

Evolving **Trailer Technology**

Volume • 12 / Issue • 3



State-of-the-Art Expansion

Great Dane Announces Plans for New Reefer Plant

On the Right Foot

New Landing Gear Designs Offer Leading Edge Technologies

Proven To Work

More Testing Verifies Long-Term Value of ThermoGuard Lining



Great Dane Trailers

CALENDAR

February

February 4-5
Mid-West Truckers Association Annual
Truck Show
Peoria Civic Center
Peoria, Illinois

February 8-11
TMC – Technology and Maintenance
Council Annual Meeting
Tampa Convention Center
Tampa, Florida

March 13-16
TCA – Truckload Carriers Association
Annual Convention
Hilton Bayfront Hotel & Convention
Center
San Diego, California

March

TCA – Truckload Carriers Association
Annual Convention
Hilton Bayfront Hotel &
Convention Center
San Diego, California



Commitment to Innovation Leads the Way for Great Dane

Dear Customer

With the groundbreaking of a new refrigerated trailer plant, Great Dane Trailers is positioned to bring the latest in innovation and technology to our customers. And at <location name>, we are committed to delivering you the highest quality products, whether its reefers, vans or flatbeds.

In this issue of Evolving Trailer Technology, you'll get an introduction to our new manufacturing facility, as well as read more about independent testing results that further prove the value of ThermoGuard, Great Dane's exclusive reefer interior lining, and new and improved landing gear offerings.

Great Dane customers like the truckload carrier and supply chain transportation service featured in this issue utilize innovative strategies like these to make our trailers work for them.

As with all of our customers, we regard your business as an investment, and with our sales, parts and service support, we are committed to helping you get a solid return on your Great Dane trailers. In doing so, we look forward to putting our expertise and experience to work for you.

Visit us at
www.myettnews.com

- Update your reader profile
- Send comments to the editor
- Request product literature
- Locate your Great Dane branch or dealer
- Link to the Great Dane home page

Regards,

Jim Pines
Executive Vice President
Great Dane Trailers



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Whole New Game

*Safety Measurement System
for Motor Carriers Changes Rules
and Playing Field*

carriers were able to preview where they stand based on the updated CSA 2010 model.

As carriers continue to digest their individual safety data, what is clear is that all truckers can expect to see more and different inspections after CSA 2010 is fully implemented nationwide this fall. FMCSA, for instance, anticipates 25 percent of its enforcement time will be spent on comprehensive on-site carrier inspections, another 45 percent on investigations with a specific focus, and the remaining 30 percent on “offsite” or roadside investigations.

CSA 2010 may also accelerate another potential challenge for the trucking industry. As noted in the 21st annual State of Logistics Report, sponsored by Penske Logistics and released by the Council of Supply Chain Management Professionals (CSCMP), as freight volumes increase a driver shortage may be looming. Forced by depressed freight levels to leave the industry for other professions, many drivers are no longer available to carriers, the report said, while the growing number of Baby Boomers heading into retirement means there aren’t as many younger drivers to fill a growing number of seats.

How the new CSA 2010 rules and enforcement practices will ultimately affect

the pool of available drivers remains to be seen. What is clear already, however, is that any other disruptions in the ranks of truck drivers may ultimately hamper the industry’s ability to continue any growth that has started, and the ongoing expansion of the economy as well.

While CSA 2010 is ultimately aimed at reducing crash risks, safety specialists and law enforcement officers alike note that all fleets will be challenged to completely rethink their safety management practices. The new safety measurement and enforcement program not only represents a new and higher level of analysis and intervention for motor carriers. For many in the industry, it is the basis for a significant increase in government oversight of carriers and interaction with individual drivers, in other words a whole new game with new rules and a new field of play.

[FMCSA is releasing documents to help carriers affected by CSA 2010 understand the new program. “CSA 2010: Just the Facts,” is a two-page document that addresses myths, misconceptions and facts about CSA 2010 that are commonly misunderstood. For more information, visit www.csat2010.fmcsa.dot.gov.] 

