



Run Smart™

FREIGHTLINER

SELECTIVE CATALYTIC REDUCTION (SCR)

SCR



THE PROVEN 2010 EMISSION SOLUTION.

The forward-thinking emission technology with a proven past.

EPA 2010 Requirements

In 2010, the Environmental Protection Agency (EPA) standards require that NOx emission levels from new trucks be reduced to 0.2g/bhp-hr. At near zero, that's an 83% reduction from EPA 2007 emission levels.

The Industry Solution

Today, there are two approaches for meeting 2010 emission requirements: Selective Catalytic Reduction (SCR) and in-cylinder EGR (Exhaust Gas Recirculation). SCR is the mainstream solution chosen by 90% of all North American on-highway engine and vehicle manufacturers to meet 2010 emission standards. It's been tested. It's proven.

Every North American commercial vehicle and engine manufacturer but one chose SCR to meet 2010 emission standards.

Optimal combustion temperatures mean better fuel efficiency.

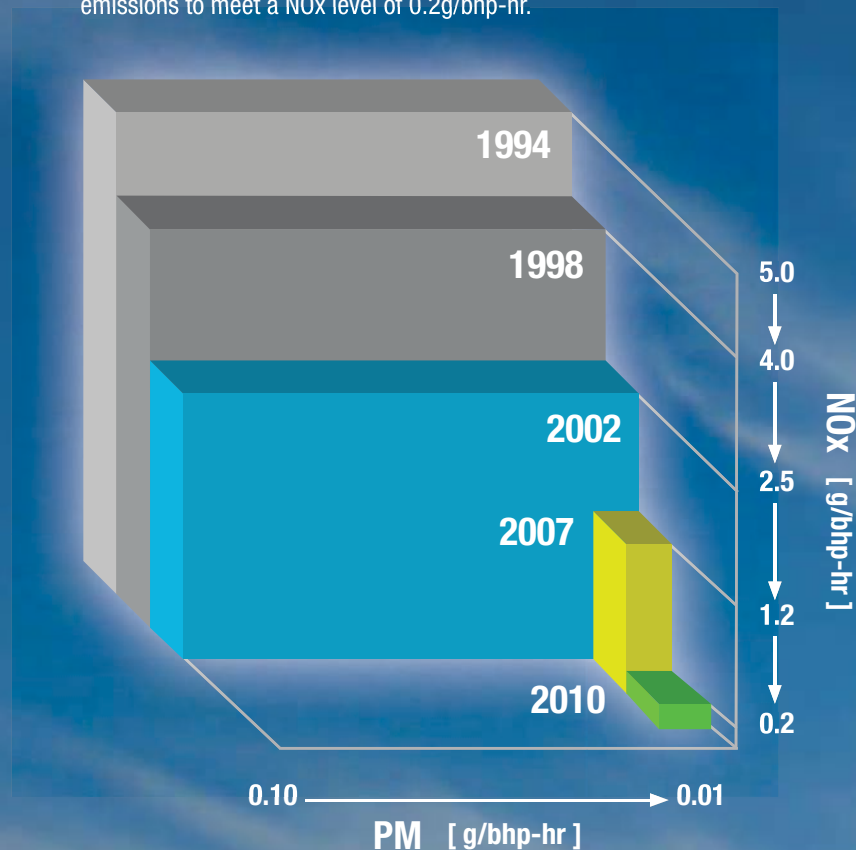
Freightliner Trucks and our engine partners, Detroit Diesel and Cummins Inc., have worked hard to meet important new clean air mandates, while maintaining maximum fuel efficiency and engine performance. SCR meets these requirements by using the existing engine architecture and diesel particulate filter (DPF), plus SCR hardware, to reduce NOx emissions to near zero. It also allows the engine to function at optimal combustion temperatures, which increases fuel efficiency and reliability.

SCR is a NOx reduction technology that also delivers engine reliability, increased fuel economy and requires fewer regenerations. That means with SCR technology you can feel good about your impact on the environment – and your bottom line.

