

Bugatti Veyron

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(Redirected from Bugatti Veyron 16.4)

The **Bugatti Veyron 16.4** is the most powerful, most expensive, and fastest street-legal production car in the world, with a proven top speed of over 400 km/h (408 km/h or 254 mph). It reached full production in September 2005. The car is built by Volkswagen AG subsidiary Bugatti Automobiles SAS and is sold under the legendary Bugatti marque. It is named after racing driver Pierre Veyron, who won the 24 hours of Le Mans in 1939 while racing for the original Bugatti firm.

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History



Bugatti EB18/4 Veyron
Concept 2000 1



Bugatti EB18/4 Veyron
Concept 2000 2

Development of the vehicle began with the 1999 **EB 18/4 "Veyron"** concept car. Introduced at the Tokyo Motor Show, it was similar in design and appearance to the final Veyron production car. One major difference was the EB 18/4's use of a W18 engine with three banks of six cylinders. The Veyron was designed by Hartmut Warkuss of Volkswagen rather than Giorgetto Giugiaro of ItalDesign who

Bugatti Veyron 16.4



Manufacturer:	Volkswagen AG
Production:	2006– 300 cars
Predecessor:	None
Class:	Supercar
Body style:	2-door Mid-4WD coupé
Engine:	8.0 L quad-turbo W16
Transmission:	7-speed dual clutch sequential manual
Wheelbase:	2700 mm (106.3 in)
Length:	4466 mm (175.8 in)
Width:	1998 mm (78.7 in)
Height:	1206 mm (47.5 in)
Curb weight:	1888 kg (4162 lb)
Similar:	Koenigsegg CCX, Pagani Zonda, Enzo Ferrari, Saleen S7



2006 Bugatti Veyron

had handled the three prior Bugatti concepts. VW chairman Ferdinand Piëch announced the production Veyron at the 2001 Geneva Motor Show. It was promised to be the fastest, most powerful, and most expensive car in history. Instead of the W18, the production model would use a VR6/WR8-style W16 engine. First seen in the 1999 Bentley Hunaudières concept car, the W16 would get four turbochargers, producing a quoted 1001 horsepower (see engine section for details on the power output). Top speed was promised at 403 km/h (250.4 mph), and pricing was announced at €1 million (US\$1.3 million at the time). Development continued throughout 2001 and the EB 16/4 Veyron was promoted to "advanced concept" status. In late 2001, Bugatti announced that the car, officially called the Bugatti Veyron 16.4, would go into production in 2003. However, the car experienced significant problems during development. Achieving the required high-speed stability was difficult - one prototype was destroyed in a crash and another spun out during a public demonstration at the Monterey Historics event in Mazda Raceway at Laguna Seca. Production of the Veyron was delayed pending resolution of these and other issues. Piëch retired that year as chairman of the Volkswagen Group and was replaced by Bernd Pischetsrieder. The new chairman promptly sent the Veyron back to the drawing board for major revisions. Neumann was replaced as Bugatti president by Thomas Bscher in December of 2003, and substantial modifications were made to the Veyron under the guidance of former VW engineer, Bugatti Engineering head Wolfgang Schreiber. After the release of the car, it has been reported that while each Veyron is being sold for £840,000, the production costs of the car are approximately £5 million per vehicle. This is not the price to produce one vehicle, but rather the cost of the entire Veyron project divided by the number of vehicles produced at that time. As Bugatti, and therefore Volkswagen, are making such a loss, it has been likened by automotive journalist Jeremy Clarkson to Concorde; in that they are test-beds for advancements in technology and developed as exercises in engineering. In the case of the Veyron, it will be several years before Volkswagen will be able to see if their investment in developing ground-breaking technology has paid off. One key measure is how much (if any) of the technology developed for the Veyron finds use in mass-produced cars.

Specifications

The Veyron features a W16 engine—16 cylinders in 4 banks of 4 cylinders, or the equivalent of two narrow-angle V8 engines mated in a vee configuration. Each cylinder has 4 valves, for a total of 64, but the narrow V8 configuration allows two camshafts to drive two banks of cylinders so only 4 camshafts are needed. The engine is fed by four turbochargers, and it displaces 8.0 L (7,993 cc/488 in³) with a square 86 by 86 mm bore and stroke.

Putting this power to the ground is a dual-clutch DSG computer-controlled manual transmission with 7 gear ratios via shifter paddles behind the steering wheel boasting an 8 ms shift time. The Veyron can be driven by full automatic transmission. The Veyron also features full-time all-wheel drive developed by Haldex helping to transfer power to the road. It uses special Michelin run-flat tires designed specifically for the Veyron to accommodate the vehicle's top speed.