As the implementation of the Federal Motor Carrier Safety Administration’s (FMCSA) Comprehensive Safety Analysis (CSA 2010) model approaches, motor carriers are learning more about how the new and highly enforcement and compliance system may impact their operations.

Set to replace FMCSA’s existing SafeStat program, CSA 2010 features built-in and automatic intervention levels covering seven BASICs (Behavioral Analysis and Safety Improvement Categories). Included are Unsafe Driving, Fatigued Driving (Hours-of-Service), Driver Fitness, Controlled Substances/Alcohol, Vehicle Maintenance, Cargo-Related and Crash Indicator categories.

Tested and implemented in stages in nine states, CSA 2010 was updated by FMSCA, in part increasing the strictness of the new safety measurement system. Included are higher severity weights for some roadside inspection violations and a process to employ a more strategic approach to address carriers with histories of size and weight violations. Beginning in August,



State of the Art

Plans for Great Dane's New Reefer Plant Focus on Advanced Manufacturing Technology



Great Dane Limited Partnership has announced plans to build a new refrigerated trailer plant in Statesboro, Ga., northwest of Savannah. On the 118-acre site, the manufacturing facility will cover 450,000 square feet, including office and showroom space.

The new reefer plant will feature the latest production technologies, including some developed by Great Dane using the company's vast engineering resources and expertise, as well as the best ideas from other plants. The new plant's technology will result in higher quality vehicles and improved manufacturing productivity.

Manufacturing technology for the new plant now under development and undergoing evaluation includes foaming equipment that helps foster tighter control of all production parameters. Systems that automate key production operations, such as riveting processes, are under also being developed for the new facility.

When it opens in 2012, the Statesboro facility will have the initial capacity to produce over 5,000 trailers annually, and at that level will employ more than 400 people. Construction is expected to get underway later this year. The site was chosen after an extensive search for a location that met the company and State of Georgia's joint goal of keeping the facility close to Great Dane's heritage in Savannah.

Engineered for the Long Haul

Great Dane's newest refrigerated trailer, the Classic Truckload

(CTL) reefer offers unparalleled dependability, unmatched protection in demanding operations and low maintenance features.

The design of the CTL focuses on impact protection with a rear frame that features strengthened lower corners, the result of a post cap that reinforces the outer impact area. Swing doors on the reefer feature a gasket that provides for better sealing and less chance of moisture intrusion. The new design is made up of a dual-lip outer seal fastened to the perimeters of the door, which is also easier to replace, and a separate inner compression seal attached to the frame.

Swing door hinges on the CTL are now installed more accurately by using the door's height and a universal location measured from the bottom. The foaming process used on CTL doors does not require polystyrene fillers to ensure a full fill of insulation in all cavities. The process also yields a flatter, smoother appearance in both aluminum and stainless steel cover sheets. Additionally, over 400 door skin fasteners have been removed to enhance the smooth finish, and make repairs easier and less time consuming.

On the CTL reefer, Great Dane has removed about 100 lbs from base models without impacting structural durability. Weight savings result from changes in roof construction and interior sidewall linings, the use of ABS plastic cove moldings for the upper wall to ceiling connection, and by incorporating aluminum components in the front wall. 

Solid Footing

SAF-Holland

Introduces Two New Landing Gear Models for Great Dane Trailers

Great Dane's primary landing gear supplier, SAF-Holland, is streamlining its product offerings and introducing two new designs for Great Dane trailer models.

The new CLASSIC™ and ATLAS™ landing gears incorporate leading edge features and technologies from the former Binkley, Austin-Westran, and Holland products.

