

Service Bulletin



Date JANUARY 1984
Sheet 1 of 9
Bulletin JD.01/84

AMENDMENT

Would all recipients please note that Item 51 was used in both JD 07/83 and JD 08/83. No confusion should occur as they refer to different subjects, but a note could be made in the Index for clarification.

ITEM 01

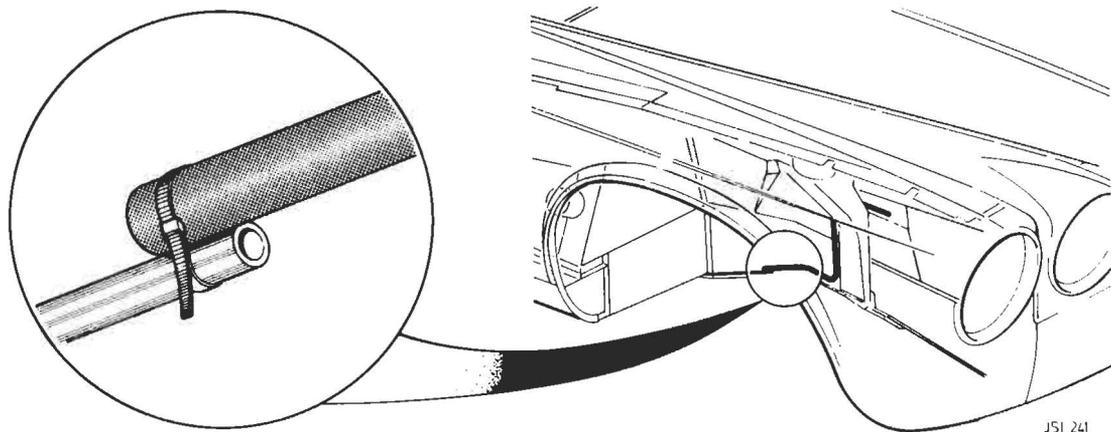
ALL MODELS
MIDDLE EAST MARKETS
(Bahrain, Kuwait, Lebanon, Oman, Qatar,
Saudi Arabia, United Arab Emirates)

17. EVAPORATIVE LOSS SYSTEM

To comply with new emission legislation all models destined for the above markets will be fitted with an evaporative loss system as currently fitted to North American, Australian and Japanese vehicles.

For saloon models only, the breather pipe from the fuel tanks to the carbon canister will be disconnected for transit purposes.

The flexible breather pipe situated to the rear of the right hand wheel arch must be connected to the steel bundy pipe at P.D.I.



A full operating description of this system is detailed in the Workshop Manual, Section 17.

ITEM 02

44. RECONDITIONED BORG WARNER TRANSMISSIONS ALL 6 CYL. MODELS

Further to Technical Parts Bulletin No. J5 – J21 Dec. 1983.

Since the introduction of the Borg Warner Model 66 automatic transmission, a number of modifications have been made to improve the performance and reliability of the unit.

All of these modifications have now been incorporated in the reconditioned Model 66 transmission. On the Model 65 reconditioned transmission, Model 66 improvements have been incorporated where practicable.

Listed below are the major improvements which have now been introduced on all reconditioned Model 65 and 66 Borg Warner transmissions.

MODEL 65 and 66

Torque Convertor

(a) Bronze/Steel Thrust Washer

Previously produced in aluminium it was susceptible to wear which gave excessive end float and debris contamination of the transmission.

(b) Torrington Needle Roller

Two locating tags have been added to inhibit rotation of the torrington race thrust washer.

Stator Support

To give added strength and support the splines on the pump adaptor and stator support have been increased in length.

NOTE: The torque convertor for Model 65 reconditioned transmissions is not interchangeable with O.E. or earlier reconditioned Model 65 transmissions.

MODEL 66 ONLY

Sungear Shaft and Output Shaft

Failures of sungear shafts at low mileage are attributed mainly to abnormal use of the transmission. None the less the material of the sungear shaft has been changed to a stronger material. During the development of this material change isolated failures of the output shaft were experienced, and this also resulted in an alternative material being specified.

It must be emphasized that failures of the sungear or Output shaft at P.D.I. or low mileage, have been as a result of driver abuse of the transmission.

Fitting Instructions

A fitting instruction label is attached to every transmission, and must be strictly adhered to. The information on this label was taken from Bulletin JD 04/82 which should be referred to when fitting an automatic transmission.

Assembly of Transmission to Engine

When fitting a transmission to the engine, the correct transmission support must be used. Failure to do so could result in the torque convertor moving out of mesh with the oil pump. As it is possible to mount the transmission to the engine in this condition, the convertor drive tangs will break when the engine is started.

Cables and Pressures

It is most important that the pressures in the transmission are correct. It is known that low mileage transmissions are being replaced because of clutch/band wear/slip due to incorrect pressures.

A pressure gauge must be fitted to every transmission, to ensure that the minimum pressure and INCREASE IN PRESSURE is to specification.

The crimp on the kickdown cable should be used as a guide, and NOT as the sole means of setting pressure.

The part numbers of the updated transmission and parts are quoted in Technical Parts Bulletin No. J5 – J21 Dec. 1983.

ITEM 03

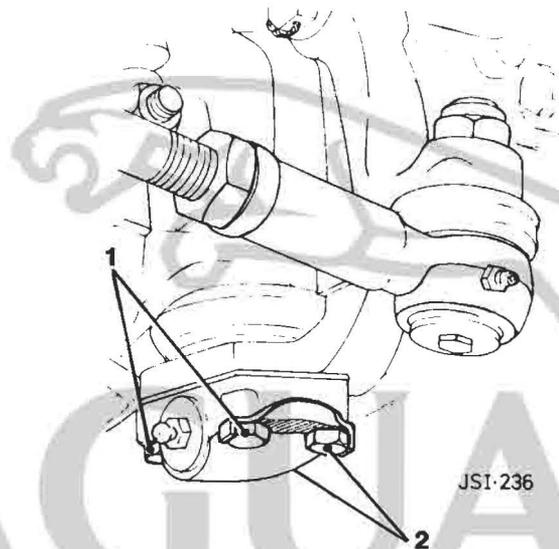
60. LOWER BALL JOINT SECURING BOLTS

ALL MODELS

The bolts securing the lower ball pin cap to the stub axle carrier may on some vehicles be in a mixed condition, i.e. the head of the bolts are of different thicknesses 7.94mm (0.3125in) and 4.76mm (0.1875in).

The bolts with a head thickness of 7.94mm (0.3125in) are fitted on production to the inboard holes of the lower ball pin cap.

It is important that if any of these bolts are removed during service, they should be replaced in the correct position – see diagram.



1. Inboard bolts – head thickness 7.94mm (0.3125in)
2. Outboard bolts – head thickness 4.76mm (0.1875in)

ITEM 04

70 FRONT AND REAR BRAKE PADS

XJS AND SALOONS

As advised in Jaguar Service Bulletin JD.01/83 item 4, semi metallic brake pads were introduced at the following VIN's:

354035 – Series III
109447 – XJS

The semi metallic pads may be used in VEHICLE SETS ONLY as a retrospective fit on Jaguar vehicles, with 4 pot caliper front brakes, built prior to the above VIN's.

However, if non metallic brake pads are required for vehicles PRIOR to the above VIN's then the following part numbers should be ordered:

GBP 224 – Front non metallic brake pad
GBP 209 – Rear non metallic brake pad

ITEM 05

74 FRONT WHEEL ALIGNMENT

LIMOUSINE

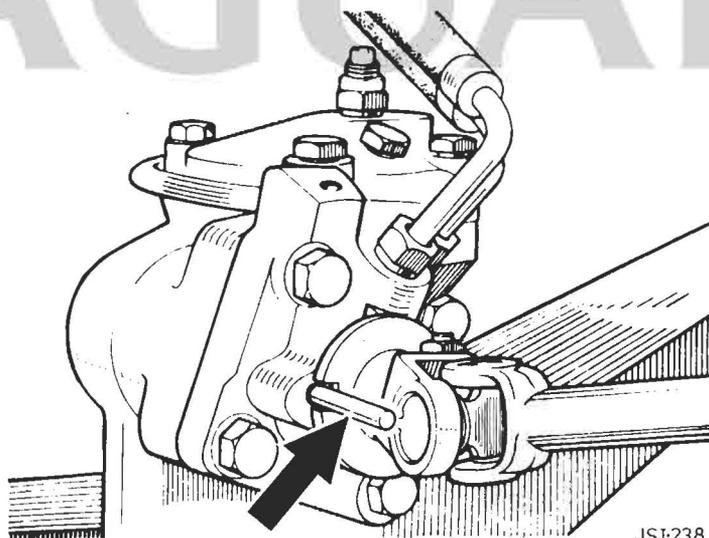
It is essential that the following instructions are observed when checking the front wheel alignment, otherwise steering irregularities may result.

IMPORTANT: The centre tie rod is set to a fixed length of 0.417m (16.4325in) and must not be used for setting the wheel alignment.

Each wheel must be individually adjusted by the outer tie rod to give half the total toe-in of 0–3.2mm (0–1/8in).

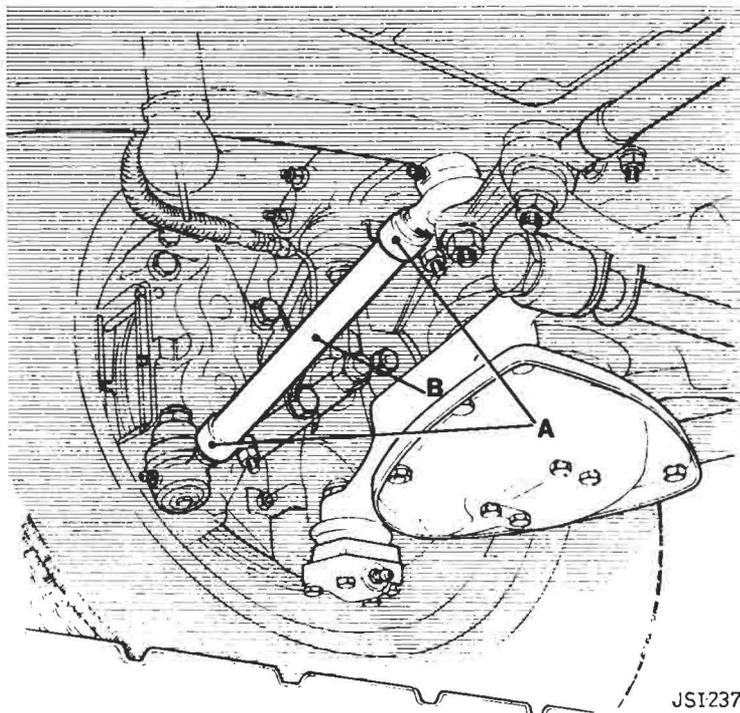
Procedure

1. Inflate all tyres to the recommended pressures.
2. Set the front wheels in the straight ahead position.
3. Centralise the steering unit by adjusting the position of the steering wheel, until the cut out in the centralising plate, on the input shaft, aligns with the hole in the steering box (Fig. 1). Check by inserting a 6.4mm (1/4in) rod suitably bent into the steering box.



JSI:238

4. Use light beam equipment to check wheel alignment.
5. Adjust the outer tie rod by loosening the clamps (A Fig. 2) at each end of the centre tube (B Fig. 2). The rod length is adjusted by rotating the centre tube (B Fig. 2).
6. When the correct wheel alignment figure is achieved, i.e. half the total toe-in of 0–3.2mm (0–1/8in), secure the clamps.



JSI237

7. Repeat the operation for opposite side.
8. Recheck the wheel alignment after pushing the vehicle forward until the wheels have turned half a revolution.

ITEM 06

76 WIND NOISE AND WATER LEAKS

SERIES III & XJ-S

This Bulletin item has been compiled to enable workshop personnel to identify areas which may give rise to wind noise and/or water ingress on current Jaguar vehicles.

Code for materials to be used in rectification:

A	=	Sealstrip
B	=	Seelastic Expandite SR 51
C	=	3M's Drip Chek Sealer Regular
D	=	Kent Quik Leak Chek Clear
E	=	Arbrosil 1081

1. Water ingress via bulkhead plenum chamber – Series III & XJ-S (Fig. 1)

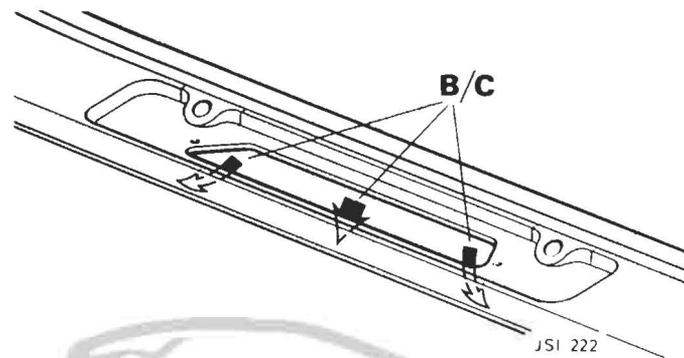
If the seams in this chamber are inadequately sealed, water can enter the vehicle footwells whenever the vehicle is exposed to heavy rainfall.

NOTE: If any water lies in the chamber, the drain tube should be checked for distortion or blockage.

Rectification

1. Remove plenum grille (Series III Workshop Manual Operation 80-15-29, XJ-S Workshop Manual Operation 84-15-12 – Items 1–7).
2. Apply sealant B or C by brush into all seams inside the chamber (Fig. 1).
3. Replace grille.

NOTE: In extreme instances, it may be necessary to remove fan boxes for access
 (Workshop Manual Operation 80-20-15 Heater Cars
 82-25-13 R/H)
 82-25-14 L/H) A/C Cars



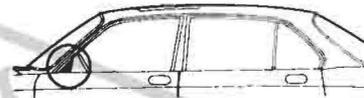
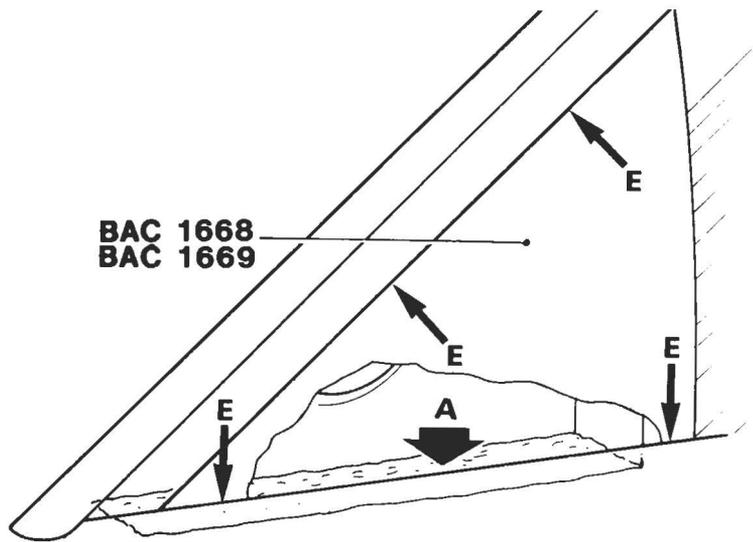
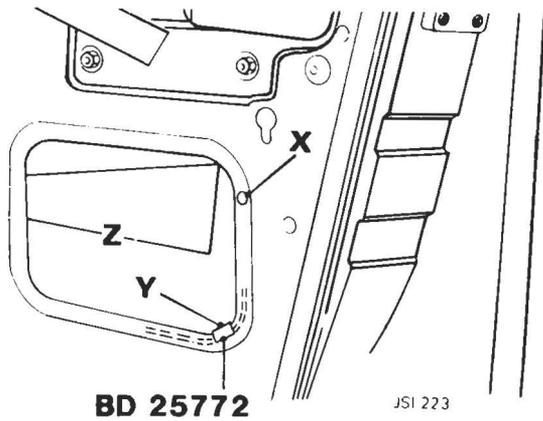
2. Water ingress on to front door trim casings — Series III only

This problem may be caused by any or all of the following:

- A Poor sealing of finisher BAC 1668 or BAC 1669 (Fig. 2A)
- B Tears in the polythene water curtain.
- C Water running along door warning light harness and seeping on to the trim pad (Fig. 2B)

Rectification

- A
 - i. Lower window fully and remove outer weather strip BAC 1298 R/H BAC 1299 L/H.
 - ii. Remove finisher BAC 1668 and/or BAC 1669.
 - iii. Apply sealant A into the door channel (Fig. 2A) refit finisher and apply sealant E around the edge (Fig. 2A) wipe off surplus and refit weather strip.
- B
 - i. Examine the water curtain and repair any tears, ensure that the curtain is hanging correctly.
 - ii. Check all securing bolts, regulator mountings, etc. for seepage. Dry off any doubtful bolts and apply sealant D around the heads.
- C
 - i. Remove the clip securing the wires to the door at "X" (Fig. 2B) fit clip BD 25772 at "Y" and attach the harness so that it is secured below the orifice "Z".

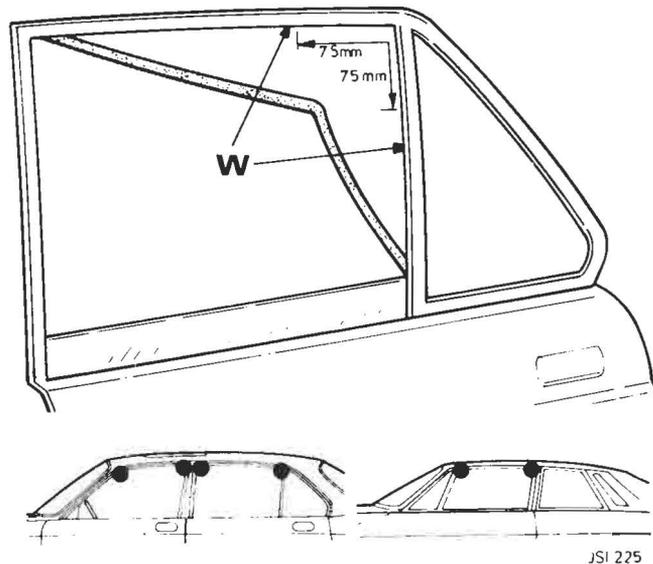


3. Water ingress and wind noise glass channels – All Doors – Series III & XJ-S (Fig. 3)

In most instances this is caused by gaps behind the window seals (BAC 1562 Series III, BD 46041 XJ-S), particularly at top corners.

Rectification

- A Remove glass seal at points marked "W" (Fig. 3).
- B Apply sealant "E" into the channel corner and spread a bead 75mm (3in) from the corner in sufficient quantities to allow extrusion when the seal is refitted. Carefully clean off any surplus sealant.

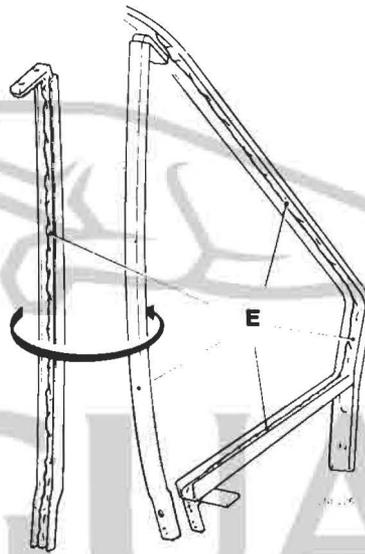


4. Water ingress and wind noise via rear door quarterlight – Series III only (Fig. 4)

Problem identification and rectification in this area is fully covered in Service Bulletin JD 04/83, Item 34. However, it is most important that ADEQUATE sealant is applied around the quarter light, especially at the base.

Rectification

- A Refer to previous Bulletin and apply sealant "E" as directed in sufficient quantities to ensure that the excess will extrude when the quarter light is refitted.
- B Following assembly, wipe off all surplus sealant.



5. Water ingress drip channels – Series III & XJ-S

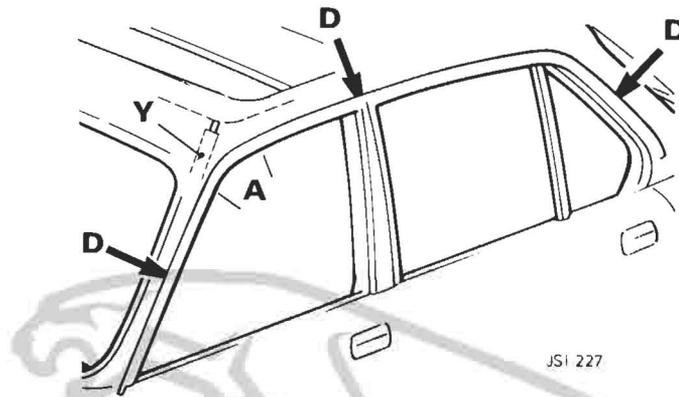
- i. Remove drip rail finishers BAC 2480/2481/2482/2483 for access.
- ii. Apply sealant "D" by tube or brush along the seams of the drip channel (Fig. 5).

NOTE: Sunroof cars only – if after corrective action water is still entering the car at point "A", this may be due to a porous or badly fitted drain tube hose. This can be proved by partly opening the sunroof and pouring water into the drain outlet. If a fault exists, water will seep into the car as indicated.

Rectification

- A Remove headlining (Workshop Manual Operation 76-64-01). Leave in car but remove to allow access to forward sunroof drain tubes.
- B Identify fault, i.e. badly fitted or split hose, at point "Y" (Fig. 5).
- C If the hose requires replacing, remove front wheel arch rear stone guard.
- D Feed a length of wire down the drain tube so that it protrudes from the wheel arch.
- E Pull out the faulty hose, leaving the wire in position.

- F Slide a new drain hose over the wire to ensure correct routing.
- G Remove wire and fit hose on to sunroof. Drain.
- H Refit headlining, etc.



