

CBR1000RR Fireblade

2008 Press Information



Introduction

Sharper looks, stronger performance and astoundingly responsive control. From its compact new proportions to its breathtaking response to every rider input, everything about the new 2008 CBR1000RR Fireblade stakes out a new standard in motorcycle performance and design aesthetics that will stand as a milestone in the history of litre-class Super Sports development, much as the original CBR900RR did when it fired the first shot in the high-performance revolution sixteen years ago. A winner both on the street and on the track, the CBR900RR FireBlade set a blazing standard for big bike performance for an entire generation to come.

The hallmarks of Fireblade development have always been stronger, more manageable performance coupled with lighter weight in the pursuit of Total Control. Each succeeding generation of the popular CBR has seen it dominate its class with an unexcelled combination of race-bred technologies and easy, effortless control that inspires confidence and exhilaration in all who ride it, whether one's interests lie in strafing curvaceous back roads or dragging knees at the most thrilling levels of road racing competition.

With such advanced features as its mass-centralised fuel tank, Unit-Pro-Link rear suspension, radial-mount front disc brakes and revolutionary Honda Electronic Steering Damper handed down from Honda's famed RC211V MotoGP champion, it should come as no surprise that the CBR1000RR Fireblade has also been a strong contender in World and AMA Superbike racing since its 2004 debut, culminating in the HANNspree Ten Kate Honda CBR1000RR capturing the 2007 World Superbike Championship crown in the capable young hands of veteran rider James Toseland.

Representing the next innovative leap in this proud tradition, the new 2008 CBR1000RR Fireblade features an even more compact, mid-displacement-sized form, phenomenally lighter weight in the design and manufacture of its frame, engine and chassis components, and innovative performance-enhancing developments like a new underslung exhaust system and new 'assist slipper' clutch that make it faster than ever, easier and more comfortable to extend one's riding capabilities on the street, and more of a dominating form on race circuits the world over.



Fireblade History

The 1992 debut of the history-making CBR900RR Fireblade completely rewrote the book of Super Sports motorcycle design with a remarkably compact and lightweight configuration. Based on its 'Less Is More' concept, the Fireblade achieved a breathtaking blast of litre-class performance from a 900cc inline-4 engine shoehorned into a highly advanced 600cc-class chassis. With its compact proportions, lithe, responsive handling and unprecedented power-to-weight ratio, the Fireblade embodied the origin of the modern Super Sports motorcycle, and sparked the expansion of the current litre-class Super Sports category.

Over the years, the Fireblade received a series of evolutionary improvements that saw sometimes quite radical changes, though always based on its two guiding development themes of 'Light Makes Right' and 'Total Control.' Engine displacement also saw small, incremental increases, but in the desire to keep the engine's external profile as slim as possible, there was no pressing need to boost its size up into the litre range.

In racing competition around the world, privateer teams and club racers quickly recognised the 'Blade's competitive potential, and over the years have won an enviable collection of winner's trophies ranging from box-stock club racing events to such prestigious venues as the Isle of Man T.T., the Suzuka 8-Hour and Le Mans.

Changes to Superbike racing rules for the 2004 season spurred the desire of expanding the Fireblade's racing capabilities to the world stage, and a new goal was set for its continuing development: to create a new base machine for litre-class racing that could be used to successfully compete in everything from local box-stock races to the big Superbike circus. That machine debuted as the CBR1000RR Fireblade.

Over the ensuing four years since its debut, the CBR1000RR Fireblade has won praise for providing instantly competitive performance coupled with easy riding manners that boost riding skills and confidence. It also embodied the racing potential to not only compete at the top levels of World Superbike competition, but also capture the Championship crown, as it proudly demonstrated in the 2007 racing season together with rider James Toseland and the HANNSpree Ten Kate Honda team.

As this next generation of the Fireblade reclaims its rightful place at the pinnacle of the litre Super Sports class, the future of CBR-RR performance shines brighter than ever.



Development Concept

True to the spirit of Honda Racing development, the new 2008 CBR1000RR Fireblade achieves its phenomenal leap in performance with a single-minded dedication to the tried and true fundamentals of lighter weight, greater efficiency and minimised resistance in its every facet. Every critical component in its chassis, engine and drivetrain was rethought, redesigned and recreated to achieve not only lighter weight, but along with it important gains in structural strength and operating efficiency as new techniques were developed to make each critical part the best it could be.

