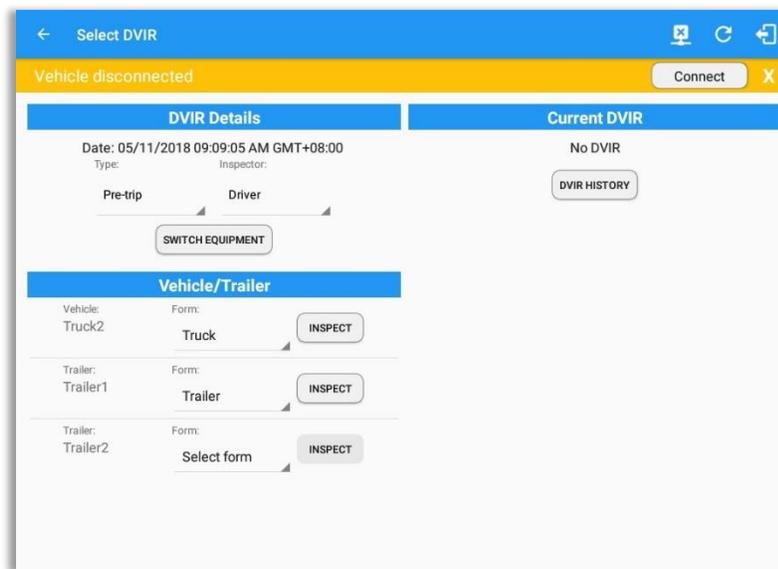


7.2 Options Menu



From the *Hours of Service Main Screen*, tap the *Options* button and then tap the *Switch Equipment* button.

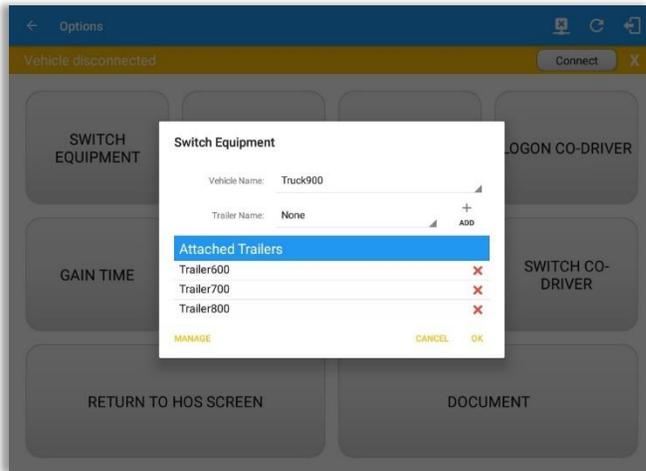
7.3 Switch Equipment – DVIR Screen



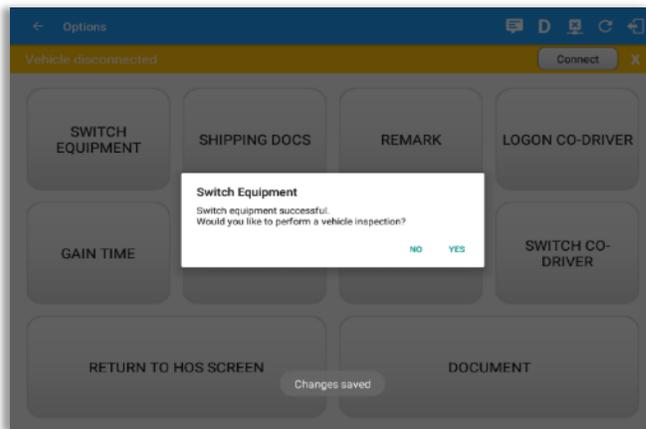
1. Slide the screen from left to right to show the *Main Navigation Menu*.
Or
2. Tap the *Main Navigation Hamburger* icon  to show the Main Navigation Menu
Tap the *DVIR* option within the *Main Navigation Menu*.
3. Select the *DVIR* button from the Main Hours of Service Menu and then select the *Switch* button.



7.4 Switching Equipment

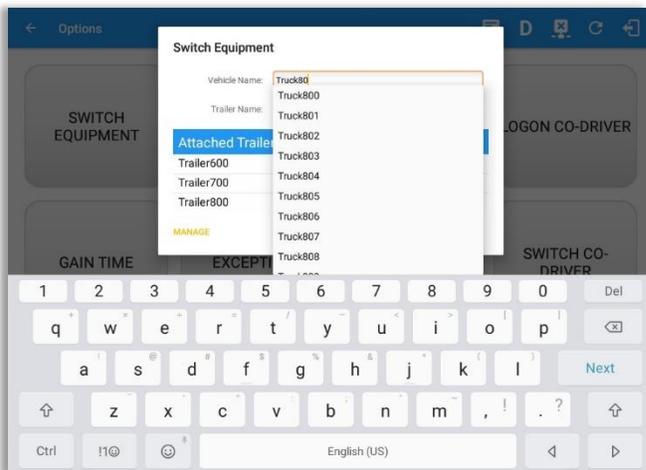


Select the **Vehicle ID** or **Trailer ID** dropdown list and select the required vehicle or trailer, then tap the **OK** button to switch to the selected vehicle or trailer.



After tapping the Switch button, you will be asked if you would like to perform a vehicle DVIR, tap the **YES** button to navigate to the **Vehicle DVIR** screen or tap the **NO** button to close the dialog box and continue.

Switch equipment can be performed also in the dashboard, by tapping the vehicle/trailer icon.



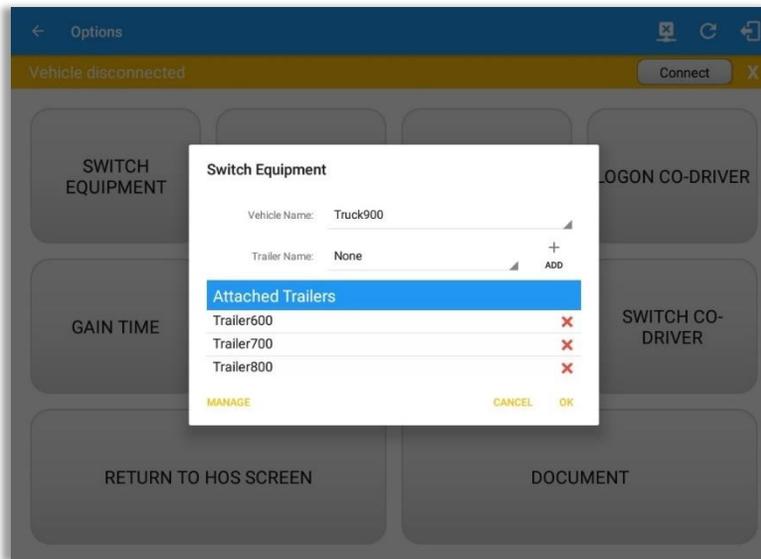
Vehicles and Trailers can also be filtered through **text entry** on the vehicle/trailer text fields. Text entry availability starts if the total number of trailers/vehicles numbers 100 or more.



Switching or selecting a Vehicle with a preconfigured VBUS device enables the app to find and connect on the match device.

Note: On the VBUS Settings, VBUS Data and Automatic Configuration should be enabled.

7.5 Managing Vehicles / Trailers

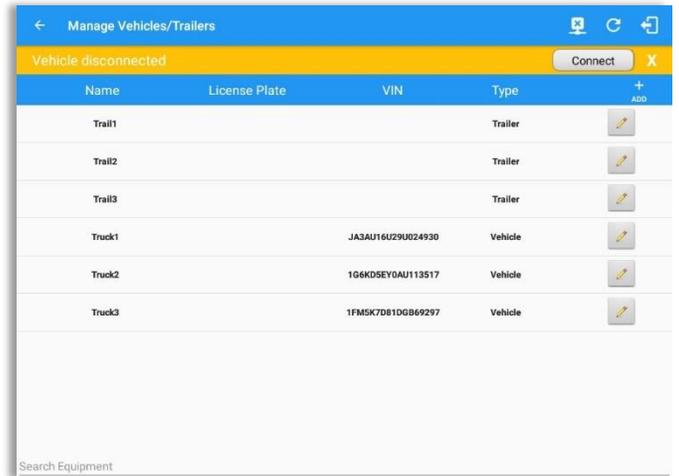
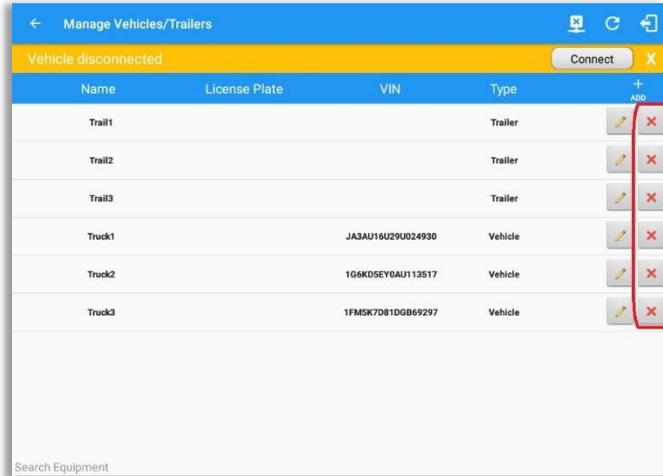


You can add, update and delete vehicles or trailers by tapping the **Manage** button; this will display the **Manage Vehicles/Trailers Screen**.

The 'Manage' button is only available given a situation, that the driver is an asset admin and that the 'Manage Equipment' option (found in the Equipment Management Page) is also enabled. Otherwise, the button will not be available on the Switch Equipment dialog.

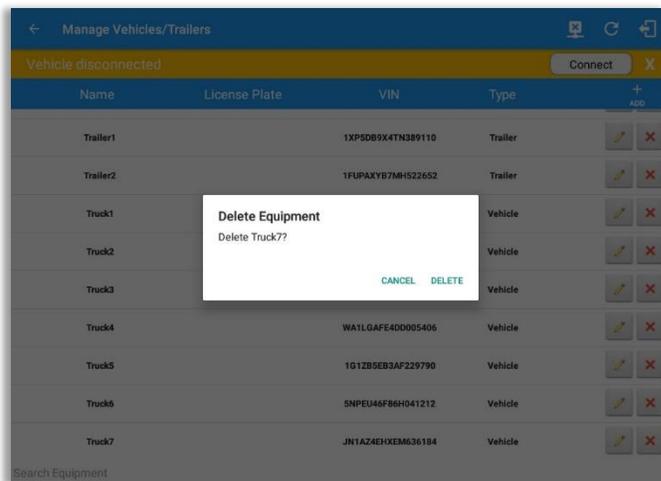


7.5.1 Manage Vehicles / Trailers – Delete



To delete any of the vehicles or trailers listed, tap the  icon. Vehicles/Trailers made in the portal can be edited or deleted in the Raven app and vice versa.