6. Water ingress via seams at "A" post waist – Series III

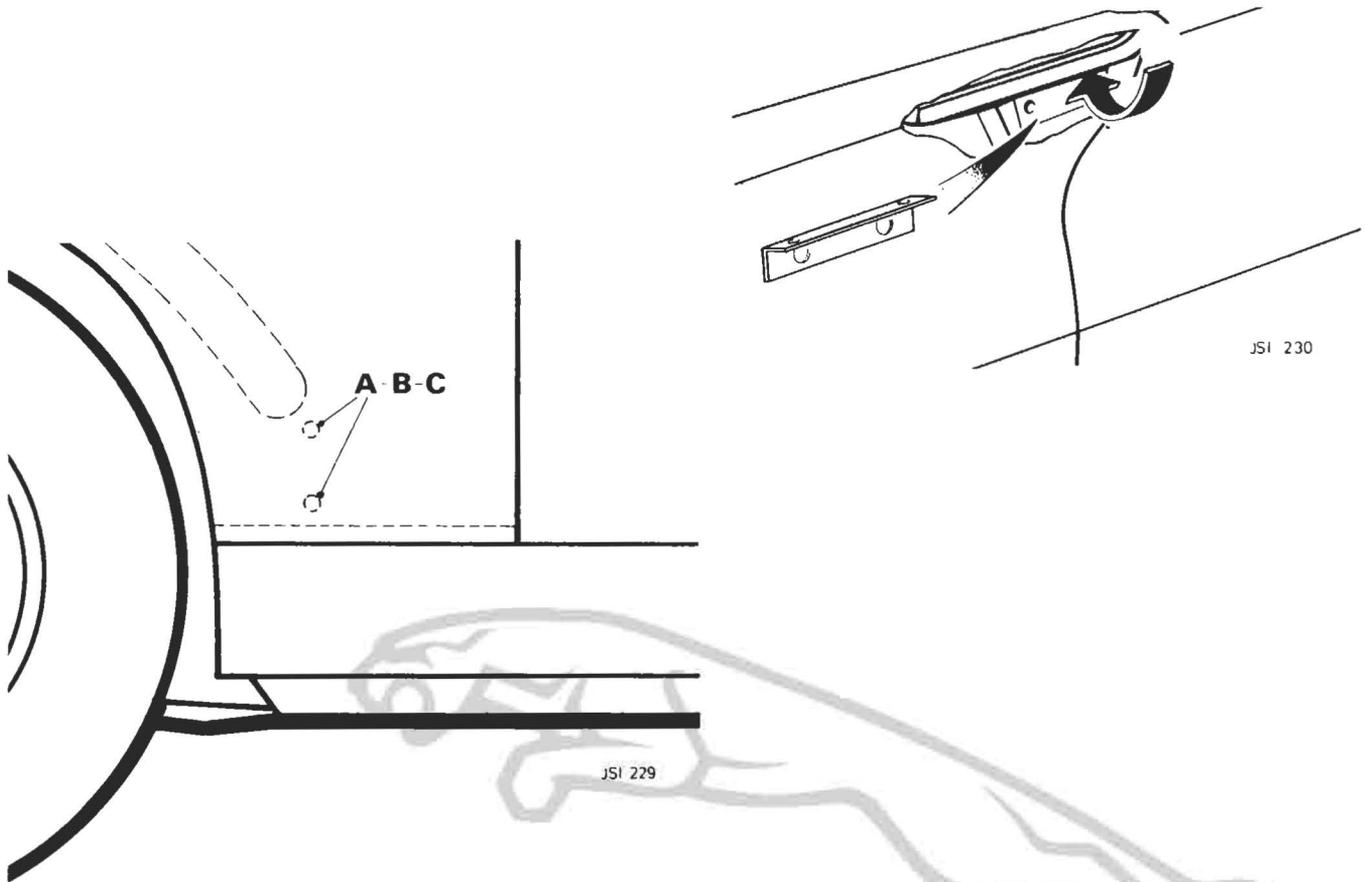
This problem may occur if there is an open seam at the base of the drip rail which allows water to enter the car interior via the "A" post box section.

Rectification

Apply sealant "E" along the seams identified in Fig. 6, allow to dry and water test vehicle.

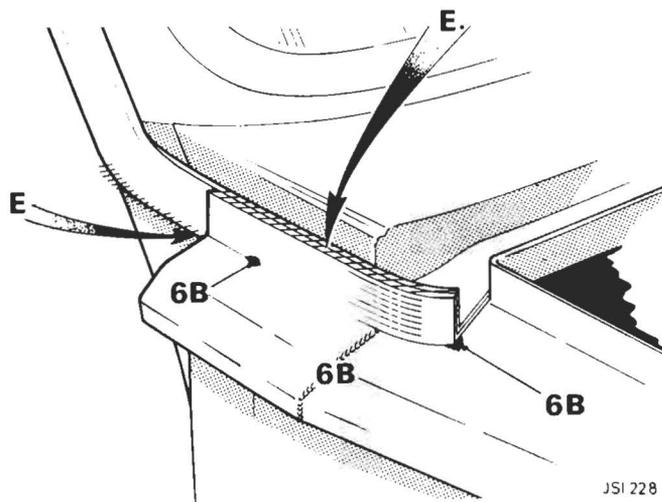
If a leak is still apparent, adopt the following course of action:

- A Remove the "A" post draught welt.
- B Remove trim from footwell at base of "A" post (BD 43251 – RH, BD 43252 – LH, BAC 9906 – RH VDP, BAC 9907 – LH VDP).
- C Examine interior of the box section whilst water is "poured" down drip rails.
- D Refer to Fig. 6A and 6B for possible leak areas, and rectify using one of the following methods:
 - i. Leakage from point 6A – remove front wheel arch stone guard and apply sealant "A", "B", or "C".
 - ii. Leakage from point 6B – remove front wing (Workshop Manual Operation 77-28-29) and apply sealant "A", "B", or "C".



7. Water ingress via seams at "A" post waist — XJ-S (Fig. 7)

Identification and rectification of water leaks in this area have been detailed in Service Bulletin JD 07/82 Item 53.

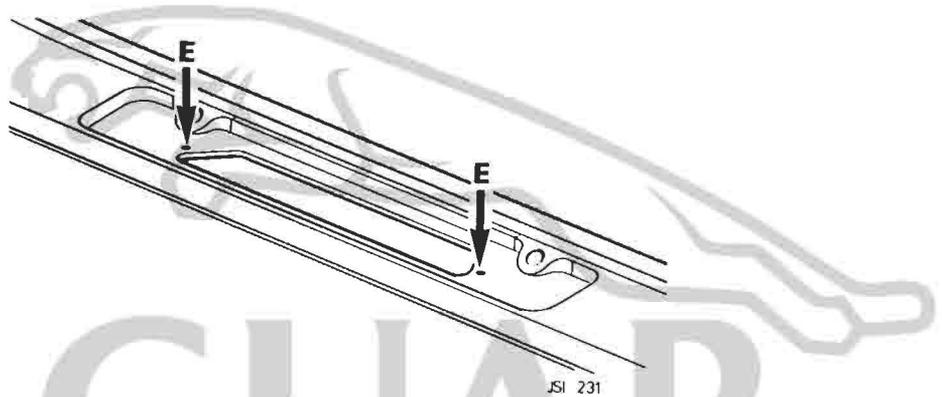


8. Water ingress via plenum grille mounting pin holes – Series III only (Fig. 8)

This may arise due to inadequate sealing around the two mounting pin holes, allowing water to enter the vehicle via the double skin.

Rectification

- A Remove plenum grille (Workshop Manual Operation 80-15-29).
- B Remove two plastic inserts BD 26989.
- C Apply sealant "E" by brush to seal around the holes.
- D Allow ten minutes to dry and reassemble.

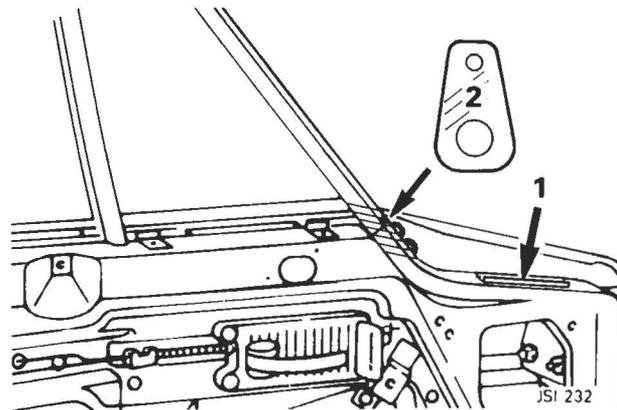


9. Water ingress and/or wind noise between door and "A" post at waist – XJ-S only (Fig. 9)

This may arise due to incompatible sealing surface between the window/door frame joint and the aperture seal, or distortion of the aperture seal by the door waist drain channel.

Rectification

- A Remove and discard the door drain channel and plug the three redundant holes in the door, and paint as necessary (1 Fig. 9).
- B Test the vehicle to establish if the fault has been rectified.
- C If the fault is still apparent, remove the peardrop seal (2 Fig. 9).
- D Apply a proprietary body filler to the joint, DRESS OFF WHEN HARD TO ENSURE A GOOD PROFILE, refit screw and paint as necessary. This action, if properly carried out, will eliminate water leaks in this area.

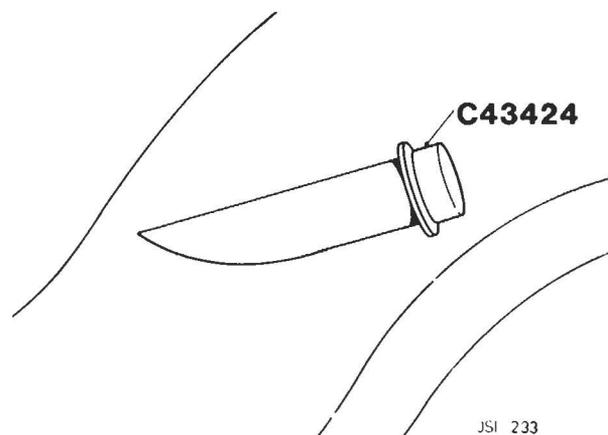


10. Water ingress via handbrake cable tube – XJ-S only (Fig. 10)

This complaint is caused by inadequate sealing of the cable exit, and/or blanking cap not being fitted. This area should be examined if water ingress is apparent in rear footwells only.

Rectification

- A Check the sealing cap of the tube from which the cable exits, and rectify any leaks.
- B Check the plug C43424 for security over the blanking hole and rectify as necessary to ensure complete sealing.



11. Water ingress via windscreens – Series III only (Fig. 11)

This complaint is caused by poor adhesion of Betaseal to screen and/or aperture.

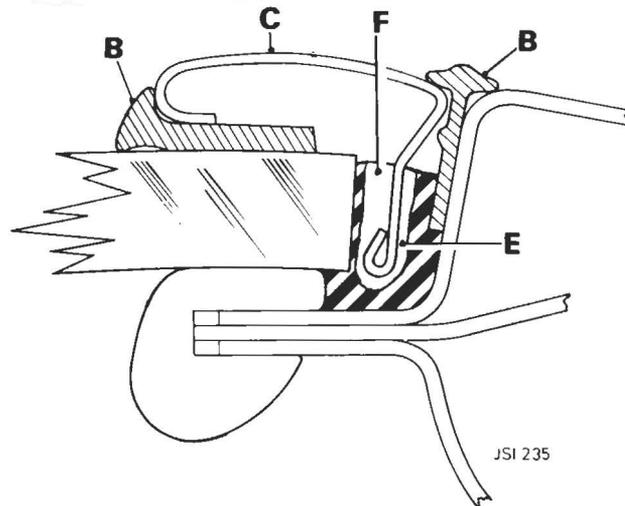
Rectification

Major repair of this fault is detailed in Service Bulletin JD 05/81 Item 35. However, local rectification of small leaks may be carried out using the following method:

- A Identify area of leakage
- B Remove inner and outer lace.
- C Remove the relevant bright finisher.
- D Carefully cut a section of Betaseal from the suspected leak area, prime and apply new Betaseal.

NOTE: PAINT DAMAGE BY SHARP IMPLEMENTS MUST BE AVOIDED AT ALL COSTS as any damage may only become apparent at a later date in the form of rust bleed.

- E A further section of Betaseal will have to be cut out to allow re-fitment of the bright finisher.
- F Apply new Betaseal. Refit finisher. Re-fit laces.



B – Laces
C – Finisher

12. Wind noise and/or water ingress via door seals above waist – Series III & XJ-S

This may be caused by:

- i. Collapsed or damaged door seal.
- ii. Incorrect profile match of door to aperture.

Rectification

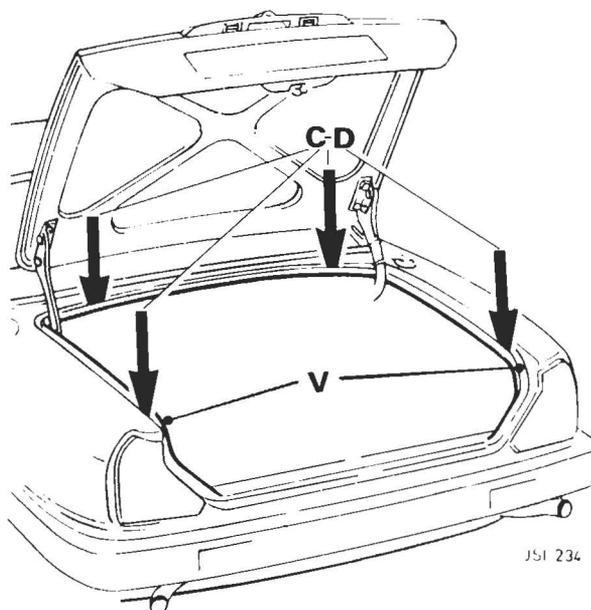
- A Replace any damaged seals.
- B Avoid reprofiling of doors by bending window frames; sluggish electric window operation may result.
- C Where possible adjust by moving door striker or hinges to obtain adequate sealing.

13. Water ingress into boot – Series III (Fig. 13)

This problem is caused by porosity in the channel seams or a badly fitted boot seal.

Rectification

- A Apply sealant "C" or "D" to all seams around the boot channels. Allow to dry and paint as necessary (Fig. 13).
- B If a leak is apparent between the seal and boot lid at point "V", this is due to overstretching the seal when fitting. The old seal should be discarded and a new seal fitted, taking care to avoid stretching on curves.



79 REFINISH PAINT COLOUR APPROVALS

ALL MODELS

Service have introduced a programme in which current O.E. paint suppliers are submitting samples of their approved refinish paints for comparison and re-validation with O.E. master colour panels.

Suppliers must demonstrate an ability to produce refinish paints which can provide the trade with a consistent colour match on repaired areas, when applied correctly using manufacturers data sheets.

The first of these revalidations has been completed, and Service approval confirmed on all of the Ault and Wiborg acrylic refinish colours listed in this bulletin.

Tudor White	BLVC 215
Black	373
Grosvenor Brown	298
Rhodium Silver	396
Cobalt Blue	286
Sapphire Blue	307
Racing Green	281
Coronet Gold	306
Claret	310
Silversand	280
Clarendon Blue	326
Cirrus Grey	320
Cranberry	316
Antelope	321
Sage	314
Regent Grey	315

The approved paint will be in ready mixed form, labelled "Jaguar Colour Matched" and bear a date coded batch number.

The Ault and Wiborg recommended thinner for use with this paint is Z 2404.

Samples of all subsequent batches will be tested to ensure colour consistency.

NOTE: Two other manufacturers also supply refinish paints for use on Jaguar T.P.A. vehicles, this Bulletin does not affect that approval, and Service anticipate giving full colour revalidation to these products upon completion of colour match tests.

ITEM 08

86 V12 H.E. DISTRIBUTOR VACUUM ADVANCE

XJ12 H.E./XJS H.E.
European Spec. only

Reports have been received on V12 H.E. engines of:

- (a) Poor idle
- (b) "Pinking" at low engine speeds

This is attributed to excessive ignition vacuum advance at idle, even though the vacuum advance system is within the specification as quoted in Bulletin JD.08/82, which on 'B' Emission engines is $21.5^{\circ} \pm 6.5^{\circ}$ before T.D.C. at 500 rpm.

It is known that if the ignition advance at idle exceeds 24° B.T.D.C. THERE IS A POSSIBILITY that engine performance MAY be affected.

Therefore, if an abnormal engine condition exists such as described above, and the ignition advance exceeds 24° B.T.D.C., the problem may be overcome by replacing the vacuum regulator EAC 4012 with vacuum regulator Part Number EAC 5157 (as fitted to 'A' Emission engines). This regulator has a brown coloured body and will reduce the vacuum advance at idle by 3° .

ITEM 09

86 ELECTRICAL AERIAL

SERIES III/XJS 'HE'

To improve electric aerial harness connections, and reduce the number of connections in the circuit, the short link harness between the aerial motor and timer relay has now been deleted from VIN's:

364848 – Saloon
112690 – XJS

Aerial motor leads are now fitted with Rists Slimlock Lucar Connectors, which enables direct coupling to the relay unit.

Should replacement of an aerial be required on vehicles prior to the above VIN's, the above modification MUST be implemented.

NOTE: On saloon models the link harness will require taping back to the main harness.
On XJS models, the link harness is separate and should be removed and discarded.

Aerial connections direct to the relay unit are as follows:—

Blue/white (UW) cable to relay terminal – 4
Blue/red (UR) cable to relay terminal – 5

Parts Division stock is to the latest condition, aerial part number is unchanged.

Service Bulletin

JAGUAR

Daimler

Date APRIL 1984
Sheet 1 of 3
Bulletin JD 04/84

00 AMENDMENT ITEM 26
LIMOUSINE

In Service Bulletin JD 01/84, Item 05 – Wheel Alignment, the fixed length given for the centre tie rod is incorrect.

The correct length is 0.4953m (19.5in.).

00 AMENDMENT ITEM 27
ALL MODELS

With reference to Service Bulletin JD 01/84 Item 07 – Paint Codes, Antelope Metallic BLVC number should read 322 not 321.

51 REAR DIFFERENTIAL NOISE ITEM 28
SERIES III XJ4.2

A revised differential incorporating a crown wheel with increased wall thickness is to be introduced. The thicker crown wheel has greater stability during the production heat treatment process, which will result in an improvement in axle noise levels.

NOTE: THE NEW CROWN WHEEL IS NOT INTERCHANGEABLE WITH THE PREVIOUS ONE, although it is planned to introduce this modification on other models it will be initially introduced on the 3.058:1 axle ratio.

Old Part No.
CAC 2391/P Non Powr Lok
CAC 2022/P Powr Lok

New Part No.
CAC 9040/P
CAC 9041/P

Additionally a batch of these axles will be fitted with Viton pinion shaft seals, and will be identified by the letter 'V' painted on the cover plate.

These revised axles will also be identified by a tag attached to the rear cover plate showing the new part numbers listed above. Parts availability and introduction numbers will be advised when further information is available.

Jaguar Cars Limited

76 DIRECT GLAZING

SERIES III

Following Service investigations into corrosion at the screen apertures on Series III, it has been established that corrosion can result from paint damage caused during previous rectification. As this problem may only become apparent sometime after a repair, Dealers may become involved with further expensive rectification. The actions and cautionary notes detailed in this Bulletin should reduce the risk of further repair.

Dealers are requested also to consider previous Bulletins JD 05/81 Item 035, and JD 01/84 Item 06.

CAUTIONS

1. It is not possible to COMPLETELY SEAL AGAINST RAINWATER SEEPAGE into the areas behind the inner lace BAC 4794, or the outer lace BAC 3643 under normal service conditions.
2. Any rectification which involves cutting out a section of old Betaseal to allow insertion of new sealant CAN result in some paint damage caused by a sharp cutting implement.
3. Rainwater seeping into the screen aperture in the event of paint film damage, will cause eventual corrosion.

ACTIONS – COMPLETE SCREEN REMOVAL

1. After screen removal a quantity of old sealant will still adhere to the screen flange. It will not be necessary to remove all old sealant, it can be levelled off to provide a key for new Betaseal.
2. Any paintwork damaged during screen removal MUST be rectified using the repair method recommended for ACRYLIC paint, i.e. etched, primed and colour coated. THIS OPERATION IS MOST IMPORTANT FOR THE PREVENTION OF FUTURE CORROSION.
NOTE: This instruction supersedes the body preparation method detailed in Bulletin JD 05/81. Repairers should instead refer to the data sheets which relate to repair of T.P.A. paint. These are provided by A & W, Inmont, and I.C.I.
3. Refit the screen using the method detailed in Service Bulletin JD 05/81 Item 035, taking care to avoid damage to the paint film.

LOCAL REPAIR

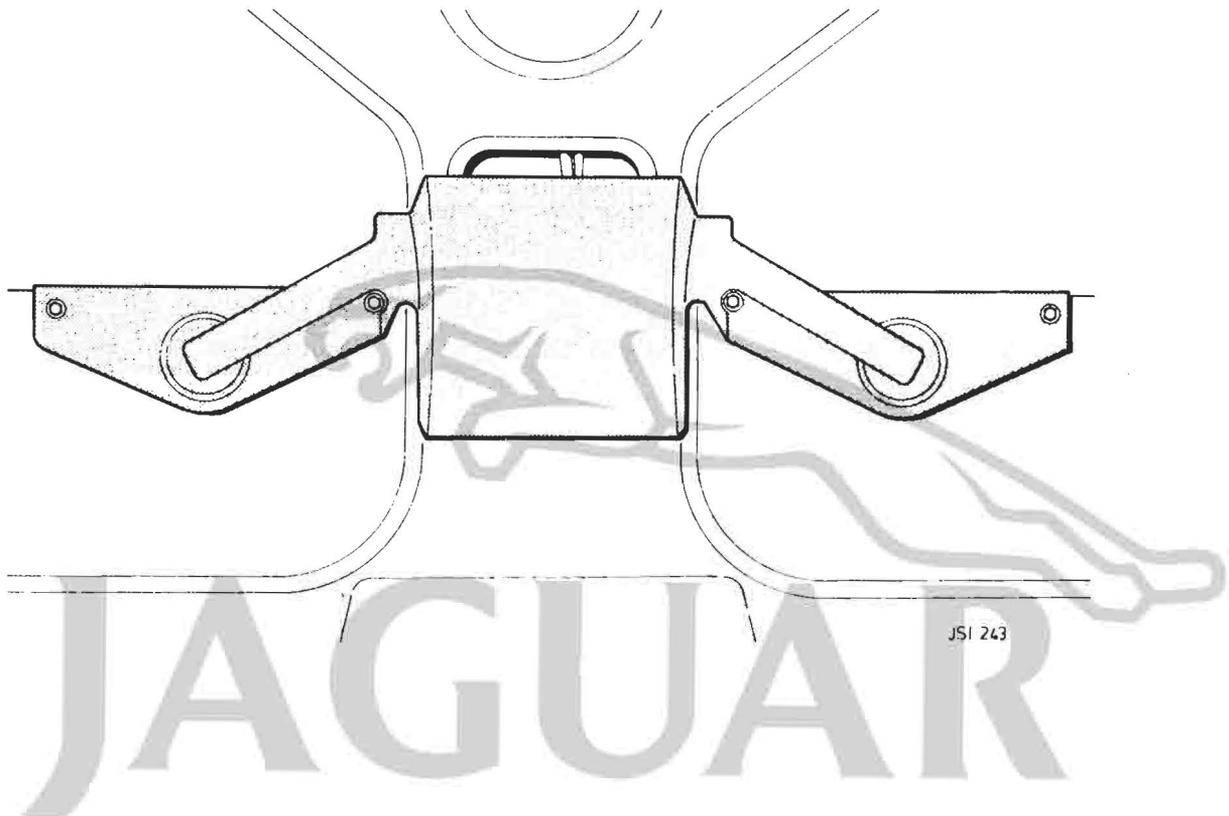
1. Remove inner and outer lace to allow the respective moulding to be extracted from leaking area.
2. Cut out sufficient old sealant to allow for new Betaseal at the point where the leak occurs, and to accommodate refitment of the moulding. AVOID PAINT DAMAGE.
3. Apply new Betaseal, refit moulding and laces.

ITEM 30

76 BOOT LOCK

XJS

To provide increased security against illegal entry into the boot, a plastic shield, DAC 1030, has been introduced on all XJS vehicles from VIN 114455. This shield completely encloses the lock linkage and prevents access to the lock assembly.



ITEM 31

76 MATCHING WOOD VENEER KITS

S.III & XJS

To overcome the problem of mismatch of replacement interior wood panels for warranty vehicles, full fascia kits comprising fascia panel, glove box lid, door cappings and console switch panel (trip computer/clock) are now available from Parts Division.

For kit part numbers and identification, Dealers should refer to Parts Technical Information Bulletin J5 Item 22, issued in March 1984.

Please note that this service is aimed primarily at warranty vehicles on an order as required basis.

