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# Performance Monitoring Application & Configuration Guide

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# Performance Monitoring

## Administration and Configuration Guide

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# Contents

## CHAPTER 1

# Getting Started

The Performance Monitoring application tracks vehicle and driver performance via direct interface with the vehicle's sensor inputs or onboard data bus. The Fuel Manager module within Performance Monitoring provides reporting and data presentation tools to help you reduce fuel consumption by proactively managing driver and vehicle performance.

Performance Monitoring records and reports on the following data:

– Idling

– Speed

– RPM

– Coasting out of gear

– Fuel consumption

– Engine time

– Distance traveled

– Time in top gear and time in cruise control

This chapter contains information about the following topics:

▶ Performance Monitoring Set Up Checklist

▶ Receiving Data by Driver

▶ Setting Up Driver Login

▶ Using Performance Monitoring

▶ How Drivers Log In and Out

## Performance Monitoring Set Up Checklist

Setting up Performance Monitoring requires the same steps regardless of the number of vehicles in your company's fleet. Print out the checklist in Table 1 on page 1 and use as necessary to set it up.

**TABLE 1.** Set up checklist

| Task # | Description | ✔ |
|--------|-------------|---|
| 1 | If you use Mobile Computing Platform (MCP) units, you subscribe to Performance Monitoring in your operational profile. Your Customer Service Representative (CSR) receives notice that you want to use the application and contacts you to assist with implementation. If you do not use MCPs, ask your CSR for assistance. | |
| 2 | Decide whether you want to receive data by driver or by vehicle. See "Receiving Data by Driver" on page 3. | |

**TABLE 1.** Set up checklist

| Task # | Description | ✔ |
|---|---|---|
| 3 | If you decide to receive data by driver, set up your driver login credentials based on unit type.<br><br>See "Setting Up Driver Login" on page 3 for more information. | |
| 4 | Define systemwide parameters that affect daily operations.<br><br>For more information, go to Chapter 7, "Configuring the Performance Monitoring Application." | |
| 5 | Determine how you want to define vehicle types. Suggestions are:<br> – By truck or engine type<br> – By operation<br> – By owner/operator/company drivers<br> – By mechanical or electronic engine<br>Define your vehicle types.<br>For more information, go to Chapter 2, "Maintaining Vehicle Information."<br><br>**Note:** Models older than 1994 should have their own parameter type and enable the standard speed sensor. | |
| 6 | Create vehicle/driver management groups as needed. See Chapter 5, "Managing Groups." | |
| 7 | After your CSR confirms that Performance Monitoring is enabled, verify that vehicles are in the system by looking in the Vehicle Directory. | |
| 8 | Assign vehicle types and managers to individual vehicles. | |
| 9 | Create global groups as needed. See Chapter 5, "Managing Groups." | |
| 10 | Define fleetwide exception thresholds and set extract cycles. See Chapter 7, "Configuring the Performance Monitoring Application." | |
| 11 | Register drivers (only if you choose to manage by drivers in step 3.) See Chapter 3, "Managing Drivers." | |
| 12 | Create an administrative account. This is used to remove insignificant records from reports and queries. See Chapter 6, "Editing Records." | |
| **13** | Train drivers, if managing data by drivers.<br><br>Omnitracs publishes Performance Monitoring driver quick reference cards for some driver display unit types to help you train drivers. Contact your CSR.<br><br>MCP110, MCP200, and MCP50 platform units have onboard training to help drivers. | |

# Receiving Data by Driver

To manage data by driver, you create login credentials for your drivers to use on the mobile unit. For teams, both drivers log in and can change the active driver when they switch. Data is collected and reported by driver.

If you do not have drivers log in, data is collected and reported by vehicle. Managing data by vehicle is effective if you know by the vehicle ID who was driving, or if you are not using the data to manage driver behavior.

Managing by driver requires these tasks:

- Determine your driver ID and password convention. Choose a convention that is easy for the driver to remember but not easy for another driver to guess.

- Create driver records and register them in Performance Monitoring. These are uploaded and stored at the NOC. When drivers log in, their credentials are verified over the air.

- Train drivers and distribute their login information.

> Omnitracs publishes Performance Monitoring driver quick reference cards or provides onboard training for all driver display unit types to help you train drivers. Contact your CSR.

*By the Way*

- After extract cycles, identify and correct missing driver data. This occurs when a driver neglected to log in, or the wrong driver was logged in.

You must also continue performing driver administration as drivers join and leave the company.

If you restrict user access to driver data with the use of global groups, you must continue maintaining global groups as users and drivers join and leave the company. See "Global Groups" on page 41.

# Setting Up Driver Login

You manage driver passwords based on the type of mobile units installed in your fleet. Driver records can have two passwords:

- MCT: 9 digit number set in QTRACS or Performance Monitoring software

- Driver or global login: 8 character alphanumeric set in QTRACS software

*Global login* is a feature of the OmniTRACS system (if you have not yet replaced OmniTRACS units with MCP units) that lets you receive notification when drivers don't log in after certain thresholds are met.

*Driver login* is used with MCP units. Driver records in QTRACS software have one password field for both global and driver login, and one for the Performance Monitoring (MCT) password.

> The MCT password is also called the Comm Unit password and the SensorTRACS password.

*By the Way*

Depending on your fleet configuration, you set one or both passwords as illustrated in Table 2 on page 4.

**TABLE 2.** Mobile units and passwords

| Unit type: | Use password type: | Notes |
|---|---|---|
| OmniTRACS mobile information system | Global login or MCT | Driver can use MCT password if global login is not enabled.<br><br>If it is enabled, driver uses the global login password but the MCT password must appear in the driver record. |
| Mobile Computing Platform (MCP50/100/110/200) | Driver login | The MCT password is not recognized by MCP units |
| Mixed fleet: MCP and OmniTRACS units | Global and driver login | Must set the MCT password also for drivers in vehicles equipped with OmniTRACS units. |

## Setting up Driver Records

You set up and maintain driver records in your QTRACS application on the Services Portal. If needed, set both the global/driver login and MCP passwords. Use online help if you have questions about how to set up driver records in the QTRACS/portal application.

Follow the procedures in Chapter 3, "Managing Drivers," to register drivers.

## Using Performance Monitoring

You use Internet Explorer (v8, 9, or 10), Firefox, or Chrome to access Performance Monitoring software.

If you log in directly to the Services Portal, the URL is https://services.omnitracs.com. You must know your company ID, user ID, and password to log in. On the portal page that opens, click **Performance Monitoring**.

If you log in through the Customer Portal, click the **Perf. Monitoring** button on your home page. You must know your user ID, and password to log in.

The Performance Monitoring application opens to the Dashboard

## How Drivers Log In and Out

How drivers log in depends on the type of mobile unit in the vehicle:

- MCP—driver logs in to the unit, and the login information is used for multiple mobile applications, such as Navigation and Hours of Service.

- OmniTRACS—if you use Global Login, the driver logs in to the unit. If not, the driver logs in to Performance Monitoring (displayed as SensorTRACS).

Team drivers both need to log in and indicate whenever there is a change in driver. A driver is not logged out when the vehicle is turned off or the mobile unit is reset.

Omnitracs publishes driver quick reference cards or provides onboard training for all driver display unit types to help you train drivers. Contact your CSR to order.

If your company has decided to receive Performance Monitoring information by vehicle rather than by driver ID, drivers do not need to log in.

Drivers log out using the mobile application they used to log in. They should log out when they finish a trip. If the driver shuts off the vehicle without logging out, he or she is still logged in when the vehicle is started again.

# CHAPTER 2

# Maintaining Vehicle Information

This chapter includes information about the following topics:

▶ Maintaining Vehicle Types

▶ Maintaining Vehicles

▶ Maintaining Fleetwide Exception Thresholds

▶ Maintaining Life-to-Date Information

## Maintaining Vehicle Types

A vehicle type defines performance standards for all of the vehicles assigned to that type. The vehicle parameters, such as the idling and over speed thresholds, affect the accuracy and usefulness of Performance Monitoring reports and queries. You can set one of your vehicle types to be the default when new vehicles are added to Performance Monitoring. You can perform the following tasks:

• Defining New Vehicle Types

• Setting the Default Vehicle Type

• Changing Vehicle Type Parameters

• Checking the Parameter Reset Status

• Deleting a Vehicle Type

Because fleets usually have vehicles with engines from different manufacturers or with different options, you might need to define several vehicle types. Generally, you can define as many vehicle types as you need.

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Vehicle type Rsv is reserved and is assigned to auto-created vehicles until you change your default vehicle type. You can't change Rsv parameters and you don't want to leave new vehicles assigned to type Rsv, so it is recommended that you set your own default vehicle type. If you delete Rsv, it appears again if it is the default when a vehicle is auto-created.

*By the Way*

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## Defining New Vehicle Types

Before you begin adding vehicle types, determine how you want to group vehicles for setting the performance parameters. Best practices include:

– By truck or engine type

– By operation

– By owner/operator/company drivers

– By mechanical or electronic engine

Use the worksheet in Appendix C, "Vehicle Type Parameters Worksheet" to define your vehicle types.

## Task: Define vehicle types

1. Click **Setup**.

2. Click **Vehicle Types**.

**FIGURE 1.**
Vehicle Types page



3. Click **Add vehicle type**.

For field descriptions, see Table 3 on page 12.

4. In the **Vehicle Type** field, type a 3-character code to identify the new set of parameters.

5. Type a short description.

6. If this vehicle type is used for vehicles that have OmniTRACS units, specify the remaining Data Source values for this vehicle type.

   If you enable Standard Speed Sensor, the Calibration Value field appears. If you change the Distance Measurement Units for this vehicle type, associated fields are reset to blank.

   ---

   Data bus configuration for MCP series units are configured in the Vehicle Data Configurator. If you need assistance configuring MCP units, contact your CSR.

   *By the Way*

   ---

7. Click **Performance Monitoring**.

8.  Specify the thresholds you want to monitor for this vehicle type.

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*By the*
  *Way*

Set the Maximum Cool-down, Maximum Warm-up, and End Trip Threshold settings as the same value. This provides consistency for the longest amount of time that a driver should let the vehicle idle. Set the Over Speed Threshold two miles higher than you allow. For example, if you allow a maximum speed of 65 MPH, set this field to 67 MPH. Add 5 MPH for the Excessive Speed Threshold. In this example, set the field to 71 MPH.

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9.  Click **Fault Monitoring**.

For field descriptions, see Table 3 on page 12.

10. Check the mobile unit faults to monitor for this vehicle type. Omnitracs recommends that you enable only JBus LTD mismatch.

    If you enable a fault, a fault transaction is generated if the fault occurs at the mobile unit. The fault is viewed from the vehicle performance tab or driver fault events display. You can generate an alert for faults.

11. Click **Mobile Behavior**.

**FIGURE 5.**
New Vehicle Type
page (3 of 4)
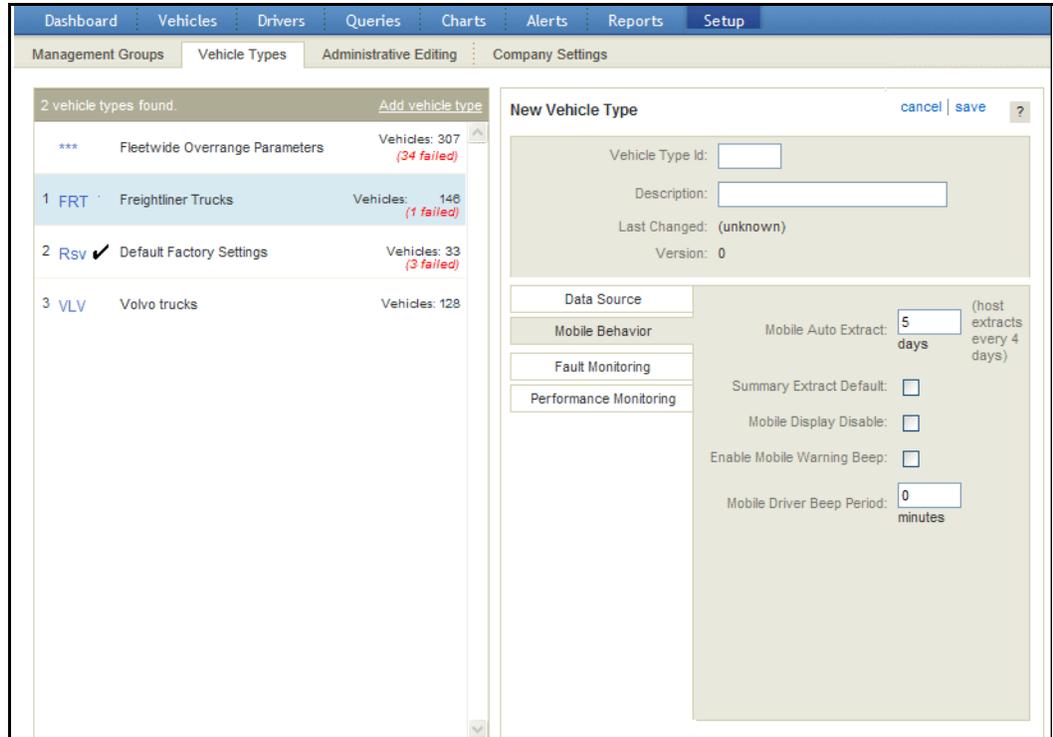


For field descriptions, see Table 3 on page 12.

**12.** Type the frequency to extract data for this vehicle type, and check the boxes to specify how the mobile unit behaves when Performance Monitoring is enabled.

