

# The new BMW R nineT Scrambler. Table of contents.



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# 1. Overall concept. (Short version)



## **The new BMW R nineT Scrambler – a down-to-earth character beyond established conventions.**

They were ridden by action heroes on the screen and scores of hobby racers entered mountain and beach races on them: the Scramblers. With deep-treaded tyres, a raised exhaust, somewhat extended spring travel and a relaxed seating position, Scramblers offered their riders in the 1950s to 1970s not just motorcycling fun on winding country roads but also great off-road capability and therefore an extended range of use. Like the motorcycles themselves, the people who rode Scramblers were not bound by established conventions. And they could be seen virtually everywhere: on winding country roads, stony mountain passes and - where it was allowed - even on sandy beaches.

The history of BMW Motorrad is also rooted in the Scrambler concept. In 1951, the BMW R 68 was presented at the International Bicycle and Motorcycle Fair IFMA in Frankfurt with a typical raised 2-in-1 exhaust, just like the one used for racing by BMW Motorrad legend Georg "Schorsch" Meier. While the standard version of the R 68 had a conventional exhaust installed in a lower position, the raised exhaust version was already available back then as a BMW Motorrad accessory. To this day, some owners of this highly valuable post-war BMW Motorrad classic still like to retrofit the special Scrambler-style exhaust.

Now BMW Motorrad presents the new BMW R nineT Scrambler, a motorcycle which revives the Scrambler era in a very special way. It has everything that defines this motorcycle type, filled with a very distinct spirit and created for motorcycle fans who love things that are purist, reduced to the essentials and non-conformist - combined with the technology and quality of a BMW. Together with the R nineT Roadster, the BMW Scrambler establishes the new BMW Motorrad Heritage world of experience.

## **Potent, air-cooled boxer for vigorous power.**

The new BMW Motorrad Scrambler features a classic air-cooled, punchy flat-twin boxer engine, which has stood for hallmark design, powerful torque and a unique sound for more than nine decades. The R nineT Scrambler is fitted with the air/oil-cooled boxer with a capacity of 1 170 cc. It delivers an output of 81 kW (110 hp) at 7 750 rpm, develops a maximum torque of 116 Nm at

6 000 rpm and, with the new engine mapping and a fuel system including carbon canister, meets the requirements of the EU4 pollutant class.

### **Dynamic Scrambler with versatile character.**

With the new Scrambler as with the R nineT, BMW Motorrad has responded to the desire of many motorcycle fans to be able to modify their bike creatively according to their own personal taste. The spectrum of potential alterations ranges from original BMW Motorrad accessories through to attachments or accessory parts produced by customisers to create a unique motorcycle.

### **Raised exhaust in Scrambler style for a sonorous sound.**

The raised exhaust with two vertically arranged rear silencers meets the requirements of a classic Scrambler. It is fitted very close to the body of the bike, thereby reinforcing its generally slim appearance. Producing a sonorous boxer sound, it also adheres to the new noise emission regulation ECE R41-04. A large-size catalytic converter ensures even more effective exhaust gas cleaning.

### **Traditional suspension technology with 19-inch front wheel and a wide range of potential variations.**

Similar to the R nineT Roadster, the frame concept is a key aspect in terms of the Scrambler's extensive customisation capacity. The specially developed steel tubular space frame integrates the boxer engine as a load-bearing element and consists of a front section with integrated steering head and a rear section with swinging arm mount.

The passenger frame can be dismantled, thereby allowing the R nineT Scrambler to be used either by two people or - for a particularly stylish appearance - by the rider on their own. In line with the bike's active riding character, the suspension geometry of the R nineT Scrambler is mainly geared towards sound handling and a neutral cornering response - in other words lots of riding fun on winding country roads.

In good Scrambler style, front wheel suspension is in the form of a telescopic fork with rubber gaiters and a spring travel of 125 millimetres. Rear wheel suspension is taken care of by a Paralever single-sided swinging arm as used in the other boxer models. Suspension and damping are carried out via a central spring strut. The spring travel is 140 millimetres.

The new BMW Scrambler is fitted with light alloy cast wheels. In typical Scrambler style it has a large 19-inch front wheel with tyre sizes of 120/70-19 at the front and 170/60-17 at the rear.

