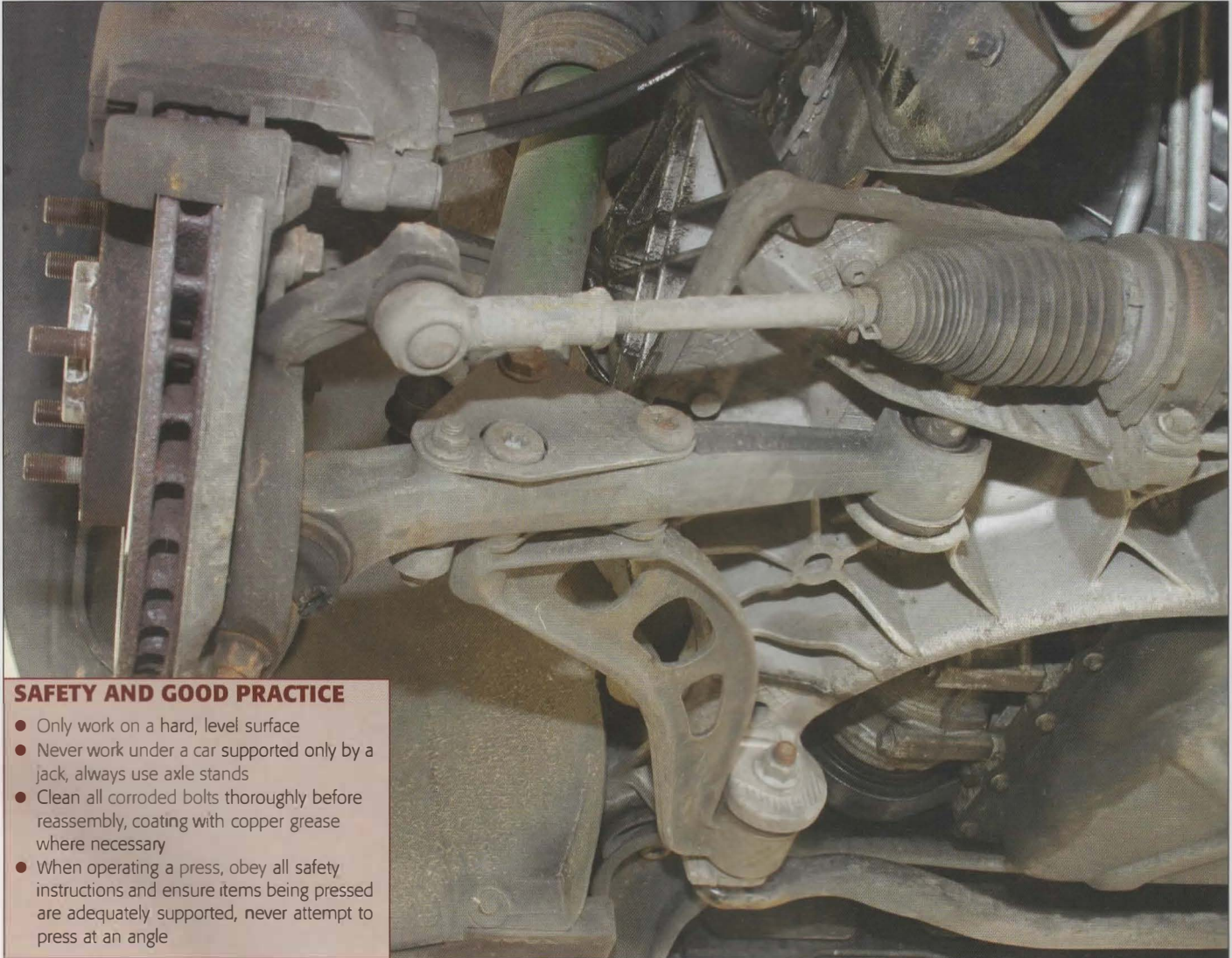


XK8 front suspension bushes

Knocks and thumps from your car's front suspension? Worn bushes are the most likely cause – here we tackle the replacement process

Words and pictures: Garreth Coomber



SAFETY AND GOOD PRACTICE

- Only work on a hard, level surface
- Never work under a car supported only by a jack, always use axle stands
- Clean all corroded bolts thoroughly before reassembly, coating with copper grease where necessary
- When operating a press, obey all safety instructions and ensure items being pressed are adequately supported, never attempt to press at an angle

Big wheels have big tyres, and big tyres usually cost a lot of money. The problem is that big, wide tyres only need to be slightly out of alignment to suffer from major wear. All the more reason then to keep the front suspension of your XJ8 or XK8 in tip-top condition.