**13.** Click **save**.

*The list refreshes with an entry for the vehicle type you just added.*

**TABLE 3.** Vehicle Type fields

| Field | Description | Typical value |
| --- | --- | --- |
| **Vehicle Type Id** | The 3-character identifier for the vehicle type | |
| | **Note:** Vehicle Type Rsv is reserved for system use. | |
| **Description** | Describes the vehicle type | |
| **Last Changed Version** | Information associated with each extraction. The system sets the values. | |

### Performance Monitoring
Set the thresholds for monitoring driver performance.

| | | |
| --- | --- | --- |
| **Minimum Warm-up** | The minimum number of minutes that a vehicle should idle after the ignition is initially turned on before it begins moving. If a vehicle moves before the minimum warm-up time, a warm-up violation occurs. | 3 minutes |

**TABLE 3.** Vehicle Type fields (continued)

| Field | Description | Typical value |
|---|---|---|
| **Maximum Warm-up** | The maximum number of minutes that a vehicle should idle after the ignition is turned on before the vehicle begins moving. If the vehicle doesn't move after the maximum warm-up time, intertrip idle time starts accumulating. | 5 minutes<br><br>Set value higher than minimum warm-up |
| **Minimum Cool-down** | The minimum number of minutes that a hot vehicle should idle before the ignition is turned off. A cool-down violation is recorded if the engine is turned off before this time period expires. | 3 minutes |
| **Maximum Cool-down** | The maximum number of minutes that a vehicle should idle before the ignition is turned off. Intertrip idle starts to accumulate if maximum cool-down time is exceeded. This also determines the short stops interval. | 5 minutes<br><br>Set value higher than minimum cool-down |
| **Extended Idle Threshold** | The amount of time specified before intertrip idle is considered extended idle, usually due to sleeper berth time. If intertrip idle ends before this threshold is reached, the event is considered a short idle event as well as an intertrip idle event. Extended idle events are calculated by subtracting short idle from intertrip idle. This way, sleep time can be separated from other intertrip idle time. A typical value is 90 minutes.<br><br>Extended idle and short idle fields do not display on Performance Monitoring pages and reports for vehicles with OmniTRACS firmware prior to version 14.6. | |
| **Over Speed Threshold** | The speed in MPH (or KPH) that, when exceeded, causes the mobile unit to accumulate over-speed time.<br><br>**NOTE:** Overspeed time may not accumulate when the cruise control is engaged if the overspeed threshold is less than the engine's maximum cruise speed setting. | 60 MPH |
| **Excess Speed Threshold** | The time that the vehicle's speed is over this value is captured as excessive overspeed. | 65 MPH<br><br>Set value greater than over speed threshold |
| **Over RPM Threshold** | The time that the vehicle's RPM is above this value is collected as overrev data. Set the threshold slightly higher than the expected RPM of the vehicle when it is in high gear and at the selected over speed threshold to make sure the overrev data is valid and not tainted by regular operation near the over speed threshold. | 170 (1700 RPM) |
| **Begin Trip Threshold** | The distance traveled before the mobile unit records the beginning of a trip segment. This value is specified in tenths of a mile/kilometer. | .7 mile |

**TABLE 3.** Vehicle Type fields (continued)

| Field | Description | Typical value |
|---|---|---|
| **End Trip Threshold** | The amount of continuous idling time required for the mobile unit to assume that a trip segment has completed. Turning the ignition off before the End of Trip Threshold expires also ends the trip segment. | 5 - 10 minutes<br><br>Set value higher than maximum cool down |
| **Ignition Violation Time** | Turning the ignition on and off three times within the specified time causes an ignition violation. After the first violation, the time is reset, and turning the ignition on or off two more times within the specified time causes additional violations. | 5 minutes |
| **PTO Enable** | Determines whether the mobile unit separately captures idle time related to power take off (PTO) operation of an accessory.<br><br>If checked, using the engine to power the compressor (PTOC) or the pump (PTOP), or if JBus PTO is set to ON, then the engine time is recorded as PTO time instead of normal idle time.<br><br>When checked, the Speed/RPM Matrix report separates the data for PTOE (engine), PTOC, and PTOP. | Blank |
| **PTO Startup Time** | Sets the length of idle time required with PTO on before a PTO event is assumed to be in progress. Appears only if **PTO Enable** is checked. | 5 minutes |

### *Fault Monitoring*

Enable the faults you want to monitor. The JBus faults are not shown if a JBus data source is not selected.

| | | |
|---|---|---|
| **No Power** | Generates a fault if the power, when detected as off, is greater than the wakeup time | Blank |
| **RPM Zero** | Generates a fault if RPM is zero and speed is not zero | Blank |
| **Bad Ignition** | Generates a fault if the ignition is off and RPM is greater than zero | Blank |
| **JBus RPM** | Generates a fault if the engine speed diagnostic code has been transmitted (PID 194 and PID 190) | Blank |
| **JBus Speed** | Generates a fault if the road speed diagnostic code has been transmitted (PID 194 and PID 190) | Blank |
| **JBus LTD Mismatch** | Generates a fault if a mismatch is detected between life-to-date and stored mobile unit values | Checked |
| **JBus Engine Time** | Generates a fault if the engine time is greater than 12 minutes but the mobile unit is off | Blank |
| **Bad Speed** | Generates a fault if the driver time is greater than two hours at zero speed and RPM greater than 1300 | Blank |
| **Zero Speed /RPM** | Generates a fault if the ignition is on for more than two hours at zero speed and zero RPM | Blank |

**TABLE 3.** Vehicle Type fields (continued)

| Field | Description | Typical value |
|---|---|---|
| **Steady Speed** | Generates a fault if the traditional speed sensor is constant for more than five minutes. This fault appears if the Standard Speed Sensor is enabled in Data Source. | Blank |

### *Mobile Behavior*

Specify how often data is extracted and how the mobile unit behaves when Performance Monitoring is enabled.

| Field | Description | Typical value |
|---|---|---|
| **Mobile Auto Extract** | Sets an internal timer in the mobile units. If the extract request does not reach a mobile unit, the mobile unit automatically sends an extract at the specified days.<br><br>The host extract cycle appears next to the setting. Set the auto extract longer than the host extract so that Performance Monitoring controls the extract cycle for most circumstances.<br><br>You change the host extract cycle fleet-wide setting from the Company Settings page. A typical value is 7 days. | Host extract cycle + 1 |
| **Summary Extract Default** | Check to specify that the default extracts for a mobile unit contain summary data only or include the full speed/RPM matrix. | Blank |
| **Disable Mobile Display** | Check to prevent the driver from seeing optional installation or troubleshooting pages on the mobile unit. | Blank |
| **Enable Mobile Warning Beep** | Causes audible and on-screen warnings when the driver exceeds the parameters. | Blank |
| **Mobile Driver Beep Period** | Sets the number of minutes before reminding the driver to log on or off after the ignition is on/off. Setting the value to 0 disables this feature. | 0 |

### *Data Source*

Specify the vehicle connection information for OmniTRACS-equipped vehicles.

| Field | Description | Typical value |
|---|---|---|
| **JBus Select** | Identifies whether the mobile unit reads data from the vehicle's JBus data link.<br><br>This field does not display if JBus functionality is disabled on the Configuration Values page. See Chapter 7, "Configuring the Performance Monitoring Application" for more information. | 1994 and newer engines should have a JBus connection and not be connected to the speed sensor. |
| **Standard Speed Sensor** | Identifies whether the mobile unit uses the traditional speed sensor for distance data, even if JBus Select is set to Y.<br><br>**Note:** Set up different vehicle types for older and newer model vehicles. | Enable for vehicle types used with engines prior to 1994. |

**TABLE 3.** Vehicle Type fields (continued)

| Field | Description | Typical value |
| --- | --- | --- |
| **Speed Sensor Calibration Value** | The number of pulses per mile or kilometer that the mobile unit receives from its signal source. Appears only when Standard Speed Sensor is enabled. | See calculation at left |
| | If the JBus data link is being used for all sensor data, this calibration is not used. If the mobile unit receives pulses directly from a speed sensor at the output shaft of the transmission, the number of pulses per mile is calculated based on $SC = ST \times R \times T$:<br>• SC is the speed calibration.<br>• ST is the number of transmission output shaft exciter ring teeth (typically 16).<br>• R is the rear end ratio (example: 3.7).<br>• T is the tire revolutions per mile/kilometer (example: 501). | |
| | If the mobile unit receives speed pulses from the engine control unit accessory output instead of directly from the axle sensor, the engine's output is usually standardized to 30,000 pulses on U.S. made vehicles, regardless of the formula above. A sensor calibration value would already have been entered into the engine control unit. | |
| **RPM Sensor Calibration Value** | Set to the number of pulses per engine revolution that the mobile unit receives from its RPM signal source. If the JBus data link is enabled, this setting is not used. | Depends on where mobile unit receives pulses. See descriptions at left. |
| | If the mobile unit receives its pulses directly from a sensor in the flywheel, the number of pulses per revolution is equal to the number of teeth on the flywheel. Typical value is 103 or 118. | |
| | If the mobile unit receives its RPM pulses from the engine control unit accessory output instead of directly from a flywheel sensor, the engine's output is usually standardized to 12 pulses on U.S.-made vehicles, regardless of the number of teeth on the flywheel. A sensor calibration value would have been entered into the engine control unit already. | |
| **Distance Measurement Units** | Specifies whether the distance throughout Performance Monitoring is measured in miles, or kilometers. The default value is a fleetwide value established on the Configuration Values page. See Chapter 7, "Configuring the Performance Monitoring Application" for more information. | Fleetwide setting |
| | Typically, you wouldn't change this setting for a particular vehicle type unless vehicles of that type travel internationally. | |
| **JBus Indicates True PTO** | Specifies whether the PTO signal from the JBus data link is used to determine PTO status | (none) |

# Setting the Default Vehicle Type

When you enable new mobile units to use Performance Monitoring, the default vehicle type is assigned to them. A black check mark appears next to the default vehicle type.

## Task: Set the default vehicle type

1. Click **Setup**.

2. Click **Vehicle Types**.

3. In the list on the left, click the vehicle type to make the default.

   *Its details appear on the right.*

4. Click the drop-down arrow next to **edit**.

5. Click **Set as default**.

   *The black check mark now appears next to the selected vehicle type.*

# Changing Vehicle Type Parameters

Because data extracts are based on information defined by parameter settings, you typically don't want to change parameters during an extraction cycle. To check the status of the current cycle, see "Checking the Extraction Status" on page 37.

When you change any parameters, Performance Monitoring gives you the option of resetting the mobile unit immediately or waiting until the next automatic extraction.

When you change vehicle type parameters, the new parameters are sent to all affected vehicles. Your current global group filter is not used to filter the vehicles that receive the update.

## Task: Change the parameters

1. Click **Setup**.

2. Click **Vehicle Types**.

   *The Vehicle Types page, shown in Figure 1 on page 8, opens.*

3. Click the vehicle type you want to change.

   *Its details appear on the right.*

4. Click **edit**.

5. Change the parameter information on the Performance Monitoring, Fault Monitoring, Mobile Behavior, or Data Source tabs as needed.
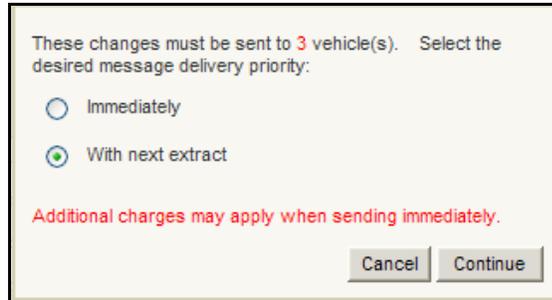
   For pictures of the screens, see Figure 2, 4, 5, and 7 on pages 9-18. For field descriptions, see Table 3 on page 12.

Omnitracs recommends that you disable fault settings or use the recommended fault settings.
Click **See recommended settings** to open help and review the recommendations.

6.  Click **save**.

**FIGURE 6.**
Parameter reset
option dialog



7.  Select whether you want the reset to occur immediately or at the next automatic extraction.

8.  Click **Continue**.

    *The page refreshes with the changed vehicle type selected. The Last Changed field shows today's date.*

# Checking the Parameter Reset Status

You may want to check the status of a parameter reset request. In unusual cases, such as when a vehicle is out of coverage for a long time, a parameter reset might fail.

You can check parameter reset status to determine whether your extraction reports are based on old or new parameters. The status of a new set of parameters is one of the following states:

*   Success—acknowledgment was received from the mobile unit.

*   Pending—acknowledgment has not been received from the mobile unit.

*   Failure—new parameters were unable to reach the mobile unit.

You can resend parameters to all of the vehicles that failed, and research which vehicles failed.

## Task: Check the status of parameter changes

1.  Click **Setup**.

2.  Click **Vehicle Types**.

    *The Vehicle Types page, shown in Figure 1 on page 8, opens.*

3.  Review the list to see which have failures.

The counts that appear when you check parameter reset status include your selected, authorized vehicles based on your global group filter. See "Global Groups" on page 41 for more information.

4.  Click a vehicle type to see the numbers of selected, authorized vehicles in each status in the details on the right.

5.   To resend the parameters to the selected, authorized vehicles whose parameter reset failed:

   -   Click the drop-down arrow next to **delete.**

   -   Click **Resend to failed.**

   -   Click **OK** in the dialog box that opens.

      *A message tells you that the parameters have been resent.*

## Task: Research which vehicles failed the parameter reset

1.   Click **Vehicles**.



**FIGURE 7.**
Vehicles page

   The list that appears includes selected, authorized vehicles based on your global group filter.

2.   At the top of the vehicle list on the left, click **More options**.

3.   In the **Status, Vehicle Type Parameters** drop-down list, click **Failure**.

4.   Click **Search**.

   *The list refreshes and displays failed vehicles.*

5.   To resend parameters to all listed vehicles, click .

   *A pop-up window tells you how many vehicles are affected and reminds you that resending parameters includes a full extract.*

6.   Click **Submit**.

## Deleting a Vehicle Type

You can only delete a vehicle type with no assigned vehicles.

### Task: Delete a vehicle type

1.  Click **Setup**.

2.  Click **Vehicle Types**.

    *The Vehicle Types page, shown in Figure 1 on page 8, opens.*

3.  Locate and click the vehicle type to delete.

    *Its details appear on the right.*

4.  Verify that it has no vehicles assigned to it and click **delete**.

5.  Click **OK** in the dialog box that opens.

    *The page refreshes with the vehicle type you deleted removed from the list.*

6.  To delete additional vehicle type records, repeat steps 3 through 5.

# Maintaining Vehicles

In Performance Monitoring, you can do the following:
*   Add a vehicle to the directory
*   Change vehicle registration information
*   Delete a vehicle from the directory

## Adding a Vehicle

Occasionally, a vehicle exists in QTRACS software but does not appear in the vehicle list. This can happen when a vehicle is deleted from the vehicle list or when vehicles are created in QTRACS software prior to the installation of Performance Monitoring.

