

HONDA

Press Information

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2017 HONDA CRF450RX



Model updates: Honda now has a race-ready enduro machine: the CRF450RX is based on the all-new 17YM CRF450R and features enduro-spec suspension, PGM-FI and EMSB mapping plus larger fuel tank, 18in rear wheel, sidestand and electric start as standard.



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1. Introduction

Honda has an all-new, genuine competition-ready enduro machine in its off-road line up – the CRF450RX. And it takes as its rock-solid base the engine and chassis package of the 17YM CRF450R – Honda’s first totally new 450cc moto-crosser in eight years.

The Honda CRF450R has been a benchmark since its introduction in 2002. It has defined the art of balance, with an engine that produces hard-hitting, useable power and a chassis that allows the rider to put every drop of that power to good use. It has always been a machine that offers total control, together with the stability and durability that Honda has long been famed for.

This makes it the perfect platform on which to build an enduro machine, giving the CRF450RX both the pure moto-cross DNA to deal with *any* special enduro stage and the confidence-inspiring competence to handle flat-out trails, challenging climbs and tight, tricky sections with ease.

The CRF450RX is something truly special, not just for Honda, but for the enduro world to ride and race. It looks different and *feels* different to the rest of the pack. And, just like the new CRF450R, it is compellingly fast.

Mr M. Uchiyama, Large Project Leader (LPL) 17YM CRF450RX:

“The CRF450RX is a pure, race-ready enduro tool like nothing else Honda has ever made. It uses the greatly improved performance of the brand new CRF450R and we made no sacrifices in producing this ‘RX’ enduro version, which offers something completely new to expert riders everywhere. It is built to win straight from the crate, at the highest level of competition.”

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2. Model Overview

The 17YM CRF450R has been built from the wheels up based on direct input from AMA and European MX teams, and packs a power to weight ratio 11% better than the outgoing design. The CRF450RX is identical in almost every area, but has some crucial changes to create an uncompromising enduro focus.

Both front and rear suspension are less firm, with lighter compression damping and a lower spring rate for the shock. It uses an enduro-standard 18in rear wheel, and sidestand and 8.5L fuel tank are also added for practicality and extended range.

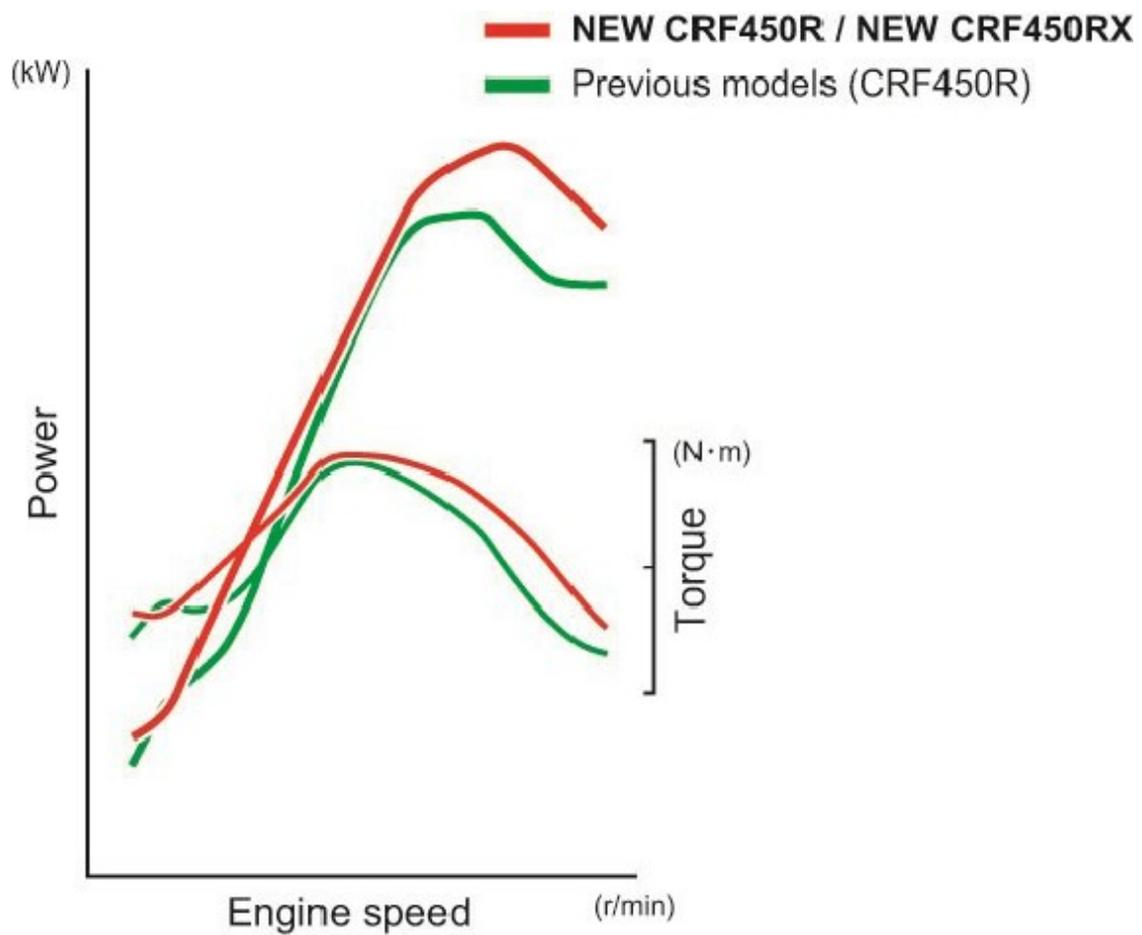
The CRF450RX’s PGM-FI ignition timing map produces softer power and torque delivery than the CRF450R to aid traction feel in awkward conditions. As on the CRF450R, the EMSB (Engine Mode Select Button) provides the rider with 3 distinct choices: Mode 1 equals all-round smooth performance, Mode 2 gives the most easy-to-manage throttle feel, and Mode 3 delivers the power in the most aggressive, responsive way. Electric start is fitted as standard.