For this impressive new generation of the Fireblade, development was carried out not only in Japan, but around the world, with an international team who focused their efforts on lightening, simplifying and reshaping in order to rediscover the true essential qualities of Japanese craftsmanship. The dedicated members of this team also set out to redefine the soul of cutting-edge Super Sports motorcycle performance. Particularly as it applies to both the needs of the racetrack circuit and the deepest desires of a wide range of sportsbike riders on the constant lookout for the fastest, most instinctively responsive riding machine they can own. One that seems to easily adapt and mould itself to fit each rider's unique riding style, building skills and confidence along the way.

Remarkably, instead of starting at the most logical points of the race track or the high-tech design studio, this close-knit team first paid a visit to the ancient capital of Kyoto to breath in the traditions of craftsmanship and culture that have defined the essence of Japan and its artisans' spirit for centuries. Experiencing first-hand the temples and gardens, and the attention to detail revealed in each hand-made object, very often with almost imperceptible subtlety, whether in the curves of a common teacup or the swirling filigree seen in the reflection of a finely honed blade, the design team gained a deeper insight and appreciation for the inherent Japanese sense of detail and spirit that is often overlooked at first glance. The clearest representation of this spirit manifested itself in the Samurai sword, a blade of apparent overall simplicity, shorn of unnecessary ornamentation yet of such singular purpose and refinement that it has become a source of revered inspiration for generations.



Main Features

This spirit of simplicity and excellence is imbued in all the Japanese arts, and in such unique martial arts as kendo ('The Way of the Sword'), with its compact and fluid economy of movement and its simple staff. So inspired, the Fireblade's design team envisioned their creation to be a 'Blade for another sort of modern warrior, who strives for a similar economy of movement and draws equal inspiration from the finely crafted tools of his trade. Their years of dedication to the spirit of Japanese craftsmanship and motorcycling excellence now yield a lighter, more compact and more effectively mass-centralised form. One encompassing a new cast aluminium frame; lighter and faster-revving engine internals and a lighter, more neutral feel that quickly and easily translates into more exhilarating blasts along the winding roads that sportbike riders love best, and faster lap times that racers everywhere strive for. Class-leading new developments include a new underslung exhaust system that better centralises the Fireblade's overall mass for sharper, more responsive cornering control, and a new advance in slipper clutches called the Honda Assist Slipper Clutch that smoothes aggressive downshifts into corners while lightening clutch action for smoother and easier operation that translates into smoother and quicker cornering control for the most aggressive riders and racers.

As always, the new CBR1000RR Fireblade is packed with the latest race-tested technologies developed and tempered in the heat of MotoGP and World Superbike competition. Its remarkably compact form now even more efficiently concentrates weight and mass nearest its centre of gravity for light, effortless handling that sportbike riders of all levels of experience can more confidently enjoy. With a bloodline of race-based riding excellence reaching back to the first Fireblade, the RC30 and beyond, the new 2008 CBR1000RR Fireblade embodies all the best in the Super Sport, and aggressively reasserts its claim to the throne of the 1000cc Super Sports class.

The new CBR1000RR Fireblade's long and detailed list of new performance features includes the following highlights for the next generation of Total Control and racetrack domination.

Styling Features

- New lighter, more compact aerodynamic bodywork design.
- New, more aggressive-looking line beam headlights and cowl design.
- More compact front cowl positioned closer to the steering head.
- New rear-view mirrors with integrated indicator lights.
- Smaller, lighter and more compact seat and tail cowl.

Performance Features

- New lighter and more compact engine.
- New separate cylinder block with lighter new sleeveless cylinders.
- Lighter, larger bore forged pistons.
- Newly developed assisted slipper clutch.
- New mass-centralised underslung exhaust system.
- New lighter and slimmer 4-piece cast aluminium frame.
- New, lighter-weight gull-wing-shape hybrid aluminium swingarm.
- New monoblock radial-mount front disc brake callipers and 6-point mount floating rotors.
- New, smaller and lighter second-generation HESD steering damper.
- New lighter, more compact 7AH battery.