In view of the impressive riding dynamics of the R nineT Scrambler, the brake system - which comes with ABS as standard - is fitted with 4-piston calipers, steel-wrapped brake lines and 320-millimetre brake discs at the front. At the rear, effective deceleration is ensured by a single-disc brake with a diameter of 265 millimetres and a 2-piston floating caliper.

### **Special ergonomics for a relaxed Scrambler feel.**

A relaxed upright seating position is one of the key features of a Scrambler. For this reason, the ergonomic triangle of handlebar-seat-footrests has been redefined. With handlebars that are higher as compared to the R nineT, slightly reduced seat upholstery and rider footrests that are positioned somewhat lower and further to the rear, the new model gives the rider a relaxed ride feel.

### **Purist design, attention to detail and a classic colour concept.**

Whether with the standard light alloy cast wheels or the optional cross-spoke wheels – the new R nineT Scrambler always demonstrates authentic style. One important design objective was to deliberately ensure the body features were reduced so as to achieve a purist appearance. From all angles, the BMW Motorrad Scrambler is defined by a blend of classic and modern elements of motorcycle design style.

The circular headlamp gives it an expression of freedom, independence and serenity, while the speedometer with analog display features an inelaborate style that very much reflects the classic principles applied to the development of the BMW Scrambler. Eye-catching elements are the painted 17-litre sheet-steel fuel tank and the trim cover made of fine aluminium sheet with embossed R nineT inscription which runs across the air intake duct on the right-hand side.

The new member of the BMW Motorrad Heritage world of experience also conveys its high-quality workmanship in numerous details. These include the refined aluminium forged parts with glass-bead blasted and then clear anodised surface or the clamp for the double-buttet tubular handlebars, also made of aluminium and bearing an engraved BMW Motorrad inscription. The tapered and stitched two-person seat in patinised leather look in the colour Saddle Brown likewise demonstrates refined workmanship and the use of high-end materials.

The new BMW R nineT Scrambler is available in the paint finish Monolith metallic matt. The bike's classic, purist character is enhanced by black-coated components such as the frame, swinging arm, wheels, fork slider tubes and engine housing.

### **Highlights of the new BMW R nineT Scrambler:**

- Purist design.
- Classic colour concept.
- Stitched seat in patinised leather look.
- Workmanship with great attention to detail.
- Air/oil-cooled 2-cylinder boxer engine with a capacity of 1 170 cc. Output 81 kW (110 hp) at 7 750 rpm, maximum torque of 116 Nm at 6 000 rpm.
- Designed to be customised.
- Modular frame concept with removable passenger frame offering a range of variations.
- Classic wheel suspension by means of telescopic fork at front and Paralever at rear.
- Large 19-inch front wheel as is typical of a Scrambler.
- Upright seating position in classic Scrambler style.
- Raised exhaust fitted close to the body with twin silencer.
- Axially mounted 4-piston brake calipers, steel-wrapped brake lines, 320-millimetre brake discs and ABS.
- Individually tailored special accessories in the familiar high quality typical of BMW Motorrad.

## 2 Technology.



### **BMW R nineT Scrambler – powerfully individual character with authentic charm.**

Deep-treaded tyres, raised exhaust, wide handlebars, sometimes with extended spring travel and a slightly modified design – this simple but effective formula was used decades ago by dedicated motorcycle enthusiasts and manufacturers to convert existing road machines into so-called Scramblers.

In addition to riding fun on the road, Scramblers also offered the rider good off-road suitability and therefore an extended range of use for the bike. Scrambler riders were to be seen virtually everywhere: on winding country roads, stony mountain passes and - where it was allowed - even on sandy beaches. Up until the early 1970s, Scramblers were regarded as the ultimate all-round motorbikes before eventually being eclipsed by the new class of enduro bikes with their greater capacity for off-road riding.

Now BMW Motorrad presents the new R nineT Scrambler, a motorcycle which revives the Scrambler era in a very special way. It has everything that defines this motorcycle type, filled with a very distinct spirit and created for motorcycle fans who love things that are purist, reduced to the essentials and non-conformist.

