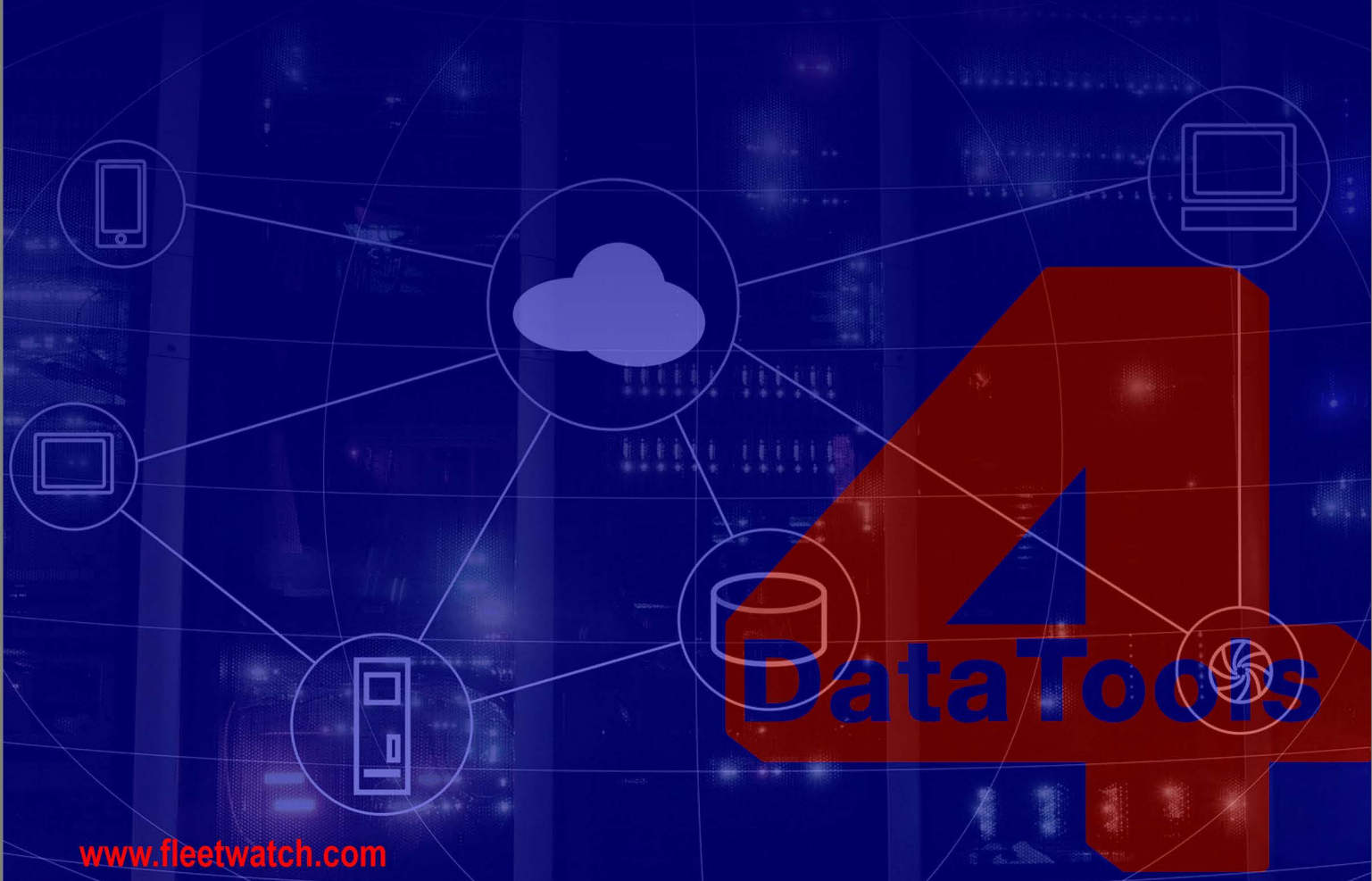
FLEETWATCH®

DataTools 4 User Guide

FROM

S&A SYSTEMS, INC.



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FLEETWATCH® Data Tools 4 Quick Guide

By: Michael Grugel and Jeremy Rothermel

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Section 1 - Introduction

The FLEETWATCH® Data Tools is a user-friendly, Web browser-based database front-end designed to interface with the database created by the FLEETWATCH® System Monitor program. Data Tools allow authorized users to view and edit data related to the FLEETWATCH® SYSTEMController.

This quick reference guide is intended to familiarize users with the key features of Data Tools.

1.1 FLEETWATCH® SYSTEMController Overview

The FLEETWATCH® SYSTEMController is a program which communicates with Remote Island Head (RIH) units located in the service lanes and maintenance bays throughout a facility, city, or even an entire state. The program runs 24 hours a day on a Server located at the facility or other remote location such as a server room, or in the Cloud. Each service lane communicates with the SYSTEMController to get authorization for employees using the system as well as for vehicles serviced by the system.

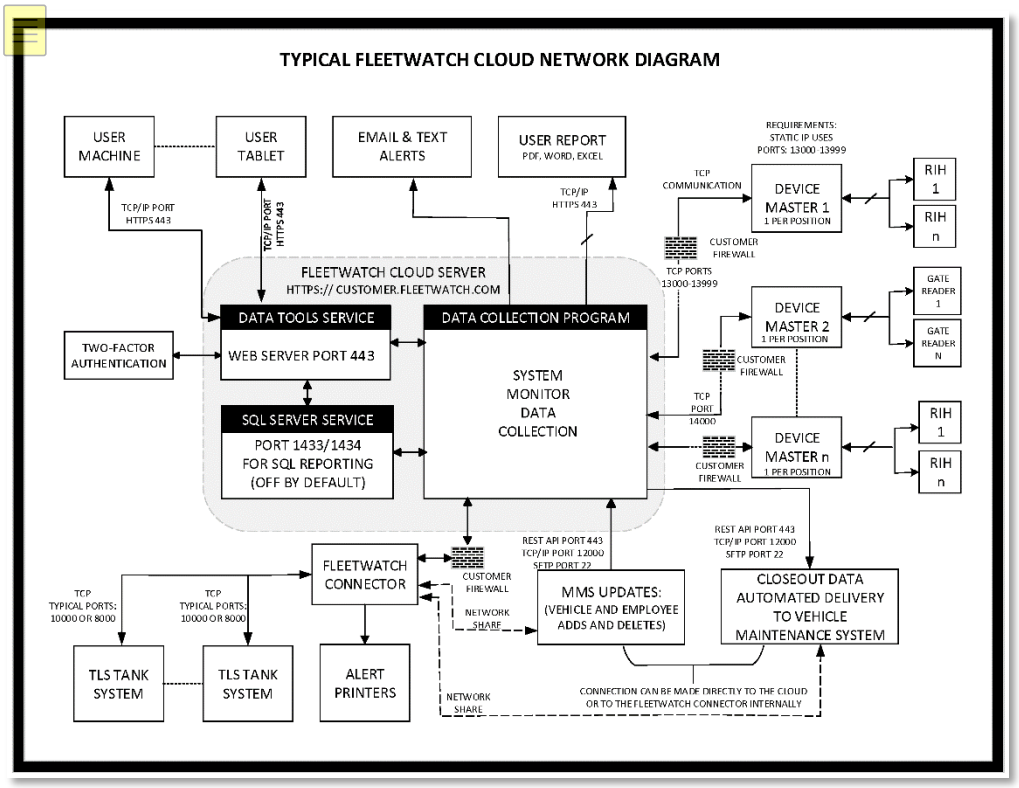

Figure 1: Cloud network diagram

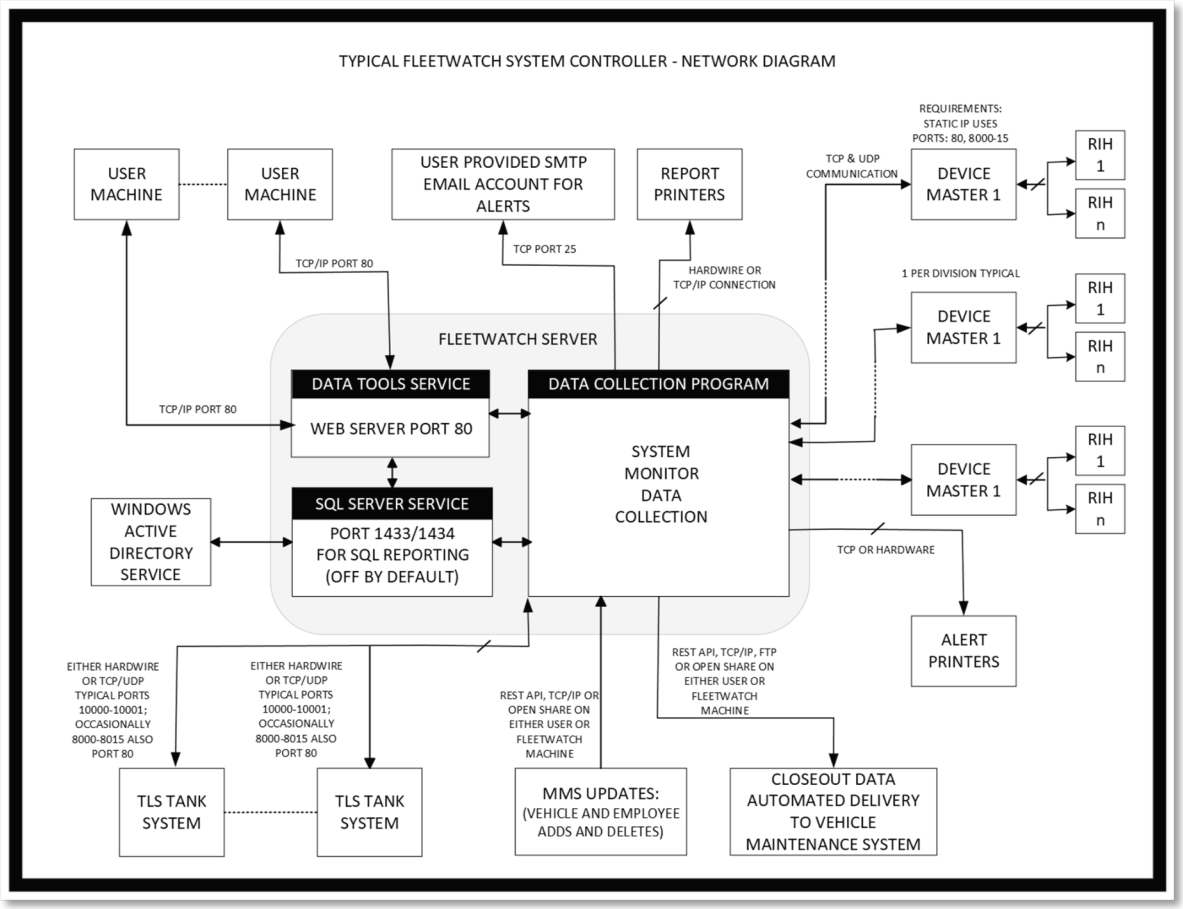

Figure 1-2 - Typical FLEETWATCH Local SystemController Network Diagram

The SYSTEMController can be set up to check each employee number and vehicle number for validity and fuel type compatibility. An invalid entry causes the controller to require reentry of the data at the RIH.

The SYSTEMController stores mileage input at last servicing and the calculated miles per gallon for each authorized vehicle and performs data verification on input mileage data.

The SYSTEMController also provides the option for direct connection for automatic transfer (upload) of files of Servicing Records, Tank Inventory, and Fluid Receipts Data. Files containing valid vehicles, employees, and special messages may also be downloaded from the network to the SYSTEMController. Files transfer options include Mapped Network Drive, SFTP, FTP, REST API, and Network Log-in Connection.

1.3 FLEETWATCH® Data Tools Overview

The main part of the Data Tools is a Web server running on a server located at a facility or remote server room, or in the Cloud. This server allows any PC with a web browser and/or network access to the server to run the Data Tools software. No installation on the client PC is required to run Data Tools. HTTP and HTTPS are supported.

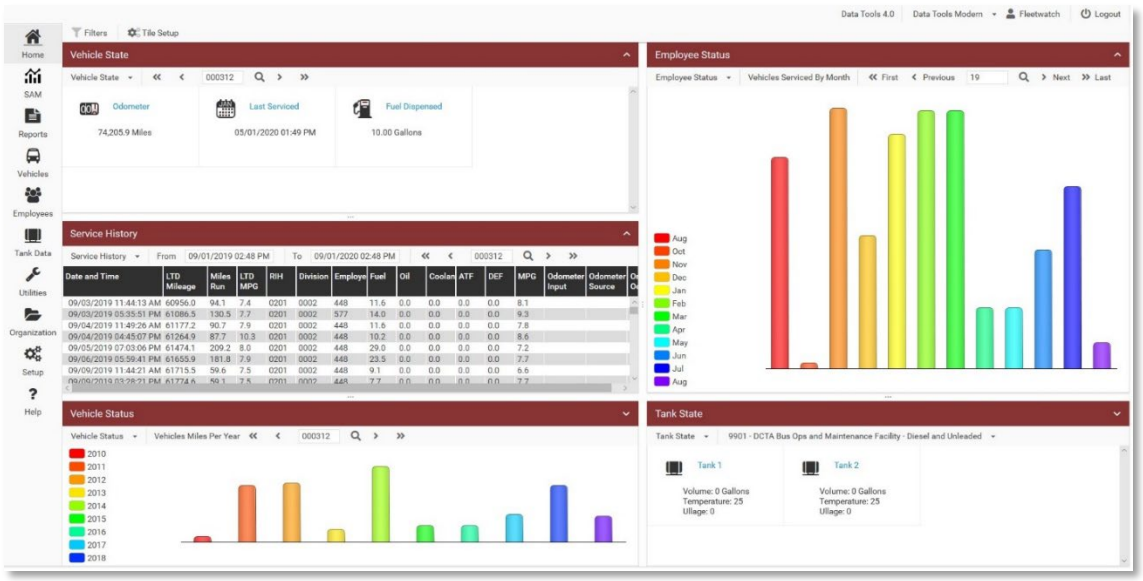

Figure 1-3 - Data Tools Runs in any Web Browser

A wide variety of reports are available in Data Tools. Some of the standard and exceptions reports are as follows:

- Printed Log of all transactions (printed automatically or on demand)
- Vehicles Serviced report shows vehicles serviced in ascending vehicle number order for a specified period.
- Vehicles Not Serviced shows active vehicles that were not fueled during a specified period.
- Service Exceptions Report (excessive fluid usage, unauthorized vehicles, and mileage exceptions)
- Fuel Totals by Dispensers
- In addition to the reports mentioned above, Data Tools provides many helpful utilities to organize vehicles quickly and easily into Regions, Fleets, Divisions, Departments and Types for better tracking and management. Other utilities allow for data analysis to track down vehicles that are not performing optimal

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Section 2 - Installation

2.1 Installation on Client PC

Data Tools requires only a standards-compliant Internet browser installed on the client PC/Tablet/Device with network access to the SYSTEMController cloud or intranet server.

2.1.1 Client Installation Requirements:

Hardware Requirements

Any PC or network-enabled device capable of running a modern standards-compliant browser with java scripting enabled can run the Data Tools software.

Software Requirements

Recommended Software:

- Internet Explorer 11+
- Firefox 55+
- Google Chrome 61.0+
- Microsoft Edge 40+

2.1.2 Installation

Launch the Web browser.

Enter the name or IP address of the Data Tools (SYSTEMController) PC in the address bar of the browser.

Save as a Favorite or Bookmark or create a shortcut on the desktop.

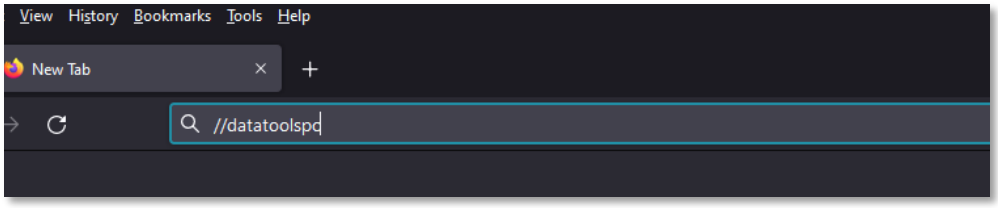


Figure 2-1 - Entering the IP address or name of Data Tools server

If the permissions on the Data Tools server and the network have been configured properly, the browser will display the Data Tools log in screen.

2.2 Installation on SYSTEMController Server

The Data Tools server software comes preinstalled on a cloud or local installation of the FLEETWATCH® SYSTEMController software.

Section 3 - Main Menu

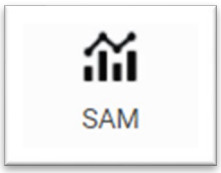
The Main Menu (shown in the figure to the right) is displayed down the left-hand side of the page when you login to Data Tools. The main menu is always displayed in the main Data Tools tab to make navigation between the different sections quick and easy.

Data Tools combines tools into logical groups used by transit employees daily. Users assigned to manage vehicles, employees, etc., can find all the relevant tools in one section.

A brief overview of each section is described below:

Figure 4-1 - Data Tools Main Menu

3.1 Service Activity Monitor (SAM) Section



The Service Activity Monitor (SAM) is a real-time view of the fueling and maintenance activity with recent transactions showing mileage, fuel, and other fluid usage. After clicking the SAM button, best practice is to proceed to Filters, choose the Division, and Apply Filters to see data.

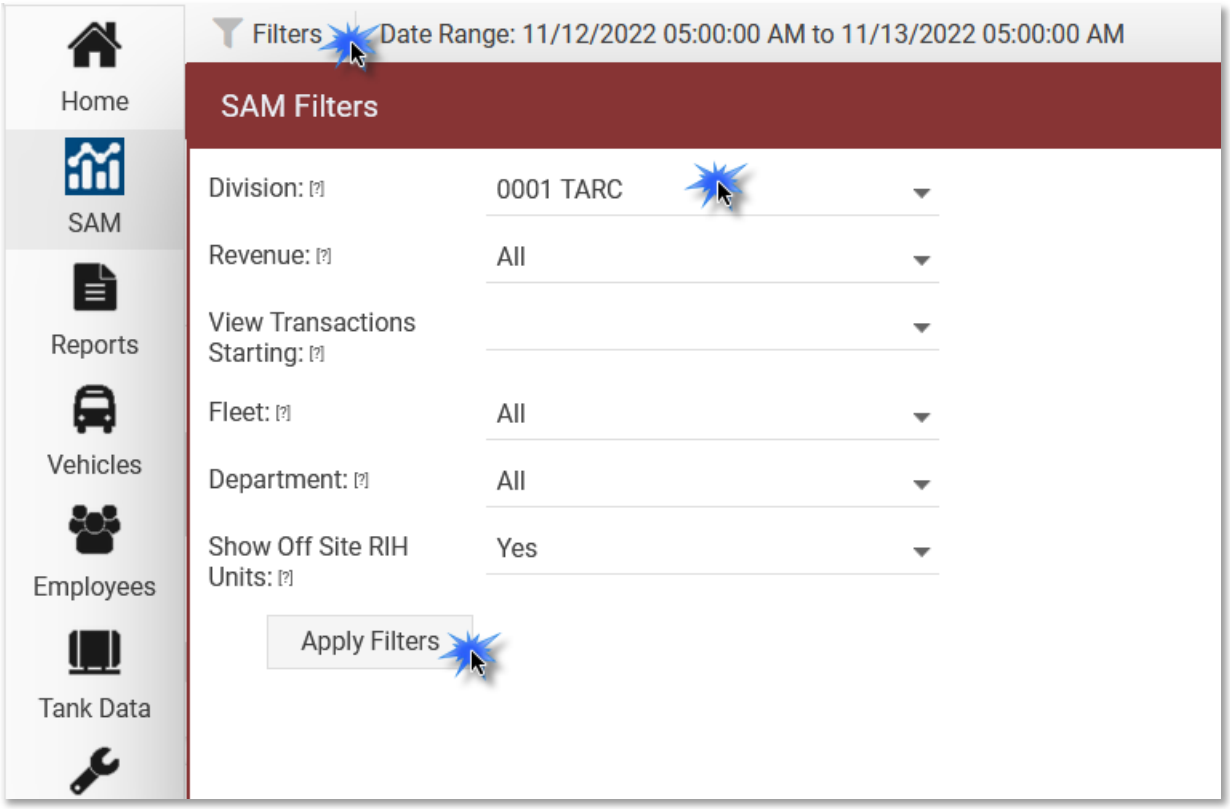


Figure 2: Choose a division to load data

Transaction Log; list of transactions since last closeout time.

RIH Units: the current activity and status of the fuel lanes and maintenance.

Service Status: lists of vehicles that have been serviced and not serviced during the current day. Also, the number of vehicles serviced by employee.

Fluid Info: tank monitor data such as information from a Veeder Root or comparable, and Sessions Total, which displays the current totals of all fluids dispensed for the day.

Previous Transactions: shows transactions from previous days.

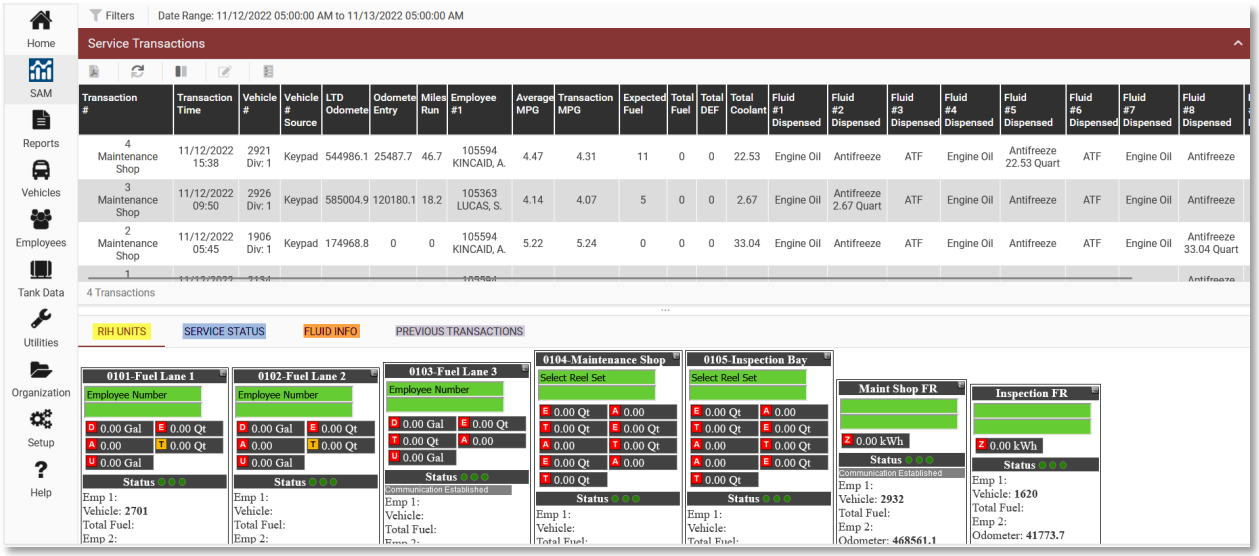


Figure 3: SAM real-time and recent data

3.2 RIH Units

Displays the current fluids setup, status, servicing, and session totals for all service lane RIH units

The **letters (D, E, C, T, A)** under the RIH service lane name are the currently assigned fluids. D is Diesel, E is Engine oil, C is coolant, and A is DEF.

Red fluids are locked, green fluids are authorized, and yellow fluids have surpassed their no-use count.

Status indicators Auto/Manual and Online/Offline. Auto indicates FLEETWATCH has control of the fluids. Manual indicates FLEETWATCH controls have been bypassed with the key switch on the front panel of the RIH.

Online/offline: Online means the RIH service lane is communicating with the controller. Offline signifies possible communication problems.

When Offline alerts occur, please note the typical RIH has a memory card (M30); transactions are being stored and will upload to the controller when communication is reestablished. A typical modern M30 can hold thousands of transactions.

The **Service** section shows the current activity occurring in the service for employees and vehicles.

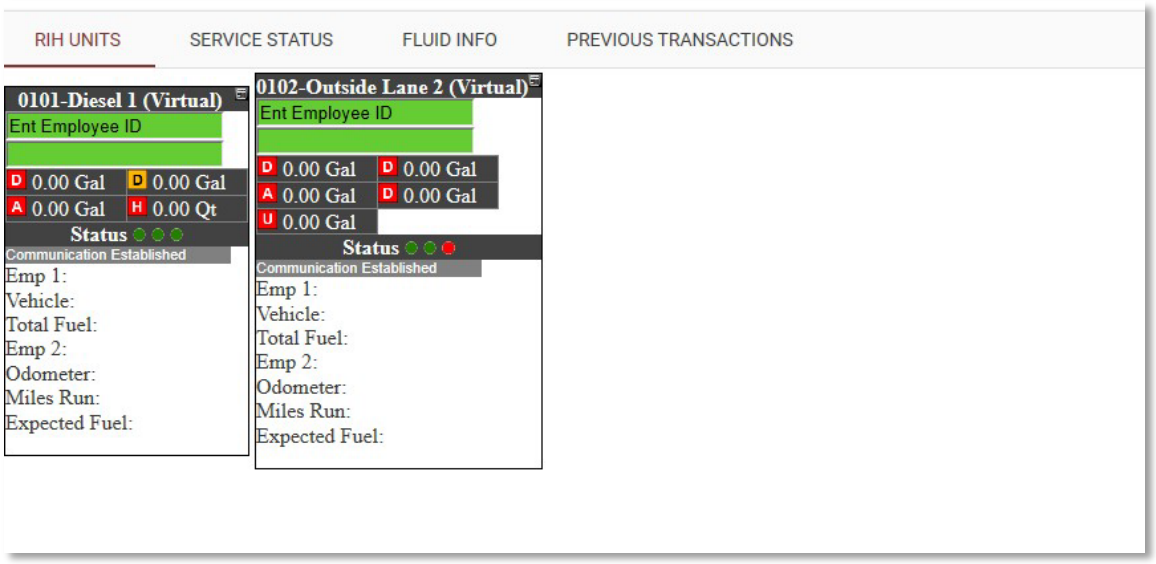


Figure 3-4 SAM RIH Information Screen

3.3 Service Status

The Service Status tab contains information on Vehicles Not Serviced, Vehicles Service, and Vehicles Serviced by Employee. Vehicles Serviced by Employee shows the number of vehicles serviced, average vehicles per hour, and average time to service vehicles in minutes.

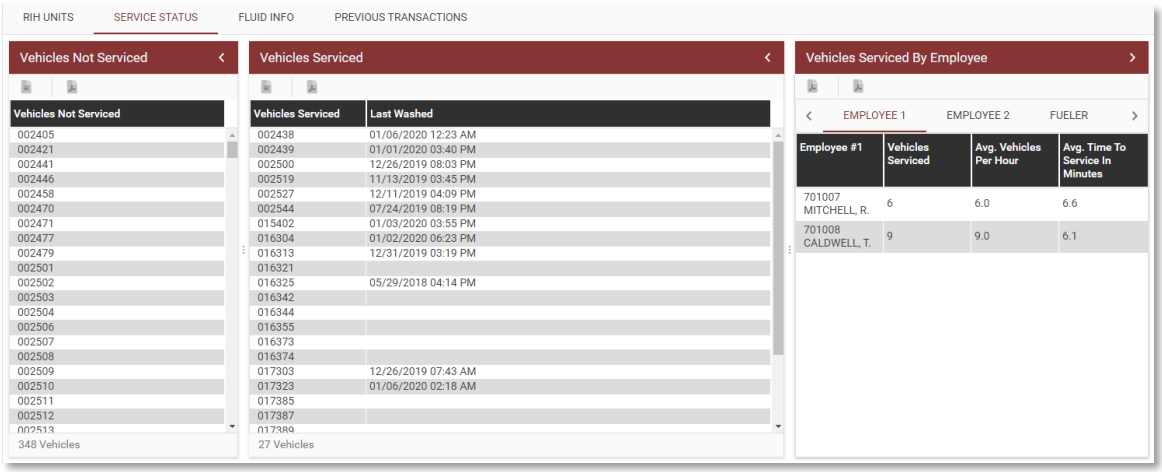


Figure 1-3 - Vehicle Service Status Tab

3.3.1 Vehicles Not Serviced/Vehicles Serviced windows

When a shift begins, a fuel lane supervisor can bring up the SAM and see a screen like the one below. Notice the vehicles are in the Not Serviced window as the shift begins. As vehicles are serviced, the vehicles from the Not Serviced window will move to the Vehicles Serviced window and the transactions will populate the transaction log.

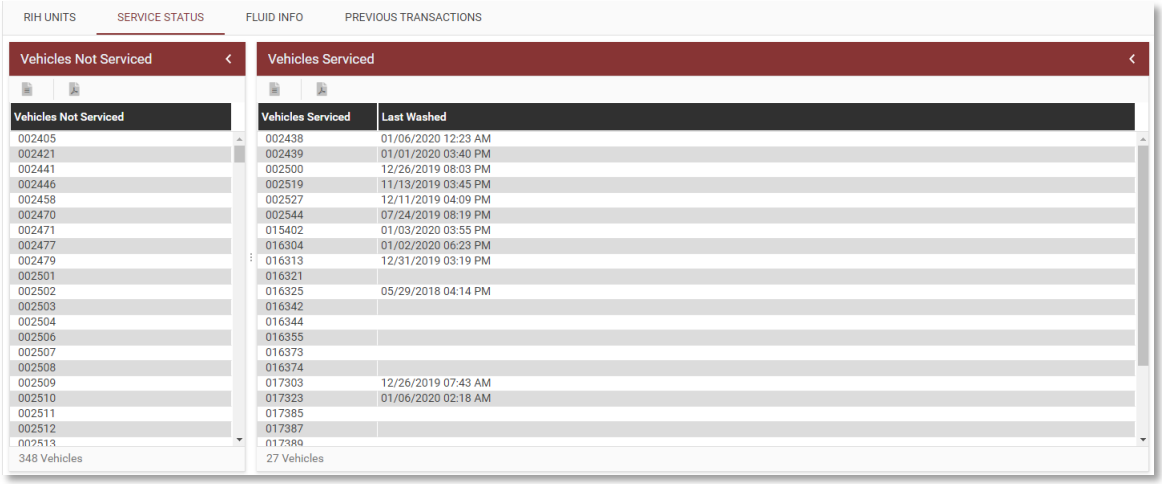


Figure 3-5 SAM Vehicles Serviced and Not Serviced Screen

3.3.2 Vehicles Serviced by Employee

A fuel lane supervisor can also track employee workload. The Vehicles Serviced by Employee window displays the employee's name, number, and quantity of vehicles serviced, with the running totals accumulating throughout the shift.

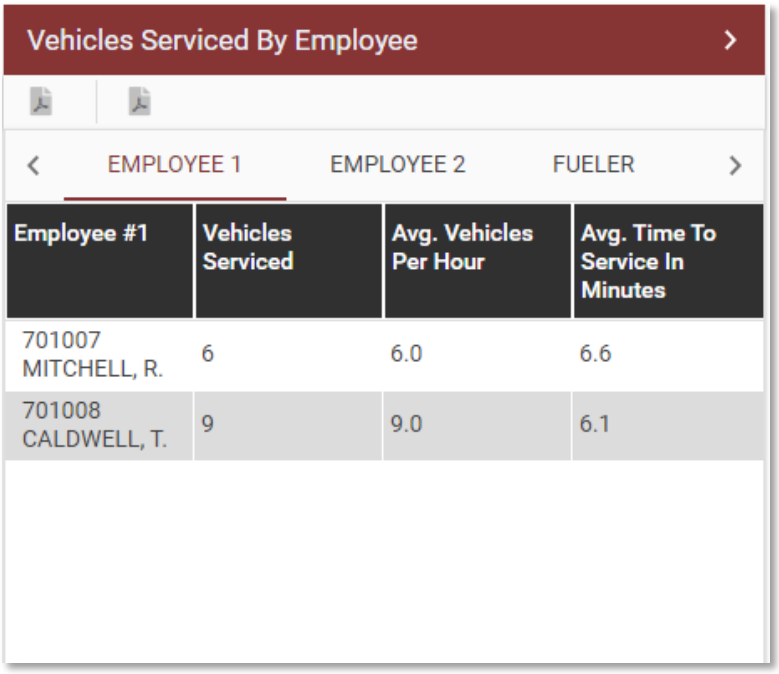


Figure 3-6 SAM Vehicles Serviced by Employee Screen

3.4 Fluid Info

3.4.1 TLS Data

This section displays Tank Monitoring information from any available Veeder Root or TLS interface. Inventory, Alarms, and Deliveries

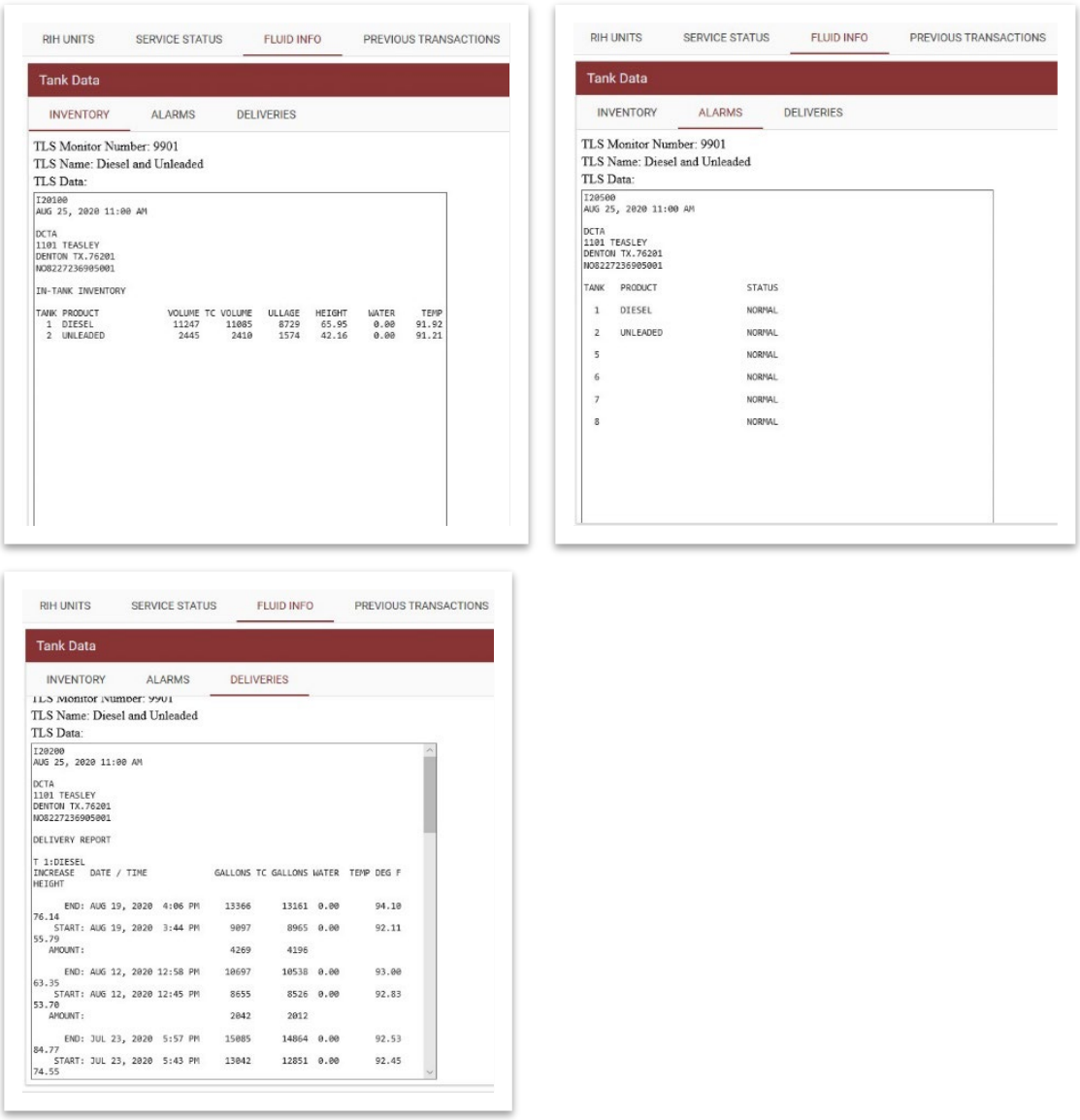


Figure 3-7 - TLS Data Screen

3.4.2 Session Totals

The Session Totals window displays the accumulated total of fluids per lane. Session time is typically after previous closeout time.

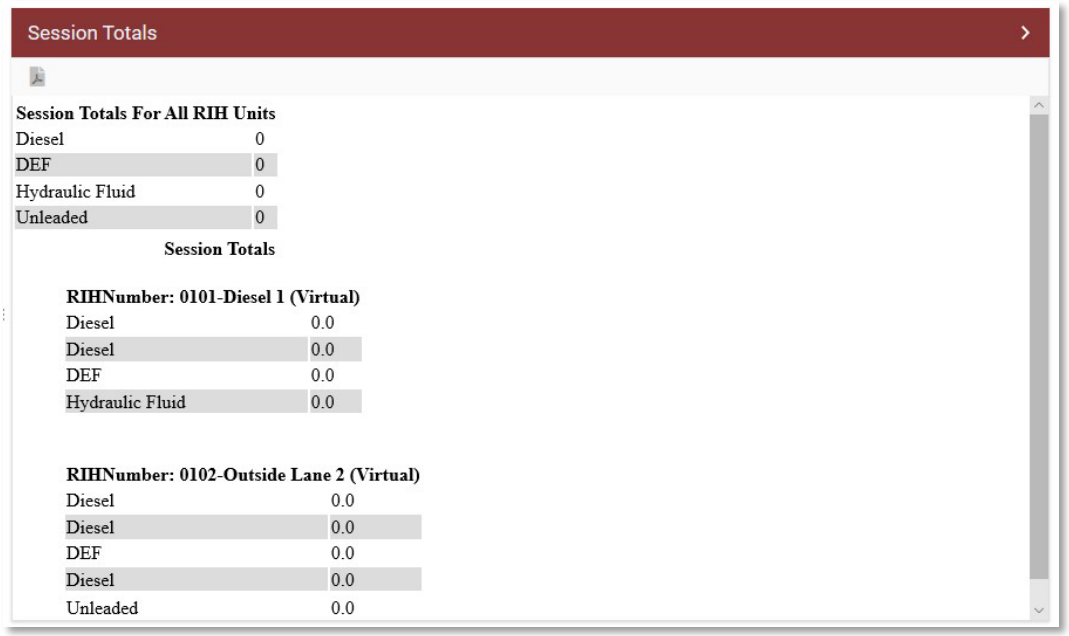


Figure 3-8 - Session Totals Screen

3.4.3 Transaction Log Viewer

The Transaction Log Viewer shows real-time transaction as they come in from the service lanes. This viewer is customizable by the user (see Setup section below).

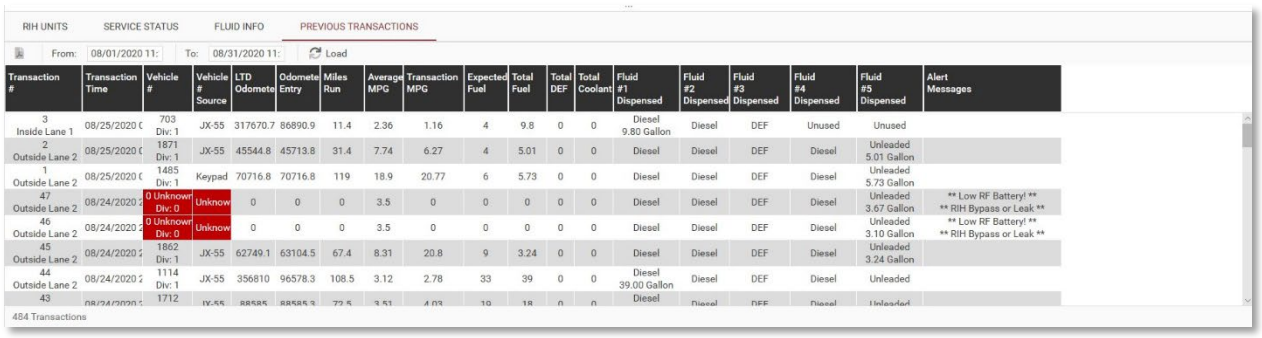


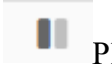
Figure 3-9 - Transaction Log

3.4.4 Transaction Log Controls

Figure 1-9- Transaction Log Controls

Open Service Transactions PDF Icon: Opens a PDF in a separate window for you to view, print or save the log.

Reload Service Transaction: Refreshes the transaction log.



Play/Pause Service Transactions Loading: With Play/Pause, you can temporarily halt new data from appending to the transaction log. Press Play to load all transactions since Pausing, and the transaction log will resume getting new data.

Edit Selected Transaction: Not available to all users. Edit option allows editing of the selected transaction, including, but not limited to, vehicle number, fuel amount, time, etc.

3.4.5 Display Columns (in Transaction Log Viewer)

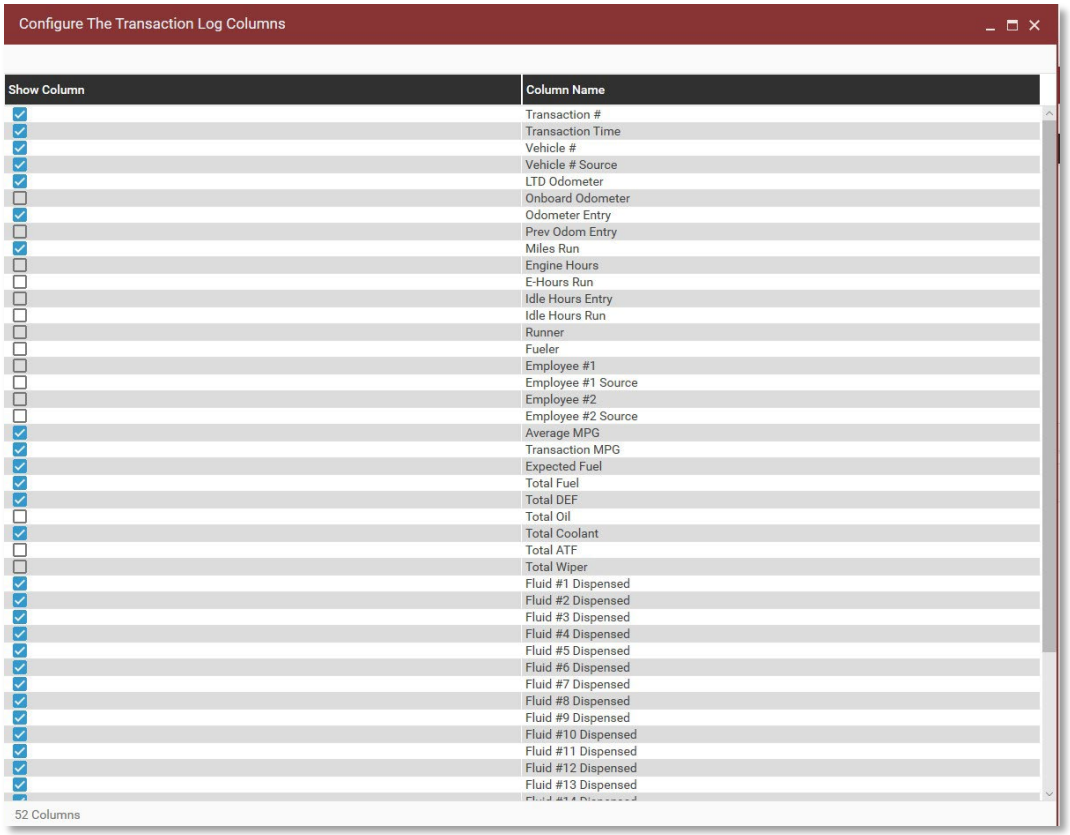
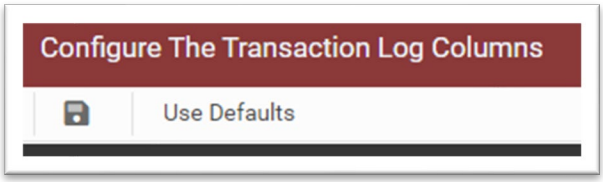


Figure 3-10 Display Columns (in Transaction Log Viewer) Screen

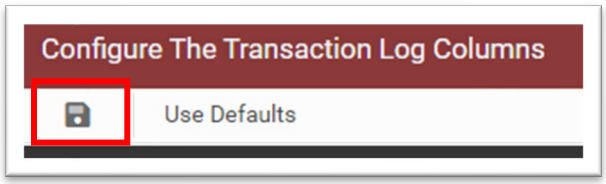


Click the "Use Defaults" button to select Transaction #, Transaction Time, Vehicle #, LTD Odometer, Miles Run, Engine Hours, Employee #1, Average MPG, Transaction MPG, Expected Fuel, Total Fuel, All Fluids Dispensed (totals per transaction), and Alert Messages.

Other columns: Vehicle # Source, Onboard Odometer, Odometer Entry, E-Hours Run, Idle Hours Entry, Idle Hours Run, Employee #1 Source, Employee #2, Employee #2 Source, Special Message, Prompt Responses #1 through #6.

Non-editable columns are all the Fluids Dispensed columns.

Click the save changes icon to make changes.



3.5 Previous Transactions

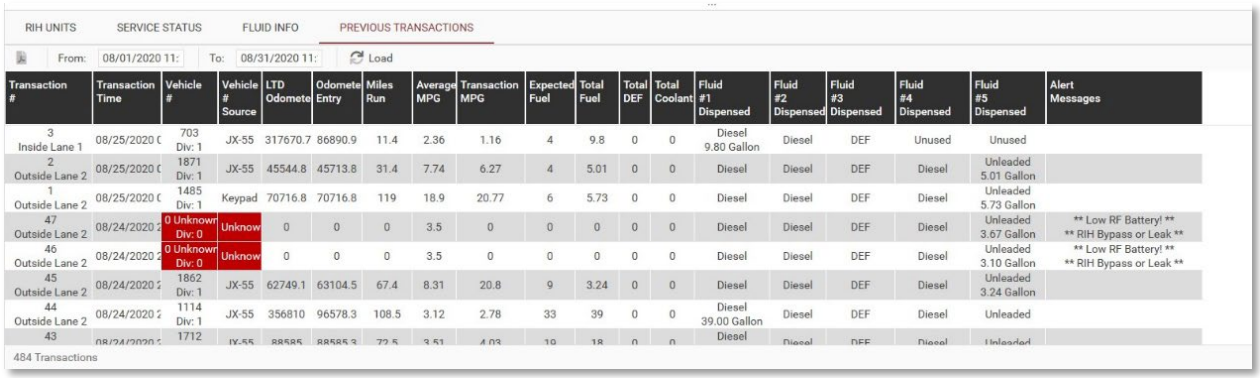


Figure 1-11 - Previous Transaction Log

Figure 1-12 - Previous Transaction Log - No Transactions

3.6 Command Control Center

Administrators and Power Users Plus can remotely control an RIH unit for troubleshooting purposes.

- Reestablish communications with an RIH.
- Request firmware versions.
- Enter information through the keypad as if you were standing in front of the RIH.

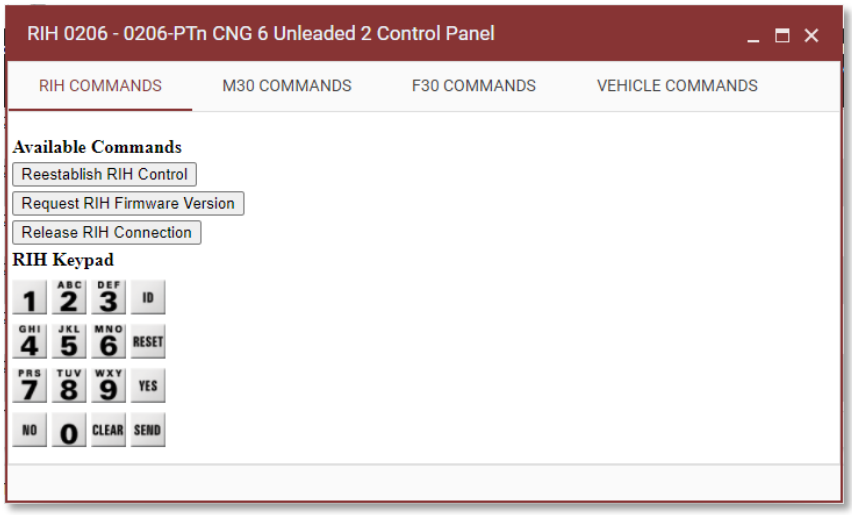


Figure 3-11 - RIH Command Control Center

3.7 Quick Print Icons

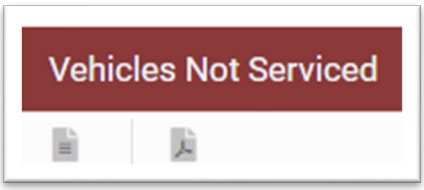


Figure 1-16 - SAM Vehicles Not Serviced Quick Print Icons

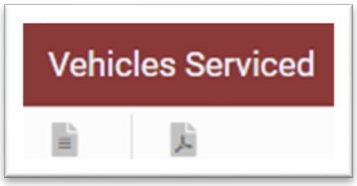
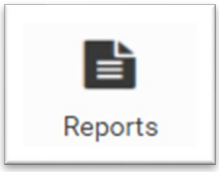


Figure 1-15 - SAM Vehicles Service Quick Print Icons

The Vehicles Serviced and Vehicles Not Serviced activity windows each have quick print icons (see figure above). Click this icon to bring up a PDF to view, and then save or print the PDF\

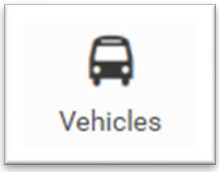
3.8 Reports Section

The reports section allows you to run various reports on servicing data to easily analyze your data, as well as many ways to identify potential problems areas.

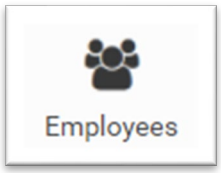


3.9 Vehicles Section

This section allows you to view and change data related to the vehicles. Vehicle options include editing existing vehicle data, adding new vehicles, deleting old vehicles (caution deleting vehicles unless the last service date is greater than 10 years ago; mark them as permanently out of service instead), editing vehicle templates, editing vehicle types, and setting up and entering vehicle special messages.).



3.10 Employees Section

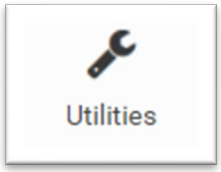


Employee options include editing existing employees, adding new employees, deleting employees, and editing employee templates.

3.11 Tank Data Section

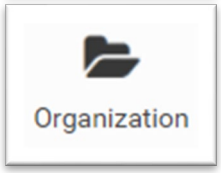
Tank options include Fluid Reconciliation, which allows you to reconcile fluid dispensed in the fuel lanes and bays compared with fluid levels reported by a tank monitor system such as Veeder Root, TLS350, OPW, Franklin Fuel Systems, and more.

3.12 Utilities Section



This menu contains several useful system utilities that allow users to easily manage vehicles, employees, tank options, system options, etc.

3.13 Organization Section

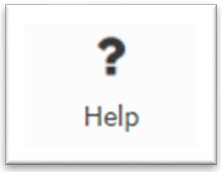


This menu contains several useful system utilities that allow users to easily manage Division, Department, Fleet, and Region data.

3.14 Setup Section

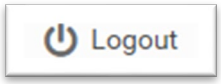
This menu contains utilities which allow users to easily manage facility equipment setup information. Users can set up RIH Units, add and manage fluids, edit facility information, configure tank monitors, manage tank groups and more. Note, do not make any changes in Setup without Fleetwatch technician assistance.

3.15 Help Section



This menu contains links to various system manuals and help documents.

3.16 Logout Option



The Logout option logs the current user out of the Data Tools server. This frees up a user license for other users. Logging out is also a security benefit because it prevents unauthorized user access into Data Tools via another user's account.

Section 4 - Home Screen

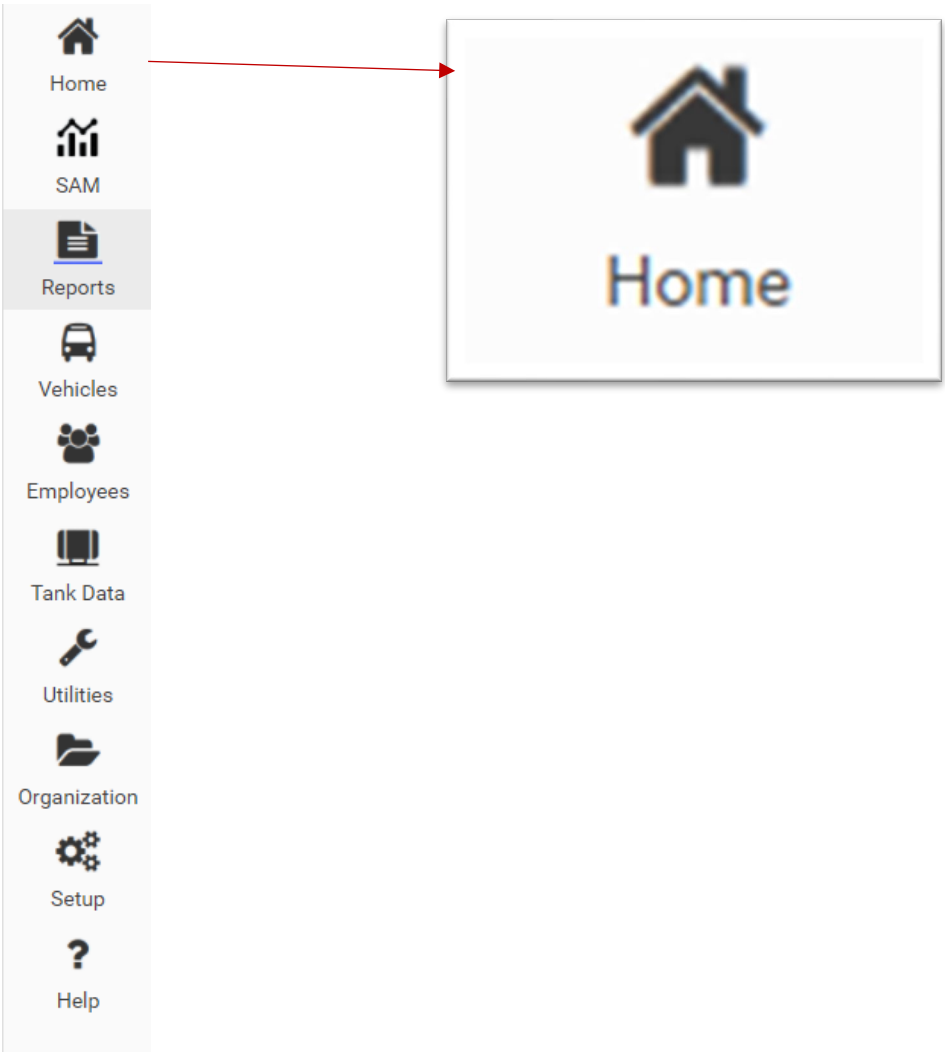


Figure 4-1 - Data Tools Main Menu – Home

4.1 Getting Started

The Data Tools Home Screen is an arrangement of tiles which display important information in one easy to process screen. Tiles can be set up to show data that is important to each user when they login to Data Tools. Users may display 1 – 7 tiles on their home screen. Below is an example of the 5-tile setup with three tiles on the left and two on the right.