You must add the vehicle before Performance Monitoring can collect information from it.

If you role is restricted so you can only work with assets in your global groups, the vehicle you add must be in one of your global groups. For more information about global groups, see "Global Groups" on page 41.

### Task: Add a vehicle to the vehicle directory

To use this procedure, a vehicle must appear in the vehicle list in QTRACS software but not appear in the vehicle list in Performance Monitoring. You need to know the vehicle ID and name that were entered in QTRACS software.

1.  Click **Vehicles**.

    *The vehicles page shown in Figure 7 on page 20 appears.*
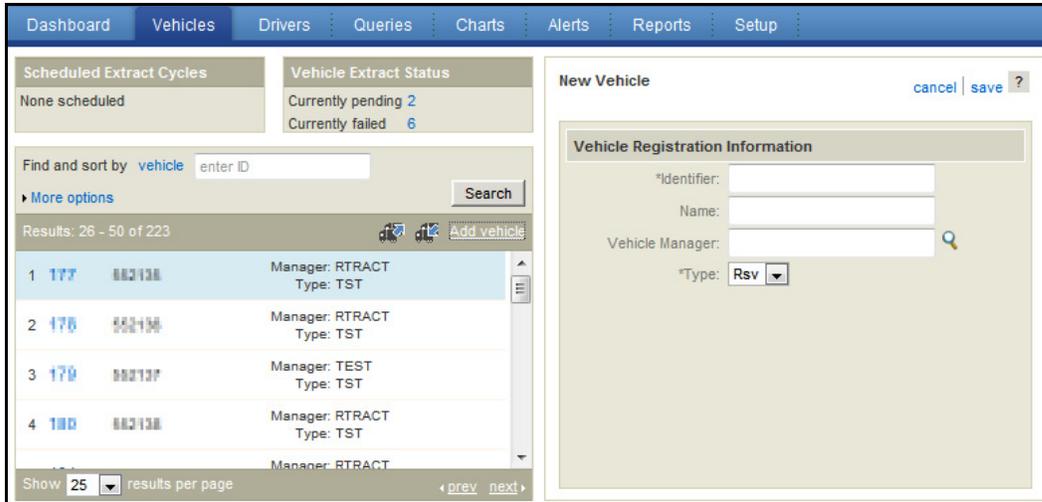
2.  Click **Add vehicle**.

For field descriptions, see Table 4 on page 23.

3.  Type the vehicle **Identifier**.

    The vehicle Identifier must match the vehicle ID entered in QTRACS software.

4.  Type the vehicle **Name** that was entered in QTRACS software.

    If you type the name exactly as it appears in the QTRACS vehicle record, it updates in this record if a user edits it in QTRACS software. If you use a different vehicle name in Performance Monitoring, the name is not updated in the QTRACS vehicle record, and future edits to the name in QTRACS software do not update it in this Performance Monitoring record.

    *Did you Know?*

5.  Type the user ID or click the icon to select the **Vehicle Manager**.

6.  Select the vehicle **Type** from the drop-down list.

    Do not select type "Rsv."

7.  Click **save**.

    *The Vehicles page refreshes with an entry for the vehicle you just registered. The vehicle type and fleet overrange parameters are sent to the vehicle.*

**TABLE 4.** Vehicle Registration Information fields

| Field | Description |
| --- | --- |
| **Identifier** | The vehicle identification number; this field can't be changed after being saved |
| **Name** | Name that identifies the vehicle; this field is optional. |
| | If you use the same name as the QTRACS record, this field updates when the name is edited in QTRACS software. If you leave it blank or use a different name, it is not updated when the QTRACS record is edited. |

**TABLE 4.** Vehicle Registration Information fields

| Field | Description |
|---|---|
| **Vehicle Manager** | Name of the management group who is responsible for the vehicle; this field is optional. Click the icon to open a lookup window and select the group. |
| **Type** | The vehicle type that associates a vehicle with a defined set of parameters. |
| | Type Rsv is reserved for system use, and may be the default assigned when a vehicle is auto-created in the software. Do not assign Rsv. |

# Changing Vehicle Information

You can change vehicle information including the name, manager, vehicle type, and life-to-date information.

### Task: Change vehicle registration information

1.  Click **Vehicles**.

    *The Vehicles page shown in Figure 7 on page 20 opens.*

2.  If necessary, use the options above the list to locate the vehicle by ID or vehicle type.

3.  Click the vehicle to change in the list and click **edit**.

4.  Change the vehicle information as needed.

5.  Click **save**.

# Deleting Vehicles

If you sell a vehicle or take it out of service, you can delete it. Although you can delete a vehicle, its performance data is not deleted and can be included in reports.

If you delete a vehicle in QTRACS software, the record is deleted also from Performance Monitoring.

### Task: Delete a vehicle

1.  Click **Vehicles**.

    *The Vehicles page shown in Figure 7 on page 20 opens.*

2.  Click the vehicle to delete in the list and click **delete**.

3.  To confirm deletion of the vehicle, click **OK**.

    *The Vehicles page refreshes with the deleted vehicle removed.*

# Maintaining Fleetwide Exception Thresholds

Automatic extraction thresholds let you receive near real-time performance data when a vehicle exceeds a threshold established for an overrange parameter. For example, if a vehicle exceeds an over speed time or percentage threshold, the mobile unit automatically triggers an extract.

When you set or change overrange parameters, each vehicle in the fleet receives the performance thresholds as a parameter reset.

In Performance Monitoring, you can do the following:

- Set threshold values for overrange parameters
- Check the status of overrange parameter resets
- Resend overrange parameters

Unlike other automatic extractions, exception-based extractions (those triggered by the mobile unit) don't reset the regular extraction cycle and don't include a performance matrix.

When you change fleetwide overrange parameters, the new parameters are sent to all affected vehicles. Your current global group filter is not used to filter the vehicles that receive the update.

## Setting Threshold Values for Overrange Parameters

Setting threshold values lets you establish the point that, when reached, triggers an automatic extraction.

*Did you Know?*

When you set up your fleetwide overrange autoextracts parameters, you should use the recommended settings to avoid unnecessary automatic extractions. Consult with your customer service representative (CSR) before changing these autoextract parameters to a value different from the recommended settings.

For each overrange parameter, you can define two threshold values:

- Time—a single occurrence that exceeds a threshold
- Percentage—the percentage of time spent exceeding a threshold since the last extraction

You need to set these two values in relation to one another. Table 5  provides some tips for setting overrange parameters.

**TABLE 5.** Tips for setting overrange parameter thresholds

| Parameters | Tip |
|---|---|
| **Excess Speed Time and Percent** | You probably want to know immediately if a driver reaches a speed that your company considers excessive. Set the time to 2 minutes and the percentage to 0. |
| **Coast Out of Gear Time and Percent** | You probably want to know immediately if a driver is coasting out of gear. Set the time to 1 minute and the percentage to 0. |
| **Parked Idle Fuel** | Discuss this parameter with your CSR. Your CSR can recommend a value after analyzing your company's idling profile. |

*By the Way*

When the Notify MCT Autoextracts field in Performance Monitoring company settings is enabled, you can receive alerts when the mobile unit triggers an extract. This lets you stay informed of performance problems as they're happening. See the online help and Chapter 7, "Configuring the Performance Monitoring Application," for more information about alert notifications.
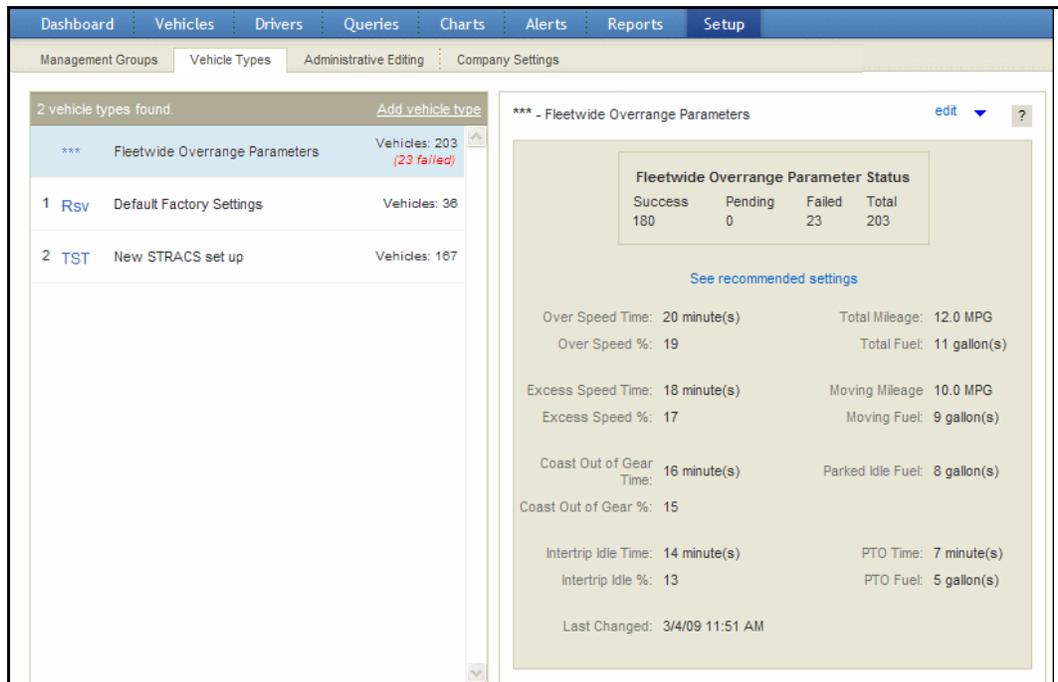
### Task: Set fleetwide overrange thresholds

1. Click **Setup**.

2. Click **Vehicle Types**.

   *The Vehicle Types page shown in Figure 1 on page 8 opens.*

3. Click **Fleetwide Overrange Parameters at the top of the list**.

**FIGURE 9.**
Fleetwide
Overrange
Autoextracts
Parameters page



The Fleetwide Overrange Parameter Status section at the top shows the total number of selected, authorized vehicles in the fleet based on your global group filter. The number of selected, authorized vehicles in each status is listed: Success; Pending; Failed. For field descriptions, see Table 6 on page 26. See Table 5 on page 25 for tips on defining useful values. See "Global Groups" on page 41 for more information about your global group filter.

4. Click **edit**.

5. Do one of the following:

| To | Do this |
|---|---|
| **Set the fleetwide overrange autoextract parameters to the recommended settings** | Set Excess Speed Time to 2 minutes and Coast Out of Gear Time to 1 minute and leave the rest blank |
| **Leave the fleetwide overrange autoextract parameters disabled** | Verify that all values are 0 |

6. Set the overrange parameters according to your company's needs and click **save**.
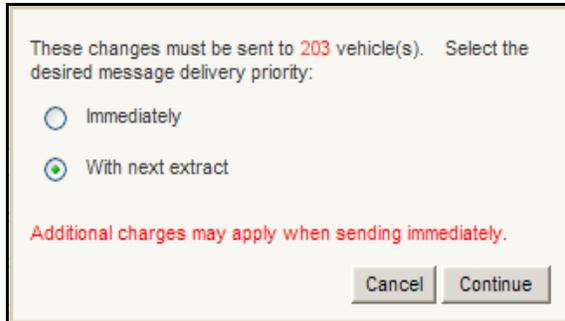
7. Leave the default option to change the parameters with the next extraction, or click **Immediately** to send the parameters now, then click **Continue**.

   *The updated parameters are sent to all vehicles.*

**TABLE 6.** Fleetwide Overrange Parameter fields

| Field | Description |
| --- | --- |
| **Over Speed Time and %** | For the current vehicle type, since the last extract, the time for a single occurrence and the percentage of time spent driving above the specified threshold. |
| | The throttle position must be unavailable (JBus) or greater than 5% for overspeed time to accumulate. |
| **Excess Speed Time and %** | For the current vehicle type, since the last extract, the time for a single occurrence and percentage of time spent driving above the specified excessive overspeed threshold (usually set higher than the overspeed threshold). |
| **Coast Out of Gear Time and %** | For the current vehicle type, since the last extract, the time for a single occurrence and percentage of time spent above the overspeed threshold for the current vehicle type, but below 1000 RPM. |
| **Intertrip Idle Time and %** | For the current vehicle type, since the last extract, the time for a single occurrence and the percentage of time that the engine idles other than for allowed warmup, cool down, or short stops in traffic. |
| | Intertrip Idle is approximately equal to Engine Time minus Driving Time. |
| **Total Mileage Total Fuel** | The mileage and fuel used including what is used during idle time. |
| **Moving Mileage Moving Fuel** | The mileage and fuel used, excluding fuel used while idling. |
| **Parked Idle Fuel** | The amount of fuel used idling while the data link shows the parking brake on. |
| | After a regular or auto-extraction is performed, the mobile unit resets its parked idle fuel to 0. |
| | **Note:** Consult with your CSR to set this value based on your company's idling profile. If you use integration to extract data by trip, set this parameter to 0 to disable it. |

**TABLE 6.** Fleetwide Overrange Parameter fields (continued)

| Field | Description |
|-------|-------------|
| **PTO Time** | The amount of idle time used while PTO status is indicated. |
| **PTO Fuel** | The amount of idle fuel used while PTO status is indicated. |

## Checking and Resending Overrange Parameters

From the overrange parameter details, you can check the status of parameter resets and resend failed parameters as needed.

The counts

### Task: Check the status of overrange parameters

1. **Click Setup**.

2. Click **Vehicle Types**.

   *The Vehicle Types page shown in Figure 1 on page 8 opens.*

3. Click **Fleetwide Overrange Parameters at the top of the list**.

   *Fleetwide Overrange Parameters details, shown in Figure 9 on page 25, opens. The number of vehicles in each state displays at the top.*

*Did you*
*Know?*

The counts that appear when you check overrange parameter reset status include your selected, authorized vehicles based on your global group filter. See "Global Groups" on page 41 for more information.

For field descriptions, see Table 6 on page 26. See Table 5 on page 25 for tips on defining useful values.

