

LUBE

TECHNI-GRAM



FROM :

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EGR TECHNOLOGY ADDING TO VEHICLE PRICES

Previous Techni-Grams have dealt with the technology of Exhaust Gas Recirculation (EGR) for dealing with the Federal Government's stricter emission regulations placed on heavy diesel engine manufacturers (May 2001 and September 2000 Techni-Grams). What many may still be unaware of is the fact that the 2004 emission standards have been moved up 15 months early for the U.S. - based heavy diesel engine manufacturers who must now meet the 2004 emission levels of 2.5 grams of nitrogen oxides and non-methane hydrocarbons by October 1st. This early deadline was forced upon the major engine manufacturers due to the Environmental Protection Agency's charge that the engine makers had programmed their heavy-duty on-highway engines to "cheat" by exceeding emission levels when traveling at highway speeds. Offshore engine manufacturers, including all the Japanese suppliers and Mercedes - Benz, do not fall under this early requirement and do not have to meet the new standards until January 2004.

Now that this new consent decree has been finalized, industry publications are predicting that the rising cost of emission technology will necessitate a rise in engine cost. Since various engine manufacturer's agreements with the EPA differ and some are taking a different approach to meeting the 2004 emission standards, certain trucks with certain engines could cost customers more. Both engine manufacturers and truck makers are vacillating on exact dollar quotes, but predictions are the new engines will raise the cost of a medium-duty truck about \$1,000 to about \$1,500, and heavy-duty trucks by about \$4,000.

The cooled EGR seems to be the emission technology preferred by most engine makers. Engine manufacturers and all truck OEM's using this technology to reach their emission levels will have additional cost associated with the compliance, as this type of emission technology requires more cooling capacity on the truck. International Truck and Engine Corporation announced in late April that it would increase the price of its mid-range diesel engines by \$1,850 in October to cover the cost of changes to the engines.

EGR BASICS

EGR routes a percentage of the exhaust gas into a cooler where the exhaust gas temperature is lowered. That cooled exhaust gas is then introduced back into the combustion chamber. Since



... to keep it running

EGR dilutes the air/fuel mixture and displaces oxygen, it lowers peak cylinder temperatures and reduces NOx by 60-90%.

On The Positive Side

Despite the concerns of added cost and other issues which the new emission standards will have on engine performance, fuel economy and service and durability, there is some good news for equipment owners. The oils that are being formulated to meet the severe demands of the stricter emissions and the severe operating stresses of EGR technology supercedes older engine's service classification requirements and is backwards compatible. In fact, SWEPCO's new engine oil package is being formulated to: A) withstand the higher temperatures expected from the engines, B) disperse contaminants better, and C) resist corrosion of engine parts from higher acid levels. That means the new oil will not only improve the performance of new engines operating with EGR technology, but it will definitely help older engines extend drain intervals even further due to more soot holding capacity, increased corrosion protection, and higher temperature stability.