MODEL FILE 117 · FERRARI · V12 GT · THE PTU FILE

FERRARI FF

F151 · F140 EB V12 · 660 PS · FIRST 4RM FERRARI · 2011-2016

THE CAR IN BRIEF

THE MODEL

Type F151, 2011-2016: Ferrari's first series car with all-wheel drive. The F140 EB 6.3 naturally aspirated V12 at 660 PS (651 bhp), the 7-speed DCT at the rear axle, and the architecture that defines this file: NO transfer case, NO propshaft to the front. Instead a separate two-speed POWER TRANSFER UNIT sits ahead of the V12, driven directly off the crankshaft, feeding only part of the torque to the front wheels and working only in the lower gears: a fraction of a conventional AWD system's weight, and the front drive and torque vectoring in one box.

THE BOTTOM LINE, FIRST

The dossier's verdict opens the file: the FF is mechanically FAR better than its reputation, with exactly one great exception, and that exception is economic, not structural. The V12 is among the strongest parts of the car, the platform ages properly, and since Ferrari opened the PTU repair-kit chapter, a PTU issue no longer automatically means exchanging the complete unit. The register rule of 2026: an FF is not rejected for carrying its original PTU, and an FF is never bought with an undocumented one.

THE PTU · THE FILE'S CENTRE

WHAT IT IS & HOW IT FAILS

Inside the PTU: two gear ratios, two clutch systems for the front axle, hydraulics, valves, position and RPM sensors, pressure sensors, and its own oil and hydraulic circuit. The known failure picture is SEAL WEAR inside the unit: separated fluids begin to mix or hydraulic fluid is lost, pressure faults follow, and eventually clutches and shifting no longer work correctly. Typical symptoms: 4WD FAILURE, the Manettino locked or falling into Wet mode, front drive dropping out, delayed or faulty PTU shifts, pressure errors, fluid loss, occasionally noises or uneven engagement. PTU = CRITICAL, and everything below serves this verdict.

THE REPAIR-KIT ERA

The decisive 2026 development, verified in the catalog record: Ferrari's parts system carries an own section, 027 PTU REPAIR KIT, with genuine modular kits for the FF: position sensor and RPM sensor kits, on/off and pressure solenoid valves, the complete hydraulic system, rigid oil pipes, low and high pressure pipes, the full PTU wiring harness, oil tank, plugs, and the power unit. Listed parts prices run from around 340 pounds for a valve to around 7,600 for the complete hydraulic system, per September 2026 listings: PARTS prices, not installed repair prices. Ordering runs via Ferrari dealer or authorised genuine-parts channel, because releases and part supersessions can be VIN-dependent.

COMPLETE UNITS & THE NUMBER THAT TALKS

The complete exchange PTU remains available, and its history is register data: the unit was superseded 271091 to 276013 to 285958 to the current 305902, which is listed at roughly 19,400 pounds ex VAT as the bare part and requires ASM authorisation: that explains the historic invoices around 30,000 pounds for a full installed exchange. The supersessions do not automatically mean redesigned gears or clutches, but they prove Ferrari revised the unit across the lifecycle. The register consequence, per the dossier: the PPI does not ask "PTU replaced?", it asks for the PTU PART NUMBER CURRENTLY INSTALLED.

REBUILDS & THE BENCH TEST

Independent specialist rebuilds are established, in the rough order of 8,000 to 10,000 pounds per the documented reports: full disassembly, all critical seals and O-rings, worn bearings, hydraulic components, accumulator, where needed improved seal and bearing solutions, and a hydraulic pressure, leak and engagement test. A proper rebuild is a complete component revision, not a new gasket. And the checklist field the dossier demands: the finished unit is tested OUTSIDE the car with repeated shift cycles before refitting. PTU REBUILD BENCH TEST DOCUMENTED: yes or no. None of these figures is a binding quote: reported magnitudes, stored as such.

PREVENTION & THE FOUR GRADES

A PTU can already be losing fluid internally BEFORE any permanent 4WD fault appears, so "no warning lamp" proves nothing: fluid levels, fluid condition, mixing, pressure, adaptation and actuator values and leak traces are a CRITICAL diagnostic requirement in every inspection. The purchase grades, per the dossier: A, revised unit with invoices, current part number, bench test and clean scan (LOW to MEDIUM risk). B, original unit with a clean dealer health check and correct fluids (MEDIUM). C, "works at the moment" with no diagnosis and no paper (HIGH). D, active warnings, Wet-mode lock, pressure faults or fluid mix (CRITICAL, price adjustment required). The dealer PTU health check itself: full Ferrari diagnostic scan, PTU pressures, position and RPM sensors, 4RM actuator function, adaptation status, stored faults, fluid level, leak check, and a reproducible function test cold and warm, ideally with factory technical review where available.

