## **DUCATI SUPERBIKE**

The Superbike family for 2008 features two important changes: the introduction of a mid-engine size version, **the light and nimble 848**, and an extreme 'racing' version for all those who demand the maximum performance, the **1098 R** version that will take part in the 2008 World Superbike Championship.

The priority in every step of the new Ducati Superbike development has been performance first. Every system, every detail and every component has been studied, pared down to its essence and performance increased to the maximum. If it didn't make our Superbike lighter, faster or deliver quicker lap times, it wasn't considered. The 848 and 1098 are the lightest, fastest stopping, quickest lapping Ducati Superbikes in history. For the first time Ducati MotoGP and World Superbike technology have been combined to create premier sport bikes. The results are stunning.

The look and stance of the 848 and 1098 were designed by the combination of race track technology, track-derived components and Ducati heritage. Their striking aerodynamic shape naturally embraces a riding position, configured by our racers and test riders for optimum speed and agility. The racing spirit takes form.

The new Ducati Superbikes immediately strike you with their purposeful, no-nonsense attitude. Performance is first and foremost in every detail.

Trademark Ducati features like the high tail section and compact front-end meld with twin underseat silencers and single-sided swingarm to express aerodynamics and agility. Add the new Testastretta Evoluzione engine at the heart of the machines and you get all-out performance Ducati Superbikes that seem to be moving fast, even when at rest.

A number of 'firsts' for Ducati and production sport bike design have been introduced. The 848 and 1098 are the first to have a data acquisition system integrated as standard equipment and the first to use an ingenious construction method for their weight-saving single-sided swingarm. More 'firsts' for a road-going Ducati include the direct application of MotoGP technology, like the power producing GP6-derived elliptical throttle bodies and the use of the information-rich instrumentation originally developed for the Desmosedici GP7. Furthermore, the 1098 is the first production motorcycle to have the amazing stopping power of Brembo Monobloc brakes.

## **DUCATI 848**

## As agile and light as a Supersport, as powerful as a Superbike

The new 848 enjoys all the performance advancements of the entire Superbike family, while adding its own innovations to redefine the middleweight sport bike class.

The words 'agile' and 'refined' aptly describe the 848. At 168kg (369lbs) the 848 is an amazing 20kg (44lbs) lighter than its predecessor, and a significant 5kg (11lbs) lighter than its larger capacity brother, the 1098.

The highly advanced 848 engine uses an improved method of engine case production in which cases are vacuum die-cast formed. While providing significant weight savings of more than 3kg (6.5lbs), this method also ensures consistent wall thickness and increased strength. Further refinements include a sophisticated wet clutch that offers 1kg (2.2lbs) less weight, a much higher service life, improved clutch feel and quiet operation.

With the first twist of the wrist, the powerful rush of the Testastretta Evoluzione engine confirms that the rules have changed. The 848's 134hp is not only 30% more powerful than its predecessor, but it provides a power-to-weight ratio even better than the potent 999.

The new 848 Testastretta Evoluzione engine becomes the benchmark for the middleweight sportsbike category, benefitting from all the experience accumulated with the larger engine on the 1098. It successfully adopts the same design guidelines and the same compact cylinder and cylinder head layout, but introduces for the first time ever an innovative solution for the crankcase, which has been designed with a further weight reduction for this advanced engine in mind. The overall layout of this engine integrates a series of avant-guard solutions, confirming the close links with the experience of Ducati's racing department.

The 849cc engine has bore and stroke values of 94mm and 61.2mm respectively, which produce a ratio that is only slightly inferior to the 1098 (1.54 compared with 1.61), while maintaining the highly 'over-square' layout typical of racing engines.

Power output is an impressive 134hp (98.5kW) at 10,000 rpm and maximum torque is 9.8kgm (96Nm) at 8250 rpm. The power and torque values confirm the high performance level of this engine, especially when compared to its predecessor, the Testastretta-engined 749.

The cylinder head has been modified in line with the characteristic bore and stroke of the engine in order to optimize the fluid dynamics of the intake (straight and plunging) and exhaust ducts and combustion chamber. The compression ratio is 12:1.

The valve angle is the same as the 1098 engine and diameter is 39.5mm for the inlet valve and 32mm for the exhaust. The technology used sees the application of a bi-metallic alloy that combines increased lightness with resistance and reliability required for these particular components. The desmodromic control system has also been designed with the weight and the inertia of the new components in mind, allowing extremely efficient valve lift during intake and exhaust phases. The excellent results achieved are confirmed by the engine's power figures, producing outstanding performance thanks also to the use of MotoGP-derived elliptical throttle bodies, which have been fitted to the 1098 engine.

