

NORTH AMERICAN **DIESEL**
PROGRESS
PRODUCTS • TECHNOLOGY • INDUSTRY NEWS

FEBRUARY 2015
www.dieselprogress.com



Emissions Connection

Kubota
Launches Production
Farm Equipment

Plug-And-Perform
Telematics From
Danfoss

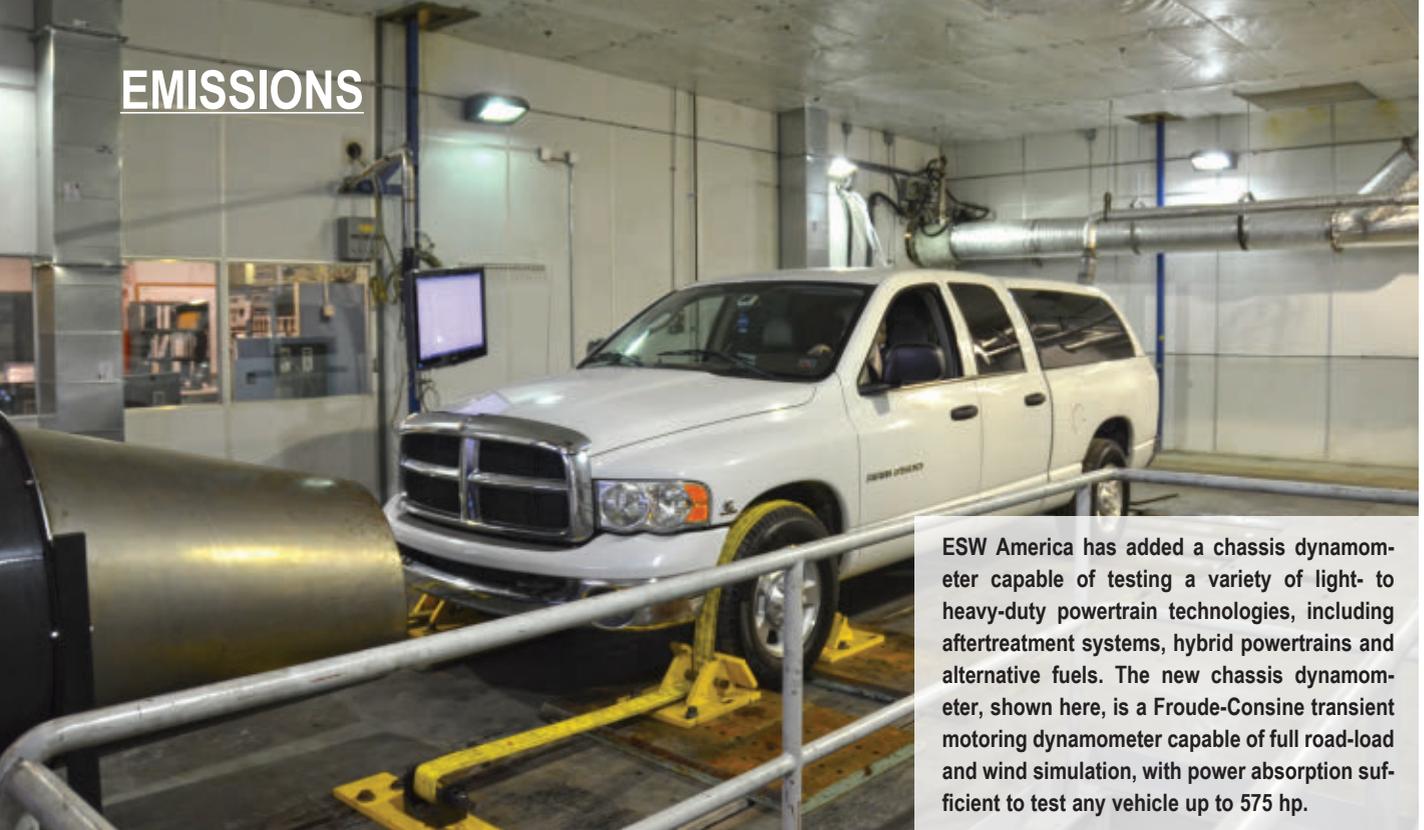


ELECTRONICS & TELEMATICS

Plus
News
About



- Generac's **New Gas Engines**
- Details On The **Doosan-PSI JV**
- **"Prins" Of A Deal** For Westport



ESW America has added a chassis dynamometer capable of testing a variety of light- to heavy-duty powertrain technologies, including aftertreatment systems, hybrid powertrains and alternative fuels. The new chassis dynamometer, shown here, is a Froude-Consine transient motoring dynamometer capable of full road-load and wind simulation, with power absorption sufficient to test any vehicle up to 575 hp.

