



JAGUAR

THE ALL-NEW XKR-S

XKR-S

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"THE XKR-S IS NOT MERELY
THE QUICKEST JAGUAR EVER,
BUT ALSO THE MOST RESPONSIVE,
AGILE AND DRIVER-FOCUSED"



186MPH/550PS/SC/O-60 4.2 SEC





AT-A-GLANCE

- > The most powerful and fastest series production sports car Jaguar has ever built with a top speed of 186mph (300km/h).
- > The ultimate expression of Jaguar's sports car strategy, offering intelligent performance with everyday driveability.
- > Up-rated supercharged AJ-V8 Gen III R direct-injection engine produces 550PS and 680Nm of torque.
- > Maximum speed raised to 186mph (300km/h) with 0-60mph reached in just 4.2 seconds.
- > The only car in its class to emit less than 300g/km of CO₂.
- > Performance active exhaust delivers an authentic, race-car inspired soundtrack.
- > Exploits the XK's strong, lightweight, advanced aluminium body architecture to maximise performance, agility and economy.
- > Bespoke suspension changes front and rear for ultimate precision, control and driver appeal.
- > Unique styling changes incorporate Computational Fluid Dynamics calculations in order to reduce lift and maximise aerodynamic stability.
- > Revised interior features 16-way adjustable memory sports seats with carbon-fibre effect leather.
- > Reprogrammed Adaptive Dynamics allow the enthusiastic driver to explore the outer edges of the handling envelope.
- > Jaguar's performance flagship competes in the sub-exotic segment, new territory for the company.

INTRODUCTION

Making its debut at the Geneva Motor Show 2011, the XKR-S is the most extreme expression yet of Jaguar's passion for building beautiful, fast cars.

For the first time with a series production car, Jaguar gains entry to the exclusive '300km/h club' thanks to the effortless performance of its supercharged 5.0-litre AJ-V8 engine. A revised fuelling map means the direct-injection powerplant in the all-new XKR-S now produces 550PS and 680Nm of torque. Extensive recalibration has ensured that power delivery and performance are seamless, contributing to a 0-60mph time of 4.2 seconds. The Performance active exhaust encourages and rewards the enthusiastic driver with dramatic, motorsport-inspired aural feedback.





The XKR-S is not merely the quickest Jaguar ever but also the most agile, responsive and driver-focused. The pinnacle of the XK range builds on feedback gathered from the supercharged XKR and has been developed to extend the performance parameters of the car. This new harder-edged character allows the enthusiastic driver to explore the outer limits of the car's dynamics without losing the refinement and usability for which Jaguar is famous. The structural integrity of the lightweight aluminium platform allowed the suspension to be reworked using bespoke components for increased stiffness without a commensurate loss in either refinement or Jaguar's legendary ride comfort. A reworked aluminium front suspension knuckle and revised rear geometry are allied to stiffer springs and dampers, lightweight forged alloy wheels and recalibrated steering to minimise any response delays and produce a more connected and agile driving experience.

The performance of the XKR-S is reflected in both its interior and exterior styling, the latter featuring exclusive new paint colours that reflect Jaguar's racing heritage. As with competition Jaguars of the past, the exterior of the XKR-S adheres to the principle of form following function. In addition to the styling changes and in order for it to achieve 300km/h, the XKR-S was the subject of extensive Computational Fluid Dynamics development work. The resulting changes reduced front and rear lift by more than 25 percent and optimised lateral aerodynamic stability.

The sporting intent of the XKR-S is clear from the moment the driver enters the cabin thanks to cossetting new Performance seats with prominent shoulder wings for close support during hard cornering. The seats feature 16-way adjustment, memory and heating functions while a new three-spoke steering wheel provides the perfect interface between car and driver.





AT-A-GLANCE

- > Unique, new front-end design with twin nacelles, side intakes and carbon-fibre splitter.
- > Extended side sills emphasising the 10mm lower ride height.
- > New rear apron incorporating a carbon-fibre diffuser.
- > Unique to the XKR-S is a rear wing with carbon-fibre centre section.

STYLING

“The styling of this car isn’t about image, it’s about true performance. Like other iconic Jaguars before it, the styling has been driven by geometry and aerodynamics for genuine design purity. The physics required to achieve 300km/h have led the aesthetic; if you don’t like the way it looks, you probably won’t like the way it drives either.”

