

MODEL FILE 23 · V12 FLAGSHIP LINEAGE · LAMBORGHINI
LAMBORGHINI AVENTADOR

L539 V12 · 2011–2022 · COUPÉ · ROADSTER · SV · SVJ · ULTIMAE

THE FAMILY IN BRIEF

VARIANTS

LP 700-4 coupé and Roadster (two-piece carbon hardtop); 50° Anniversario 100 coupés + 100 Roadsters (720 cv); Pirelli Edition (design package, coupé and Roadster); Miura Homage (50 coupés); LP 750-4 SV (600 coupés) and SV Roadster (500); Aventador S and S Roadster (740 cv, rear-wheel steering); SVJ (770 cv, ALA 2.0, 900) with SVJ Roadster (800), SVJ 63 (63) and SVJ 63 Roadster (63); Ultimae 350 coupés + 250 Roadsters (780 cv). The Aventador J is a road-registered factory one-off without roof or windscreen. Veneno and Centenario are coded AVENTADOR-DERIVED HALO PLATFORM with their own files: Lamborghini itself included the Veneno in the early Aventador EVAP recall. Production ended September 2022 after 11,465 cars, the last an Ultimae Roadster: the hybrid Revuelto succeeds it, closing the pure-V12 era.

ARCHITECTURE

A complete 2011 clean sheet: 6,498 cc 60° naturally aspirated L539 V12 (700 cv initially), ISR 7-speed automated single-clutch gearbox (Independent Shifting Rods, deliberately NOT a DCT), full CFRP monocoque built in-house (tub and roof about 147.5 kg) with aluminium front and rear subframes, permanent AWD, pushrod suspension, carbon-ceramic brakes. That alone defines the PPI blocks: carbon → ISR/clutch → V12 → suspension → AWD → CCM → history.

WHY IT MATTERS

The defining Aventador principle: this PPI reconstructs the HISTORY of the car, not just its condition on viewing day. The fleet was used disproportionately as show, city, rental, event and social-media car: and that usage is mechanically harder than clean motorway kilometres. MILEAGE is never read without USE PROFILE.

INSPECTION ZONES · HISTORY FIRSTUSE PROFILE & STATIC
REVVING

ABUSE/USE PROFILE is a real data category here, not soft market colour. Static high-revving is PPI-relevant with OEM backing: campaign 17V073 names hard revving at standstill with an overfilled tank as a contributing condition, aggravated by unapproved exhausts: and Lamborghini investigated fire cases it found on YouTube. Public usage history is therefore a legitimate source: registration and plate history, wrap colours, ex-owners, event and rental traces. Fields: RENTAL_HISTORY, EVENT/SOCIAL_MEDIA_USE, STATIC_HIGH_REV_HISTORY.

L539 V12

Reassurance first: no usable fleet evidence that the L539 eats rod bearings, develops chronic timing or compression problems, or is “done” at higher mileage: L539 CORE FAILURE = NOT COMMON. A 50,000 km car with clean service can be mechanically very healthy: the bigger question is what was DONE to the engine. The 2017 exhaust cam-adjuster bulletin is OEM TECHNICAL INFORMATION, not a common VVT failure. Cooling: radiators, fans, hoses, heat exchangers, debris in intakes: wrapped cars and wrong grilles get an airway check. After a full drive: engine-bay heat audit (oil and fuel smell, smoke, shielding, melted wiring or trim): especially on early cars with aftermarket exhausts.

ISR · THE EXAMINER MUST UNDERSTAND IT

The gearbox is a very fast automated SINGLE-clutch, chosen for weight, packaging and deliberately aggressive shifts: a clear jolt in Corsa is NORMAL. Whoever judges an Aventador by Huracán-DCT standards diagnoses a healthy car as broken. Software matters: the 2013 action for MY2012–14 fixed automatic-mode upshifts that could hit the limiter: LATEST GEARBOX SOFTWARE and ISR adaptation are always checked: an odd shift is not automatically mechanical damage.

CLUTCH · THE DEFINING WEAR VALUE

The single ISR clutch is extremely style-dependent: stop-and-go, slow crawling, hill starts, frequent reversing, held clutch and launches kill it: no fixed kilometre life is assumed, the spread is enormous. A 40,000 km motorway car can carry a better clutch than an 8,000 km London/Dubai/Monaco car full of garage ramps and reverse manoeuvres. Protocol cold: R → 1st → R repeatedly, then slow pull-away: delay, judder, smell, warnings. Warm matters more: reverse parking, stop-and-go, gradient, slow manoeuvring, normal and fast Corsa shifts. Rule: CLUTCH HEALTH = DIAGNOSTIC + BEHAVIOURAL: wear value, calibration, kiss point, engagement quality, replacement history and use profile together: never “32 per cent = good” alone.

AFTERMARKET EXHAUST

More important than on most cars: Capristo, IPE, Novitec, straight pipes, decats and flame tunes are common. Strict separation: CAT-BACK WITH ORIGINAL ECU is something completely different from DECATTED / TUNED / FLAME MAP. On an early car with an aftermarket system: recall completion, fuel smell, EVAP faults, heat impact, melted rear mesh and trim, wiring, carbon and bumper condition are examined closely.