4. To resend to selected, authorized vehicles whose overrange parameter reset failed:

   - Click the drop-down arrow next to **edit.**

   - Click **Resend to failed.**

   - Click **OK** in the dialog box that opens.

   *A message tells you that the parameters have been resent.*

*By the*
*Way*

You can check which vehicles failed the parameter reset by searching using More options in the Vehicle list. You can click  to resend parameters to all failed vehicles. When you resend parameters from the Vehicle list, all failed vehicle type and overrange parameters are resent.

## Maintaining Life-to-Date Information

Life-to-date information includes a vehicle's engine time, moving time, distance, and fuel used. The life-to-date panel shows the vehicle's values when the Performance Monitoring option was enabled on the mobile unit, and the accumulated values since it was enabled.

You can use the life-to-date page to properly credit initial and accumulated values for a vehicle; for example, if a vehicle has existing mileage prior to enabling the Performance Monitoring option or if you had to move a mobile unit from one vehicle to another. You should maintain life-to-date information if you want to see accumulated totals on the Life-to-Date Vehicle Log report.

---

If, over time, a vehicle's life-to-date values begin to diverge from the vehicle's odometer readings, it's possible that calibration values entered on the Vehicle Type > Data Source tab are slightly off. See "Changing Vehicle Type Parameters" on page 18.

*By the Way*

---

## Task: Change vehicle life-to-date information

1.  Click **Vehicles**.

    *The Vehicles page shown in Figure 7 on page 20 opens.*

2.  Locate the vehicle for which you want to modify life-to-date information and click to select it.

    *The vehicle's details appear on the right.*

3.  **Click** edit above the vehicle details on the right**.**

**Life-to-Date Details**

|  | Initial |  | Accumulated |  | Life-to-Date |  |
|---|---|---|---|---|---|---|
| Engine Time: | 0 | + | 9632 | = | 9632 | hour(s) |
| Moving Time: | 0 | + | 7633 | = | 7633 | hour(s) |
| Distance: | 0 | + | 407518 | = | 407518 | mile(s) |
| Equivalent PM Distance: | 0 | + | 416659 | = | 416659 | mile(s) |
| Total Fuel Used: | 0 | + | 67152 | = | 67152 | gallon(s) |
| Idle Fuel Used: | 0 | + | 1412 | = | 1412 | gallon(s) |
| PTO Fuel Used: | 0 | + | 0 | = | 0 | gallon(s) |
| Parked Fuel Used: | 0 | + | 408 | = | 408 | gallon(s) |

**FIGURE 11.**
Vehicle Life-to-Date Details panel

For field descriptions, see Table 7 on page 29.

4.  Change the vehicle's life-to-date information as needed.

    Set the fields in the Initial column equal to the values that existed when the Performance Monitoring option was enabled on the mobile unit. Values in the Accumulated column reflect the information since the Performance Monitoring option was enabled. Fields in the Life-To-Date column indicate the total of initial and accumulated values.

5.  When you're finished, click **save**.

    *Performance Monitoring calculates and displays Accumulated and Life-to-Date totals.*

**TABLE 7.** Life-To-Date Details panel fields

| Field | Description |
| --- | --- |
| **Engine Time** | Time that the engine is running (ignition on and speed or RPM greater than zero) |
| **Moving Time** | The amount of time that the engine is running and vehicle speed is greater than zero |
| **Distance** | Miles or kilometers traveled based on the odometer reading |
| **Equivalent PM Distance** | The equivalent preventive maintenance distance, Derived by the following: **DISTANCE + (FLEET AVERAGE MILEAGE X IDLE FUEL RATE) X (ENGINE TIME - MOVING TIME)** |
| **Total Fuel Used** | The amount of fuel used by the engine |
| **Idle Fuel Used** | The amount of fuel used while the engine is running but speed is zero |
| **PTO Fuel Used** | The amount of fuel consumed while idling in PTO mode |
| **Parked Fuel Used** | Amount of fuel consumed while the engine is idling and the parking brake is on |

# CHAPTER 3

# Managing Drivers

This chapter contains information about the following topics:

▶ Adding a Driver

▶ Changing Driver Information

▶ Deleting a Driver

## Adding a Driver

The Performance Monitoring application collects information by vehicle and by driver. To ensure that drivers are credited with the correct information, you set up drivers and driver passwords in QTRACS software, and they appear in the Performance Monitoring driver directory.

You can assign a driver manager in Performance Monitoring to provide selection and sort options in reports and queries.

*By the Way*

Setting up drivers is unnecessary if your company has decided to receive performance monitoring data by vehicle rather than by driver ID. In this case, drivers don't need to log in to the mobile unit.

If a driver logs in to an OmniTRACS-equipped mobile unit with an invalid MCT Account Password, Performance Monitoring creates a new record for the extracted data with the vehicle number and the invalid driver password. You can edit the record to credit it to the correct driver.

A record with an ID of zero indicates that data was accumulated without a driver being properly logged in.

*For more Information*

For more information about receiving data by driver and setting up driver records in the QTRACS application, see "Receiving Data by Driver" on page 8.

For more information about crediting driver performance, see Chapter 6, "Editing Records."

## Changing Driver Information

From the Drivers page you can add or change the driver manager or optional driver information.

## Task: Change driver information

**1. Click Drivers.**

**FIGURE 12.**
Driver Directory
page
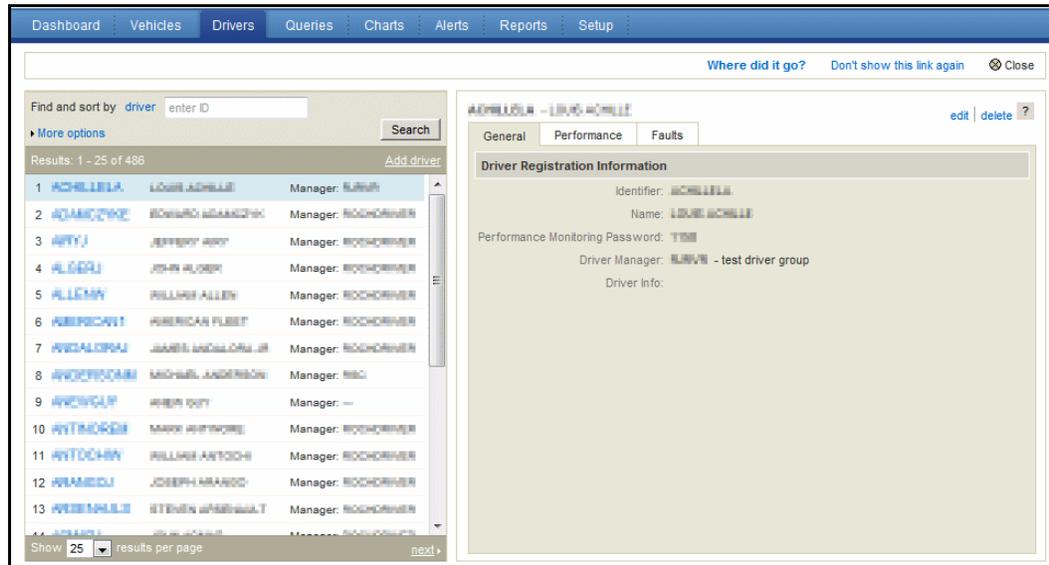
For quick access to a particular driver, type a driver ID in the text box next to **Find and sort by** and click **Search.** Or, click **driver,** select **driver manager**, and click **Search** to sort the directory alphabetically by manager.

**2.** Locate the driver you want to modify and click **edit** above the driver details on the right.

**FIGURE 13.**
Driver Registration
Menu page
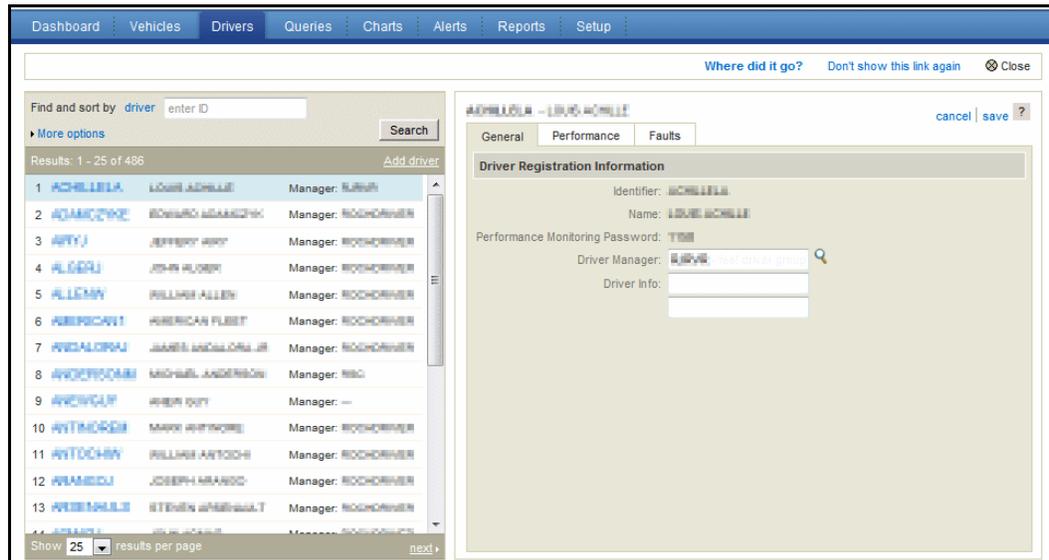


For field descriptions, see Table 8 on page 33.

**3.** Select a driver manager. Type additional driver information as needed.

4.  When you're finished, click **save**.

    *The Driver Directory list refreshes.*

5.  To edit additional driver records, repeat steps 2 through 4.

**TABLE 8.** Driver Registration Menu fields

| Field | Description |
| --- | --- |
| **Identifier** | Identifies the driver; this field is used throughout Performance Monitoring. It is set usually to match the driver master file in your dispatch system. |
| | This matches the driver ID in the driver record in QTRACS software. |
| **Name** | The driver's name. This field does not appear when creating a new driver. It is updated from the driver record you set up in QTRACS software on the Services Portal. |
| **Performance Monitoring Password** | Unique 9-digit password the driver enters when logging in to an OmniTRACS mobile unit, usually the social security or employee number |
| | If global or driver login is used, the driver does not enter this password. |
| **Driver Manager** | The management group responsible for reviewing the driver's performance data. This field is optional, and is used to select and sort data in reports and queries. |
| **Driver Info** | Additional information about the driver, such as a home address or phone number. These are optional fields. |

# Deleting a Driver

You can delete registered drivers from Performance Monitoring; however, the driver's performance data is not deleted and can be included in reports.

### Task: Delete a driver

1.  **Click Drivers**.

    *The Driver Directory, shown in Figure 12 on page 32, opens.*

2.  Locate the driver you want to delete and click **delete** above the driver details on the right.

    *An alert dialog opens asking you to confirm deletion of the driver.*

3.  Do one of the following:

| To | Do this |
| --- | --- |
| **Delete the driver(s)** | Click **OK** |
| **Cancel the request** | Click **Cancel** |

    *The Driver Directory refreshes with the drivers that you deleted removed.*

4. To delete additional drivers, repeat steps 2 and 3.

# Performing Extractions

This chapter contains information about the following topics:

▶ Understanding Extraction Cycles

▶ Setting Up the Automatic Extraction Cycle

▶ Checking the Extraction Status

▶ Manually Extracting Information

## Understanding Extraction Cycles

The Performance Monitoring application collects, summarizes, and stores driver and vehicle performance data for the time periods between extraction with reset. Extractions with reset occur in one of four ways:

• Automatic extraction cycle—a timed cycle that you establish for all of the vehicles in your fleet

• Manual vehicle extraction—vehicle extractions that you request for a one or a group of vehicles

• Exception extraction—vehicle extractions triggered by the mobile unit when fleetwide exception thresholds are exceeded

• Event-based extraction—vehicle extractions generated automatically by an external application, such as the dispatch system

Your company can enable Performance Monitoring to send alerts to a designated QTRACS user when extraction requests fail. See Chapter 7, "Configuring the Performance Monitoring Application."

## Setting Up the Automatic Extraction Cycle

You can control the length of time between extractions and schedule a specific time for automatic fleetwide extractions.

*By the Way*

Because the mobile unit summarizes data for the entire period between extraction with reset, you need to consider the duration of extraction cycles. If the extraction cycle is set for weekly extractions, you can't view the activity for an single day.

The extraction period directly controls the level of reporting detail.

**Task: Set up automatic extraction cycle**

1. Click **Setup**.

2. Click the **Company Settings** tab.

3. Under **Extract Configuration**, check **Enable scheduled extracts**.

4. Set the number of days to auto-extract.

5. Set the time of day to send the extract request.

6. Click **Save**.

## Checking the Extraction Status

The Fleet Extract Status panel of the Vehicles tab, shown in Figure 15, summarizes extractions for the fleetwide, automatic cycle. This panel appears if the **Enable scheduled extracts** company setting is enabled.

If you are a restricted user based on your role and global group membership, the extract status counts only include authorized vehicles. If you are not restricted but have selected a global group filter, the count includes only selected vehicles. See "Global Groups" on page 41.

## Task: Check the extraction status

1.  Click **Vehicles**.

| Dashboard | Vehicles | Drivers | Queries | Charts |
|---|---|---|---|---|

| Scheduled Extract Cycles | Vehicle Extract Status |
|---|---|
| 6/27/11 at 5:00 PM complete | Currently pending 0 |
| 7/4/11 at 5:00 PM scheduled | Currently failed 1 |

2.  Review the **Scheduled Extract Cycles** and **Vehicle Extract Status** panels.

    In the **Scheduled Extract Cycles** panel, you see the current/last and next scheduled extract cycle. The status can be:

    –   In progress—extraction cycle is in progress; less than 24 hours have passed since the extract request was sent

    –   Complete—extraction cycle is finished; 24 or more hours have passed since the extract request was sent

    In the **Vehicle Extract Status** panel, you see how many extract requests are pending and how many failed for selected, authorized vehicles.

