



YAMAHA

Dynamic new LAMs bike released

Yamaha Motor Australia has recently added to its impressive lineup of learner models by revealing the all new four cylinder FZ6R.

Based on the popular XJ series of middleweights, the FZ6R is powered by an inline four cylinder 600cc engine and sports a full fairing and neat midship muffler.

The seamless delivery of this power combined with compact dimensions, light weight and neutral steering make the FZ6R an ideal entry level machine. It is available in Pearl White/Rapid Red or Raven colour schemes.

The FZ6R joins a formidable lineup of learner legal Yamaha motorcycles that includes the WR450F enduro bike, XTZ660 Tenere adventure bike, XT660R on-off roader, XVS650/A cruiser and both the TMAX and Majesty super scooters. All Yamaha models under the 600cc category automatically qualify.

This all-new 600 is one of the coolest and most desirable models in the important LAM category, and is powered by an inline 4-cylinder engine that is tuned to deliver responsive low to mid-range torque for fun, easy riding. With its strong flow of smooth handling power, this cool new 600 is a genuine all rounder, designed to make the rider feel equally at home in town, on twisty back roads and on the highway.



Light and compact FZ6R is an ideal learner machine that comes with a full weather cheating fairing

The lightweight, slim and compact new chassis features a low seat height, making the FZ6R an ideal machine for both new and experienced riders of all ages who want a stylish middleweight that can handle just about any situation.



Fun, versatile and easy handling FZ6R is an entry level machine ready to step up when you are

Designed to offer high levels of

response, the easily controlled FZ6R is a bike that everyone will want to ride... an all level machine ready to step up from entry level when you are. And the contemporary design of the new chassis and bodywork underlines its position as a capable and attractive package.

The FZ6R combines a compact, rider-friendly chassis design and agile handling to ensure that this new 600 offers a truly special ride quality. Because of a high level of riding enjoyment and outstanding overall performance, the new FZ6R looks set to establish itself as a real favourite with a wide range of new owners.

Engine features

A 600cc liquid-cooled 4-stroke in-line 4-cylinder engine was developed with linear performance to power the nimble handling machine. The engine has a bore x stroke of 65.5 x 44.5mm and a high compression ratio of 12.2: 1.

This is a new power unit that optimises the entire flow from the intake of the fuel-air mixture to combustion and exhaust. The cylinder head, crankcase, intake and exhaust system and clutch and shifter have been completely redesigned, creating a power unit with an entirely new character.

And the introduction of the latest vibration analysis technology for the chassis mount has contributed to making the ride extremely comfortable, with a minimum of vibration felt by the rider.

New cylinder head and cam profile

The cylinder head exhibits good gas flow during low valve lift by using a slim port shape while a throttle body diameter of 32mm has been adopted in order to optimise the intake flow volume.

The cam profile has been updated to match the new port shape. In addition to establishing a narrow overlap setting of 34° where both the intake valve and exhaust valve are open, the maximum valve lift is 6.6mm, enable the high compression ratio and high torque characteristics to be efficiently extracted in the low and middle rpm ranges. This is an important element in achieving good throttle control in the 4000 to 5000 rpm range.

The adoption of a narrow overlap angle minimises blow-by of unburned gas, promoting superior combustion. When combined with optimal settings for the ignition system and fuel injection system, this contributes to easy handling in the low and mid rpm ranges and good fuel economy.

One piece cylinder body

A newly designed cylinder body, which is formed as one piece with the upper crankcase, has been adopted, ensuring optimum rigidity balance. The cylinders are ceramic composite plated. Because the liner, which has a different coefficient of thermal expansion, can be omitted, superior heat dissipation is ensured.

Even though this component is large and has a complicated shape integral with the upper side, unique Yamaha high-speed plating technology has been introduced in order to enable only the required surfaces on the cylinder walls to be plated.

Forged aluminium pistons adopted

Lightweight forged aluminum pistons are adopted. Because the aluminium alloy is heated and formed under pressure without having to melt it completely as in casting, the strength of the original metallurgic matrix of the aluminium is maintained. As a result, a forged piston is stronger than a cast one and can thus be lighter, which contributes to a reduction in vibration.



The inline four cylinder engine is tuned for low and mid-range torque... and is also learner approved

Mapping optimised for fuel injection

Mapping has been optimised in accordance with the new engine specifications, with a focus on ease of handling in the ranges where the engine is operated. The injectors are four-hole two-direction high dynamic range type, and superior injection control is achieved with a compact 32-bit ECU.