The example below shows the following tiles:

Vehicle State Tile

Service History Tile

Vehicle Status Tile

Employee Status Tile

Tank Status Tile

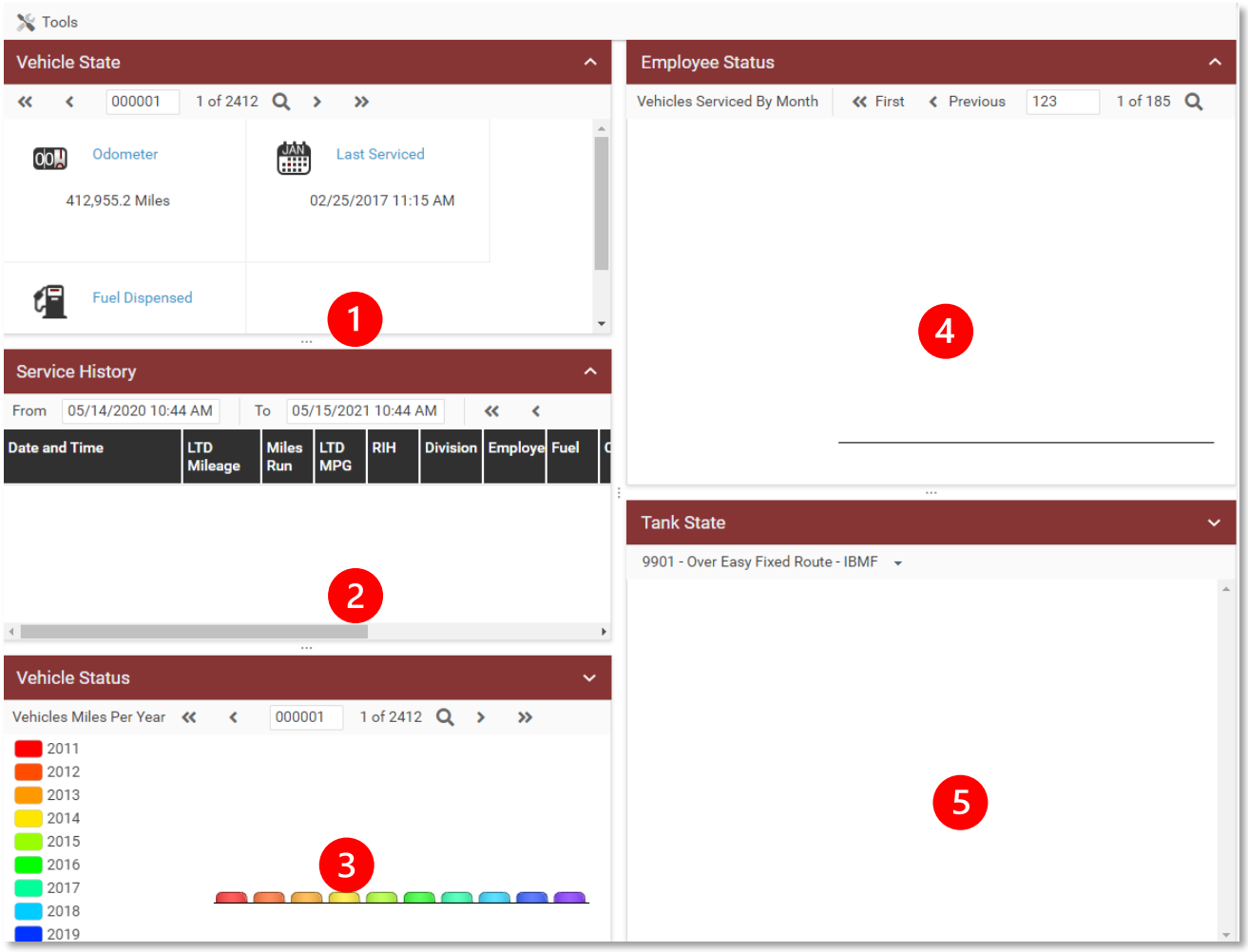
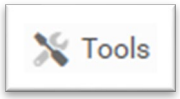


Figure 4-2 - Home Screen Overview

Tile Filters

Tile filters allow users to display only the information for a desired Region, Fleet, Division, Department, etc. This is useful for users who only deal with vehicles or employees from a certain area. Filters are accessed from the "Tools" menu located at the top left of the Home Screen.



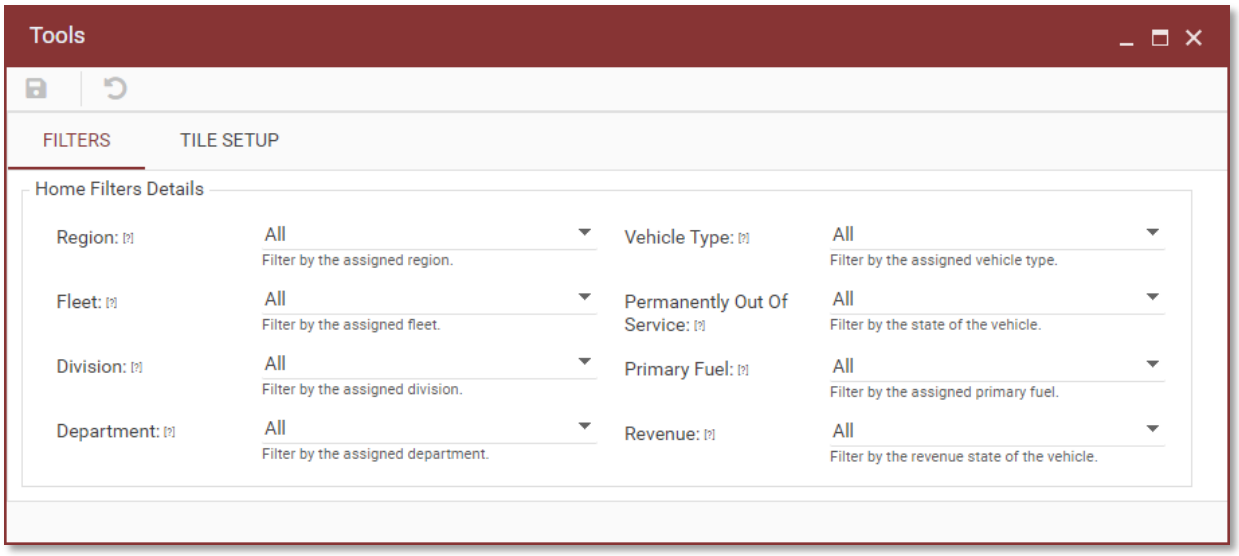
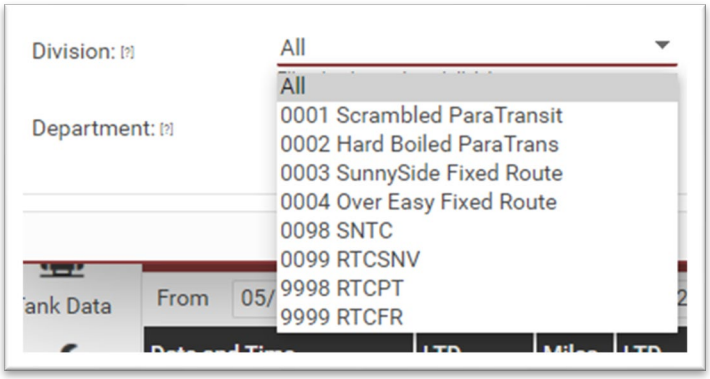


Figure 5- 3 - Home Screen Tile Filter Setup

To filter tiles by certain criteria simply select the desired Region, Fleet, Division, etc., from the dropdown list located next to the appropriate label. The figure to the right shows an example of selecting a Division filter from the filter screen.



To remove a filter, select “All” from the drop-down filter menu under the desired criteria.

Tile Setup

Tiles let users display the information they find most valuable on the Home Screen whenever they login to Data Tools. This puts the most important information for each user right at their fingertips from the moment they open the app. The number of tiles, and the information they display may be customized by each user using the "Tile Setup" screen under the Tools menu (located at the top of the home screen).

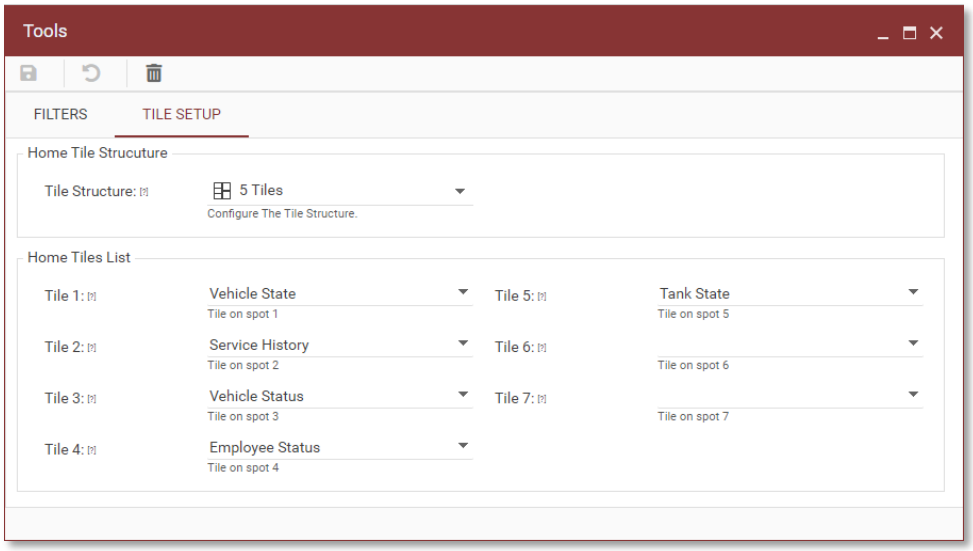


Figure 5-3 - Home Screen Tile Setup

4.1.1 Tile Structure Menu

Users may choose a tile structure to display the desired number of tiles. For example, if a particular user is only interested in vehicle status and employee status, they may select a 2-tile layout to display the information in those tiles as large as possible on the screen.

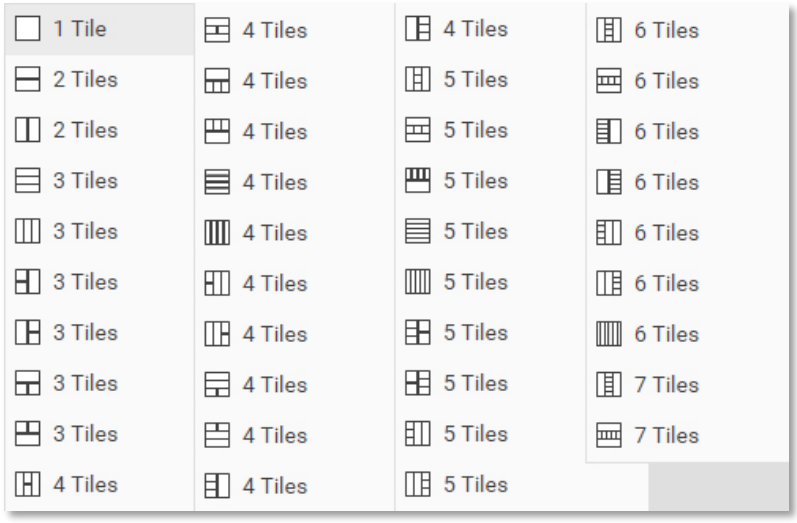


Figure 4-4 SAM Vehicles Serviced and Not Serviced Screen

4.1.2 Home Tiles List

A fuel lane supervisor can also track employee workload. The Vehicles Serviced by Employee window displays the employee's name and number, and the quantity of vehicles serviced with the running totals accumulating throughout the shift.

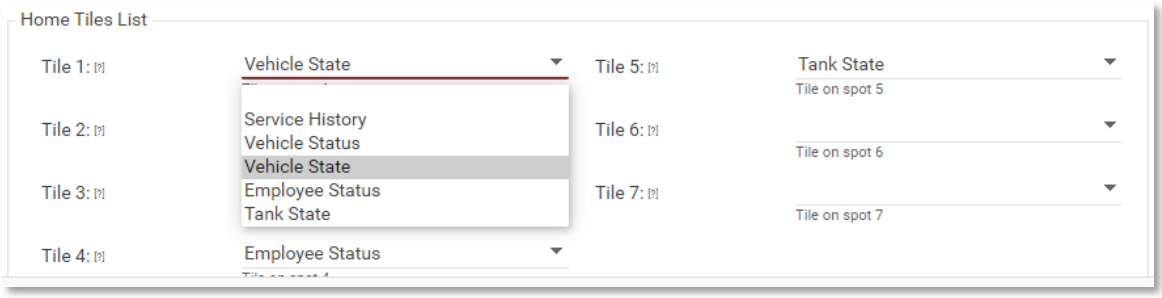


Figure 5-5 - Home Screen Tile Selection

4.2 Home Screen Tiles

This section displays Tank Monitoring information from any available Veeder Root or TLS interface Inventory, Alarms, and Deliveries.

4.2.1 Service History

The service history tile displays the current list of transactions not closed out.

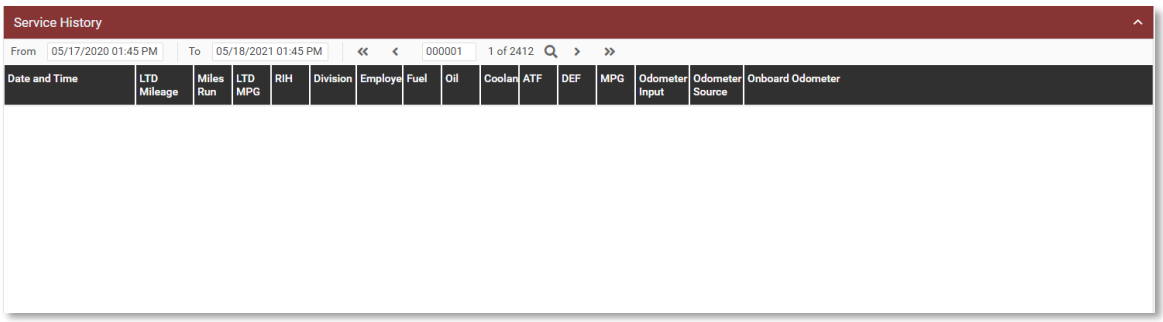


Figure 5- 6 - Service History Tile

4.2.2 Employee Status

The employee status tile displays the number of vehicles serviced by an employee for a given month. This tile allows users to see the general number of transactions for an employee for the previous year.

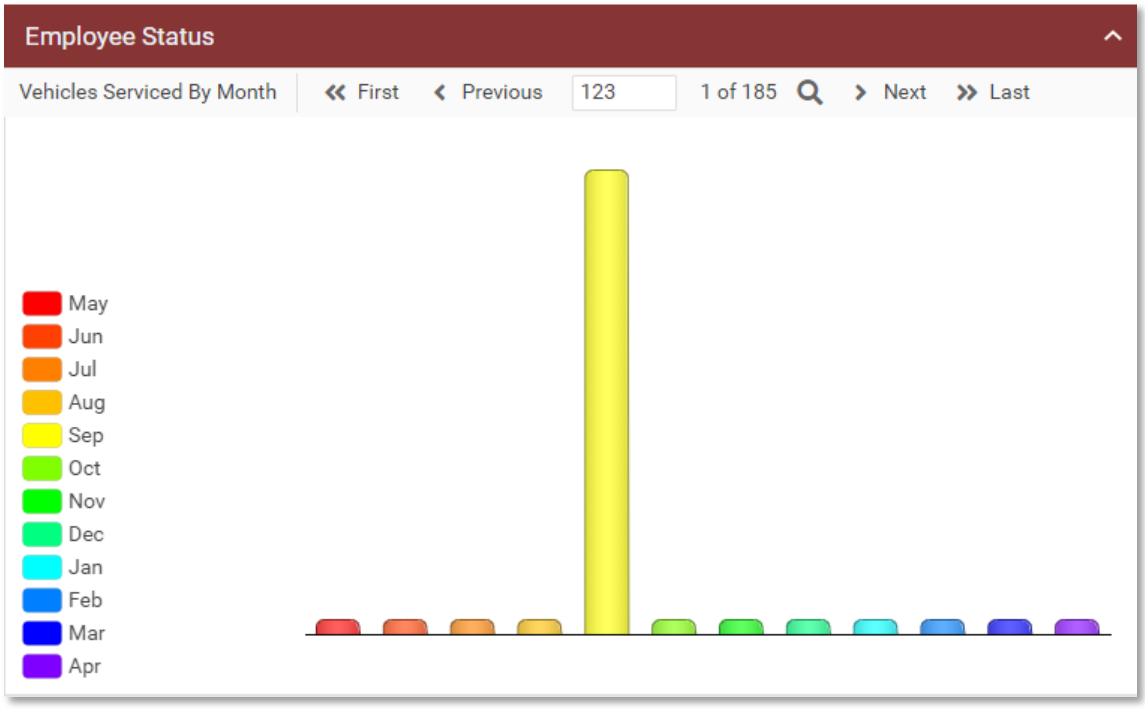


Figure 5- 7 - Employee Status Tile

4.2.3 Tank State

The tank state tile displays the volume, temperature and ullage of the tanks in the selected tank group.

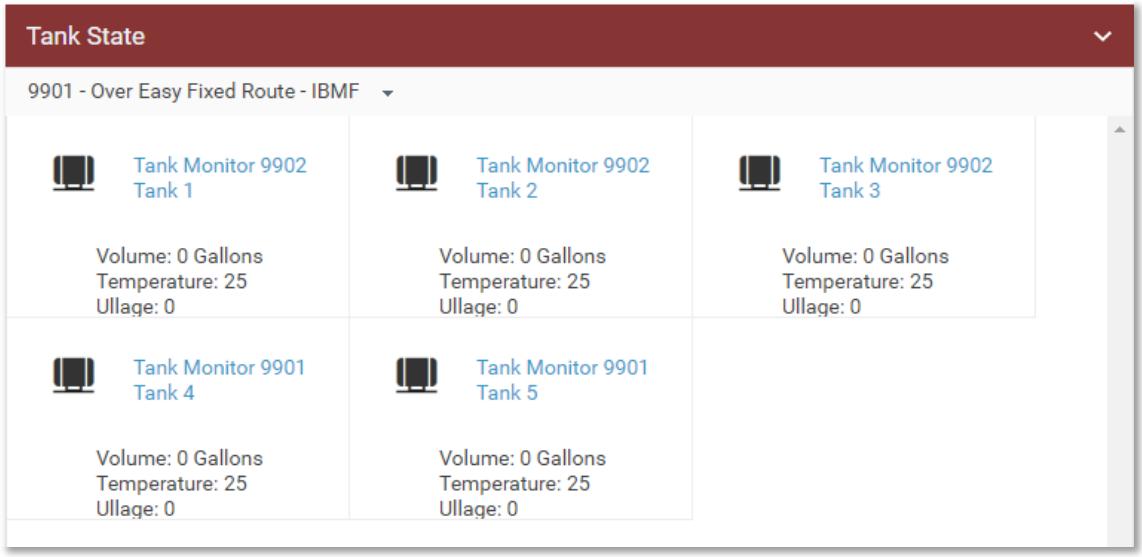


Figure5- 8 = Tank State Tile

4.2.4 Vehicle State

Check “Use Default Values” to select Transaction #, Transaction Time, Vehicle #, LTD Odometer, Miles Run, Engine Hours, Employee #1, Average MPG, Transaction MPG, Expected Fuel, Total Fuel, All Fluids Dispensed (totals per transaction), and Alert Messages.

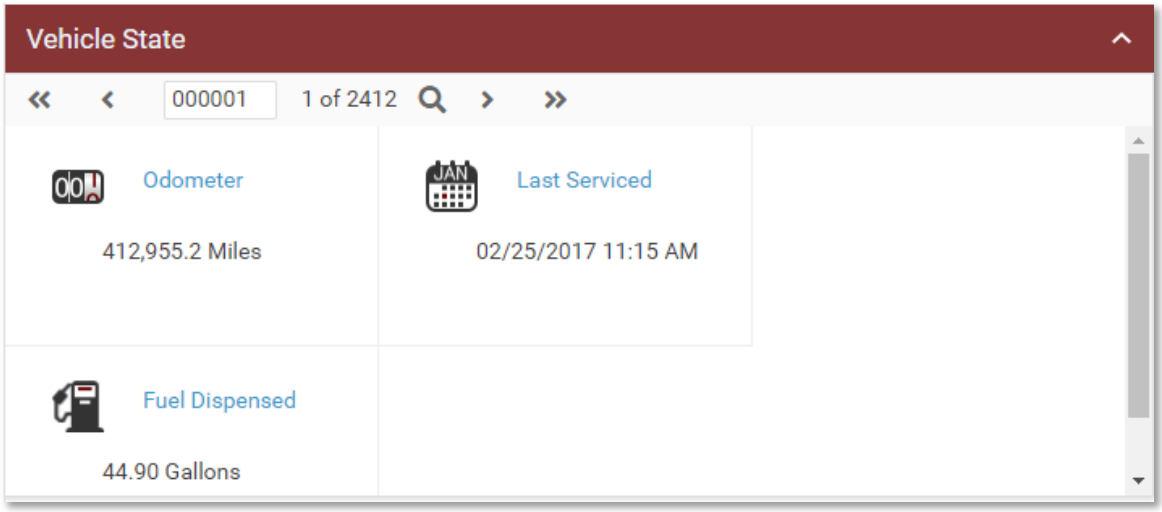


Figure 5- 9 - Vehicle State Tile

Other columns: Vehicle # Source, Onboard Odometer, Odometer Entry, E-Hours Run, Idle Hours Entry, Idle Hours Run, Employee #1 Source, Employee #2, Employee #2 Source, Special Message, Prompt Responses #1 through #6.

4.2.5 Vehicle Status

The vehicle status tile displays the number of miles a vehicle has traveled in a given year for the previous several years.

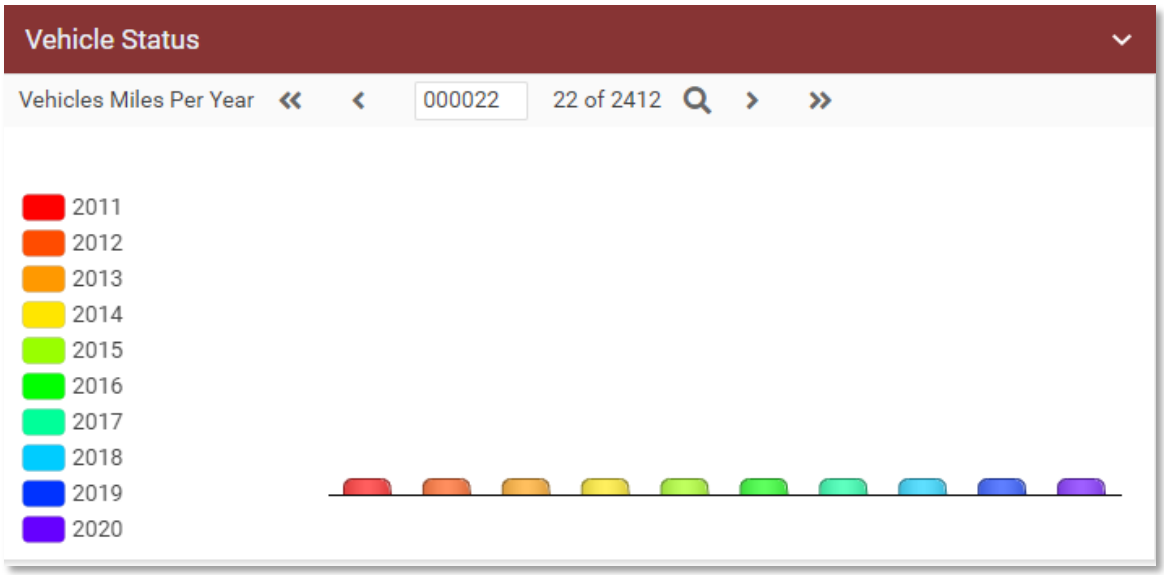


Figure 5- 10 - Vehicle Status Tile

4.2.6 Additional Tiles

Additional tiles will be added in the future as they are developed. Suggestions for new home screen tiles may be submitted by contacting FLEETWATCH support.

Section 5 - Reports

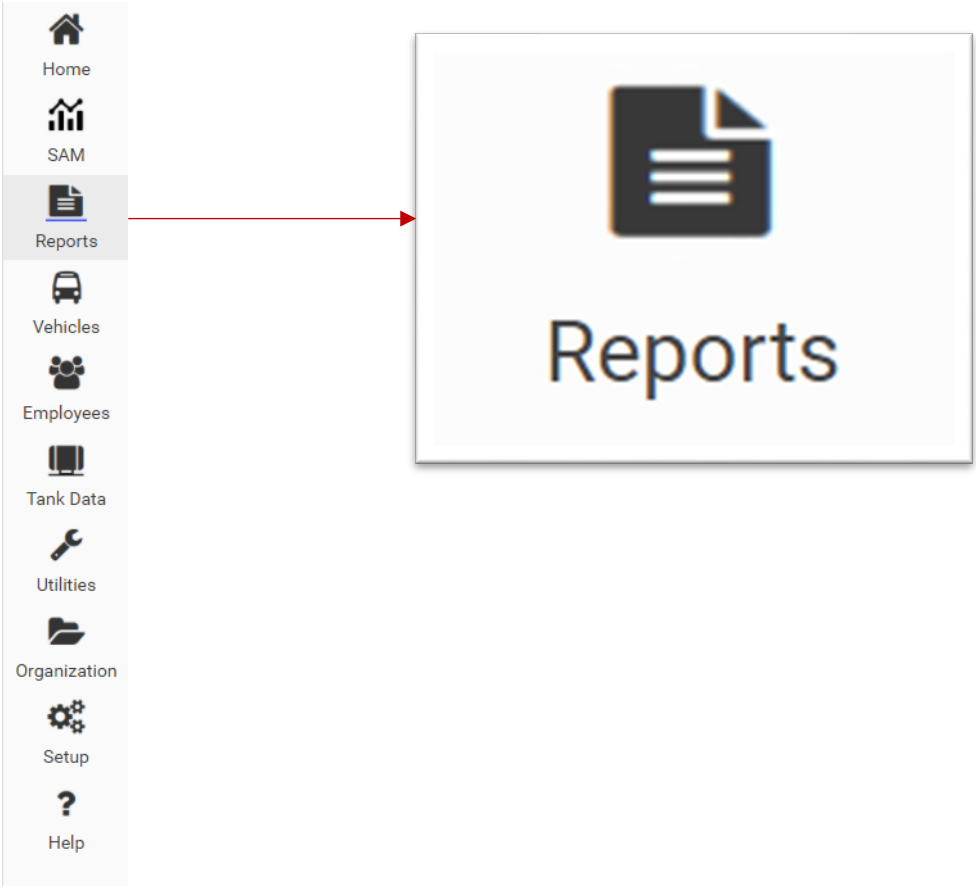


Figure 5-1 - Data Tools Main Menu – Reports

5.1 Reports

This section highlights some of the core reports available in the FLEETWATCH Data Tools. The basics of how to select report criteria, etc., apply to all reports.

Once you enter the reports section, a sub-menu of the available reports, categories will appear at the right of the main menu. Pick from the reports sub-menu to enter a report section.

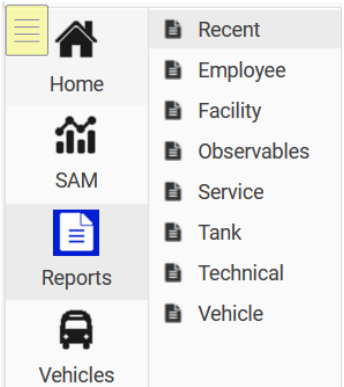


Figure 5-2 - Reports Quick Link Chart 7-2

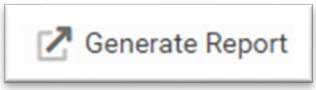
Pop-up Blocker Settings

To run reports in a Web browser, pop-up blocking must be disabled for the Data Tools Intranet page. In our example, the Intranet address of the Data Tools server is http://sql-server/.

Figure 5-3: Example of a possible Data Tools URL

Allow pop-ups for your Data Tools page, but it's a good idea to leave the pop-up blocker enabled.

5.2 Running a report



To run a report, select it from the list. and then click on "Generate Report". You will be asked to input any information such as facility, division, or vehicle number, and the starting and ending dates. Select PDF, CSV (Excel compatible), or RTF (WordPad compatible). Click "Generate Report" to generate the report. The report will appear on a new screen if the pop-up blocking settings are allowed. See section 1.1 for info about pop-up blocker exceptions.

5.3 Printing a report

Generate the report in PDF, CSV, or RTF format and then print from the taskbar.

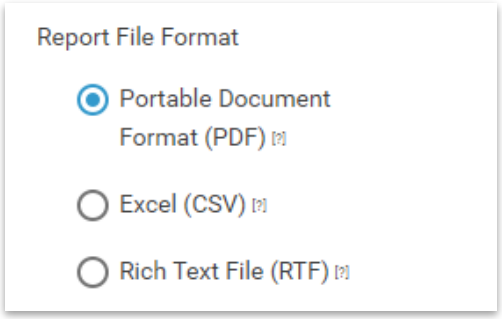


Figure 5-4 - Report Format Selection Screen

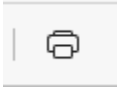


Figure 5-5: Print option

Click the printer icon or choose Print from the File menu to print to any range of pages.

Select Page Setup from the File menu to adjust page margins, page orientation, paper size, or which printer.

See your local IT administrator for help adding a printer to your PC.

5.4 Standard Reports

Data Tools includes many standard reports to help analyze service, vehicle, tank and employee data. Examples of many of the included standard reports are listed in the following sections.

Some agencies have custom reports that are not covered in the standard documentation. If any of the reports in the Reports sections of the Data Tools are not covered in the following sections, please see your custom documentation, or contact S&A Systems, Inc. for more information on the report(s) in question.

5.5 Employee Reports

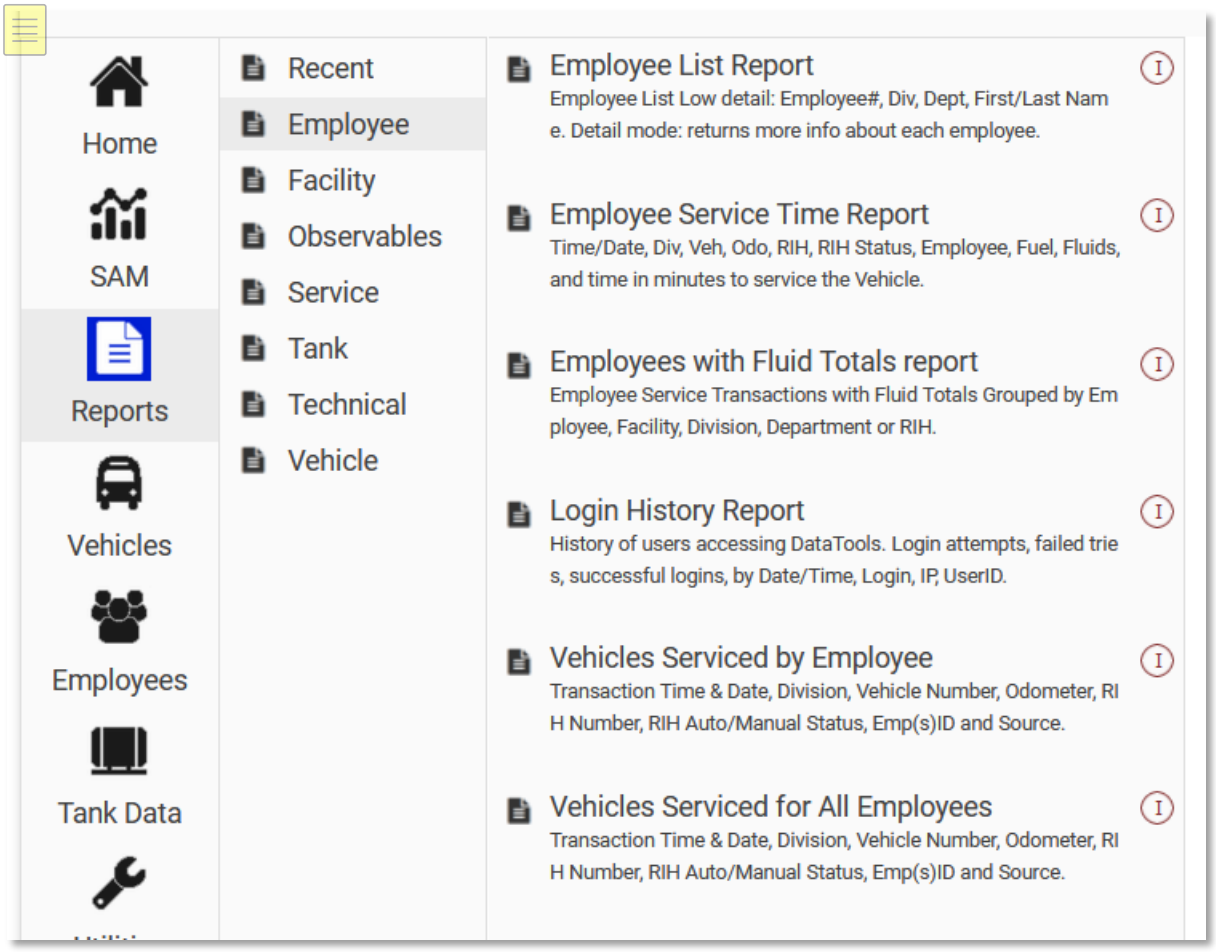


Figure 5-6 Employee Reports Screen

Employee List

This report displays a list of available employees. Low Detail mode returns a list of employees with very basic information about each employee. High detail mode returns much more information about each employee and is a much longer report.

Employee Number	Division	Dept	First Name	Last Name
111	0001	MAIN	Bryan	Lowdown
120	0001	00IT	John	Elliottzer
123	0001	MAIN	Trey	Else
149	0001	MAIN	Mike	Groogle
156	0001	POLC	Raymond	Rivers

Figure 5-7: Employee List

Employee Service Time

Displays the transaction time and date, Division, Vehicle Number, Odometer, RIH Number, RIH Status, Employee Source, Total Fuel, Total Oil, Total Coolant, Total ATF, and the number of minutes it took to service the vehicle for the dates specified. Report is grouped by Facility and Employee in Detail mode. In Low Detail mode only the Employee ID, Employee Name, Number of Average times per Vehicle, Average Vehicles per Hour and Number of Vehicles Serviced for the specified period, are shown. Service time begins when the dispensers are activated and ends when the dispensers are deactivated. Deactivation occurs when the bus leaves the fuel lane and triggers a detector, when employee presses Reset on the keypad, or when the no-flow timer expires (typically set to 5 minutes).

Facility 0001 (County Transit)

Employee 1	Name	Avg. Min. per Veh	Avg. Veh per HR	Fuel	Oil	Coolant	ATF	# of Vehicles
611	Michael Sampsonsite	1.8	N/A	29.1	0.0	0.0	0.0	1
745	Clark Clarkson	2.4	11.9	4995.4	0.0	0.0	0.0	95
750	Verigood Cook	3.1	11.7	4950.6	12.2	0.0	0.0	91
3631	Apple Mcintosh	2.9	27.7	0.0	0.0	0.0	0.0	3
4560	Rosie Perez	1.1	N/A	19.6	0.0	0.0	0.0	1
4576	Donald J Simpson	1.1	N/A	17.3	0.0	0.0	0.0	1
609	Mario Luigi	5.2	N/A	61.3	0.0	0.0	0.0	1
3663	Medardo Mercedes	6.6	N/A	23.9	0.0	0.0	0.0	1
5249	Yole Rodgers	3.5	N/A	30.7	0.4	0.0	0.0	1
195 Vehicle(s) Serviced at Facility 0001		2.8	12.3	10127.8	12.6	0.0	0.0	195
Facility 0002 (County Transportation)								
5249	Yole Rodgers	3.4	11.0	3735.5	0.0	0.0	5.7	73
6383	Jack Violet	3.7	7.6	965.6	0.2	0.0	0.0	17
7368	Travis Youngerblood	3.7	0.8	235.8	0.0	0.0	1.2	4
94 Vehicle(s) Serviced at Facility 0002		3.5	6.8	4936.9	0.2	0.0	6.9	94

Figure 5-8: Employee Service Time

Employee with Fluid Totals

This report displays employee service transactions with fluid totals that can be grouped by Employee, Facility, Division, Department or RIH.

Employee: 123 - Else

Employee	Time	RIH	Vehicle	ATF	Coolant	DEF	Diesel	Engine Oil	Unleaded
Employee: 123 - Else									
Totals:							826.23		

20 Transactions In Employee 123 - Else

Employee: 149 - Groogle

Employee	Time	RIH	Vehicle	ATF	Coolant	DEF	Diesel	Engine Oil	Unleaded
Employee: 149 - Groogle									
Totals:				26.90					

1 Transactions In Employee 149 - Groogle

Employee: 156 - Rivers

Employee	Time	RIH	Vehicle	ATF	Coolant	DEF	Diesel	Engine Oil	Unleaded
Employee: 156 - Rivers									
Totals:							29.66		

1 Transactions In Employee 156 - Rivers

Figure 5-9: Employee with Fluid Totals

Login History Report

This report shows user Data Tools access history including username, date and time of login, login status, IP address, and comment.

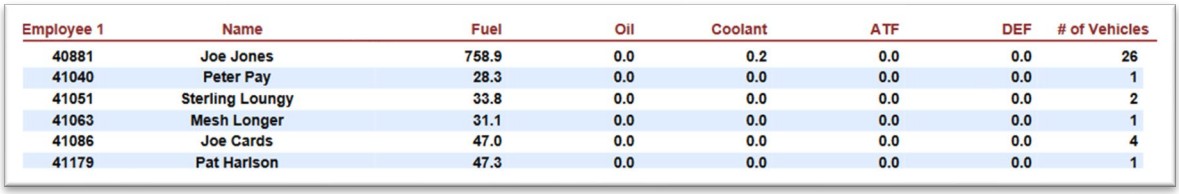
Login	ID	Date and Time of Login	Login Status	Login IP Address	Comment
fleetwatch		09/22/2017 2:07:15 AM	Successful	10.0.1.1	Fleetwatch successfully signed into Data Tools.

1 Records Shown

Figure 5-10: Login History

Vehicles Serviced by Employee

This report displays the transaction time and date, division, vehicle number, odometer, RIH number, RIH status, employee source, employee 2 ID and employee 2 source for the dates specified. Report is grouped by facility and employee in Detail mode. In Low Detail mode, only the employee ID, employee name and number of vehicles serviced for the specified period are shown. The report may be run for employee 1, or employee 2 as the primary employee.

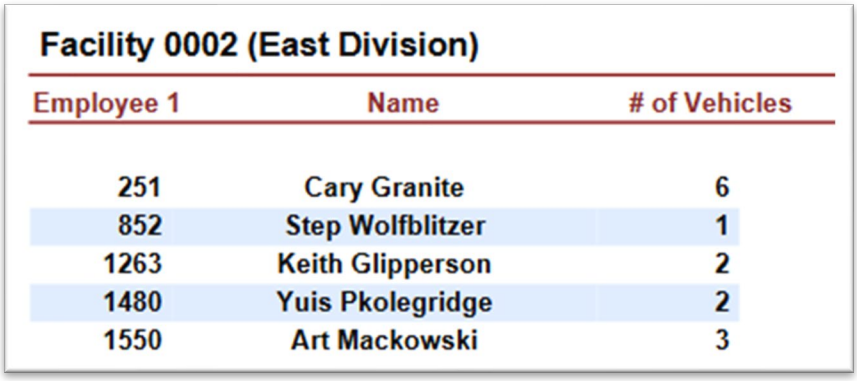


Employee 1	Name	Fuel	Oil	Coolant	ATF	DEF	# of Vehicles
40881	Joe Jones	758.9	0.0	0.2	0.0	0.0	26
41040	Peter Pay	28.3	0.0	0.0	0.0	0.0	1
41051	Sterling Loungy	33.8	0.0	0.0	0.0	0.0	2
41063	Mesh Longer	31.1	0.0	0.0	0.0	0.0	1
41086	Joe Cards	47.0	0.0	0.0	0.0	0.0	4
41179	Pat Harlson	47.3	0.0	0.0	0.0	0.0	1

Figure 5-11: Vehicles Serviced by Employee

Vehicles Serviced for All Employees

This report displays the transaction time & date, division, vehicle number, odometer, RIH number, RIH status, employee source, employee 2 ID and employee 2 source for the dates specified. The report is grouped by facility and employee in Detail mode. In Low Detail mode, only the employee ID, employee name and number of vehicles serviced for the specified period are shown. The report may be run for employee 1, or employee 2 as the primary employee.



Facility 0002 (East Division)

Employee 1	Name	# of Vehicles
251	Cary Granite	6
852	Step Wolfblitzer	1
1263	Keith Glipperson	2
1480	Yuis Pkolegridge	2
1550	Art Mackowski	3

Figure 5-12: Vehicles Serviced for All Employees

5.6 Facility Reports

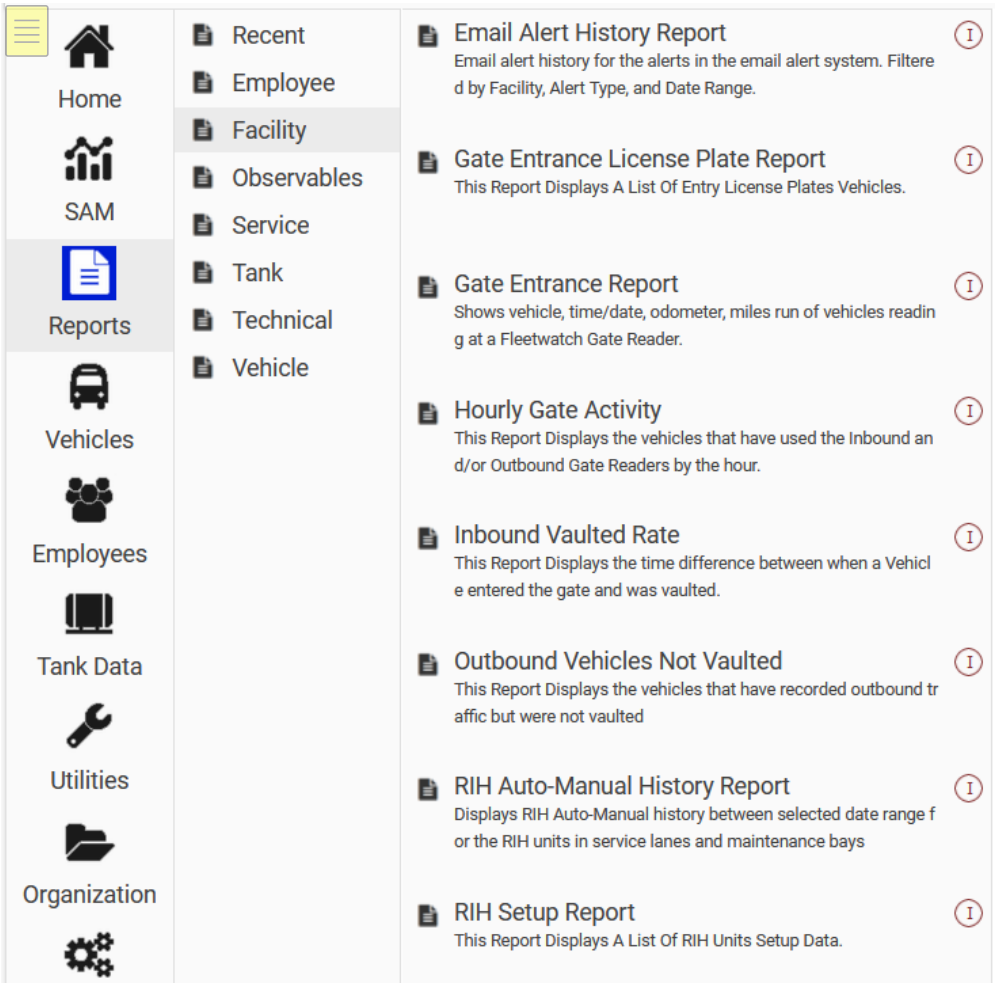


Figure 5-13 Facility Reports Screen

Email Alert History Report

This report displays the email alert history for the alerts setup in the email alert section of Data Tools.

Email Alert History Report

Report for All Facilities and All Alerts between 09/20/2017 06:00 AM and 09/21/2017 06:00 AM

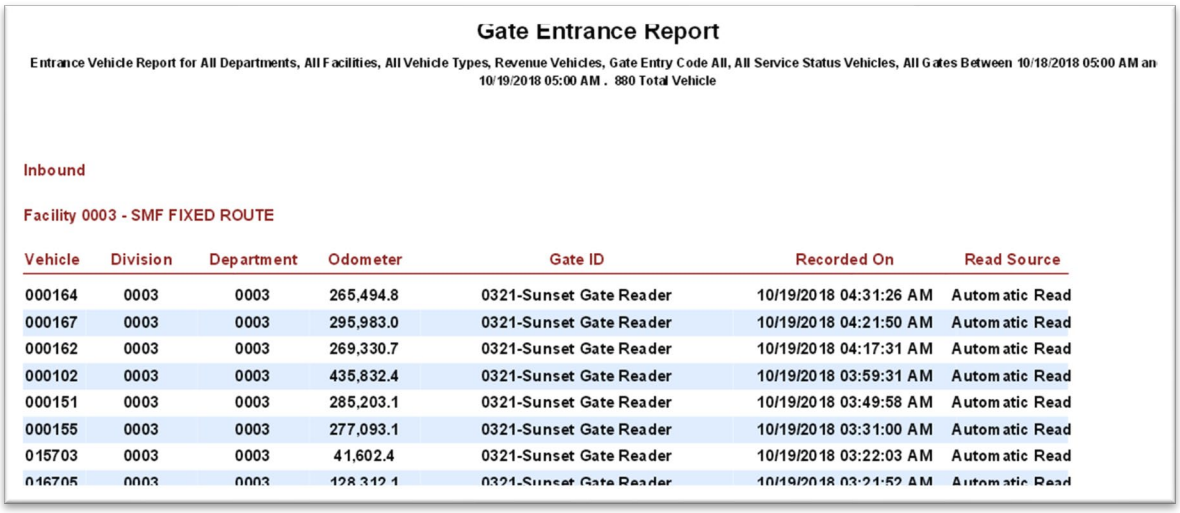
Date Sent	Facility	Alert Data	Email List	Target Printer	Alert Sent	Alert Printed	User Name
09/20/2017 3:01:43 PM	0001	RIH 0114 Lost Communication @ 1/1/2001 1:00:00 AM	jeremy@fleetwatch.com	None	Yes	No	fleetwatch

1 Alerts Shown

Figure 5-14: Email Alert History

Gate Entrance Report

A list of vehicles that have used the inbound and/or outbound gate readers between the start date and end date.



Gate Entrance Report

Entrance Vehicle Report for All Departments, All Facilities, All Vehicle Types, Revenue Vehicles, Gate Entry Code All, All Service Status Vehicles, All Gates Between 10/18/2018 05:00 AM an 10/19/2018 05:00 AM . 880 Total Vehicle

Inbound

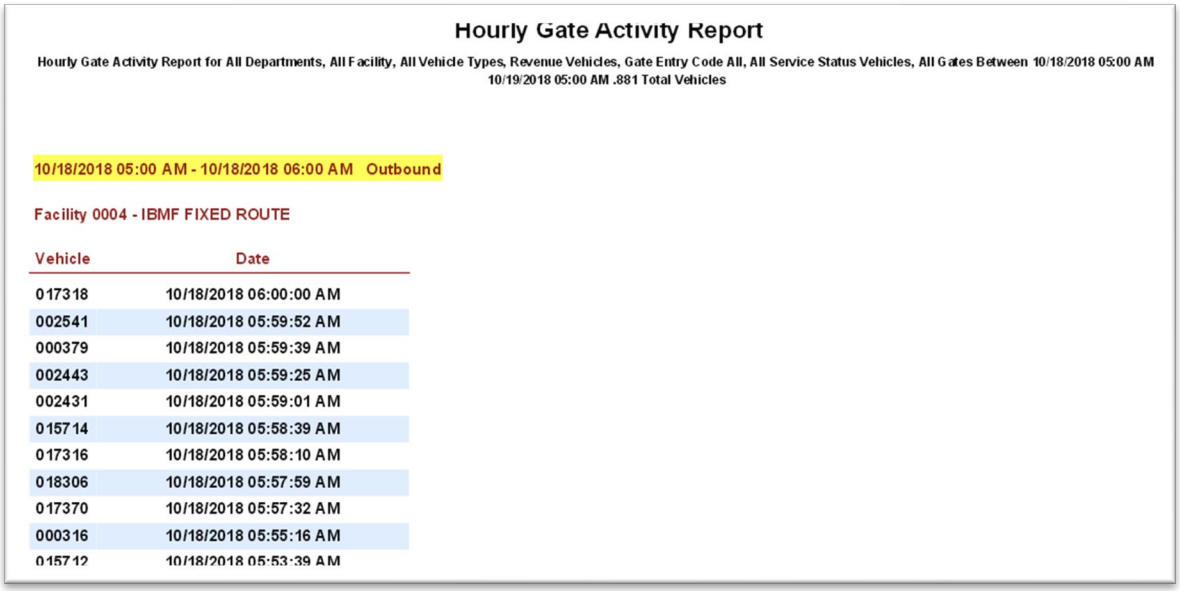
Facility 0003 - SMF FIXED ROUTE

Vehicle	Division	Department	Odometer	Gate ID	Recorded On	Read Source
000164	0003	0003	265,494.8	0321-Sunset Gate Reader	10/19/2018 04:31:26 AM	Automatic Read
000167	0003	0003	295,983.0	0321-Sunset Gate Reader	10/19/2018 04:21:50 AM	Automatic Read
000162	0003	0003	269,330.7	0321-Sunset Gate Reader	10/19/2018 04:17:31 AM	Automatic Read
000102	0003	0003	435,832.4	0321-Sunset Gate Reader	10/19/2018 03:59:31 AM	Automatic Read
000151	0003	0003	285,203.1	0321-Sunset Gate Reader	10/19/2018 03:49:58 AM	Automatic Read
000155	0003	0003	277,093.1	0321-Sunset Gate Reader	10/19/2018 03:31:00 AM	Automatic Read
015703	0003	0003	41,602.4	0321-Sunset Gate Reader	10/19/2018 03:22:03 AM	Automatic Read
016705	0003	0003	128,312.1	0321-Sunset Gate Reader	10/19/2018 03:21:52 AM	Automatic Read

Figure 5-15: Gate Entrance Report

Hourly Gate Activity

This report displays a list of vehicles that have used the inbound and/or outbound gate readers, grouped by hour between the start date and end date.



Hourly Gate Activity Report

Hourly Gate Activity Report for All Departments, All Facility, All Vehicle Types, Revenue Vehicles, Gate Entry Code All, All Service Status Vehicles, All Gates Between 10/18/2018 05:00 AM 10/19/2018 05:00 AM .881 Total Vehicles

10/18/2018 05:00 AM - 10/18/2018 06:00 AM Outbound

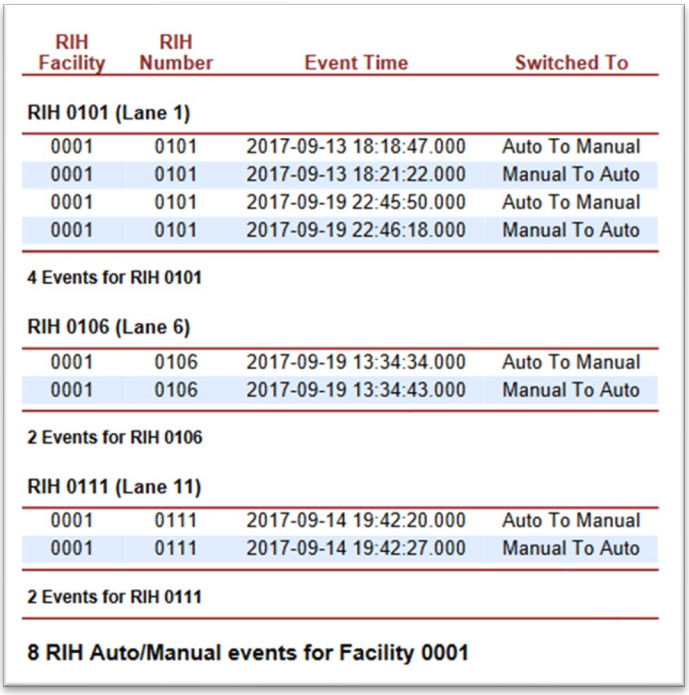
Facility 0004 - IBMF FIXED ROUTE

Vehicle	Date
017318	10/18/2018 06:00:00 AM
002541	10/18/2018 05:59:52 AM
000379	10/18/2018 05:59:39 AM
002443	10/18/2018 05:59:25 AM
002431	10/18/2018 05:59:01 AM
015714	10/18/2018 05:58:39 AM
017316	10/18/2018 05:58:10 AM
018306	10/18/2018 05:57:59 AM
017370	10/18/2018 05:57:32 AM
000316	10/18/2018 05:55:16 AM
015712	10/18/2018 05:53:39 AM

Figure 5-16: Hourly Gate Activity Report

RIH Auto-Manual History report

The RIH Auto-Manual History report indicates each time an RIH was switched into manual bypass. The user can select facility, a range of RIH service lane units, and start date/end date to determine the bypass history for any range of time for any lane unit.