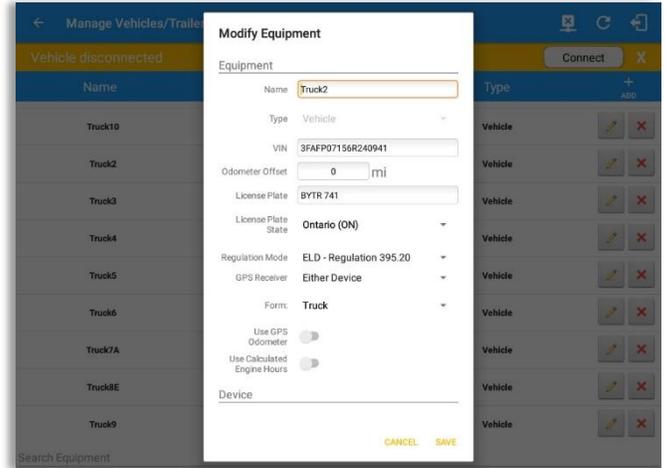
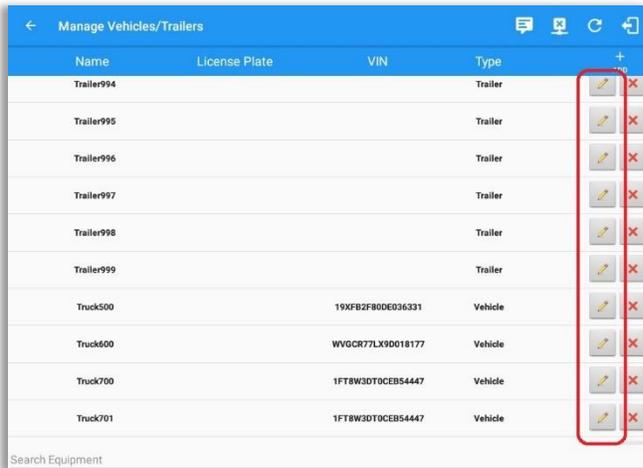
Note: If "Allow drivers to delete equipment" is unchecked in the portal then delete button will not be displayed or disabled in the screen.



Tap the **DELETE** button within the **Delete Vehicle** dialog to confirm deletion or, tap the **CANCEL** button to return without deleting.

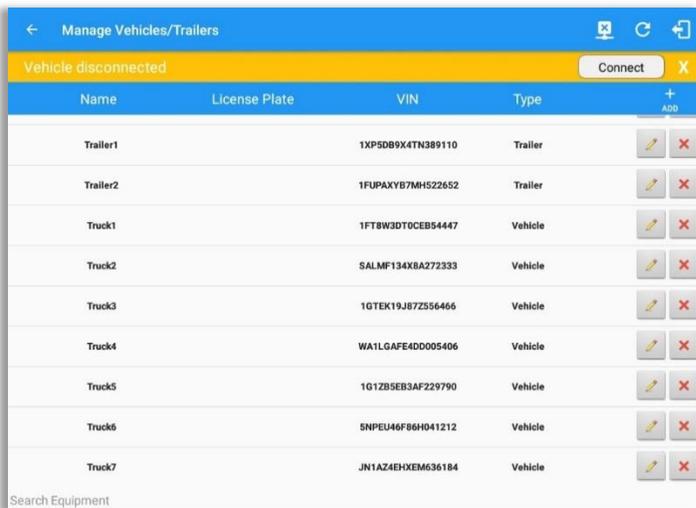


7.5.2 Manage Vehicles / Trailers - Edit



To edit any of the trucks or trailers listed, tap  the icon, make any required changes to the selected truck or trailer and then tap the **SAVE** button to save the changes or, tap the **CANCEL** button to return without saving.

7.5.3 Manage Vehicles / Trailers – Add



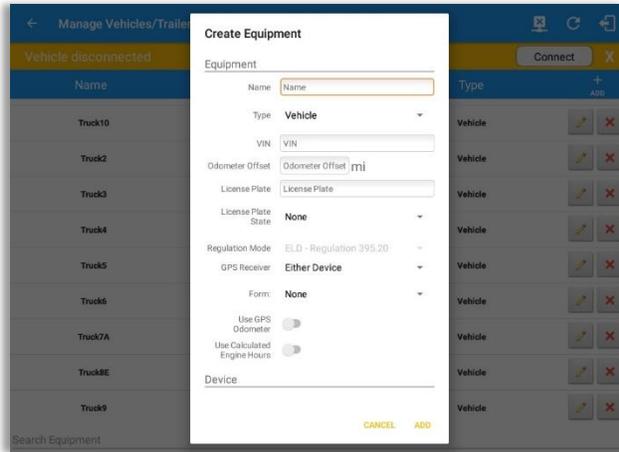
To add a new truck or trailer, tap the  **ADD** button, this will open the Add Truck dialog, enter the following details:

- Vehicle Name** – Truck or trailer name
- VIN** – Vehicle Identification Number
- License Plate** – license number
- Vehicle Type** – Vehicle or Trailer

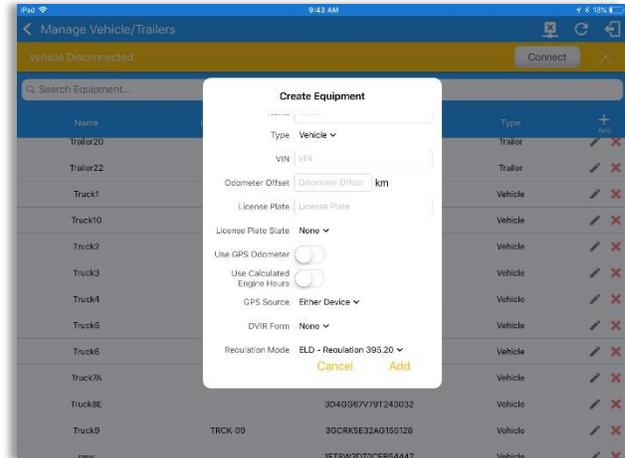
Fill in the **Device Information** section to pre-configure the Vehicle to a specific VBUS device.



When creating a new equipment, the default selected device option is set to "None". Also, If the option "None" is selected, on the create/edit equipment screen, all other fields on the ELD configuration section will be hidden.



Android app Create Equipment dialog



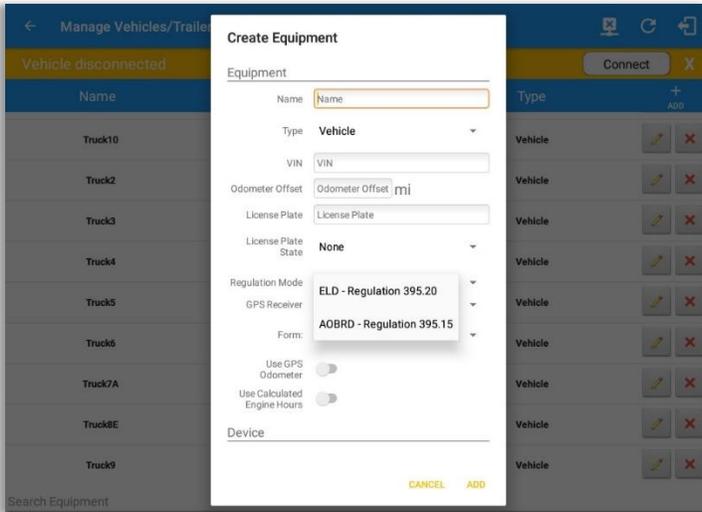
iOS app Create Equipment dialog

Tap the **ADD** button to save the new truck or trailer or Tap the **CANCEL** button to cancel adding the new truck or trailer.

Note:

- The connection type defers on the VBUS Device selected.
- For iOS app, VBUS Device information is not displayed. Only for Android application.
- If user selects "Digi WVA" in connection type, then admin password field is required.
- Firmware version field can be manually populated. For some VBUS device, it is already pre-populated.
- In the Portal, an ability to determine on which VBUS devices will be displayed is present. Accordingly, on the app, only those devices selected on the portal will be displayed in the "VBUS Device" menu.

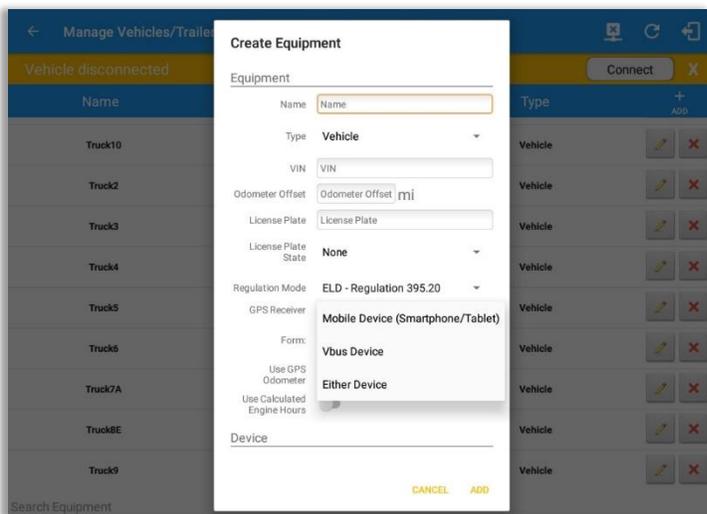




A **Regulation Mode** option to switch between 395.15 (AOBRD) and 395.20 (ELD) support is available. When 395.15 (AOBRD) mode is selected it turns off all 395.20 (ELD) features. It simply records the drivers' events regardless to the FMCSA rules. ELD is set as the default regulation mode for all new equipment.

