

The new Husqvarna models TR 650 Terra and TR 650 Strada. Contents.

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1. Overall concept and vehicle characteristics.

Husqvarna Motorcycles – road bikes and off-road bikes with a long tradition.

Husqvarna Motorcycles is an international manufacturer of off-road and on-road motorbikes. It was originally founded in Sweden and has been part of the BMW Group since 2007. Since this time, the innovative technological capabilities of Husqvarna Motorcycles have been dynamically strengthened, and on a lasting basis, through its alliance with BMW Motorrad.

The motorcycle brand with the Scandinavian roots, based today in Cassinetta di Biandronno in the northern Italian province of Varese, boasts a tradition of motorcycle manufacturing which stretches back more than 100 years, making Husqvarnas the oldest motorcycles in the world with an uninterrupted production record. In ten decades of company history, Husqvarna Motorcycles has been able to achieve outstanding success in international off-road racing, with 82 World Championship titles to its name to date. In road racing, Husqvarna was successful in the 1920s and 1930s, so it was a logical step to set about expanding today's product range in the on-road arena once again.

Husqvarna re-entered the road bike segment in 2011 with the presentation of the Husqvarna Nuda 900 and Husqvarna Nuda 900 R models. These models, developed in collaboration with BMW Motorrad, likewise display Husqvarna's typical pure, athletic and dynamic styling. The brand most recently provided a look ahead to further extension of the model range with the Husqvarna Concept MOAB, Husqvarna Concept Strada and Husqvarna Concept BAJA studies.

With the new Husqvarna TR 650 Strada and TR 650 Terra, Husqvarna Motorcycles continues its model offensive that began last year with the successful launch of its road models.

Husqvarna TR 650 Strada and TR 650 Terra – two powerful characters for on-road and off-road riding.

With the new TR 650 Strada and the new TR 650 Terra, Husqvarna Motorcycles extends its program of highly agile, dynamic single-cylinder motorcycles by adding two attractive new machines.

Their slim, wiry stature and masculine, dynamic design gives the new Husqvarna TR 650 models a progressive, light and energetic look, whether as the "Terra" version for light terrain or as the "Strada" version for asphalt-based motorcycling fun. At the same time, the two new Husqvarna models are clearly set apart from their competitors with their outstanding overall package of handling and riding dynamics as well as in terms of design. Along with their relatively low weight, a powerful single-cylinder engine and an agile, directionally-stable chassis they embody the passion of motorcycling and the fascinating world of Husqvarna Motorcycles.

Outstandingly powerful single-cylinder engine in the BMW Motorrad mould.

In terms of engine technology, the TR 650 Strada and TR 650 Terra rely on the tried and tested basis of the G 650 GS by BMW Motorrad. However, this liquid-cooled single-cylinder power unit with two overhead camshafts and 652 cc was extensively modified and its performance significantly enhanced for use in the two new Husqvarna models. It delivers 43 kW (58 hp) at 7,250 rpm, developing its maximum torque of 60 Nm at 5,750 rpm. For those countries with graduated licencing, there is also there is also a reduced power version on offer as an ex works option with 35 kW (48 hp) at 7,250 rpm and 54 Nm of torque at 5,750 rpm.

The single-cylinder engine has been modified with a wide range of measures to hone it for its athletic, dynamic purpose. In addition to various other improvements, such features as a modified electronic fuel-injection system, altered camshafts and an increased compression ratio due to modified piston and cylinder head geometries ensure powerful propulsion, high revving and spontaneous response. Nonetheless, with its exhaust system in stainless steel including two rear silencers and a closed-loop 3-way catalytic converter, the engine provides not just an especially high level of single-cylinder riding fun but also excellent fuel efficiency and environmental compatibility.

In conjunction with the constant-mesh 5-speed gearbox, the powerful and high-revving single-cylinder engine in the Husqvarna TR 650 Strada puts in an especially impressive performance on country roads, while a full torque curve and spontaneous response also allow supreme off-road excursions over light terrain on the TR 650 Terra.

Robust, high-quality chassis for riding fun both on and off the road.

The new Husqvarna models TR 650 Strada and TR 650 Terra are able to rely on an agile chassis based on a split-backbone tubular steel frame with remove-able rear frame and front beam bolted to the engine.