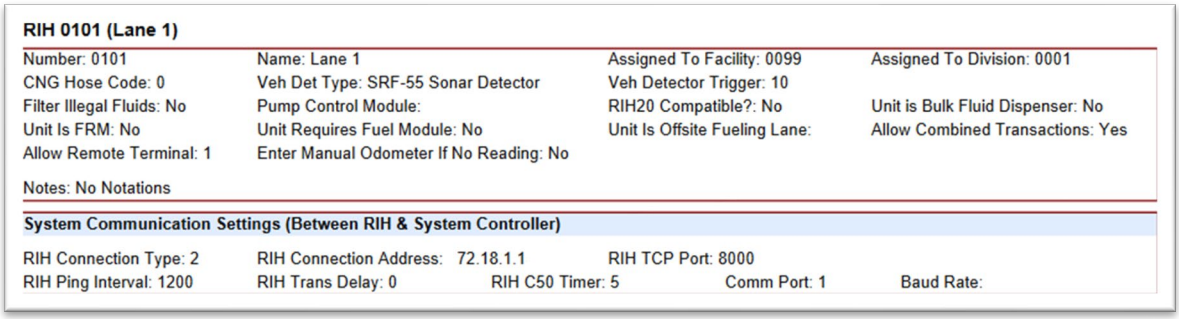


RIH Facility	RIH Number	Event Time	Switched To
RIH 0101 (Lane 1)			
0001	0101	2017-09-13 18:18:47.000	Auto To Manual
0001	0101	2017-09-13 18:21:22.000	Manual To Auto
0001	0101	2017-09-19 22:45:50.000	Auto To Manual
0001	0101	2017-09-19 22:46:18.000	Manual To Auto
4 Events for RIH 0101			
RIH 0106 (Lane 6)			
0001	0106	2017-09-19 13:34:34.000	Auto To Manual
0001	0106	2017-09-19 13:34:43.000	Manual To Auto
2 Events for RIH 0106			
RIH 0111 (Lane 11)			
0001	0111	2017-09-14 19:42:20.000	Auto To Manual
0001	0111	2017-09-14 19:42:27.000	Manual To Auto
2 Events for RIH 0111			
8 RIH Auto/Manual events for Facility 0001			

Figure 5-17: RIH Auto/Manual History Report

RIH Setup Report

This report displays a list of RIH Unit Setup data.



RIH 0101 (Lane 1)

Number: 0101	Name: Lane 1	Assigned To Facility: 0099	Assigned To Division: 0001
CNG Hose Code: 0	Veh Det Type: SRF-55 Sonar Detector	Veh Detector Trigger: 10	
Filter Illegal Fluids: No	Pump Control Module:	RIH20 Compatible?: No	Unit is Bulk Fluid Dispenser: No
Unit Is FRM: No	Unit Requires Fuel Module: No	Unit Is Offsite Fueling Lane:	Allow Combined Transactions: Yes
Allow Remote Terminal: 1	Enter Manual Odometer If No Reading: No		

Notes: No Notations

System Communication Settings (Between RIH & System Controller)

RIH Connection Type: 2	RIH Connection Address: 72.18.1.1	RIH TCP Port: 8000		
RIH Ping Interval: 1200	RIH Trans Delay: 0	RIH C50 Timer: 5	Comm Port: 1	Baud Rate:

Figure 5-18: RIH Setup Report

System Status Report

The system status report lets a user know Closeout file creation and transfer status; Tank Monitor comm status; the online/offline condition of all RIH lane units; and any pulsers or solenoid valves that have been flagged as possibly non-functional.

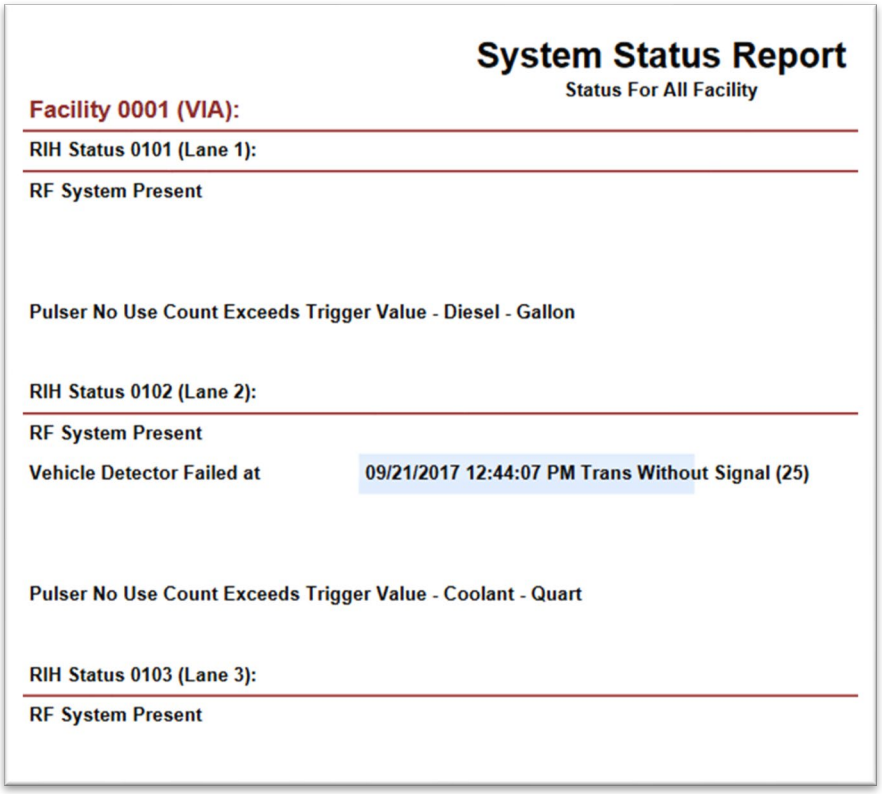


Figure 5-19: System Status Report

5.7 Observable Reports

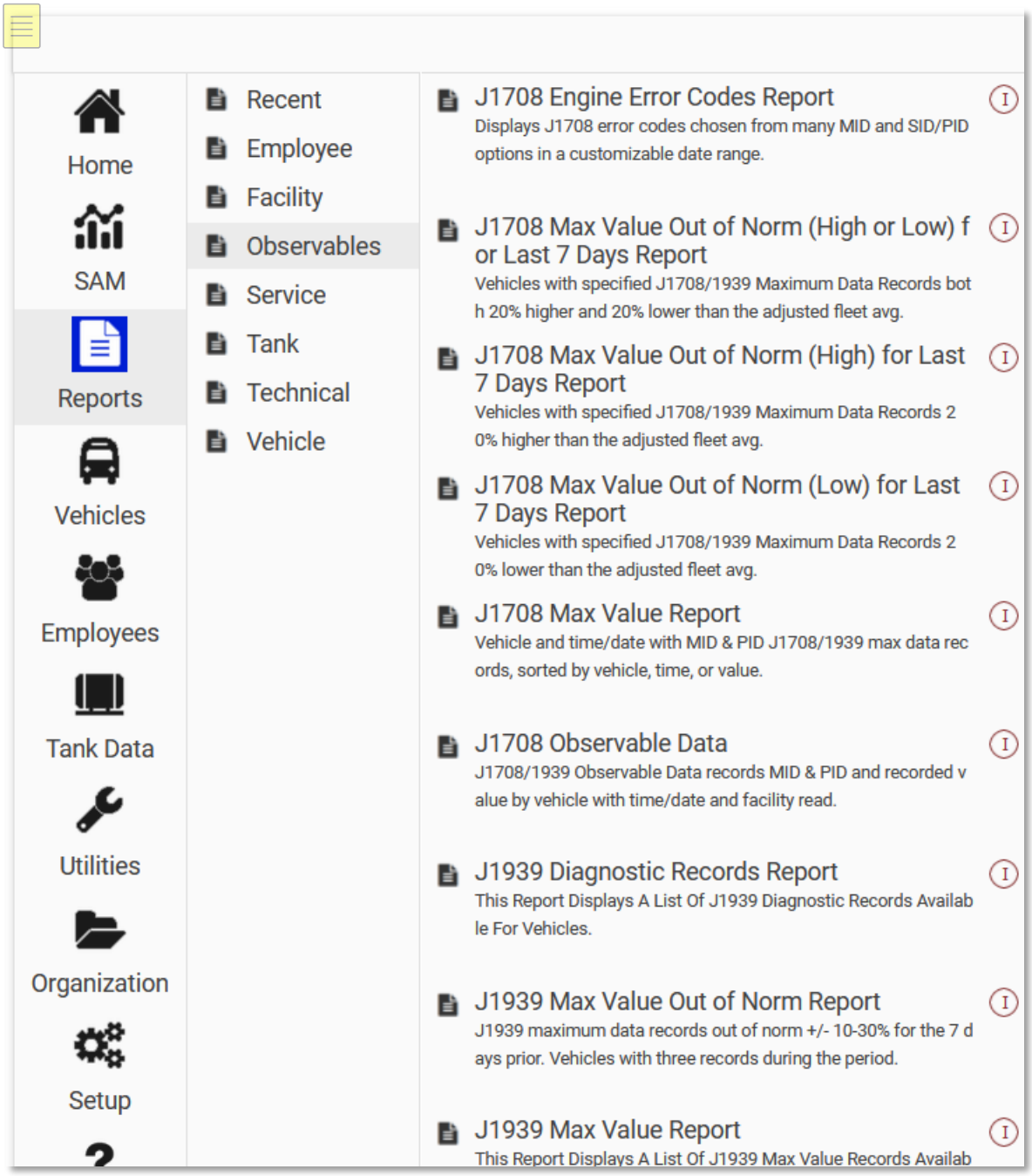
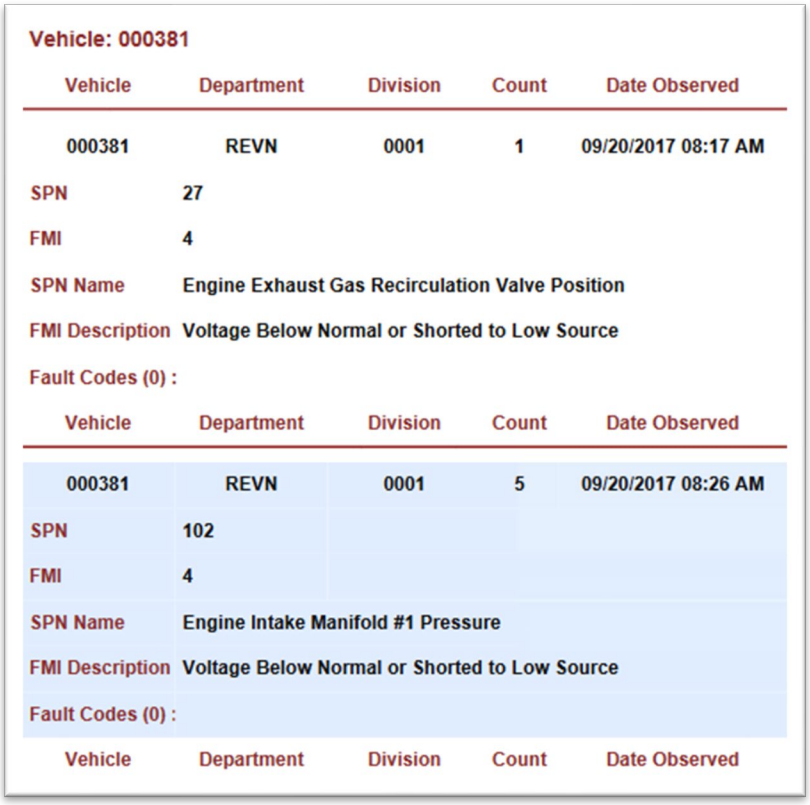


Figure 5-20 - Observable Reports

J1939 Diagnostic Records Report

This report contains vehicle, department, division, SPN, FMI, SPN name (description), FMI description, Fault codes (if applicable) and date the records were observed by the JX55 on the bus.



Vehicle: 000381

Vehicle	Department	Division	Count	Date Observed
000381	REVN	0001	1	09/20/2017 08:17 AM

SPN	27
FMI	4
SPN Name	Engine Exhaust Gas Recirculation Valve Position
FMI Description	Voltage Below Normal or Shorted to Low Source
Fault Codes (0) :	

Vehicle	Department	Division	Count	Date Observed
000381	REVN	0001	5	09/20/2017 08:26 AM

SPN	102
FMI	4
SPN Name	Engine Intake Manifold #1 Pressure
FMI Description	Voltage Below Normal or Shorted to Low Source
Fault Codes (0) :	

Vehicle	Department	Division	Count	Date Observed

J1939 Max Value Out of Norm Report

This report flags out of norm vehicles for the specified J1939 maximum data records for the selected vehicles for the 7 days prior to the selected end date. The max value for each of the 7 days (if available) is shown for each vehicle. Vehicles with average maximum readings more than the selected percentage (30%-10%) higher and/or lower than the selected fleet average are flagged and displayed. Only vehicles with 3 or more readings within the last 7 days are included in the group average. Low Detail mode shows only the out of range vehicles. Detail mode shows all vehicles and highlights those which are out of range as well as abnormal readings based on the percentage range chosen.

J1939 Max Value Report

This report displays a list of J1939 Max Value Records available for vehicles.

Vehicle: 005807

Vehicle	Division	SPN	SPN Name	Value	Units	Date Observed
005807	0001	54	Transmission Synchronizer Brake Value	55.6	%	09/19/2017 03:20:33 PM
005807	0001	54	Transmission Synchronizer Brake Value	55.2	%	09/18/2017 05:12:16 PM
005807	0001	54	Transmission Synchronizer Brake Value	54.8	%	09/15/2017 01:06:17 PM
005807	0001	54	Transmission Synchronizer Brake Value	54.8	%	09/13/2017 03:20:00 PM
005807	0001	100	Engine Oil Pressure	77.2	PSI	09/20/2017 05:44:09 AM
005807	0001	100	Engine Oil Pressure	72.5	PSI	09/14/2017 04:36:48 AM
005807	0001	102	Engine Intake Manifold #1 Pressure	22.0	PSI	09/20/2017 05:55:33 AM
005807	0001	102	Engine Intake Manifold #1 Pressure	21.2	PSI	09/14/2017 05:54:00 PM
005807	0001	110	Engine Coolant Temperature	208.4	F	09/20/2017 03:18:37 PM
005807	0001	110	Engine Coolant Temperature	206.6	F	09/14/2017 03:40:58 PM
005807	0001	177	Transmission Oil Temperature	214.8	F	09/20/2017 08:03:16 AM
005807	0001	177	Transmission Oil Temperature	216.2	F	09/14/2017 03:44:44 PM

J1939 Observable by Trigger Report

Vehicle: 005521

Vehicle	Division	SPN	SPN Name	Value	Units	Date Observed
005521	0001	100	Engine Oil Pressure	40.61	PSI	09/20/2017 11:05:20 PM
005521	0001	111	Engine Coolant Level	100.00	%	09/20/2017 11:05:20 PM
005521	0001	111	Engine Coolant Level	100.00	%	09/20/2017 10:17:24 PM
005521	0001	168	Battery Potential/Power Input 1	13.00	V	09/20/2017 10:17:24 PM
005521	0001	177	Transmission Oil Temperature	163.90	F	09/20/2017 11:05:21 PM
005521	0001	177	Transmission Oil Temperature	202.40	F	09/20/2017 10:17:18 PM
005521	0001	183	Engine Fuel Rate	1.26	gal/hr	09/20/2017 11:05:22 PM
005521	0001	185	Engine Average Fuel Economy	3.24	MPG	09/20/2017 11:05:22 PM
005521	0001	185	Engine Average Fuel Economy	3.24	MPG	09/20/2017 10:17:24 PM
005521	0001	235	Engine Total Idle Hours	2606.35	Hours	09/20/2017 10:17:22 PM
005521	0001	236	Engine Total Idle Fuel Used	5735.57	Gal	09/20/2017 10:17:22 PM

J1939 Observable Report

Vehicle	Division	SPN	SPN Name	Value	Units	Date Observed
005826	0001	244	Trip Distance	40922.7	Miles	09/21/2017 01:36:40 AM
005826	0001	245	Total Vehicle Distance	40921.5	Miles	09/21/2017 01:36:40 AM
005826	0001	247	Engine Total Hours of Operation	2683.0	Hours	09/21/2017 01:36:24 AM
005826	0001	249	Engine Total Revolutions	169036000.0	Revs	09/21/2017 01:36:24 AM
005826	0001	3026	Transmission Oil Level Measurement Status	Error		09/21/2017 01:36:42 AM
005826	0001	3028	Transmission Oil Level Countdown Timer	Thirteen minutes		09/21/2017 01:36:42 AM
005826	0001	5675	Operator Shift Prompt	Don't care/take no a		09/21/2017 01:36:20 AM

5.8 Service Reports

Service Reports generally contain information pertaining to service data. This includes which vehicles were serviced, who serviced them, and all the data related to the service transaction such as mileage, fluids dispensed, and service exceptions.

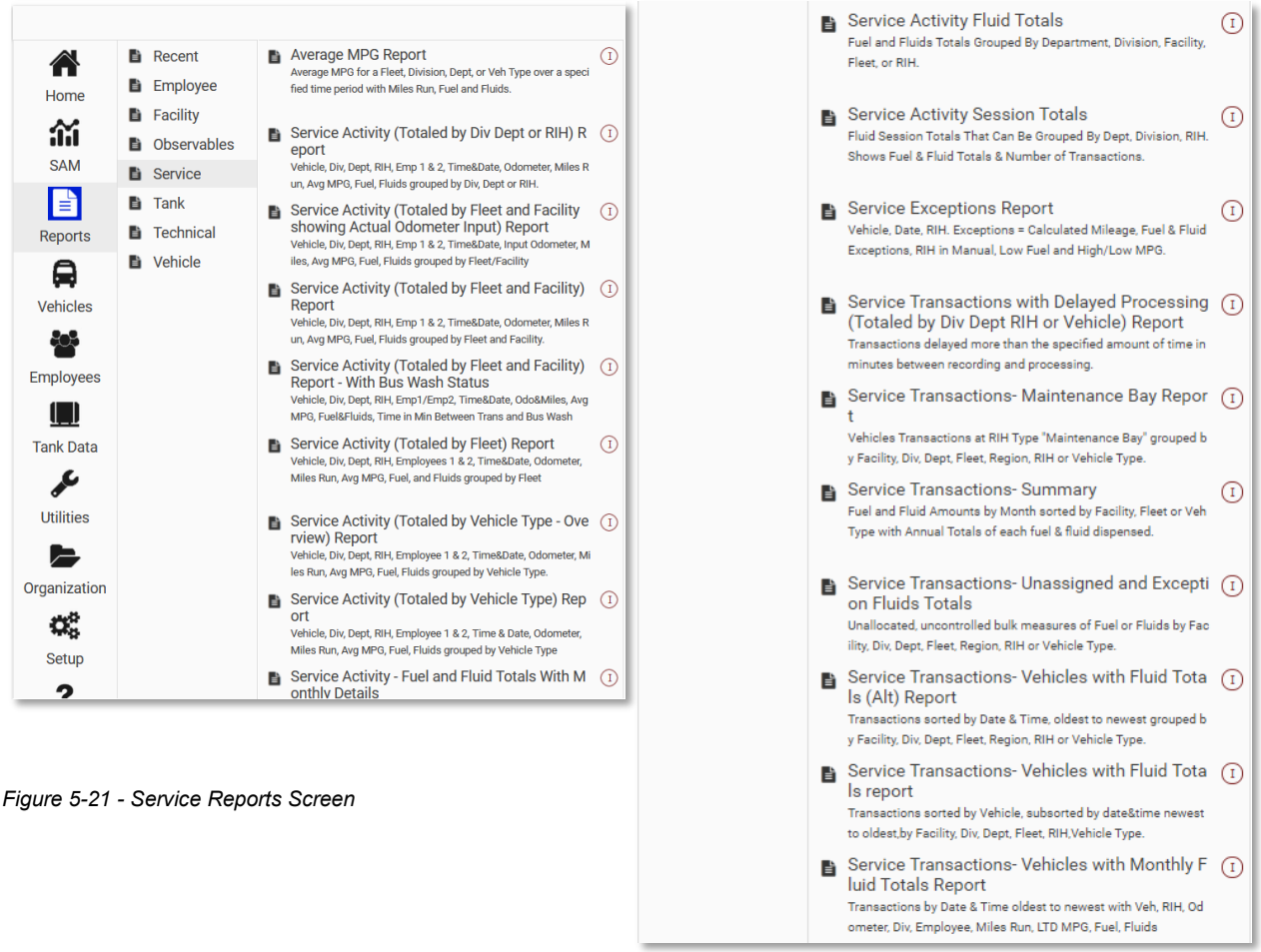
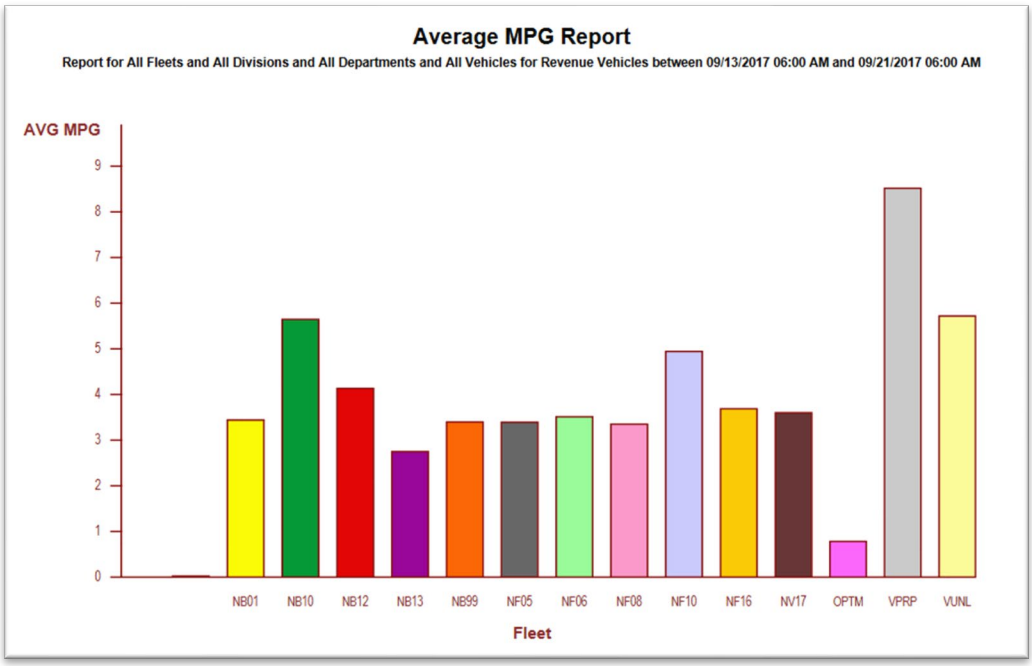


Figure 5-21 - Service Reports Screen

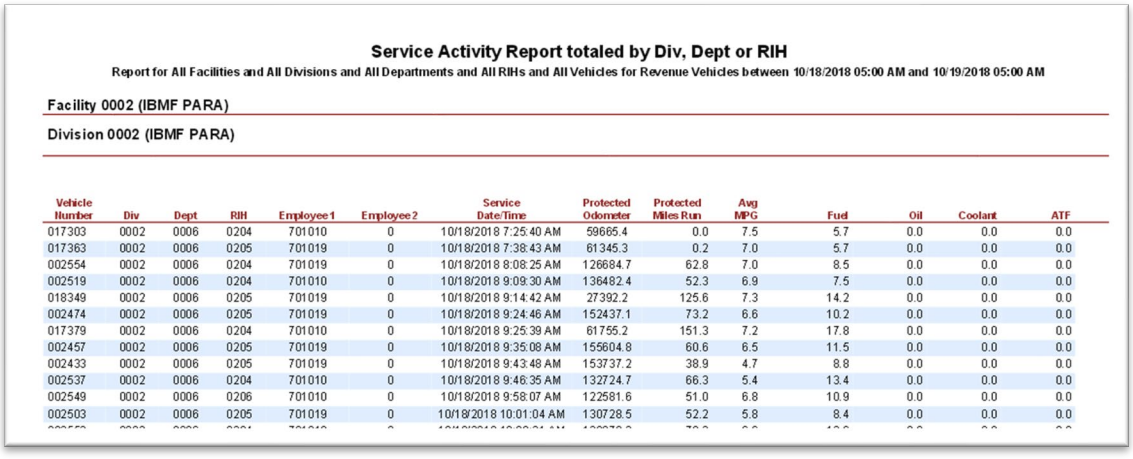
Average MPG Report

This report displays the average MPG for a Fleet, Division, Department, or Vehicle Type over a specified period. In Low Detail mode, the totals for each group are shown; in Detail mode the average for each vehicle is shown. The total Miles Run, Fuel, Oil, ATF, and Coolant are also shown for each group/vehicle.



Service Activity (Totaled by Division, Department or RIH) Report

This report displays the vehicle number, division, department, RIH, employee 1, employee 2, service time and date, odometer, miles run, average MPG, fuel, oil, coolant, and ATF for each service transaction for the dates specified. Report may be grouped by division, department or RIH. Total miles run, fuel, oil, coolant, and ATF are shown for each division/department/RIH. In Low Detail mode only, the totals for the division/department/RIH are shown. In Detail mode, each service transaction is also shown.



Service Activity Report totaled by Div, Dept or RIH

Report for All Facilities and All Divisions and All Departments and All RIHs and All Vehicles for Revenue Vehicles between 10/18/2018 05:00 AM and 10/19/2018 05:00 AM

Facility 0002 (IBMF PARA)

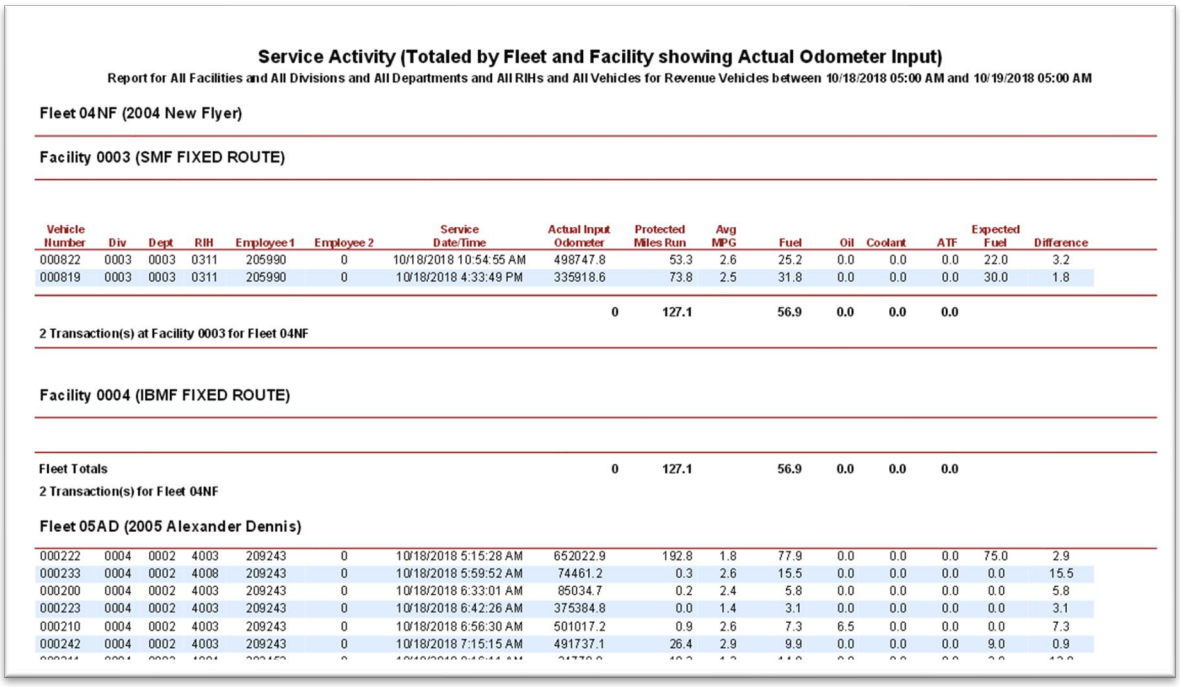
Division 0002 (IBMF PARA)

Vehicle Number	Div	Dept	RIH	Employee 1	Employee 2	Service Date/Time	Protected Odometer	Protected Miles Run	Avg MPG	Fuel	Oil	Coolant	ATF
017303	0002	0006	0204	701010	0	10/18/2018 7:25:40 AM	59665.4	0.0	7.5	5.7	0.0	0.0	0.0
017363	0002	0006	0205	701019	0	10/18/2018 7:38:43 AM	61345.3	0.2	7.0	5.7	0.0	0.0	0.0
002554	0002	0006	0204	701019	0	10/18/2018 8:08:25 AM	126684.7	62.8	7.0	8.5	0.0	0.0	0.0
002519	0002	0006	0204	701010	0	10/18/2018 9:09:30 AM	136482.4	52.3	6.9	7.5	0.0	0.0	0.0
018349	0002	0006	0205	701019	0	10/18/2018 9:14:42 AM	27392.2	125.6	7.3	14.2	0.0	0.0	0.0
002474	0002	0006	0205	701019	0	10/18/2018 9:24:46 AM	152437.1	73.2	6.6	10.2	0.0	0.0	0.0
017379	0002	0006	0204	701010	0	10/18/2018 9:25:39 AM	61755.2	151.3	7.2	17.8	0.0	0.0	0.0
002457	0002	0006	0205	701019	0	10/18/2018 9:35:08 AM	155604.8	60.6	6.5	11.5	0.0	0.0	0.0
002433	0002	0006	0205	701019	0	10/18/2018 9:43:48 AM	153737.2	38.9	4.7	8.8	0.0	0.0	0.0
002537	0002	0006	0204	701010	0	10/18/2018 9:46:35 AM	132724.7	66.3	5.4	13.4	0.0	0.0	0.0
002549	0002	0006	0206	701010	0	10/18/2018 9:58:07 AM	122581.6	51.0	6.8	10.9	0.0	0.0	0.0
002503	0002	0006	0205	701019	0	10/18/2018 10:01:04 AM	130728.5	52.2	5.8	8.4	0.0	0.0	0.0

Service Activity (Totaled by Fleet and Facility showing Actual Odometer Input) Report

This report shows the Expected Fuel Amount for each transaction. It also displays the vehicle number, division, department, RIH, employee 1, employee 2, service time & date, actual input odometer*, miles run, average MPG, fuel, oil, coolant & ATF for each service transaction for the dates specified. Report may be grouped by division, department or RIH. Total miles run, fuel, oil, coolant, and ATF are shown for each division/department/RIH. In Low Detail mode only, the totals for the division/department/RIH are shown. In Detail mode, each service transaction is also shown.

*Actual Odometer Input can be from a FLEETWATCH JX55, OBD, or GPS module, keypad entry from a dashboard or mechanical hub, or import file such as an API. Actual Odometer Input does not have to equal the LTD Odometer and should reasonably be considered a meter.



Service Activity (Totaled by Fleet and Facility showing Actual Odometer Input)

Report for All Facilities and All Divisions and All Departments and All RIHs and All Vehicles for Revenue Vehicles between 10/18/2018 05:00 AM and 10/19/2018 05:00 AM

Fleet 04NF (2004 New Flyer)

Facility 0003 (SMF FIXED ROUTE)

Vehicle Number	Div	Dept	RIH	Employee 1	Employee 2	Service Date/Time	Actual Input Odometer	Protected Miles Run	Avg MPG	Fuel	Oil	Coolant	ATF	Expected Fuel	Difference
000822	0003	0003	0311	205990	0	10/18/2018 10:54:55 AM	498747.8	53.3	2.6	25.2	0.0	0.0	0.0	22.0	3.2
000819	0003	0003	0311	205990	0	10/18/2018 4:33:49 PM	335918.6	73.8	2.5	31.8	0.0	0.0	0.0	30.0	1.8
								0	127.1		56.9	0.0	0.0	0.0	

2 Transaction(s) at Facility 0003 for Fleet 04NF

Facility 0004 (IBMF FIXED ROUTE)

Fleet Totals								**0**	**127.1**		**56.9**	**0.0**	**0.0**	**0.0**	

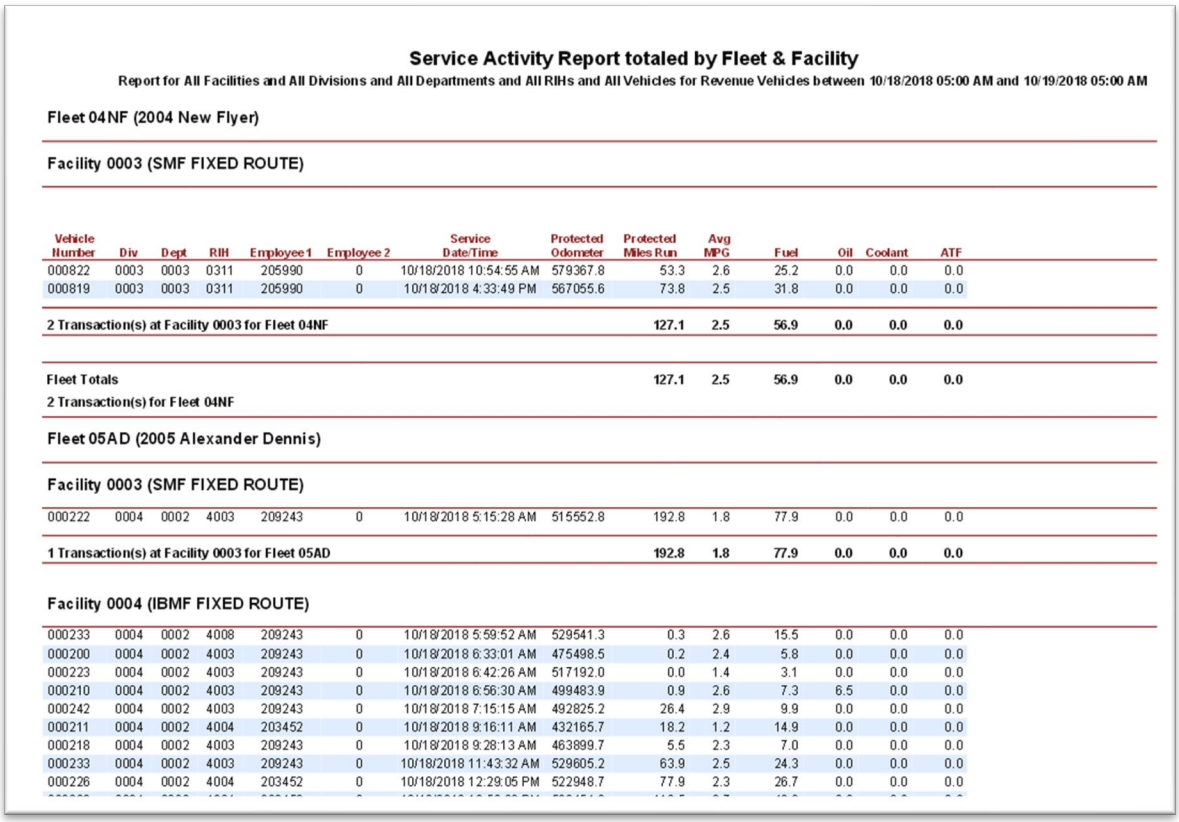
2 Transaction(s) for Fleet 04NF

Fleet 05AD (2005 Alexander Dennis)

000222	0004	0002	4003	209243	0	10/18/2018 5:15:28 AM	652022.9	192.8	1.8	77.9	0.0	0.0	0.0	75.0	2.9
000233	0004	0002	4008	209243	0	10/18/2018 5:59:52 AM	74461.2	0.3	2.6	15.5	0.0	0.0	0.0	0.0	15.5
000200	0004	0002	4003	209243	0	10/18/2018 6:33:01 AM	85034.7	0.2	2.4	5.8	0.0	0.0	0.0	0.0	5.8
000223	0004	0002	4003	209243	0	10/18/2018 6:42:26 AM	375384.8	0.0	1.4	3.1	0.0	0.0	0.0	0.0	3.1
000210	0004	0002	4003	209243	0	10/18/2018 6:56:30 AM	501017.2	0.9	2.6	7.3	6.5	0.0	0.0	0.0	7.3
000242	0004	0002	4003	209243	0	10/18/2018 7:15:15 AM	491737.1	26.4	2.9	9.9	0.0	0.0	0.0	9.0	0.9

Service Activity (Totaled by Fleet and Facility) Report

This report displays the vehicle number, division, department, RIH, employee 1, employee 2, service time & date, odometer, miles run, average MPG, fuel, oil, coolant, and ATF for each service transaction for the dates specified. Report may be grouped by division, department or RIH. Total miles run, fuel, oil, coolant, and ATF are shown for each division/department/RIH. In Low Detail mode only, the totals for the division/department/RIH are shown.



Service Activity Report totaled by Fleet & Facility

Report for All Facilities and All Divisions and All Departments and All RIHs and All Vehicles for Revenue Vehicles between 10/18/2018 05:00 AM and 10/19/2018 05:00 AM

Fleet 04NF (2004 New Flyer)

Facility 0003 (SMF FIXED ROUTE)

Vehicle Number	Div	Dept	RIH	Employee 1	Employee 2	Service Date/Time	Protected Odometer	Protected Miles Run	Avg MPG	Fuel	Oil	Coolant	ATF
000822	0003	0003	0311	205990	0	10/18/2018 10:54:55 AM	579367.8	53.3	2.6	25.2	0.0	0.0	0.0
000819	0003	0003	0311	205990	0	10/18/2018 4:33:49 PM	567055.6	73.8	2.5	31.8	0.0	0.0	0.0
2 Transaction(s) at Facility 0003 for Fleet 04NF								**127.1**	**2.5**	**56.9**	**0.0**	**0.0**	**0.0**
Fleet Totals								**127.1**	**2.5**	**56.9**	**0.0**	**0.0**	**0.0**
2 Transaction(s) for Fleet 04NF													

Fleet 05AD (2005 Alexander Dennis)

Facility 0003 (SMF FIXED ROUTE)

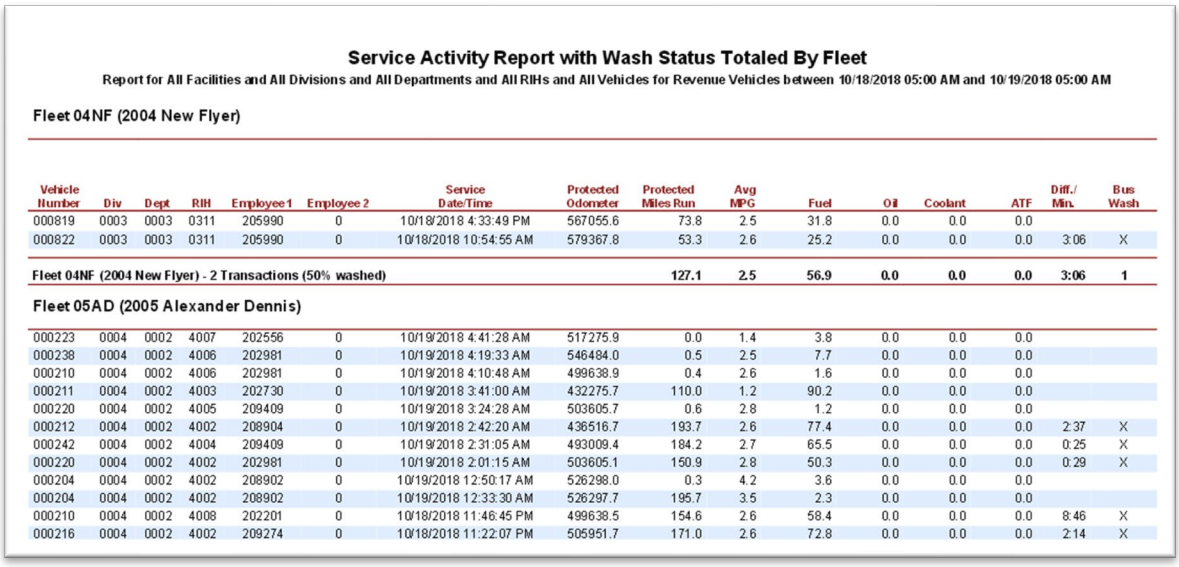
000222	0004	0002	4003	209243	0	10/18/2018 5:15:28 AM	515552.8	192.8	1.8	77.9	0.0	0.0	0.0
1 Transaction(s) at Facility 0003 for Fleet 05AD								**192.8**	**1.8**	**77.9**	**0.0**	**0.0**	**0.0**

Facility 0004 (IBMF FIXED ROUTE)

000233	0004	0002	4008	209243	0	10/18/2018 5:59:52 AM	529541.3	0.3	2.6	15.5	0.0	0.0	0.0
000200	0004	0002	4003	209243	0	10/18/2018 6:33:01 AM	475498.5	0.2	2.4	5.8	0.0	0.0	0.0
000223	0004	0002	4003	209243	0	10/18/2018 6:42:26 AM	517192.0	0.0	1.4	3.1	0.0	0.0	0.0
000210	0004	0002	4003	209243	0	10/18/2018 6:56:30 AM	499483.9	0.9	2.6	7.3	6.5	0.0	0.0
000242	0004	0002	4003	209243	0	10/18/2018 7:15:15 AM	492825.2	26.4	2.9	9.9	0.0	0.0	0.0
000211	0004	0002	4004	203452	0	10/18/2018 9:16:11 AM	432165.7	18.2	1.2	14.9	0.0	0.0	0.0
000218	0004	0002	4003	209243	0	10/18/2018 9:28:13 AM	463899.7	5.5	2.3	7.0	0.0	0.0	0.0
000233	0004	0002	4003	209243	0	10/18/2018 11:43:32 AM	529605.2	63.9	2.5	24.3	0.0	0.0	0.0
000226	0004	0002	4004	203452	0	10/18/2018 12:29:05 PM	522948.7	77.9	2.3	26.7	0.0	0.0	0.0

Service Activity (Totaled by Fleet and Facility) Report - With Bus Wash Status

This report displays the bus wash status, vehicle number, division, department, RIH, employee 1, employee 2, service time & date, odometer, miles run, average MPG, fuel, oil, coolant, and ATF for each service transaction for the dates specified. The difference in minutes is the time between when the vehicle was serviced and when it was washed, based on date or data? from the FLEETWATCH Bus Wash Reader.



Service Activity Report with Wash Status Totaled By Fleet

Report for All Facilities and All Divisions and All Departments and All RIHs and All Vehicles for Revenue Vehicles between 10/18/2018 05:00 AM and 10/19/2018 05:00 AM

Fleet 04NF (2004 New Flyer)

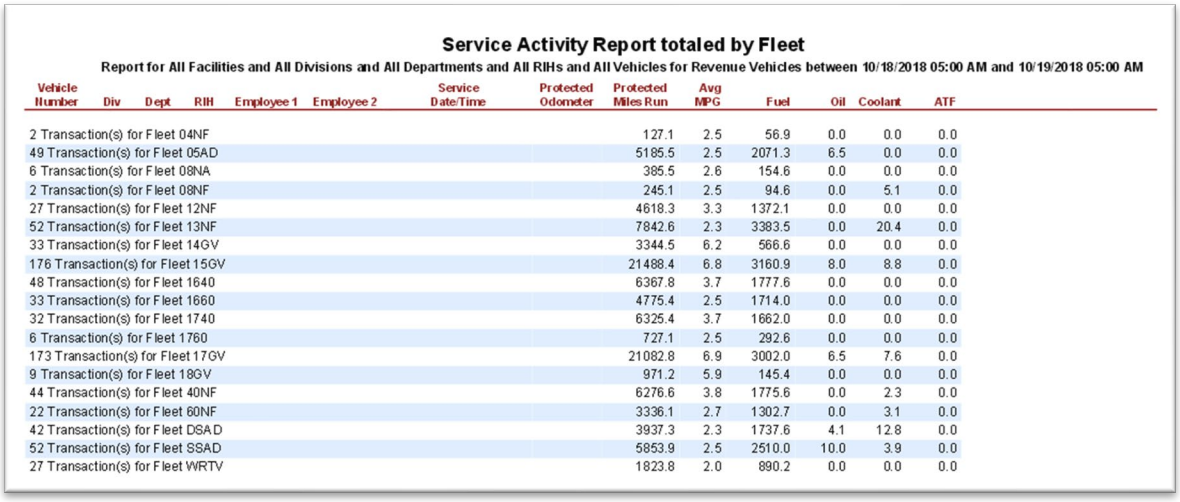
Vehicle Number	Div	Dept	RIH	Employee 1	Employee 2	Service Date/Time	Protected Odometer	Protected Miles Run	Avg MPG	Fuel	Oil	Coolant	ATF	Diff./ Min.	Bus Wash
000819	0003	0003	0311	205990	0	10/18/2018 4:33:49 PM	567055.6	73.8	2.5	31.8	0.0	0.0	0.0		
000822	0003	0003	0311	205990	0	10/18/2018 10:54:55 AM	579367.8	53.3	2.6	25.2	0.0	0.0	0.0	3:06	X
Fleet 04NF (2004 New Flyer) - 2 Transactions (50% washed)								**127.1**	**2.5**	**56.9**	**0.0**	**0.0**	**0.0**	**3:06**	**1**

Fleet 05AD (2005 Alexander Dennis)

000223	0004	0002	4007	202556	0	10/19/2018 4:41:28 AM	517275.9	0.0	1.4	3.8	0.0	0.0	0.0		
000238	0004	0002	4006	202981	0	10/19/2018 4:19:33 AM	546484.0	0.5	2.5	7.7	0.0	0.0	0.0		
000210	0004	0002	4006	202981	0	10/19/2018 4:10:48 AM	499638.9	0.4	2.6	1.6	0.0	0.0	0.0		
000211	0004	0002	4003	202730	0	10/19/2018 3:41:00 AM	432275.7	110.0	1.2	90.2	0.0	0.0	0.0		
000220	0004	0002	4005	209409	0	10/19/2018 3:24:28 AM	503605.7	0.6	2.8	1.2	0.0	0.0	0.0		
000212	0004	0002	4002	208904	0	10/19/2018 2:42:20 AM	436516.7	193.7	2.6	77.4	0.0	0.0	0.0	2:37	X
000242	0004	0002	4004	209409	0	10/19/2018 2:31:05 AM	493009.4	184.2	2.7	65.5	0.0	0.0	0.0	0:25	X
000220	0004	0002	4002	202981	0	10/19/2018 2:01:15 AM	503605.1	150.9	2.8	50.3	0.0	0.0	0.0	0:29	X
000204	0004	0002	4002	208902	0	10/19/2018 12:50:17 AM	526298.0	0.3	4.2	3.6	0.0	0.0	0.0		
000204	0004	0002	4002	208902	0	10/19/2018 12:33:30 AM	526297.7	195.7	3.5	2.3	0.0	0.0	0.0		
000210	0004	0002	4008	202201	0	10/18/2018 11:46:45 PM	499638.5	154.6	2.6	58.4	0.0	0.0	0.0	8:46	X
000216	0004	0002	4002	209274	0	10/18/2018 11:22:07 PM	505951.7	171.0	2.6	72.8	0.0	0.0	0.0	2:14	X

Service Activity (Totaled by Fleet) Report

This report displays the vehicle number, division, department, RIH, employee 1, employee 2, service time & date, odometer, miles run, average MPG, fuel, oil, coolant, and ATF for each service transaction for the dates specified. Report may be grouped by Time or Vehicle. Total miles run, fuel, oil, coolant, and ATF are shown for each division, department, RIH. In Low Detail mode only, the totals for the Fleets are shown.



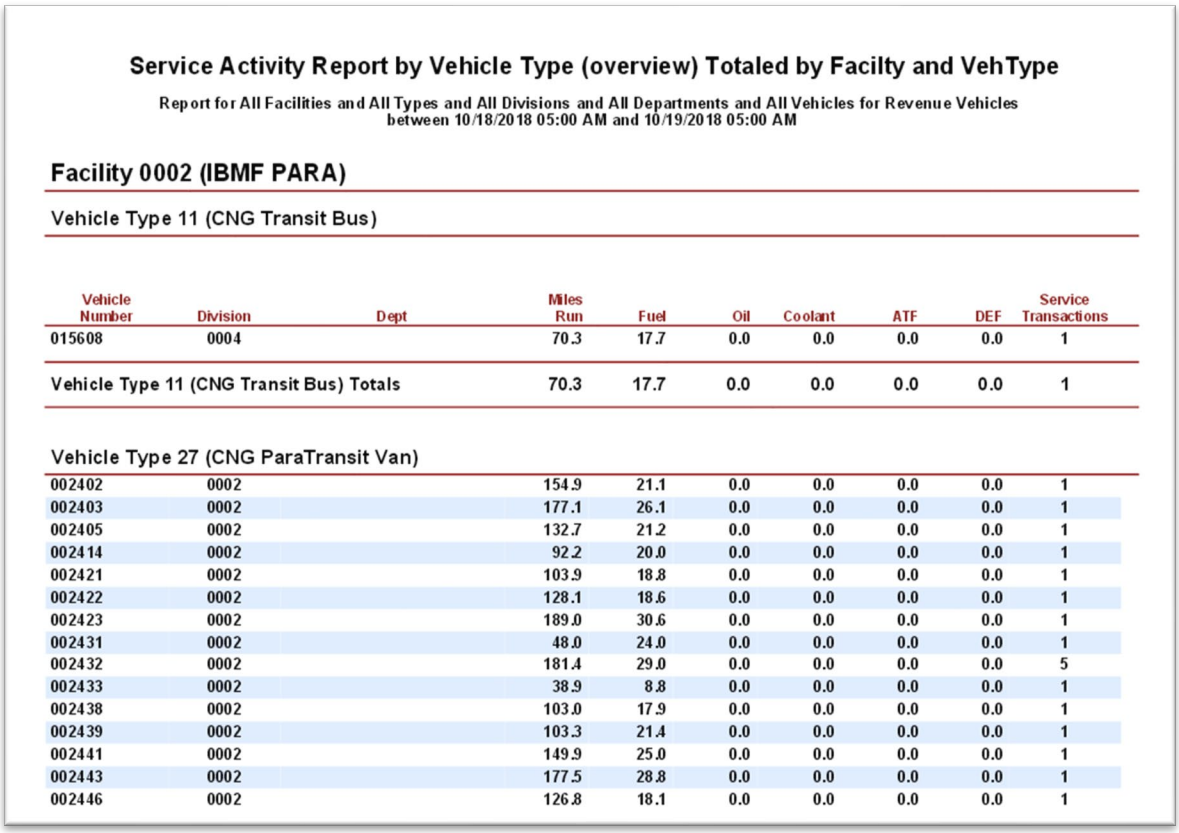
Service Activity Report totaled by Fleet

Report for All Facilities and All Divisions and All Departments and All RIHs and All Vehicles for Revenue Vehicles between 10/18/2018 05:00 AM and 10/19/2018 05:00 AM

Vehicle Number	Div	Dept	RIH	Employee 1	Employee 2	Service Date/Time	Protected Odometer	Protected Miles Run	Avg MPG	Fuel	Oil	Coolant	ATF
2 Transaction(s) for Fleet 04NF								127.1	2.5	56.9	0.0	0.0	0.0
49 Transaction(s) for Fleet 05AD								5185.5	2.5	2071.3	6.5	0.0	0.0
6 Transaction(s) for Fleet 08NA								385.5	2.6	154.6	0.0	0.0	0.0
2 Transaction(s) for Fleet 08NF								245.1	2.5	94.6	0.0	5.1	0.0
27 Transaction(s) for Fleet 12NF								4618.3	3.3	1372.1	0.0	0.0	0.0
52 Transaction(s) for Fleet 13NF								7842.6	2.3	3383.5	0.0	20.4	0.0
33 Transaction(s) for Fleet 14GV								3344.5	6.2	566.6	0.0	0.0	0.0
176 Transaction(s) for Fleet 15GV								21488.4	6.8	3160.9	8.0	8.8	0.0
48 Transaction(s) for Fleet 1640								6367.8	3.7	1777.6	0.0	0.0	0.0
33 Transaction(s) for Fleet 1660								4775.4	2.5	1714.0	0.0	0.0	0.0
32 Transaction(s) for Fleet 1740								6325.4	3.7	1662.0	0.0	0.0	0.0
6 Transaction(s) for Fleet 1760								727.1	2.5	292.6	0.0	0.0	0.0
173 Transaction(s) for Fleet 17GV								21082.8	6.9	3002.0	6.5	7.6	0.0
9 Transaction(s) for Fleet 18GV								971.2	5.9	145.4	0.0	0.0	0.0
44 Transaction(s) for Fleet 40NF								6276.6	3.8	1775.6	0.0	2.3	0.0
22 Transaction(s) for Fleet 60NF								3336.1	2.7	1302.7	0.0	3.1	0.0
42 Transaction(s) for Fleet DSAD								3937.3	2.3	1737.6	4.1	12.8	0.0
52 Transaction(s) for Fleet SSAD								5853.9	2.5	2510.0	10.0	3.9	0.0
27 Transaction(s) for Fleet WRTV								1823.8	2.0	890.2	0.0	0.0	0.0

Service Activity (Totaled by Vehicle Type - Overview) Report

This report is grouped by Vehicle Type. It displays the Vehicle Number, Division, Department, Total Miles Run, Total Fuel, Total Oil, Total Coolant, Total ATF & Total number of transactions for each Vehicle for the Dates specified. Total Miles Run, Fuel, Oil, Coolant and ATF are shown for each Type. Report may be run for Revenue Vehicles only, Non-Revenue Vehicles only, or for all vehicles.



