NOTABLE NEW PRODUCTS OF 2019

All kinds of engines, a fatigue detector, a DEF system and more ... some of the notable new products reported by **Diesel Progress** in 2019

BRIGGS NEW BATTERIES

One of the more intriguing articles in 2019 was the Briggs & Stratton launch of a line of commercial lithium-ion battery packs designed to power a range of equipment applications. The first units, rated 5 kWh and 48V, debuted in October at GIE + Expo. A 10 kWh, 48V unit is due in 2020.

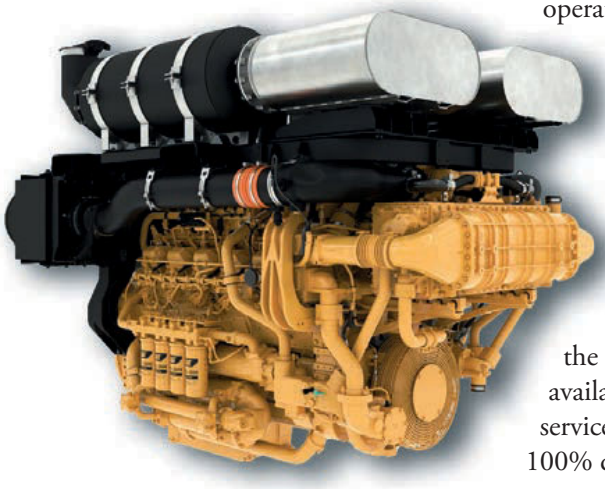
And, somewhat unusually, Briggs & Stratton is building the batteries themselves.

This is one of those product launches that makes you wonder if we're also seeing glimpse of the future of electrified equipment power.

See the story on page 18 of the October issue.

CATERPILLAR'S 3512E DGB ENGINE

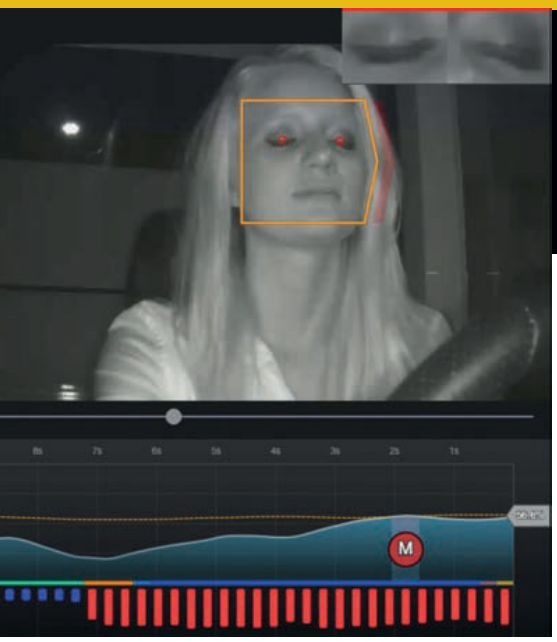
Named Engine of the Year > 175 hp, at the Diesel Progress Summit, the Caterpillar 3512E Dynamic Gas Blending (DGB) Tier 4 final engine is a turnkey, factory-installed solution designed specifically for well service operations. The 3512E DGB engine is capable of operating on compressed natural gas (CNG), liquified natural gas (LNG), pipeline gas, associated field gas and automatically adjusts to changing ambient and fuel quality conditions. No customer input or gas analysis is required, and no recalibration is necessary when equipment is moved, or the gas supply changes. When gas isn't available, the 3512E DGB gives well service operations the flexibility to run on 100% diesel.



HONDA'S NEW V-TWINS

One of the most hotly contested engine segments in recent years has been the gasoline V-Twin markets. Honda launched its entry into the V-Twin sweepstakes with four new models, the iGX700, iGXV700, iGX800 (pictured) and iGXV800.

The four, air-cooled, four-stroke, overhead valve engines have both EFI technology as well an integrated self-tuning regulator. Power outputs are 17.67 or 20.39 hp (13 and 15 kW) at 3600 rpm.