Front guidance and suspension duties are dealt with by a torsionally-stiff 46 millimetre upside-down telescopic fork. The rear wheel is controlled by a torsionally-stiff dual swing arm made of pentagonal steel tubing in conjunction with a centrally-mounted rear shock with progressive linkage. In keeping with its use on asphalted roads, the Husqvarna TR 650 Strada has cast wheels made of aluminium while the TR 650 Terra reflects its off-road suitability with a centrally-mounted rear shock with progressive linkage. Generous suspension travel of 190 millimetres at the front and rear makes for easy handling and a high level of directional stability combined with excellent comfort and off-road qualities.

TR 650 Strada fitted as standard with ABS. TR 650 Terra with ABS as an optional feature.

To match the dynamic performance available, the brake system consists of a single-disc brake at front and rear which offers supremely solid stopping power. The new Husqvarna TR 650 Strada is fitted as standard with ABS, while the new Husqvarna TR 650 Terra can likewise feature ABS if this is ordered as an ex works option. The ABS is disengageable for special uses.

Masculine shaping in dynamic, Italian design.

To reflect their high level of riding dynamics, the lines of the new Husqvarna TR 650 Strada and TR 650 Terra have been given a particular dynamic emphasis in terms of design. Although they embody masculine athleticism, their clearly-defined shaping nonetheless conveys a sense of agility and lightness. While the light-alloy cast wheels in the TR 650 Strada embody the active riding character of a road bike, the spoke wheels combined with a high fender on the front wheel reveal the dual sport ambitions of the TR 650 Terra.

The two new Husqvarna models have a robust, masculine appearance through selective use of black-coated chassis elements such as frame and swingarm. In addition, red side trim elements for the TR 650 Terra, and a black side panel for the TR 650 Strada, in combination with the Strada's low white front fender, lend a unique appearance to each.

The bikes' high aspirations in terms of riding dynamics are underscored by the light-gray sand-cast engine cases, providing a fascinating technical contrast in conjunction with the hallmark Husqvarna red cylinder head. Further accents are provided the anodized-silver upside-down forks and the end caps of the twin exhausts, which proudly exhibit the Husqvarna logo.

The new Husqvarna TR 650 Strada and TR 650 Terra are manufactured at the Husqvarna Motorcycles plant in Cassinetta di Biandronno, northern Italy.

An overview of the key features of the new Husqvarna TR 650 Strada and TR 650 Terra:

- Powerful, high-revving single-cylinder engine with a 652 cc capacity.
- Output 43 kW (58 hp) at 7,250 rpm and maximum torque of 60 Nm at 5,750 rpm.
- Output version 35 kW (48 hp) at 7,250 rpm and maximum torque of 54 Nm at 5,750 rpm as an ex works option for those countries offering graduated licences.
- TR 650 Strada, unladen weight: 168 kg (370.37 lbs) / weight fully fuelled: 186 kg (410.06 lbs). (US-Version: 374.78 lbs / 414.47 lbs)
- TR 650 Terra, unladen weight: 166 kg (365.96 lbs) / weight fully fuelled: 184 kg (405.65 lbs). (US-Version n.a.)
- TR 650 Terra without ABS, unladen weight: 165 kg (363,76 lbs) / weight fully fuelled: 183 kg (403.44 lbs). (US-Version: 368.17 lbs / 410.06 lbs)
- Handling-oriented, robust chassis concept with split-backbone frame and swing arm made of steel as well as telescopic fork and rear shock with linkage (suspension travel at front and rear 190 mm / 7.5”).
- Light alloy cast wheels in finely wrought 10-spoke design for the TR 650 Strada and characteristic off-road spoke wheels with light-alloy rims and hubs for the TR650 Terra.
- Highly stable brake system with single disc brake front and rear and ABS (as standard in the TR 650 Strada, ex works option for the TR 650 Terra).
- Masculine design with dynamically-shaped body panels.
- Fuel tank placed to optimise centre of gravity for enhanced handling.

- Options and special accessories: ABS (TR 650 Terra only), power reduction to 35 kW (48 hp), windshield, hand protectors, low seat, engine guard, heated grips, alarm system, rear softbag, topcase, side pannier.

2. Technology and design.

Especially powerful single-cylinder engine based on the BMW G 650 GS with extensive modifications.