CARBON TUB & SUBFRAMES

Top buying priority. A major accident is a completely different category from bumper or wing damage: the file codes TUB DAMAGE and SUBFRAME DAMAGE separately, because an impact can bend the aluminium frames while the tub survives. Carbon PPI: sills, door apertures, floor, tub interfaces front and rear, suspension pickup regions, underbody, roof structure on coupés: looking for cracking, crushed laminate, delamination, drill holes, fibre or resin repairs, unusual paint or underseal, replacement hardware: composite NDT on suspension.

UNDERBODY & ACCIDENT
CLASSES

Underbody abuse is its own chapter (lowered cars, ramps, garages, bad roads): splitter, floor, carbon, aero panels, lift contact areas, diffuser, exhaust: a car can be perfect on top and mistreated underneath. Accident classes: COSMETIC vs SUBFRAME vs CARBON TUB: a tub repair or replacement must be fully documented: six-figure, collector-level risk.

SUSPENSION, LIFT &
DRIVELINE

Pushrod suspension: rods, rockers, joints, dampers, mounts, play. Damper leaks are a STRONG INSPECTION ITEM (thermally brutal packaging, growing specialist reports) but not "all Aventador dampers fail". Front lift (about 40 mm): mandatory test, several cold cycles and again warm: speed, symmetry, noise, leakage, faults: STRONG AGE/SPECIALIST PATTERN, not an OEM epidemic. AWD: front differential, prop shaft, CV joints at full lock (clicking, binding), front shafts, leaks, vibration under load: after launch or track abuse, driveline play is watched.

CCM, WHEELS & TYRES

CCM is standard and expensive: rotor wear is NOT judged visually alone: the mass limit documented on the rotor decides. Track use shows at the brakes: heat-discoloured calipers, oxidised discs, edge damage, aggressive pad wear, tyre marbles, duct debris: a seller can say "never tracked": the brakes often tell a different story: brake fluid moisture and boiling history follow the same logic. Tyres are safety-critical on a 700–780 cv AWD car: DOT, correct homologation, inner edges, flat spots, repairs, mixed fitment. Wheels: buckling, cracks, welds, repaints: on SV/SVJ additionally the full centre-lock history.

DOORS, BATTERY &
ELECTRONICS

Scissor doors: struts, hinges, alignment, latch, microswitch, window indexing: doors must rise cleanly, stay up, not sag: tired struts are age-plausible. Battery first: much of the fleet stands, and a weak 12-volt battery produces gearbox warnings, ESC, suspension and sensor faults up to no-start: a documented specialist pattern: the battery is tested before any fault code is interpreted. MY2012–14 carry the alternator-pole service action (protective boot against corrosion): OEM SERVICE CAMPAIGN, not a safety recall. The Audi-based cluster and infotainment are less exotic than modern Ferrari electronics: rather a strength: no systemic weakness. UK MOT data: 96.6 per cent pass rate over 524 tests, the commonest failure a lit MIL: a robust base car that rewards maintenance discipline.

VARIANT-SPECIFIC

ROADSTER ROOFS

Two removable carbon roof panels stored in the front compartment (SV panels under six kilograms each, factory data): mechanically far simpler than any RHT. PPI: both halves present, matching finish, pins, latches, seals, scratches, edge chips, carbon damage. On limited Roadsters (SV, SVJ, Ultimaé) missing or damaged ORIGINAL halves are no small detail: COLLECTOR IMPACT HIGH. Water and seals: no leak epidemic exists: ageing seals plus a badly seated roof cause noise and moisture: A-pillar, roof and rear interfaces checked.

S / SVJ / ULTIMAE SYSTEMS

The S adds 740 cv, Lamborghini Dynamic Steering (variable feel = characteristic, not defect), rear-wheel steering with two electromechanical actuators, active suspension and EGO mode. LRS: actuator values left and right, calibration, faults: after any rear or suspension damage a full geometry plus LRS calibration: the same applies to SVJ and Ultimae. SVJ: ALA 2.0 aero vectoring is its own PPI block: front ducts, wing channels, valves and actuation, air paths, blockage, accident repair: after front or rear damage “the bumper looks good” is not enough: ALA geometry must be correct, open, complete and original. The 2018 SVJ front-spoiler service action (screws with thread locker) belongs in the campaign history: the high-mounted lightweight exhaust gets a heat and carbon check. SV/SVJ track discipline is stricter: TRACK USE + NO FLUID/BRAKE HISTORY = HIGH.