80 WINDSCREEN MISTING

SERIES III (NON AIR CONDITIONED MODELS)

Investigations into screens misting on Series III Non Air Conditioned models, whilst the system is selected in positions other than defrost, have identified the cause to be insufficient air flow at the screen vent apertures. To overcome this problem, modified screen vent assemblies providing improved air flow distribution have been introduced at:

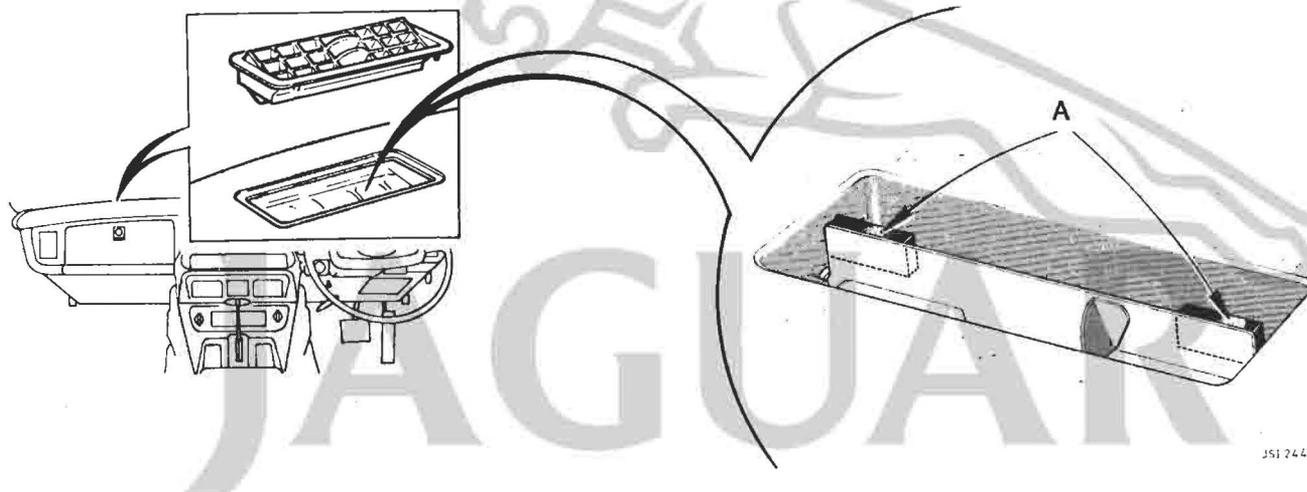
VIN 384900

Should Distributors/Dealers receive reports of this problem on vehicles prior to the above VIN, the following service fix may be implemented to improve the air flow rate.

MODIFICATION PROCEDURE

1. Carefully remove both screen vent aperture grilles from the facia crash roll.
2. Switch unit to defrost position to open screen vent flaps.
3. Use 4 off self adhesive rubber strips (not foam) to the dimensions detailed:

25mm long x 12mm wide x 6mm thick



ITEM 33

86 LIGHTING REQUIREMENTS

XJS 'HE' JAPAN ONLY 1984 M.Y.

To comply with Japanese Legislative requirements, 1984 Model Year XJS 'HE' Models are equipped with "Cibie" quartz halogen headlamps and directional indicator side repeater lamps. These replace the previous twin headlight arrangements and side marker lamps.

Introduction commenced at VIN: 112482.

ITEM 34

86 ALTERNATOR **SERIES III 4.2 EMISSION 'B' (EXCEPT UK & EUROPE)**
AIR CONDITIONED MODELS ONLY

From VIN 384153 Series III 4.2 Emission 'B' Air Conditioned Models (except UK/Europe) are now equipped with A 133-75 amp Alternators Part No. AEU 1929. Interchangeability is unaffected.

Introduction on UK/European Models is to follow, and will be announced in a future Service Bulletin.

ITEM 35

86 LUCAS MF3 BATTERY **SERIES III SALOONS (EXCEPT NORTH AMERICA)**

From VIN 385000 all saloon models (except North America) are equipped with the new Lucas Low Maintenance Battery known as the Lucas "MF3". Interchangeability with the previous A/C Delco 'Freedom' maintenance free battery is affected, the MF3 requiring a new battery clamp/retainer. Battery data and charging procedures appertaining to the Lucas MF3 are detailed in Service Bulletin JD 09/83 Item 62.

Introduction on XJS HE Models – Service Bulletin JD 09/83 Item 62 refers.

Introduction on Daimler Limousine – Service Bulletin JD 12/83 Item 78 refers.

ITEM 36

99 SERVICE TOOLS JD13A REAR HUB END FLOAT GAUGE **ALL MODELS**

V.L. Churchill Ltd. have announced the introduction of a modified rear hub end float gauge consisting of a pedestal and adaptor. This end float gauge will be supplied less clock gauge and will be number JD13B. The end float gauge may be used in conjunction with the clock gauge from SL.3 (18G 191) pinion setting gauge, or similar rear mounted clock gauge. Two separate clock gauges suitable for use with JD13B are also available if required, under Part No. SM991 or Part No. SM6494.

Service Bulletin

JAGUAR

Daimler

Date JULY 1984
Sheet 1 of 2
Bulletin JD 07/84

ITEM 54

26 COOLING SYSTEM

ALL MODELS

Instances have been reported of sludge contamination in the cooling system resulting in poor heater performance or overheating. Samples of this contaminant have been analysed and identified as a phosphate based substance probably caused by the use of non approved anti-freeze. Only anti-freeze recommended in the workshop manual (copy shown below) should be used for topping-up and re-fill purposes.

RECOMMENDED ANTI-FREEZE

BP Type HS25 Bluecol 'U' Union Carbide UT 184 or Unipart Universal, if these are not available, phosphate free anti-freeze conforming to specification BS 3150 or 3152 may be used.

Concentration — UK and RHD export markets only 40% sp gr 1.065.

In North America use Jaguar Part No. ZVW 244101.

All other markets 55% sp gr 1.074.

In territories where anti-freeze is unnecessary the cooling system must be filled with a solution of Marston Corrosion Inhibitor Concentrate SQ36.

Always top-up the cooling system with recommended strength of anti-freeze or corrosion inhibitor, NEVER with water only.

N.B. When investigating overheating problems on vehicles fitted with air conditioning, a check should be made to ensure that there is no road debris trapped between the radiator and the condenser.

ITEM 55

37 MANUAL GEARBOX

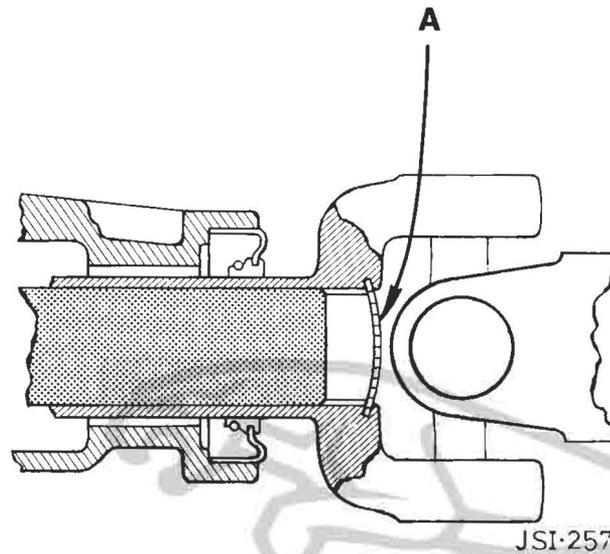
SERIES III XJ6

Several reports have been received of 77mm 5-speed gearboxes "jumping out of gear". Sample gearboxes returned for investigation have been tested and found to be functioning correctly. It is known that if the transmission tunnel cover plate or gear lever gaiter are incorrectly fitted, the gear lever movement can be restricted to prevent the gears engaging fully. If any manual XJ6 vehicles are encountered which are jumping out of gear or suffering difficult gear engagement, then the centre console should be removed to check that the gear lever movement is not restricted by either the gaiter or the cover plate before the transmission is removed.

47 PROPSHAFT

XJ-S 3.6/XJ-SC 3.6

When fitting the propshaft into the Getrag manual gearbox, care must be taken not to disturb the oil sealing plug (A) by pushing the propshaft too far into the gearbox (see diagram). The only stop, when sliding the propshaft into the gearbox, is the sealing plug at the bottom of the propshaft reverse spline and if any force is used the plug can be disturbed and allow oil to leak out from the gearbox.



ITEM 57

60/64 FRONT/REAR SHOCK ABSORBERS

SERIES III XJS

The supply of front and rear shock absorbers has been changed from Girling to Boge.

Front and rear Boge shock absorbers were introduced on Series III saloons at VIN: 391800.

At present on XJS models only, front Boge units have been introduced and Girling rear units are still fitted.

A further bulletin will be issued advising the introduction of rear Boge units on XJS models.

Boge shock absorbers can be identified by an all black paint finish which replaces the dark blue/grey finish used by Girling, and are fully interchangeable with the Girling unit.

ITEM 58

70 FRONT BRAKE DISC PROTECTION

XJS/S.III

Difficulties have been encountered in production concerning the fitment of brake disc protection covers and anti-rust paper. This has resulted in the fitment being suspended from the following VIN's:

388191 — Series III
116764 — XJS

When the protection covers and anti-rust paper are re-introduced, the introduction points will be advised in a future Service Bulletin.

ITEM 59

76 ELECTRIC DOOR MIRROR

S.III/XJS HE

To improve the reliability of the electrical door mirror assembly, mirrors are now equipped with a new 'Kienzle' motor unit.

Units to the latest condition being progressively introduced at VIN's:

390466 — Series III
117350 — XJS HE

ITEM 60

82 BLOWER FAN ASSEMBLIES

S.III/XJS HE (AIR CON. MODELS ONLY)

To overcome noise/vibration problems experienced with the current blower fan units, new fan assemblies incorporating 'Smiths' Motors have been re-introduced on air conditioned models only from VIN's:

382821 — Saloon
115478 — XJS

For normal service replacement purposes the new 'Smiths' Motor will be supplied complete with a balanced fan assembly, mounting bracket and link harness, Part No's:

JLM 232 — RH
JLM 233 — LH

This kit may be used to service all previous fan assemblies incorporating either 'Smiths' or 'Delanair' type motors.

Should replacement of **complete** blower assemblies be required, units to the latest condition are available under Part No's:

CAC 8710 — RH
CAC 8711 — LH

Service Bulletin



Date AUGUST 1984
Sheet 1 of 6
Bulletin JD 08/84

ITEM 61

10 VEHICLE MAINTENANCE SHEETS

SERIES III/XJS

In the new edition of the above, (part numbers listed below), item 65 "Change coolant ensuring the correct grade of antifreeze concentration" is shown as a 24,000 km (15,000 miles) requirement, this is incorrect and as there is no change to policy, the figure of 48,000 km (30,000 miles) should be added against this operation.

In the next print the mileage intervals will be added and corrections made.

The part numbers of the sheets are as follows:—

AKM 9116	English
AKM 9110	French
AKM 9109	German
AKM 9111	Italian
AKM 9112	Spanish
AKM 9118	Dutch

ITEM 62

12 OIL FILTER HOUSING GASKET

ALL MODELS

A new oil filter housing gasket has been introduced to overcome the possibility of oil loss at the housing face.

The new gasket was introduced at the following engine numbers:

8S 28087	XJS
7P 49704	XJ12
8L 157225	4.2
8A 15012	3.4
7M 4858	Limo

The part numbers of the new gasket are:

EAC 6336	4.2 & 3.4
EAC 6337	XJS & XJ12
EAC 6338	Limo

12 OIL FILTER HEAD

XJ6 3.4/4.2

Since the introduction of the engine oil cooler on XJ6 saloons, the oil filter head used on pre-oil cooler engines, Part No. EAC 1669, is no longer available.

Should it be necessary to replace an oil filter head, EAC 1669, which was used up to engine numbers:—

8L 102220	4.2
8A 11903	3.4

Then the following parts should be used:—

Oil filter head	EAC 3144
Gasket	EAC 2429
Camshaft feed pipe	EAC 2430
Bolt	BH 605161 (4)

It will be necessary to relocate the oil pressure transmitter to:—

4.2 litre models: The position occupied by the first gallery plug to the rear of the oil filter head.

3.4 litre models: The position occupied by the anti-run-on valve switch (to the rear of the oil filter head).

Using the following items:—

Banjo bolt	C.44282
Copper washer	C.2296/3 (2)
Adaptor block	C.44281
Cam feed pipe adaptor	C.37218
Plug	C.43638 (4.2 only)

ITEM 64

12 METRIC CYLINDER HEADS

V12 ENGINES

As part of a rationalisation programme, all V12 engines are fitted with metricated cylinder heads. These were introduced at engine numbers:

7P 47587	V12 HE Saloon
8S 24175	XJS HE

This was announced in Parts Technical Information J20 Item 39 dated September 1983.

To clarify queries received by Service, the following information is issued:

Bare replacement V12 engines with metric cylinder heads can be used to replace engines with imperial cylinder heads providing the following parts are used:

Part No.	Description	Application
NH108041	Nut (24)	securing Inlet Manifold
EAC 5277	Nut (24)	securing Exhaust Manifold
AGU 1152	W/F Bolt (8)	securing Water Pipes
AGU 1153	W/F Bolt (8)	securing Lifting Eyes
AGU 1167	W/F Setscrew (2)	securing Crankcase Breather
AGU 1168	W/F Setscrew (2)	securing Cylinder Head Blanking Plates
AGU 1167	W/F Setscrew (2)	Air Pump Adjustment (USA Engines)

Should it be necessary to replace a cylinder head either left or right hand then a metric cylinder head will require the following additional parts:

Part No.	Description	Application
NH108041	Nut (12)	securing Inlet Manifold
EAC 5277	Nut (12)	securing Exhaust Manifold
AGU 1152	W/F Bolt (4)	securing Water Pipes
AGU 1153	W/F Bolt (4)	securing Lifting Eyes
AGU 1168	W/F Setscrew (4)	securing Cylinder Head Blanking Plates
AGU 1167	W/F Setscrew (2)	Air Pump Adjustment (USA)/securing Crankcase Breather

ITEM 65

SERIES III XJ6 4.2L

ALL MARKETS EXCEPT NORTH AMERICA, AUSTRALIA, CANADA, JAPAN, SWEDEN, SWITZERLAND

12 ENGINE STALL

Reports have been received of engine stall/idle dip on the above model, particularly when manoeuvring at low speed.

To overcome this complaint, a modification incorporating a supplementary air valve has been devised. This air valve will enable air to by-pass the auxiliary air valve, thus supplying extra air to compensate for the reduction in idle speed when the air conditioning compressor clutch engages or drive is selected.

Vehicles suffering from the above complaint may be modified as follows:

IDLE DIP/ANTI STALL SERVICE FIX

PARTS REQUIRED (supplied in kit JLM 325/K):

Description	Part Number
Supplementary air valve	EAC 6534 D
Mounting bracket	EAC 6502 D
Screw (2 off)	DAZ 810/8C D
U nut (2 off)	AK 610021 D
1 metre length of 8.7mm hose	CAC 5868 D
Relay	DAC 1028 D
Relay	DAC 1027 D
Bracket	DAC 3124 D
T piece	EAC 6433 D
T piece	EAC 6804 D
Clip (4 off)	EAC 3215/6 D
Clip (4 off)	EAC 3215/2 D
Screw (2 off)	AB 610041 D
Lucar with retaining tongue	JLM 310 D

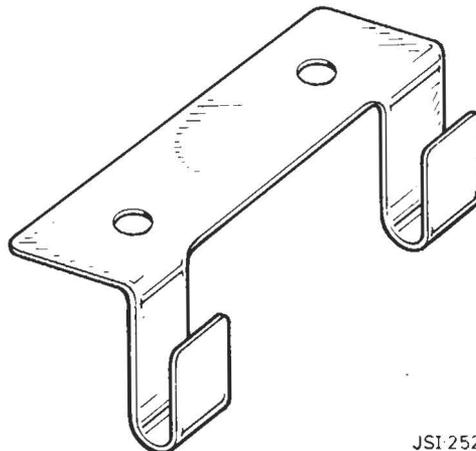
THE FOLLOWING ADDITIONAL ITEMS WILL BE REQUIRED:

Description	Part No.
11 off lucar connectors	GHF 2051
11 off lucar insulation sleeves	GHF 2151
1 off male lucar connector	GHF 2060
1 off insulator sleeve	GHF 2153
2 off snap connectors	GHF 2210
3 off bullet connector	GHF 2200
1 off ring connector	GHF 2431
1 off lucar "piggy back" connector	GHF 2420

When ordering the above connectors, please note they are supplied in packs of 100, 200, 250 or 500 depending on the component.

FITTING PROCEDURE

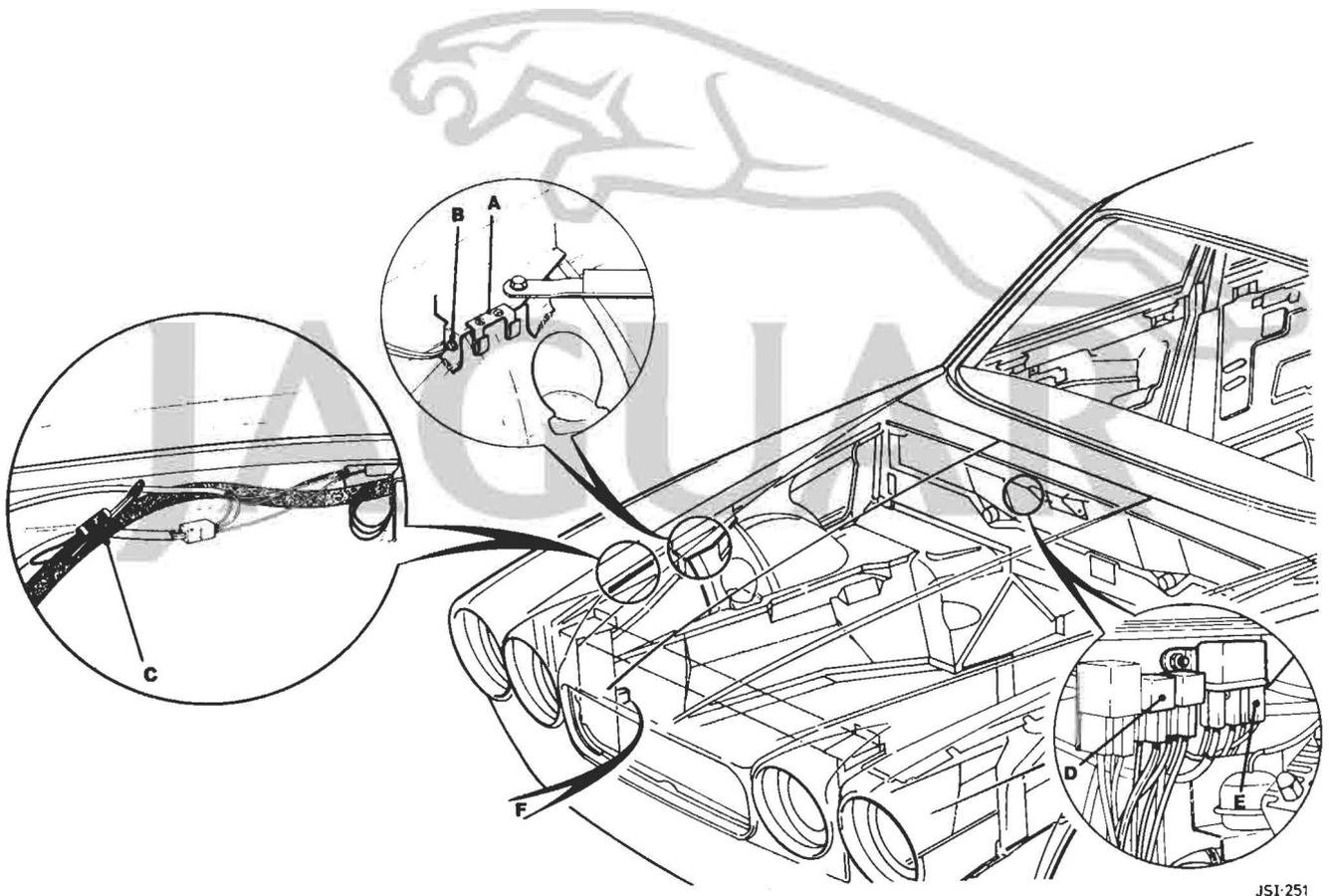
1. Position relay mounting bracket (DAC 3124 D) in a vice with the legs protruding through the jaws. Bend legs back to an angle of 90 degrees (see Fig. 1).



JSI 252

FIG. 1

2. Disconnect battery and remove air cleaner.
3. Position the bracket as shown in Fig. 2(A) and mark the position of the holes. Drill two 3mm (0.125in) diameter holes and secure the bracket using screws AB 610041 D.
4. Raise front of vehicle and place on axle stands or position vehicle on a ramp.
5. Remove the auxiliary air valve from the engine with both hoses still attached.
6. Remove 15mm (0.625in) length of hose from the centre of the valve to air distribution block hose and fit T piece EAC 6804 D (with restriction in small diameter pipe). Use hose clips EAC 3215/6 D but do not tighten clips at this stage.



JS1-251

FIG. 2

7. Fit T piece EAC 6433 D into the valve to manifold hole using the same procedure.
8. Reposition auxiliary air valve on engine and refit hoses without securing the clips.

9. Set T pieces to the required positions and remove auxiliary air valve together with hoses and T pieces. Tighten hose clips to secure T pieces in desired position.

Note: T piece EAC 6804 D should face horizontally forwards, and T piece EAC 6433 D should face downwards (for access) when fitted (see Fig. 4).
10. Refit auxiliary air valve and secure hoses to manifold and air distribution block.
11. Secure supplementary air valve EAC 6534 D to the coil fixing screw using bracket EAC 6502 D, screws DAZ 810/8C D, and U nuts AK 610021 D, ensuring the direction arrow on the body faces towards the rear of the engine.
12. Cut a 485mm (19.00in) length and a 380mm (15.00in) length from hose CAC 5868 D.
13. Connect the long length (A Fig. 4) to T piece EAC 6433 D under the inlet manifold, and feed hose through manifold to connect to the supplementary air valve outlet stub (see Fig. 4). Secure using hose clips EAC 3215/2 D.
14. Connect the short length of hose (B Fig. 4) between the T piece (EAC 6804 D) and the supplementary air valve inlet stub. Secure with clips EAC 3215/2 D.
15. Using 14/0.30mm (14/0.012in) gauge cable, manufacture and assemble harness and attach to relays as shown in Fig. 3. The cable lengths are shown below:

CABLE	COLOUR	LENGTH	FROM	TO
BLACK RELAY X –	A	Black (B)	305mm (12'')	30/51 Supplementary air valve
	B	Green/brown (GN)	405mm (16'')	86 Compressor feed (C Fig. 2)
	C	Black (B)	100mm (4'')	30/51 87A red relay (Z)
	D	Black (B)	100mm (4'')	87 85
	E	Black (B)	100mm (4'')	85 30/51 red relay (Z)
RED RELAY Z –	F	Black (B)	150mm (6'')	30/51 Ring eyelet
	G	White (W)	1575mm (62'')	85 Main relay ignition feed
	H	Green/red (GR)	1575mm (62'')	87 Starter relay inhibit connection (E Fig. 2)
	J	Green/black (GB)	1575mm (62'')	86 86
K	Green (G)	915mm (36'')	Horn relay ignition feed	Supplementary air valve

Use lucar connectors GHF 2051 and sleeves GHF 2151 at relay connections and at connections 4 and 7 (Fig. 3), bullet connectors GHF 2000 and snap connectors GHF 2210 at connections 1, 2 and 6 (Fig. 3), and use male lucar GHF 2060 and sleeve GHF 2153 at connection 5 (Fig. 3). Leave the white cable bare at 3 (Fig. 3). Tape cables G, H and J together from the relay to 75mm (3in) from connections 4 and 5.

