



MIRENCO

YOU CAN'T MANAGE WHAT YOU CAN'T MEASURE!

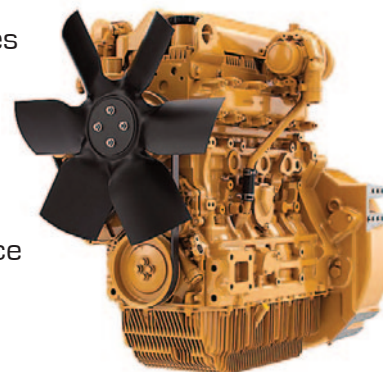
Telematic Engine Performance Data Collection and
Real-World Analysis for Better Decision Making



MirencO and Matrix can help lower the cost of your overall fleet maintenance costs by giving you the data and analysis you need to make the right decisions!

Founded in 1997, MirencO's core business is gathering and reporting accurate, real-world engine performance data that helps companies monitor DPF for fuel savings, experience lower downtime, prevent costly repairs and operate more productively.

- A simple solution for monitoring vehicles at single or multiple job sites
- Patented telemetry sensors for remote location reporting and engine performance analysis
- Engine performance/status reporting and database maintenance
- Engine problems identified before expensive breakdowns
- Sensor system fits all makes and models of heavy equipment and can be transferred to a new vehicle at any time
- Currently monitoring engine performance for 31 mining companies at 136 sites



MirencO lets your engine tell you what it needs and when it's needed - helping convert sudden costly downtime to cost-effective scheduled maintenance.

DATA / MONITORING PRODUCTS

- Equipment Production Monitoring System (EPROMS)
- Fuel Tracker
- DPF Regeneration Monitoring
- MirencO Diesel Evaluation Program (MDEP)
- Universal Air Filter Monitor (UAFM)

EQUIPMENT PRODUCTION MONITORING SYSTEM (EPROMS)

EPROMS provides operators with an early warning of Diesel Particulate Filter (DPF) problems

- Helps reduce DPF replacement costs
- Eliminates combustion and performance loss
- Reduces the frequency of cleaning/replacing the DPF element



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Telematic Engine Performance Data Collection and
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Experienced
Analysis Is the
Mirengo
Program's
Secret Sauce!

Make better,
more informed
fleet management
decisions



DPF REGENERATION MONITORING

Thermocouple installed at DPF exhaust outlet monitors the engine's DPF Regeneration process, including:

- Length of the Regenerations
- Number of DPF regenerations per day
- Gallons of engine diesel fuel per hour of DPF Regeneration

A high number of DPF Regenerations means something is going wrong with your engine. Downtime is coming soon.

MDEP

by MIRENCO
COMBUSTION MANAGEMENT SOLUTION

PROACTIVE fleet operators use MDEP to control their DPM levels.
REACTIVE fleet operators wait until OSHA issues citations.

MIRENCO DIESEL EVALUATION PROGRAM OVERVIEW:

- On-site exhaust testing
- Five-gas analysis test
- Wireless handheld device
- Smoke meter for DPMs
- Acceleration Snap Test (DPM)

WHAT CAN MDEP TELL YOU ABOUT YOUR ENGINE?

- Air Restrictions
- Injector Timing
- Air / Fuel Ratio
- Turbocharger Problems
- Valve Lash
- Faulty Injectors
- Faulty ECM Flash Files

WHY DPM MANAGEMENT IS IMPORTANT TO YOUR MINING OPERATION

DPM is a component of diesel exhaust (DE) that includes soot particles made up primarily of carbon, ash, metallic abrasion particles, sulfates and silicates.

Health Effects of DE/DPM?

Short-term exposure to high concentrations of DE/DPM can cause headache, dizziness, and irritation of the eye, nose and throat severe enough to distract or disable miners and other workers. Prolonged DE/DPM exposure can increase the risk of cardiovascular, cardiopulmonary and respiratory disease and lung cancer.

How Can DPM Be Mitigated?

Performing routine preventive maintenance of diesel engines to minimize emissions. MDEP monitors engine DPM levels and allows you to avoid excess levels.

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