LoadMan® CanCoder Android Application Reference Manual

For

Underbody CanCoder™ Weight Systems

Revision 5.2013-1

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SAFETY WARNING

Using this system while operating a motor vehicle may be distracting, dangerous, or prohibited. The driver remains responsible for safe travel, should obey laws and regulations, and should exercise good judgment at all times. Failure to pay full attention to the operation of the vehicle may cause an accident resulting in serious consequences.

You assume sole responsibility and risk for using this system.

INTRODUCTION

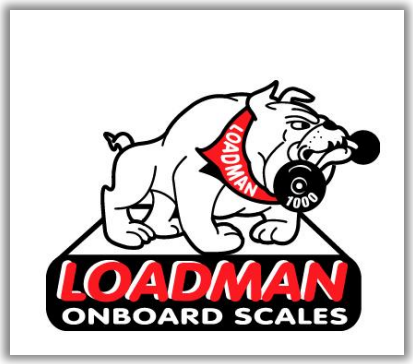
The *LoadMan*® CanCoder Android Application (App) is a software program capable of running and controlling underbody scale systems for rigid body trucks or trailers. The App documented in this manual is programmed for displaying the weights measured by one to six CanCoders each representing a different Truck/Trailer. This software App can display the NET, GROSS and current LOAD weight of each CanCoder in the scale system. This information can be displayed to a driver of the vehicle and optionally can be sent via the internet to be stored in the cloud. The information can then be accessed by a typical Web Browser in real time if the Tablet has a cellular service.

The *LOADMAN*® system is completely automatic and the driver/operator does not have to press any buttons or take any actions to obtain a weight reading. The Android device display provides all the information needed to understand the status of the weighing system.

STARTUP

STARTING UP THE CanCoder APPLICATION

Find the *LoadMan®* Icon on the Android device. Tap on it and the CanCoder® App will start up. The Icon looks like the image shown below.



LOADMAN

The Startup screen pops up and shows the *LoadMan®* Logo for 1-2 Seconds

LICENSING THE CanCoder APPLICATION

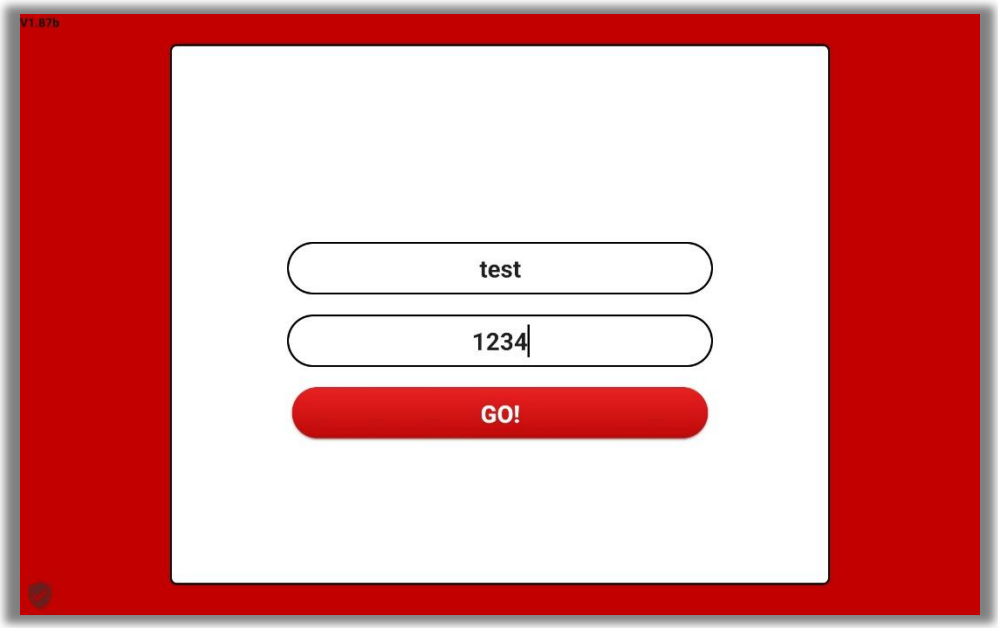
If the CanCoder® App has never been licensed, then after the start up screen appears an Enter License screen will appear. Entering a license code provided by *LoadMan*® gives the Tablet instructions on how to properly connect to the correct customer's cloud database that the Tablet is licensed to. If the CanCoder® App has already been licensed properly, then the screen below is bypassed.

- First, a six-character license code must be obtained from *LoadMan*® On-Board Scales. Enter the code provided in the text box by tapping on "Enter License Code" text and a keypad will appear to enter the six-character code provided. Once entered correctly tap on the "DOWNLOAD" button. If successful, the App will show "Downloading License" then will go on to either a driver login page or will display "Scanning for Trucks."
- You can re-license an App by tapping on the small shield with a checkmark on it in the lower left corner of the screen when the App is first launched. Once the shield is clicked, a text field to enter a license code will be presented.

STARTUP FOR ONLINE APPLICATIONS

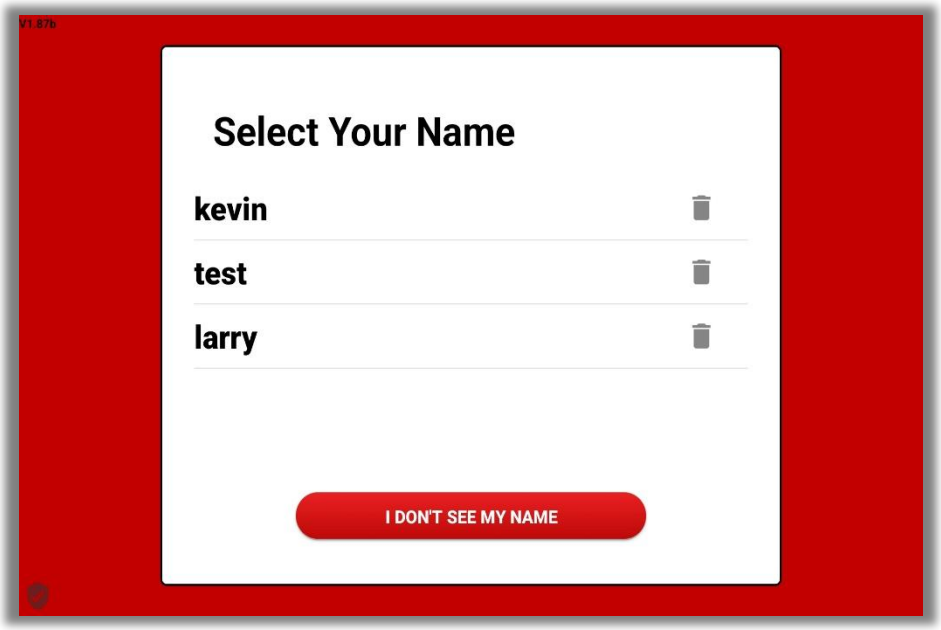
- If it is desired for the App to be “online”, meaning it will send load data to the cloud as well as receive data (routes, stops, services etc.) from the cloud, the startup process will involve 3 main steps. 1) Logging in as a driver. 2) Connecting to the truck. 3) Selecting the route. If the driver login is not desired, then later in the initial setup you can setup the CanCoder® App to bypass the driver login screen and it will default to the driver that last logged in successfully and skip the driver login screen automatically. If you are using the driver login option, and there is only one driver in the cloud database then you will see the driver and password screen appear (shown below). Also, once you log in you can program a setting to forget the password entry altogether. Some users may not want to spend the time needed to enter a password, but others may want to protect who runs the App by using passwords.
- The Program Version of the CanCoder® App is shown in the upper left corner of the display in small lettering for reference.

The “Logging in as a Driver” screen will look like the screen below



STARTUP

If there are multiple drivers in the cloud database, then you will see a screen below with all the possible drivers and you must tap on your name to select the correct driver. Once you do that the password screen comes up.



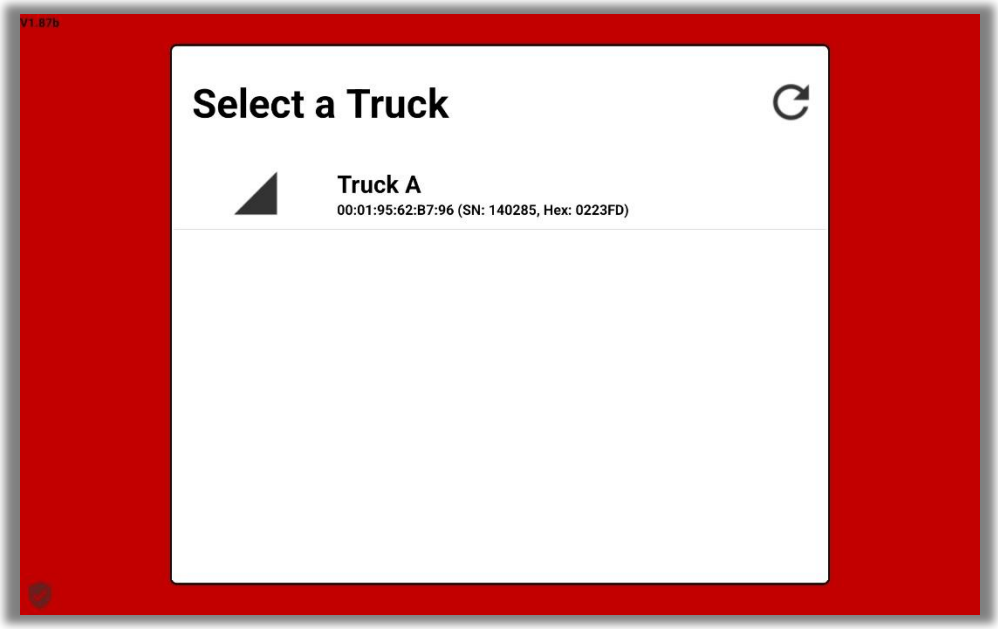
- Beforehand, a driver and password must be set up. This can be done online using Loadman's Driver Portal. Once a driver has been made, simply log in by entering their name and password and tap on "GO"
- An internet connection is needed to log in as a driver who has never logged in before. After a driver has logged in once, an internet connection is not needed to log in as that driver.
- Once a driver has logged in at least one time, their name will be displayed on a list right when the App starts. If you want to log in as that driver, simply tap on their name and enter their password.
- If you want to log in as a driver and their name is not on the list, tap on "I DON'T SEE MY NAME" at the bottom on the screen, enter the driver's login credentials and tap on "Go". This could happen if the driver has never logged into the CanCoder® App before.
- To remove a driver in the list, tap on the trash can icon to the right of their name.
- THERE MUST NEVER BE THE SAME DRIVER LOGGED IN TO MORE THAN ONE INSTALLATION RUNNING IN A FLEET. THIS IS NOT ALLOWED.

STARTUP

SKIPPING THE DRIVER LOGIN

- Logging in as a driver is needed for the online App to function, as it supplies credentials to use our API. However, if it is not wanted to have drivers be kept track of by having them enter their own password, the driver login can be skipped once a driver has logged in at least one-time. An option to enable “Skip Driver Login” can be found in the **MISC** page in the **SETTINGS** of the CanCoder® App. Once enabled, the driver’s name that appears at the top of the driver’s name list will automatically be logged in upon startup.
- Alternatively, if you do want to keep driver tracking, but don’t want to have them bother with passwords, you can enable a setting to skip the password entering screen, but still require someone to tap on a name.
- Finally, a driver’s name and password can be setup in the license for the App, so that from license download, a driver will automatically be logged in.
- If the first thing you see when you start the CanCoder® App is “Logging in”, driver login skipping has been enabled. If you want to disable this, simply uncheck it in **SETTINGS** > **MISC**.

CONNECTING TO A TRUCK USING THE WIRELESS BLUETOOTH OPTION



- The app will display “SCANNING FOR TRUCKS” and it will display all licensed *LoadMan*® devices within Bluetooth range. To connect to a truck, tap on one of these devices.
- If you are stuck on “SCANNING FOR TRUCKS” and nothing is popping up on the screen, there are a few things you can do. First, open the main “Settings” app on the Android device, then go to Connections > Bluetooth and scan for available devices. Make sure nothing is paired to the tablet having “Loadman” in its friendly name. If there are, then unpair it and hit “scan” again. If you now see a “Loadman” device under “Available Devices” then a Loadman device is in communication range. Again, make sure it is under Available Devices and NOT Paired Devices. Once it shows up, restart the CanCoder® App and it should come up properly.
- If still nothing is showing up it may be that there are no *LoadMan*® devices in range to connect to. Contact *LoadMan*® as something could be configured incorrectly with your license.

Selecting the small truck icon in the bottom right corner will display a message saying, “Reset CanCoders for a New Truck?” Clicking “YES” will erase all of the ID data saved in the Tablet and it will reset to the factory defaults. This can be useful when disconnecting and connecting to new CanCoders as the Tablet may confuse new CanCoders with previous ones it has connected to.

STARTUP

CONNECTING TO A TRUCK USING THE USB WIRED RS232 OPTION

- Plug in the USB cable from the scales to the Android device's USB port. Android may ask you to enable serial communication for the connected device. Tap the allow option to enable this. It may also ask if you want to automatically launch the *LoadMan®* app when the USB device is connected. Also allow this and either start the app yourself or let the app start automatically. Once the CanCoder® App has started, it should automatically connect and begin communicating with the scales.
- If you open the app and see "SCANNING FOR TRUCKS" even though the USB device is connected, unplug the USB cable and then plug it back in to the device. If that still does not work, restart the Android device. If it still does not work, contact *LoadMan®*.
- If you see a message pop up that gives a scale system serial number and says, "Scales not Licensed" contact *LoadMan®* to fix your license.

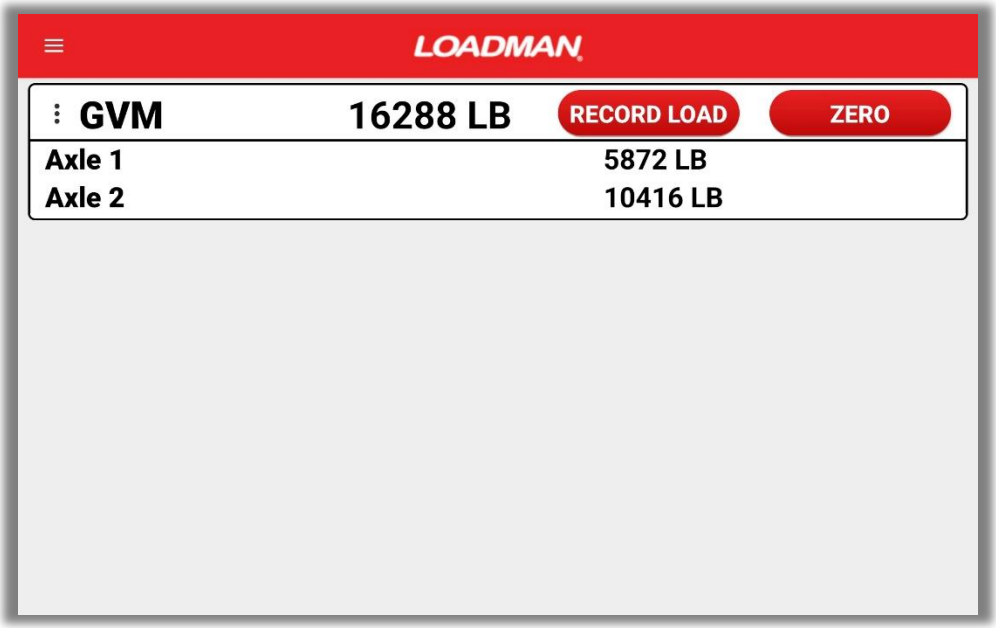
STARUP FOR OFFLINE APPLICATIONS

Offline Applications operate much simpler than online Applications. Once an App has been licensed for offline operation, you can simply connect a scale system and go on to the normal operating mode. See "CONNECTING TO A TRUCK" under the **ONLINE APPLICATIONS** section for more information. This mode allows the scale to be viewed, set up and calibrated but it does not allow customers or commodities to be associated with a Stop Pickup.

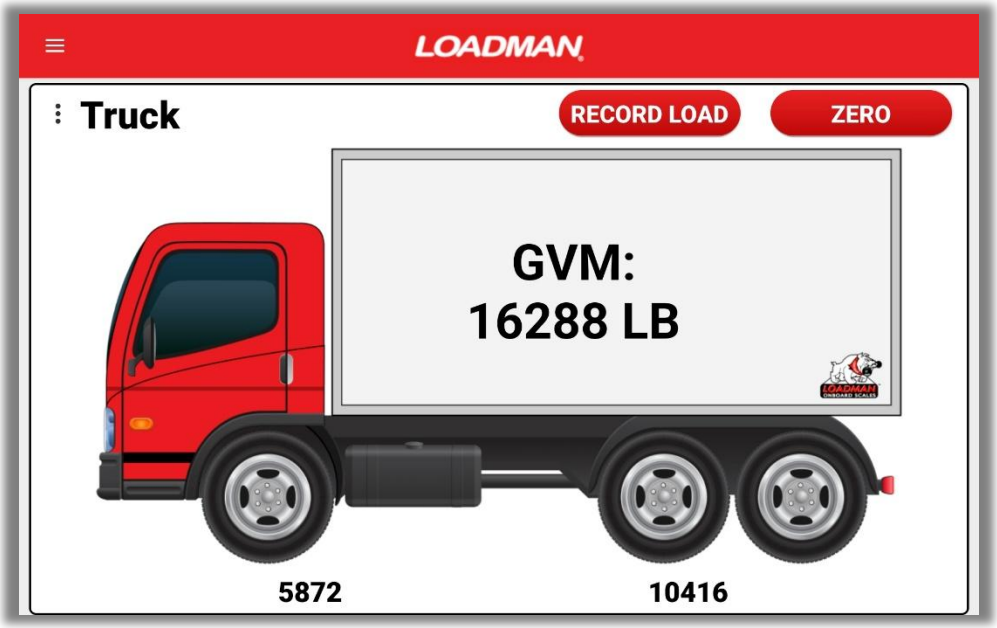
NORMAL OPERATING MODE

Once you get through the startup screens, you will enter the Normal Operating Mode. The operation and status of the scale is viewed and controlled through this screen. Here is a brief overview of some possible configurations for the main operating screen:

SYSTEMS WITH ONLY ONE CANCODER:

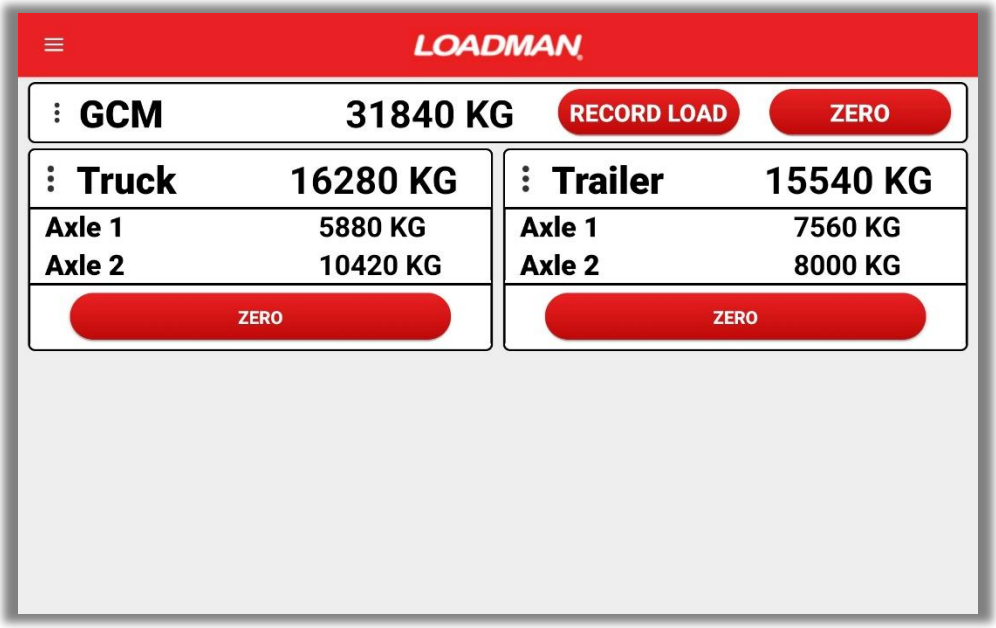


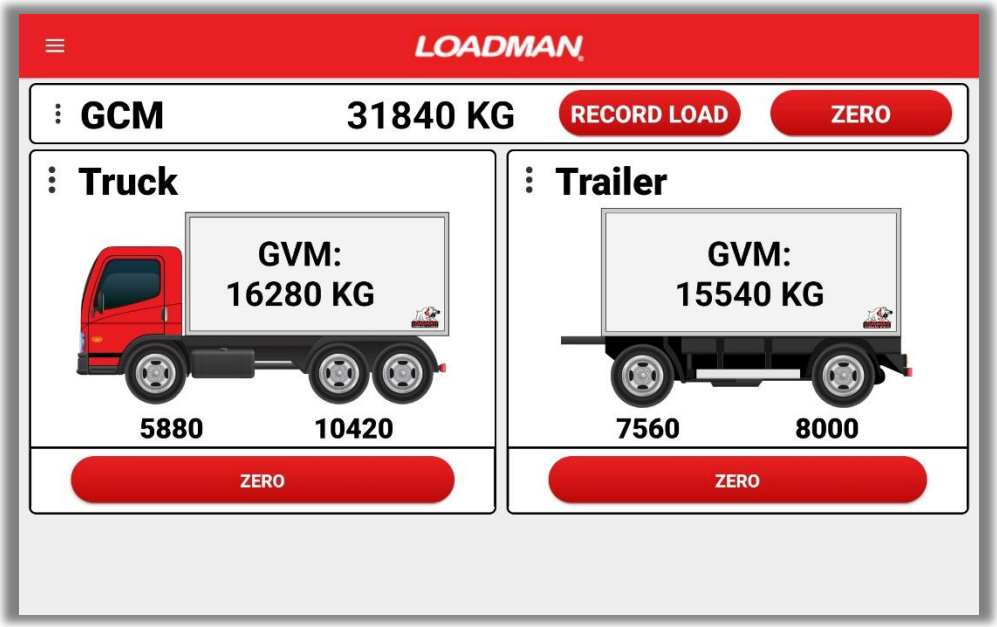
When “SHOW GRAPHIC” is selected, the main operating menu will display the chosen graphic (see **SCALE GROUPS**). Notice that the axle group weights are shown below their respective axle groups.