Ian Callum, Design Director, Jaguar Cars

The first Jaguar designed entirely under the aegis of Design Director Ian Callum, the XK has received awards worldwide for its elegant appearance. Now further styling changes keep the performance-inspired XKR-S at the forefront of sports car design. Slimmer, LED headlights, a more compact air intake and vertical side power vents contribute to a more purposeful front-end. At the rear, the famous Jaguar ‘Leaper’ now takes pride of place in the centre of the bootlid.

The XKR-S also required aerodynamic modifications to achieve its 300km/h (186mph) top speed in the unruffled manner expected of a Jaguar and has been designed solely with an eye for purity of line and singularity of purpose. As the XKR-S approaches its top speed, there is a requirement to channel air cleanly over, around and under the car in order to maintain stability and ensure balanced downforce. An overall reduction in lift of 26 percent has been achieved.



The necessary revisions were made after extensive Computational Fluid Dynamics work, proven through wind tunnel testing and are unique to this flagship of the XK range. The most dramatic changes have been applied to the front of the car, radically altering its appearance and lending it a more assertive look. A new bumper design displays near vertical feature lines which run down from the edges of the oval air intake and support the new carbon-fibre splitter and lower spoiler. At the extreme edges of the front fenders, vertical slots channel air down the sides of the car and along the wider sills for increased high-speed directional stability.

In order to balance front and rear lift, the XKR-S features a separate rear wing; a first for the XK range. This addition, with its carbon-fibre centre section, works in concert with the similarly constructed Venturi structure underneath the rear bumper.

The assertive new appearance of the XKR-S is subtly highlighted by some carefully chosen details exclusive to this model. Exterior trim is finished in gloss black, complemented by 20-inch Vulcan lightweight forged alloys in a dark technical finish.

The XKR-S is available in a range of five paint colours, two of which evoke Jaguar's competition heritage: Italian Racing Red and French Racing Blue. Like the lining of a bespoke suit, the finishing touch is provided by the brake calipers, available in either red or gunmetal and emblazoned with the 'Jaguar' name.



"THE XKR-S IS THE MOST
EXTREME EXPRESSION YET OF
JAGUAR'S PASSION FOR BUILDING
BEAUTIFUL, FAST CARS"

PERFORMANCE & POWERTRAIN

“With the XKR-S we have exploited the inherent capabilities of the aluminium architecture to its fullest extent to create a track-capable performance derivative extending all the car’s attributes in the performance envelope and delivering an irresistible ‘smile of satisfaction’ response from the driver.”

Russ Varney, Chief Programme Engineer, XK

Astonishing engines have always formed the strongly beating heart of Jaguar’s road and race cars, from the record-setting straight-six in the XK120 to the smooth V12 that made the XJ12 the fastest four-door in the world when it was launched.

The AJ-V8 joined this illustrious list from the moment the first version was fired into life and in the XKR-S it is presented in its most potent form to date. Now in its third generation and with the addition of supercharging, the all-aluminium quad-cam powerplant delivers not only extreme performance but tremendous efficiency thanks to technologies including spray-guided direct injection (SGDI) and dual independent variable cam timing (DIVCT).

Fuel is delivered directly to the centre of the combustion chambers at a pressure of up to 150bar by the centrally-mounted six-hole, spray-guided injection system in order to maximise fuel-air mixing and improve responsiveness, particularly at low speeds. It has also allowed an increase in compression ratio from 9.1:1 to 9.5:1 to improve fuel economy while multiple injections reduce the warm-up phase to increase catalyst efficiency and reduce emissions.

AT-A-GLANCE

- > Third generation of the award-winning AJ-V8 all-aluminium powerplant with twin-vortex Roots-type supercharger.
- > Revising the fuelling map boosts power and torque to 550PS and 680Nm.
- > Spray-guided direct injection delivers precisely measured quantities of fuel into the cylinder heads at 150bar.
- > Variable timing system on all four camshafts features actuation rates of more than 150 degrees per second.





Each of the four camshafts features a variable timing system which rather than being controlled by oil pressure, is activated by the positive and negative torques generated by the movement of the intake and outlet valves, allowing for a smaller, more efficient oil pump to be fitted, further reducing fuel consumption. The VCT units respond up to three times faster than previously with actuation rates of more than 150 degrees per second at every point in the speed range, making this the most responsive engine Jaguar has ever built, with no gaps in its power delivery.