Visit www.truthaboutscr.com to learn more about SCR emissions technology.

EPA Emissions Standards 1994 to 2010.

We've come a long way toward truly clean diesel. EPA 2010 standards require engine emissions to meet a NOx level of 0.2g/bhp-hr.



Why SCR?

ADVANTAGES OF SCR

- Permits engine to operate under optimized combustion conditions, producing less soot
- Less heat rejection
- Cleanest available diesel tailpipe emissions
- Proven technology across the globe
- The choice of 90% of the industry for 2010 solution
- No hood or cooling package redesign needed

CUSTOMER BENEFITS

- Better fuel efficiency
- Less component and engine stress
- Fewer diesel particulate filter regenerations
- Fewer regenerations relative to in-cylinder EGR
- Improved durability relative to in-cylinder EGR
- Expected lower total cost, including maintenance and fuel
- End emission product is nitrogen and water
- Better throttle response

DISADVANTAGES OF IN-CYLINDER EGR

- Less efficient combustion process requires greater cooling
- Increased diesel particulate matter (soot)
- Increased heat rejection causes the engine to produce more heat
- Decreased horsepower for same displacement size engine
- Requires increased air flow and cooling capacity
- Increased engine complexity with additional turbocharger and EGR cooler

CUSTOMER IMPACT

- Decreased fuel efficiency
- Potential increase in active regeneration and fuel burned
- Increased complexity in turbo chargers, air supply system, pistons and injectors
- Decreased engine durability relative to SCR

An emission technology solution that actually offers cost benefits.

Configurations tailor-made for easy body upfit.

Optimized performance under the hood and on the road.

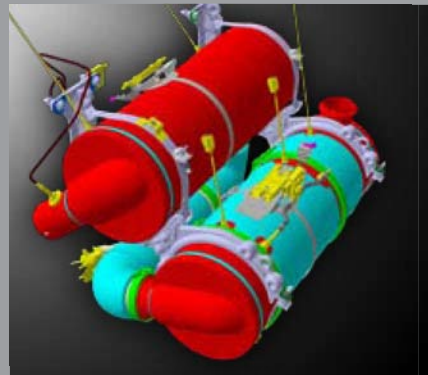
Since 1978, many different exhaust systems in Europe have incorporated SCR technology. Based on environmental advantages and payback to owners in less maintenance, increased fuel economy, better reliability and more uptime, it's clearly been proven the best EPA 2010 choice. Even so, Freightliner and the majority of the vocational trucking industry didn't take the decision to go with SCR lightly. SCR technology has been thoroughly road-tested. Daimler Trucks alone logged nearly 15 million SCR testing miles in North America. And, more than 600,000 SCR vehicles operate in Europe, from Scandinavia to the Mediterranean, more than 245,000 of which are Daimler and/or Cummins SCR vehicles.

Cummins' testing of SCR vs. in-cylinder EGR found that:

- In-cylinder EGR engines produce condensation in the engine. This severely impacts life to overhaul, reducing it by 20-25%. SCR had no degradation.
- In-cylinder EGR results in 50-100 hp loss for the same displacement engine.
- SCR has a better throttle response.
- SCR has better regeneration cycles than in-cylinder EGR.
- SCR provides medium-duty engines a 5-9% fuel economy advantage vs. in-cylinder EGR.



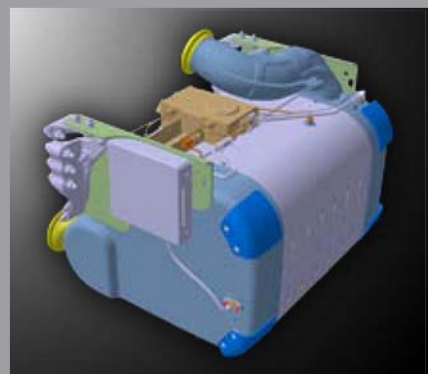
Cummins ISC (pictured), ISB also available