NORMAL OPERATING MODE

SYSTEMS MORE THAN ONE CANCODER:





OPERATIONAL CONTROLS – To perform common scale functions, such as zeroing the scales, a button can be found in the right corner of the main scale group box. If there are multiple CanCoders in the system, the three dots to the left of the scale group name can access similar functions.

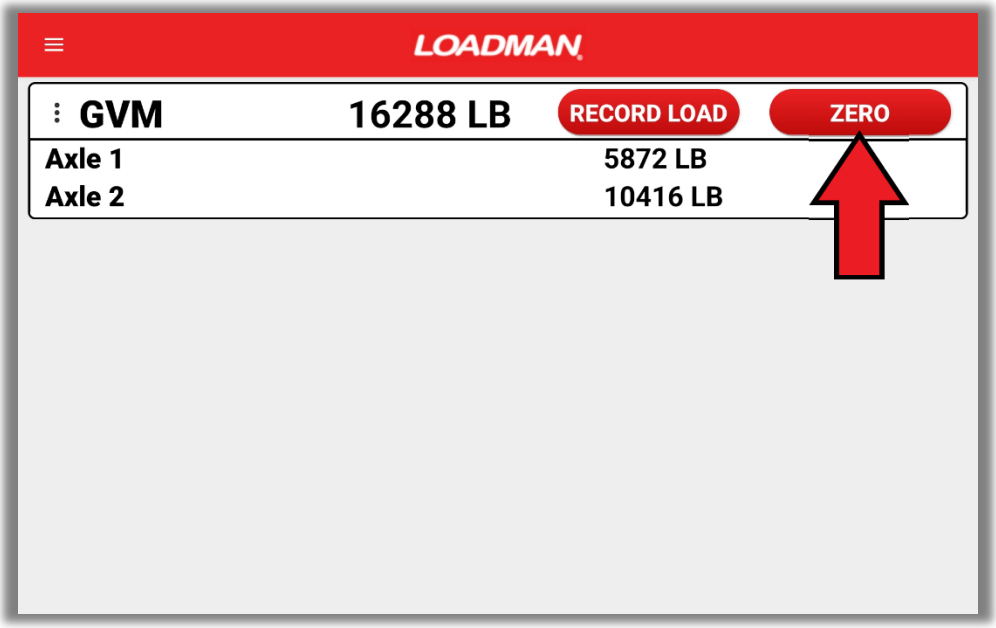
DISPLAY CONTROLS – To show different parts of the scale system, such as the axles, as well as changing the weight mode the information is displayed in, the three dots on the left of the name of the scale group open a dropdown menu that allows the driver to select the desired displays.

OPERATIONAL CONTROLS

ZEROING THE SCALES

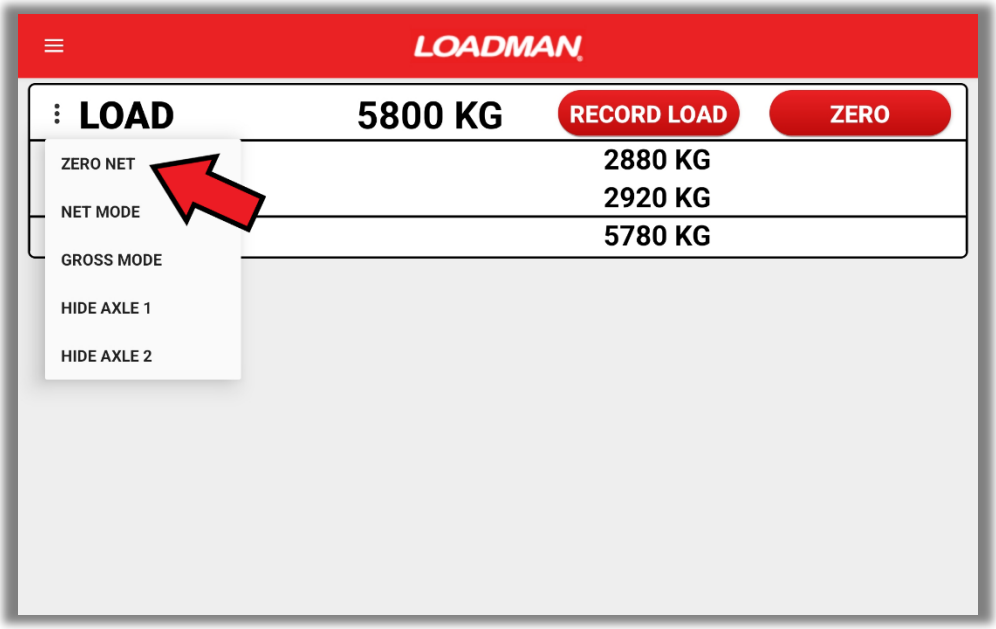
SYSTEMS WITH ONLY ONE CANCODER:

If the system connected to the App has only one CanCoder, there will be only one scale group box. To zero the scales, tap on the “ZERO” button in the top right corner of the screen. There will be a confirmation prompt to zero the scales when this is done.



If the App is in LOAD MODE, the button will zero just the LOAD weight. To zero the NET weight, tap on the 3 vertical dots on the left side of the main weight box and select “ZERO NET” from the options.

NORMAL OPERATING MODE

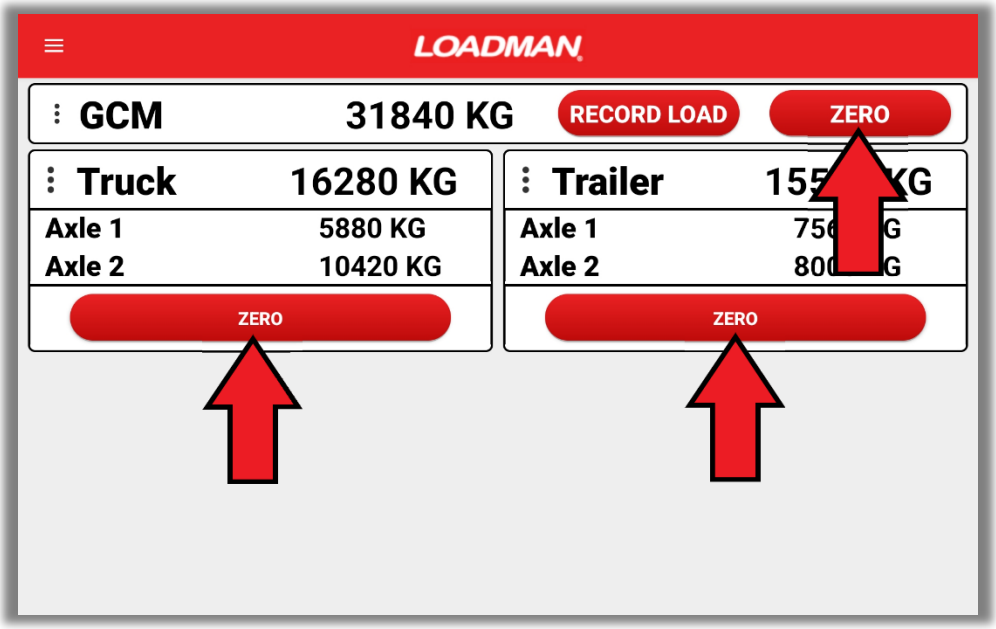


SYSTEMS WITH MULTIPLE CANCODERS:

Each scale group will have a red ZERO button underneath it. Tap this button to zero the scale group.

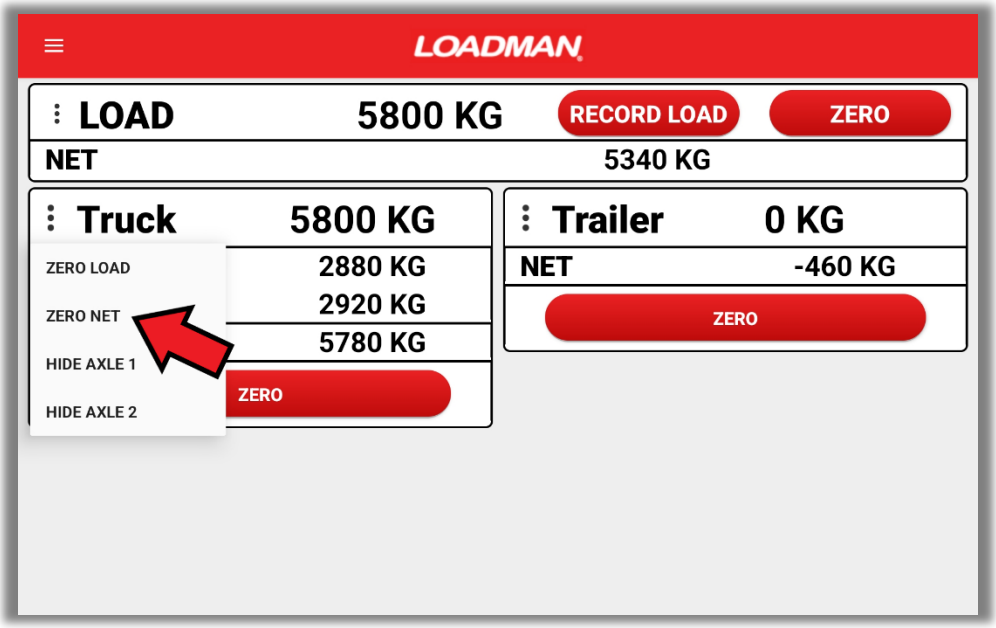
If the system is in LOAD MODE, the “ZERO” button will only zero the LOAD weight, to zero the NET weight, tap on the 3 vertical dots on the left side of the weight box and select “ZERO NET” from the options.

To zero all scales, tap on the red “ZERO” button in the top right corner of the screen.



NORMAL OPERATING MODE

If the App is in LOAD MODE, the button will zero just the LOAD weights. To zero the NET weights as well as the LOAD weights, tap on the 3 vertical dots on the left side of the main weight box and select “ZERO NET” from the options.

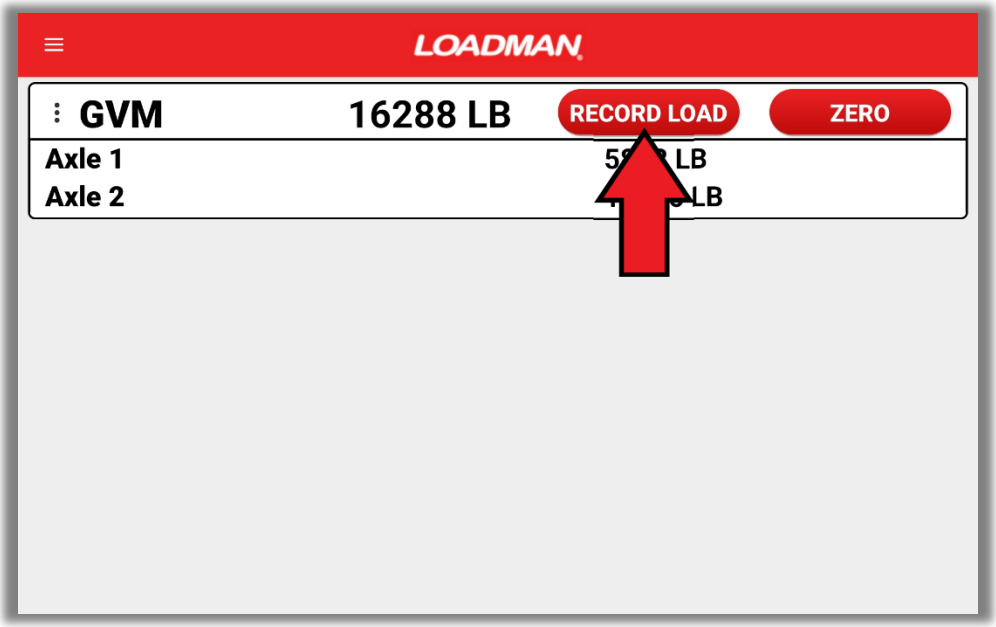


NORMAL OPERATING MODE

RECORDING A LOAD

For online operation, a “RECORD LOAD” button will be present in the main scale box at the top of the screen.

Tapping on this button will instantly send a Load Record, which contains most current information about the truck and/or trailers.
This record will be sent to your database, stored in the cloud and can be accessed with any web browser.
An internet connection is required to send a load record but if no internet is available, the record will be saved to the Android device and uploaded when an internet connection is regained.



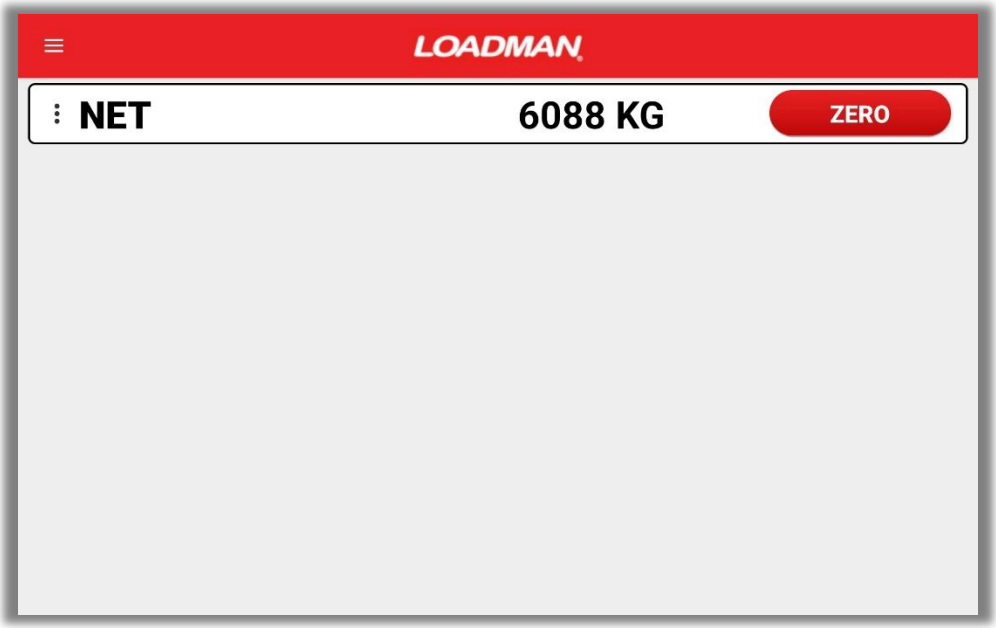
DISPLAY CONTROLS

WEIGHT MODES

The weight mode that the Android Application is set to will determine how the weight from the scales is displayed. The weight mode can be changed by tapping on the 3 vertical dots to the left of the main scale group box and selecting the desired option.

NET MODE:

In the NET operating mode, *LOADMAN®* displays the net vehicle weight (or the payload weight). When in the NET operating mode, all weights (NET, TRUCK, SUB WEIGHT(s), AXLE(s) and STEER) are displayed as NET weight. For a properly calibrated system, all NET weight displays will read "0" whenever the vehicle is empty and is in the weigh position (e.g., truck and trailer must be raised to the weigh position for tipping body installations).

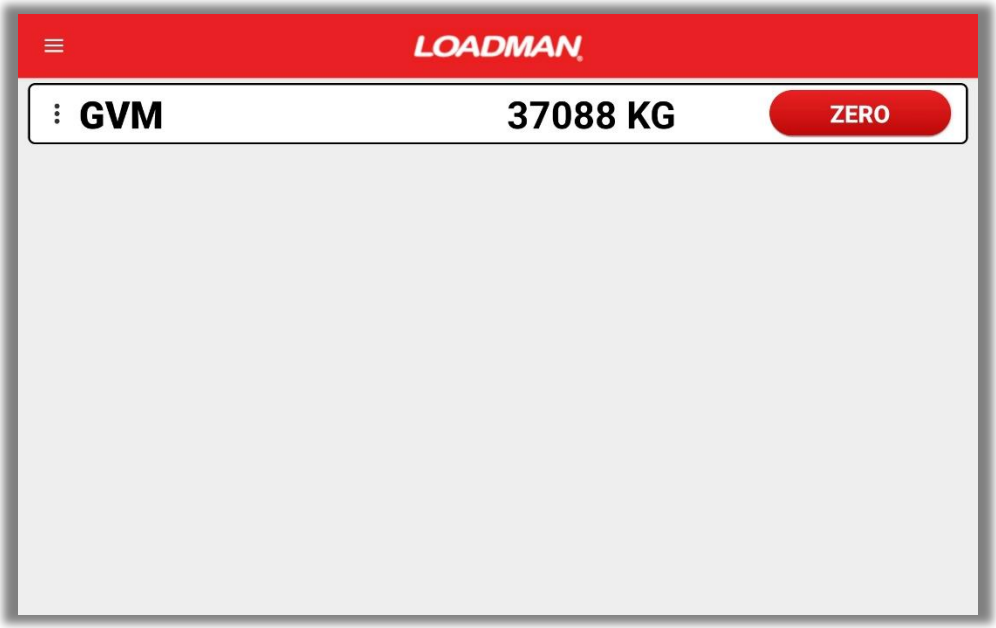


If the NET weight does not display "0" when the vehicle is empty, then tap on the "ZERO" button. If your system has multiple CanCoders and you only wish to zero one of them, tap on the three dots next to the CanCoder's alias name and select the "ZERO" option.

GROSS MODE:

In the GROSS operating mode, *LOADMAN®* displays the GROSS vehicle weight – which is the payload weight plus the tare weight. When in the GROSS operating mode, all weights (GROSS, TRUCK, SUB WEIGHT(s), AXLE(s)and STEER) are displayed as GROSS weight. For a properly calibrated system, all GROSS weight displays will display the programmed tare weights whenever the vehicle is empty and is in the weigh position.

NORMAL OPERATING MODE

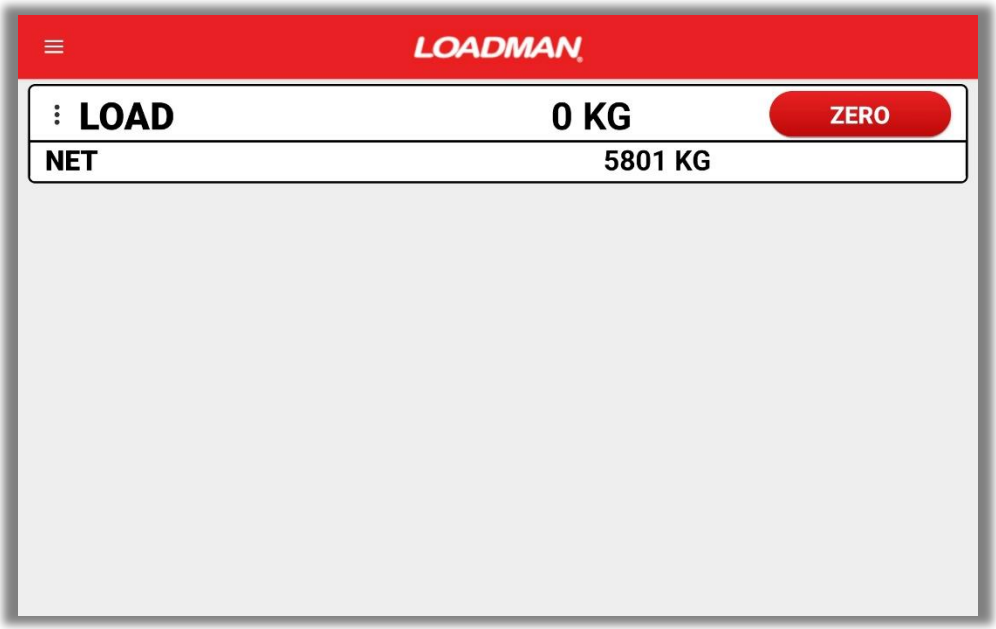


If the GROSS weight does not display the tare weight when the vehicle is empty, then tap on the “ZERO” button. If your system has multiple CanCoders and you only wish to zero one of them, tap on the three dots next to the CanCoder’s alias name and select the “ZERO” option.

NORMAL OPERATING MODE

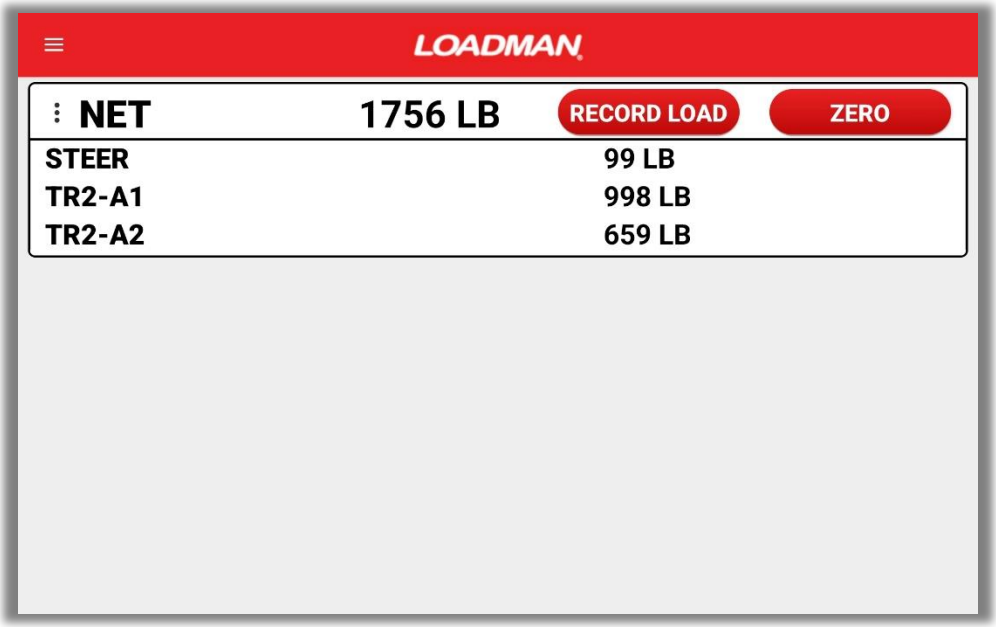
LOAD MODE:

The LOAD Delivery Operating Mode is useful when delivering or loading incremental loads. Since the CanCoder® system will allow zeroing of the LOAD weight as often as needed by tapping on the “ZERO” button, CanCoder® will display any changes in the NET vehicle weight when a load is recorded when the “RECORD” button is pressed. When accepting a load, the LOAD weight increases. When delivering a load, the LOAD weight decreases – showing a negative LOAD weight.