Like the car itself, the AJ-V8 features aluminium architecture with the high-pressure, die-cast lightweight block augmented by cast iron liners and cross-bolted main bearing caps which ensure refinement to match its power. The four-valve cylinder heads are now constructed from recycled aluminium to reduce the environmental impact of engine manufacture.

Nestling in the 'V' of the cylinders is the Roots-type twin vortex supercharger with its two intercoolers that help provide the XKR-S with such urgent power from low engine speeds. This sixth-generation forced induction unit is 20 percent more thermodynamically efficient than its predecessor, while the intercoolers feature their own water-cooling circuit to reduce the temperature of the pressurised air to optimise power and efficiency.

The surfeit of power produced by this system meant that it was a relatively simple matter to liberate an extra 40PS and 55Nm over the standard XKR. Remapping the engine's fuelling characteristics and increasing exhaust gas flow through the use of an active exhaust system has lifted total output of the 5.0-litre V8 to 550PS and 680Nm. This makes it the most powerful Jaguar road engine ever made and allows the XKR-S to hit 60mph in 4.2 seconds and reach the magical 300km/h (186mph) barrier with ease.

The Performance active exhaust system that helps provide such spirited power also produces a thrilling motorsport-inspired soundtrack to reward the enthusiastic driver.



"THE 550PS V8 ENGINE
ALLOWS THE XKR-S TO HIT
60MPH IN 4.2 SECONDS AND
REACH THE 186MPH MARK
WITH EASE"

HANDLING

“This car encompasses everything a performance Jaguar should be; as capable, precise and thrilling on a wet Welsh B-road as it is at the Nürburgring. Every response delay has been minimised in order to give the car a more connected feel in the manner in which it steers, handles, stops and goes.”

Mike Cross, Chief Engineer, Vehicle Integrity

Jaguar pioneered the use of aluminium construction for series production cars, exploiting the metal's low mass and high tensile strength to maximise benefits in terms of performance, agility, fuel consumption and emissions.

The platform underpinning the XK range makes the car one of the lightest and most rigid in its class, with a kerb weight of 1753kg and torsional stiffness of 28,400 Newtons per degree. This fundamental strength allowed Jaguar's Vehicle Integrity team, led by Mike Cross, to develop the dynamic attributes of the XKR-S to the full, without affecting refinement. Every Jaguar achieves an unrivalled mix of sporting appeal and luxurious comfort and the XKR-S is the most driver-focused Jaguar ever made.

AT-A-GLANCE

- > XKR-S is incredibly light and rigid, with a kerb weight of 1753kg and torsional stiffness of 28,400N per degree
- > New aluminium front knuckle increases stiffness by 0.13 Deg/kN
- > Front and rear spring rates increased by 28 percent
- > New 20-inch Vulcan wheels and Pirelli P-Zero tyres reduce unsprung mass by 4.8kg
- > Rewritten stability control software optimises the system for enthusiastic driving
- > Jaguar High Performance Braking System fitted as standard





Taking the solid foundation of the aluminium architecture as a starting point, both front and rear suspension systems have been upgraded. The double wishbone front suspension has been comprehensively revised with a new aluminium steering knuckle that significantly increases camber and castor stiffness by 0.13 degrees per Kilonewton to transform the accuracy and weighting of the steering for greater levels of connection, feedback and precision. The Active Differential Control has been reprogrammed to reduce steering sensitivity at the very high speeds of which the car is capable, increasing stability and driver control.

Rear suspension geometry has been revised with rear wheel steer optimised for maximum agility while spring rates have been increased at both ends of the car by 28 percent. Bespoke software for Jaguar's Adaptive Damping has been written for the XKR-S, ensuring both total body control and maximum traction and grip.

Wheel sizes have been increased with the unique lightweight forged Vulcan 20-inch alloys now having a width of nine inches at the front and 10.5-inches at the rear for greater precision and grip. The new wheels wear Pirelli P Zero tyres measuring 255/35 R20 at the front, 295/35 R20 at the rear. This combination has reduced overall unsprung mass by 4.8kg, with a commensurate improvement in handling and dynamism.

The Dynamic Stability Control System has been reworked to maximise the benefit of these wider tyres. In Trac DSC mode this utilises specific traction, stability and eDiff settings to alter slip thresholds, differential torque distribution and intervention levels to allow the experienced driver to explore the outer edges of the performance and handling envelope.