The heart of the new Husqvarna TR 650 Strada and TR 650 Terra is the single-cylinder 4-stroke engine familiar in its essentials from the BMW G 650 GS with 100 mm bore, 83 mm stroke, four valves, two overhead camshafts, electronic fuel injection and twin-spark ignition. Power transmission is by means of a constant-mesh 5-speed gearbox, with secondary drive provided by a low-maintenance O-ring roller chain. For use in the two new Husqvarna models, however, the engine has undergone extensive technical modifications in order to increase its output.

With 43 kW (58 hp) at 7,250 rpm, it has 8 kW (10 hp) more output than the basic BMW Motorrad engine, providing particularly powerful, dynamic providing particularly dynamic power, both for riding on country roads and over light terrain, especially in conjunction with its relatively weight of just 186 kg (TR 650 Strada) or 183 kg (TR 650 Terra without ABS) fully fuelled. A reduced power version with 35 kW (48 hp) at 7,250 rpm and 54 Nm torque at 5,750 rpm is also available as an ex works option (US Version n.a.).

Newly designed cylinder head with optimised duct layout.

A whole package of measures has been put together to achieve the high peak output of 43 kW (58 hp). For example, a new mould was developed for the cylinder head so as to produce even more aerodynamically optimised ducting of the intake and outlet ducts for increased power. As part of the redesign of the cylinder head, the spark plug thread was also reworked, involving a reduction in thread diameter from 12 to 10 mm. This results in an even more effective flow of cooling fluid in the spark plug area as well as enhanced heat dissipation and therefore a more favourable engine thermal dynamics.

Increased compression, new camshafts, larger valves.

Other features which contribute to the increased engine output are a new fuel-injection system, newly-designed camshafts with longer timing, new valve lift curves and deeper valve strokes. In combination with enlarged valve head diameters in the intake and outlet valves, the optimised intake and outlet

camshaft enables improved filling and a more effective charge cycle. Another contribution to the performance enhancement of the single-cylinder engine is the increase in the compression ratio from 11.5 to 12.3:1.

	TR 650 Strada/Terra	BMW G 650 GS
Valve diam. Intake in mm	38.5	36
Valve diam. Outlet in mm	34	31
Valve stroke intake/outlet in mm	10.8	10.4
Intake timing in degrees/kW	276/110	256/109
Outlet timing in degrees/kW	268/110	256/109

Forged piston, weight-reduced crankshaft and counterbalancing shaft

The developers responded to the increased combustion pressures and the resulting higher level of mechanical stress by using a high-quality forged piston. In addition to increased stiffness and therefore reliability, the new piston also contributes a weight reduction of 112 grams (432g to 544 g). The crankshaft and counterbalancing shaft were adapted accordingly to this shift in weight balance. The reduction in oscillating and rotating masses makes for increased revving but with low-vibration running.

The periphery of the engine was also adapted to these modifications and new properties. As a result, the new TR 650 Strada and the new TR 650 Terra have a newly-designed intake silencer as well as a high-quality exhaust system made of stainless steel including two rear silencers. Exhaust gas cleaning is performed by a closed-loop 3-way catalytic converter.

Low fuel consumption and an impressive range.

The high compression ratio of the engine at a level of 12.3:1 is designed for a fuel quality with an octane number of at least 95 RON, making for impressively low fuel consumption figures in spite of its high output. For example, it uses just 3.2 litres per 100 km/h (88.3 mpg) at a constant speed of 90 km/h (56mph) and less than 4.3 litres per 100 km (65.7 Imp. mpg) at a constant level of 120 km/h (75mph). In conjunction with a fuel tank offering a capacity

of 14 litres (3,08 Imp Gal) (US-Version: 13,5 3.57 US gal), housed under the seat, this allows ranges of more than 350 kilometres (217 miles).

Agile, directionally-stable chassis for dynamic riding fun, both on asphalt and off the road.

In keeping with the bikes' concept-based aspirations, the chassis of the new Husqvarna models TR 650 Strada and TR 650 Terra are designed for maximum agility and carefree motorcycling enjoyment both on-road and off-road, though without having to compromise in terms of comfort and touring suitability. What is more, ride stability, steering precision and agility instantly promote a sense of trust even in beginner motorcyclists.

