HONDA
The Power of Dreams

Honda introduce the new generation **V-Twin Series Engines**

Press release / March 2009

Honda are proud to introduce the new GX V-twin series engines, redesigned to offer customers ***more power****,* ***easy integration*** *and* ***better fuel economy****, all in a* ***more compact package****. There are six new V-twin models (GX/GXV630, GX/GXV660, GX/GXV690) that replace the existing models (GX/GXV610, GX/GXV620, GX/GXV670).*

The new engines, available in both horizontal and vertical shaft configurations, are designed for lawn and garden equipment, construction equipment, generators and other professional heavy-duty applications.

The new V-Twin features an advanced style that looks quite different from other engines in its class. A number of new elements, including a hemispherical combustion chamber, high compression ratio, variable ignition timing (digital-CDI), and an integrated cylinder and head structure, all contribute to an enhanced overall performance while exceeding the world's most stringent emission regulations without the use of a catalyst.

Improved combustion

Radial valves, hemispherical combustion chamber, and variable ignition timing all contribute to rapid and efficient combustion. Improved combustion technology and better cooling performance have made it possible to raise the compression ratio from 8.3 to 9.3, offering higher power output, lower fuel consumption and lower emissions.

Cooling performance improvements

The new, high-efficiency cooling fan generates higher airflow with reduced noise levels. In addition the air cooling capacity has been improved by introducing an integrated rigid cylinder and cylinder head structure. As well as eliminating the cylinder head gasket and head bolts, the new design locates the pushrods in external tubes, creating maximum airflow around the cylinder and cylinder head structure.

Improved lubrication system

The new V-twin engines feature a full pressure lubrication system throughout. To enhance overall engine durability the oil pump capacity has been increased, maximising lubrication to all moving parts.

Ignition with digital CDI

The new V-twin is equipped with variable ignition (digitally controlled). As in modern cars, the best ignition timing is carefully chosen throughout the complete engine rpm range. The digital CDI results in optimal startability and acceleration, and offers a digital RPM limiter.

Improved dust resistance

A twin barrel, inner-vent type carburettor and new paper element fuel filter help protect the engine against the dustiest working conditions. The new engine's multi-layer air filter has an improved filter medium that reduces the frequency of replacement.

Easy to use

The engine controls are located in one place on models equipped with control box. The control box can include a built-in throttle lever, choke lever and new Oil Alert® warning signal. For maintenance purposes the control box also features a digital hour meter.

LED warning light Oil Alert

Engine hour display function → ease of maintenance

Environmental performance

Environmental issues require worldwide action to reduce emissions. By using Honda's improved combustion and friction reduction technology, the new V-twin exceeds the world's most stringent emission standards without a catalyser *(CARB Tier III / 2011 EPA)*.

The improved fuel efficiency and high level of output are two of the biggest benefits for the new V-twin. Significant improved fuel consumption, approximately10% lower than the former V-twin engines, is achieved by efficient combustion and optimal ignition timing set by the digital CDI unit. Besides lower fuel consumption and lower emissions, mechanical noise is reduced by using aluminium pushrods and a resin type camshaft.

Essentially customers are receiving more power, better fuel economy, and less noise all in a smaller, more compact product.

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NEW V-TWIN GENERATION

Horizontal shaft

Model	GX 630
Engine type	Air cooled 4-stroke OHV petrol engine, 90° V-twin design, horizontal shaft
Bore x stroke	2 / 78 x 72 mm
Displacement	688 cm^3
Compression ratio	9.3 : 1
Net power	15.1 kW (20.3 HP) / 3600 rpm
Cont. rated power	11.0 kW (14.8 HP) / 3600 rpm
Max. net torque	47.7 Nm / 4.86 kgfm / 2500 rpm
Ignition system	Digital CDI with variable ignition timing
Carburetor	2-barrel carburetor, fuel cut solenoid
Lubrication	Full-pressure
Starting system	Electric starter
Fuel cons. at rated power	5.3 L/hr - 3600 rpm
Engine oil capacity	1.9 l
Dimensions (L x W x H)	405 x 410 x 438 mm
Dry weight	44.4 kg