The design of a dedicated elliptical throttle body for the 848 demonstrates the attention that Borgo Panigale engineers have devoted to the development of the Superbike range. The cross-section is reduced from the 60 sq. mm of the 1098 to 56 sq. mm so as to optimize fluid dynamics at every engine speed.

Just like on the 1098, the new cylinder heads benefit from fewer components and include magnesium covers.

For the first time ever, this Testastretta Evoluzione engine sees the introduction of a special technology for the construction of the engine crankcase: Vacural® casting. This is a forced vacuum die casting method that allows jet characteristics to be improved thanks to the absence of porosity, gas inclusion and oxidation. This allows extremely high measurement precision and greater ductility for aluminium alloy. Designers have been able to harness the benefits of this innovative process by redefining the shape and the wall thickness of the new crankcase by means of FEA (Finite Element Analysis) checks, which allowed the required reliability standards to be achieved, while simultaneously obtaining a significant weight saving of 3.5kg.

The 848 engine is fitted with a silent modular wet clutch, characterized by an exceptional resistance to wear that will lead to superior duration. This solution makes a useful contribution to weight saving, estimated to be around 1.6kg, which is also due to the use of a different type of clutch cover.

The high power figures achieved by this engine also come from the use of the same type of oil cooler and coolant radiator as the 1098's engine, with an increased surface area assisted by lightweight, high flow electric fan assemblies.

Finally, the 848's exhaust system follows the same layout and uses the same innovative technology as the 1098. The system terminates with Ducati's trademark twin under-seat silencers,

delivering the unmistakable signature sound of the big bore 90° L-Twin.

This power unit, just like all the other Ducati engines, has been designed to comply with Euro 3 exhaust emission norms.

## **Chassis**

#### **Trellis frame**

Developed in cooperation with Ducati Corse, the 848 Trellis frame has a simplified tube layout featuring main section tubes increased in diameter from 28mm to 34mm, while being reduced in thickness from 2mm to 1.5mm. The result is a 14% increase in rigidity and a weight saving of 1.5kg (3.3lbs).

#### Single-sided swingarm

The 848, as all the Superbike family, is equipped with a unique single-sided swingarm. The engineers were encouraged to re-think the construction technique of this element. The solution was to produce the main operational components using individual aluminium castings so as to ensure strength around the pivot points, wheel hub and suspension links, with fabricated aluminium sections used to complete the construction into a single, beautifully engineered component.

### Rear suspension

Highlighting the way in which individual components are influenced by each other, the new lightweight Trellis frame and single-sided swingarm have enabled a more compact and further weight-saving rear suspension linkage system to be used featuring separate lower pick-up points for the push-rod and suspension unit. This 'tandem' design effectively reduces stress around the linkage pick-up area of the Trellis frame. Working together with this highly efficient linkage is a fully adjustable Showa single shock for the 848, the same as the 1098.

### **Front suspension**

At the front the new 848 is equipped with fully adjustable 43mm Showa forks with radial mounts. This type of front suspension is professionally track-tuned and offers superior road holding, delivers superior feedback, and helps every rider to be more confident and in control.

## Control

#### **Brembo Monobloc calipers**

The 848 brake system is characterized by M4 calipers using four 32mm pistons and two radial mounted pads. Matched to the calipers are two 320mm discs and the combination of these elements achieves spectacular braking power.

#### Super lightweight wheels

The new 848 also benefits from lightweight Marchesini Y-shaped spoke wheels. The weight saving of 250gr achieved on the front wheel substantially reduces the moment of inertia and enhances the 848's change of direction and braking performance. The rear wheel is just as impressive with a complete redesign for its single-sided swingarm application that has resulted in a reduction of over 1kg compared with traditional Ducati single-sided swingarm fitments. Finally a 5.50" wheel fitted with a 180/55 tyre guarantees the maximum agility at the rear.

## **DUCATI 1098 R**

The lightest and most powerful twin-cylinder bike of all time. Traction control fitted as standard for maximum track performance.

The new 1098 R is the most powerful and lightest twin-cylinder bike ever produced by the Borgo Panigale factory, with the highest torque/weight ratio in the sportbike category.

It is the jewel in the crown of the successful Superbike family and it represents the ultimate expression of racing technology applied to a production bike.

