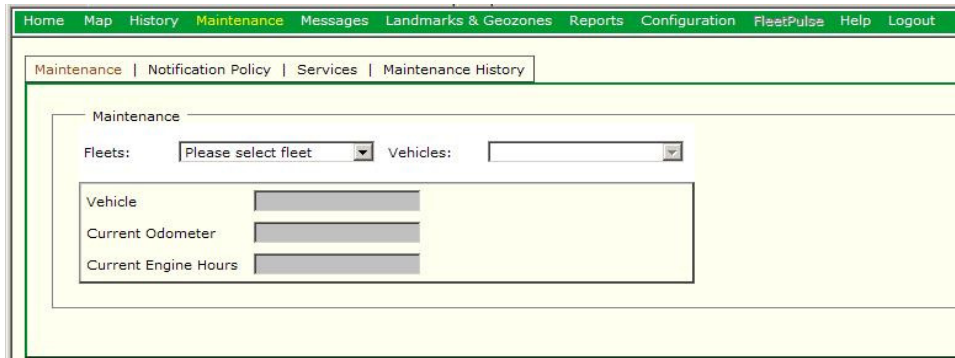


## Vehicle Maintenance

The Maintenance screen under SentinelFM gives the user the option to retrieve the maintenance history for a vehicle, create and assign services based on odometer or engine hours, email notifications based on user preferences.

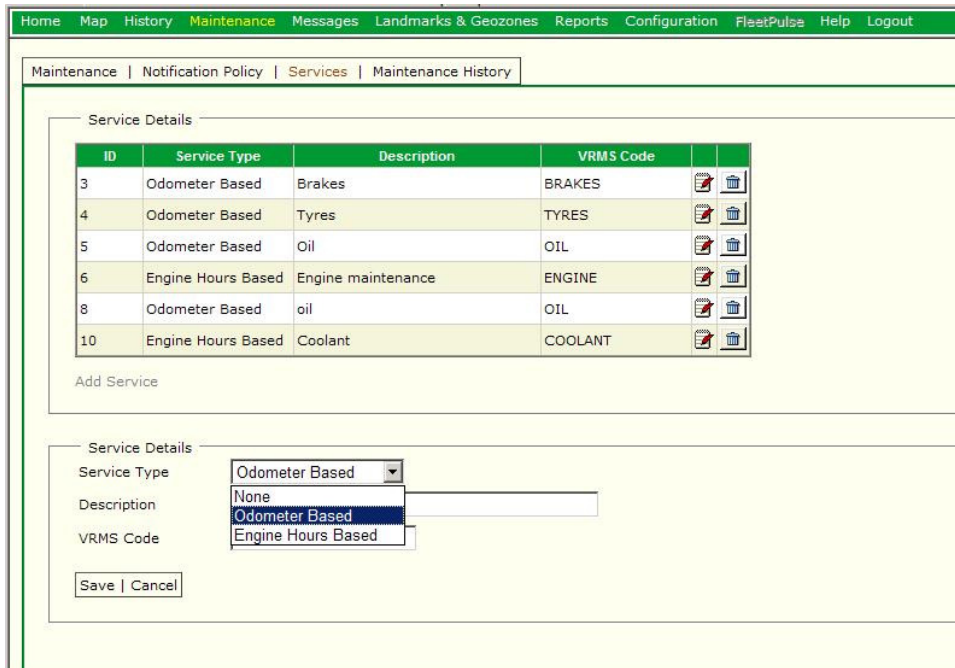
The Maintenance screen contains 4 tabs:



To use maintenance, notification policies and services have to be defined and assigned for the vehicles.

### 1. Services

This page allows the user to create different type of services based on odometer or engine hours.



## 2. Notifications

Email notifications can be set up based on user preferences. The user has the option to set values and emails will be triggered to the user(s) based on these values.

The values are represented in percentage.

For instance, in the below screenshot for odometer based; the notification, warning and last warning are set at 60%, 75% and 95% respectively. The values are not fixed and can be modified.

The screenshot shows the 'Notifications' section of the software interface. At the top, there is a navigation bar with links: Home, Map, History, Maintenance (highlighted), Messages, Landmarks & Geozones, Reports, Configuration, FleetPulse, Help, and Logout. Below this, a sub-navigation bar shows: Maintenance | Notification Policy | Services | Maintenance History. The main content area is titled 'Notifications' and contains a table with the following data:

ID	Notification Type	Notification	Warning	Last Warning	Description		
3	Odometer Based	60	75	95	Odometer		
4	Engine Hours Based	60	75	95	Engine		

Below the table is an 'Add Notification' button. Further down, the 'Notification Details' section is visible, showing a form for configuring a new notification. The 'Notification Type' is set to 'Odometer Based'. The 'Notification' field is empty. The 'Warning' field is empty. The 'Last Warning' field is empty. The 'Description' field is empty. At the bottom of the form are 'Save' and 'Cancel' buttons.

## 3. Maintenance

After defining services and notifications, the user can create maintenance plans for vehicles.

Select vehicle you want to use maintenance plans for. If odometer and engine hours values are put to zeroes – you have to initialize current vehicle to be able to use it. Click 'Set' button and change current vehicle engine hours value. (Note: you can change vehicle odometer value by sending 'Set Odometer' command to the AVL).

