# 2012 DUCATI MULTISTRADA 1200

## Endless transformations

The 2012 Multistrada family presents everything that has made it Ducati's award-winning and top selling motorcycle and adds subtle refinements that further underline its quality as a true multi-tasking motorcycle with genuine, everyday practicality.

Having more than proved its innovative concept and established itself as a new industry benchmark, the Multistrada 1200 family moves into its third year with a confident range that introduces the very latest software updates, an enhanced seat shape, a new "race titanium" colour scheme and the stunning and celebratory Pikes Peak Special Edition.

Combining ground-breaking design and unprecedented technology, the Multistrada's Sport, Touring, Urban and Enduro Riding Modes enable a truly enjoyable and customisable riding experience separated by just one click. The four-bikes-in-one concept makes instant adjustment to power and torque delivery in addition to electronic adjustment of suspension settings and traction control, transforming the Multistrada 1200 to suit its rider and environment.

Hailed as a true 'game-changing' motorcycle, the technologically-advanced Multistrada 1200 has attracted all types of riders by opening up the borders between motorcycle categories. With the 150hp Testastretta 11° engine, a class-leading dry weight of just 192kg (423lb) and the application of advanced ergonomics, the Multistrada 1200 is not only powerful and playful, but also a comfortable and versatile adventure on two wheels.

The 2012 range includes the Multistrada 1200 with the Riding Mode technologies of Ride-by-Wire (R-b-W) and Ducati Traction Control (DTC) in addition to ABS and the Multistrada 1200 S with Ducati Electronic Suspension (DES) by Öhlins, R-b-W, DTC and ABS. The 1200 S is available in 'Sport edition' with carbon fibre components or 'Touring edition' with side luggage, heated grips and centre stand. The Multistrada 1200 S Pikes Peak Special Edition represents the flagship model for 2012, celebrating victory in the famous mountain race in Colorado that spectacularly proved the model's multi-terrain capabilities.

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## Four-bikes-in-one

The four-bikes-in-one concept is achieved by selecting from a choice of four pre-set modes programmed to instantly change the engine character and chassis set-up of the Multistrada 1200 - even while riding. The four modes are made possible by combining a number of class-leading technologies.

An electronic Ride-by-Wire (RbW) system administers different mappings to regulate power delivery by interpreting the rider's throttle input, while the world-beating Ducati Traction Control system (DTC) uses eight levels of system interaction to enhance control by reducing wheel-spin. For the 'S' version, Ducati Electronic Suspension (DES), by Öhlins, instantly configures the suspension set-up with electronic adjustment.

## Sport Riding Mode

The Sport Riding Mode provides the rider with an adrenalin-fuelled 150hp ride with a sport-oriented throttle response and, on the 'S' version, an instant high performance suspension set-up. In character with its Superbike heritage, the sport mode also changes the DTC system intervention to level 4 for expert riders whose 'comfort zone' is a little closer to the limit.

## Touring Riding Mode

The Touring Riding Mode is also programmed to produce 150hp, however, the power characteristics are designed in a touring configuration with a smoother, more user-friendly delivery. Active safety is enhanced by increasing DTC system intervention to level 5, specifically intended for an enjoyable and relaxing ride and, on the 'S' version, the suspension automatically dials-in a set-up ideal for long distance touring, ensuring maximum comfort for both the rider and passenger.

## Urban Riding Mode

As navigation of the urban jungle can require an even more user-friendly motorcycle, the Urban Riding Mode instantly transforms the Multistrada 1200 into the most manageable, everyday transport. Power output is reduced to 100hp, and the suspension, on the 'S' version, to a setting perfect for tackling the maze of city streets full of speed bumps and drain covers. DTC is further enhanced to level 6 to provide high system intervention during the most chaotic of stop-start traffic.

## Enduro Riding Mode

Should the journey aboard the Multistrada 1200 leave the beaten track, it has the capability to take off-road routes in its stride. Agile and lightweight and with high, wide handlebars, serrated footrests and specially designed tyres, the Multistrada also features an Enduro Riding Mode which instantly produces a smooth 100hp engine, immediately dials-in an appropriate suspension setting on the 'S' version and reduces the DTC system to level 2 for minimal intervention.