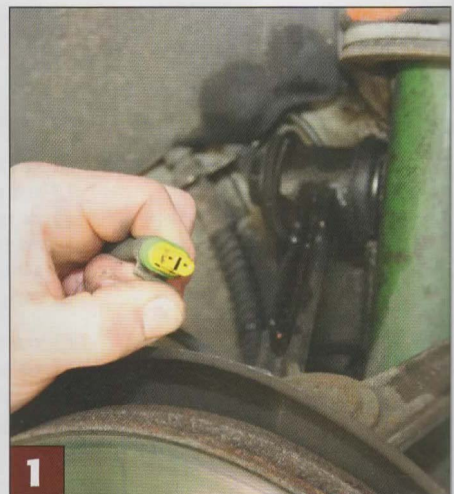
By far the heaviest wear item at the front end will be the upper wishbone bushes, the law of probabilities stating that the left-hand rear bush will be the first to pack up on right-hand drive cars, as the rear bushes are subject to higher loads than the fronts and, being on the kerb side of the car, it tackles the worst part of the road. These bushes are exactly the same as those fitted to the XJS and pre-1990 XJ Saloons and the design works beautifully, retaining a high degree of precision in terms of geometry while also providing good insulation. They do wear, though, and once the Teflon-like material inside has worn away the rest rapidly follows, usually causing both a clunk and increasing negative camber, which in turn wears the often unseen inner edge of the tyre.

The lower, bonded rubber bushes are more resilient, but will crack and distort eventually, early ones had plastic casings but all replacements are now steel-cased. Which leaves the ball joints; in ideal conditions these are often capable of outlasting the car, unlike the boots which frequently tear causing an MoT failure and allowing grit in to destroy the joint. While it is possible to adapt an earlier Jaguar boot, this is at best a temporary fix and not something we could endorse at this point.

In terms of difficulty, front suspension work on an XK8/R is actually more straightforward than earlier models, as the road spring does not need to be compressed, but removing the bushes from their respective arms can be tricky, as the steel flanges must first be cut away to allow access when pressing them out. When pressing the replacements in, it is important that the correct tools be used so that the load is evenly spread.

NOTE – The following procedures were photographed over several days and on differing cars, so both sides of the suspension assembly will be shown.

Upper control arms and bushes

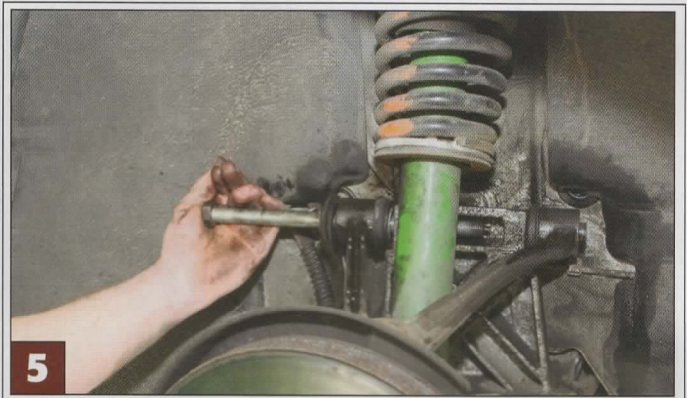
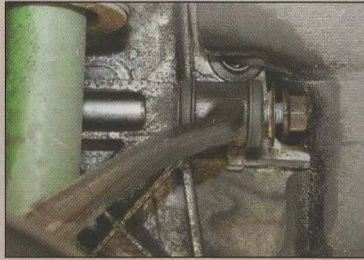


1 With the car raised and the front wheel removed, begin by unplugging the ABS sensor wire and cutting the cable ties securing it to the upper control arm



2

Before starting to dismantle, give the entire shaft and bush assembly a good soaking with penetrating oil. Then use a 24mm AF socket and spanner to loosen the main shaft. Note the special chrome plated shaped washers, they are positioned both sides of each bush and need to be retained even though they may look to be part of the old bush



5

Then, as the shaft slides fully out of the sub frame, recover the forward shims and washers. Note that what appears to be a washer is in fact part of the collapsed bush, in many cases the entire bush has worn so far it can simply be twisted out of the control arm



3

The shaft should be driven forwards, applying force first to the protective lug at the end of the thread and then via a chisel or lever to the back of the bolt head



