

# The New BMW R 1200 GS/Adventure. Contents.



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# 1. The New BMW R 1200 GS/Adventure.



## **The main features of the new BMW R 1200 GS and the new BMW R 1200 GS Adventure at a glance:**

- New, even more dynamic drivetrain now with two overhead camshafts per cylinder and valves in radial arrangement.
- Increase in engine output by 5 per cent to 81 kW (110 hp) at 7,750 rpm and maximum torque to 120 Nm (88 lb-ft) at 6,000 rpm.
- Increase in maximum engine speed from 8,000 to 8,500 rpm with an even wider range of useful engine speed.
- Significantly better acceleration, torque and pulling power.
- Electronically controlled exhaust flap for even more muscular sound.
- Colour variants of the R 1200 GS: Alpine White non-metallic, Magma Red non-metallic, Ostra Grey matt metallic, Sapphire Black metallic.
- Colour variants of the R 1200 GS Adventure: Smoke Grey matt metallic, Brilliant Yellow metallic.
- Optional extras and accessories tailored to each model with BMW's usual high level of quality.
- New additional headlight in LED technology for the R 1200 GS (accessory).

## **New, even more powerful drivetrain with extra torque for even greater driving dynamics both onroad and offroad.**

Introducing the new BMW R 1200 GS and the new R 1200 GS Adventure, BMW Motorrad is opening up yet another chapter in the story of highly successful GS models which, for almost three decades, have been the epitome of the large-capacity grand touring enduro.

Moving on from the former generation of the R 1200 GS and R 1200 GS Adventure, which already offered supreme power and performance as well as a very broad range of practical riding qualities for long tours combined with supreme pleasure on winding country and mountain roads, BMW Motorrad is now enhancing this standard, as impressive as it already is, to an even higher level.

In its construction principle and fundamental layout, the new flat-twin power unit is the same as the DOHC engine on the BMW HP2 Sport. But marking the new generation, the engine has been carefully updated and optimised for the R 1200 GS and the R 1200 GS Adventure, tailored to the specific requirements of a grand touring enduro.

With the 1,170-cc Boxer engine on the former models already ensuring supreme power under all conditions and in all situations, the new R 1200 GS and R 1200 GS Adventure have even more to offer in virtually every respect: Delivering maximum output of 110 hp, reaching top engine speed up by 500 to 8,500 rpm, and with an even broader range of engine speed, the new GS models are even more dynamic, powerful and muscular in terms of both torque and acceleration throughout the entire speed range, thus setting the standard once again for the grand touring enduro also in terms of riding dynamics.

#### **New DOHC cylinder heads for even more efficient cylinder charge.**

Designed and built from the start for higher engine speed, the new flat-twin power unit in the R 1200 GS and R 1200 GS Adventure, like the power unit featured in the BMW HP2 Sport, comes with two overhead, chain-driven camshafts (DOHC) per cylinder. The valves are operated by very light rocker arms able to cope with even very high engine speeds through their low weight alone. Radial arrangement of the four valves is ensured by the very compact combustion chambers. Like on the former models, the fuel/air mixture is ignited by two spark plugs (HP2 Sport: one spark plug), and the compression ratio of 12.0:1 is also the same as before.

Thanks to efficient knock control, both models are able to run on premium (plus) fuel with an octane rating of 95-98 RON (maximum output is measured at 98 RON). Under certain conditions there may be a very small loss of torque and a slight increase in fuel consumption as soon as knock control cuts in. On long tours where the rider might be required to use inferior fuel, the engine may also run on 91 RON regular fuel, using specific running data available as special equipment free of charge straight from the factory.

Horizontal arrangement of the camshafts in the direction of travel gives the new flat-twin power unit two particular technical features: Each camshaft controls one intake and exhaust valve and, due to the radial arrangement of the valves, the cams come with a conical profile. To increase both output and torque, gas throughput has been increased throughout the entire speed range by increasing valve plate diameter over the former models from 36 to 39 millimetres (1.42–1.54") on the intake side and 31 to 33 millimetres (1.22–1.30") on the exhaust side.