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## INNOVATIVE TECHNOLOGY

### Ride-by-Wire

The Ride-by-Wire (RbW) system is an electronic interface between the twistgrip and the engine which decides the ideal power response depending on the Riding Mode selected and according to the rider's throttle input. The twistgrip no longer uses a throttle cable to control the throttle body butterflies, but instead delivers a signal to a control unit, which in turn operates the butterfly opening.

The RbW system enables the use of three different mappings to regulate the power delivery. The three maps offer 150hp with a sports-type delivery, 150hp with a progressive delivery suitable for touring and 100hp with progressive delivery for city or off-road use.

### Ducati Electronic Suspension by Öhlins

The 'S' version of the Multistrada 1200 is equipped with the latest generation 48mm Öhlins forks featuring the innovative Ducati Electronic Suspension (DES). The new fork technology enables rebound and compression damping adjustments electronically controlled via the instrument panel. The top of the range Öhlins TTX rear monoshock is also adjusted electronically in both spring pre-load and rebound and compression damping.

The electronic suspension adjustment can be made easily by using the pre-set riding modes, which have been developed by Ducati test riders, or independent mode, which allows riders to use their own personal settings. Adjustments made electronically send a signal that initiates electronic actuators mounted on the suspension units.

In addition to the Riding Mode of Sport, Touring, Urban and Enduro, there is also an option to quickly change the suspension setting to suit 'rider only', 'rider with luggage', 'rider and passenger' or 'rider and passenger with luggage'.

### Hands-free ignition

The Multistrada 1200 ignition is not actuated with a normal key. Instead, an electronic key in the rider's pocket communicates with the Multistrada when within a distance of approximately 2 metres (6.5ft), recognising the dedicated key code and automatically enabling the motorcycle's systems. Pressing the key-on switch then activates all systems to 'on' and the engine is ready to be started.

The electronic key, which internally consists of a radio circuit, externally doubles as a mechanical flip-key, required to open the seat and fuel tank cap. When parking the motorcycle an electronic locking device can be actuated on the steering simply by applying full steering-lock and pressing the ignition-off button a second time.

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## Ducati Traction Control

The racing-derived Ducati Traction Control (DTC) is a highly intelligent system which acts as a filter between the rider's right hand and the rear tyre. Within milliseconds, DTC is able to detect and then control rear wheel-spin, considerably increasing the bike's active safety and performance.

The system offers eight 'levels of sensitivity', each programmed with a level of rear wheel-spin tolerance in line with progressive levels of riding skills classified from one to eight. Level one is programmed to offer the least amount of interaction while level eight uses the most amount of interaction. DTC is an integral part of the pre-programmed Riding Modes on the Multistrada 1200.

The system uses front and rear wheel sensors to compare speed differential and sense when rear traction is being broken (wheel-spin). DTC then decides the best combination of two different types of instant electronic adjustment, calculated with data supplied from multiple sources.

The first 'soft' stage of system interaction is executed by high speed software that makes instant electronic adjustment to the ignition timing, administering varying amounts of ignition retardation to reduce the engine's torque.

If the DTC software detects that the first 'soft' stage of system interaction is inadequate to control the wheel-spin, it continues to administer ignition retardation and, in addition, instructs the engine ECU to initiate a pattern of constantly increasing injection cuts until, if necessary, full injection cut.

Red lights around the circular Riding Mode section of the instrumentation illuminate to indicate the interaction of the DTC system. As soon as the system recognises the gradual return of equal wheel speeds, it incrementally re-establishes normal power delivery. This seamless interaction is key to the super-smooth operation of the system.

The real innovative thinking behind the DTC system is how the various range of sensitivity levels decide precisely how to react to excessive wheel-spin by understanding the bike's exact 'dynamic situation'. From slow mid-corner acceleration with considerable vehicle inclination to high speed corner exits while almost upright, this 'system intelligence' is achieved by processing a mass of data in a matter of milliseconds.