NORMAL OPERATING MODE

SHOW OR HIDE AXLES

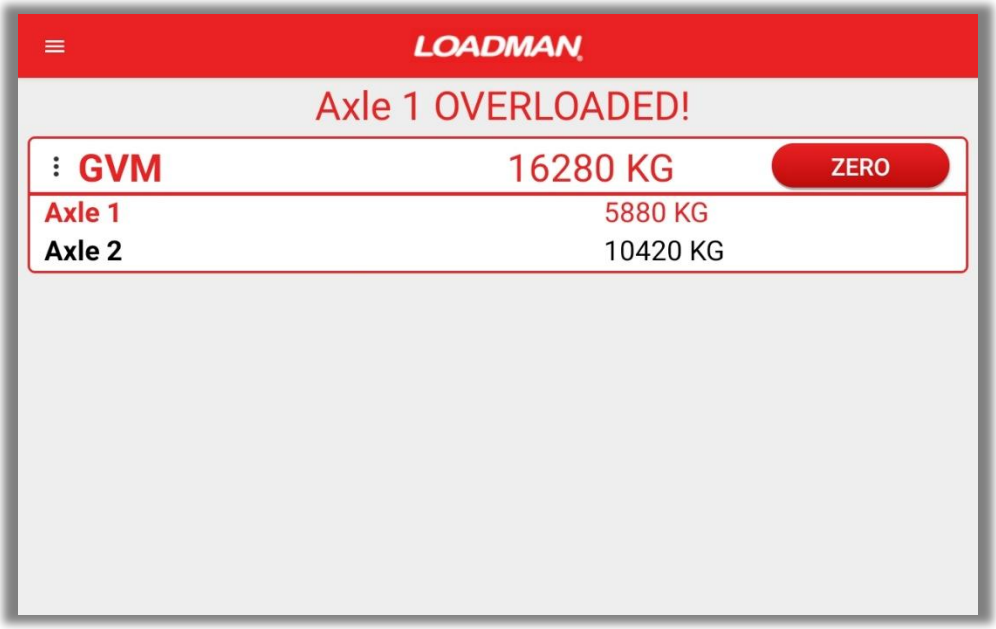


- **SHOW/HIDE AXLE 1 –** Enabling this will display or hide the weight on the first Axle Group. This is normally the axle closest to the drive axle. They could also be the Steer Axle.
- **SHOW/HIDE AXLE 2 –** Enabling this will display or hide the weight on the second Axle Group. This is normally the Drive Axle.
- **SHOW/HIDE STEER –** Enabling this will display or hide the calculated weight on the Steer Axle. This is normally enabled if no scales are on the Steer Axle. This option is only visible, if "Steer" is enabled in **SETTINGS** under **CALIBRATION**.
- **SHOW/HIDE GRAPHIC –** This shows or hides the graphic assigned to the selected scale group. A graphic can be assigned in the **SCALE GROUPS** section of **SETTINGS**. If no graphic is assigned this option will not be present.

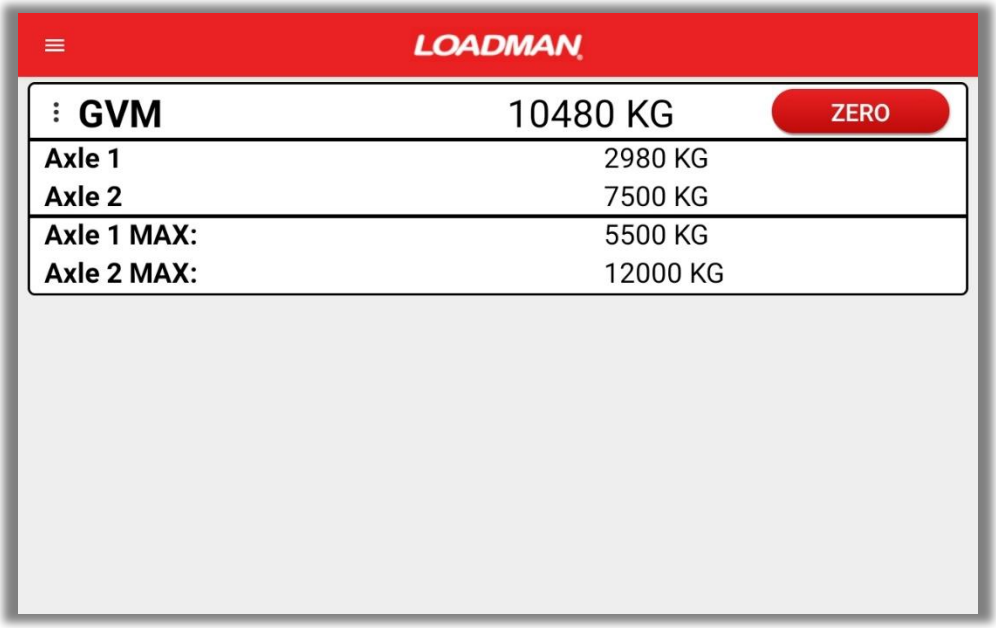
SHOW OR HIDE MAX:

A maximum weight setpoint can be set for each Axle Group. When the maximum weight is set, if an axle weight exceeds that weight, a red OVERLOADED message will be displayed on the main operating screen along with the Axle Group that is overloaded. The max weight for the Axle Groups can be programmed in the **CALIBRATION** page in **SETTINGS**.

NORMAL OPERATING MODE



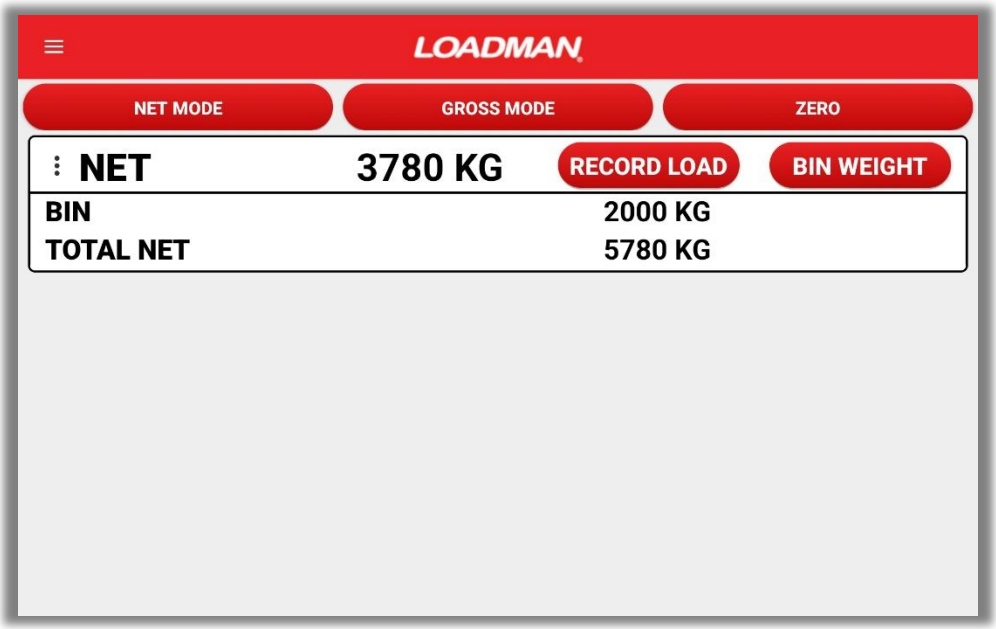
The maximum weight can also be displayed along with the Axle Groups on the main operating screen. You can choose to show the max weight by checking the "SHOW MAX" checkbox in the **MISC** menu under **SETTINGS**.



NORMAL OPERATING MODE

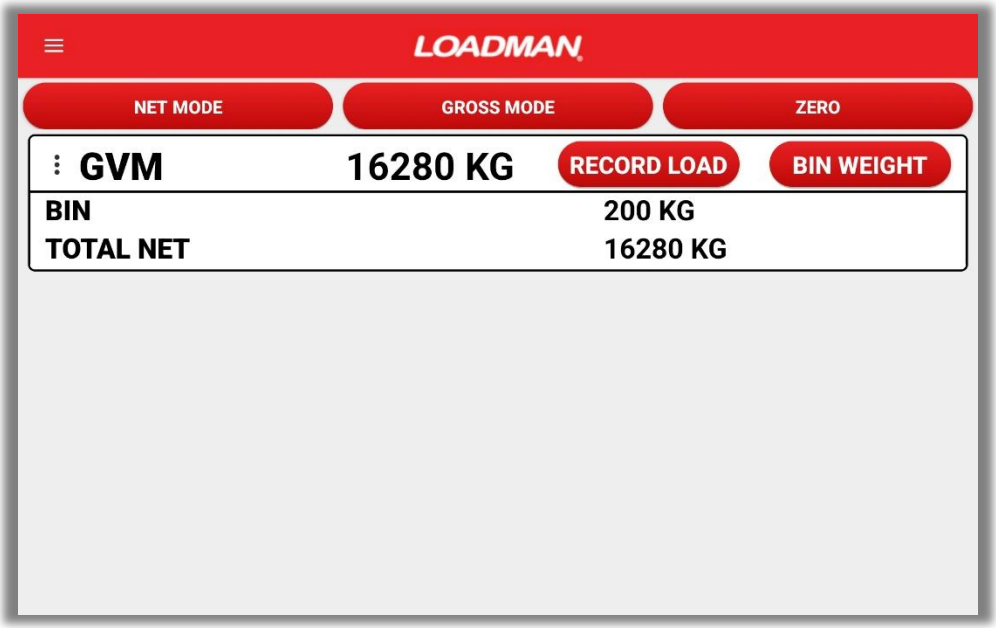
BIN WEIGHT MODE:

The *LoadMan*® CanCoder® Application can be used in a mode useful for ship bin and hooklift trucks. In this mode, a tare weight of an empty bin can be programmed, so that when a bin is picked up, the NET weight of the contents of the bin can be viewed. When in NET mode for an App licensed for Bin Weight Mode, the topmost weight is the total NET weight measured by the scales, minus the tare weight of the bin. Below it, the tare weight of the empty bin along with the total NET weight can be viewed.



This mode of the App has buttons for easily switching between GROSS MODE and NET MODE. GROSS MODE is required for compliance with Road Authorities in some cases and thus needs to be frequently viewed. Buttons have been added to view the weight in NET MODE, which shows the NET weight minus the Bin Weight, and GROSS mode, which shows the tare weight of the empty truck plus the total NET weight. Additionally, a “ZERO” button can be accessed at the top right of the screen to zero the NET weight.

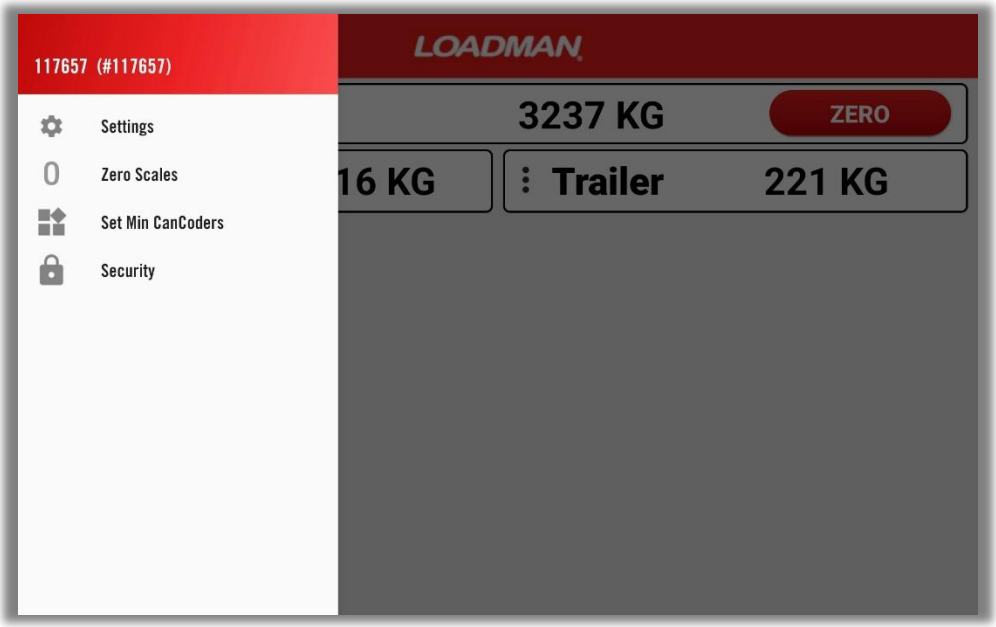
NORMAL OPERATING MODE



The Bin weight can be set by tapping on the “Bin Weight” button to the right of the NET or GROSS weight. Here, a tare weight for an empty bin can be entered with a numerical keypad. Tapping on “SAVE” will save the bin weight.

THE SIDE MENU

By swiping the screen from the left or by tapping on the 3 horizontal lines (hamburger) button in the top left corner of the screen, the sliding side menu will open. Here is an explanation of all menu items:



SETTINGS:

Selecting this option will open the settings menu. See more about settings in the **SETTINGS** section.

ZERO SCALES:

Selecting this option will bring up a prompt asking the driver if they want to zero the NET weight of all scales. If they tap on “YES”, all scales will be set to zero.

SECURITY:

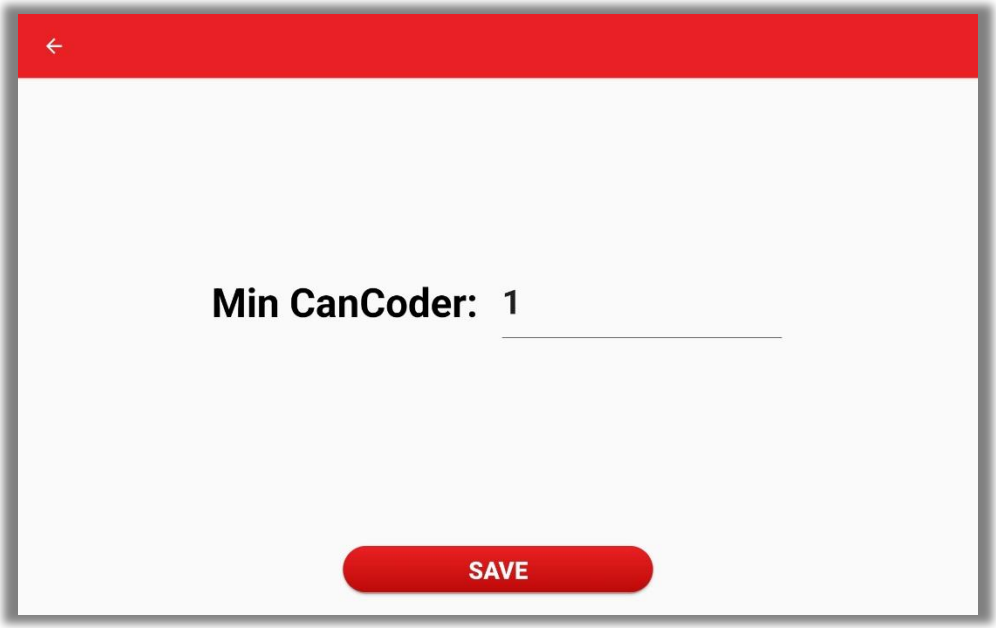
Selecting this will launch a screen where you can set the security settings.

A 3-digit code can be set from this screen and there will be a checkbox to enable security. With security enabled, a user must enter the 3-digit code to enter the settings menu of the CanCoder® App.

If security is enabled when this option is selected from the side menu, the 3-digit code must be entered to change the security settings.

SET MIN CANCODERS:

THE SIDE MENU



- This option is only available when connected to a LM300 meter or LM500 black box.
- The minimum number of CanCoders connected to the meter or black box can be programmed here.

SETTINGS

CanCoder®'s settings page provides the operator the capability to program advanced functionality, setup and calibrate a truck's configuration, choose optional information displays, and troubleshoot issues. Refer to Table 6.

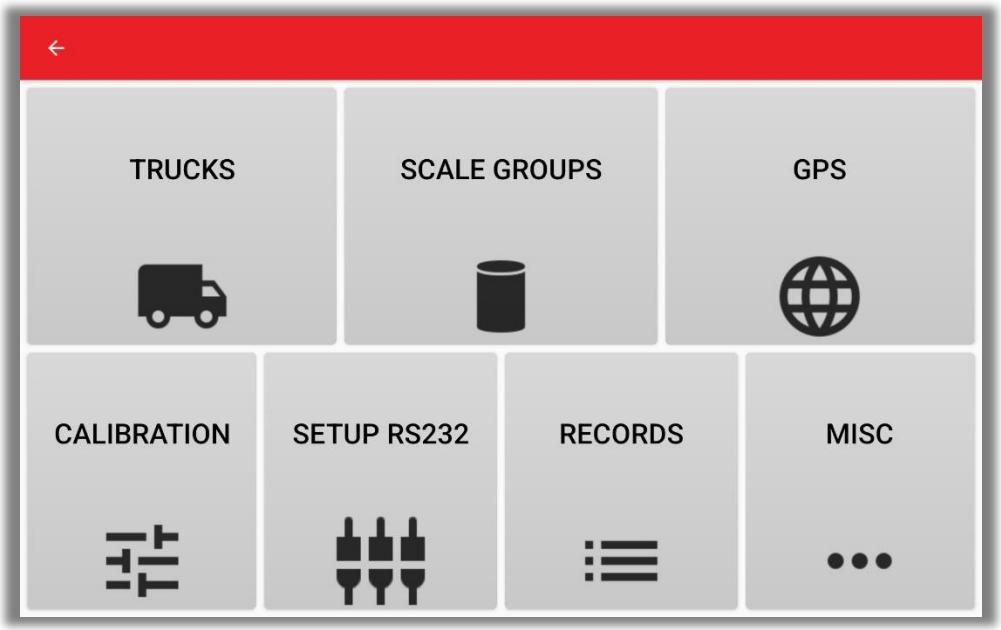


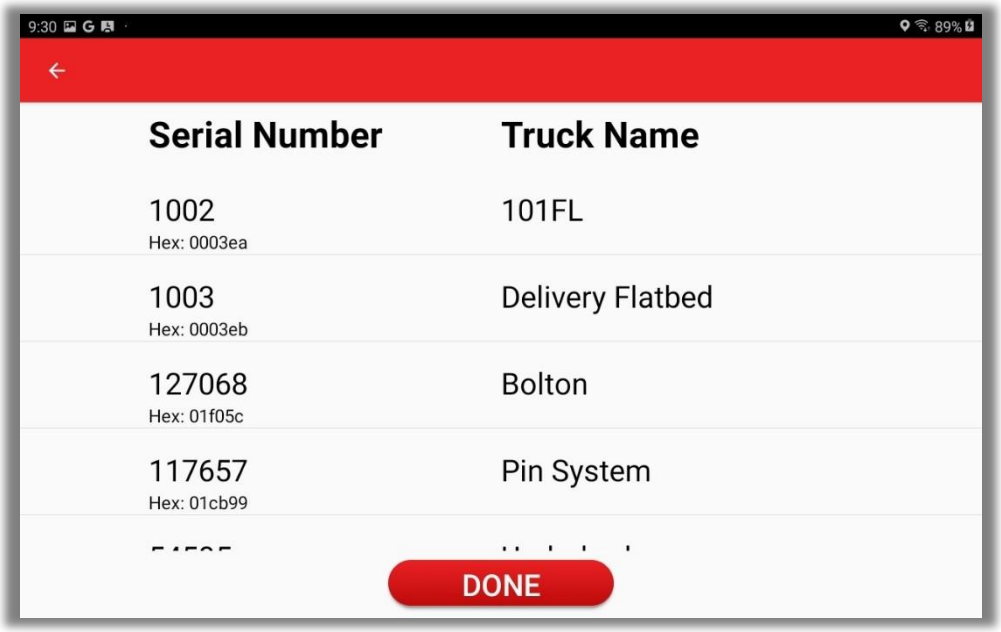
Table 6. Setup & Calibration Commands

TRUCKS	Displays all trucks licensed for the application
SCALE GROUPS	Displays and allows for renaming of all CanCoders in the scale system. Each CanCoder represents one scale group. The graphic can also be set here.
GPS	Allows setting of values related to GPS records.
CALIBRATION	Allows for the calibration and troubleshooting of all CanCoders in the scale system. Each CanCoder represents one scale group.
SETUP RS232	This allows for setting certain values related to how scale information is sent from an LM300 or LM200 meter's RS232 ports. In systems with only CanCoders, this section affects how
MISC	Allows for the configuration of many settings that affect the Android application in many ways, for both an app connected to scales and not connected to scales.

SETTINGS

TRUCKS

Displayed here are all trucks licensed for the Application. This page contains a scrollable list of all Serial Numbers, which are the default identifiers for the scale systems, and truck names that have been assigned to the serial numbers. This allows a user to assign a truck a specific name so that it shows up as that name throughout the App, such as the “SCANNING FOR TRUCKS” page.



For example, *LoadMan®* will assign a scale system a serial number that could be “12345”. If that scale system was installed on “Truck A”, then someone could assign the name “Truck A” to “12345” so that when the App displays the scale system to connect to, it will show “Truck A”, which could be more helpful to the operator.