Notes:

- Drivers on the app cannot change the Regulation Mode unless the driver is allowed to do so by enabling the following account control within the Account Settings under App Controls -> 'Allow drivers to specify vehicle HOS Regulation Mode (AOBRD or ELD).
- When in AOBRD mode, disables the data transfer button in the Options screen and changed the button to 'Email Logs' in the Roadside Inspection screen.
- When the driver is in AOBRD mode then the edit "*" sign & events will not be displayed in the Edit Logs screen and on the Certified PDF logs.



A **GPS Receiver** option allows the user to change how to get the device GPS positions. The GPS Receiver settings can be set in a specific vehicle in the portal->equipment management page.



An **Odometer Offset** allows driver or personnel to adjust the odometer so that the driver will see an odometer matches their dashboard, rather the engine odometer. Possible scenario is when the engine is replaced and the value is not yet synchronized.

Notes:

- Negative entry for odometer offset field is allowed.
- Odometer offset does not affect app screens like Roadside Inspection and Certified Logs PDF.
- If the saved offset is 100, and the logs have odometer values of 10, 20, 30, 40, will display to the driver 110, 120, 130, 140 (Odometer + Offset).
- If the offset is 100, and the driver edits an event to change the odometer from 140 to 130, will display 130 - 100 (the Offset) or 30 to the log.

When creating/modifying an equipment with a selected type of “Trailer”, the VIN field is also enabled but is not required when saving. VIN field does not require valid format.

If the VIN is optionally populated and that the source is not the engine ECM, it will be auto converted to capital letters when saved.



The screenshot shows a mobile application interface for managing vehicles and trailers. At the top, there is a blue header with a back arrow, the title 'Manage Vehicles/Trailers', and icons for refresh and share. Below the header is a yellow status bar that says 'Vehicle disconnected' and a 'Connect' button with a close icon. The main content is a table with columns for Name, License Plate, VIN, and Type. There are also edit and delete icons for each row. At the bottom, there is a search bar labeled 'Search Equipment'.

Name	License Plate	VIN	Type	
Trailer1		1XP50B9X4TN3B9110	Trailer	[edit] [delete]
Trailer2		1FUPAXYB7MH522652	Trailer	[edit] [delete]
Truck1		1FT8W3DT9CEB54447	Vehicle	[edit] [delete]
Truck2		SALMF134X8A272333	Vehicle	[edit] [delete]
Truck3		1GT EK19J87Z556466	Vehicle	[edit] [delete]
Truck4		WA1LGAFE4DD005406	Vehicle	[edit] [delete]
Truck5		1G1ZB5EB3AF229790	Vehicle	[edit] [delete]
Truck6		SNPEU46F86H041212	Vehicle	[edit] [delete]
Truck7		JN1AZAEHXEM636184	Vehicle	[edit] [delete]

Once the new vehicle or trailer has been added, it will be displayed in the **Manage Vehicles/Trailers screen.**

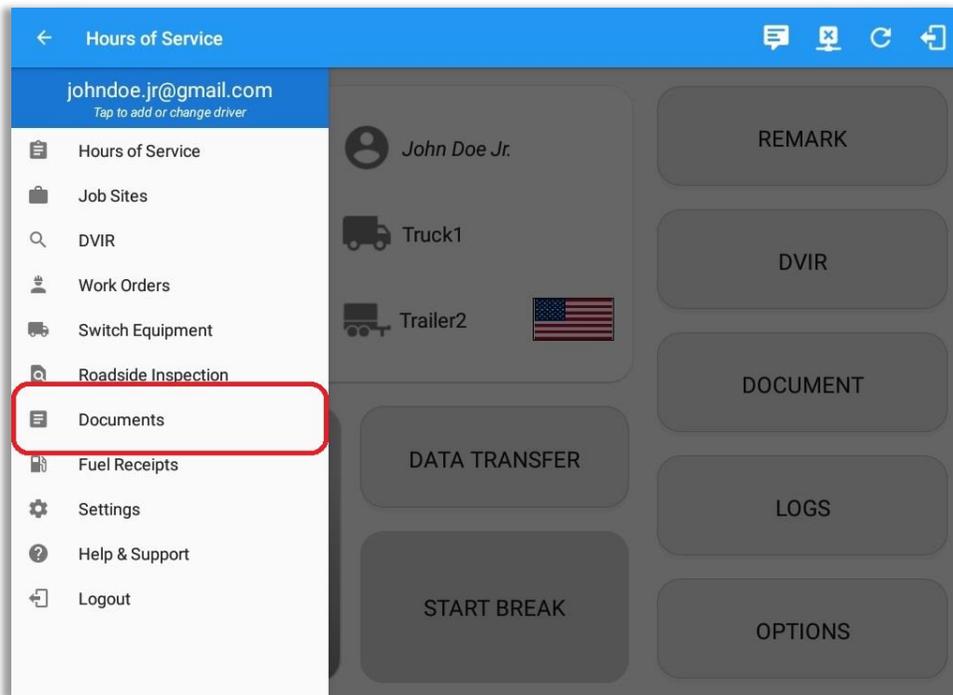


8 Documents

The Documents feature provides an easy way to capture, view and email documents related to hours of service activities. This includes documentation such as bill of lading, fuel receipts, accident photos etc.

There are a number of ways to access this feature:

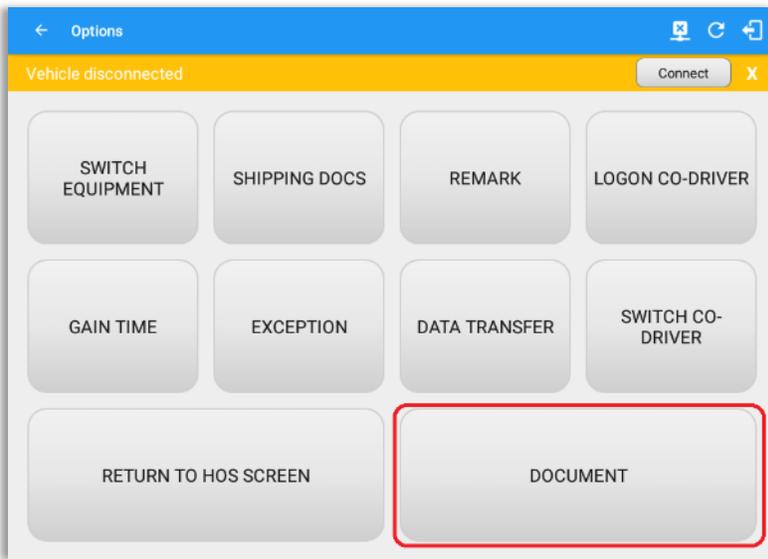
8.1 Documents – Main Navigation Menu



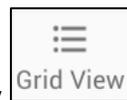
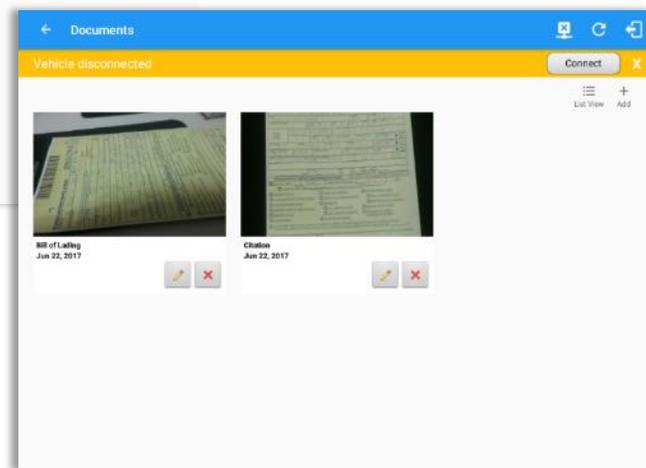
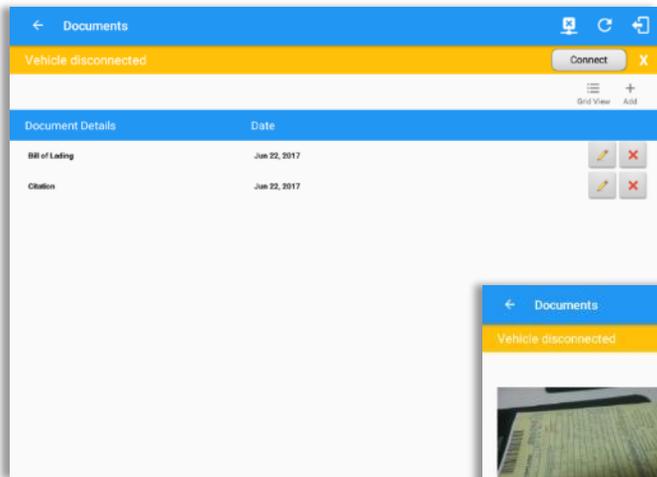
1. Slide the screen from left to right to show the **Main Navigation Menu**.
Or
2. Tap the **Main Navigation Hamburger** icon  to show the Main Navigation Menu.
3. Select the **Documents** button from the Main Hours of Service Menu.



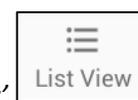
8.2 Documents – Options Menu



From the **Hours of Service Main Screen**, tap the Options button and then tap the **Document** button.



Grid View

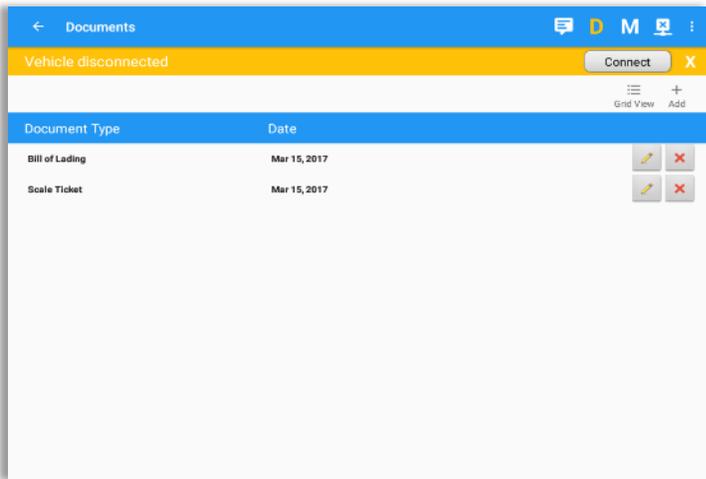


List View

Note: The Documents screen has two views; Grid View or 'List View'



8.3 Adding Documents



Tap the **Add** button, the camera app will open and you can then take a picture of the document or damage etc.

