



## **Lamborghini Gallardo LP560-4**

### **Setting a New Standard**

#### **Powerful elegance - a new definition**

**With the new Gallardo LP560-4, Lamborghini once again sets a higher standard for super sports cars. With its new engine, permanent four-wheel drive transmission and new suspension, it delivers clearly improved performance and dynamics. In parallel, its innovative design takes the classic lines unique to the Lamborghini brand one step further. Powerful elegance has never been so defined before.**

The Gallardo LP560-4 is the successor of the most successful Lamborghini model of all time. Approximately 7100 Gallardo models have left the Sant'Agata Bolognese production plant since its launch in 2003. "The LP560-4 will consolidate this success story," states Stephan Winkelmann, President and CEO of Automobili Lamborghini. "It will outclass its predecessor in every aspect; its dynamics are distinctly breathtaking and its design sets new standards. With the introduction of the Gallardo LP560-4, we will consistently continue Lamborghini's growth strategy".

The powerful heart of the Gallardo LP560-4 is the new 5.2 litre V10 engine with an output of 560 PS (412 kW) at 8000 rpm. The increase of 40 PS compared with that of the previous Gallardo, and the approximate 20 kilogram reduction in weight, improves the power weight ratio to 2.5 kilograms per PS (hp) and thus enhances performance. The LP560-4 accelerates from 0-100 km/h in 3.7 seconds, its speed at 11.8 seconds is 200 km/h and its top speed lies at 325 km/h. At the same time the new, highly efficient engine enthral its driver with its direct fuel injection system - "Iniezione Diretta Stratificata". Despite its clearly increased power, fuel consumption and CO<sub>2</sub> emissions have been reduced by a staggering 18 per cent.



The engineers in the Sant'Agata-based Technical Department have also improved traction, handling and stability at high speeds. The redesigned four-wheel drive transmission, the new suspension and the optimised aerodynamics as well as the reduced weight and decreased friction between the components, all contribute to the overall improvements in the vehicle. Thus the Gallardo LP560-4 presents itself as a cutting edge super sports car also suitable for the race-track. The car is also surprisingly suited to long-distance driving and despite its extreme performance capabilities is easy to control whilst maintaining utmost stability.

## **The Style**

### **Powerful elegance**

A Lamborghini is and always will be a highly efficient athlete. Its extreme sensuality is based upon precision, performance and on spontaneous action. A Lamborghini's elegance is that of stark, purist strength. This DNA of the Lamborghini brand is being continuously developed by the Centro Stile in every new car. Thus the Gallardo LP560-4 displays the precise lines and clean surface edges in its distinctly minimalist design. Ornaments or embellishments of any form are alien to it.

Evolution of form systematically follows the demands of function: the newly designed front of the LP 560-4 squats deeply to the ground which contributes to its aerodynamic efficiency. The enlarged and clearly accentuated cooling intakes meet the demands of augmented engine power thus increasing the air circulation vital to a vehicle as powerful as this. The spoiler, positioned low between the air intakes, improves aerodynamic equilibrium at high speeds.



## **Characteristic LED – Daytime running light**

The new headlights have a characteristic ‘daytime’ running light integrated beneath the Bi-Xenon lamps: 15 diodes (LED) have been positioned in a Y structure. The same motif appears again in the rear tail-lights. The stop and brake lights have been inspired by the Miura Concept, the Murciélago LP640 and the Reventón and display the Y form three times over.

The completely redesigned rear gives the definition “powerful elegance” a new meaning: rear lights, air cooling vents, bumper and diffuser are arranged in precise positions on the car’s exterior, which make the LP560-4 appear extremely wide and bonded to the road surface. In addition, the streamlined covers left and right of the engine hood accentuate the powerful shoulders and lengthened, stretched lines of the new Gallardo.

## **Clearly improved aerodynamics**

The rear diffuser has been newly designed, is more efficient with respect to its predecessor and, together with the smooth underbody, contributes to the excellent steering stability even at extremely high speeds. In sum, the aerodynamic efficiency with regard to output compared to that of its predecessor has been increased by 31 %. The Gallardo LP560-4 takes fast curves even more supremely.

