

Ferrari

Media

Ferrari F8 Tributo, a celebration of excellence The mid-rear-engined two-seater berlinetta that pays homage to the most powerful V8 in Ferrari history



Maranello, 5 March 2019 - The F8 Tributo is the new mid-rear-engined sports car that represents the highest expression of the Prancing Horse's classic two-seater berlinetta. It is a car with unique characteristics and, as its name implies, is an homage to the most powerful V8 in Ferrari history.

The F8 Tributo sets the market benchmark for performance, driving pleasure and ease of handling. It makes the exhilarating performance of the best 8-cylinder in the world accessible to all drivers, with unprecedented handling and superior ride comfort.

With a massive 720 cv and a record specific power output of 185 cv/l, it is the most powerful V8 ever to be mounted in a non-special series Ferrari, achieving new heights not just for turbos, but for engines across the board.

The turbo-charged V8 has already been used in other models in the range with various power output levels, winning "Best Engine" in the International Engine of the Year awards three years running in 2016, 2017 and 2018. In 2018, it was also awarded the title of the best engine of the last two decades.

The F8 Tributo delivers its 720 cv without the slightest hint of turbo lag and produces an evocative soundtrack. Instantaneous power is matched by exceptional handling thanks to the integration of state-of-the-art aerodynamics solutions derived from Ferrari's track experience.

Designed by the Ferrari Styling Centre, the F8 Tributo is essentially a bridge to a new design language that will continue to emphasise Ferrari's key characteristics of high performance and extreme aerodynamic efficiency. In fact, the F8 Tributo is the most aerodynamically efficient series-production mid-rear-engined berlinetta ever designed.

The F8 Tributo replaces the 488 GTB and, in the range, is the model with the highest performance matched by the greatest driver involvement. There are significant improvements across the board aimed at providing even better control on the limit along with greater on-board comfort.

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The F8 Tributo punches out 50 cv more than the 488 GTB, is 40 kg lighter and also benefits from a 10% improvement in aerodynamic efficiency along with the latest version of the Side Slip Angle Control, now in 6.1 guise.

ENGINE

In the automotive world, Ferrari's V8 engine is seen as the very epitome of sportiness and driving pleasure. This is particularly the case when it is mid-rear-mounted in a two-seater. Ferrari has been honing the scope of abilities of this architecture, which creates an optimal weight balance, and thus delivers unparalleled thrillingly sporty driving, to perfection for over four decades.

In fact, Maranello made its debut in the 8-cylinder 2-seater berlinetta segment in 1975 with the 308 GTB, a revolutionary car that became a source of inspiration for subsequent models.

The same mid-rear V8 two-seater architecture was also adopted for Ferrari's first supercars, not least the 1984 GTO and 1987 F40, which have achieved iconic status amongst enthusiasts.

The F8 Tributo sports the multi-award-winning Ferrari V8 turbo which is best in class in its segment as well as being voted the best engine of the last 20 years by industry experts. In 2018, it was nominated for the Engine of the Year title for the third consecutive year, a title it went on to win with more than double the points of its closest contender.

The V8's technical specifications are truly exceptional, placing it at the very top of its segment. The F8 Tributo unleashes 720 cv at 8,000 rpm and also has an impressive specific power output of 185 cv/l. Its maximum torque is now higher too at all engine speeds, peaking at 770 Nm (+10 Nm compared to the 488 GTB) at 3,250 rpm.

Today, Ferrari V8s sport solutions that are masterpieces of engineering and this engine in particular further enhances the typical traits of all Maranello engines with smoothly progressive, limitless acceleration and zero turbo lag combined with a unique soundtrack courtesy, in part, of a new exhaust system.

The new car offers drivers pure emotions. Instantaneously accessible power is matched by exceptional handling thanks to advanced vehicle dynamics solutions. These include a new version of the Ferrari Dynamic Enhancer (FDE+) which can be activated in the manettino's RACE position for the first time, a move designed to make performance on the limit easier to reach and control for an even greater number of drivers.

As their starting point the powertrain department used the 488 Pista's engine, which already has 50% more specific components than the 488 GTB. The challenge was two-fold: on the one hand they had to maintain the performance levels achieved with the 488 Pista while, on the other, deliver unique performance and sound that also complied with the new, stricter emissions and noise pollution regulations.