Styling

When it first burst onto the world stage, the all-new 2004 CBR1000RR Fireblade clearly displayed many of the styling cues and performance-oriented technological advances developed for its revolutionary racing predecessor, the World MotoGP Championship-dominating RC211V. With its sharp lines, compact form and aggressive race-ready looks, the CBR1000RR Fireblade didn't merely look the part of a world-class racer, it also delivered a class-leading blend of blistering performance and comfortably easy control that went on to win hearts and minds on both the street and the track.

For its third generation, the new 2008 CBR1000RR Fireblade takes a quantum leap in both styling and performance with a bold new look that derives its sleek beauty from a smartly engineered emphasis on performance-enhancing function over mere decorative form. An understated elegance that gives renewed expression to traditional Japanese design sensibilities, most notably the simplicity of purpose, abiding attention to detail and almost spiritual essence that can be readily seen in the carefully crafted and balanced tools of Japan's martial arts.

The eye-catching symbol defining the new Fireblade's understated elegance and simplicity of form? Look to the two newly designed Honda Wing emblems that grace the shoulders of its fuel tank cover. Drawing inspiration from traditional Japanese cloisonné motifs while providing a visual link to Honda's historic roots, these subtly stylish emblems give profound expression to the quality and craftsmanship that abound in the new CBR1000RR Fireblade.

New Lighter, More Compact Bodywork

Standing side-by-side with its predecessor, one can clearly see that the new CBR1000RR Fireblade is slimmer and more compact than its former self—and every other Super Sports bike in the litre class. Placing stronger emphasis on high-performance aerodynamics over distinctive looks—though it is still quite a looker—the new '08 Fireblade's curvaceous bodywork features a noticeably more compact, mass-centralised design that shortens and lightens its front and rear extremities in the quest for swifter, more intuitively responsive handling that surpasses any other sportbike in its displacement class.

More Compact Front Cowl

One of the first changes one notices in the CBR1000RR Fireblade is the smaller, more compact shape of its bodywork, particularly its seat and front cowl. The nose of the front cowl was greatly reduced in size and overhang, and now closely hugs the steering head area in a concerted effort to minimise inertial and aerodynamic resistance to quick changes of direction. The CBR's distinctive pair of slim-profile Line Beam multi-reflector headlights remain in place to light the way, but the front cowl's entire visage now takes on a more intensely aggressive look with its new compact form.

More effective aerodynamic design also extends to the new Fireblade's performance-enhancing ram air intake with new intake ports moulded into its front cowl. These two new forward-mounted intake ports replace the large, centrally located port that took up room between the steering head and the top of the radiator in the previous version of the CBR. Positioned to direct a steady stream of cool, dense air straight to the larger-displacement airbox positioned forward of the Fireblade's mass-centralised fuel tank, these ram air ducts are also fitted with electronically controlled valves which play a significant role in both the Fireblade's enhanced environmental compatibility and its maximised low-to-midrange performance.



Colouring Concept

Further contributing to the fairing's more compact form and reduced coefficient of drag was the elimination of its front indicators, which are now cleanly and beautifully integrated into the leading edge of the CBR's rear-view mirrors for a modern look that features a brilliant, high visibility display.

Smaller, Lighter Seat and Tail Cowl

Exhibiting obvious visual ties to Honda's second-generation MotoGP racer, the RC212V, the new Fireblade's seat and tail have been drastically shortened and lightened, and now seeming hover in the air above its fat rear tyre. This radical reduction of size and accompanying weight was made possible by the total redesign and elimination of the 'Blade's distinctive Centre-Up exhaust system, which has been compressed into a tight package that now resides directly underneath the engine for a significant contribution to the new CBR's more effectively centralised mass.

Under the Fireblade's sleek and compact new tail dangles an ultra-slim moulded resin license plate holder which also integrates the rear indicators into its clean, lightweight form, further accentuating the CBR's impressive mass-centralised form. As always, a compact and secure compartment resides under the seat cowl's locking pillion pad, providing just enough room for tool kit, gloves, paperwork and a small U-lock.