DTC levels are factory pre-set in each of the four Riding Modes, but can be individually customised and saved to suit the rider by accessing the set-up menu within each one. A 'Default' option is available to easily return all settings to factory pre-sets.

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## Instrumentation

The instrumentation has a large, high visibility LCD showing all main data and a dot-matrix circular LCD which displays the Riding Modes, additional data or set-up menus depending on whether the bike is stationary or moving.

The main LCD displays data for speed, rpm, gear, total mileage, trip1/trip2, engine coolant temperature, fuel level and time. When the motorcycle is in motion, the dot-matrix LCD displays the selected Riding Mode, remaining fuel/distance, current fuel consumption, average fuel consumption, average speed, air temperature, trip time, and ‘freezing conditions’ alarm. When stationary, it enters a setting menu from where adjustments to the various functions can be made including personalised DTC set-up and, on the ‘S’ version, suspension settings.

The Sport, Touring, Urban or Enduro Riding Modes can be changed while either stationary or in motion, as well as load settings for ‘rider only’, ‘rider with luggage’, ‘rider and passenger’ or ‘rider and passenger with luggage’.

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## MULTISTRADA POWER

**Testastretta 11°: The ideal travelling companion**
The heart of the highly complex and innovative Multistrada 1200 project is the engine and, as a prestigious model, the motorcycle had to be powered by an advanced and evolved twin-cylinder engine - the Testastretta Evoluzione engine that powers the world-beating 1198.

The challenge, however, was to produce an engine that would be enjoyable to use in all conditions and able to adapt to the rider's character and not the other way around. Making the race-derived L-Twin engine performance smoother and more user-friendly was a challenge, but Ducati's innovative designers and engineers met the challenge by designing the revolutionary Testastretta 11° engine. Their achievement succeeded in harnessing the immense power of the Superbike engine, making it smooth and adaptable to suit to any occasion, a significant step forward in balancing performance with usability.

For a motorcycle intended for touring, the smoothness and user-friendliness of the engine is key to achieving an effortless and comfortable ride and the main engine characteristic that enabled this configuration was the revision of the valve overlap angle.

The overlap angle is defined as the interval of crankshaft rotation, measured in degrees, during which both the intake and exhaust valves are open at the same time. This overlap occurs between the end of the exhaust stroke and the start of the intake stroke. On the Testastretta 11° engine, this angle has been reduced from 41°, used in the Testastretta Evoluzione engine which powered the 1198 Superbike, and as a result, the fresh inlet charge flow is less compromised by the exiting exhaust gases, resulting in a much smoother combustion, improved fuel economy and lower exhaust emissions. Unburnt hydrocarbon emissions (pre-catalyser) are reduced by up to 65% and specific fuel consumption (and consequent CO2 emissions) by up to 12% (Euro3).

With its 150hp and 12.1kgm (87.5lb-ft) of torque, the Testastretta 11° set a new standard for Ducati twin-cylinder engines. Fluid dynamics testing on ports and combustion chambers resulted in a modified power delivery profile, specifically the torque. New intake and exhaust ports combined with a radical adjustment of the cam timing and slight reduction of the compression ratio have enabled Ducati to achieve a favourable torque curve at low rpm, which remains strong through a wider range. This particular characteristic considerably enhances the Multistrada 1200's effortless ridability.

The Multistrada 1200 features an oil bath clutch with 'slipper' function and super-light feel at the lever. Its design uses a progressive self-servo mechanism that presses the plates together when under drive from the engine, enabling the reduction of the clutch spring rates. This results in a much lighter clutch lever at the handlebar, ideal in stop-start traffic or long journeys. When the drive force is reversed (over-run), the same mechanism reduces the pressure on the clutch plates, enabling them to provide a race-like 'slipper' action, which reduces the destabilizing effect of the rear-end under aggressive down-shifting and provides a much smoother feeling when closing the throttle or down-shifting under normal riding conditions.