Service Activity Report by Vehicle Type (overview) Totaled by Facilty and VehType

Report for All Facilities and All Types and All Divisions and All Departments and All Vehicles for Revenue Vehicles between 10/18/2018 05:00 AM and 10/19/2018 05:00 AM

Facility 0002 (IBMF PARA)

Vehicle Type 11 (CNG Transit Bus)

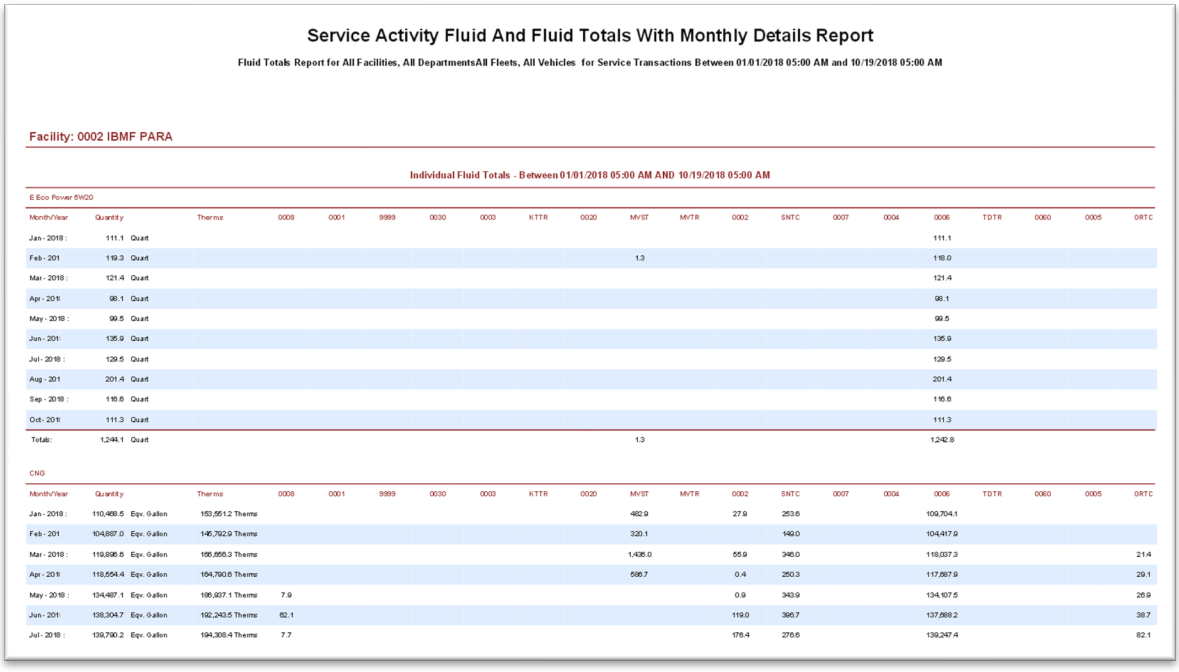
Vehicle Number	Division	Dept	Miles Run	Fuel	Oil	Coolant	ATF	DEF	Service Transactions
015608	0004		70.3	17.7	0.0	0.0	0.0	0.0	1
Vehicle Type 11 (CNG Transit Bus) Totals			70.3	17.7	0.0	0.0	0.0	0.0	1

Vehicle Type 27 (CNG ParaTransit Van)

002402	0002		154.9	21.1	0.0	0.0	0.0	0.0	1
002403	0002		177.1	26.1	0.0	0.0	0.0	0.0	1
002405	0002		132.7	21.2	0.0	0.0	0.0	0.0	1
002414	0002		92.2	20.0	0.0	0.0	0.0	0.0	1
002421	0002		103.9	18.8	0.0	0.0	0.0	0.0	1
002422	0002		128.1	18.6	0.0	0.0	0.0	0.0	1
002423	0002		189.0	30.6	0.0	0.0	0.0	0.0	1
002431	0002		48.0	24.0	0.0	0.0	0.0	0.0	1
002432	0002		181.4	29.0	0.0	0.0	0.0	0.0	5
002433	0002		38.9	8.8	0.0	0.0	0.0	0.0	1
002438	0002		103.0	17.9	0.0	0.0	0.0	0.0	1
002439	0002		103.3	21.4	0.0	0.0	0.0	0.0	1
002441	0002		149.9	25.0	0.0	0.0	0.0	0.0	1
002443	0002		177.5	28.8	0.0	0.0	0.0	0.0	1
002446	0002		126.8	18.1	0.0	0.0	0.0	0.0	1

Service Activity Fuel and Fluid Totals with Monthly Details

This report shows the Month/Year and quantity of each fuel and fluid dispensed for each department between the start and end dates.



Service Activity Fluid And Fluid Totals With Monthly Details Report

Fluid Totals Report for All Facilities, All DepartmentsAll Fleets, All Vehicles for Service Transactions Between 01/01/2018 05:00 AM and 10/19/2018 05:00 AM

Facility: 0002 IBMF PARA

Individual Fluid Totals - Between 01/01/2018 05:00 AM AND 10/19/2018 05:00 AM

E Eco Power 5W20

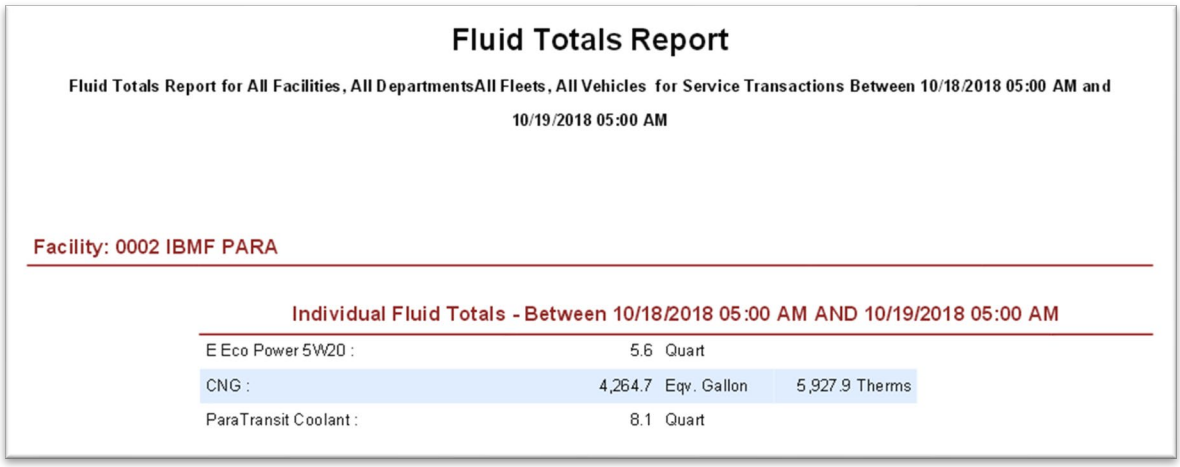
Month/Year	Quantity		Therms	0008	0001	9999	0030	0003	KTTR	0020	MVST	MVTR	0002	SNTC	0007	0004	0006	TDTR	0060	0005	ORTC
Jan - 2018 :	111.1	Quart															111.1				
Feb - 201	119.3	Quart									1.3						118.0				
Mar - 2018 :	121.4	Quart															121.4				
Apr - 201	98.1	Quart															98.1				
May - 2018 :	99.5	Quart															99.5				
Jun - 201	135.9	Quart															135.9				
Jul - 2018 :	129.5	Quart															129.5				
Aug - 201	201.4	Quart															201.4				
Sep - 2018 :	116.6	Quart															116.6				
Oct - 201	111.3	Quart															111.3				
Totals:	1,244.1	Quart									1.3						1,242.8				

CNG

Month/Year	Quantity		Therms	0008	0001	9999	0030	0003	KTTR	0020	MVST	MVTR	0002	SNTC	0007	0004	0006	TDTR	0060	0005	ORTC
Jan - 2018 :	110,468.5	Egv. Gallon	153,551.2 Therms								482.9		27.9	253.6			109,704.1				
Feb - 201	104,887.0	Egv. Gallon	145,792.9 Therms								320.1			149.0			104,417.9				
Mar - 2018 :	119,896.6	Egv. Gallon	166,656.3 Therms								1,436.0		55.9	346.0			118,037.3				21.4
Apr - 201	118,554.4	Egv. Gallon	164,790.6 Therms								586.7		0.4	250.3			117,687.9				29.1
May - 2018 :	134,467.1	Egv. Gallon	186,937.1 Therms	7.9									0.9	343.9			134,107.5				26.9
Jun - 201	138,304.7	Egv. Gallon	192,243.5 Therms	62.1									119.0	396.7			137,668.2				38.7
Jul - 2018 :	139,760.2	Egv. Gallon	194,308.4 Therms	7.7									176.4	276.6			139,247.4				82.1

Service Activity Fluid Totals

This report displays a list of fluid totals that can be grouped by department, division, or facility. A conversion calculator is set up on the report criteria page.



Fluid Totals Report

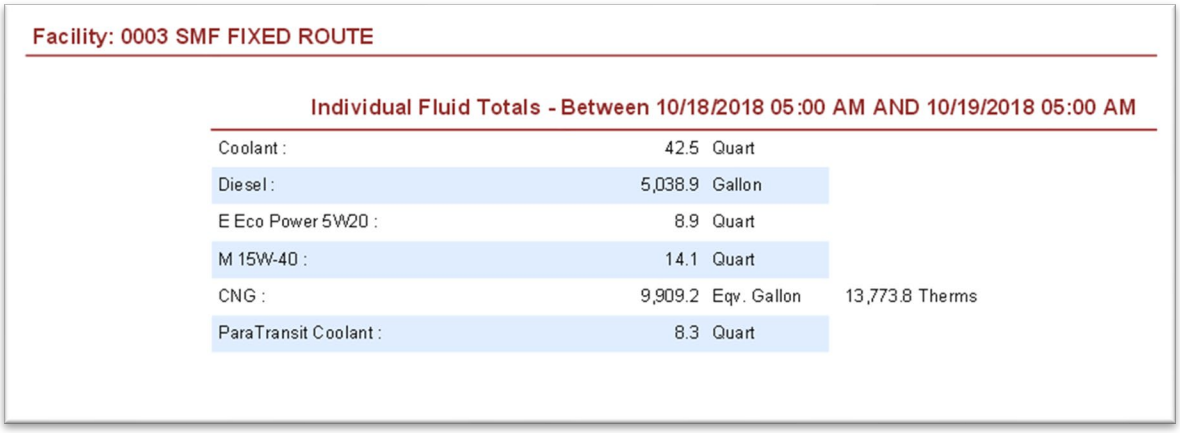
Fluid Totals Report for All Facilities, All DepartmentsAll Fleets, All Vehicles for Service Transactions Between 10/18/2018 05:00 AM and 10/19/2018 05:00 AM

Facility: 0002 IBMF PARA

Individual Fluid Totals - Between 10/18/2018 05:00 AM AND 10/19/2018 05:00 AM

E Eco Power 5W20 :	5.6	Quart	
CNG :	4,264.7	Eqv. Gallon	5,927.9 Therms
ParaTransit Coolant :	8.1	Quart	

Figure 22: Fluid totals report for a facility



Facility: 0003 SMF FIXED ROUTE

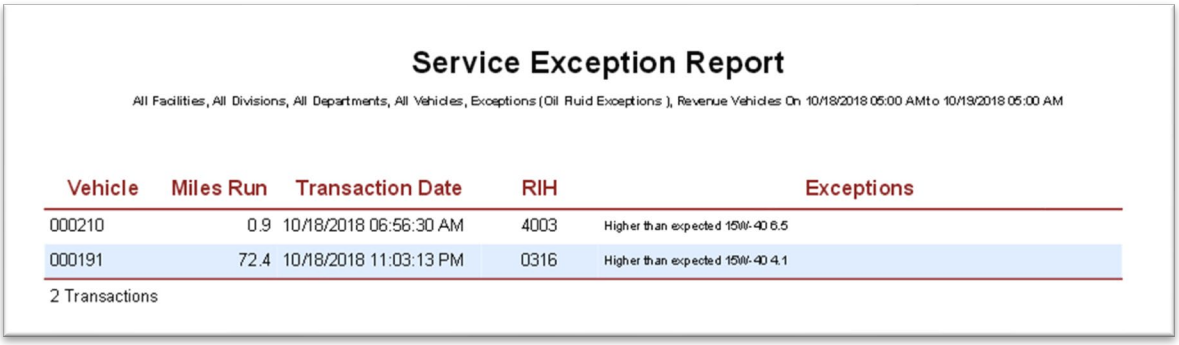
Individual Fluid Totals - Between 10/18/2018 05:00 AM AND 10/19/2018 05:00 AM

Coolant :	42.5	Quart	
Diesel :	5,038.9	Gallon	
E Eco Power 5W20 :	8.9	Quart	
M 15W-40 :	14.1	Quart	
CNG :	9,909.2	Eqv. Gallon	13,773.8 Therms
ParaTransit Coolant :	8.3	Quart	

Figure 23: Fluid totals by facility with conversion factor CNG equivalent gallons converted to Therms

Service Exceptions Report

This report displays a list of service exceptions and shows a list of vehicles with miles run, transaction date, RIH, and the exception. Exceptions include calculated mileage, ATF fluid exceptions, Standard fuel (Diesel, unleaded, etc.) fuel exceptions, Oil fluid exceptions, Coolant fluid exceptions, RIH in manual, tire factor mismatch, Low Fuel exceptions, Low MPG exception, and High MPG exceptions.



Service Exception Report

All Facilities, All Divisions, All Departments, All Vehicles, Exceptions (Oil Fluid Exceptions), Revenue Vehicles On 10/18/2018 05:00 AM to 10/19/2018 05:00 AM

Vehicle	Miles Run	Transaction Date	RIH	Exceptions
000210	0.9	10/18/2018 06:56:30 AM	4003	Higher than expected 15W-40 6.5
000191	72.4	10/18/2018 11:03:13 PM	0316	Higher than expected 15W-40 4.1

2 Transactions

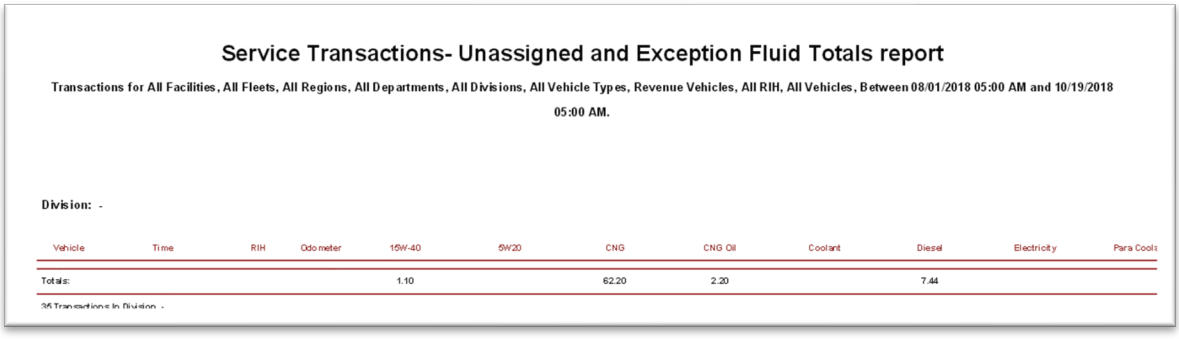
Figure 24: Exceptions report showing higher than expected oil consumption in a fuel lane

Service Transactions – Maintenance Bay Report

This report is a list of transactions occurring in FLEETWATCH-equipped Maintenance Bays. It contains vehicles serviced in the maintenance bays, date & time, RIH, LTD Odometer at time of servicing, division, employee number, miles run (usually 0.0 in a maintenance bay), average MPG, and amounts of fluid dispensed, with totals for each division, department, facility, fleet, region, RIH, or vehicle type.

Service Unassigned and Exception Fluids Totals

This report shows any fuel or fluids dispensed in bypass or RIH in Manual mode. Lots of entries in this report can indicate a problem.



Service Transactions- Unassigned and Exception Fluid Totals report

Transactions for All Facilities, All Fleets, All Regions, All Departments, All Divisions, All Vehicle Types, Revenue Vehicles, All RIH, All Vehicles, Between 08/01/2018 05:00 AM and 10/19/2018 05:00 AM.

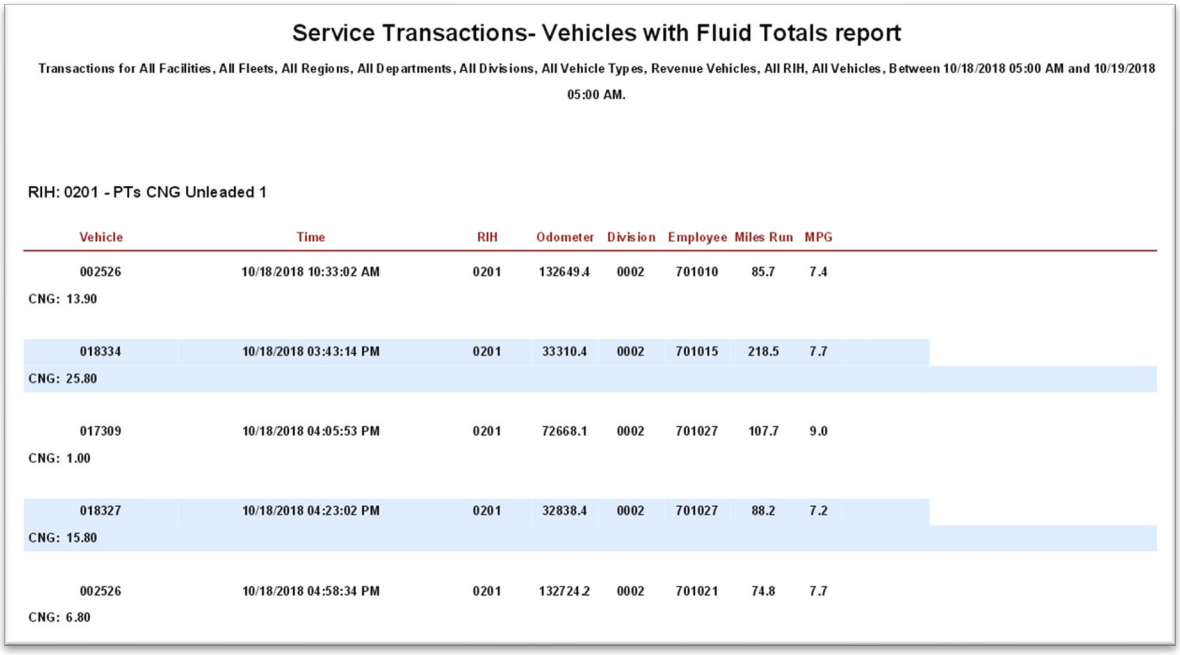
Division: -

Vehicle	Time	RIH	Odometer	15W-40	5W20	CNG	CNG Oil	Coolant	Diesel	Electricity	Para Cool
Totals:				1.10		62.20	2.20		7.44		

Figure 25: Unassigned fluids. In thus case, the RIH had been turned to manual to fuel a new bus not yet in the system

Service Transactions - Vehicle with Fluid Totals Alt (Sorted by time ascending)

This report displays Vehicles Service Transactions that can be grouped by Facility, Division, Department, Fleet, Region, RIH or Vehicle Type. Sorts by time ascending, earliest transaction at the top, and most recent transaction at the bottom.



Service Transactions- Vehicles with Fluid Totals report

Transactions for All Facilities, All Fleets, All Regions, All Departments, All Divisions, All Vehicle Types, Revenue Vehicles, All RIH, All Vehicles, Between 10/18/2018 05:00 AM and 10/19/2018 05:00 AM.

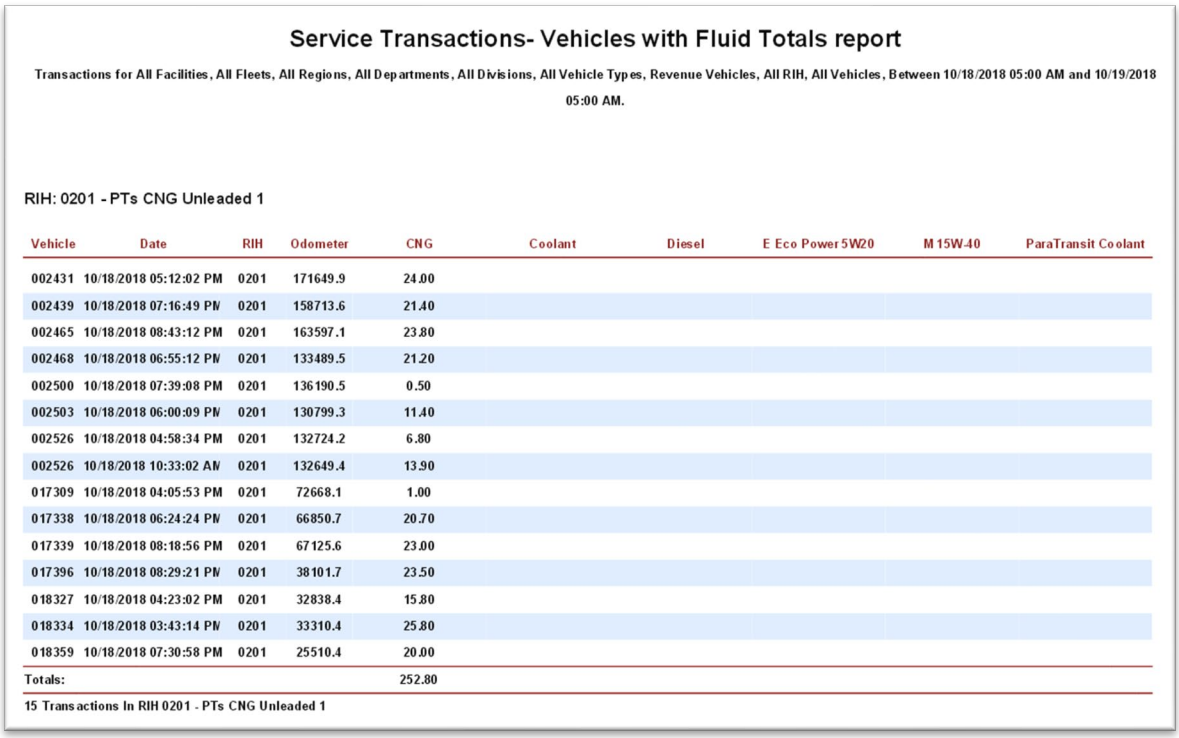
RIH: 0201 - PTs CNG Unleaded 1

Vehicle	Time	RIH	Odometer	Division	Employee	Miles Run	MPG
002526	10/18/2018 10:33:02 AM	0201	132649.4	0002	701010	85.7	7.4
CNG: 13.90							
018334	10/18/2018 03:43:14 PM	0201	33310.4	0002	701015	218.5	7.7
CNG: 25.80							
017309	10/18/2018 04:05:53 PM	0201	72668.1	0002	701027	107.7	9.0
CNG: 1.00							
018327	10/18/2018 04:23:02 PM	0201	32838.4	0002	701027	88.2	7.2
CNG: 15.80							
002526	10/18/2018 04:58:34 PM	0201	132724.2	0002	701021	74.8	7.7
CNG: 6.80							

Figure 26: Transactions in time-ascending order.

Service Transactions - Vehicle with Fluid Totals

This report displays Vehicles Service Transactions that can be grouped by Facility, Division, Department, Fleet, Region, RIH or Vehicle Type. Sorts by Vehicle Number ascending, smallest vehicle number with transactions at the top and largest vehicle number with transaction at the bottom.



Service Transactions- Vehicles with Fluid Totals report

Transactions for All Facilities, All Fleets, All Regions, All Departments, All Divisions, All Vehicle Types, Revenue Vehicles, All RIH, All Vehicles, Between 10/18/2018 05:00 AM and 10/19/2018 05:00 AM.

RIH: 0201 - PTs CNG Unleaded 1

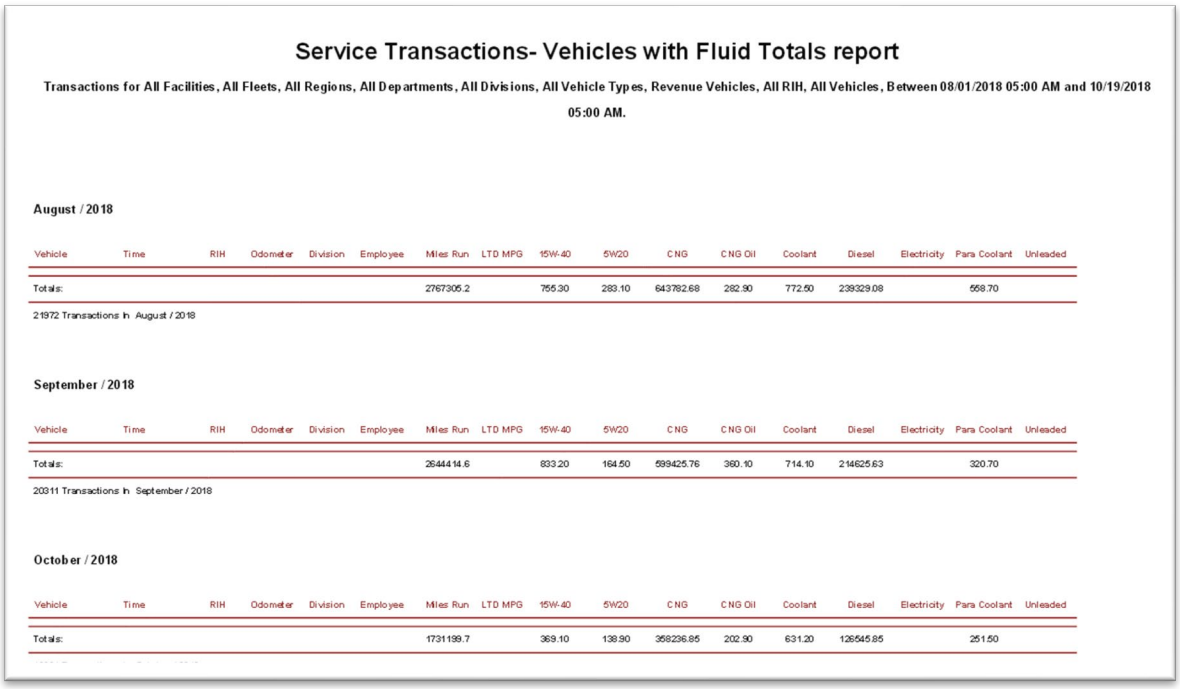
Vehicle	Date	RIH	Odometer	CNG	Coolant	Diesel	E Eco Power 5W20	M 15W-40	ParaTransit Coolant
002431	10/18/2018 05:12:02 PM	0201	171649.9	24.00					
002439	10/18/2018 07:16:49 PM	0201	158713.6	21.40					
002465	10/18/2018 08:43:12 PM	0201	163597.1	23.80					
002468	10/18/2018 06:55:12 PM	0201	133489.5	21.20					
002500	10/18/2018 07:39:08 PM	0201	136190.5	0.50					
002503	10/18/2018 06:00:09 PM	0201	130799.3	11.40					
002526	10/18/2018 04:58:34 PM	0201	132724.2	6.80					
002526	10/18/2018 10:33:02 AM	0201	132649.4	13.90					
017309	10/18/2018 04:05:53 PM	0201	72668.1	1.00					
017338	10/18/2018 06:24:24 PM	0201	66850.7	20.70					
017339	10/18/2018 08:18:56 PM	0201	67125.6	23.00					
017396	10/18/2018 08:29:21 PM	0201	38101.7	23.50					
018327	10/18/2018 04:23:02 PM	0201	32838.4	15.80					
018334	10/18/2018 03:43:14 PM	0201	33310.4	25.80					
018359	10/18/2018 07:30:58 PM	0201	25510.4	20.00					
Totals:				252.80					

15 Transactions In RIH 0201 - PTs CNG Unleaded 1

Figure 27: Transactions in vehicle ascending order

Service Transactions - Vehicle with Monthly Fluid Totals

This report shows all service transactions occurring in each month between start date and end date. Transactions are sorted by time ascending, earliest transaction at the top of the report, most recent transaction at bottom. In Detail mode, the vehicle, service date and time, RIH (service lane), odometer, division, employee, miles run, LTD MPG, and all available fluids and fuels are shown. All miles-run and fuel and fluid totals are summed for each month between start and end date.



Service Transactions- Vehicles with Fluid Totals report

Transactions for All Facilities, All Fleets, All Regions, All Departments, All Divisions, All Vehicle Types, Revenue Vehicles, All RIH, All Vehicles, Between 08/01/2018 05:00 AM and 10/19/2018 05:00 AM.

August / 2018

Vehicle	Time	RIH	Odometer	Division	Employee	Miles Run	LTD MPG	15W-40	5W20	CNG	CNG Oil	Coolant	Diesel	Electricity	Para Coolant	Unleaded
Totals:						2767305.2		755.30	283.10	643782.68	282.90	772.50	239329.08		558.70	

21972 Transactions In August / 2018

September / 2018

Vehicle	Time	RIH	Odometer	Division	Employee	Miles Run	LTD MPG	15W-40	5W20	CNG	CNG Oil	Coolant	Diesel	Electricity	Para Coolant	Unleaded
Totals:						2644414.6		833.20	164.50	599425.76	360.10	714.10	214625.63		320.70	

20311 Transactions In September / 2018

October / 2018

Vehicle	Time	RIH	Odometer	Division	Employee	Miles Run	LTD MPG	15W-40	5W20	CNG	CNG Oil	Coolant	Diesel	Electricity	Para Coolant	Unleaded
Totals:						1731199.7		369.10	138.90	358236.85	202.90	631.20	126545.85		251.50	

Figure 28: Monthly summary for all vehicles

5.9 Tank Reports

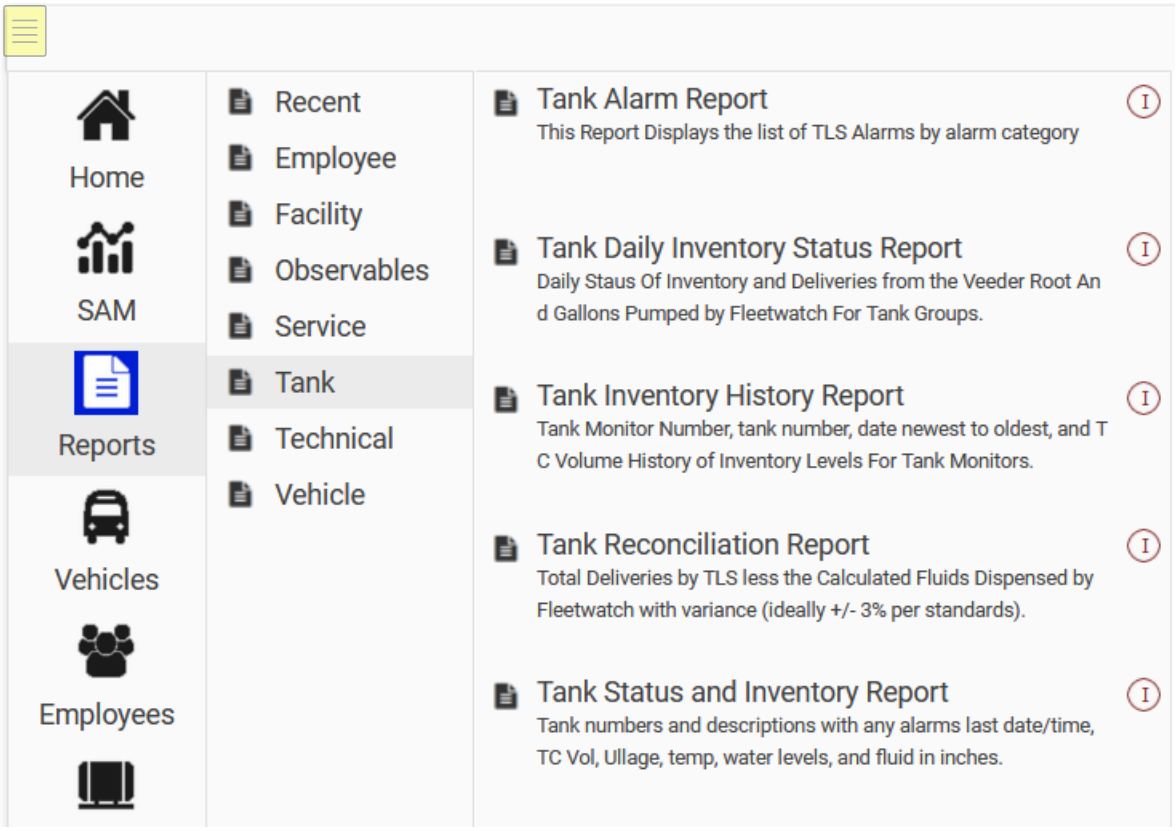
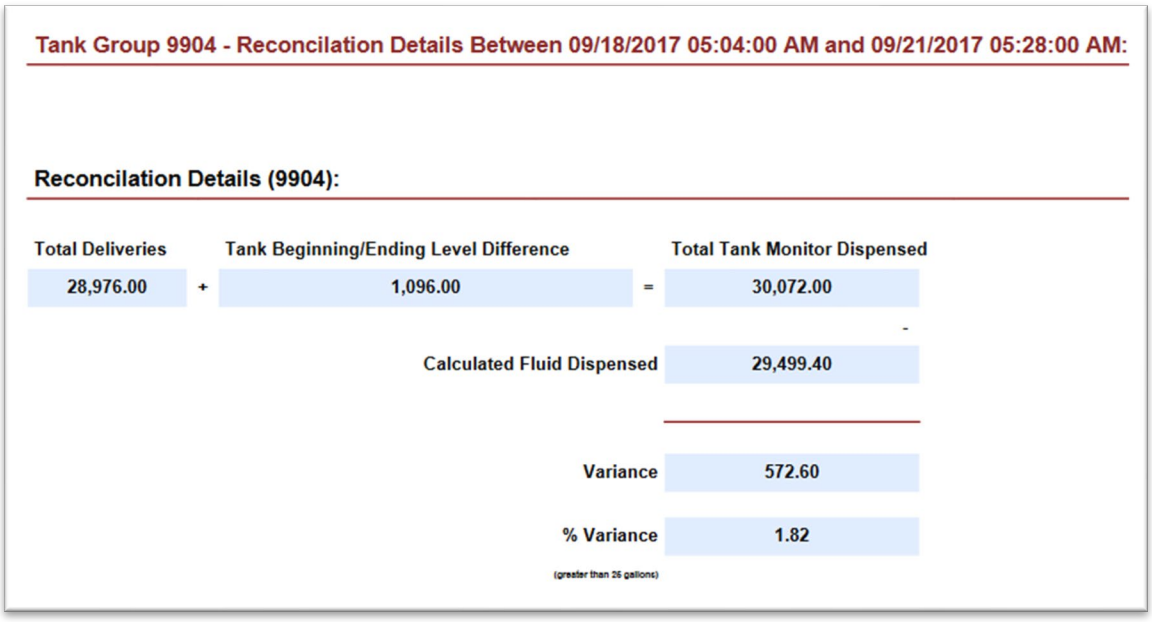


Figure 5-29 Tank Reports Screen

The **Tank Reconciliation Report** calculates the total deliveries plus tank beginning/ending level difference for total tank monitor dispensed. It takes the total tank monitor dispensed value and subtracts the calculated fluid dispensed (total fluids counted by pulse meters in the service lanes) for a variance between the tank monitor system and FLEETWATCH calculations. The variance should be around +/- 3%.

The report also provides details for the selected tank group. Tank group description, pulser quantity measurement (quart, gallon, etc.), tank quantity measurement, the number of tanks in the tank group, and the fluid quantity pumped from each pulser in the group.

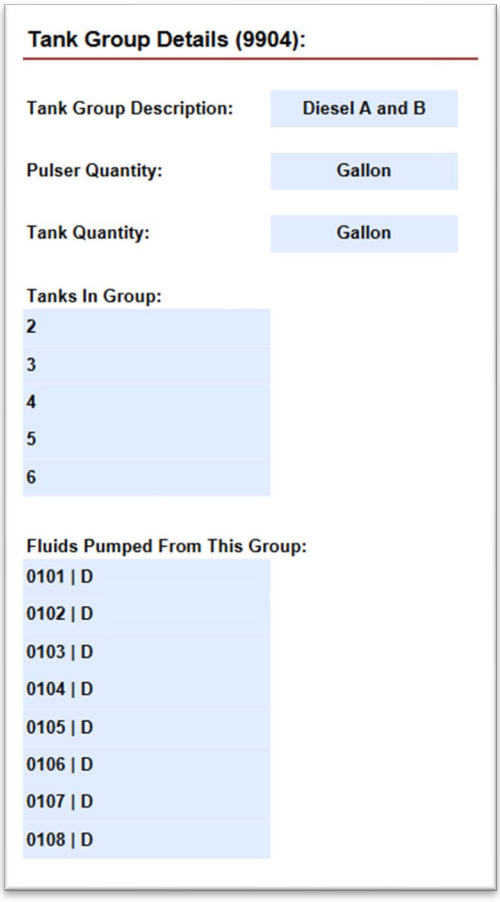


Tank Group 9904 - Reconcilation Details Between 09/18/2017 05:04:00 AM and 09/21/2017 05:28:00 AM:

Reconcilation Details (9904):

Total Deliveries		Tank Beginning/Ending Level Difference		Total Tank Monitor Dispensed
28,976.00	+	1,096.00	=	30,072.00
				-
		Calculated Fluid Dispensed		29,499.40
		Variance		572.60
		% Variance		1.82
		(greater than 26 gallons)		

Figure 30: Tank Monitor system less the fluids calculated in the fuel lanes for a variance of less than 2% indicates a healthy system



Tank Group Details (9904):

Tank Group Description:	Diesel A and B
Pulser Quantity:	Gallon
Tank Quantity:	Gallon

Tanks In Group:

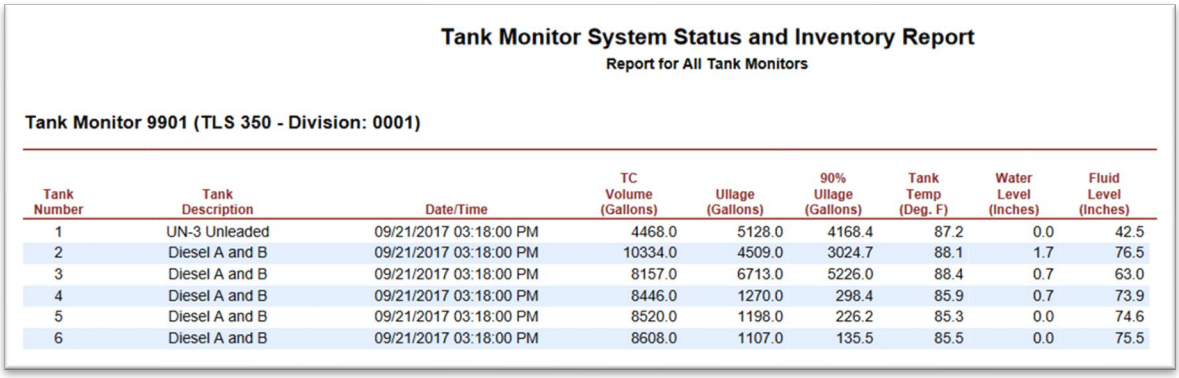
2
3
4
5
6

Fluids Pumped From This Group:

0101 | D
0102 | D
0103 | D
0104 | D
0105 | D
0106 | D
0107 | D
0108 | D

Figure 31: Details of the Diesel tank system showing 5 manifold diesel tanks feeding 8 diesel fuel lanes

The **Tank Status and Inventory Report** displays the status and inventory of tanks interfacing with the FLEEWATCH system. Information such as current alarms, volume, tank temperature, water level, and fluid level are presented in this report.



Tank Monitor System Status and Inventory Report

Report for All Tank Monitors

Tank Monitor 9901 (TLS 350 - Division: 0001)

Tank Number	Tank Description	Date/Time	TC Volume (Gallons)	Ullage (Gallons)	90% Ullage (Gallons)	Tank Temp (Deg. F)	Water Level (Inches)	Fluid Level (Inches)
1	UN-3 Unleaded	09/21/2017 03:18:00 PM	4468.0	5128.0	4168.4	87.2	0.0	42.5
2	Diesel A and B	09/21/2017 03:18:00 PM	10334.0	4509.0	3024.7	88.1	1.7	76.5
3	Diesel A and B	09/21/2017 03:18:00 PM	8157.0	6713.0	5226.0	88.4	0.7	63.0
4	Diesel A and B	09/21/2017 03:18:00 PM	8446.0	1270.0	298.4	85.9	0.7	73.9
5	Diesel A and B	09/21/2017 03:18:00 PM	8520.0	1198.0	226.2	85.3	0.0	74.6
6	Diesel A and B	09/21/2017 03:18:00 PM	8608.0	1107.0	135.5	85.5	0.0	75.5

Figure 32: Status of the tanks being monitored by a tank monitor system such as TLS350 or Veeder Root.

5.10 Vehicle Reports

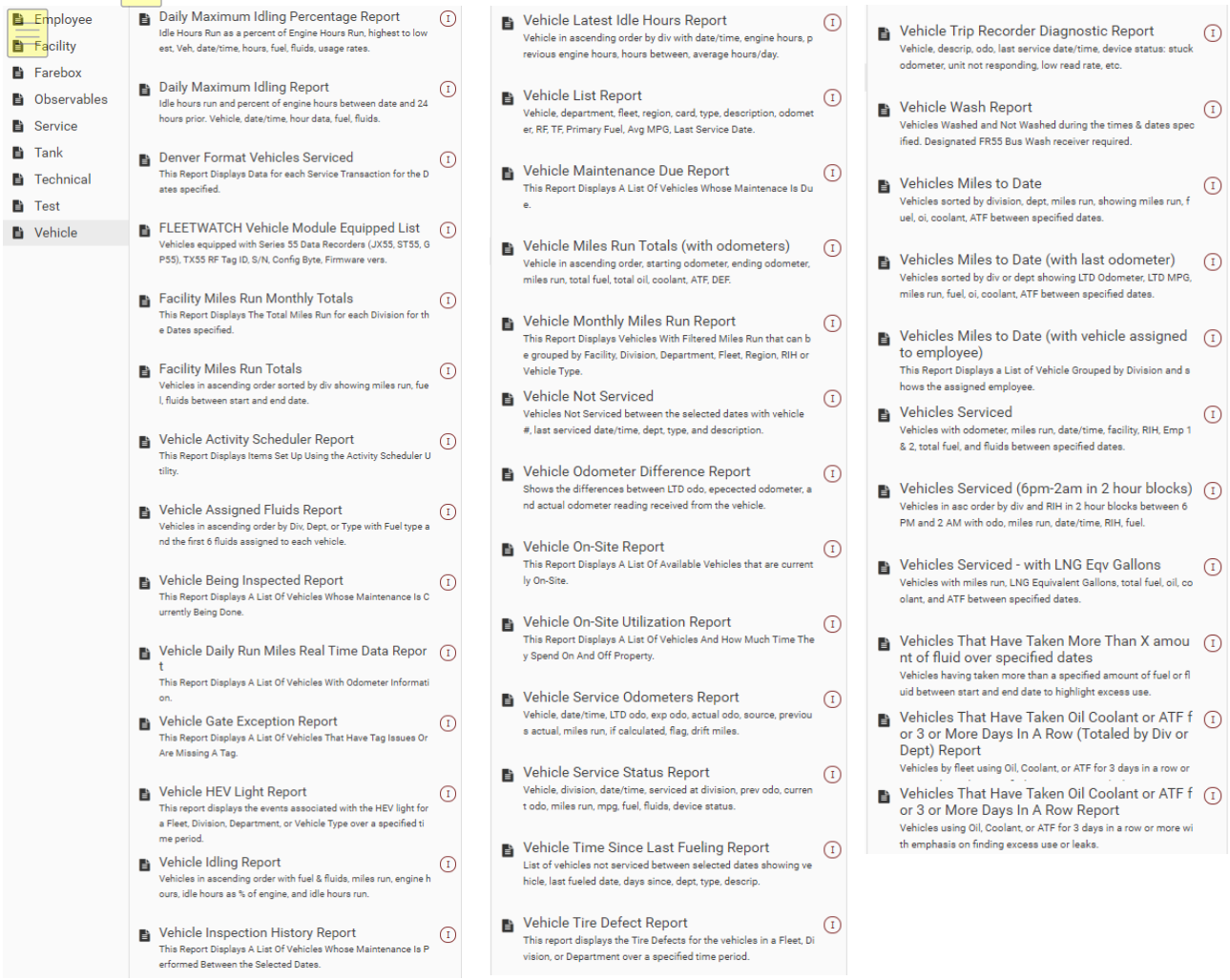
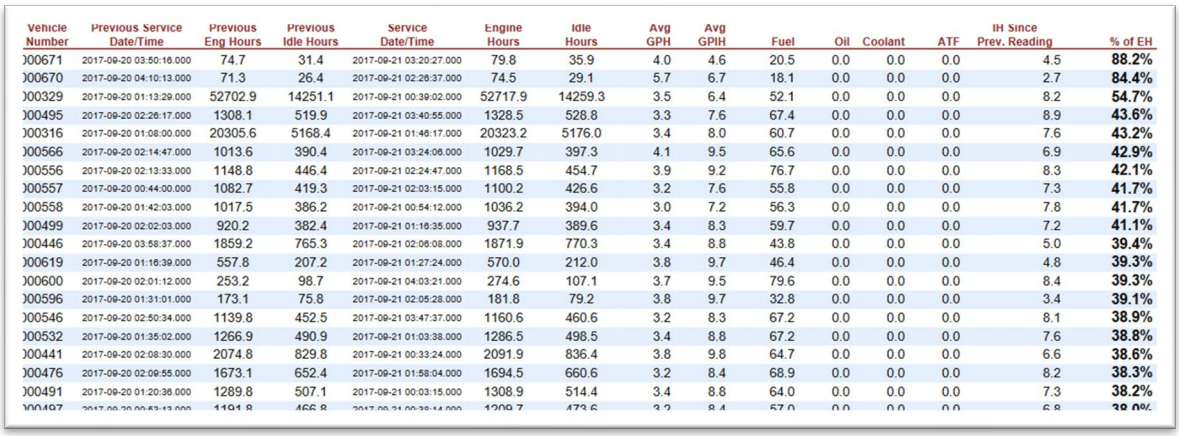


Figure 5-33 Vehicle Reports Screen

Daily Maximum Idling Percentage Report

This report shows the percentage of idle hours compared to engine hours for vehicles between the servicing on the specified date and the servicing on the day prior. Only vehicles that were serviced on both days will appear in the report. Vehicle Number, Previous Service Time & Date, Previous Engine Hours, Previous Idle Hours, Service Date/Time on the date specified, Engine Hours on the date specified, Idle hours on the date specified, Average Gallons per Engine Hour for each vehicle between the two service transactions, Average Gallons of fuel consumed per Idle Hour for each vehicle between the two service transactions, Fuel, Oil, Coolant, ATF, the Percentage of Idle Hours to Engine Hours and the Idle Hours between the two service transactions are shown on the report. Report may be grouped by Division or Department. The Report is grouped by Facility and sorted by Idle Hours Run as a percentage of Engine Hours Run from highest to lowest for each facility.



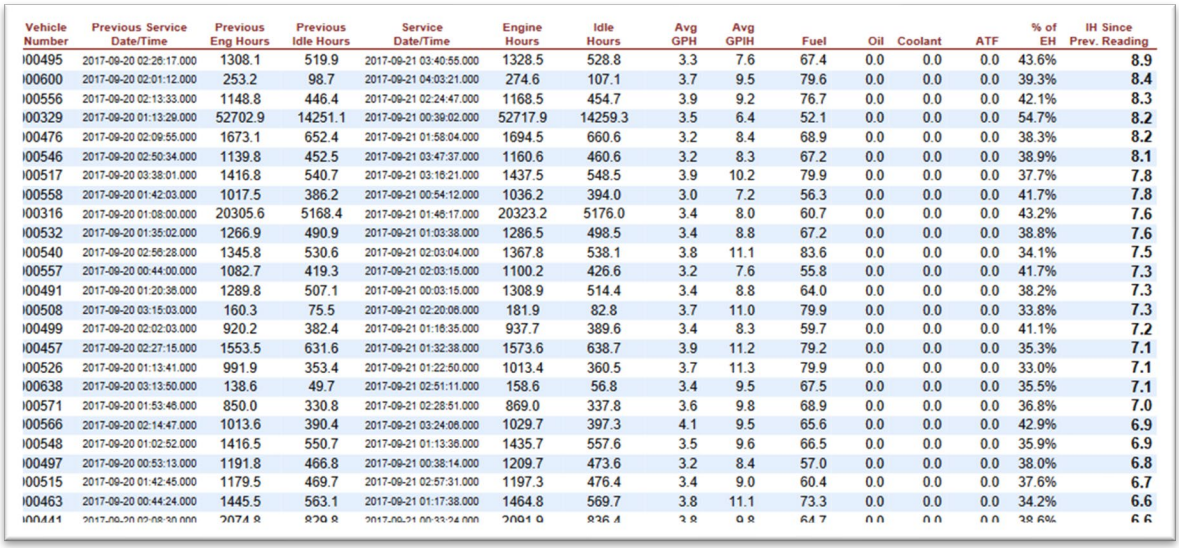
Vehicle Number	Previous Service Date/Time	Previous Eng Hours	Previous Idle Hours	Service Date/Time	Engine Hours	Idle Hours	Avg GPH	Avg GPIH	Fuel	Oil	Coolant	ATF	IH Since Prev. Reading	% of EH
)00671	2017-09-20 03:50:16.000	74.7	31.4	2017-09-21 03:20:27.000	79.8	35.9	4.0	4.6	20.5	0.0	0.0	0.0	4.5	88.2%
)00670	2017-09-20 04:10:13.000	71.3	26.4	2017-09-21 02:26:37.000	74.5	29.1	5.7	6.7	18.1	0.0	0.0	0.0	2.7	84.4%
)00329	2017-09-20 01:13:29.000	52702.9	14251.1	2017-09-21 00:39:02.000	52717.9	14259.3	3.5	6.4	52.1	0.0	0.0	0.0	8.2	54.7%
)00495	2017-09-20 02:26:17.000	1308.1	519.9	2017-09-21 03:40:55.000	1328.5	528.8	3.3	7.6	67.4	0.0	0.0	0.0	8.9	43.6%
)00316	2017-09-20 01:08:00.000	20305.6	5168.4	2017-09-21 01:46:17.000	20323.2	5176.0	3.4	8.0	60.7	0.0	0.0	0.0	7.6	43.2%
)00566	2017-09-20 02:14:47.000	1013.6	390.4	2017-09-21 03:24:06.000	1029.7	397.3	4.1	9.5	65.6	0.0	0.0	0.0	6.9	42.9%
)00556	2017-09-20 02:13:33.000	1148.8	446.4	2017-09-21 02:24:47.000	1168.5	454.7	3.9	9.2	76.7	0.0	0.0	0.0	8.3	42.1%
)00557	2017-09-20 00:44:00.000	1082.7	419.3	2017-09-21 02:03:15.000	1100.2	426.6	3.2	7.6	55.8	0.0	0.0	0.0	7.3	41.7%
)00558	2017-09-20 01:42:03.000	1017.5	386.2	2017-09-21 00:54:12.000	1036.2	394.0	3.0	7.2	56.3	0.0	0.0	0.0	7.8	41.7%
)00499	2017-09-20 02:02:03.000	920.2	382.4	2017-09-21 01:16:35.000	937.7	389.6	3.4	8.3	59.7	0.0	0.0	0.0	7.2	41.1%
)00446	2017-09-20 03:58:37.000	1859.2	765.3	2017-09-21 02:06:08.000	1871.9	770.3	3.4	8.8	43.8	0.0	0.0	0.0	5.0	39.4%
)00619	2017-09-20 01:16:39.000	557.8	207.2	2017-09-21 01:27:24.000	570.0	212.0	3.8	9.7	46.4	0.0	0.0	0.0	4.8	39.3%
)00600	2017-09-20 02:01:12.000	253.2	98.7	2017-09-21 04:03:21.000	274.6	107.1	3.7	9.5	79.6	0.0	0.0	0.0	8.4	39.3%
)00596	2017-09-20 01:31:01.000	173.1	75.8	2017-09-21 02:05:28.000	181.8	79.2	3.8	9.7	32.8	0.0	0.0	0.0	3.4	39.1%
)00546	2017-09-20 02:50:34.000	1139.8	452.5	2017-09-21 03:47:37.000	1160.6	460.6	3.2	8.3	67.2	0.0	0.0	0.0	8.1	38.9%
)00532	2017-09-20 01:35:02.000	1266.9	490.9	2017-09-21 01:03:38.000	1286.5	498.5	3.4	8.8	67.2	0.0	0.0	0.0	7.6	38.8%
)00441	2017-09-20 02:08:30.000	2074.8	829.8	2017-09-21 00:33:24.000	2091.9	836.4	3.8	9.8	64.7	0.0	0.0	0.0	6.6	38.6%
)00476	2017-09-20 02:09:55.000	1673.1	652.4	2017-09-21 01:58:04.000	1694.5	660.6	3.2	8.4	68.9	0.0	0.0	0.0	8.2	38.3%
)00491	2017-09-20 01:20:36.000	1289.8	507.1	2017-09-21 00:03:15.000	1308.9	514.4	3.4	8.8	64.0	0.0	0.0	0.0	7.3	38.2%
)00497	2017-09-20 00:53:13.000	1191.8	466.8	2017-09-21 00:38:14.000	1209.7	473.6	3.2	8.4	57.0	0.0	0.0	0.0	6.8	38.0%

Figure 34: Idle hours as a percentage of engine hours; in other words, how much time the vehicle was idling wuth the engine on.

Daily Maximum Idling Report

This report shows the number of idle hours for vehicles between the servicing on the specified date and the servicing on the day prior. Only vehicles that were serviced on both days will appear on the report. Vehicle, Previous Service Time & Date, Previous Engine Hours, Previous Idle Hours, Service Date/Time on the date specified, Engine Hours on the date specified, Idle hours on the date specified, Average Gallons per Engine Hour for each vehicle between the two transactions, Average Gallons per Idle Hour for each vehicle between the two transactions, Fuel, Oil, Coolant, ATF, the Percentage of Idle Hours to Engine Hours and the Idle Hours between the two transactions. Report may be grouped by Division, or Department.

The Report is grouped by Facility and sorted by Idle Hours Run from highest to lowest for each facility.

