

Save on fuel while saving the environment



New 2010 EPA-Compliant Engines Available on MCI® Coaches

As the industry leader, MCI makes best-selling models for tour, charter, line-haul, scheduled service and commuter transit operations throughout the U.S. and Canada. We're no less leadership-minded when it comes to our power trains, equipping models with engines by top manufacturers you can depend on for reliability, warranty and a network of service support. MCI 2011 models will feature the 2010 EPA-compliant Cummins ISX 11.9L engine with the option of the Detroit Diesel DD 13 engine on MCI J4500 and E4500 coaches and a Cummins 8.9L on D-Series coaches.

POWERED BY
CLEAN-ENGINE
TECHNOLOGY

MCI J4500 coach

Engines at a glance

MCI J4500, E4500, D4505:

Cummins ISX 11.9L 425 hp/1450 ft/lbs, w/Jake Brake®, Allison B500, dual alternators

MCI D-Series option:

Cummins ISL 8.9L 380 hp/1300 ft/lbs, Allison B500R, 50 DN alternator

MCI J4500, E4500 option:

Detroit Diesel DD13L 410 hp/1450 ft/lbs, Integrated Fuel Filter, Bendix2 cylinder compressor

Jake Brake® is a registered trademark of Jacobs Vehicle Systems, Inc.

MCI® J4500, E4500, D-Series coaches rev up with 2010 engine technology

The MCI J4500, E4500 and D-Series touring models come standard with the 2010 Cummins ISX 11.9L engine. The engine operates with technology that relies on a particulate filter and regeneration process to reduce Particulate Matter (PM). For 2010, Cummins uses Selective Catalytic Reduction (SCR), as its after-treatment system to reduce oxides of nitrogen (NOx) emissions.

SCR systems reduce NOx levels through the use of Diesel Exhaust Fluid (DEF) and a decomposition reactor that converts DEF into ammonia through hydrolysis. Pollutants are turned into nitrogen, water and tiny amounts of carbon dioxide — much like fresh air. The SCR is designed to be one of the most cost-effective, fuel-efficient emissions-control technologies on the market today, used widely in industrial applications for decades.



D-Series Aftertreatment System

DEF solution

DEF will freeze at temperatures below 11° Fahrenheit (-12° Celsius). Even in very cold weather, drivers of MCI models will be able to start up the coach in the normal manner, and any frozen DEF will quickly and harmlessly return to a liquid state. MCI dash gauges indicate DEF level, with attendant low-DEF alerts. MCI estimates that a full DEF tank may last more than 4,000 miles.

The fluid, which is widely considered to be easy and safe to handle, can be purchased in containers at authorized dealerships and diesel fueling stations. To find retail outlets, see the US Department of Energy DEF locator online: <http://www.afdc.energy.gov/afdc/locator/def>.



The **Diesel Exhaust Fluid (DEF)** dosing valve does its work on exhaust that has been processed through the Diesel Particulate Filter. Dosing valves inject ammonia-based diesel exhaust fluid (made up of 32.5% urea and 67.5% ionized water) from a 15-gallon DEF tank into the decomposition reactor. Various signals and sensors help control temperatures, monitor tank levels and more, simplifying care and maintenance for the operator.

Estimated DEF usage with MCI coaches

Model	Fuel Tank Capacity (Gallons)	DEF Tank Capacity (Gallons)	Fuel Economy Estimated MPG	Estimated Miles Per Fuel Tank	Estimated Miles Per DEF Tank	DEF Consumption Per Fuel Tank (Gallons)
J4500	183	15	7	1281	4205	4.6
D-Series	164	15	6.7	1099	4020	4.1

“Fewer stationary regenerations are required because of the favorable PM/NOx ratios, further improving fuel economy. Our prototypes and pilot models have completed tens of thousands of miles of testing in all types of conditions, including cold-weather, to prove we have a good DEF thaw strategy.”

*—Paul Fazio,
MCI director of product development.*

Regeneration reliability

MCI field tests have demonstrated that the engine will operate at high enough engine load factors for the Particulate Filter to clean PM emissions by simple passive regeneration most of the time. Active regeneration, which is initiated by the injection of a small amount of fuel, will be a less frequent event. The regeneration process takes place automatically and does not impact performance or operation.

While achieving low emissions, 2010 Cummins ISX 11.9L engines will have up to 5 percent improved fuel efficiency compared to 2007 engines depending

on the duty cycle. Cleaner and quieter operation is a further noticeable benefit. Power output of the 11.9-liter engine extends to 425hp with a peak torque of 1450 ft/lbs. The engine uses ULSD and is compatible with B20 Biodiesel fuel.

MCI J4500 and E4500 option: Detroit Diesel DD 13-L

There’s more to like about the Detroit Diesel DD 13-liter engine with its advanced cooling system that reduces fan-on time. Using SCR and BlueTec emission technology, the 2010 EPA-compliant engine produces 90% highway NOx conversion efficiency. Detroit Diesel estimates a 7 percent fuel-economy improvement over 2007 Series 60 engines, based on similar torque and horsepower ratings, and they are able to use B5 diesel fuel. Another benefit is that key service intervals increase.

“It was originally estimated that the engines would use slightly less than one tank of DEF for every three tanks of diesel fuel used. We have found DEF consumption to be much less than that on our fleet of prototypes, demos and pilot coaches.”

*—Paul Fazio,
MCI director of product development.*



D-Series Regeneration System



MCI D-Series coach

MCI D-Series coach option: Cummins ISL 8.9L

The Cummins ISL 8.9L engine will be available on MCI D-Series coaches for those customers that prefer a transmission with a retarder. Based on its preliminary testing, MCI estimates that the Cummins 8.9L engines are comparable to the 2007 models but gain an improvement in regeneration capability and reliability. Key service intervals are the same. Power output of the 8.9L engine extends to 380hp with a peak torque of 1300 ft/lbs.

Beyond power

MCI will pair all of its engines with Allison transmissions, adding the ZF Astronic transmission as an option later in 2011.

Cool changes

MCI also introduced a re-engineered cooling package for all 2011 coaches to accommodate the 2010 engines. The D-Series now has a single fan with a three-speed clutch and a shorter belt, offering less vibration. All of MCI's radiators are now constructed from lightweight corrosion-resistant aluminum cores. Tanks are made from glass-reinforced nylon. These improvements provide optimum cooling performance while significantly reducing weight.

To learn more about the 2010 engines available in MCI coaches, please review the engine webinar online at www.mcicoach.com/webinar or speak to your sales representative.



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