Both new SAF-Holland models feature "constant mesh" gearboxes. With this design, gears are permanently engaged and do not move when shifting from high to low speed. Instead, a pinned shaft travels laterally to engage the high and low gear sets. This feature ensures there is no slipping of the drive gears because they are always fully meshed and shifting in cold weather conditions requires much less effort because the drive gears never move, only the shaft.

Additional features of both new SAF-Holland landing gear models include a Floating Nut™ design to protect the vertical screw shaft from bending and binding damage caused by coupling and dock walk. The Floating Nut is flanked above and below with a Twin-Bulkhead design that further reduces the negative effects of side-load forces when landing gears are fully extended.

Details of the two new SAF-Holland landing gears include:

CLASSIC

The Holland CLASSIC (Great Dane Product GD-50) replaces the GD-75 used on many stock reefers and vans. The distinctive feature of the CLASSIC is the two-shaft constant mesh gearbox offering a more cost-effective design and lower capacity ratings to meet market demands for value performance. The GD-50 is also now available with exclusive removable cushion feet (low profile design only).

ATLAS

The Holland ATLAS features a three-shaft constant mesh gearbox offering more gear reduction and higher lifting capacity. There will be two performance capacities of the ATLAS offered to meet customer needs:

- The Atlas-55 will become the GD-60.
- The Atlas-65 will become the GD-70.

The Holland Mark V landing gear remains unchanged and is available on applicable Great Dane product lines. 





Proven Performance

Independent Testing Verifies Long-Term Value of Great Dane's Exclusive ThermoGuard Lining

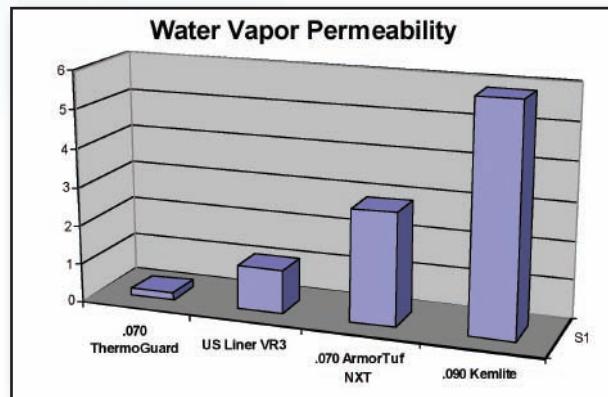
For more than five years, Great Dane customers have had the ability to specify ThermoGuard, the exclusive glass-reinforced thermoplastic interior liner that helps maintain thermal efficiency in refrigerated trailers. Recently, Great Dane submitted samples of the lining to an independent third party laboratory that specializes in permeability testing.

In these tests, ThermoGuard lining was evaluated against several competitive lining materials for permeability of water vapor, and more importantly the foam-blown agent used by trailer manufacturers. The results confirm that ThermoGuard lining has by far the lowest permeability – measured as the rate a substance passes through it – of both water vapor and foam blowing agent. In other words, ThermoGuard is superior to other products in maintaining trailer insulation and saving fuel over the life of the vehicle.

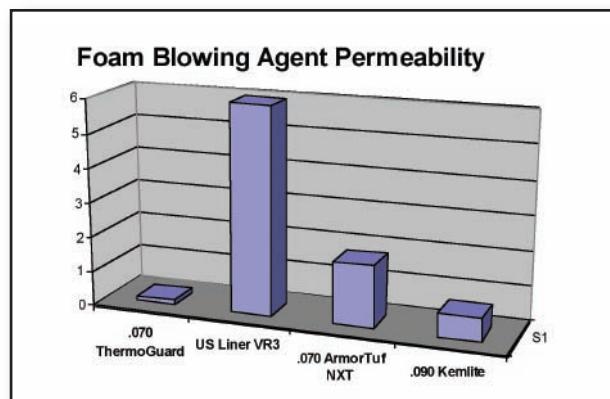
ThermoGuard lining includes a special barrier layer that reduces “out gassing” of the polyurethane foam used in reefer trailers for insulation. The key component to ThermoGuard technology is an innovative composite layer that seals the trailer’s insulation, significantly reducing the insulation degradation which is a part of normal aging in trailers with traditional interior linings. With ThermoGuard, cooling units do not have to work as hard to make up for degrading insulation performance, reducing cooling unit run-time hours and saving fuel, as well as lowering maintenance intervals and costs.