The new BMW Scrambler also bears within it the genes of more than nine decades of BMW Motorrad, applied here in the form of a unique concept, pure riding pleasure, a reduced, classic design and a deliberate concentration on the technical essentials. With its classic style and purist expressiveness, it is intended for all those looking for an authentic motorcycle that offers robust character and thrilling riding dynamics.

And there is more to this new BMW boxer than just a BMW motorcycle that has not existed in this form before. As with the development of the R nineT itself, the BMW Motorrad designers' and developers' focus in creating the Scrambler was particularly on the emotional component of the man/machine connection in addition to pure technical functionality, once again following the principle that while a motorcycle has to offer optimum technological efficiency, it also has to appeal to all the rider's senses and stimulate powerful emotions at the same time. In short: it has to arouse real enthusiasm - when

opening the garage door in the morning, savouring a stop at the top of a mountain pass or enjoying a ride along a winding country road!

The new R nineT Scrambler draws on iconic elements of a bygone era, combining the current technological attributes of BMW motorcycles with classic design principles and a degree of individualisation that remains unequalled to date.

**Feisty Scrambler character with a great capacity for customisation.**

Customising is all about individualisation - in other words making changes to motorcycles to suit personal preference and taste. The range of optimisation options here runs from commonly available original accessories through to individual components in small-scale series and even one-off solutions.

With the new Scrambler as with the R nineT, BMW Motorrad has responded to the desire of many motorcycle fans to be able to adapt their bike creatively themselves by making modifications according to their own personal taste and purpose.

For this reason, the new Scrambler not only features a particularly sophisticated overall concept that enhances this capacity for individual modification. It also has a wide range of technical provisions that allow installation of items from the extensive range BMW Motorrad special accessories so as to be able to make further changes.

In this way, customers themselves can become actively involved in configuring their own personal BMW Scrambler. Based on the main existing components of the engine and suspension, the Scrambler offers riders a broad spectrum of possibilities to tailor it entirely individually according to personal preference.

**Powerful, air-cooled boxer engine for dynamic riding fun.**

The longitudinally mounted 2-cylinder boxer engine with power transmission via universal-shaft drive has been synonymous with BMW motorcycles for more than nine decades. Like no other motorcycle engine, the air-cooled BMW Motorrad flat twin power unit stands for unmistakable, authentic design, powerful torque and a unique, throaty sound.

The BMW R nineT Scrambler features the familiar air/oil-cooled boxer engine with 101-millimetre bore, 73-millimetre stroke and therefore a capacity of 1 170 cc. Its peak output is 81 kW (110 hp) at 7 750 rpm and the maximum torque of 116 Nm goes on stream at 6 000 rpm, with a maximum engine speed of 8 500 rpm.

Engine mapping has been redefined for use in the R nineT Scrambler with a view to satisfying the requirements of the EU4 pollutant class. At the same time, the fuel system has been fitted with a carbon canister for tank ventilation purposes.

Control of the four valves is via two overhead chain-driven camshafts (DOHC) per cylinder. Valve activation is taken care of by very light and therefore speed-resistant rocker arms, and valve clearance compensation is by means of light hemispherical shims.

Power transmission to the rear wheel is via the well-established 6-speed gearbox and the universal-shaft drive. As befits the aspirations of the new BMW Motorrad Scrambler in terms of riding dynamics, a shortened final driver ratio is used for the best possible acceleration and optimum gear connections.

**Raised, close-mounted exhaust in typical Scrambler style for a striking boxer sound.**

The raised exhaust with two vertically arranged rear silencers made of blasted high-grade steel meets the requirements of a classic Scrambler with an authentic air-cooled engine. It is mounted deliberately close to the body of the R nineT Scrambler, thereby emphasising the bike's slim, wiry appearance – a style that already defined the typical Scrambler more than 50 years ago.

The new Scrambler has an electric servomotor and an acoustic valve controlled by opening and closing cables so as to meet the desire for a particularly sonorous boxer sound while still complying with the noise emission regulation ECE R41-04. What is more, a large-size catalytic converter ensures even more effective exhaust gas cleaning.

