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Coding Information

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Title: A26 SCR and EGR NOx Reduction Technology DEF Consumption

Applies To: All Models with A26 Engines

CHANGE LOG

Please refer to the change log text box below for recent changes to this article:

07/12/2017 - Initial Article Release

DESCRIPTION

New A26 NOx Reduction Technology using Selective Catalyst Reduction (SCR) and Exhaust Gas Recirculation (EGR) and how it affects Diesel Exhaust Fluid (DEF) consumption

Selective Catalytic Reduction (SCR)

The purpose of the SCR system is to reduce levels of NOx (oxides of nitrogen emitted from engines) . SCR is the aftertreatment technology that treats exhaust gas downstream of the engine. Small quantities of diesel exhaust fluid (DEF) are injected into the exhaust upstream of a catalyst, where it vaporizes and decomposes to form ammonia and carbon dioxide. The ammonia (NH3) is the desired product which in conjunction to the SCR catalyst, converts the NOx to harmless nitrogen (N2) and water (H2O)

Exhaust Gas Recirculation (EGR)

EGR is a (NOx) emissions reduction technique used in gasoline and diesel engines. EGR works by recirculating a portion of an engine's exhaust gas back to the engine cylinders. This dilutes the O2 in the incoming air stream and provides gases inert to combustion to act as absorbents of combustion heat to reduce peak in-cylinder temperatures. NOx is produced in a narrow band of high cylinder temperatures and pressures.

Diesel Exhaust Fluid (DEF)

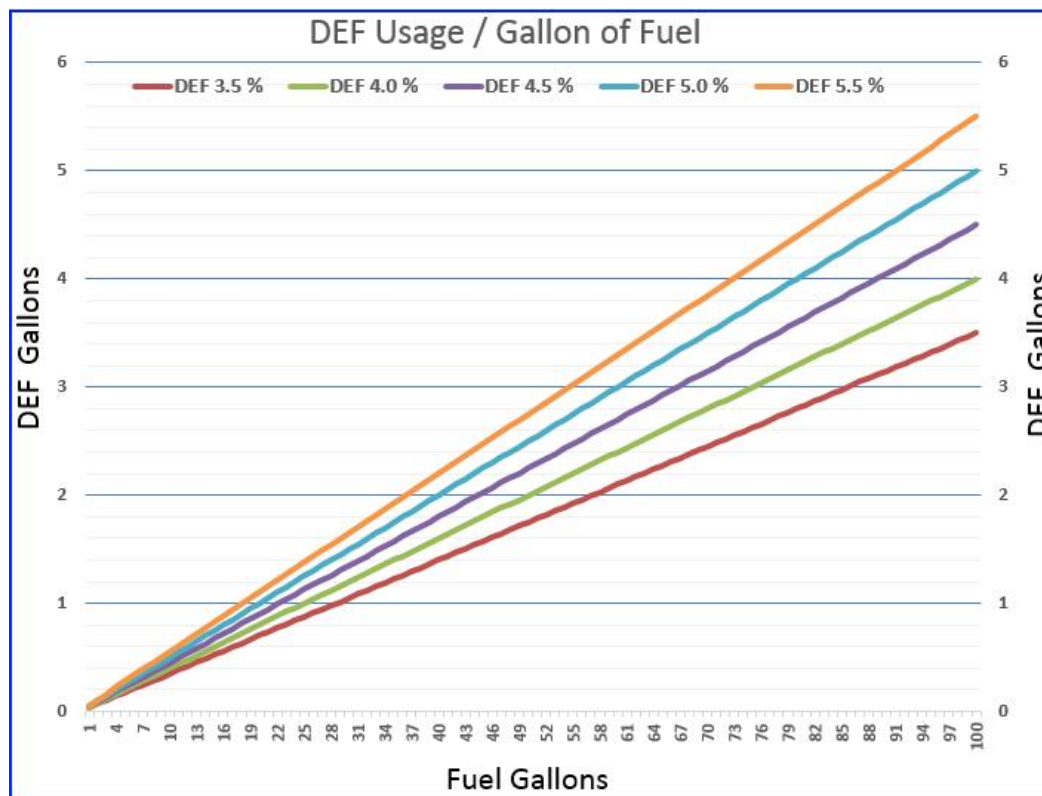
DEF properties and information: [IK0700053 Diesel Exhaust Fluid Tips](#)