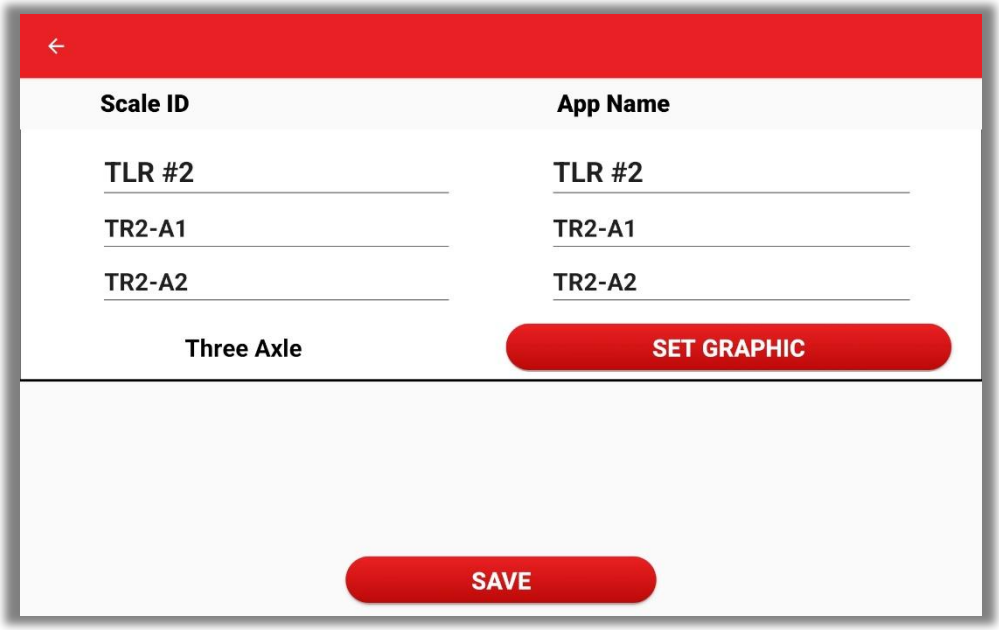
If the Application is “offline”, meaning it will not send data to the cloud, then the truck names can be edited directly on this page by tapping on the “Truck Name”.

If the Application is “online”, meaning it is intended to send data to the internet, then the trucks can be assigned names on *LoadMan®’s* cloud software platform Load Manager. All Android devices licensed for the database will reflect the assigned truck names.

SETTINGS

SCALE GROUPS

Displayed here are all Scale Groups connected to the scale system. Each Scale Group has a corresponding CanCoder in the scale system. The names associated with each Scale Group can be renamed from this menu. These include the overall name for the Scale Group, as well as two Axle Groups.

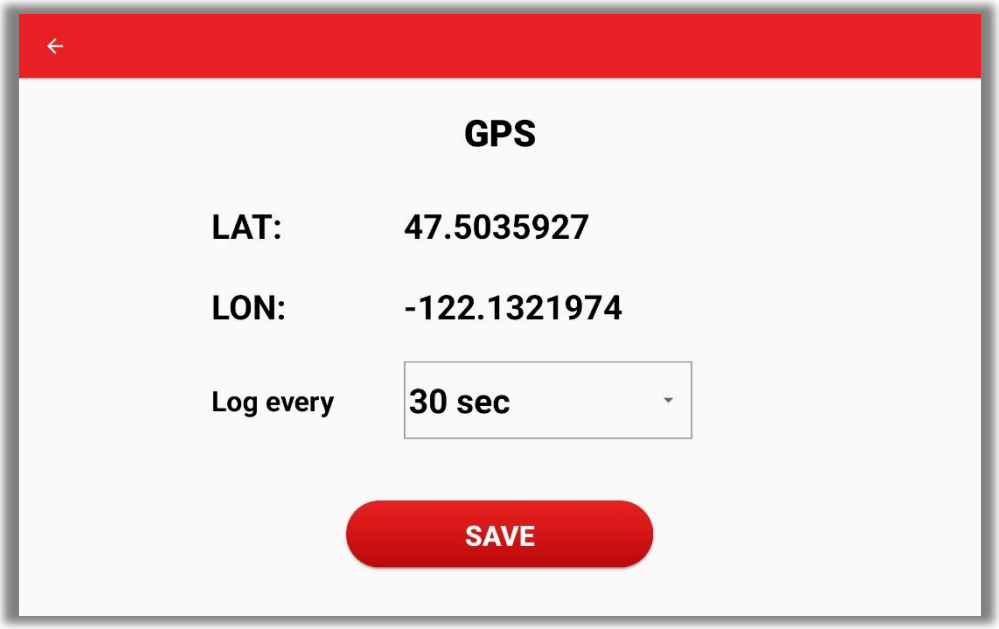


- **SCALE ID –** These are internal values in the CanCoders themselves and once set, will be the Scale ID shown on any Android device the CanCoder connects to. To change these, click on their respective lines and type your desired name.
- **APP NAME –** This is what the values will be labeled as in the Android App. This is saved to the specific Android device and will not affect the Scale Group's name when connected to a different Android device. To change these, click on their respective lines and type your desired name.
  - For example, renaming a Scale Group "Truck A" will change the internal name of the CanCoder to be "Truck A" but will not affect how it is shown in the App. All other Android devices that connect to this CanCoder will be able to see that it's ID is Truck A. Renaming the Scale Group's App name to "Truck A" will cause it to be displayed as "Truck A" throughout the App, but in other Android devices it will not be the same.
  - Upon first connecting a CanCoder to an Android device, it will assign the App Name to be whatever the Scale ID of the CanCoder is.
- **SET GRAPHIC –** Set the graphic that represents the truck on the main operating screen. Once set, it can be shown on the main operating screen by tapping on the 3 vertical dots to the right of the scale group and selecting "SHOW GRAPHIC" from the dropdown menu.

SETTINGS

GPS

The GPS shows the current location of the truck and allows drivers to set the interval at which the truck's location is sent to the cloud.

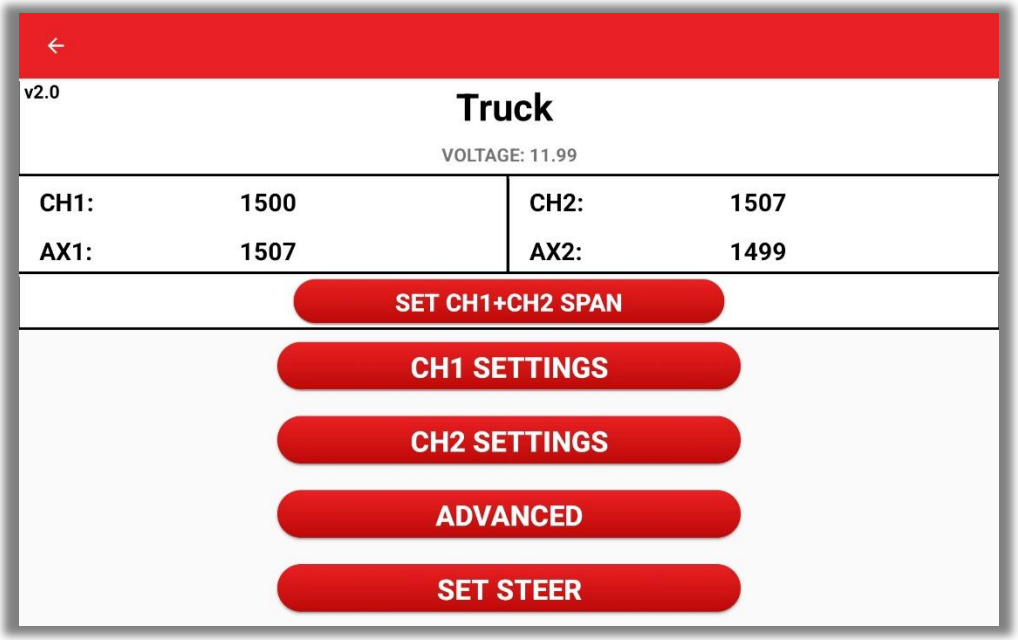


- **LAT –** The current latitude of the Android device
- **LON –** the current longitude of the Android device
- **Log Every** xx **Seconds –** The interval that the Application will send a GPS record. A GPS record contains the GPS coordinates, the time, the load data, and the truck/driver.

SETTINGS

CALIBRATION

The calibration page provides various calibration settings for the scales.



MAIN PAGE:

Displayed here are all CanCoders connected to the scale system. Each CanCoder represents one Scale Group. One Scale Group's settings are displayed at a time, if you wish to calibrate the settings of another, you can tap on the arrow buttons on the bottom of the screen to switch to another Scale Group.

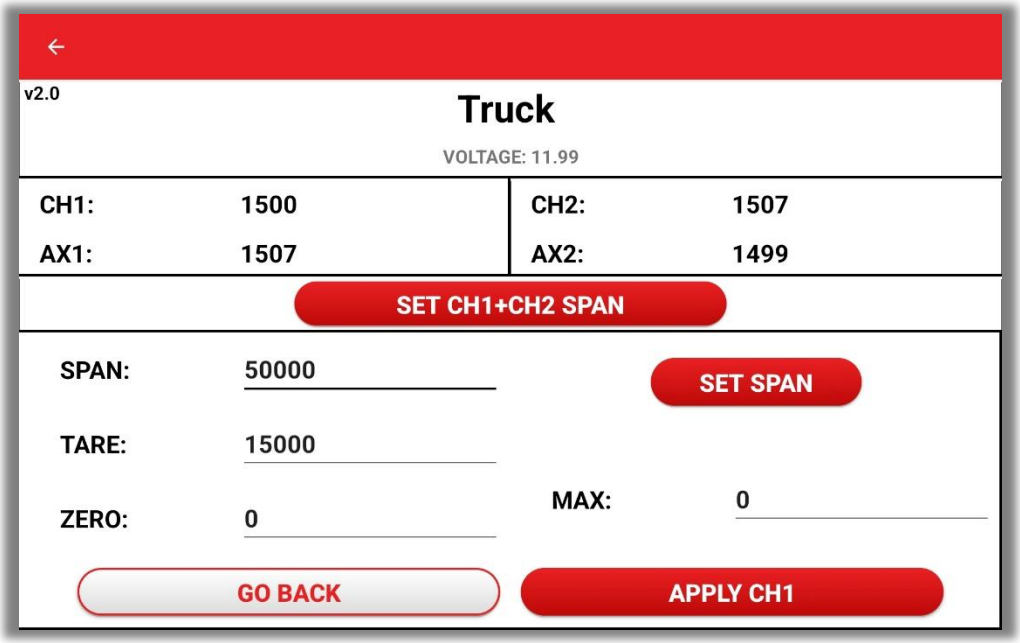
The upper section of the screen displays values related to the selected Scale Group, such as its name, the weight on the attached scales and the frequency.

- **TRUCK –** This is the "App Name" of the Scale Group. This can be changed in the "**SCALE GROUPS**" page.
- **VOLTAGE –** The voltage associated with the selected CanCoder; this is important for the ordering of the CanCoders in the scale system.
- **CH1 –** Displays the current weight being detected by the channel 1 Loadcell.
- **AX1 –** Displays the current weight being detected by Axle Group 1.
- **CH2 –** Displays the current weight being detected by the channel 2 Loadcell.
- **AX2 –** Displays the current weight being detected by Axle Group 2.

- **SET CH1+CH2 SPAN –** This button will bring up a dialog to set the desired weight of both CH1 and CH2 combined. This only applies when both axle groups have the same “App Name”, indicating to the App that both Loadcells are in the same Axle Group.

The Calibration settings are broken up into 4 main sections for the first CanCoder in the system, and 3 main parts for other CanCoders.

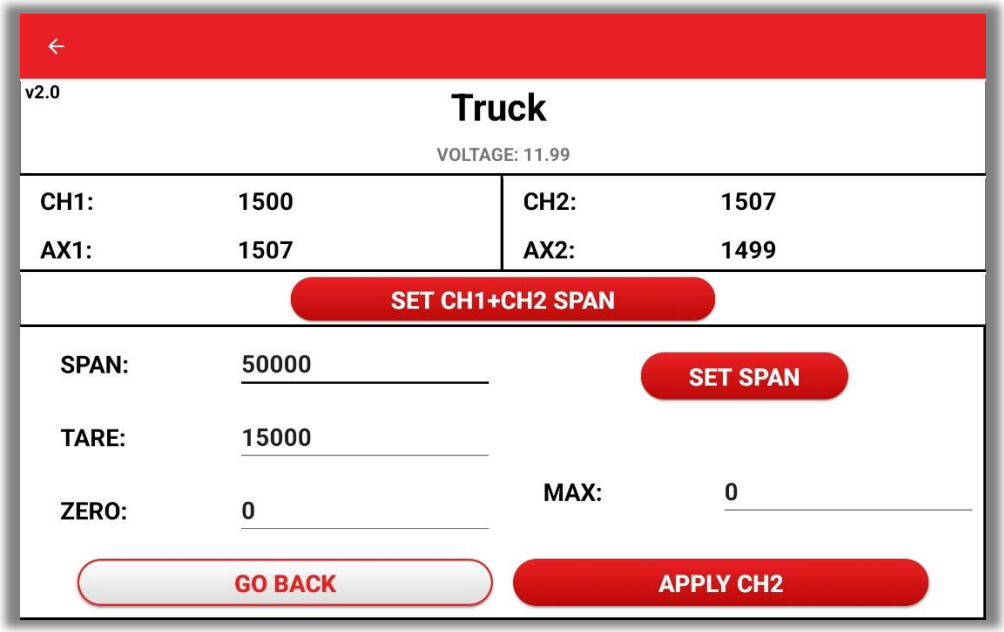
CH1 SETTINGS:



- **SPAN –** Sets the gain sensitivity in counts per microvolt for the Channel 1 Loadcell. Default is 50,000
- **TARE –** Sets the base weight on the Channel 1 loadcell when the vehicle is empty or unloaded
- **ZERO –** Zero offset for Channel 1. Default is 0.
- **SET SPAN –** Calibrates the Channel 1 Loadcell to readings taken from another truck scale (see SET SPAN).
- **MAX –** The highest value the weight on Channel 1 can be before a warning message is displayed on the main operating menu alerting the driver that the Axle Group is overweight.

CH2 SETTINGS:

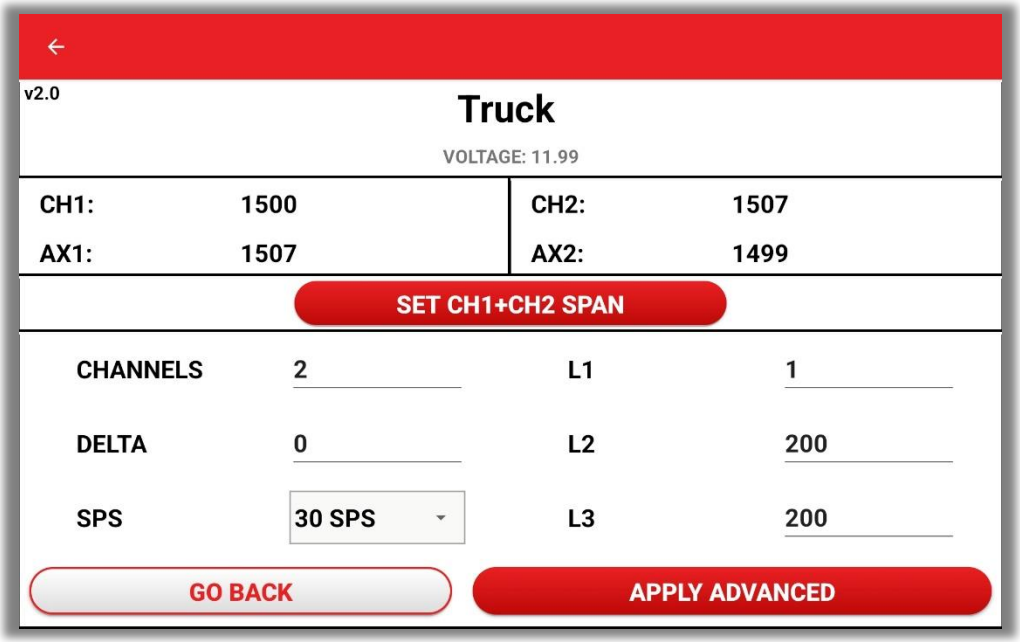
SETTINGS



- **SPAN –** Sets the gain sensitivity in counts per microvolt for the Channel 2 Loadcell. Default is 50,000
- **TARE –** Sets the base weight on the Channel 2 Loadcell when the vehicle is empty or unloaded
- **ZERO –** Zero offset for Channel 2. Default is 0.
- **SET SPAN –** Calibrates the Channel 2 Loadcell to readings taken from another truck scale (see SET SPAN).
- **MAX –** The highest value the weight on Channel 2 can be before a warning message is displayed on the main operating menu alerting the driver that the Axle Group is overweight.

SETTINGS

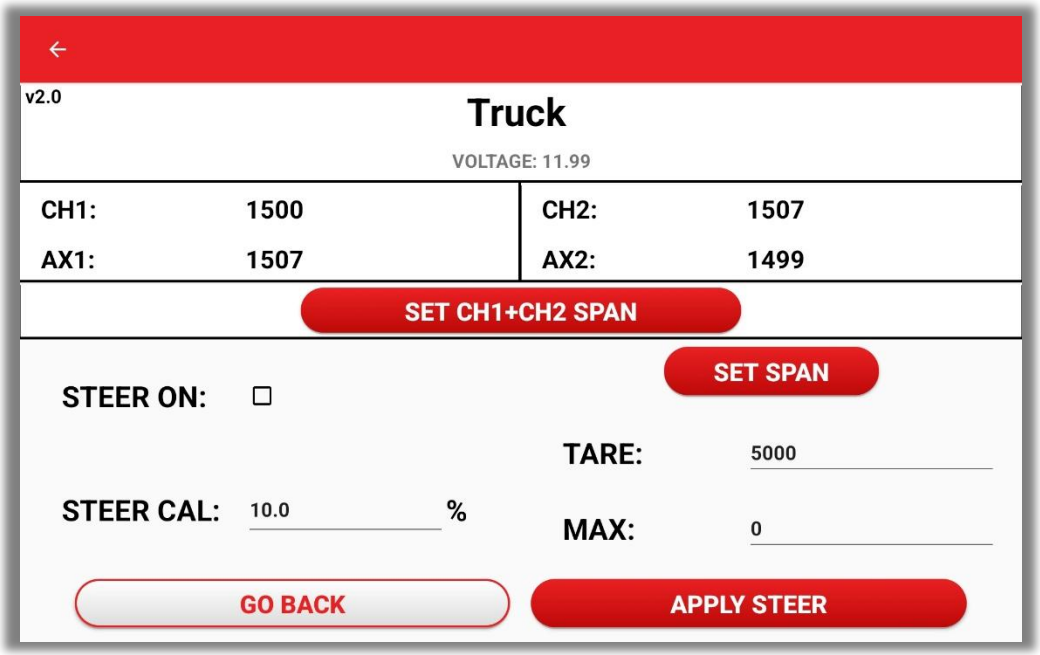
ADVANCED:



- **CHANNELS –** Set the number of Loadcells in use (maximum of 2).
- **DELTA –** Sets a frequency threshold for CanCoder® to begin recording frequency cycle data from the CanCoders. If the average of the signal sent into the CanCoder goes above the set point, and then below the set point, this will count as one cycle.
- **L1 –** Distance between the first axle and the front Loadcell.
- **L2 –** Distance between the first axle and the second axle.
- **L3 –** Distance between the first axle and the rear Loadcell.
- **SPS – (**Samples Per Second). Sets the rate at which frequency data is recorded.

SETTINGS

SET STEER:

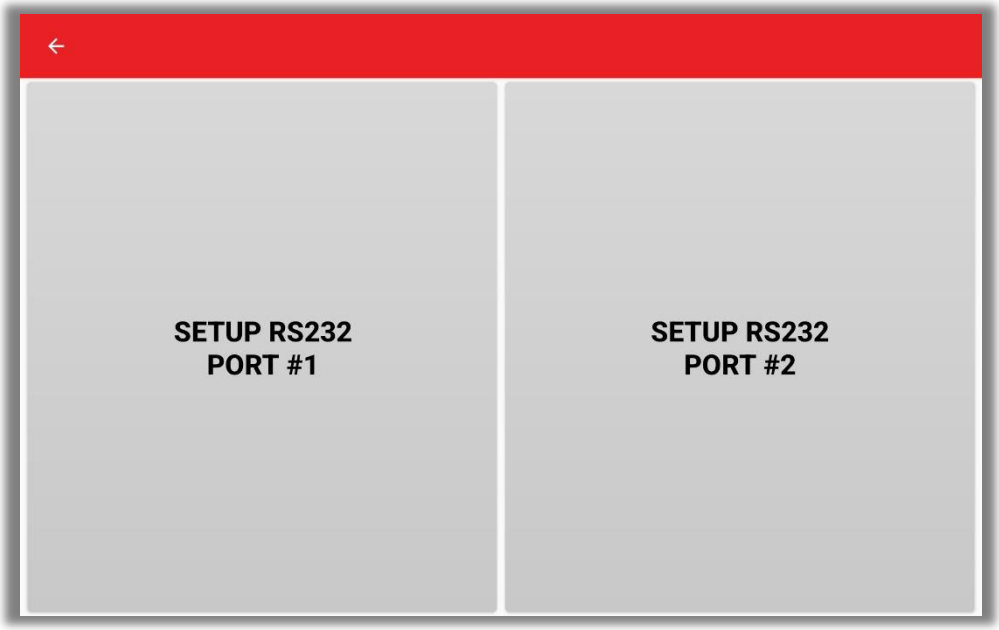


- **STEER ON –** A checkbox enabling or disabling the Steer Axle weight from being calculated and applied to the gross and net weights. This will also allow the steer to be shown/hidden on the main operating screen for the first Scale Group.
- **STEER CAL –** This percentage value sets how the Steer Axle weight is calculated. When set, the steer weight will be this percentage of the Axle Group 1 weight. For example, if the value set here is 10.0%, and the Axle Group 1 weight is 1000 pounds, the Steer Axle weight will be 100 pounds.
- **STEER TARE –** Sets the base weight on the Steer Axle when the vehicle is empty or unloaded.
- **STEER MAX –** The highest value the weight on the Steer Axle can be before a warning message is displayed on the main screen alerting the driver that the Axle Group is overweight.