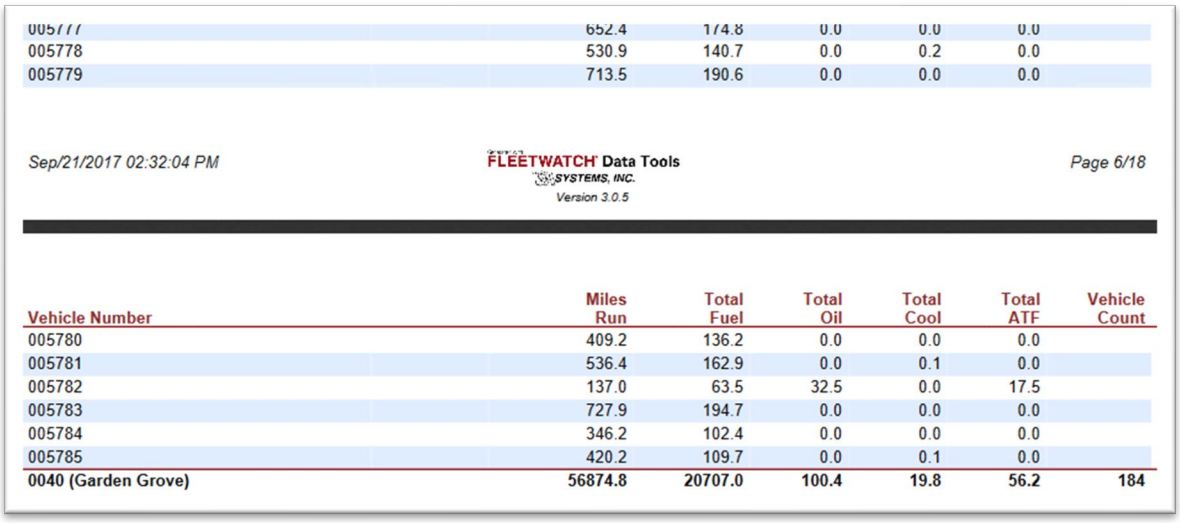


Vehicle Number	Previous Service Date/Time	Previous Eng Hours	Previous Idle Hours	Service Date/Time	Engine Hours	Idle Hours	Avg GPH	Avg GPIH	Fuel	Oil	Coolant	ATF	% of EH	IH Since Prev. Reading
)00495	2017-09-20 02:26:17.000	1308.1	519.9	2017-09-21 03:40:55.000	1328.5	528.8	3.3	7.6	67.4	0.0	0.0	0.0	43.6%	8.9
)00600	2017-09-20 02:01:12.000	253.2	98.7	2017-09-21 04:03:21.000	274.6	107.1	3.7	9.5	79.6	0.0	0.0	0.0	39.3%	8.4
)00556	2017-09-20 02:13:33.000	1148.8	446.4	2017-09-21 02:24:47.000	1168.5	454.7	3.9	9.2	76.7	0.0	0.0	0.0	42.1%	8.3
)00329	2017-09-20 01:13:29.000	52702.9	14251.1	2017-09-21 00:39:02.000	52717.9	14259.3	3.5	6.4	52.1	0.0	0.0	0.0	54.7%	8.2
)00476	2017-09-20 02:09:55.000	1673.1	652.4	2017-09-21 01:58:04.000	1694.5	660.6	3.2	8.4	68.9	0.0	0.0	0.0	38.3%	8.2
)00546	2017-09-20 02:50:34.000	1139.8	452.5	2017-09-21 03:47:37.000	1160.6	460.6	3.2	8.3	67.2	0.0	0.0	0.0	38.9%	8.1
)00517	2017-09-20 03:38:01.000	1416.8	540.7	2017-09-21 03:16:21.000	1437.5	548.5	3.9	10.2	79.9	0.0	0.0	0.0	37.7%	7.8
)00558	2017-09-20 01:42:03.000	1017.5	386.2	2017-09-21 00:54:12.000	1036.2	394.0	3.0	7.2	56.3	0.0	0.0	0.0	41.7%	7.8
)00316	2017-09-20 01:08:00.000	20305.6	5168.4	2017-09-21 01:46:17.000	20323.2	5176.0	3.4	8.0	60.7	0.0	0.0	0.0	43.2%	7.6
)00532	2017-09-20 01:35:02.000	1266.9	490.9	2017-09-21 01:03:38.000	1286.5	498.5	3.4	8.8	67.2	0.0	0.0	0.0	38.8%	7.6
)00540	2017-09-20 02:56:28.000	1345.8	530.6	2017-09-21 02:03:04.000	1367.8	538.1	3.8	11.1	83.6	0.0	0.0	0.0	34.1%	7.5
)00557	2017-09-20 00:44:00.000	1082.7	419.3	2017-09-21 02:03:15.000	1100.2	426.6	3.2	7.6	55.8	0.0	0.0	0.0	41.7%	7.3
)00491	2017-09-20 01:20:36.000	1289.8	507.1	2017-09-21 00:03:15.000	1308.9	514.4	3.4	8.8	64.0	0.0	0.0	0.0	38.2%	7.3
)00508	2017-09-20 03:15:03.000	160.3	75.5	2017-09-21 02:20:06.000	181.9	82.8	3.7	11.0	79.9	0.0	0.0	0.0	33.8%	7.3
)00499	2017-09-20 02:02:03.000	920.2	382.4	2017-09-21 01:16:35.000	937.7	389.6	3.4	8.3	59.7	0.0	0.0	0.0	41.1%	7.2
)00457	2017-09-20 02:27:15.000	1553.5	631.6	2017-09-21 01:32:38.000	1573.6	638.7	3.9	11.2	79.2	0.0	0.0	0.0	35.3%	7.1
)00526	2017-09-20 01:13:41.000	991.9	353.4	2017-09-21 01:22:50.000	1013.4	360.5	3.7	11.3	79.9	0.0	0.0	0.0	33.0%	7.1
)00638	2017-09-20 03:13:50.000	138.6	49.7	2017-09-21 02:51:11.000	158.6	56.8	3.4	9.5	67.5	0.0	0.0	0.0	35.5%	7.1
)00571	2017-09-20 01:53:46.000	850.0	330.8	2017-09-21 02:28:51.000	869.0	337.8	3.6	9.8	68.9	0.0	0.0	0.0	36.8%	7.0
)00566	2017-09-20 02:14:47.000	1013.6	390.4	2017-09-21 03:24:06.000	1029.7	397.3	4.1	9.5	65.6	0.0	0.0	0.0	42.9%	6.9
)00548	2017-09-20 01:02:52.000	1416.5	550.7	2017-09-21 01:13:36.000	1435.7	557.6	3.5	9.6	66.5	0.0	0.0	0.0	35.9%	6.9
)00497	2017-09-20 00:53:13.000	1191.8	466.8	2017-09-21 00:38:14.000	1209.7	473.6	3.2	8.4	57.0	0.0	0.0	0.0	38.0%	6.8
)00515	2017-09-20 01:42:45.000	1179.5	469.7	2017-09-21 02:57:31.000	1197.3	476.4	3.4	9.0	60.4	0.0	0.0	0.0	37.6%	6.7
)00463	2017-09-20 00:44:24.000	1445.5	563.1	2017-09-21 01:17:38.000	1464.8	569.7	3.8	11.1	73.3	0.0	0.0	0.0	34.2%	6.6
)00441	2017-09-20 02:08:30.000	2074.8	829.8	2017-09-21 00:33:24.000	2091.9	836.4	3.8	9.8	64.7	0.0	0.0	0.0	38.6%	6.6

Figure 35: Idle hours in descending order

Facility Miles Run Totals

This report displays the total miles run, fuel, oil, coolant, and ATF for each division for the dates specified. In Low Detail mode only, the totals for the divisions are shown. In Detail mode, the total for each vehicle is also shown. Vehicle count of vehicles in the division are shown with division totals.



005777		652.4	174.8	0.0	0.0	0.0
005778		530.9	140.7	0.0	0.2	0.0
005779		713.5	190.6	0.0	0.0	0.0

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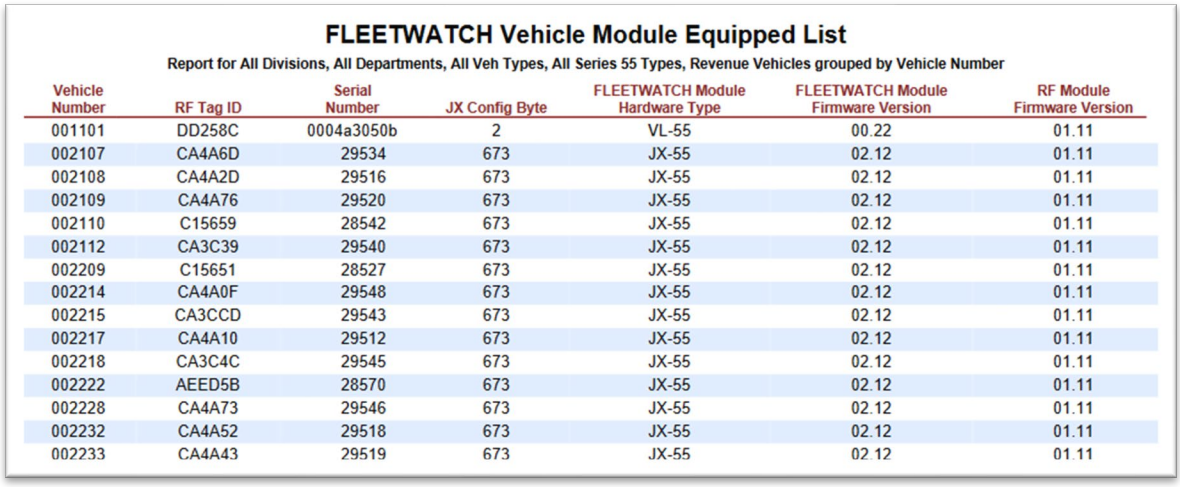
Vehicle Number	Miles Run	Total Fuel	Total Oil	Total Cool	Total ATF	Vehicle Count
005780	409.2	136.2	0.0	0.0	0.0	
005781	536.4	162.9	0.0	0.1	0.0	
005782	137.0	63.5	32.5	0.0	17.5	
005783	727.9	194.7	0.0	0.0	0.0	
005784	346.2	102.4	0.0	0.0	0.0	
005785	420.2	109.7	0.0	0.1	0.0	
0040 (Garden Grove)	**56874.8**	**20707.0**	**100.4**	**19.8**	**56.2**	**184**

Figure 36: Miles run and fuel + fluids consumed for vehicles in ascending order at a Facility.

FLEETWATCH Vehicle Modules Equipped List

This is a list of all vehicles equipped with Series 55 modules including the JX55, ST55, GP55, and VL55. The report shows vehicle number, RF Tag ID (transceiver tag), module serial number, hardware type, and firmware versions of the data logger and the TX55 transceiver.



FLEETWATCH Vehicle Module Equipped List

Report for All Divisions, All Departments, All Veh Types, All Series 55 Types, Revenue Vehicles grouped by Vehicle Number

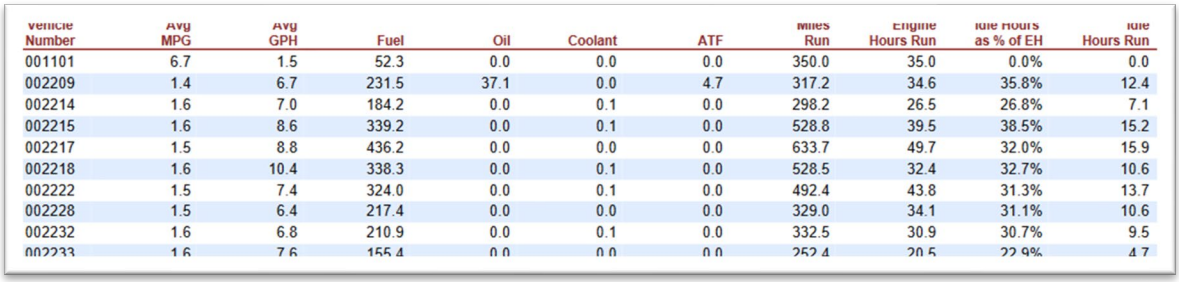
Vehicle Number	RF Tag ID	Serial Number	JX Config Byte	FLEETWATCH Module Hardware Type	FLEETWATCH Module Firmware Version	RF Module Firmware Version
001101	DD258C	0004a3050b	2	VL-55	00.22	01.11
002107	CA4A6D	29534	673	JX-55	02.12	01.11
002108	CA4A2D	29516	673	JX-55	02.12	01.11
002109	CA4A76	29520	673	JX-55	02.12	01.11
002110	C15659	28542	673	JX-55	02.12	01.11
002112	CA3C39	29540	673	JX-55	02.12	01.11
002209	C15651	28527	673	JX-55	02.12	01.11
002214	CA4A0F	29548	673	JX-55	02.12	01.11
002215	CA3CCD	29543	673	JX-55	02.12	01.11
002217	CA4A10	29512	673	JX-55	02.12	01.11
002218	CA3C4C	29545	673	JX-55	02.12	01.11
002222	AEED5B	28570	673	JX-55	02.12	01.11
002228	CA4A73	29546	673	JX-55	02.12	01.11
002232	CA4A52	29518	673	JX-55	02.12	01.11
002233	CA4A43	29519	673	JX-55	02.12	01.11

Figure 37: Type of data logger and transceiver with firmware version numbers

Vehicle Idling Report

This report shows the number of idle hours a vehicle has between the servicing on the specified end date and the servicing on the specified end date. Only vehicles that were serviced on both dates will appear in the report. Vehicle Number, Previous Service Time & Date, Previous Engine Hours, Previous Idle Hours, Service Date/Time on the date specified, Engine Hours on the date specified, Idle hours on the date specified, Average Gallons per Engine Hour for each vehicle between the two service transactions, Average Gallons per Idle Hour for each vehicle between the two service transactions, Fuel, Oil, Coolant, ATF, the Percentage of Idle Hours to Engine Hours and the Idle Hours between the two service transactions are shown on the report. Reports may be grouped by Division, or Department.

The report is grouped by Facility and sorted by Idle Hours Run from highest to lowest for each facility.



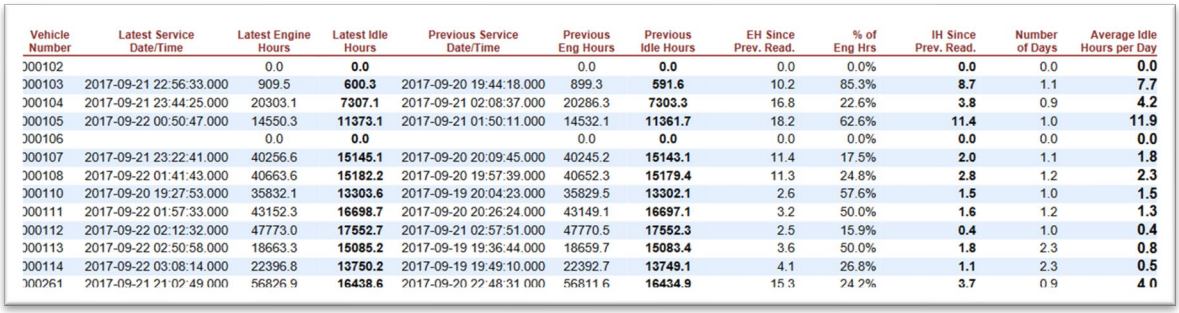
Vehicle Number	Avg MPG	Avg GPH	Fuel	Oil	Coolant	ATF	Miles Run	Engine Hours Run	Idle Hours as % of EH	Idle Hours Run
001101	6.7	1.5	52.3	0.0	0.0	0.0	350.0	35.0	0.0%	0.0
002209	1.4	6.7	231.5	37.1	0.0	4.7	317.2	34.6	35.8%	12.4
002214	1.6	7.0	184.2	0.0	0.1	0.0	298.2	26.5	26.8%	7.1
002215	1.6	8.6	339.2	0.0	0.1	0.0	528.8	39.5	38.5%	15.2
002217	1.5	8.8	436.2	0.0	0.0	0.0	633.7	49.7	32.0%	15.9
002218	1.6	10.4	338.3	0.0	0.1	0.0	528.5	32.4	32.7%	10.6
002222	1.5	7.4	324.0	0.0	0.1	0.0	492.4	43.8	31.3%	13.7
002228	1.5	6.4	217.4	0.0	0.0	0.0	329.0	34.1	31.1%	10.6
002232	1.6	6.8	210.9	0.0	0.1	0.0	332.5	30.9	30.7%	9.5
002233	1.6	7.6	155.4	0.0	0.0	0.0	252.4	20.5	22.9%	4.7

Figure 38: Idle hours and engine hours per vehicle, vehicle number ascending order

Vehicle Latest Idle Hour Report

This report shows the last two service transactions with valid idle hour readings for each vehicle and the number of hours the vehicle idled between the two transactions.

Vehicle Number, Previous Service Time & Date, Previous Engine Hours, Previous Idle Hours, Service Date/Time on the date specified, Engine Hours on the date specified, Latest Idle hours, the Percentage of Idle Hours to Engine Hours, Number of Days between the readings shown, the Idle Hours between the two service transactions, and the Average Idle hours per Day are shown on the report. Report may be sorted/grouped by Division, Department, Fleet, Total Idle Hours, Idle Hours as a Percentage of Engine Hours, or Average Idle Hours per Day.



Vehicle Number	Latest Service Date/Time	Latest Engine Hours	Latest Idle Hours	Previous Service Date/Time	Previous Eng Hours	Previous Idle Hours	EH Since Prev. Read.	% of Eng Hrs	IH Since Prev. Read.	Number of Days	Average Idle Hours per Day
000102		0.0	**0.0**		0.0	**0.0**	0.0	0.0%	**0.0**	0.0	**0.0**
000103	2017-09-21 22:56:33.000	909.5	**600.3**	2017-09-20 19:44:18.000	899.3	**591.6**	10.2	85.3%	**8.7**	1.1	**7.7**
000104	2017-09-21 23:44:25.000	20303.1	**7307.1**	2017-09-21 02:08:37.000	20286.3	**7303.3**	16.8	22.6%	**3.8**	0.9	**4.2**
000105	2017-09-22 00:50:47.000	14550.3	**11373.1**	2017-09-21 01:50:11.000	14532.1	**11361.7**	18.2	62.6%	**11.4**	1.0	**11.9**
000106		0.0	**0.0**		0.0	**0.0**	0.0	0.0%	**0.0**	0.0	**0.0**
000107	2017-09-21 23:22:41.000	40256.6	**15145.1**	2017-09-20 20:09:45.000	40245.2	**15143.1**	11.4	17.5%	**2.0**	1.1	**1.8**
000108	2017-09-22 01:41:43.000	40663.6	**15182.2**	2017-09-20 19:57:39.000	40652.3	**15179.4**	11.3	24.8%	**2.8**	1.2	**2.3**
000110	2017-09-20 19:27:53.000	35832.1	**13303.6**	2017-09-19 20:04:23.000	35829.5	**13302.1**	2.6	57.6%	**1.5**	1.0	**1.5**
000111	2017-09-22 01:57:33.000	43152.3	**16698.7**	2017-09-20 20:26:24.000	43149.1	**16697.1**	3.2	50.0%	**1.6**	1.2	**1.3**
000112	2017-09-22 02:12:32.000	47773.0	**17552.7**	2017-09-21 02:57:51.000	47770.5	**17552.3**	2.5	15.9%	**0.4**	1.0	**0.4**
000113	2017-09-22 02:50:58.000	18663.3	**15085.2**	2017-09-19 19:36:44.000	18659.7	**15083.4**	3.6	50.0%	**1.8**	2.3	**0.8**
000114	2017-09-22 03:08:14.000	22396.8	**13750.2**	2017-09-19 19:49:10.000	22392.7	**13749.1**	4.1	26.8%	**1.1**	2.3	**0.5**
000261	2017-09-21 21:02:49.000	56826.9	**16438.6**	2017-09-20 22:48:31.000	56811.6	**16434.9**	15.3	24.2%	**3.7**	0.9	**4.0**

Figure 39: Shows latest idle hours and previous idle hours to show avergage idle hours per day, plus engine hours

Vehicle List Report

This report displays a list of vehicles with department, fleet, region, card number, vehicle type, vehicle description, current odometer, RF-equipped status, tire factor, primary fuel type, average MPG, and last service date.

Vehicle	Department	Fleet	Region	Card	Type	Description	Odometer	RF Equipped	Tire Factor	Primary Fuel	Avg MPG	Last Service
000102	REVN	OPTM	VIAs		Propane Bus	AH28 STCAR	239731.0	No	100	Propane	2.0	09/22/2017 01:16:09 AM
000103	REVN	OPTM	VIAs		Propane Bus	AH28 STCAR	235605.0	Yes	100	Propane	3.5	09/21/2017 10:56:33 PM
000104	REVN	OPTM	VIAs		Propane Bus	AH28 STCAR	219937.6	Yes	100	Propane	7.0	09/21/2017 11:44:25 PM
000105	REVN	OPTM	VIAs		Propane Bus	AH28 STCAR	218347.0	Yes	100	Propane	3.5	09/22/2017 12:50:47 AM

Figure 40: A list of vehicles highling type, description, and current odometer, plus more info

Vehicle Miles Run Totals (with Odometers)

Vehicle Number	Beginning Odometer	Ending Odometer	Miles Run	Total Fuel	Total Oil	Total Cool	Total ATF	Total DEF
005675	376831.3	376962.5	131.2	47.0	0.0	0.0	0.0	0.0
005676	389410.2	389527.3	117.1	44.9	0.0	0.0	0.0	0.0
005677	390986.0	391065.0	79.0	53.4	0.0	0.0	0.0	0.0
005678	395376.3	395571.5	195.2	55.4	0.0	0.0	0.0	0.0
005701	74026.1	74312.2	286.1	77.9	0.0	0.0	0.0	0.0
005702	68785.4	68944.8	159.4	53.6	0.0	0.0	0.0	0.0
005703	84546.4	84546.4	0.0	0.0	30.1	0.0	0.0	0.0
005704	80888.4	81139.2	250.8	89.1	0.0	0.1	0.0	0.0
005705	88599.5	88740.1	140.6	47.3	0.0	0.0	0.0	0.0
005706	88287.4	88456.8	169.4	55.1	0.0	0.0	0.0	0.0
005707	82713.6	82917.5	203.9	66.6	0.0	0.0	0.0	0.0
005708	72025.0	72215.4	190.4	59.2	0.0	0.0	0.0	0.0

Figure 41: Run for a timeframe to see the starting and ending odometers with miles run plus fuel and fluid totals per vehicle number in ascending order

Vehicles Not Serviced

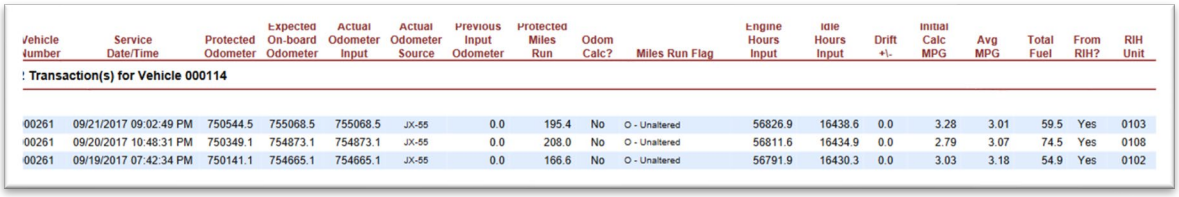
This report displays a list of vehicles not serviced between selected dates.

Vehicle	Last Serviced	Department	Type	Description
000106		REVN	Propane Bus	AH28 STCAR
000110	09/20/2017 07:27:53 PM	REVN	Propane Bus	AH28 STCAR
000262	09/15/2017 08:51:20 PM	REVN	Diesel Transit Bus	NEW FLYER
000267	09/19/2017 09:09:10 PM	REVN	Diesel Transit Bus	NEW FLYER
000268	09/19/2017 08:00:08 PM	REVN	Diesel Transit Bus	NEW FLYER
000269	09/19/2017 08:45:27 PM	REVN	Diesel Transit Bus	NEW FLYER

Figure 42: Vehicles that were not fueled during a specified period

Vehicle Service Odometers Report

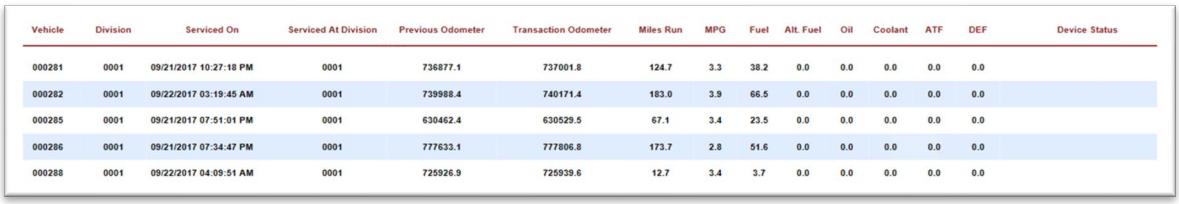
This is a diagnostic report used to examine various system components.



Vehicle Number	Service Date/Time	Protected Odometer	Expected On-board Odometer	Actual Odometer Input	Actual Odometer Source	Previous Input Odometer	Protected Miles Run	Odom Calc?	Miles Run Flag	Engine Hours Input	Idle Hours Input	Drift +\-	Initial Calc MPG	Avg MPG	Total Fuel	From RIH?	RIH Unit
Transaction(s) for Vehicle 000114																	
00261	09/21/2017 09:02:49 PM	750544.5	755068.5	755068.5	JX-55	0.0	195.4	No	O - Unaltered	56826.9	16438.6	0.0	3.28	3.01	59.5	Yes	0103
00261	09/20/2017 10:48:31 PM	750349.1	754873.1	754873.1	JX-55	0.0	208.0	No	O - Unaltered	56811.6	16434.9	0.0	2.79	3.07	74.5	Yes	0108
00261	09/19/2017 07:42:34 PM	750141.1	754665.1	754665.1	JX-55	0.0	166.6	No	O - Unaltered	56791.9	16430.3	0.0	3.03	3.18	54.9	Yes	0102

Figure 43: Shows life-to-date odometer as well as input odometer, any calculations performed to mileage, plus hours and total fuel

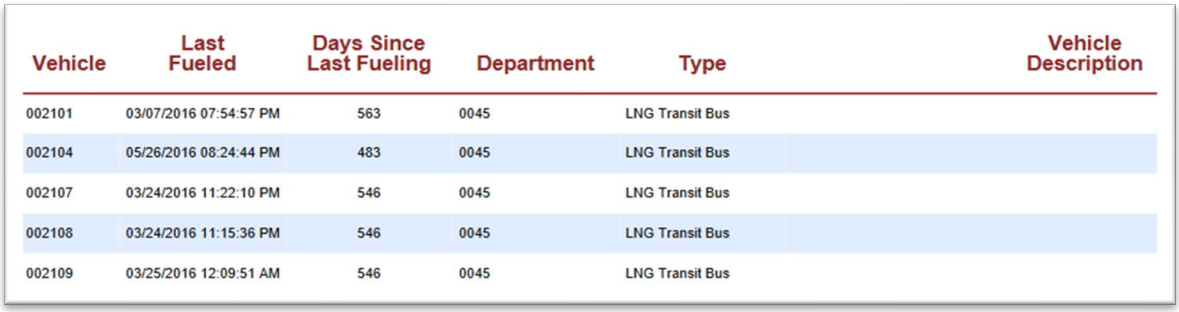
Vehicle Service Status Report



Vehicle	Division	Serviced On	Serviced At Division	Previous Odometer	Transaction Odometer	Miles Run	MPG	Fuel	Alt. Fuel	Oil	Coolant	ATF	DEF	Device Status
000281	0001	09/21/2017 10:27:18 PM	0001	736877.1	737001.8	124.7	3.3	38.2	0.0	0.0	0.0	0.0	0.0	
000282	0001	09/22/2017 03:19:45 AM	0001	739988.4	740171.4	183.0	3.9	66.5	0.0	0.0	0.0	0.0	0.0	
000285	0001	09/21/2017 07:51:01 PM	0001	630462.4	630529.5	67.1	3.4	23.5	0.0	0.0	0.0	0.0	0.0	
000286	0001	09/21/2017 07:34:47 PM	0001	777633.1	777806.8	173.7	2.8	51.6	0.0	0.0	0.0	0.0	0.0	
000288	0001	09/22/2017 04:09:51 AM	0001	725926.9	725939.6	12.7	3.4	3.7	0.0	0.0	0.0	0.0	0.0	

Figure 44: Shows information pertaining to a vehicle's last service transaction

Vehicle Time Since Last Fueling Report

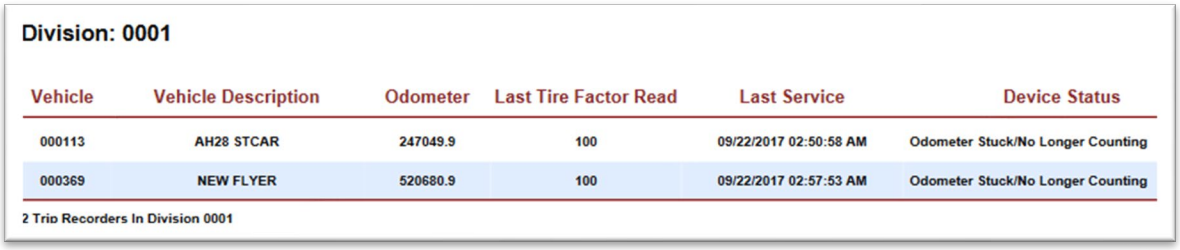


Vehicle	Last Fueled	Days Since Last Fueling	Department	Type	Vehicle Description
002101	03/07/2016 07:54:57 PM	563	0045	LNG Transit Bus	
002104	05/26/2016 08:24:44 PM	483	0045	LNG Transit Bus	
002107	03/24/2016 11:22:10 PM	546	0045	LNG Transit Bus	
002108	03/24/2016 11:15:36 PM	546	0045	LNG Transit Bus	
002109	03/25/2016 12:09:51 AM	546	0045	LNG Transit Bus	

Figure 45: Amount of time in days since a vehicle was last fueled

Vehicle Trip Recorder Diagnostic Report

This report gives a list of vehicles and their trip recorder status. The vehicle list can be defined by vehicle type and revenue status.



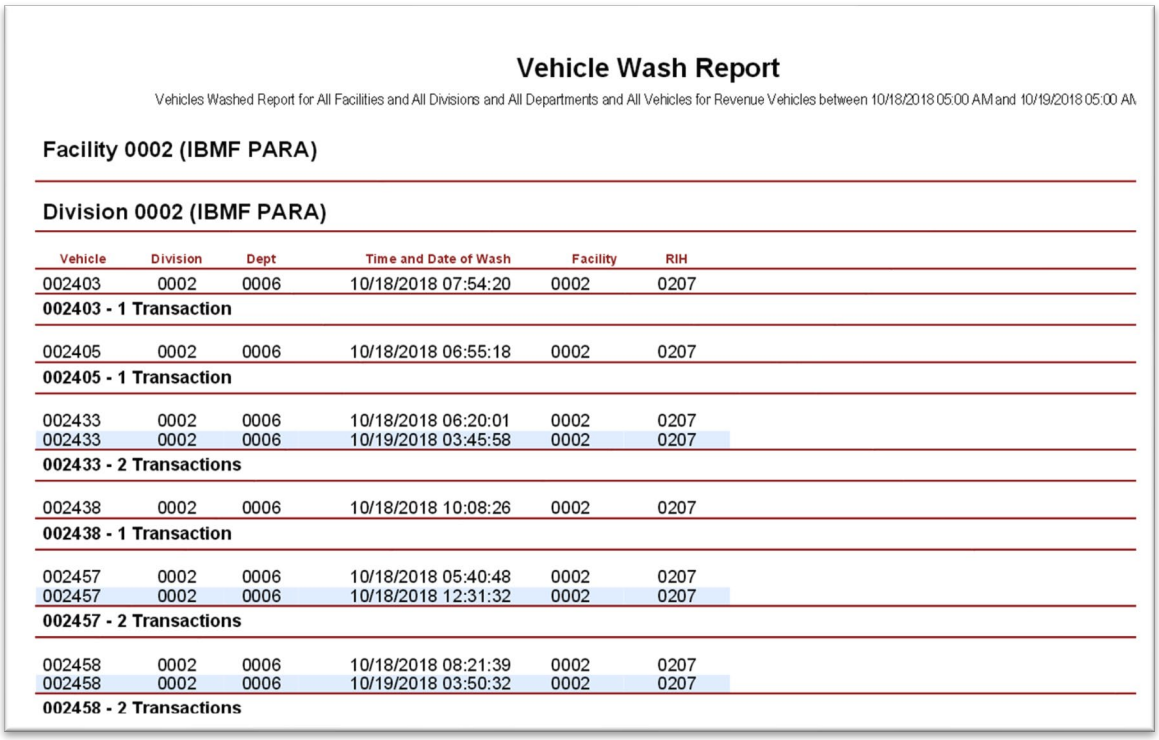
Division: 0001

Vehicle	Vehicle Description	Odometer	Last Tire Factor Read	Last Service	Device Status
000113	AH28 STCAR	247049.9	100	09/22/2017 02:50:58 AM	Odometer Stuck/No Longer Counting
000369	NEW FLYER	520680.9	100	09/22/2017 02:57:53 AM	Odometer Stuck/No Longer Counting

2 Trip Recorders In Division 0001

Vehicle Wash Report

This report shows all vehicles that have been read at the FLEETWATCH Bus Wash Reader. It helps to identify which buses are being washed or not washed.



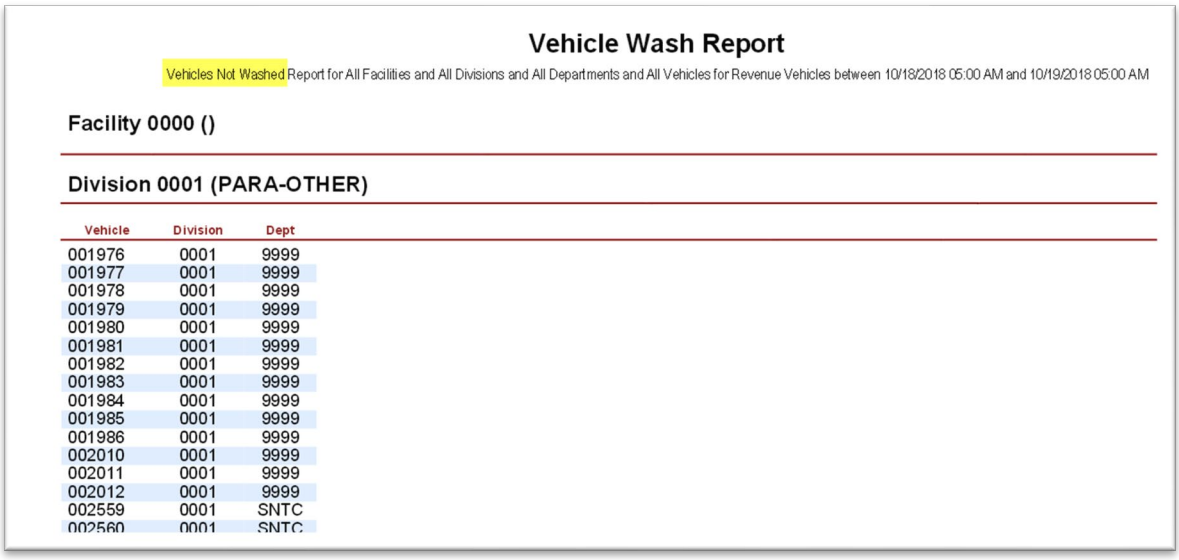
Vehicle Wash Report

Vehicles Washed Report for All Facilities and All Divisions and All Departments and All Vehicles for Revenue Vehicles between 10/18/2018 05:00 AM and 10/19/2018 05:00 AM

Facility 0002 (IBMF PARA)

Division 0002 (IBMF PARA)

Vehicle	Division	Dept	Time and Date of Wash	Facility	RIH
002403	0002	0006	10/18/2018 07:54:20	0002	0207
002403 - 1 Transaction					
002405	0002	0006	10/18/2018 06:55:18	0002	0207
002405 - 1 Transaction					
002433	0002	0006	10/18/2018 06:20:01	0002	0207
002433	0002	0006	10/19/2018 03:45:58	0002	0207
002433 - 2 Transactions					
002438	0002	0006	10/18/2018 10:08:26	0002	0207
002438 - 1 Transaction					
002457	0002	0006	10/18/2018 05:40:48	0002	0207
002457	0002	0006	10/18/2018 12:31:32	0002	0207
002457 - 2 Transactions					
002458	0002	0006	10/18/2018 08:21:39	0002	0207
002458	0002	0006	10/19/2018 03:50:32	0002	0207
002458 - 2 Transactions					



Vehicle Wash Report

Vehicles Not Washed Report for All Facilities and All Divisions and All Departments and All Vehicles for Revenue Vehicles between 10/18/2018 05:00 AM and 10/19/2018 05:00 AM

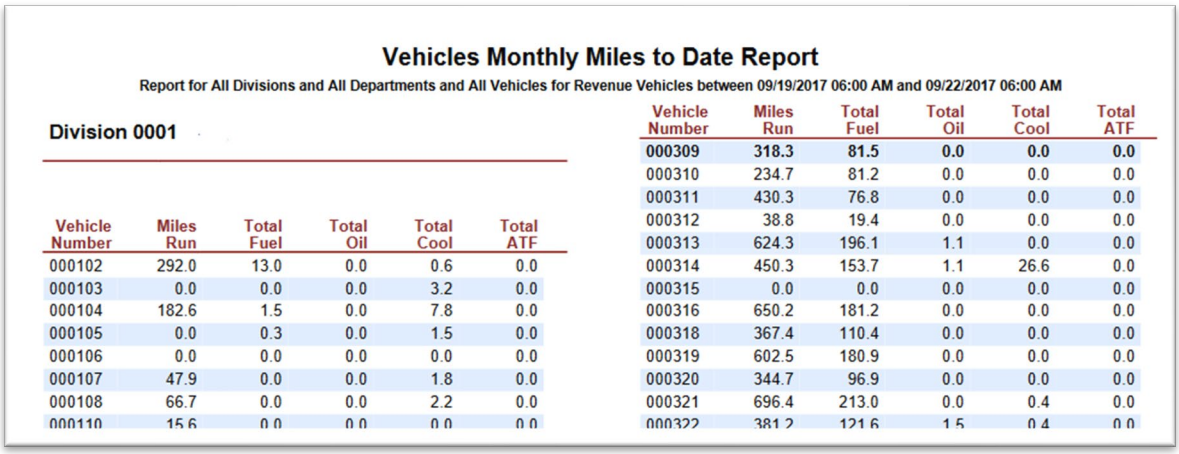
Facility 0000 ()

Division 0001 (PARA-OTHER)

Vehicle	Division	Dept
001976	0001	9999
001977	0001	9999
001978	0001	9999
001979	0001	9999
001980	0001	9999
001981	0001	9999
001982	0001	9999
001983	0001	9999
001984	0001	9999
001985	0001	9999
001986	0001	9999
002010	0001	9999
002011	0001	9999
002012	0001	9999
002559	0001	SNTC
002560	0001	SNTC

Vehicles Miles to Date

This report displays a list of vehicles grouped by Division. For each vehicle, the Total Miles Run, Fuel, Oil, Coolant and ATF for the specified dates is shown.



Vehicles Monthly Miles to Date Report

Report for All Divisions and All Departments and All Vehicles for Revenue Vehicles between 09/19/2017 06:00 AM and 09/22/2017 06:00 AM

Division 0001

Vehicle Number	Miles Run	Total Fuel	Total Oil	Total Cool	Total ATF
000102	292.0	13.0	0.0	0.6	0.0
000103	0.0	0.0	0.0	3.2	0.0
000104	182.6	1.5	0.0	7.8	0.0
000105	0.0	0.3	0.0	1.5	0.0
000106	0.0	0.0	0.0	0.0	0.0
000107	47.9	0.0	0.0	1.8	0.0
000108	66.7	0.0	0.0	2.2	0.0
000110	15.6	0.0	0.0	0.0	0.0
000309	318.3	81.5	0.0	0.0	0.0
000310	234.7	81.2	0.0	0.0	0.0
000311	430.3	76.8	0.0	0.0	0.0
000312	38.8	19.4	0.0	0.0	0.0
000313	624.3	196.1	1.1	0.0	0.0
000314	450.3	153.7	1.1	26.6	0.0
000315	0.0	0.0	0.0	0.0	0.0
000316	650.2	181.2	0.0	0.0	0.0
000318	367.4	110.4	0.0	0.0	0.0
000319	602.5	180.9	0.0	0.0	0.0
000320	344.7	96.9	0.0	0.0	0.0
000321	696.4	213.0	0.0	0.4	0.0
000322	381.2	121.6	1.5	0.4	0.0

Vehicle Miles to Date (with last odometer)

This report displays a list of vehicles grouped by Division. For each vehicle, the Total Miles Run, Fuel, Oil, Coolant, and ATF for the specified dates is shown. The total Miles Run, Fuel, Oil, ATF, and Coolant is also shown for each Division.

Vehicle Number	Division	Dept	LTD Odometer From Last Trans	LTD MPG From Last Trans	Miles Run	Total Fuel	Total Oil	Total Cool	Total ATF
000368	0001	REVN	513424.4	2.9	189.3	68.7	0.0	0.0	0.0
000369	0001	REVN	520680.9	3.5	237.3	67.8	0.0	0.0	0.0
000370	0001	REVN	462319.1	5.0	83.5	24.5	0.0	1.3	0.0
000371	0001	REVN	527716.2	3.1	175.5	57.4	1.0	0.0	0.0
000372	0001	REVN	515182.0	3.3	213.2	62.8	0.0	0.0	0.0
000373	0001	REVN	461419.4	3.2	103.0	35.2	0.0	0.0	0.0
000374	0001	REVN	452620.2	3.2	1.9	4.3	0.0	0.0	0.0
000375	0001	REVN	453317.1	3.4	119.7	37.5	0.0	0.0	0.0
000376	0001	REVN	454988.5	4.9	37.3	16.2	0.0	0.0	0.0
000377	0001	REVN	470388.2	5.4	355.5	61.0	0.0	0.0	0.0
000378	0001	REVN	436882.4	5.1	181.6	37.2	0.0	0.0	0.0
000379	0001	REVN	361051.0	5.1	197.5	39.5	0.0	0.0	0.0
000380	0001	REVN	445968.5	4.9	294.9	58.4	0.0	0.7	0.0
000381	0001	REVN	459786.0	5.2	203.6	38.0	0.0	0.0	0.0
000382	0001	REVN	431460.4	5.1	179.9	29.2	0.0	0.0	0.0

Vehicles Serviced

This report displays the Vehicle Number, Division, Department, Odometer, Miles Run, Service Time & Date, Facility, RIH, Employee 1, Employee 2, Fuel, Oil, Coolant, and ATF for each Service Transaction for the dates specified. Report may be grouped by Division or Department. Total Miles Run, Fuel, Oil, Coolant, and ATF are shown for each Vehicle and each Division/Department. In Low Detail mode, only the totals for each Vehicle and the Division/Department are shown. In Detail mode, service transactions for each vehicle are also shown.

Vehicle Number	Division	Billing Dept	Odometer	Miles Run	Date	Facility	RIH	Emp. 1	Emp. 2	Total Fuel	Total Oil	Total Coolant	Total ATF	Total DEF
000102	0001	REVN	239633.0	96.0	09/21/2017 1:32 AM	0001	0107	6224	0	11.6	0.0	0.6	0.0	0.0
000102	0001	REVN	239731.0	98.0	09/22/2017 1:16 AM	0001	0107	20869	0	0.0	0.0	0.0	0.0	0.0
000102 - 2 Transactions				**194.0**						**11.6**	**0.0**	**0.6**	**0.0**	**0.0**
000103	0001	REVN	235605.0	0.0	09/20/2017 7:44 PM	0001	0107	6224	0	0.0	0.0	0.0	0.0	0.0
000103	0001	REVN	235605.0	0.0	09/21/2017 10:56 PM	0001	0107	20869	0	0.0	0.0	3.2	0.0	0.0
000103 - 2 Transactions				**0.0**						**0.0**	**0.0**	**3.2**	**0.0**	**0.0**
000104	0001	REVN	219846.0	91.0	09/21/2017 2:08 AM	0001	0107	6224	0	1.3	0.0	6.8	0.0	0.0
000104	0001	REVN	219937.6	91.6	09/21/2017 11:44 PM	0001	0107	20869	0	0.0	0.0	1.0	0.0	0.0
000104 - 2 Transactions				**182.6**						**1.3**	**0.0**	**7.8**	**0.0**	**0.0**
000105	0001	REVN	218347.0	0.0	09/21/2017 1:50 AM	0001	0107	6224	0	0.3	0.0	1.5	0.0	0.0
000105	0001	REVN	218347.0	0.0	09/22/2017 0:50 AM	0001	0107	20869	0	0.0	0.0	0.0	0.0	0.0
000105 - 2 Transactions				**0.0**						**0.3**	**0.0**	**1.5**	**0.0**	**0.0**

Vehicles Serviced (6pm-2am in 2 Hour Blocks)

This report displays the number of vehicles serviced in each of four two-hour blocks between 6 pm on the date chosen and 2 am the following morning. The report is grouped by facility. In Low Detail mode only the number of vehicles for each facility is shown. In Detail mode, service transactions are also shown.

RIH 0102 (Lane 2)

Time Block 1 (6PM - 8PM)

Vehicle Number	Division	Time Block	Odometer	Miles Run	Date	Facility	RIH	Employee 1	Employee 2	Total Fuel	Total Oil	Total Coolant	Total ATF
000464	0001	1	16488.7	188.5	09/21/2017 07:40:32	0001	0102	6224	0	56.1	0.0	0.0	0.0
000524	0001	1	19170.6	220.5	09/21/2017 07:55:25	0001	0102	9739	0	58.9	0.0	0.0	0.0
6PM - 8PM - 2 Transactions										115.0	0.0	0.0	0.0

Time Block 2 (8PM - 10PM)

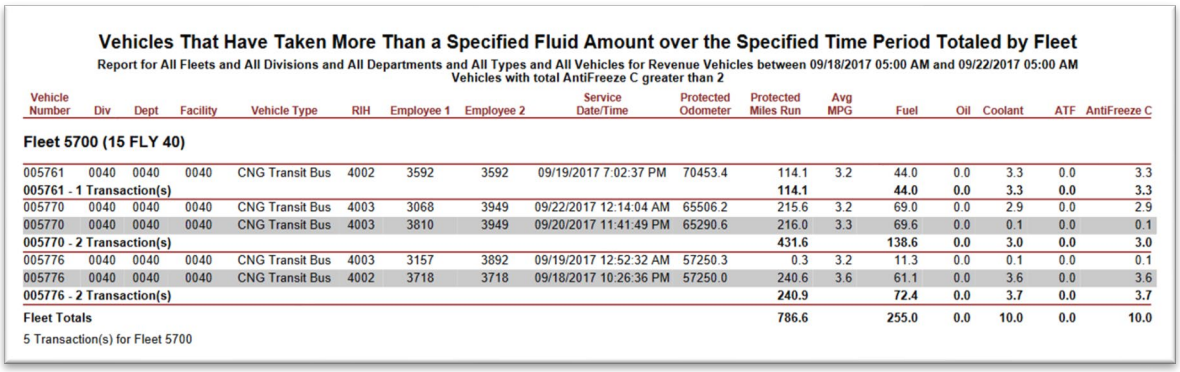
000599	0001	2	3208.4	171.8	09/21/2017 08:15:55	0001	0102	9745	0	50.8	0.0	0.0	0.0
000538	0001	2	17378.8	190.3	09/21/2017 08:28:24	0001	0102	9739	0	54.9	0.0	0.0	0.0
000264	0001	2	765603.1	183.8	09/21/2017 08:34:32	0001	0102	20427	0	58.9	0.0	0.0	0.0
000794	0001	2	972167.1	157.0	09/21/2017 08:40:28	0001	0102	21077	0	43.7	0.0	0.0	0.0
000460	0001	2	23992.7	204.1	09/21/2017 08:46:49	0001	0102	6224	0	59.2	0.0	0.0	0.0
000429	0001	2	30814.9	187.9	09/21/2017 08:59:11	0001	0102	3938	0	49.5	0.0	0.0	0.0
000901	0001	2	916212.0	163.0	09/21/2017 09:06:30	0001	0102	20790	0	57.4	0.0	0.0	0.0
000826	0001	2	953656.3	12.0	09/21/2017 09:10:08	0001	0102	21077	0	5.1	0.0	0.0	0.0
000625	0001	2	10441.1	118.9	09/21/2017 09:27:30	0001	0102	8304	0	59.5	0.0	0.0	0.0
000357	0001	2	512545.8	115.9	09/21/2017 09:54:49	0001	0102	20427	0	46.1	0.0	0.0	0.0
8PM - 10PM - 10 Transactions										485.0	0.0	0.0	0.0

Time Block 3 (10PM - 12AM)

000492	0001	3	16307.1	199.5	09/21/2017 10:04:08	0001	0102	20872	0	57.6	0.0	0.0	0.0
000618	0001	3	9832.6	247.4	09/21/2017 10:13:03	0001	0102	8304	0	67.7	0.0	0.0	0.0
000396	0001	3	436580.0	255.9	09/21/2017 10:19:59	0001	0102	7598	0	49.7	0.0	0.0	0.0
000626	0001	3	6047.0	257.0	09/21/2017 10:29:48	0001	0102	8304	0	64.6	0.0	0.0	0.0
000461	0001	3	23128.8	287.2	09/21/2017 10:40:31	0001	0102	6224	0	66.5	0.0	0.0	0.0
000406	0001	3	39510.2	120.0	09/21/2017 10:48:21	0001	0102	9958	0	36.8	0.0	0.0	0.0
000787	0001	3	961752.5	77.0	09/21/2017 10:52:03	0001	0102	21077	0	15.8	0.0	0.0	0.0
000407	0001	3	44045.2	117.2	09/21/2017 11:02:55	0001	0102	9958	0	33.7	0.0	0.0	0.0
000776	0001	3	936969.0	218.0	09/21/2017 11:15:00	0001	0102	21077	0	66.2	0.0	0.0	0.0
000475	0001	3	18633.1	0.0	09/21/2017 11:30:31	0001	0102	20872	0	60.4	0.0	0.0	0.0
000408	0001	3	43438.2	143.5	09/21/2017 11:36:06	0001	0102	9958	0	41.0	0.0	0.0	0.0
000623	0001	3	4781.8	228.6	09/21/2017 11:49:53	0001	0102	8304	0	63.1	0.0	0.0	0.0

Vehicles That Have Taken More Than X amount of fluid over specified dates (Totaled by Division or Department)

This report displays vehicles that have taken more than the specified amount of the selected fluid (a single fluid must be selected). The Vehicle Number, Division, Department, RIH, Employee1, Employee 2, Service Time & Date, Odometer, Miles Run, Average MPG, Fuel, Oil, Coolant and ATF are shown for each Service Transaction for the dates specified. Report may be grouped by Division or Department. Total Miles Run, Fuel, Oil, Coolant and ATF are shown for each Division/Department. In Low Detail mode only the vehicle number, total of the specified fluid and total fuel/oil/coolant/ATF are shown. In Detail mode each service transaction for each qualifying vehicle is shown.



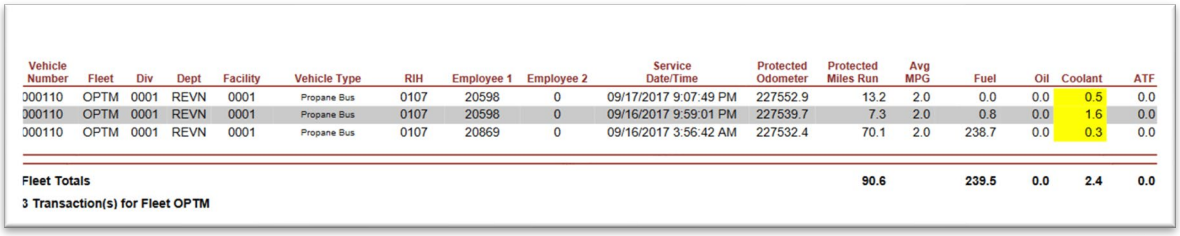
Vehicles That Have Taken More Than a Specified Fluid Amount over the Specified Time Period Totaled by Fleet

Report for All Fleets and All Divisions and All Departments and All Types and All Vehicles for Revenue Vehicles between 09/18/2017 05:00 AM and 09/22/2017 05:00 AM
Vehicles with total AntiFreeze C greater than 2

Vehicle Number	Div	Dept	Facility	Vehicle Type	RIH	Employee 1	Employee 2	Service Date/Time	Protected Odometer	Protected Miles Run	Avg MPG	Fuel	Oil	Coolant	ATF	AntiFreeze C
Fleet 5700 (15 FLY 40)																
005761	0040	0040	0040	CNG Transit Bus	4002	3592	3592	09/19/2017 7:02:37 PM	70453.4	114.1	3.2	44.0	0.0	3.3	0.0	3.3
005761 - 1 Transaction(s)										**114.1**		**44.0**	**0.0**	**3.3**	**0.0**	**3.3**
005770	0040	0040	0040	CNG Transit Bus	4003	3068	3949	09/22/2017 12:14:04 AM	65506.2	215.6	3.2	69.0	0.0	2.9	0.0	2.9
005770	0040	0040	0040	CNG Transit Bus	4003	3810	3949	09/20/2017 11:41:49 PM	65290.6	216.0	3.3	69.6	0.0	0.1	0.0	0.1
005770 - 2 Transaction(s)										**431.6**		**138.6**	**0.0**	**3.0**	**0.0**	**3.0**
005776	0040	0040	0040	CNG Transit Bus	4003	3157	3892	09/19/2017 12:52:32 AM	57250.3	0.3	3.2	11.3	0.0	0.1	0.0	0.1
005776	0040	0040	0040	CNG Transit Bus	4002	3718	3718	09/18/2017 10:26:36 PM	57250.0	240.6	3.6	61.1	0.0	3.6	0.0	3.6
005776 - 2 Transaction(s)										**240.9**		**72.4**	**0.0**	**3.7**	**0.0**	**3.7**
Fleet Totals										**786.6**		**255.0**	**0.0**	**10.0**	**0.0**	**10.0**
5 Transaction(s) for Fleet 5700																

Vehicles That Have Taken Oil Coolant or ATF for Three or More consecutive Days (Totaled by Division or Department) Report

This report displays vehicles that have taken oil or coolant on three or more consecutive services. The Vehicle Number, Division, Department, RIH, Employee 1, Employee 2, Service Time & Date, Odometer, Miles Run, Average MPG, Fuel, Oil, Coolant, and ATF are shown for each Service Transaction for the dates specified. Report may be grouped by Division or Department. Total Miles Run, Fuel, Oil, Coolant, and ATF are shown for each Division/Department. In Low Detail mode, only the vehicle number and maximum consecutive oil/coolant transactions are shown. In Detail mode, each service transaction is also shown.