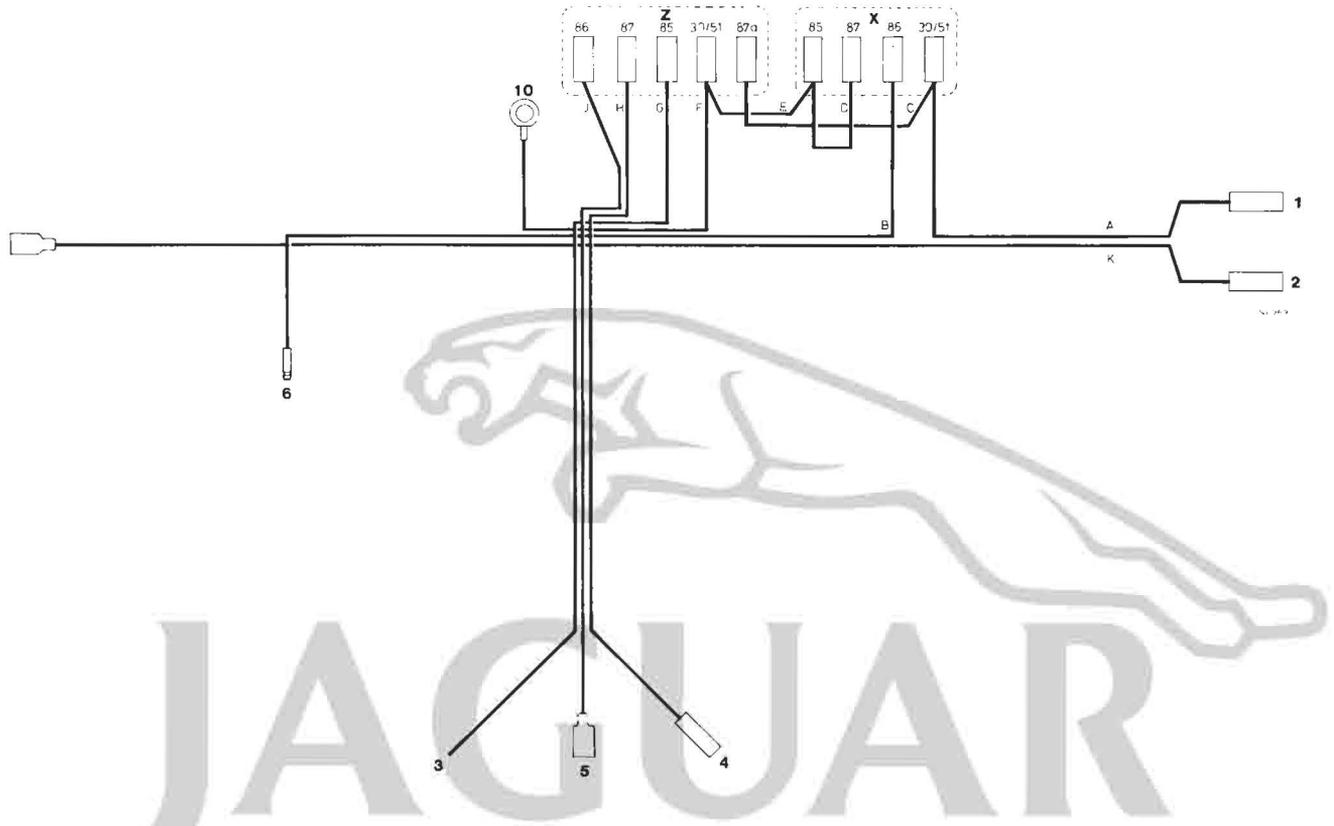


FIG. 3

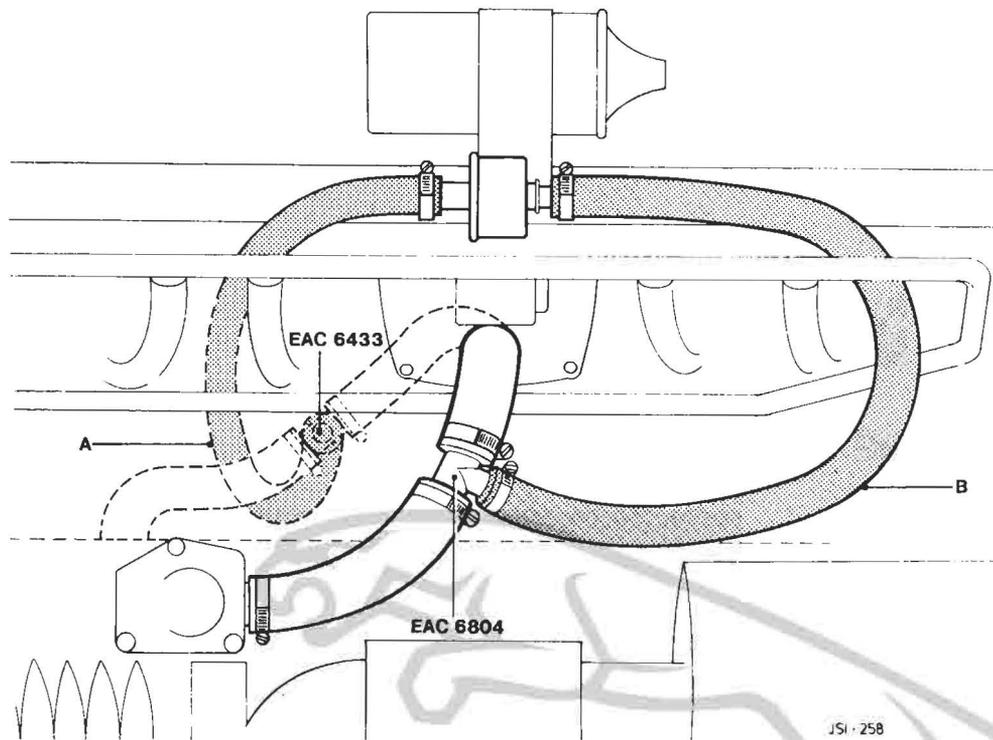


FIG. 4

Attach relays to mounting bracket and connect harness as follows (refer to Fig. 3):

TERMINAL
CONNECTION

- 1 & 2 Connect to supplementary air valve.
- 3 Remove connector block from main relay (D Fig. 2) situated on the bulk-head and using a suitable implement (e.g. a small electrical screwdriver), displace the white (W) cable lucar connector. Cut lucar off and discard, join cable to white cable of new harness (3 Fig. 3), attach lucar with retaining tang (Part No. JLM 310), and solder joint. Locate lucar in connector block and refit to main relay. Ensure that lucar retaining tang has locked.

TERMINAL
CONNECTION

- 4 & 5 Remove black/green (BG) cable from the starter relay (E Fig. 2), and attach green/red (GR 4 Fig. 3) to relay. Connect displaced black/green (GB) to green/black (GB) of new harness (5 Fig. 3).
- 6 Connect green/brown (GN) (6 Fig. 3) to green/brown (GN) compressor feed situated on the inner wing panel adjacent to the line splice (C Fig. 2).
- 7 Disconnect green (G) ignition feed from horn relay (F Fig. 2) and attach to piggy back connector (GHF 2420). Connect green cable (7 Fig. 3) to piggy back and refit to horn relay.
- 10 Attach ring eyelet to earth point (B Fig. 2).

Secure all cables to existing harness using cable ties (recommended Unipart No. C 25969).

Reconnect battery and check operation.

Labour allowance 1.80 hours
Complaint Code 2N4U

ITEM 66

60/64. SHOCK ABSORBER SAFETY

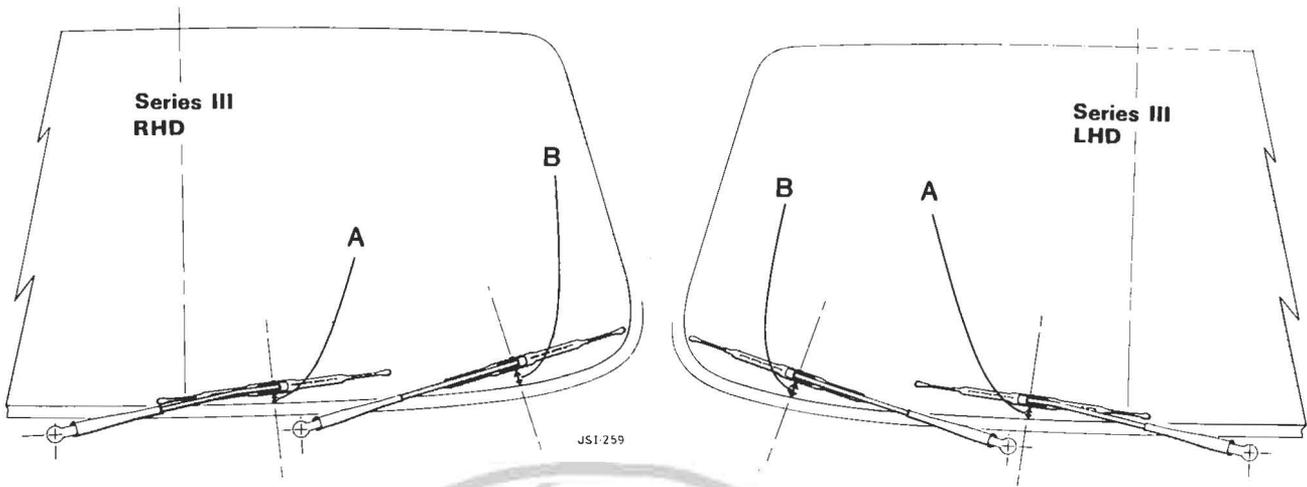
ALL MODELS

Safety demands, and in certain countries it is a legal requirement, that used shock absorbers must have the gas and oil discharged before final disposal.

It is therefore advisable to complete the following procedure on the disposal of gas filled shock absorbers. The procedure allows the shock absorber to be depressurised and the oil to be disposed of in a proper and orderly manner.

1. Mark out and centre punch 2 hole positions as illustrated. If access cannot be gained to mark out the upper hole position on the shock absorber, it will be necessary to cut and remove the upper shroud from the piston rod.
2. Mount the shock absorber vertically in a vice and secure with the lower mounting point uppermost.
3. Carefully drill a 5mm hole at the position marked **A**, nearest to the lower mounting point and allow all gas to escape. Goggles must be worn during the drilling of the shock absorber.
4. Drill a 5mm hole at the second position, **B**, and remove the shock absorber from the vice to allow the oil to drain. This process can be speeded up by carefully working the shock absorber to expel the oil.

* See amendment



76 WINDSCREEN WIPER ARM/BLADES

ITEM 67

SERIES III

Following the introduction of Trico Series '10' wiper arms/blades, reference Service Bulletin JD 06/83 Item 44, and in particular the dimensions detailed regarding the wiper arm/blade setting procedure, further problems have been encountered with blade judder through the possibility of the drivers side blade fouling the screen finisher, resulting in the setting procedure being revised.

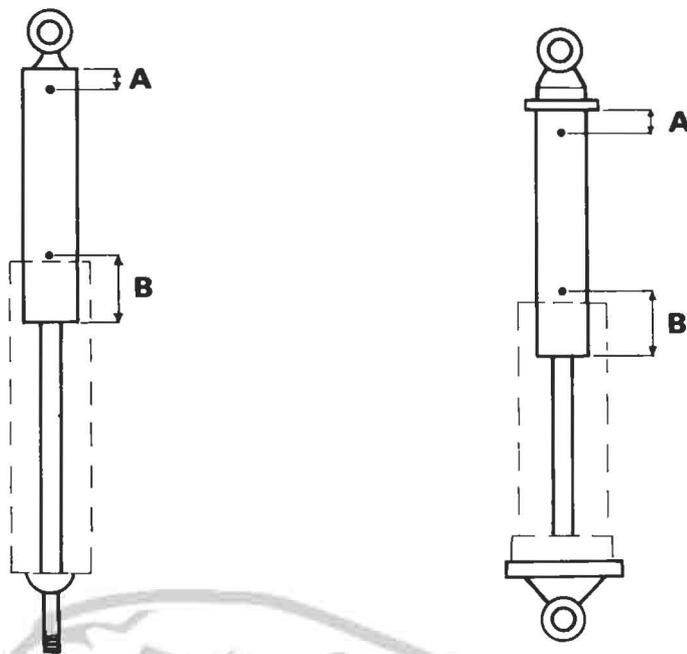
Arms/blades adjusted to the latest condition commenced at VIN: 390343.

To ensure that windscreen wipers perform correctly, it is important that the new type arms/blades are fitted and positioned in accordance with the revised dimensions, see inset A.

These revised dimensions only apply to vehicles fitted with Trico Series '10' assemblies introduced at VIN 365950 (Saloon).

Will Distributors/Dealers please note that all reference to Series III setting procedures for Trico Series '10' blades detailed in JD 06/83 Item 44, should now be disregarded, however XJS setting procedures still apply.

* See amendment



JSI.268

A = 41.0mm (1.5/8in)

B = 79.0mm (3.1/8in)

ITEM 68

* See amendment

86 ERRATA
SPARK PLUG TORQUE WRENCH SETTING

AJ6 ENGINES

The torque wrench setting figure for the spark plugs quoted on page 12-40 of the XJ-S 3.6 and XJ-SC 3.6 Service Manual is incorrect and should be 2,35 to 2,90 kgf m (17 to 19 lbf ft) Please ensure that this important information is passed on to relevant staff.

ITEM 69

86 CRUISE CONTROL

XJS HE

To prevent damage occurring to the cruise control electronic control unit (ECU) circuitry, through the possibility of other vehicle components earthing through this system, the earth cable from the ECU has been removed from the vehicle common earth point, to provide a single separate earth connection situated on the left hand side of the transmission tunnel. This modification was incorporated from the following vehicle introduction points:

XJS HE (RHD) VIN 116772

XJS HE (LHD) VIN 117970

Introduction on Series III Models will be advised in a future Service Bulletin.

86 HARNESSES

SERIES III 5.3 HE/XJS HE

Distributor/Dealers have experienced difficulty in identifying part numbers of certain harnesses fitted to the 12 cylinder 'HE' engine.

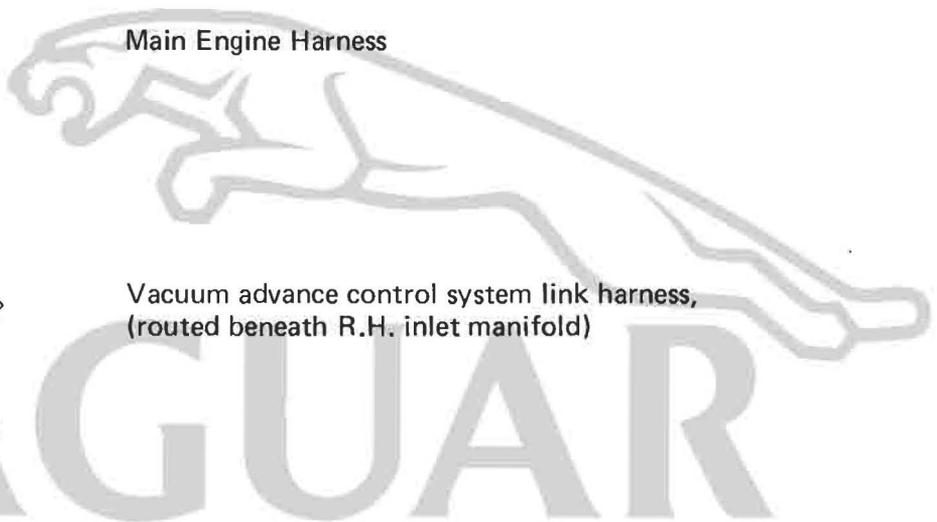
The following list details by part number and application those harnesses in question.

Part Number	Description
DAC 2691	Main coil to auxiliary coil link harness
DAC 3247	Distributor to ignition amplifier link harness
DAC 2391	Injector harness (with cold start injectors fitted)
DAC 3718	Injector harness (without cold start injectors)

DAC 2690
SALOON
DAC 2689
XJS 'HE'

DAC 2654
SALOON-XJS
N. America/
Canada/Japan

DAC 2712
SALOON-XJS
All other
markets



Service Bulletin

JAGUAR

Daimler

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ITEM 78

19 CARBURETTER FLOODING

XJ6 3.4 MODELS

Investigations have been carried out into reports of carburetter flooding on 3.4 litre engined vehicles when the vehicle is stationary. This often results in fuel discharge from either the anti-run on valve or the main carburetters and consequently poor hot starting.

The cause of this problem has been identified as expansion of the petrol in the fuel lines during heat soak conditions, although not all vehicles are affected. The following Service Fix has been developed to overcome this problem by recirculating excess fuel to the right hand fuel tank when the engine is stationary and the fuel pressure in the fuel line exceeds 4 p.s.i.

IMPORTANT: Before this modification is carried out it must be established that any poor hot starting problem is not associated with the A.E.D. unit by:

- (i) Run the engine until normal operating temperature is reached.
- (ii) Disconnect the A.E.D. unit and blank off the inlet to the engine.
- (iii) Run the engine until normal operating temperature is reached and leave standing for 30 minutes with the bonnet closed to obtain a heat soak condition.
- (iv) If, after heat soak, flooding is evident from the anti-run on valve or the main carburetters OR difficulty in starting is experienced and open throttle is required to clear the engine, then proceed and fit the kit as detailed.
- (v) If no flooding is evident and the vehicle starts "cleanly" then the fault lies with the A.E.D.

The parts required are on the following list and are identified on Figs. 1 & 2. All the items are available in kit part number JLM319K with the exception of item U (the underfloor fuel pipe) part number CAC 7871 which must be ordered separately.

Description	Part Number	
A) 'T' piece	CAC 9415	
B) Clip	EAC 3215/2	(16 per kit)
C) Hose 1.625in. long	CAC 5868	Cut from hose length
D) 4 psi relief valve	CAC 9416	
E) Rubber elbow	CAC 4040	
F) Pillar nut	C 35972	
G) Setscrew	UFS 131/5	
H) Plain washer	FW 105/T	
J) Spring washer	FG 105/X	
K) 'P' clip	C 1040/20	
L) Pipe – fuel return	CAC 9369	
M) Hose	CAC 5867/1	
N) Clip	EAC 1584	(4 per kit)
P) Pipe	EAC 5811	
R) Clip	C 43742	
S) Taptite screw	C 35093/1	
T) Hose	CAC 5868/7	
U) Pipe	CAC 7871	Not included in kit
V) 'P' clip	C 1040/9	
W) Screw	AB 610041	
X) Pipe clip	CAC 2486	
Y) Screw	AB 610031	
Z) Spacer	C 38887	
AA) Screw	AR 608061	
BB) Pipe clip	C 44781	(6 per kit)
CC) Pop rivet	RU 610183	(5 per kit)
DD) Pipe-overaxle	CAC 9370	
EE) Hose – 18.5in. long	CAC 5868	Cut from length
FF) Pipe	CAC 9371	
GG) Hose – 4in. long	CAC 5868	Cut from length
HH) 'T' piece	CAC 9372	
JJ) Grommet	C 29302	
KK) Cable strap	C 45099	
LL) Hose – 23in. long	CAC 5868	Cut from length – Air con models
MM) Clip	C 18410	Air con models

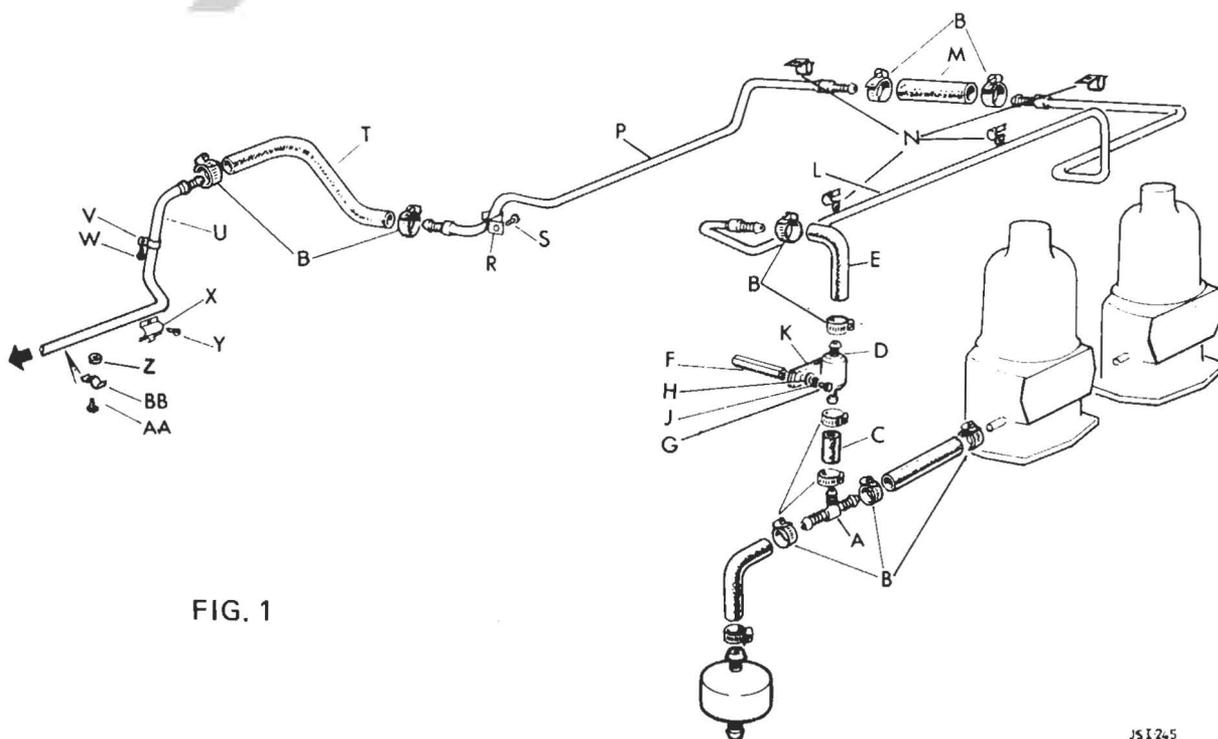
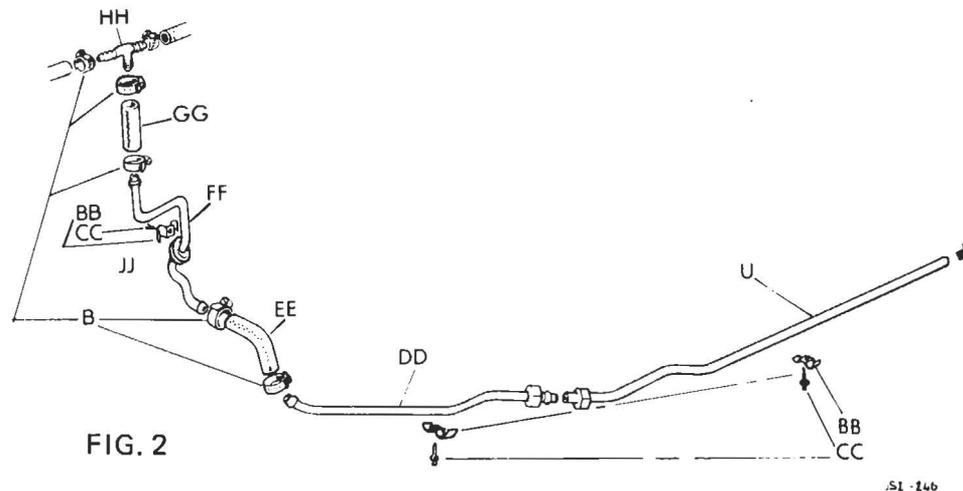


FIG. 1

JS1245



Hoses C, EE, GG and for air-conditioned models LL should be made from the hose length supplied in the kit, being cut to length using a very sharp knife, using water to lubricate to ease cutting.

