



XK

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SERVICE

TECHNICAL BULLETIN

2003 MY XK Range Product Update – Vehicle Specification Changes and Feature Enhancements

MODEL 2003 MY-ON
XK Range
VIN A30645-ON

Introduction

Introduced on the 2003 Model Year XK Range Vehicles are the most significant series of changes the model has seen since initial launch in 1996. The package of changes has been developed to freshen the appeal of the vehicle and to offer significant functional, convenience and dynamic benefits to the customer by introducing a wide range of additional features.

New Features Summary

POWERTRAIN

AJ34 4.2L Engine

The XK AJV8 (AJ34) engine is a mid-cycle upgrade of the existing 4.0L unit, uprated to 4.2L capacity, giving improved performance, economy and refinement.

- Power of the normally aspirated engine increases from 290 to 300 bhp (DIN).
- Power of the supercharged engine increases from 370 to 400 bhp (DIN).
- Mechanical refinement of the engine has been further improved through redesign of both the cylinder block and bedplate to increase structural stiffness and to reduce engine-generated noise and vibration.

Six-Speed ZF Transmission

The new six-speed ZF transmission provides higher torque capacity, reduced length, reduced weight and improved vehicle performance when compared to its five speed predecessor and is a fill-for-life unit with no dipstick tube. The Transmission Control Module (TCM) valve body assembly is the combination of the hydraulic shift unit with electronic modules and is integrated into the transmission housing. This design allows for more accurate control of signals and pressures, resulting in improved gearshifts.

A further advantage is improved reliability due to the reduction in the harnessing and electrical connections between the transmission and its controller. Considerable engineering effort has been undertaken in the tuning of the 4.2L engines and transmission to suit the characteristics of the XK.

- Transmission to suit new six speed J-gate with Dual Linear switch, and mode switch.
- New selector lever to suit J-Gate.

Fuel system

To support the installation of the 4.2L engine, a new fuel system including fuel tank, fuel pumps, pipes and breather pipes have been installed.

ELECTRICAL

Starter Motor

New starter motor (as 4.2L S-TYPE 2003 MY onwards)

Generator

New generator (as 4.2L S-TYPE 2003 MY onwards)

Engine Management

There are substantial changes to the engine management system to support the installation of the 4.2L engine which include the following:

- A new Engine Management System (EMS) Engine Control Module (ECM).
- A new throttle cable and linkage along with a new throttle body (as 4.2L S-TYPE 2003 MY onwards) with modifications to the intake elbow to suit the 4.2L application.
- New injectors (as 4.2L S-TYPE 2003 MY onwards).
- The Electronic Automatic Temperature Control (EATC) remains the same however, it is now linked to the Controller Area Network (CAN) bus using the instrument cluster as the gateway between the EMS and the EATC.

Inertia Switch

This is a new switch in a new location, now located in the left hand door-closing panel.

CHASSIS

Dynamic Stability Control (DSC)

The DSC system controls the Anti-lock Braking System (ABS), traction control and yaw control of the vehicle. Yaw control determines the vehicle's direction relative the driver's inputs (sideslip and understeer/oversteer).

DSC applies braking pressure to individual wheels if excessive variation is detected. This ensures that the vehicle follows the driver's intended direction of travel. The system will intervene to prevent wheel spin, by automatically reducing the power output from the engine and applying braking to individual wheels. This improves acceleration, particularly on surfaces with uneven friction, for example, one wheel on ice the other on pavement.

Dynamic Stability Control is operational whenever the engine is running, unless it has been switched off. If the system is intervening, the warning light in the instrument cluster will flash. The DSC system can be turned on and off by pressing the switch on the center console switch pack.

- New switchable DSC system, includes ABS/Traction Control Module Mk 25 (12 valve) Modulator assembly and mounting bracket.
- Combined Hydraulic Control Unit (HCU)/ABS/Traction Control Module.
- Communication via CAN.
- Active wheel speed sensors.
- ABS/Traction Control Module performance improvements have been made as part of DSC development Emergency Brake Assist (EBA) to be included as a standard feature with DSC.
- Incorporates pedal travel sensor and pressure transducer monitor with enhanced software in the ABS/Traction Control Module.

Brakes

Brembo brakes are standard on the XKR with non-cross-drilled discs. The aluminum 4-piston caliper is now painted silver and features the new 'Jaguar R' logo.

Brembo disc sizes are 355 mm front and 330 mm rear. XK8 remain unchanged at 325 mm front and 305 mm rear.

Brembo cross-drilled discs are available for the XKR as an option.

Adaptive Speed Control featuring forward alert

Adaptive Speed Control is designed to aid the driver to maintain a gap from the vehicle ahead or set a road speed if there is no slower vehicle ahead. The system is intended to provide enhanced operation of the vehicle when following other vehicles that are traveling in the same direction.

Limited detection and warning of objects ahead is provided during Adaptive Speed Control operation by the Adaptive Speed Control 'DRIVER INTERVENE' warning whilst Adaptive Speed Control is applying braking.

The forward alert feature provides these warnings if Adaptive Speed Control is either on or off. The sensitivity of forward alert and the gap setting of Adaptive Speed Control can be adjusted independently of each other. With forward alert on, when an object is detected close ahead, a warning tone and message will be issued as in Adaptive Speed Control operation; however, the difference is that the brakes will not be applied.

This additional feature may be switched on or off using the forward alert switch in the lower outboard knee bolster switch pack, next to the valet switch. When the indicator in the switch is illuminated the system is active.