Ducati Corse engineers and riders worked in close contact with the R&D division during the development of this project to produce a true racing bike, a masterpiece of incredible performance and innovation.

The numbers speak for themselves. A total of 180hp is on tap for this new hypersport machine, together with an amazing torque value of 13.7 kgm.

The weight figure also confirms the racing origins of the 1098 R: 165kg puts the bike at the forefront of this category.

The 1098 R is supplied with a **racing kit** for track use. This is made up of a pair of "102dB" carbon mufflers and a dedicated ECU, which boost the already exceptional performance of this new twincylinder Ducati.

With this kit the rider can also activate dialog between the ECU and the **DTC** (**Ducati Traction Control**) system, which **is fitted to a production bike for the first time ever.** 

This **extraordinary electronic system**, developed and perfected in conjunction with Ducati Corse, controls rear wheel spinning and as a result allows the rider to manage the incredible torque of the new Testestretta Evoluzione engine, in particular when cornering and in exiting corners.

The way DTC operates is regulated by the rider, who can simply select one of eight different profiles on the instrumentation display depending on different tarmac conditions and rider ability.

Once again Ducati has raised the bar for the hypersport bike category by transferring its MotoGP race technology experience to a road bike.

#### The new engine

The development of the Testastretta Evoluzione has now found its crowning glory in the new engine for the latest addition to the Ducati family: the 1098 R.

Created after close collaboration between engineers from Ducati's production and racing departments, this new engine is fitted with the same components powering the 1098 F08 that will take on the Japanese opposition in the 2008 World Superbike Championship.

The R version of the 1098 has been boosted to an engine displacement of 1198cc. A bore increase from 104mm to 106mm and a stroke value of 67.9mm, producing a remarkable 1.56 ratio, complete the 'over-square' layout of the engine.

The power output of 180hp (132.4 kW) at 9750 rpm and a torque value of 13.7 kgm (134Nm) at 7750 rpm place the 1098 R at the very top of its category. It is the most powerful twin-cylinder production engine in history and fitting reward to the continued ingenuity of Borgo Panigale engineers.

Like the 1098, the 'R' engine again presents the revolutionary layout of compact cylinders and cylinder heads. Whether external or internal, every new development has been conceived to create a lighter, more efficient, more powerful and ultra-compact engine. The cylinder heads and

crankcase are in aluminium and have been sand cast to guarantee high resistance and at the same time reduce the weight of the finished component.

As a result of the excellent fluid dynamics of the 1098, in the new 1098 R engine the angle between intake and exhaust valves has been retained. This allows highly efficient, straight intake ducts and newly shaped combustion chambers that can contain sizeable valves (44.3mm inlet, 36.2mm exhaust) normally only found in powerful racing engines. The compression ratio achieved in this new layout is 12.8:1.

The intake and exhaust valves have been redesigned and are now both in titanium, controlled by high-grade steel lash caps and retainers and titanium keepers. In this way it has been possible to guarantee the required resistance and inertia levels, making the most of the control precision of the Ducati desmodromic system. The camshafts are the same as the ones used in the Superbike engine and have the same valve lift. The rockers are also the same, and are produced in a special case-hardened steel alloy, with a super-finished surface. This treatment allows wear to be reduced to a minimum and system performance to be improved at higher revs.

As on the 1098, the head covers are in magnesium and are die cast so as to ensure maximum wall thickness precision and minimum weight.

The large-bore pistons have undergone considerable analysis and simulation to ensure the correct stiffness, resistance, blow-by control and oil consumption. The undercrown has been suitably strengthened with a double rib so as to resist the strong flow of gas loads and the inertia during operation. Considerable weight saving comes from the use of titanium conrods, 130gr lighter than those in the 1098 version. The big-end and the small-end of the conrod are specially treated to guarantee maximum wear resistance.

The gearbox has also been redesigned: with respect to the 1098 engine, the gears have a different ratio for the sixth and are produced in higher-strength steel. Component reliability is further increased by the application of a controlled shot-peening process on the teeth.

The ultra-reliable slipper clutch design again limits engine braking transmission towards the rear wheel, thus improving the stability of the bike under heavy braking.

As on the 1098, the throttle bodies are elliptically shaped and MotoGP-derived. With a 30% increase in air flow over conventional throttle bodies, the new shape makes a notable contribution to the record-breaking performance of this motor.