The BMW Motorrad special accessory program also gives customers a range of individualisation options in terms of the exhaust system so as to be able to adapt the new Heritage BMW entirely to their own personal taste.

**Distinctive frame concept with newly defined suspension geometry and wide-ranging variations.**

The new R nineT Scrambler addresses the desire of many motorcycle fans to be able to make technical and visual modifications – known as customising – by means of a special frame concept. For this purpose, the bike features a completely newly developed steel tubular space frame which is modular in structure. It comprises three components: a main front section, a rear section with integrated end section and a passenger frame. These three frame components are bolted together.

As in the R nineT Roadster before it, the passenger frame in the Scrambler can be dismantled, allowing owners to change the look and therefore also the character of the dynamic BMW boxer entirely according to personal taste.

In line with the bike's active riding character, the suspension geometry is mainly geared towards good handling and a neutral cornering response - in other words lots of riding fun on winding country roads. The wheelbase is 1 527 millimetres, the castor 110.6 millimetres and the steering head angle 61.5 degrees.

### **Purist Scrambler feeling - both with and without a passenger.**

As supplied, the new BMW Scrambler also enables tours with a passenger. The seat height for the rider is approx. 820 mm, which in conjunction with a narrow inside leg width provides pleasant seat comfort for both rider and passenger.

If the intention is to go on more ambitious solo rides, however, the passenger frame can simply be dismantled, giving the rear a particularly compact and light appearance. This very much emphasises the character of the R nineT Scrambler as an uncompromising riding machine reduced to the absolute essentials.

### **Relaxed seating position thanks to special ergonomics.**

In addition to good handling qualities, a relaxed seating position is one of the key properties of a Scrambler. For this purpose, the ergonomic triangle of handlebars-seat-footrests was redefined with the aim of achieving a much more upright seating position. As compared to the R nineT, the handlebars were raised further by means of a newly designed fork bridge with raised clamp blocks, while the upholstery of the seat surface was slightly reduced. At the same time, the rider footrests were positioned slightly lower down and further to the rear. The BMW Motorrad range of special accessories also offers other seat solutions for individualisation of the new R nineT Scrambler.

### **Classic wheel suspension by means of telescopic fork at the front and Paralever at the rear.**

In keeping with the traditional style of a Scrambler, a conventionally structured telescopic fork with a tube diameter of 43 millimetres and a spring travel of 125 millimetres takes care of the front suspension. As in numerous Scrambler models of bygone days, classic rubber gaiters protect the open slide areas of the fixed fork tubes.

Rear wheel suspension is taken care of in tried and tested fashion by a Paralever single-sided swinging arm as featured in the other boxer models.

Suspension and damping functions are taken care of by a central spring strut with a spring finished in white and a spring travel of 140 millimetres. The spring rest is adjustable and rebound-stage damping can also be set to continuously variable levels.

An interesting solution with regard to further customisation is the housing of the rear-wheel drive. As in other boxer models, this has three mounting points which can be used for side attachment of a number plate and lighting unit, for example.

### **Light alloy cast wheels and coarsely toothed footrests.**

The new BMW Scrambler is supplied with light alloy cast wheels. The large 19-inch front wheel with 120/70-19 tyre is in keeping with the typical Scrambler look. This is matched perfectly at the rear with a 17-inch tyre, size 170/60-17. The new BMW boxer can be ordered ex works with the optional extra of deep-treaded off-road tyres in classic style (standard trim: road tyres) and with filigree cross-spoke wheels.

The footrest system also highlights the bike's rustic, masculine character. Coarsely toothed steel footrests with removable rubber inserts ensure stable, secure support in all conditions.

The technical counterpart to the impressive contemporary riding dynamics of the new R nineT Scrambler is a twin disc brake. With 4-piston brake calipers, steel-wrapped brake lines and a brake disc diameter of 320 millimetres, it ensures high-performance and stable deceleration even when travelling at speed. At the rear, deceleration is ensured by a single-disc brake with a diameter of 265 millimetres and a 2-piston floating caliper. Like all BMW motorcycles, the new Scrambler comes with BMW Motorrad ABS as standard. In addition to this standard ABS, Automatic Stability Control is also available as an ex works option for increased safety when accelerating.