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The layout for the exhaust system, which is simple and minimalistic, uses two primary manifolds flowing directly into the triple chamber single silencer. In addition to carrying out the 2-1-2 compensator function, the silencer contains the catalyser and sound-absorbent materials. The two compact and lightweight aluminium alloy end pipes depart in a low, lateral configuration to keep the overall weight to a minimum.

**More strada between major services**

Constant investment in quality by design, advanced materials and engineering techniques, has enabled the distance between major service intervals (valve clearance check) to be doubled to a highly competitive 24,000km (15,000 miles). This has been achieved partly by the introduction of a new valve seat material and partly by the improved combustion efficiency and temperature management designed into the Testastretta 11° engine.

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## INNOVATIVE DESIGN

### 192kg (423lb) Multistrada sets the benchmark

Constantly reducing weight is part of the design brief for all Ducati models. Less weight enables maximum performance both in terms of dynamic behaviour and safety. A lighter motorcycle will brake in a shorter distance, accelerate faster and be easier to steer. Every single component of the Multistrada 1200, therefore, has been designed to achieve weight reduction without compromising its load-bearing capacity. With a dry weight of just 192kg (423lb) the Multistrada 1200 is lighter than any other road enduro, touring or sport touring bike currently available in this category. The lightweight and excellent chassis set-up ensures exceptional handling, a key factor for Sport, Touring, Urban or Enduro riding.

### Ergonomics and comfort

The Multistrada 1200 was subjected to an extensive ergonomic study using both CAD and repeated prototype testing, guaranteeing a high level of comfort with a fully loaded motorcycle for long-range touring. The 'ergonomics triangle' of handlebar, seat and footpegs has been designed for both the rider and passenger, optimising comfort while providing a commanding and upright riding position.

The Multistrada 1200 feels spacious and accommodates both rider and passenger in complete comfort, even with the top case and side luggage in place. Its 1530mm (60.2in) wheelbase ensures that not only the weight of the passenger remains inside the wheelbase length, but also that of the side luggage when loaded, a considerable contribution to the motorcycle's dynamic performance. Underlining its multi-tasking intention, ergonomic attention was even applied when designing the riding position while standing on the footpegs, off-road style.

The wide, tapered steel handlebars have been designed for maximum comfort and ensure a commanding riding position enhanced by a generous steering lock of 76° (38° left and right). In addition, the handlebars have been mounted on anti-vibration isolators, specially designed to balance riding comfort with a precise road 'feel'.

The Multistrada 1200 seat immediately transmits a sense of comfort and for 2012 has been further enhanced with more length front and rear for the rider. Constructed in two separate sections for the rider and passenger, the design focussed on form and cushion density to ensure maximum comfort during long journeys and user-friendly lateral shaping to help give sure-footed ground contact when stationary. A confidence-inspiring passenger grab-handle offers a secure and comfortable grip.

The footpeg position represents part of the optimum 'ergonomics triangle' for both the rider and passenger with added consideration to ground clearance during maximum lean angle and position of side luggage. The footpegs have rubber inserts that insulate vibration, removable to expose a motocross-style serrated edge that provides enhanced boot grip when riding off-road.

The Multistrada 1200's rear view mirrors have both vertical and horizontal adjustment and increased surface area to provide the most efficient visibility. Two handy onboard stowage areas are built into the motorcycle, one suitable for a mobile phone or toll road tickets situated in the right cockpit side panel and a larger three litre area situated under the passenger seat.

### Ideal for long journeys

The Multistrada 1200's screen is designed with 60mm of vertical adjustment to ensure efficient wind protection for all rider heights and effortless high-speed riding over long distances. Two 12v power outlets situated on either side of the area below the rider's seat can be used to power up to 8A (fused) accessories such as thermal apparel, intercoms or mobile phone chargers. In addition, a special connection point for powering the GARMIN satellite navigator (optional feature) is situated near the instrumentation.