4

With the shaft halfway out, gently lever the rear arm and bush away from the subframe turret and recover any shims, together with the inner shaped washer



6

Use a punch or other slim bar to hold the arm loosely in place while the 18mm upper balljoint nut is undone (right). Then, with the nut still loosely on by a couple of threads, shock the housing (above) to release the taper; it will normally take several sharp hits. While the arm is removed be sure to support the hub assembly sufficiently to prevent damage to the lower balljoint



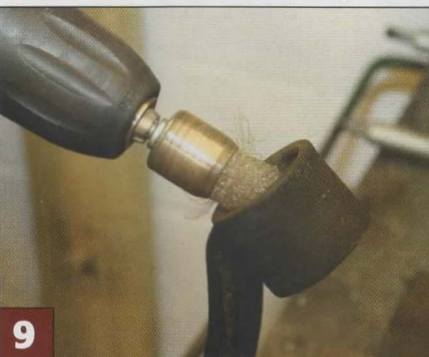
7

If the balljoint is still serviceable with its gaiter in place and untorn, replace only the bushes. If the ball joint is unserviceable a new control arm will be needed which will come with the bushes already fitted. Note that the bush is more like a bearing than a conventional rubber item and it is identical to those used on the XJ-S and XJ saloons prior to the 4.0-litre XJ40



8

If the old bush refuses to come out easily, lock the arm in a vice and drive the bush out with a cold chisel. As can be seen below, over time the bearing material wears away and the sleeve then rusts, locking the two together and in turn causing the whole lot to turn in the arm



9

In many cases there will be corrosion in the arm itself. Within reasonable limits the rust can be cleaned away with a wire brush or finishing paper, but if doing this opens up the hole so far that the new bush remains loose, a new arm will be needed



10

No special tools are needed for these bushes: just use the vice to push one half in, then fit the sleeve followed by the other half and push them fully in as well. Be sure to keep everything aligned correctly, however, as it is easy to damage the bearing material inside. If the halves seem not to seat fully, don't worry, they will when fitted and tightened

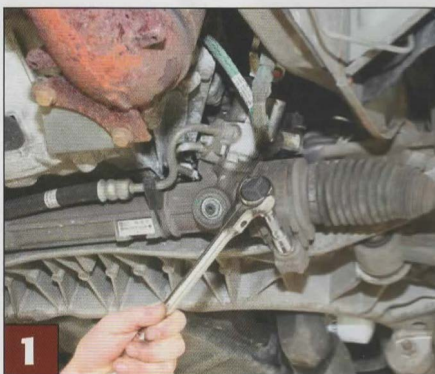


11

To reassemble, first coat the shaft well with copper grease, then assemble the various washers and shims around the forward bush, hold it up and feed the shaft through. With the arm supported, the washers and shims can then be positioned around the rear bush and the bolt slid fully home. As the bearing within each bush allows movement, the upper bush shaft can be tightened fully without weight on the suspension

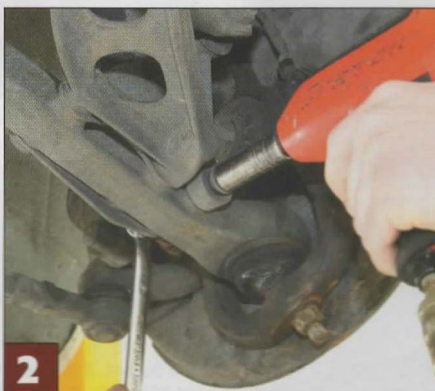


Lower control arms and bushes



1

The first task is to undo the four 13mm bolts securing the steering rack to the subframe, as the rack ends and gaiters block the exit path of the lower rear securing bolt. It's not necessary to touch the hydraulic connections or even loosen the steering column, just ease the rack away and tilt it so that the lower control arm bolts can be removed



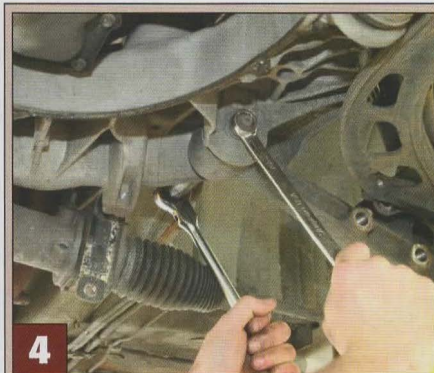
2

13mm and 15mm spanners/sockets are needed to unbolt the anti-roll bar vertical link. If either of the link bushes are torn/perished, fit a new pair of links



