



It's More Than Telematics

GOMACO Remote Diagnostics (GRD) Gives Owners the Visibility of How, When, and Where Their Equipment is Being Used

GOMACO Remote Diagnostics is Now Available on All Machines with G+® Controls

Remote Diagnostics

Keeping you up and running during the paving season is GOMACO's number one priority. GOMACO Remote Diagnostics (GRD) is a powerful extension to our existing service capabilities allowing GOMACO personnel or your own service personnel to remotely connect to your machine for troubleshooting. A diagnostic review of your machine can take place in Ida Grove, Iowa, at your shop location, or on the job-site for a quick response to your service issue. GRD will transmit the G+ settings, the G+ configuration, and the fault history to allow a correct diagnosis of your immediate situation. Traveling to your job site by GOMACO service personnel may be minimized because of telematics review and adjustments.

G+ Software Updates

No matter where in the world your job site is located, GOMACO personnel can transmit G+ software updates to your machine. Software updates are often provided to enhance the functionality and operational features of your GOMACO machine. This remote capability from Ida Grove, Iowa, also allows software changes to be made to your G+ control system for specific applications or unique job-site logistics. Software updates could include new radius technology, support for new sensors, new code for 3D machine guidance technology, or additional software maintenance on new product introductions.

Real-Time Analysis of GOMACO Smoothness Indicator (GSI®) Data

Now you have the power to access the current status of your paver's smoothness performance on your mobile phone or your computer through GOMACO Remote Diagnostics. GOMACO personnel in Ida Grove, Iowa, can also join you in real-time analysis of your ride quality as it is happening on your project.

Fleet Management

GOMACO GRD is also telematics for you to keep a watchful eye on your paving equipment throughout the paving season. You can create alerts on service indicators, like engine hours, to help you develop a machine maintenance schedule. Machines that are properly maintained and serviced are less likely to develop mechanical problems during the paving process.



Screenshot Samples

Access Machine Location

GOMACO Remote Diagnostics (GRD) gives you the ability to track the movements of your GOMACO machines over a range of dates. You can see the actual street address location of the machines and have an e-mail alert sent if the machine goes outside of a specified area.



The white dots on the above map show the exact location of the GOMACO machines by mapping them through GPS positioning. This screenshot example shows all of the company's GOMACO machines are located within the company's storage lot.



The red line on the map shows how much of the interstate project was trimmed during a given time period.

Alerts

Receive e-mail alerts for any of the set parameters on the machine. Setting the parameters can help you create a managed maintenance schedule for your GOMACO machine. For example, you can set an alert to notify you when enough hours have been accumulated to need an oil or filter change. If you are running a GOMACO GSI® for smoothness readings, an alert e-mail can be sent when readings exceed the set parameters.

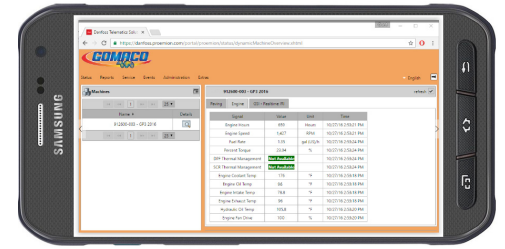
Signal Name	Filter Definition	Filter Match	Timestamp
GSI is greater than 100 IRI	GSI > 100	120	10/5/2016 10:10
Low DEF Fluid	Def Fluid < 5%	5%	11/6/2016 8:45
Accumulator Pressure Low	Accumulator PSI < 168	160	8/5/2016 10:45
Machine RPM is above idle	Engine Speed > 1300	1459	11/8/2016 10:50
Engine hours indicate maintenance	Engine Hours >= 500	500.1	9/9/2016 10:30

E-mail alerts can be set up to know specific detail parameters about your machines, such as when the RPM is above idle. This could tell you that paving has commenced on the job site.

View on a Computer or Mobile Device

GRD programming allows you to view machine details on your computer or a mobile phone for easy access anytime and anywhere. You will always know where your machines are located, and you will know the parameter details that were set on each of your GOMACO machines.

Signal	Value	Unit	Time
Engine Hours	659	Hours	10/27/16 2:53:21 PM
Engine Speed	1,427	RPM	10/27/16 2:53:21 PM
Fuel Rate	1.35	gal (US)/h	10/27/16 2:53:24 PM
Percent Torque	23.04	%	10/27/16 2:53:24 PM
DPF Thermal Management	Not Available		10/27/16 2:53:24 PM
SCR Thermal Management	Not Available		10/27/16 2:53:24 PM
Engine Coolant Temp	176	*F	10/27/16 2:53:18 PM
Engine Oil Temp	96	*F	10/27/16 2:53:18 PM
Engine Intake Temp	78.8	*F	10/27/16 2:53:18 PM
Engine Exhaust Temp	96	*F	10/27/16 2:53:18 PM
Hydraulic Oil Temp	105.8	*F	10/27/16 2:53:20 PM
Engine Fan Drive	100	%	10/27/16 2:53:20 PM



Machine details can be viewed on your computer or a mobile phone. This allows the freedom to check on a machine anytime or anywhere.

Machine Management

GOMACO's service department in Ida Grove, Iowa, has the ability to connect to the GOMACO machine with a service tool. This allows us to review machine configuration parameters for troubleshooting without having to travel to the machine. GOMACO Remote Diagnostics provides a range of machine and engine information allowing quicker machine diagnostics and management.