Great Dane testing of in-service reefers with ThermoGuard has also proven the benefits of the lining. Evaluations of Classic reefers in service 4-1/2 years equipped with ThermoGuard interior liner indicated a loss of thermal efficiency comparable to 1 year old reefers with traditional liners. In another evaluation using identical specifications, in the same operation and over the same time period, trailers without ThermoGuard exhibited a 21 percent loss of thermal efficiency. Trailers with ThermoGuard indicated an almost insignificant loss in thermal performance after six, eight and 20 months of service.

As the most recent independent tests clearly indicate, ThermoGuard extends a refrigerated trailer’s useful life. By helping maintain thermal efficiency over longer periods of time, the revolutionary liner extends useful trailer life and reduces operating costs. With customers holding onto trailers longer, that proven performance is more critical today than ever before. 



Note: Above samples were analyzed on a MOCON Permatran W3/33 instrument conforming to ASTM F-1249.



Note: Above samples were analyzed on a MOCON Multi-Tran 400 instrument utilizing a TCD sensor and accumulation method.

Specialized Transportation, Inc

Great Dane P-Series Dry Freight Vans Ideal for
Specialized Provider of Supply Chain
Transportation Services



Specialized Supply Chain Solutions

"We chose Great Dane due to its reputation and excellent attention to detail," says Dave Malinowski, equipment asset manager at Specialized Transportation, Inc (STI). "To provide highly effective solutions for our diverse customer base, we needed a trailer that goes beyond most dry van industry standards. Great Dane has the insight and creativity to design and build a trailer that is ideal for our business model."

Specialized Transportation, Inc has been an asset-based provider of customized supply chain solutions since 1965, formerly as the High Value Products/Logistics Division of North American Van Lines until it was spun off as an independent company in 2004. STI's suite of multi-modal offerings includes specialized padded van transportation, trade show support, first and final mile logistics, white glove services, transportation management, inventory & warehousing, and residential delivery services. STI serves customers in the technology, healthcare, industrial, furniture, store fixtures, retail, and financial services markets through an extensive network of distribution centers in the U.S. and Canada.

One fundamental contributor to STI's success is the equipment it utilizes. Today, 174 of the trailers in its fleet are Great Dane P-Series dry freight vans. "We worked closely with Great Dane to refine our specifications and to oversee the delivery of the trailers," says Gary Durkes, director of sourcing at STI.

"An instrumental part of our relationship with Great Dane is the company's involvement and attention to detail during the procurement and delivery process," Durkes continues. "Great Dane's operation has been seamless, and they have taken time to fully understand our business model and customer base. STI takes great pride in its extremely low claim rates, quality service and on-time delivery performance, notes Ian Nicolson, president and CEO. "To properly address the needs of our customers, we needed equipment that maximized interior space and at the same time could be tailored to best suit specific needs," he states. "Our company is not moving class 50 palletized shipments but instead is sequencing store fixtures for installations at department stores, handling returns management authorization for million dollar medical devices, or moving data centers for high tech customers."

"The ability to properly handle odd sizes and shapes of freight is critical in our business," Nicolson adds, "and a large portion of our shipments are blanket wrapped, so tightly securing the freight on the trailer requires some creativity. Great Dane assisted STI in coming up with a design that was extremely flexible and effective."

The Great Dane P-Series dry freight vans in operation at STI, including 74 trailers delivered this fall, are all equipped with

refinements geared to enhance safety, cargo securement and long-term operational efficiency. Some units, for example, have liftgates and all are fitted with a unique steel scuff liner on interior sidewalls as well as double slot logistics posts that provide almost 4,500 internal fastening points and decking capability.