DEF Consumption

DEF consumption will vary depending upon the environment, operation and duty cycle of equipment. On average, DEF consumption is 3% to 6.0% of fuel consumption. As fuel consumption increases, DEF consumption also increases. There is also a balance of EGR and SCR that is considered to maximize fuel economy while meeting the EPA NOx emission requirements. With the increased emissions and fuel economy requirements, significantly more DEF will be consumed in relation to previous

models and products . DEF consumption may vary depending on many factors so it is important to consider the highest consumption rates of the equipment when planning DEF delivery and storage.

DEF Usage Chart below is an example of possible DEF consumption based on gallons of fuel used.



SYMPTOM(s)

N/A

Customer Observations or Concerns:

Understanding NOx reduction technology and DEF consumption.

SPECIAL TOOL(s) / SOFTWARE

NA

SERVICE PARTS INFORMATION

NA

DIAGNOSTIC STEP(s)

NA

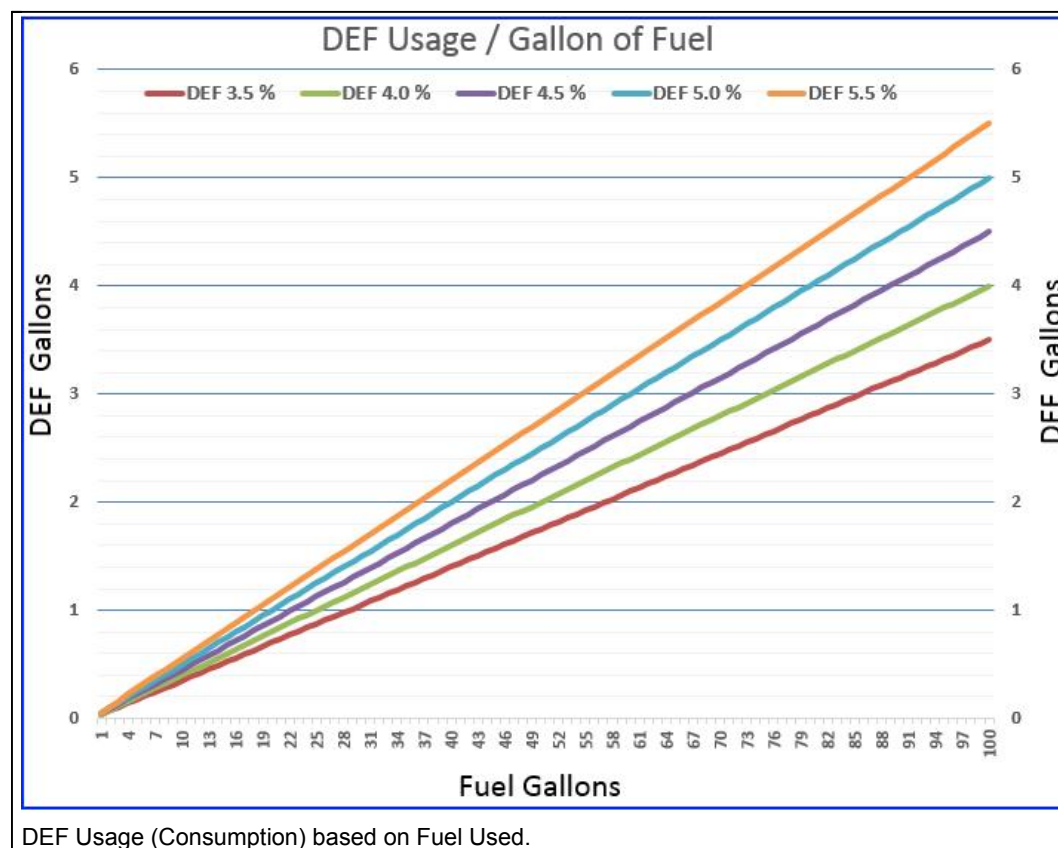
REPAIR STEP(s)

NA

WARRANTY INFORMATION

NA

OTHER RESOURCES

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