



Ultrasound Solutions

Dusting in Diesel Engines



TIGHTChecker

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The diesel engine is the heart of heavy construction equipment and replacement costs are in the millions. Ingress of dust due to leaky air intake systems shreds components in short order. The TIGHTChecker quickly and easily pinpoints leaks in the air intake system.

Dust is no friend to a diesel engine. But when the integrity of the air breather and turbo charger is compromised by leaks, microscopic grains of silica and other contaminants are sucked inside. There, they wreak havoc on the engine's internal components costing organizations millions of dollars in premature wear and downtime.

Worse yet, you may not even realize you have dust ingress unless you are conducting regular oil analysis. These leaks are nearly impossible to find using conventional methods. Visual inspection takes hours and is often unsuccessful. Production does not have the patience to wait. They need that asset back in the field, leaks or not.

But what if there was a way to identify those leaks in minutes, instead of hours? SDT Ultrasound Solutions teamed up with mining giant Rio Tinto in Labrador, Newfoundland to devise a simple procedure for identifying turbo leaks in the engines of their huge loaders.



Using SDT ultrasound technology, a transmitter is placed inside the air filter basket. The high frequency sound waves are contained inside the piping unless there is a leak. Any microscopic air gap in the pipe is instantly recognized by the handheld Flex.US ultrasound detector.



An 8 hour inspection that often ended in frustration is now a worldwide success story that continues to save Iron Ore Company of Canada **\$8 million per year.**



TIGHTChecker Technical Specifications

Controls:	5 function keys (power, volume and amplitude)
Operable With:	SDT Flex2 and the SDT T-Sonic1
Measuring Range:	-6 to 99.9 dBµV (reference 0 dB = 1 µV) (resolution 0.1dBµV)
Minimum sensitivity	-31dB (@40 kHz, 0 dB-1 V/µbar) Equal to a flow rate up to 10-3 std. cm3/sec.
Detected frequencies:	35 to 42 kHz
Audio output:	Stereo jack connector of 6.35 mm (1/4") (use only the headset supplied with the unit).
Power:	Two alkaline AA batteries, 1.5 V. Rechargeable batteries can also be used but the usage time will be reduced.
Usage time:	± 4 hours. This can vary based on several variables including the charge of the battery in the detector, the level of amplification used and the quality of the batteries.
Body:	Made with machined and assembled sheets of high impact polystyrene and is shock resistant.
Dimensions:	Body: 158x59x38.5 mm 6.22"x2.32"x1.51"
Sensor connector	7-pole female LEMO
Material & Weight:	ABS, 200g 7.05oz
Operating temperature:	From -10°C to +50°C / 14°F to 122°F.

Appearances are not deceiving... The TIGHTChecker is a solid tool, built to last. Expect the same level of quality synonymous with the SDT name. Easy to use, it found this hidden leak instantly.



Are you experiencing unplanned failures and shortened lifecycles in diesel engines? Contact SDT today to Hear More about leak testing diesel engines.

Call (305) 591-8935 • Visit sdtultrasound.com/checkers



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