The new BMW F 750 GS and F 850 GS.
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1. Overall concept.
(Short version).

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The new BMW F 750 GS and F 850 GS:
Premium middle-class travel enduros with strong characters.
Ever since their debut in 2007, the GS models of the F series have stood for premium riding enjoyment with typical 'Made by BMW Motorrad' features, representing the middle-class Adventure segment. As before, the GS abbreviation again represents a perfect synthesis of touring and long-distance capability combined with sporty dynamics and supreme offroad performance. In short: A BMW GS is the perfect companion when it comes to discovering remote corners of the world by motorcycle. After around ten years of consistent model development, BMW Motorrad has now fully redesigned and reengineered its middle-class GS models in line with its objective of creating an ultimate riding machine that is even more uncomplicated and carefree, whether used for sport-oriented road riding, on tour complete with luggage and a passenger, or on an adventure trip into offroad terrain.

Even more so than their predecessor models, the new F 750 GS and F 850 GS are targeted squarely at their respective clientele. The F 750 GS is designed for all riders who prefer the sensation and conceptual design of a travel enduro in combination with a low seat height, copious power availability, high cost-effectiveness, and powerful all-round qualities. Opposite this is the new

F 850 GS, which besides offering more power and torque, features even more distinctive touring characteristics coupled with supreme offroad ability.

Powerful, new 2-cylinder in-line engine with two counterbalance shafts and a firing interval of 270/450 degrees for optimised smoothness and emotional sound.

The main development focus was to create an increase in both power and torque. In addition, special attention was given to reducing fuel consumption levels. Displacement is 853 cc and the power output of 57 kW (77 hp) at 7500 rpm generated by the F 750 GS is more than sufficient. The new F 850 GS generates 70 kW (95 hp) at 8250 rpm which translates to a supreme level of engine power.

The developers achieved a powerful and emotionally appealing sound by employing a crankshaft with a 90 degree journal offset and a 270/450 degree firing interval. Unwanted vibrations are absorbed by the new engine's two counterbalance shafts. A self-amplifying, anti-hopping clutch provides a discernible reduction in the hand clutch operating force while the drop in engine drag torque also enhances safety on the road. Power transmission to the rear wheel comes from the 6-speed gearbox with secondary drive that is now positioned on the left-hand side.

The riding modes 'Road' and 'Rain' plus ABS and ASC ensure plenty of riding enjoyment and enhanced safety as standard. Pro riding modes are available as optional equipment.

The new GS models address individual rider requirements by offering 'Rain' and 'Road' riding modes, while the combination of BMW Motorrad ABS and the ASC automatic stability control ensures a high level of safety.

The F 750 GS and F 850 GS can be fitted ex works with optional equipment, such as Pro riding modes and in turn the additional 'Dynamic', 'Enduro' and 'Enduro Pro' riding modes (the latter only available in the F 850 GS) as well as the DTC dynamic traction control and banking capable ABS Pro.

New steel bridge frame in monocoque construction, optimised suspension geometry and new fuel tank position.

The bridge frame of the new GS models in the F series is made of deep-drawn, welded components. It integrates the 2-cylinder in-line engine as a co-supporting element and offers benefits in terms of torsional rigidity and robustness. The fuel tank has been placed in the classic position between the seat bench and the steering head, for optimised packaging and an improved centre of gravity.

Sharper GS profile thanks to the more masculine design.

The F 750 GS and F 850 GS also feature a completely new look, which benefits from a more dynamic and masculine design. The new LED headlight gives the front view an especially striking visusal appeal. In addition to the basic version, the new F models are also available in Exclusive style variations. The Rallye style variant is exclusive to the new F 850 GS and places particular emphasis on its offroad capabilities.

Unique range of optional equipment and Original BMW Motorrad accessories.

The new GS models of the F series are being launched with a range of equipment options that is unique for the middle class. Be it the different seat heights and windshields, the LED daytime riding headlight, the optional Connectivity equipment with TFT display or eCall, the list of fascinating features with which owners can maximise their riding enjoyment and safety as well as experience the thrill of the road is now virtually inexhaustible for middle class travel enduro motorcycles.

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Highlights of the new BMW F 750 GS and F 850 GS:

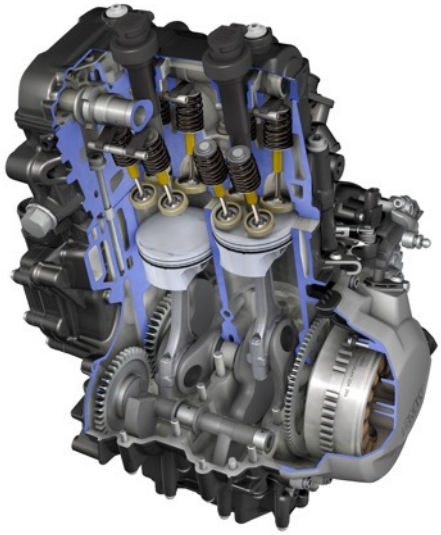
- Powerful 2-cylinder in-line engine with a displacement of 853 cc.
  F 750 GS: 57 kW (77 hp) at 7500 rpm and 83 Nm at 6000 rpm.
  F 850 GS: 70 kW (95 hp) at 8250 rpm and 92 Nm at 6250 rpm.
- Extremely powerful and emotional sound, produced by a crankshaft journal offset of 90 degrees and firing interval of 270/450 degrees.
- New, robust steel bridge frame in monocoque construction for increased riding precision.
- New telescopic fork/upside-down telescopic fork plus double-sided aluminium swinging arm with central spring strut for more sensitive response characteristics.
- ABS, ASC plus ‘Rain’ and ‘Road’ riding modes included as standard.
- Pro riding modes with ABS Pro and dynamic brake light, DTC and the new riding modes ‘Dynamic’, ‘Enduro’ and ‘Enduro Pro’ (the latter only with the F 850 GS) available as optional equipment ex works.
- ESA electronic suspension adjustment available as optional equipment.
- A self-amplifying, anti-hopping clutch for a discernible reduction in hand clutch operating force.
- LED headlight (low and high beam) as standard. LED daytime riding light as optional equipment.
- Connectivity with multi-functional instrument cluster and 6.5 inch full-colour TFT display plus numerous features as optional equipment.
- Intelligent emergency call function now offered for the first time as optional equipment for the middle class.
- Optimised offroad and travel ability plus improved wind and weather protection.
- Sharper GS profile resulting from new design.
- New colour concepts and style variations Rallye and Exclusive.
- A range of optional equipment and original BMW Motorrad accessories that is unique in the middle class, such as Keyless Ride, Gear shift assistant Pro, Dynamic ESA, eCall, Connectivity etc.

