

Ninja ZX-10R Supersport Model Launched Internationally

Kawasaki has just launched the 2016 model of the Ninja ZX-10R supersport motorcycle in international markets in January.

Since its debut, the Ninja ZX-10R has been active in races all over the world. Its superior performance on the circuit has been highly praised. Its overwhelming power propelled Jonathan Rea of the Kawasaki Racing Team to victory in the 2015 World Superbike Championship.* For the 2016 model, the know-how gained in the course of the races was fed back into the production model. This has pushed circuit performance further ahead.

The four-stroke, liquid-cooled, DOHC, four valves per cylinder, inline-four engine (998 cc) enhances acceleration out of corners by reducing the moment of inertia of the crankshaft to achieve sharp handling. At the same time, it uses electronic throttle valves to further improve fuel efficiency and satisfies the Euro 4 exhaust gas regulations effective from 2016 to accommodate street use.

* The world's top road race that uses machines based on commercial motorcycles

The dimensions of the main frame have been adjusted to improve the grounding of the front tire and heighten cornering performance. The advanced specifications of the new Balance Free Front Fork use the same structure as used in the World Superbike Championship machine. Also, the front fairing has been expanded to improve wind protection, to tighten han-

dling when entering corners.

The new model introduces next-generation Kawasaki electronic control technology which includes the latest compact inertial measurement unit (IMU) and a Kawasaki original dynamic modeling program. This technology makes it possible to precisely calculate the state of the chassis while in motion and control its orientation more finely.



Construction of a New Plant Underway for the Boeing 777X

Kawasaki recently started construction of a plant to manufacture the Boeing 777X, as formally contracted this July.

The new plant is being built on the grounds

of the North Plant of Nagoya Works 1, Kawasaki's aircraft assembly and component production facility. The total floor area is to be approximately 13,000 m², and con-

struction is to complete at the end of December 2016. In the production of the Boeing 777X, Kawasaki is responsible for the forward fuselage, the center fuselage, the main landing gear wheel well, the aft pressure bulkhead, and the cargo door. Kawasaki is aggressively introducing new automation technology that it has developed to make production more efficient, such as cutting-edge production facilities that use Kawasaki robots and inspection equipment that implements high-performance sensors.

The Boeing 777 family is already in service all over the world. Boeing has taken orders for over 1,500 units in total, including the various derivative models. Kawasaki started production of products for the Boeing 777 at Nagoya Works 1 in 1992 and continues intense operation.



Conceptual drawing

Orders Received for Two 177,000 m³ LNG Carriers

Kawasaki recently concluded contracts to build one 177,000 m³ LNG carrier for Trans Pacific Shipping 7 Limited and one for Trans Pacific Shipping 8 Ltd., both 50-50 joint ventures between Chubu Electric Power Co., Inc. and NYK Line, and Chubu Electric Power Co., Inc. and Mitsui O.S.K. Lines, respectively. The vessels are to be built at Kawasaki's Sakaide works and are scheduled to transport LNG procured by Chubu Electric Power primarily from Freeport, USA, after delivery in 2018.

These vessels are MOSS type LNG carriers with a cargo tank capacity of 177,000 m³ that Kawasaki developed for North American shale

gas projects. The vessels feature a hull size capable of entering the world's major LNG terminal ports and have a breadth that can pass through the new Panama Canal, which is scheduled to open in 2016. These are highly versatile vessels that will respond to diverse LNG trends with a hull structure and cargo tank form improved to increase the cargo tank capacity by 12,300 m³ from conventional 164,700 m³ LNG carriers. The new vessels also come loaded with various improvements to deliver maximum propulsion performance, including a lighter weight enabled by an optimized hull structure, the adoption of a twin-

screw system, and an optimized hull shape. In addition, a DFD electric propulsion system* has been adopted to increase fuel efficiency at all speeds.