The designers in Sant’Agata Bolognese have excelled themselves with the clear-cut, pure, stark lines of the Gallardo LP 560-4. They also have demonstrated distinct attention to detail; the elaborate aluminium cap for petrol and motor oil are testimony to this, as is the rear camera which has been integrated in a small fin in the independent rear spoiler as well as the finely-crafted grille in the exhaust pipes.



## **The body**

Weight is undesirable in a sports car and a lightweight model encourages the dynamics of such a vehicle. Aluminium is much lighter than sheet steel and this is why the Gallardo LP560-4 is produced with a body in a much lighter but nevertheless more stiff structure: the two-seater car measures 4.34 metres in length, 1.90 metres in width and a mere 1.16 metres in height. It weighs in dry at 1410 kilograms - which is, effectively, 20 kilograms less than that of the previous Gallardo.

The construction of the Gallardo LP560-4 utilises what is known as a 'spaceframe construction method'. Integrally moulded node elements and extruded parts create its frame, and sheet metal plates made out of aluminium have been neatly and securely integrated to form the body. The body is not only extremely light but also torsionally stiff and displays the highest safety characteristics. Thus the basis for the extraordinary handling characteristics of the LP560-4 is formed.

## **Integrated Pedestrian Protection system**

The body of the car also demonstrates extremely high levels of 'passive security'. The Gallardo LP560-4 fulfils the not yet obligatory European directives regarding the protection of pedestrians. Furthermore, the geometry of the entire front of the car has been optimised with the addition of a special combination of materials behind the front bumper which serve to absorb any impact energy.



## **The Interior**

### **Luxurious individuality**

Despite its low exterior height, the Gallardo LP560-4 welcomes its passengers with a spacious interior. The sports seats are covered with either fine leather or Alcantara® (upon request) and provide secure adherence and support. The position of the seats is very low, typical for sportscars. There is space behind the seats for luggage which complements the 110 litre front trunk.

The wide middle console is one of the elements which characterizes the impression of sporty dynamism in the interior. It accommodates the standard Lamborghini multimedia system as well as the air conditioning which can be regulated on both the driver's and passenger's sides. Between both of these elements lies a newly designed module consisting of classically elegant flip switches. Seven round instruments in the cockpit with a new graphic provide the driver with essential engine data and a multifunctional display between the speedometer and revolution counter provides the driver with important information.

### **Workmanship of the highest quality**

The Miura and the other models of the 60s were already characterized by the excellent quality of workmanship which lay far and above the general standards of that time. Lamborghini has continued this tradition and even today delivers automobiles of the highest standards. The Gallardo LP560-4 indulges with the highest quality, aesthetically pleasing materials. With regard to the leather interior, an array of different colours and stitching (also in contrasting colours) are available. As an optional, Lamborghini can deliver the Gallardo LP560-4 with a further choice of leather and Alcantara® interiors as well as Carbon Fibre Packages. Here, elements such as the air-conditioning surrounds, the control panel, the handbrake handle and the gear-stick surrounds are available in carbon fibre.



Furthermore, the individualisation program, Ad Personam, enables the customer to create any combination of colour and trim, thus creating a highly personalised vehicle. After all, the new Lamborghini should perfectly reflect the owner's lifestyle.

## **The Engine**

### **Extreme power in every situation**

The engine of the Gallardo LP560-4 is a completely new development. All that remains of the original V10 is the number of cylinders which, in this performance category, create a perfect and unique synthesis of torque, force of movement, sporty nimbleness, compact size and low weight.

The engine has a 5204 cm<sup>3</sup> volumetric displacement which, with 8.000 rpm creates the extreme 560 PS (412 kW). This results in the excellent performance per litre of 107.6 PS/lit. At maximum torque output, the engine yields 540 Newtonmeter at 6.500 rpm. The ample torque curve guarantees outstanding thrust from every engine speed. With an acceleration of 3.7 seconds from 0-100 km/h and a maximum speed of 325 km/h, the Gallardo LP560-4 shoots into the orbit of the most extreme and powerful sports cars.

Despite the clearly improved driving performance of this super sports car, Sant'Agata's engineers were nevertheless able to achieve a reduction in fuel consumption and CO<sub>2</sub>emissions by 18 per cent. Measured by engine power and performance, the Gallardo LP560-4 e-gear's average fuel consumption of 13.7 litres per 100 kilometers, is extremely low.