All of STI's Great Dane P-Series trailers are also equipped with Hendrickson suspensions. STI uses SmartWay certified tires and outfits its trailers with Hendrickson Tiremaax tire inflation systems to improve fuel efficiency, reliability and overall tire life. This helps STI and its customers meet the growing demand for sustainability compliance, especially in states like California.

"These trailers have the right characteristics for our operation and our customers' needs," says Rick Burton, STI's chief financial officer. "Great Dane has been and continues to be a strategic, long-term vendor for us. We look forward to working with them on future trailer orders."

"To provide highly effective solutions for our diverse customer base, we needed a trailer that goes beyond most dry van industry standards."

Dave Malinowski,
Equipment Asset Manager
Specialized Transportation, Inc

SECURING CARGO

Since 2004, interstate motor carriers have had to comply with cargo securement rules established by the Federal Motor Carrier Safety Administration (FMCSA). The rules, which require motor carriers to use cargo securement devices to prevent articles from shifting on or within, or falling from commercial vehicles, include performance requirements for tiedowns, rub rails, anchor points and front-end structures, and rule for the securement of specific commodities.

Cargo securement is getting even more attention today as part of the Comprehensive Safety Analysis 2010 (CSA 2010), an FMCSA initiative to improve large truck safety. Set to take effect nationwide this fall, the new system of measuring fleet safety that will be the basis for regulating and enforcing safe driving and operating practices includes a more comprehensive enforcement and compliance model. One specific area of focus under CSA is Cargo Securement, which measures the failure to properly prevent shifting loads, spilled or dropped cargo, overloading and unsafe handling of hazardous materials.

Great Dane makes available a variety of cargo securement options on its trailers. For information, visit www.greatdanetrailers.com.



Specialized
Supply Chain Solutions

STIdelivers.com





ITW Insulated Products Skinny Bun Lite

Rigid Bulkhead Offers Lightweight Multi-Temp Solution

The Skinny Bun Lite bulkhead from ITW Insulated Products is a lightweight version of the manufacturer's Skinny Bun insulated bi-fold bulkhead that weighs in at just 68 lbs.

Features include:

- A durable, high compression-rated XPS rigid core that is laminated with 18 oz. vinyl and heat-sealed on all edges for a watertight seal that offers exceptional resistance to moisture. The laminated XPS core remains rigid and is 20 percent lighter in weight than conventional bulkheads.
- An extruded pure UHMW bottom scuff plate.
- Tri-layer vinyl reinforced corners for added durability against wear.
- Waterproof sealed perimeter gaskets that meet HACCP standards to keep out moisture and contaminates. The high memory/high density foam gasket maintains its shape and doesn't flatten out over time, making a tighter seal for compartmental temperature control.
- A standard bi-fold design hinged using six layers of 18 oz. vinyl welded, sewn and glued together for superior strength, and to provide a moisture-proof seal.
- An ergonomic handle that will assist in reducing driver fatigue.
- Low profile, flush-mounted hardware for minimal intrusion into the load area and less cargo damage.

The ITW Insulated Products Skinny Bun Lite bulkhead creates a multi-temp solution for fleets, allowing for separate temperature sensitive frozen, refrigerated and dry freight to be hauled in a single trailer.

ITW Insulated Products also offers the standard Skinny Bun and Universal Bulkhead insulated bulkhead models. The Universal Bulkhead fits multiple trailer heights and widths. The company provides a variety of accessories as well, including return air bulkheads, standard air chutes, two-finger chutes, pop-up chutes, standard adapters, a universal-design UniMax adapter that fits both Thermo King and Carrier refrigeration units, curtains, pallet covers, and blankets to protect temperature sensitive products.