3.  Do any of the following:

| To | Do this |
|---|---|
| **Change the next scheduled extract date and/or time** | Click the date next to **scheduled**. Change the information and click **Save**. |
| **Resend the extract request to vehicles that failed** | Click the number next to **Currently failed**. The list refreshes with the vehicles that failed. Click 📁 to resend the extract request to all listed vehicles. |
| **View the vehicles in pending status** | Click the number next to **Currently pending**. The list refreshes with the corresponding vehicles. |

# Manually Extracting Information

Use the manual extraction request for the following reasons:

•   You need performance data immediately.

•   You need to reset the normal extraction cycle, for example, if you enable Performance Monitoring on a new vehicle or a vehicle goes back into service.

The overcheck process that verifies data occurs within 24 hours of an automatic extraction. This process does not automatically run after a manual extraction. You must manually submit the overcheck job for manual extractions. See Chapter 6, "Editing Records," for the procedure.

You can't manually request an extraction for a vehicle when it's waiting for a previous extraction to complete.

If you have changed the parameters of the vehicle type since the last extraction, performing a manual extraction sends the new parameters to the mobile unit. After the mobile unit returns the performance information, it returns to the normal extraction cycle.

### Task: Perform a manual extraction and reset

1. Click **Vehicles**.

**FIGURE 16.**
Vehicles page



2. Locate the vehicle to reset in the list and click to select it. Use the find and sort options above the list to help locate the vehicle.

Click **More options** to search for vehicles by vehicle type and/or extract status. For example, you can choose vehicles who failed to receive the latest updated fleetwide overrange parameters.

3. Click **Request Extract** in the Extract Status panel on the right.

4. Do one of the following:

| To | Do this |
| --- | --- |
| **Request a full extract that includes the speed/rpm matrix data** | Click **Full Extract** |
| **Request a summary extract that does not contain the speed/rpm matrix data** | Click **Summary Extract** |

*The Extract Status for the selected vehicle changes to Pending.*

**CHAPTER 5**

# Managing Groups

This chapter contains information about the following topics:

▶ Using Global Groups

▶ Working with Global Groups

▶ Maintaining Global Groups

▶ Deleting Global Groups

▶ Working with Management Groups

▶ Editing Management Groups

▶ Deleting Management Groups

## Global Groups

Global groups allow you to associate a user account with vehicles and drivers.

You can use global groups to:

• Restrict users in your company to view only certain information

• Filter information being viewed when a user is unrestricted or a member of multiple global groups. For example, a user with membership in both East Fleet and West Fleet global groups can select and work with just the assets in the East Fleet group.

• Give your customers access to information about their loads in applications that recognize global groups, typically the QTRACS application.

• Define a management hierarchy that mirrors your company's organization

---

For more information, refer to Performance Monitoring online help. The Administration & Configuration section of the help home page has a link to learn more about global groups.

*For more Information*

---

## Using Global Groups

To use global groups to restrict user access or to provide a filter, you set up roles, user accounts, and global groups in the Administration application.

### Roles

You set up one or more roles with the permissions the user(s) need so that they can work with assets in applications that recognize global groups.

The MISC permission, "Can see data for all assets," specifies whether or not the user is restricted. If the permission is checked (enabled), the user is unrestricted and can view all information in applications that recognize global groups.

If not checked, the user can view information for only the assets that are members of the same global group(s).

- If you are setting up your organization, you may need to set up different roles for different levels of management.

- If you are giving your customers access to view their load status, you set up one or more limited role(s) for QTRACS application access only. Typically, external users don't see Performance Monitoring data.

## User accounts

After defining or changing your roles, you review your users and ensure they are assigned the correct role.

If you are granting access to external users, you set up their user accounts and assign the limited external role.

## Global groups

After completing role and user setup, you create one or more global group(s) with the users, authorized vehicles, and drivers or child groups.

In every Performance Monitoring page, the information below the user's name on the right lists the global group whose assets are being viewed:

- Working with all assets (unrestricted user)

- Working with all authorized assets (restricted user)

- Working with <the global group name> (if filtering by one group)

- Working with multiple groups (if filtering by more than one but not all global groups)

Click the linked text to view and change your global group filter.

# Working with Global Groups

### Task: Set up a global group

User accounts must be set up before you can add them to a global group.

1. If you're not in Administration, click **Administration** in the upper right corner.

2. Click the **Global Groups** tab.
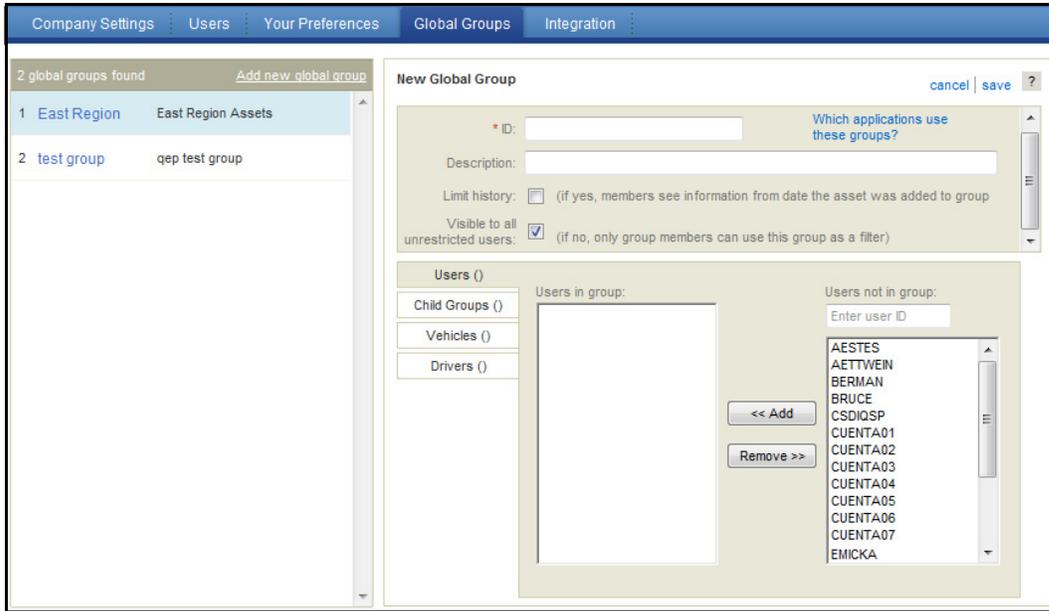
3. Click **Add new global group**.

4. Type the global group **ID** and **Description**.

   - If this group is to grant access to your customer, use the company name

   - If this group is to establish your organizational hierarchy, use your organization names

5. If setting up this global group for external users, check the box to **Limit history**.

   When you limit history, users in the group only see information, such as position history, from the date the asset is put into the global group. This setting does not apply to Performance Monitoring data.

6. Specify whether or not all unrestricted users can use this group as a filter.

| To | Do this |
|---|---|
| **Allow all unrestricted users to use this group as a filter** | Check the **Visible to unrestricted users** box. |
| | Allowing all users to see this group filter is recommended when the filter is meaningful to most users across the applications that recognize global groups. |
| **Hide the group from users who are not members** | Uncheck the **Visible to unrestricted users** box. |
| | Hiding the group is helpful when you have a large number of groups for special needs, such as a manager monitoring a specific list of drivers. It prevents clutter in the global group filter list of unrestricted users. |

7. To assign users, select the users in the list on the right and click **<<Add**.

   - Type all or part of its ID in the box above the list to position to the first matching ID

   - Use Shift+click to select a range of IDs or Ctrl+click to select specific IDs

8.  If establishing a management hierarchy, click **Child Groups**. If not, click **Vehicles** or **Drivers**.

9.  Select assets in the list in the right and click **<<Add**.

    -  Type all or part of its ID in the box above the list to position to the first matching ID

    -  Use Shift+click to select a range of IDs or Ctrl+click to select specific IDs

10. If you added vehicles or drivers and wish to add the other asset type, click its tab and use the instructions above to add them to the group.

11. When you're finished, click **save** above the group details in the upper right corner of the page.

# Maintaining Global Groups

Global groups need to be maintained when:

- Vehicles and/or drivers are reassigned to deliver loads for a different customer
- User's responsibilities change, such as with promotions, or they leave your or the customer's employment.

### Task: Edit a global group

If adding users, the user accounts must be set up before you can add them to a global group.

1.  If you're not in Administration, click **Administration** in the upper right corner.

2.  Click the **Global Groups** tab.

3.  Locate the group to change and click to select it.

4.  Click **edit** in the upper right corner of the page above the group details.

5.  Change the global group ID and Description as needed. Enable or disable the **Limit history** and **Visible to unlimited users** check boxes.

6.  To assign users, select the users in the list on the right and click **<<Add**.

    -  Use Shift+click to select a range of users

    -  Use Ctrl+click to select individual users

*By the Way*

To jump to a specific user ID, begin typing the ID in the box above the list. The closest match appears at the top of the list.

7.  To remove users, select the IDs on the left and click **Remove>>**.

    -  Use Shift+click to select a range of users

    -  Use Ctrl+click to select individual users

8.   To assign and remove other assets, click the applicable tab and use the same procedures as for assigning and removing users.

9.   When you're finished, click **save** above the group details on the upper right..

# Deleting Global Groups

### Task: To delete a global group

1.   If you're not in Administration, click **Administration** in the upper right corner.

2.   Click the **Global Groups** tab.

3.   Select the group you want to delete.

4.   Click **delete** above the group details on the upper right..

5.   Click **OK**.

# Management Groups

You can group vehicles and drivers by manager to filter data in queries and reports. A management group can represent an actual manager or be used to group drivers or vehicles. Note the following:

 • A management group contains drivers or vehicles, but not both.
 • A vehicle or driver may be a member of one management group.
 • Membership in a management group is optional.
 • If a vehicle or driver manager changes, data previous to the change stays with the initial manager.

## Management Groups and Time

Performance Monitoring software keeps track of management group membership in real time. This means that past queries that are based on management groups may contain data for vehicles or drivers that are no longer members of the management group.

**Example:** Assume that today is July 1. Suppose that Driver Bob was a member of Management Group #1 from January through May. Also suppose that Bob was moved into Management Group #2 on June 1. A query for performance data for management group #1 for the last 90 days would include data about Bob even though Bob is not currently a member of management group #1.

## Working with Management Groups

When you work with management groups, the groups selected in the global group filter control which vehicles and drivers appear in the select lists of the management groups. The information below your name on the right indicates your current filter:

**FIGURE 18.**
Global group filter
indicator
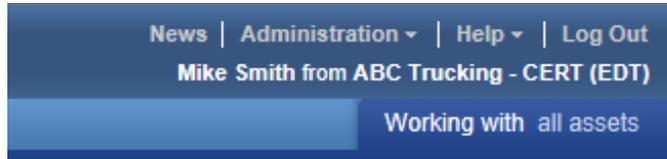


Click the linked text (example, "all assets") to view and change your global group filter. When working with management groups, note the following:

• If you are an unrestricted user, change your global group filter to work with "all assets."

• If you are a restricted user, change your global group filter to work with "all authorized assets." You see all management groups, however, you may not be authorized to see all of the assets in each group.

• If you delete a management group, you remove group membership from all of its assets, not just those assets that you see.

## Task: Set up a management group

1.  Click **Setup**.

2.  If it is not selected, click the **Management Groups** tab.

**FIGURE 19.**
Management
Groups page
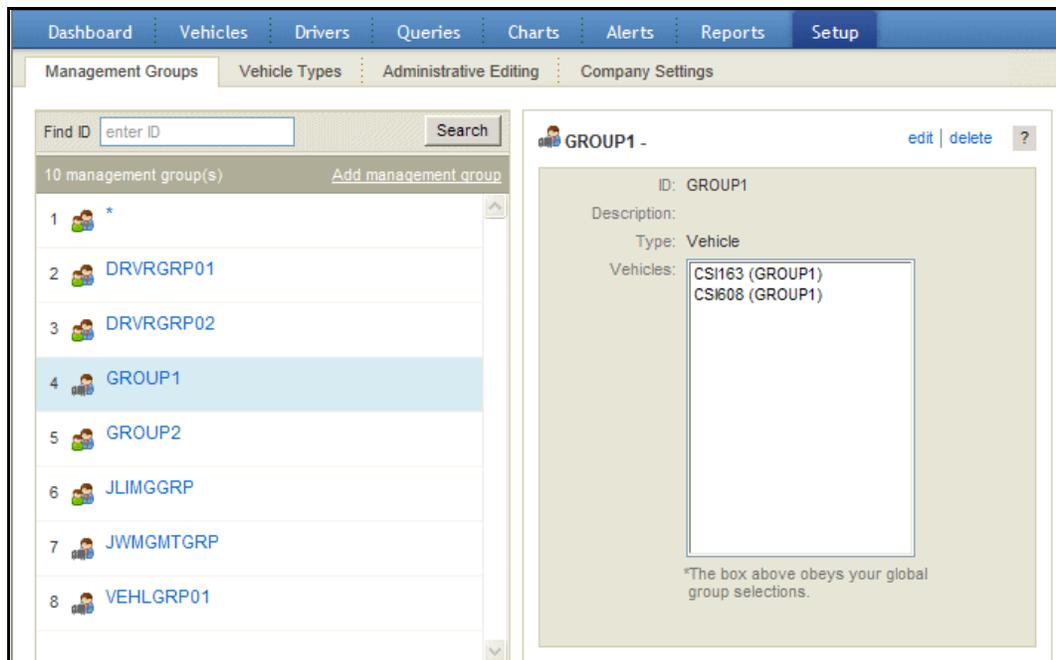


3.  Click **Add management group**.

**4.** Type the **Group ID** and **Description** and select the type of group, **Vehicle** or **Driver**.

**5.** Select the vehicles or drivers to assign and click **<<Add**. To help select vehicles or drivers, you can:

- Type all or part of its ID in the box above the list to position to the first matching ID

- Use Shift+click to select a range of IDs or Ctrl+click to select specific IDs

**6.** Click **save** above the group details on the upper right..

## Editing Management Groups

When you edit management groups, you see only selected, authorized vehicles and drivers in the select lists based on your global group filter. See "Working with Management Groups" on page 46 for more information about global group filters and management groups.