Cummins aftertreatment system ISB/C switchback



Detroit Diesel DD13™



Detroit Diesel BlueTec® DD13 1-Box™



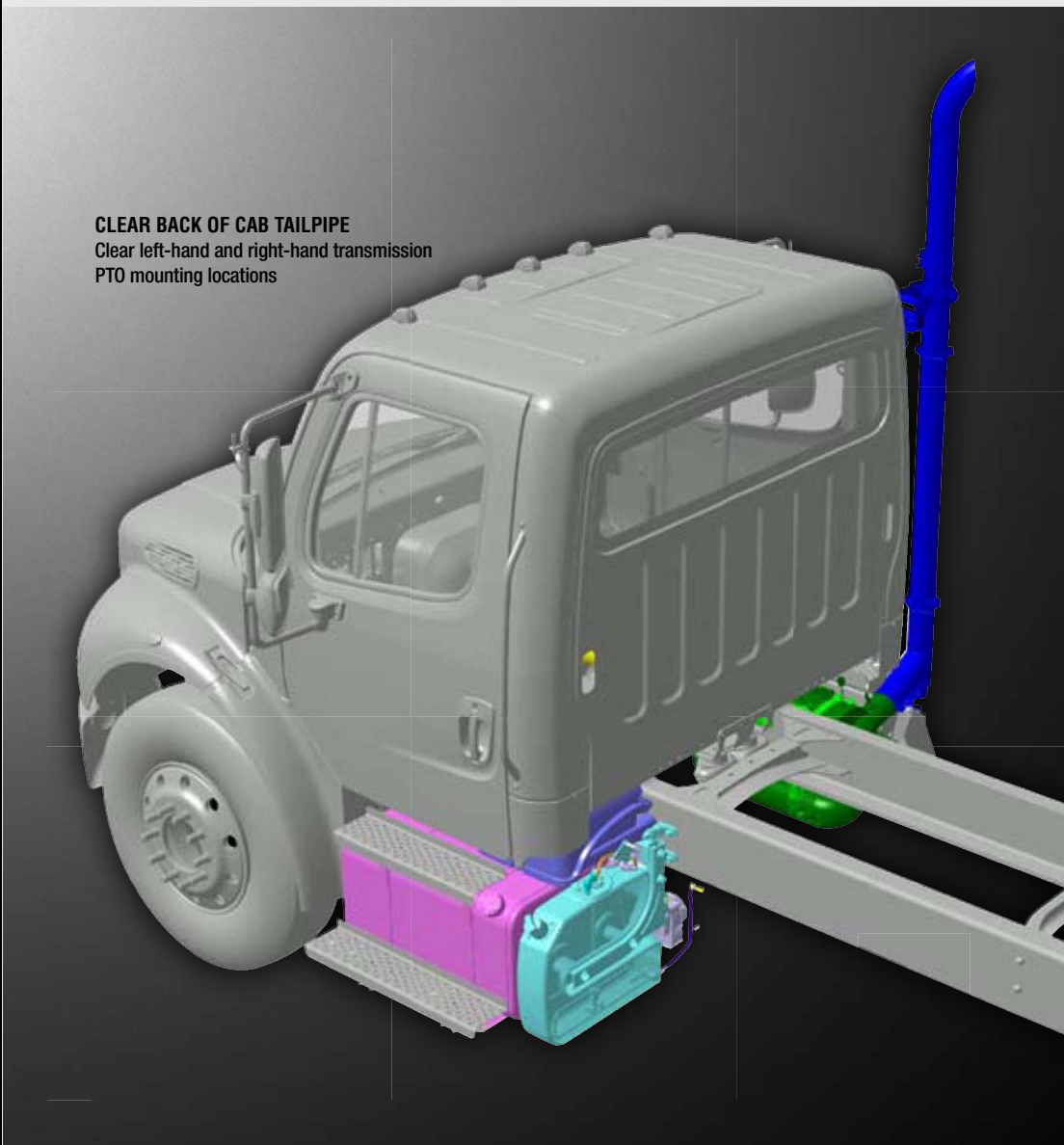
Clear Under Cab Tailpipe



Curb Side Exit Tailpipe



Horizontal Tailpipe



CLEAR BACK OF CAB TAILPIPE
Clear left-hand and right-hand transmission
PTO mounting locations



Street Side Exit Tailpipe



Vertical ATD Tailpipe

For other tailpipe configuration options, visit your local dealer.