3

A pair of sandwich plates tie the two parts of the lower control arm to the spring/damper assembly, effectively taking the entire weight of the front of the car. Remove the two T60 Torx headed bolts – heat the threaded portion of the forward part if necessary to loosen. The suspension assembly should then drop free of the spring/damper



4

From VIN 031302, the 18mm bolt (and 22mm nut) securing the lower rear bush has an offset shank used to move the arm in or out slightly during camber adjustment – earlier cars may have had these bolts retro-fitted. The offset bolt can be identified by a raised strip on the bolt head flange (see below), the direction of which should be noted prior to disassembly





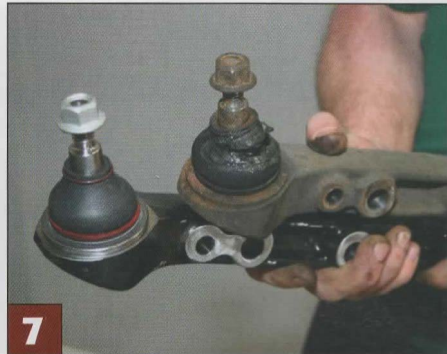
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With the arm still located in the subframe, loosen the 19mm lower balljoint nut, leaving it on by just a couple of threads. The arm can then be manoeuvred out of the subframe and swivelled round to gain sufficient access for the hammer blows necessary to release the taper. If only changing the bush be very careful not to cause damage to the balljoint gaiter



6

The forward lower bush has a conventional 18mm bolt and 22mm nut with no provision for adjustment. Note the position of the spacer between the alloy subframe and the steel bracebar



7

While technically available as a separate item, removing and replacing a lower balljoint successfully requires the skills and equipment of a professional engineer, and so it is almost always more practical to fit a completely new arm, especially if both the balljoint and bush are unserviceable



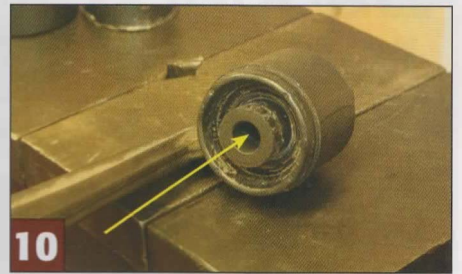
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Both bushes have steel flanges, which unfortunately allow nowhere to support the arm while pressing them out. While the rear bush can be removed with just two sides of the arm exposed, it is much safer to chisel/hacksaw the entire flange off (below) and then use a suitable section of pipe to press against



9

When fitting new bushes the correct Jaguar tool (shown in background) is essential to prevent damage to the rubber face. Position the new bush, flange facing forward in the arm, sit the specially shaped tool on top, and place the whole lot in the press, pushing the bush in until it seats fully



10

The procedure for replacing the front bush is basically the same, except in this case the flange must be removed completely in order that the remainder be pushed through in a continuation of the direction in which it was first fitted (see arrow). There are tools listed for removal of this bush without chiselling the flange off, however we have tried them and found them useless



11

Reassembly is a reversal of the stripdown procedure, but with three important points to remember. Coat both the lower bush and drop link bolts with copper grease to prevent seizure in the future. Clean the T60 Torx bolts thoroughly and recoat with Loctite or similar. Only tighten the lower bush and drop link bolts with the weight of the car on the suspension, otherwise the bushes will remain permanently twisted, leading to premature failure

Parts prices

Upper control arm bush:	£20.56
Upper control arm complete:	£176.25
Lower (rear) control arm bush:	£9.11
Lower (rear) control arm complete:	£176.25
Lower (front) control arm bush:	£9.11
Lower (front) control arm complete:	£176.25
Anti roll bar vertical link:	£57.23

Service prices

Replace upper control arm bushes (set):	£340.74
Replace lower (rear) control arm bush:	£202.16
Replace lower (rear) control arm complete:	£305.50

Tooling up

Front lower bush fitting tool:
Pt No 204-280
Rear lower bush fitting tool:
Pt No 204-279

- Parts prices courtesy of HA Fox, Guildford, Tel: 01483 544326
- Tools available from JEC Tools, Nottinghamshire, Tel: 01909 733209
- Service prices courtesy of Millennium Jag, Croydon, Tel: 0208 688 8899

Our thanks go to Blake Humphrey at Millennium Jag, Croydon (Tel: 0208 688 8899) for his assistance with this article