With an understated minimum of graphic lines, the new 2008 CBR1000RR Fireblade bursts onto the scene in four dramatic new colour variations that powerfully emphasise its determined racing spirit and peerless quality of construction. Leading the group is a luxuriously rich candy red on black, which exudes an uncommon sense of prestige and quality. In starkly contrasting black on white, the CBR presents a powerful image of Total Control, while a classic Honda red and black combination gives vivid expression to the Honda Racing DNA that defines its every curve. Last, in solid black the new Fireblade stakes its claim as the pre-eminent leader of the litre displacement Super Sports class.

Colours

- Graphite Black (with Candy Glory Red)
- Pearl Sunbeam White (with Graphite Black)
- Winning Red (with Graphite Black)
- Graphite Black

Engine

One of the most important keys to achieving top performance in a Super Sports motorcycle—and especially one like the Fireblade, intended for use on both street and track—is realising a stronger and more effective power-to-weight ratio. Increasing power alone only affects part of the total performance equation, as excessive vehicle weight can easily cancel out gains made in engine performance. From its first debut in 1992, the CBR900RR and CBR1000RR Fireblade's engineering teams have rigorously focused on the overall balance of this equation by developing race-winning power in concert with intensive efforts to reduce the inertial weight that keeps a motorcycle from achieving its full potential. With each succeeding generation, the Fireblade's development teams have found new ways to not only boost power output, but also radically reduce weight, resulting in impressive increases in its critical power-to-weight ratio, and by extension its overall performance. For 2008, the second generation of the CBR1000RR proves to be no exception. A complete redesign of its basic configuration realises not only stronger, more manageable power, but also lighter weight in the components that most affect the engine's pickup and acceleration.

New Separate Sleeveless Cylinder Block

In order to achieve the stronger, higher-revving power output that the Fireblade's engineering team was looking for, a larger bore and shorter stroke were called for. In order to keep engine size and weight down, this new configuration required replacement of the current model's ceramic-composite cylinder sleeves with a highly rugged new JCP (Jet-flow Circulation Plating) cylinder wall surface treatment which permitted the cylinder bores to be increased from 75 to 76mm, reducing cylinder spacing from 6mm to 5mm while maintaining the same cylinder pitch and overall cylinder width as before. Effective cylinder weight was also reduced, making a significant contribution to the new engine's overall 2.5kg weight loss compared to its predecessor.

New, More Compact Head Configuration

In line with its new sleeveless cylinder block, the Fireblade's engine also features a newly designed, more compact head that is 15mm shorter and 950g lighter in weight than its previous configuration. This was achieved by shortening the lengths of the valves by as much as 3.5mm and relocating the camshafts 4mm lower and 4.5mm closer together. New, lighter-weight thin-wall camshafts also realise a remarkable 500g savings in weight while maintaining the same levels of strength and rigidity. For further weight saving and quicker, higher-revving performance, new titanium intake valves feature high strength to match their lighter weight, as well as lighter weight nested springs that precisely close the valves with less force and minimised high-rpm float.

Lighter, Larger-Bore Forged Pistons

Featuring a 1mm larger diameter, the Fireblade's new forged aluminium pistons also remarkably maintain the same weight as the pistons they replace. Carefully redesigned to be both structurally stronger and effectively lighter, these new pistons combine with a 1.5mm shorter stroke to make an important contribution to the engine's higher revs and faster pickup and acceleration.

Newly Developed Assist Slipper Clutch

As all expert sportbike riders and racers know, racing places enormous loads on a motorcycle's drivetrain, and one of the most extreme is back torque caused by hard engine braking into corners. While engine braking through rapid downshifts is a highly effective way of more quickly reducing speed before entering a corner, under the extremes of racing the back torque or force of the faster spinning rear wheel on the slower engine can cause the engine to overrev or result in wheel hop as the wheel's back force on the chain loads up the rear suspension and engine compression momentarily overcome the lightened rear wheel's limits of traction. Either of these results can be unsettling distractions for a rider, robbing one of precious fractions of a second in lap times in the heat of competition.