THE REST OF THE CAR

ENGINE, DCT, COOLING

The F140 EB is the calm heart: no reliable systemic series of bearing, piston or chain failures. PPI: cold start, compression, oil loss, ancillaries, cooling system, misfire counters. ENGINE = LOW RISK. The rear DCT is NOT the PTU and is checked separately: leaks, sensor and position faults, actuator issues can develop and can reach overhaul level per the documented record: leak check, clutch values, gear selection, sensor fault history, adaptations. HIGH, but behind the PTU. Cooling is the known ageing point: radiator side tanks, expansion tank, hoses, water pump, oil and coolant leaks including the oil pan.

BATTERY, BRAKES, CHASSIS, INTERIOR

The battery-first rule is native to this car: a weak battery can fake an array of seemingly serious faults: battery state, resting voltage, maintainer use, and the fault memory read AFTER undervoltage events. Known small themes: Manettino, TPMS, various low-voltage errors. Carbon-ceramics are standard: disc state, chips, thermal damage, pads, remaining life, with the traction systems able to raise REAR wear. Chassis: SCM3 magnetorheological dampers (leakage), lift where fitted, arms, bushings, geometry, all deeply integrated with F1-Trac, E-Diff and 4RM. Interior: the era's sticky buttons and soft-touch coatings: no dealbreaker, a restoration cost line.

FACTORY ACTIONS & OWNERSHIP

THE CAMPAIGNS, BY NUMBER

Two documented threads, both CRITICAL as status fields. First, 22V536 (July 2022, Ferrari code RC78): the brake fluid reservoir cap could fail to vent, building vacuum with possible partial or total loss of brake function: cap replaced and a low-fluid warning added by software. RC78/22V536 COMPLETE is mandatory. Second, Takata: the FF stands in the inflator population with 17V018 (January 2017, regional) superseded by 18V381 (June 2018, passenger inflator): TAKATA VIN STATUS is checked by chassis, never ticked off by build year, because campaigns differ by production window and inflator generation.

OWNERSHIP & THE BUYING LINE

What decides, per the dossier: either a cleanly documented Ferrari or specialist PTU revision, or an original car that has PASSED a complete 4RM and PTU diagnosis and function test at a qualified Ferrari operation before purchase. Priorities: PTU state and paper, campaign status, DCT, ceramics, cooling, battery and electronics, chassis, interior, with the V12 last: LOW by record. Fields (excerpt): PTU_PART_NUMBER, PTU_REVISION, PTU_REBUILD, PTU_REPAIR_KITS_USED, PTU_FLUID_STATUS, PTU_BENCH_TEST, 4WD_FAULT_HISTORY, DEALER_CALIBRATION_COMPLETED, RC78_22V536_STATUS, TAKATA_STATUS, SERVICE_HISTORY, ORIGINALITY_SCORE. The A to D purchase grade is recorded as its own field on every entry, and a documented grade-A car is the register's reference purchase. Market bands pending the transaction dataset.

027

The Ferrari catalog section that changed the FF story: genuine PTU repair kits instead of unit-or-nothing

4

PTU part numbers across the lifecycle (271091 to 305902): the installed number says more than "replaced"

2

Campaign threads by number: 22V536/RC78 brakes and the Takata pair 17V018/18V381, answered by VIN

Sources: Ferrari works data and model records (F151 2011-2016, first 4RM Ferrari, F140 EB 660 PS = 651 bhp, rear 7-speed DCT, two-speed crank-driven PTU); PTU failure picture per specialist and press documentation; catalog record per dossier: section 027 PTU Repair Kit, listed prices Sep 2026 parts only, supersession 271091/276013/285958/305902, current unit ca. 19.4k pounds ex VAT, ASM authorisation; rebuilds ca. 8-10k pounds, reported figures; NHTSA verified: 22V536/RC78 (Jul 2022) and Takata 17V018 superseded by 18V381, VIN decides. Market bands pending the transaction dataset.