

MODEL FILE 76 · BUGATTI · HYPERCAR · FAMILY FILE · HALO PROTOCOL

BUGATTI VEYRON

8.0 W16 · 1,001–1,200 PS · 450 CARS · COUPE & GRAND SPORT · 2005–2015

THE FAMILY IN BRIEF

THE FAMILY

450 cars: 300 coupés, 150 open. The register separates: Veyron 16.4 (1,001 PS, the original series) · Grand Sport (1,001 PS roadster) · Super Sport (1,200 PS / 1,500 Nm — larger turbos, revised intercooling, chassis and aero; the 2010 world record at 431.072 km/h average) · Grand Sport Vitesse (the Super Sport's technology, open) — plus the collector sub-chapters: World Record Edition, GSV WRC Edition, Les Légendes de Bugatti (six editions of three cars each = 18) and the further editions through La Finale. Fields: VEYRON_VARIANT, SPECIAL_EDITION, BUILD_NUMBER.

THE FRAME

The dossier's Fazit, adopted: the Veyron is today probably HARDER TO BUY than a Chiron, though the core mechanics need not be worse — the difference is age plus the original engineering philosophy. The dangerous purchase points, in the dossier's order: PAX tyres → wheel cycles → complete Bugatti service → carbon and lift points → hydraulics/aero → cooling → the fuel and electrical recalls. And the best single quality indicator is NOT mileage: it is how completely the car still sits inside the Bugatti aftersales ecosystem — a cleanly cared-for 20,000-km car can beat a 2,000-km museum piece on ten-year-old tyres with an unresolved wheel cycle and an overdue service.

POWERTRAIN

W16 · AGED ASTONISHINGLY WELL

8.0 litres, sixteen cylinders, four turbochargers — and NO reliable systemic Veyron series of crank, rod-bearing, piston, timing-chain or core failures: the specialist-market picture agrees, the W16 is fundamentally robust WHERE the car stayed in the Bugatti service cycle. W16_CORE_ENGINE = LOW FAILURE FREQUENCY / EXTREME CONSEQUENCE — rare does not mean cheap.

IGNITION · THE REAL AGEING ITEM

Here the field cases are real: coils, plugs, misfires under high load — a published case involved misfires on two cylinders at speed, with a substantial part of the rear dismantled for the plug and coil work and a reported order of magnitude around €20,000. NOT evidence of a coil epidemic — but IGNITION COILS / PLUGS = HIGH COST AGEING ITEM. PPI: misfire counters on ALL SIXTEEN cylinders, cold and hot operation, full load under safe conditions, coil-replacement and spark-plug history.

TURBOS, DCT & AWD

The four turbos show no clear systemic series — but at 15–20 years: oil supply, bearing play, actuators, boost delivery, intake paths, intercoolers. Historic US parts/labour data named ≈\$43,600 for all four — stored as HISTORIC FIVE-FIGURE EXPOSURE / CURRENT QUOTE REQUIRED, not as today's price. The DCT carries 1,250–1,500 Nm with no reliable series failure statistic: cold D/R, manoeuvring, full-load shifts, adaptations, hydraulic pressure, temperature, oil service, DTCs — with an express Bugatti diagnosis, because a replacement gearbox can reach six figures: DCT = LOW FREQUENCY / EXTREME EXPOSURE. Permanent AWD: no known systemic weakness — front diff, centre drive, shafts, boots, noises checked.

COOLING & FUEL

Cooling is among the most important PPI areas: the Veyron rejects enormous heat from W16, turbos, engine oil, gearbox and charge air — ALL radiators, pumps, hoses, expansion tanks, fans, thermostats, and a FULL WARM/HEAT-SOAK CYCLE is demanded: a collector car driven five minutes around the block is not inspected. Fuel: the system carries a real recall (16V-200, below) — and the TANK is constructively very hard to reach: historic data named ≈\$42,000 for a new tank, much of it disassembly labour. Today: CURRENT BUGATTI QUOTE REQUIRED — a fuel-system problem can easily reach high five figures.