Vehicle Number	Fleet	Div	Dept	Facility	Vehicle Type	RIH	Employee 1	Employee 2	Service Date/Time	Protected Odometer	Protected Miles Run	Avg MPG	Fuel	Oil	Coolant	ATF
000110	OPTM	0001	REVN	0001	Propane Bus	0107	20598	0	09/17/2017 9:07:49 PM	227552.9	13.2	2.0	0.0	0.0	0.5	0.0
000110	OPTM	0001	REVN	0001	Propane Bus	0107	20598	0	09/16/2017 9:59:01 PM	227539.7	7.3	2.0	0.8	0.0	1.6	0.0
000110	OPTM	0001	REVN	0001	Propane Bus	0107	20869	0	09/16/2017 3:56:42 AM	227532.4	70.1	2.0	238.7	0.0	0.3	0.0
Fleet Totals											**90.6**		**239.5**	**0.0**	**2.4**	**0.0**
3 Transaction(s) for Fleet OPTM																

Section 6 - Vehicles

Entering the **Vehicles** section takes you to the main vehicles section where you can view and edit existing vehicles, add new vehicles, delete vehicles, and filter the vehicle list, as well as other options described in this section.

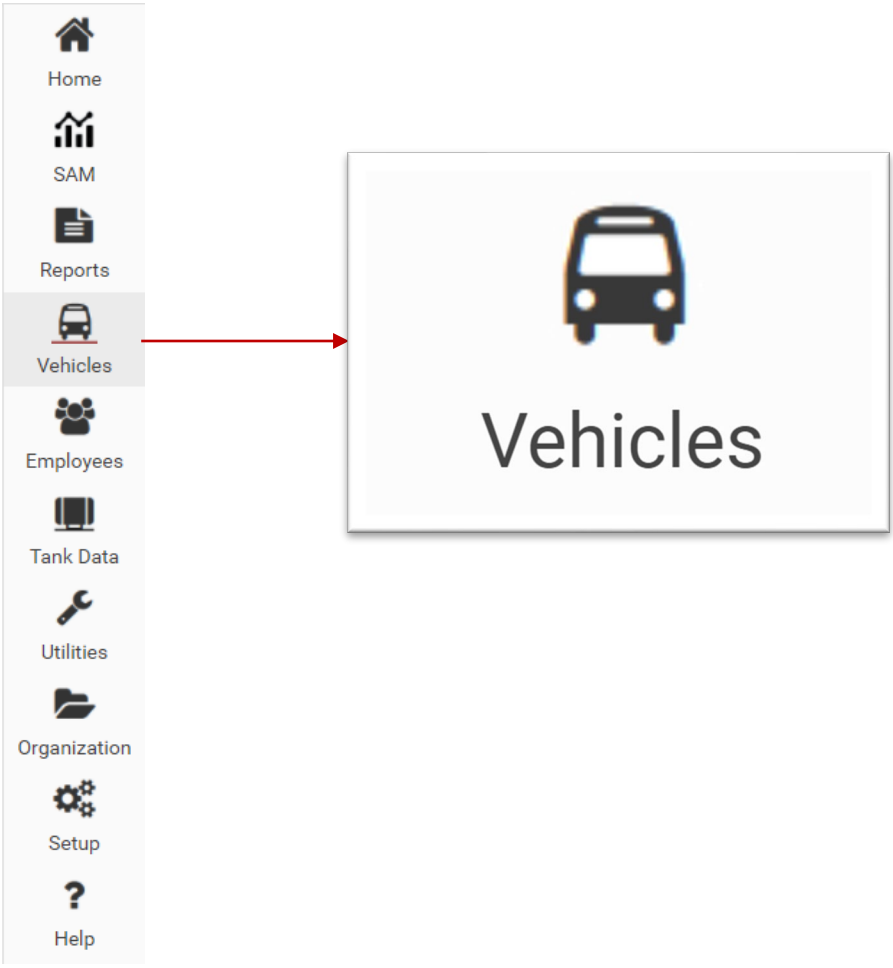


Figure 6-1 Vehicle Main Menu

6.1 View or Find Vehicle in Database

To find a vehicle, simply start typing the vehicle number in the vehicle navigation bar at the top of the screen. This option allows you to search the database for a certain vehicle. Once you enter the vehicle you are searching for, hit "ENTER" on the keyboard, or click the magnifying glass icon located to the right to bring up the vehicle data.

Figure 6-2 – Find Vehicle Search Bar

Vehicle Number

This is a unique number assigned to the current vehicle.

First

Clicking this button displays the first vehicle in the database, based on current sorting order.

Previous

Clicking this button displays the previous vehicle in the database (if the first vehicle is not currently displayed), based on current sorting order.

Next

Clicking this button displays the next vehicle in the database, based on current sorting order.

Last

Clicking this button displays the last vehicle in the database, based on current sorting order.

6.2 Actions (Add or Delete Vehicle, Change Number, Hub/ECM Change, etc.)

To access the vehicle actions menu, click on the settings menu to the left of the main vehicles screen. An "ACTIONS" tab will appear where you can Delete, Add, Change Hub/ECM, Change Vehicle Number, and more. A new feature allows for the hiding of the Delete and Change Vehicle Number options based on a customer request. **Ask FLEETWATCH Support if you are interested in removing the Delete and Change options for all users**.

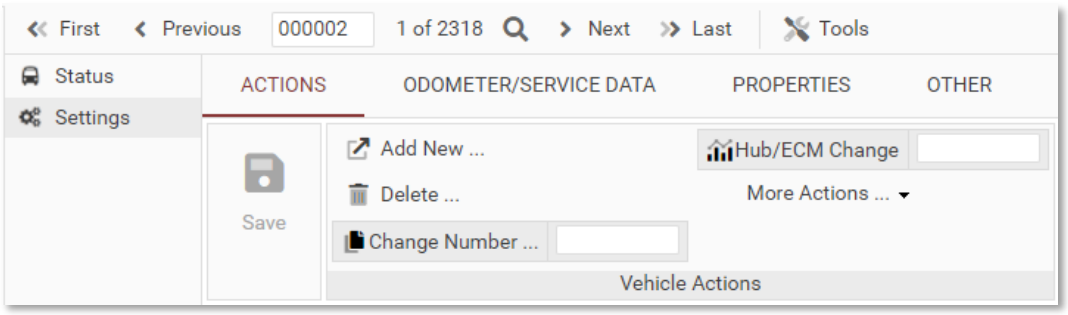


Figure 6-3 Vehicles More Options Menu

6.2.1 Add Vehicle

Add Vehicles opens the Add Multiple Vehicles Utility where you can add one or more vehicles to the database.

1. Start by choosing a template from the dropdown list. For the following example, we will use Diesel Bus. We can add one or more buses if they all have the same make, model and other specs.

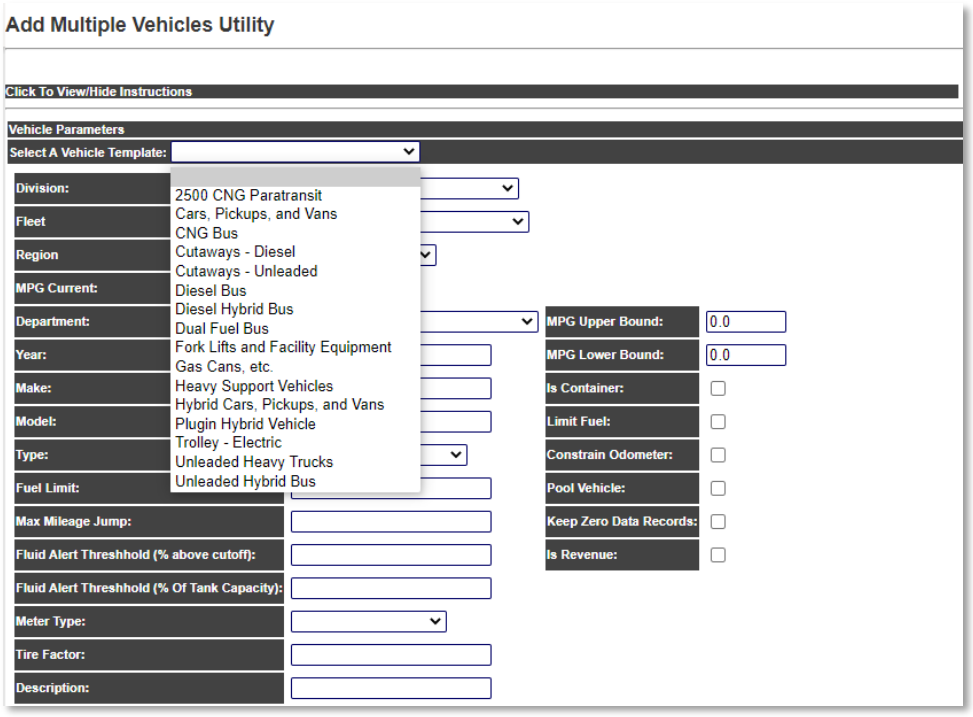


Figure 6-4: Add Multiple Vehicle Utility

2. This example shows a Diesel Bus template loaded.

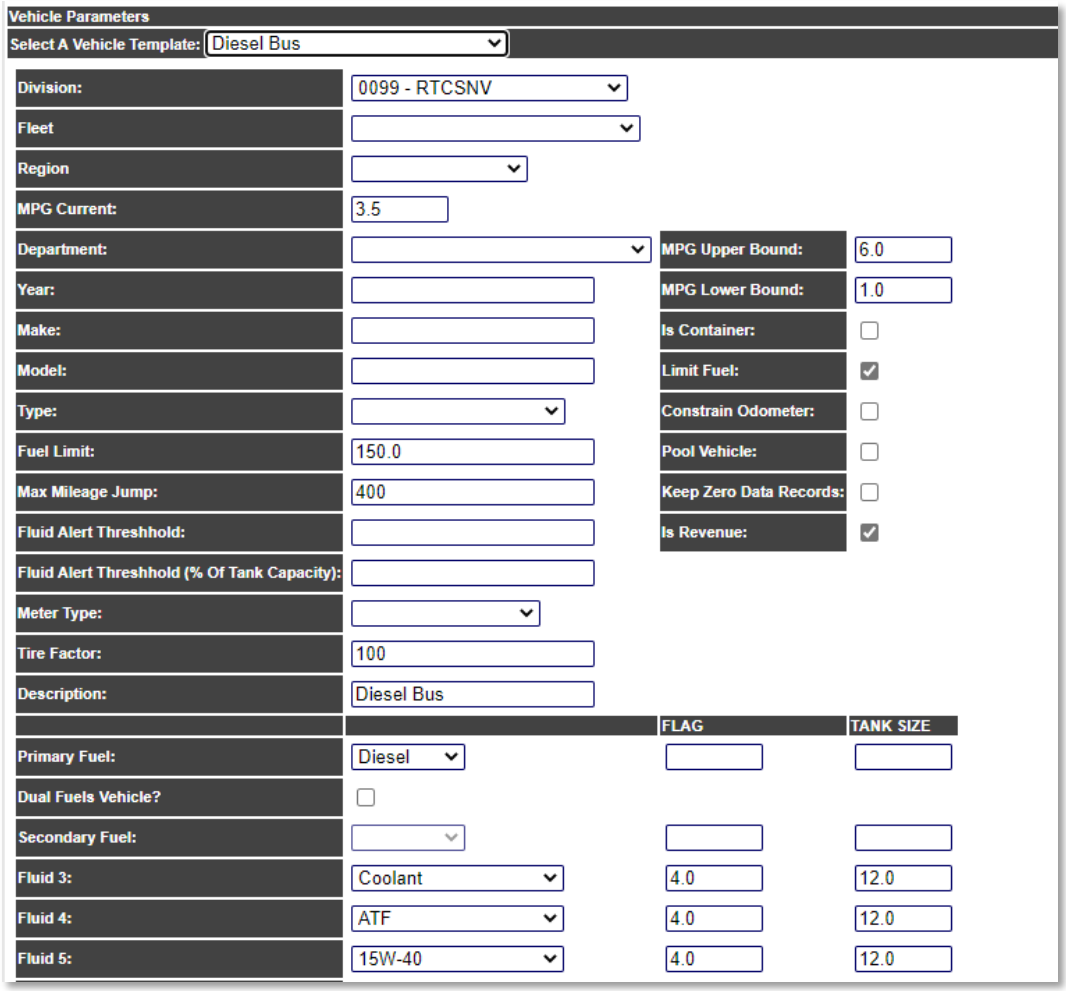


Figure 6-5: Set up Fields to Add Multiple Vehicles

3. Once the template loads, review the data and make any necessary changes.
    - Division: vehicle is assigned to a division.
    - Fleet: choose a fleet or leave blank if you want to add a fleet later.
    - Region: choose a region or leave blank and add one later.
    - MPG Current: default is 3.5 MPG. The system will determine the MPG after several transactions, but it is important to put a reasonable starting number here.
    - Department: select a department or leave blank to add one later.
    - Year: year of manufacture for the vehicle.
    - Make: the manufacturer of the vehicle such as Ford, New Flyer, Gillig, etc.
    - Model: the manufacturer's model number such as F150 (Ford), XD-60 (New Flyer).
    - Type: choose a vehicle type or you can always add one later.
    - Fuel Limit: optional way to limit fuel consumed in a 24-hour period. It is tied to the Limit Fuel check box. It is advised to put the daily fuel amount at least two times higher than the tank size so a bus can be filled twice in a 24-hour period. To disable it, simply uncheck the Limit Fuel box.
    - Max Mileage Jump: feature used to keep checks on mileage. Should be just higher than a bus would run between transactions. For city transit buses that fuel at the

FLEETWATCH-equipped facility only, 400 is a reasonable value. For cars and trucks that often fuel off-site, it is recommended to set the max jump value to 1500 or 2000 miles.

- Fluid Alert Thresholds are automatically set by the system. Feel free to skip these at this time.
- Meter Type: if the bus is going to be equipped with a FLEETWATCH module such as the JX55 or GP55, set this field to Both (Odometer and Engine Hours). If the plan is to have the service lane attendants type the odometer value into the FLEETWATCH RIH in the service lane, set the Meter Type to Odometer. If the piece of equipment uses Engine Hours instead of an odometer, set the field to Engine Hours.
- Tire Factor: set to 100 for all vehicles.
- Description: examples would be Diesel Bus, CNG Transit Bus, Mobility Bus, Service Truck, etc.
- MPG Upper Bound: think of this as the highway mileage for the vehicle. What kind of MPG would it achieve if it drove 90% highway driving between any two fueling transactions? For a bus that averages 4 MPG, 8 Upper Bound would be a good setting.
- MPG Lower Bound: think of this one as the vehicle spent the day on a route with the greatest number of stops or traffic lights, and overall heavy idling time. For a bus averaging 4 MPG, 2 as a Lower Bound is a good figure to use.
- Is Container: check this box only if the vehicle is a calibration container or any vehicle or equipment you don't want to collect any mileage data. Set the Meter Type to blank for a container.
- Limit Fuel: optional field to limit daily fuel to a certain value. If you check this box, ensure the daily fuel limit box contains the correct amount of fuel. For example, a bus with a 150-gallon tank would normally have a daily fuel limit of no less than 150 gallons.
- Constrain Odometer: used when the vehicle's odometer is to be typed into the FLEETWATCH RIH before fueling. This checkbox helps the system protect against typos and bad data entered in the system. You don't need to check this box if the vehicle is to be RF-equipped with a FLEETWATCH module.
- Pool Vehicle: usually a car or truck shared by a department or group of people. Revenue buses aren't typically checked as Pool Vehicles.
- Keep Zero-data Records: this box should normally be checked. It's used to ensure the transaction records and mileage are collected, even if the fuel data is zero due to a faulty dispenser or fuel meter.
- Is Revenue: checked for buses and vans where revenue is collected through a farebox or any other payment method. This is normally not checked for vehicles not collecting revenue.
- Primary Fuel: the type of fuel the bus runs on. If it has more than one fuel type, check the Dual Fuels Vehicle box to unlock the Secondary Fuel option. If the vehicle takes more than two types of fuel, start with the next fuel type in the Fluid 3 box.
- Flag Amount: this is the amount of fuel you consider important for any notifications. Example, if you want to know if a vehicle takes 140 gallons of diesel on a 150-gallon tank, set the flag amount to 140.
- Tank Size: this is the actual fuel capacity stated by the vehicle's manufacturer. Another option, a customer used 95% of the fuel tank capacity as his Tank Size to prevent overfills. On the 100-gallon tank, he set the flag to 95 gallons.

Fluid 3 – 16: select the fluids the vehicle will take such as Engine Oil, Coolant, ATF, DEF, etc. Set the flag and tank sizes that are proper for the vehicles you are adding.

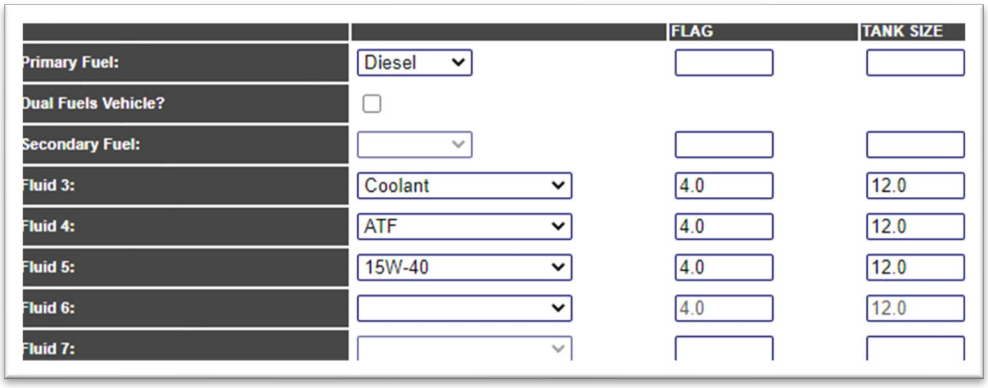


Figure 6-6: Set Up Fuel Type and Tank Size/Cut Off

4. Now that the data is all set up, scroll down past Fluid 16 to the add Vehicle Number section.
    - Include Odometer: optional, check this box if you want to enter an odometer with the vehicle(s).
    - Include Asset Number: optional, check this box to add an asset number when the vehicles are added.
5. Type the vehicle number you are adding into the box by the Vehicle # box. Do Not press Enter if you want to add more vehicles. Instead, press the Tab button to create a new Vehicle # box, type in the next vehicle number, and press Tab again for each vehicle you want to add.
6. Once you've added all the vehicle numbers, press the Add Vehicles button to add the vehicles. Don't worry if you have empty boxes after the last vehicle; the system will ignore the empty box.

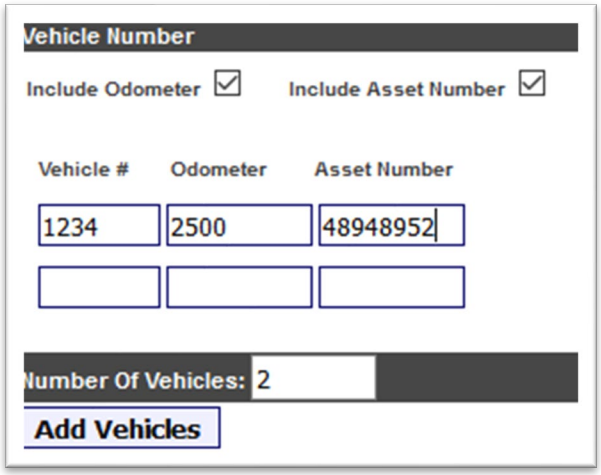


Figure 6-7 - Add Vehicles Screen

6.2.2 Assign Fuel/Fluid Properties

To assign or edit a Primary Fuel or Fluids, go to the Fuel/Fluid Properties tab.

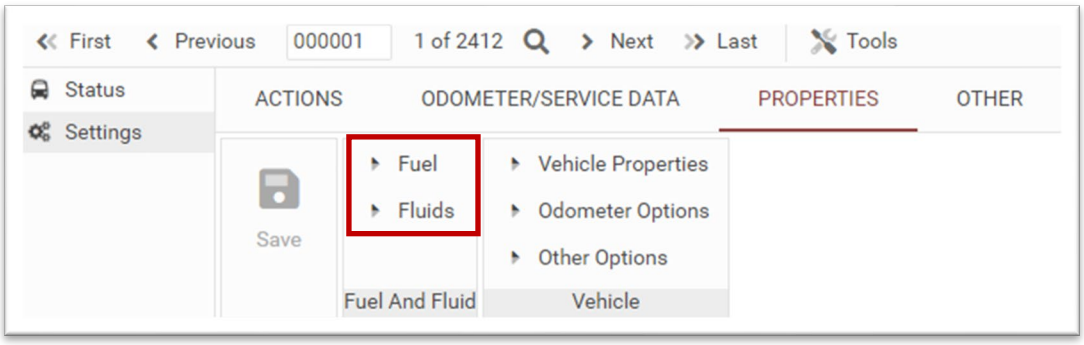


Figure 6-8: Fuel/Fluid Properties

Fuel Information

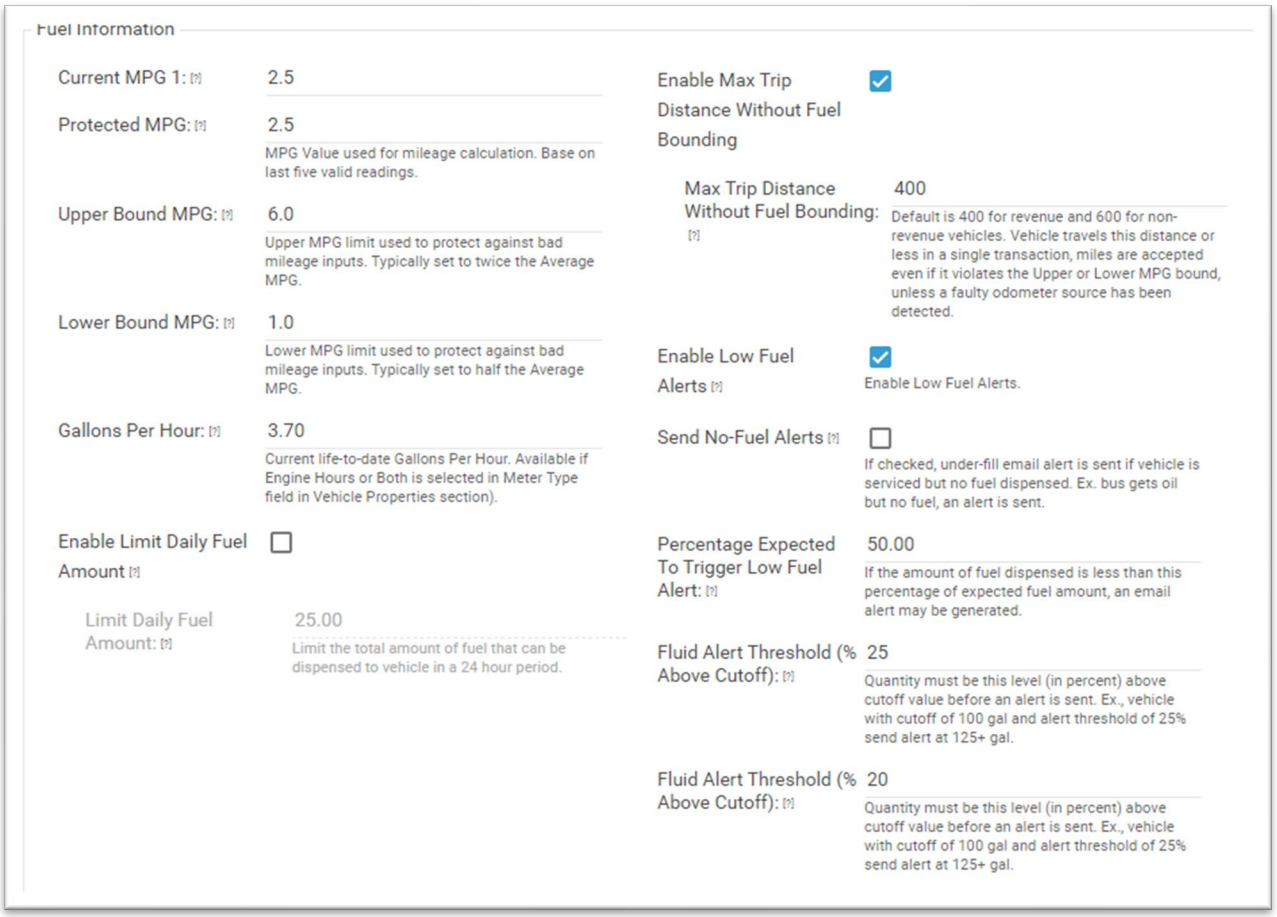


Figure 6-9 Vehicle Fuel/Fluid Properties Screen

Current MPG

This is the current life-to-date Miles per Gallon for the current vehicle. The system default is 3.5 MPG.

Upper Bound MPG

Think of this as the highway mileage for a vehicle. The upper MPG limit for the current vehicle. If the vehicle is serviced, and the fuel data entered would cause the vehicle to have an MPG that is above the Upper Bound setting, then the program would flag this transaction.

Lower Bound MPG

Think of this as the MPG a vehicle might achieve in heavy stop-and-go traffic with lots of idle time. The lower MPG limit for the current vehicle. If the vehicle is serviced, and the fuel data entered would cause the vehicle to have an MPG below the Lower Bound setting, then the program would flag the transaction.

Gallons per Hour

The current life-to-date Gallons Per Hour for the current vehicle. This feature is available if Engine Hours of Both is selected in the Meter Type field (see Odometer Options in the Vehicle Properties Section).

Limit Daily Fuel Amount checkbox

When enabled, this option allows you to limit the amount of fuel that can be dispensed into the current vehicle in a 24-hour period. Once this option is selected, the Gallons allowed per 24-hour period will be available. One way to use this field is to make the daily fuel amount at least two times the vehicle's fuel capacity. This way the bus can be filled twice in a 24-hour period, but the vehicle number can't be used all night long to fuel other buses (it's happened before when a new bus entered service but wasn't in the FLEETWATCH database yet).

Enable Distance Checks on Mileage checkbox

Enables the distance traveled logic to detect good odometer input values. Normally checked.

Max Trip Distance without Fuel Bounding defaults to 400 for revenue vehicles and 600 for non-revenue vehicles. If a vehicle travels this distance or less in a single transaction, FLEETWATCH accepts the data entered even if it violates the Upper or Lower MPG bound, unless a faulty odometer source has been detected. If you have vehicles frequently fueling offsite, the recommendation is to set the Max Trip Distance high enough to account for offsite fueling, usually 1500 to 2000 miles, depending on frequency of fueling at the FLEETWATCH system.

Fluid Alert Threshold (% above cutoff)

If an email alert is specified for high fluids dispensed, the quantity must be this level (in percent) above the cutoff value for the vehicle before an alert will be sent. So, a vehicle with a cutoff of 100 gallons and an alert threshold of 25% would need 125 gallons or more to send an email alert.

Fluid Alert Threshold (% of tank capacity)

This is the percentage of the tank size the under-fill must represent before an alert is triggered. Example, for a tank size of 100 gallons, an under-fill alert will be triggered if the vehicle only takes 20 gallons.

6.2.3 Primary Fuel

Select a primary fuel from the dropdown. In this example, the user has chosen a Primary Fuel of Diesel, checked the Dual Fuel checkbox, chosen Bio Diesel as the Secondary Fuel, set the Upper Bound MPG flag to 8.0 and limited daily fuel amount to 200 gallons.

Primary Fuel

This is the primary fuel for the current vehicle. This will be the only fuel that can be dispensed into this vehicle unless the Dual Fuel checkbox (see below) is checked.

Primary Fuel Flag Limit

This is the value at which the amount of fuel dispensed for this vehicle will show up on an exception report.

Primary Fuel Cutoff Limit

The amount of fuel that will cause the system to automatically shut off the primary fuel. This figure should represent the tank size of the vehicle.

Dual Fuel Vehicle? checkbox

This checkbox should be checked if the current vehicle can operate on two different types of fuel (i.e., Bio Diesel and Diesel). Vehicles that do not have this box checked can only be assigned one type of fuel.

Secondary Fuel

This is the secondary fuel for the current vehicle. This option is only available when the Dual Fuel checkbox above is checked.

Secondary Fuel Flag Limit

This is the value at which the amount of secondary fuel dispensed for this vehicle will show up on an exception report.

Fluids Information

Fluids must be assigned to a vehicle before they are unlocked for that vehicle when it is serviced. Up to 16 fluids may be assigned to a vehicle (2 fuels and 14 other non-fuel fluids). Most vehicles will only have 3 or 4 fluids assigned (i.e., Diesel, Oil, Coolant and ATF). Fluids must be assigned in order; therefore, you may not add fluid 4 until fluid 3 has been selected. You must also delete fluids in reverse order (from last to first). If you want to delete fluid 4, and fluid 5 is designated, then you will not be able to delete it until fluid 5 is empty. The best way to accomplish this is to change fluid 4 to same fluid as in the fluid 5 slot, then delete fluid 5 by selecting “None” from the drop-down list of fluids.

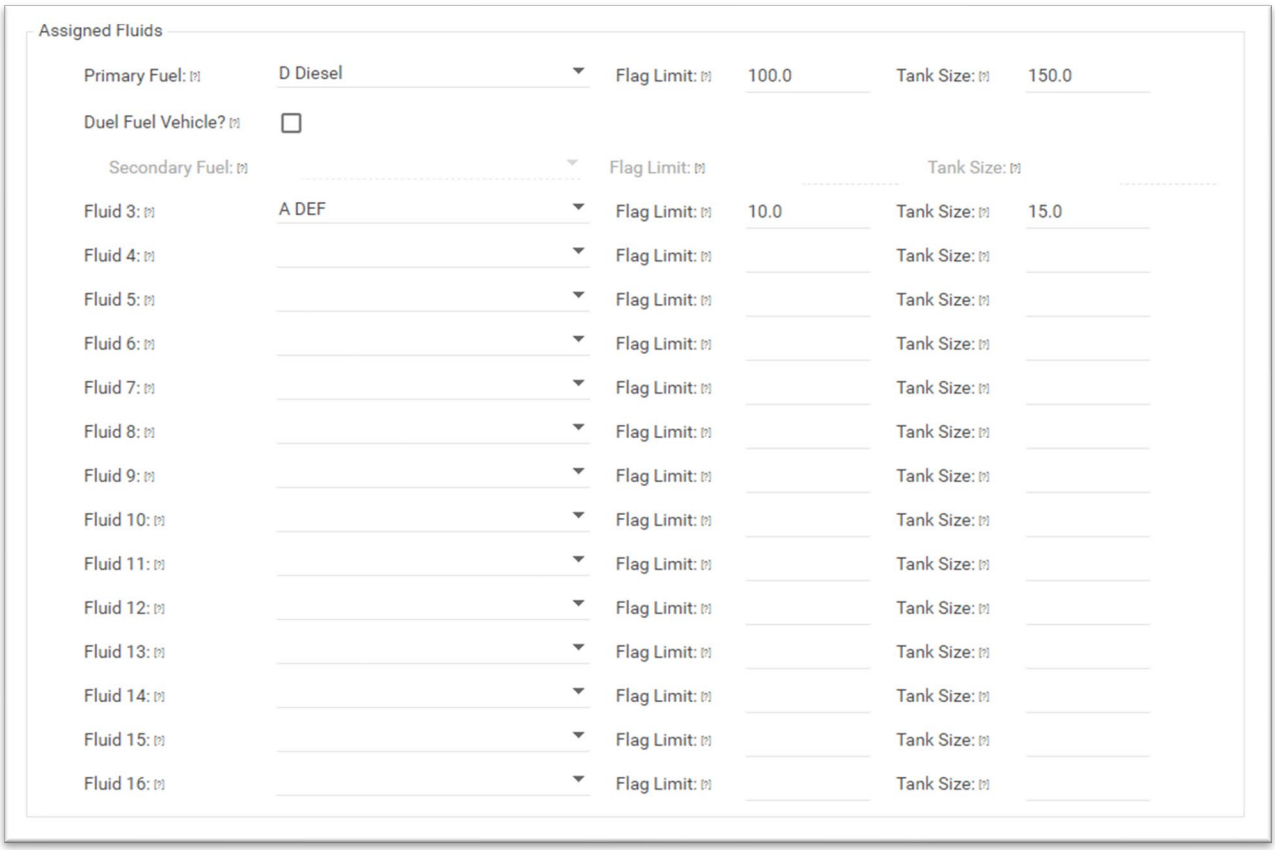


Figure 6-10 Vehicle Fluids Setup Screen

Fluid Description

This is where fluids 3 - 16 are assigned to the current vehicle (fluids 1 & 2 are the primary and secondary fuels). All fluids designated here will be unlocked when the vehicle is serviced (if available in the service lane or bay). If a fluid is required by the current vehicle and it is not assigned to the vehicle, then that fluid will not be available when the vehicle is serviced.

To assign a fluid to a vehicle, choose the desired fluid from the drop-down list that appears when you click the arrow on the right-hand side of the Fluid Description box. The default flag and cutoff limits (see below) for the selected fluid are filled in automatically. These defaults are set up in the Fluids section of the Facility section. To remove a fluid from a vehicle, select the fluid name in the Fluid Description box and then press backspace or delete on the keyboard.

Flag

If the amount of this fluid dispensed exceeds the flag limit on the fluid, then the amount dispensed will appear on the exceptions report to alert you to a potential problem. This option is often used to alert about excessive fuel or oil consumption. There is a feature to send email notifications when the flag alert has been exceeded, and another feature to limit the amount of fluid dispensed to the flag limit (usually used in service lanes to prevent overfilling engine oil tanks by non-mechanics).

Tank Size

If the amount of this fluid dispensed reaches the cutoff limit, the flow is locked, and this fluid may not be dispensed for the remainder of the current service transaction. This option is often used to prevent spills caused by pumping more fuel into a vehicle than its tank can hold, or to shut off a fluid in the event of a leak.

6.2.4 Vehicle List

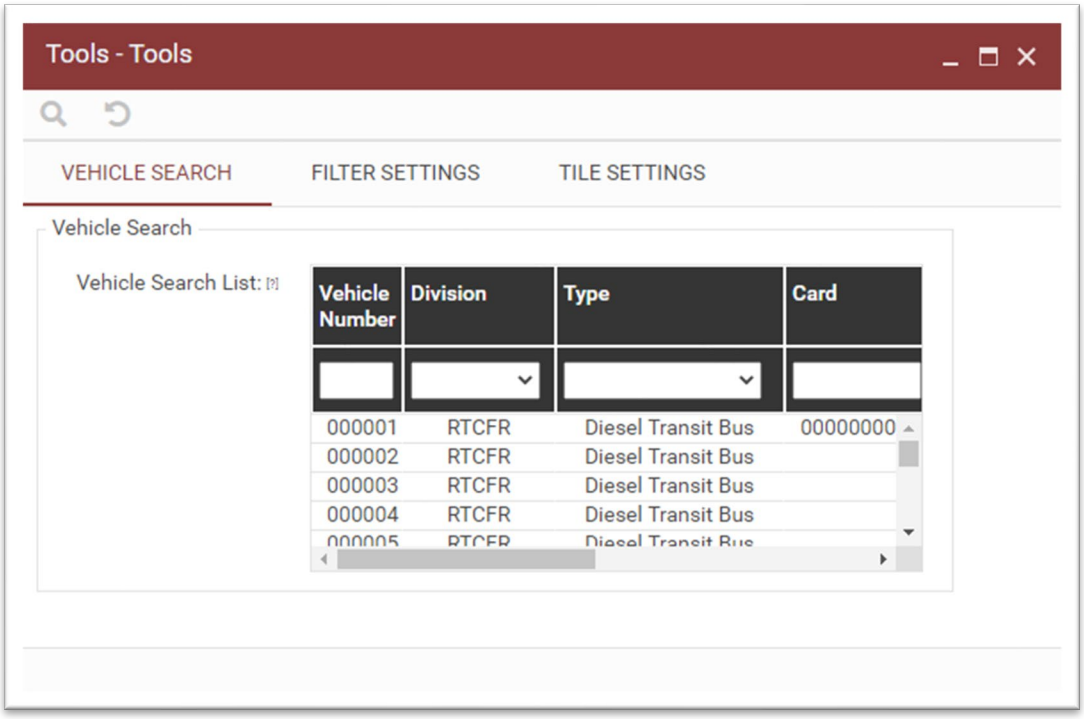


Figure 6-11 – Vehicle List Screen

The Vehicle List displays a list of vehicles (as shown in the figure above). This helps you easily see the vehicles in the database as a convenient list which may be sorted by Division, Department, Vehicle Number, Card Number, Odometer, Last Service Date, or MPG. To sort the list by one of the available options, click on the header for that column and the list will be sorted based on the column. Clicking the same column header again will toggle the column between sorted ascending and descending. To display the details of one of the vehicles shown in the list view, click on the vehicle number. Information cannot be changed directly in the Vehicle List window. To change the information associated with a vehicle, click on that vehicle in the Vehicle List window to display it in the Edit Vehicles screen and make any necessary changes in the Edit Vehicles screen.

6.2.5 Vehicle Filters

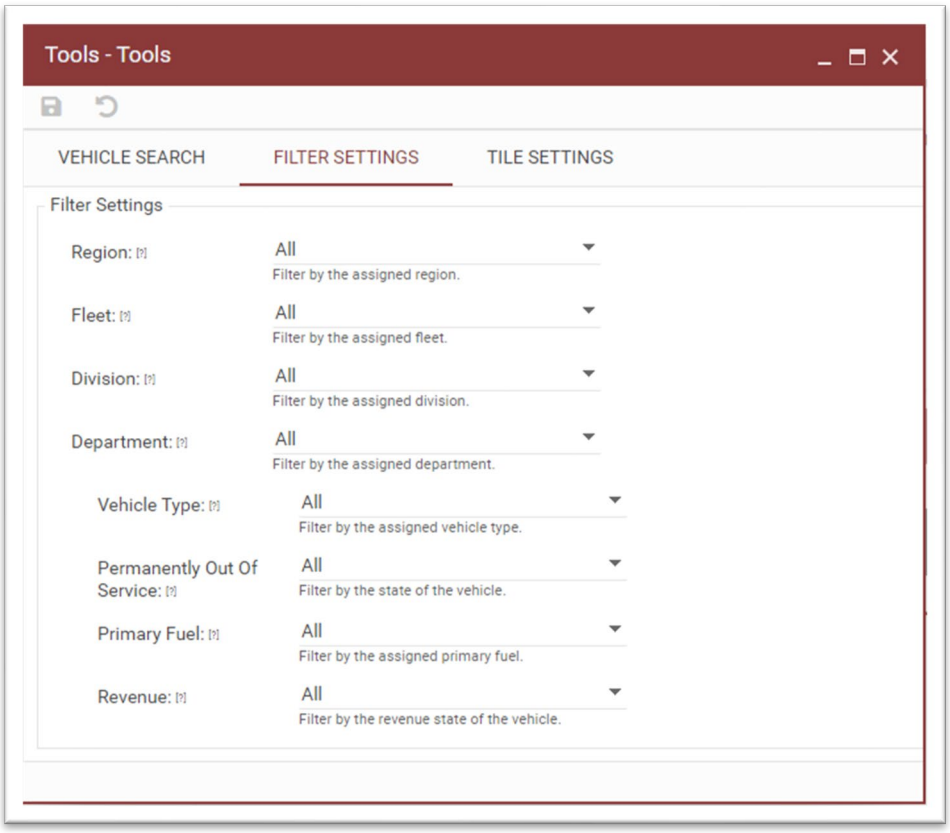


Figure 6-12 – Vehicle Filter Criteria

The Vehicle Filters option helps you filter out certain vehicles to make the current record-set more manageable, or to see how many of a certain vehicle type are in the database. Filter the vehicle record-set by Region, Fleet, Division, Department, Vehicle Type, or Out of Service status (choose “true” for out of service, “false” for in-service). Multiple filters can be used at once. For example, if you only want to see vehicles in Division 1 that are Diesel Transit type, choose Division 1 from the list of divisions in the Vehicle Filters field and Diesel Transit from the Vehicle Type filter, then select “Apply Filters”. Now only the filtered vehicles will be available in the database. Go back into More Options to view the filtered Vehicle List. Change the filters and select Vehicle List again to refresh the list with the new filters (see figure below).

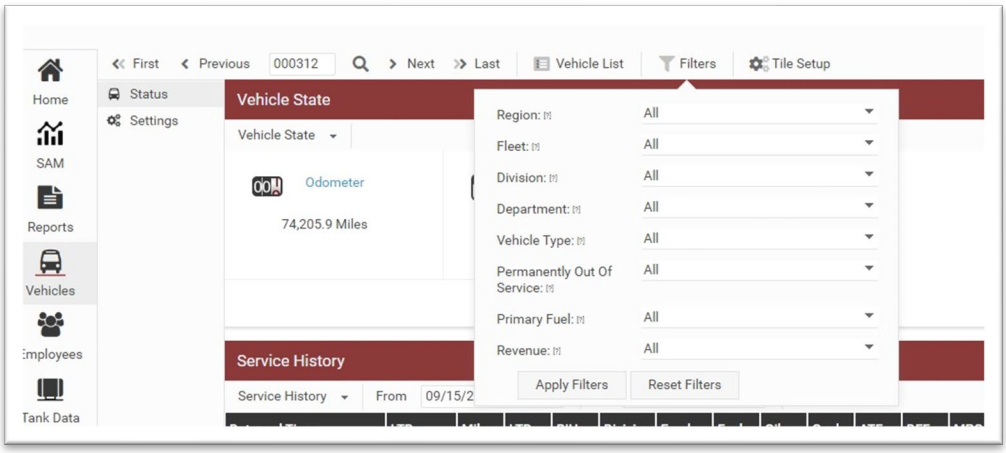


Figure 6-13 Vehicle List Screen with Filters

Remove Filters

To remove the current filter, choose Remove Filters from the Vehicle Filters list. This will resume the display of all the vehicles in the current database.

Change Vehicle Number

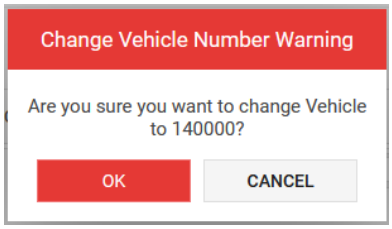


Figure 6-14 - Change Vehicle Number Confirmation Screen

This option allows you to change the vehicle number of the current vehicle. Data Tools will attempt to change all related history for the current vehicle to match the new vehicle number. For example, all past service transactions must be changed to reflect the new vehicle number for the vehicle service history to remain correct. The vehicle, service transaction, vehicle action and vehicle action history tables must all be updated to match the new number. Every attempt is made to preserve all data related to the selected vehicle but **changing vehicle numbers is a very complicated process and should not be done unless necessary**.

6.2.6 Odometer/Service Data

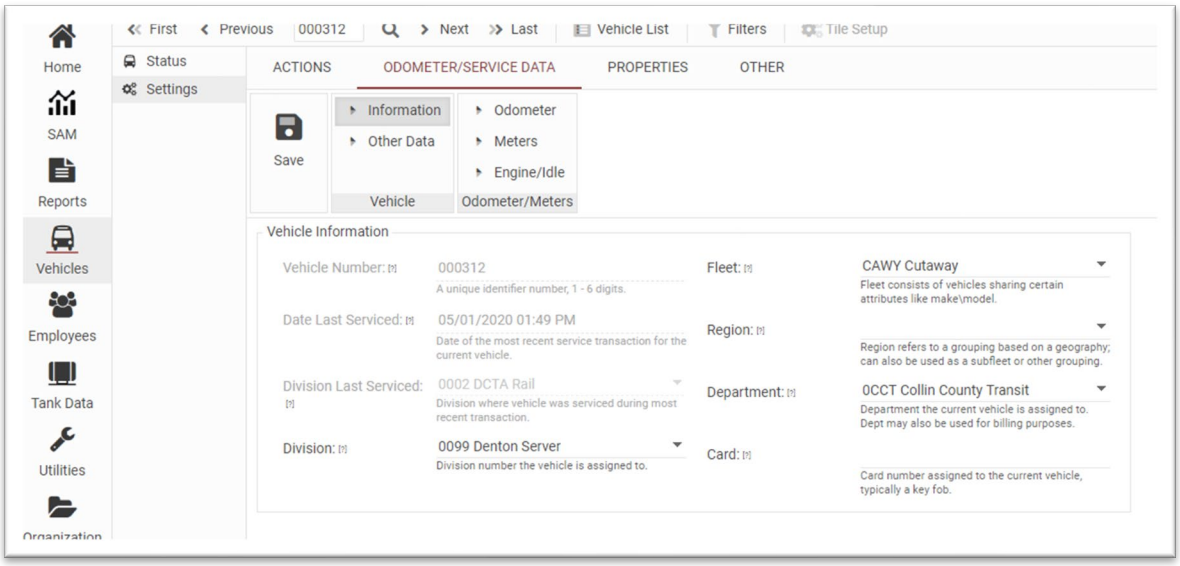


Figure 6-15: Vehicle Number, Date Last Serviced, Division, Fleet, Region, Department

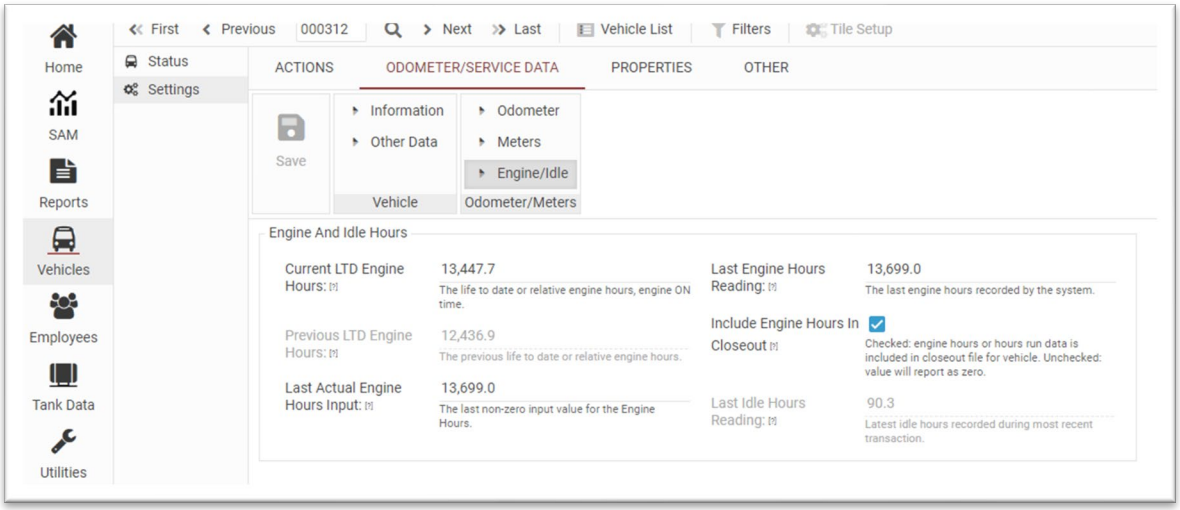


Figure 6-16 – Odometer and Hours Information

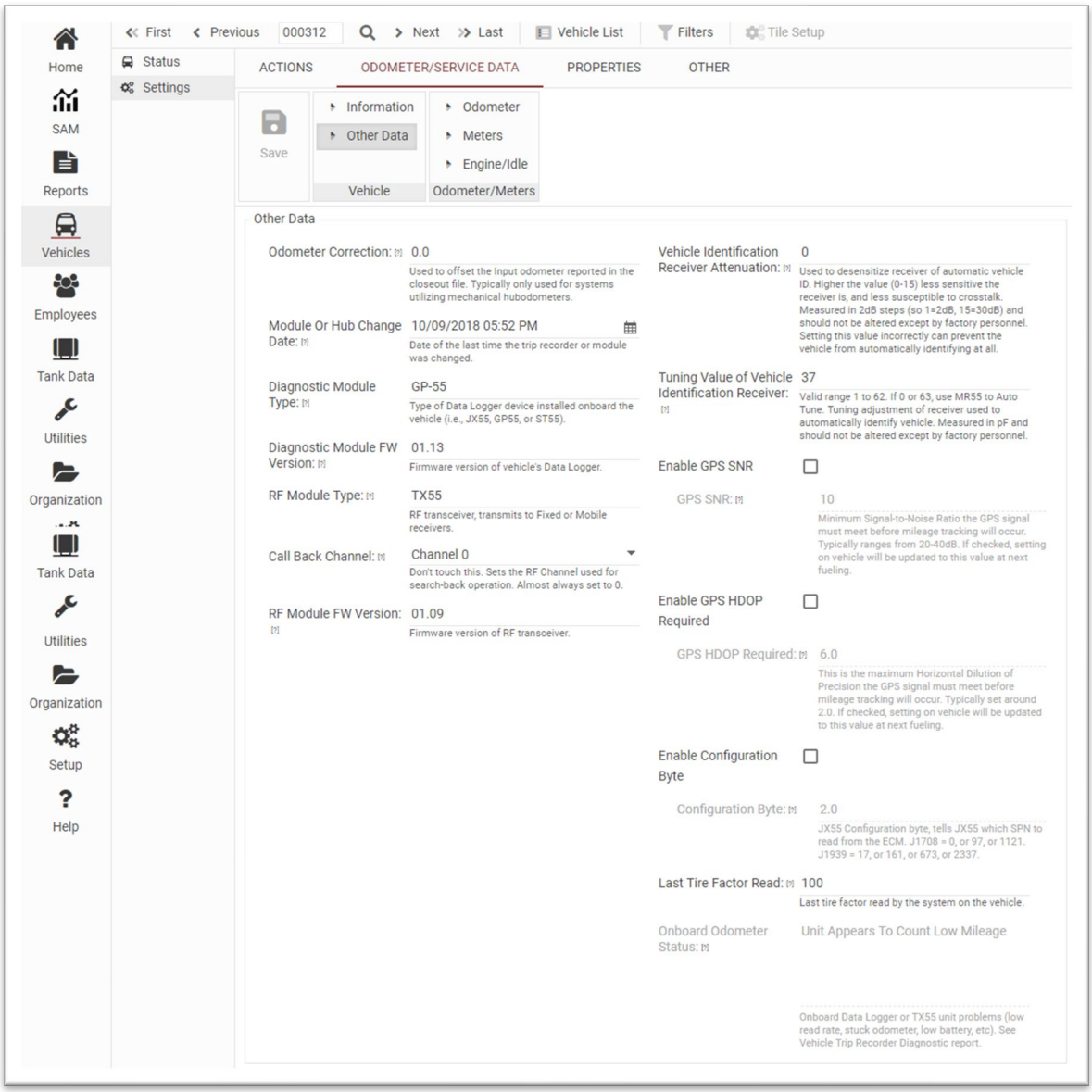


Figure 6-17 – Module Versions and Configurations

Vehicle Information

Vehicle Number

A unique number assigned to the current vehicle. If the Vehicle Numbers Are Unique option is checked in the Facility Setup section, then all vehicle numbers in the database must be unique. If this option is not checked, then vehicles in different divisions may have the same vehicle number. Recommendation is to use unique vehicle numbers.

Division

This is the division number assigned to the current vehicle. Division numbers can be used to organize vehicles by home division, or to limit who may service a vehicle and where it may be serviced, by assigning a division number to an employee in the Edit Employees section.

Fleet

A typical Fleet will consist of vehicles that share certain attributes like make and model, or a series of vehicle numbers (1901-1969).

Region

A Region typically refers to a grouping of Divisions based on geography. For example, Divisions 0001 and 0002 are in the North region and 0003 and 0004 are in the South region.

Department

The department the current vehicle is assigned to. Department numbers may also be used for billing purposes if the Bill by Vehicle option is checked in the Facility Setup section.

Card

The card number assigned to the current vehicle. This is the number programmed into a card associated with this vehicle. The System Monitor can authorize a vehicle from this card number.

Odometer

Current LTD Mileage

The life-to-date odometer, or relative miles run. It is protected against any erroneous raw odometer inputs (most often associated with odometers entered via the keypad). This odometer advances when there is no input odometer (odometer entry) by adding protected miles run based on fuel consumed, times an average MPG.

Current LTD Mileage Source

The input source of the current odometer reading. Manual, Data Logger, Keypad, etc.

Previous LTD Mileage

The previous odometer reading for the current vehicle.

Previous LTD Mileage Source

The input source of the previous odometer reading. Manual, Data Logger, Keypad, etc.

Last Valid Odometer Reading

The last non-zero value entered in the system for the odometer.

Odometer Input at Last Transaction

The odometer reading from a module (or manually entered during the last transaction); the odometer read by the system from a JX55 (or keypad in other situations). This number will be 0 if the module does not read in the lane. Repeated instances of a 0 here should be considered a flag, and the module should be checked. An occasional 0 for the Odometer Entry can be handled by the system as all three odometers are set to synchronize under normal circumstances.

Expected On-Board Odometer

What the system expects the on-board odometer source (JX-55, etc.) to be reading. Should be the same as the last actual input unless bad data came in or no data came in, in which case it represents an estimated value. Its source is the system, not the JX-55 module.

Average Daily Miles
The average number of miles traveled daily.

Engine Hours

Current LTD Engine Hours
Current engine hours for the vehicle displayed. This is the life-to-date or relative engine hours for the current vehicle.

Previous LTD Engine Hours
The last engine hour reading for the current vehicle.

Last Actual Engine Hours Input
The last non-zero input value for the Engine Hours.

Last Engine Hours Reading
The last engine hours recorded by the system.

Last Idle Hours Reading
The latest idle hours recorded by the system.

Other Data

Date Last Serviced
The date of the most recent service transaction for the current vehicle.

Division Last Serviced
The division where the current vehicle was last serviced.

Initial Odometer
The initial odometer of the current vehicle.

Hub Change Date
The date of the last time the trip recorder or hub odometer on the current vehicle was changed.

Diagnostic Module Type
The type of Data Logger device installed onboard the vehicle (i.e., JX55, GP55, or ST55).

Diagnostic Module Firmware Version
The firmware version for that Data Logger.

RF Module Type
The TX55 transceiver portion of the Data Logger used to transmit to Fixed or Mobile receivers.

RF Module Firmware Version
The firmware version for that RF TX55 transceiver.

Enable Configuration Byte

This setting determines how the JX module either calculates the Actual Input odometer, or if it receives the mileage directly from the ECM's total vehicle distance.