To achieve the 50 cv increase in power compared to the 488 GTB, the new intake line is derived directly from the Challenge. The air intakes have been moved from the flanks to the rear where they are located on either side of the blown spoiler and are directly connected to the intake plenums. This drastically reduces losses and ensures greater air flow to the engine, thereby increasing the power. The air flow also benefits from increased dynamic pressure created by the shape of the rear spoiler.

Specific intake plenums and manifolds with optimised fluid-dynamics improve the combustion efficiency of the engine, thanks to the reduction of the temperature of the air in the cylinder, which also helps boost power. Two plenum configurations are available for this car, both identical in performance terms:

- Red-painted aluminium, newly introduced for this model
- Carbon-fibre (optional), with the same geometry as the 488 Pista's plenums

Specific valves and springs combined with a new cam profile also contributed directly to the engine's performance increase. As did the geometry of the new exhaust manifold which reduces back pressure.

Because of the increase in power output, the pistons and cylinder heads have been strengthened to cope with the higher loads, with peak pressure in the combustion chamber increased by up to 10%. Parallel to this, particular attention was also focused on reducing internal friction by introducing, for example, DLC-coated piston pins derived directly from F1.

The F8 Tributo's engine also inherits highly efficient weight-reduction solutions from the 488 Pista which have cut the power unit's weight by 18 kg compared to that of the 488 GTB. Once again, the racing world played a pivotal role. In fact, all the main lightweight components are derived from either the Ferrari Challenge or Formula 1.

The content that makes the greatest contribution to the reduction in the engine's weight are:

- Inconel exhaust manifolds derived from the 488 Challenge
- Titanium con rods
- Lighter, optimised crankshaft and flywheel

Reducing the weight of rotating and non-static masses, such as the titanium con rods, crankshaft and flywheel, allows engine speed to rise very rapidly, so much so that the driver can see the rev counter needle flying, particularly in rapid transitions, such as gear shifting and scorching low-gear acceleration, making the car feel even sportier still. These reductions in the weight of the rotating masses yield a 17% reduction in inertia.

Apart from the extra power, the F8 Tributo's engine makes both the car's handling more intuitive and its performance more accessible. A slew of high performance features have been introduced to allow drivers exploit to the very fullest the potential afforded by the best engine of the last 20 years. These include a new boost reserve control strategy which optimises response time and performance in sporty driving on



the limit, making all the power the driver asks from the throttle available virtually instantaneously.

Adaptive Performance Launch analyses grip as the car accelerates and then uses electronic controls to optimise the torque delivered by the clutches to suit the grip level of the road, reducing wheel slip to a minimum which, in turn, maximises acceleration.

The rev limiter's "*Wall Effect*" strategy is another leap forward in terms of extreme engine performance. Rather than gradually limiting the revs towards the limit, it cuts off right at the red-line of 8,000 rpm, maximising the amount of power available in power-on dynamic driving situations and consequently improving lap times.

Adopted once again on this model is the hugely successful Ferrari Variable Torque Management strategy for all gears. To adapt it to the car's extreme sporty spirit, all of the curves were redesigned to deliver a feeling of consistently smooth, powerful acceleration all the way to the red line.

Maximum torque is also 10 Nm higher than on the 488 GTB also and is available even at lower engine speeds.

The exhaust layout has been extensively modified across the board from the turbos to the tail pipes to produce a sound absolutely unique to this particular car. The result is an unmistakable engine timbre that is superior in terms of both the intensity and quality of the sound. The sound is also higher than the 488 GTB, particularly at medium/high engine speeds (up to a maximum of +5dB), in proportion with the progressive increase in power and is clearly audible to the driver in the cockpit.

The exhaust line also features a new Gasoline Particulate Filter (GPF) to comply with new homologation requirements.

VEHICLE DYNAMICS

Overall performance levels are significantly higher than those of the 488 GTB, thanks to the increase in power, weight reduction and improved aerodynamic coefficient. That performance is also now accessible to a larger number of drivers thanks to vehicle dynamics systems that make driving on the limit an easier and more confidence-inspiring experience. These include a steering wheel with a rim that is smaller in diameter with a thinner rim and the introduction of the new Ferrari Dynamic Enhancer Plus into the integrated SSC concept, now in 6.1 guise.