DYNO-MIGHT

ESW America adds chassis dynamometer to help tap alternative fuels market

BY JACK BURKE

ESW Group makes a diverse line of emissions-control products designed primarily for diesel engine applications. In fact, the Montgomeryville, Pa., company is one of the biggest players in the North American diesel emissions-control market based on product offering and revenue, said Virendra Kumar, chief commercial officer for the company.

ESW Group was founded in 1998 with the goal of developing ceramic-based catalytic converters for the automotive industry. Developing emissions-control products for the marketplace takes a lot of engineering expertise and a lot of verification and certification testing, Kumar said. Those were among the reasons ESW Group acquired its own independent emissions testing company in 2001. That acquisition, renamed ESW America, now encompasses a 40,000 sq.ft. testing facility staffed by engineers, technicians and fabricators with more than 100 years of com-

bined experience. ESW America's test facility has eight test cells that can perform research and development and certification (40 CFR 1065 and 86) test programs for motorcycles, UTVs, ATVs, small off-road engines and heavy-duty diesel engines up to 1000 hp. Now, ESW America is expanding its testing capabilities as a way to tap into testing for alternative-fueled vehicles, Kumar said.

ESW America recently installed a chassis dynamometer capable of testing a variety of light- to heavy-duty powertrain technologies, including aftertreatment systems, hybrid powertrains and alternative fuels.

"We see that alternative fuel is very much a growing market," Kumar said. "If you look 10 years from now, propane- and natural-gas-powered vehicles will be the fuel to meet the fuel-economy and emissions requirements. Other alternative fuels, such as biomethane, will also emerge as viable fuels."

Kumar said there is growing interest in alternative-fueled engines in the Class 4 to 8 markets, and the infrastructure to fuel those vehicles is growing, which is helping spur their adoption. "Even though we don't have any direct stake in these industries, we see them coming to our lab," he said. "As the market grows, we do believe our business will grow along with it."

The new chassis dynamometer is a Froude-Consine transient motoring dynamometer capable of full road-load and wind simulation, with power absorption sufficient to test any vehicle up to 575 hp. It's one of only a handful of CFR-compliant heavy-duty chassis dynos in North America, Kumar said.

"The dyno can be used for light-duty chassis as well as heavy-duty chassis," he said.

The dyno is capable of handling vehicles ranging from passenger cars to Class 8 trucks, buses and other single- or tandem-axle-drive, heavy-



ESW America has eight test cells at its Montgomeryville, Pa., headquarters. The company can perform research and development and certification test programs for motorcycles, UTVs, ATVs, small off-road engines and heavy-duty diesel engines up to 1000 hp.

duty vehicles, with inertia simulation from 2000 to 85,000 lb.

The dyno was owned by Cleaire Advanced Technology Testing Services (CATTS), which ESW Group acquired in 2013. The dyno was on the campus of Chevron's research center in Richmond, Calif., and Chevron needed the space back, Kumar said. ESW America didn't have much time to contemplate what to do with the dyno.

"We had to make a strategic decision in a very short time whether to relocate the dyno to another facility in California or to the company's main facility in Pennsylvania," he said. "Chevron gave us approximately 90 days to remove the equipment."

The alternative gaseous-fueled-vehicle market was one of the key rationales for deciding to make the move. In fact, ESW America is so optimistic about the alternative gaseous-fueled market that the company has recently added a fueling station for alternative fuels at its facility.

"The alternative gaseous-fuel testing is growing — mainly for retrofit conversion kits — and that's one of the markets we're targeting," Kumar said. "There is also a growing opportunity us to perform emissions tests for aftermarket engine and aftertreatment parts — for gasoline as well as diesel — that will be regulated in the near future."

ESW America already had the infrastructure in place in Pennsylvania for the heavy-duty chassis dyno, so

the company decided to disassemble it and move it across the country instead of moving it within California where the company also has a facility, Kumar said.

Although the "new" dyno dates back to the 1980s, Kumar said the technology is sound and the company is comfortable that it has the skill set to troubleshoot if there are problems.

"Because we are a test lab, we have in-house expertise to operate and maintain dynos, and the equipment is similar to our other test cells," he said. "Being familiar with the emissions measurements gave me the confidence that we can successfully manage and install this new capability."

The ESW America test lab is equipped with a full-scale insulated dilution tunnel for both continuous and bag measurements of nitrogen oxide (NO_x), nitrogen dioxide (NO₂), carbon

dioxide (CO₂), carbon monoxide (CO) and total hydrocarbons, as well as the ability to integrate other gaseous pollutant measurements at the customer's request. A secondary dilution system allows for measurement of particulate matter (PM) over a test cycle, and a Coriolis mass flow sensor provides fuel consumption and fuel economy readings.

The company has a range of dynos capable of testing engines from 5 to 1000 hp. Kumar said the company does a lot of testing of engines used in lawnmowers, gen-sets and outdoor power equipment. On the heavy-duty side, ESW America works with North American OEMs, including diesel engine manufacturers and their Tier 1 suppliers.

