

SCR

Simple. Clean. Reliable.

How simple, clean, reliable  
SCR technology meets 2010  
diesel emissions standards while  
improving performance.





Simple. Clean. Reliable.

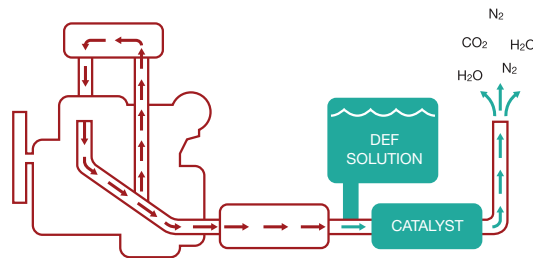
# SCR TECHNOLOGY IS SIMPLE, CLEAN, RELIABLE AND HASSLE-FREE.

It meets 2010 EPA emissions standards and improves performance.

## SIMPLE

SCR supplements the Cummins engine that met 2007 emissions standards and only adds two important elements downstream of the engine:

- A catalyst located near the diesel particulate filter
- A tank that contains Diesel Exhaust Fluid (DEF)

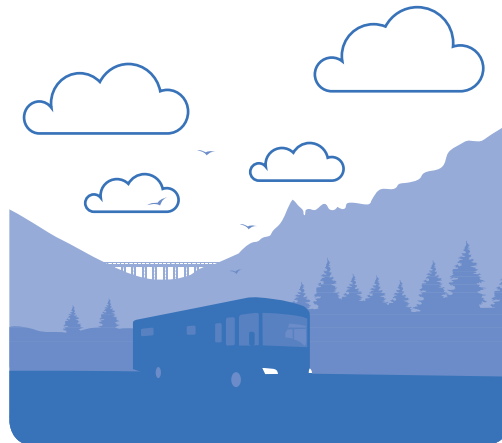


SIMPLE DOWNSTREAM CATALYST AND DEF TANK

Coach builders can keep existing floor plans with no modifications, yet they gain the flexibility to develop new layouts without the interference of larger engines or cooling packages required by other technologies. Win, meet Win.

## CLEAN

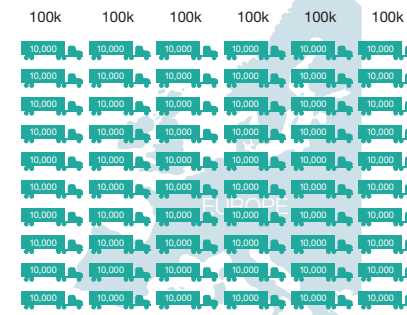
SCR is the cleanest diesel technology on the road and is EPA-certified to meet 2010 emissions standards. It's the right technology for today—and Freightliner customers have already ordered or taken delivery of more than 30,000 SCR-equipped vehicles.



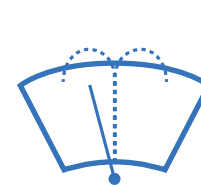
EPA-CERTIFIED TO MEET 2010 EMISSIONS STANDARDS

30,000,000

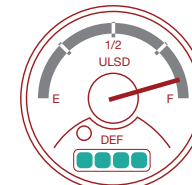
U.S. TEST MILES



OVER 600,000 SCR-EQUIPPED VEHICLES  
ALREADY IN EUROPE



EASY AS ADDING  
WINDSHIELD  
WASHER FLUID



SIMPLE GAUGE  
MONITORS DEF  
LEVEL



MORE THAN 2,500  
DEF LOCATIONS

## RELIABLE

Before SCR went to market in the U.S., Freightliner Custom Chassis Corporation and Daimler Trucks (FCCC's parent company) logged more than 30,000,000 test miles, proof that SCR is the most proven technology available.

In order to meet European emissions standards, manufacturers have relied on SCR technology since 2006. More than 600,000 SCR-equipped vehicles travel European roads today.

## HASSLE-FREE

Filling the Diesel Exhaust Fluid tank is as easy as filling the windshield washer fluid reservoir.

- A gauge on the instrument panel constantly monitors the DEF level of the vehicle. A series of reminders will inform the driver when the fluid is running low.
- DEF is available at 2,500-plus locations nationwide—with more locations being added every day—including truck centers, travel stops and auto-parts stores.
- Travel from N.Y.C. to L.A. on one 10-gallon tank of DEF.

SCR is not only a solution that is simple, clean and reliable—it also improves performance by providing:

- Improved fuel economy
- Increased horsepower
- Increased torque

# SCR—THE NEXT GENERATION OF CLEAN AIR TECHNOLOGY

To meet 2010 emissions standards, we did our homework. In collaboration with our engine partner, we looked at all clean air technologies. Our testing led us to one conclusion—SCR is simple, clean, reliable and hassle-free for you.

Why? It's easier to understand with a brief history lesson...

## EGR

All manufacturers used exhaust gas recirculation (EGR) to meet 2007 emissions standards.