The Touring edition of the Multistrada 1200 S adds even more comfort and convenience. Easily controlled heated grips, which have a revised power feed to the twistgrip for 2012, are ideal for journeys where adverse weather conditions threaten rider comfort, while stylish side luggage offers a load capacity of 57 litres and a fast and secure attachment system that blends perfectly when removed. In addition, a centre stand provides parking confidence when fully loaded and essential security in the event of tyre maintenance during long journeys.

## Character

For Ducati, design is not just creating an attractive look. It is about knowing how best to combine exciting appearance with intelligent function and outstanding performance. Even the Multistrada 1200's exhaust tail pipes are a feature that perfectly demonstrates this concept.

Their innovative design is well integrated with the motorcycle's overall shape and the positioning of the exhaust system improves overall weight distribution. The tailpipes are short so they do not impinge on the space needed for the side luggage. The internal structure of the silencer is designed to achieve the characteristic Ducati sound without compromising compliance with sound and hydrocarbon emission standards (Euro3).

Components that are far more than just aesthetic detail, include the frontal air intakes that characterise the face of the Multistrada and also deliver air to the oil cooler and airbox, and the beautifully formed aluminium sump guard and side plates that help to protect the engine off-road.

The single-sided rear swingarm is also a good example of Ducati's blend of design and functional engineering. It is made using a single piece casting, with fabricated and welded sections creating a strong, hollow and lightweight component that contributes considerably to the Multistrada's sure-footed handling. The headlight is a characteristic feature of the face of the Multistrada 1200, its symmetrical layout uses four halogen lamps, two for low and two for high beam to provide excellent illumination. In addition, the front and rear side lights use LEDs, and feature a special shape of intense light guidance, making the motorcycle more visible to other road users.

# MULTISTRADA CHASSIS

## Design

All components used in the construction of the Multistrada 1200 are of the highest quality. Their selection and subsequent assembly is the result of a design brief based on uncompromised performance.
Chassis geometry, such as wheelbase, swingarm length, and rake, trail and offset is the result of a quest for the best balance of stability at high speeds and dynamic agility. The chassis is designed to achieve lean angles of up to 45° and the combination of reduced weight and generous steering lock of 76° (38° left and right) makes tight manoeuvres at low speeds easy to manage.

## Frame

The Ducati signature Trellis frame uses large diameter, light gauge tubing with two central cast aluminium sections and a Trellis rear subframe to achieve optimum torsional rigidity. The high pressure, die cast, magnesium front sub-frame reduces the high, frontal weight and contributes to chassis feel and control.

## Suspension

The standard version Multistrada 1200 uses 50mm Marzocchi front forks, featuring a special forged fork bottom and full adjustability in spring pre-load, compression and rebound damping. The rear is controlled by a Sachs monoshock adjustable in compression and rebound damping and in spring pre-load by using the handy remote manual adjuster.

The 'S' version features the front and rear Ducati Electronic Suspension (DES) system by Öhlins. The 48mm Öhlins forks are adjustable electronically in compression and rebound damping while spring pre-load is manual. The Öhlins TTX rear unit features twin tube technology to offer totally separate damping adjustment in compression and rebound and uses experience gained in racing to minimise friction and reduce the risk of cavitation under extreme conditions. In addition, the unit is fully adjustable electronically in compression and rebound damping as well as spring pre-load.

The front and rear suspension of both versions provide 170mm of travel, the extra-long movement ensuring excellent comfort even when fully loaded or if the rider decides to leave the asphalt for off-road routes.

## Braking system & ABS

The front brakes use twin radially-mounted Brembo four piston, two pad callipers actuated by a master cylinder with an adjustable lever. The fronts grip 320mm discs, while a single 245mm disc on the rear is gripped by a single Brembo calliper. Typical of all Ducatis, these components ensure high performance braking and set the standard in this segment.

The Multistrada 1200 and 1200 S are both fitted with a Bosch-Brembo ABS system as standard equipment, delivering outstanding braking performances in all conditions and providing a major contribution towards performance safety. An option to disable the ABS is available via the instrumentation, but is automatically reactivated at the next ignition-on.