STRUCTURE & SYSTEMS

CARBON, MATERIALS & THE
LIFT POINTS

The material mix — carbon monocoque plus aluminium components, the engine in a heat-resistant stainless rear structure with aluminium crash areas — creates a SPECIFIC corrosion problem, and it has a campaign number: 16V-166 — crevice corrosion and delamination between the aluminium REFERENCE PLATES under the car and the carbon: plates could loosen and FALL OFF while driving (Veyron, Grand Sport, Super Sport; 87 US cars): remedy — inspect, rivet, seal. 16V166_RPS_PLATES_COMPLETE is mandatory. The LIFT POINTS follow directly: reference plates, bonds, rivets, the carbon around the mounts, prior lifting damage — on a normal car a jack-point scar is ugly: on a Veyron a wrong lift is very expensive. Accident suspicion: NDT and the Bugatti composite specialist — tub, sills, pickups, floor, crash structures, delamination.

HYDRAULICS, AERO & THE
KEY

The older Veyron is MORE interesting here than a Chiron: ride-height hydraulics — leaks, pump function, pressure, mode switching: the car must reach AND hold its heights, and long standing time is no friend of hydraulic systems. Active aero and the airbrake are tested completely: extension, angle, airbrake, high-speed/handling modes, sensors, hydraulic actuators — no documented fleet epidemic, but ACTIVE AERO = HIGH COST COMPLEXITY. And the famous TOP-SPEED KEY: present, recognised by the car, mode selection, ride-height transition, aero configuration — verified diagnostically and statically, obviously not at 400 km/h.

WHEELS & TYRES · THE VEYRON POINT

PAX TYRES & THE WHEEL CYCLE

THE difference from the Chiron, stated openly: the notorious Bugatti tyre-and-wheel economy is REAL on this car. Michelin Pilot Sport PAX runflats: ≈£30,000 a set, historically documented. Wheels: replaced roughly after every THIRD tyre set, at ≈£52,000 a set historically — not because Bugatti enjoyed selling £50k wheels, but because 400+ km/h, PAX mounting loads, ageing and possible cracking produce an extremely conservative safety philosophy. Fields: TYRE_SET_COUNT, WHEEL_REPLACEMENT_DATE, WHEEL_SET_SERIALS, PAX_HISTORY — and the hard rule: NO UNKNOWN WHEEL HISTORY on a car that is meant to run high speed. Tyre AGE beats tread — Bugatti itself runs a Collector service profile for cars under 200 km a year, and a ten-year tyre with 7 mm is worse than a younger set with less. Brakes: CCM — chips, thermal damage, oxidation, pads, calipers: BUGATTI QUOTE / VERY HIGH FIVE-FIGURE EXPOSURE, no invented fixed number.

THE VARIANTS

GRAND SPORT & VITESSE

The Grand Sport is structurally NOT a coupé without a roof: the coupé roof was load-bearing, so Bugatti reinforced the sills, the central tunnel and the B-pillar area — the PPI adds: removable roof, fit, seals, storage equipment, wind noise, leaks, the reinforced sill areas and the carbon around the roof opening. Collector-side: the ROOF MODULE must be present, matched to the car, undamaged and correctly stored — plus the emergency soft-top solution: missing roof components move collector value. The VITESSE is technically far closer to the Super Sport than to the normal Grand Sport: 1,200 PS, larger turbos, new intercoolers, strengthened driveline, adapted chassis, improved brake cooling — PPI: Super Sport drivetrain + Grand Sport roof and structure.

SUPER SPORT & THE EDITIONS

The Super Sport carries its own fields: changed turbos, intercoolers, chassis, aero and carbon body — and the 2010 world record. PPI weight: high-speed history, correct aero/wheel/tyre configuration, carbon body, cooling, turbos. The collector editions — Sang Noir, Pur Sang, Bleu Centenaire, Fbg par Hermès, World Record Edition, GSV WRC, Les Légendes de Bugatti (6×3), La Finale — are verified to original configuration completely: plaque, paint, carbon, interior, embroidery, wheels, build sheet.