ITW Insulated Products, based in LaGrange, Ga., is a division of Illinois Tool Works (ITW) of Glenview, Ill. 





STEMCO Platinum Performance System

Integrated Wheel End Solution Offers Flexibility, Lower Cost for Fleets

The STEMCO Platinum Performance System is an integrated solution designed to ensure and extend wheel end performance and to lower maintenance costs for fleets. Combining components from the manufacturer's line of wheel end products, the system offers fleets the flexibility to choose distinct and individual wheel end solutions.

With the STEMCO Platinum Performance System and Platinum Performance System Plus, a combination of the manufacturer's wheel end components are used to enhance sealing, lubricant integrity and bearing life. By addressing these critical performance areas, fleets can specify standard hubs and axles and realize long life performance at a lower overall cost.

Components common to the STEMCO Platinum Performance System and Platinum Performance Plus System include:

- Guardian HP or Discover seals in hub or a spindle mount configurations. The Guardian HP axle-installed seal features a sealing lip for contamination exclusion and a self-lubricating thrust pad. The Discover hub-installed seal features a unitized design that uses a high temperature elastomeric, co-polymer sealing element combined with Teflon.
- Pro-Torq axle spindle nuts that control bearing end play and lead to longer tire life, extended wheel seal and bearing life and more accurate wheel end sensor monitoring on antilock braking systems.
- Sentinel or Integrated Sentinel tamper-proof hubcaps designed to eliminate contamination of the lubricant from grime, dirt, or water. The Integrated Sentinel Hub Cap design incorporates patented technology directly into the hubcap using fewer components.

Adding STEMCO bearings to the wheel end systems extends warranty coverage. In the Platinum Performance System, available through OEMs or for retrofitting, fleets can add Platinum Matched Bearing Sets and extend protection to a three-year limited warranty. In the Platinum Performance System Plus, offered only for OEM specification, heavy-duty bearings are added and the limited parts and labor warranty is extended to five years.

STEMCO Platinum Performance long-life wheel end systems offer fleets the simplicity of a proven design at a lower cost, durability from the use of high performance components, and ease of serviceability with standard hubs, axles, lubricants and bearings. Working as a system, the combination of components eliminates wheel end failure, assuring lower maintenance costs by reducing downtime.

The STEMCO Platinum Performance System has been thoroughly tested in the STEMCO Engineering Test Center. The 10,000-sq ft Engineering Test Center completed in early 2005 houses over \$2 million of test machines, fixtures, equipment and software designed and fabricated by STEMCO personnel.

STEMCO, an EnPro Industries, Inc., company based in Longview, Texas with offices and manufacturing facilities in Texas, Michigan, New York, Canada and China, manufactures commercial vehicle wheel end, braking and suspension components, as well as fleet information systems. 

A Higher Standard of Performance.™

Great Dane stands behind what it sells and for that reason will be a part of our future.

Roger Westlund
President of R&R Transportation



CASE STUDY

R&R Transportation

Great Dane Super Seal Reefers, P-Series Dry Freight Vans Helping Truckload Carrier Prosper

"W

e're fortunate in this industry to have a selection of quality trailers to choose from for our operation," says Roger Westlund, president of R&R Transportation. "Great Dane not only designs and builds some of the highest quality trailers. The manufacturer also offers us very favorable pricing and higher resale values.

"We recently purchased 100 new Great Dane Super Seal refrigerated trailers," Westlund continues, "so having a dealer that works with us to trade in our three-year-old models was especially important. We decided to update most of our reefer fleet at once, one or two years earlier than our usual trade cycle, to stay ahead of the new California refrigeration unit regulations."

Fitted with CARB-compliant Carrier refrigeration units, the new Super Seals in the R&R fleet also sport SmartWay certified aerodynamic side skirts and low-rolling resistance Bridgestone tires. Other specifications call for Meritor Tire Inflation Systems and 106-inch high rear door openings, which enables the company to facilitate a wider variety of backhauls.