In terms of longitudinal dynamics, response times have a higher peak value than the 488 GTB, which translates into faster acceleration. In line with the Variable Boost Management concept, acceleration is smooth and progressive, delivering 6% higher longitudinal acceleration (A_x) than the 488 GTB.

To achieve their goal of making the car's impressive performance easy to access and use, Ferrari's engineers worked on integrating engine and aerodynamics performance with the latest iteration of the vehicle dynamics control systems. The Side Slip Control



system, which improves drivers' control on the limit for even more engaging involvement, has been further evolved. The transition from version 6.0 to 6.1 reflects the fact that the Ferrari Dynamic Enhancer system now also activates in the manettino RACE (FDE+) position.

The FDE is a lateral dynamics control system that uses Ferrari software to adjust the brake pressure at the callipers. It debuted on the 488 Pista, but the new FDE+ version adopted on the F8 Tributo extends its functionality. The control system, which is operational through and exiting corners (but not under braking), now also extends to low grip conditions and to the RACE setting of the manettino with the new and specific aim of increasing cornering performance.

In the RACE setting the car is 6% faster coming out of bends than the 488 GTB with the same amount of steering wheel activity. It is also available in the CT-Off position where, for the same degree of oversteer, steering wheel activity is reduced by 30% compared to the 488 GTB. The result is that, with the same level of driving skill, drivers will see an improvement in their ability to hold the car on the limit, making them more confident in lengthy oversteer manoeuvres.

The 40 kg weight reduction compared to the 488 GTB makes the car sportier and more agile and makes a significant contribution to driver involvement. That said, the weight reduction does not impinge on in-car comfort in the least as it regards engine and bodywork components. Aside from the aforementioned engine components, further lightweight solutions include bumpers made from a lighter plastic material, a carbon-fibre rear spoiler and a rear window in Lexan® which is lighter than glass. The weight reduction measures are topped off by the choice of optional carbon-fibre rims and a lithium ion battery.

The F8 Tributo cuts the lap time at Fiorano from 1'23.0" to 1'22.5".

AERODYNAMICS

The F8 Tributo features state-of-the-art aerodynamics, integrating innovations and expertise developed thanks to the company's involvement in the GT and Challenge championships. The solutions have been honed to create a series-production mid-rear-engined berlinetta with the highest level of performance available.

The F8 Tributo is 10% more aerodynamically efficient than the 488 GTB thanks exclusively to an increase in downforce which does not impact on its drag coefficient. This means that drivers can exploit to the fullest the exceptional performance the car unleashes, including high-speed cornering, as its more efficient road-holding keeps it glued to the Tarmac, delivering an engaging and exhilarating driving experience.

It was only through close synergy with the Ferrari Styling Centre that the strict aerodynamic constraints could be so flawlessly interpreted and integrated into the car's design. A good example is the S-Duct at the front and the redesigned blown spoiler system at the rear which are underscored by the car's clean yet decisive lines.



The F8 Tributo is powered by the multi-award-winning Ferrari V8 turbo which punches out 50 cv more than the 488 GTB. To cope with the increased cooling requirements and to guarantee maximum performance under any driving conditions, the car's thermal management was assessed from earliest stages of development in order to optimise cooling without impacting on aerodynamic performance.

The significant increase in the engine power was achieved thanks, in part, to a reduction in the temperature of the air entering the plenum (around 15 degrees lower than the 488 GTB) as a result of improved cooling flow management.

This is why the intercooler performance was of fundamental importance at the development stage. The front radiator layout was completely changed from that of the 488 GTB to the layout already tested on the track on the 488 Challenge and then adopted on the 488 Pista. In the F8 Tributo, in fact, the radiating masses are angled towards the rear of the car to use the underbody to channel hot air and thus minimise thermal interaction with the flows inside the wheelarches.

In absolute terms, there is a 10% improvement in thermal performance over the 488 GTB. Thanks to this layout choice, the increase in radiating surfaces was kept to a mere 7% which benefits both the car's weight and dimensions.