The XKR-S is equipped as standard with Jaguar's High Performance Braking System. Lighter and more powerful, this features cast iron and part-aluminium monobloc calipers for a combination of power, stability and feel. The brake discs – measuring 380mm at the front and 376mm at the rear – are internally ventilated to provide repeated, fade-free stopping power. In combination with pad surface increases of 44 percent front and 31 percent rear the system provides total security and confidence on both road and track. Stopping distance from 124mph (200km/h) has been improved by 2.7 percent over the already impressive XKR.

The end result is a car that captures the essential duality that is a characteristic of every great Jaguar; capable of transporting the driver to the fabled Nürburgring in total comfort and hushed silence, and yet still able to deliver a sub-eight minute lap time and then return home with total ease.



INTERIOR

The cabin of any Jaguar is always a unique place in which to spend time and the XKR-S exceeds expectations from the moment the driver enters to be greeted by the red Start button pulsing like a heartbeat. When pressed, the engine fires with an rich, deep reverberation and the Jaguar Drive Selector rises from the centre console as a point of first contact to begin the process of bonding man with machine.

The interior of the XKR-S has been subtly refreshed with a host of new trim materials including ebony soft-feel paint for the switches and gloss black finish to the centre console. The model will also be exclusively available with a Dark Linear Aluminium finish as an option to the wood veneers.

A new leather-wrapped, multi-function steering wheel has also been added, providing a beautiful, tactile interface between car and driver as do the bright, Jaguar-embossed, stainless steel pedals.

Exclusive to the XKR-S are the new Performance front seats with integrated head restraints and increased lateral and squab support to hold driver and passenger securely and comfortably in place during the high speed cornering of which this car is capable. The 16-way adjustment of squab, cushion, lumbar and bolster elements is supplemented by memory and heating functions.

The sense of occasion offered when driving the XKR-S will be heightened by the new carbon leather accents covering the seats, featuring unique contrast micro-piping and stitching combinations in Reims Blue, Red and Ivory. Duotone combinations of Charcoal with Tan and Charcoal with Red are also available.





XKR-S FEATURES

- > A range of five paint colours, including the exclusive to the XKR-S French Racing Blue
- > Unique front design with twin nacelles, vertical intakes and carbon-fibre splitter
- > Extended sills highlighting reduction in ride height of 10mm
- > Distinctive rear apron featuring carbon-fibre diffuser
- > Unique rear wing with carbon-fibre inlay
- > Vulcan 20-inch alloy wheels, forged and lightweight with a dark, technical finish
- > Gloss black finish to mesh grille, window surrounds, side power vents and boot lid finisher
- > Jaguar High Performance Braking System fitted as standard with a choice of red or gunmetal calipers
- > Unique interior with both Carbon and soft-grain leathers and contrast micro-piping and stitching
- > 16-way adjustable Performance seating with adjustable bolsters, heating and memory functions
- > Dark Linear Aluminium interior finish.
- > Poltrona Frau Jet leather headlining
- > Premium carpet mats, nubuck edging
- > XKR-S branding to steering wheel, fascia panel, head-restraints and tread-plates
- > Optional "XKR-S" body graphics

INTERIOR

- > Memory function with three settings for front seats, exterior mirrors and steering column
- > Multi-function, leather-trimmed steering wheel
- > Cruise control with active speed limiter
- > Automatic air recirculation with five settings
- > Automatic climate control with humidity control, air particle/odour filtration and dual-zone temperature control for driver and front passenger
- > Auto-dimming interior rear-view mirror
- > Electric windows with one-touch open/close and anti-trap
- > Glove box with auxiliary power socket
- > Interior phosphor blue ambient lighting
- > Jaguar Smart Key System™ with keyless entry and start
- > Stainless steel pedals with 'Jaguar' script

AUDIO AND COMMUNICATIONS

- > Bowers and Wilkins 525W Premium Surround Sound
- > Navigation system with DVD mapping and 7-inch touch-screen
- > Bluetooth® telephone connectivity
- > Six-disc, in-dash CD changer
- > Windows Media® Audio (WMA) and MP3 disc format compatibility
- > Multiple iPod™ and USB connectivity



EXTERIOR

- > New slim front lamps with LED signal and running light functions, automatic headlamps on with windscreen wipers
- > Active Front Lighting System (dynamic pivoting headlamps)
- > Bi-Xenon headlamps with integrated cornering lamps, automatic levelling and headlamp washers
- > Bonnet louvres and leading edge vents
- > Quad tailpipes with polished finish
- > Reverse park camera with guidance
- > Front and rear park assist
- > Heated exterior mirrors with electric adjustment, power folding, auto-dimming and memory function
- > Heated windscreen with timer and rain sensing windscreen wipers
- > Jaguar Tyre Repair System