Known for its light weight, the Great Dane Super Seal's standard features include a roof construction process that maximizes thermal properties while minimizing the potential for delaminating.

Stainless steel rear doors, which provide corrosion resistance and an overall enhanced appearance, are completely sealed using a unique gasket design for superior protection against moisture intrusion.

In addition, an all-LED exterior lighting package on the Super Seal offers energy efficiency, and the Long Life Light System, a maintenance-free, fully modular wiring harness, is completely sealed to fight corrosion. Inside the units, a 10-inch high tapered extruded aluminum scuffband boosts sidewall strength and enhances cargo protection.

Along with its new Super Seals and 25 older models, which the company plans to replace early next year, R&R Transportation also operates 20 Great Dane P-Series dry freight vans. Ten of the P-Series models are just 18 months old.

"The P-Series was the right dry freight van for our operation's needs," Westlund says. "We also specified them with high rear door openings so we can handle all types of loads. Like the Super Seals, we chose Great Dane because of the availability of the units we needed, the favorable pricing and the overall reputation of the manufacturer's product. Even though we plan to run the

dry vans longer than we do reefers, we still feel that they will have a high resale value."

Based in Audubon, Minn., R&R Transportation is a family-owned and operated refrigerated and dry freight truckload carrier that serves customers in the 48 lower states. Its primary traffic lanes are in the Northeast and on the West Coast. The company operates from a main terminal in Romeoville Ill., southwest of Chicago, as well as facilities in Santa Fe Springs, Calif., and Imperial, Penn. An in-house maintenance staff, part of the company's 125 employees, maintains the fleet's 150 trailers and 110 sleeper-equipped Volvo 780 and Kenworth T600 and T660 tractors.

"We've been in business since 1981 and we've been growing ever since," Westlund states. "Part of our continuing success definitely comes from being able to buy the right trailers for our operation at a favorable price and to realize a high resale value. Our relationship with Great Dane is also a key factor as it's a company that doesn't just build a good product. Great Dane stands behind what it sells and for that reason will be a part of our future." 

ADDRESSING CARB COMPLIANCE

Regulations approved by the California Air Resources Board (CARB) are now impacting in-state fleets, as well as out-of-state vehicles that travel to and from the state. The California plan to reduce the state's greenhouse gas emissions to 1990 levels by the year 2020 includes the Heavy-Duty Vehicle Greenhouse Gas Emission Reduction (HDVGHG) regulation, also called the Tractor-Trailer Efficiency regulation. These regulations call for 53-ft model year 2011 dry freight and refrigerated trailers in California to be fitted with side fairings and low-rolling resistance tires. Retrofits are required on older units starting in 2012.

Also on the books in California is the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU), which put in place a 15-year plan to reduce diesel particulate matter (PM) emissions from TRUs that operate in the state. Carriers that transport perishable goods using diesel-powered trailer refrigeration units are faced with replacing TRUs or retrofitting existing refrigeration units, either with new compliant engines or particulate filters.

To assist customers in preparing for coming changes in California legislation that will impact their operations, Great Dane has developed detailed web pages with information on trailers affected, exemptions, compliance schedules, enforcement procedures and more. For details, visit www.greatdanetrailers.com/CARB.



Getting Started

EPA Offers Helpful Advice for Diesel Retrofitting Programs

A main reason the diesel became the engine of choice for the trucking industry is its longevity. With these powerplants lasting many years, the U.S. Environmental Protection Agency recommends the installation of verified diesel retrofit technologies for older units.

EPA's National Clean Diesel Campaign (NCDC) advances strategies to improve air quality by reducing diesel emissions, helping make today's engines cleaner than ever. At the same time, the NCDC's Verification Process evaluates emissions reduction capabilities of retrofit technologies, employing technical reviews and testing to quantify emissions reductions.

