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GROUP: Emissions Control

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THIS BULLETIN SUPERSEDES SERVICE BULLETIN 25-001-10 REV. A, DATED SEPTEMBER 1, 2010, WHICH SHOULD BE REMOVED FROM YOUR FILES. ALL REVISIONS ARE HIGHLIGHTED WITH **ASTERISKS**** AND INCLUDE THE ADDITION OF NEWER MODEL YEAR VEHICLES AND VEHICLES EQUIPPED WITH THE 3.0L DIESEL ENGINE.**

SUBJECT:

Diesel Exhaust Fluid

OVERVIEW:

This bulletin provides information regarding the Diesel Exhaust Fluid (DEF) vehicle delivery fill guidelines.

MODELS:

2013 - 2014	D2	Ram 3500 Pickup
2011 - **2014**	DD	Ram 3500 Cab Chassis
2013 - 2014	DJ	Ram 2500 Pickup
2011 - **2014**	DP	Ram 4500/5500 Cab Chassis
2014	DS	Ram 1500 Pickup
**2014	VF	Promaster
2014	WK	Grand Cherokee

NOTE: This bulletin applies to vehicles equipped with the 6.7L Cummins Diesel Engine (sales code ETJ or ETK), 3.0L V6 Diesel Engine (Sales Code EXF), or the 3.0L In-line 4-Cylinder Diesel Engine (Sales Code EXG) only.

DISCUSSION:

The affected vehicles are equipped with diesel engines that use a Selective Catalytic Reduction (SCR) exhaust emissions aftertreatment system. This technology is used to reduce the Nitrogen Oxides (NOx) emissions of the engine so that it meets current U.S. EPA and California exhaust emission requirements. In order to function properly and ensure the vehicle meets applicable emission standards, the SCR system injects Diesel Exhaust Fluid (DEF) into the exhaust upstream of the SCR catalyst. The DEF reacts with the exhaust gas inside the catalyst to convert NOx to harmless gasses prior to release into the atmosphere.

Since DEF is consumed during operation of the vehicle, the DEF tank must be refilled periodically as outlined in the Owners Manual Diesel Supplement. The DEF filler cap is clearly marked "Diesel Exhaust Fluid". On Cab Chassis vehicles, the cap is located behind the cab on the driver's side of the truck. **On Pickup trucks and Grand Cherokee vehicles, the cap is located behind the fuel fill door.** The tank is pre-filled with approximately 3 gallons of DEF from the manufacturing assembly plant. This factory fill should be adequate to perform the vehicle's Pre-Delivery Inspection and other in-dealership operations.

**These diesel vehicles are equipped with an Electronic Vehicle Information Center (EVIC) that will provide the driver with warning messages displayed by the EVIC and audible chimes informing the driver when it is necessary to refill the DEF tank. Please refer to the applicable Owner's Manual Diesel Supplement for complete aftertreatment warning message details.

The driver will be notified when the level of DEF drops below approximately 2.5 gallons. The first level warning displays the message "Engine Will Not Restart in XXXX mi DEF Low Refill Soon". If the vehicle is driven too long with low DEF, the message "Engine Will Not Restart in XXXX mi Refill DEF" will be displayed. And finally, "Engine Will Not Restart Refill DEF" will be displayed if the driver continues to operate the vehicle without refilling the DEF tank. At that point, the engine will no longer restart if it is shut off. A minimum of 2.5 gallons of DEF will need to be added in order to be able to restart the engine.**

NOTE: **2013/2014 Ram 2500/3500/4500/5500 Trucks warning strategy is similar to what is stated previously however, there are some differences in the wording of the messages reported out by the EVIC. Most notably, instead of preventing the vehicle from restarting if the DEF tank is not refilled within the appropriate mileage, the system is designed to end with a 5 MPH maximum vehicle speed restriction.**

As indicated on the "New Vehicle Preparation Form," dealers are requested to fill the DEF tank just prior to delivering the vehicle to the owner. Labor Operation 25-08-01-40 can be used to reimburse dealers for this DEF fill. This Labor Operation can only be used prior to resale delivery and is not intended to be used for any warranty repair.

NOTE: **Do not prematurely fill the DEF tank. DEF has a limited shelf life based on ambient temperatures. Vehicles that are exposed to high temperatures for lengths of time may have their DEF urea concentration degrade to the point that the DEF will become less effective at reducing NOx levels in the SCR catalyst. If this occurs, the engine control system may illuminate the Malfunction Indicator Lamp (MIL) and set related Diagnostic Trouble Codes (DTC). Refer to the following chart to get a better understanding of DEF shelf life.**

DEF has a temperature dependent shelf life that shortens when exposed to elevated temperatures. As temperatures increase, the Urea in the DEF degrades. As the concentration degrades, the urea will become less effective at reducing NOx levels in the SCR catalyst. The following chart provides the approximate shelf life of DEF versus temperature.

Temperature	Estimated Useful Life
32°F (0°C)	Indefinite
50°F (10°C)	75 Years
68°F (20°C)	11 Years
86°F (30°C)	23 Months
95°F (35°C)	10 Months
104°F (40°C)	4 Months
122°F (50°C)	1 Month
140°F (60°C)	1 Week

It is recommended that dealers store DEF in a location that minimizes this degradation.

If it is suspected that the urea concentration level has decreased too low, DEF can be tested using a Refractometer. OTC DEF/UREA Refractometer (16-5025) is available through Pentastar Service Equipment (PSE). DEF urea concentration should be at 32.5%.

The DEF tank has been designed with an air space that accommodates the expansion of DEF. Never 'top-off' the DEF tank after a normal fill, as that will allow DEF to fill the expansion space, which can cause damage to the tank.

DEF is subject to freezing at the lowest temperatures. For example, DEF may freeze at temperatures at or below 12° F (-11° C). The system has been designed to operate in this environment.

Containers, pumps or plumbing containing iron, non-stainless steel, aluminum or brass will rapidly corrode if used to store or transfer DEF. This corrosion can result in plugging of the onboard DEF filter, or other emission system damage.

If DEF is spilled, it should be cleaned up with mild soap and water to avoid corrosion or damage to components and finished surfaces.

DEF can crystallize when exposed to air. However, the crystals should re-dissolve when reintroduced to fresh DEF. Crystallization may be noticed around the DEF filler opening and is normal.

The following Diagnostic Trouble Code may be displayed on a Diagnostic Scan Tool if the level of DEF was low.

- P203F - (Diesel Exhaust Fluid) Reductant Level Too Low

When this code is set, the Powertrain Control Module (PCM) initiates a countdown that will inhibit an engine restart if the DEF system is not serviced within 500 miles (805 km) of the fault being detected. It also commands the Electronic Vehicle Information Center (EVIC) to display the Low DEF messages. If the engine fails to start due to LOW DEF, a minimum of 2.5 gallons are required to be added before the vehicle will start.

Please refer to the Service Information and/or the Owner's Manual for additional information.

NOTE: **Improper, diluted, or contaminated DEF may lead to MILs and no start conditions, so it is important to use MOPAR® Diesel Exhaust Fluid (API Certified) (DEF) or equivalent that has been API Certified to the ISO 22241 standard. Use of fluids not API Certified to ISO 22241 may result in system damage.**

PARTS REQUIRED:

Qty.	Part No.	Description
AR	68035704AB	Fluid, Diesel Exhaust - 1 gal container
AR	68056278AB	Fluid, Diesel Exhaust - 2.5 gal container
AR	68035700AB	Fluid, Diesel Exhaust - 55 gal drum

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