### **Special on-board electrical system for extended scope when customising.**

A far-reaching modification of the electrical system allows deeper intervention in the technology of the new BMW Scrambler so as to adapt its character according to personal preference and further hone its profile. For this reason, the parameters and interfaces in the electrical system have been selected so that alternative electrical components such as headlamps and turn indicators can be installed if desired.

The separation of the engine and vehicle wiring harness allows the motorcycle to be customised more extensively with less effort. This is of particular interest to professional customisers.

## 3. Design and colour concept.



### **Purist design and attention to detail.**

Whether fitted with the standard light alloy cast wheels or the optional cross-spoke wheels, whether enjoying the fun of a twosome or a more ambitious solo ride – the R nineT Scrambler is supreme and impeccably stylish on all occasions. Its silhouette signals laid-back elegance, the classic proportions being largely established by the boxer engine, a compact sheet steel fuel tank and the slim-lined, filigree rear.

One important design objective was to ensure that the body features were reduced so as to achieve a purist appearance. By limiting the design elements to the motorcycle essentials, the new BMW Scrambler conveys its character highly effectively with a just a few carefully designed components. From all angles, the BMW Motorrad Scrambler is defined by a blend of classic and modern elements of motorcycle design style combined with high-quality surfaces.

### **Slim, wiry front section.**

As the central feature of the front silhouette, the classic circular headlamps of the R nineT Scrambler express experience, poise and serenity. The slim-lined basic proportions are established by the classic look of the boxer engine and the narrow 19-inch front wheel. Just like the Scrambler specimens of the 1950s to 1970s, the headlamp can also be fitted with a protective grille (does not comply with road traffic registration requirements).

Perfectly integrated in the front section, the instrument cluster features a classic speedometer designed as a circular instrument with analog display and integrated indicator lights. Housed in a high-end metal casing, the simplicity of the speedometer reflects the classic principles observed in developing the BMW Scrambler. Here the range of BMW Motorrad special accessories allows the addition of classic engine speed counter with analog display.

In addition, the R nineT Scrambler is fitted as standard with a dual-row LCD display showing important information such as time and trip distance.

### **Painted fuel tank contrasting with clear anodised aluminium.**

Eye-catching elements are the painted 17-litre sheet-steel fuel tank and the trim cover made of fine aluminium sheet with embossed R nineT inscription

which runs across the air intake duct on the right-hand side. As a striking technical contrast to the painted fuel tank surface, the air intake has a clear anodised surface - a real eye-catcher here with its finely brushed, technical look.

As part of the range of ex works options and special accessories, the R nineT Scrambler can also be individualised with an aluminium fuel tank featuring either visible or ground weld seams.

### **Harmonious classic details, skilfully applied.**

The new BMW boxer conveys a sense of high-quality workmanship in numerous details. For instance, the fork bridges with tapered screw bosses and the conically shaped mount for the steering damper are high-end forged aluminium parts with a surface which is glass-bead blasted and then clear anodised. The clamp for the double-butted aluminium tubular handlebars, also made of aluminium, bears an engraved BMW Motorrad inscription and there are bore holes at the steering head that allow the attachment of a riveted type plate (special accessory) reminiscent of historical BMW motorcycles as is also featured on the R nineT Roadster.

Historical role models drawn from BMW Motorrad history now stretching back nine decades are also echoed in the circular headlamp with sheet steel casing and the BMW emblem positioned centrally on the bulb cover. In corresponding style, the R nineT Scrambler is fitted with white turn indicators and LED rear light. The range of ex work options and special accessories allows the Scrambler to be fitted with LED turn indicators, too.

Another interesting detail is the front wheel cover. It is bolted to the slider tubes by means of a fork stabiliser, skilfully highlighting the use of classic motorcycle construction elements.

The tapered and stitched two-person seat in patinised leather look in the colour Saddle Brown demonstrates refined workmanship and the use of high-end materials. As an alternative here, the range of special accessories provides a one-person seat with a typical Scrambler-style tail panel that further enhances the dynamic and masculine touch of the BMW Scrambler.

### **Classic, purist colour concept.**

The new BMW R nineT Scrambler is finished in the colour Monolith metallic matt, which is also to be found on the fuel tank and headlamp housing.