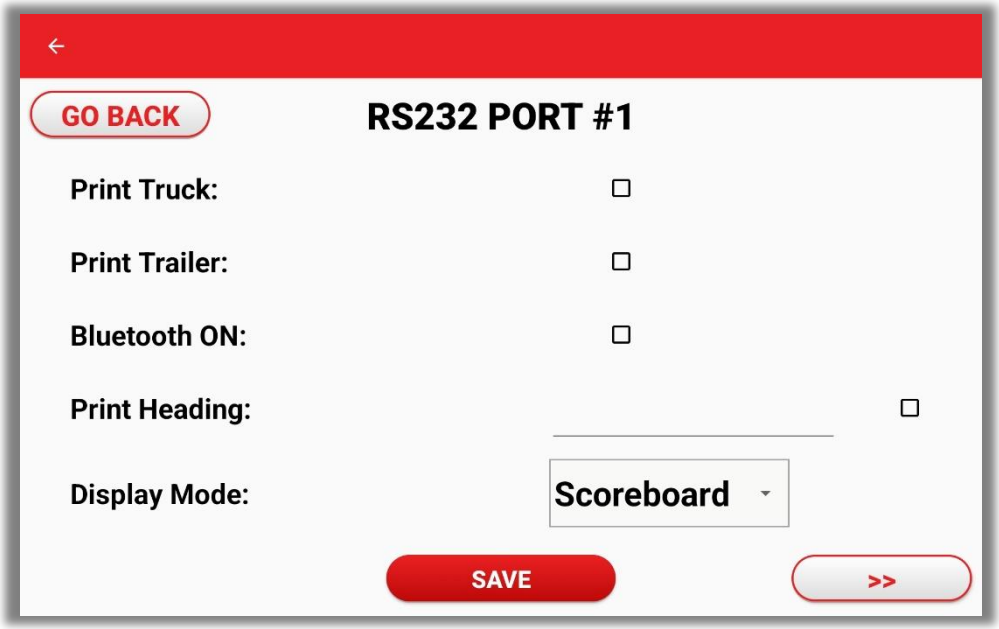
SETTINGS

SETUP RS232

In this section you will be able to configure settings related to the two RS232 ports on a standard LM300 meter. This includes mostly settings of what the meter will output when in SCOREBOARD MODE or when a ticket is printed. If the Android Application is connected directly to a CanCoder, this section will not be present.



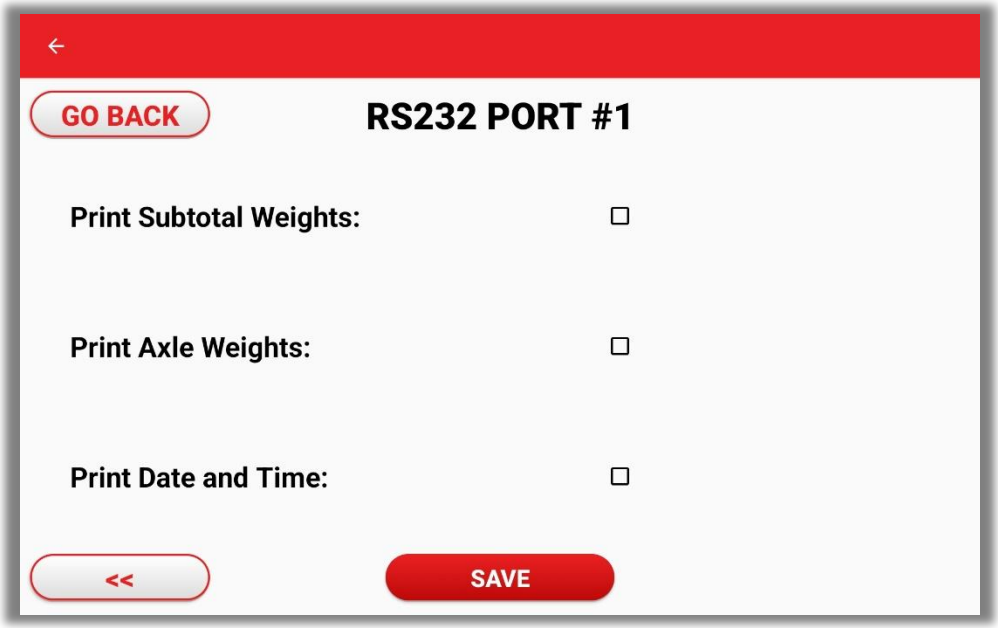
SETUP RS232 PORT #1:



- ***PRINT TRUCK –** Prints the name of the truck on port #1 when in SCOREBOARD MODE or when a ticket is printed.

SETTINGS

- ***PRINT TRAILER –** Prints the name of the trailer on port #2 when in SCOREBOARD MODE or when a ticket is printed.
- ***BLUETOOTH –** This turns Bluetooth on or off for port #1. If you wish to connect to port #1 via Bluetooth, this box must be checked.
- **PRINT HEADING –** This enabled the header text to be printed when port #1 is in SCOREBOARD MODE or when a ticket is printed. This section contains a textbox and a checkbox. The textbox can be edited to be whatever text is desired for the header. The checkbox must be checked to print whatever the header is set to.
- **DISPLAY MODE –** This dropdown contains two display modes for port #1, SCOREBOARD and TICKET PRINT. SCOREBOARD MODE will cause the port #1 to constantly output lines of plain text that depend on what has been enabled to print. TICKET PRINT will not do this and will instead only print the text when the driver selects “PRINT” on the main operating menu.

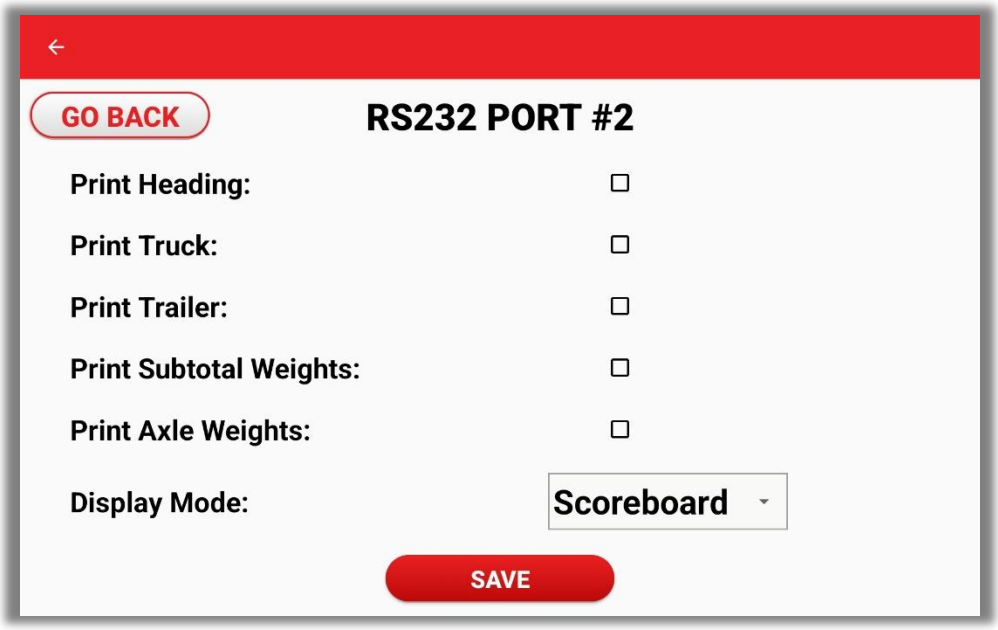


- **PRINT SUBTOTAL WEIGHTS –** Prints the subtotal weights on port #1 if in SCOREBOARD MODE or when a ticket is printed.
- **PRINT AXLE WEIGHTS –** Prints the Axle Group weights on port #1 if in SCOREBOARD MODE or when a ticket is printed.
- ***PRINT DATE AND TIME –** Prints the current date and time on port #1 if in SCOREBOARD MODE or when a ticket is printed.

SETTINGS

***THESE SETTINGS ONLY APPEAR WHEN THE APPLICATION IS CONNECTED TO MULTIPLE SCALE GROUPS**

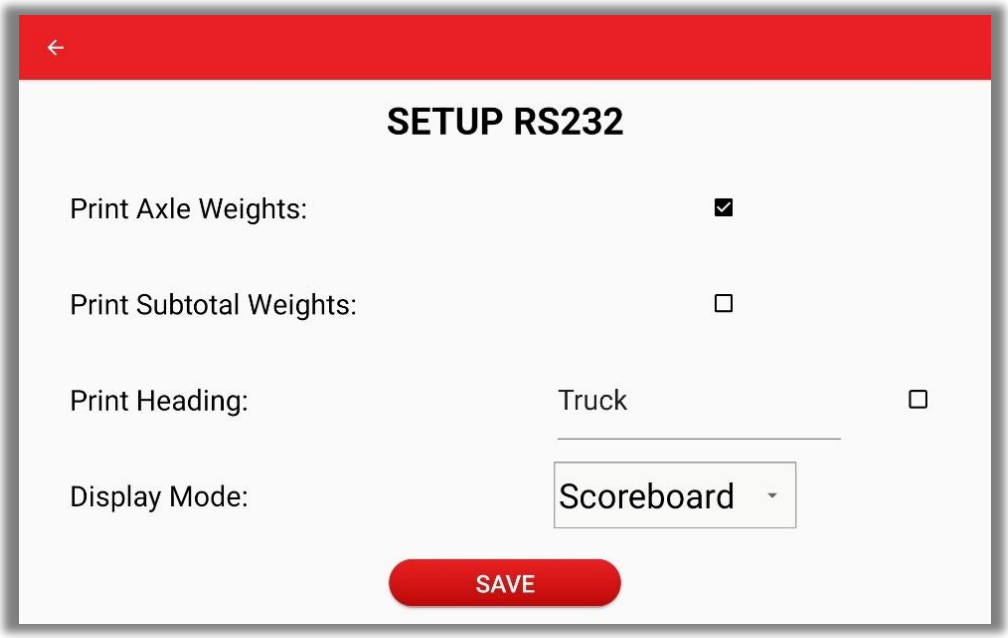
SETUP RS232 PORT #2:



- **PRINT HEADING –** This enabled the header text to be printed when port #2 is in SCOREBOARD MODE or when a ticket is printed. The header text can be edited in the section **SETUP RS232 PORT #1**
- **PRINT TRUCK –** Prints the name of the truck on port #2 when in SCOREBOARD MODE or when a ticket is printed.
- **PRINT TRAILER –** Prints the name of the trailer on port #2 when in SCOREBOARD MODE or when a ticket is printed.
- **PRINT SUBTOTAL WEIGHTS –** Prints the subtotal weights on port #2 if in SCOREBOARD MODE or when a ticket is printed.
- **PRINT AXLE WEIGHTS –** Prints the Axle Group weights on port #2 if in SCOREBOARD MODE or when a ticket is printed.
- **DISPLAY MODE –** This dropdown contains two display modes for port #2, SCOREBOARD and TICKET PRINT. SCOREBOARD MODE will cause the port #2 to constantly output lines of plain text that depend on what has been enabled to print. TICKET PRINT will not do this and will instead only print the text when the driver selects the “PRINT” button on the main operating menu.

SETTINGS

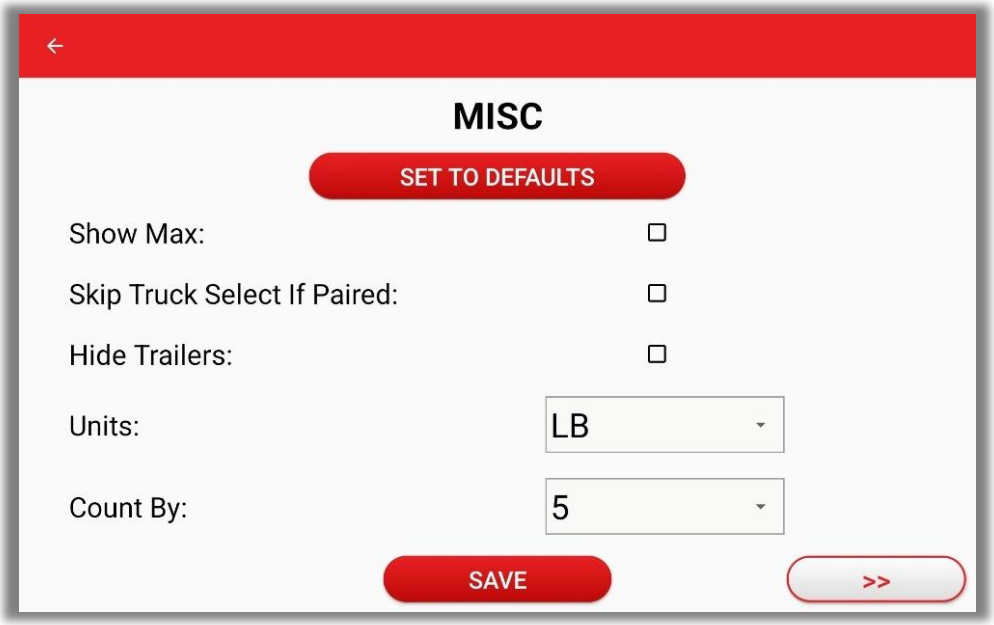
SETUP RS232 FOR A SINGLE CANCODER:



These settings will be the same as described above.

MISC

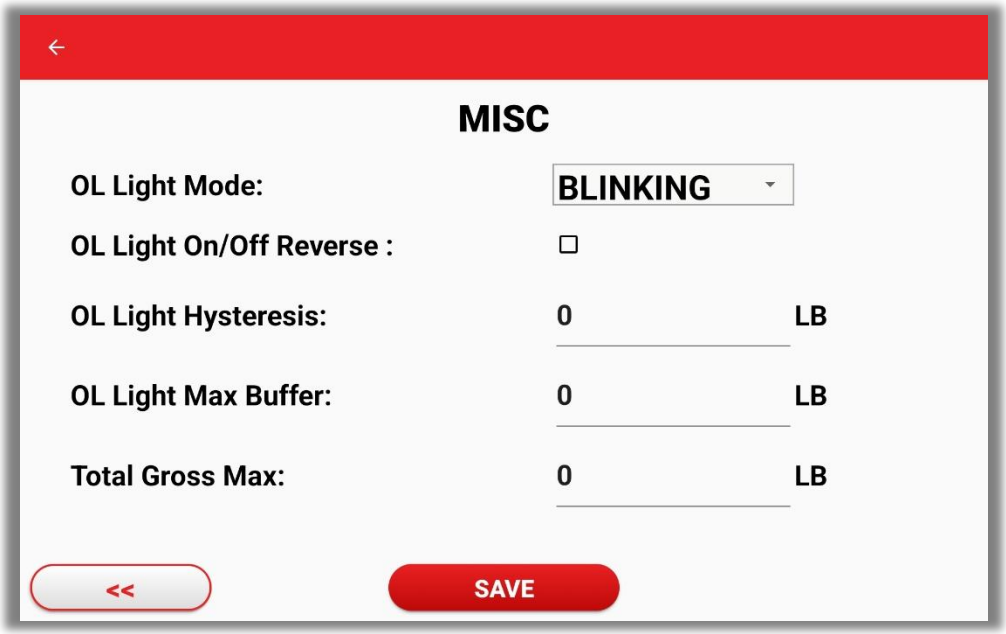
The misc page provides various settings for the Application.



SETTINGS

MAIN PAGE:

- **SET TO DEFAULTS –** This will set the scales to factory defaults. This only affects calibration and configuration settings stored in the scale system. Settings in the Tablet that do not directly affect the weight will not be set to default.
- **SHOW MAX –** This displays the maximum allowable weight for the Axle Groups of the truck or trailer. The max weight is appended to the bottom of the weight box on the main operating screen. If the max weight is “0” for an Axle Group, nothing will be displayed.
- **SKIP TRUCK SELECT IF PAIRED –** If the Android device is paired with a scale system, this will allow the startup screen to skip the “Scanning for Trucks” action and connect automatically with the paired truck.
- **HIDE TRAILERS –** This will hide any additional CanCoders after the first one in the main operating mode.
- **UNITS –** The weight units to be displayed in the App. Can be LB’s, KG’s Tons or Tonnes
- **COUNT BY –** How the displayed weight will be rounded by the App in the normal operation mode. The weight will be rounded to the nearest value selected. For example, if the “Count By” is 50 and the raw weight reading is 149, the App will display 150. If the raw weight is 175, the App will display 200.

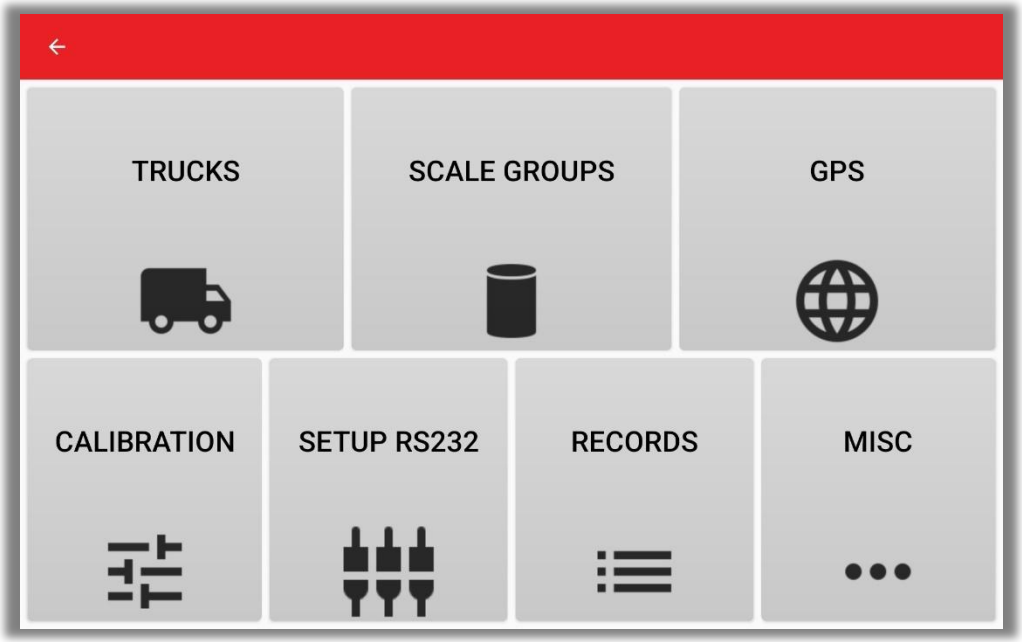


SETTINGS

- **OL LIGHT MODE –** The “Overloaded” light mode. This can be set to “BLINKING” or “ON/OFF”. If the mode is “BLINKING”, the overloaded light will begin to blink when a weight exceeds 80% of it’s allowed “max” weight. It will blink faster and faster the closer the weight comes to 100% of its max, and will fully turn on when it exceeds 100%. If set to “ON/OFF”, the light will fully come on when a weight exceeds its max and will fully turn off if the weight is below. Any weight on any Axle Group will trigger this.
- **OL LIGHT ON/OFF REVERSE –** This applies only when the “OL LIGHT MODE” dropdown is set to “ON/OFF”. When this checkbox is unchecked, the overloaded light will be off when all weights are below their max setpoint, and will come on when one weight exceeds its max. If this checkbox is checked, the opposite will happen. The light will be on when the weights are below and will turn off when a weight exceeds its max.
- **OL LIGHT HYSTERESIS –** This applies only when the “OL LIGHT MODE” dropdown is set to “ON/OFF”. This is a weight that can be set that will act as a hysteresis when the light changes from on to off or vice versa. Once a weight exceeds its max and the light comes on, it will need to go below the max by this hysteresis weight for the light to turn off again. For example, if the Axle Group 1 max is 1000lbs, and the hysteresis is 100lbs, then the light will come on when the weight on axle 1 exceeds 1000lbs but will not turn off again until the weight goes back below 900 lbs.
- **OL LIGHT MAX BUFFER –** This is a weight value that can be set that applies to all max setpoints. The weights will have to exceed their max setpoint minus this max buffer to be considered overloaded. So for example, if the Axle Group 1 max is 1000lbs, and the buffer is 100lbs, then the light will come on when the weight on Axle Group 1 exceeds 900lbs. This can be useful when you want to still display a given max weight but want the light to come on before it is reached.
- **TOTAL GROSS MAX –** This is a max setpoint or the total weight of the truck. This is separate from the individual Axle Group max values and applies to the total weight measured by the scale system.

NORMAL OPERATING MODE (ONLINE)

The CanCoder® App also has the capability to operate online, meaning it will send recorded load data to *LoadMan®'s* Load Manager cloud software to give operators real time tracking and updates of the trucks in their fleet. When using the App online (see **STARTUP** for instructions on how to login for online use), the main operating menu will look like offline mode, but the settings menu will have more options.

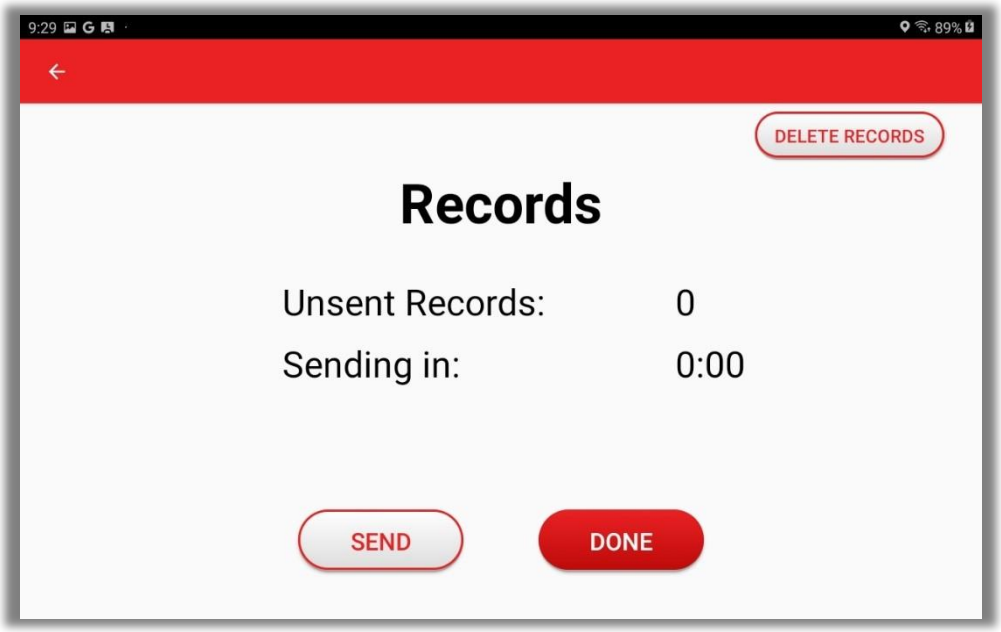


RECORDS	Displays the number of unsent records, if any. And provides a button to manually attempt to send them. In offline systems, this is not present.