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3. Key Features

3.1 Engine

The CRF450RX’s 449cc engine shares the specification of the new CRF450R engine, which has received an 11% boost in top-end power for 2017, while still offering its trademark progressive, usable power and torque delivery throughout the range. Compression ratio is set at 13.5:1 with bore and stroke of 96mm x 62.1mm.



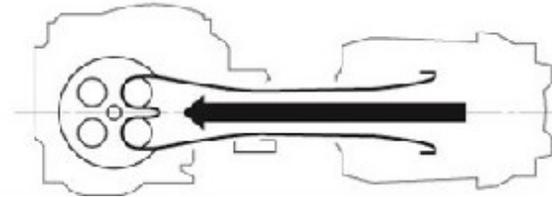
A four-valve Unicam cylinder head, with a finger rocker arm on the inlet valves, gives inlet valve lift of 10mm; exhaust valve lift is 8.8mm. Inlet valve diameter is 38mm and 2-way valve seat machining smooths gas flow. The downdraught intake provides a direct, straight shot to the inlet ports.

Straight port image

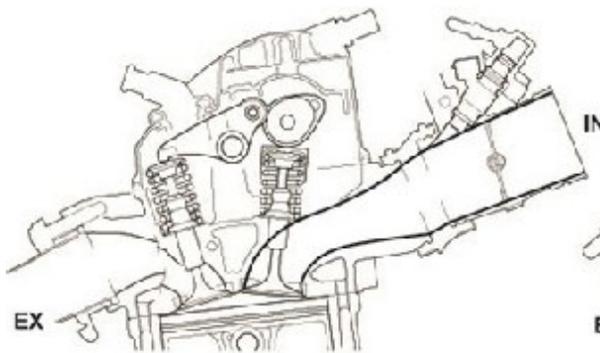
Previous model



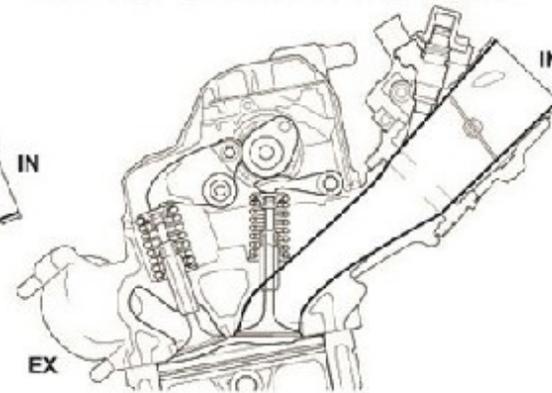
NEW CRF450R / NEW CRF450RX



Previous model

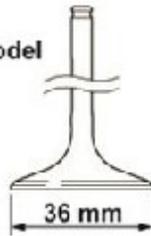


NEW CRF450R / NEW CRF450RX

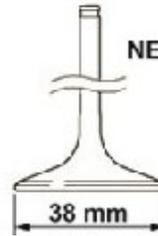


Intake Valve Size Comparison

Conventional model

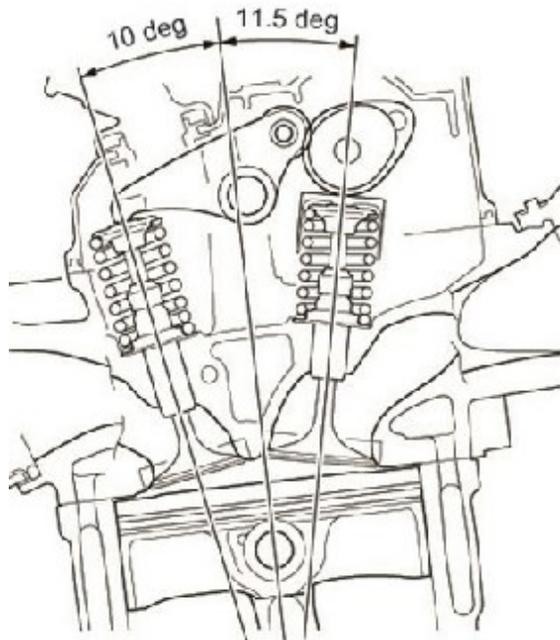


NEW CRF450R / NEW CRF450RX

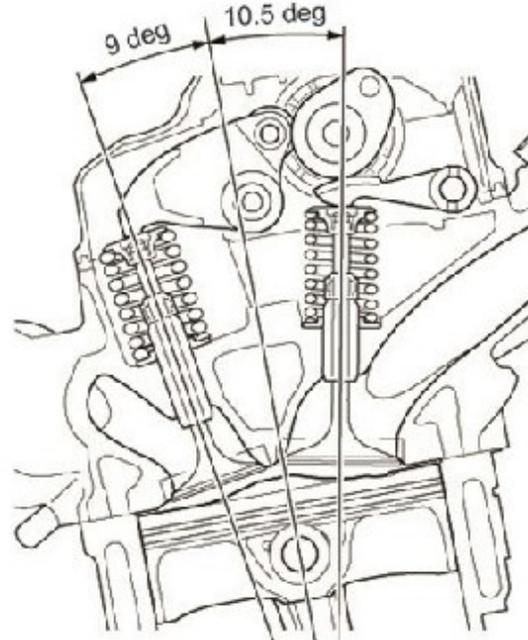


The valve springs are oval in cross section, reducing height to allow for more compact head dimensions. Narrow valve angles of 9° intake and 10.5° exhaust, plus a redesigned flat-topped piston, boost combustion efficiency. A 4-hole piston oil jet reduces piston temperature and deals effectively with the increased temperatures generated by the high compression ratio. Both the piston pin and finger rocker arms have a DLC coating (Diamond-like Carbon), which has excellent abrasive resistance and durability, while also reducing frictional losses