The bike's classic, purist character is enhanced by black-coated components such as the frame, swinging arm, wheels, fork slider tubes and engine

housing. Meanwhile, numerous aluminium surfaces of varying structure create fascinating contrasts and a technical look.

The front wheel cover and the tail panel of the single seat - if mounted - are finished in black silk matt, emphasising the bike's classic appearance.

## 4. Equipment program.



An individually harmonised range of BMW Motorrad options, special accessories and rider equipment items is provided which perfectly matches the overall concept of the R nineT Scrambler.

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

### **Option.**

- Cross-spoke wheels (standard suspension).
- Off-road tyres.
- Automatic Stability Control ASC.
- Heated grips.
- LED turn indicators.
- Hand-brushed aluminium fuel tank with ground/visible weld seam.
- Chrome-plated manifold.
- Raised seat.
- Lowered suspension.
- Alarm system.

### **Special accessories.**

- One-person Scrambler seat with tail panel.
- Engine speed display.
- Protective grille for headlamp (does not comply with road traffic registration requirements).
- Engine guard.
- Start number panel, left / right.
- Scrambler windshield.

### **Matching R nineT accessories:**

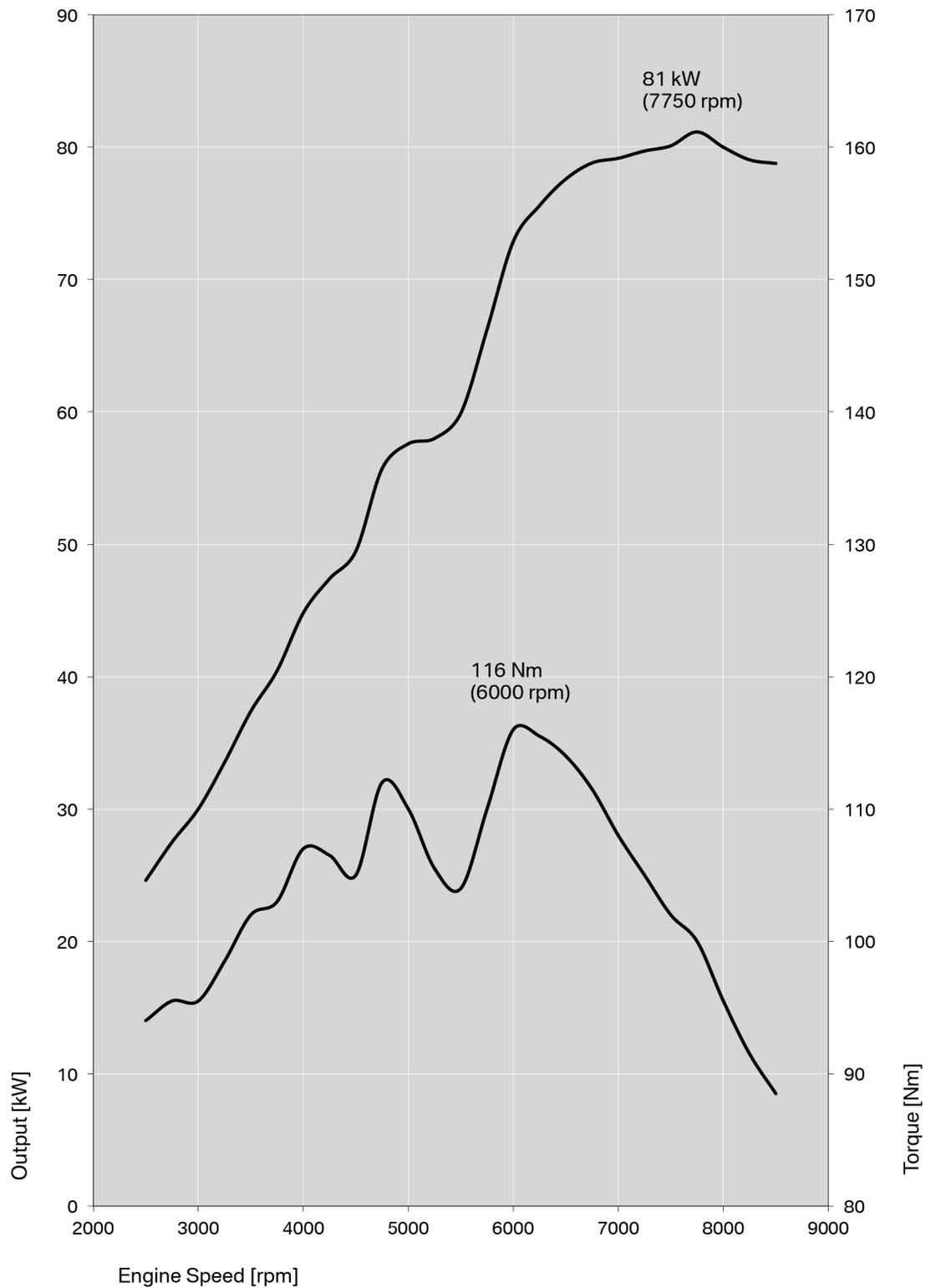
- Tank rucksack and rear bag with attachment.
- Hand-brushed aluminium fuel tank with ground/visible weld seam.
- Knee pads for fuel tank side surfaces.
- Comfort passenger seat with grab straps.
- R nineT seat (only in conjunction with R nineT passenger seat or comfort passenger seat with grab straps).
- Akrapovič sports silencer (can be mounted in raised or lowered position)