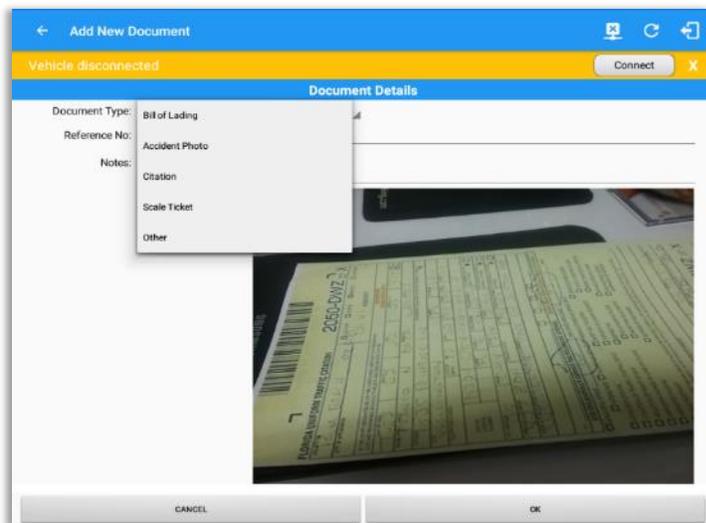
After tapping the Capture Image button, tap the Save button to save the image and add it to your document. You can also discard the image if you are not happy with the picture by tapping the Retry button.



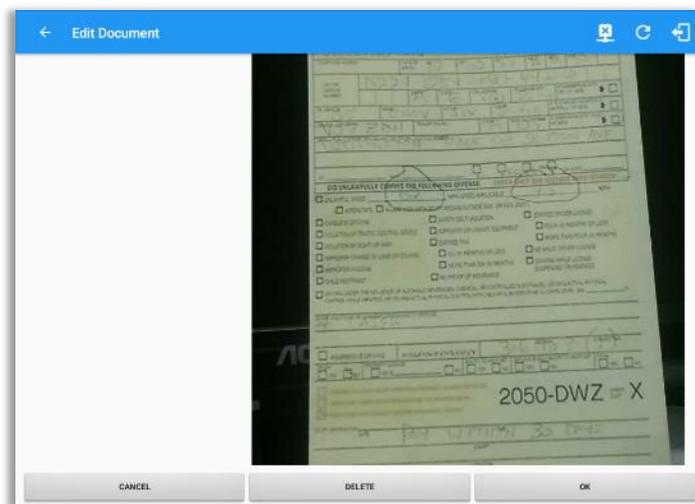
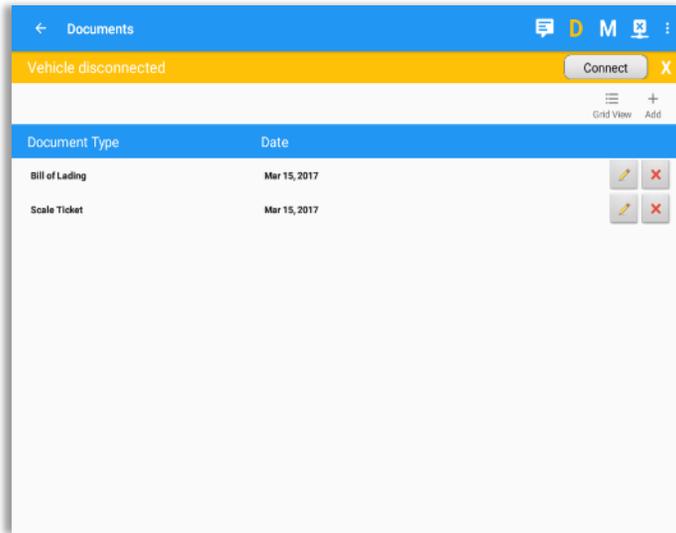
Select the type of document you wish to save by tapping the Document Type drop down list and selecting from the available options.

Enter your **Reference Number**
Add any **Notes** to support the image.

Tap the **OK** button to save and continue or tap the **CANCEL** button to return without saving.



8.4 Editing / Deleting a Document



Tap the Edit  button adjacent to the relevant document, make any required changes.

Tap the OK button to save the changes.

Tap the CANCEL button to return without saving the changes.

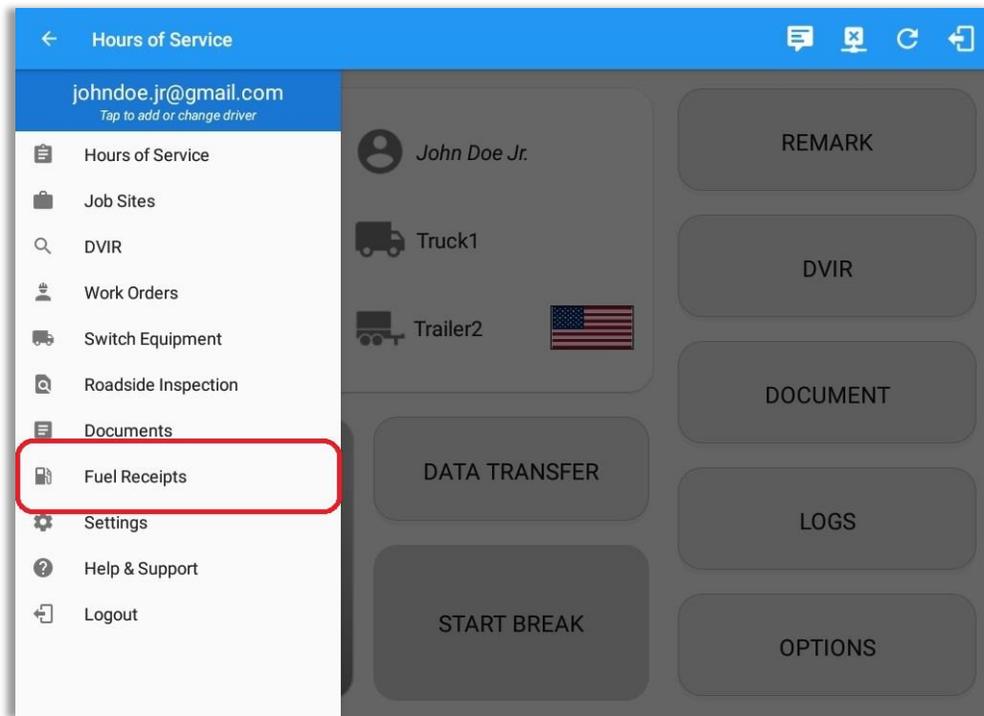
Tap the DELETE button to delete the document completely.



9 Add Fuel Receipts

The Fuel Receipt's feature provides an easy way to capture and view fuel receipts purchased related to hours of service activities.

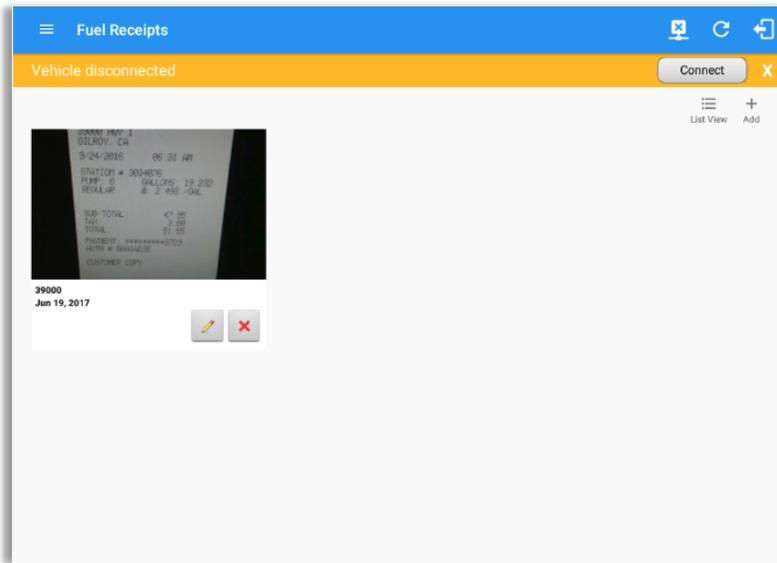
9.1 Main Navigation Menu



1. Slide the screen from left to right to show the **Main Navigation Menu**.
or
2. Tap the **Main Navigation Hamburger** icon  to show the Main Navigation Menu.
3. Tap on the Fuel Receipts button from the Main Hours of Service Menu.

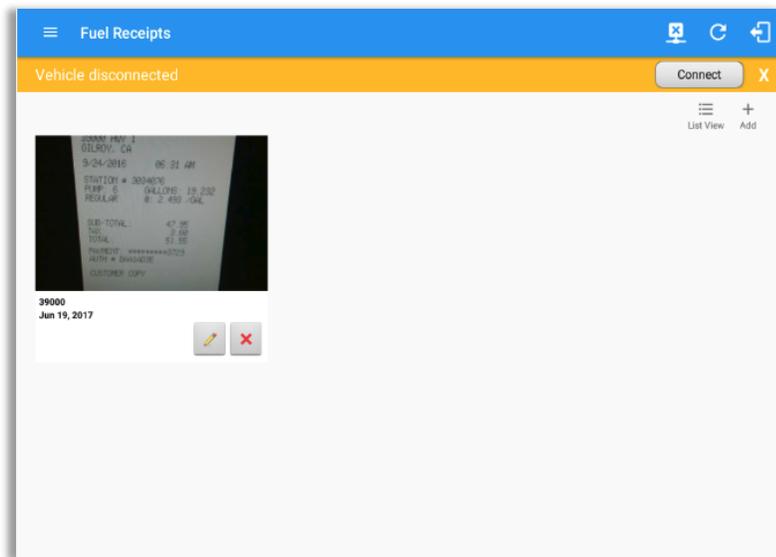


9.2 Fuel Receipts Screen



Note: You can change the documents' view to either "List View"  or "Grid View" .

9.3 Adding Fuel Receipts



The camera app will then appear to take a picture of the fuel receipt.

After tapping the Capture Image button, select the Check mark button to save the image and add it to your document. You can also discard the captured image by selecting the 'X' mark button.



Fill in the necessary information:

- Reference No.
- State
- Vehicle
- Fuel Type
- Gallons
- Total Cost
- Odometer
- Notes

Note: Unlike adding a document (e.g Citation or Bill of Lading), additional fields will be displayed when adding a Fuel Receipts.

