



Diesel Engine Emission Control System Changes for 2010

Medium and heavy duty truck diesel engine manufacturers have been forced to change/enhance the emission control systems on 2010 engines. The US EPA has new standards for 2010 that involve further reducing the amount of NOx (oxides of nitrogen) exhaust emissions to almost zero. The challenge for engine manufacturers was to meet these strict EPA guidelines while maintaining fuel efficiency and engine performance.

There are two technologies being used in 2010 to meet the EPA guidelines. One is an enhancement to an existing technology which is called Advanced EGR (exhaust gas recirculation). The second is a technology that is new to the on highway engine market in the US. It is called SCR (selective catalytic reduction). SCR has been used in Europe for some time and is also used in many stationary equip-

ment applications here in the US. There are pros and cons to each of these systems, but the majority of engine manufacturers will use a combination of both in their 2010 engine designs. The exception is Navistar which will use only Advanced EGR in 2010.

Here is how the two technologies work-

In-Cylinder EGR- exhaust gas is cooled and recycled back through the engine. This reduces the amount of oxygen available for combustion, which in turn reduces the combustion temperature in the cylinders. Cooler combustion lowers NOx, but also makes combustion less efficient creating more particulate and consumes more fuel.

SCR- is an exhaust after-treatment method that controls emissions downstream of the engine. It takes place after the combustion process and utilizes diesel exhaust fluid (DEF)

to reduce NOx levels. The DEF is injected into the exhaust stream. The DEF then reacts with NOx in the SCR catalyst forming harmless nitrogen and water. SCR allows the engine to use less EGR thus function at higher combustion temperatures. This increases fuel efficiency and power. The SCR catalyst will be a new device located downstream of the diesel particulate filter (DPF). With reduced EGR the DPF's will be subject to less ash and require fewer regenerations. The down side of SCR is that it requires trucks be outfitted with a tank to store the DEF. DEF is an organic, non toxic fluid made of 32.5% urea and 67.5% de-ionized water. It is consumed at a rate that is equal to about 2% of the trucks fuel usage. Trucks will be outfitted with a DEF gage showing the tank level of the DEF. There will also be a DEF filter that is an additional service item.

DEF fluid will freeze below 12F however it will quickly thaw when the vehicle is started. Frozen DEF will not prevent the vehicle from operating. DEF will be available at all truck stops, truck dealers and repair shops soon. Craft Oil is an authorized distributor for AIR 1 DEF.

It is estimated that the measures taken by the EPA (with the cooperation of engine manufacturers) have reduced overall truck emissions to the point where it now takes about 60 trucks to produce the same amount of emissions as one new truck produced in the 1980's.

See Page # 3 for more information regarding Air 1 Diesel Exhaust Fluid.

Inside this Edition

DPQA Certification	2
Aston Facility Improvements	2
Lincoln Industrial	2
Recent Acknowledgements	3
Clean Burn Tips	3
Air 1 Diesel Exhaust fluid	3
Web-Site Update	3
The Future of Motor Oil	4
Welcome Aboard!	4

DPQA Certification

Craft Oil once again has received Shell Oil's Highest Quality Assurance Certification "DPQA" at each of its facilities. What is Shell Oil's DPQA certification and what does it entail? The Shell Oil DPQA program "is a Comprehensive Quality Assurance Inspection" and a measurement of how a distributor demonstrates its active involvement in the long-term commitment to quality and integrity of its lubricant products. The Shell DPQA Program contains the highest quality standards in the lubricant industry for repackaging and/or bulk handling. Shell Products Quality begins in Shell Oil manufacturing plants and extends to authorized bulk handling and/or repackaging distributors who must maintain the proper "Product Chain of Custody." The certification program examines the distributor's processes from the office, receiving area, lines, tanks, filling, loading of trucks and containers to the distribution of product to the end user.



Tom Matthews (Director of Operations) believes the Shell DPQA Certification shows Craft Oil's commitment to its customers and achieving the highest level of customer satisfaction. "Every day our team is committed to being Best In Class amongst the lubricant distributors, and I believe this Certification from Shell Oil recognizes our hard work and dedication to achieving our goal of delivering the right product each and every time to satisfy our partners in lubrication."

Improvements at the Aston Facility

Eighteen (18) months after the acquisitions of Dunlap Mellor & Company and Mauger Lubricants, we have completed significant construction and improvements to our Southern Distribution Center located in the I-95 Industrial Park in Aston, Pennsylvania.

Tom Matthews, Director of Operations, designed and completed a first class facility to ensure we provide our partners (customers, suppliers and employees) the highest level of satisfaction through safe and efficient facilities, while providing substantial growth capacity.

On August 1, 2009 we opened a new state of the art 20,000 s.f. package warehouse. The project was started March 15, 2009 and with significant hard work and dedication from the Craft Oil Southern Distribution Team led by Barry Mellor III (Operations Manager, South); the facility was fully operational and filled in August.