Last Tire Factor Read

The last tire factor read by the system is shown here. For Series 55 modules, the tire factor is normally 100. A tire factor of 0 is used on some older modules.

Onboard Odom Status

Onboard RF mileage unit problems (stuck odometer, low battery, etc.).

6.2.7 Vehicle Settings – Properties

This section contains odometer and servicing data for the current vehicle.

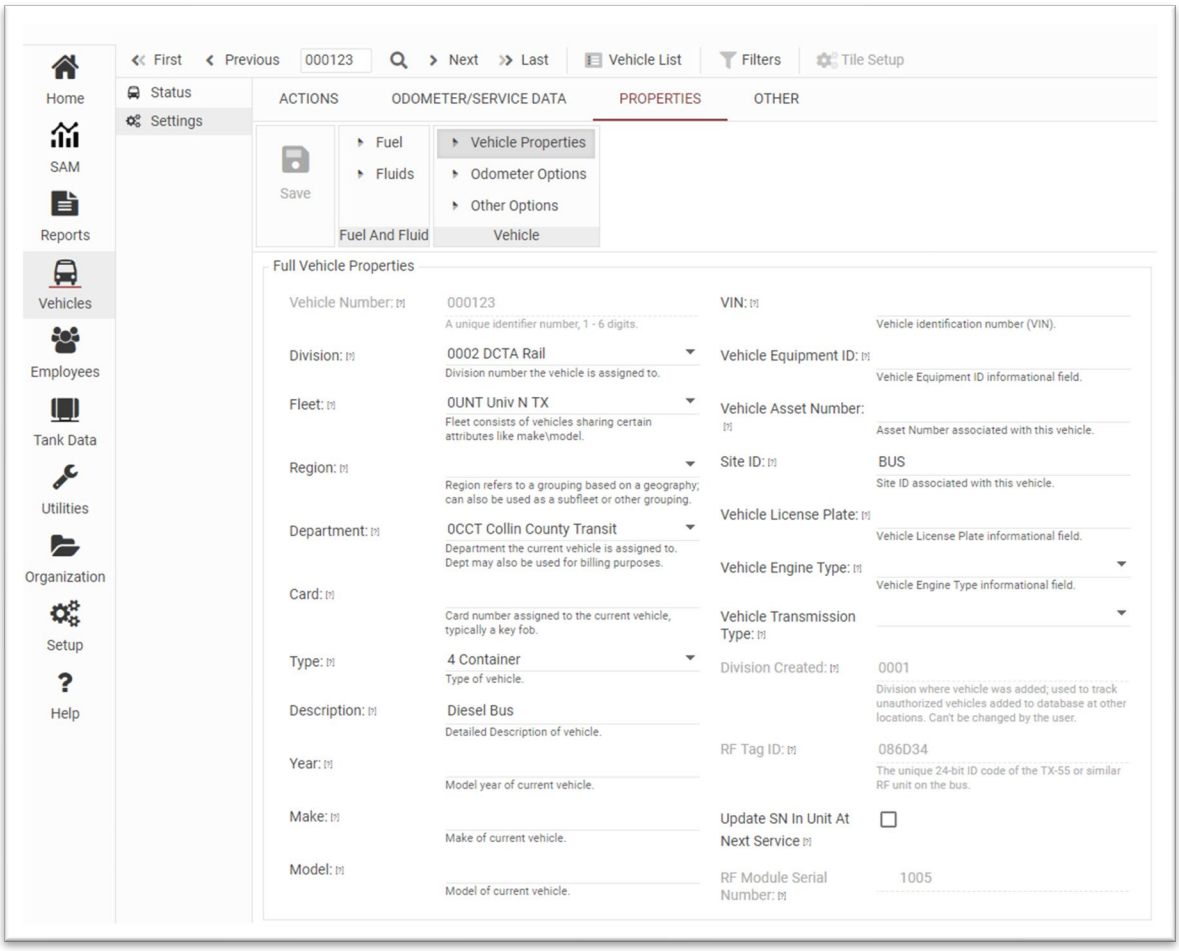


Figure 6-18: Properties such as Type, Description, Make, Model

Vehicle Properties

Number

The current assigned vehicle number.

Division

The division number assigned to the current vehicle. Division numbers can be used to limit who may service a vehicle and where it may be serviced by assigning a division number to an employee in the Edit Employees section.

Fleet

The fleet to which the current vehicle is assigned. Fleets are typically used to group similar types of vehicles for easy analysis. For example, all 2011 transit buses might be in the 1100 fleet.

Region

The region to which the current vehicle is assigned. Regions supersede facility and division. Region could be used to group all vehicles in the southern garages in a SOUTH region and vehicles in the northern garages in a NORTH region, for example.

Department

The department to which the current vehicle is assigned. Department numbers may also be used for billing purposes if the Bill by Vehicle option is checked in the Facility Setup section.

Card

The card number assigned to the current vehicle. This is the number programmed into a card associated with this vehicle. The System Monitor can authorize a vehicle from this card number if the RIH Unit is equipped with a card reader and card input is allowed for vehicle number in the Prompts Setup section.

Type

The type of vehicle. Type may also be used as a general grouping designator. All 40-foot transit buses might be set as one type while 30-foot buses are set as another.

Description

Description of the vehicle. Some examples include 40-foot bus, Diesel transit bus, lawnmower, Paratransit vehicle, etc.

Year

The model year of the current vehicle.

Make

The make of the current vehicle such as Gillig, New Flyer, MCI, Eldorado, Ford, etc.

Model

The model of the current vehicle.

VIN

The vehicle identification number of the current vehicle.

Vehicle Equipment ID

An informational field for adding an optional equipment ID number. This field may contain alpha characters as well as numbers. Equipment ID is sometimes used in combination with Vehicle Number when alphanumeric characters are required in the Vehicle ID in the closeout file for your Vehicle Maintenance Software system.

Vehicle License Plate

Enter the license plate number in this optional field.

Vehicle Engine Type

Select the engine type from the dropdown menu.

Vehicle Transmission Type

Select the transmission type from the dropdown menu.

Division Created

The division where the current vehicle was added. This can be used to track unauthorized vehicles being added to the database at other locations. This number cannot be changed by the user.

RF Tag ID

The unique 24-bit ID code of the TX-55 or similar RF unit on the bus.

RF Tag Serial Number

The serial number associated with the module on the vehicle.

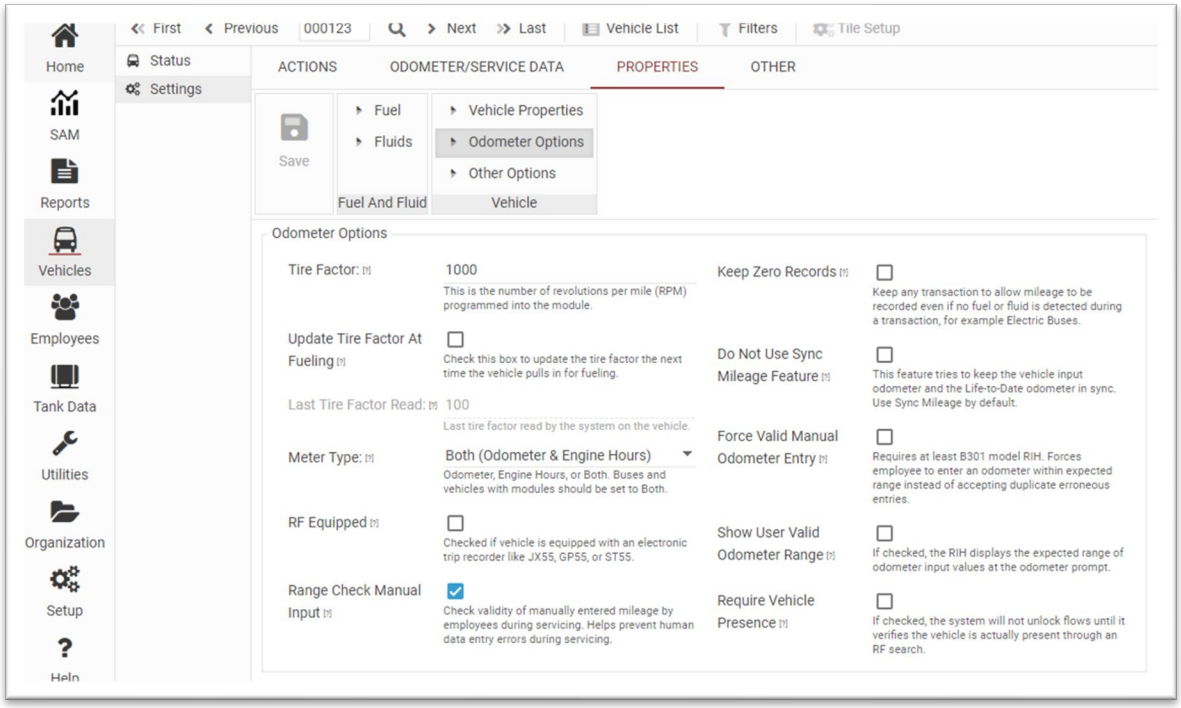


Figure 6-19: Odometer Options

Odometer Options

Tire Factor

The tire factor for the current vehicle. This is the number of revolutions per mile (RPM), or pulses per mile, programmed into the module (i.e., ST55, or GP55). For Series 55 modules, a tire factor of 100 is the norm. For some older modules, the unit may report a tire factor of 0.

Meter Type

The primary Meter Type of the current vehicle. This may be Odometer, Engine Hours, or both. Traditionally only vehicles that idle for long periods of time or do most of their work over a very limited distance, will use engine hours as the primary meter type. Examples of this are Bulldozers, Road Work Vehicles, Fire Engines, or other heavy equipment.

Trip Recorder Equipped

This checkbox tells the SystemController software whether the current vehicle is equipped with an electronic trip recorder. If it's not checked, the system may ask the servicing employee to enter an odometer after the vehicle number in order to authorize the vehicle.

Range Check Manual Input

This option instructs the system to check the validity of any manually entered mileage figures. This is helpful on vehicles where the odometer must be entered manually into the RIH unit during servicing. For example, if a vehicle has 10,000 miles and was last fueled yesterday and 100,000 miles is inadvertently entered into the RIH Unit at the odometer prompt, the program will reject the mileage as having an unreasonable number of miles run since the last servicing and prompt the user to enter the mileage again. This option helps prevent some human data entry errors during servicing.

Keep Zero Records

This option tells the System Monitor program to keep any service transactions for this vehicle even if no fuel or fluid data is reported in the transaction. This is helpful when the fluid data is not being passed to an RIH Unit during servicing, such as when there is a bad pulse meter or bad CNG controller that is not reporting fluid dispensed to the system. This will allow mileage to be recorded even when no fuel or fluid is detected during a transaction. After several buses post miles run but no fuel, the issue will be reported on the System Status Report (see reports section).

Do Not Use Sync Mileage Feature

This option tells the System Monitor program to turn off the sync mileage feature that tries to keep the vehicle odometer and the odometer in the database in sync.

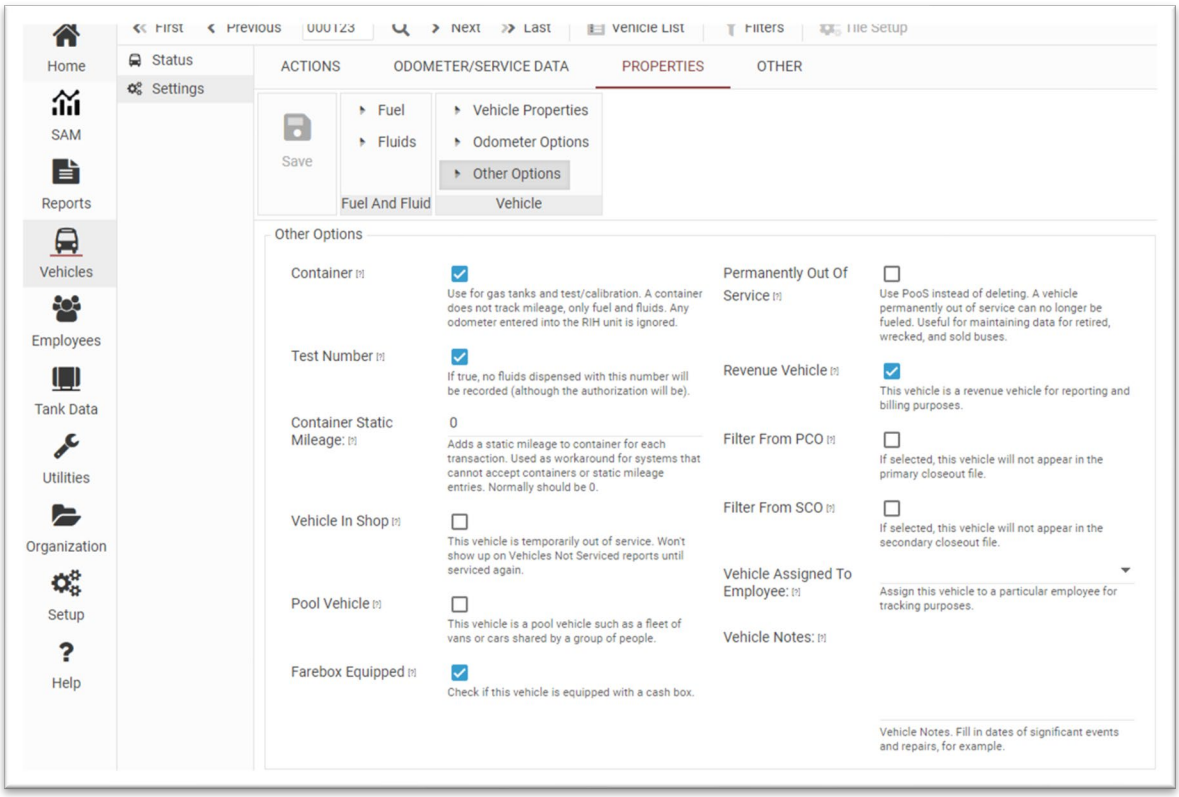


Figure 6-20 – Vehicle Properties Screen

Other Options

Container

The current vehicle number is assigned to a container. When a number is designated as a container the program does not track mileage or prompt for an odometer entry for that vehicle number. Any odometer reading entered in to the RIH unit is ignored. This option can be used for tanks on the back of vehicles, gas cans, etc. Additionally, the closeout file will not contain mileage for a container but will include fuel and fluid totals.

Container Static Mileage

The number of miles added to the container for each transaction. This is used as a workaround for systems that cannot accept container or static mileage entries. Normally should be 0. Use 20 or 30 miles to increment the LTD odometer for the container.

Vehicle in Shop

This vehicle is currently temporarily out of active service and is in the maintenance shop for a PM, or the body shop, or offsite. Vehicle marked as “In Shop” will not show up on Vehicles Not Serviced reports until they are serviced again.

Pool Vehicle

This vehicle is a pool vehicle. Informational only.

Permanently Out of Service

This marks a vehicle as permanently out of service. Once checked, the vehicle number can no longer be used for fueling, nor will it show on any Vehicles Not Serviced reports. The data for the vehicle will be maintained in the system. This option is useful for maintaining data for retired, wrecked, and sold buses.

Revenue Vehicle

This vehicle is a revenue vehicle.

Filter from PCO

If selected, this vehicle will not appear in the Primary CloseOut file.

Filter from SCO

If selected, this vehicle will not appear in the Secondary CloseOut file.

Vehicle Assigned to Employee

Choose an employee from the employee dropdown menu to assign an employee to a particular vehicle. Any employee in the database can be chosen.

Vehicle Notes

Information-only field for making notes about this vehicle.

6.2.8 Special Message

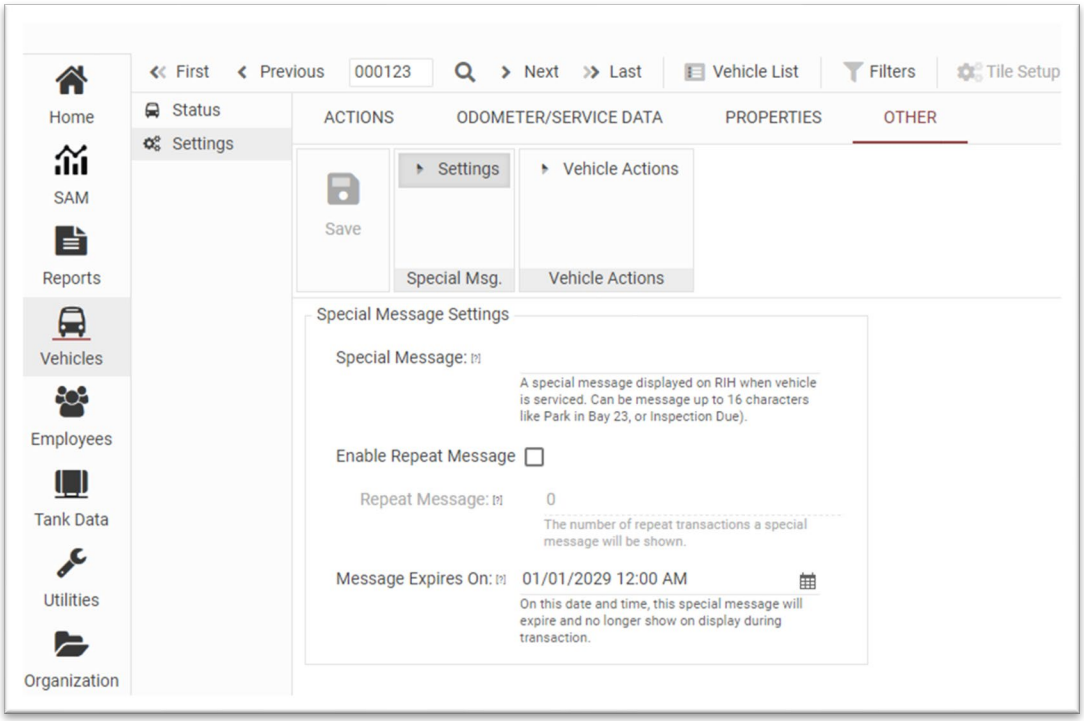


Figure 6-21 Special Message Screen

This section contains information about the special message that may be shown to the service attendant when a vehicle is serviced.

Special Message

A special message will be displayed on the RIH display when this vehicle is serviced. This can be any message of 16 characters or less (i.e., park in bay 23, or inspection due).

Repeat Special Message

The number of times a special message is displayed before it is cleared. This box is only available when the “indefinitely” check box (see below) is unchecked.

Indefinitely Check Box

When this box is checked, the special message specified in the Special Message Box (if any) will be displayed every time the current vehicle is serviced.

Message Expires On:

This option lets the message run until a specified date and time.

6.2.9 Vehicle Actions

6.2.10 Service History

The Service History section shows a recent service history for the current vehicle. To see history, you may change the start and end dates at the top of the Service History screen.

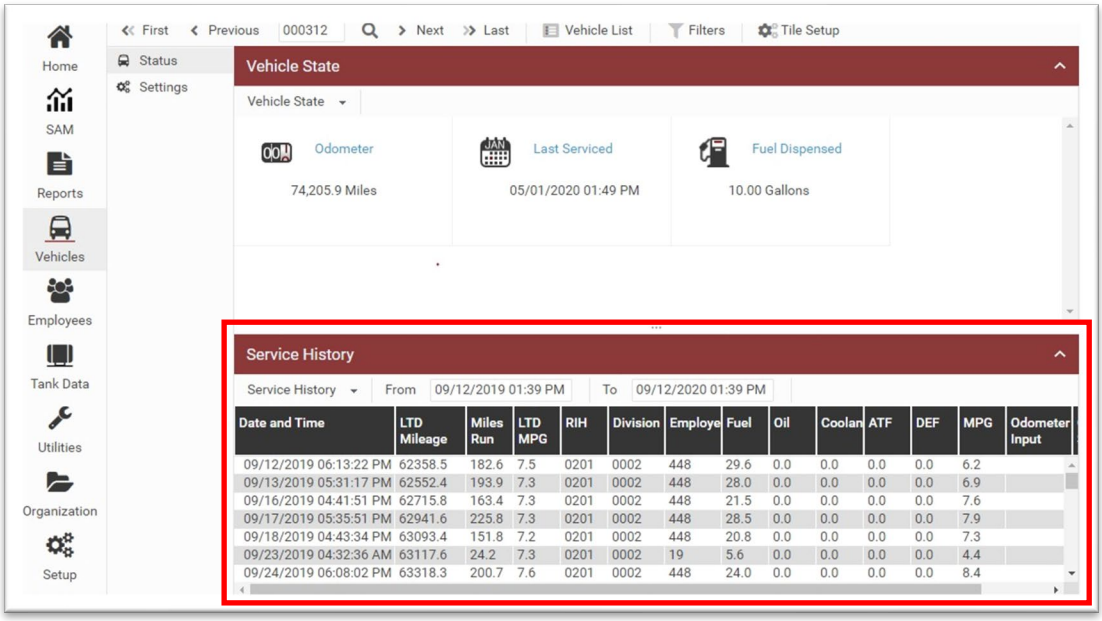


Figure 6-22 Vehicle Service History Screen

Select Period

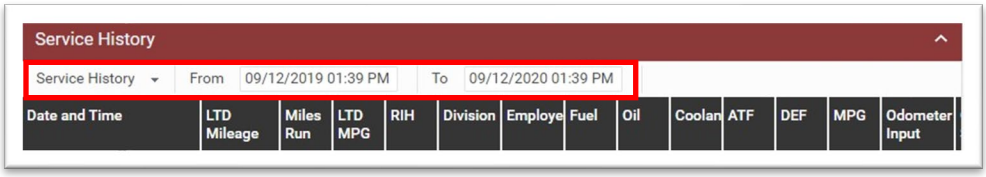


Figure 6-23: Set Start and End Dates for Service History Viewing

Quick search periods are 7 Days, 30 Days, 90 Days and 6 Months. Otherwise, please use the calendar controls to select:

From Date

Starting date and time for the service history shown on screen.

To Date

Ending date and time for the service history shown on screen.

View Service History Report

Enter the date range and click “Submit Date”.

Diagnostic Setup Utility

For customers with Onboard Data Logger units such as the JX55 Data Logger, this utility allows you to configure J1939 and J1708 observable and min/max data settings. For example, using SPN and PGN protocols, you can configure the JX55 to request data from the Engine or Transmission (as well as other vehicle systems, see examples below). The min/max setup configures the JX Data Logger to record the maximum and minimum values seen for that vehicle system. The frequency of requests can be set by entering the number of seconds into the period field. For example, request Total Engine Hours every minute by putting 60 into the period field for the Observable (see example below).

The system can record up to 12 Observable and 10 Min/Max values.

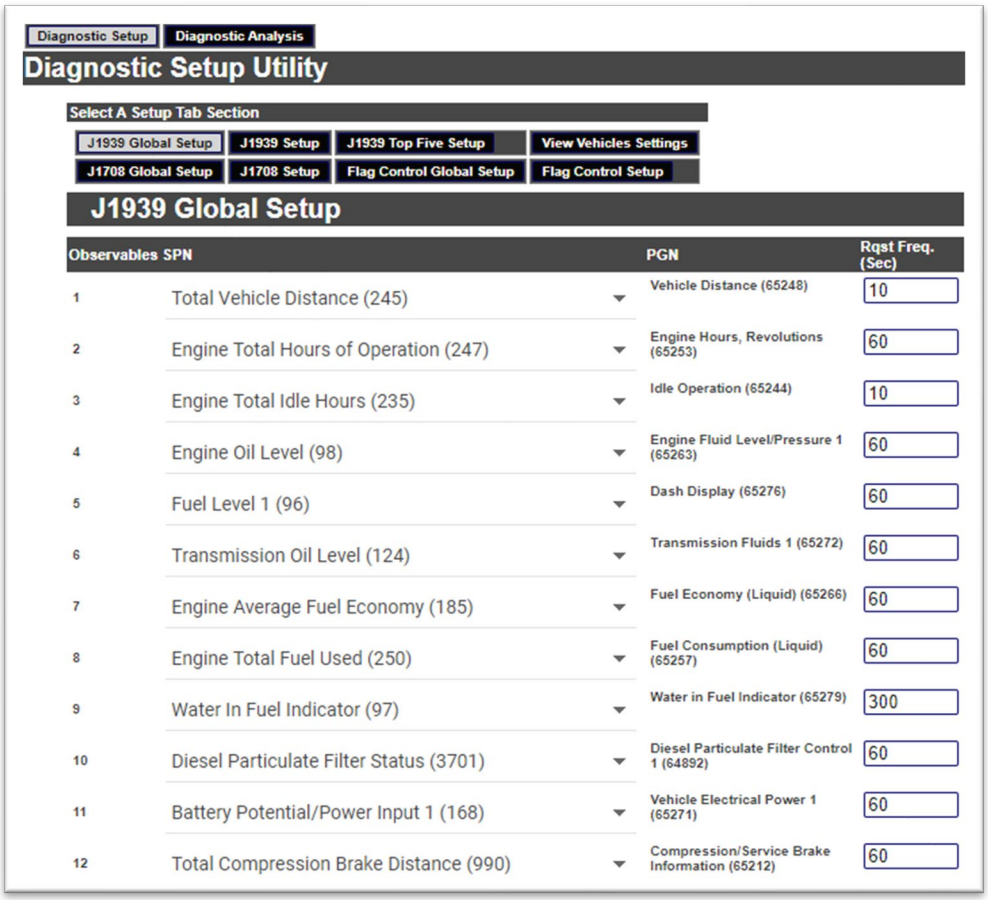


Figure 6-24 Vehicle Observable Data Configuration Screen

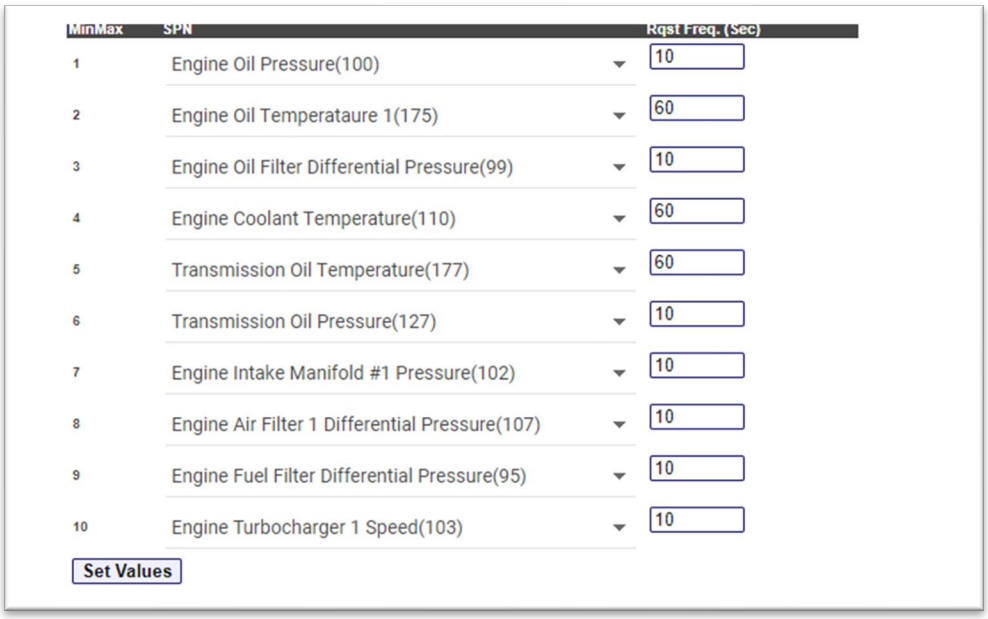


Figure 6-25 Vehicle Min/Max Data Configuration Screen

6.3 SPN Examples

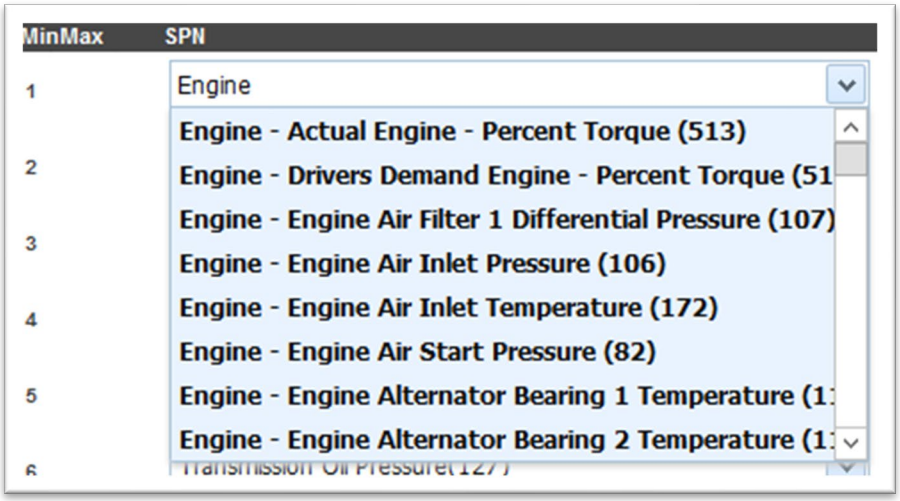


Figure 6-26 Vehicle MID Examples

6.4 Vehicle Types Setup

To edit or delete an existing vehicle type, or add a new vehicle type, use the Vehicle Types Setup tab of the Data Tools Setup section.

Add

Select Plus icon  at the top of the screen to create a new vehicle type description. Simply type in a code number, description, and select an icon, then click the "Save" icon at the top left. The system will load the new type into the database.

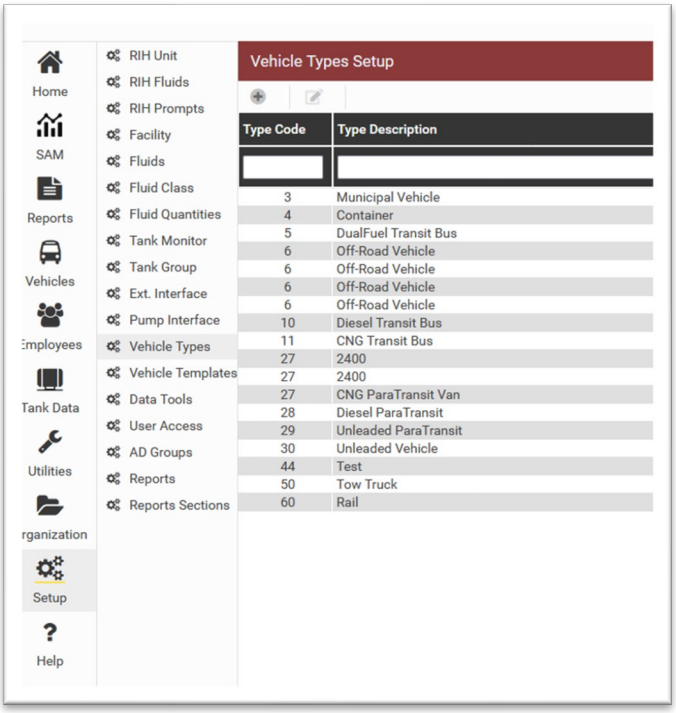


Figure 6-27 Vehicle Types Setup Screen

Edit

To edit, select a vehicle type from the list, then click the "Edit" icon  at the top of the screen. The Edit Vehicle Types screen shown below will appear.

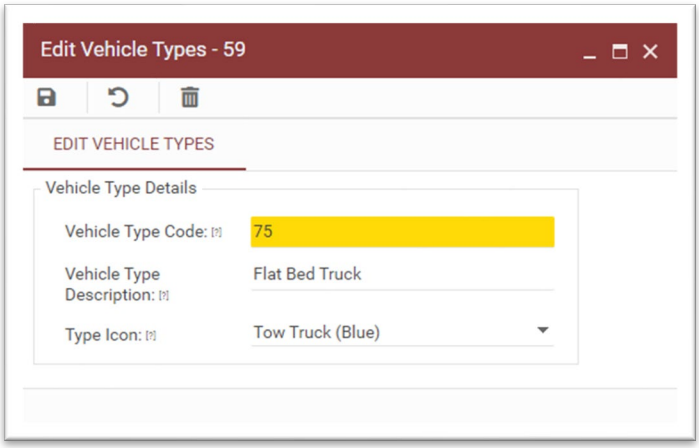


Figure 6-28 Edit Vehicle Types Screen

Modify the description as desired. Changes will be highlighted as shown above. Click the "Save" icon at the top of the screen to save changes.

Delete

To delete a vehicle type, select the type to be removed from the list, then click the "Edit" icon at the top of the screen. The Edit Vehicle Types screen shown above will appear. Click the "Delete" icon at the top right and the Delete Warning screen will appear for confirmation. Select OK to delete or cancel to abort the deletion.

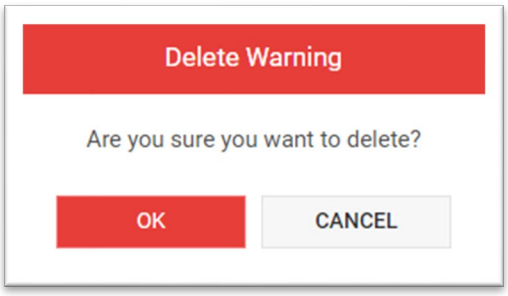


Figure 6-29 Delete Vehicle Type Screen

Section 7 - Employees

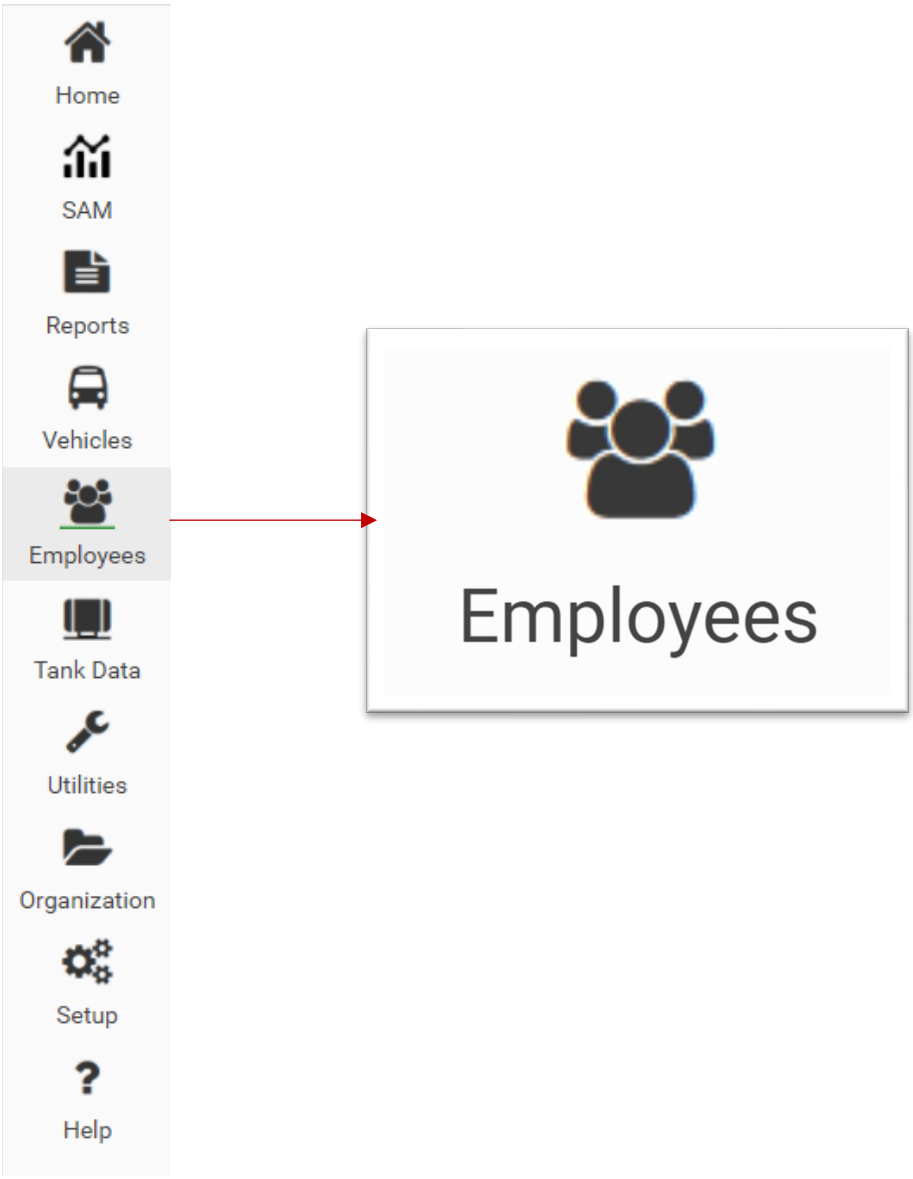


Figure 7-1 – Employee Main Menu

The Employees section allows you to view or edit employees that are already in the database or **Add** employees.

7.1 Employees Status

The Edit Employees screen helps you change or update information pertaining to a particular employee.

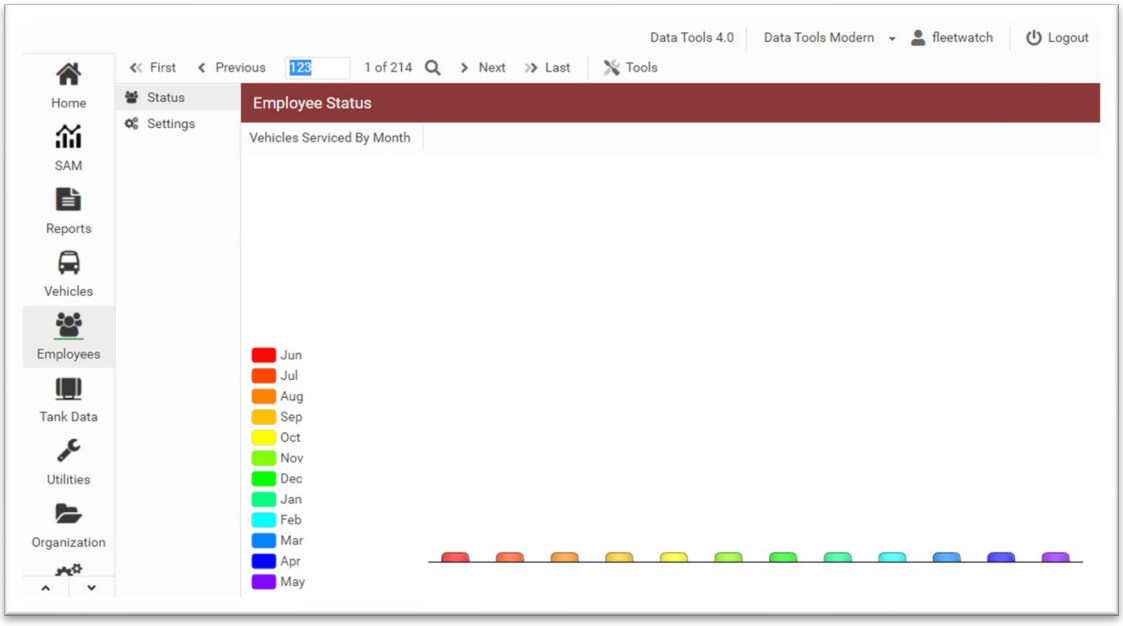


Figure 1- 2 - Employee Status Screen

7.2 Employees Settings

The Employees Settings screen helps you change or update information pertaining to a particular employee.

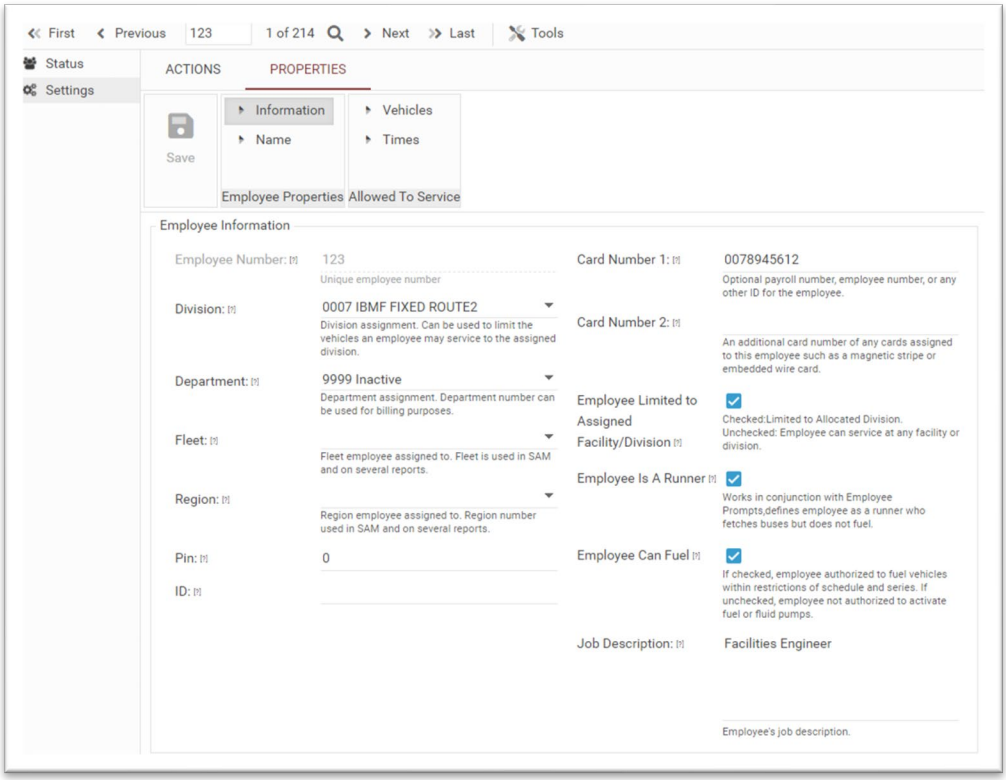


Figure 7-3 –Employee Properties – Information Screen

7.2.1 Employee Properties - Information Section

Employee Number

Unique employee number.

Division

The Division to which this employee is assigned. Division numbers can be used to limit the vehicles any employee may service.

Department

The Department to which this employee is assigned. The Department number can be used for billing purposes.

Fleet

The Fleet to which this employee is assigned. The Fleet number can be used for SAM viewing purposes.

Region

The Region to which this employee is assigned. The Region number can be used for SAM viewing purposes.

PIN

Personal Identification Number for this employee. PIN can be used to verify an employee number during servicing.

ID

This can be a payroll number, employee number, social or any other ID for the employee.

Card Number 1

This is the number of any cards assigned to this employee, such as a magnetic stripe or embedded wire card.

Card Number 2

An additional card number of any cards assigned to this employee, such as a magnetic stripe or embedded wire card.

Employee Limited to Assigned Facility/Division

Checkbox indicating whether Employee can service at any facility or division or is limited to servicing only at Allocated Division (see Vehicles Allowed to Service section below).

Employee is a Runner

If checked, it defines this employee as a runner (a driver who fetches buses but doesn't normally fuel). This allows their number to be used on Runner prompts to record who drives a vehicle in to the lane to be fueled.

Employee can Fuel

If checked, the employee can fuel vehicles (within the restrictions of schedule and series of vehicles). If unchecked, the employee can be granted program access, but is not authorized to activate the fuel or fluid pumps.

Job Description

Informational field where the employee's job description or title can be recorded.

7.2.2 Employee Properties - Name Section

First Name

First name of the current employee. First and last names are printed on many reports to help identify employees.

Last Name

Last name of the current employee. First and last names are printed on many reports to help identify employees.

7.2.3 Employee Properties – Vehicles Section

Allocated Division

Division number of vehicles the current employee is allowed to fuel. If set to Any, this employee may fuel vehicles from any division. If set to a specific division number, the employee will only be allowed to fuel vehicles from the specified division.

First Allocated Vehicle

The vehicle the current employee is allowed to service. If a Last Allocated Vehicle is specified (see Last Allocated Vehicle below) this is the first vehicle in the range of vehicles the employee is allowed to service.

Last Allocated Vehicle

The last vehicle in the range of vehicles the current employee is allowed to service.

7.2.4 Employee Properties - Times Section

Shift Start

Time of day in military time the current employee is allowed to start servicing vehicles. This employee's number will be rejected until the shift start time has passed. The current employee will not be allowed to service between the end of the current shift and the beginning of the next shift.

Shift End

The end of an employee's shift. The employee's number will be rejected after the shift end time has passed (until the Shift Start time the following day).

Days of the Week Employee is Allowed to Service

The days of the week the current employee is allowed to service vehicles. For example, if the Allowed days are set for Monday through Friday, the employee will not be able to service on Saturday or Sunday.

7.2.5 Find Employee

Type in the number of an employee in the database and press "GO" to go to that employee. You may also choose the employee from the drop-down list.

7.2.6 More Options

Clicking this button  will display more employee options at the top of the screen. Click the "More Options" button again to remove the additional options from the top of the screen. The

additional options available are Delete Employee, Add Employee, Employee Filters and Employee List.

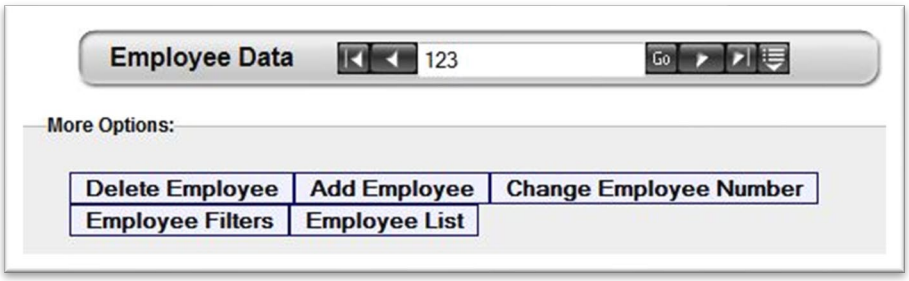


Figure 7-4 – Employee More Options

If an employee matching the specified criteria is found in the database, it will be displayed in the Edit Employees screen behind the Find Employee window. If no employee matching the specified criteria is found, the program will report that the specified employee was not found (see figure below).

Figure 7-5 – Employee Not Found

If you are having trouble finding a particular employee, it may be helpful to use the Employee List described below to view the entire list of employees.

7.2.7 Delete Employee

The Delete Employee button helps you delete the current employee from the database. The program will prompt you to confirm the employee to be deleted. Use caution when deleting employees. Once you confirm the delete operation, it cannot be undone, and you will have to add the employee to the database again if the deletion was in error. Contact FLEETWATCH Support to help you restore the deleted employee. The Delete Employee button can be removed for all users, if necessary.

7.2.8 Add Employee

The Add Employee button helps you add an employee or employees to the database. These options are identical to the Add Employee(s) option available on the Employee Options Menu (See Add Employee(s) in this section).

7.2.9 Employee Filters

The Employee Filters button helps you sort employees in the database by Division and/or Department. Click “Apply Filters” to sort and click “Remove Filters” to eliminate filtering.

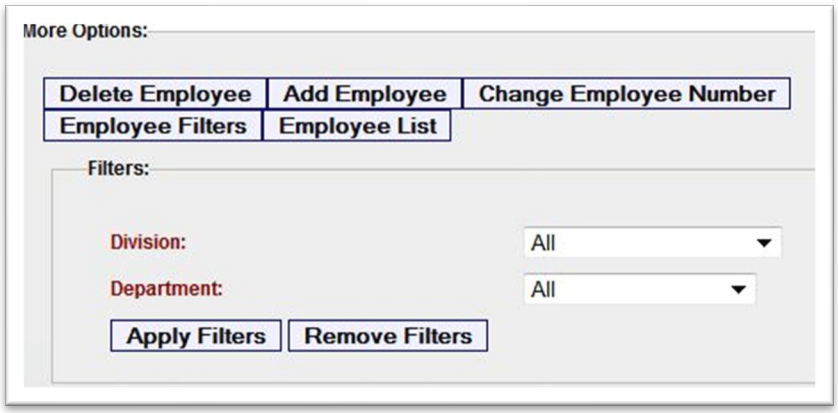


Figure 7-6 Employee More Options Screen – Employee Filters

7.2.10 Employee List

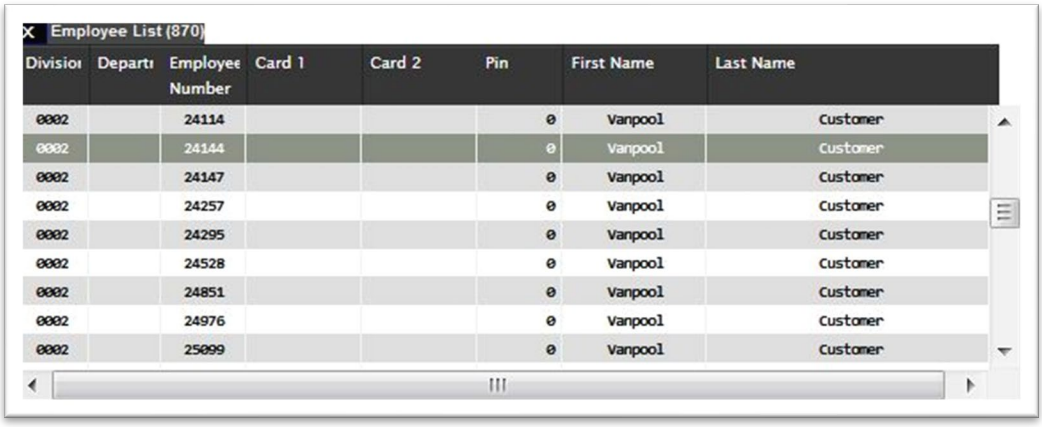


Figure 7-7 – Employee List Screen

The Employee List button will display a list of employees (as shown in the figure above). This allows you to see the employees in the database as a convenient list which may be sorted by Division, Department, Employee Number, Card Number, PIN, Last Name or First Name.

To sort the list by one of the available options, click on the header for that column and the list will be sorted based on the column. Clicking the same column header again will toggle the column between sorted ascending and descending.

To display the details of one of the employees shown in the list view, click on the desired employee number and that employee will be displayed in the Edit Employees screen behind the list. Information cannot be changed directly in the Employee List window.

To change the information associated with an employee, click on that employee in the Employee List window to display it in the Edit Employees screen and make any necessary changes in the Edit Employees screen.

7.3 Add Employees

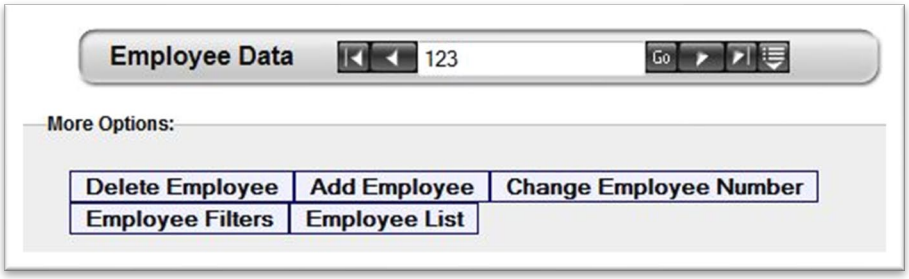


Figure 7-8 – Add Employees Menu

This option helps you add one or more employees by specifying all the information related to the added employees.

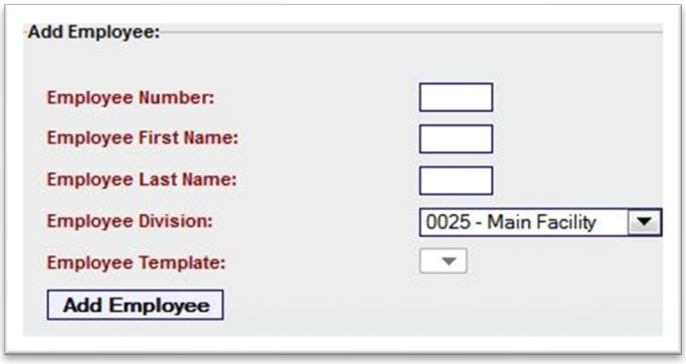


Figure 7-9 – Add Employees Screen

An Employee Number is the only required information. The default settings allow employees to fuel any vehicle at any time on any day of the week. You may adjust these parameters accordingly to limit what and when employees are allowed to service.

Employee Number

Employee Number can be any unique number (integer) between 1 and 999999.

Division

Division to which this employee is assigned. Division numbers can be used to limit the vehicles an employee may service.

Click the "Add Employee" button when you are ready to add the employee. .

Section 8 - Tank Data

The Tank Data section helps you reconcile the amount of fluids dispensed calculated by the system to a mechanical meter attached to the fluid line.