* The dual fuel diesel (DFD) engine is capable of burning both oil and gas while a conventional generator engine can only burn oil for fuel. The propulsion system is comprised of four generator diesel engines, two variable speed propulsion motors and other components. Either gas or oil is supplied to the engines to generate electricity, which drives the propulsion motors that power the propeller.

K8V Series and M7V/M7X Series Launched Concurrently

In October 2015, Kawasaki launched its K8V series of swash plate type axial piston pumps designed for closed circuits*¹ and M7V/M7X series of swash plate type axial piston motors.

The K8V series is optimally designed for various types of closed circuit systems, including rotary motors and HST*² drive systems for industrial vehicles like construction or agricultural machines and more. It can be combined with any of the M7V/M7X series swash plate type axial piston motors.

In putting the K8V series together, Kawasaki leveraged its vast experience in the field of excavators and other construction machinery, whilst employing the fluid dynamics technology it cultivated through aircraft and rolling stock R&D to incorporate newly developed rotary components (pistons, cylinders, etc.). As one of the most efficient pumps ever made, the K8V series not only improves vehicle fuel economy, but also reduces pulsation for quieter operation. These features make a significant contribution to meeting the needs of highly efficient, energy-saving, low-noise construction and agricultural machinery.

Equipped with a charge pump, relief valve, cut-off valve, and other parts integral to a closed circuit system, the K8V series makes designing and assembling industrial vehicle transmissions simple. In addition to electric and hydraulic pilot controls, Kawasaki's proprietary mechanical feedback regulator ensures highly accurate control characteristics regardless of pressure, rotation

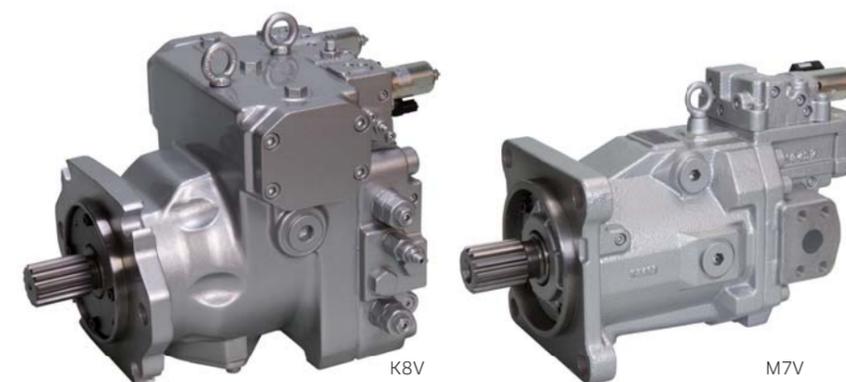
speed, and other operating conditions.

The M7V variable displacement motors and M7X fixed displacement motors feature the most outstanding high-speed performance of any swash plate motor on the market. These hydraulic motors are designed to perform a wide range of operations, including powering winches, drills, and other construction machines, as well as HST drive systems for industrial vehicles. When used for HST drive systems, the M7V/M7X series can be combined with any of the K8V series swash plate type axial piston pumps.

As with the K8V series, the M7V/M7X series also features new rotary components that draw on Kawasaki's fluid dynamics technology, and incorporates its extensive

know-how on construction machinery and industrial vehicles. On top of the swash plate motor's unique compact design, the M7V/M7X series delivers high-speed performance as never seen before. These motors start up fast to ensure smooth operation and work outstandingly well at low speeds in delicate operations where precision performance is a must. All these features enhance motor operability and make installing the M7V/M7X in industrial vehicles simple.

Electric or hydraulic pilot-operated proportional control and constant pressure control make this series the ideal choice for a wide range of needs.



*¹ In a closed-circuit system, oil discharged from a hydraulic pump flows through an actuator such as a hydraulic motor and returns to the hydraulic pump inlet without the use of a hydraulic tank.

*² HST (Hydro Static Transmission) is a type of transmission mechanism that transmits power from an engine by adjusting displacement from a hydraulic pump and hydraulic motor to make continuously variable transmission possible.