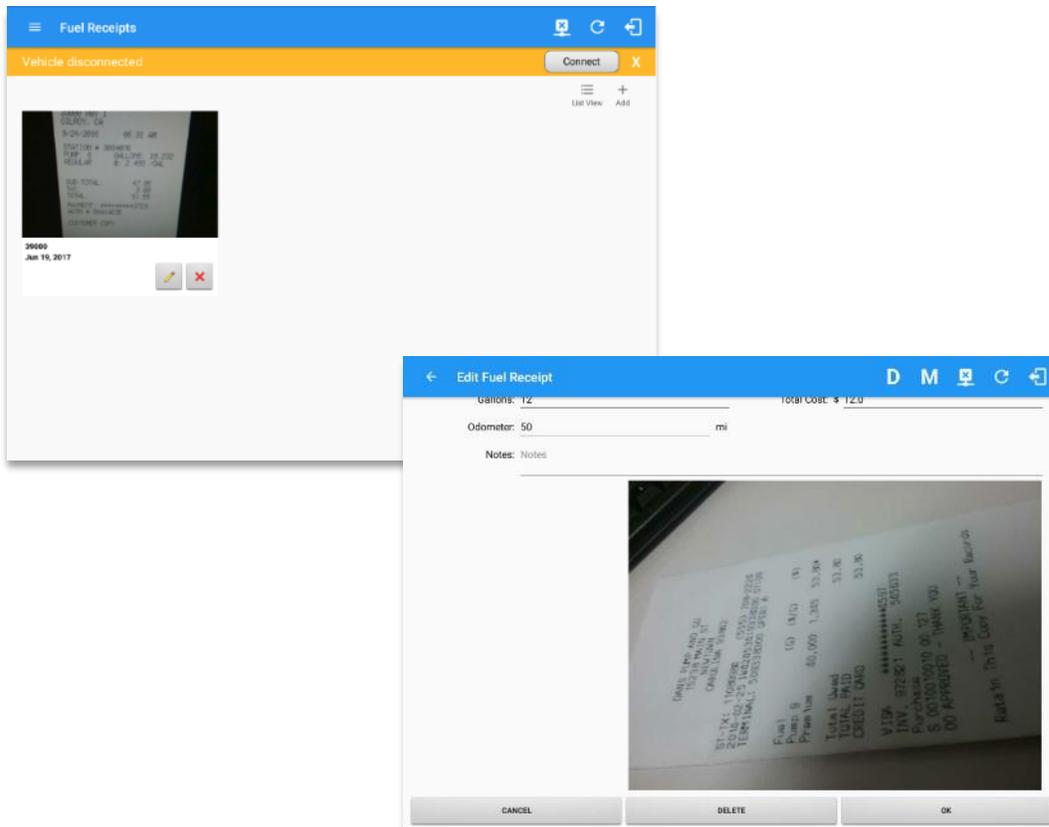
Notes:

- If the state selected is in **US**, the odometer and volume unit display is in **Mi & Gallons**.
- If the state selected is in **Canada**, the odometer and volume unit display is in **KM & Liters**.
- For every Fuel Receipt created via the App Fuel Receipt feature, it creates a Remark event, found on the Edit Logs screen, with a note "Purchased 1.345 gallons at \$53.80 price (sample note for the above purchased).



After filling in all the fields you can now tap the  **button** to successfully add the document. You can also tap the  **button** to cancel adding the fuel receipt.

9.4 Editing or Deleting a Fuel Receipts



Tap the Edit  button adjacent to the relevant fuel receipts, make any required changes.

Tap the OK button to save the changes.

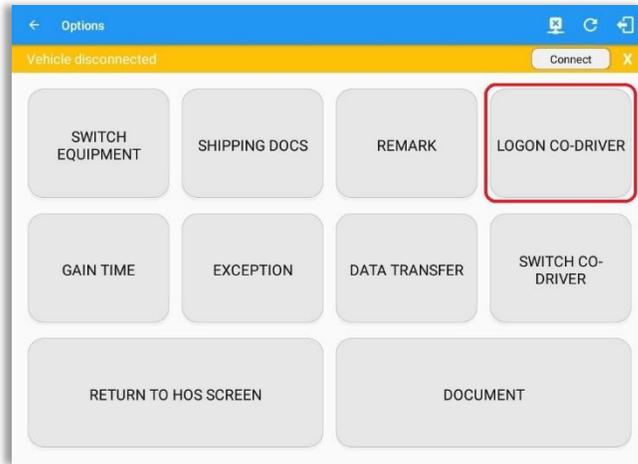
Tap the CANCEL button to return without saving changes.

Tap the DELETE button to delete the fuel receipt completely.

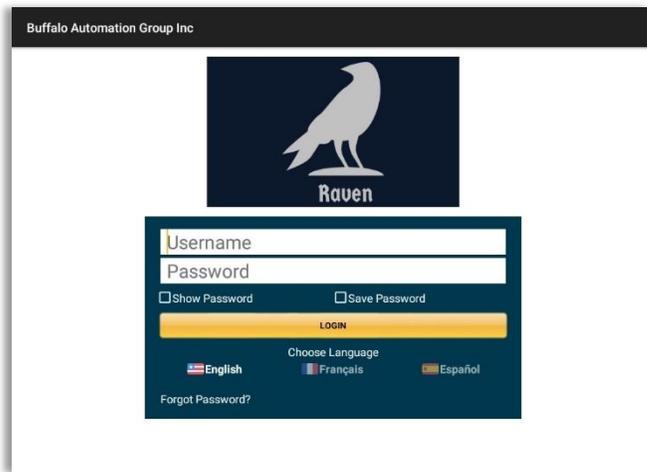


10 Co-Drivers

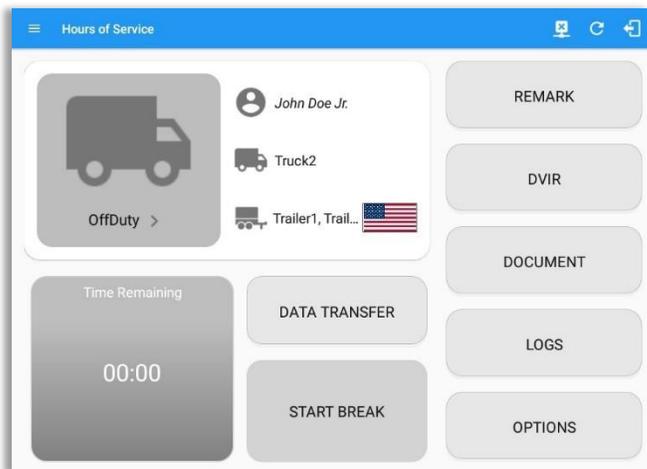
10.1 Logon Co-Driver



From the **Hours of Service Main Screen**, tap the **Options** button and then tap the **Logon Co-Driver** button.



Personnel accounts cannot be Co-Drivers. Only authenticated users with a Driver role are allowed to log-in as Co-Driver.



The Co-Driver must enter his/her **Username & Password** and then tap the **Login** button to continue, he/she will then be logged on successfully and the **Hours of Service Main Screen** will display their log details.





In addition, the Co-Driver's name is displayed in the daily logs which is placed under the grid chart.

Team Driving

When in Team Driving, The Co-Driver is allowed to review his/her information by having the "Access Co-Driver Logs" option on the lock screen which allows them to access the HOS dashboard and subsequently select the Logs option while the vehicle is still in motion.

BREAK WARNING

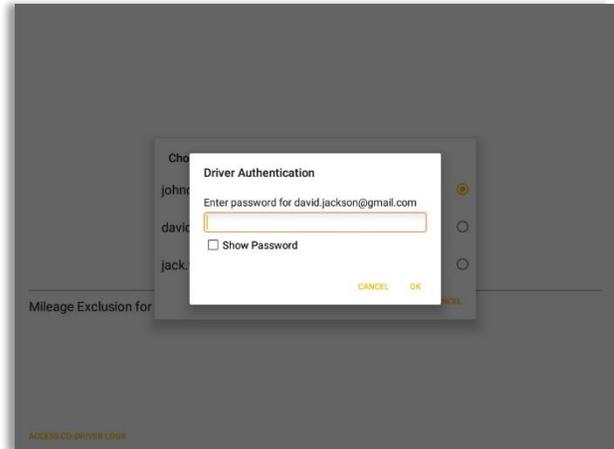
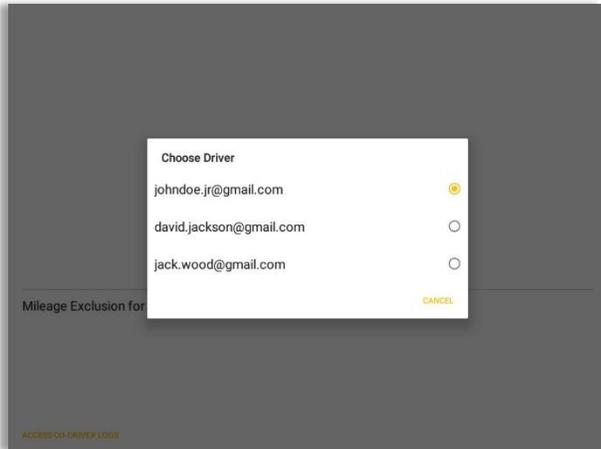
07:04

REMAINING TO VIOLATION

Mileage Exclusion for IFTA Off Road Toll Road 

[ACCESS CO-DRIVER LOGS](#)





See steps in 9.2 Switch Driver to complete process.

Once the Co-Driver has successfully logged in, the main dashboard is displayed with the co-driver’s information while setting the app in Review Mode with limited capabilities.

