Service Bulletin

Bulletin No.: 20-NA-082
Date: September, 2022

INFORMATION

Subject: Information on Excessive Diesel Exhaust Fluid (DEF) Usage

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		from	to	from	to		
Cadillac	Escalade Models	2021	2023			LM2	
Chevrolet	Colorado	2020	2021			LWN	
	Express	2020	2022			LWN	
	Silverado 1500	2020	2021			LM2	
	Silverado 1500	2023	2023			LZ0	
	Silverado 1500 LTD (RPO J21, VIN Digit 5 = W / Y) Silverado 1500 New (RPO J22, VIN Digit 5 = A / D)	2022	2022			LM2	
	Silverado 2500HD/ 3500HD	2020	2023			L5P	
	Silverado 4500HD, 5500HD, and 6500HD	2019	2023			L5D	
	Suburban	2021	2023			LM2	
	Tahoe	2021	2023				
GMC	Canyon	2020	2022			LWN	
	Savana	2020	2022			LWN	
	Sierra 1500	2020	2021			LM2	
	Sierra 1500	2023	2023			LZ0	
	Sierra 1500 Limited (RPO J21, VIN Digit 5 = 8 / 9) Sierra 1500 New (RPO J22, VIN Digit 5 = H / U	2022	2022			LM2	
	Sierra 2500/3500	2020	2023			L5P	
	Sierra 4500HD, 5500HD, and 6500HD	2019	2023			L5D	
	Yukon Models	2021	2023			LM2	

Involved Region or Country	North America, Uzbekistan, Russia, Middle East, Israel, Palestine, Bolivia (West), Chile (West), Colombia (West), Ecuador (West), Paraguay (West), Peru (West), Uruguay (West), Japan, Cadillac Korea (South Korea), GM Korea Company, Thailand
Condition	Some customers may comment that excessive DEF is being used. Some technicians may find no codes set or messages on the DIC.
Information	The current 2020 Silverado/Sierra is the first to have a DEF level gauge on the IP. This is the first time a customer can see a representation of how much DEF is in the tank up to the full capacity of the tank. This gauge does not operate like the float style gauge that you have in your fuel tank. Because of this, you may see some fluctuation in the gauge. It may also take a few key cycles to register the correct amount in the tank after a fill event. With the new segmented DEF level gauge, it is possible that after adding 5 gallons (18.9 L) of DEF that the gauge reads as a full tank after the fill event. However, if the actual level of DEF is just entering the last segment on the gauge, the gauge is likely to drop by one segment shortly after driving after the fill event. This could give an initial impression that the vehicle consumes a lot of DEF. Every year that GM produces vehicles with diesel engines, the requirements to reduce Nitrogen Oxides (NOx) in the vehicle exhaust continue to get more aggressive. Because DEF is required to reduce the NOx in the exhaust, DEF consumption will increase as NOx reduction requirements increase. When customers trade in an older model year diesel Silverado/Sierra for a newer model year, there will likely be an increase in DEF usage. DEF consumption increases as the newer vehicles meet the more stringent emission requirements for that model year. The amount of DEF usage is also a function of how hard the engine is working, or engine load. Because of this, it is more representative to compare DEF usage to the amount of fuel used, also a function of engine load, instead of miles traveled. In addition to engine load, other factors that affect the DEF usage rate are the humidity, temperature, and altitude where the vehicle is operating. Under certain conditions, the ECM will increase or decrease the amount of DEF used based on learning or adaptive algorithms. In the event of a malfunction and SES light, the ECM may double or even eliminate the amount of DEF that is being used. This will continue until the vehicle is repaired and until the learned value in the ECM is reset. When towing a trailer or when the vehicle is heavily loaded, the vehicle will use more DEF per mile. While the DEF usage at any one moment is calculated instantaneously based on the amount of NOx the engine produces, the average DEF consumed takes much longer to adjust down after the heavy load is removed from the vehicle. When a customer sees a message stating XXX miles to empty, this is based roughly on the average amount of DEF used. If the vehicle is heavily loaded during that XXX miles, the range will be lower. Conversely if the vehicle is not heavily loaded, the range will be more than XXX. For some customer usage scenarios, this can give the impression that the vehicle is using too much DEF when in actuality if you measure the amount of DEF consumed based on fuel consumption you will get a much more accurate measurement.

Parts Information

No parts are required for this repair.

Version	4
Modified	Released April 03, 2020 Revised March 10, 2021 - Added 2021 to Model Year. Revised February 03, 2022 - Added 2022 and Towing Information in the Information section. Revised September 12, 2022 — Added the 2023 Model Year.