The car's wheelbase is 2700 mm (106.3 in). Overall length is 4466 mm (175.8 in). It measures 1998 mm (78.7 in) wide and 1206 mm (47.5 in) tall.

Curb weight is estimated at 4,160 lb (1890 kg). This gives the car a power to weight ratio of 529 bhp/tonne.

The Bugatti Veyron has a total of 10 radiators.

- 3 radiators for the engine cooling system.
- 1 heat exchanger for the air to liquid intercoolers.
- 2 for the air conditioning system.
- 1 transmission oil radiator.



the W16 engine

- 1 differential oil radiator.
- 1 engine oil radiator.
- 1 hydraulic oil radiator for the spoiler.

Performance

According to Volkswagen, the final production Veyron engine produces between 1020 and 1040 metric hp (1006 to 1026 SAE net hp), so the car will be advertised as producing "1001 horsepower" in both the US and European markets. This makes it the most powerful production road-car engine in history. Torque is 1250 N·m (922 ft·lbf).

Top speed was initially promised to be 252 mph (406 km/h), but test versions were unstable at that speed, forcing a redesign of the aerodynamics. In May 2005, a prototype Veyron tested at a Volkswagen track near Wolfsburg, Germany, and recorded an electronically limited top speed of 400 km/h (249 mph). In October, 2005, *Car and Driver* magazine's editor Csaba Csere test drove the final production version of the Veyron for the November 2005 issue. This test, at Volkswagen's Ehra-Lessien test track, reached a top speed of 253 mph (407 km/h).



The key



Bugatti EB 16/4 Veyron concept interior

The Veyron is the quickest production car to reach 100 km/h (62 mph) with an estimated time of 2.5 seconds. It also reaches 200 and 300 km/h (124 and 186 mph) in 7.3 and 16.7 seconds respectively. This makes the Veyron the quickest-accelerating production car in history. It also consumes more fuel than any other production car, using 40.4 L/100 km (4.82 mpg) in city driving and 24.1 L/100 km (10 mpg) in combined cycle. At full-throttle, it uses more than 125 L/100 km (2.1 mpg)—at full throttle, the Veyron would empty its 100 L fuel tank in just 12.5 minutes. The car's everyday top speed is listed at 234 mph (377 km/h). When the car reaches 137 mph (220 km/h), hydraulics lower the car until it has a ground clearance of about 3 1/2 inches (8.9 cm). At the same time, the wing and spoiler deploy. This is the "handling" mode, in which the wing helps

provide 770 pounds (3425 newtons) of downforce, holding the car to the road. The driver must, using the key, toggle the lock to the left of his seat in order to use the maximum speed of 253 miles per hour (407 km/h). Theoretically it can go faster but it is electronically limited to 253 miles per hour (407 km/h) to prevent tire damage. The key functions only when the vehicle is at a stop when a checklist then establishes whether the car—and its driver—are ready to enable 'top speed' mode. If all systems are go, the rear spoiler retracts, the front air diffusers close and the ground clearance, normally 4.9 inches (12.4 cm), drops to 2.6 inches (6.6 cm).

The Veyron uses unique cross-drilled and turbine vented carbon rotors for braking that draw in cooling air. Each caliper has eight titanium pistons. Bugatti claims maximum deceleration of 1.3 g on road tires. Prototypes have been subjected to repeated 1.0 g braking from 194 to 50 mph (312 to 80 km/h) without fade. With the car's fearsome acceleration from 50 to 194 mph (80 to 312 km/h), that test can be performed every 22 seconds. At speeds above 124 mph (200 km/h), the rear wing also acts as an airbrake, snapping to a 70-degree angle in 0.4 seconds once brakes are applied, providing up to 0.6 g (6 m/s²) of deceleration. Bugatti claims the Veyron will brake from 252 mph (406 km/h) to a standstill in less than 10 seconds. The braking is also so evenly applied that the car will not deviate from a straight path if the driver lets go of the steering wheel, even with the brakes fully applied starting from close to top speed. [1] (<http://www.nytimes.com/2005/12/25/automobiles/25AUTO.html>)

Previews

Gordon Murray, designer of the McLaren F1 said the following about the Bugatti Veyron in UK auto magazine *evo* during its development period:

"The most pointless exercise on the planet has got to be this four-wheel-drive 1000 horsepower Bugatti. I think it's incredibly childish this thing people have about just one element—top speed or standing kilometre or 0-60. It's about as narrow minded as you can get as a car designer to pick on one element. It's like saying we're going to beat the original Mini because we're going to make a car 10 mph faster on its top speed—but it's two foot longer and 200 kilos heavier. That's not car designing—that just reeks of a company who are paranoid."

