Ferrari

F430 Spider - Description and Tech Specs

The F430 Spider joins the F430 as the latest addition to the new generation of Ferrari V8-engined sports cars. The Spider boasts all of the F430's stunning technology, itself the product of a close working relationship with Ferrari's Gestione Sportiva F1 racing division. The F430 Spider's all-aluminium bodywork has also been carefully strengthened as has its chassis to guarantee both occupant safety and the structural rigidity demanded by a car as high performance as this. Two very robust steel roll-bars are integrated into the windshield structure to guarantee maximum occupant protection. The electric hood is fully automatic and folds away under its own flush-fitting tonneau cover, allowing Ferrari's engineers to carefully hone the aerodynamics of the car with the hood down.

STYLING

The F430's lineshape, created by Pininfarina in collaboration with Frank Stephenson is inspired by the car's exceptional engineering. The aggression and performance of the F430's design has been effortlessly transferred to the Spider so that the new model exudes all of the breathtaking elegance typical of a Ferrari drop-top. In design terms, this means that the new Spider has an even stronger personality and more muscular stance, both of which strongly hint at its powerful engineering and blistering performance. Their shape was

inspired by the Ferrari 156 F1 that Phil Hill drove to his F1 World Championship title in 1961.

HOOD

The F430 Spider is the only uncompromising mid engined droptop to boast a compact, fully automatic electric hood that allows the engine to be seen at all times. This stylistic flourish comes courtesy of a soft top system designed to take up very little space indeed.

The fully-lined electric hood is completely automatic, and is opened and closed by seven electrohydraulic actuators. The hood folds over twice before disappearing completely into a well just ahead of the engine compartment. Opening or closing the F430 spider's hood takes 20 seconds from start to finish. The driver is alerted that the movement is complete by an audio signal.

ENGINE

The F430 Spider is powered by the new 90° V8 featuring Ferrari's traditionally uncompromising design approach with a flat-plane crank (180° between throws.) The improvement in terms of performance, weight and reduction of overall dimensions is yet another result of Ferrari applying its wealth of F1 experience to its road cars: + 25% (465 Nm at 5,250 rpm, 80% of which is already available at 3,500 rpm) and power by 23% (490 hp at 8,500 rpm.)

E-DIFF/E-DIFF ELECTRONIC DIFFERENTIAL

The E-Diff or electronic differential, the real new feature on F430, is now standard equipment on the Spider. On the track, the E-Diff guarantees maximum grip out of bends, eliminating wheel spin. On the road it is a formidable technological refinement that improves roadholding. For the driver, the E-Diff increases handling balance and grip (which noticeably improves acceleration,) improves

roadholding on the limit and also guarantees even better steering feel.

F1 GEARBOX AND TRANSMISSION

As the Coupé, also the F430 Spider features a new cast aluminium transmission casing that houses the gearbox in unit with the electronic differential and bevel type final drive, as well as the engine oil tank. The 6-speed gearbox incorporates multicone synchronizers. The F430 Spider is available with either the classic Ferrari open-gate manual gearbox or with the F1 paddle shift that Ferrari has continuously developed and refined over recent years for its road-going berlinettas.

MANETTINO COMMUTATOR SWITCH AND VEHICLE SET-UP

Just like in Formula 1, the F430 Spider driver can change various areas of the set-up of his car using a single selector set on the steering wheel. The manettino, as it is called by Scuderia Ferrari drivers, is a commutator switch that has been adopted directly from racing, where total commitment to driving requires maximum efficiency and speed in controlling the car's various functions. The settings available to the driver have been concentrated in five different strategies.

ICE: performance is significantly restricted for maximum stability - indispensable for driving in very slippery conditions.

LOW GRIP: this position ensures stability both on dry and wet surfaces. It is therefore recommended for surfaces with poor grip (rain,) gritty roads or particularly broken or undulating blacktop.

SPORT: this is the standard setting that strikes the best balance between stability and performance. This position is ideal for the open road.

RACE: this setting must be used only on the race track. Gear changing is even faster to minimise gear shifting times.

CST: activates or deactivates the stability and traction control. With the manettino set to off, the driver has full control over the car's reactions.

CHASSIS

The chassis of the F430 Spider fully exploits cutting-edge aluminium technology that allows considerable structural stiffness, excellent driver and passenger protection with minimal weight. To offset the loss of the roof, the Spider's chassis has been significantly reinforced. The sill members have been strengthened with extremely light, rigid aluminium foam inserts where they connect to the rear B-pillar chassis members. Similarly, at the front the sill members are strengthened by a robust connection with the A-pillars which include the Ferrari-patented integral door mounting points and the base of the windscreen surround. The reinforced door structure, inner wheelarches and chassis, the positioning of the collapsible arm rest and a more enveloping seat shape provide excellent protection, as emerged from the very high scores achieved in side impact tests.

AERODYNAMICS

Traditionally, Ferrari has clothed its mechanical package in forms that are dictated by the need for maximum aerodynamic efficiency. In the case of the F430 Spider, just like Coupé, this principle has been developed to the extreme, employing exactly the same engineering approach to computer development models and wind tunnel testing as used by the F1 team. Particular attention was focused on studying the air flows in the cockpit to ensure that the F430 Spider would be as comfortable for occupants with its hood down as up. Experimental techniques and fluid-dynamic calculations were used to establish the distribution of the loads and velocities on the occupants. This in turn

led to the definition of the dimensions and position of the wind deflector to ensure optimal comfort in terms of wind and noise.

F430 SPIDER – TECHNICAL SPECIFICATIONS

DIMENSIONS AND WEIGHT

Overall length 77.6 in

Overall width 75.7 in

Height 48.6 in

Wheelbase 102.4 in

Front track 65.7 in

Rear track 63.6 in

Peso a secco 1420 kg*

Dry weight 3130 lb*

Kerb weight 3351 lb*

ENGINE

Type 90° V8

Bore/stroke 3.62 x 3.19 in

Unit displacement 32.9 cu in

Total displacement 262.9 cu in

Compression ratio 11.3:1

Maximum power 360.3 kW (490 CV) at 8500 rpm

Maximum torque 465 Nm (343 lbft) at 5250 rpm

PERFORMANCE

Maximum speed over 193 mph

0-100 km/h (0-62 mph) 4.1 s

FUEL CONSUMPTION

Combined 15.2 l/100 km

C02 EMISSION

Combined 345 g/km

*European market version


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