



What you need to know about...

Diesel Retrofits



The Technology

Diesel Particulate Filters (DPFs) physically trap particles in the engine exhaust before they leave the tailpipe and are installed in the engine exhaust system. Particles trapped in the filter are oxidized to carbon dioxide and water when exhaust gases reach the manufacturer-recommended temperature. All emission control technologies achieve the best reductions when used with Ultra Low Sulfur Diesel fuel (ULSD), and only ULSD can be used with particulate filters.

Diesel Oxidation Catalysts (DOCs) use a chemical process to break down pollutants in the exhaust stream into less harmful components. A typical DOC is a stainless steel canister installed in the exhaust system. As exhaust gases pass through a DOC's honeycomb structure, pollutants and particulate matter are chemically oxidized to harmless gases.

Impacts and Benefits

While new diesel engines are federally mandated to be 90% cleaner starting with model year 2007 trucks and buses, with further requirements for off-road equipment being phased in over the next several years. Fortunately, the same technology that achieves this pollution reduction can be retrofitted onto existing engines in use today.

The US Environmental Protection Agency (US EPA) estimates that retrofitting 10,000 engines would eliminate roughly 15,000 tons of harmful pollution each year.

When used with ULSD, DPFs achieve at least an 85% reduction in soot emissions. Testing indicates that these filters are so effectively that they nearly eliminate harmful soot emissions. DOCs are less effective than DPFs, achieving only a 25-50% soot emission reduction.

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