A further improvement was made possible by the modifications to the rear of the car moving the dynamic engine air intakes from the sides (as on the 488 GTB) to either side of the spoiler. Moving the air intakes from the sides to the rear also freed up space for a larger intercooler. The engine air intake duct benefited from this decision: the significant reduction in its length and the high overall pressure level guaranteed by the rear spoiler drastically reduces fluid-dynamic load losses, thereby contributing to the increase in engine performance.

Lastly, the air intake for the intercooler is dominated by a wing profile designed to create an area of suction in the upper part of the channel, which helps direct as much air as possible towards the radiating mass.

The front of the car is dominated by the S-Duct, an innovation aerodynamic solution adapted from Ferrari's F1 experience and already used on the 488 Pista. Here it has been redesigned in function of the new front end design and accounts for 15% of the increase in overall downforce compared to the 488 GTB.

The duct takes the high pressure flow from the central section of the bumper and, thanks to specially calibrated sections, deflects it upwards through the vent on the bonnet. The variation in pressure generates downforce over the front axle. The position of the vent is designed to maximise the duct's performance by exploiting the suction generated by the curvature of the surfaces, maximising the amount of air that passes through the S-Duct.



New, more compact, horizontal LED headlights allowed Ferrari's aerodynamicists to incorporate new brake cooling intakes in combination with those on the outside of the bumper, the aim being to improve air flow throughout the entire wheelarch and thereby avoid having to increase the size of the braking system to cope with the higher speeds reached by the car.

The signature element at the rear of the car is the blown spoiler. Originally patented for the 488 GTB, it was radically modified to produce a much more extreme version for the 488 Pista. The challenge facing the aerodynamics in the development of the F8 Tributo was improving rear downforce without increasing drag or interfering with the harmonious forms of this area of the car.

The blown spoiler's calibrated sections work in synergy with the suction generated by the spoiler to create upwash which accounts for 25% of the increase in downforce compared to the 488 GTB. Contemporaneously, three turning vanes inside the blown spoiler effectively recompress the flow towards the wake of the car, reducing drag by 2% and compensating for the knock-on effect of the increase in downforce.

The underbody is of pivotal importance too, because it can generate high levels of downforce very efficiently. In the F8 Tributo, the position of the front radiators - which, unlike the 488 GTB, are rearward-angled - is beneficial in cooling terms but simultaneously shrinks the underbody surface area that can be used to generate downforce. Thus the geometry of the channels used to dissipate hot air had to be redesigned to ensure that maximum downforce was generated whilst cutting drag by 5% thanks to the positive interaction between the flows exiting the radiator and the front wheels.

The new cooling system layout freed up space in the radiator area which was used for the front diffusers. Thanks to a ramp angle derived from the 488 Challenge, the latter are responsible for 15% of the overall increase in downforce. New vortex generators at the centre of the underbody have been optimised too and account for 25% of the increase in downforce.

The rear diffuser has a double kink line, which generates a double suction peak near ground level and accounts for 20% of the improvement in extraction and downforce generation capacity compared to the previous model. The diffuser is equipped with a system of three active flaps which rotate 14° in minimum drag configuration to completely stall the diffuser and thus significantly reduce the car's drag on straights, allowing it to reach top speed.

To sum up, the increase in the F8 Tributo's overall aerodynamic coefficient compared to the 488 GTB is due to modifications made to the S-Duct (15%), rear spoiler (25%), front underbody (15%), vortex generators (25%) and rear diffuser (the remaining 20%).



DESIGN

EXTERIOR

Designed by the Ferrari Styling Centre, the F8 Tributo is essentially a bridge to a new exterior design language. From the very earliest stages of the design process, the work focused on two goals simultaneously: designing a stylistic tribute to the Ferrari V8 engine, inspired by the most iconic mid-rear-engined V8 sports cars in Ferrari history, and giving the car a strong personality of its own through an even sportier design clearly inspired by the car's advanced aerodynamics.

A lot of attention was paid to ensuring that the Maranello marque's signature styling elements were respected even while seamlessly incorporating the aerodynamic elements into the design and then underscoring them with clean yet decisive lines.

The front of the car is characterised by the S-Duct around which the entire front end has been redesigned to highlight the extensive aerodynamic modifications made to this area of the car. The clearest example is new, more compact, horizontal LED headlights. Thanks to its more compact size, the classic L-shape is created not by the continuation of the headlights but by an aerodynamic intake.

