



EVERY™ SYSTEM. INTEGRATED.

Cummins Aftertreatment System

- Reduces Oxides of Nitrogen (NOx) and Particulate Matter (PM)
- Achieves near-zero emissions, maintains industry-best fuel economy
- Diesel Exhaust Fluid (DEF) usage approximately 2% of fuel consumption

■ Cummins Selective Catalytic Reduction (SCR) Catalyst

Converts NOx into harmless nitrogen gas and water vapor.

■ Decomposition Reactor

Converts Diesel Exhaust Fluid into ammonia (NH₃) through hydrolysis.

■ Electronic Controls

Single Electronic Control Module (ECM) constantly adjusts engine and aftertreatment operations for peak performance and emissions control.

■ Diesel Exhaust Fluid (DEF) Dosing Valve

Allows a fine mist of DEF to be sprayed into the exhaust stream of the Decomposition Reactor.

■ Cummins Particulate Filter

Collects and oxidizes carbon to remove Particulate Matter (PM) from the exhaust.

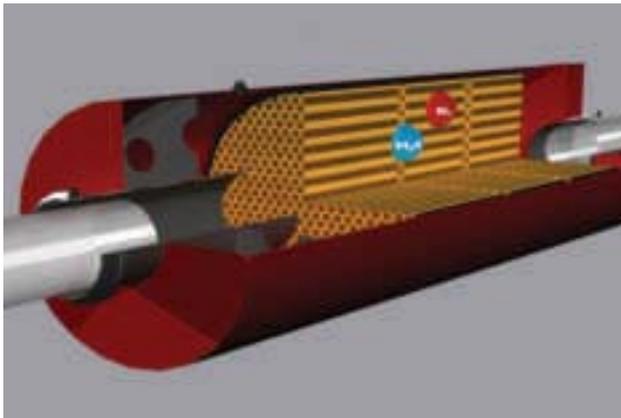
SELECTIVE CATALYTIC REDUCTION

A Proven Solution.

SCR is not a new technology for Cummins. We have over 200,000 systems operating throughout Europe using Selective Catalytic Reduction, with proven success in a variety of applications. We've taken all of that knowledge and experience and improved on it, utilizing the latest technology to achieve near-zero emissions without any compromise of fuel economy, reliability or durability. In fact, many on-highway users could see their mpg increase with these 2010 engines.

How SCR Works.

Exhaust gas containing Oxides of Nitrogen (NOx) exits the Cummins Particulate Filter and enters a tube called the Decomposition Reactor, where a fine mist of Diesel Exhaust Fluid (DEF) from the holding tank is sprayed into the hot exhaust stream. DEF is a solution of 32.5% urea and deionized water, which breaks down into ammonia (NH₃) during a chemical reaction in the Decomposition Reactor through a process known as hydrolysis.



The NOx and ammonia (NH₃) pass into the SCR element where a catalytic reaction takes place, converting the NOx into harmless nitrogen gas (N₂) and water vapor (H₂O).

They then pass over a secondary catalyst, which converts any leftover traces of ammonia before the exhaust exits the system.

That's how we achieve near-zero emissions.

What Drivers Need To Know.

The Cummins Aftertreatment System with adequate DEF levels won't change the driving performance of your vehicles in terms of pulling power, engine responsiveness, durability or dependability. The DEF tank will need to be replenished periodically. How often will depend on the size of the tank installed by the equipment manufacturer.

DEF consumption will be approximately 2% of your fuel consumption. So for every 50 gallons of fuel you consume, the Cummins Aftertreatment System will use one gallon of Diesel Exhaust Fluid. Vehicles will come equipped with a "low fluid" lamp which will indicate to the driver or maintenance staff when the DEF level is getting low.



Maintenance Intervals Unchanged.

Cummins engines and aftertreatment system are designed to keep you on the road and out of the shop. Oil filter, oil, fuel filter, coolant filter, overhead adjustment and all the other normal maintenance items will have the same intervals as current Cummins engines.

The only addition will be a DEF filter that will need to be changed at 200,000-mile (320,000 km) or 5,000-hour intervals.

Service You Trust. Every Time.

Cummins has the largest network of service providers with over 3,500 locations in North America. We are already developing a comprehensive training program so that you can have complete confidence in your 2010 engine and aftertreatment system.

Every Question. Answered.

For more details about Cummins 2010 technology, see your local Cummins dealer or distributor, call 1-800-DIESELS (1-800-343-7357) or visit our web site at everytime.cummins.com.



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