The extreme performance of the Testastretta Evoluzione engine meant that modifications had to be made to the intake system: above all the cross-section of the elliptical throttle bodies has been increased from the 1098's 60 sq. mm to 63.9 sq. mm; also, to guarantee sufficient fuel flow, it was necessary to use two injectors for each cylinder above the throttle body: a four-hole central injector and a twelve-hole side injector, which provide a greater fuel flow at maximum power.

Carbon belt covers complete the fittings of this new top-of-the-range Testastretta Evoluzione engine. Total weight saving from the 1098 is 3.5kg, a figure that is even more astounding when compared to its predecessor, the 999R engine, a reduction of 6.5kg.

Finally the exhaust system of the 1098 R is even lighter than the one on the 1098, with which it shares a symmetrical 2-1-2 layout that uses 52mm-57mm diameter tubing with wall thickness reduced by 30% to 0.8mm.

The system terminates with Ducati's trademark under-seat silencers in steel and titanium, which deliver that unmistakable big-bore 90° L-Twin sound.

This unit, just like all the other Ducati engines, fully complies with Euro 3 exhaust emission norms.

## Chassis

#### **Trellis frame**

This component has received the same detailed study and 'performance first' priority approach as the 1098. The goal was to achieve considerable weight saving while building-in strength and rigidity to manage the new high-powered Testastretta Evoluzione engine. Each and every component not only contributes to achieving superior road holding and stability, but when assembled, become a system with value far greater than the sum of all its parts. In addition several modifications were required to allow it to be used on the racing bike in next year's World Superbike Championship in view of the new, more restrictive regulations that will enter into force in 2007. The result is an extremely high strength/weight ratio, which is fundamental for racing activity.

### Single-sided swingarm

For the 1098 R the single-sided aluminium swingarm, which equips the entire Superbike family, is painted black in order to underline the racing spirit of the bike.

### **Rear Suspension**

The most significant innovation in the 1098 R's rear suspension is the **exclusive Ohlins TTX**<sup>R</sup> **single shock**, produced with technology directly derived from Ohlins's experience in MotoGP, and which is used for the first time on a Ducati production bike.

This exclusive shock gives top-line performance during track use, coupled with comfort and safety in everyday road riding, and it also allows a considerable weight saving over components produced with traditional technology.

In addition to a wide range of adjustments possible with the new Ohlins TTX<sup>R</sup>, the rider can also alter **the rear ride height of the bike**, making it easier to find the ideal set-up for all riding conditions

#### **Front Suspension**

At the front the new 1098 R boasts the fully adjustable 43mm Öhlins forks, which sport low friction Titanium Nitride fork sliders and respond effortlessly to every imperfection in the tarmac. Beyond their advanced engineering solutions, one of the most important characteristics of Öhlins forks is their ability to communicate the condition and quality of the tyre-to-road contact patch, a feature that puts every rider in superior control.

The Öhlins package is completed with a control-enhancing fully-adjustable steering damper.

### Control

#### **Brembo Monobloc calipers**

The 1098 R is also equipped with the **Brembo's Monobloc caliper** racing technology. The M4 caliper uses four 34mm pistons and two large surface pads for maximum stopping power. Calipers are machined from a single piece of alloy, vs. the bolt-together construction of conventional calipers. The Monobloc design has much higher rigidity and resistance to distortion during extreme braking, and therefore gives a much more precise feel at the brake lever. The **big 330mm discs**, when matched to the Monobloc calipers, achieve spectacular braking power. Despite the larger diameter, their weight has not increased due to the use of racing-style narrow braking surfaces. The use of Monobloc technology combined with the legendary stability of Ducati's Trellis frame and the 1098 R's overall weight savings has made world championship level brake performance.

### Super lightweight wheels

As for the 1098 S, the "R" version addresses this important area by mounting Marchesini forged and machined wheels, reducing weight by 1.9kg (4lbs). Both front and rear are super lightweight and their benefit is immediately apparent. The weight saving is further enhanced with the application of a carbon fibre front fender. The Racing gold scheme colour of the rims denotes the extreme racing status.

### Fairing and finish

The 1098 R and its 'sister' racing version have exactly the same profile as the 1098. Wind-tunnel development has enabled an excellent aerodynamic penetration to be obtained, which allows the rider to effortlessly take up a perfect racing stance. A number of fairing components are made in carbon fibre, highlighting once again the racing spirit of this powerful new twin-cylinder Ducati bike. The best example of this is the magnificent single-seat tail fairing showing off all the attention to detail with which Borgo Panigale engineers and technicians have applied themselves to the project.