The following method relates entirely to NON AIR-CONDITIONED vehicles. For air-conditioned vehicles refer first to the instructions at the end of this text.

METHOD

NOTE: All hose connections are to be secured using hose clip (B) EAC 3215/2 to be secured to a torque figure of 17-21 lbf.in. (0,20-0,23 kgf.m.).

1. Remove the air filter cover and element.
2. Remove the fuel filter mounting bracket and securing clamp and discard, retaining the spring washer.
3. Disconnect the fuel feed hose at the mounting bracket on the front carburettor and remove the fuel feed elbow and reducer pipe from between the fuel feed hose and the fuel filter.
4. Loosen the hose clip securing the rubber elbow to the rear carburettor and turn the fuel filter 180 degrees re-tightening the securing clip taking precautions to contain any fuel spillage from the fuel filter.
5. Re-route the fuel feed hose under the carburettors (in an 'S' shape) and re-connect to the fuel filter using cable straps (KK) to secure the hose to itself.
6. Assemble parts A, C, D and E (ensure that the relief valve D is fitted to allow fuel to flow bottom to top). Hose (E) must be shortened by 38mm (1.5in.) on the long side.
7. Cut the hose, fuel filter to rear carburettor 50mm (2in.) from the carburettor end and insert assembly A, C, D, E.
8. Fit pillar nut (F) to the uppermost front throttle bracket stud.
9. Secure relief valve (D) to pillar nut (F) with clip (K) using (G, H & J) to secure.
10. Fit clips (N) to the upper rear fixing nut on both carburettors and both front cylinder head to timing cover nuts underneath the existing harness clips, ensuring the open side of all four clips face towards the fixing nuts.

11. Remove:
 - (i) Distributor cap.
 - (ii) H.T. leads.
 - (iii) Engine breather hoses from the carburetters.
 - (iv) Disconnect the A.E.D. unit at the outlet pipe to the inlet manifold.
12. Fit hose (M) to pipe (L) and fit the pipe to the engine using clips (N) to secure. NOTE: The pipe (M) runs between the by-pass hose and the engine. Ensure that the rear fir tree connection on pipe (M) is in line with relief valve (D).
13. Fit hose (E) to pipe (L).
14. Refit the parts moved in 11.
15. Secure clip (R) with taptite screw (S) to the nearside engine mounting bracket, utilising the existing hole in the mounting bracket.
16. Fit pipe (P) into hose (M) using clips (N & R) to secure.
17. Raise the front of the vehicle using a hydraulic jack and support the vehicle on body stands.
18. Attach underfloor return pipe (U). This pipe is a standard 4.2 fuel return pipe and is fitted to the vehicle in the same position as 4.2 vehicles using:
 - (i) 'P' clip (V) and screw (W).
 - (ii) Clip (X) and screw (Y).
 - (iii) Spacer (Z), screw (AA) and clip (BB).
 - (iv) Clip (BB) and rivet (CC).
19. Lower the front of the vehicle and raise the rear of the vehicle. Support on body stands and remove the nearside rear wheel.
20. Attach hose (T) to pipes (U & P).
21. Attach hose (EE) to pipe (DD) and feed the hose between the axle cage and the body so that it protrudes into the nearside wheel arch aperture just below the rear axle cage mounting point.
22. Remove the nearside boot trim panel. Ensure that the wiring harness is clear of the body.
23. Using a 22mm (0.875in.) hole saw make a hole in the body 100mm (4in.) forward of the vapour pipe. See Fig. 3 dimension 'A'.

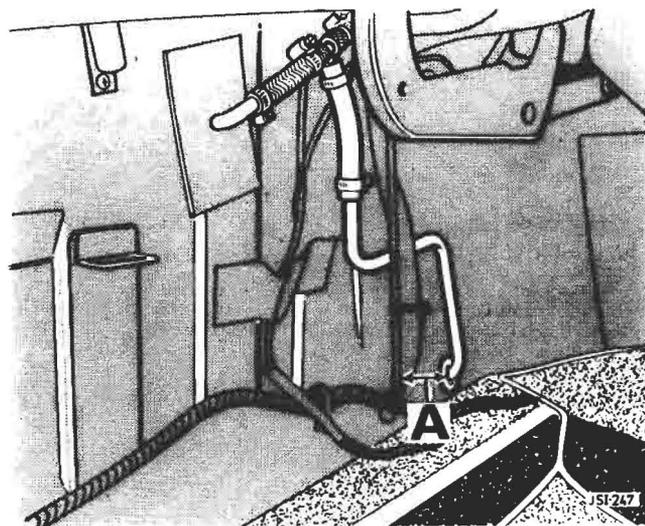


FIG. 3

24. Feed pipe (FF) through the hole in the body from the outside, so that it is routed behind the vapour pipe.
See Fig. 3.
25. Feed the rubber grommet (JJ) on to the pipe (FF) and fit into the hole in the body.
26. Connect pipe (FF) to hose (EE).
27. Connect pipe (DD) to pipe (U) and secure pipe (DD) to the body 200mm (8in.) from the connection with pipe (U) using clip (BB) and rivet (CC).
28. Fit hose (GG) to 'T' piece (HH).
29. Cut through the fuel tank vent hose 90mm (3.5in.) from the fuel tank end insert 'T' piece (HH).
30. Connect hose (GG) to pipe (FF).
31. Fix pipe (FF) to the body using clip (BB) and pop rivet (CC) 50mm (2in.) above the axle cage.
See Fig. 4 dimension 'A'.

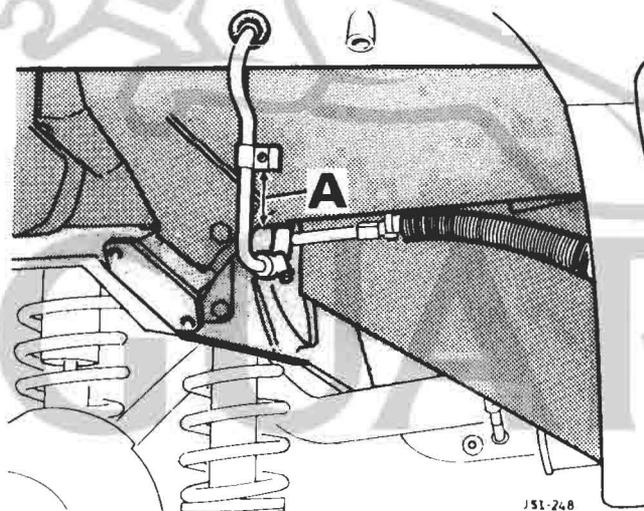


FIG. 4

32. Seal both sides of grommet (JJ) with underseal.
33. Ensure ALL hose connections are tight.
34. Replace the rear wheel and remove the vehicle from the body stands.
35. Run the engine until normal operating temperature is reached. Switch off the engine and leave standing for 30 minutes with the bonnet closed to obtain a heat soak condition.
36. Re-check all hose connections for fuel leaks, rectify if necessary.
37. Replace the nearside boot trim panel.

ON AIR-CONDITIONED VEHICLES THE FOLLOWING APPLIES

- A. Remove the air cleaner cover and element.
- B. Remove the fuel hose from between the fuel filter and the fuel cooler, leaving the adaptor on the fuel cooler.

- C. Position the adaptor on the fuel cooler to the position shown in Fig. 5.
- D. Remove the fuel filter mounting bracket and securing clamp and discard, retaining the spring washer.
- E. Loosen the hose clip securing the fuel filter to the rear carburettor and turn the fuel filter through 180 degrees so that the fuel inlet is at the lowest point.
- F. Fit clip (MM) and pillar nut (F) to the uppermost front throttle stud.
- G. Fit the fuel hose (LL) between the fuel cooler and the fuel filter using clip (MM) to secure the fuel hose (LL) away from the throttle spindle.

When these points have been carried out then refer to the main text number 6 onwards.

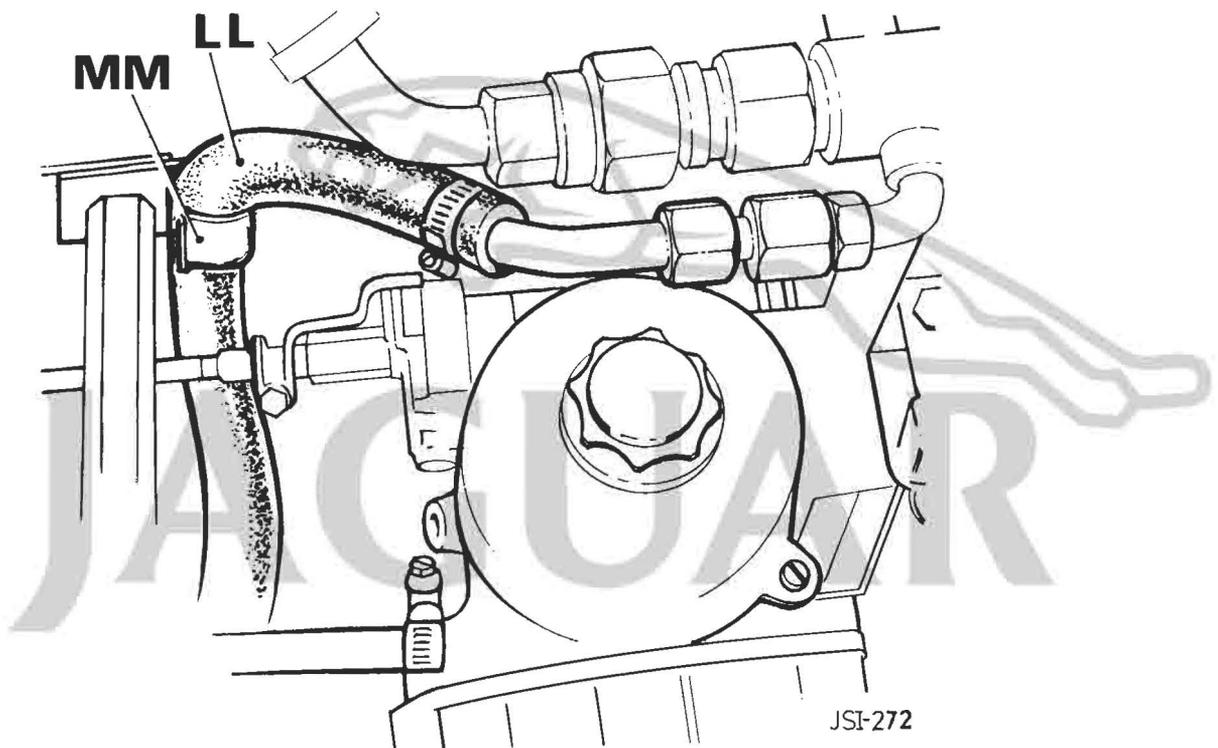


FIG. 5

IMPORTANT: All feed hoses should be secured to a torque figure of 17-21 lbf.in. (0,20-0,23 kgf.m.).

WARRANTY CLAIMS: May be submitted for 2.25 hours quoting complaint code 2J6N.

ITEM 79

60/64 SHOCK ABSORBERS

XJS & SERIES III

As previously advised in Service Bulletin JD.07/84, Front and Rear Shock Absorbers supplied by Boge were introduced on Series III Models at VIN No. 391800.

Boge Shock Absorbers have now been introduced on XJS Front and Rear Suspensions at VIN No. 118100.

Service Bulletin



DATE: NOVEMBER 1989
SHEET: 1 of 2
REF: JD 16 / 89

ITEM: 82

09 RECOMMENDED LUBRICANTS

XJ6 2.9 / 4.0 1990 MY

The list of recommended lubricants found in Vol. 1 of the new 1990 XJ6 2.9 & 4.0 litre Service Manual, JJM 10 04 05/90, contains some incorrect information.

The lubricant specified for Power Assisted Steering and Rear Ride Levelling System (where fitted), on Page 09-3 (Australia), and Page 09-4 (Canada) is incorrect and should read as follows:

Page 09-3

Power Assisted Steering

Castrol Hydraulic System
Mineral Oil (HSMO).
Jaguar Hydraulic System
Mineral Oil.

Page 09-4

Power Assisted Steering/
Rear Ride Levelling System

Castrol Hydraulic System
Mineral Oil (HSMO).
Jaguar Hydraulic System
Mineral Oil.

Up-dated pages for insertion into the manual will be issued in the near future.

ITEM: 83

17 AIR PUMP NOISE

V12 MODELS

Isolated reports of air pump noise have been received which have been attributed to resonance caused by the air cleaner cover. Investigations have determined that this condition can be overcome by the addition of a 19 mm hole in the air cleaner cover opposite the air pump pick-up post in the backplate. Where this condition is experienced, vehicles may be modified in accordance with the procedure detailed below. Warranty claims should be submitted quoting Warranty Code 1 PCF and Repair Operation No. 19 91 15. A labour allowance of 0.2 hours may be claimed.

Procedure

- * Remove the right hand air cleaner cover and place on a bench.
- * Mark the hole position to the dimensions shown in Fig 1 and drill a 3 mm pilot hole.

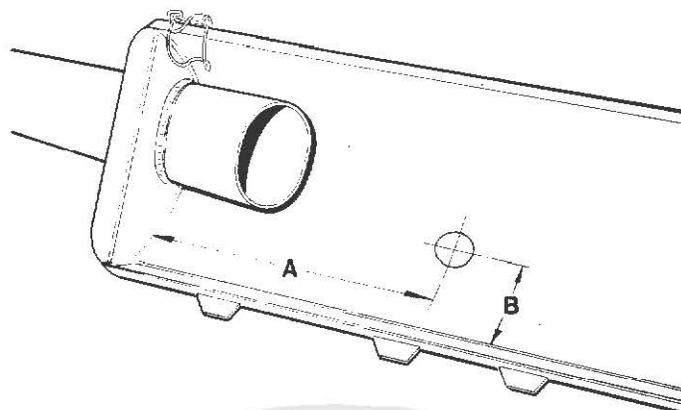


FIG 1

Dimensions	XJ12	XJS to VIN 148781	XJS from VIN 148782 (Teves Brakes)
A	90 mm	90 mm	175 mm
B	50 mm	50 mm	50 mm

- * Using a suitable hole-saw, cut a 19 mm dia. hole.
- * Carefully remove burrs and any swarf debris from the air cleaner cover.
- * Apply paint to the hole edge.
- * Refit the air cleaner cover.

ITEM: 84

60 FRONT UPPER SUSPENSION MOUNTING CREAKS

XJS

It has been identified that some XJS vehicles exhibit creaks from the front upper suspension which have been found to originate from a foul condition between the front shock-absorber washers and the inner face of the suspension mounting apertures.

A new washer of reduced outside diameter, Part No. CBC 6608, has been introduced at VIN 164362, to alleviate the foul condition.

This Bulletin has been issued to inform the dealer network of the necessary corrective action.

NOTE: The removal of the coolant expansion tank, detailed below, refers only to the 3.6 litre XJS.

1. On the right-hand side of the vehicle, remove the shock absorber thread protection cap.

2. Undo and remove the front shock absorber upper securing nut.
3. Remove and discard the top washer (Fig 1).

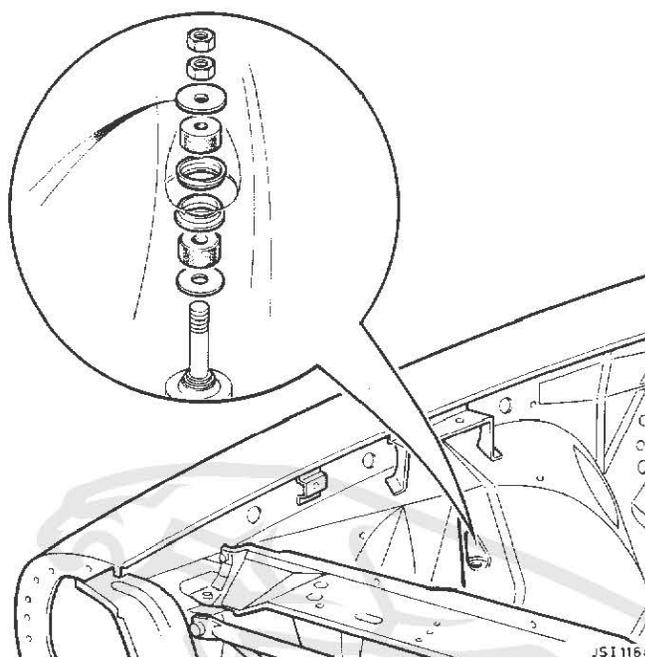


FIG 1.

4. Fit the new washer Part No. CBC 6608 to the shock absorber to replace the discarded washer.
5. Fit and tighten the upper securing nut to the correct torque, 61-68 Nm.
6. Refit the thread protection cap to the shock absorber.
7. Repeat the above procedure on the left-hand side of the vehicle.

ON 3.6 XJS ONLY, L/H SIDE OF THE VEHICLE

Before commencing the action on this model, it will be necessary to remove the expansion tank to gain access to the upper mounting securing nut.

1. Undo and remove the coolant tank securing bolts.
2. Position the tank so that access is gained to the securing nut.

Refitting is a reversal of the above procedure. Tighten the nut to a torque of 11-13.5 Nm.

When making warranty claims, Fault Code 9ME should be quoted.

ITEM: 85

86 FUSE FAIL WARNING

XJ6 2.9/4.0 1990 MY

If, when investigating a fuse fail warning, Dealers subsequently identify that the fuse box affected is different from that indicated on the instrumentation VCM display, an inspection of RB/LB 135 pin connections 12, 35 and 36 will be required.

The harness wires to these connections are identical, i.e. pink/black (K/B); it is therefore possible that these connections may have been accidentally transposed during supplier build. Corrective action is being taken to prevent the possibility of this occurring and assurance will be provided in a future Service Bulletin.

Please note RB/LB 135 black 48-way PMHD multi-plug is situated adjacent to the instrument pack assembly.

ITEM: 86

88 INSTRUMENT PACK ODOMETER

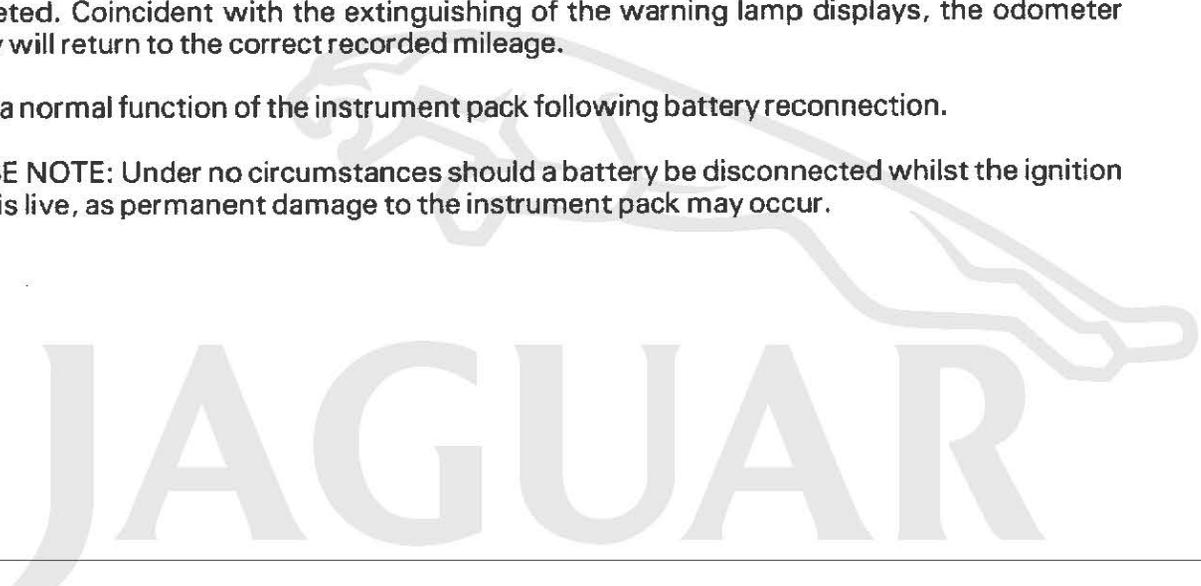
XJ6 2.9/4.0 1990 MY

If circumstances require the battery to be disconnected on 1990 MY XJ6 2.9/4.0 litre models, when reconnected and the ignition is switched on, the instrument pack odometer will initially display an erroneous figure, i.e. 48560.

This figure will remain displayed until such time as the bulb check sequence has been completed. Coincident with the extinguishing of the warning lamp displays, the odometer display will return to the correct recorded mileage.

This is a normal function of the instrument pack following battery reconnection.

PLEASE NOTE: Under no circumstances should a battery be disconnected whilst the ignition circuit is live, as permanent damage to the instrument pack may occur.



JAGUAR

DATE: OCTOBER 1990

PAGE: 1 of 5

REF: JD 11/90

XJ6 3.2 & 4.0

ITEM: 48

03 REPAIR OPERATION TIME AMENDMENT

An error has been highlighted in the new 1991 MY XJ6 Repair Time Schedule.

Page 18-3:

18.30.41 Idle Speed Control Actuator - Renew 3.2 & 4.0 lt models should read: 0.95 hrs, not 0.90 hrs.

18.30.41/09 as 18.30.41 (Less JDS allowance) 3.2 & 4.0 lt models should read 0.60 hrs, not 0.55 hrs.

Please amend your Repair Time Schedule accordingly.

No other Repair Times are affected.

XJS V12 (1990 MY)

ITEM: 49

26/ AUXILIARY COOLING FAN FUSE 86

As a result of minor changes to the characteristics of the auxiliary cooling fan motor, it has been found necessary to update the fuse rating from 10 Amps to 15 Amps.

Production change to a 15 Amp type was progressively introduced from VIN 175605.

Should reports be received of a 10 Amp fuse blowing with no apparent fault evident with the cooling fan circuit, dealers should replace the fuse with the new 15 Amp type.

Fuse Location	Part Number
Headlamp Fuse Box LH Wing Valance (white body) fuse number '3'	DGC 2496 (15 Amp)

Jaguar Cars Limited

XJ6/XJS**ITEM: 50****60 FRONT HUB BEARINGS**

Following investigation into isolated reports of front hub bearing failure, it has been found that the causes can be attributed to the adoption of incorrect service procedures and not water or contaminant ingress.

