**Bugatti Veyron**

The Bugatti Veyron 16.4 was the fastest and most powerful street-legal production car in the world between October 2005 to September 2007. It keeps the title of the quickest (0-60mph, 0-100mph, quarter mile, etc.), most expensive street-legal full production car ever made and the fastest accelerating production car in history, with a proven time of 0-60 mph of under 2.5 seconds. It can produce an excess of 1,001 horsepower, in either the metric or SAE scale (see below), and achieve an average top speed of 253.81 mph. This speed and power was very close to the SSC Ultimate Aero TT, which claimed the “Fastest Production Car” world record with a top speed of 257.45 mph and an average speed of 256.19 mph on September 13, 2007, later verified by Guinness World Records on October 9, 2007.[2] The Bugatti Veyron reached full production in September 2005.Even though Veyron might not be the fastest, it is still your "average" car compared to its design, speed (power), and price. The car is built by Volkswagen AG subsidiary Bugatti Automobiles SAS in its Molsheim (Alsace, France) factory and is sold under the French Bugatti marque. It is named after French racing driver Pierre Veyron, who won the 24 hours of Le Mans in 1939 while racing for the original Bugatti firm.

**History**

Development of this 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's head designer was Hartmut Warkuss with exterior designed by Jozef Kabaň of Volkswagen rather than Giorgetto Giugiaro of ItalDesign who had handled the three prior Bugatti concepts too.

Volkswagen chairman Ferdinand Piëch announced the production Veyron at the 2000 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 Hunaudieres 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 407 km/h (253 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.

**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 "W" 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 based on the Haldex system. It uses special Michelin run-flat tires designed specifically for the Veyron to accommodate the vehicle's top speed.

Curb weight is estimated at 1,890 kg (4,160 lb). This gives the car a power to weight ratio of 529 bhp/tonne.

The car's wheelbase is 2,710 mm (106.3 in). Overall length is 4,462 mm (175.8 in). It measures 1,998 mm (78.7 in) wide and 1,206 mm (47.5 in) tall.

The Bugatti Veyron has a total of 10 radiators.[6]

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.

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 1,020 and 1,040 metric hp (1,006 to 1,026 SAE net hp),[citation needed] so the car will be advertised as producing "1001 horsepower" in both the US and European markets, making it the second most powerful road production car.

Top speed was initially promised to be 406 km/h (252 mph), 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 407.5 km/h (253.2 mph). The top speed was verified once again by James May on Top Gear, again at Volkswagen's private test track, when the car hit 407.9 km/h. When getting close to the top speed during the test he said that "the tires will only last for about fifteen minutes, but it's OK because the fuel runs out in twelve minutes." He also gave an indication of the power requirements, at 249 km/h (155 mph) the Veyron was using approximately 270 BHP (201 kW), but to get to its rated 407 km/h (253 mph) top speed required far more from the engine. Aerodynamic friction or drag is proportional to the square of the speed. That means going any given distance, the engine must do 4 times as much work. But going twice as fast, the engine must do that work in half the time. Therefore, to go twice the speed, you need eight times the power. The Bugatti website confirms that, on 19 April 2007, in a company test, the Veyron had an average top speed of 408.47 km/h, or 253.81 mph.[citation needed]

The Veyron is the quickest production car to reach 100 km/h (62 mph) with a proven time of 2.5 seconds. It reaches 60 mph in approximately 2.46 seconds. It also reaches 200 and 300 km/h (124 and 186 mph) in 7.4 and 16.7 seconds respectively. And according to the February 2007 issue of Road & Track Magazine, the Veyron accomplished the quarter mile in 10.2 seconds at a speed of 142.9 mph. Other tests, however, have the Veyron hitting 150 mph in 9.8 seconds (see below), so the quarter mile time is actually faster, making the Veyron the quickest and fastest production car in history. It also consumes more fuel than any other production car, using 40.4 L/100 km (5.82 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), which would empty its 100 L (26.4 gallon) fuel tank in just 12.5 minutes. The car's everyday top speed is listed at 375 km/h (233 mph). When the car reaches 220 km/h (137 mph), hydraulics lower the car until it has a ground clearance of about 8.9 cm (3½ inches). At the same time, the wing and spoiler deploy. This is the "handling" mode, in which the wing helps provide 3425 newtons (770 pounds) of downforce, holding the car to the road.[6] The driver must, using a special key (the "Top Speed Key"), toggle the lock to the left of his seat in order to use the maximum speed of 408.47 km/h (253.81 mph). 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 12.4 cm (4.9 inches), drops to 6.6 cm (2.6 inches).

The Veyron's brakes utilize unique cross-drilled and turbine-vented carbon rotors, which draw in cooling air to reduce fade. Each caliper has eight[6] 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 0.5 g (4.9 m/s²) of deceleration.[6] Bugatti claims the Veyron will brake from 400 km/h (250 mph) to a standstill in less than 10 seconds.[6] 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.