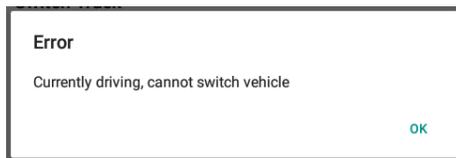
Review Mode

- When in Review Mode the Co-Driver cannot receive or access:
- ✗ Driving Notifications and alerts which relates to the Driver
 - ✗ Lock screen will not display even if the vehicle is in motion
 - ✗ Cannot switch vehicle
 - ✗ Cannot change the current event in to Driving event
 - ✗ Cannot update any preferences related to background services

- When in Review Mode the Co-Driver can receive or access:
- ✓ Data Diagnostics and Malfunctions pop-up dialogs
 - ✓ Pending Edit Request(s)
 - ✓ Allow modifications on previous events
 - ✓ Can edit current event to OnDuty ND, OffDuty & Sleeper except changing it into Driving

Notes: (When the vehicle is still in motion)

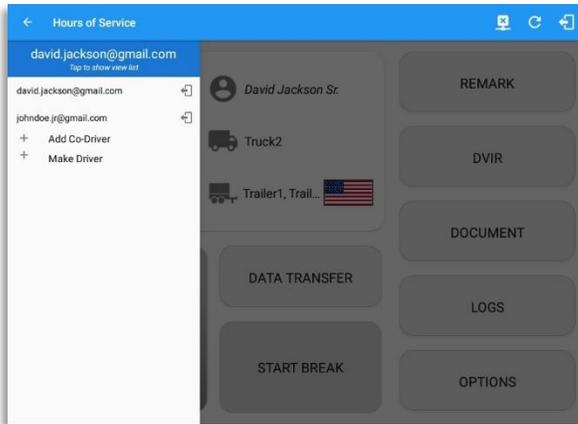
- Attempts to change the status to Driving will only display an error stating “Cannot change status while vehicle is in motion.”



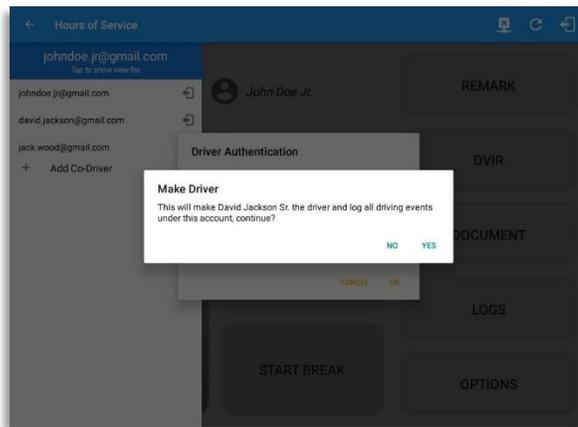
- Attempts to Accept or Reject requested driving event is not allowed in a co-driver’s account, instead an error dialog is displayed stating that “Only “Driver” can switch to “Driving” as current status.”



When a Co-Driver is on the Review Mode and that the vehicle is not in motion, an option to make the co-driver to become the Driver is available on the Drivers List.

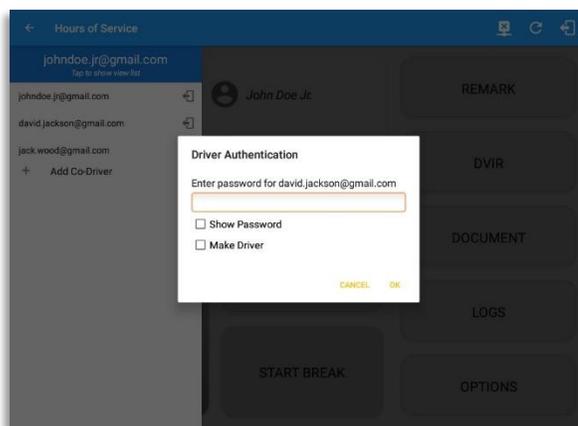


Once the “Make Driver” button is tap, a confirmation dialog will display.



- If **YES** is tap, the VBUS services will restart under the new driver’s account.
- If **No** is tap, the dialog will close.

Note: The “Make Driver” button will be disabled when the main driver is in a Driving state, which will then display a label stating “Cannot Change Driver While Driving”.



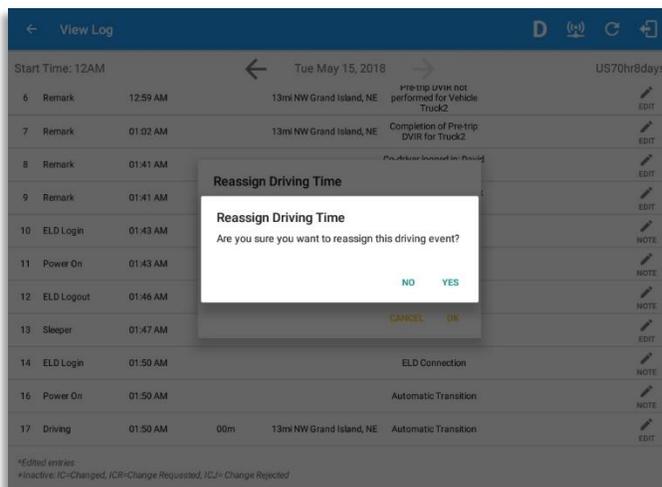
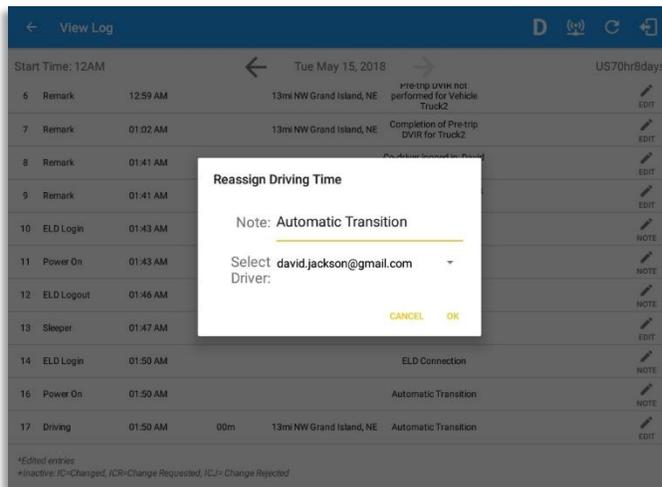
When the Driver switch to the Co-Driver’s account, in the Authentication dialog an option for the “Make Driver” is available.

Note: A driver that is set as the Driver is the one currently using the application while the other one is only in the monitoring state.



Reassign Driving Time

The ELD allows the driver to reassign his driving time to a co-driver.



Tap on the Edit button of the created auto driving event to display the Reassign Driving Time dialog. Select for the co-driver's name of the list.

Once the OK button is tap, it will display a confirmation dialog whether to proceed to reassign the driving time event.

- If **YES** is tap, the driving event will have recorded as an Inactive Changed (IC) event on the main driver's log
- If **No** is tap, the dialog will close and will not reassign the driving time.

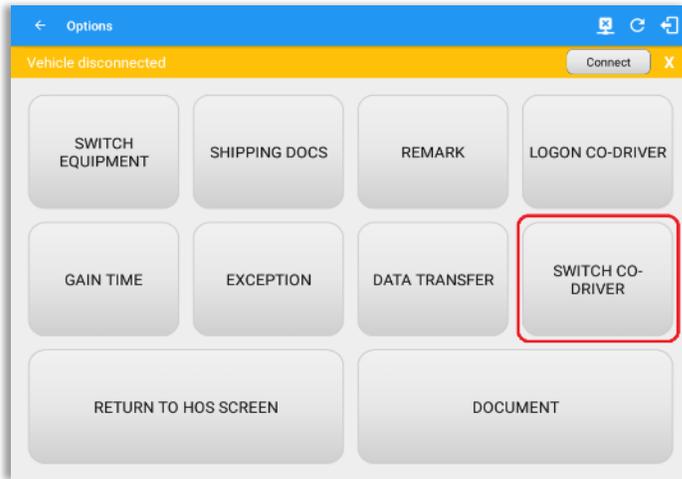
Switch to the Co-Driver's account to check the Reassign Driving Time which will be displayed on the Pending Edit Request dialog.

- If **Accepted**, the driving event will be reassigned and recorded on the co-driver's log.
- If **Rejected**, the driving event will not be recorded under the co-driver's log. However, it will be displayed as an Inactive Changed Rejected (ICJ) event (both Main and Co-drivers log).

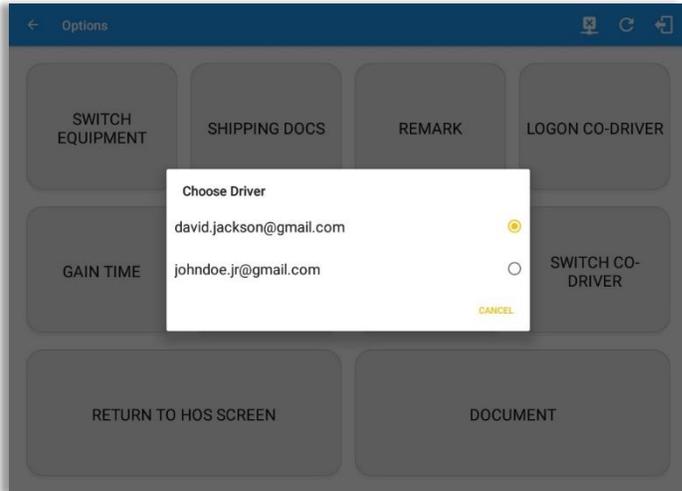
Note: A Co-Driver is not allowed to accept or reject a requested Driving event. Only "Driver" can switch to "Driving" as current status.



10.2 Switch Driver

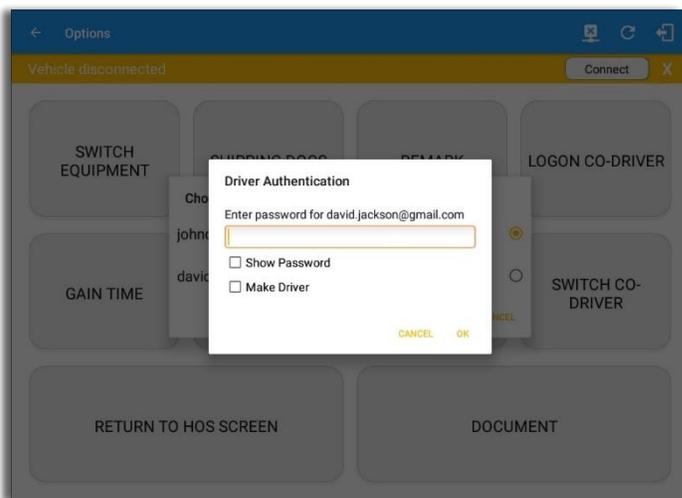


From the **Hours of Service Main Screen**, tap the **Options** button and then tap the **Switch Co-Driver** button.