The new 1098 R stands out from the crowd for its 'extreme' look: note the number plate blisters on the front and tail fairings, the gold wheels rims and black anodized aluminium components, exactly like the F08 version that will race in Superbike.

## **DUCATI 1098 - 1098S**

#### **Designed by the racetrack**

The look and stance of the 1098 were designed by the combination of race track technology, track-derived components and Ducati heritage.

Carefully designed not only for aerodynamic efficiency but also to hug the sleek lines of the chassis, the 1098 enables the rider to blend effortlessly into the race-oriented riding position. The racing spirit takes form. Thanks to the forward thinking design and changeability of most components, the 1098 can quickly be transformed into a real race bike.

The 1098 is the first production motorcycle to have the amazing stopping power of Brembo Monobloc brakes, the first to have a data acquisition system integrated as standard equipment and the first to use an ingenious construction method for its weight-saving single-sided swingarm. More 'firsts' for a road-going Ducati include the direct application of MotoGP technology, like the power producing GP6-derived elliptical throttle bodies and the use of the information-rich instrumentation originally developed for the new Desmosedici GP7.

The 1098 has the soul of a race bike, pure and simple. The huge 104mm bore and all-new cylinder head design unite to produce an awesome 160hp and an arm-wrenching 90+ lb-ft of torque. Developed together with Ducati Corse, the 1098 is a masterpiece of incredible performance and innovation.

#### **Power**

### The Testastretta Evoluzione engine

The Testastretta Evoluzione engine is the crowning glory of Ducati's development and perfection of the L-Twin engine. World Superbike dominance for the last 15 years is the result of continual commitment to twin-cylinder technology and the 1098 Testastretta Evoluzione, one of the most

powerful twin-cylinder production engines in history, is a fitting reward to our engineers' continued ingenuity.

The 1098 engine is immediately recognisable by its completely new compact cylinders and cylinder heads. Other 1098 innovations and revisions are less obvious as they reside inside the Evoluzione's engine cases, but whether external or internal, every new development was conceived to create a lighter, more efficient, more powerful and ultra-compact engine for the new generation of Ducati Superbikes.

The 1098 capacity is a result of a significant increase in the bore and stroke of the Evoluzione motor. Highly 'over-square', it now sports a big 104mm bore and a relatively short 64.7mm stroke. To optimise the benefits of the new, big Ducati Twin, the cylinder heads have been completely redesigned and, when combined with advanced MotoGP induction technology, enable even the standard specification 1098 to produce more power than the previous extreme Testastretta 'R' engine.

The Evoluzione features a reduction in the angle between intake and exhaust valves allowing highly efficient, straight intake ducts and newly shaped combustion chambers that contain racing size 'R' valves (42mm inlet, 34mm exhaust), operated by radical 'R' derived camshafts. The new cylinder heads also benefit from fewer components and include magnesium covers to achieve a staggering weight-saving of over 3kg (6.5+lbs).

After optimising the Evoluzione cylinder heads, engineers then focussed upon releasing the potential of the new design by feeding them with MotoGP-derived elliptical throttle bodies. With a 30% increase in air flow over conventional throttle bodies, the new elliptical shape contributes an incredible 5hp increase to the record-breaking motor.

The Testastretta Evoluzione is the lightest Ducati Superbike engine ever, thanks to close scrutiny of every engine component. A total of 5kg (11.1lbs) has been saved by reducing the weight of many components, including transmission gears and the gear selector drum as well as the oil pump and primary gears.

The Testastretta Evoluzione's increase in power is protected by a highly efficient oil cooler with increased surface area and an advanced coolant radiator assisted by lightweight, high flow electric fan assemblies. The compact and intricate design of the cooling system integrates perfectly with the 1098's wind-cheating aerodynamics and sleek lines.

Finally, the 1098 is complemented by an all-new exhaust system. Significantly lighter, it has been engineered with a power-increasing symmetrical 2-1-2 layout that uses 52mm-57mm diameter tubing with wall thickness reduced by 30% to 0.8mm (.030in). The system terminates with Ducati's trademark twin under-seat silencers, delivering that unmistakable signature sound of the big bore 90° L-Twin.

#### Chassis

The 1098's chassis and suspension have received the same detailed study and 'performance-first' priority approach. The goal was to achieve considerable weight saving while building in strength and rigidity to manage the new high-powered Testastretta Evoluzione engine. Each and every component not only contributes to achieving superior road holding and stability, but when assembled, become a system with a value far greater than the sum of all its parts.