### Task: To edit a management group

**1.** Click **Setup**.

**2.** Click the **Management Groups** tab.

*The Management Group page that is shown in Figure 20 on page 47 opens.*

**3.** Select the group you want to edit.

*Its details appear on the right.*

**4.** Click **edit** above the group details on the upper right..

**5.** Update the Group ID and Description as needed.

6.  Select the vehicles or drivers to add and click <<**Add**. To help select vehicles or drivers, you can:

    - Type all or part of its ID in the box above the list to position to the first matching ID

    - Use Shift+click to select a range of IDs or Ctrl+click to select specific IDs

7.  Select the vehicles or drivers to remove and click **Remove>>**.

8.  When you're finished, click **save** above the group details on the upper right.

# Deleting Management Groups

When you delete management groups, you see only selected, authorized vehicles and drivers in the membership lists based on your global group filter. See "Working with Management Groups" on page 46 for more information about global group filters and management groups.

If you delete a management group, you remove group membership from all of its assets, not just those assets that you see.

## Task: To delete a management group

1.  Click **Setup**.

2.  Click the **Management Groups** tab.

    *The Management Group page that is shown in Figure 20 on page 47 opens.*

3.  Select the group to delete.

4.  Click **delete** above the group details on the upper right.

5.  Click **OK**.

# CHAPTER 6

# Editing Records

This chapter covers the following topics:

▶ Setting Up an Administrative Account

▶ Discarding Insignificant Records

▶ Correcting Driver IDs

▶ Reviewing and Confirming Performance Data and Faults

Generally, it's a good idea to complete all of the editing functions described in this chapter before you generate any reports to ensure that your reports contain accurate data.

## Setting Up an Administrative Account

Often, records are received from vehicles that have minimal data and no registered password, but the time involved to credit these is not warranted. These records can be credited in a batch process to a driver account that acts as a trash can.

Before you create the record in Performance Monitoring, the driver must exist in the QTRACS driver directory. See the online help for assistance creating a driver in QTRACS software.

If your company uses global groups, you may have restricted users. Restricted users are those whose roles are not enabled to see data for all assets (MISC permission "Can see data for all assets" is not checked).

If you allow restricted users to edit administrative records, the administrative driver account you set up must be added to the restricted users' global group(s).

## Task: Set up an administrative account

**1.** Click **Drivers**.

**FIGURE 21.**
Driver Directory
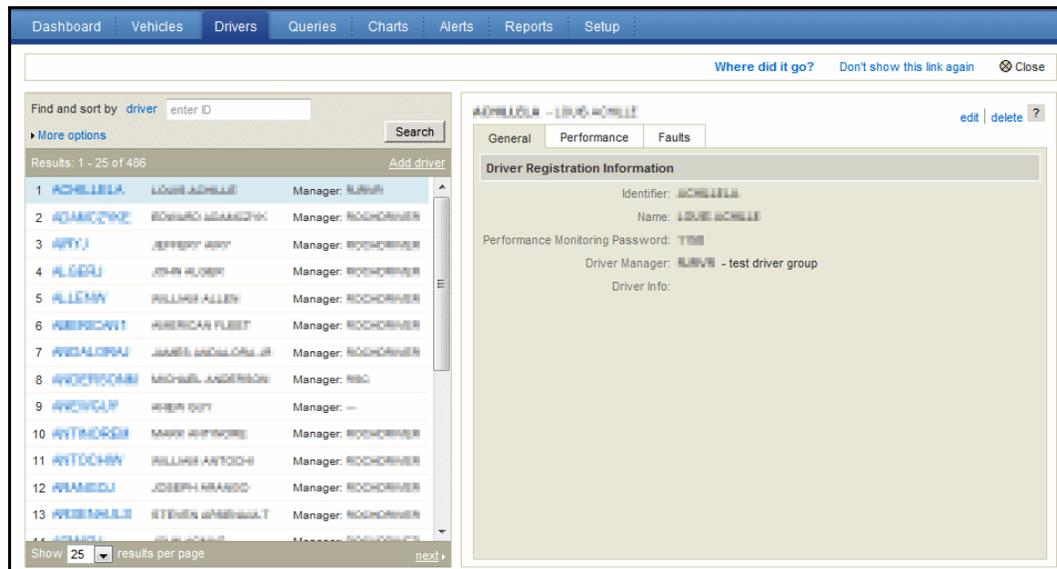


**2.** Click **Add driver**.

**FIGURE 22.**
Add driver page
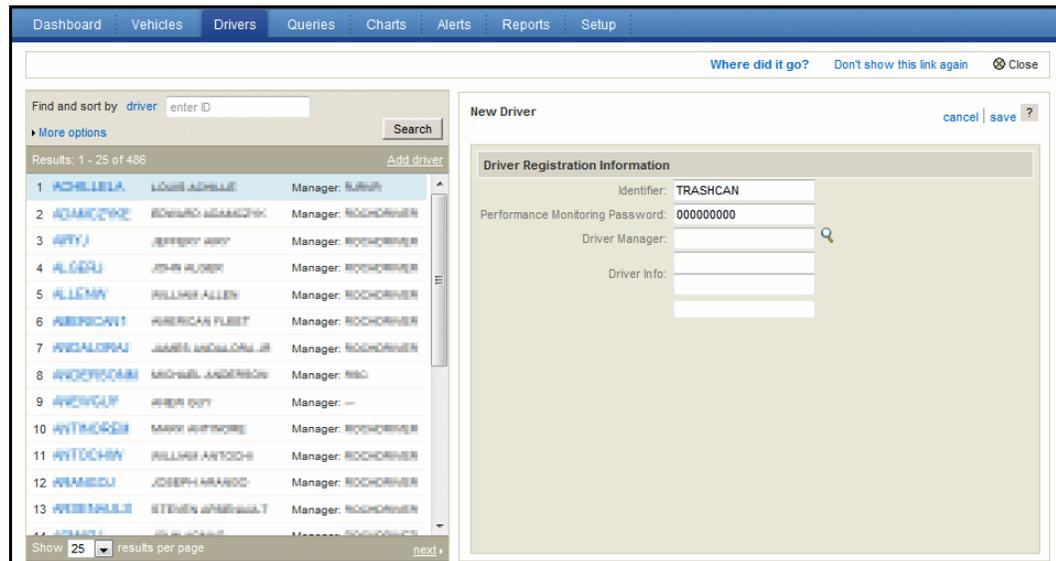


For field descriptions, see Table 8 on page 33.

**3.** Type a driver ID that is easy to remember and not likely to be accidently entered by a driver during logon (for example, TRASHCAN).

**4.** Type a **Performance Monitoring Password** that is different from those typically used by drivers (for example, 999999999).

5.  Click **save**.

    *The Driver list refreshes with an entry for the account you created.*

If you see the message "Driver must be a registered QTRACS driver," exit Performance Monitoring and create the TRASHCAN driver in QTRACS software, using the driver login password you chose in Step 4. For help creating drivers, see the QTRACS software online help.

# Discarding Insignificant Records

During short periods between drivers logging in (usually less than a minute), insignificant records collect in the unregistered driver ID account. You can discard these insignificant records.

## Task: Discard insignificant records

1.  Click **Setup**.

2.  **Click the Administrative Editing tab**.
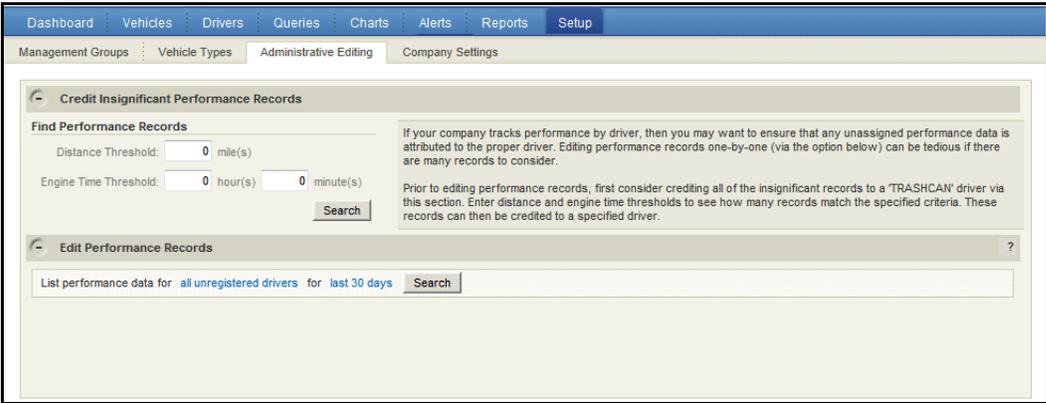


**FIGURE 23.** Administrative Editing page

3.  Type the distance and engine time thresholds below which your company considers a performance record to be insignificant, then click **Search**.

    *The number of records found appears in the Assign Performance Records section.*
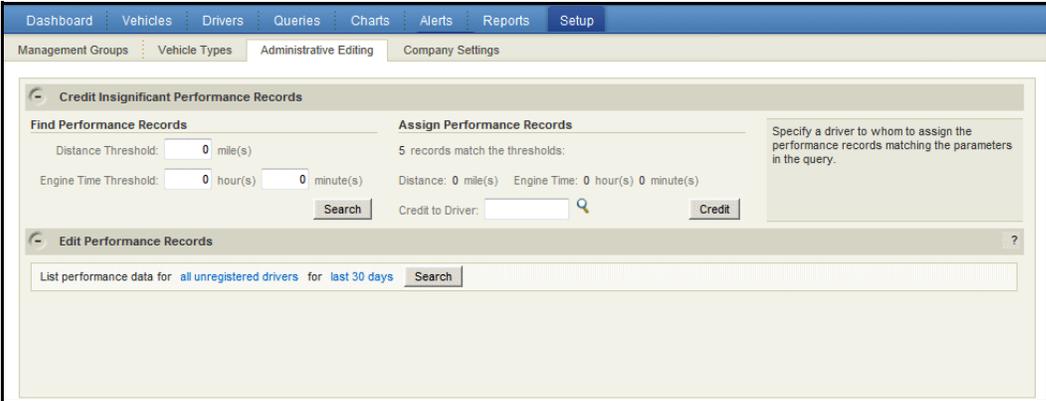


**FIGURE 24.** Credit Insignificant Performance Records query results

4. In the **Credit to Driver** field, type or select the administrative driver to credit with the insignificant records.

   See "Setting Up an Administrative Account" on page 51 for the procedure to create an administrative account.

5. Click **Credit**.

   *The page refreshes with the Credit Insignificant Performance Records panel collapsed and the number of credited records listed.*

# Correcting Driver IDs

Sometimes a driver begins driving before logging in, or enters an incorrect ID. When this happens, you can edit records so the correct driver is credited with the data. Driver IDs are usually corrected in one of two places, as follows:

- In unregistered driver records
- In vehicle or driver performance records

Use the following procedure to help you identify drivers so that you can credit them with the correct records.

*Did you Know?*

You can correct the driver ID when viewing a vehicle's performance record on the Vehicles or Drivers tab, Performance record panel. For more information, see online help.

## Task: Identify drivers

1. Discard any insignificant records.

   See "Discarding Insignificant Records" on page 53 for the procedure.

2. Generate the Logon Date Range report.

   Performance Monitoring runs a job for each automatic extraction to verify dates, driver IDs, and other data. This report provides information about possible login errors and groups records logically to help identify possible problems. For more information, review the online help.

*Did you Know?*

Generate the Logon Date Range report automatically so that you can use it to identify drivers.

3. Use the Logon Date Range report to review records and credit them to the correct driver.

4. If you still can't identify the driver, in the Edit Performance Records panel of the Administrative Editing page, search for a vehicle or driver ID from the report for the date range in which you're interested.

   *A list of records that match the vehicle or driver ID is returned.*

5. If you still can't identify the driver, credit the record to the TRASHCAN (administrative) account.

## Task: Correct driver IDs

1. Click **Setup**.

1. Click the **Administrative Editing** tab.

   *The Performance Data Editing Options page shown in Figure 23 on page 53 opens.*

2. In the Edit Performance Records panel, leave the default of listing performance records for all unregistered drivers.

---

You can click **all unregistered drivers** to open a drop-down list and select to list performance data for a specific driver or vehicle.

---

*By the Way*

3. Adjust the date range if necessary and click **Search**.



**FIGURE 25.**
Edit Performance Records list

4. Click the date of the record you want to correct.

5. Click **edit** next to the driver ID on the upper left.

   *The ID field becomes a text box and a lookup icon appears.*

6. Type or select the driver ID to credit the performance record.

7. Click **save**.

   *An overlap warning appears if you are crediting the record to a driver who has a performance record that overlaps the time period. This occurs regularly when you credit the record to the TRASHCAN (administrative) account. If you're crediting the record from one driver to another, you expect that performance records do not overlap.*

8. To accept the change, click **Save**.

   *The Performance Details pop-up window refreshes with the new ID listed.*

9. Click **Close** to close the pop-up window.

10. Continue editing driver records until all of them are corrected.

# Reviewing and Confirming Performance Data and Faults

Driver faults are listed in the Associated Faults panel of the Performance Record Details pop-up window. You should review the faults for each extraction period so that you can eliminate potentially bad data before generating most reports. Faults marked as bad do not show up on any reports.

Set the sensor faults report to generate automatically so that you can use it to review and confirm faults. For information about automatically generating reports, see the online help. For information about sensor faults, see Appendix A, "Sensor Faults."