NORMAL OPERATING MODE (ONLINE)

RECORDS

The records page displays any unsent records due to a lack of internet connection. The App will store these unsent records and will attempt to send them every 1 minute. However, drivers can also attempt to send them manually.



- **UNSENT RECORDS –** The number of unsent records on the device. Records that happen when the Android device does not have an internet connection are saved to the local storage of the device and are sent when the device regains internet.
- **SENDING IN –** There is a one-minute countdown timer that will attempt to send the records automatically. This occurs in the background all the time when the App is running. The records should be sent automatically when an internet connection is made without having to enter this menu normally.

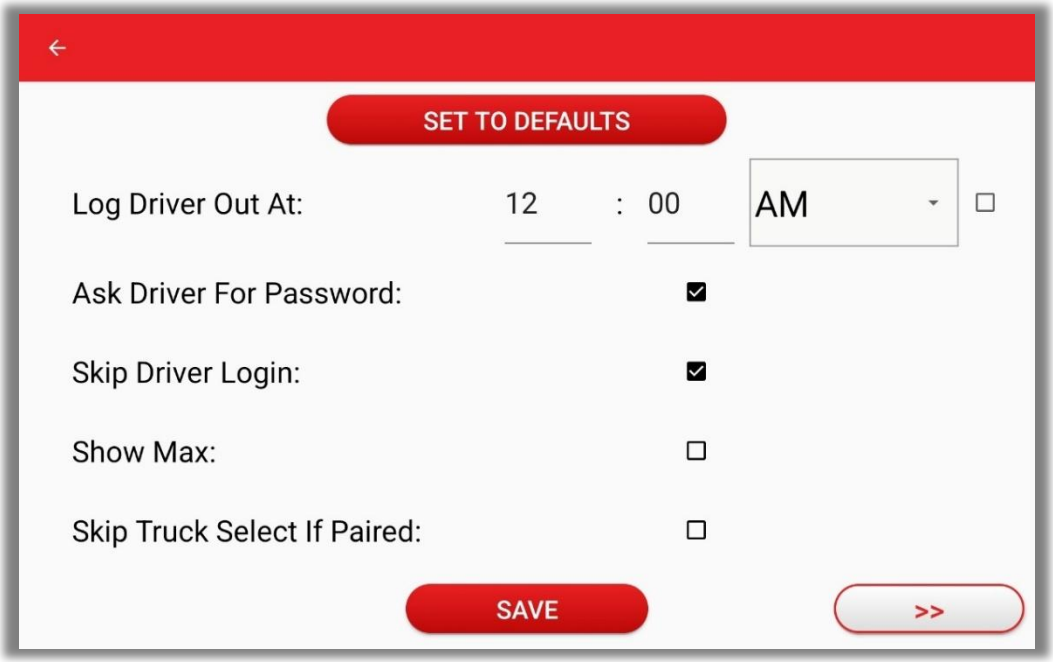
If desired, the records can be sent manually by tapping on the **"SEND"** button. Once they begin to send, the number of unsent records should drop until it hits zero.

If for whatever reason records exist that cannot be sent to the cloud due to a problem with the data, the **"DELETE RECORDS"** button can be pressed to clear out all unsent records.

NORMAL OPERATING MODE (ONLINE)

MISC (ONLINE)

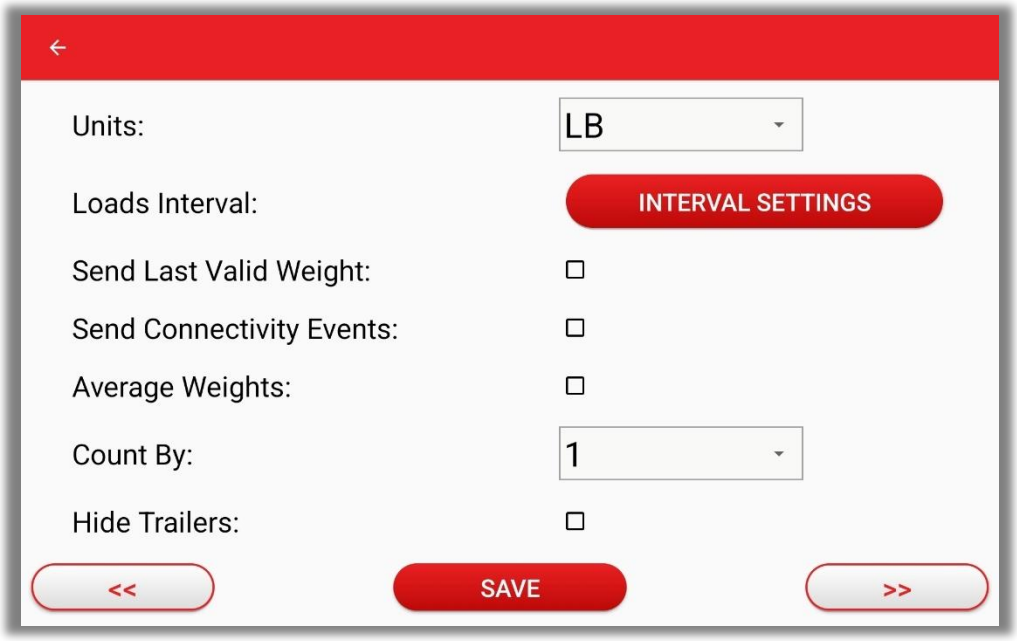
When the App is online, the misc page has more settings regarding sending load records and driver login.



MAIN PAGE:

- **LOG DRIVER OUT AT –** This will automatically log a driver out at a certain time of day. If the App is running, and the set time comes, the App will return to the startup page. Change the time to the desired time and check the box next to the time to enable this.
- **ASK DRIVER FOR PASSWORD –** If this is enabled, the driver will be forced to enter their password when they log in. If this is disabled, they only need to tap on their name to log in. Is it required that they log in with a name AND password at least once to be able to skip entering their password.
- **SKIP DRIVER LOGIN –** If this is enabled, the App will take whatever driver appears at the top of the log-in names list and log in with that driver's credentials automatically every time the App is launched. No action from the driver will be necessary for logging in when this is enabled.
- **SHOW MAX –** Displays the max load set for each Axle Group on the main menu.
- **SKIP TRUCK SELECT IF PAIRED –** If the Android device is paired with a scale system, this will allow the startup screen to skip the "Scanning for Trucks" action and connect automatically with the paired truck.

NORMAL OPERATING MODE (ONLINE)

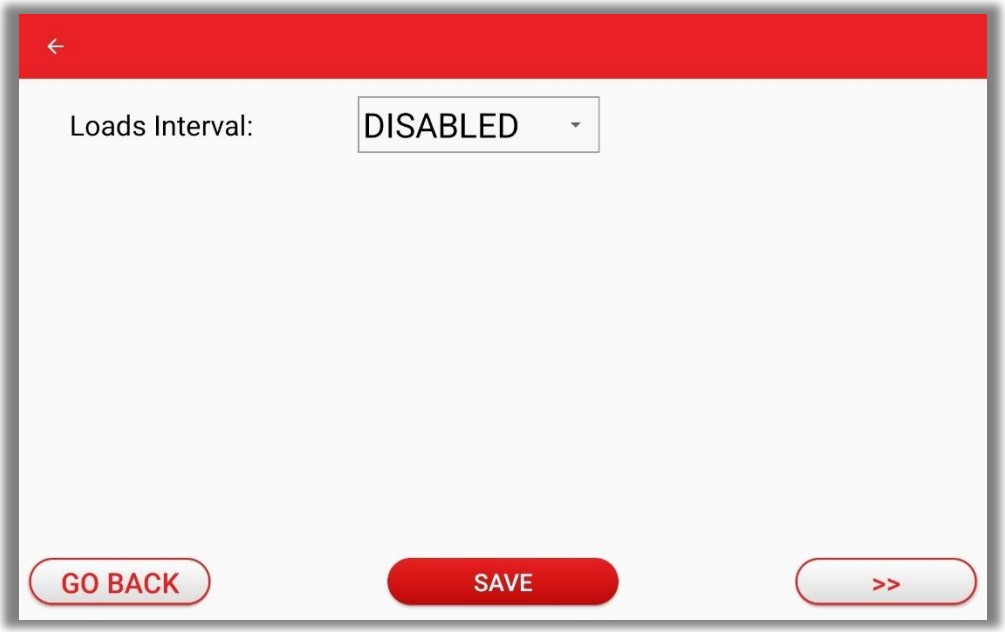


- **UNITS –** Select the units that the weight will be calculated in (LB, TON, KG, TNE).
- **LOADS INTERVAL –** (see INTERVAL SETTINGS below).
- **SEND LAST VALID WEIGHT –** If the Tablet loses connection to the scales, it will send the last recorded stable weight (see INTERVAL SETTINGS below).
- **SEND CONNECTIVITY EVENTS –** When this is enabled, any time that the App loses connection to the scales, it will send the NET truck/trailer/Axle Group weights from 1 minute prior to the disconnection. This also happens when connectivity is reestablished.
- **AVERAGE WEIGHTS –** Sends the average weights in auto record mode. For example, if the LOADS INTERVAL is set to 10 sec. then each load record sent will be the average weight recorded in those 10 seconds.
- **COUNT BY –** Determines how the weight values will be rounded. For example, if the value is set to 1, the weight values displayed will change by 1. If the count by value is set to 100, the weight displayed will only change if the weight detected by *LOADMAN®* changes by 100 or more.
- **HIDE TRAILERS –** Hides the trailer displays and shows only the trailer total weight on the main operating menu.

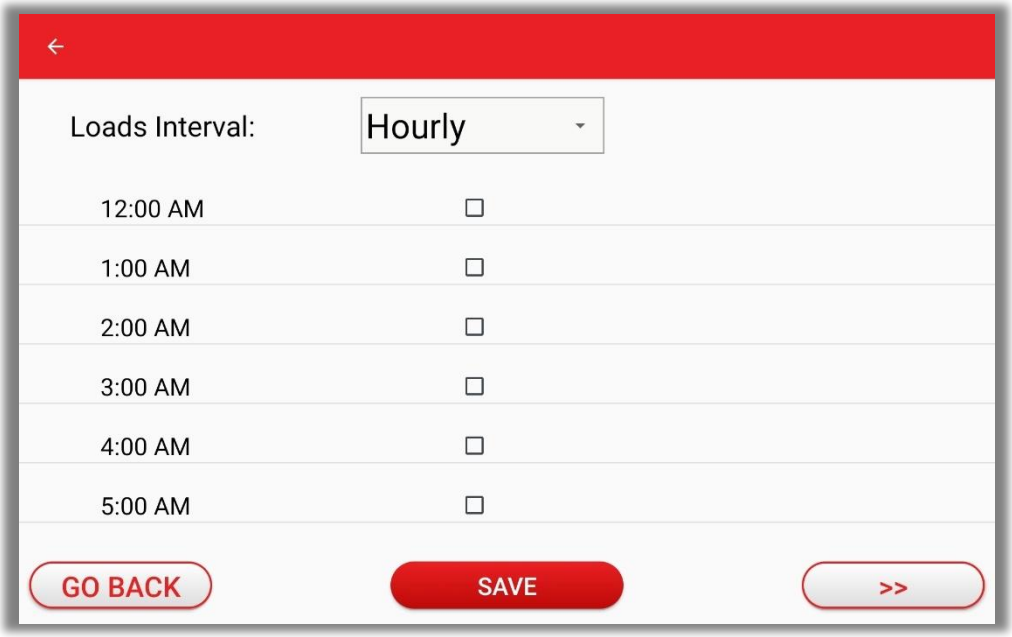
INTERVAL SETTINGS:

Clicking this button will open a page that looks like the image below.

NORMAL OPERATING MODE (ONLINE)



- **LOADS INTERVAL –** The load interval allows drivers to set time increments when load records will automatically be sent. These intervals can be set from 10 seconds to 30 minutes. The load interval can also be set to “HOURLY”. If set to this option, a screen will appear like the image below.



Whatever time is selected, when that time of day comes, all collected load data will be sent to the cloud. However, if for any reason, the Tablet loses connection to the scales during the time set, the App will send the last recorded stable weight (**SEND LAST VALID WEIGHT** must be selected for this to happen).

COLLECTING LOAD DATA

When a load is recorded, load data is sent via the internet to the *LoadMan*® servers. There, the data is stored in the database that the CanCoder® Android App is licensed for. If there is no internet connection to the Android device, the load data will be stored in the local storage of the Android device until an internet connection is reestablished. The following are all possible data that can be sent in a load record:

Table 12. Recorded Load Data

LOAD DATA
Date & Time
Account Number
Route ID (Recipe)
Load Weight
Net Truck Weight
Product (Pile)
GPS Coordinates
Asset ID Number
Meter Serial Number
Axle Groups 1 and 2
Frequencies 1 and 2

LOADMAN SPOTLIGHT DATABASE

The *LoadMan®* Spotlight database allows operators to see all the data being uploaded by trucks in their fleet real-time.

To use the Spotlight software:

1. Navigate to https://loadmanspotlight.com/
2. You will be brought to a login page. After logging in a message will appear saying, “Please Select an Application”.
3. Select “Spotlight LoadManager”.
4. Another page will appear saying, “Please Select a Location”.
5. Select your desired location and click “SUBMIT”.

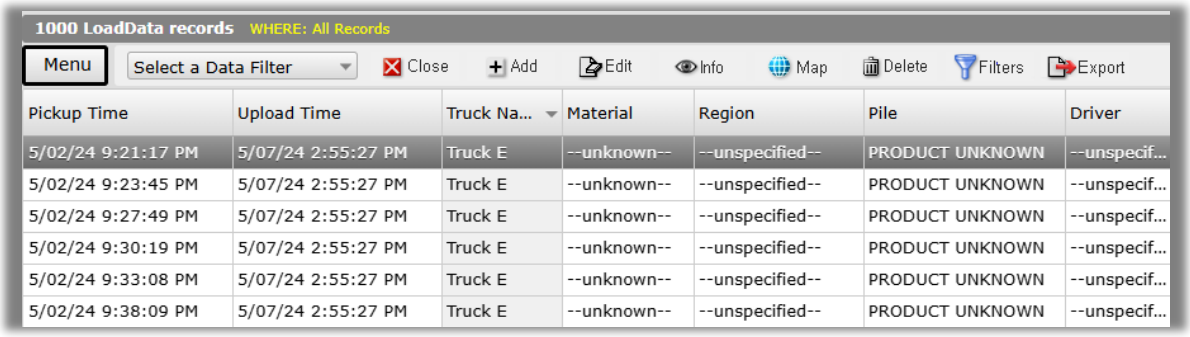
The main page looks like the image below. Refer to the table below for a description of each menu option.

LOADMAN SPOTLIGHT DATABASE

Load Data	Displays all data uploaded by the fleet
Commodities	Displays commodity information including recipe step, service name, etc.
Recipes	Displays all the downloadable routes for drivers
Trucks	Displays all trucks in the fleet
Drivers	Displays all drivers and their information
Piles	Displays all pile types that drivers can pick up
Recipe Names	Displays recipe codes that are associated with recipe routes
Maps	Displays the map for truck and load tracking

LOAD DATA

The Load Data page allows managers to see all the load records being uploaded by the drivers in real time. You can view each load record upload, when it was uploaded, the commodity, and which truck picked it up.



Pickup Time	Upload Time	Truck Na...	Material	Region	Pile	Driver
5/02/24 9:21:17 PM	5/07/24 2:55:27 PM	Truck E	--unknown--	--unspecified--	PRODUCT UNKNOWN	--unspecif...
5/02/24 9:23:45 PM	5/07/24 2:55:27 PM	Truck E	--unknown--	--unspecified--	PRODUCT UNKNOWN	--unspecif...
5/02/24 9:27:49 PM	5/07/24 2:55:27 PM	Truck E	--unknown--	--unspecified--	PRODUCT UNKNOWN	--unspecif...
5/02/24 9:30:19 PM	5/07/24 2:55:27 PM	Truck E	--unknown--	--unspecified--	PRODUCT UNKNOWN	--unspecif...
5/02/24 9:33:08 PM	5/07/24 2:55:27 PM	Truck E	--unknown--	--unspecified--	PRODUCT UNKNOWN	--unspecif...
5/02/24 9:38:09 PM	5/07/24 2:55:27 PM	Truck E	--unknown--	--unspecified--	PRODUCT UNKNOWN	--unspecif...

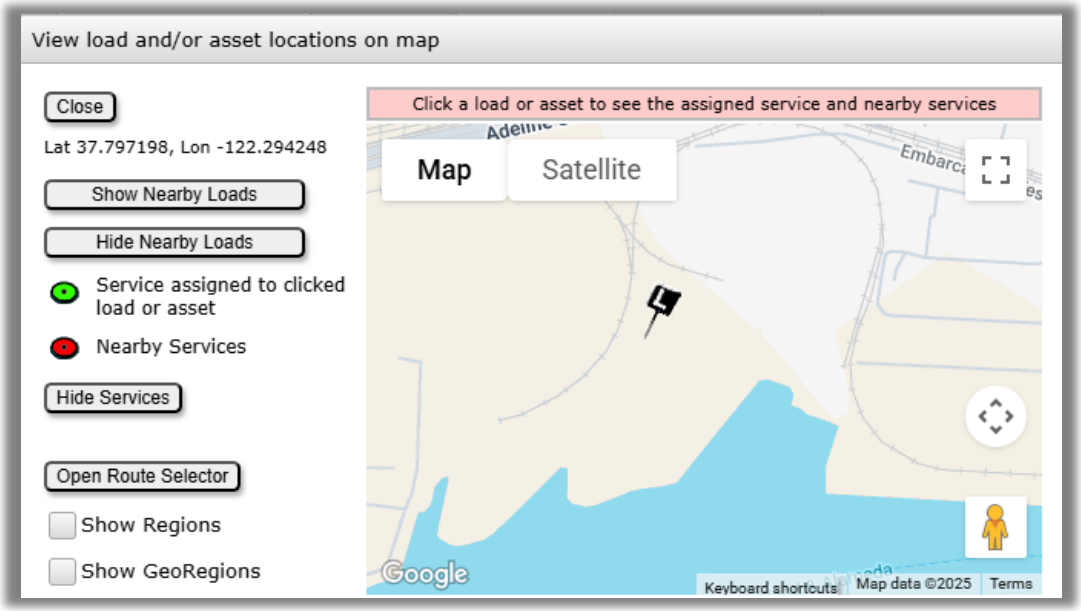
Using the scroll bar at the bottom of the screen to scroll to the right will reveal more information like the driver's name, the recipe route they are on, the weight of the load, etc. At the top of the screen there is a "Menu" button. Hovering over it will reveal some options, mainly the "Refresh" option to refresh the load data as drivers are constantly uploading new records.

- **SELECT A DATA FILTER –** Allows you to filter the data according to a certain category.
- **CLOSE –** Returns to the main menu.
- **ADD –** Allows you to manually enter a load record.
- **EDIT –** Allows you to manually edit the selected data row (To select a data row, simply click anywhere on the desired row).
- **INFO –** Brings up a pop-up menu displaying load information, commodity information, and location information of the selected data row.
- **MAP –** Displays the location of the load for the selected data row (see MAP for more information).
- **DELETE –** Delete the selected data row.
- **FILTERS –** Same as the "SELECT A DATA FILTER" drop-down menu.
- **EXPORT –** Export load data.

LOADMAN SPOTLIGHT DATABASE

MAP

The map allows users to view the location of a recorded load and see their downloadable recipe routes.



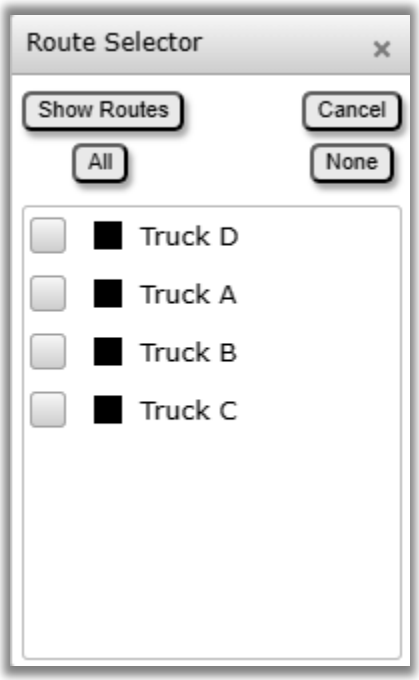
This image shows the map on the Load Data page. The **COMMODITIES, RECIPES,** and **ASSESTS** pages have a map function but each have slightly different options (to be covered later).
The pin on the map shows the load selected on the Load Data table.

- **SHOW NEARBY LOADS –** Shows other recorded loads that are near the current one selected (select "Hide Nearby Loads" to stop displaying).
- This icon displays services attached to the current load selected (click the pin to display).
- This icon displays services that are near the selected load (click the pin to display).
- **HIDE SERVICES –** Click this button to hide the service icons.
- **OPEN ROUTE SELECTOR –** Allows the user to display their downloadable recipe routes on the map (more information in ROUTE SELECTOR).
- **SHOW REGIONS –** Any load picked up in a specific region tells Spotlight to assign that load to a specific commodity. Regions can be drawn by the user by navigating to TOOLS > REGIONS (same for **COMMODITIES, RECIPES,** and **ASSETS**).
- **SHOW GEOREGIONS –** These work similarly to normal regions but are used for services instead of loads (same for **RECIPES**).

