



# NUTS AND BOLTS

Dave Roche, XKEC member and also one of the Parts Advice Team, and regular columnist with GROWLER magazine. In this edition and the next he talks about upgrading XK8/XKR brake discs. Website: [www.xk8-parts.com](http://www.xk8-parts.com)

## PART 1

### Background

In 1996 the development of the brake system on XK8's resulted in a great improvement on that of the model's predecessor the XJS. In the design/development phase, a reasonable sized vented disc manufactured by the leading Original Equipment Manufacturer



Standard XK8/XKR front vented brake disc to VIN 0373447

(OEM), ATE was used in the car this being 28mm in width and 305mm in diameter. This gave the car good stopping power relative to the car's weight and powerful V8 engine. This specification of disc was also used in the XKR when introduced in 1998.

However in 1999 for the XKR a range of 'R' performance options were introduced which were based on the XK180 concept car. For the wheels these related to the fitting of 20 inch wheels, Pirelli P-Zero tyres and rear wheel arch extensions to take the additional wheel width.



XKR 'R' performance front replacement brake disc

For the braking component of the pack, the new system was based on racing technology. The supplier company 'Brembo' designed for Jaguar a through/cross drilled ventilated disc much larger than the standard XK8/XKR discs. For the front discs, these were 50cms wider at 355mm diameter and 32mm width and for the rears 25cms larger at 330mm diameter and 28mm width. Another major development was the introduction of the much larger Brembo 4 pot callipers, green in colour and with the Jaguar name on the side.

# Latest options for upgrading your XK8/XKR brake system

These looked very impressive behind the 20 inch Milans or Detroit's which were fitted. As you can imagine braking was dramatically improved.

### XK8/XKR brake disc problems

With the oldest cars now 15 years old many will have had their discs replaced. Like all discs, wear is generally accelerated due to poor driving habits and maintenance including letting brake pads wear down too low and then scoring the discs.

Accelerated disc wear is also caused by using harder brake pads. Many XK8s and XKR's will have had their discs replaced as early as the 30K miles mark but at the other extreme I am aware of cars that have done over 120,000 miles and still on their original discs!

Corrosion caused by the environment and lack of use are other factors necessitating replacement of discs this tending to start from the outside edge and causing uneven wear ridges and pitting etc. When braking a juddering feel is a sure sign that the discs are on there way out.

### Replacement/upgrade options

It is good to know what options there are for the replacement of discs and pads as many owners may have to think at some point about replacing these if not already having

done so. At the time of writing, and as an example, the price of a standard Jaguar disc kit for cars up to VIN 031302 ex UK VAT at 20% are £185/£180 front and rear per axle set.

The pads are £72/£48 per axle set. Aftermarket discs and pads provide a much cheaper solution at about half the above prices although the production origin of these discs is unknown at the time of writing.

An intermediate priced quality assured solution is the fitting of British OEM made discs and pads made to the Jaguar specification using G3000 grey iron and having a 10,000/6 months unconditional warranty. At the time of writing, and as an example, the price of the British made disc kit for cars up to VIN 031302 ex UK VAT are approximately half at £95/£85 front and rear per axle set.

The pads are £28/£24 per axle set. If you are going to do a brake disc/pads replacement job then another solution to consider is the fitting of again British made upgraded discs and pads using the latest in braking technology.

I have mentioned above the through drilled discs as fitted as an 'R' performance option. However a general problem with these discs is the potential for ridges to develop and also for the discs to crack as they age in use. The leading OEM manufacturer EBC have



A standard XK8 front vented disc showing corrosion just starting from outer edge, scoring and just about ready for an upgrade

exclusively developed with Bearnach a range of brake disc upgrade options for us to consider. This is where it gets a little bit technical!

**Slotted/Grooved Discs:** draw cool air into the braking contact area and reduce temperatures preventing brake fade.

**Dimple Drilling:** as opposed to through drilling as on the original 'R' performance discs, avoids stress cracks from occurring with through drilling.

These modern discs are anodized – often in gold or black – which provides great looks whilst preventing corrosion. Having too many slots and/or wider slots can cause air noise and the norm is to have just 3 slots which reduces air noise whilst still maintaining the benefits of cooler running.

Another great feature of slotted discs is the way they maintain flat and parallel pad wear and avoid the record grooves or galling common with non-slotted discs. This improves pad contact and braking

throughout the life of the disc and pad set.

The Bearnach/EBC name for this type of disc is the GD SERIES. The design of these discs means that some wind noise is observed. If drivers feel they may be concerned with this, they are advised to select the quieter USR series or plain rotor – see right.

### The main benefits of the GD Series dimpled and slotted sports discs are:

- Wide slots help brakes run cooler
- No brake fade under load
- Removes dirt dust and debris
- Gold or black anodised for protection
- 100% cast and machined in the UK



The USR Series have finer slots and are not dimpled. These offer less wind noise under heavy braking and are black zinc coated.

These are still an impressive looking disc. The USR series is the top

### PRICES FOR UPGRADE

- Based on requirements for an early XK8
- Front USR or GD discs (pair) – £149.75
- Rear USR or GD discs (pair) – £149.75
- Front Upgrade Pads – £72
- Rear Upgrade Pads – £64
- Prices exclude UK VAT @ 20%

Please note prices will be higher for the later model cars – post VIN 031302.

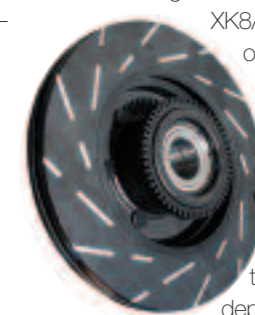
Contact – [dave@xk8-parts.com](mailto:dave@xk8-parts.com) for further information and prices on both the upgrade and standard disk/pad replacement options.

recommendation for use by Jaguar XK8 and R owners.

### The main benefits of the USR Series slotted only sport discs are:

- Brakes run cooler
- Pads stay smooth and flat
- Reduced brake fade at speed
- Narrow slots reduce air noise
- Ideal for Sport driving on prestige cars
- 100% cast and machined in the UK

I hope that the above provides readers with some background information about the



XK8/XKR discs and the options available to owners for replacing/ upgrading them. As you would expect there are a range of brake pad options to consider to match the above discs that you choose and also depending on your style of driving.

Brake pads and calliper upgrades is another fascinating subject area and will be the subject of another GROWLER article in the near future ●

■ Many thanks go to Bearnach and EBC for their technical input and images.