From within the **Choose Driver** dialog, tap the driver's name who you wish to switch to.

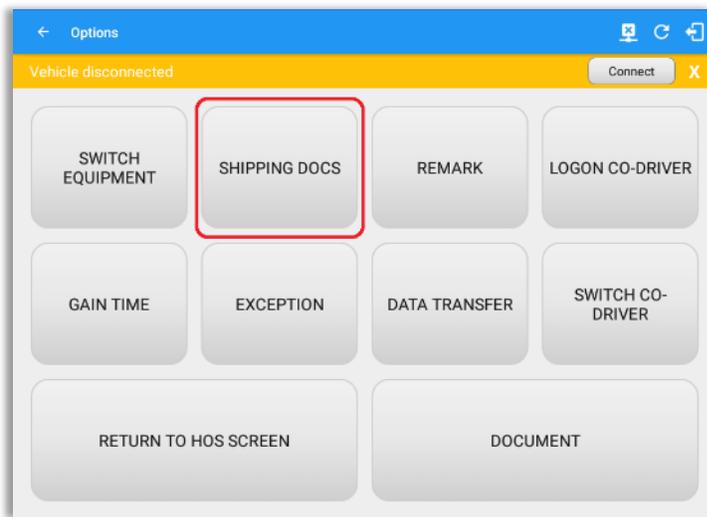
Tap the **CANCEL** button to return to the **Options** screen.



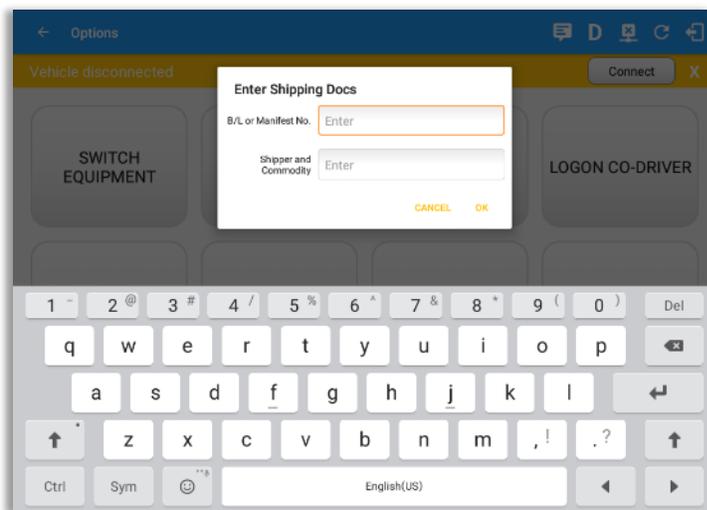
The Raven app then asks the co-driver to input the password to authenticate the account.



11 Shipping Documents



From the **Hours of Service Main Screen**, tap the **Options** button and then tap the **Shipping Docs** button.



Enter the **Bill of Lading** or **Manifest Number**.

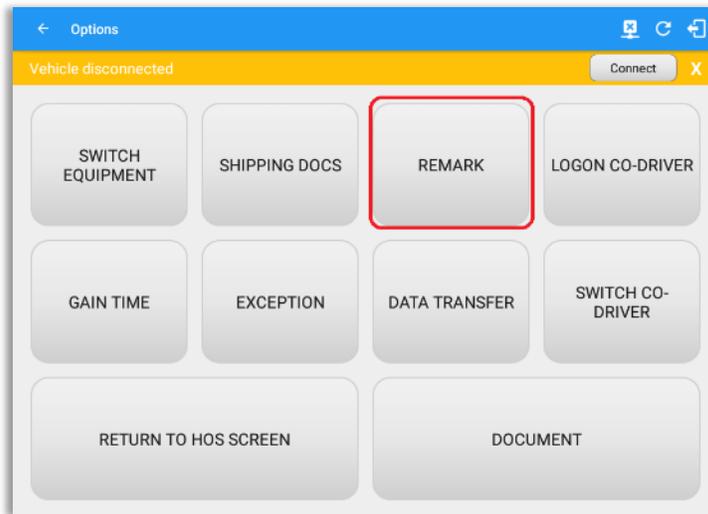
Enter the **Shipper** or **Commodity**.

Tap the **OK** button to save the details.

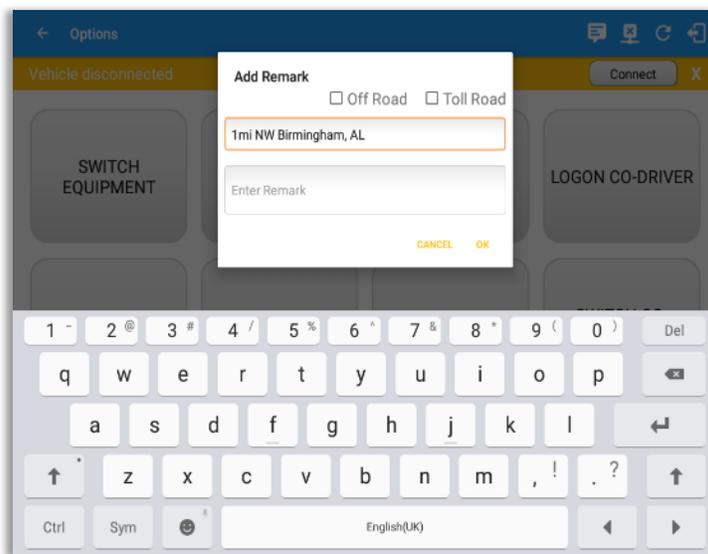
Tap the **CANCEL** button to return without saving.



12 Add Remark



From the **Hours of Service Main Screen**, tap the **Options** button and then tap the **Remarks** button.



Enter the **Location** (optional).

Enter the **Remark**.

Tap the **OK** button to save the remark.

Tap the **CANCEL** button to return without saving.

Off Road / Toll Road Feature:

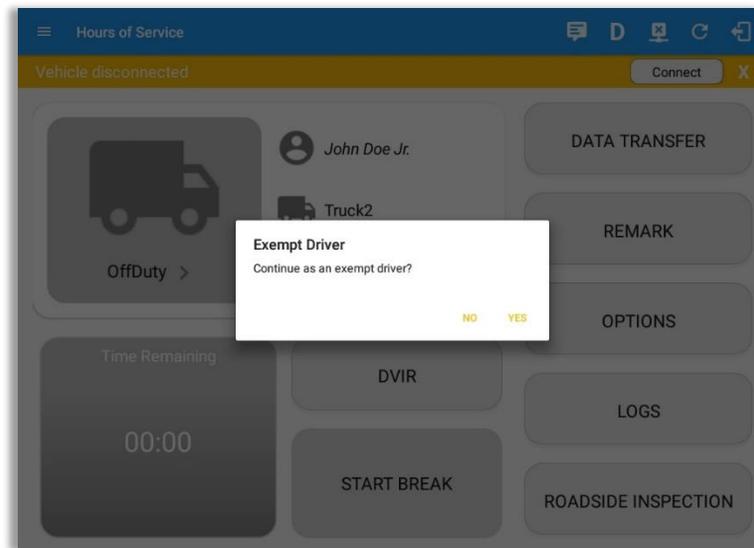
- When **Off Road** is enabled it will create a “Remark” with a note “Off Road”. When uncheck it will create a “Remark” with a note “On Road”.
- When **Toll Road** is enabled it will create a “Remark” with a note “Start Toll Road”. When uncheck it will create a “Remark” with a note “End Toll Road”.

Note: Hide or unhide “Off Road” and “Toll Road” options in the portal->Account Controls under App Controls-> “Show Off Road” and “Show Toll Road” checkboxes.



13 Exempt Driver

If the Driver is an **Exempt Driver** or a driver that operates under the short-haul exemption (395.1 (e)), upon *logging in* or *logging out* a dialog will display confirming whether the driver chooses to continue as an exempt driver.

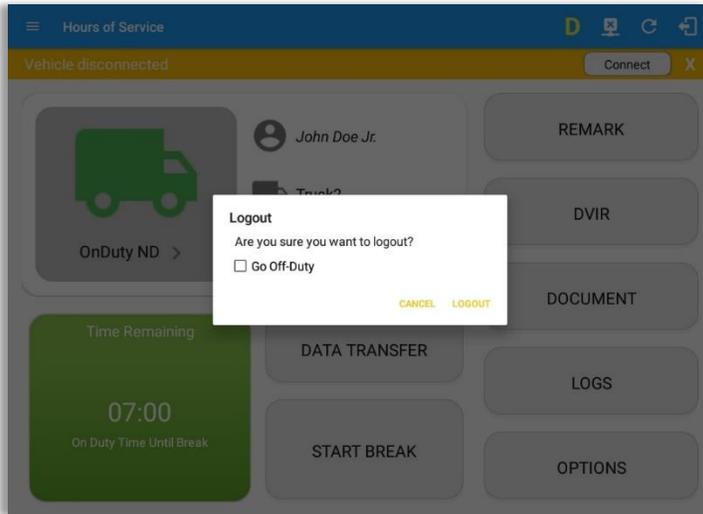


By selecting the OK button, the **“No Logs for Non-CDL-Driver Short-Haul Drivers operating within 150 air-miles”** exception will be enabled. You can enable Exempt Driver through these steps:

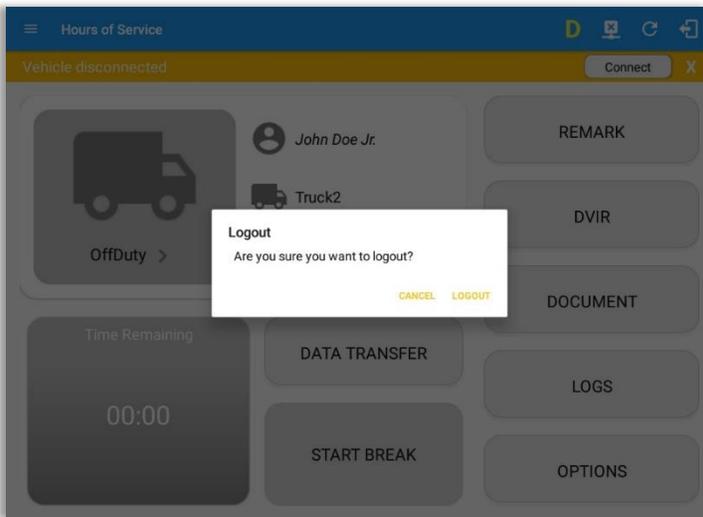
Login to Portal → Go to the Drivers Management page → Select on New Driver button or select the Edit driver button → Enable the Exempt Driver option



14 Logout



Logout message when status is still **'On Duty' or 'Driving'**.