The front is completed by side aerodynamic intakes which are integrated into the shape of the bumper and feature two aerodynamic side splitters in black which create a visual link rearwards behind the wheel and onto the exterior sill covers.

The car's flanks are dominated by the evident muscular forms of the front and rear wheelarches which give the impression that the bodywork has been tightly moulded around the running gear with no space left over for non-functional stylistic motifs or voids. The shape of the side air intakes for the intercooler has been redesigned too, highlighting one of the most important stylistic motifs from Ferrari mid-rear-engined V8 history.

The new rear screen celebrates Ferrari's legendary V8 engine. Made from ultralight Lexan®, it has been restyled to incorporate three louvres at its centre and showcase the engine compartment, bringing a modern twist to the most distinctive design element from Ferrari's most famous V8-engined car, the F40. The louvres also help extract hot air from the engine compartment, in line with Ferrari's focus on functional design.

The rear of the car has also been strongly influenced by the car's new styling. Aside from the rear screen, the spoiler has been entirely redesigned. It is now larger and wraps around the tail lights, visually lowering the car's centre of gravity and allowing a return to the classic twin light cluster and body-coloured tail, another signature of the early 8-cylinder berlinettas like the very first in the legendary series, the 308 GTB.

Lastly, the car is also offered with new (optional) forged starburst wheel rims, and thus asymmetrical on the two sides, lending an air of dynamism and sportiness.



INTERIOR

The cockpit retains the classic, driver-oriented look typical of Ferrari's mid-rear-engined berlinettas. Every element of the dash, door panels and tunnel has been completely redesigned specifically for the car. The F8 Tributo also boasts a new generation steering wheel and steering wheel-mounted controls as well as new styling on the standard seats.

New round air vents are set in beautifully sculpted aluminium surrounds (also available in optional carbon-fibre) which cleverly underscore the dash structure. To emphasise the lightness of the whole assembly, the dash now incorporates an aluminium sail panel supporting the central satellite and continuing into the dash itself. Also to create a sense of visual lightness, a sliver of carbon fibre divides the upper and lower parts, streamlining the whole look. This section also incorporates the optional 7" touchscreen passenger-side display which provides an extra sporting touch. The dash is completed by the classic instrument cluster with its central rev-counter and the new-generation steering wheel and commands.

The tunnel is clearly separated from the dash and set beneath it, once again to enhance the sensation of lightness that the car exudes. It features a new bridge, a prominent sculptural creation that seems to float and thus further streamlines the cabin.

Images of the Ferrari F8 Tributo can be downloaded from the Ferrari media site at: www.media.ferrari.com

Ferrari F8 Tributo

Technical specifications

ENGINE

Type	V8 - 90° twin turbo
Overall displacement	3902 cc
Max. power output*	720 cv (530 kW) @ 7000 rpm
Max. torque*	770 Nm @ 3250 rpm
Specific power output	185 cv/l
Max. engine speed	8000 rpm
Compression ratio	9.6:1



DIMENSIONS AND WEIGHT

Length	4611	mm
Width	1979	mm
Height	1206	mm
Wheelbase	2650	mm
Front track	1677	mm
Rear track	1646	mm
Kerb weight **	1435	kg
Dry weight **	1330	kg
Weight distribution	41.5% fr – 58.5% r	
Boot capacity	200	l
Fuel tank capacity	78	l

TYRES

Front	245/35 ZR 20 J9,0
Rear	305/30 ZR 20 J11.0

BRAKES

Front	398 x 223 x 38mm
Rear	360 x 233 x 32mm

TRANSMISSION AND GEARBOX

F1 7-speed dual-clutch gearbox

ELECTRONIC CONTROLS E-Diff3, F1-Trac, High Performance ABS/EBD with Ferrari Pre-Fill, FrS SCM-E, SSC 6.1 with FDE*

PERFORMANCE

0-100 km/h	2.90	s
0-200 km/h	7.8	s
Top speed	340	km/h
Fiorano lap time	1'22.5"	

FUEL CONSUMPTION/CO₂ EMISSIONS

Under homologation

* With 98 octane petrol

** With optional content