Evidence shows that in the majority of cases, one (or all) of the following was (were) the contributing factor:-

1. Incorrect assembly procedure (i.e. end float, seal location).
2. Incorrect specification grease used.
3. Hub/seals not sufficiently packed with grease.

Will Dealers please note that the procedures outlined in the relevant Service Manual should be strictly adhered to whenever dealing with front hubs, ensuring that the correct specification grease is used at all times.

XJ6 2.9 / 3.2 / 3.6 / 4.0 WITH RIDE LEVEL**ITEM: 51****66 RIDE LEVEL**

To overcome customer complaints of ride level strut knock due to 'trap line pressure decay' resulting from prolonged non-operation of the ride level system, the following improvements have been made.

From VIN 617978, a revised ride height sensor incorporating a charge replenishment cycle has been introduced. This prevents the decay of 'trapped line pressure' by charging the system for a few seconds each time the ignition is switched on.

The new sensor, Part No. DBC 6768, may be fitted to vehicles after VIN 594576 provided the vehicle is fitted with PHB (power hydraulic boost) high pressure hose, Part No. CCC 2625. (The part number is stamped on an aluminium band which is wrapped around the hose).

For pre-1990 MY vehicles, prior to VIN 594576, the new sensor, Part No. DBC 6768 may be fitted provided:-

- 1) The vehicle is fitted with PHB high pressure hose, Part No. CCC 2637. (The part number is stamped on an aluminium band, which is wrapped around the hose and was the one fitted in Recall Action A/D 348).

and

- 2) The pressure relief valve in the valve block is replaced with valve Part No. CCC 3832, using Service Tool JD 176.

The following procedure should be followed to modify pre-1990 MY vehicles:-

- 1) Raise the rear of the vehicle and support on stands.

2. Remove the R/H rear wheel and tyre assembly to gain access to the ride height sensor.
3. Disconnect the sensor link rod from the suspension mounting position (1 Fig 1); remove the sensor securing bolts (2 Fig 1) and disconnect the multi pin plug (3 Fig 1). Remove the sensor (4 Fig 1).
4. Remove the nut securing the link rod to the sensor link arm (5 Fig 1). Fit the link rod to the new ride height sensor link arm sensor, part no. DBC 6768; fit the securing nut.

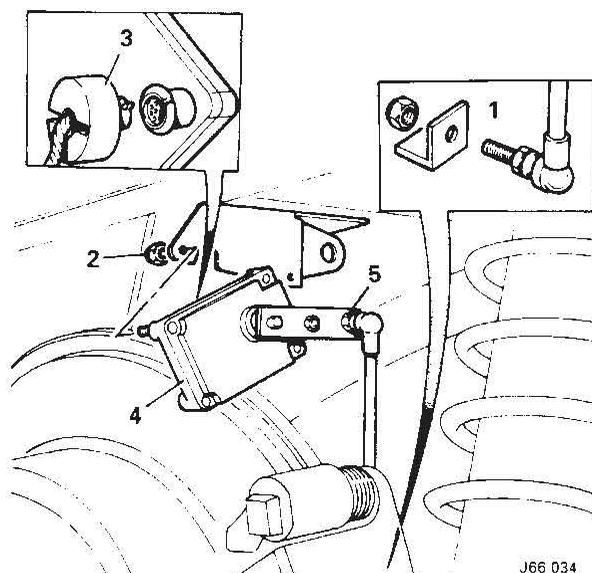


FIG 1.

5. Refit the block connector to the ride height sensor. Refit the sensor to the mounting bracket. Reconnect the link arm to the suspension mounting position.
6. Refit wheel and tyre assembly. Lower the vehicle.
7. Open the bonnet and fit wing protection covers.
8. Ensure that the correct specification PHB high pressure hose is fitted, the Part Number of which is CCC 2637. (This is stamped on an aluminium band wrapped around the hose).
9. Remove the bolt securing the PHB high pressure feed hose to the valve block mounting bracket. Reposition the PHB high pressure hose and air conditioning hose assembly; secure using string to gain access to the valve block assembly.
10. Using a suitable cleaning fluid, clean the relief valve face and area around the valve block.

NOTE: ABSOLUTE CLEANLINESS IS REQUIRED DURING THE REMOVAL AND REPLACEMENT OF THE PRESSURE RELIEF VALVE ASSEMBLY.

11. Place a suitable piece of absorbent lint-free cloth under the valve block assembly to absorb any fluid loss from the system.
12. Position a suitable open-ended spanner across the valve block (locate the jaws over cast on 'Girling' insignia).
13. With the aid of an assistant, hold an open-ended spanner to prevent reaction of the valve block, use Service Tool JD 176 and remove the pressure relief valve from the valve block.

NOTE: SERVICE TOOL JD 176 (C Fig 2) SHOULD BE SEATED FIRMLY AND SQUARELY AGAINST THE FACE OF THE PRESSURE RELIEF VALVE DURING THE REMOVAL OPERATION.

14. Ensure that the sealing rings are fitted to the revised relief valve, Part No. CCC 3832; use Service Tool JD 176 and fit the relief valve to the valve block. Tighten

to 20 – 24 Nm. (Ensure that the valve block is held with the aid of an open-ended spanner and an assistant).

NOTE: Fig 2 can be used to aid identification of the old and new pressure relief valves.

A = Old pressure relief valve.
 B = New pressure relief valve.
 C = Service Tool JD 176.

15. Remove the cloth from beneath the valve body.
16. Reposition the PHB high pressure hose and air condition hose to the valve block mounting bracket and secure with the bolt.

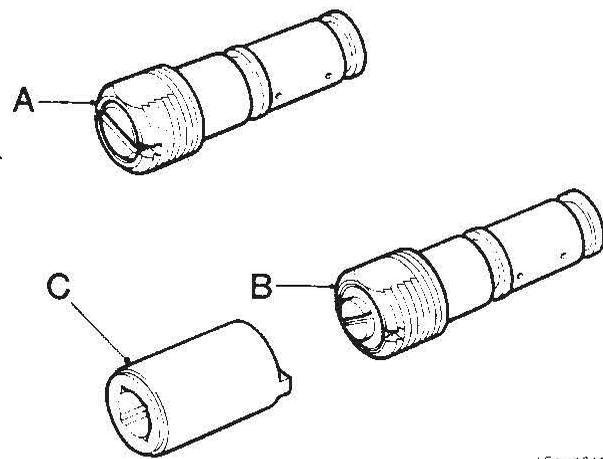


FIG 2.

17. Check the system for leaks. Check/top-up the power hydraulic system fluid level in the reservoir.

Up to 1990 MY vehicles

For vehicles in Warranty, a claim may be submitted quoting Warranty Code 5LAZ.

Time allowed – 0.65 hours.

Service Repair Operation – 66.91.17.

1990 MY Vehicles on

Claims can be submitted quoting Warranty Code 5LAZ.

Ride Height Sensor Renew SRO 66.40.01/09 – Time allowed 0.40 hrs.

High Pressure Hose, Pump to Valve Block – Renew – SRO 66.30.07
 Time allowed 0.15 hrs.

XJS

ITEM: 52

86 JAGUAR SECURITY SYSTEM – DOOR LOCK SYNCHRONIZATION

Instances have been noted of difficulties experienced with XJS door lock/unlock synchronization following installation of the dealer fit security system.

Inconsistencies can occur whereby the signal from the alarm ECU is too fast for the vehicle's door locking ECU to recognise.

Should problems be encountered, Dealers should refer to Service Action E334 for background information and establish whether the diode resistor pack has been fitted.

All system harnesses should now have been modified to include the diode resistor pack. If the harness has not been modified, Dealers should incorporate the diode resistor in accordance with E334.

If the diode resistor is present and problems remain, the following modification should be implemented.

1. Locate the diode resistor in the system harness situated in the driver's side, transmission tunnel area. The resistor can be felt beneath the harness covering.
2. Carefully cut and remove the harness covering; locate the resistor and identify the white / pink cable.
3. Obtain a 62Ω 0.5W resistor available from electrical component suppliers.
4. Cut the white / pink cable and insert the resistor in series adjacent to the diode resistor.
5. Using insulation tape, cover the joints and re-tape the harness.



Service Bulletin



DATE: OCTOBER 1991

PAGE: 1 of 7

REF: JD 08/91

XJS

ITEM: 49

WARRANTY CODES

In the latest edition of the XJS Warranty Code book, codes for the battery and spare wheel covers have been duplicated.

To rectify this situation and prevent further confusion when submitting claims, the following codes have been removed from the warranty system:-

CODE	DESCRIPTION
9DS	Spare Wheel Cover
8PZ	Battery Cover Boot

Therefore, with immediate effect, Dealers should NOT submit further claims for these codes.

All future claims for the above parts should be submitted, using the following codes only:-

9DQ	Battery Cover
9DR	Battery Cover Support Panel
8NU	Spare Wheel Cover

XJS (FACELIFT)

ITEM: 50

WARRANTY CODES

The following new warranty complaint code has been allocated to cover the fuel gauge "anti-slosh module", introduced on XJS Facelift models.

Code	Description	SRO
7JU	Anti-Slosh Module	88.25.25

Jaguar Cars Limited

ALL MODELS**ITEM: 51****12 CYLINDER PRESSURE CHECK**

WARNING: Would all technicians please note that before performing a cylinder pressure check, Repair Operation No. 12.25.01, all fuel should be purged from the fuel rail.

Purging of the fuel rail may be achieved by disconnecting the fuel pump relay and then cranking the engine for ten seconds.

XJ6 ALL MODELS & XJS 3.6 / 4.0**ITEM: 52****19 CRUISE CONTROL ACTUATOR LINKAGE ADJUSTMENT**

Should customer complaints be received of an increase in the cruise control response time and a degree of hunting of the set speed, the cruise control actuator linkage adjustment should be checked in accordance with the following procedure, before taking any further action.

Dealers should ensure that the clearance between the end of the actuator to throttle link slot (A Fig 1) and the shoulder bolt (B Fig 1) is 0.5mm to 1mm (C Fig 1).

S.R.O.	19.75.11
Allowance	0.10 hrs
Complaint Code	7VCP

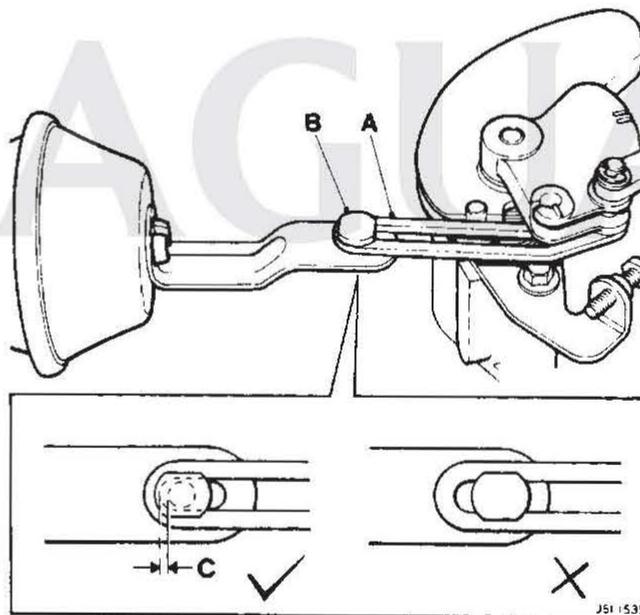


FIG 1

XJS V12**ITEM: 53****44 TRANSMISSION OIL COOLER CONNECTION**

There have been a number of oil coolers returned with damaged coupling connector bosses, the cause of which can be attributed to poor workshop practice where backing spanners have not been used to support the integral hexagon connector of the oil cooler. This results in a fracturing of the connecting tube when torque is applied upon tightening or loosening the connection.

Technicians should use a backing spanner to hold the integral boss whilst tightening the cooler pipe connection to a torque of 15 – 17 Nm.

XJ6 / XJS / S.III / LIMOUSINE**ITEM: 54****60 FRONT HUB END FLOAT ADJUSTMENT**

The following instructions supersede all previous instructions provided in service manuals. Manuals will be updated at the next reprint.

Front hub end float on the above models should be set between 0,0254 to 0,0762mm (0.001 to 0.003in). To achieve this in service use the following method:

Note: Prior to adjusting the hub end float an absorbent cloth should be placed around the brake fluid reservoir cap.

Slacken the road wheel nuts $\frac{1}{4}$ turn each.

Jack up the front of the vehicle and support with axle stands.

Remove one wheel nut, mark the wheel relative to the stud and remove the remaining wheel nuts.

Remove the roadwheel and tyre assembly.

Dependent upon model, gently prise the brake pads free or manipulate the brake caliper to ensure the brake pads are free within their mountings, i.e. the disc is free to rotate.

Prise off the hub grease cap (1 Fig. 1).

Fit a Dial Test Indicator (DTI) to the hub (Fig. 2).

Grasp the hub unit. Firmly pull and push the unit, oscillating at the same time, to determine the DTI end float reading.

If the reading is within the specification quoted there is no need to carry out the adjustment. If not, remove the hub nut split pin and cover (2, 3 Fig. 1).

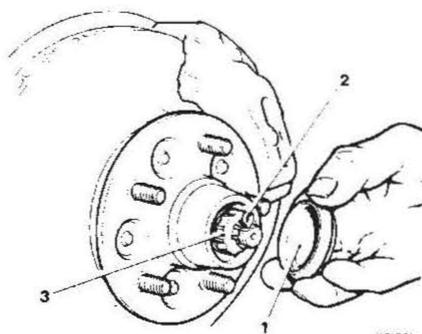


Fig. 1

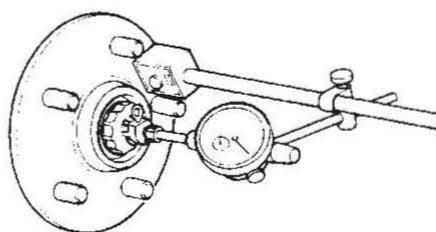


Fig. 2

Note: For identification purposes only,
 Fig. 1 shows XJS, S III & Limo. type hub.
 Fig. 2 shows XJ6 hub.

Adjust the nut, as necessary, to give a reading of 0,0508mm + / - 0,0254mm (0.002in + / - 0.001in).

Always try to achieve the mid-point of the tolerance i.e., 0,0508mm (0.002in).

Align the hub nut cover and secure with a new split pin.

When the new split pin is fitted, ensure the end float is re-checked using the DTI gauge (Fig. 2).

If necessary, re-adjust using the same method, until the end float is correct.

Always finish the adjustment by checking with a DTI gauge.

Always ensure the end float is within the limits quoted.

Refit the grease cap.

Refit the road wheel.

Carry out the adjustment procedure on the opposite front hub.

When finished, lower the vehicle from the stands.

Ensure the wheel nuts are tightened to the specified torque.

Remove the absorbent cloth from around the brake fluid reservoir cap, ensuring the area is clean and dry.

Before moving the vehicle, pump the brake pedal to centralise the pads.

ALL MODELS

ITEM: 55

77 BODY REPAIR

To avoid the risk of causing permanent damage to vehicle ECUs during body repairs, the following precautions must be observed prior to using any electrical welding equipment.

1. Disconnect the vehicle battery and alternator.
2. Disconnect and remove all ECUs in the immediate area of any panels to be electrically welded. As a general rule, all ECUs within 2 feet of the area to be welded should be removed; for more detailed information, refer to the relevant Service Manual.
3. When using welding equipment, the earth return clamp should be located as close as possible to the area of repair.

XJ6 ALL MODELS

ITEM: 56

82 DRIVER'S BLOWER MOTOR ASSEMBLY

The repair operation time for renewing the driver's side blower motor assembly has changed on all XJ6 Vehicles from VIN 629286.

The repair operation times are now as follows:-

Left Hand Drive Vehicles:

82.25.13	Blower assembly – Left Hand – Renew	01.25 Hours
82.25.13/09	As 82.25.13 (Less J.D.S. Allowance)	00.90 Hours

Right Hand Drive Vehicles:

82.25.14	Blower Assembly – Right Hand – Renew	01.25 Hours
82.25.14/09	As 82.25.14 (Less J.D.S. Allowance)	00.90 Hours

Please amend your repair time schedules accordingly.
No other repair times are affected.

To achieve these times in service, adhere to the following procedure:–

REMOVE

Open the bonnet and disconnect the battery earth lead.
Remove the driver's side dash liner.
Remove the retaining clip from the air conditioning unit's pliable trunking.
Displace the pliable trunking from the air conditioning unit.
Displace the relay bases from their mounting brackets.
Cut and remove the ratchet straps securing the brake switch harness.
Disconnect the vacuum hose from the blower motor assembly servo unit.
Disconnect the blower motor multi-way connectors.
Undo and remove the steering column lower mounting securing nuts.
Undo and remove the steering column upper mounting securing nuts.
Lower the steering column assembly.
Retrieve the column upper packing shims.
Remove the washer bracket from the column.
Manoeuvre the steering column towards the centre of the vehicle for access.
Undo and remove the steering column outer stabilizer bar's upper and lower securing nuts.
Displace and remove the steering column stabilizer bar (Fig. 1).
Reposition the vehicle harness connectors to gain access to the blower motor assembly securing bolts.
Undo and remove the blower motor assembly securing bolts.
Displace and remove the blower motor assembly.
Remove and discard the unit intake gasket.
Remove the pliable trunking to assembly securing tape.
Remove the trunking from the unit.

REFIT

Fit and align trunking to the new blower motor assembly.
Secure the trunking to the assembly with tape.
Smear the new intake gasket with a suitable adhesive.
Fit the gasket to the blower motor assembly intake.
Fit and align the blower motor assembly into its mounting position.
Connect the pliable trunking to the air conditioning unit.
Refit and tighten the blower motor assembly securing bolts.
Fit and align the trunking retaining clip.
Connect the blower motor multi-way connectors.
Connect the vacuum hose to the blower motor assembly servo unit.

Fit and align the steering column stabilizer bar and tighten the securing bolts (10 – 14 Nm).

Fit and align the washer bracket to the column.

Loosely fit the steering column upper mounting securing nuts.

Fit the steering column packing shims as necessary.

Fit and tighten the steering column lower mounting securing nuts (20 – 22 Nm).

Fully tighten the steering column upper mounting securing nuts (20 – 22 Nm).

Reposition the brake switch harness to the blower motor assembly.

Secure the brake switch harness to the unit with ratchet straps.

Fully seat the relay bases to their mounting brackets.

Refit the driver's dash liner assembly.

Reconnect the battery earth lead and close the bonnet.

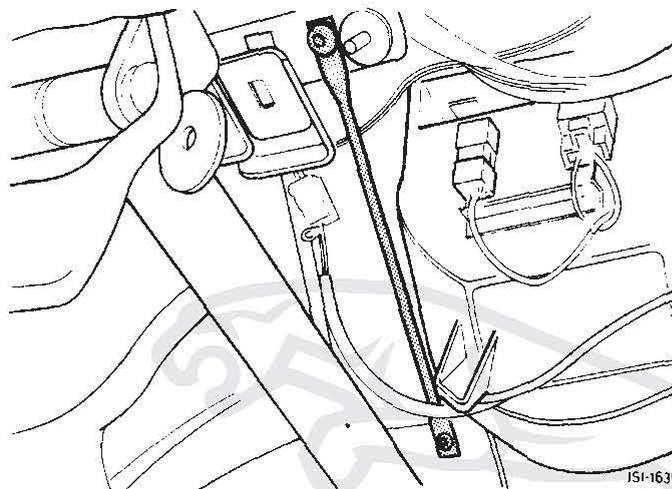


Fig. 1

S.III, XJS & XJ6 UP TO VINs:-
506664 – USA
506448 – CANADA
507471 – R.O.W.

ITEM: 57

82 AIR CONDITIONING COMPRESSOR (GM A6 TYPE)

Investigations have confirmed the unnecessary replacement of compressors for noise and leaks.

If excessive compressor noise exists, check the following items:-

- . Compressor drive belt tension.
- . Compressor mountings.
- . A/C refrigerant hose routing (ensure that hoses are not in contact with other components).
- . Ensure that the refrigerant charge weight is correct (refer to Section 82 of the Service Manual for additional information).

- Ensure that the compressor is filled to the correct level with oil. A MAXIMUM of 4 ozs (114 cc) of refrigerant oil can be added to the compressor without discharging the refrigerant. Using an oil injector tool (such as 'Snap-on' oil injector tool ACT 111), add oil in 2 oz (57 cc) increments. (Refer to the procedure detailed below).

NOTE: LOW OR EXCESSIVE CHARGE WEIGHT OR A LOW OIL LEVEL WILL CAUSE COMPRESSOR NOISE.

- Clutch drag or bearing noise (refer to the clutch replacement procedure, Section 82 of the Service Manual).
- Compressors which leak oil or Freon must have the seals replaced in accordance with the procedure detailed in Section 82 of the Service Manual.

Replace the compressor only after checking all of the above-mentioned items.

NOTE: All returned compressors must be complete and sealed, using the blanking plate provided on the replacement unit.

Procedure for compressor oil injector tool usage:-

- Operate the A/C system. Make sure that the system is full of Freon. Refer to Section 82 of the Service Manual for the test procedure.
- Remove the sealing gaps from the high and low pressure A/C charging points.
- Check that the valve on the oil injector tool is closed.
- Remove the threaded end cap from the oil injector tool and add 2 ozs (57 cc) of compressor oil. Replace the end cap.
- Attach the short flexible hose on the oil injector to the low pressure fitting of the vehicle A/C system.
- Attach one end of an A/C system extension hose to the fitting on the side of the valve of the oil injector tool. Attach the other end of the extension hose to the high pressure fitting of the vehicle A/C system.
- Run the engine at idle with the A/C system operating.
- Slowly open the oil injector tool valve until it is fully open. Allow the oil to flow into the compressor for 2 minutes.
- Close the oil injector tool valve. Let the engine run an additional minute, then switch off the ignition.
- Carefully remove the charging hoses from the high and low pressure fittings and install the sealing caps.
- Check the A/C system for compressor noise. If noise still exists, repeat the procedure once more, adding an additional 2 ozs (57 cc) of compressor oil.
- NOTE: NEVER ADD MORE THAN 4 OZS (114 cc) OF OIL TO THE A/C SYSTEM.
- Attach a self-adhesive label to the A/C hose (adjacent to the low pressure hose fitting), stating how much oil was added and the date.

DATE: JANUARY 1992

PAGE: 1 of 25

REF: JD 02/92

NOTE

JD 01/92, which covers XJ-S 92.5 MY preliminary information, has been released for translation purposes only; the English language version will be released nearer to the volume build date of 09.03.92.

XJ-S FACELIFT

ITEM: 02

00 WARRANTY CODES

The following new warranty complaint code has been allocated to cover the "CD Auto Changer Link Lead":

CODE	DESCRIPTION
7QU	CD Auto Changer Link Lead

XJ6 & XJ-S

ITEM: 03

00 WARRANTY CODES

To enable Dealers to code more accurately the causes of radio interference, new 4th digit warranty complaint codes have been allocated to the following sections of the XJ6 and XJ-S code books.

XJ6 AND XJ-S COMPLAINT CODE BOOK - 4TH DIGIT ADDITIONS		
SECTION	4TH DIGIT CODE	DESCRIPTION
2G	Y	Radio Interference
4G	Y	Radio Interference
7A	Y	Radio Interference
7B	W	Radio Interference
7C	E	Radio Interference
7U	W	Radio Interference

Please use the appropriate third digit component code within these sections, if that component is the source of the interference.

