

Heavy Vehicle Condition-Based Maintenance

MicroStrain Sensors track component use and vehicle health

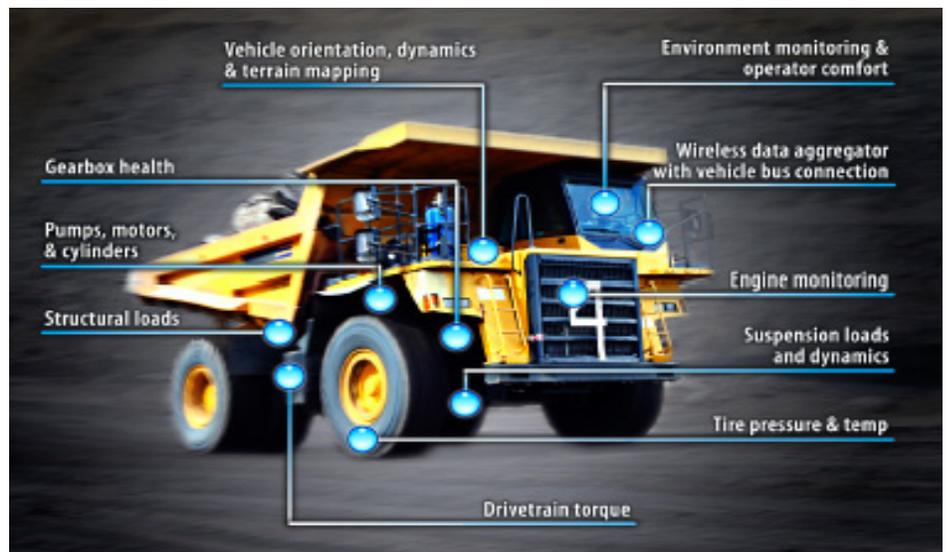
Why monitor component health?

Monitoring component health is vital for maximizing machine availability and reducing operating costs. Industrial vehicles are subject to variable conditions that undermine their performance and longevity. MicroStrain's integrated monitoring systems provide a scalable solution to effectively track vehicle health and component use. They are ideally suited for enhanced condition based maintenance (CBM) of heavy-duty construction equipment.



Why choose MicroStrain?

MicroStrain's miniature wireless nodes (for vibration, pressure, load, corrosion, strain, torque, temperature, and orientation) integrate across engines, power trains, brakes, bodies, and cabins. Their wireless design enables rapid integration and installation without any disruption of performance or operation.



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MicroStrain Application note: Vehicle Health

SG-Link-200 Technical Specifications

- 3 analog input channels, plus internal temp. sensor
- Accuracy: $\pm 0.1\%$ full scale typical
- Continuous sampling: 1/hour to 512 Hz (3 chnls)
- Burst sampling: 32 Hz to 4095 Hz
- Operating temperature: -40°C to 85°C
- 89.8 x 127 x 51.3 mm, 326 grams w/battery



Track Unlimited Parameters with Sophisticated Analytics

MicroStrain's vehicle monitoring systems, including the SG-Link-200 wireless sensor node, track structural strain on off-highway vehicles. Embedded fatigue tracking algorithms enable automated alerts for streamlined maintenance action and fleet management. Wireless data is aggregated on a base station that supports custom health indicators.

It also enables secure communication with SensorCloud™, a remote data management and analytic platform that gives service technicians access to unlimited fleet data for enhanced tracking, reporting, and alerts. As a result, heavy-vehicle operators improve the effectiveness of scheduled maintenance programs, maximize component life, enhance machine availability, and reduce operating cost... all without sacrificing hauling performance.

MicroStrain's Condition Based Maintenance systems enable you to:

- Maximize engine power management
- Monitor torque and planetary power train transmission
- Track brake fluid temperature and pressure
- Report loads in suspension
- Measure vehicle orientation
- Verify cabin comfort in trucks, loaders, excavators, dozers, and harvesters

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