LOADMAN SPOTLIGHT DATABASE

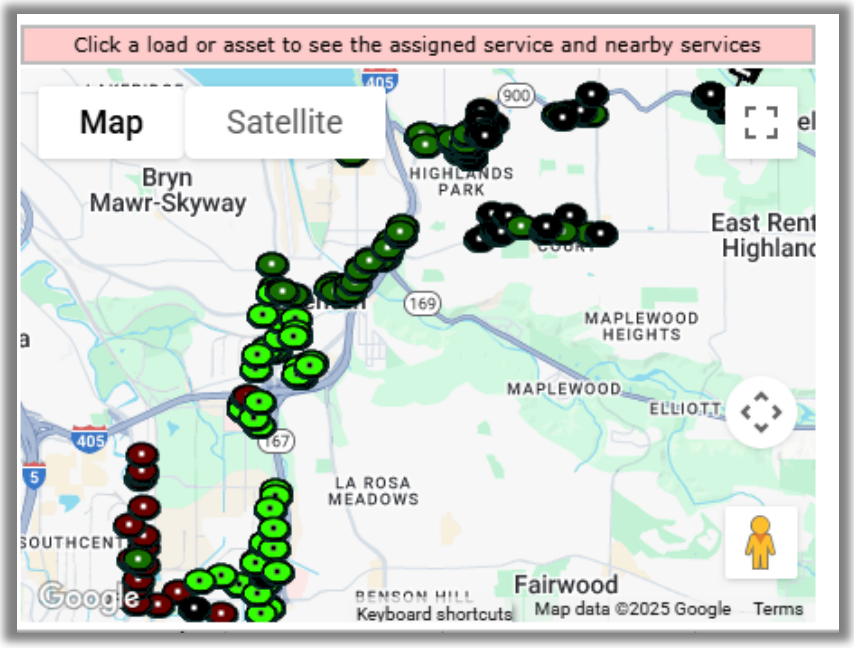
ROUTE SELECTOR

The route selector button opens a menu that looks like the image below (this option is available on the **LOAD DATA, COMMODITIES, RECIPES,** and **ASSETS** pages).



The list shown are all the downloadable routes that drivers may be on. Select any number of these to be displayed on the map. The color next to each route is the color that it will be displayed as on the map. If you wish to see all routes, click “All”. To confirm the action, click “Show Routes”.

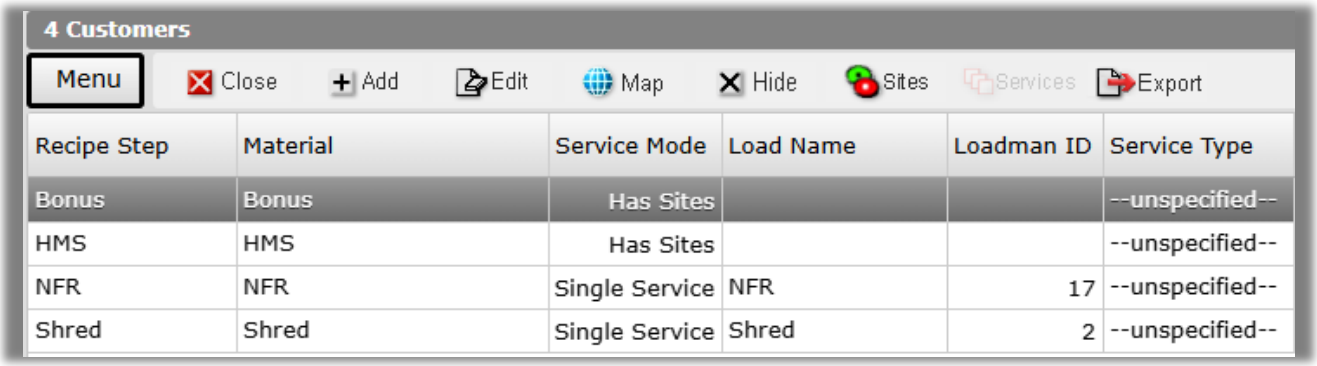
The map will now look like the image below. Hover over each icon to view information about the stop.



LOADMAN SPOTLIGHT DATABASE

COMMODITIES

Commodities are the possible materials a driver may pick up while following a recipe. This page allows operators to edit, add, and delete recipe steps.

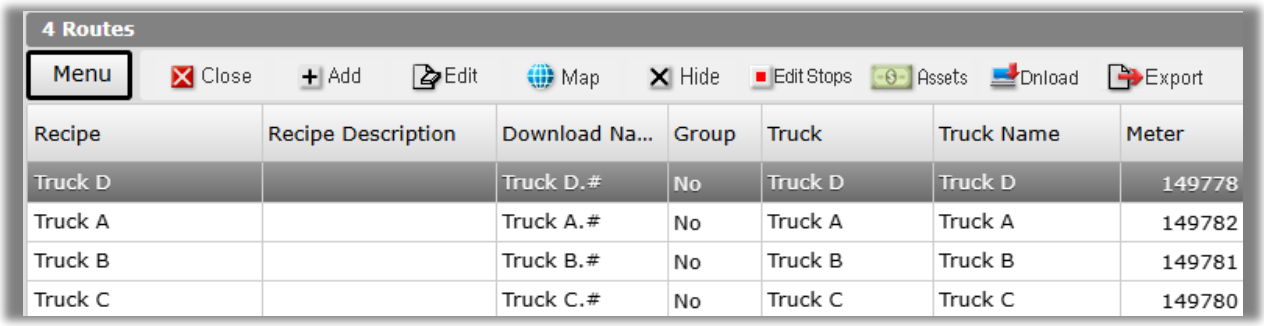


Recipe Step	Material	Service Mode	Load Name	Loadman ID	Service Type
Bonus	Bonus	Has Sites			--unspecified--
HMS	HMS	Has Sites			--unspecified--
NFR	NFR	Single Service	NFR	17	--unspecified--
Shred	Shred	Single Service	Shred	2	--unspecified--

- **ADD –** Add a new commodity.
- **EDIT –** Edit selected commodity's information.
- **MAP –** See MAP.
- **HIDE –** Hides the selected row. To show hidden rows, hover over "Menu" and select "Show Hidden".
- **SITES –** Will appear when a commodity with "Has Sites" is selected. Shows the types of services done with that commodity.
- **SERVICES –** Will appear when a commodity with "Has Services" is selected. Shows the types of services done with the selected commodity.
- **EXPORT –** Export the data.

RECIPES

The routes page shows all downloadable recipes for drivers. You can edit each recipe and assign drivers to recipes.



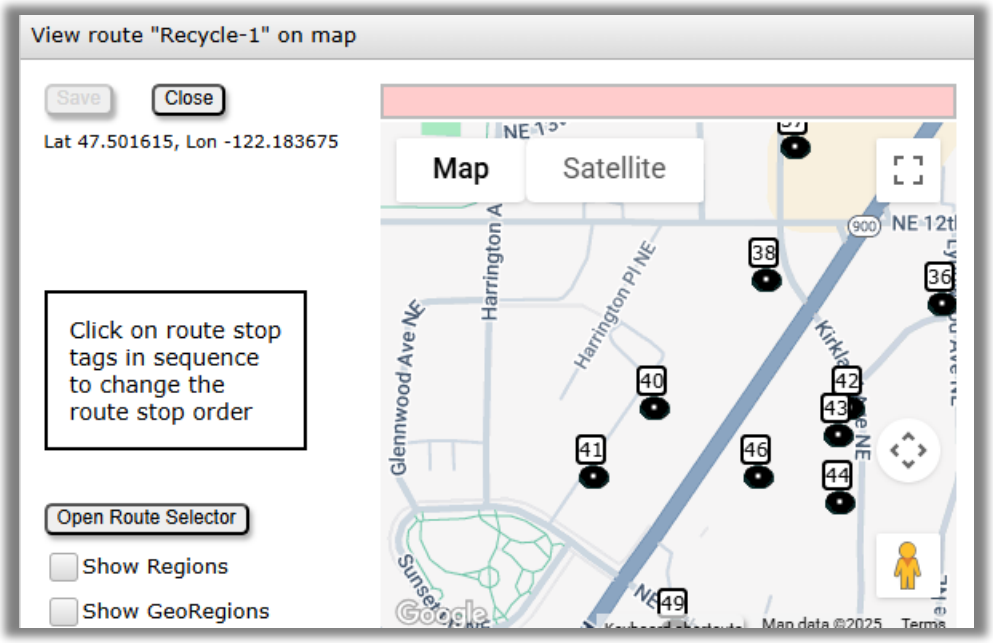
Recipe	Recipe Description	Download Na...	Group	Truck	Truck Name	Meter
Truck D		Truck D.#	No	Truck D	Truck D	149778
Truck A		Truck A.#	No	Truck A	Truck A	149782
Truck B		Truck B.#	No	Truck B	Truck B	149781
Truck C		Truck C.#	No	Truck C	Truck C	149780

- **ADD –** Add a new downloadable recipe.

LOADMAN SPOTLIGHT DATABASE

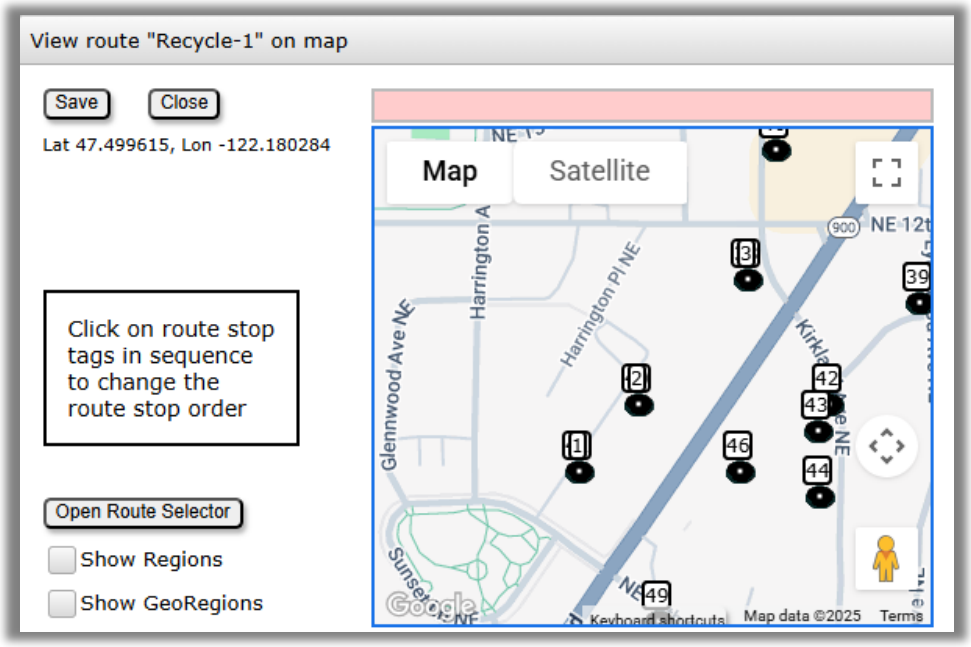
- **EDIT –** Edit the selected recipe (truck, driver assign, map color, recipe name).
- **MAP –** (See MAP) in **RECIPES,** you can use the map to edit the order of the stops in the selected recipe.
- **HIDE –** Hide the selected row.
- **EDIT STOPS –** Edit the order of stops for the recipe.
- **ASSETS –** Select specific assets to be downloaded with recipe routes.
- **DOWNLOAD –** Download the data.
- **EXPORT –** Export the data.

The image below shows the stops on the “Recycle-1” route. The numbers show the order of the stops.



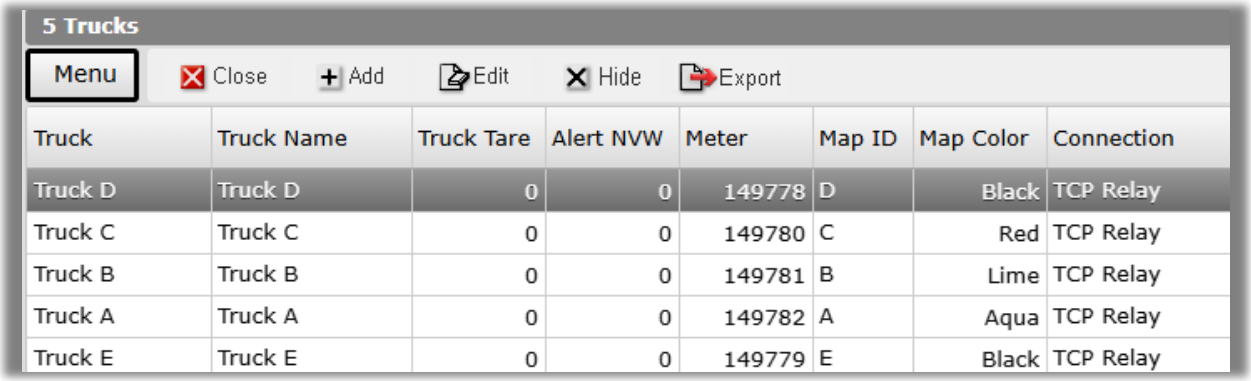
To change the order of the stops, click on the stops in the order you desire, and the numbers will change. After clicking “41”-“40”-“38” in that order, the new order is “1”-“2”-“3”.

LOADMAN SPOTLIGHT DATABASE



TRUCKS

The trucks menu displays all of the trucks in the fleet.



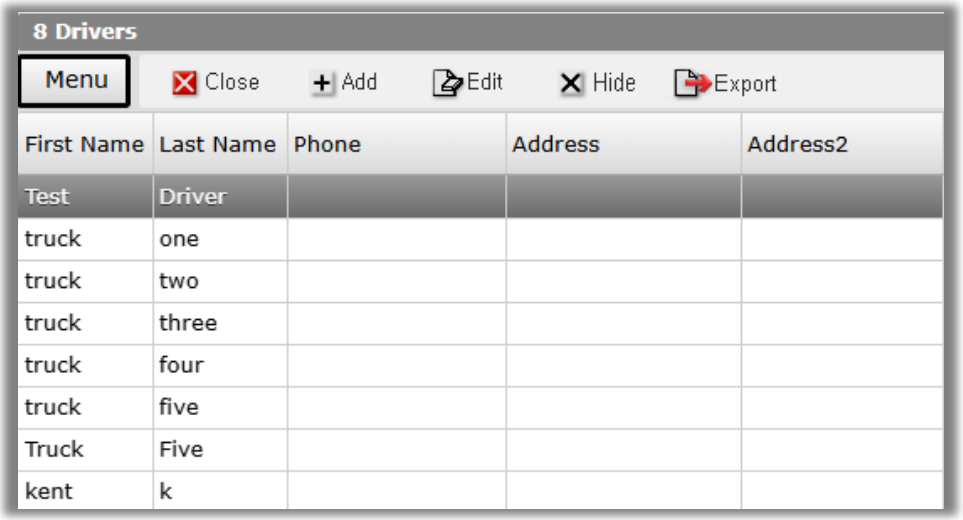
Truck	Truck Name	Truck Tare	Alert NVW	Meter	Map ID	Map Color	Connection
Truck D	Truck D	0	0	149778	D	Black	TCP Relay
Truck C	Truck C	0	0	149780	C	Red	TCP Relay
Truck B	Truck B	0	0	149781	B	Lime	TCP Relay
Truck A	Truck A	0	0	149782	A	Aqua	TCP Relay
Truck E	Truck E	0	0	149779	E	Black	TCP Relay

- **ADD –** Add a new truck to the fleet.
- **EDIT –** Edit the name, tare weight, and color of the selected truck.
- **HIDE –** Hide the selected row.
- **EXPORT –** Export the data.

LOADMAN SPOTLIGHT DATABASE

DRIVERS

The drivers menu shows all drivers in the fleet.

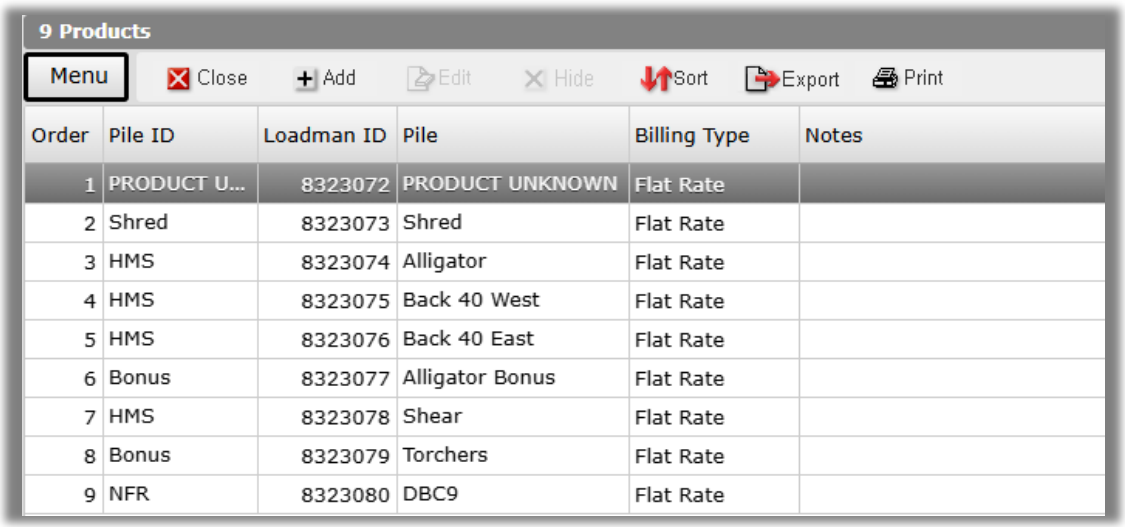


First Name	Last Name	Phone	Address	Address2
Test	Driver			
truck	one			
truck	two			
truck	three			
truck	four			
truck	five			
Truck	Five			
kent	k			

All menu options are the same as the **TRUCKS** menu but for the drivers.

PILES

The piles menu displays the types of piles that drivers may pick up.



Order	Pile ID	Loadman ID	Pile	Billing Type	Notes
1	PRODUCT U...	8323072	PRODUCT UNKNOWN	Flat Rate	
2	Shred	8323073	Shred	Flat Rate	
3	HMS	8323074	Alligator	Flat Rate	
4	HMS	8323075	Back 40 West	Flat Rate	
5	HMS	8323076	Back 40 East	Flat Rate	
6	Bonus	8323077	Alligator Bonus	Flat Rate	
7	HMS	8323078	Shear	Flat Rate	
8	Bonus	8323079	Torchers	Flat Rate	
9	NFR	8323080	DBC9	Flat Rate	

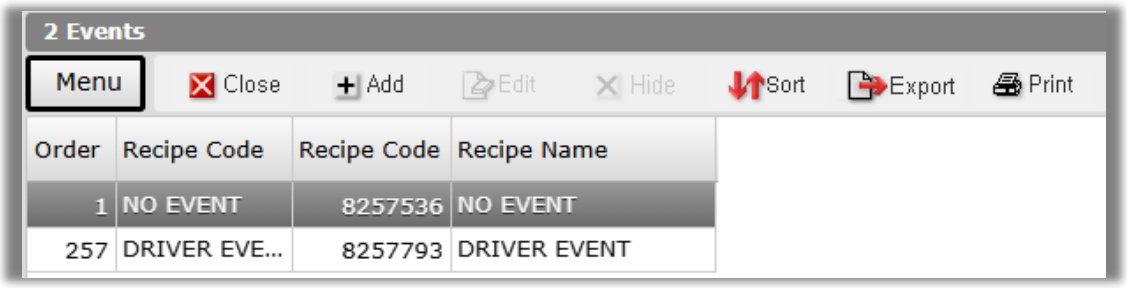
- **ADD –** Add a new pile.
- **EDIT –** Edit the selected pile.
- **HIDE –** Hide the selected row.

LOADMAN SPOTLIGHT DATABASE

- **SORT –** Edit the order that the piles are displayed in.
- **EXPORT –** Export the data.
- **PRINT –** Print the data.

RECIPE NAMES

Displays the recipe codes for each recipe that drivers can pick up.

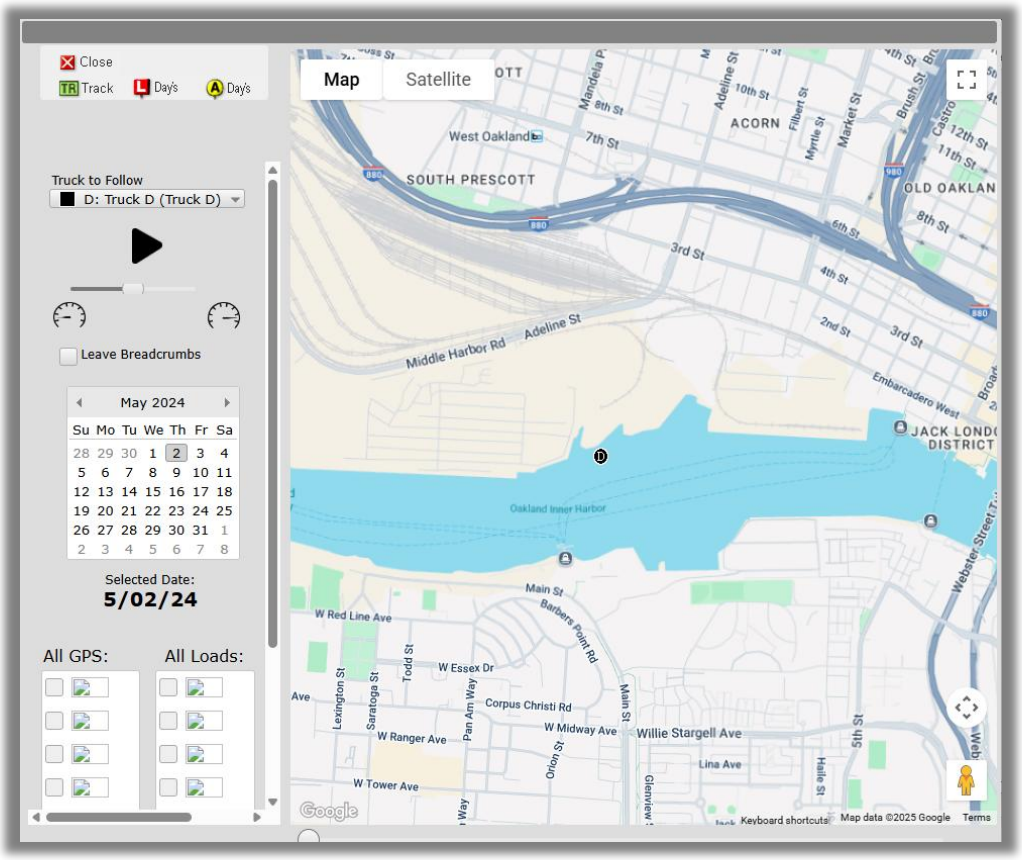


- **ADD –** Add a new recipe code.
- **EDIT –** Edit the recipe code and recipe name of the selected recipe.
- **HIDE –** Hide the selected row.
- **SORT –** Sort the order of the recipes.
- **EXPORT –** Export the data.
- **PRINT –** Prints the data.