DETECTING OPERATOR FATIGUE

Hexagon AB introduced a system to detect operator fatigue and distraction by monitoring alertness in light-duty vehicles, buses and trucks. Based on a system created for operators of mine haul trucks, the new HxGN MineProtect OAS-LV scans an operator's face. A machine-learned algorithm leverages the facial feature data to determine if an alert should be activated.

See the story on page 45 of the July 2019 issue.

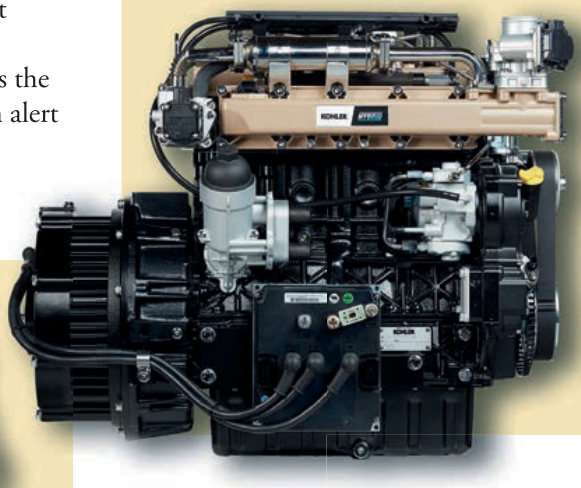
See the story on page 21 of the April 2019 issue

KOHLER'S K-HEM HYBRID

Kohler's new hybrid platform, the K-HEM 2504, is an electrical and mechanical combined power generation unit, which was first shown at bauma earlier this year. The K-HEM 2504, the Engine of the Year < 175 hp at the 2019 Diesel Progress Summit, combined a KDI 2504TCR diesel engine with a 48V electric motor generator.

The K-HEM platforms, which also includes the K-HEM 1003, are seen as applicable for boom lifts, telehandlers, skid-steer loaders, woodchippers and forklifts.

See the story on page 48 of the June issue

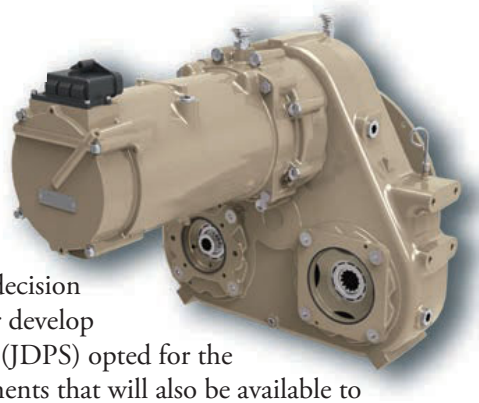


ELECTRIC OFF-HIGHWAY DRIVETRAINS

Yanmar's powertrain group, Tuff Torq Corp., has developed three new electric off-highway drivetrain systems specifically targeting zero-turn, lawn tractor, and UTV OEMs.

The Tuff Torq drivetrains feature compact, high-speed motors, controllers, sensors, and displays. The new Tuff Torq products include the e-DS ZTR: (pictured) designed for the "prosumer" zero-turn market and powered by a 48V DC source. Also new is the e-DS D, a fully electric differential system for UTVs that can also be configured into an electric-hybrid solution. The third newly launched drivetrain is the e-DS LT targeting the residential tractor market.

Tuff Torq said the new drives can be used in the current configurations or can serve as a starting point for further customization based on specific product and application.