Midship muffler with three-way catalytic converter and O₂ feedback control adopted

The exhaust pipes converge in a midship muffler. A three-way catalytic converter has been adopted for the compact midship



Midship muffler looks trick and aids mass centralisation

muffler, which is located in the lower portion in the centre of the chassis. Signals from an O₂ sensor that detects the residual oxygen concentration in the exhaust gas is fed back to the ECU in order to provide optimum fuel supply and in turn enable the catalytic converter to function effectively.

The midship muffler is a three-stage expansion type, providing good silencing, a sweet exhaust sound and aids the overall impression

of concentration of mass in the machine design.

Newly designed clutch and shifter

In order to improve ease of operation, the clutch and shifter are newly designed. The shift system has been moved from the left side to the right side of the crankcase, and updating of the components has resulted in superior shifting. A new crankcase was adopted in order to facilitate this optimal layout.

An inner push type clutch release mechanism has been adopted to improve operating ease and achieve a strong appearance. Due to its smooth characteristics and large degree of freedom in setting the lever ratio, when the inner push type clutch is engaged, it features superior contrast, and contributes to a good feel when it is halfway engaged.

Newly designed diamond-shaped frame

Yamaha engineers have created a newly designed diamond-shaped steel frame made of high-tensile pipes. The main pipes are 31.8mm in diameter and 2.3mm thick. A simple design with a minimum of bending and welds has been adopted and good rigidity around the head and pivot points. The engine is supported on four points with a rigid mount on this frame, enabling the engine to contribute to the strength of the chassis. Lateral rigidity has been balanced at a relatively low level in order to contribute to smooth cornering performance.

The structure of this frame contributes to the low seat height, which enables a wide range of riders to reach the ground with both feet.

Easy handling dimensions

In order to enhance the smoothness of the ride and comfort, the dimensions around the front of the bike have been optimised. The FZ6R has a caster angle of 26° and trail of 103.5mm, contributing to the sweet feeling the rider gets when steering the bike.

Inner located swingarm bracket

A steel pipe with a square section has been adopted for the swingarm, providing superior rigidity balance. A structure has been used where the bracket that supports this rear arm is located inside the swingarm, helping make the body design slimmer.

41mm inner tube adopted for front forks

A conventional type front suspension has been adopted with 41mm inner tubes. The handlebar crown that supports this is made from die-cast aluminum, and a forged steel part is used for the under bracket, providing superior cushioning performance and a good feeling with the ground around the front wheel.

The rear suspension is lightweight and contributes to the centralisation of mass, and a mono-cross suspension has been adopted to provide wheel travel higher than the shock unit stroke. Superior road hugging performance has been achieved with optimum design damping force valves and oil channels.

Lightweight 520 chain with a minimum of friction loss

A 520 chain has been adopted for the drive chain. It features a minimum of friction loss, and a reduction in the drag load provides good transmission of power. The sprocket specifications have been optimised to match the chain. In addition, the rear axle has a smaller diameter of 17mm, reducing overall weight.

Front/rear brakes provide superior feeling of control

The front brakes have lightweight design 45mm thick and 298mm diameter double discs. Hoses with an optimised coefficient of expansion have been adopted for this model, enhancing operating ease when initially braking.

The rear brake uses a 245mm disc, and the relationship between the pedal lever ratio and return spring force constant has been optimised, helping to generate braking force that is in proportion to the amount the pedal is depressed. Furthermore, the pads are semi-metal type, and the



Rider friendly features include radial tyres, easy to use brakes, slim profile swingarm and light cast alloy wheels

material has been re-examined in order to make the brakes easier to use.

Radial tyres adopted on front and rear

The front radial tyre is a 120/70R 17inch and the rear radial tyre is a 160/16R 17inch.

New cast wheels adopted

Newly designed cast wheels have been adopted where the balance of specific strength and rigidity have been optimised. While they centralise the mass by means of a lightweight design, they also optimise the gyro moment around the front of the bike, and contribute to agile handling.

Cutting edge style

FZ6R body styling is an expression of the design goal of creating a leisure sports model with brisk performance and easy handling. There were three key phrases that were kept in mind in creating the styling and sculptured design. These were responsiveness, every day usability and timeless value.

In addition to working to embody the above concepts, two points were established in order to provide the FZ6R with a distinct type of appeal. 1) The visualisation of a newly designed frame and 2) Creating a new form balance by locating the rear arm bracket on the inside. All of these elements are realised three dimensionally.

In addition to providing excitement for the rider, this bike is designed for virtually any situation, without being limited by region or culture, season or weather, or by the road environment or other elements. It has a brand of styling that cuts a brisk and refreshing image wherever it goes.