In racing circles, one common solution to this problem has been the addition of a back torque-limiting 'slipper' clutch, which releases the excessive reverse loads on the clutch by mechanically forcing it open slightly and disengaging or 'slipping' the clutch, thus allowing the rear wheel to more smoothly catch up to engine speed. Honda is well-versed in the use of slipper clutches, having first developed such a system for its revolutionary 1979 NR500 racer and then applying an updated version in its VFR Works Superbike racers in 1982. On production machines, the 1994 RVF750R (also known as the RC45) was also equipped with a slipper clutch. However, until now the Fireblade's engineering team have not felt the need to adapt a slipper clutch to this production Super Sport's engine. Partially, this was because it was felt that few non-racing riders needed or could even effectively take advantage of such a system, and also because the slipper clutch as it is currently known still had a few weak points that required resolution before Honda felt it could introduce such an addition on its production Super Sports models. Still, as other manufacturers have introduced this development on their higher performance models, calls have grown louder for a similar system on the CBR1000RR to meet the needs of racers and aggressive riders who strongly rely on engine braking to more quickly slow their speed into corners.

Much like the development of the Honda Electronic Steering Damper, Honda's engineers weren't satisfied with simply imitating what's gone before, but instead set out to develop a vastly improved system that resolves inherent problems in the accepted design. In the case of conventional slipper clutches, one shortcoming is the amount of spring pressure required to force the clutch back together once the engine is again accelerating and no more slip is required. With some designs this can result in an unsettling momentary interval of 'freewheeling', with no feeling of connection between the rear wheel and the engine. With other designs counteractive measures can result in uncomfortably stiff clutch action or require repeated fine-tuning of spring pressure depending on riding or racing conditions. Honda's engineers thus studied all the variations of slipper clutches to be found on the market, made some fundamental advances in design, and now feel confident that their new Honda Assist Slipper Clutch is fully ready for release installed in the new 2008 CBR1000RR Fireblade.

Like most slipper clutches, the Honda Assist Slipper Clutch utilises a set of tapered cams to separate and disengage the clutch pressure plates when strong downshifting back torque is fed to the clutch from the rear wheel. The force of regular deceleration from closing the throttle generally does not introduce enough back torque to cause the mechanism to disengage the clutch. However, unlike most conventional slipper clutch designs, the new Honda Assist Slipper Clutch features another set of undercut cams to quickly force the pressure plates back together again and firmly reengage the clutch almost the instant engine power is reapplied. This design innovation thus minimises disengagement time while greatly reducing the amount of spring pressure needed to reengage the clutch. In fact, clutch spring tension is so light that the new Fireblade now uses conventional cable actuation instead of a hydraulic clutch to optimise lever feel with enhanced feedback.

Downshifting into corners aboard the new CBR1000RR Fireblade is now a smooth, unruffled affair, with a more natural feel as its new Assist Slipper clutch comes into play. However, besides the new system's greatly enhanced braking performance and smoother control into and through the corners, its newly developed 'assist' mechanism assures both quicker and more assured clutch re-engagement and much lighter and more comfortable clutch actuation in virtually all riding and racing conditions. Not only will this advanced new system reward expert riders and racers with smoother operation and faster lap times, it will also provide the vast majority of riders with smoother and quicker downshifts, lighter clutch feel and much more comfortable, less potentially distracting operation than may be experienced with other systems.

New Mass-Centralised Underslung Exhaust System

One of the most obvious changes to be seen in the new 2008 CBR1000RR Fireblade is its compact, mass-centralised exhaust system, which is now concentrated almost entirely underneath the engine. In the interests of quicker, more responsive handling, the CBR's previous 'Centre-Up' exhaust system was moved from its high location extending back underneath the seat to a position as close as possible to the motorcycle's centre of gravity, and directly under the engine, thereby minimising the inertial effects of the system's weight and mass on the machine's ability to quickly change directions.

Maximum cornering clearance was also a critical element in the design of the new exhaust, and the bulk of the stainless steel system fits within the small triangular area described by the of the lowest point in the centre of the undercowl and the two foot pegs, with nothing protruding that might touch the ground and interfere with the extreme cornering angles associated with racing at peak speeds and competitiveness.

The exhaust then exits out the two ports at the end of its large right-side secondary muffler, reaching up just below and behind the swingarm pivot. This complex secondary muffler has also been specially designed for optimum cornering clearance, rising well out of the area of contact when cornering hard to the right, and even the swingarm's pressed aluminium right-side arm was formed in a new 'gull-wing' shape to provide ample clearance for the new system.