2. Drive.

Newly engineered 2-cylinder in-line engine with great character and high pulling power for dynamic riding enjoyment.

For more than ten years, the GS models in the F series have embodied the premium range in the middle class Adventure segment. They have been characterised from the start by their convincing all-round qualities and as a paragon of riding enjoyment on tarmac surfaces as well as safe controllability off the road. With the new F 750 GS and F 850 GS models, BMW Motorrad is launching its success formula in a comprehensively reengineered and more distinctive form. For more riding enjoyment on all surfaces, whether tarmac-covered roads or offroad terrain.

As before, the heart of the new F 750 GS and F 850 GS is the in-line, 2-cylinder engine, which has, however, now been completely reengineered. The objectives of the developers were above all to achieve a significant increase in power and torque compared to the previous models. In addition, while developing the new engine, great importance was attached to optimising combustion so as to reduce fuel consumption.



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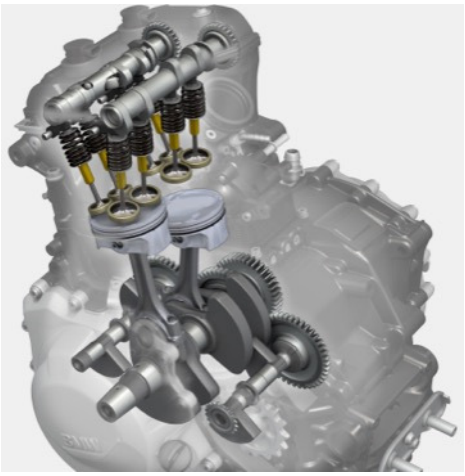
The engine displacement of both the F 750 GS and the F 850 GS is now 853 cc (compared with 798 cc in the previous models), resulting from a bore of 84 mm and stroke of 77 mm. With 57 kW (77 hp) of power at 7500 rpm and a maximum torque of 83 Nm at 6000 rpm, the new F 750 GS features impressively high power and traction force. The new F 850 GS generates 70 kW (95 hp) at 8250 rpm and develops a maximum torque of 92 Nm at 6250 rpm to deliver its supreme engine performance. In particular, the increased torque results in improved pulling power. The new F 750 GS achieves a maximum speed of 190 km/h, while the F 850 GS manages over 200 km/h.

The new F 750 GS and F 850 GS are also available ex works as reduced power versions for class A2 licence holders (Germany). The F 750 GS then generates 35 kW (48 hp) at 6500 rpm and develops a maximum torque of 63 Nm at 4500 rpm. The F 850 GS also generates 35 kW (48 hp) at 6500 rpm. And again, the maximum torque is 63 Nm at 4500 rpm.

Extremely powerful and emotional sound, produced by a crankshaft journal offset of 90 degrees and firing interval of 270/450 degrees.
In the new F 750 GS and F 850 GS too, the 2-cylinder in-line engine is installed transversely to the direction of travel and is liquid-cooled. In contrast to the engines of the previous models, however, its crankshaft has a 90 degree journal offset and a 270/450 degree firing interval (previous models had a 0 degree crankshaft journal offset and a 360 degree firing interval. This change is accompanied by a particularly powerful and emotional sound, similar to that of the 90 degree V2 engine.

Optimised smoothness created by two opposed counterbalance shafts and dry-sump lubrication.



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While the oscillating mass forces of the previous models were compensated for by a connecting rod fitted to the middle of the crankshaft with a defined arrangement of counterweights, unwanted vibrations in the new engine are eradicated by means of two counterbalance shafts.

These two opposed counterbalance shafts are arranged in front of or behind the crankshaft, a little below its axis, and are driven from the left of the crankshaft by the spur gears. In conjunction with the newly designed crankshaft and firing interval of 270/450 degrees, this results in a considerable increasing in running smoothness accompanied by a thrillingly impressive engine sound.

To prevent unwanted churning losses and to ensure maximum operational safety, even under tough offroad conditions, the engine of the new F 750 GS and F 850 GS features dry-sump lubrication, which does not require a separate tank for engine oil. Any oil escaping from the main bearings is collected in a drain that is sealed off from the oil sump.

In this area, the lubricant is constantly pumped away by the oil pump and transported to the gearbox housing before it runs without pressure into the oil sump. The oil-feed pump then supplies the oil circulation from here. Its great offroad character is reflected in the F 850 GS's underside protection, which protects the oil sump from any damage.

Two overhead camshafts and four rocker arm-operated valves per cylinder.

The cylinder head of the new F 750 GS and F 850 GS contains two rotating overhead camshafts driven by a tooth belt, which operate four valves per cylinder by means of light and therefore fixed-speed rocker arms. The timing chain drive is on the right-hand side of the engine.

The valves are dimensioned to support an optimised combustion chamber design, which results in the best possible power and torque exploitation as well as increased efficiency. They measure 11.2 degrees on the intake side and 13.3 degrees on the outlet side. The valves have a plate diameter of 33.5 mm (intake) and 27.2 mm (outlet). The compression ratio is 12.7:1.