1. Click **Vehicles**.

   *The Vehicles page opens.*

2. Locate the vehicle to review faults and click to select it. In the panel on the right, click the **Performance** tab.
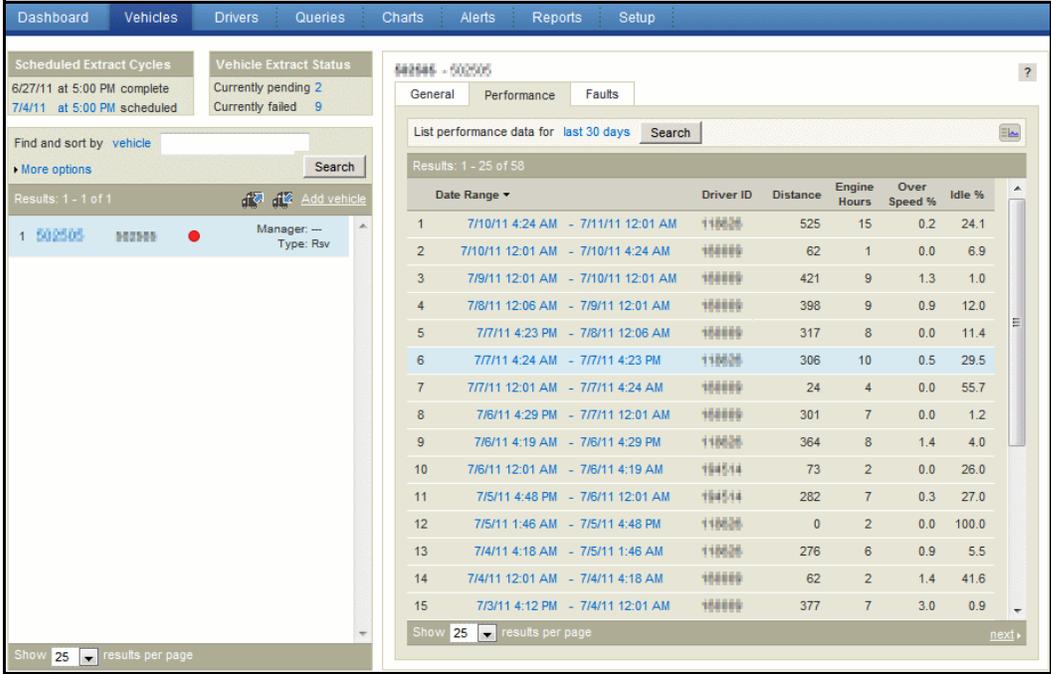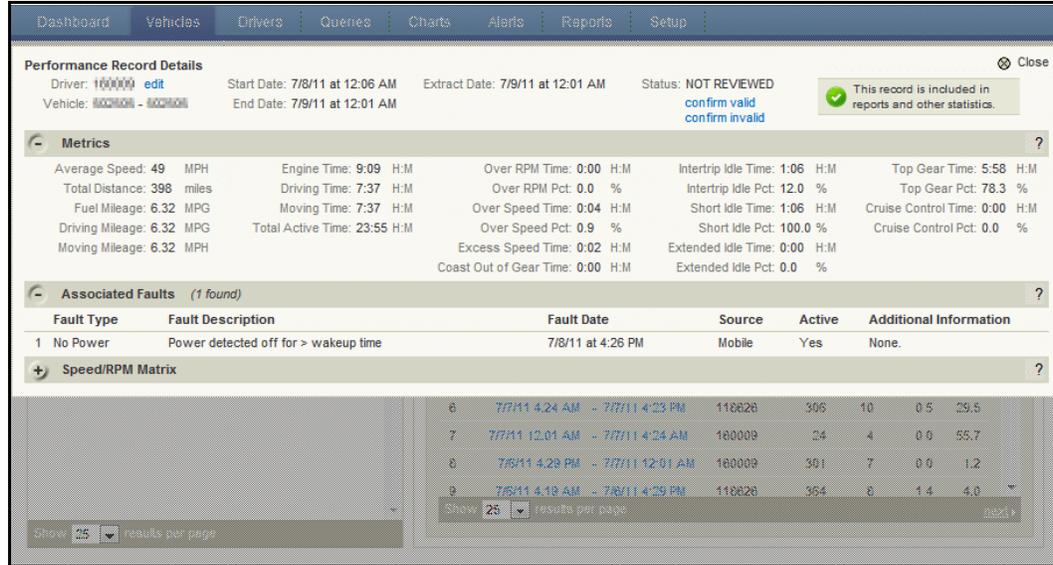


**FIGURE 27.**
Vehicle list, Performance tab screen

3. Change the date range to search if necessary. Locate the performance record to confirm and click to open it.

**FIGURE 28.**
Performance record
pop-up window



4. To see the faults, click + next to **Associated Faults.**

5. Review the metrics and associated faults. Do one of the following:

| To | Do this |
|---|---|
| **Confirm that the record and faults are valid** | Click **confirm valid** |
| **Mark the record and faults invalid** | Click **confirm invalid** |

*By the Way*

Unless confirmed invalid, records are considered valid and the data is included in reports. It is not necessary to confirm every record that is valid.

# CHAPTER 7

# Configuring the Performance Monitoring Application

This chapter is for Performance Monitoring users who have authority to perform administrative functions.

## Configuring Company Settings

Configuration parameters affect the operation, data purging, and reporting of the Performance Monitoring application. Only system administrators should change configuration parameters.

The Driver and Vehicle Performance Matrix reports show the vehicle speed in columns and the RPM in rows. Each speed/RPM intersection shows the time the engine ran at that RPM while traveling that speed.

The matrix reports summarize speeds in buckets (groups) according to values established on the Configuration Values page. See the online help to learn how to run the performance matrix reports.

### Task: Configure company settings

1.   Click **Setup**.

2.   Click **the Company Settings tab**.

**FIGURE 29.**
Configuration
Values page



For field descriptions, click **?** to access the online help.

3. Set parameters as desired.

4. To save your changes, click **Save**.

# APPENDIX A

# Sensor Faults

The following two tables list the possible sensor faults. Sensor faults can be identified by:

- Application generated, shown in Table 9
- The mobile unit, shown in Table 10 on page 62

The tables indicate the following:

- Fault—what the fault is called
- Description—the type of data that trigger the fault
- Condition— the possible causes that trigger the fault

**TABLE 9.** Application-generated fault conditions

| Fault | Description | Condition |
|---|---|---|
| Axle Sensor | High Distance (avg MPH >59 & dist>100; avg KMH >110 & dist > 160) | Average speed greater than 59 MPH is reported in conjunction with a distance greater than 100 miles. |
| Axle Sensor | No distance (non-zero moving time and zero dist) | Moving time greater than zero is reported in conjunction with a distance = 0 miles/kilometers. |
| Check Parms | Failed Parameter Send or Reset | Last parameter reset to vehicle failed. |
| Check Parms | First record after parameter change | First extract after last successful reset. |
| Check Parms | New vehicle requires parameter download | A vehicle was created in QTRACS software and automatically assigned to Vehicle Type Rsv. |
| Check Parms | Possible mobile unit firmware upgrade | Mobile unit parameters have reverted back to factory settings indicating a possible firmware upgrade. |
| Sensors | Engine time = zero | A non-zero driver ID is reported in conjunction with engine time equal to zero hours. |
| Snsr Cal/Rev | Very High Speed (Cal or sensors reversed) | Average speed greater than or equal to 80 MPH/129 KMH. |

**TABLE 9.** Application-generated fault conditions  (continued)

| Fault | Description | Condition |
|---|---|---|
| Speed | Distance = zero with engine time greater than 4 hours | A non-zero driver ID is reported in conjunction with engine time greater than or equal to 4 hours and distance equals zero. |
| Performance | Overrange extract received from vehicle | Vehicle exceeded a threshold of an overrange parameter and triggered an extract. |

**TABLE 10.** Mobile-generated fault conditions

| Fault | Description | Condition |
|---|---|---|
| No Power | Power detected off for more than the wake-up time | Main power was lost, causing the mobile unit to stay asleep longer than its wake-up interval. |
| RPM Zero | RPM zero when speed is non-zero | • RPM sensor or connection problem.<br>• JBus selection parameter set incorrectly.<br>• In rare cases, no idle can be caused by faulty axle sensor input (e.g., wires reversed) causing a positive reading for speed while the vehicle is stationary. |
| Bad Ignition | Ignition off and speed or RPM non-zero | Problem with mobile unit's ignition line wiring or fuse. |
| RPM Sensor | Engine posted PID (194) and PID (190) | RPM sensor or connection problem to the engine, detected by the engine's diagnostics. |
| Speed Sensor | Engine posted PID (194) and PID (84) | Speed sensor or connection problem to the engine, detected by the engine's diagnostics. |
| Bad Speed | More than 2 hours IGN = On with Spd = 0, RPM greater 1300 | • Speed sensor or connection problem - mobile unit.<br>• Speed sensor or connection problem - engine.<br>• Engine speed sensor parameter not enabled. |
| 0 Spd and RPM | More than 2 hrs with IGN = ON with Spd = 0, RPM = 0 | • Disconnect the entire accessory cable.<br>• RPM sensor or connection problem.<br>• JBus selection parameter set incorrectly.<br>• Data link connection problem.<br>• Driver using ignition position for accessory operation.<br>• Mobile unit ignition line wired to accessory position. |
| Enghrs Msmtch | Engine operation while mobile unit off; 12 minutes engine time or 1 mile/km distance accumulated, or 1 gallon/liter fuel used | • Engine run with main power disconnected.<br>• Engine run with data link disconnected.<br>• Engine run with ignition line disconnected. |

**TABLE 10.** Mobile-generated fault conditions (continued)

| Fault | Description | Condition |
| --- | --- | --- |
| LTD Mismatch | LTD mismatch with stored mobile unit data | • Engine run with main power disconnected.<br>• Engine run with data link disconnected.<br>• Engine run with ignition line disconnected. |
| Steady Speed | Speed signal constant for more than 5 minutes | A pulse generator may have been connected, either to the mobile unit or to the engine. |

# APPENDIX B

# Glossary

**Active time (Faults)**
The amount of time that a fault is indicated as active on the vehicle. Note that some fault detection methods have no explicit way to detect that the fault is no longer present. These reset at extraction; therefore, active time must be used carefully based on the mode of fault detection.

**Authorized assets**
The vehicles and/or drivers you are authorized to view based on global group membership and whether or not your user role is enabled to see data for all assets.

**Average speed**
The average rate of travel while driving
Derived by:

$$\frac{\text{DISTANCE}}{\text{DRIVING TIME}}$$

**Begin date/time**
The first date and time that an account is active (collecting data) after an extract/reset. The driver account that is active when a reset occurs resumes data collection immediately after reset, with a new begin date and time equal to the date and time of the reset. The begin date and time for any other account is set when it becomes active due to log on or log off.

**Coasting out of gear percentage**
Percentage of time above the overspeed threshold but below 1000 RPM
Derived by:

$$\frac{\text{COASTING OUT OF GEAR TIME}}{\text{MOVING TIME}}$$

**Coasting out of gear time**
Time above the overspeed threshold but below 1000 RPM.

**Cool-down violation count**
A count of the number of times that the driver stops the vehicle when it is hot and shuts off the engine before allowing the minimum cool-down time

**Cool-down violation rate (percentage)**
Derived by:

$$\frac{\text{COOL-DOWN VIOLATION COUNT}}{\text{TRIP SEGMENT COUNT X } 100}$$

**Coverage**
The user or address list assigned to the vehicle in QTRACS software to manage the vehicle. The user or users in the address list receive Performance Monitoring alert messages.

| | |
|---|---|
| **Data extraction** | The process that transfers a set of performance monitoring data from the memory in the mobile unit to the Performance Monitoring database. Extractions are performed in mobile unit transmissions, and usually occur because of an extract request from Performance Monitoring software. Certain exception conditions can also cause a mobile unit to automatically perform an extraction. |
| **Days** | Derived by: $$\frac{\textbf{TOTAL ACTIVE TIME}}{\textbf{24 HOURS}}$$ |
| **Dedicated warm-up/cool-down percentage** | Derived by: $$\frac{\textbf{DEDICATED WARM-UP, COOL-DOWN TIME}}{\textbf{ENGINE TIME}}$$ |
| **Dedicated warm-up/ cool-down time** | Derived by: **OPERATING IDLE - SHORT STOPS** |
| **Distance** | The total amount of distance traveled (miles or kilometers) |
| **Driver ID** | Unique identification for a driver. In the driver database, each driver MCT (mobile unit) password is related to a driver ID. The driver ID appears in reports and on displays. Often a driver short name is used as the driver ID. |
| **Driver manager** | The identification of a person responsible for review of a driver's performance, or an arbitrary identification that groups drivers' performance monitoring statistics for reporting purposes |
| **Driver MCT password or account password** | A unique number that a driver is expected to enter at the mobile unit to sign on when operating the vehicle. It is numeric and consists of a maximum of 9 digits. Often drivers are instructed to use their social security number as their unique password. |
| **Driving MPG (L/100K)** | An estimate of the amount of fuel used while driving, excluding intertrip idle fuel. Also excludes PTO fuel if PTO is active. Derived by: $$\frac{\textbf{DISTANCE}}{\textbf{FUEL} - \textbf{INTERTRIP IDLE FUEL} - \textbf{PTO FUEL}}$$ |
| **Driving percentage** | The percentage of engine time that the vehicle is operating on the road Derived by: $$\frac{\textbf{DRIVING TIME}}{\textbf{ENGINE TIME}}$$ |
| **Driving time** | Time that the vehicle is operating on the road. Driving time generally includes moving time plus time from short stops in traffic. The validity of this data dependent on reasonable set up of system parameters. |
| **End date/time** | The last date/time that an account is active (collecting data) before an extraction. The driver account that is active when an extraction occurs has an end date/time equal to the date/time of the extraction. |
| | The end date/time for any other account is the last time it is active before an extraction, based on log on and log off. |

| Engine time | Time that the engine is running (ignition on and speed or RPM greater than zero) |
|---|---|
| Equivalent PM distance | Derived by:<br>**DISTANCE + (FLEET AVERAGE MILEAGE X IDLE FUEL RATE) X (ENGINE TIME – MOVING TIME)** |
| Excessive overspeed count | The number of times that the vehicle exceeds the excessive overspeed threshold for a full minute or more. |
| Excessive overspeed full count | The number of times that the vehicle exceeds the excessive overspeed threshold |
| Excessive overspeed max(imum) | The duration of the longest excessive overspeed event |
| Excessive overspeed percentage | Derived by:<br>$$\frac{\textbf{EXCESSIVE OVERSPEED TIME}}{\textbf{MOVING TIME}}$$ |
| Excessive overspeed time | Time above a customer specified excessive overspeed threshold, typically set greater than the overspeed threshold. |
| Extended idle percentage | Derived by:<br>$$\frac{\textbf{EXTENDED IDLE TIME}}{\textbf{ENGINE TIME}}$$<br><br>Values for this field do not display for vehicles with OmniTRACS firmware prior to 14.6. |
| Extended idle time | Intertrip Idle time for events that are from extended operation such as sleeper berth. Derived by:<br>**INTERTRIP IDLE – SHORT IDLE**<br><br>Values for this field do not display for vehicles with OmniTRACS firmware prior to 14.6. |
| Extraction cycle | The 24-hour period that starts when the scheduled extraction request is sent. Automatically-generated reports process at the end of the cycle, it is recommended that you verify that extraction requests succeeded before the cycle ends. |
| Extraction date/time | The date and time that an account extraction occurred. For a driver account, multiple log on and log off events can occur between the begin date/time and end date/time of a data set. These interim events are not recorded in any way, but simply suspend or resume data collection in the driver account. |
| Fuel | The amount of fuel used by the engine. Fuel data is obtained (if available) from a vehicle data link connected to an electronically controlled engine. Its accuracy is based on the engine capabilities.<br><br>Fuel can be measured in gallons, liters, or imperial gallons. |
| Idle fuel | The amount of fuel used while the engine is running but speed is zero. As with overall fuel consumption, this data is obtained (if available) from a vehicle data link connected to an electronically controlled engine. Its accuracy is based on the engine capabilities. |