- EGR recirculates some exhaust gas back into the combustion chamber
- Required a filter to remove particulates

## ADVANCED EGR

Advanced EGR modifies the engine and burdens it by re-circulating additional exhaust gases back into the combustion chamber to reduce NO<sub>x</sub> emissions. When tested, the results for Advanced EGR were:

- A loss in horsepower and torque, requiring a larger engine to produce comparable power
- Added engine heat
- A larger cooling package was therefore required to cool the engine
- The larger engine made it less fuel-efficient

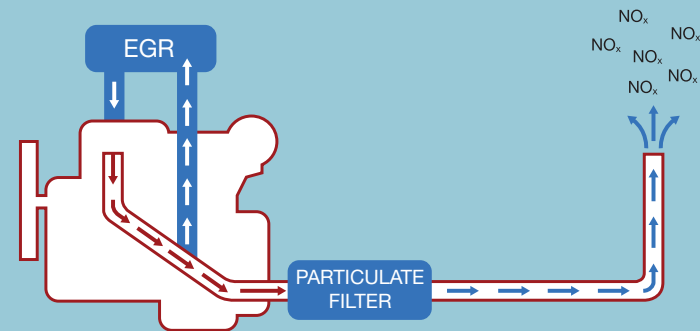
## SCR

SCR is selective catalytic reduction. It simply supplements the existing technology by adding two components downstream without burdening the engine:

- Diesel Exhaust Fluid (DEF) which reacts with the exhaust gases
- And a catalyst that converts the nitrogen oxide (NO<sub>x</sub>) to nitrogen and water—elements common to the atmosphere

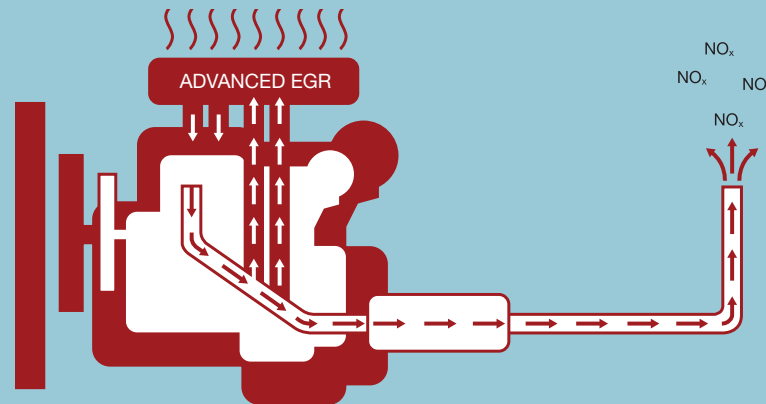
There is no loss of horsepower, no loss of torque—in fact we've seen an increase in both. Testing also showed up to a 6% increased fuel economy over 2007 EPA-equipped engines.

Couple all of these advantages with the fact that SCR has been in use in Europe since 2006 and the decision was clear. Which is why the overwhelming majority of motorhomes sold that meet 2010 EPA emissions will utilize SCR technology.



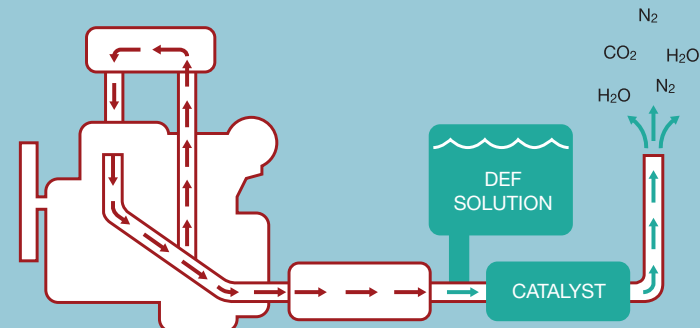
## EGR Technology

Adopted industry-wide and met 2007 emissions standards



## Advanced EGR Technology

Only one company continued to pursue Advanced EGR to meet 2010 emissions. The rest of the industry felt EGR had reached the limit of its capabilities.



## SCR Technology

All manufacturers except one, chose the next generation in clean air technology: SCR

# MORE ABOUT SCR

## **Does SCR add weight to the RV?**

- Yes, but so does Advanced EGR
- To achieve comparable power, Advanced EGR requires a larger engine, larger cooling system and in some cases an additional turbo
- About the same amount of weight is added in both technologies

## **Is it a hassle to fill the DEF tank?**

- No, it's actually hassle-free
  - Marked with a blue cap
  - Narrowed fill port to prevent accidental fuel fill
  - As simple to fill as windshield washer fluid
- DEF is readily available at thousands of travel centers and auto-part stores across North America with more being added daily

## **Isn't there additional maintenance associated with SCR?**

- DEF filter is changed every 200,000 miles
- No added maintenance to SCR-equipped engines
- Owners simply follow the same maintenance schedule as usual

## **Isn't DEF expensive?**

- No, it actually saves the owner money versus Advanced EGR
- The fuel economy improvement of SCR more than offsets the cost of DEF
- Travel from N.Y.C. to L.A. on one 10-gallon tank of DEF!
- Cost of DEF is similar to a gallon of diesel

## **Is DEF safe?**

- Yes—it's two-thirds water! (67.5% ionized water & 32.5% urea)
- pH is approximately 9.0 – the same as baking soda
- As safe as most other fluids, including oil, fuel, antifreeze and brake fluid

**For any other questions you may have, please call the experts at Freightliner Custom Chassis at 800.FTL.HELP or go to [freightlinerchassis.com/SCR](http://freightlinerchassis.com/SCR).**

Call Freightliner Custom Chassis Corporation at (800) 545-8831, or visit us on the Web at [freightlinerchassis.com](http://freightlinerchassis.com).

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