LOADMAN SPOTLIGHT DATABASE

MAPS

The maps menu provides live tracking of each truck in the fleet and all downloadable routes using Google Maps.



The image above shows the map when tracking a specific truck (in this case the truck named "Truck D" is being tracked). The drop-down menu on the left called "Truck to Follow" allows users to select specific trucks from their fleet to track.

Here is a description of the side menu items:

- **CLOSE –** Closes the map and goes back to the main menu.
- **TRUCK TO FOLLOW –** Select specific truck to track.
- ▶ **–** Plays back all data recorded on the selected day and follows the selected truck's movement throughout the day.
- **–** The slider above these two dials controls the speed of the playback.
- **LEAVE BREADCRUMBS –** Leaves a trail of the truck's movement on the map during the playback.
- **CALENDAR –** The calendar allows users to select specific days the truck's data on that day.
- **SELECTED DATE –** Displays the date on the calendar selected.
- **ALL GPS –** Select which trucks' location data you would like to see on the map.
- **ALL LOADS –** Select which truck's load data you would like to see on the map.

- **CLEAR MAP –** Clears all selected trucks from the map display.
- **MAP DATA REPORT –** Displays all data collected for each truck on the selected day.
- **OPEN ROUTE SELECTOR –** Select which routes you would like to see displayed on the map.
- **SHOW REGIONS –** See MAP.

TRUCK APPLICATIONS

The *LOADMAN®* Weighing System can be configured to support a wide array of truck applications – trucks with single axles, trucks & trailers with tipping bodies (or dump trucks), freight trucks with trailers, logging trucks, or other trucks with similar layouts. These next few pages provide five examples of truck and trailer configurations with typical placement of Loadcells and CanCoders; and the associated CanCoder® program settings.

4 - POINT UNDERBODY WEIGHING SYSTEM

Shown here is a 4-Point Underbody Weighing System for a Truck with 1 Axle Group. For this particular configuration, 4 Loadcells are grouped as 1 Axle Group, with two dual-channel CanCoders for reading the 4 channels of weight data.

TRUCK APPLICATIONS

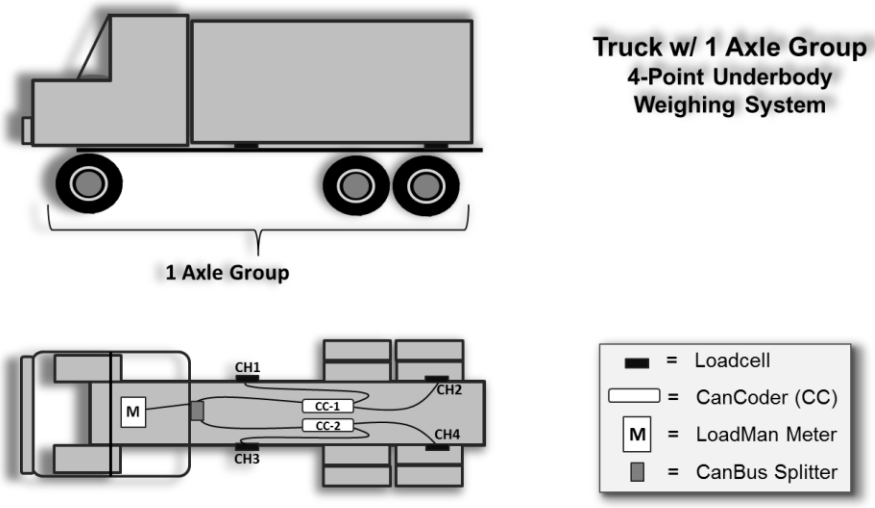


Figure 1. Four Point Underbody Weighing System for Truck with 1 Axle Group

DATE: 10-31-12	TIME: 3:34:14 PM				CanCoder Status	
	1	2	3	4	5	6
A. Analog1	ch1 weight	ch3 weight	0	0	0	0
B. Analog2	ch2 weight	ch4 weight	0	0	0	0
C. A1 Span	500000	500000	0	0	0	0
D. A1 Zero	0	0	0	0	0	0
E. A2 Span	500000	500000	0	0	0	0
F. A2 Zero	0	0	0	0	0	0
G. A1 Alias	AXLE01	AXLE01				
H. A2 Alias	AXLE01	AXLE01				
I. Sub Alias	TRUCK1	TRUCK1				
J. Channels	02	02	00	00	00	00
K. Math ON?	na	na	00	00	00	00
L. L1	na	na	0	0	0	0
M. L2	na	na	0	0	0	0
N. L3	na	na	0	0	0	0
O. A1 Tare	0	0	0	0	0	0
P. A2 Tare	0	0	0	0	0	0
Q. Sub Tare	0	0	0	0	0	0
Live Byte	1E	1E	0	0	0	0

TRUCK APPLICATIONS

6 - POINT UNDERBODY WEIGHING SYSTEM

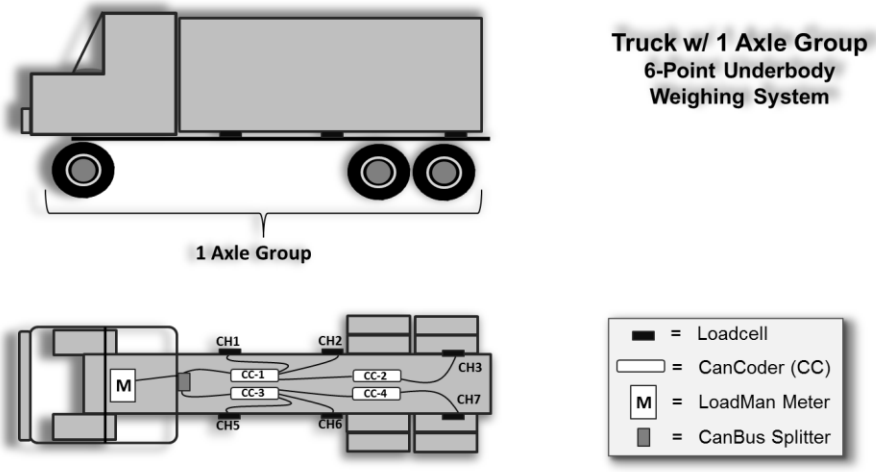


Figure 2. Six-Point Underbody Weighing System – 1 Axle Group

DATE: 10-31-12	TIME: 3:34:14 PM				CanCoder Status	
	1	2	3	4	5	6
A. Analog1	ch1 weight	ch3 weight	ch5 weight	ch7 weight	0	0
B. Analog2	ch2 weight	0	ch6 weight	0	0	0
C. A1 Span	500000	500000	500000	500000	0	0
D. A1 Zero	0	0	0	0	0	0
E. A2 Span	500000	500000	500000	500000	0	0
F. A2 Zero	0	0	0	0	0	0
G. A1 Alias	AXLE01	AXLE01	AXLE01	AXLE01		
H. A2 Alias	AXLE01		AXLE01			
I. Sub Alias	TRUCK1	TRUCK1	TRUCK1	TRUCK1		
J. Channels	02	01	02	01	00	00
K. Math ON?	na	na	na	na	00	00
L. L1	na	na	na	na	0	0
M. L2	na	na	na	na	0	0
N. L3	na	na	na	na	0	0
O. A1 Tare	0	0	0	0	0	0
P. A2 Tare	0	0	0	0	0	0
Q. Sub Tare	0	0	0	0	0	0
Live Byte	1E	1E	1E	1E	0	0

TRUCK APPLICATIONS

FREIGHT TRUCK – 2 AXLE GROUPS

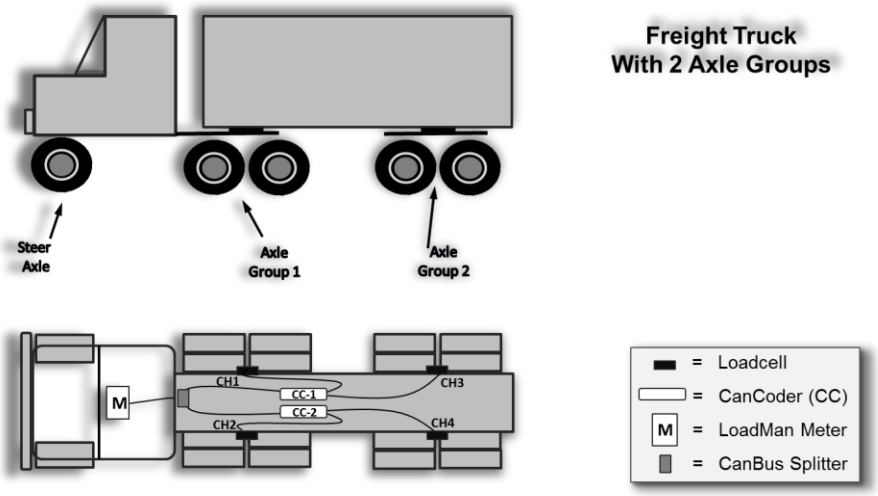


Figure 3. Freight Truck – 2 Axle Groups

DATE: 10-31-12	TIME: 3:34:14 PM				CanCoder Status	
	1	2	3	4	5	6
A. Analog1	ch1 weight	ch2 weight	0	0	0	0
B. Analog2	ch3 weight	ch4 weight	0	0	0	0
C. A1 Span	500000	500000	0	0	0	0
D. A1 Zero	0	0	0	0	0	0
E. A2 Span	500000	500000	0	0	0	0
F. A2 Zero	0	0	0	0	0	0
G. A1 Alias	AXLE01	AXLE01				
H. A2 Alias	AXLE02	AXLE02				
I. Sub Alias	TRUCK1	TRUCK1				
J. Channels	02	02	00	00	00	00
K. Math ON?	na	na	00	00	00	00
L. L1	na	na	0	0	0	0
M. L2	na	na	0	0	0	0
N. L3	na	na	0	0	0	0
O. A1 Tare	0	0	0	0	0	0
P. A2 Tare	0	0	0	0	0	0
Q. Sub Tare	0	0	0	0	0	0
Live Byte	1E	1E	0	0	0	0

TRUCK APPLICATIONS

FREIGHT TRUCK & TRAILER – 4 AXLE GROUPS

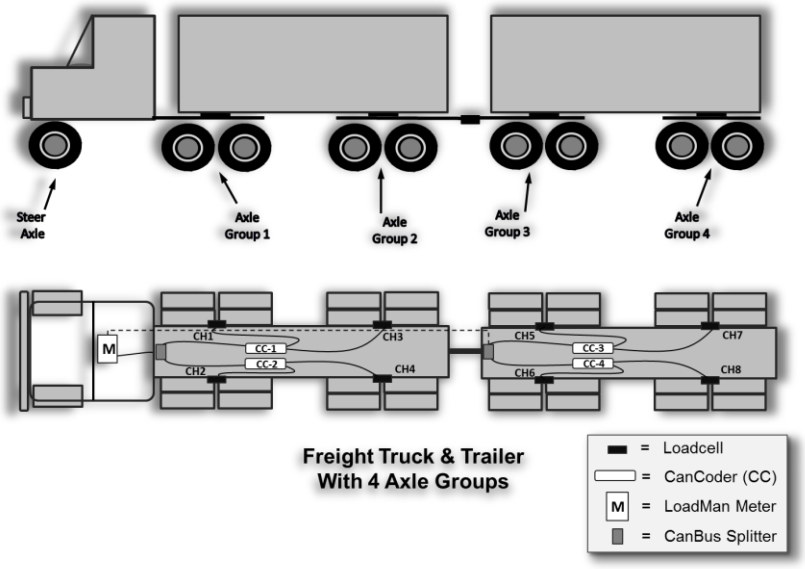


Figure 4. Freight Truck & Trailer – With 4 Axle Groups

DATE: 10-31-12	TIME: 3:34:14 PM				CanCoder Status	
	1	2	3	4	5	6
A. Analog1	ch1 weight	ch2 weight	ch5 weight	ch6 weight	0	0
B. Analog2	ch3 weight	ch4 weight	ch7 weight	ch8 weight	0	0
C. A1 Span	500000	500000	500000	500000	0	0
D. A1 Zero	0	0	0	0	0	0
E. A2 Span	500000	500000	500000	500000	0	0
F. A2 Zero	0	0	0	0	0	0
G. A1 Alias	AXLE01	AXLE01	AXLE03	AXLE03		
H. A2 Alias	AXLE02	AXLE02	AXLE04	AXLE04		
I. Sub Alias	TRUCK1	TRUCK1	TRAIL1	TRAIL1		
J. Channels	02	02	02	02	00	00
K. Math ON?	na	na	na	na	00	00
L. L1	na	na	na	na	0	0
M. L2	na	na	na	na	0	0
N. L3	na	na	na	na	0	0
O. A1 Tare	0	0	0	0	0	0
P. A2 Tare	0	0	0	0	0	0
Q. Sub Tare	0	0	0	0	0	0
Live Byte	1E	1E	1E	1E	0	0

TRUCK APPLICATIONS

FREIGHT TRUCK & TWO TRAILERS – 6 AXLE GROUPS

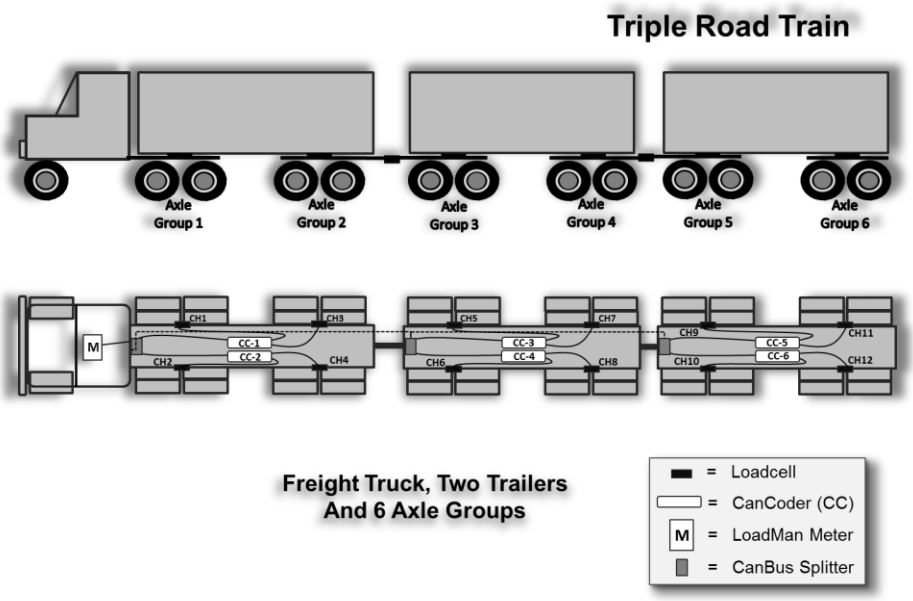


Figure 5. Triple Road Train

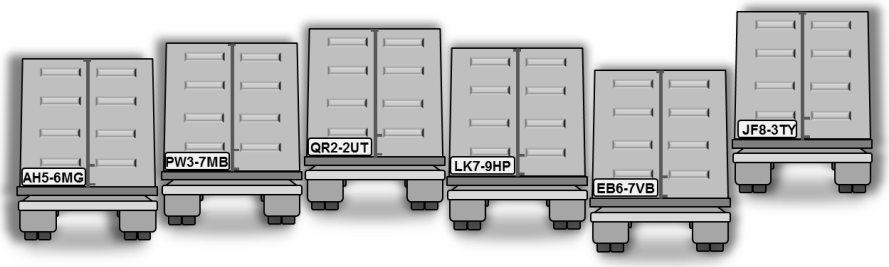
DATE: 10-31-12 TIME: 3:34:14 PM						CanCoder Status
	1	2	3	4	5	6
A. Analog1	ch1 weight	ch2 weight	ch5 weight	ch6 weight	ch9 weight	ch10 weight
B. Analog2	ch3 weight	ch4 weight	ch7 weight	ch8 weight	ch11 weight	ch12 weight
C. A1 Span	500000	500000	500000	500000	500000	500000
D. A1 Zero	0	0	0	0	0	0
E. A2 Span	500000	500000	500000	500000	500000	500000
F. A2 Zero	0	0	0	0	0	0
G. A1 Alias	AXLE01	AXLE01	AXLE03	AXLE03	AXLE05	AXLE05
H. A2 Alias	AXLE02	AXLE02	AXLE04	AXLE04	AXLE06	AXLE06
I. Sub Alias	TRUCK1	TRUCK1	TRAIL1	TRAIL1	TRAIL2	TRAIL2
J. Channels	02	02	02	02	02	02
K. Math ON?	n/a	n/a	n/a	n/a	n/a	n/a
L. L1	n/a	n/a	n/a	n/a	n/a	n/a
M. L2	n/a	n/a	n/a	n/a	n/a	n/a
N. L3	n/a	n/a	n/a	n/a	n/a	n/a
O. A1 Tare	0	0	0	0	0	0
P. A2 Tare	0	0	0	0	0	0
Q. Sub Tare	0	0	0	0	0	0
Live Byte	1E	1E	1E	1E	1E	1E

PROGRAMMING A FLEET OF TRAILERS

A key feature of the *LoadMan®* CanCoder technology allows programming of the weight system on each individual trailer from a fleet of trailers. The programming/configuration will remain in the CanCoder memory on the trailer. When the trailer is hooked to any LM300 equipped truck, the trailer configuration will be automatically detected by the LM300.

In the following example, we present an example of how you could configure six identical trailers equipped with two dual-channel CanCoders. You'll see that the most convenient way to distinguish the trailers is by using the first 6 digits of each trailer's license plate in the Sub Alias field.

TRUCK APPLICATIONS



G. A1 Alias	AXLE01	AXLE01	AXLE01	AXLE01	AXLE01	AXLE01
H. A2 Alias	AXLE02	AXLE02	AXLE02	AXLE02	AXLE02	AXLE02
I. Sub Alias	AH56MG	PW37MB	QR22UT	LK79HP	EB67VB	JF83TY

Also note that all tare weights, zero offsets and span numbers that were programmed into each trailer will remain in the trailers' CanCoder memory. So the driver can just hook up and go. Let the driver drive while *LOADMAN®* handles the rest.

WIRING DIAGRAMS

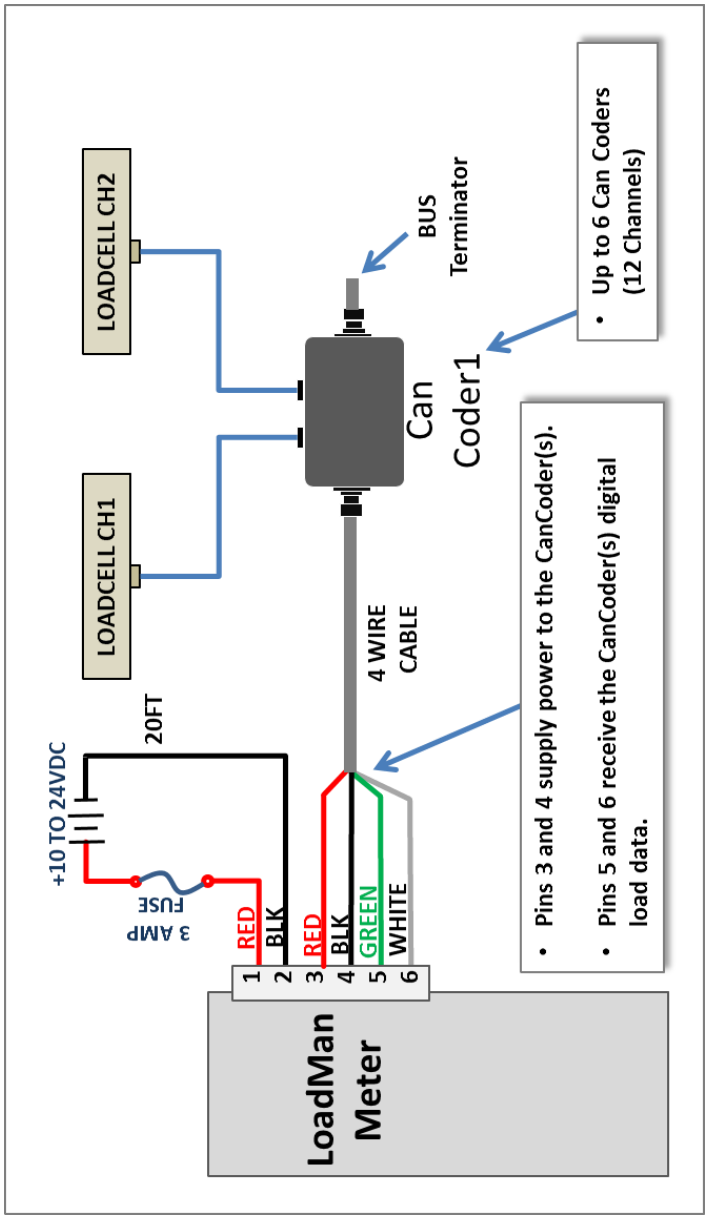


Figure 6. Wiring Diagram

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