## **Perfect weight distribution, class-leading dynamics**

The engine in this new model lies lengthways in front of the rear axle – hence the model description **Longitudinale Posteriore**. The concept of the mid - rear engine is unbeatable in sports car production, with the centre of gravity being displaced next to the vertical axis, thus creating the car's exceptional dynamics. Furthermore, it creates the basis for the Gallardo LP560-4's perfect weight distribution with 43 per cent on the front axle and 57 per cent on the rear. In combination with the permanent four-wheel drive transmission, superior driving stability and road adherence are guaranteed in all situations.

## **Reduced weight for inspirational torque**

The crank case of the new ten cylinder of Lamborghini Gallardo is produced with an aluminium alloy. Separate cylinder liners are not necessary with this technology: instead, the liners, due to their exposure to the hard silicone crystals during the production phase, are bored directly out of the material. The connecting rods are made out of wrought steel and the pistons are produced from an aluminium alloy. The consequent reduction in weight, inertia and in friction losses contributes to the car's inspirational torque.

The engine is unusually wide for a V10, with a cylinder angle of 90 degrees. A definite advantage of this construction is the low centre of gravity. The reduction of the gravity centre height comes also from the dry sump layout of the lubrication system which also guarantees the reliability of the oil supply even during lateral acceleration and on the race-track.



## **Direct fuel injection improves efficient combustion**

The new V10 uses the direct fuel-injection system “Iniezione Diretta Stratificata” as an innovative way to optimize performance results in part-load conditions. Here, the fuel is injected directly into the combustion chamber through the laterally positioned injector. Combined with the use of a ‘tumble flap’ in the intake manifold runners, this solution guarantees an optimized distribution of the gasoline in the combustion chamber (higher gasoline density around the spark plug, leaner mixture close to piston and cylinder liners) and delivers the basis for a highly efficient combustion system even with stoichiometric mean mixture composition. The direct injection boosts the extremely efficient ‘full load’ performance of the V10, reduces its knock sensitivity and thus enables the very high compression ratio of 12.5:1. The cylinder heads have been optimised to deliver a very quick gas exchange and the variable valve control system on all four camshafts improves the charge efficiency across the entire engine speed range.

## **Transmission**

### **Superior control four-wheel drive**

Such extreme power must be brought onto the streets with extreme reliability. The driver of a Gallardo LP560-4 can thus rely on the four-wheel drive Viscous Traction (VT) system, with the ‘4’ in the model name a reminder of this. Lamborghini already introduced this system with the Diablo VT in 1993 – and for good reason: four actuated wheels achieve more grip than two and permit acceleration earlier in the curve exit.





The protagonist in the transmission is the central viscous-coupling which requires no electronic control. In this special Lamborghini configuration, the driving torque is distributed between front and rear – generally with a 30:70 front to rear ratio and, within milliseconds, adapts to even the slightest variations in road conditions. A mechanical differential on the rear axle provides up to 45% limited slip and an electronic differential lock at the front complete the four-wheel drive system.

### **Superior traction and handling**

Not only does the maximum traction take advantage of the permanent four-wheel drive system, but also the car's clearly superior handling. Each wheel can only transfer a certain amount of torque to the road. As the propulsion power is distributed onto all four wheels through the viscous traction system, more potential for directional control remains - and reserves in every situation distinguish a perfectly made sports car.

Despite all the engine thrust, changing gears in the Gallardo LP560-4 is one of the most exciting experiences of driving this vehicle. It is still the customer's personal preference as to whether he wishes to change gears manually through the exact 'gate' guides of the six-speed gearbox via the short gear stick, or whether he prefers to let his fingertips control the e.gear's paddle-shift system located behind the steering wheel: the latter solution becoming the preference of the majority of Lamborghini customers.

### **Gear change time reduced by 40 per cent**

The automated e-gear transmission has been completely redesigned and improved in all aspects. The complete system has not only been reduced in weight, but the time employed to change gears has also been reduced by 40 per cent in "CORSA"



mode. The driver may choose between five different driving and changing programs: in addition to the 'normal' mode, the Gallardo LP560-4 offers a SPORT programm with its even more rapid gear changing times and increased number of revolutions.