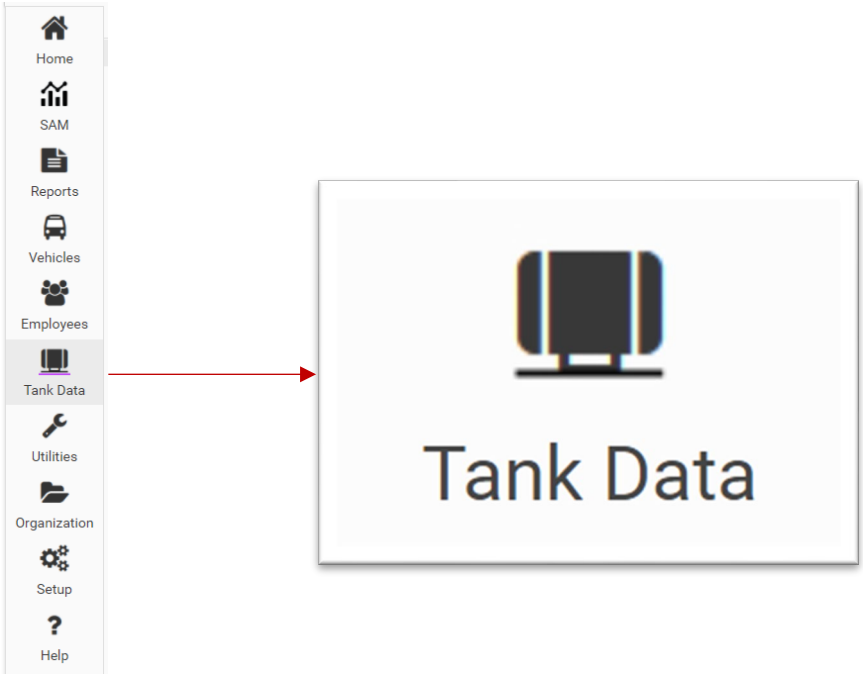


Figure 8-1 – Tank Options Menu

8.1 Reconcile with Tank Monitor Data

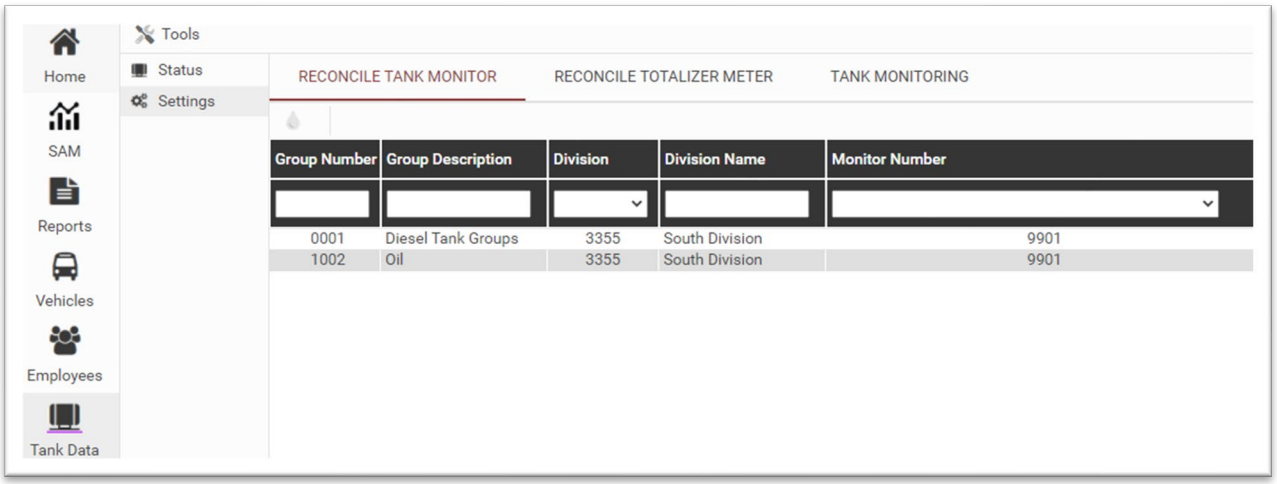


Figure 8-2 – Reconcile Tank Monitor Data Screen

The Reconcile with Tank Monitor Data screen helps you reconcile data from an attached Tank Monitor system such as Veeder Root to data captured by the FLEETWATCH system. This data may then be used to confirm the data from both sources. The FLEETWATCH data might be

used to discover a problem with the Tank Monitor System or the Tank Monitor data could be used to locate a hardware failure in the Fluid Management system, such as a broken pulse meter.

Select a Tank Group

The Tank Group is the tank or group of tanks that contain the fluid you wish to reconcile. A group may consist of only one tank or two or more tanks that are connected in any way. If any two or more tanks supply the same monitored hose on a service lane, then they should be in the same Tank Group. Once the desired Tank Group has been selected click the reconcile button located above the Tank Group list.

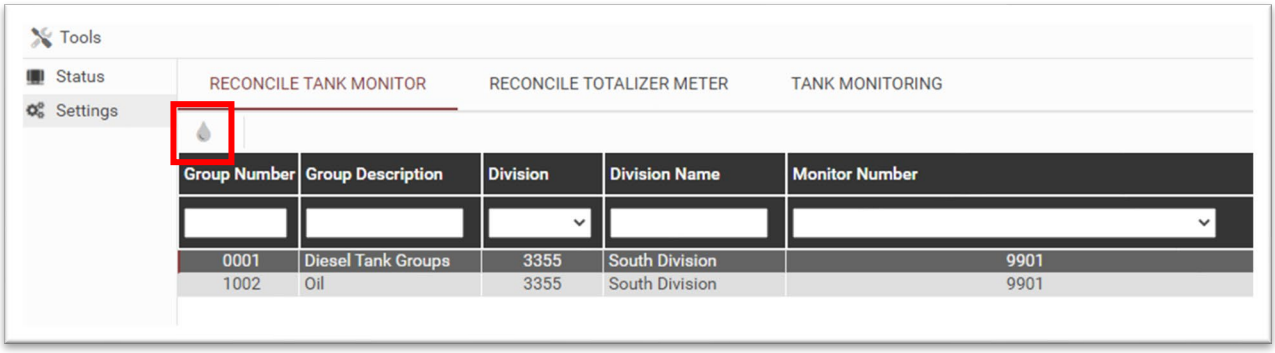


Figure 1-3- Select Tank Monitor Screen

Clicking the reconcile button will bring up the Reconcile Tank Monitor screen.

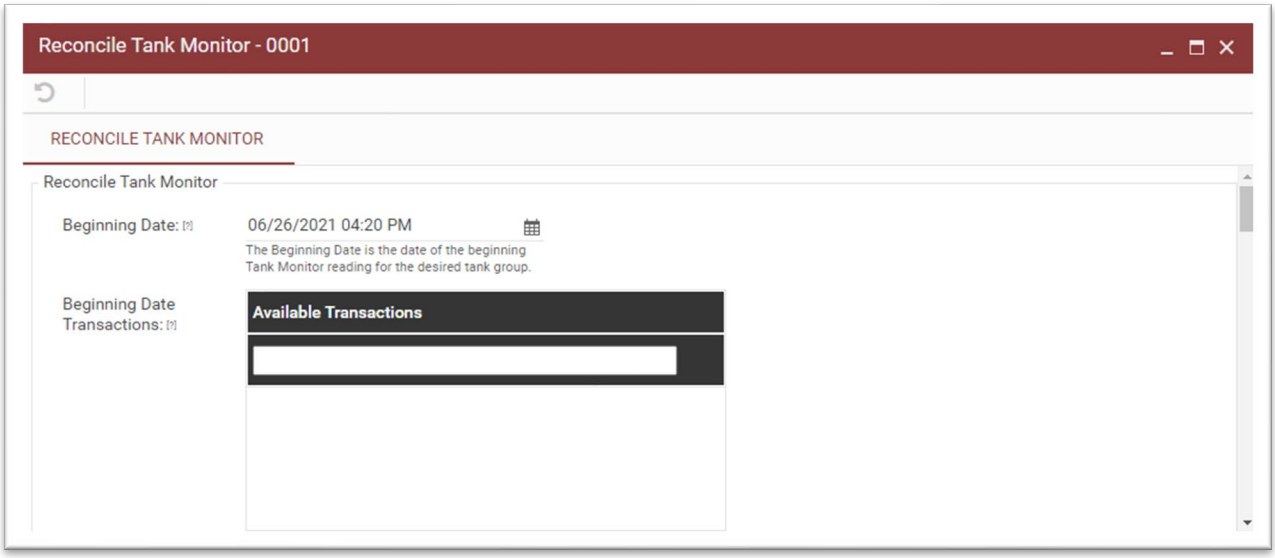


Figure 3 - Reconcile Tank Monitor Screen

Beginning Date and Time

The Beginning Date is the date of the beginning Tank Monitor reading for the desired tank group. The System Controller polls the attached Tank Monitor System for level readings at a specific interval during the day. The time of each successful reading for a specified date is shown in the list box below the date field. To select a Beginning Date, start by entering a date in the Beginning Date field or using the pop-up calendar that appears when you click the calendar at the right of the field.

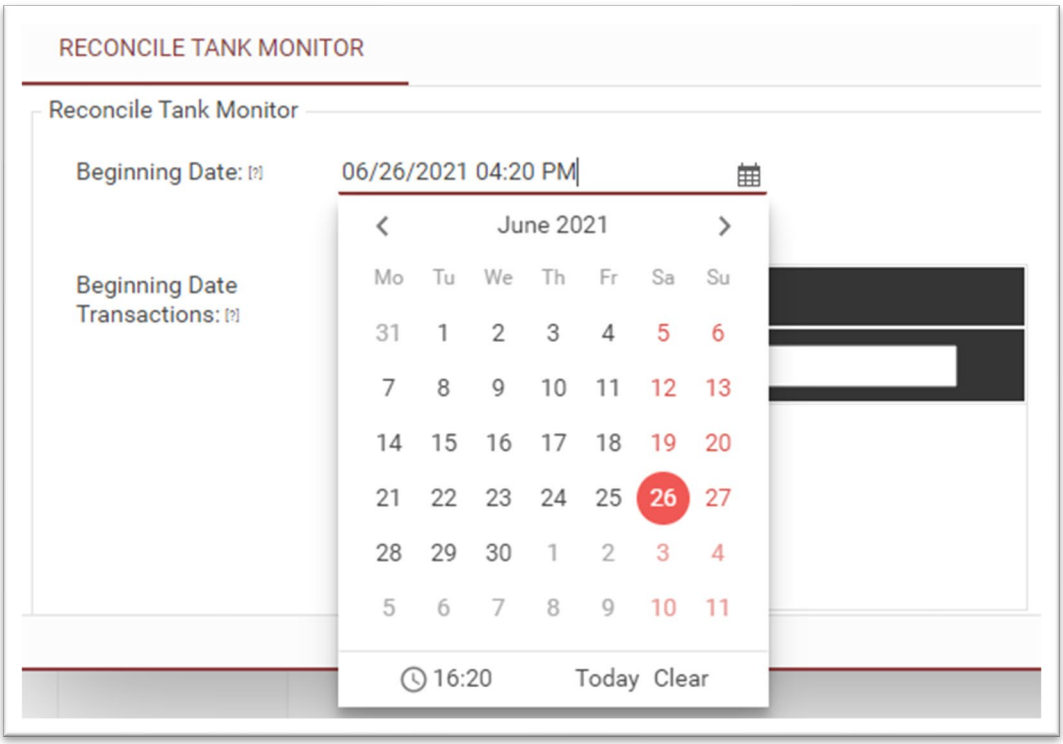


Figure 1- 4 - Selecting Beginning Date for Tank Reconciliation

Once a date has been selected, all the available readings from that date will appear in the time list box below. If no times appear in the list box, then there were no successful readings for the chosen date. If there are no readings for a date that is supposed to have readings this may indicate a problem with the Tank Monitor System or the communications link between the System Controller and the Tank Monitor System. Check that the Tank Monitor is functioning properly and that there is communication between the System Monitor and the Tank Monitor System (see Tank Monitor Setup Section of the System Monitor users guide for more details). Select a time from the list below. You may want to select the first reading after the closeout time at the current facility, or the first reading after midnight on the desired date, or any other time depending on your preference. Once a Beginning Date and Time have been selected you are ready to select the End Date and Time as described below.

End Date and Time

The End Date and Time is the date and time of the ending Tank Monitor reading for the desired Tank Group. The System Controller polls the attached Tank Monitor System for level readings

at a specific interval during the day. The time of each successful reading for a specified date is shown in the list box below the date field. To select an End Date and Time, start by entering a date in the End Date field or using the drop-down calendar that appears when you click the arrow at the right of the field. Once a date has been selected, all of the available readings from that date will appear in the list box below. If no times appear in the list box, then there were no successful readings for the chosen date. If there are no readings for a date that is supposed to have readings, this may indicate a problem with the Tank Monitor System or the communications link between the System Controller and the Tank Monitor System. Check the Tank Monitor is functioning properly and that there is communication between the System Monitor and the Tank Monitor System (see Tank Monitor Setup Section of the System Monitor users guide for more details). Select a time from the list below. You may want to select the first reading after the closeout time at the current facility, or the first reading after midnight on the desired date, or any other time depending on your preference. Once an End Date and Time have been selected, you are ready to Reconcile the Current Tank Group.

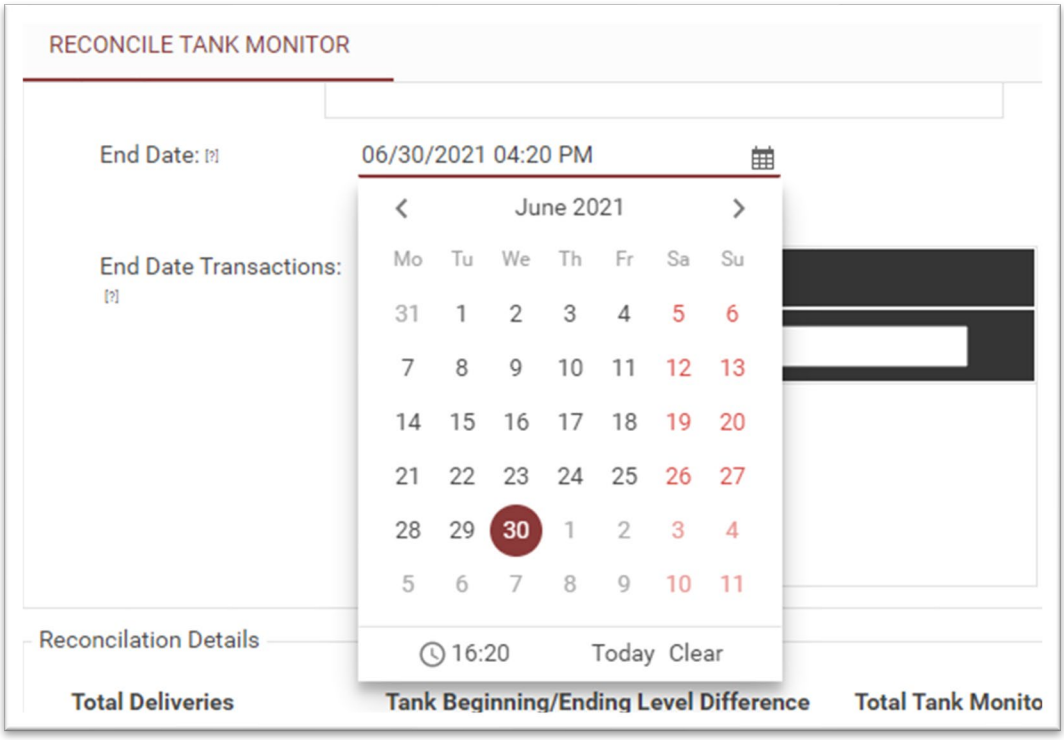


Figure 8-5 Reconcile Tank Group Screen

8.1.1 Reconcile Current Tank Group

Click this button once all of the required options have been selected to begin Tank Group Data Reconciliation. This process may take a few moments depending on the number of tanks in the selected group, the number of flows dispensed from that tank group, and the time span chosen for the start and end date and times. Once the reconciliation is done the results will be displayed under the Reconciliation Details tab at the right of the screen.

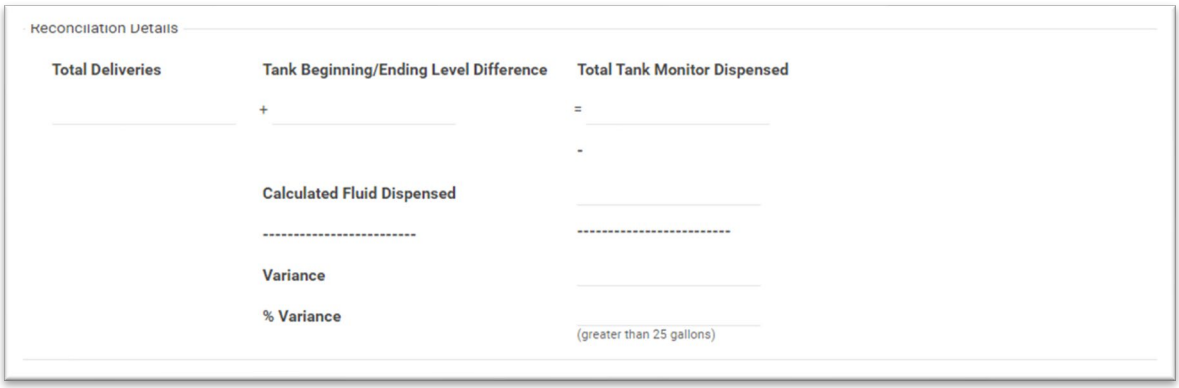


Figure 8-6 Tank Reconciliation Results

8.1.2 Reconciliation Details

These fields display the calculated reconciliation data based on the Tank Monitor, Tank Group and Start and End Date and Times. This section displays a simple overview of the calculated data. More specific details may be found by selecting the other tabs on the Reconciliation screen.

Total Deliveries

This is the total of all deliveries detected by the Tank Monitor System between the Start and End Dates.

Tank Begin Level/End Level Difference

During reconciliation, the program checks the beginning and ending level of each tank in the selected group. A positive difference indicates that the ending level was lower than the beginning level. For example, if the beginning volume of tank 1 was 10,000 gallons and the ending volume was 9,000 gallons, the Tank Begin Level/End Level Difference would be 1,000 gallons. If, due to deliveries, the ending level of a tank group is greater than the beginning level, the difference will be a negative value. For example, if the beginning volume of tank 1 was 10,000 gallons and the ending volume was 11,000 gallons, the Tank Begin Level/End Level Difference would be –1,000 gallons.

Total Tank Monitor Dispensed

The Total Tank Monitor Dispensed is calculated be taking the Tank Begin Level/End Level Difference and adding the Total Deliveries during that time period. For example, if the Tank Begin Level/End Level Difference is 1,000 gallons and the Total Deliveries are 500 gallons, the Total Tank Monitor Dispensed amount would be 1500 gallons. The ending volume of the tank group was 1,000 gallons lower than the beginning level but there were 500 gallons delivered during that time period, so the actual amount dispensed is 1,500 gallons. In another example, the Tank Begin Level/End Level Difference is –1,000 gallons and the Total Deliveries are 2000 gallons. In this case the Total Tank Monitor Dispensed would be 1000 gallons. The –1,000 gallons indicate the ending tank volume was 1,000 gallons greater than the beginning volume (indicating a delivery). We see that 2,000 gallons were delivered during that time so 2,000 gallons delivered added to –1,000 equals 1,000 gallons dispensed.

Calculated Fluid Dispensed

The Calculated Fluid Dispensed is the total volume of fluid the FLEETWATCH system recorded as being dispensed during the specified period from the specified Tank Group. This number should be close to the Total Tank Monitor Dispensed. This number is calculated by totaling all fluid dispensed from each flow assigned to the specified Tank Group. It is important to correctly assign each flow in the RIH Fluids Setup screen to the proper Tank Group for this number to be accurate.

Variance

This is the total variance between the Total Tank Monitor Dispensed and the Calculated Fluid Dispensed. A positive number indicates a greater amount dispensed from the tank monitor system, while a negative number indicates a greater amount dispensed calculated by the FLEETWATCH system. A very large variance may be a symptom of a hardware failure in the tank monitor system, no communication between the tank monitor and the System Controller, failure of a pulse meter, an extended period of fueling with the Fleetwatch system in manual bypass mode, an improperly configured tank group, or an incorrectly assigned fluid in the RIH Fluid Setup screen.

% Variance

The % Variance is the simply the Variance shown as a percentage of the total volume of fluid dispensed. A very large variance may be a symptom of a hardware failure in the tank monitor system, no communication between the tank monitor and the System Controller, failure of a pulse meter, an extended period of fueling with the FLEETWATCH system in manual bypass mode, an improperly configured tank group, or an incorrectly assigned fluid in the RIH Fluid Setup screen.

8.1.3 Tank Group Details

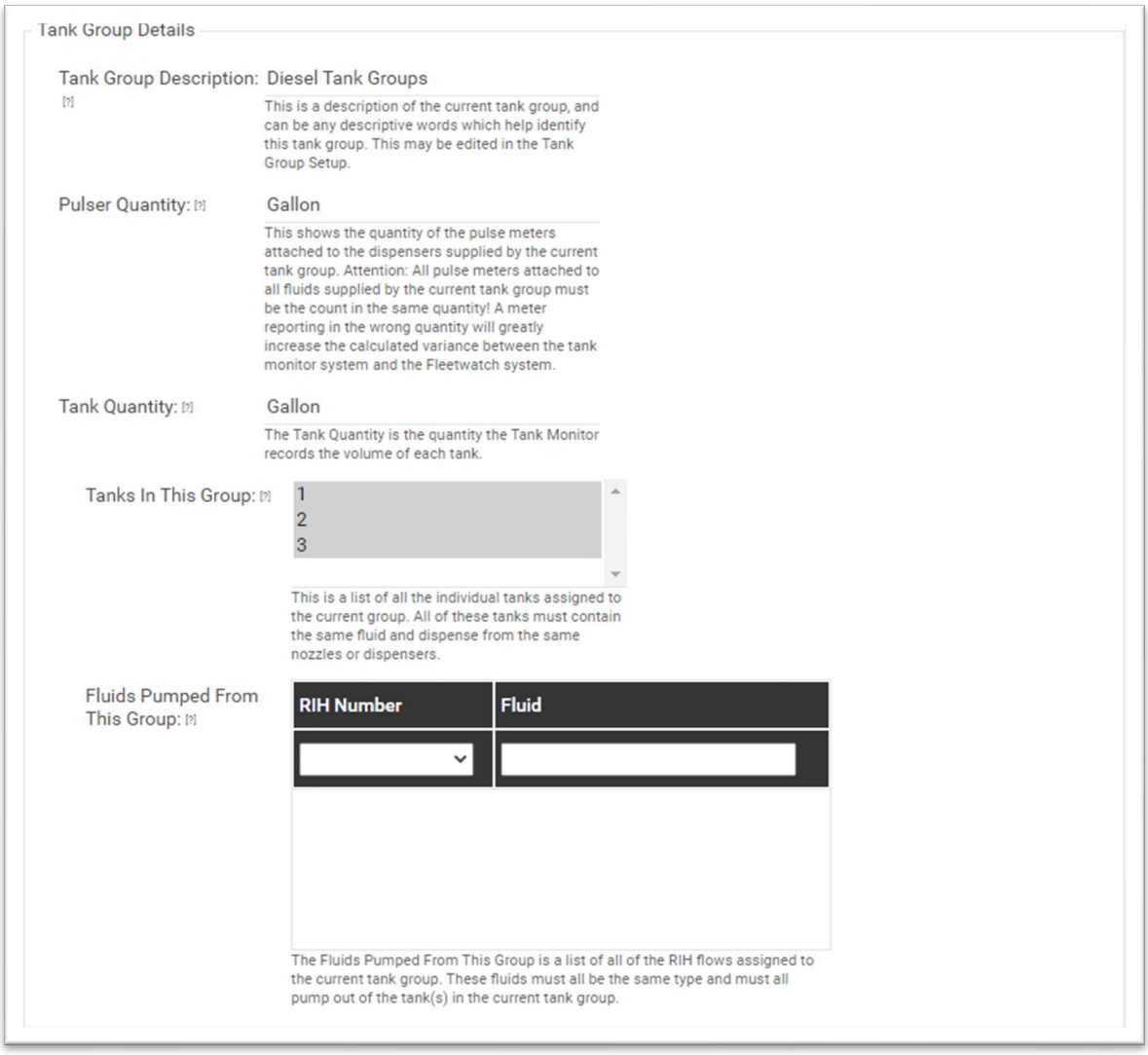


Figure 8-7 – Tank Group Details

This tab shows details about the currently selected tank group. This section can be useful in figuring out which Tank Group is selected if many are available, or in trouble shooting and incorrectly configured Tank Group.

Tank Group Description

This is a description of the current Tank Group. This can be any descriptive words which help identify this Tank Group. This may be edited in the Tank Group Setup screen under the Facility Options menu.

Pulser Quantity

This shows the quantity of pulse meters attached to the dispensers supplied by the current Tank Group. Attention: All pulse meters attached to all fluids supplied by the current Tank Group

must count in the same quantity! A meter reporting in the wrong quantity will greatly increase the calculated variance between the tank monitor system and the FLEETWATCH system.

Tank Quantity

The Tank Quantity is the quantity the Tank Monitor records as the volume of each tank.

Tanks in This Group

This is a list of all the individual tanks assigned to the current group. All of these tanks must contain the same fluid and dispense from the same nozzles or dispensers.

Fluids Pumped from This Group

The Fluids Pumped from This Group is a list of all the RIH flows assigned to the current tank group. These fluids must all be the same type and must all pump out of the tank(s) in the current tank group.

8.1.4 Delivery Details

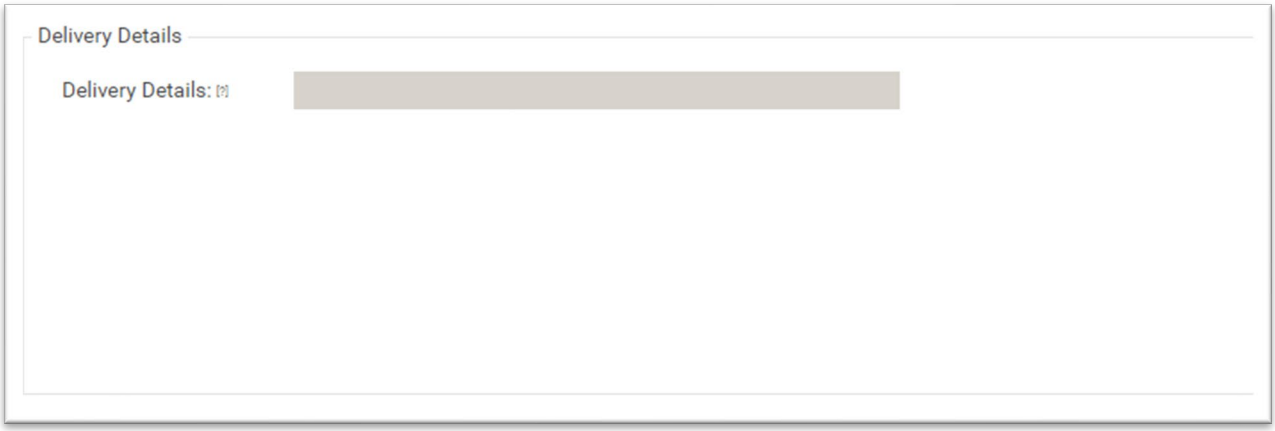


Figure 8-8 – Delivery Details

This tab contains the details of all deliveries to all the tanks in the current tank group during the specified time period. Each delivery is detected by the tank monitor system and reported to the System Controller as a total quantity delivered and the ending time of the delivery. This information is stored by the System Controller and used to calculate the total amount of fluid dispensed as reported by the tank monitor system.

Deliveries Between Selected Dates

This shows the tank number, volume delivered and time of delivery for each delivery to each tank in the current tank group. These are all totaled to calculate the Total Deliveries shown in the Reconciliation Details section.

8.1.5 Tank Level Details

Figure 8-9 – Tank Level Details

This field lists the beginning and ending level of each tank in the current tank group in the date and times selected. The Tank Begin Level/End Level Difference is calculated by subtracting the ending level of each tank from the beginning level. Each difference is then totaled to calculate the total difference for the entire tank group. This section is helpful in finding a problem with one tank in a group.

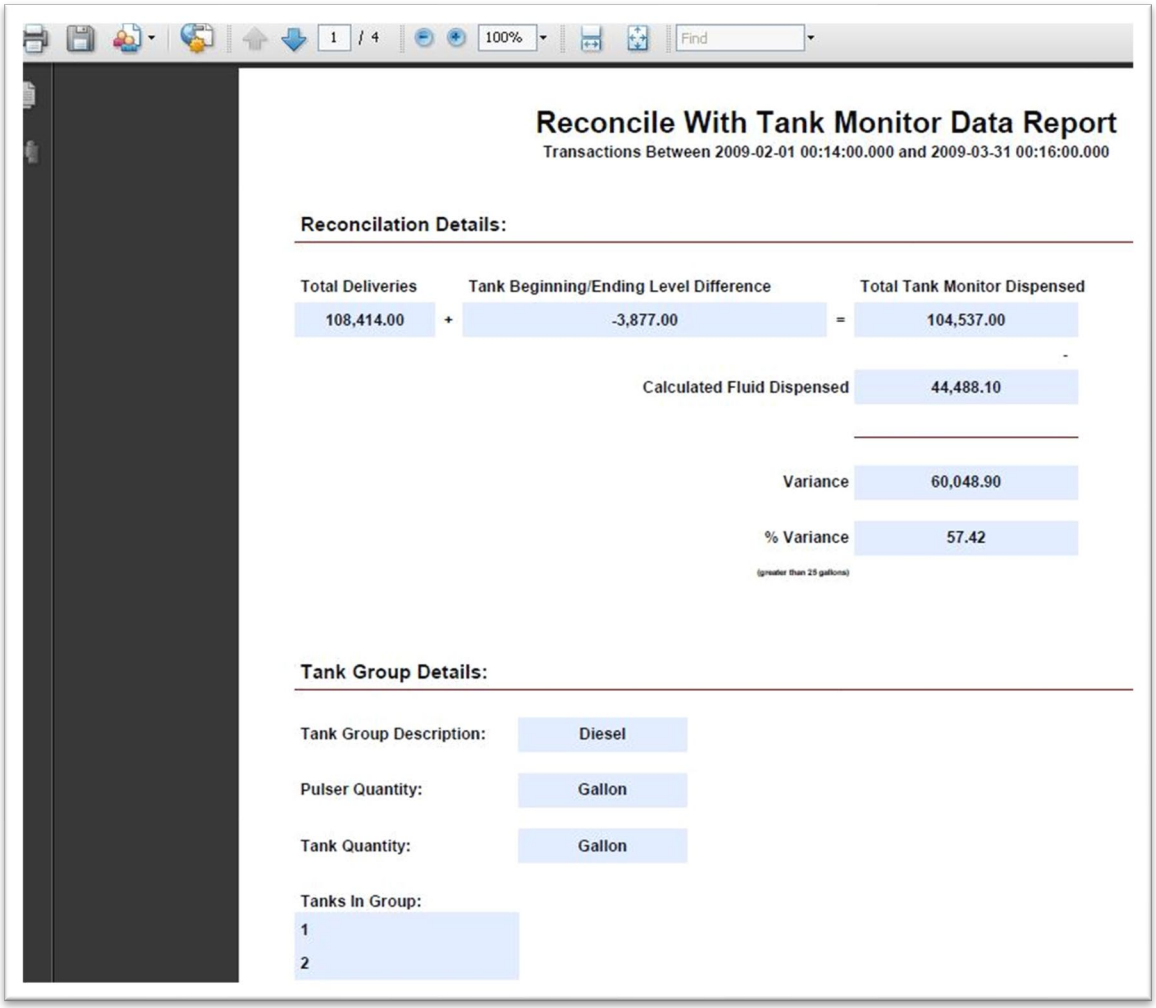
Tank Levels on Selected Dates

This field shows the actual beginning and ending volume of each tank in the group reported to the System Controller on the specified start and end date and time.

8.1.6 Open PDF Report and Print

This button will not be available until a tank group has been successfully reconciled. Once reconciliation is complete, the Print Reconciliation Report button will activate allowing you to print a record of the completed reconciliation.

Sample of Tank Monitor System Reconciliation Report



Reconcile With Tank Monitor Data Report

Transactions Between 2009-02-01 00:14:00.000 and 2009-03-31 00:16:00.000

Reconcilation Details:

Total Deliveries		Tank Beginning/Ending Level Difference		Total Tank Monitor Dispensed
108,414.00	+	-3,877.00	=	104,537.00

Calculated Fluid Dispensed	44,488.10
Variance	60,048.90
% Variance (greater than 25 gallons)	57.42

Tank Group Details:

Tank Group Description:	Diesel
Pulser Quantity:	Gallon
Tank Quantity:	Gallon

Tanks In Group:

1

2

Figure 8-10 – Sample of Tank Monitor System Reconciliation Report in PDF form

8.3 Tank Monitor Status

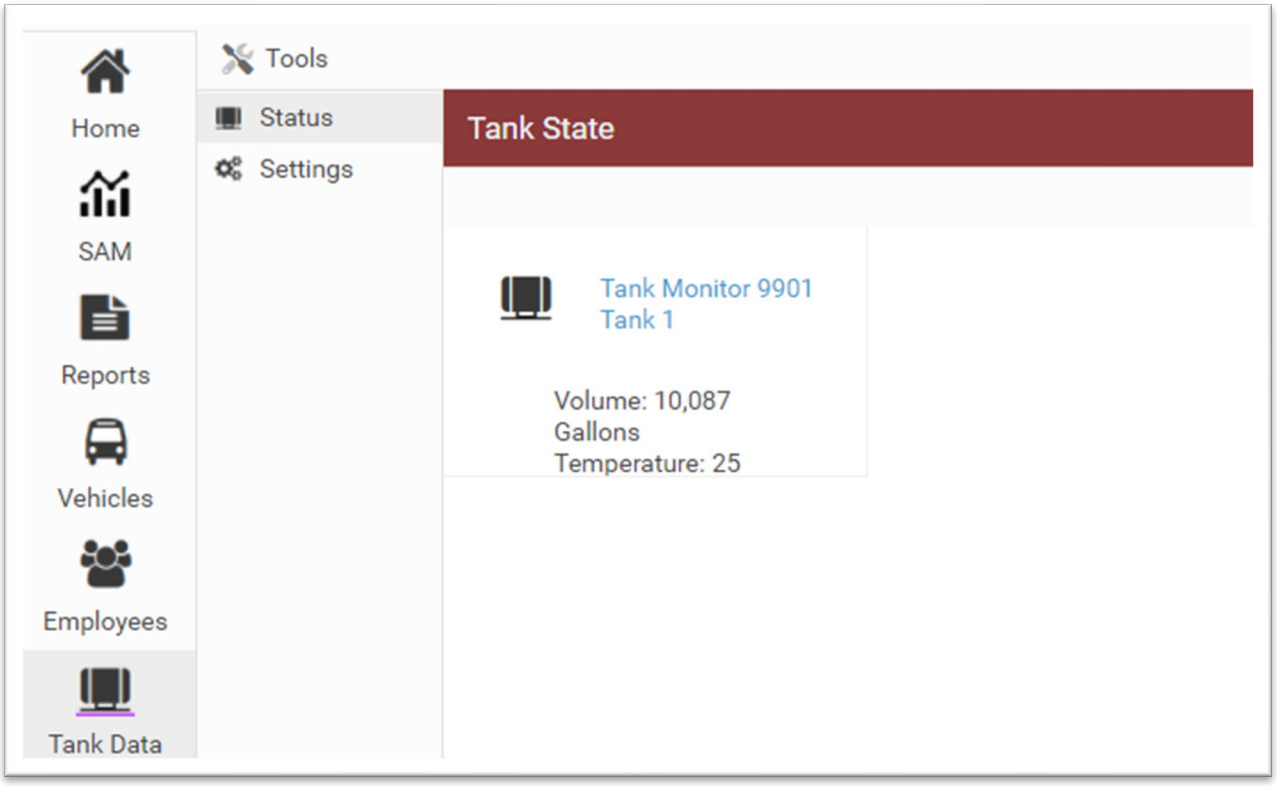


Figure 8-11 –Tank Monitor Status Screen

The **Tank Monitor Status screen** displays the last known status of the selected tank monitor.

Select a Facility

Choose the facility from the dropdown box to bring up the Tank Monitor dropdown box.

Select a Tank Monitor

The number of the Tank Monitor to which the desired tank is connected. This will typically be the only Tank Monitor System attached to the System Controller at the current facility. Occasionally two or more Tank Monitor Systems may be attached to a single System Controller. If this is the case, you must be careful to select the proper Tank Monitor and tank. Once the desired Tank Monitor has been selected you may then select the Tank you wish to view.

Select a Tank

The details of the Tank on the selected Tank Monitor that you wish to view.

8.3.1 Tank Monitor Details section

Time & Date of Reading

The time and date the current reading was recorded for the selected tank.

Division

The division of the current tank as specified in the tank level monitor.

Tank Number

The number of the current tank as specified in the tank level monitor.

Product Code

The product code of the fluid in the current tank. This is the code programmed into the tank level monitor by the (Veeder Root) technician.

TC Volume

The volume of the fluid in the selected tank compensated for temperature. If TC Volume is not available on the Tank Monitor, FLEETWATCH will substitute Volume for TC Volume.

Tank Temperature

The temperature of the fluid in the selected tank at the time of the current reading.

Water Level

The water level in the selected tank at the time of the current reading.

Ullage

The space in the selected tank not occupied by its contents. Used as a measure of storage space still available.

Alarms

Any alarms that were still active at the time of the current reading.

Currently supported alarms include Leak alarm, High Water alarm, Overfill Warning, Low Limit alert, and Theft alarm.

Status

The status of the selected tank at the time of the current reading.

Fluid Level

The level of the fluid in the selected tank at the time of the current reading.

Display Response

The information is shown on the TLS Monitor display.

Display Response Time

The time the last information from the TLS Monitor was updated.

Section 9 - Data Tools FAQ

9.1 How do I pause the S.A.M. Transaction Log?

The Service Activity Monitor (S.A.M.) transaction log refreshes the transaction log grid continuously as it requests new transactions from the FLEETWATCH System Monitor on the FLEETWATCH server. To halt the process to allow searching through the transaction log without it refreshing, reloading, and taking you back to the top of the list:

Pause the transaction log by clicking this icon and then click to resume the transaction log updating.

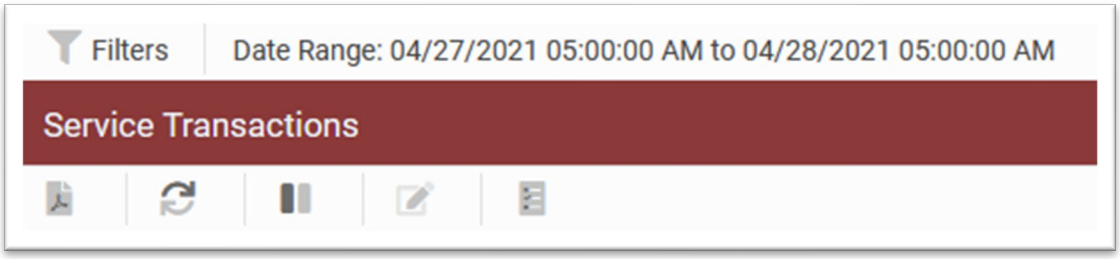


Figure 9-1: Pause and Play the Transaction Log

9.2 How do I add Vehicles and Employees?

To access the add vehicle or add employee utility, click on the Settings option as illustrated in #2 in the figure below. From the "Settings" menu click on the "ACTIONS" tab (#3 in the figure below). From the "ACTIONS" menu click the "Add New" option (#4) to open the add screen. The Employees section works the same way.

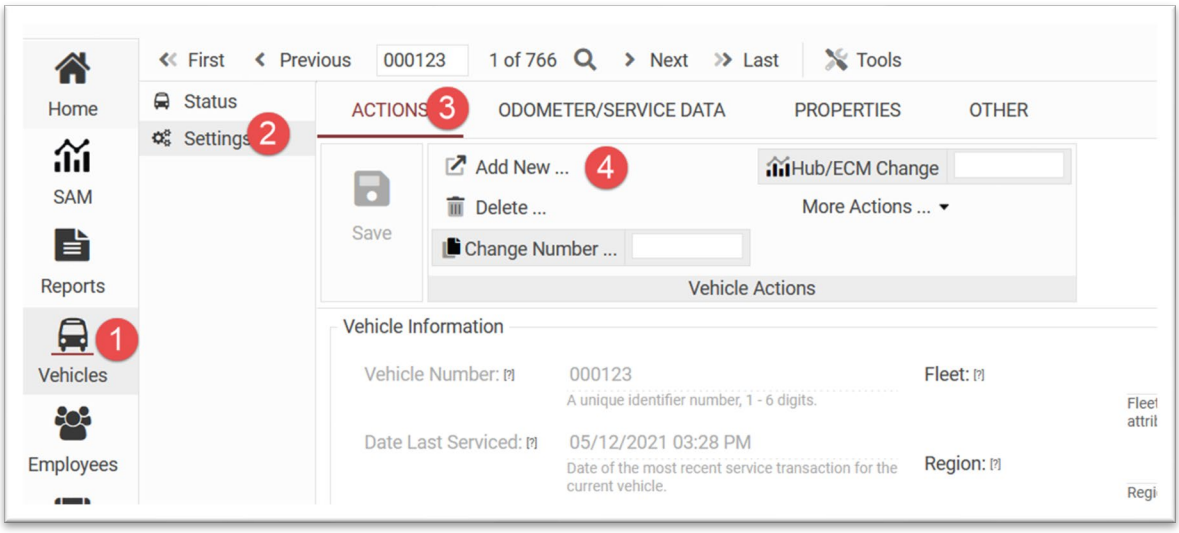


Figure 9-2 - Actions for Vehicles and Employees

9.3 Why can I not access the Vehicles or Employees section?

If you cannot access a section (for example, the Vehicles section is not available when you log in), contact your administrator. The administrator will determine permission levels to access the different sections of Data Tools.

9.4 Please HELP! I deleted a vehicle or employee. Can I recover the settings and history?

Yes, contact FLEETWATCH for assistance recovering the data. When a vehicle or employee is deleted, the vehicle or employee is removed from the active database, but the service history is saved in the tables. FLEETWATCH can recover the data and restore the vehicle or employee.

9.5 Can I have reports scheduled to run daily?

Yes, reports can be scheduled to run on a customizable schedule for you. You can have different reports sent to you via email and/or printed (if printer is available on the network). Contact FLEETWATCH or your systems administrator for assistance setting up the report scheduler.

9.6 How do I change the time the reports are emailed/printed?

1. Go to Utilities, Report Utilities and then the Report Scheduler.
2. Find the report you want to change. Click the Edit button to expand the options.
3. Scroll down to the Report Scheduling, see the "User Specified Time", and select it.
4. Change the time in the Next Print Date box.
5. Scroll down and click the Edit Report button below the "Email To:" box.

9.7 Why don't reports run?

To run Data Tools reports in a Web browser, pop-up blocking must be disabled for the Data Tools Intranet page. In our example, the Intranet address of the Data Tools server is http://sql-server/.

At the very least, allow pop-ups for your Data Tools Intranet page, even if network security protocols (and good common sense) require pop-up blocking on your PC. See the Reports section of the manual for more detail.

9.8 I cannot remember my Admin password. How can I retrieve it?

Contact FLEETWATCH at 972 722-1009, x.32 for a temporary password. The temporary password works for 24 hours, so be sure to set up your new Admin password during that time.

9.9 How do I Edit User Rights?

You can modify the settings established for a user to access the system. Select User Access from the “Setup” menu. Then select a user from the user list and click the edit icon above the list.

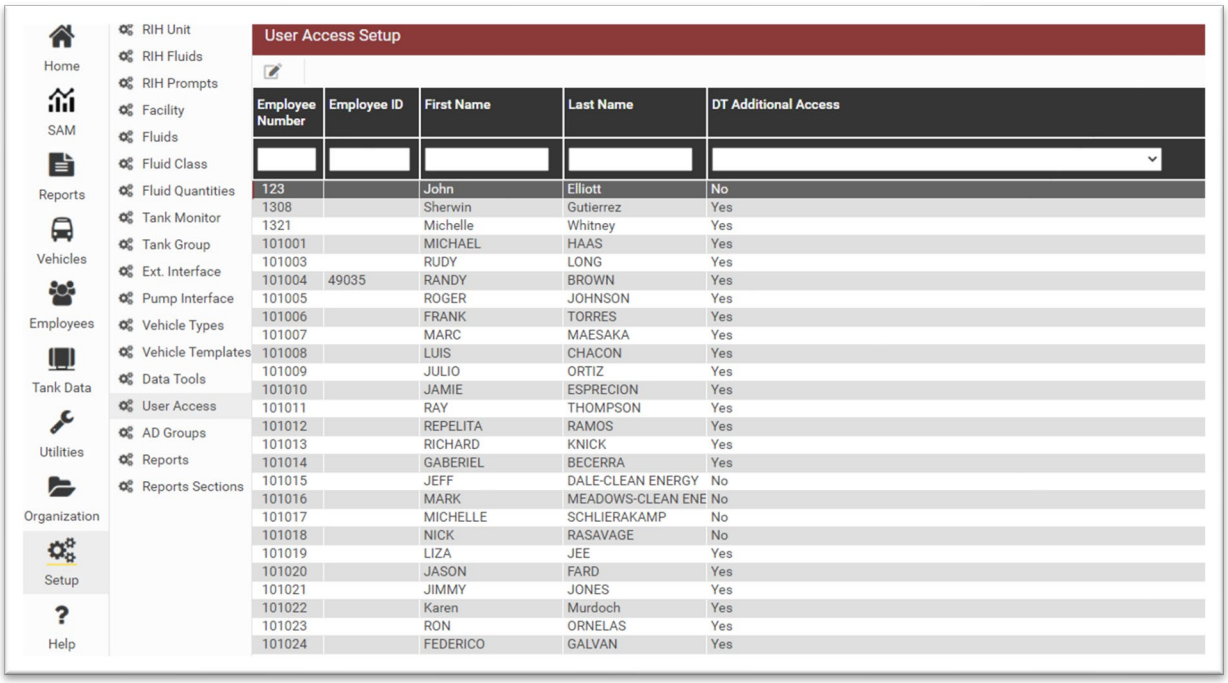


Figure 9-3 – Edit User Rights

You will then see the current settings for the particular user. Make changes and click the save icon to save the changes for the employee. Changes take effect the next time they attempt to log in.

If the system is set to use Windows Active Directory (W.A.D.), see your company’s administrator(s) for help with remembering your Windows password.

If W.A.D. box is not checked, you can change the password by entering a new password and confirming it.

Employee timeout is normally 14,400 seconds (4 hours).

Employee email is useful for future password recovery if W.A.D. is not in-use.

Take this time to review the user's setup in the Program Section Access. Adjust Read, Edit, and No Access, if necessary.

Scroll down and Update User when you're ready.

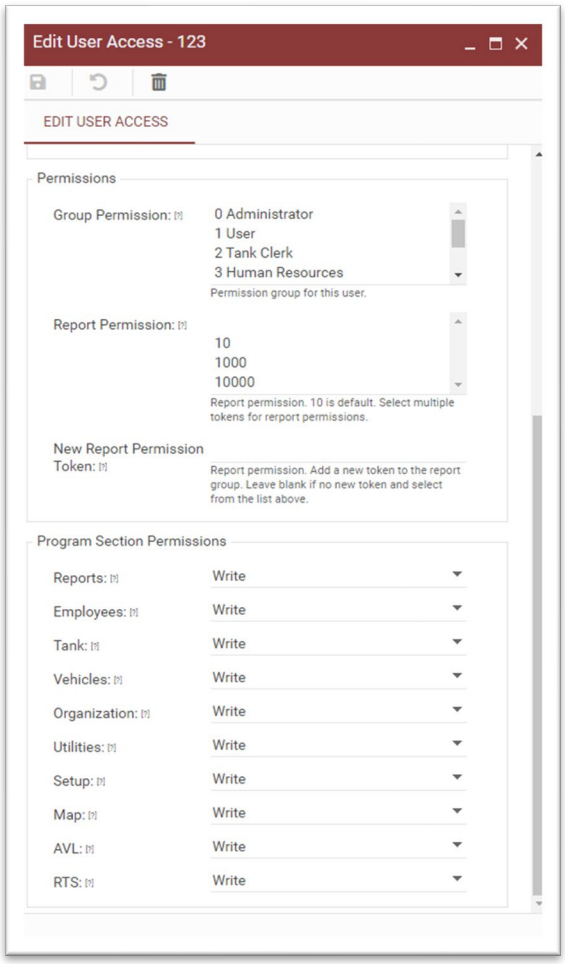


Figure 9-4: Edit User Rights

9.10 Why does Data Tools keep logging me out?

Contact your administrator to adjust the timeout associated with your username. The most common timeout is 14,400 seconds (4 hours). Your administrator can adjust this figure to a time that better suits your Data Tools experience.

Data Tools will now log you out when you close the browser window unless you have Data Tools open in more than one tab or window.

9.11 What do the different odometers in FLEETWATCH indicate?

The Input Odometer is the raw odometer entered in several different ways: the odometer pulled in during servicing from a mileage-collecting device such as the JX Data Logger; the odometer entered in the keypad by a service lane attendant; or an odometer entered in the system manually through a FLEETWATCH utility. This odometer is not the ideal odometer to feed into a maintenance system.

The LTD Odometer is protected from unreasonable mileage jumps due to incorrect manual entries or faulty mileage-collecting devices. It is protected by upper and lower bound MPG settings. This is the ideal odometer to feed into a maintenance system.

9.12 Can we use Windows active directory (LDAP) usernames and passwords to login to Data Tools?

Yes, an administrator can setup Data Tools users to be able to login to Data Tools using the same username and password they use to login to their network. In the example below, the "Use DT Password Instead of Active Directory" option is unchecked, so the user is setup to login to Data Tools using his typical username. The password fields are not editable in this case because Data Tools is matching the information to the Windows active directory.

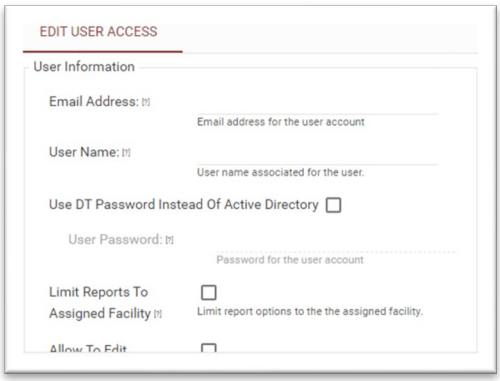


Figure 9-5 - Data Tools Active Directory LDAP User Setup

9.13 What do I do when Firefox asks me to Continue or Cancel because a script is taking too long to run in Data Tools?

Click "Continue". Data Tools must process large amounts of data and can take some time to run scripts.

9.14 How do I keep my lawn mowers, containers, and other service equipment from loading mileage into my maintenance software system?

Mark these items as "Containers" in the vehicle properties section for each piece of equipment.

9.15 My S.A.M Web page is completely blank. How do I fix it?

In Internet Explorer, , press ALT + X, and go to Compatibility Settings. Uncheck the box next to “Display intranet sites in Compatibility View” and close the box. Refresh S.A.M.

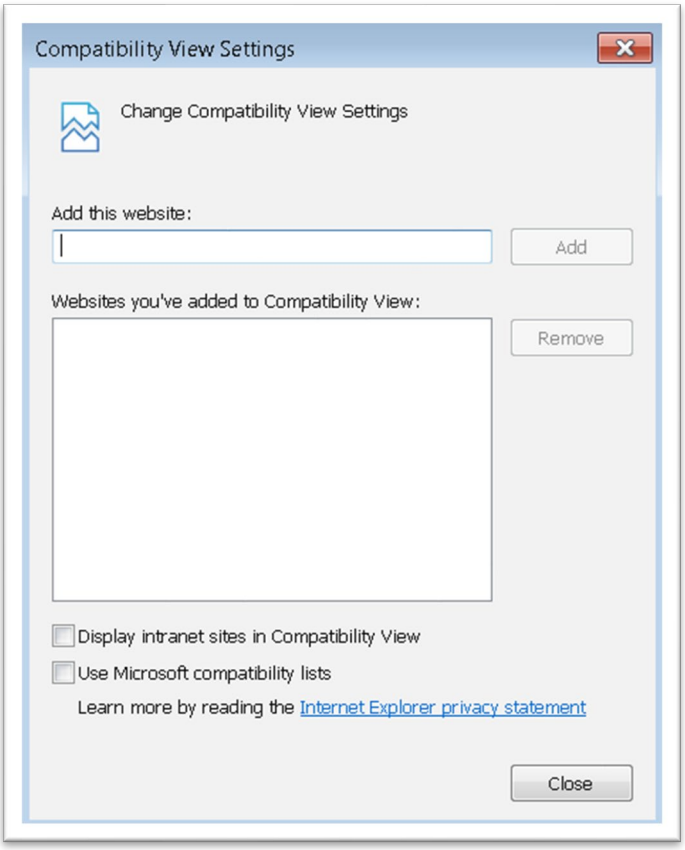
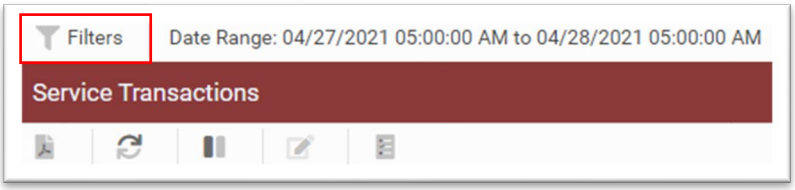


Figure 9-6: Compatibility Mode

9.16 S.A.M shows different sections like Vehicles and Transaction Log, but there’s no information. How can I see the transactions and activity?

You may need to set up the division filter on the browser; especially if there have been any updates. Use these instructions to set up S.A.M so you can see the real-time data.



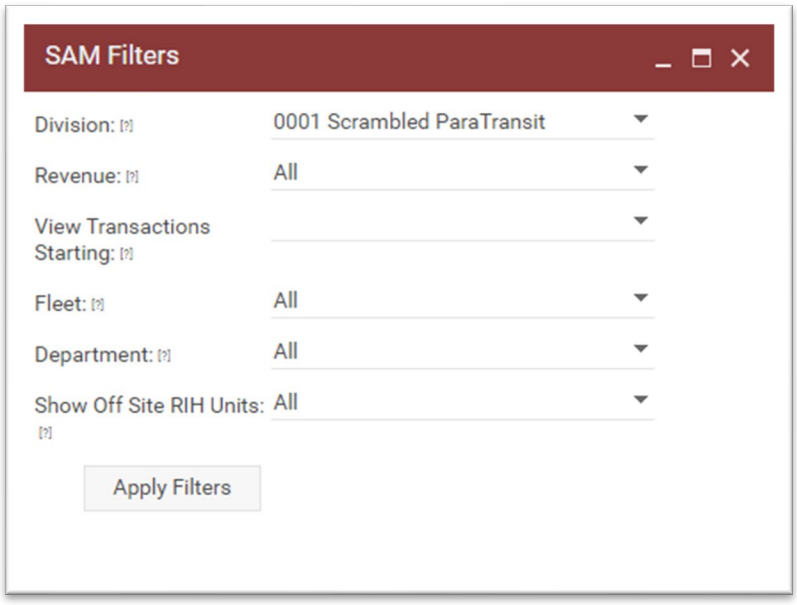


Figure 9-7: Select Division in SAM for first time or after browser cookies are deleted

9.17 Why are my Emails Not Being Received by End-Users?

By default, Exchange limits who can send email to dist. groups also to authenticated users. We are using SMTP to send emails, so IT will need to make an exception to the group to allow these emails.

9.18 How do I add a shortcut for FLEETWATCH Data Tools to my desktop?

Right-click on the desktop.

Select Shortcut from the list of options.

Copy and paste or type in the location of the Web address of your Data Tools page, example http://fleetwatch_server/

Click Next to continue.

When it asks you to name the shortcut, type in FLEETWATCH Data Tools.

Click Finish to create the shortcut.

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