The muffler also incorporates a pair of exhaust valves that maintain the engine's full potential throughout its powerband while assuring complete environmental compatibility. Designed to maximise the engine's exhilarating blast of high-speed performance, these electronically controlled valves also play a large part in the CBR's remarkably smooth driveability.

Ultra-Low Exhaust Emissions

The new 2008 CBR1000RR Fireblade may be an aggressive Super Sports charger, but concern for the environment has always been a top priority in its ongoing development. Full conformity with Europe's stringent EURO-3 emissions regulations is an obvious necessity, and this was accomplished, as always, with Honda's proven HECS3 oxygen-sensing catalyser system, which monitors exhaust emissions and controls the intake's air/fuel mixture to maintain optimum combustion efficiency and neutralisation of harmful exhaust gases at all engine speeds. However, the Fireblade's ultra-low emissions were also achieved hand-in-hand with a significant boost in power and performance together with a major loss of weight, which other machines in this competitive class will have a hard time duplicating.



Chassis

For ultimate control on the streets and on the circuits, the CBR1000RR's race-winning technology prominently features an innovative cast aluminium frame that helps centralise the motorcycle's main components for lighter handling and quicker, smoother response to every rider input.

Offering an optimal balance of light weight and rigidity, this organically designed frame allows the machine to settle more securely into turns and change lines with assured ease, whatever the riding conditions or its rider's level of expertise.

New Four-Piece Cast Aluminium Frame

In the quest for further reductions in weight and better centralised chassis mass in this next generation of the CBR1000RR Fireblade, the number of component parts used in the construction of its frame was reduced from nine pieces to only four main castings, achieving a weight reduction of nearly 2.5kg. The frame's four sections include a large, new steering head casting with two large holes moulded in for 'Blade's new straight-shot ram air ducts, the two intermediate side engine hanger rails, and a single large U-shaped rear pivot mount section that wraps under the rear of the engine to surround the swingarm pivot and further ensure the frame's exceptionally rigid form. While all sections are hollow-formed with approximately the same wall thicknesses as the sections used in the construction of the current model, the new frame is significantly stronger than the unit it replaces—with lateral rigidity increased 13%, torsional rigidity up 40% and vertical rigidity up 30%—as well as being 30mm slimmer and more compact overall.

Without the previous CBR's 'Centre-Up' exhaust system to support, and a much smaller tail cowl, the new frame's cast aluminium seat rail could also be made shorter and lighter, for a small but important reduction in inertial weight. On top of this, the mass centralisation achieved with its new underslung exhaust system effectively reduced the CBR's roll inertia by 13% and yaw inertia by 10%, for significantly quicker turn-in response that really must be experienced first-hand to be believed.

New Gull-Wing-Shape Hybrid Aluminium Swingarm

As noted above, in order to provide clearance for the new underslung exhaust system's large upswept muffler, the CBR's strong and lightweight hybrid aluminium swingarm was redesigned with a new 'gull-wing' apex formed into its pressed aluminium right-side member. This new swingarm is 11mm longer than the one it replaces, with a 16mm longer set length that ensures smoother, more confident high-speed tracking while still maintaining essentially the same short wheelbase as its predecessor for exceptionally quick cornering response. The swingarm's pivot point was also raised slightly, increasing the swingarm angle from 9.5° to 9.67° to provide an optimal match to the engine's increased power output.

Race-Ready Suspension Components

Although the CBR1000RR's engine, frame and geometry received impressive redesigns, it was felt that the 'Blade's advanced suspension systems were still well-equipped to effectively do their jobs, so their basic configurations received few changes. Up front, handling is overseen by essentially the same sturdy 43mm inverted HMAS cartridge-type front fork, which provides smoothly responsive performance coupled with excellent rigidity and low unsprung weight for the precise and confident control required for world-class racing. The span of the fork tubes was reduced by 10mm (from 214mm to 204mm) and offset was increased by 2.5mm (from 25mm to 27.5mm) for sharper response to steering inputs, while the front axle holders were modified with a more centred design that increases rigidity while further minimising unsprung weight.