Sample 9500 Trimmer Screens

Sample 3300 Paver Screen

Signal	Value	Unit	Time
Machine Speed	4.1	ft/min	11/09/16 8:05:52 AM
Distance Traveled	12,890.1	ft	11/09/16 8:06:02 AM
MasterSupplyV	13.7	Volts	11/09/16 8:06:02 AM
Machine Width	7.48	ft	11/09/16 8:05:52 AM
Machine Length	15.11	ft	11/09/16 8:05:52 AM
Master Controller	1.06	Sw Version	11/09/16 8:06:02 AM
Secondary Controller	1.09	Sw Version	11/09/16 8:06:19 AM

Pavers and trimmers show the same engine diagnostics data within the GRD program.

GRD shows the status of the filters on the GOMACO machine and lets you know when something needs attention.

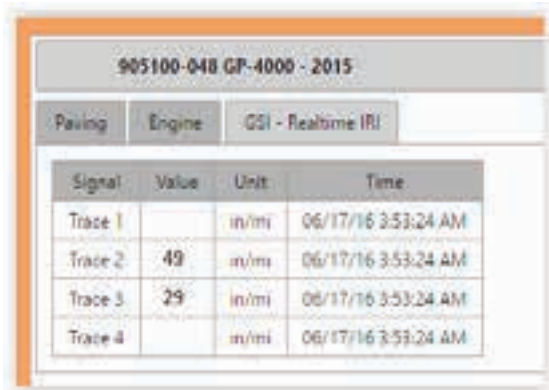
Signal	Value	Unit	Time
Main	OK		11/02/16 1:55:38 PM
Lift	OK		11/02/16 1:55:38 PM
Lube	OK		11/02/16 1:55:38 PM
Air	OK		11/02/16 1:55:38 PM
Trimmer/Auger	OK		11/02/16 1:55:38 PM
Rear Conveyor	OK		11/02/16 1:55:38 PM
Transfer Conveyor	OK		11/02/16 1:55:38 PM
Left Track	OK		11/02/16 1:55:38 PM
Right Track	OK		11/02/16 1:55:38 PM
Trimmer Head Calibration	OK		11/02/16 1:55:38 PM
Accumulator	OK		11/02/16 1:55:38 PM

This screen allows you to monitor the trimmerhead operating pressure and hydraulic flow to the trimmer drive motor.

Signal	Value	Unit	Time
Machine Speed	18.5	ft/min	11/02/16 1:55:28 PM
Trimmer Head Pressure	1350	PSI	11/02/16 1:55:50 PM
Trimmer Flow	130	GPM	11/02/16 1:55:50 PM

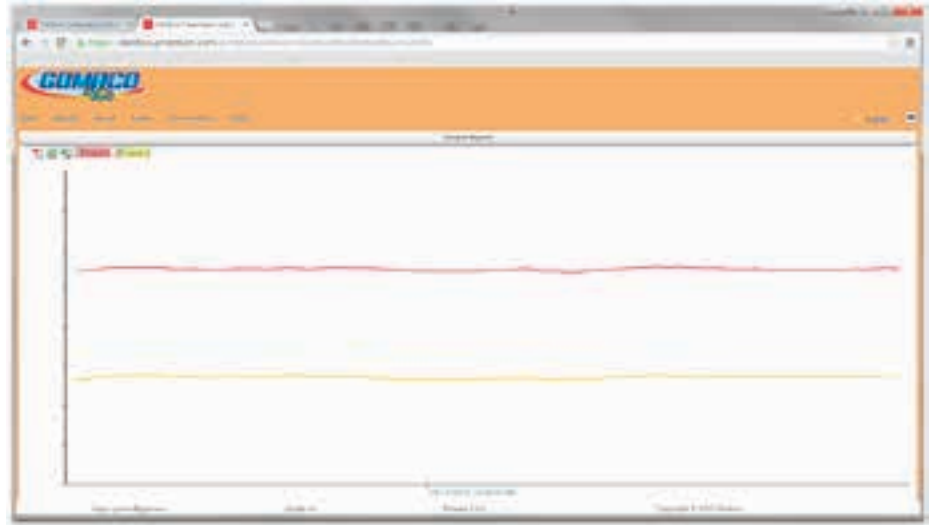
Receive Machine Information

GOMACO Remote Diagnostics (GRD) allows you to access information on the fuel rate, engine hours, RPMs, real-time GOMACO Smoothness Indicator (GSI®) data, and other machine operations.



905100-048 GP-4000 - 2015			
Paving	Engine	GSI - Realtime IRI	
Signal	Value	Unit	Time
Trace 1		in/mi	06/17/16 3:53:24 AM
Trace 2	49	in/mi	06/17/16 3:53:24 AM
Trace 3	29	in/mi	06/17/16 3:53:24 AM
Trace 4		in/mi	06/17/16 3:53:24 AM

One option for viewing the GOMACO GSI smoothness data in real-time with the GRD software is to see it in table format.



Another option in the GRD software shows multiple GSI smoothness traces in real-time on a line chart for a visual reference.



GOMACO Remote Diagnostics transmits through the mobile phone network and picks up the GPS location of the GOMACO machine.

Manufactured under one or more of the following U.S. or foreign patents: 5,924,817; 5,941,659; 6,099,204; 6,450,048; CA2,211,331; 7,044,680; 7,284,472; 7,517,171; 7,845,878; 7,850,395; CA2,864,902; CA2,591,177; 8,855,967; 8,682,622; 9,051,696; 9,180,909; 9,200,414; 9,404,228; 9,428,869; 9,458,581; 9,464,716; and patents pending.

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