Carburation is by means of intake pipe injection with next-generation BMS-M engine control. The rider's control signals are passed on directly by a sensor on the throttle grip via an e-gas system to the motor controller, which regulates the angle of opening of the throttle valves so as to maximise controllability and optimise the response characteristics.

Power transmission via anti-hopping clutch for a significant increase in riding safety.

The entire power transmission of the new F 750 GS and F 850 GS has also been subjected to complete reengineering. The primary drive arrangement on the right-hand side of the engine is responsible for transmitting the torque from the crankshaft to the clutch by means of spur gears.

This is now designed as a self-amplifying anti-hopping clutch (wet clutch). Not only does it allow the rider to benefit from discernibly reduced operating forces in the adjustable clutch lever but it also leads to a significant reduction in engine drag torque, resulting in a considerable plus in rider safety - particularly in the case of braking manoeuvres performed while changing down in gear.

Six-speed gearbox now with secondary drive arranged on the left-hand side. Gear shift assistant Pro for fast up and down gear shifting without using the clutch, available as optional equipment ex works.
In the interest of improved riding dynamics, the newly engineered 6-speed gearbox now transfers the torque with an optimised transmission ratio spread to the secondary drive on the left (formerly right), in the form of an O-ring chain. For fast up and down gear shifting without using the clutch, BMW Motorrad now offers the Gear shift assistant Pro, available as optional equipment ex works, for the new F 750 GS and F 850 GS.

With this it is possible to shift gears up without using the clutch, thus permitting perfect acceleration with virtually no interruption in traction force. Moreover, the Gear shift assistant Pro also makes it possible to change down without using the clutch. This enables very fast gear shifting with a minimum of clutch use, resulting in a discernible reduction in undesirable load reversal effects on the back wheel and the jerk movements this can cause.

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In addition, the independent movements of rider and passenger that are associated with conventional gear changing are considerably reduced using the Gear shift assistant Pro. This making joint motorcycle enjoyment that much more comfortable. The Gear shift assistant Pro also simplifies things considerably for motorcycling beginners and the sports-minded rider can enjoy very fast shifting.

Exhaust system now positioned on the right-hand side for optimised comfort.
By positioning the secondary drive on the left-hand side of the motorcycle, it has been possible to move the exhaust system of the new F 750 GS and F 850 GS to the right. This is of great advantage when it is necessary to manoeuvre the motorcycle by hand, which the rider generally does from the left-hand side. The end muffler, which is now on the right and, like the rest of the system, is made of stainless steel, provides considerably more space to do this and also reduces the danger of suffering a burning injury from the hot

muffler. The new F 750 GS and F 850 GS can also be fitted with an HP exhaust system with a highly sporty design, as optional equipment ex works.

Riding modes 'Rain' and 'Road' plus ABS and ASC are fitted as standard ex works for a high degree of riding enjoyment and safety.
The F 750 GS and F 850 GS already come with the two riding modes 'Rain' and Road' installed as standard, to allow the individual desires of the rider to be accommodated. Also included in the standard features is the ASC automatic stability control, which ensures a high degree of rider safety.

With the riding modes 'Rain' and 'Road', the riding characteristics of the new F 750 GS and F 850 GS can be adapted to the majority of road conditions.

In 'Rain' mode, the throttle response is configured to be soft, while the control characteristics of the ASC or DTC and ABS or ABS Pro are based on wet and slippery road surfaces.

In 'Road' mode, the engine permits an optimum throttle response, while the ABS and ASC control systems are configured for ideal performance on all roads. The same applies to the ABS Pro and DTC dynamic traction control systems, available as optional equipment. If the ESA electronic suspension adjustment (available as optional equipment) is fitted, damping at the rear takes place in the default ('Road') setting.

Riding modes Pro in conjunction with DTC dynamic traction control and ABS Pro available as optional equipment ex works.
The new GS models of the F series can be equipped with the riding modes Pro option as optional equipment ex works. They additionally contain the riding modes 'Dynamic' and 'Enduro" as well as the DTC dynamic traction control and the curve-optimised ABS Pro with dynamic brake light. The riding mode 'Enduro Pro' is activated by means of an encoding plug and is available only in the F 850 GS. It offers additional customisation options for altering the vehicle characteristics in accordance with rider needs and further increases the riding enjoyment available with the F 850 GS.

In 'Dynamic' mode, the sporty side of the new F 750 GS and F 850 GS really comes to the fore. Throttle response is then instantaneous and the DTC and ABS Pro systems are coordinated for road use with high frictional values. If fitted, the Dynamic ESA is set to the default 'Road' configuration.

In 'Enduro' mode, the offroad capabilities of the new F 750 GS and F 850 GS can be experienced particularly impressively and intensively. This mode offers

a soft engine response and the restrained intervention by the DTC allows an experienced rider to perform deliberate and controlled drifting. This characteristic, as with that of ABS Pro, is configured for loose surfaces and road enduro tyres, typical of terrain situations. The coordination of the Dynamic ESA function is set to meet the needs of terrain riding and configured with the ‘Enduro’ setting.

Finally, ambitious enduro riders will be interested in the ‘Enduro Pro’ mode for the full offroad performance offered only by the F 850 GS. This riding mode is configured for the use of lugged tyres and is activated by a specially coded plug. With ‘Enduro Pro’ the rider can individually configure and combine characteristics such as throttle response, DTC and ABS Pro. Here too Dynamic ESA is modified for offroad use and is set to the ‘Enduro’ value.

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3. Chassis.

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Newly developed suspension with deep-drawn steel bridge frame for increased rigidity, robustness and riding precision. Optimised geometry for improved accuracy.

In terms of suspension, the new GS models of the F series also feature a completely new concept. Even though the previous models already thrilled riders with their high degree of riding precision, riding stability and light handling, the developers still gave top priority to optimising these characteristics in their technical specification.