The screenshot shows the 'Maintenance' section of the software interface. At the top, there is a navigation bar with links: Home, Map, History, Maintenance (highlighted), Messages, Landmarks & Geozones, Reports, Configuration, FleetPulse, Help, and Logout. Below this, a sub-navigation bar shows: Maintenance | Notification Policy | Services | Maintenance History. The main content area is titled 'Maintenance' and contains a form for configuring maintenance plans. The 'Fleets' dropdown is set to 'All Vehicles'. The 'Vehicles' dropdown is set to '1671'. Below these, there is a 'Vehicle' field with the value '4398'. The 'Current Odometer' field is set to '0'. The 'Current Engine Hours' field is set to '1000'. At the bottom of the form are 'Save' and 'Cancel' buttons.

## Add new maintenance plan

- Type in a plan description (required)
- Select service type (required)
- Select defined service (required)
- Select defined notification (required)
- Select schedule type (required) – for once specify due value, for recurring specify due value, interval and end service value (optional).
- Type comma separated e-mail addresses to get notifications (required)
- Notes: any useful information to be added (optional)

The screenshot shows a web application interface for managing maintenance plans. The top navigation bar includes links: Home, Map, History, Maintenance (active), Messages, Landmarks & Geozones, Reports, Configuration, FleetPulse, Help, and Logout. A user profile 'User:' is on the right. Below the navigation bar is a sub-menu: Maintenance | Notification Policy | Services | Maintenance History. The main content area is divided into two sections. The top section, titled 'Maintenance', contains a form for selecting a vehicle. It has dropdowns for 'Fleets' (set to 'All Vehicles') and 'Vehicles' (set to '3872'). Below these are input fields for 'Vehicle' (4937), 'Current Odometer' (125951), and 'Current Engine Hours' (858), with a 'Set' button. To the right of this form are two checked checkboxes: 'Odometer Based' and 'Engine Hours Based', and three links: 'Get Due Services', 'Get Past Services', and 'Add New Plan'. The bottom section, titled 'Add new maintenance plan', contains a form with the following fields: 'Description' (Brakes inspection), 'Service Type' (Odometer Based), 'Service' (Brakes), 'Notification' (Odometer), 'Schedule Type' (Recurring), 'Due Value' (200000), 'Interval' (100000), 'End Value' (1000000), and an 'Unlimited' checkbox. To the right of this form are input fields for 'Email' (john.doe@bsm.com) and 'Notes'. At the bottom of the form are 'Save' and 'Cancel' buttons.

Once set, you can browse for odometer based, engine hours based or both maintenance plan types, edit, delete and add new plans.

Home Map History Maintenance Messages Landmarks & Geozones Reports Configuration FleetPulse Help Logout User:

Maintenance | Notification Policy | Services | Maintenance History

Maintenance

Fleets: All Vehicles Vehicles: 3872

Vehicle 4937

Current Odometer 125951

Current Engine Hours 858

Set

☒ Odometer Based

☒ Engine Hours Based

[Get Due Services](#)

[Get Past Services](#)

[Add New Plan](#)

Due Maintenance Services

Description	Due Value	Operation Type	Notification	Email			
Test	130000	Odometer Based	Odometer	mnisenbaum@bsmwireless.com			
Test hrs	2000	Engine Hours Based	Engine	mnisenbaum@bsmwireless.com			

If a Maintenance plan is created with the schedule type as *once*, after the current odometer or engine hours passes the 'Due Value' the appropriate maintenance plan(s) will be moved into Past Services which can be viewed by clicking on 'Get Past Services'. Since the schedule type is *once*, if the user chooses to close this service, this service will be updated in the Maintenance History Screen.

If a Maintenance plan is created with the schedule type as *recurring*, after the current odometer or engine hours passes the 'Due Value' the appropriate maintenance plan(s) will be moved into Past Services which can be viewed by clicking on 'Get Past Services'.

Since the schedule type is recurring, after the user closes this service then based on the set Interval the next due value will be calculated and the service will appear under Due Services which can be viewed by clicking on 'Get Due Services'.

If the schedule type is *recurring* it is critical that the user closes the service once it passes the current due value for the next due value to be calculated.

## 4. Maintenance History

As the name indicates, this section allows the user to track the service history for a particular vehicle. This will indicate to the user when (date / time and odometer or engine hours) and what type of service was performed on the vehicle

Home	Map	History	Maintenance	Messages	Landmarks & Geozones	Reports	Configuration	FleetPulse	Help	Logout
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Maintenance	Notification Policy	Services	Maintenance History
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Maintenance History

Fleets:  Vehicles:

Service	DateTime	Value	Description
Lube and levels oil and filters.	3/6/2008 3:04:52 PM	2166	NEW SERVICE PLAN CREATED
Lube and levels oil and filters.	3/6/2008 3:04:04 PM	130000	SERVICE DELETED
Lube and levels oil and filters.	3/6/2008 2:51:10 PM	130000	NEW SERVICE PLAN CREATED
Lube and levels oil and filters.	3/6/2008 3:06:14 PM	2000	NEW SERVICE PLAN CREATED
Oil	3/7/2008 9:47:46 PM	130000	SERVICE PLAN UPDATED
Engine maintenance	3/7/2008 9:54:57 PM	2000	SERVICE PLAN UPDATED
Engine maintenance	3/7/2008 9:49:15 PM	2000	SERVICE PLAN UPDATED
Engine maintenance	3/7/2008 9:48:49 PM	2000	SERVICE PLAN UPDATED

Any additions or change in the maintenance screen are displayed in the History section as well.

New Service Plan Created – A new service was created.

Service Plan Updated – An existing service was modified.

Service Closed / Deleted – The service was completed for the vehicle and hence closed.

Service Deleted – The service is no longer required.