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## Wheels and tyres

Ducati's technical partner, Pirelli, worked alongside the Multistrada's engineers throughout the project, developing the new Pirelli Scorpion Trail tyres specifically for the four-bikes-in-one concept. The tyres represent the first ever dual compound for on/off road use with a harder compound central section. Combined with a special tread design and carcass structure, their 190/55 section delivers racing performance on the road in terms of grip and lean angles, while ensuring high mileage for touring and good off-road performance. The Multistrada 1200 rides on lightweight 10-spoke lightweight alloy wheels, 3.50x17 front and 6.00x17 rear. All colours of Multistrada 1200 use wheels finished in black.

## Colours

The Multistrada 1200 is available in red or arctic white while the 1200 'S' Sport is dedicated to red and the 'S' Touring offers red and arctic white, all with frames finished in racing grey. The 'S' Touring schemes are now extended for 2012 with the new matte race titanium with racing black frame. Released early as a model year 2012, the Multistrada 1200 S Pikes Peak Special Edition comes proudly dressed in the Ducati Corse official colours of red, white and black with red frame. All models in the Multistrada family roll on wheels finished in black.

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# Multistrada 1200 S PIKES PEAK SPECIAL EDITION

## Race proven on all terrains

Ducati built the Multistrada 1200 S Pikes Peak Special Edition in celebration of Greg Tracy's famous victory in the 2010 Pikes Peak International Hill Climb race in Colorado. The Special Edition underlines the race-bred heritage that exists deep inside every Ducati and follows a massive success for the award-winning Multistrada 1200.

The model year 2012 Multistrada 1200 S Pikes Peak Special Edition is dressed in stunning replica Ducati Corse-style paint scheme with passenger foot-peg hangers and engine guard anodised in black finish and sport red pin-striping on the wheels. In addition to the original equipment silencer and screen the Pikes Peak Special Edition arrives with an EU approved Ducati Performance carbon fibre silencer by Termignoni* and a race-derived low screen in carbon fibre. A Ducati Performance carbon fibre front mudguard, and custom made seat detailed with red stitching complete an enhanced specification well worthy of a race-winning replica.

The Pikes Peak International Hill Climb, or "Race to the Clouds", is situated in a range of the Rocky Mountains, 16km west of Colorado Springs and races 20km from a start line altitude of 2,862 metres to a finish line at 4,300.

Winning the highly challenging and multi-surface Pikes Peak race, which climbs a mountain track through 1,438 metres of altitude change, further underlined the exceptional all-terrains versatility of the Ducati Multistrada by demonstrating how its four different Riding Modes immediately adapt the motorcycle to any environment.

*Not all countries.

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## Versions

All versions come with an additional kit of optional larger rear hugger and front fender rear section extension.

### Multistrada 1200

- Bosch-Brembo ABS braking system
- Riding Modes
- Ride-by-Wire
- Ducati Traction Control

### Multistrada 1200 S Sport edition

- Bosch-Brembo ABS braking system
- Riding Modes
- Ride-by-Wire
- Ducati Traction Control
- Ducati Electronic Suspension system
- Front air intakes, cam belt covers, rear hugger and lateral air extractors in carbon fibre

### Multistrada 1200 S Touring edition

- Bosch-Brembo ABS braking system
- Riding Modes
- Ride-by-Wire
- Ducati Traction Control
- Ducati Electronic Suspension system
- Heated grips
- Side luggage
- Centre stand

### Multistrada 1200 S Pikes Peak Special Edition

- Bosch-Brembo ABS braking system
- Riding Modes
- Ride-by-Wire
- Ducati Traction Control
- Ducati Electronic Suspension system
- Front air intakes, cam belt covers, rear hugger and lateral air extractors in carbon fibre
- Termignoni carbon fibre silencer (EU) (Supplied in addition to original equipment)
- Screen in carbon fibre (Supplied in addition to original equipment)

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