The bridge frame that was developed especially for the new F 750 GS and F 850 GS integrates the 2-cylinder in-line engine as a supporting element and consists of deep-drawn, welded sheet steel components. Unlike the previous models with a tubular steel spaceframe, the new innovative frame has a monocoque construction, which results, in particular, in increased torsional rigidity.

This new frame concept was also accompanied by a repositioning of the fuel tank. While the fuel tank in the previous models was located beneath the seat bench, the 15 litre fuel vessel of the new F 750 GS and F 850 GS now adopts

the classic position between the seat and the steering head. This is largely due to the optimised wheel load fluctuations and the position of the centre of gravity as well as that of the packaging of the overall vehicle. Moreover, it was then possible to make the entire rear section of the motorcycle narrower while at the same time optimising the luggage space beneath the seat bench.

The deliberate avoidance of aluminium as a material was due to the tough conditions in which an enduro vehicle often finds itself. Significant advantages, especially with more intensive offroad use, can be provided by robust steel and the dimensioning of both the new main frame and the steel rear frame that is screw-attached to the main frame provides. The improved offroad ability also becomes appartent in screwed-on pins of the passenger footrests.

The new F 750 GS and F 850 GS have also undergone optimisation in terms of suspension geometry. The accuracy, riding precision and riding stability benefit from the newly dimensioned suspension geometry.

In addition to the modification of the wheelbase, the new F 750 GS and F 850 GS are characterised by the somewhat flatter steering head in comparison to the previous models, as well as greater wheel castor values. The suspension geometry data compares with the previous models, the F 700 GS and F 800 GS, as follows:

Model/value	**F 750 GS**	**F 850 GS**	**F 700 GS**	**F 800 GS**
Steering head angle	63 degrees	62 degrees	64 degrees	64 degrees
Wheel castor	104.5 mm	126 mm	95.3 mm	117 mm
Wheelbase	1559 mm	1593 mm	1557 mm	1573 mm

Wheel guidance at the front via new telescopic fork or upside-down telescopic fork and at rear via double-sided aluminium swinging arm with central spring strut. Even more sensitive response characteristics with increased riding comfort.
Particularly in the Adventure segment, suspension developers face challenging tasks. Not only must the suspension function well on tarmac-surfaced roads and in more sporty use, but it is also necessary to bring together the requirements of offroad and touring, including riding with a passenger and intensive use.

By accommodating this varied application spectrum in all of its facets, riders of the new F 750 GS and F 850 GS can benefit from completely new wheel guidance and spring shock absorber elements.

Front wheel guidance features a new torsion-resistant telescopic fork with an internal tube diameter of 41 mm in the F 750 GS, while in the case of the F 850 GS, it is a 43 mm upside-down fork. Compared with the previous models, the new telescopic fork is characterised by improved response characteristics. The spring travel of the F 750 GS is 151 mm (131 mm when lowered). To meet the more stringent requirements of offroad use, the F 850 GS enables 204 mm (184 mm when lowered). The sensitive slider tubes are protected from stone impacts by plastic guards that are integrated in the front wheel cover.

The rear wheel is guided by a double-sided aluminium swinging arm in conjunction with a directly linked spring strut. In addition to a hydraulic and thus highly comfortable adjustable spring base (spring pre-tension), the central spring strut of the new F 750 GS also has adjustable rebound stage damping. The spring travel distance is 177 mm (157 mm when lowered). With the new F 850 GS, a spring strut with travel-dependent damping is used, which also has an adjustable spring base and rebound stage damping that can be adjusted to suit personal requirements. The travel distance is 219 mm (199 mm when lowered).

Dynamic ESA electronic suspension adjustment at rear for optimum suspension setup under all conditions as optional equipment ex works.

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With the BMW Motorrad Dynamic ESA electronic suspension adjustment available as optional equipment, the dynamic riding experience, rider comfort and touring suitability of the new F 750 GS and F 850 GS can be increased even further. Dynamic ESA opens up new dimensions of rider safety, performance and comfort, since the damping of the rear spring strut is automatically adjusted to the situation according to the riding conditions and the rider's manoeuvres.

From a technical point of view, the movement in travel and speed is recorded by means of a spring travel sensor in the central spring strut, which

automatically sets the damping to suit the situation depending on the riding conditions. The damping of the spring strut is adjusted accordingly by means of electrically activated control valves. This damping adjustment occurs in the space of a few milliseconds. As a result, optimum damping comfort and a very stable ride response is ensured even in banking position.

Dynamic ESA does not function as a standalone system but communicates with the other control systems, such as ABS / ABS Pro and ASC or DTC. Moreover, Dynamic ESA is linked with the riding modes 'Rain', 'Road', 'Dynamic', 'Enduro, and 'Enduro Pro' (the latter only available with the F 850 GS).

In the riding modes 'Rain', 'Road', and 'Dynamic, the central spring strut operates with a soft basic coordination. If the rider prefers a configuration for a more sporty riding style, he is able to combine these riding modes with the Dynamic ESA 'Dynamic' setting, which results in a tauter shock absorber setting.

In the riding modes 'Enduro' and 'Enduro Pro' (the latter only with the F 850 GS), Dynamic ESA is coordinated for terrain use with gravel or sand surfaces. The Dynamic ESA 'Enduro' setting is defined accordingly. The damping characteristics of the central spring strut are coordinated for the special requirements of offroad riding with optimum traction and softer settings.

Wheels and tyres configured for different riding characteristics and fields of application.

Besides engine power and travel distances, wheel/tyre combinations represent a distinct characteristic by which to distinguish between the two premium travel enduros for the middle class. For instance, with the road-oriented, entry-level F 750 GS, die-cast aluminium wheels with the format 2.50 x 19 are fitted at the front with 4.25 x 17 at the rear. In contrast, the F 850 GS is fitted with cross-spoke wheels with aluminium rim rings and a size of 2.15 x 21 at the front and 4.25 x 17 at the rear. The front wheel size favoured for sports-oriented offroad use is 21 inches; this provides even more riding stability thanks to the larger gyroscopic forces, which offers distinct advantages on loose ground.