SIMPLE. ECONOMICAL. PROVEN.

The fluid behind our fuel-efficient engines.



There's a great deal of talk these days about Diesel Exhaust Fluid (DEF), like what is it, where do you get it, and will it be readily available. The answer is simple: DEF is a solution of 32.5% urea and 67.5% water. It's clear, non-toxic, biodegradable and non-flammable. And, it's the reason SCR can offer more efficient combustion through maximized fuel efficiency and higher oxygen levels.

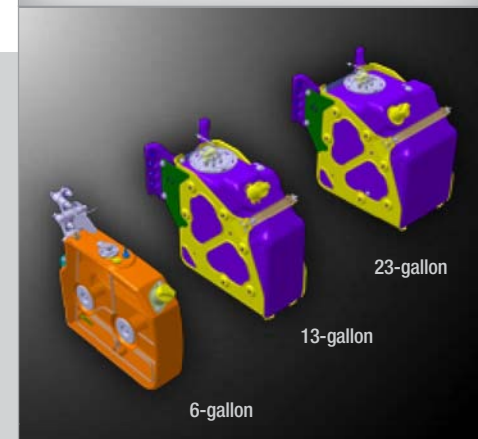
Improved fuel economy means savings at the pump.



FAST FACTS ABOUT DEF

- DEF is non-toxic, biodegradable and non-flammable
- Urea, a component of DEF, is a mild substance used in skin softening dish soap, tooth whitening formulas and as a pretzel browning agent
- DEF has a shelf life of up to 18 months
- DEF begins to freeze at 12° Fahrenheit
- Start up and normal operation of vehicle is not inhibited if DEF freezes
- The SCR system is designed to thaw DEF if it freezes
- DEF is not damaged when frozen and is fully usable when thawed
- If exposed to temperatures above 85° F for extended periods of time, DEF becomes less concentrated: it will still work in the SCR system, but may be consumed more rapidly than normal
- If an improper fluid is placed in the DEF tank, shut down the engine immediately and contact your local service center

For ease of filling and increase of fill interval to standard maintenance intervals, Freightliner offers 6-, 13- and 23-gallon DEF tanks.



DEF maintenance intervals are hassle-free: The DEF filter only needs replacement approximately every 200,000 to 300,000 miles. While the rate at which the vehicle consumes DEF will depend on vehicle operation, the average consumption rate is approximately 1 gallon of DEF for every 50 gallons of diesel fuel.

Packaging includes 2.5-gallon jugs, 275-gallon IBC and bulk storage.



SIMPLE. ECONOMICAL. PROVEN.

DEF IS AVAILABLE IN ALL THE FAMILIAR PLACES.

The DEF distribution infrastructure is in place. DEF is available from your local dealer, distributor or major truck stop.

TravelCenters of America
Pilot Travel Centers
Flying J Truck Stops
Love's Travel Stops & Country Stores
Petro Stopping Centers
Automotive Supply Outlets
Freightliner Trucks Dealers

Western Star Trucks Dealers
Detroit Diesel Distributors
Cummins Distributors
Mack Trucks Dealers
Peterbilt Trucks Dealers
Volvo Trucks Dealers
Hino Trucks Dealers



Competitive financing available through Daimler Truck Financial. For the Freightliner Trucks Dealer nearest you, call 1-800-FTL-HELP. www.freightlinertrucks.com. 500, 04/09. FTL/MC-B-925. Specifications are subject to change without notice. Some equipment shown may be optional or subject to availability restrictions. Freightliner Trucks is registered to ISO 9001:2000 and ISO 14001:2004. © 2009. Daimler Trucks North America LLC. All rights reserved. Freightliner Trucks is a division of Daimler Trucks North America LLC, a Daimler company.