Intake and exhaust timing on the two camshafts has been optimised in particular for supreme power at low and medium engine speeds and for even faster, free-revving engine performance throughout the entire range. To increase the free valve cross-section, valve lift is up by 10.54 mm (0.415") on the intake and 9.26 mm (0.365") on the exhaust side to 10.8 mm (0.425") on both sides. Valve clearance is compensated by light semi-hemispherical shims.

**More power and extra torque throughout the entire speed range.**

The existing ratio of bore and stroke of 101:73 millimetres (3.98 : 2.87") remains the same as before, as does the engine's cubic capacity of 1,170 cc. Other features likewise carried over from the former power unit are the crankshafts and connecting rods as well as their mounts and bearings, while the two new cast-aluminium pistons have been re-designed to match the change in combustion chamber geometry.

Interacting with the upgraded intake system now featuring black instead of silver throttle butterfly manifolds as on the former models measuring 50 mm (1.97") instead of formerly 47 mm (1.85") (HP2 Sport: 52 mm/2.05") opening clearance and with newly designed intake air funnels and an air filter element with higher throughput, the engine now develops maximum output of 81 kW/110 PS at 7,750 rpm and peak torque of 120 Nm/88 lb-ft at 6,000 rpm. An oil cooler ensures stable thermal conditions even when riding to the extreme.

In all, the modifications to the drivetrain provide a significantly more homogeneous flow of power and torque throughout the entire speed range. In this process of technical development, the engines now feature magnesium-coloured cylinder head covers with two instead of formerly four fastening bolts and come in new, even more dynamic design. A valve cover guard made of aluminium or plastic as well as a chrome-plated aluminium cylinder head cover may be retrofitted as special equipment.

**Electronically controlled exhaust flap for even more muscular sound.**

Moving on to the exhaust system, the two manifolds are the same as before in their design, length and diameter, while a modified interference pipe caters for the change in vibration conditions in the exhaust system.

Featuring an exhaust flap controlled by an electric motor as well as opening and closing cables, both the new BMW R 1200 GS and the new R 1200 GS Adventure provide a particularly throaty boxer sound naturally in full compliance with legal standards. And to reduce ram pressure and improve the sound of the engine even further, the rear silencer remaining the same in design as on the former models comes with a completely new interior structure.

### **Ideal transmission of power through six-speed gearbox and drive shaft.**

Power is transmitted as before by the proven six-speed gearbox with larger bearing diameters and a modified distance between the individual shafts already upgraded technically for the 2008 model year. In the process the gear ratios were once again adjusted and the secondary transmission has been modified from  $i = 2.82$  to  $i = 2.91$ .

In conjunction with the new, even more powerful engine, this once again means significantly more torque and pulling force throughout the entire range of engine speed.

The new R 1200 GS and R 1200 GS Adventure also benefit from optimised shift kinematics with an optimised power/travel curve for precise gearshift and clear feedback at all times.

The maintenance-free drive shaft to the rear wheel also remains unchanged, relieving the rider of annoying and time-consuming maintenance requirements particularly on long tours.

### **Proven running gear and high-performance brakes with Integral ABS.**

Like their predecessors, the new R 1200 GS and R 1200 GS Adventure offer an almost perfect synthesis of offroad and onroad riding qualities. As in the past, the stiff and torsionally-resistant suspension, front wheel guidance with the unique BMW Telelever, and the rear wheel incorporating the BMW Paralever guarantee first-class and absolutely safe riding qualities also with the new engine offering even more power and torque.

In conjunction with optional BMW Motorrad Integral ABS, extremely powerful brakes serve additionally to provide maximum safety even in critical situations. Optimum environmental compatibility, finally, is ensured also on the new boxer engine through the most advanced exhaust gas management with a fully-controlled three-way catalytic converter.