Both models are fitted as standard with enduro road tyres. The new F 750 GS is fitted with tubeless tyres with the dimensions 110/80 R19 at the front and 150/70 R17 at the rear. The new F 850 GS now has tubeless tyres for the first time, too with the size 90/90 21 at the front and 150/70 R17 at the rear. In addition, for the F 850 GS there are tyres with a distinct lugged profile which are homologated for intensive terrain use and can be ordered as free optional equipment ex works.

Powerful brake system with standard BMW Motorrad ABS. Riding modes Pro with ABS Pro and a dynamic brake light for even more safety when braking.

A dual disc brake on the front wheel with a diameter of 305 mm ensures supreme and sturdy deceleration in conjunction with a two-piston floating caliper. A single disc brake with a diameter of 265 mm is fitted to the rear wheel with a single-piston floating caliper. As with all BMW motorcycles approved for road use, the new F 750 GS and F 850 GS are fitted as standard with BMW Motorrad ABS, which the rider can also deactivate if desired, for example in offroad situations.

Further safety enhancing features for motorcycles are available in the form of the riding modes Pro optional equipment, ABS Pro functions, and a dynamic brake light. The dynamic brake light can effectively signal to road-users behind that the motorcycle is braking. This additional brake light function, currently still limited to the EU and ECE region, warns traffic to the rear at two levels in the event of hard braking and even if an emergency stop is being performed. Level one is activated when the brakes are applied at speeds of up to 50 km/h. Here the brake light flashes at a frequency of 5 Hz. If the motorcycle approaches standstill (<14 km/h), the second stage comes into effect, involving the additional activation of the hazard warning lights. These remain active until the vehicle is accelerated back up to a speed of at least 20 km/h.

ABS Pro goes one step further than the BMW Motorrad ABS by offering increased safety when braking on bends in that ABS-supported braking is permitted in banking position. Here, ABS Pro prevents the wheels from locking even when the brakes are applied quickly; this reduces abrupt changes in steering force on shock-braking manoeuvres in particular and stops the motorcycle from rearing up unintentionally. The benefits of ABS Pro to the rider are increased brake and ride stability together with the excellent deceleration on bends.

In the riding modes ‘Rain’ and ‘Road’, ABS Pro is dimensioned for road use and moderate to low frictional values, plus optimum braking stability. Control sets in early. In the ‘Dynamic’ riding mode, ABS Pro is coordinated for a very low-skid track quality with high friction. Accordingly, ABS Pro is then dimensioned for optimum braking, control sets in late and the rear wheel lift-off detection is reduced. In the ‘Enduro’ riding mode, ABS Pro is coordinated for the needs of offroad use with enduro road tyres, while the riding mode ‘Enduro Pro’ (F 850 GS only) also accommodates more sporty offroad riding

with enduro lugged tyres. In this mode the rear-wheel ABS is also deactivated, allowing experienced riders to perform so-called brake drifts.

Optimised ergonomics and a variety of seat heights for carefree enduro riding enjoyment.

As is typical for enduros, the new F 750 GS and F 850 GS feature generous spring travel distances and large ground clearance. Nevertheless, it isn't just tall riders who feel comfortable on them. This is ensured by the optimised inner leg curve length, numerous available seat heights, and a refined ergonomic triangle around the handlebars, seat bench and footrests.

With a standard seat height of 815 mm, the new F 750 GS is at the same level as its predecessor, while the standard seat height of the F 850 GS has been reduced by 20 mm to 860 mm. By lowering and incorporating a lower seat bench (optional equipment ex works), it is possible to achieve a minimal seat height of 770 mm with the F 750 GS and 815 mm with the F 850 GS.

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4. Electrical system and electronics.

See and be seen that much better - LED headlight as standard and LED daytime riding light available as optional equipment ex works.

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BMW Motorrad has been regarded for decades as a pioneer when it comes to safety in motorcycling. As a literally glowing example, a LED headlight is standard equipment for the new F 750 GS and F 850 GS. The iconically designed LED daytime riding light is available as optional equipment. The new LED headlight lights up the road with a beam that is unparalleled in its brightness and clarity, it ensures better visibility in traffic. It also lends the two middle-class premium enduros an unmistakable look with its iconic LED optical fibre in the form of an inverted tuning fork. The standard light unit consists of two LED units each for low and high beam. There are four additional LED units for daytime riding light and side light as an option.

Connectivity - the multifunctional instrument cluster with a 6.5 inch full-colour TFT display and numerous features available as optional equipment ex works.

The new F 750 GS and F 850 GS are equipped as standard with a completely new instrument cluster design, consisting of an analogue speedometer and a multifunctional display, alongside a number of control lamps.

Fast and even clearer information for the rider with minimum distraction from what is happening on the road are now possible thanks to the new optional equipment known as Connectivity, with which the instrument cluster is displayed in the form of a 6.5 inch full-colour TFT display. In conjunction with integrated operation via the BMW Motorrad multi-controller, it gives the rider quick access to vehicle and connectivity functions.

It is also an easy matter to make telephone calls or listen to music while on the road. If the rider for example connects a smartphone and a helmet equipped with the BMW Motorrad communication system using the TFT display, he can easily access the media playback and phone functions. These phone and media functions can be used without having to install an app. If a bluetooth

connection has been established with any standard smartphone, the rider can enjoy listening to music while riding.

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In addition, the free BMW Motorrad Connected App offers everyday-suitable and practice-oriented arrow navigation directly via the TFT display. The BMW Motorrad Connected App is available for free from the Google and Apple app stores. It contains a number of additional attractive functions, such as recording routes travelled and displaying travel statistics and information. Tracked routes can now also directly be shared with other riders through the REVER Community. This basic information is particularly attractive for motorcyclists who wish to perform everyday rides or take short trips conveniently and without any additional equipment.