Equipment

Integrated into the 'Blade's rigid but lighter-weight new 'Gull-Arm' hybrid aluminium swingarm is essentially the same Unit Pro-Link rear suspension system pioneered on Honda's dominating RC211V MotoGP racer and featured on both of Honda's race-winning CBRs. Its highly advanced design completely isolates the frame from the shocks and stresses generated by conventional rear suspension systems, especially under aggressive riding and racing conditions. For 2008, some minor changes were made to the system's shape, but linkage ratios and damper settings all remain the same.

Lighter Weight Wheels

The new CBR1000RR Fireblade's hollow-section triple-spoke cast aluminium wheels feature new thinner-wall spoke castings for 240g of reduced unsprung weight at the front and 310g at the rear—a significant weight savings that offers beneficial effects on both ride and handling. These mount sets of Bridgestone Battlax BT015 or Dunlop Sportmax Qualifier radial tyres front and rear.

New Monoblock Front Disc Brake Callipers

The Fireblade's superbly responsive radial-mount front disc brakes now feature new four-piston brake callipers of a stronger and lighter new monoblock design that achieves a weight reduction of 126g per calliper and a much more rigid configuration. Inside, new chrome-plated aluminium brake pistons replace heavier steel units for an impressive total of 430g reduced unsprung weight just at the callipers alone. These combine with narrower brake lines and a modified brake lever ratio to increase braking performance with a livelier, more responsive feel at the brake lever.

But that's not all, the brake rotors were also lightened with new six-point floating inner rotors replacing the current ten-point units for a 90g reduction in weight. The drilled rotor hole pattern, essentially the same year after year, has also been significantly changed, with several different hole sizes used across the surface to achieve both better feel and lighter weight in a design innovation that debuted on Honda's Suzuka 8-Hour Endurance racers.

New Second-Generation HESD Steering Damper

In 2004, the new CBR1000RR introduced a startling new innovation to motorcycle handling in the form of its new Honda Electronic Steering Damper (HESD), which helps maintain smoothly predictable high-speed handling while having remarkably little effect on control at slower speeds. In a further innovation on this highly effective system, the Fireblade now mounts a new second-generation HESD unit like that introduced on the 2007 CBR600RR. Significantly more compact in construction, this new HESD unit is secreted away underneath the fuel tank cover and mounted to the frame behind the steering head, where it is connected to the upper triple-clamp by an articulating arm that moves the unit's damping vane within its oil chamber.

As before, handlebar movement directly actuates the vane built inside the unit's oil chamber to move oil from one side of the chamber to other through a tight circuit of oil lines regulated by a series of check valves and an electronic solenoid. As vehicle speed and acceleration increase, these oil lines are gradually constricted by the solenoid to provide effective resistance against sudden movement of the front fork and handlebars, such as might occur when encountering a large bump in a high-speed corner. As vehicle speed slows, the hydraulic lines gradually open, reducing the damping effect to virtually undetectable levels.

This compact new generation of the Honda Electronic Steering Damper offers an exceptional level of technological sophistication and seamless operation that strongly demonstrates Honda's commitment to pursuing advancements in riding ease and comfort in highly competitive Super Sports machines like the new CBR1000RR.



Optional Equipment

New Lighter, More Compact 7AH Battery

Virtually ignored in most performance evaluations, motorcycle batteries always tend to be weighty problems that often require special design measures to work around. A typical 10 amp-hour battery can weigh well over 3kg and takes up a considerable amount of space—preferably close to the motorcycle's centre of mass—that other components must be arranged around. Battery output is generally determined by how many repeated starts are possible on a single charge. Until now, like most litre bikes, the CBR1000RR Fireblade's engine startup characteristics have required the use of a 10AH battery. On the new 2008 Fireblade, the engine's starter ratio was revised along with starter motor characteristics to produce the same strong engine-turning torque with less electrical current draw. These changes made it possible to achieve the same number of repeated starts—and quicker starts—with less battery output, thus permitting a smaller battery to be used in the Fireblade than any other motorcycle in its displacement class. The result? Its smaller new 7AH battery is over 1kg lighter than the conventional 10AH battery it replaces.