### **Enduro ESA as special equipment for optimum electronic adjustment of the running gear for every purpose.**

Designed and built for the specific requirements of a grand touring enduro, Enduro ESA Electronic Suspension Adjustment available also on the latest version of the R 1200 GS and R 1200 GS Adventure as an optional extra straight from the factory allows adjustment of the running gear under all kinds of running conditions and with virtually any load level, simply by pressing a button. An important feature is that Enduro ESA offers both an onroad and offroad mode within which the rider, choosing specific settings for the spring base and damping, is able to adjust the suspension even more precisely to specific needs and requirements.

As usual, Enduro ESA meets the particular requirements made of a grand touring enduro by additional electrohydraulic adjustment of the spring base on the front spring strut. When riding offroad, this ensures a far smoother ride without the wheel breaking through, and without the disadvantages otherwise experienced onroad such as shorter negative spring travel or greater seat height.

### **Optimum ergonomics and even more practical features.**

Made of a heat-treated aluminium tube, the high-quality and sophisticated handlebar, interacting with two asymmetrically mounted clamps turning by up to 180°, as on the HP2 Enduro Sports, may be fitted in two ergonomically different positions. While the rear handlebar position for riding onroad and in less demanding terrain ensures optimum ergonomics particularly for the shorter rider, the front handlebar position offers advantages in particular when standing up on the machine in rough terrain.

The hand protectors available as special equipment for the R 1200 GS are fitted as standard straight from the factory on the R 1200 GS Adventure. In the process of technically upgrading the successful R 1200 GS models, the instrument cluster has received a new dial in new design. And last but not least, the windshield now comes with larger hand-bolts with even better grip for adjusting its position with greater ease.

### **Optional extras and accessories tailored to both the rider and the machine.**

As a genuine, fully-fledged systems supplier, BMW Motorrad has developed a wide range of optional extras and special equipment for further customisation of the new R 1200 GS and R 1200 GS Adventure. One particularly important new feature is the additional headlights in LED technology.

Optional extras come directly from the factory and are fitted during production at the Berlin Plant, accessories and special equipment are fitted subsequently by the BMW Motorcycle Dealer.

### **Optional Extras.**

- Enduro ESA.
- BMW Motorrad Integral ABS (semi-integral, on-demand).
- RDC.
- ASC.
- Exhaust system chrome-plated.

- Heated handles.
- Hand protectors (Adventure: standard).
- Case holder (Adventure: case support for aluminium case).
- Cross-spoke wheels (Adventure: standard).
- On-board computer with oil level warning.
- Low rider's seat (R 1200 GS).
- Lowered suspension (R 1200 GS).
- Anti-theft warning system with remote control.
- LED direction indicators.
- Offroad tyres (Adventure).
- Enduro transmission (short first gear) (Adventure).
- Additional halogen headlight (Adventure).
- Power reduced to 98 hp.
- 91 RON.

### **Special Equipment.**

#### **Cases.**

- Vario case (GS) / aluminium case (Adventure).
- Case holder (GS) / case support for aluminium case (Adventure).\*
- Vario Topcase (GS) / Aluminium Topcase (Adventure).
- Topcase fastening elements replacing passenger seat (R 1200 GS).
- Topcase support.
- Inner bags for vario and aluminium case/Topcase.
- Back padding for vario and aluminium Topcase.

- Carrier handle for aluminium case.
- Watertight tank bag.
- Watertight tank bag, small (R 1200 GS).
- Softbag 2, large, 51 litres.
- Softbag 2, small, 19 litres.

### **Design.**

- Cylinder head covers chrome-plated.
- Wheel cover, front, in carbon.
- Splashguard, rear, in carbon.
- HP Carbon cover for engine housing.
- Headlight protector (for offroad use only).
- Cap for Telelever and fork bridge.
- Additional LED headlight.
- Holder for additional headlight.
- LED direction indicators.\*

### **Sound.**

- Akrapović sports muffler.