Reference to codes in Section 7Q should only be made if components within this area are the cause.

XJ6**ITEM: 04****10 REVISED SERVICING INTERVAL / TIMES**

Servicing times have been re-examined to include inspection of the handbrake shoes and now comply with the following list:

Miles	1000	7500	15000	22500	30000	37500	45000
Kilometres	1500	12000	24000	36000	48000	60000	72000
Hours	1.85	2.05	2.55	2.05	4.05	2.05	2.55

Miles	52500	60000	67500	75000	82500	90000	97500
Kilometres	84000	96000	108000	120000	132000	144000	156000
Hours	2.05	4.70	2.05	2.55	2.05	4.05	2.05

AJ6 ENGINES**ITEM: 05****12 CYLINDER HEAD REAR COVER GASKET**

As a result of oil and coolant leakage from the cylinder head rear cover gasket, gasket EBC 2568 has been introduced to seal the cylinder head rear cover plate instead of the previously used "Hermetite" sealant.

The gasket is of the Dow Print type (ie: it has a sealing bead on one side) and should be fitted with the beading facing the cylinder head. No additional sealant is needed.

This gasket supersedes the paper gasket EBC 1131.

SRO: 12.29.16

TIME: 1.4 Hours

XJ6 2.9**ITEM: 06****18 SPARK PLUG (SERVICE REPLACEMENT)**

For service replacement purposes, Champion N4C spark plugs are recommended to overcome problems of misfire / uneven running conditions which may be experienced with XJ6 2.9 models.

N4C plugs are now available through Parts Operations, under Part No. EBC 8523, and supersede the previously-recommended N3C plug, Part No. EAC 8344.

PLEASE NOTE THAT N4C SPARK PLUG PART NUMBER EBC 8523 SHOULD ONLY BE FITTED TO XJ6 2.9 MODELS.

XJ-S V12 (92 MY)

ITEM: 07

19 FUEL PRESSURE TEST

A fuel pressure test adaptor, JD181, has been developed for use on 92MY XJ-S V12 systems (from VIN 179740).

The adaptor has identical end fittings to the fuel rail and fuel supply hose. It also has a $\frac{1}{4}$ BSP end gauge fitting to be used in conjunction with pressure gauge YWB 107 (Epitest equipment pressure gauge).

Using the following procedure, pressure test the fuel system observing all the safety precautions detailed in the Service Manual:

Open the luggage compartment and displace the right hand trim liner.
 Displace the fuel pump relay (Fig. 1) silver relay on black / yellow base) from its mounting, adjacent to the E.C.U. and remove the relay.
 Crank the engine to depressurise the fuel system.
 Refit the fuel pump relay.
 Open the bonnet and fit wing protection.
 Undo the union nut (1 Fig. 2), remove the fuel supply hose from the fuel rail and remove the 'Viton' seal.

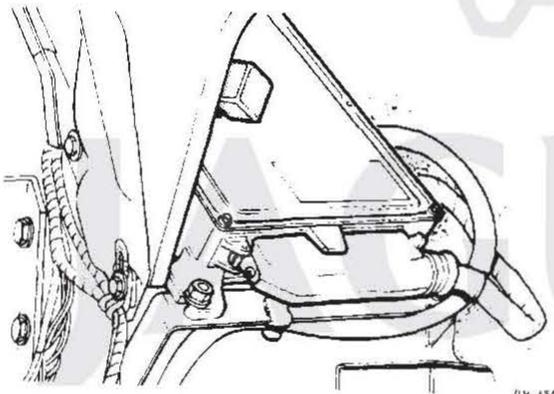


FIG 1

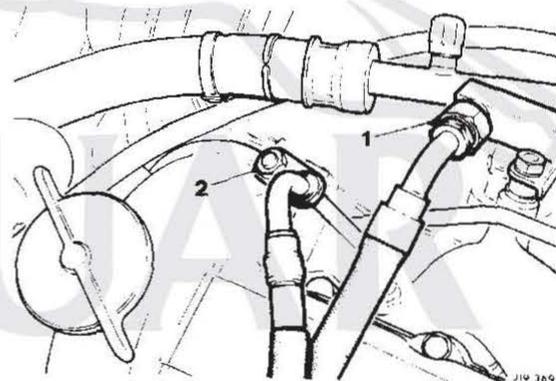


FIG 2

With the seal in place, fit the pressure test adaptor JD 181 to the fuel rail and tighten the union nut.

Fit the seal to the supply hose and connect to the pressure test adaptor. Tighten the union nut.

Fit and tighten the pressure test gauge, YWB 107, to the adaptor (Fig. 3). Ensure a sealing washer is in place.

Disconnect the vacuum hose from the base of the fuel pressure regulator valve (1 Fig. 4).

Run the engine.

Monitor the fuel pressure : 2,5bar \pm 0,1bar.

Switch off the engine.

Depressurise the engine as detailed above.

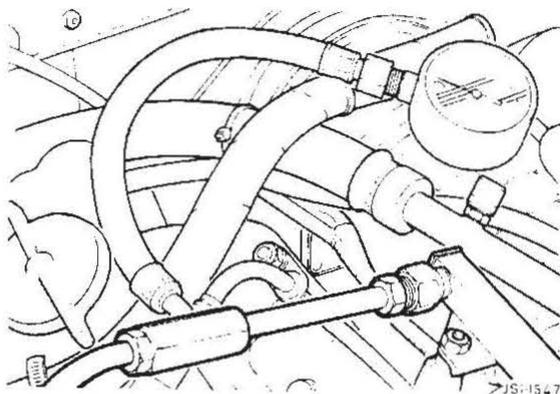


FIG 3

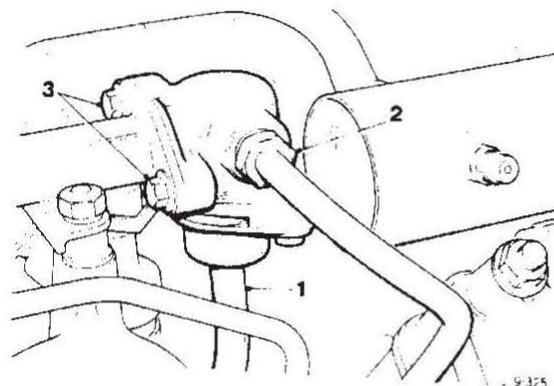


FIG 4

Remove the pressure test adaptor and gauge (Fig. 3).

Fit a new 'Viton' seal and refit the supply hose to the rail. Torque tighten the union nut to 10 to 12 Nm.

Connect the vacuum hose to the fuel pressure regulator valve.

Refit the fuel pump relay and re-position the trim liner.

Remove wing protection, close the bonnet and the luggage compartment.

XJ6 MODELS

ITEM: 08

57 STEERING RACK, PINION VALVE ASSEMBLY SEALS – RENEW – 57.10.09

A set of Service Tools has been developed (JD 184, JD 185, JD 186 and JD 187) to assist in renewing the steering pinion valve energised seals; Service Tool JD 120, steering rack centralising pin, is also needed to carry out the operation.

As a general guide, if lack of steering assistance from cold is experienced, renew the seals. A seal kit is available, Part No. JLM 10839.

To renew the seals, proceed as follows:

Note: Energised pinion seals should only be fitted to steering racks with plated pinion bores. Plated bore racks were fitted from VIN 597940. The plated racks are also identified by the part number stamped on the plate on the underside of the rack (Fig. 1). Part No. CBC 9052 – Right-hand drive vehicles. Part No. CBC 9053 – Left-hand drive vehicles. Energised seals were introduced from Part No. CCC 5650, XJ6 and Part No. CCC 5660, XJS.

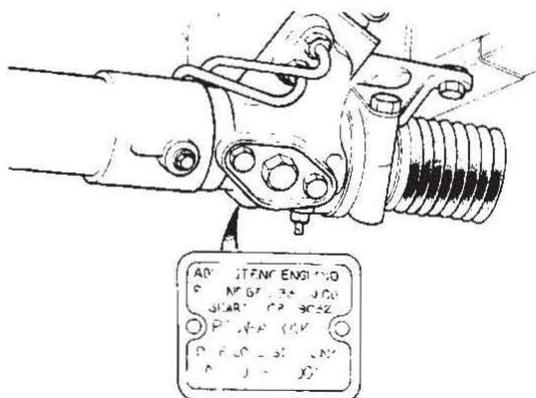


FIG 1

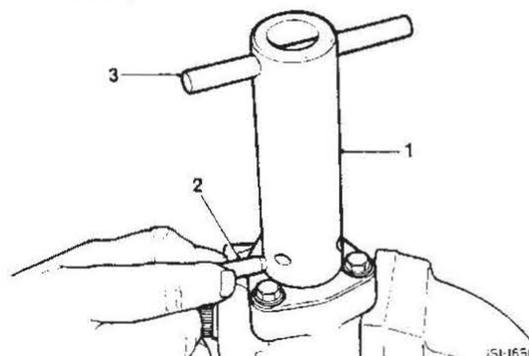


FIG 2

Remove the steering rack as detailed in operation 57.10.01.

Clean the steering rack pinion housing area.

Secure the rack in a vice, ensuring the vice jaws clamp across the pinion housing lugs and taking care not to trap any pipes.

Remove the dirt / dust excluder from the steering rack pinion shaft.

Ensure Service Tools JD 184, JD 185, JD 186 and JD 187 are free of any scores, burrs or marks which could cause damage to components.

Fit the body and handle of tool JD 184 to the pinion shaft (1, 3 Fig. 2). Align the tool with the pinch pin cut-out and fit the brass pinch pin (2 Fig. 2).

Place a suitable container below the pinion housing. Unscrew and remove the blanking plugs from the pinion housing, fitted during operation 57.10.01.

Operate the steering rack from lock to lock to remove any residual steering fluid. Wipe any remaining fluid from the pinion housing.

Unscrew and remove the tapered plug from the steering rack centralising pin-hole. Insert Service Tool JD 120 (centralising pin) into the pin-hole, maintaining light thumb-pressure.

Gently operate the steering rack until the pin is engaged. Remove the centralising pin, JD 120, then refit and lightly tighten the taper plug into the centralising pin-hole. Remove the brass pinch pin from tool JD 184 and remove the tool from the pinion shaft. Mark a line on the edge of the top plate and onto the pinion housing. Ensure it is in line with the centre of the pinion pinch pin cut-out (Fig. 3).

Unscrew, but do not remove, the support plate bolts to give a 10 mm gap between the plate and the pinion housing (Fig. 4).

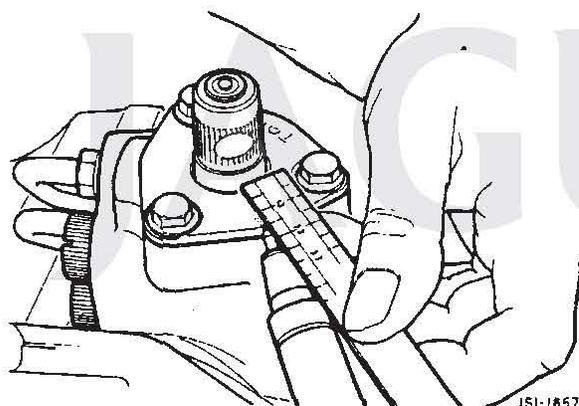


FIG 3

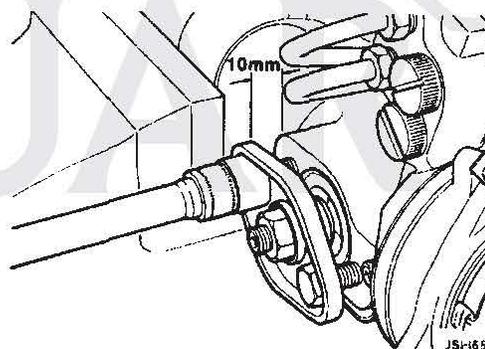


FIG 4

Unscrew the bolts securing the top plate and remove the top plate and shims (Fig. 5). Fit tool JD 184 to the pinion shaft with the brass pinch pin in place, as previously described.

Fit and align tool JD 186 with the taper of the bore towards the pinion housing face. Fit and tighten the cap head screws, securing tool JD 186.

Fit the tool handle and using hand-pressure only, pull the pinion valve assembly partially away from the pinion housing and into tool JD 186 (Fig. 6). Ensure the assembly is kept aligned during this operation.

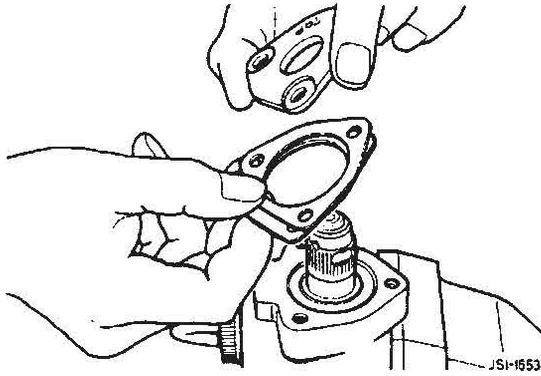


FIG 5

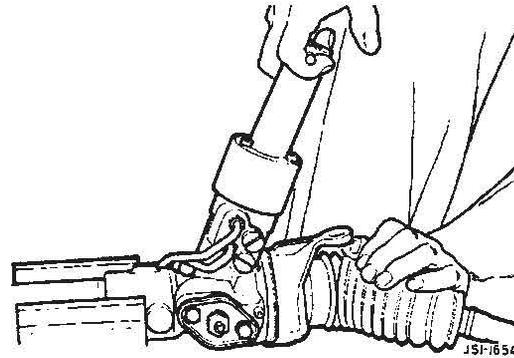


FIG 6

Remove the tool handle. Unscrew and remove the cap head screws, securing tool JD 186 to the pinion housing. Carefully remove tool JD 186 from the pinion valve. Refit the tool handle to tool JD 184. Keeping in alignment, gently pull and rotate the pinion valve assembly until fully removed from the housing. Remove tool JD 184 from the pinion valve assembly.

Remove the thrust washer package from the assembly as follows:
Square section outer seal, P.T.F.E. inner seal and 'O' ring seal.

Clean the thrust washer and place safely to one side.

Remove and discard the quad seal from the pinion or pinion housing.

Clean and inspect the pinion housing bore for any scores or damage.

Cut and remove the P.T.F.E. sealing rings from the pinion valve (Fig. 7). Ensure the valve walls are not marked or scored whilst carrying out this operation.

Note: A suitable tool can be made by grinding a broken hacksaw blade to a narrow chisel shape (1 Fig. 7).

Remove and discard the sealing ring energisers.

Note: Older type seals in unplated racks had no energiser ring. All plated racks are fitted with energised seals.

Clean the pinion valve ready for re-assembly.

Lubricate, fit and seat a new quad seal into the pinion housing.

Lubricate the bore of the pinion housing.

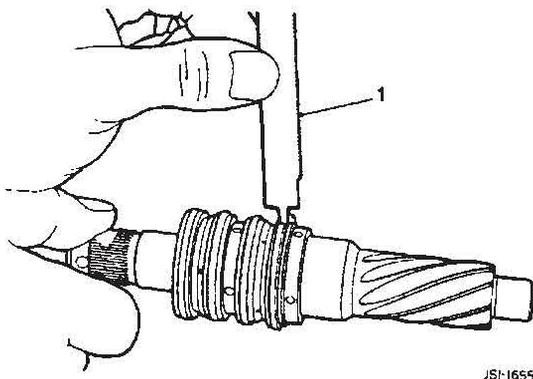


FIG 7

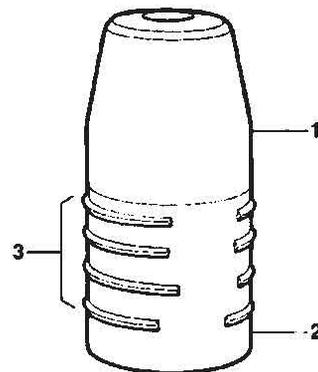


FIG 8

Fit the tapered mandrel of tool JD 185 (1 Fig. 8) into the zinc-plated sleeve (2 Fig. 8). Load four new sealing ring energisers onto the zinc-plated sleeve, leaving a gap between each (3 Fig. 8).

Note: Service Tool JD 185 is a three-piece tool comprising: a tapered mandrel, a zinc-plated sleeve for fitting sealing ring energisers and a black machine-finish sleeve for fitting sealing rings.

Remove the mandrel from the zinc-plated sleeve; carefully fit the loaded sleeve onto the pinion valve and align the tool end parallel with the first seal groove. Slide the energiser from the zinc-plated sleeve into the first seal groove (Fig. 9). Continue until all four energisers have been placed in the four seal grooves.

Remove the zinc-plated sleeve from the pinion valve and place safely to one side.

Fit the tapered mandrel of tool JD 185 (1 Fig. 10) into the black-finish sleeve (2 Fig. 10).

Load four new P.T.F.E. sealing rings (blue) onto the black-finish sleeve, leaving a gap between each (3 Fig. 10).

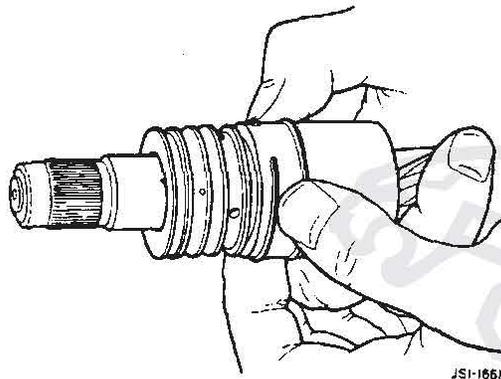


FIG 9

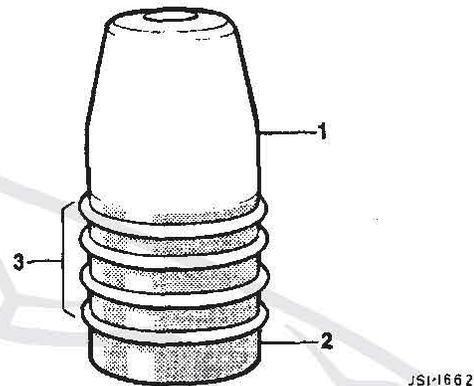


FIG 10

Remove the mandrel from the black-finish sleeve; carefully fit the loaded sleeve onto the pinion valve and align the tool end parallel with the first seal groove.

Slide the seal from the black-finish sleeve into the first seal groove (Fig. 11). Continue until all four seals have been placed in the four seal grooves.

Note: The P.T.F.E. sealing rings should only remain on the black-finish sleeve for the minimum time possible.

Remove the black-finish sleeve from the pinion valve and place safely to one side.

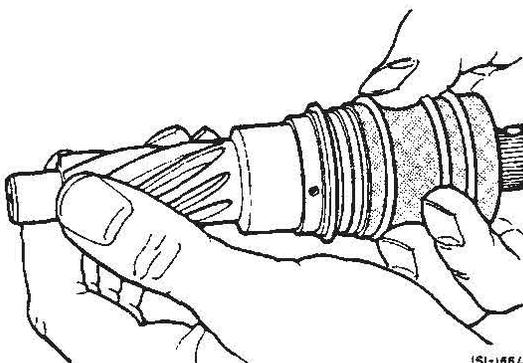


FIG 11

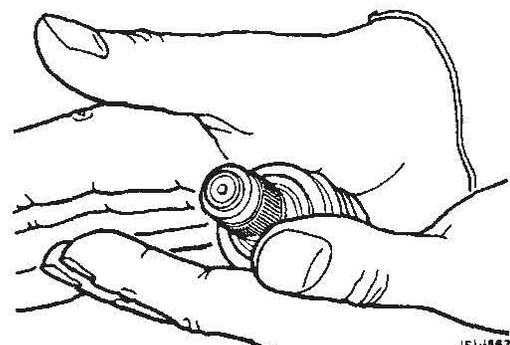


FIG 12

Grasp the pinion valve and rotate between the palms of the hands to compress the P.T.F.E. sealing rings fully onto the energisers (Fig. 12).

Note: Ensure that the P.T.F.E. sealing rings fit fully and evenly over the steel energisers.

Lubricate the P.T.F.E. sealing rings and pinion valve assembly.
Fit tool JD 186 over the pinion valve by passing the tapered bore of the tool over the geared end of the pinion. Pass the pinion through the tool several (five) times to size the sealing rings (Fig. 13).

Note: During the sizing operation, ensure the P.T.F.E. sealing rings do not become trapped or bent over the grooves, thus causing possible damage.

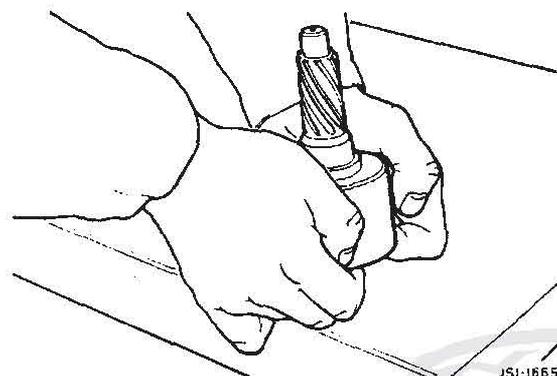


FIG 13

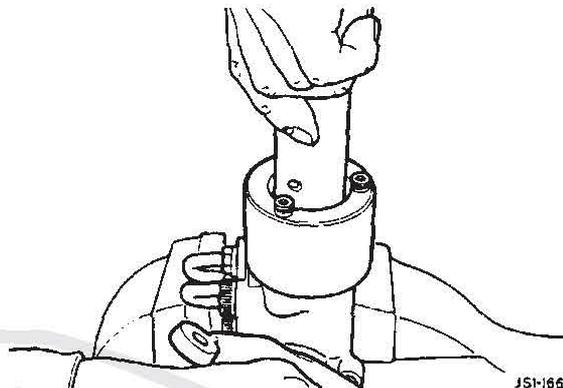


FIG 14

After sizing, position the pinion valve in the parallel part of the tool bore.
Fit and align the pinion and tool assembly to the steering rack housing.
Fit, but do not tighten, the cap head screws that secure tool JD 186. Ensure that the tool is allowed to self-centre.

Remove the tapered plug from the steering rack centralising hole. Fit the centralising pin, JD 120, to ensure that the rack has remained central.
Fit and align tool JD 184 with the tool handle and brass pinch pin in position.
Position the pinion so that, allowing for helix angle rotation (approx. 90°), the pinion arrives at the previously-marked position (Fig. 3).
Allow the pinion to mesh with the rack gear by gently pulling the rack gear away from the pinion. Carefully push and rotate the pinion to seat the pinion valve assembly fully into the rack housing (Fig. 14).

Note: The centre of the pinion pinch bolt cut-out should finally align with the marks on the top plate and housing, shown in Fig. 2.

Note: The handle hole in tool JD 184 is parallel with the pinion pinch bolt cut-out to aid the previous operation.

Remove the centralising pin from the rack.
Fit and tighten the tapered plug into the steering rack centralising pin-hole.
Remove the handle from tool JD 184
Unscrew and remove the cap head screws, securing tool JD 186 to the pinion housing.
Remove tool JD 186 from the pinion housing and place to one side.
Remove the brass pinch pin from tool JD 184.
Remove tool JD 184 from the pinion.
Ensure that the 'O' ring seal has remained seated in the rack support assembly bore.
Tighten the support plate securing bolts.
Align tool JD 186 to the pinion housing with the tapered end of the bore away from the housing. Fit, but do not fully tighten, the cap head screws securing the tool (this will allow the tool to self-centre).
Fit a new set of seals to the thrust washer, i.e. square section seal, 'O' ring seal and

stepped seal.