Highlighting the way in which individual components are influenced by each other, the new lightweight Trellis frame and single-sided swingarm have enabled a more compact and further weight-saving rear suspension linkage system to be used featuring separate lower pick-up points for the push-rod and suspension unit. This 'tandem' design effectively reduces stress around the linkage pick-up area of the Trellis frame. Working together with this highly efficient linkage is a **fully** 

adjustable Showa single shock for the 1098 and an incredible Öhlins shock for the 1098 S. A vitally important feature of the 1098's rear suspension system is the ability to adjust rear ride height independent of spring pre-load and other suspension settings, critical when seeking the perfect set-up for personal riding style or track conditions.

The fully adjustable 43mm Showa forks with special low friction Titanium Oxide-treated sliders on the 1098, and spectacular 43mm Öhlins with low friction Titanium Nitride sliders on the 1098 S, both feature radial Monobloc caliper mountings. The unique look of these mountings further underlines the no-compromise racing specification of the 1098. Both front suspension solutions are professionally track-tuned and offer superior road holding, deliver superior feedback, and help every rider to be more confident and in control. That control is further enhanced with the use of a Sachs steering damper for the 1098 and for the S version the Öhlins package is completed with a control-enhancing fully-adjustable steering damper.

Both the 1098 and the 1098 S use Brembo's Monobloc caliper racing technology. The M4.34 caliper uses four 34mm pistons and two large surface pads for maximum stopping power. Calipers are machined from a single piece of alloy, vs. the bolt-together construction of conventional calipers. The Monobloc design has much higher rigidity and resistance to distortion during extreme braking, and therefore gives a much more precise feel at the brake lever. The 1098 also introduces for the first time on a Ducati, big 330mm discs which, when matched to the Monobloc calipers, achieve spectacular braking power. Despite the larger diameter, their weight has not increased due to the use of racing-style narrow braking surfaces. The use of Monobloc technology combined with the legendary stability of Ducati's Trellis frame and the 1098's overall weight savings has made world championship level brake performance available for the road.

The weight saving of 250gr achieved on the front wheel substantially reduces the moment of inertia and enhances the 1098's change of direction and braking performance. The rear wheel is just as impressive with a complete redesign for its single-sided swingarm application that has resulted in a reduction of over 1kg compared with traditional Ducati single-sided swingarm fitments. Both the 1098 and 1098 S benefit from the lightweight Marchesini Y-shaped spoke wheels, but the 'S' goes even further by using machine finished forged-aluminium, a special process normally reserved for the production of race wheels. Another first for Ducati is the mounting of 190/55 rear tyres, our widest ever, and the new standard for traction and control.

# **Superbike Electronics**

Desmosedici-style digital instrumentation is taken from Ducati's MotoGP GP7 project. This pure racing, minimalist solution has no switches or buttons to compromise its clean lines. Instead, information additional to the default read-outs is managed by handlebar-mounted switch gear, allowing the rider to scroll through and select from various menus. The default read-out presents rpm and speed, with the former displayed across the screen in a progressive bar graph. Optionally, the rpm and speed can be displayed in numeric values. The instrument display also doubles as a control panel for the activation of the data acquisition system as well as listing lap times recorded by using the high-beam flash button as a stopwatch.

With the purchase of the Ducati Data Analyser (DDA), which includes PC software, a USB-ready data retrieval card and instructions, owners are ready to review and analyse the performance of the 1098 and its rider, and make comparisons between various channels of information. The DDA is available from Ducati Accessories, and is supplied as standard equipment on the 1098 S and on the new 1098 R.

Normally used on race bikes only, the system records numerous channels of data including throttle opening, vehicle speed, engine rpm, engine temperature, distance travelled, laps and lap times. The system also automatically calculates engine rpm and vehicle speed data so as to also display gear selection as an additional channel of information. At the end of a ride or track session, up to 2mb (approximately 3.5 hours) of data can be downloaded to your PC ready to compare, analyse

and get an inside view of you and your 1098's performance.

Data can be analysed in graphic form with options to zoom into detail of specific sections. Dragging a trace along a timeline to reveal individual values of the above listed channels enables the user to analyse performance in the same way that data technicians are able to do in factory teams.

## **COLOUR SCHEMES**

	Fairing	Frame	Wheels
848	Red	Red	Black
	Pearl white	Racing Grey	Black
1098	Red	Red	Black
	Yellow	Racing Grey	Black
1098 S	Red	Red	Black
	Black	Red	Black
1098 R	Red	Red	Racing Gold