| | |
|---|---|
| **Idle fuel (estimation on Fuel Efficiency Report)** | An estimate of the fuel wasted in intertrip idle or short idle as specified, based on the amount of idle time and the average fuel consumed per hour at idle. |
| **Idle fuel rate** | The average rate of fuel consumption when idling. Derived by: $$\frac{\text{IDLE FUEL - PTO FUEL}}{\text{IDLE TIME - PTO TIME}}$$ |
| **Idle percentage** | Derived by: $$\frac{\text{IDLE TIME}}{\text{ENGINE TIME}}$$ |
| **Idle time** | Time that the engine is running but the vehicle speed is zero. Derived by: **ENGINE TIME - MOVING TIME** |
| **Ignition violation count** | The count of ignition violations. An ignition violation is counted when a driver changes ignition state three times within a specified period; for example, 5 minutes. After a first violation is counted, additional violations are counted for every two changes in state within each specified period until a full time period passes without any more violations. |
| **Ignition violation rate (percentage)** | Derived by: $$\frac{\text{IGNITION VIOLATION COUNT}}{\text{TRIP SEGMENT COUNT X } 100}$$ |
| **Initial distance** | The amount of distance that the vehicle accumulated before the mobile unit was installed and the Performance Monitoring option was activated |
| **Initial engine time** | The amount of engine time that the vehicle accumulated before the mobile unit was installed and the Performance Monitoring option was activated. |
| **Initial fuel** | The amount of fuel that the vehicle accumulated before the mobile unit was installed and the Performance Monitoring option was activated |
| **Intertrip idle fuel** | An estimate of the amount of fuel consumed during intertrip idle time, based on fuel consumption rate at idle and the amount of intertrip idle time. Derived by: **IDLE FUEL RATE X INTERTRIP IDLE TIME** |
| **Intertrip idle percentage** | Derived by: $$\frac{\text{INTERTRIP IDLE TIME}}{\text{ENGINE TIME}}$$ |
| **Intertrip idle time** | Time that the engine is idling other than for allowable warmups, cool downs, or short stops due to traffic conditions. Approximately equal to engine time minus driving time. The validity of this data is dependent on reasonable set up of system parameters. Also excludes idling for any PTO operation if PTO is activated. |
| **MCP** | Mobile Computing Platform series: MCP50, MCP100, MCP110, MCP200 |

| | |
|---|---|
| **MCT (mobile unit) account** | A memory buffer containing a set of performance monitoring data in the mobile unit. An account exists for all drivers that have been logged on since last reset (note that the active driver at time of reset remains logged on). The mobile unit has multiple account buffers available so that data can be collected for multiple drivers on the vehicle between resets. |
| **MCT life-to-date (LTD) distance** | The distance accumulated by the mobile unit since the Performance Monitoring option was activated |
| **MCT life-to-date fuel** | The gallons (or liters) of fuel accumulated by the mobile unit since the Performance Monitoring option was activated |
| **MCT life-to-date idle fuel** | The gallons (or liters) of total idle fuel accumulated by the mobile unit since the Performance Monitoring option was activated |
| **MCT life-to-date parked idle fuel** | The gallons (or liters) of parked idle fuel accumulated by the mobile unit since the Performance Monitoring option was activated |
| **MCT life-to-date PTO fuel** | The gallons (or liters) of PTO fuel accumulated by the mobile unit since the Performance Monitoring option was activated |
| **MCT serial number** | The unique encoded identification for an OmniTRACS unit or MCP unit in a vehicle. The serial number is included in every message. |
| **Minimum disconnect time (main power fault)** | The greater of the mobile unit's measurement of minimum power disconnection time, or the change in the electronic engine's "engine time" since last power down. The mobile unit measures minimum power disconnection time by comparing the time at power up with the time at last power down, minus wake up interval. This logic is suspended once the mobile unit exceeds its maximum power up time. |
| **Moving MPG (KPG)** | The miles or kilometers per gallon of the vehicle excluding all idle fuel Derived by: $$\frac{\textbf{DISTANCE}}{\textbf{FUEL} - \textbf{IDLE FUEL}}$$ |
| **Moving time** | Time that the engine is running and vehicle speed is greater than zero |
| **MPG (L/100K)** | Miles per U.S. gallon or liters per 100 kilometers |
| **Operating idle percentage** | Derived by: $$\frac{\textbf{OPERATING IDLE TIME}}{\textbf{ENGINE TIME}}$$ |
| **Operating idle time** | Idle time for warm ups, cool downs, or short stops during a driving segment (e.g., due to traffic) Derived by: **TOTAL IDLE TIME – INTERTRIP IDLE TIME – PTO TIME** |
| **Overrev count** | The number of times that the vehicle exceeds the over-RPM threshold for a full minute or more |
| **Overrev fuel (estimate on Fuel Efficiency report)** | An estimate of the fuel wasted due to overrev time (excluding overrev that is also overspeed time), based on the average incremental fuel consumption per hour of overrev and the amount of shift overrev time |
| **Overrev max(imum)** | The duration of the longest overrev event |

| | |
|---|---|
| **Overrev percentage** | Derived by:<br>$$\frac{\text{OVERREV TIME}}{\text{ENGINE TIME}}$$ |
| **Overrev time** | Amount of time exceeding the maximum RPM threshold when the throttle position is either unavailable (JBus) or is greater than 5%. You can change this threshold during an extraction cycle. |
| **Overspeed count** | The number of times that the vehicle exceeds the overspeed threshold for a full minute or more |
| **Overspeed max(imum)** | The duration of the longest overspeed event |
| **Overspeed percentage** | Derived by:<br>$$\frac{\text{OVERSPEED TIME}}{\text{MOVING TIME}}$$ |
| **Overspeed time** | Amount of time the vehicle's speed exceeded the maximum speed threshold when the throttle position was either unavailable (JBus) or read more than 5%. You can change this threshold during an extraction cycle. Over speed time accumulates regardless of the throttle position if the over speed and excessive speed thresholds are both exceeded. |
| **Parked idle fuel** | The amount of fuel consumed while idling and while the engine is indicating parking brake on via the data link |
| **Possible engine time** | An estimate of any engine time during a driver's date range that is not accounted for by the amount of engine time in the data for that driver ID. The estimate is based on accumulated ignition-on status time from vehicle position records during the date range of the driver's record. If a driver logs off when idling the vehicle, possible engine time may account for at least a portion of intertrip idle time in the unidentified driver account. |
| **Possible fault count** | The number of possible sensor faults detected that fall within the date range of a record |
| **PTOC revs** | The number of engine revolutions while in PTOC (compressor) mode. A compressor is a common power take off accessory. |
| **PTOR revs** | The number of engine revolutions while the engine is indicating PTO status is "on" via the data link |
| **PTO fuel** | The amount of fuel consumed while idling in PTO (power take off) mode |
| **PTO percentage** | Derived by:<br>$$\frac{\text{PTO TIME}}{\text{ENGINE TIME}}$$ |
| **PTO time** | The amount of idle time that PTO status is indicated. Normally PTO status means that the engine is being used to power an accessory. PTO status is sensed with a switch connected to a PTO input to the mobile unit. A PTO status can also be obtained from the data link, if available. The status must be indicated for a customer-specified period of time before PTO operation is assumed. |

| | |
|---|---|
| **PTOP revs** | The number of engine revolutions while in PTOP (pump) mode. A pump is a common power take off accessory. |
| **Reset** | The process of clearing or zeroing a set of data in the mobile unit's memory just after extraction. Not all extractions are followed by a reset. |
| **Restricted user** | A user whose role is not enabled to see data for all assets in the applications that recognize global groups. Specifically, the MISC permission "Can see data for all assets" is not checked. |
| **Shift overrev percentage** | Derived by: $$\frac{\textbf{SHIFT OVERREV TIME}}{\textbf{ENGINE TIME}}$$ |
| **Shift overrev time** | The time that a driver overrevs while upshifting or downshifting. This data is valid if the over-RPM threshold is set so that it corresponds to the overspeed threshold when the vehicle is in high gear. Derived by: **OVERREV TIME – OVERSPEED TIME** |
| **Short idle time** | Intertrip idle time for events that are not from extended operation such as sleeper berth idling, but instead are of medium duration such as a lunch break. These events are longer than allowable warmups and cool downs, but shorter than a specified extended idle threshold. The extended idle threshold should be a typical minimum time expected for true sleeper berth events, e.g., 90 minutes. |
| | Values for this field do not display for vehicles with OmniTRACS firmware prior to 14.6. |
| **Short stop time** | Idle time due to short stops during a driving segment (such as in traffic). Derived by: **DRIVING TIME – MOVING TIME** |
| | Values for this field do not display for vehicles with OmniTRACS firmware prior to 14.6. |
| **Short stop percentage** | Derived by: $$\frac{\textbf{SHORT STOP TIME}}{\textbf{ENGINE TIME}}$$ |
| **Speeding fuel (estimate on Fuel Efficiency report)** | An estimate of the fuel wasted due to overspeed time and excessive overspeed time, based on estimates of the average miles per hour and time over the overspeed threshold, and the specified difference in fuel economy for each mile per hour over the threshold. |
| **Time in cruise control** | Percentage of total moving time during which the vehicle is in cruise control. |
| **Time in top gear** | Percentage of total moving time during which the vehicle is in top gear. |
| **Total active time** | The total amount of time, with or without ignition on, that the account was the active account. The total active time for all driver accounts from each vehicle equal total calendar time. |
| **Total overrange percentage** | Derived by: $$\frac{\textbf{OVERSPEED TIME + INTERTRIP IDLE TIME + OVERREV TIME}}{\textbf{ENGINE TIME}} \times \textbf{100}$$ |

| | |
|---|---|
| **Trip segment count** | The number of times that an end of trip segment is determined. This counter is dependent on a specified distance threshold defining the beginning of the trip segment and a specified time threshold defining the end of a trip segment. Turning the ignition off also ends a trip segment. |
| **Unidentified driver account** | A reserved account with driver password = zero. The unidentified driver account is the default account, and is used whenever there is no logged in driver. |
| **Unregistered driver** | A driver password received in a data set that does not exist in the driver database. When an unregistered password is received, it either means that a valid driver has not been entered into the driver database, or that a driver used an incorrect or nonexistent password. |
| **Unrestricted user** | A user whose role is enabled to see data for all assets in the applications that recognize global groups. Specifically, the MISC permission "Can see data for all assets" is checked. |
| **Vehicle ID** | The unique identification number for a vehicle. Each serial number in the database is assigned a vehicle ID. The vehicle ID appears in reports and on displays. |
| **Warm-up violation count** | A count of the number of times that the driver starts the vehicle when it is "cool" and begins moving before allowing the minimum warm-up time. |
| **Warm-up Violation Rate (Percentage)** | Derived by: |

$$\frac{\text{WARM-UP VIOLATION COUNT}}{\text{TRIP SEGMENT COUNT}} \text{ X } 100$$

# APPENDIX C

# Vehicle Type Parameters Worksheet

Fill out the worksheet below and then set up your vehicle type parameters within Performance Monitoring.

**TABLE 11.** Vehicle Type Parameters Worksheet

| Vehicle Type | Description |
|---|---|
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**TABLE 12.** Vehicle Type Parameters Worksheet 2

| Field | Default | Your Company's Value |
|---|---|---|
| *Performance Monitoring* | | |
| Minimum Warm-up | 3 (Min) | |
| Maximum Warm-up | 5 (Min) | |
| Minimum Cool-down | 3 (Min) | |
| Maximum Cool-down | 5 (Min) | |

**TABLE 12.** Vehicle Type Parameters Worksheet 2

| Field | Default | Your Company's Value |
|---|---|---|
| Extended Idle Threshold | 90 (Min) | |
| Over Speed Thresh | 60 (MPH) | |
| Excess Speed Thresh | 65 (MPH) | |
| Over RPM Thresh | 180 | |
| Begin Trip Thresh | 1.0 (10th mi) | |
| End Trip Thresh | 15 (Min) | |
| Ignition Violation Time | 0 (Min) | |
| PTO Enable | Disabled) | |
| PTO Startup Time | 0 (Min) | |
| *Fault Monitoring* | | |
| No Power | Disabled | |
| RPM Zero | Disabled | |
| Bad Ignition | Disabled | |
| JBus RPM | Disabled | |
| JBus Speed | Disabled | |
| JBus LTD Mismatch | Enabled | |
| JBus Engine Time | Disabled | |
| Bad Speed | Disabled | |
| Zero Speed/RPM | Disabled | |
| Steady Speed | Disabled | |
| *Mobile Behavior* | | |
| Mobile Auto Extract | 8 (Days) | |
| Summary Extract Default | Disabled | |
| Disable Mobile Display | Disabled | |
| Enable Mobile Warning Beep | Disabled | |
| Mobile Driver Beep Period | 0 (Min) | |
| *Data Source* | | |
| JBus Select | Enabled | |
| Standard Speed Sensor | Disabled | |
| Speed Sensor Calibration Value | 0 (Pulse) | |
| RPM Sensor Calibration Value | 0 (Pulse) | |
| Distance Measurement Units | Miles | |
| JBus Indicates True PTO | Disabled | |

| Vehicles to Assign | | |
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