"Heinz-Harald Frenzen heavily criticized the Bugatti Veyron for excessive over-use of handbrakes, citing "one per wheel is just unnecessary".

Reviews

However, after the car had made production, Murray went on to write an article for another UK auto magazine, *Top Gear* conceding a lot of his past resentment of the car.

"One really good thing, and I simply never expected this, is that it does change direction. It hardly feels its weight. Driving it on a circuit I expected a sack of cement, but you can really throw it at tight chicanes."

He also declared in the article that: *"The braking is phenomenal," "The primary ride and body control are good too"* and *"It's a huge achievement."*

The trend of backtracking on negative comments about the Veyron continued when prominent UK car show host Jeremy Clarkson declared on *Top Gear* that it was *"The best car ever made"* after initially saying it was ridiculous and would never exist.[2] (http://driving.timesonline.co.uk/article/0,,12529-1890873_1,00.html)

The Veyron was then proclaimed the Top Gear Magazine Car of the Year along with the Toyota Aygo and its Peugeot and Citroën clones.

Official unveiling

The production Veyron was shown for the first time on October 19, 2005 at the Tokyo Motor Show. The official United States launch for the production version occurred at the 2006 Los Angeles International Auto Show in January. Visual differences between the prototype and production Veyrons are slight, but noticeable marks include the addition of marker lights or reflectors on the front fenders and a more pronounced "dorsal spine" on the hood (reminiscent of the Bugatti Atlantic), especially near the windshield.

Six Veyrons were sold at the 2005 Dubai Motor Show in December, reportedly including the demonstration models used on the stands there. These would be the first reported private sales of the car.[3] (http://www.askaprice.com/torque-article.asp?article=Fancy_a_Bugatti_Veyron,_or_Six?&item=805) Reports also indicate that deposits have been taken on 45 Veyrons as of December.

The first personally owned Veyron was debuted in front of Hotel De Russie in Monte Carlo during the 2005 Grand Prix [4] (http://listing-index.ebay.com/cars/Bugatti_Veyron_16.4.html)

Sales and service

Bugatti originally planned to build 300 Veyrons over five years. In March 2006, Bugatti president Bscher claimed to have 70 firm orders, selling out 14 months of production. In response, the company is reportedly speeding up production, with all 70 cars expected to be built in 2006. Bscher also reported that 14 cars have been completed and most will be shipped to the United States. It is not clear how many are in the hands of customers.^[1]

The cars will be sold directly from the factory to customers or at 20 Bentley dealers worldwide. These include dealerships in London, Miami, Troy, Beverly Hills, San Diego, Pasadena, and Greenwich.

Maintenance will be possible at Bentley dealerships, but repair service will require a flown-in mechanic, whom the company promises will be available 24 hours a day.

Owners

Confirmed owners include:

- The wife of Ferdinand Piëch - the former VW chairman's wife, who requested chassis number 007, was the first person on the waiting list [5] (<http://driving.timesonline.co.uk/article/0,,29929-2225377,00.html>)
- Tim Cahill - the Australian footballer's girlfriend Rebekah Greenhil was caught trying to park it in central Manchester [6] (http://www.autotrader.co.uk/EDITORIAL/car_page_content/32020.jsp)
- Michael Fux - a car collector who test-drove the car during a trip to Pebble Beach in August 2005 [7] (<http://abcnews.go.com/GMA/Moms/story?id=1406161>)
- Ralph Lauren - the fashion designer, bought one in black [8] (<http://driving.timesonline.co.uk/article/0,,29929-2225377,00.html>)
- Bob Manoukian - dodged the waiting list by buying his Veyron for £1.1m at a charity auction in London in June 2006 [9] (<http://driving.timesonline.co.uk/article/0,,29929-2225377,00.html>)
- Tom Cruise - The famous actor arrived at the Mission Impossible III premiere in a Bugatti Veyron 16.4 2006 [10] (<http://www.leftlanenews.com/2006/05/11/video-tom-cruise-drives-a-bugatti-veyron/>)
- Thomas Bscher - was to be one of the first owners, until he was appointed as a chairman of Bugatti, as a result, he allowed his waiting list position to be ceded by others. He hopes to collect his Veyron in September.^[11] (<http://driving.timesonline.co.uk/article/0,,29929-2225377,00.html>)