The sensitivity of the forward alert warning may be changed:

- Pressing the 'gap decrease' button while the Adaptive Speed Control is disengaged decreases the sensitivity of the alert.
- Pressing the 'gap increase' button increases the sensitivity of the alert.
- Both of these are accompanied by the Forward Alert ® message on the Message Center.

Automatic Speed Limiter

The automatic speed limiter system allows the selection of a speed which the driver does not want to exceed. This is an additional feature to the existing speed control feature. The system has two modes: Adaptive speed control mode and speed limiter mode. The speed control mode is identical to the current cruise control system.

The speed limiter mode, when selected, will operate in the following way:

The driver selects a set speed as per speed control operation. The throttle will respond to driver demand until the required set speed is reached. Further application of the throttle will not increase vehicle speed beyond the set speed.

The system will be cancelled either by a switch cancel command or by a driver 'kickdown' on the accelerator pedal. The application by the driver of the brakes will not deactivate the speed limiter. The system is deactivated and the speed limit deleted at each ignition cycle.

BODY EXTERIOR

Xenon Headlamps

Xenon headlamps are fitted as standard to the XKR and an optional fit to the XK8. Features include automatic headlamp leveling (during acceleration, deceleration and terrain variation) and powerwash.

Xenon headlamps give the added benefits of greater light intensity and the projected light is whiter in appearance.

Badging

A newly designed 'growler' is adopted which features on the following:

- Luggage compartment release button - green in color XK8 and XKR.
- Road wheel badges - green in color XK8 and XKR (possible new badge later).
- Key head - green growler and embossed growler on the security remote fob.
- Drivers airbag module - embossed growler.
- Nose badges - XK8 features '4.2 Litre' XKR features 'Supercharged' (all green).

Other Badging Detail:

- Jaguar 'leaper' on passenger airbag door.
- New rear plinth badges for 'XK8 and XKR'.
- Engine capacity plinth badge '4.2' to be added later.

'R' Logo Badging

The new 'R' logo is featured on the XKR derivative in the following areas:

- Front fenders below the side repeater.
- Brembo brake calipers.
- On top of the new 'R' leather gearshift knob.
- Rocker panel moldings.
- Rear plinth badge.

XKR Luggage Compartment Plinth

The rear plinth, above the license plate on the XKR is now color-coded replacing the previous chrome finish.

Paint Colors

There are four new paint colors introduced for the 2003 Model Year which are as follows:

NEW	Replaces
Jaguar Racing Green	Aspen
Ebony	Westminster
Midnight	Anthracite
Adriatic	Sapphire

Note: Ebony is a solid color; others are metallic.

New Wheel Styles

There are three new wheel styles introduced for the 2003 Model Year which are as follows:

NEW	Replaces
17 in Gemini	17 in Lamina
18 in Centaur (JNA standard fit)	18 in Impeller
18 in Hydra (Brembo compatible)	18 in Double 5
19 in Apollo (XK8 only)	Carry-over from 2002 model year

Note: The 19 in Apollo is not Brembo-compatible and therefore cannot be installed on the 2003 Model Year XKR.

INTERIOR BODY AND TRIM

Electrically-Adjustable Steering Column

All models now feature a steering column which is electrically adjustable for tilt and reach, replacing the manual adjustable column previously standard on the XK8. The column also has an entry and exit function.

The feature can be further upgraded with the addition of the memory pack, providing heated front seats, two-position memory for the steering column, driver's seat and exterior mirrors.

Auto Headlamps On-With-Wipers

This is standard equipment to all derivatives. If the wipers are switched on via any of the modes i.e. Auto, slow or fast, after a delay of twenty seconds then the headlamps will be switched on as long as the auto lights mode has been selected.

The headlamps will go off two minutes after the wipers are switched off or will go out immediately if the auto headlamp mode is deselected or the ignition is switched off.

Instrument Gauge Center Caps

To enhance the visual appearance, the center caps for the instrument needles are now chrome finished.

Revised Interior Trim

There are three new interior trim colors; Heritage Tan, Cranberry and Dove.

The Heritage Tan and Cranberry are also available as a contrast seat with a Warm Charcoal insert (sport seat style only).

Compass Integration Into Electrochromic Mirror

For the North American market this feature is standard. The compass display is shown in the top right hand corner of the mirror. The compass display indicates the direction in which the front of the vehicle is pointing and can be turned off if required by a switch at the base of the mirror.

Navigation System

2003 Model Year sees significant changes and improvements that are as follows:

- An analogue clock display replaces the 'leaper' when the unit is switched on.
- Maps / Discs shown below. New maps in **Bold**.
- **Spain, Portugal, Sweden and Denmark.**
- **Canada** added to the USA disc.
- Existing market updates (all except Japan).

Immobilizer

Changes to the immobilizer system which include the following:

- The Key Transponder Module (KTM) will perform a challenge/response routine with the key to determine its authenticity.
- The Body Processor Module (BPM) will transmit the Standard Corporate Protocol (SCP) - Key Valid message containing a unique three byte number to the Instrument Cluster. The Instrument Cluster upon receipt of this message will compare the data received against the unique number stored in its memory. If the comparison matches, the Instrument Cluster will set a flag to confirm valid key received. If the comparison does not match, the Instrument Cluster will set this flag to invalid.
- If the ignition key is turned to the Ignition Run position, the Instrument Cluster will start the data exchange and start transmitting the idle status. If the key status is valid, and the subsequent challenge/response is verified by the Engine Control Module (ECM), the ECM will allow the engine to start. Otherwise, starting of the engine is disabled.
- The ECM controls the following outputs: Fuel Injectors, Ignition Coils and Fuel pump.