On October 15, 2009, we completed a new inside bulk lubricant facility, adding 190,000 gallons of additional storage in 21 tanks adding an additional 9 pumps and meters, and an indoor loading / unloading area for our trucks. The additional storage brings the total bulk lubricant tank storage to over 400,000 gallons at the Southern Distribution Center.

*We welcome customer visits.
Call your Territory Manager for a tour!*



Automatic Grease Systems



Craft Oil Corp introduces a strategic vendor; **Lincoln Industrial**. Since 1910, Lincoln has been providing efficient and reliable lubrication solutions.

Craft specializes and is highly trained in **Lincoln's Auto Grease Systems**:

Lincoln's Auto Grease System allows fleet managers to keep their fleet properly greased and extend PM intervals. The system delivers small measured amounts of #2 chassis grease to each bearing at predetermined intervals. Each system is custom designed based on your applications and number of lubrication points. Lubrication occurs while the truck is in operation, the best way to lubricate bearings. All systems have high pressure capability to ensure # 2 grease can be used in all climates.

System Description: A typical system includes an automated electric pump, patented Lincoln SSV metering valves, supply and feed lines, hoses/tubing and mounting hardware.

System Operation: The Quicklub pump turns on automatically by an internal adjustable timer while the vehicle is running. Grease flow starts and lubricant is delivered to the Primary Divider Valve through the supply line hose. The Primary Divider Valve distributes grease in measured amounts to the secondary valves. The secondary valves further proportion the grease and deliver exactly measured amounts to the bearings according to their specific needs through feed line tubing. The pump shuts off when the set time has been reached.

Typical Applications: Waste Trucks, Concrete Trucks, Dump Trucks, Sewer Cleaning Trucks, Low-Boy and Heavy Duty Service Trucks, Truck Cranes and Boom Trucks, Street Sweeper, Off Highway Construction Equipment and Industrial Manufacturing Equipment.

For product and installation details talk to your territory sales manager today and start saving on your operating expenses.



Recent Acknowledgements

ExxonMobil

Craft Oil was recently awarded the Circle of Excellence and named ExxonMobil's "Premier" Lubricant Distributor.



Craft Oil was the winner of these awards for being the top distributor by ExxonMobil for Business Excellence and Superior Achievement for Results in Volume, Growth and Best in Class Practices.

Shell Oil – Craft Oil was awarded the Super Power Award with Shell Oil based on volume and growth performance in 2009.

Clean Burn Tips



As we emerge from yet another winter, we want to remind you how to maintain your CleanBurn furnace .

Once the heating season is over, make sure the power is turned off to your furnace. The CleanBurn burner uses a pre-heater to ensure proper burner starts and efficient operation. This heater is always "on" when the unit is powered up. A burner block that stays "hot" for long periods of time without actually firing can result in blocked nozzles and plugged burner blocks. Remember, if the green light on the burner is on, the pre-heater is "hot." So during the off season turn off the power and make sure the green light is off.

When transferring waste oil into your storage tank, take great care to keep chlorinated materials out. Chlorinated cleaning solvents in your waste oil tank will greatly contribute to corrosion of the heat exchanger. In short, keeping the chlorinated solvents out will extend the life of your furnace

Now is a great time to schedule a cleaning for your CleanBurn furnace. We recommend a cleaning every 700 – 1000 hours of run time. As you can imagine, this winter definitely logged some extra hours on your furnace. Getting your preventative maintenance done now means you are ready for the coming winter; which is never far away.



Air 1 Diesel Exhaust Fluid (DEF)

Craft Oil has the solution to our fleet customer's diesel exhaust fluid needs. It is called **AIR 1**. Craft is proud to have partnered with the world's leader in Diesel Exhaust Fluid, Air 1.

Air 1 is a brand of D.E.F. that is already well established in Europe and leading the way in the US. Air 1 is an API certified diesel exhaust fluid. Having a reliable source for this new product was a key concern for Craft. By partnering with Air 1 we have a guaranteed supply and we will be the exclusive distributor for our region and well positioned to handle all of our customers D.E.F. needs. Craft Oil will distribute this product in all package sizes from cases to bulk. Our expertise in bulk fluid handling equipment will be a great asset in distributing this product. Special dispensing equipment is needed to pump this fluid from drums, totes or bulk tank trucks. Craft Oil will have the solution for our customers to dispense this product from the various package sizes. To calculate how much of this product your fleet will be consuming use 2% of your diesel fuel usage.

Contact your Territory Manager for more information and pricing on Air 1 and how Craft Oil can help you with this growing standard requirement.

WWW.CRAFTOILCORP.COM

Craft Oil is proud to announce the launch of a web-site upgrade. The company's web-site www.craftoilcorp.com has received a facelift—and the new site, which went live February 2010, has many interactive features that will make doing business with us easier.