Fast assistance in the event of an emergency - the first ever 'Intelligent Emergency Call' function for middle class motorcycles available ex works as optional equipment.
Getting help to the scene of an accident or emergency as fast as possible can save lives. For the new F 750 GS and F 850 GS there is now an optional equipment function called 'Intelligent Emergency Call', now also available for the middle class segment; it is an eCall system designed to bring assistance to an accident site as quickly as possible. If an emergency situation or an accident occurs, the intelligent emergency call is activated automatically or manually, sending the position data of the motorcycle, and thus the coordinates of the accident scene, setting the rescue chain in motion via the qualified BMW Call Centre. The person involved can speak to the BMW Call Center in the language of his choosing. eCall requires a connection to the mobile phone network in order to trigger the rescue chain.

The operating unit for eCall is located in the right-hand half of the handlebars and is both compact and ergonomically designed. In addition to the cover-protected SOS button used for triggering or cancelling an emergency call, a microphone and loudspeaker have also been integrated.

On the basis of a sophisticated sensor system designed to determine the nature of an incident, eCall takes into account three possible scenarios. First there is automatic activation that occurs in the event of a serious fall or collision. The emergency call function is immediately activated without delay

and the accident victim/rider is taken care of by the BMW Call Center via audio connection until the emergency service arrives. Then there is the automatic activation in the event of a less serious fall or collision. In this case, the person affected has the option of pressing a button to discontinue the emergency call. Thirdly, it is possible to activate the function manually by the press of a button, for instance to obtain assistance for another person involved in an accident. In this case the eCall is triggered manually by pressing the SOS button on the right handlebar end. In this case too, the caller has the option to discontinue the emergency call by pressing a button.

Keyless Ride – convenient activation of all locking functions by wireless link, available as optional equipment ex works.
As is already the case with other BMW Motorrad models, the Keyless Ride system available as optional equipment ex works replaces the conventional ignition/steering lock in the new F 750 GS and F 850 GS. This means that it is no longer necessary to use a regular key. The steering lock, ignition, fuel filler flap and anti-theft device are all activated by the transponder integrated in the vehicle key, which transmits a wireless signal with a frequency specific to the vehicle. The key can therefore remain in the rider's pocket, for example.

As soon as the key is located within the vehicle reception area (distance < 2 metres), the steering lock can be unlocked. The steering lock is locked by keeping the button pressed down and placing the handlebars in end position. The ignition is activated by briefly pressing the button or keeping the button pressed down after releasing the steering lock. The ignition is switched off by means of a short or long press of the button. The alarm system is automatically activated when the ignition is switched off and the steering lock is closed, as soon as the key leaves the reception area.

5. Design and colour concept.

New, more dynamic design with a sharper GS profile.
The new F 750 GS and F 850 GS have been completely redesigned and now benefit from a much more dynamic and masculine look. The design with its iconic features such as the asymmetric headlight and the GS-typical flyline make it immediately clear that they belong to the BMW Motorrad GS family. The characteristic flyline emanates from the front GS “beak” (upper wheel cover) over and past the fuel tank and seat bench to the functionally designed and now considerably slimmer rear. This rear section, which radiates agility and lightness with a black painted rear frame enhances the dynamic character of the new GS models.

Optimised offroad and touring ability plus improved wind and weather protection.
For improved offroad capability, attention was paid to ensuring that there are no inconvenient corners or edges in the vicinity of the fuel tank and seat bench. The wind and weather protection was also subjected to further optimisation. In this case, the modular structure of the available windshields (original BMW Motorrad accessories) permits individual configuration to suit the wishes of the rider. For instance, standard-series windshields from the F 750 GS (somewhat lower) and the F 850 GS (somewhat higher and at the same time the same as the comfort windshield of the F 750 GS) can be simply exchanged. All in all, this allows the rider to increase the characteristics of the new GS models towards offroad use or travel comfort. Touring suitability has been further optimised with the new integrated case design in the style of the R 1200 GS.

Stronger characters thanks to new colours and style variations.
Three dynamic colour and three style variations give the new GS models their individual character features. The painted parts of both models have been deliberately kept to a minimum. They are located in the upper area of the motorcycle, where they form the interface between the rider and the motorcycle. The lower area of the motorcycle and the GS ‘beak’, on the other hand, are in black, to underline its robust offroad character.

The new BMW F 750 GS: Sporty and urbane multi-talent with attractive colour design.

The new F 750 GS features a sporty and urbane character and yet is ideally suited for offroad use thanks to its enduro-specific functions.

The high quality claim of the new F 750 GS is particularly apparent in the diversity of the materials and the high quality technology. Materials range from high-gloss painted surfaces and glossy plastic sections to matt plastic components in a variety of textures, functionally optimised for use and generating an exclusive overall appearance in their interplay.

Light white: Sportiness and dynamics.

- Light white paint finish.
- High gloss GS inscription.
- Seat bench colour Red/Black.
- Die-cast aluminium wheels, Black gloss.

P90283359

Austin yellow metallic: Youthful and agile.

- Paintwork in Austin yellow metallic.
- High gloss GS inscription.
- Seat bench colour Grey/Black.
- Die-cast aluminium wheels, Black gloss.

P90283357

F 750 GS Exclusive: Refined, technical and modern.

- Paintwork in Stereo metallic matt.
- Galvanised radiator cover with matt GS inscription.
- High gloss tapes.
- Seat bench colour Grey/Black.
- Die-cast aluminium wheels, Granite grey metallic.
- Hand protectors.

P90283358

The new BMW F 850 GS: Distinct offroad competence and optimum touring suitability.

The new F 850 GS now has an even more masculine appearance and combines even more pronounced offroad skills with optimum touring capability. High-positioned air intake, amply proportioned spring travel, ground clearance, functionally designed surfaces and a precise panel alignment underline the robust offroad attributes of the two new middle class GS models.

Racing red: Dynamic sports look.