Honda Access Europe N.V. will be supplying the new CBR1000RR Fireblade with a broad assortment of accessories to further extend its range of operating versatility and aggressive good looks. These accessories include:

- A selection of lightweight and stylish carbon fibre parts specially developed for the Fireblade, including a rear wheel hugger to protect chassis internals, a front mudguard that also protects the lower front fork tubes, and decorative crankcase covers that attach to ACG and clutch covers.
- A carbon fibre-look protective rear tank pad and fuel lid cover set adorned with the HRC logo.
- A colour-matched rear seat cowl that snaps into place to accentuate the CBR1000RR's purposefully competitive look.
- A 30mm taller, tinted windscreen that impressively accentuates the Fireblade's sharp look of aggressive race-ready performance while providing extra wind protection and long-term riding comfort.
- An attractive racing sticker set that includes fairing and wheel stickers.
- A set of black nylon fairing protectors which reduce the risk of damage to fairing parts.
- A replacement comfort rider's seat constructed of special elastomer foam for extended riding comfort.
- A U-lock designed to fit into the compact space located under the pillion seat pad or optional rear seat cowl.
- A slimline tank bag specially designed for the CBR1000RR Fireblade to securely store valuable items.
- A seat bag that can be mounted on the pillion seat for extra luggage space.

- A compact alarm unit with motion detector, siren and back-up battery to provide extra protection against vandalism and theft. A low-consumption sleep mode protects battery from drainage.

Specifications

General	
Model	CBR1000RR Fireblade
Mold Type	ED-type
Engine	
Type	Liquid-cooled 4-stroke 16-valve DOHC inline-4
Displacement	999.8cm ³
Bore x Stroke	76 x 55.1mm
Compression Ratio	12.3 : 1
Max. Power Output	130.7kW / 12,000min ⁻¹ (95/1/EC)
Max. Torque	113.8Nm / 8,500min ⁻¹ (95/1/EC)
Idling Speed	1,200min ⁻¹
Oil Capacity	3.7 litres
Fuel System	
Carburation	PGM-DSFI electronic fuel injection
Throttle Bore	46mm
Aircleaner	Dry, cylindrical-type paper filter x 2
Fuel Tank Capacity	17.7 litres (including 4-litre LCD-indicated reserve)
Electrical System	
Ignition System	Computer-controlled digital transistorised with electronic advance
Ignition Timing	3.2° BTDC (idle) ~ 45° BTDC (7,500min ⁻¹)
Sparkplug Type	IMR9C-9HES (NGK); VUH27EC (DENSO)
Starter	Electric
Battery Capacity	12V / 7AH
ACG Output	350W
Headlights	12V, 55W x 1 (low) / 55W x 2 (high)
Drivetrain	
Clutch	Wet, multiplate with diaphragm spring
Clutch Operation	Mechanical; cable-actuated
Transmission	6-speed
Primary Reduction	1.717 (79/46)
Gear Ratios	2.286 (32/14)
	2 1.778 (32/18)
	3 1.500 (33/22)
	4 1.333 (32/24)
	5 1.214 (34/28)
	6 1.138 (33/29)
Final Reduction	2.625 (42/16)
Final Drive	#530 O-ring sealed chain
Frame	
Type	Diamond; aluminium composite twin-spar

Chassis		
Dimensions		2,075 x 685 x 1,130mm
Wheelbase		1,405mm
Caster Angle		23° 18'
Trail		96.3mm
Turning Radius		3.2m
Seat Height		820mm
Ground Clearance		130mm
Kerb Weight		199kg (F: 105kg; R: 94kg)
Max. Carrying Capacity		180kg
Loaded Weight		379kg
Suspension		
Type	Front	43mm inverted HMAS cartridge-type telescopic fork with stepless preload, compression and rebound adjustment, 120mm axle travel
	Rear	Unit Pro-Link with gas-charged HMAS damper featuring 13-step preload and stepless compression and rebound damping adjustment, 135mm axle travel
Wheels		
Type	Front	Hollow-section triple-spoke cast aluminium
	Rear	Hollow-section triple-spoke cast aluminium
Rim Size	Front	17M/C x MT3.50
	Rear	17M/C x MT6.00
Tyre Size	Front	120/70 ZR17M/C (58W)
	Rear	190/50 ZR17M/C (73W)
Tyre Pressure	Front	250kPa
	Rear	290kPa
Brakes		
Type	Front	320 x 4.5mm dual hydraulic disc with 4-piston callipers and sintered metal pads
	Rear	220 x 5mm hydraulic disc with single-piston calliper and sintered metal pads