The new TR 650 Strada and the new TR 650 Terra are fitted with a torsionally stiff split-backbone steel frame with bolt-on steel tube rear frame and front beam bolted onto the engine. The dual swing arm is also made of steel and fitted with two torsionally stiff swing arms made of pentagonal tubing. With its constructional design and specific benchmark data such as 1,501 mm (59.1") wheelbase and 64° (Strada) – 63.5° (Terra without ABS) – 63° (Terra) steering head angle, the torsionally-stiff chassis meets the requirements for excellent handling, a high degree of directional stability and the robustness which is essential for off-road riding. Another key factor in the new Husqvarna TR 650 Strada and TR 650 Terra in terms of agile handling is the positioning of the fuel tank under the seat, which results in a lower centre of gravity.

Steering as well as suspension and damping are taken care of at the front by an upside-down 46 mm telescopic fork. At the rear, the swing arm is supported on the frame by means of a central rear shock with progressive linkage. The rear shock allows adjustment of the compression and rebound damping so as to be able to adapt to individual needs. Suspension travel at front and rear is 190 mm. The suspension elements of the TR 650 Strada and TR 650 Terra do justice to the different areas of use of the two bikes with specially adapted suspension/damping settings.

Wheels, tyres and seating position adapted to function.

In keeping with its intended use on asphalted roads the Husqvarna TR 650 Strada is fitted with 10-spoke light alloy cast wheels and 110/80 R 19 59V and 140/80 R 17 59V road tyres, front and rear. The Husqvarna TR 650 Terra meets the requirements for riding over light terrain, featuring spoke wheels

(36-hole) with rims and hubs in light alloy. The appropriate tyres are fitted for more intense off-road use, with 90/90-21 MC54HTL and 140/80 17 MC59H being used in conjunction with ABS and 90/90-21MC54 S and 140/80 18 MC70 S used on the non-ABS version, at the front and rear, respectively.

There are also differences between the new Husqvarna models in terms of seating position. When riding off-road, the rider of the TR 650 Terra (with ABS) enjoys a seat height of 865 mm/34.1" (without ABS: 875 mm/34.5"). Due to the different wheel configuration, the TR 650 Strada's seat height is even lower, at 860mm/33.9".

Highly stable brake system. TR 650 Strada with ABS as standard.

With a 300 mm disc brake at front and a 240 mm disc brake at rear, the new Husqvarna TR 650 Strada and TR 650 Terra offer stable, secure and well-controlled stopping power. For even greater safety when braking, the new Husqvarna TR 650 Strada is fitted as standard with ABS, while the TR 650 Terra can likewise feature ABS if this is ordered as an ex works option. The ABS is also disengageable in both models for special requirements.

Ergonomics, fittings and design.

With their favourably-shaped, 875 mm / 34,5 " wide handlebars, the new Husqvarna TR 650 Strada and TR 650 Terra provide a relaxed, athletic seating position for excellent vehicle control and agile handling. The grips of both the handbrake and clutch levers can be individually adjusted. Ergonomically-conceived handlebar panels ensure intuitive and safe operation of the various vehicle functions. The digital instrument cluster with easily readable, clearly-defined LCD display provides compactly-presented information on road speed and engine speed. The unit also features two trip counters and a clock. LED lamps are installed for the functions of turning indicators, high beam and injection system as well for providing feedback on fuel reserves. Both models are fitted with a vehicle immobilisation function as standard.

The TR 650 Strada and TR 650 Terra likewise embody agility and riding dynamics in their design, with special dynamically-shaped body panels. The masculine styling of the bikes points to the active, athletic aspirations of the two models, with their clean lines reflecting lightness and agility. White turning

indicators and a headlamp in clear-glass look are unobtrusively integrated, harmonising perfectly with the overall design. The distinct usage profiles of the TR 650 Strada and TR 650 Terra are reflected in individual wheel accentuations. While the TR 650 Strada is oriented towards dynamic performance and riding fun on asphalted roads with its light alloy cast wheels and front fender in white placed directly above the front wheel, the TR 650 Terra hones its off-road profile with spoke wheels in conjunction with a white fender positioned high above the front wheel.