### **Ergonomics and Comfort.**

- Windshield, tinted.
- Wide enduro footrests (Adventure: standard).
- Adjustable footbrake lever (Adventure: standard).
- Handlebar cross reinforcement.
- Padding for handlebar cross reinforcement.
- Rider's seat, low (820 mm/32.3") in Black\* or Grey (R 1200 GS).

- Rider's seat, Grey (R 1200 GS).
- Additional power socket.
- Heated handles.\*

#### **Navigation and Communication.**

- BMW Motorrad Navigator IV.
- Holder for BMW Motorrad Navigator.
- Navigator function bag.

#### **Safety.**

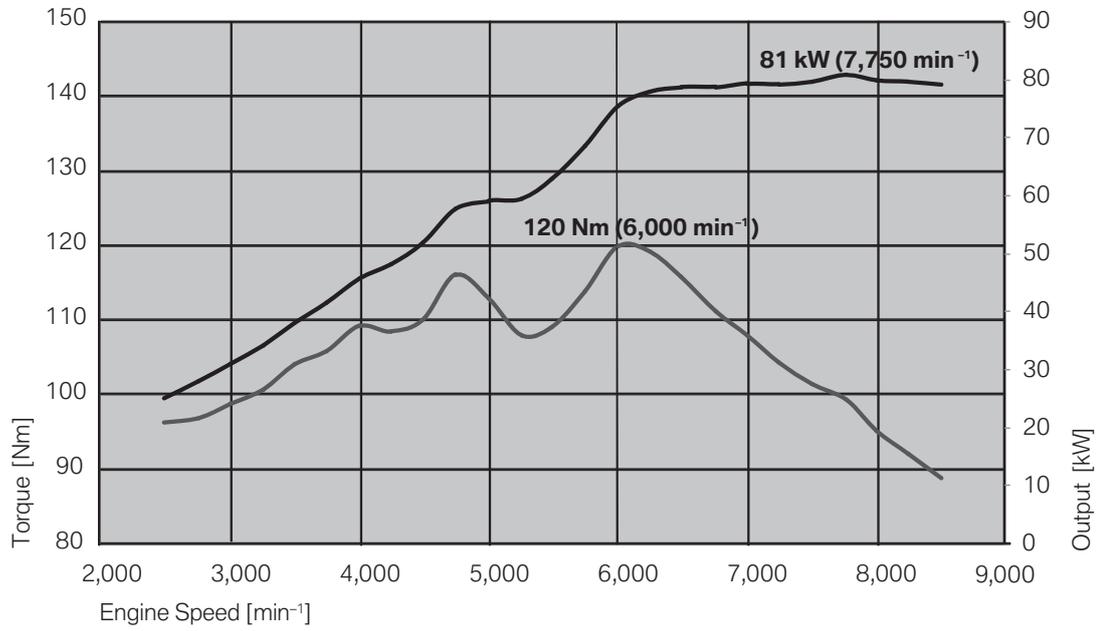
- Hand protectors (Adventure: standard).\*
- Spoiler guards, large, for hand protectors.
- Aluminium cylinder head cover protection (Adventure: standard).
- Plastic cylinder head cover protection.
- Engine protection hoop (R 1200 GS).
- Enduro underfloor protection, aluminium.
- Frame guard.
- Safety bolts for oil filler manifold.
- Anti-theft warning system with remote control.\*

#### **Maintenance and Technical Equipment.**

- Reduction in power to 98 hp.\*
- Paddock stand.
- On-board toolkit/service kit.
- LED light for on-board power socket, 410 millimetres/16.1".

\* Also available as an optional extra from the factory.

