High Expectations for the 09 Series in the Excavator Market

Even Better Performance for Your Excavators

The 09 Series is Kubota's lineup of 150-kW-class large industrial engines. These engines were designed based on the environments in which 200-horsepower engines are used while still retaining the high power density and compact form factor that Kubota engines are known for. They were then put through rigorous development testing before completion. In addition to a conventional wastegate turbocharger (WGT), the range also includes a model with a variable-geometry turbocharger (VGT).

We believe that these engines are particularly suited for the excavator market.

Reliability From Multiple Durability Tests

Excavators are heavy machines used in a variety of different terrains and climates, ranging from flat ground to alpine regions, cold areas and wetlands.

Kubota performs a variety of tests on engines, as they are the beating heart that

keeps excavators running in such environments.

For example, we use laboratories to recreate various environmental conditions such as cold environments, high-humidity levels, and low atmospheric pressures associated with high altitude. Under such circumstances, we analyzed and tested the speed, power and fuel combustion of the development engine, and continually tested and adjusted it until it was sufficiently durable. Repeating this process increases the accuracy of each one of these values, and produces an ideal value that cannot be arrived at through simulations alone.

One of the reasons Kubota can repeat experiments on real machines is the high-quality casting technology from our casting department. The design and development department and the casting department work closely together on multiple iterations of prototypes to build a compact, durable engine.

Accurate Engine Operation Control Through a VGT

VGTs are electronically controlled and complex to construct, but must still be durable enough to be used in the harsh environments required for off-road

engines. Despite this, they have the advantage of controlling the amount of air delivered to suit the operating range, thus allowing the amount of fuel injected to be decreased.

For applications where there is a difference between high and low loads, such as in excavators, the VGT will support the engine under high-load conditions and deliver an appropriate amount of air for the fuel. This helps prevent soot from building up in the DPF, helping to maintain a longer interval between regenerations. It also offers improved accelerator response and drivability, which are important when working with excavators.