Final numbers

[12] (http://www.caranddriver.com/article.asp?section_id=19&article_id=10108&page_number=5)

Vehicle type: mid-engine, all-wheel-drive, 2-passenger, 2-door coupe

Base Price: €1,127,210 (£757 359, \$1,440,800)

Engine type: quad-turbocharged and intercooled DOHC 64-valve W-16, aluminum block and heads, direct fuel injection

Displacement: 7993 cm³ (488.8 in³)

Performance ratings (Motor Trend - Nov. 2006):

- **Zero to 60 mph:** 2.7 s
- **Zero to 100 mph:** 5.7 s
- **Zero to 150 mph (241 km/h):** 11.3 s
- **Zero to 200 mph (322 km/h):** 22.2 s
- **Zero to 100 km/h:** 2.7 s
- **Zero to 200 km/h:** 7.3 s
- **Zero to 300 km/h:** 16.7 s

Top speed (observed at governor): 253 mph (407 km/h)

Projected fuel economy (Motor Trend - Nov. 2006):

- **EPA city driving**: 8 mpg U.S. (30 L/100 km)
- **EPA highway driving**: 15 mpg U.S. (16 L/100 km)
- **Steady 253 mph (407 km/h)**: 2.1 mpg U.S. (115 L/100 km) so it will empty its 100l tank in 12 minutes

Trivia

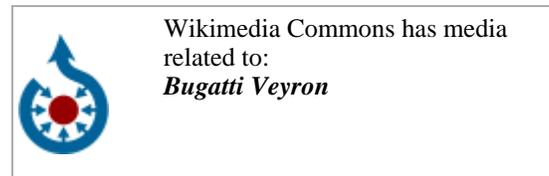
- In a speed race, if the McLaren F1 were allowed to reach 120 mph before the Bugatti started, the Bugatti would still be the first to reach 200 mph, according to the host of *Top Gear*, Jeremy Clarkson.
- In one of Top Gear's races, Richard Hammond and James May attempted to beat Clarkson in a race across Europe using transport other than a car, from Italy to England to transport a truffle. Clarkson used the Veyron, while Hammond and May used a variety of transport, with May flying the Cessna 182 due to his newly obtained pilot's licence, and the use of the Eurostar, when it was revealed that May was not qualified to fly at night.^[2] Apparently, so far, Bugatti has not given Top Gear approval for a Power Lap in the Veyron, an attempt at the record time, now held by the Koenigsegg CCX (with the Top Gear spoiler).
- The *Transformers: Cybertron* character *Crosswise* transforms into a noticeably modified Veyron.
- According to Jeremy Clarkson of Top Gear, Volkswagen's cost per Veyron is approximately £5 million (ie VW would lose £4.25 million on each Veyron sold).



Jeremy Clarkson stops the Veyron to lower its spoiler during one of Top Gear's races.

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- Bugatti Veyron - When pigs fly (<http://www.tvrfreak.com/blog/phatrides/2005/12/bugatti-veyron-when-pigs-fly.html>)
- Bugatti Veyron - Technik im Detail (in German) (<http://www2.auto-t-online.de/dyn/c/07/03/12/703124.html>)
- Official Specifications by Bugatti (http://www.bugatti-configurator.com/content/pdf/Veyron_en.pdf)
- Bugatti EB Veyron 16.4 on Xelopolis.com (http://www.xelopolis.com/Xdossiers/dossier_323_bugatti+eb+veyron+164+2005.html)
- Bugatti Veyron news (<http://www.automotoportal.com/cars/bugatti>)
- Castrol sponsored Guinness landspeed record attempt (<http://www.castrol.com/bugatti>)



Notes

1. ^ Henning Krogh. Bugatti accelerates Veyron production (<http://www.autonews.com/apps/pbcs.dll/article?AID=/20060313/SUB/60313032/1003/rss07&rssfeed=rss07>). *Automotive News*. Retrieved on March 15, 2005.
2. ^ Top Gear Season 7, Episode 5 2005.12.11

External pictures galleries

- Bugatti Veyron (<http://www.supercarnews.com/cars/bugatti/veyron/Bugatti-Veyron>) High Resolution Bugatti Veyron Images
- Bugatti Veyron Picture Gallery (<http://www.woomp.com/bugatti/bugattiveyron>)
- Wallpapers, Pictures : Bugatti EB Veyron 16.4 (<http://www.xelopolis.com/spgm/index.php?spgmGal=Automobiles/Bugatti>)
- Bugatti Veyron (<http://www.bugatti-veyron-164.info/veyron-wallpapers/>) - High Resolution Wallpaper

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