Previous model



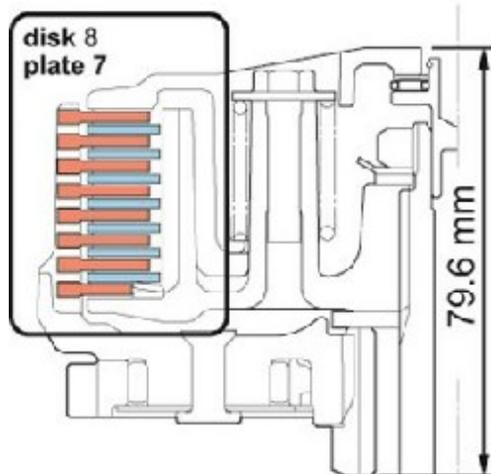
NEW CRF450R / NEW CRF450RX



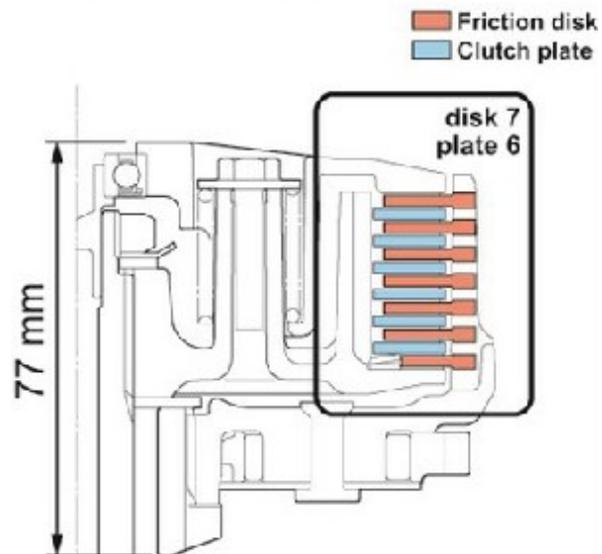
The engine uses a scavenge pump to distribute oil for both transmission and clutch, reducing friction, improving lubrication efficiency and reducing pumping losses. Oil capacity is 1250cc with one sump storing oil for engine, clutch and gearbox.

The compact clutch spins 7 friction disks and the 6 centre plates feature a special surface friction material. A 2mm clutch plate dissipates heat efficiently while judder springs generate a good connection feeling on the clutch. All five gear ratios are the same as the CRF450R, but with final drive handled by 13- and 50-tooth sprockets (as opposed to 13/49).

Previous model



NEW CRF450R/RX

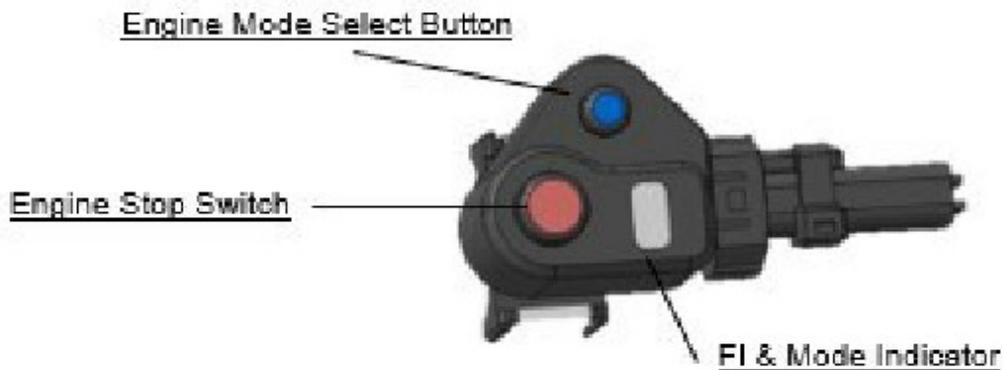


The rider controls and displays are rationalised together and sited on the left handlebar; EFI warning, plus EMSB mode button, LED indicator and engine stop/start button for the standard-fitment electric starter, which makes restarting a stalled engine much easier, especially on tracks with rocky, uneven surfaces.



Honda's EMSB puts instant engine character adaptability at the rider's command. With the machine stopped, and engine at idle, a simple press and hold of the button for just under a second selects the next map in sequence.

The LED built into the button signals the map in use with a quick press and number of subsequent flashes (1 flash for Mode 1, etc). If a new map is selected the choice is also confirmed to the rider.



The indicator flashes according to the engine mode.

Mode 1 is the base map and provides the most linearity in throttle response, making the engine's power much more usable in a wide range of conditions. Mode 2 tones down engine performance (especially useful for a tired rider) while Mode 3 delivers the power in the most responsive way – with a delivery similar to the standard mapping (Mode 1) of the CRF450R.

This is a full competition engine and needs regular maintenance. Service intervals are straightforward however with oil/filter changes and valve clearance checks every 15 hours.