Other features

- New meter panel (provided with digital display speedometer, analog tachometer, odometer/tripmeter, fuel gauge, water coolant and air temperature gauges)
- Superior shine of exterior coating prevents scratches from standing out. (front fender, side covers, etc.)
- Aluminium foot rest bracket
- U-shaped lockable storage compartment beneath seat. For U-lock up to 300 mm in length.



Bars can be adjusted 20mm by spinning top clamp around. Neat dash features all info including fuel gauge and water/air temps

- Adjustable handlebar position adopted (Centre of handlebar holder is offset by 10mm to the front/rear, so the position can be changed by 20mm by rotating it 180°)

FZ6R model overview

- Easy-handling, dynamic and stylish new middleweight
- Rider-friendly linear power characteristics
- Slim and lightweight handling feel
- Ideal balance of controllability and performance
- Sports based 600cc engine
- Plenty of low to mid-range torque
- Compact and attractive chassis
- Contemporary bodywork design give cool, light and agile roadster look
- Outstanding levels of fun, enjoyment and performance
- Full weather cheating fairing

Engine technical highlights

- 600cc liquid-cooled inline 4-cylinder 4-valve DOHC
- Newly-developed high-compression cylinder head
- Slimmer inlet ports
- Cam profile designed for strong and linear low to mid-range torque
- One-piece cylinder and upper crankcase for good rigidity
- Bore x stroke 65.5 mm x 44.5 mm
- Lightweight forged aluminium pistons
- Four-hole two-direction fuel injection system
- 4-2-1 exhaust with midship muffler located beneath chassis
- 3-way catalyser and exhaust O₂ sensor
- New inner-push type clutch for easy action
- Redesigned shift mechanism for smooth and easy gear changing

Chassis technical highlights

- Newly-designed high-tensile steel diamond-type frame
- Idealised balance of lateral rigidity for strong cornering performance
- 1440mm wheelbase
- Easy-handling caster angle of 26 degrees and 103.5mm trail
- Hexagonal slimline fuel tank with comfortable knee-grip area
- New slimline swingarm with inner bracket design
- 41mm diameter conventional front forks
- Monocross rear suspension
- 17.3 litre fuel tank capacity
- Low 785 mm seat height
- Lightweight 298 mm front discs and 245 mm rear disc, thickness 4.5mm
- 120/70-ZR17 front tyre and 160/60-ZR17 rear tyre
- Lightweight, low-drag 520 chain
- Newly-designed lightweight cast wheels
- Timeless new styling emphasises concentration of mass

- New multi-function instrumentation
- Adjustable handlebar position

Available colours

Pearl White/Rapid Red
Raven

Accessories

Yamaha will offer a range of accessories created specifically for the FZ6R, and the line-up is available from authorised Yamaha dealers. The accessory range includes:

Aluminium rear carrier
Centre stand
Engine guard
City tank bag
Roller protectors
Tank pad
46-litre top case
Inner bag for top case
Back rest for top case

Yamaha FZ6R Specifications

Engine

Engine type	Liquid-cooled, 4-stroke, forward-inclined parallel 4-cylinder, 4-valves, DOHC
Displacement	600 cc
Bore x stroke	65.5 x 44.5 mm
Compression ratio	12.2 : 1
Lubrication	Wet sump
Fuel System	Fuel injection
Clutch type	Wet, multiple-disc
Ignition system	TCI
Starter system	Electric
Transmission	Constant mesh, 6-speed
Final transmission	Chain
Fuel tank capacity	17.0 L
Oil tank capacity	3.4 L

Chassis

Chassis:	Steel, diamond shaped
Front suspension	Telescopic fork
Front travel	130 mm
Rear suspension	Swingarm (monocross)
Rear travel	130 mm
Caster angle	26°
Trail	103.5 mm
Front brake	Dual discs, Ø 298 mm

Rear brake	Single disc, Ø 245 mm
Front tyre	120/70 ZR17M/C (58W) (tube less)
Rear tyre	160/60 ZR17M/C (69W) (tube less)

Dimensions

Length	2120 mm
Width	770 mm
Height	1185 mm
Seat height	785 mm
Wheel base	1440 mm
Min grnd clr	140 mm
Wet weight	213kg with 17 litres of fuel

Other

Warranty	24 months, unlimited kms parts and labour
Colours	Pearl White/Rapid Red or Raven
RRP (inc GST)	\$11,290
More info	www.yamaha-motor.com.au



Raven colour option shares the gold anodised wheels of its Pearl White/Rapid Red brother