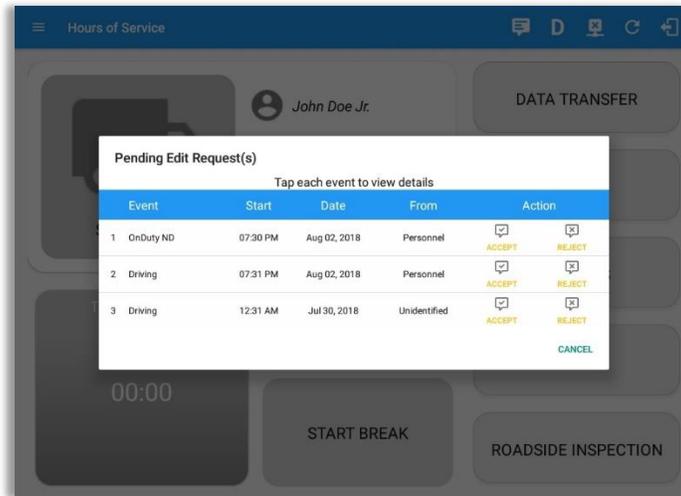
Logout message when status is **'Off Duty'**.

Note: Once the **“Logout”** option is tapped, the valid driver that logged into the Raven app will be logged out and the Raven app will be close completely (with no Buffalo Automation service or VBUS service running in the background).



15 Unidentified Driving Events

Unidentified Driving Events are events that are automatically recorded when a vehicle has been moving for more than 3 minutes while there is no driver logged in. These events are recorded under “**Unidentified Driver**” account. Unidentified Driving events can be accepted by actual drivers upon logging in to the app (within the Pending Request(s) window). However, the app prevents from Unidentified Driving for vehicle in **AOBRD** mode.



When the next Authenticated Driver logs in or logs out, this popup will then appear. In order for the Unidentified Driving Events to be reassigned, the logged in driver will be the one to accept or reject the **Pending Edit Requests** of the Unidentified Driver.

Accept Event

Do you really want to accept this event?

Event: Driving
Start: Nov 21, 2016 08:56 AM
End: Nov 21, 2016 08:57 AM
From:
To:
Vehicle Miles: 1
VIN: Simulated
Equipment ID: LheSoo
Origin: Unidentified
Note: Automatic Transition
Reason:

Enter annotation for this event

CANCEL OK

Note:

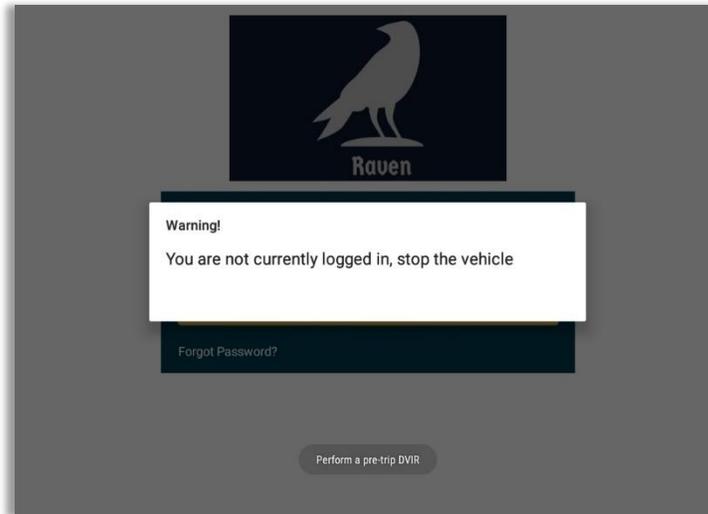
- Odometer field is displayed for edit request(s) made by the Personnel but it is displayed as Vehicle Miles field for edit request(s) made by the Unidentified Driver.
- The Unidentified Driving Event pending edit request dialog has additional details like: **From, To & Equipment ID** compared to that of the Personnel's pending edit request dialog.



16 Warning Features

Audible and Visible Warning

If the driver logged out from the app and the driver does not log onto the ELD, as soon as the vehicle is in motion, the ELD prompts a visual and audible warning reminding the driver to stop and login to the ELD.



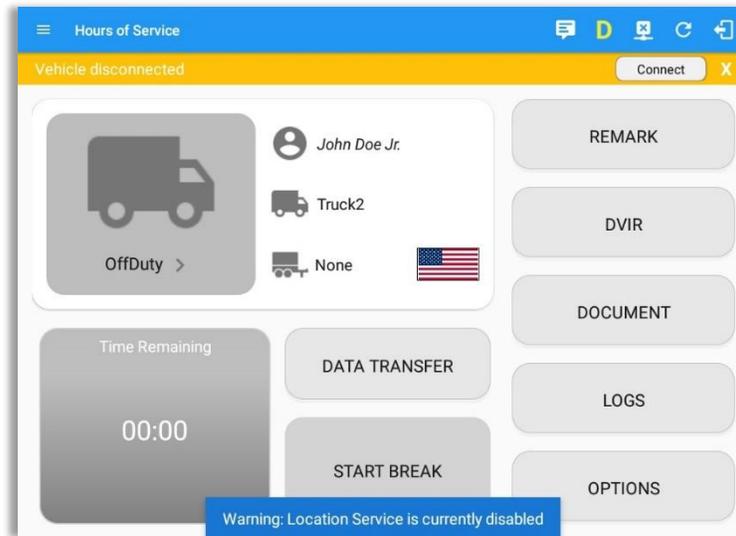
An audible alert is also available that can be heard every couple of seconds.

The **visible warning** stays on screen which prevents the driver from using any features of the tablet except from accessing it through the driver icon on the **notification bar**.

Location Services

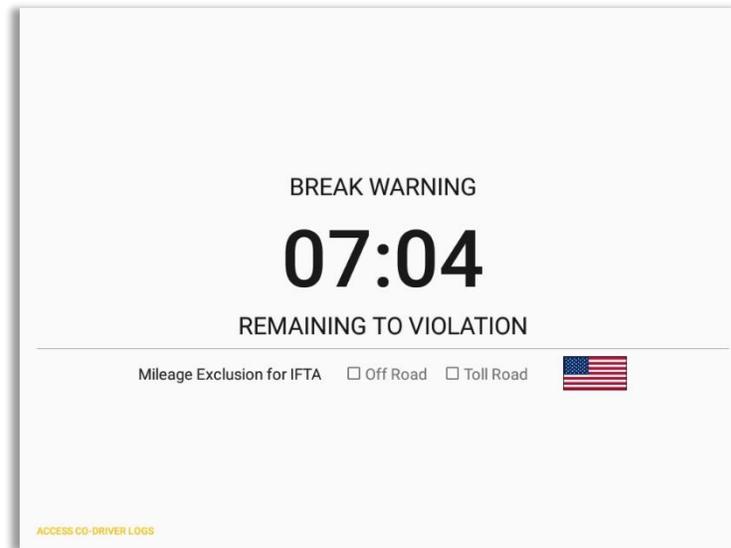
If the driver logged into the application without the Location Services turned on, a snackbar will display on the main dashboard and to other screens except for the screens navigated through the Settings menu. However, when the Location Services of the device is enabled then the snackbar will no longer display.





Lock Screen

All warnings acquired by the authenticated driver while driving, will be displayed on the lock screen and remains on screen along with a countdown (to 00:00) being displayed however the text will dim down after 15 seconds to not distract the driver. The normal text color (black or white, depending on day/night mode) will be displayed upon tapping of the screen.



Notes:

- *If the driver stops driving while one of the checkbox is enabled the driver can still uncheck the "Off Road" or the "Toll Road" through the Options screen > Remarks.*
- *Country flag displayed indicates which ruleset the driver is on: USA ruleset or Canadian ruleset.*



17 List of Login Errors

These are the different error messages that appear upon an incorrect login. Follow the steps that follow to determine the cause of the error and to mitigate the problem.

Login Errors	Mitigation Steps
No Internet Connection. Check your network connection.	Ensure that the tablet/mobile phone is connected to a data network or Wi-Fi network.
Invalid user id or password.	Ensure that the email address and password are correct and valid. The password should match the valid email address.
Unable to communicate with HOS server. Check your internet connection. Continue without syncing?	Contact Buffalo Automation support at (716) 636-1092 or send an email to eld@buffautomation.com .
A timeout error has occurred.	Ensure that the tablet/mobile phone is connected to a data network or Wi-Fi network with internet access. If issue persists, try again later or contact Buffalo Automation support at (716) 636-1092 or send an email to eld@buffautomation.com .
An unknown error has occurred.	Contact Buffalo Automation support at (716) 636-1092 or send an email to eld@buffautomation.com .
Username is required.	Ensure that the username field is not empty.
Password is required.	Ensure that the password field is not empty.
Login timed out.	Ensure that the tablet/mobile phone is connected to a data network or Wi-Fi network with internet access.
An error has occurred while creating the account. If the error continues please contact Buffalo Automation for assistance.	Try logging in after a few minutes and if error persists, contact Buffalo Automation support to (716) 636-1092 or send an email at eld@buffautomation.com .
An error has occurred while retrieving account details.	Contact Buffalo Automation support at (716) 636-1092 or send an email to eld@buffautomation.com .
An error has occurred while setting up the account. Please	Contact Buffalo Automation support at (716) 636-1092 or send an email to eld@buffautomation.com .



contact Buffalo Automation for assistance.	
Check account configuration	Ensure that the driver and the asset are in the same Visibility Sets and has a role Driver role.
Error creating unidentified driver account	Try logging in after a few minutes and if error persists, contact Buffalo Automation support to (716) 636-1092 or send an email at eld@buffautomation.com .
A non-driver accounts cannot be login as co-driver.	Ensure that the user account has a role Driver role. Personnel accounts are not allowed to log in as co-drivers.
Your Buffalo Automation version is <current build version>. This version is no longer supported. Please upgrade to <latest build version> or greater for stable operation.	Upgrade the Application to the latest version.