Vertical shaft

Model	GXV 630
Engine type	Air cooled 4-stroke OHV petrol engine, 90° V-twin design, vertical shaft
Bore x stroke	2 / 78 x 72 mm
Displacement	688 cm^3
Compression ratio	9.3 : 1
Net power	15.1 kW (20.3 HP) / 3600 rpm
Cont. rated power	10.0 kW (13.4 HP) / 3000 rpm
Max. net torque	47.7 Nm / 4.86 kgfm / 2500 rpm
Ignition system	Digital CDI with variable ignition timing
Carburetor	2-barrel carburetor, fuel cut solenoid
Lubrication	Full-pressure
Starting system	Electric starter
Fuel cons. at rated power	4.7 L/hr - 3000 rpm
Engine oil capacity	2.2 l
Dimensions (L x W x H)	443 x 421 x 447 mm
Dry weight	45.7 kg

Model	GX 660
Engine type	Air cooled 4-stroke OHV petrol engine, 90° V-twin design, horizontal shaft
Bore x stroke	2 / 78 x 72 mm
Displacement	688 cm^3
Compression ratio	9.3 : 1
Net power	15.7 kW (21.0 HP) / 3600 rpm
Cont. rated power	12.0 kW (16.1 HP) / 3600 rpm
Max. net torque	47.7 Nm / 4.86 kgfm / 2500 rpm
Ignition system	Digital CDI with variable ignition timing
Carburetor	2-barrel carburetor, fuel cut solenoid
Lubrication	Full-pressure
Starting system	Electric starter
Fuel cons. at rated power	5.8 L/hr - 3600 rpm
Engine oil capacity	1.9 l
Dimensions (L x W x H)	405 x 410 x 438 mm
Dry weight	44.4 kg

Model	GXV 660
Engine type	Air cooled 4-stroke OHV petrol engine, 90° V-twin design, vertical shaft
Bore x stroke	2 / 78 x 72 mm
Displacement	688 cm^3
Compression ratio	9.3 : 1
Net power	15.7 kW (21.0 HP) / 3600 rpm
Cont. rated power	11.0 kW (14.8 HP) / 3000 rpm
Max. net torque	47.7 Nm / 4.86 kgfm / 2500 rpm
Ignition system	Digital CDI with variable ignition timing
Carburetor	2-barrel carburetor, fuel cut solenoid
Lubrication	Full-pressure
Starting system	Electric starter
Fuel cons. at rated power	5.1 L/hr - 3000 rpm
Engine oil capacity	2.2 l
Dimensions (L x W x H)	443 x 421 x 447 mm
Dry weight	45.7 kg

Model	GX 690
Engine type	Air cooled 4-stroke OHV petrol engine, 90° V-twin design, horizontal shaft
Bore x stroke	2 / 78 x 72 mm
Displacement	688 cm^3
Compression ratio	9.3 : 1
Net power	16.6 kW (22.3 HP) / 3600 rpm
Cont. rated power	13.0 kW (17.4 HP) / 3600 rpm
Max. net torque	48.3 Nm / 4.93 kgfm / 2500 rpm
Ignition system	Digital CDI with variable ignition timing
Carburetor	2-barrel carburetor, fuel cut solenoid
Lubrication	Full-pressure
Starting system	Electric starter
Fuel cons. at rated power	6.2 L/hr - 3600 rpm
Engine oil capacity	1.9 l
Dimensions (L x W x H)	405 x 410 x 438 mm
Dry weight	44.4 kg

Model	GXV 690
Engine type	Air cooled 4-stroke OHV petrol engine, 90° V-twin design, vertical shaft
Bore x stroke	2 / 78 x 72 mm
Displacement	688 cm^3
Compression ratio	9.3 : 1
Net power	16.6 kW (22.3 HP) / 3600 rpm
Cont. rated power	11.5 kW (15.4 HP) / 3000 rpm
Max. net torque	48.3 Nm / 4.93 kgfm / 2500 rpm
Ignition system	Digital CDI with variable ignition timing
Carburetor	2-barrel carburetor, fuel cut solenoid
Lubrication	Full-pressure
Starting system	Electric starter
Fuel cons. at rated power	5.5 L/hr - 3000 rpm
Engine oil capacity	2.2 l
Dimensions (L x W x H)	443 x 421 x 447 mm
Dry weight	45.7 kg

The power rating of the engine indicated in this document is the net power tested on a production engine for the engine model and measured in accordance with SAE J1349 at a specified rpm. Mass production engines may vary from this value. Actual power output for the engine installed in the final machine will vary depending on numerous factors, including the operating speed of the engine in application, environmental conditions, maintenance, and other variables.