## 2. Output and Torque.



### 3. Specifications.



<b>BMW R 1200 GS (81 kW) BMW R 1200 GS Adventure (81 kW)</b>			
<b>Power Unit</b>			
Capacity	cc	1,170	1,170
Bore/stroke	mm	101/73	101/73
Max output	kW/hp	81/110	81/110
at	rpm	7,750	7,750
Max torque	Nm/lb-ft	120/88	120/88
at	rpm	6000	6000
Configuration		Flat-twin	Flat-twin
No of cyls		2	2
Compression ratio/fuel grade		12/S 95-98 RON, max output with 98 RON, optional 91 RON SA	12/S 95-98 RON, max output with 98 RON, optional 91 RON SA
Valve/gas timing		DOHC	DOHC
Valves per cylinder		4	4
Intake/exhaust valve dia	mm	39/33	39/33
Throttle butterfly dia	mm	50	50
Fuel supply		BMS-K+	BMS-K+
Exhaust management		Fully-controlled three-way catalytic converter	Fully-controlled three-way catalytic converter
<b>Electrical System</b>			
Alternator	W	720	720
Battery	V/Ah	12/14, maintenance-free	12/14, maintenance-free
Headlight	W	H7	H7
Starter	kW	1.1	1.1
<b>Power Transmission/Gearbox</b>			
Clutch		Single-plate dry clutch, dia 180mm	Single-plate dry clutch, dia 180 mm
Transmission		Dog-type six-speed gearshift	Dog-type six-speed gearshift
Primary ratio		1.737	1.737
Gear ratios	I	2.375	2.375; optional 2.600
	II	1.696	1.696
	III	1.296	1.296
	IV	1.065	1.065
	V	0.939	0.939
	VI	0.848	0.848
Rear-wheel drive		Drive shaft	Drive shaft
Final drive ratio		2.91	2.91
<b>Running Gear</b>			
Frame		Tubular steel frame, load-bearing power unit	Tubular steel frame, load-bearing power unit
Front wheel guidance		BMW Telelever	BMW Telelever
Rear wheel guidance		BMW Paralever	BMW Paralever
Overall spring travel, front/rear	mm	190/200	210/220
Castor	mm	101	88.7
Wheelbase	mm	1507	1510
Steering head angle	°	64.3	65.2
Brakes	front	Dual disc brake, dia 305 mm	Dual disc brake, dia 305 mm
	rear	Single disc brake, dia 265 mm	Single disc brake, dia 265 mm
		Optional: BMW Motorrad Integral ABS (semi-integral, on-demand)	Optional: BMW Motorrad Integral ABS (semi-integral, on-demand)
Wheels		Cast	Cross-spoke
	front	2.5 x 19	2.5 x 19
	rear	4.0 x 17	4.0 x 17
Tyres	front	110/80 R 19	110/80 R 19
	rear	150/70 R 17	150/70 R 17
<b>Dimensions and Weight</b>			
Length, overall	mm	2,210	2,240
Width, overall, with mirrors	mm	940	990
Handlebar width, without mirrors	mm	930	950
Seat height	mm	850/870	910/890
Dry weight	kg	203	223
DIN unladen weight in road trim	kg	229	256
Max permissible	kg	440	475
Tank capacity	ltr	20	33
<b>Performance Data</b>			
Fuel consumption	90 km/h ltr/100 km	4.3	4.6
	120 km/h ltr/100 km	5.5	6.1
Acceleration	0–100 km/h sec	3.7	3.95
Top speed	km/h	200 plus	200 plus

## 4. Range of Colours.



### **New surface and colour design.**

The new R 1200 GS and R 1200 GS Adventure demonstrate their enhanced dynamics through new surface design and colours.

Ostra Grey matt metallic gives the R 1200 GS a particularly technical touch. Sapphire Black metallic, on the other hand, gives the new R 1200 GS a very masculine look, while the two non-metallic paintwork options in sophisticated Alpine White and brilliant Magma Red highlight the sporting offroad ambitions of the new R 1200 GS.

On the R 1200 GS Adventure Smoke Grey metallic emphasises the almost rustic, masculine character of the machine, while Brilliant Yellow metallic accentuates its sporting offroad qualities. Particularly the second colour variant forms an exciting contrast to the seat finished in Black Olive Grey.

The new throttle butterfly manifolds come in Black.