As always, you'll be able to find company information, product listings & links to Supplier web-sites, but now customers & prospects alike will have the ability to view maps of our coverage areas by state, sign up for our company-wide newsletters and even print a copy of our credit application from their very own computer. There is also an employment section where prospective employees can view open positions and submit employment applications online.

We are committed to providing our customers the best, most relevant information possible, and as a result will continue to make updates as necessary. If there's something you'd like to see on our web-site, please speak to your Craft Oil Territory Manager or e-mail from the website's "contact us" area.



"Our Mission at Craft Oil is to supply customers with quality lubricant products, exceptional service and lubrication expertise, superior to any other provider."

Building Partnerships in Lubrication

The Future of Motor Oil and Transmission Fluids

Automakers are being challenged to make vehicles that meet new government regulations for emissions and fuel economy which will continue to get tougher over the next several years. They will also need engine oils that are thinner, more robust, and last longer. Transmissions will need to keep pace with the new fuel economy demands and engine design changes causing multiple OEM specific products.

Passenger Car Engine Oils and Light Duty Diesel

Introduction of the new gasoline engine oil specification GF-5 is set for late 2010 which is the fifth generation of its kind developed by ILSAC or International Lubricant Standardization and Approval Committee. GM has introduced their own oil specification in Europe this year called dexos 1 for gas engines and dexos 2 for diesels. GM will use the new oil require-

ments in the US starting with the 2011 models. Dexos 1 will most likely be a full synthetic.

The GF-5 specification is all about fuel economy and fuel economy retention. Engine builders are looking to gain any fuel economy through lighter oils including 0w20 and 5w20 or possibly 0w30 made from high quality mineral based or fully synthetic oils. Fuel economy retention simply means that oils can help retain fuel economy over longer periods of time. The OEM recommended oil change interval with oil system monitoring has increased from 6,167 miles to 7,307 and probably will continue to extend, causing the increased use of synthetic oils

New proposed fuel economy standards will be in effect for the 2012 model year which is set to increase the calculated

average fuel economy for every OEM car manufacturer nearly 40% by 2020. Please keep in mind that the EPA has recently used new real life fuel economy testing which has decreased fuel economy by 10-15%.

With increased demand to improve fuel economy, automakers are trying to produce new high tech engines with direct injection, turbo charging, cam phasing, displacement on demand, and variable valve timing.

PCMO current viscosity demand:

• 5w20	12.1%
• 5w30	39.7%
• 10w30	33.6%
• 10w40	8.2%
• 20w50	2.9%
• 0WXX/5w40	1.3%
• All Others	0.5%

Power Transmission

Increased pressure for fuel economy has stimulated the design of new transmissions including 6-7-8 speed, double clutch, and continuously variable transmissions. Transmissions are being customized based on performance requirements and OEM's designs causing specific friction demands, tighter viscosity ranges, better oxidation stability, and improved shear stability. There are two types of emerging ATF product segments including licensed/genuine OEM fluids along with multi-vehicle ATF's for non-warranty work. Low cost MP ATF's will still be marketed for older transmissions.

Current OEM oil drain intervals by miles:

•GM Dex VI	100,000 miles
•Chrysler ATF +4	120,000-150,000
•Ford Mercon LV	120,000-150,000
•Audi	75,000
•Honda Z-1	60,000
•Nissan & Toyota	Inspect only

Welcome Aboard!

Richard Baron, Service Supervisor, started with Craft Oil on Nov. 30, 2009. Rich is a graduate from the University of Scranton with a Bachelor of Science in Business Management with a Minor in Spanish. Upon graduation Rich worked for a variety of energy companies including Agway Energy Products, Bridgewater, MA. as Operations Manager then as Service Manager for 15 years with Frame Oil, Beaver Meadows, PA until the business sold to Montour Home Comfort Services, White Haven, PA. Rich continued working for Montour as Service Manager until joining the Craft Team at the end of 2009.

Throughout Rich's career he has been responsible for managing his teams, arranging technical training, sales, service, trouble shooting, handling and resolving customer issues plus marketing oil and gas equipment. He is well respected in the industry and has served on the education committee of the Naohsm (National Association of Oil Heat Service Managers), as well as, serving on the board of NORA (National Oil Heat Research Alliance).

Rich is a goal oriented leader with years of practical experience., his education and experience will help Craft Oil's Service Department continue to grow and be successful for many years to come. Rich recently implemented a Service Department Customer Satisfaction Card. Please let Rich and Joe Wruble, Service Manager, know how the Service Team is doing.



To all of our customers thank you for your business and loyalty - we are so fortunate to have relationships that date back over 60+ years and in a challenging economy continue to see the addition of many new customers. We commit to you every day to be the best partner in the industry.

-Bob and Maureen Mills



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