- Racing red paint finish.
- High-gloss GS inscription on radiator cover in contrasting paintwork in Granite grey metallic matt.
- Seat bench colour Grey/Black.
- Cross-spoke wheels with Black rim rings.

P90283504

F 850 GS Exclusive: Refined, exclusive, and with a marked touring character.

- Pollux metallic matt paint finish.
- Galvanised radiator cover with matt GS inscription.
- Tapes in Black matt and White aluminium metallic matt.
- Seat bench colour Grey/Black.
- Hand protectors.
- Gold anodised upside-down telescopic tube forks.
- Cross-spoke wheels with Black rim rings.

P90283503

F 850 GS Rallye: Offroad competence dynamically packaged

- Light white paint finish.
- Tapes in Lupin blue metallic and Racing red.
- Galvanised radiator cover with high-gloss GS inscription.
- Seat bench colour Red/Black.
- Hand protectors.
- Cross-spoke wheels with Gold anodised rim rings.

P90283502

6. Equipment program.

The range of optional equipment and Original BMW Motorrad accessories available for customising the new BMW F 750 GS and F 850 GS is unparalleled in the middle class segment and has been considerably increased since the previous models.

Optional equipment is supplied directly ex works and is integrated in the production process. Original BMW Motorrad accessories are installed by the BMW Motorrad dealer or by customers themselves. These are features which can be retrofitted, too.

Optional Equipment.

Comfort package:
- Center stand, tyre pressure control, Keyless Ride, heated grips.

Touring package:
- Cruise control, luggage grid with case holders, Dynamic ESA.

Dynamic package:
- Riding modes Pro incl. DTC, ABS Pro, dynamic brake light, Gear shift assistant Pro.

Light package:
- LED turn indicators, LED daytime riding light.

- Connectivity incl. 6.5 inch TFT colour display.
- Intelligent Emergency Call.
- Keyless Ride.
- Preparation for GPS device.
- Program map adaptation for regular fuel RON 91 (F 850 GS only).
- Tyre pressure control.
- LED turn indicators.
- LED daytime riding light.
- Gear shift assistant Pro.
- Cruise control.
- Riding modes Pro incl. DTC, ABS Pro and dynamic brake light.
- Heated grips.

- Alarm system.
- Output reduction 35 kW.
- Lowered suspension.
- Dynamic ESA (Electronic Suspension Adjustment).
- Seat bench for two, low.
- Comfort seat.
- Off-road tyres (only F 850 GS).
- Center stand.
- Luggage grid with case holders.
- HP sports silencer.

Original BMW Motorrad Accessories.

HP Parts.

- HP sports silencer.
- HP brake and clutch levers.

Storage.

- Vario case.
- Case holder for Vario case.
- Vario topcase.
- Luggage bridge for Vario topcase.
- Liners for Vario case and topcase.
- Back pads for Vario topcase.
- Tank rucksack.
- Tank rucksack map compartment.
- Bag for passenger seat.
- Bag for luggage bridge.
- Soft bag 3 small, waterproof, 30 – 35 l.
- Soft bag 3 large, waterproof, 50 – 55 l.
- Roll bag 3, waterproof, 50 l.

Design.

- LED turn indicators.

Ergonomics and comfort.

- Windshield, large, tinted.
- Windshield, large, clear (standard in F 850 GS).
- Windshield, small, tinted.
- Windshield, small, clear (standard in F 750 GS).
- Center stand.
- High handlebar (for F 850 GS only).
- Handlebar risers (for F 750 GS only).

- Comfort seat.
- Seat, black/grey.
- Seat, black/red.
- Seat, low, black/grey.
- Seat, low, black/red.
- Rallye seat.
- Heated grips.
- Enduro footrests.
- Adjustable gear shift lever.
- Footbrake lever, adjustable.
- Gear shift assistant Pro.

Navigation and communication.

- BMW Motorrad Navigator VI.
- BMW Motorrad Smartphone Cradle.
- USB adapter.
- USB charging device.
- BMW Motorrad Smartphone Cradle.
- Preparation for GPS device retrofit.

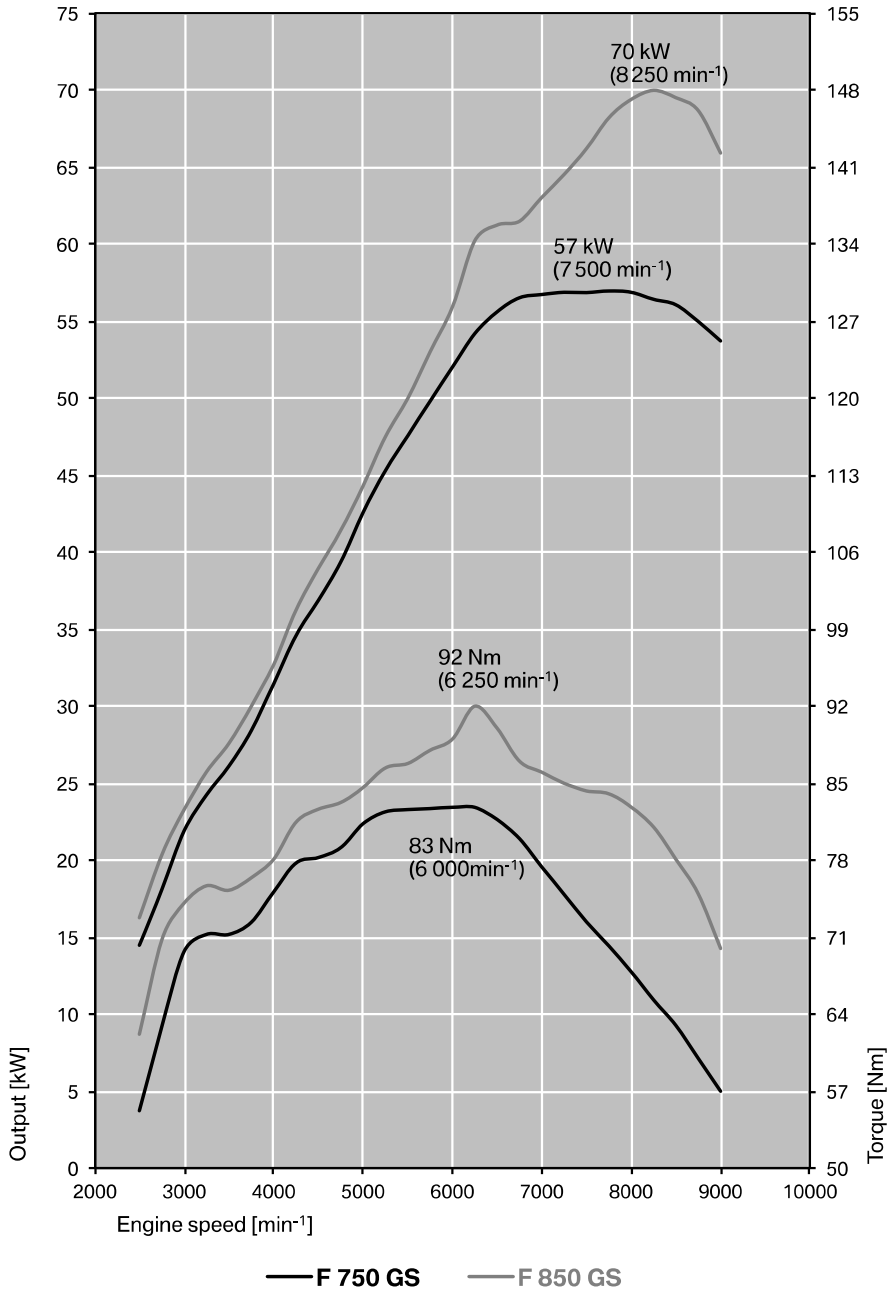
Safety.

