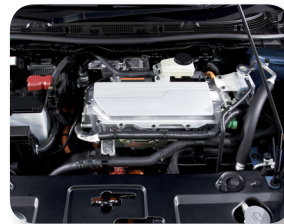


## REMOTELY DIAGNOSE VEHICLE PROBLEMS AND AVOID DOWNTIME

For companies with mobile workers, the success of their business depends on keeping their vehicles running and their maintenance and fuel costs low. Trimble Vehicle Diagnostics enables managers to remotely monitor engine and driver performance. Vehicle Diagnostics reports and alerts warn managers of problem conditions as soon as they occur. This insight allows managers to intervene with proactive maintenance attention to help avoid more costly breakdowns and repairs.

### KEY BENEFITS

- Remotely view engine diagnostics to know the health of your vehicles without having to interrupt their service in the field
- Receive engine fault descriptions – not just code numbers – for an instant view of the problem
- Reduce your carbon footprint and improve your engine efficiency by monitoring the health of your vehicle's emissions systems
- Increase productivity by decreasing vehicle downtime
- Improve fuel economy and reduce repair costs through proactive engine monitoring and maintenance



## MONITOR VEHICLES REMOTELY IN REAL TIME

Trimble Vehicle Diagnostics uses in-vehicle engine monitoring hardware through an OBD-II, J1708 or J1939 interface to continually collect and wirelessly transmit information from vehicles in the field to Trimble GeoManager Fleet Management at the Trimble data center. Since Fleet Management is Internet-based, you can access real-time or historical vehicle diagnostic information at any time, from any location where you have online access. You can also arrange to have notifications sent to your mobile device or email account when a vehicle's fault code is triggered.

After receiving notice of a fault code from a vehicle's engine bus, you can take immediate action to ensure the safety of the driver and vehicle and to avoid more serious problems like breakdowns, extensive repairs or missed customer appointments. Your fleet technician can also use the engine data to identify and correct vehicle fuel economy problems to save on fuel costs.

If a vehicle breaks down, you can use your understanding of the problem to decide whether to send a tow truck or service technician. This can help get the vehicle back in operation more quickly and with less expense.

## REPORTING FEATURES, EXCEPTIONS AND ALERTS

Trip Report – Allows you to evaluate driver and vehicle performance from one trip to another by listing and comparing:

- Diagnostic fault codes and descriptions
- Driving duration
- Idle duration
- Trip duration
- Driving fuel
- Idle fuel
- Trip fuel
- Miles per gallon
- Trip distance
- End odometer
- Average speed
- Stop count
- Start/stop location

It also allows you to view a trail of where the vehicle traveled during the specified trip.

Diagnostic Fault Exception Report and Alerts – Provides real-time alerts when a vehicle's fault code is present. Lists vehicle, driver, location, time, fault code source, ID/FMI codes, a description of what the fault code means during the specified report period. This information can be viewed via Fleet Management reports or delivered to an email account or mobile device.

### Summary - Mileage

Mileage Report (Report Generated at: January 12, 2011 12:58:59 PM)

Local Manager/Area Manager: Bay Area/null; Fremont/null; Fremo Date: from 1/10/11 to 1/12/11

Manager	Group	1/10/11 Mileage (mph)
Bay Area	Bay Area	36.0
Fremont	Fremont	30.0
Fremont_Landmarks	Fremont_Landmarks	0.0
Fremont_Wholesale	Fremont_Wholesale	30.0
New York	New York	0.0
QuickProCo	QuickProCo	36.0
San Francisco	San Francisco	0.0
San Francisco Wholesale	San Francisco Wholesale	0.0
San Mateo	San Mateo	6.0
San Mateo_Delivery	San Mateo_Delivery	6.0
Total		144.0

Mileage Summary report helps you keep track of the distance traveled per vehicle.

Exceptions

Fault Code Events

Date: 1/12/11 12:00 AM

From: 1/10/11 12:00 AM

To: 1/12/11 12:00 AM

Reported: 26

Date: 1/10/11 12:00 AM PST

Vehicle	Start Time	End Time	Fault Code	Description	Severity	Address	City	State	ZIP	County	Alerting Process
1000000	0000	0000	P0001	Engine Oil Pressure Too Low	3	100000000	HEALIFE	CA	94000	SANTA CLARA	N/A
1000000	0000	0000	P0001	Engine Oil Pressure Too Low	3	100000000	HEALIFE	CA	94000	SANTA CLARA	N/A
1000000	0000	0000	P0001	Engine Oil Pressure Too Low	3	100000000	HEALIFE	CA	94000	SANTA CLARA	N/A
1000000	0000	0000	P0001	Engine Oil Pressure Too Low	3	100000000	HEALIFE	CA	94000	SANTA CLARA	N/A
1000000	0000	0000	P0001	Engine Oil Pressure Too Low	3	100000000	HEALIFE	CA	94000	SANTA CLARA	N/A
1000000	0000	0000	P0001	Engine Oil Pressure Too Low	3	100000000	HEALIFE	CA	94000	SANTA CLARA	N/A
1000000	0000	0000	P0001	Engine Oil Pressure Too Low	3	100000000	HEALIFE	CA	94000	SANTA CLARA	N/A
1000000	0000	0000	P0001	Engine Oil Pressure Too Low	3	100000000	HEALIFE	CA	94000	SANTA CLARA	N/A
1000000	0000	0000	P0001	Engine Oil Pressure Too Low	3	100000000	HEALIFE	CA	94000	SANTA CLARA	N/A
1000000	0000	0000	P0001	Engine Oil Pressure Too Low	3	100000000	HEALIFE	CA	94000	SANTA CLARA	N/A

Exceptions Fault Code Events report shows information about vehicle engine issues.

Exceptions

Index	Date	Mobile Device	Exception Type	Exception Name	Exception Value
1	December 5, 2009 11:00:00 PM PST	181	Diagnostic Fault	Diagnostic Fault SF	OTC P0085
2	December 5, 2009 10:50:00 PM PST	182	Warning	Min Fuel 5 Min Utilg	95% min
3	December 5, 2009 9:40:00 PM PST	181	Diagnostic Fault	Diagnostic Fault SF	OTC P0085
4	December 5, 2009 9:40:00 PM PST	181	Diagnostic Fault	Diagnostic Fault SF	OTC P0085
5	December 5, 2009 9:40:00 PM PST	181	Diagnostic Fault	Diagnostic Fault SF	OTC P0085
6	December 5, 2009 11:45:00 AM PST	181	Diagnostic Fault	Diagnostic Fault SF	OTC P0085

Exception Details

Date: December 5, 2009 9:40:00 PM PST

Name: Diagnostic Fault SF

Value: OTC P0085

Location: 160 LOS GATOS SANATORIA RD, LOS GATOS, CA 95000

Details: All Diagnostic Faults

Mobile Device: 181

ID#: Diagnostic Fault

Vehicle Diagnostics Exception alerts notify you when vehicles transmit fault codes.

For more information about Vehicle Diagnostics, visit [www.trimble.com/fleet](http://www.trimble.com/fleet) or contact your Trimble sales representative at [MRMinfo@trimble.com](mailto:MRMinfo@trimble.com) or 1-877-728-7623.

\* Odometer values delivered using vehicle bus data or GPS speed data

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