TRANSMISSION, SUSPENSION, BRAKES

- > 6-speed automatic transmission with Jaguar Sequential Shift™
- > Unique dampers and Adaptive Dynamics tuning
- > Reprogrammed Trac DSC (Dynamic Stability Control) with Active Differential Control
- > Anti-lock Braking System (ABS), Emergency Brake Assist (EBA), Electronic Brakeforce Distribution (EBD), drive-away release
- > Bespoke suspension components and revised spring rates
- > Reduced ride height (10mm)
- > Performance active exhaust

SECURITY

- > Remote control central locking with deadlocks and drive-away locking
- > Intrusion and parametric alarm with passive sounder and battery back-up
- > Engine immobiliser

SAFETY

- > Adaptive Restraint Technology System (ARTS™)
- > Airbags, front and side (driver and front passenger)
- > Belt reminder system (front seats only)
- > Front seat whiplash reduction system
- > Pedestrian Contact Sensing – automatically deployable bonnet system
- > ISOfix anchor points for rear child seat
- > Front and rear seat belt pre-tensioners

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Please contact your local market Jaguar representative for market-specific availability.

TECHNICAL SPECIFICATIONS

XKR-S 5.0L V8 SUPERCHARGED COUPE

ENGINE

Engine Capacity (litres)	5.0
Engine Capacity (cc)	5000
Cylinders	8
Valves per Cylinder	4
Compression Ratio	9.5:1
Bore/Stroke (mm)	92.5/93.0
Bore/Stroke (inches)	3.64/3.66
Final Drive Ratio	3.31:1
Transmission	6-speed automatic
1st	4.17:1
2nd	2.30:1
3rd	1.52:1
4th	1.14:1
5th	0.87:1
6th	0.69:1
Rev	3.40:1

PERFORMANCE

0-60mph (seconds)	4.2
0-100km/h (seconds)	4.4
0-100mph (seconds)	8.7
100-180km/h (seconds)	7.6
Top Speed (mph / km/h)	186/300
Max. Power (BHP)	542
Max. Power (PS)	550
Max. Power (KW)	405
Power to Weight Ratio (BHP/ton)	309
Power to Weight Ratio (PS/tonne)	314
Torque (lb ft)	502
Torque (Nm)	680
Torque to Weight Ratio (lb ft/ton)	286
Torque to Weight Ratio (Nm/tonne)	388
Aerodynamics (Cd)	0.34

ECONOMY

Urban (mpg)	14.9
Urban (l/100km)	18.9
Extra Urban (mpg)	33.0
Extra Urban (l/100km)	8.6
Combined (mpg)	23.0
Combined (l/100km)	12.3
City EPA	15
Highway EPA	22
US C-H Combined (US mpg)	17
Fuel Tank Capacity (litres)	71
NEDC Combined CO ₂ (g/km)	292

DIMENSIONS

Wheelbase (inches)	108.3
Wheelbase (mm)	2752
Front Track (inches)	61.4
Front Track (mm)	1560
Rear Track (inches)	63.3
Rear Track (mm)	1608
Overall Length (inches)	188.7
Overall Length (mm)	4794
Overall width excl.mirrors (inches)	74.5
Overall width excl.mirrors (mm)	1892
Overall Height (inches)	52.2
Overall Height (mm)	1312
Turning Radius (meters)	10.9

WEIGHT

EU: Kerb Weight (lbs)	3865
EU: Kerb Weight (kg)	1753
Federal: Lightest Weight (lbs)	3968
Gross Vehicle Weight (kg)	1800

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Fuel consumption figures were obtained in tests carried out in line with the Passenger Car Fuel Consumption and CO₂ Emissions Information Regulations 2001 (Reflecting EU Directive 80/1268/EEC as amended by 2004/3/EC). These figures were correct at the time of going to press.

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Jaguar Cars Limited has a vision of being amongst the world's leading companies in demonstrating progress towards sustainability. We aim to do this by contributing to a better quality of life, with corporate citizenship at the very heart of our company, and by reducing our environmental footprint through innovative design and manufacturing, minimizing resource and energy use. Environmental responsibility is a core value in Jaguar and it is our policy to continually improve our environmental standards in all areas of business activity.

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