FACTORY ACTIONS & OWNERSHIP

THE RECALL TRIO

Three campaigns, cleanly NHTSA-documented, VIN-dependent: 16V-166 (RPS aluminium plates, above — HIGH) · 16V-199 (CRITICAL IF OPEN: the B+ cable at the generator could corrode, overheat and create FIRE RISK — 13 US cars: B+ cable AND generator replaced) · 16V-200 (the tank control unit could show MORE fuel than present — the car could stop unexpectedly: 72 US cars, 2006–10 Veyron and 2010–11 Grand Sport, TCU replaced — Bugatti's own campaign number 16-04-013BUG, a sweep addition). Three fields, three closures, checked by VIN.

THE SERVICE ARCHITECTURE

OEM-documented, and different from the Chiron in a way the file highlights: two alternating service scopes of ≈14 and ≈32 workshop hours, annually, at official Bugatti partners — against the Chiron's 72-hour four-year Major. Passeport Tranquillité runs two- or four-year programmes on the Veyron, with the tyre option; and the ACTIVE vs COLLECTOR profiles (Collector expressly for cars under 200 km/year) are a register-grade indicator of how Bugatti itself classified the car: SERVICE_PROFILE is a field. CPO covers the Veyron expressly — 110-point inspection within six months of sale, then a 12-month mechanical/electrical warranty, worldwide via partners — and at this fleet age the register weights CPO even higher than on the Chiron. The network was BUILT for this car: 24/7 service, telemetry, Flying Doctors. And the Molsheim myth is corrected: normal Veyron service runs at official partners — the works is engaged for restorations, factory reworks and special repairs. PARTS_AVAILABILITY is its own field: PAX tyres, unique wheels, W16 periphery and bespoke bodywork do not live in the free parts world.

RECOMMISSIONING & THE
EFFECTIVE PRICE

The register's standing-time doctrine at full strength: a 1,500-km Veyron is potentially MORE dangerous for the budget than a 25,000-km car with perfect history. Checked: how long it stood, battery, tyres, wheels, hydraulics, seals, pumps, fuel age, coolant, brakes — and on long-stored cars a BUGATTI RECOMMISSIONING QUOTE before purchase. The buying arithmetic per dossier: price + next 14/32h service + tyre status + wheel cycle + open recalls + hydraulics + ignition + recommissioning = EFFECTIVE ACQUISITION COST — the €150k-cheaper Veyron that needs tyres, wheels, service and catch-up may be the expensive one. Cost realism, historic figures not inflation-adjusted into fixed prices: routine reserve high four to mid five figures a year · a tyre year adds ≈€30k+ · a wheel cycle ≈€50k+ · recommissioning and exceptional work €50–150k+, and a single large defect can exceed it.

450

Cars — 300 coupés, 150 open: and the best quality indicator is ecosystem completeness, not mileage

3

Tyre sets per wheel set: the notorious economy is real HERE — ≈£30k tyres, ≈£52k wheels, historic

32

Workshop hours in the larger alternating annual service (with 14h) — against the Chiron's 72h/4yr

Sources: Bugatti factory data (450 cars: 300 coupés/150 open; SS 1,200 PS/1,500 Nm and 431.072 km/h record; GS structural reinforcement; Les Légendes 6×3; service architecture 14h/32h alternating, Passeport 2/4-year, Active/Collector profiles <200 km/yr, CPO 110-point/12-month, Flying Doctors, telemetry); NHTSA record verified September 2026 — 16V-166 (RPS plates, 87 US cars), 16V-199 (B+ cable/generator, 13 US cars, Part 573 filing), 16V-200 (tank control unit, 72 US cars, Bugatti campaign 16-04-013BUG per the TSB portal); historic cost indicators per Autocar/period documentation (≈£30k PAX set, ≈£52k wheel set every third tyre set, ≈\$43.6k four turbos, ≈\$42k tank, ≈€20k coil/plug case) — stored as HISTORIC EXPOSURE, current quotes required; ignition ageing, hydraulics, lift-point and recommissioning doctrine per the dossier. No bands per halo protocol — single files decide.