For fleet managers, EPA offers "Tips for a Successful Diesel Retrofit Project." The information is designed to help fleets get started on a diesel retrofit project and avoid common mistakes. These steps include:

Create a Fleet Inventory to identify vehicle type, class and specifications, and engine specifications such as displacement, horsepower, and turbochargers and exhaust gas recirculation. In addition, the inventory includes annual mileage and/or hours of operation, and a history of oil and fuel consumption. This information is then used to determine the best emissions reduction strategies for each engine.

Log Exhaust Temperature Data to help determine the best retrofit technology for a specific vehicle, including a DOC (Diesel Oxidation Catalyst) or a DPF (Diesel Particulate Filter). Data logging should be performed on each vehicle and under different duty cycles.

Understand DPF Regeneration Requirements such as "Passive" regeneration, which occurs when exhaust temperatures are hot enough to sufficiently raise the temperature of the filter element during the normal duty cycle and "Active" regeneration, which requires an additional heat source to sufficiently raise the temperature of the filter element.

Understand DPF Cleaning Requirements for both active and passive systems. In general, cleaning requires the manual removal of the DPF from the vehicle, heating the filter and using compressed air combined with a vacuum system to blow the ash from the filter and capture it in a sealed container. Professional filter cleaning services are available and automated cleaning stations are also becoming available, allowing fleet service technicians to perform cleaning on-site.

Select a Retrofit Technology based on several factors, including the number of vehicles, the technical feasibility of installing various devices and maintenance requirements and capabilities.

Install the Retrofit Device after ensuring proper engine operation, including a check of the vehicle exhaust system's integrity. In some applications, the retrofit device matches the dimensions of the conventional muffler and can be installed as a replacement. In other cases, the space available for retrofit installation is restricted and the configuration needs to be custom designed.

Monitor Backpressure using an exhaust backpressure monitoring and notification system. It is also important that all vehicle operators and fleet service technicians are properly trained to recognize and respond to high backpressure alert signals.

Understand Fuel Standards and Requirements, including the use of Ultra Low Sulfur Diesel (ULSD) required for highway vehicles. Fuel additives should not be used, unless explicitly approved by the retrofit manufacturer. CARB has verified diesel emission control systems for use with biodiesel blends up to 20 percent (B20) but fleets should consult retrofit system providers regarding the use of biodiesel.

EPA's Verified Technology List, consisting of technologies that have been approved for use in diesel engine retrofit programs, can be found at www.epa.gov/otaq/retrofit/verif-list.htm.





ADVANTEDGE
DRIVING YOUR BUSINESS FORWARD

Have You Joined the Network?

Great Dane's AdvantEDGE national accounts parts and service program connects you to a network dedicated to keep you on the road. But it also gives you confidence in the direction of your business. By streamlining the functions of parts and service centers, including ordering, pricing and invoicing, you get peace of mind that you're getting the best in customer service. With AdvantEDGE, all the advantages add up to the edge needed to drive your business forward.

The Advantages of AdvantEDGE:

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- * **Not-to-Exceed Parts Pricing**
- * **Centralized or De-Centralized Invoicing**
- * **Consolidated Statements Available in a Variety of Formats**
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- * **Customizable Purchasing Controls**
- * **No Enrollment Fees**

**For more information or to request an application, call 1-877-600-3433
or email AdvantEdge-customer-support@multiservice.com**

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IS CORROSION EATING AWAY AT YOUR BOTTOM LINE?



A key component of Great Dane's
Total Protection Package



Great Dane

The most galvanizing force available to help combat corrosion on your trailers isn't galvanizing at all. Available exclusively from Great Dane Trailers, **CorroGuard** with Technology by GatorHyde provides impingement protection unmatched by any other alternative. By covering entire sub-frames, landing gear and other components, CorroGuard is the most powerful defense against the profit-eating effects of corrosion.

For more about how to extend the life of your trailer, visit www.greatdanetrailers.com/corrogard

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