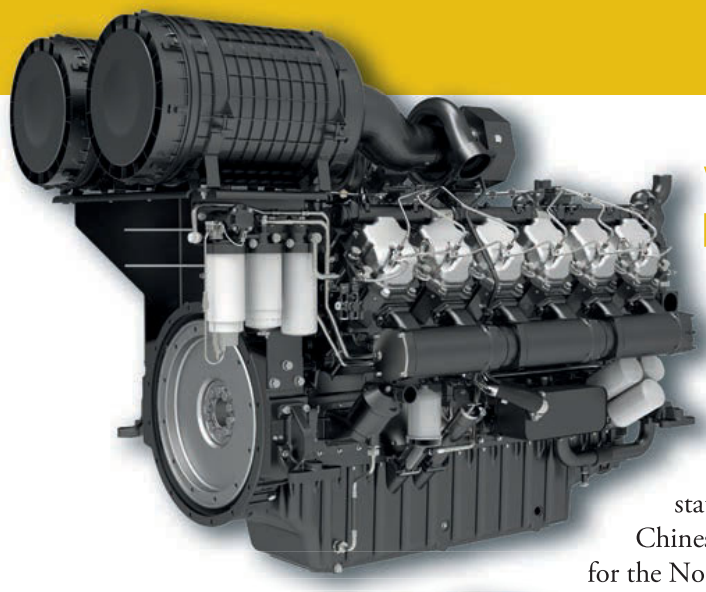


DEERE ELECTRIC DRIVE COMPONENTS

With OEMs all over the world considering adding electrified components to their vehicle drivetrains, a decision looms to either buy those products from a supplier or develop their own componentry. John Deere Power Systems (JDPS) opted for the latter route, introducing a series of electrified components that will also be available to other vehicle manufacturers.

First shown at bauma, JDPS introduced a single-speed transmission and a generator pump drive (pictured), with a three-speed transmission coming next year.

See the story on page on page 24 of the April 2019 issue.



WEICHAI EPA-CERTIFIED DIESELS

Speaking of surprising and notable announcements, Power Solutions International Inc. (PSI), has launched a line of 20-, 40- (pictured) and 53-liter EPA certified Weichai diesel engines. The engines are based on an established marine diesel platform from Weichai's Baudouin operations.

The three engines were U.S. Environmental Protection Agency (EPA) emergency standby certified on September 3, 2019. The certifications cover stationary emission regulations for operation on diesel fuel for model year 2020.

Chinese-built, EPA-certified diesel engines have long been the elephant in the room for the North American engine business. And now here comes the first move in that direction.

See the story on page 19 of the November 2019 issue.

DEUTZ DIESEL BLOCK GASOLINE ENGINES

Deutz Corp surprised many in the engine business with the introduction of 2.2 L, and 2.9 L engines, with a 3.6 L model possibly to follow. The engines introduced will be offered as gasoline engines, with LPG and bi-fuel versions.

The surprise is that these gasoline models are based on industrial diesel engine blocks. The 2.2 L (pictured) is in production as an LPG engine, while the 2.9 L will be available about now in gasoline and LPG versions. The G 2.2 L3 is an inline three-cylinder design, while the G 2.9 L4 is an inline four-cylinder engine. Outputs are currently 35 to 72 hp at 2800 rpm.

See the story on page 40 of the May 2019 issue.

DEF REPLENISHMENT SYSTEM

Multiquip Inc. introduced the MQ DEF Replenishment system to help portable gen-set operators manage the diesel exhaust fluid (DEF) required by selective catalytic reduction (SCR) used with Tier 4 final diesels.

The system monitors DEF levels in diesel gen-sets and refills the onboard tank from a separate 100 gallon reservoir, all designed to reduce the number of site visits to replenish the fluid. The system is designed to fit in the bed of a pick-up truck.

See the story on page 28 of the August 2019 issue

HATZ AND E1 TECHNOLOGY

One of the many new engine launches at bauma in April was the debut of the Hatz E1 single-cylinder, air-cooled engine technology for Tier 4 final and EU Stage 5 applications.

Three E1 models were introduced covering outputs from 6 to 14.5 hp. The E1 engines bring full-authority electronics to single-cylinder diesel engines. One of the keys to the E1 technology is a control unit that constantly measures parameters like engine speed and fuel injection rate as well as communicating all that to a CAN J1939 network.

The use of the E1 technology on smaller output diesels was recognized as the Industry Achievement of the Year at the inaugural Diesel Progress Summit.

See the story on page 38 of the June issue.