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New 400 Series meets compact machinery manufacturers need for an engine that ‘just works’

Perkins new turbocharged aftercooled 2.2 litre engine offering should be of particular interest to equipment manufacturers of compact construction machinery.

Designed to meet EU Stage IIIB/U.S. EPA Tier 4 Final emissions standards, the 4 cylinder 404F-E22TA heralds a new era for the 400 Series range, as it is the first time that common rail direct injection and full authority electronics feature on an engine of this size.

While the new model retains many of the features that have made the 400 Series the first choice for many Original Equipment Manufacturers (OEMs) globally, it is the addition of the common rail fuel system and full authority electronics that will provide a tangible and marked increase in performance and allow OEMs greater flexibility in tailoring the engine to specific applications. It also allows OEMs to use a smaller displacement engine in machines where traditionally engines up to 2.9 litres may have been the norm.

Performance from the 404F-E22TA has been boosted to 50 kW (67 hp) with a maximum torque of 208 Nm at 1800 rpm, while rated speed is up to 2800 rpm. OEMs also have the option of a turbocharged non-aftercooled model, offering up to 36 kW (48 hp).

As a result operators and end users will experience better load acceptance, good transient response and overall smoother operation from machines equipped with this top-of-the-range 400 Series model.

The uplift in performance has not come at the expense of fuel consumption. Through our Technology Integration Workshops (TIWs) where we work side-by-side with an OEM to integrate our engine into their machine, we have seen up to 20 percent improvements in specific fuel consumption (SFC) previously gained at Stage IIIA/Tier 4 Interim. Even without a TIW, real life testing has shown a seven percent improvement in SFC aided by better heat rejection enabling lower fan speeds.

As with all engine models from Perkins the onus is very much on making the transition to Stage IIIB/Tier 4 Final as seamless as possible so that costly machine redesign can be avoided.

The compact package size and sleek engine architecture, featuring a rear-mounted small diesel oxidation catalyst (DOC), allows OEMs to adopt no-compromise machine designs ensuring good sightlines for safety and tight turning circles for productivity, across many construction applications including skid steer loaders, compact wheeled loaders, hydraulic excavators and rollers.

“The launch of the 404F-E22TA represents a significant evolution for the 400 Series. For OEMs in the compact machinery market it offers some compelling advantages, not least of which is the ability to transform how their machines perform and operate,” explains David Kidder, 400 Series product manager.

“The sheer flexibility of this engine in terms of machine integration is a real step-change and the benefits for OEM customers will be tangible and welcomed. Performance aside, we have also managed to improve SFC, lower noise and retain the compact dimensions that are so necessary for this sector,” he adds.

ENDS

Note to editors

Perkins is one of the world's leading suppliers of off-highway diesel and gas engines in the 4-2000 kW (5-2800 hp) market. Perkins key strength is its ability to tailor engines precisely to meet customers' requirements, which is why its engine solutions are trusted by more than 1,000 leading manufacturers in the industrial, construction, agricultural, materials handling, electrical power generation and marine markets. Perkins distributor network provides support wherever needed around the world. An extremely high standard is set to ensure the distribution network provides an outstanding service to all customers.