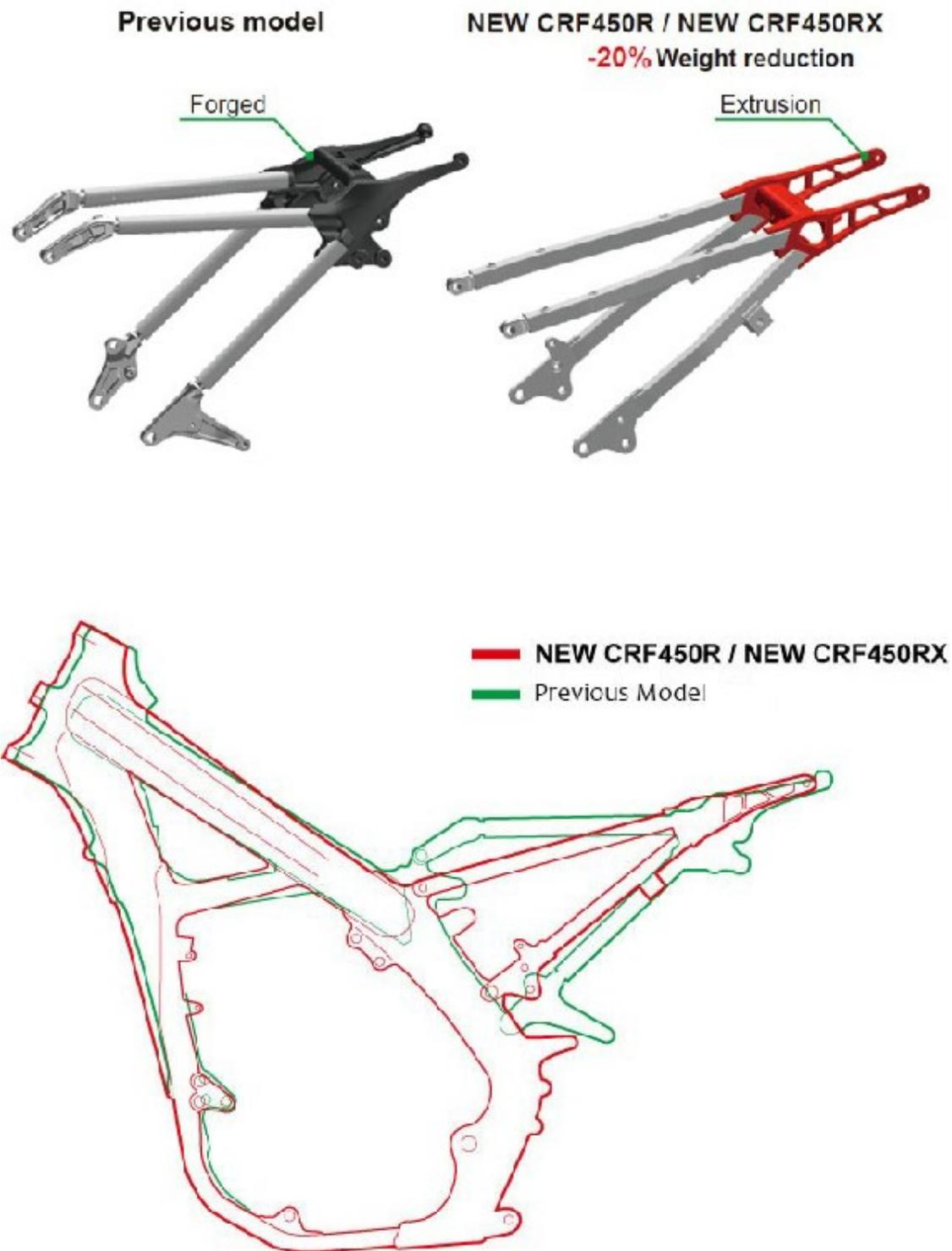
The engine does not need to be totally stripped and rebuilt after a certain number of hours' use.

3.2 Chassis

The CRF450RX uses the seventh generation CRF aluminium beam frame with improved turning performance, front-end stability and traction. It also delivers greater rear wheel drive with elevated levels of rider feedback and predictability.



Tapered main spars have 100% of the lateral stiffness of the previous frame, but torsional stiffness is 6.8% less to improve turning ability and feel. The frame weighs 9.14kg; the extruded rear subframe 1,045g.