- Cover for main frame bolting point left / right.
- Handlebar end pieces made of aluminium.
- Cylinder head covers in chrome, silver and black.

**Rider equipment.**

- Legend helmet.
- BlackLeather jacket.
- FivePocket trousers.
- BMW Motorrad Style Vintage Collection.

## 5 Engine output and torque.



## 6 Technical specifications.



<b>BMW R nineT Scrambler</b>		
<b>Engine</b>		
Capacity	cc	1 170
Bore/stroke	mm	101/73
Output	kW/hp	81/110
at engine speed	rpm	7 750
Torque	Nm	116
at engine speed	rpm	6 000
Type	air/oil-cooled 2-cylinder boxer engine	
No. of cylinders	2	
Compression/fuel	12.0:1 / premium unleaded (95-98 RON)	
Valve/accelerator actuation	DOHC	
Valves per cylinder	4	
Ø intake/outlet	mm	39/33
Ø Throttle valves	mm	50
Engine control	BMS-MP	
Emission control	closed-loop 3-way catalytic converter	
<b>Electrical system</b>		
Alternator	W	720
Battery	V/Ah	12/14 maintenance-free
Headlight	W	60/55 H4
Starter	kW	1.2
<b>Power transmission - gearbox</b>		
Clutch	Hydraulically activated dry clutch	
Gearbox	constant-mesh 6-speed gearbox	
Primary ratio	1.737	
Transmission ratios	I	2.375
	II	1.696
	III	1.296
	IV	1.065
	V	0.939
	VI	0.848
Rear wheel drive	Universal shaft	
Transmission ratio	2.91	
<b>Suspension</b>		
Frame construction type	Tubular space frame in steel, engine self-supporting	
Front wheel suspension	Telescopic fork, Ø 43mm	
Rear wheel suspension	BMW Paralever	
Total spring travel, front/rear	mm	125/140
Wheel castor	mm	110.6
Wheelbase	mm	1 527
Steering head angle	°	61.5
Brakes	front	Hydraulically activated twin disc brake, Ø 320 mm
	rear	Single-disc brake Ø 265 mm
ABS	BMW Motorrad ABS	

<b>BMW R nineT Scrambler</b>		
Wheels		Aluminium cast wheel
	front	3.0 x 19"
	rear	4.5 x 17"
Tyres	front	120/70 ZR19
	rear	170/60 ZR17
<b>Dimensions and weights</b>		
Total length	mm	2 175
Total width with mirrors	mm	880
Seat height	mm	820
DIN unladen weight, road ready	kg	220
Permitted total weight	kg	430
Fuel tank capacity	l	17
<b>Performance figures</b>		
Fuel consumption (WMTC)	l/100 km	5.3
0–100 km/h	s	3.6
Top speed	km/h	200