"From 80 to 1000 hp for heavy-duty diesel applications, the OEMs are our target market segment," Kumar said. "We often help with overflow work from the OEMs; when they run across situations that are urgent or projects that are less complex, they try to source that out. We're seeing a trend in that, and OEMs are definitely moving that way."

Another part of the ESW America business comes from supporting the company's diesel emissions control division and other new growth areas, whether in aftertreatment or other emissions-related products. Although ESW America and the diesel emissions control division are part of the same

continued on page 52



The new chassis dyno had to be disassembled in California and trucked across the country to ESW America's headquarters in Montgomeryville, Pa. The chassis dyno is capable of handling vehicles ranging from passenger cars to Class 8 trucks, buses and other single- or tandem-axle-drive, heavy-duty vehicles, with inertia simulation from 2000 to 85,000 lb.

company, the two entities are kept strictly independent to protect the confidentiality of any clients, Kumar said.

"We are truly independent in terms of confidentiality between the two divisions of the company," he said.

The diesel emissions control division of the business offers nine different technologies for PM and NO_x reduction for on- and off-road applications. The product range includes passive, semi-active and active regeneration technologies.

Kumar said that most of the company's revenues come from the diesel emissions control division, with testing providing the rest.

"We see a potential of more than \$4 million in business year-to-year in ESW America," he said.

ESW America works regularly with EPA, the California Air Resources Board (CARB) and Environment Canada and help companies that aren't familiar with those entities wade through the thicket of emissions requirements.

"Because of our expertise in emissions regulations, ESW America can help international OEMs enter North American markets," Kumar said.

"ESW America can do the engineering consulting that takes the manufacturers all the way from setting up a call with the EPA to obtaining the certification. We are an engineering, consulting and testing service provider because our engineering staff is very experienced working with EPA and CARB and interpreting the regulations."

Kumar said that there are several engine manufacturers from China, India and elsewhere trying to enter the U.S. market that need guidance.

"Most small emerging companies don't have their own compliance department, so we serve that role up to a point," Kumar said.

Kumar noted ESW America has done correlation programs with both Environment Canada and the EPA to verify that its engine and vehicle testing is accurate and credible. ESW America attempts to perform at least one correlation test program each year with OEMs, other independent test labs and government agencies, he said.

"Data quality and credibility is the most important thing for a test facility, so how do you make your lab more credible?" he said.

The new heavy-duty chassis dyno opens up potential new markets for ESW America, but the fundamentals of the business will not change, Kumar said.

"For any test lab, it's not about the equipment," he said. "It's not about the machines. It's about the people knowledge and know-how. That's what makes a difference. We work together as a team, we have a flexibility that allows us to do what is required to make the customer happy and we do whatever it takes to meet the customers' expectations. That's why we see repeat customers." **dp**

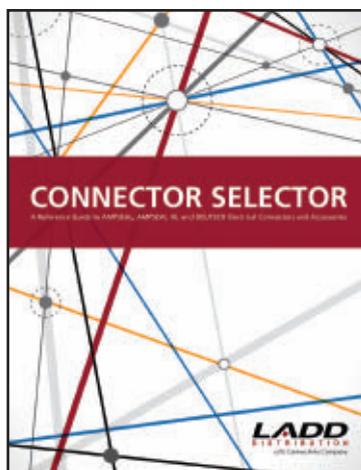
diesel Weblink
www.eswamerica.com



John Deere has introduced the John Deere App Center, an iPhone mobile app designed for John Deere equipment users. Developed to help users increase the performance and productivity of their equipment, it provides the ability to search and find apps most useful to their operations.

They will also be able to share the apps on social media, provide feedback to improve the applications and develop additional apps for the future. It is available through iTunes.

Ladd Distribution has released a new edition of the company's Connector Selector for TE Connectivity's Deutsch, Ampseal and Ampseal 16 connectors.



First released in 2003, the Connector Selector is a reference guide to the company's industrial environmentally sealed electrical connectors and accessories. It is arranged by connector cavity count and includes product overviews, connector descriptions, contacts, tooling and accessories. Included this year are more than 400 new parts, metric dimensions and connector performance specs. Digital versions can be downloaded at www.laddinc.com/products/connector-selector/.

Axiomatic Technologies Corp. has launched a new website at www.axiomatic.com. The key changes include an enhanced search capability as well as the addition of a product development page called Design to Succeed. The page profiles the company's

new website at www.axiomatic.com. The key changes include an enhanced search capability as well as the addition of a product development page called Design to Succeed. The page profiles the company's



OEM design service for electronic controls and power conversion products. The website also includes a blog, FAQ and a technical support page as well as links to Axiomatic's new Facebook page and YouTube channel.