Several subtle changes to the geometry and dynamic parameters have been made compared to the outgoing CRF450R, all of which give considerable benefits to both motocross and enduro riders. The centre of gravity height is 2.7mm lower. The wheelbase is 1482mm. Distance between the front wheel axle and swingarm pivot is 913mm, with distance from swingarm pivot to rear axle only 569mm. This geometry transfers more weight to the rear wheel for outstanding traction.

Seat height is 959mm. Rake and trail are set at 27.4°/116mm. Total wet weight is 118kg.

The CRF450RX is a slim, compact machine that's easy to manage thanks to the low centre of gravity. Its rear tyre is loaded hard to dig for drive, matching the front end's grip

level and feel for traction at the limit.

And Honda's enduro machine is equipped with a fully adjustable 49mm Showa USD coil spring fork – a version of the Showa factory fork supplied to MX race teams in the Japanese national MX championship. The cylinder features a 25mm diameter, with a 14mm rod and 39mm compression piston.

As you would expect from what is effectively race-spec suspension, out of the crate the fork action is supple, smooth and fully in control. Compared directly to CRF450R spec. the CRF450RX fork uses less oil with reduced compression damping, giving a softer reaction feel more suitable for general off-road riding.

The fully adjustable Showa rear shock is mounted low and on the centre-line of the machine for optimal mass centralisation and high-speed stability. Its spring rate goes from 54N/mm (CRF450R) to 52N/mm, with compression damping reduced to match. It offers supple, compliant control. At 599mm in length the aluminium swingarm is 18mm shorter than that of the outgoing CRF450R, with thinner shaping (in cross section) for the arms.

A 260mm wave-pattern front disc delivers effective heat dissipation, power and feel from the two-piston brake caliper working it; a matching 240mm wave-pattern disc and single-piston caliper is at the rear. Lightweight aluminium rims, with directly attached spoke pattern layout reduce unsprung weight; the front is 21 x 1.6in, the rear 18 x 2.15in. Fitted as standard equipment are Dunlop's bespoke enduro Geomax AT81 tyres: 90/90-21 front and 120/90-18 rear.

Fuel range is (approx. 65km) thanks to the use of an 8.5L plastic fuel tank. Thinner, lighter cylinder head hangers compensate for the extra weight of both tank and fuel. New plastics with smooth external lines help the rider move easily around the machine and the machine's frontal area is narrow; the width of the radiator/tank shrouds is just 410mm while the front mudguard directs an efficient funnel of air to the radiator.

The forged aluminium sidestand tucks high out of the way and attaches to the frame at the left footpeg mount via a stainless steel bracket. Like the CRF450R, the bodywork uses durable film inset graphics that cover a wide area with scratch resistant style.

4. Technical Specifications

ENGINE	
Type	Liquid-cooled 4-stroke single cylinder uni-cam
Displacement	449.7cc
Bore ` Stroke	96.0mm x 62.1mm
Compression Ratio	13.5:1
FUEL SYSTEM	

Carburation	Fuel injection
Fuel Tank Capacity	8.5 litres
ELECTRICAL SYSTEM	
Ignition	Full transistor
Starter	Electric
DRIVETRAIN	
Clutch Type	Wet multiplate
Transmission Type	Constant mesh
Final Drive	Chain
FRAME	
Type	Aluminium twin tube
CHASSIS	
Dimensions (L`W`H)	2,175mm x 827mm x 1,274mm
Wheelbase	1,477mm
Caster Angle	27° 26'
Trail	116mm
Seat Height	959mm
Ground Clearance	328mm
Kerb Weight	118kg
SUSPENSION	
Type Front	Showa 49mm coil spring fork (305mm stroke)
Type Rear	Showa monoshock using Honda Pro-Link system (133 stroke, 3125mm axle travel)
WHEELS	
Type Front	Aluminium spoke
Type Rear	Aluminium spoke

Tyres Front	90/90-21 Dunlop GeoMax AT81
Tyres Rear	120/90-18 Dunlop GeoMax AT81
BRAKES	
Front	260mm hydraulic wave disc
Rear	240mm hydraulic wave disc

All specifications are provisional and subject to change without notice.