LIMITED EDITIONS &
SURFACES

On Anniversario, Pirelli Edition, Miura Homage, SVJ 63 and Ultimae, authenticity joins the PPI: factory paint, edition-specific body parts, wheels, badges, plaque, seats, stitching, original carbon (the Miura Homage's two-tone paint, logos and plaque are part of the configuration: the Pirelli Edition is mechanically a normal LP 700-4 plus its package). The Ultimae combines S dynamics with SVJ power without the full SVJ aero: young, tiny population, often barely driven: collector weight clearly higher. Surfaces: many Aventador were wrapped repeatedly: CURRENT COLOR vs FACTORY COLOR is a data pair: film edges checked for knife marks, lifted clearcoat, repaint or filler: “only wrapped” says almost nothing: PPF can hide paint and carbon repairs: panel originality under the film is verified on SV/SVJ/Ultimae. Interior wear is a usage indicator: a 7,000 km car with a heavily worn bolster, wheel and pedals deserves an explanation.

RECALLS · THE SEVEN-CAMPAIGN MATRIX

12V561 & 17V073

All seven campaigns confirmed via NHTSA vehicle queries, September 2026, and the union across model years returns exactly these seven. 12V561: headlamp aim compliance, MY2012, minor. 17V073: the EVAP/fire campaign, production 22 March 2011 to 5 December 2016, 1,453 US cars, explicitly including Anniversario, Miura Homage, Pirelli Edition, SV and Veneno: overfilled tank, static revving and unapproved exhausts as conditions: remedy purge valve, rollover valve, changed EVAP layout: warning signs MIL and fuel smell: on an early Aventador fuel smell is never “typical Lamborghini”: CRITICAL.

STALL SOFTWARE & SV
WHEELS

18V391: engine stall MY2012–18, 1,700 US cars, coasting below 2,000 rpm during automatic downshift: remedy software L73X-R.02.18: CRITICAL if open. 18V461: SV wheel drive pegs, 2015–16 SV/SV Roadster: centring hardware could loosen under extreme use, wheel loss possible: CRITICAL. 19V696: Aventador S stall 2017–19, idle-control software: an S can therefore carry TWO separate stall/software histories.

SVJ CAMPAIGNS & CHECK

21V107: SVJ hood hinge 2018–21, 221 US cars, thermal deformation, hood could open and detach at speed: new screws with thread locker. 21V927: one single 2021 SVJ Roadster, heat-exchanger oil lines: ULTRA-LOW POPULATION / VIN-SPECIFIC, never presented as a series problem. MY2020 and MY2022 queries return empty. The VIN campaign check runs at every single car.

COST DISCIPLINE · MI WORKING RANGES

WORKING RANGES

Working ranges, not quotes (Sep 2026): annual service €2,000–4,000 · major/catch-up €4,000–10,000+ · ISR clutch €7,000–15,000+ · major ISR/actuator work €10,000–25,000+ · lift €2,000–7,000+ · damper/pushrod work €4,000–20,000+ by scope · CCM axle €8,000–15,000+ · complete CCM job €15,000–30,000+ · tyres €2,000–3,500 · carbon body repair highly variable · structural tub event six-figure, collector-level risk. Specialist pricing confirms clutch and CCM go five-figure quickly.

BUYING NOTES · THE TWO CHECKS THAT MATTER

1 · HISTORY BEFORE
MILEAGE

Mileage is punished less than the market does: a one-owner 45,000 km car, dealer-serviced yearly, warmed up properly, little city, documented clutch, no accident, can be technically far more attractive than a 9,000 km car with ten owners, two wraps, an aftermarket exhaust, rental history, unclear clutch values and thousands of cold Instagram revs. The V12 is robust enough for that verdict.

2 · CONFIDENCE DISCIPLINE

OEM or government confirmed: the seven-campaign matrix plus the alternator and SVJ-spoiler service actions. Strong field/wear patterns: ISR clutch wear, lift ageing, battery/low voltage, door struts, damper ageing, and normal ISR shift character. High consequence but not established as common: carbon tub, CCM, AWD driveline, rear steering, ALA. NOT carried as common: catastrophic V12 failure, internal ISR death, tub failure, permanent AWD failure, widespread rear-steer problems.

MARKET POSITION · SCARCITY LADDER

STATUS

European and US bands follow the transaction dataset. Structural readings: the variant ladder (SV → SVJ → 63/Ultimae) prices on documented originality: wrap and colour history, clutch and tub documentation, roof completeness and closed campaigns are the value datums: and the Revuelto's hybrid arrival strengthens the closed pure-V12 position of the whole family.

11,465

Total production 2011–2022: the last pure-V12 flagship, closed by an Ultimae Roadster

7

US campaigns, all verified: EVAP/fire and the stall software are the critical ones

1

Clutch: the single ISR plate is the defining wear value: diagnostic + behavioural, never a percentage alone

Sources: Lamborghini factory data (variants, production numbers, monocoque and ISR, ALA 2.0, S systems, roof panels, one-off status of the Aventador J); production end September 2022 with 11,465 cars per Lamborghini; NHTSA campaigns 12V561, 17V073, 18V391, 18V461, 19V696, 21V107, 21V927 verified September 2026 via per-model-year vehicle queries (MY2020/2022 empty); OEM service actions (alternator pole, SVJ spoiler, 2013 gearbox software, 2017 VVT bulletin) per NHTSA documents; clutch, lift, damper and battery patterns per specialist sources; UK DVSA MOT statistics as sourced. Cost figures are MI working ranges; market bands follow the verification round.