Body features in red in the front and rear section along with black-coated components such as frame and swing arm give the TR 650 Strada and TR 650 Terra a colouring which embodies high-spiritedness and athletic flair. Meanwhile the sand-blasted, light grey surfaces of the engine in conjunction with the hallmark Husqvarna red cylinder head in the two new Husqvarna models offer a contrasting element which emphasises powertrain expertise. An additional contrasting touch which highlights the bikes' technology is also provided by the exhaust system in brushed steel as well as the silver anodised fixed fork tubes of the upside-down fork.

3. Parts and Accessories Equipment programme.

Even in serial production trim, the new Husqvarna TR 650 Strada and the new Husqvarna TR 650 Terra almost perfectly fulfil the requirements of a dynamic road or off-road bike designed for active riding. In addition, Husqvarna Motorcycles offers an extensive programme of options and special accessories for further individualisation.

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

Options.

- ABS (disengageable) for TR 650 Terra (not available in all markets)
- Power reduction to 35 kW (48 hp) (not available in all markets)

Special accessories.

- Windshield.
- Hand protectors.
- Engine guard.
- Heated grips.
- Alarm system.
- Rear softbag.
- Topcase.
- Side panniers.

4. Technical specifications.

	Husqvarna TR 650 Strada		Husqvarna TR 650 Terra
Engine			
Capacity	cc	652	
Bore/stroke	mm	100/83	
Output	kW/hp	43/58	
at engine speed	rpm	7,250	
Torque	Nm	60	
at engine speed	rpm	5,750	
Type	Water-cooled single-cylinder engine		
Compression/fuel	12.3:1 / Premium unleaded (95 AKI)		
Valve control	DOHC (double overhead camshaft), bucket tappets		
Valves per cylinder	4		
Fuel management	Marelli FI engine control		
Emission control	Closed-loop 3-way catalytic converter		
Electrical system			
Alternator	W	400	
Battery	V/Ah	12/11	
Power transmission/gearbox			
Clutch	Multiplate wet clutch, mechanically activated		
Gearbox	Constant mesh 5-speed gearbox		
Rear wheel drive	Chain		
Chassis			
Frame construction type	Steel bridge frame with bolt-on steel rear frame		
Front wheel suspension	Sachs Up Side Down fork, \varnothing 46 mm		
Rear wheel suspension	Steel swingarm with progressive link and Sachs shock absorber, spring preload mechanically adjustable, rebound damping adjustable		
Suspension travel, front/rear	mm	190/190 (7.5"/7.5")	
Wheel castor	mm	101	Without ABS:112 (with ABS: 115)
Wheelbase	mm	1501 (59.1")	
Steering head angle	$^{\circ}$	64	63 (with ABS: 63,5)
Brakes	front	Brembo hydraulically actuated single disc brake, dia. 300 mm, floating two caliper brake	
	rear	Brembo hydraulically actuated single disc brake, dia. 240 mm, floating single caliper brake	
ABS	ABS, disengageable (standard)		ABS, disengageable (option)
Wheels	Cast aluminium wheels		Spoked wheels
	front	2.50 x 19"	1.85 x 21"
	rear	3.50 x 17"	Without ABS: 3.00 x 18" (with ABS: 3.00 x 17")
Tyres	front	110/80 R19	90/90 R21
	rear	140/80 R 17	Without ABS: 140/80 R18 (with ABS: 140/80 R17)
Dimensions and weights			
Total length	mm	2,248 (88.5")	2,267 (89.3")
Total width with mirrors	mm	875 (34.45")	
Seat height (without rider)	mm	860 (33.9")	Without ABS: 875 (34.5") (with ABS: 865/34.1")
Unladen weight to DIN, road ready	kg	186 (410.06 lbs)	Without ABS: 183 (403.44 lbs) (US: 368.17 lbs) (with ABS: 184/405.65 lbs)
Permitted total weight	kg	372 (820,11 lbs) ((US: 384/846,57 lbs)	369 (813,50 lbs) (US: 381/839,95 lbs))
Fuel tank capacity	l	14 (3,08 Imp Gal) (US: 13.5/3.08 US Gal)	
Performance figures			
Fuel consumption			
90 km/h	l/100 km	3.2 (88.3 Imp mpg)	
120 km/h	l/100 km	4.3 (65,7 Imp mpg)	
Maximum speed	km/h	175 (108 mph))	170 (105 mph)