- Alarm system.
- Auxilliary LED headlights.
- Headlight guard for offroad use.
- Hand protectors.
- Engine protection bar, plastic.
- First-aid kit, small.
- First-aid kit, large.
- Enduro aluminum engine guard.
- Engine guard.

Maintenance and technology.

- Automatic chain lubrication system.
- Power reduction to 35 kW (48 hp).
- Universal cover, outdoor.
- Vehicle cover, indoor.
- Vehicle cover, indoor, large (with cases).
- LED lamp for charging socket.
- Breakdown assistance kit for tubeless tyres.
- Battery charger.

7. Engine output and torque.



8. Technical specifications.

		F 750 GS	F 850 GS
Engine			
Capacity	cc		853
Bore/stroke	mm		84/77
Output	kW/hp	57/77	70/95
At engine speed	rpm	7,500	8,250
Torque	Nm	83	92
At engine speed	rpm	6,000	6,250
Type		Water-cooled 2-cylinder 4-stroke engine with four rocker arm operated valves per cylinder, two overhead camshafts and dry sum lubrication	
Compression			12.7/1
Fuel		Regular unleaded 91 RON	Premium, unleaded 95 RON (OE: 91 RON)
Valve control		DOHC (double overhead camshaft), rocker arms	
Valves per cylinder			4
Ø intake/outlet	mm		33.5/27.2
Ø Throttle valves	mm		48
Engine control			BMS-M
Emission control		Closed-loop 3-way catalytic converter, exhaust emission standard EU4	
Electrical system			
Alternator	W		416
Battery	V/Ah		12/10
Headlight			High beam/low beam: 12 V/55 W Halogen (OE: LED headlamp incl. LED daytime riding light)
Rear light			LED brake light/rear light
Starter	kW		0.9
Power transmission - gearbox			
Clutch		Multiplate wet clutch (anti-hopping), mechanically controlled	
Gearbox		Constant-mesh 6-speed gearbox, integrated in the engine housing	
Primary ratio			1.821
Transmission ratios	I		2.833
	II		2.067
	III		1.600
	IV		1.308
	V		1.103
	VI		0.968
Secondary drive		Endless O-ring chain with pull damping at the rear wheel hub	
Secondary transmission			2.588

		F 750 GS	F 850 GS
Suspension			
Frame construction type		Steel bridge frame in monocoque design, load-bearing engine	
Front wheel control		Telescopic fork Ø 41 mm	USD fork Ø 43 mm
Rear wheel control		Aluminium double-sided swing arm, directly mounted central spring strut, (F 850 GS with WAD) Spring rest hydraulically adjustable, rebound damping adjustable (OE: Dynamic ESA)	
Spring travel, front/rear	mm	151/177	204/219
Wheel castor	mm	104.5	126
Wheelbase	mm	1,559	1,593
Steering head angle	°	63	62
Brakes	Front	Hydraulically activated twin disc brake, Ø 305 mm, 2-piston floating caliper	
	Rear	Hydraulically activated single disc brake, Ø 265 mm, 1-piston floating caliper	
ABS		BMW Motorrad ABS as standard, disengageable	
Wheels		Die-cast aluminium wheels	Cross-spoke wheels
	Front	2.50 x 19”	2.15 x 21”
	Rear	4.25 x 17”	4.25 x 17”
Tyres	Front	110/80 R19	90/90 21
	Rear	150/70 R17	150/70 R17
Dimensions and weights			
Total length	mm	2,255	2,305
Total width incl. mirrors	mm	922	922
Seat height	mm	815 (OE low seat 790) (OE lowering 770) (OE comfort SB 830)	860 (OE low seat 835) (OE lowering 815) (OE comfort SB 875) (Accessory: Rallye seat 890)
DIN unladen weight, road ready	kg	224	229
Permitted total weight	kg	440	445
Fuel tank capacity	l	15	15
Performance figures			
Fuel consumption (WMTC)	l/100 km	4.1	4.1
Acceleration 0-100 km/h	s	4.1	3.8
Top speed	km/h	190	>200