The CORSA program directs the engine to optimum acceleration. It permits a greater slip angle and also allows - with maximum safety - the full dynamism of the LP560-4 to be enjoyed even on a race-track. The 'Thrust Mode' ensures maximum acceleration from neutral while the angle of the throttle valve and the clutch are here optimally adjusted to one another. Finally the Automatic mode: here the engine changes gear in total independence and permits a particularly comfortable mode of driving.

## **The Suspension**

### **High-tech parts with Lamborghini know-how**

Even the Gallardo LP560-4's predecessor was one of the world's best super sports cars with regard to handling, precision and driving stability. However, the latest model provides an even more intense driving experience: the new suspension improves the car's handling, its driving comfort and its directional stability at high speeds.

The Gallardo LP560-4's space frame is uncompromisingly high tech. Its technical production was conceived from motor sport technologies. The double wishbones made out of aluminium with newly designed kinematics, while the springs and shock absorbers are tightly adjusted for grip.

The rear axle now has an additional track rod which further improves the excellent control of this super sports vehicle. Newly developed elements are the rubber-metal bearings - authentic high-tech parts - which clearly improve the special Lamborghini driving dynamics with well-chosen material combinations and cleverly defined assembly.



## **Extreme road adherence**

The steering rack works with relatively little assisted steering support, thus bonding the driver closely to the road. This in turn provides him with an intense experience of power and impulse. The steering has its own cooling system for the power steering fluid.

Precise, breathtakingly fast, whilst stable and free from surprises, the Gallardo LP560-4's dynamics assures a sensuous experience. The LP560-4's tyres (format 235/35 ZR 19 front and 295/30 ZR 19 rear) appear to bond with the asphalt. Specially developed Pirelli P-Zero series tyres are fitted: these have a particularly low roll resistance which also maintains tyre wear at a minimum without, of course, any reduction in their performance quality. At a speed of over 120 km/h an independently extended rear spoiler increases the downforce on the rear axle. It acts in association with the specially formed underbody which directs the airstream under the car.

## **Optional Carbon Ceramic Brake system**

The new braking system acts with brute force. At the front, eight 'Brembo specialist' cylinder callipers grasp the 365 mm diameter brake discs. At the rear, four cylinder callipers act on the 356 mm brake discs. In addition, the new disc ventilation system improves the stability in extreme situations. Optionally, discs made out of Carbon Ceramic are offered. At the front the CCB (Carbon Ceramic Brakes) discs measure 380mm in diameter and at the rear 356mm. They deliver much improved performance at a reduced weight. In total, the CCB braking system is lighter in weight than, at the wheel, improves driving dynamics and comfort.



## **The interior and trim**

With the Gallardo LP560-4 Lamborghini provides its customers with a generous and sporty standard equipment package. Direct from the production line, a customer will find included in his vehicle passenger and lateral air-bags; a two-zone air-conditioning system with sun regulation; The Lamborghini Multimedia System including an USB connector; and sports seats with an electronically operated backrest. In addition to this, the interior trim includes fine leather and Bi-Xenon headlights with LED daytime running light. The car is supplied with new Apollo wheels as standard.

A large variety of options increases the interior comfort of the vehicle, including a navigation system and a module for TV reception, a hands-free Bluetooth® phone set, an anti-theft device and a rearview camera. A further option is the lifting system control of the front of the vehicle which, at the touch of a button, is raised to enable driving over obstacles. The new polished cross wheel rims ‘Cordelia’ or the black Y-rims ‘Callisto’ complete the options range. Finally, the engine hood made from glass creates a showcase for the heart of the Gallardo LP560-4..

The possibilities and different combinations available in the Individualisation Program Ad Personam are almost inexhaustible. Behind this program stands the philosophy that a super sports car of this nature should, after all, reflect the personality of its owner by enabling him to completely indulge his expectations and wishes. As a consequence, extreme exclusivity is the trademark of Lamborghini’s individualisation program. “Think the Impossible” states the motto. Ad Personam offers a host of options in order that a customer may give the car an imprint of his own style with respect to the interior trim and exterior. A new highlight in the program are the following three exclusive matt colours: Nero Nemesis (matt black), Bianco Canopus (matt white), Marrone Apus (matt brown). The new matt colours underline the clearly defined and purist precision of the Lamborghini design.