Ensure that the stepped side of the seal faces inboard in its final fitted position.

Lubricate the thrust washer and seal assembly.

Fit the seal protector, JD 187, onto the pinion spline. Fit the thrust washer assembly onto the seal protector taper with the step side facing inboard.

Using the handle end of tool JD 184, with hand-pressure only, push the thrust washer assembly into the pinion housing (Fig. 15).

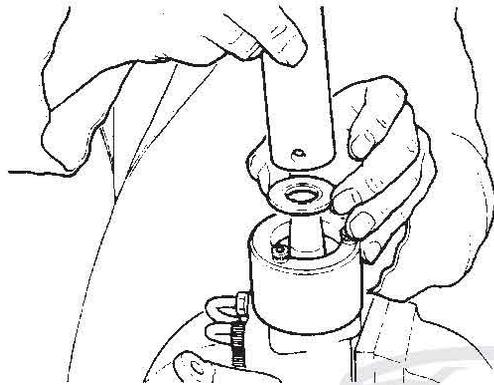


FIG 15

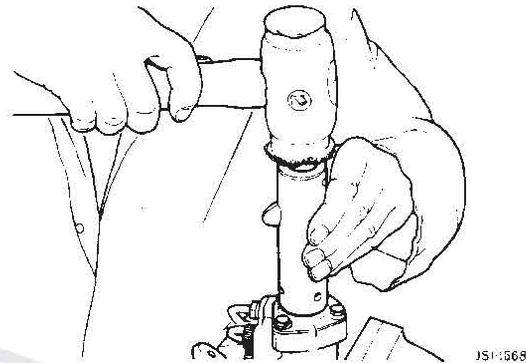


FIG 16

Note: The handle end of tool JD 184 is machined out for the purpose of fitting the thrust washer assembly.

Remove tool JD 184 from the pinion.

Remove the seal protector from the pinion shaft and place safely to one side.

Remove the cap head screws, securing tool JD 186 to the pinion housing.

Remove tool JD 186 and place safely to one side.

Fit the shims to the pinion housing.

Fit the top plate, ensuring it is aligned with the previous markings (Fig. 3).

Centralise the top plate around the pinion shaft and fit and tighten the securing bolts.

Fit a new dirt / dust excluder to the pinion shaft.

Position the brass pinch pin end of tool JD 184 over the pinion and up to the dirt / dust excluder.

Using a soft-faced mallet, carefully drive the dust / dirt excluder onto the pinion shaft (Fig. 16).

Ensure the top face of the dirt / dust excluder is 4,0 to 4,5 mm away from the top face of the top plate (Fig. 17).

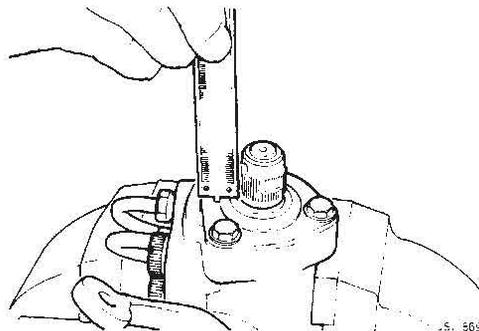


FIG 17

Remove tool JD 184 and place safely to one side.

Remove the container from below the pinion housing; remove the steering rack assembly from the vice and refit to the vehicle (57.10.01).

For vehicles within warranty, the following information applies:

Warranty Claim Code	:	5AAN
S.R.O.	:	57. 10. 09
Time Allowance	:	2.40 hours LHD vehicles
	:	2.35 hours RHD vehicles

XJ40

ITEM: 09

60 FRONT CROSSMEMBER BUSHES – RENEWAL

Should the eccentric bushes, securing the rear of the front crossmember assembly need renewing, proceed as follows:

Remove the front crossmember by following the instructions detailed in operation 76.10.05.

Place the bush replacement tool, JD 143, on to a suitable press. Fit and align the adaptor ring, JD 143-1, to the replacement tool.

Carefully position the front crossmember / bush on to the press / tool.

Fit and align the bush remover tool, JD 143-5, to the bush and using the press, displace and remove the bush from the crossmember.

Remove the crossmember from the press.

Remove the opposite side crossmember bush in the same manner.

Note: The bushes originally used were termed as 'six-shooter' bushes. These have now been redesigned / replaced by the 'smiley-faced' bushes currently being used, see Fig. 1 for identification.

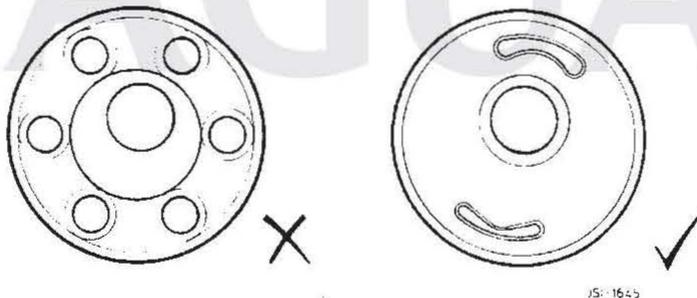


FIG 1

To aid assembly, prior to fitting new bushes, it is **important** they are correctly aligned with the crossmember.

The bush rubber identification pip **must** be 30° clockwise from the top dead centre of the crossmember mounting hole (the horizontal is parallel with the bottom face of the crossmember) see Fig. 2.

Once aligned, scribe a marker line across the crossmember and bush.

When the alignment marks have been scribed, the crossmember is ready for reassembly.

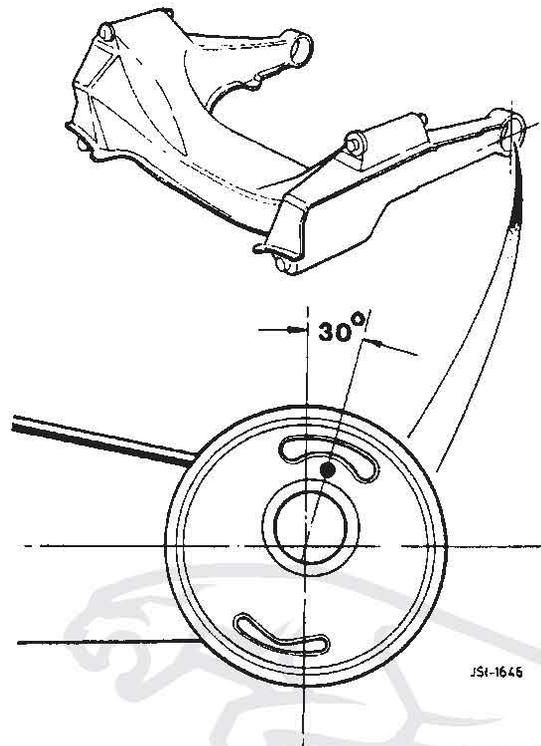


FIG 2

Carefully align the crossmember to the press / tool.
 Fit and align a new bush to the crossmember, ensuring that the scribe mark matches to the mark on the crossmember.
 Fit and align the replacer tool, JD 143-5, to the bush.
 Using the press, fully seat the new bush into the crossmember.
 Remove the replacer tool, JD 143-5, and place to one side.
 Remove the crossmember from the press and repeat the procedure to fit the other new crossmember bush.
 When the new bushes are correctly aligned and fully fitted to the crossmember, refit the crossmember to the vehicle, as detailed in operation 76.10.05.
 On completion, check that the steering geometry is correct, prior to re-using the vehicle.

XJ-S / S.III / LIMOUSINE**ITEM: 10****60 FRONT HUB SEAL REPLACEMENT**

A tool has been developed and is now available for replacing front hub seals on the above models

To renew a seal, carry out the following procedure:

Note: Prior to carrying out the procedure, an absorbent cloth should be placed around the brake fluid reservoir cap

Slacken the road wheel nuts $\frac{1}{4}$ turn each.
 Locate a trolley jack below the front spring pan (Fig.1).

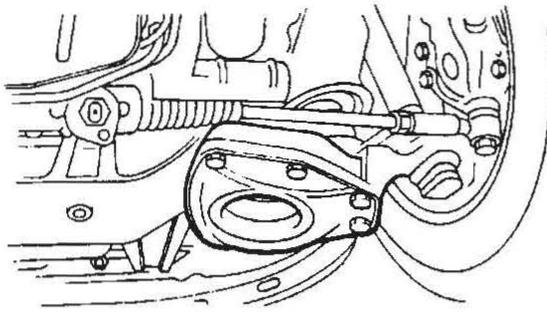


FIG 1

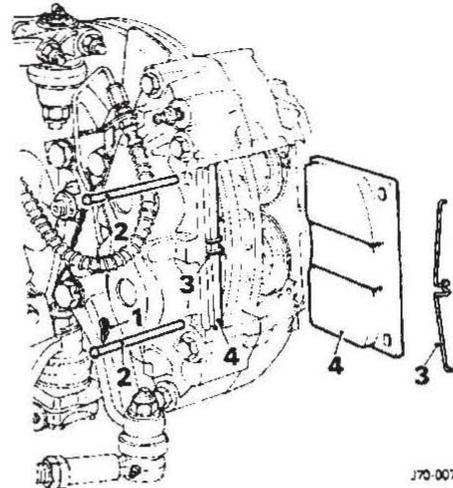


FIG 2

Jack up the vehicle. Place an axle stand below the appropriate jacking spigot. Lower the vehicle / jacking spigot on to the axle stand. Leave the jack in position as a precautionary measure. Remove one wheel nut, mark the wheel relative to the stud and remove the remaining wheel nuts. Remove the roadwheel and tyre assembly.

Remove the spring clips (1 Fig. 2) securing the brake pad retaining pins (2 Fig. 2); withdraw the pins.

Remove the anti-rattle springs (3 Fig. 2) and withdraw the brake pads (4 Fig. 2).

WARNING: BRAKE LINING DUST CAN CONTAIN ASBESTOS WHICH, IF INHALED, CAN DAMAGE YOUR HEALTH. ALWAYS USE A VACUUM BRUSH TO REMOVE DRY BRAKE LINING DUST. NEVER USE AN AIRLINE.

Ensure the brake caliper piston is fully retracted and remains in that position until the pads are refitted.

Position the steering rack to 'full lock' outward. Rotate the brake disc to gain access to the securing bolts through the aperture in the disc shield (1 Fig. 3). Remove the bolts and washers securing the hub assembly to the brake disc.

Prise of the hub grease cap (4 Fig. 3). Remove the hub nut split pin and cover (2 Fig. 3). Remove the hub nut and 'D' washer (3 Fig. 3). Carefully remove the hub assembly from the stub axle. Remove the outer bearing (1 Fig. 4) from the hub assembly.

Displace and remove the brake disc from the stub axle carrier assembly. Remove the inner bearing (2 Fig. 4) from the stub axle, then, using a suitable pry bar, remove and discard the hub seal (3 Fig. 4).

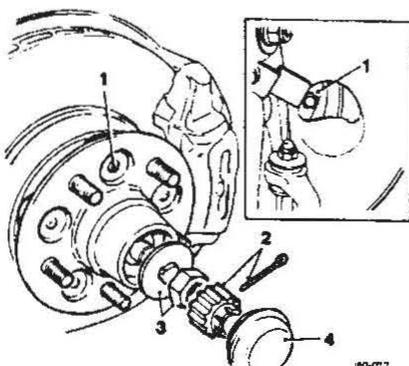


FIG 3

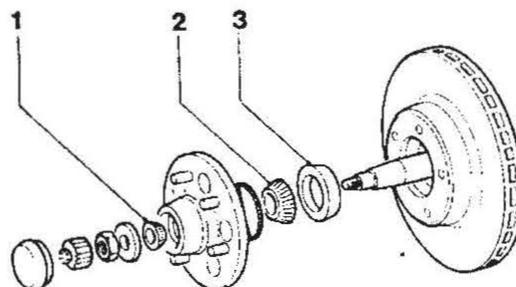


FIG 4

Clean all components and examine for wear and damage. Replace as necessary if worn or damaged.

Pack the hub bearings with grease and fit them to the hub assembly. Coat the stub axle shaft with grease.

Note: Lubricate the new hub seal and ensure grease is applied to all the seal lips.

Fit the new hub seal to the fitting tool, JD 180 (Fig. 5). Using the tool, drift the seal fully on to the stub axle shaft (Fig. 6).



FIG 5

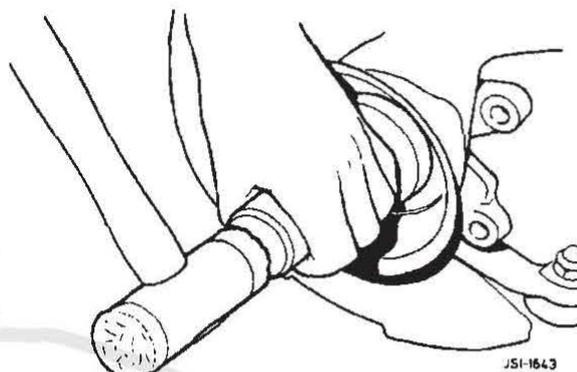
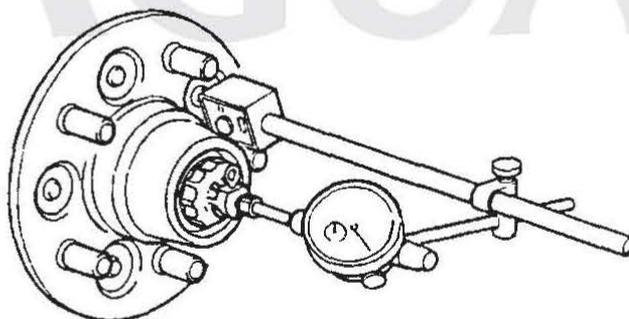


FIG 6

Fit and position the disc to the carrier assembly. Fit and fully seat the hub assembly, complete with bearings and the 'D' washer to the stub axle. Fit, but do not tighten, the securing nut.

Position the hub to align the brake disc mounting holes. Fit and tighten the brake disc to hub securing bolts.

Set the hub and end float between 0,0254 and 0,0762 mm (0.001 to 0.003 in). To do this, fit a magnetic base Dial Test Indicator (DTI) to the hub (Fig. 7).



K60-101

FIG 7

Grasp the hub unit. Firmly pull and push the unit, oscillating at the same time, to determine the DTI end float reading.

Adjust the hub nut as necessary, to give a reading of 0,0508 mm \pm 0,0254 mm (0.002 in \pm 0.001 in).

If possible, **always** try to achieve the mid-point of the tolerance i.e. 0,0508 mm (0.002 in).

When set, align the hub nut cover and secure with a new split pin.

When the new split pin is fitted, ensure the end float is re-checked using the DTI gauge (Fig. 7).

If necessary, re-adjust using the same method, until the end float is correct.

Always finish the adjustment by checking with a DTI gauge.
Always ensure the end float is within the limits quoted.

Refit the grease cap (4 Fig. 3). Return the steering rack to the straight ahead position and refit the brake pads (4 Fig. 2), retaining pins (2 Fig. 2), anti-rattle springs (3 Fig. 2) and retaining pin securing spring clips (1 Fig. 2).

Refit the road wheel, then lower the vehicle from the axle stands and torque-tighten the wheel nuts.

Pump the brake pedal to centralise the pads.

WARNING: APPLICATION OF THE BRAKE PEDAL MUST BE CARRIED OUT, AS THE BRAKES WILL NOT OPERATE EFFICIENTLY UNTIL THE PADS ARE CORRECTLY POSITIONED.

Remove the absorbent cloth from around the brake fluid reservoir cap, ensuring the area is clean and dry.

XJ6

ITEM: 11

60 FRONT HUB SEAL REPLACEMENT

A tool has been developed and is now available for replacing front hub seals on the above model.

To renew a seal, carry out the following procedure:

Note: Prior to carrying out the procedure, an absorbent cloth should be placed around the brake fluid reservoir cap.

Slacken the road wheel nuts $\frac{1}{4}$ turn each.

Jack up the vehicle and support with axle stands.

Remove one wheel nut, mark the wheel relative to the stud, and remove the remaining wheel nuts.

Remove the roadwheel and tyre assembly.

Carefully displace and remove the brake caliper anti-squeal spring (1 Fig. 1).

Displace the pad wear sensor multi-plug from the retaining clip, then disconnect the harness multi-plug (2 Fig. 1).

Remove the caliper securing bolt dust caps, then remove the socket head securing bolts (3 Fig. 1).

Remove the caliper from the carrier and safely secure the caliper to one side.

Note: Ensure the caliper is placed where the brake hose and harnesses are not stressed.

Displace and remove the brake pads (4 Fig. 1).

WARNING: BRAKE LINING DUST CAN CONTAIN ASBESTOS WHICH, IF INHALED, CAN DAMAGE YOUR HEALTH. ALWAYS USE A VACUUM BRUSH TO REMOVE DRY BRAKE LINING DUST. NEVER USE AN AIRLINE.

Ensure the brake caliper piston is fully retracted and remains in that position until the pads are refitted.

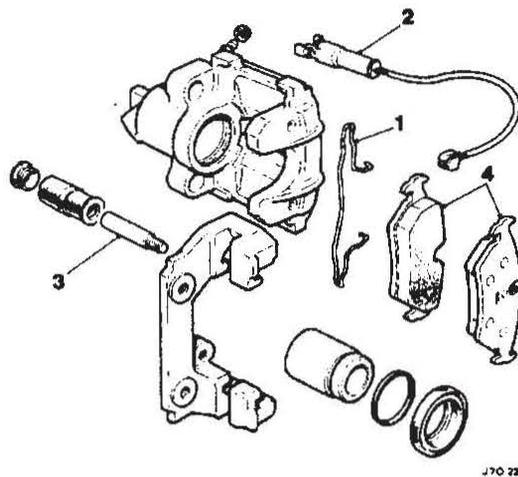


FIG 1

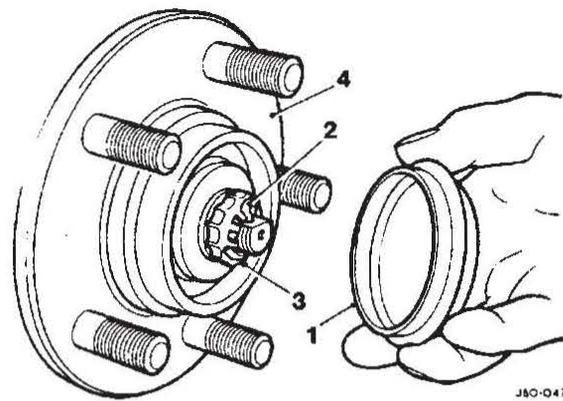


FIG 2

Cut and remove the carrier securing bolt lockwire.
 Unscrew the carrier securing bolts and remove the carrier.
 Remove the disc securing screw and remove the disc.
 Prise off the hub grease cap (1 Fig. 2).
 Remove the hub nut split pin and cover (2, 3 Fig. 2).
 Remove the hub nut and 'D' washer.
 Carefully remove the hub assembly (4 Fig. 2) from the stub axle.
 Remove the inner bearing from the stub axle, then, using a suitable pry bar, remove and discard the hub seal.

Clean all components and examine for wear and damage. Replace as necessary if worn or damaged.
 Pack the hub bearings and coat the stub axle shaft with grease.

Note: Lubricate the new hub seal and ensure grease is applied to all the seal lips.

Fit the new hub seal to the fitting tool, JD 179 (Fig. 3).
 Using the tool, drift the seal fully on to the stub axle shaft (Fig. 4).
 Place the inner bearing on to the shaft and ensure it is pushed fully up to the new hub seal.

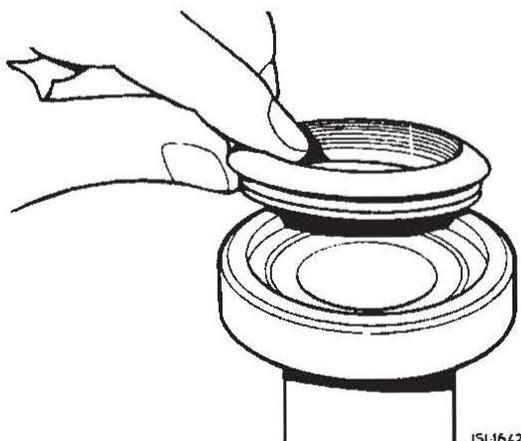


FIG 3

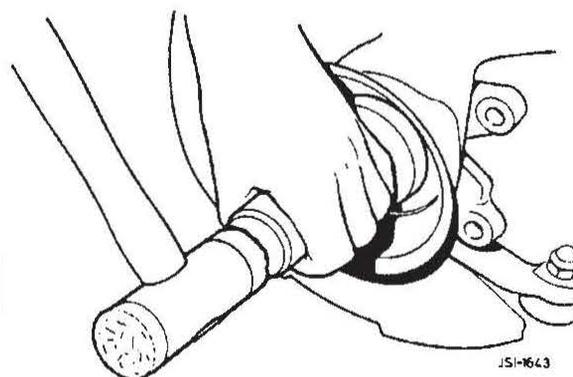
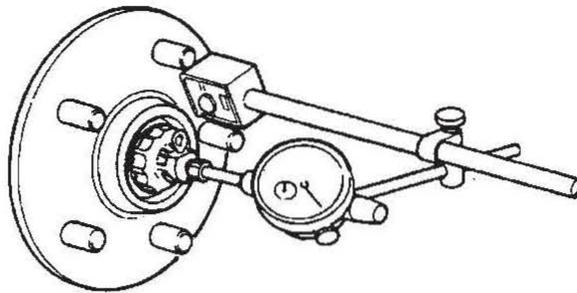


FIG 4

Fit and fully seat the hub assembly, outer bearing and 'D' washer to the stub axle. Fit, but do not tighten, the securing nut.

Set the hub end float between 0,0254 to 0,0762 mm (0.001 to 0.003 in). To do this, fit a magnetic base Dial Test Indicator (DTI) to the hub (Fig. 5).



J50 102

FIG 5

Grasp the hub unit. Firmly pull and push the unit, oscillating at the same time, to determine the DTI end float reading.

Adjust the hub nut as necessary, to give a reading of 0,0508 mm \pm 0,0254 mm (0.002 in \pm 0.001 in).

If possible, **always** try to achieve the mid-point of the tolerance i.e. 0,0508 mm (0.002 in).

When set, align the hub nut cover and secure with a new split pin.

When the new split pin is fitted, ensure the end float is re-checked using the DTI gauge (Fig. 5).

If necessary, re-adjust using the same method, until the end float is correct.

Always finish the adjustment by checking with a DTI gauge.

Always ensure the end float is within the limits quoted.

Refit the grease cap.

Refit the brake assembly, disc, carrier, pads, caliper and all multi-plugs and connectors.

Refit the road wheel then lower the vehicle from the axle stands and torque-tighten the wheel nuts.

Pump the brake pedal to centralise the pads.

WARNING: APPLICATION OF THE BRAKE PEDAL MUST BE CARRIED OUT, AS THE BRAKES WILL NOT OPERATE EFFICIENTLY UNTIL THE PADS ARE CORRECTLY POSITIONED.

Remove the absorbent cloth from around the brake fluid reservoir cap, ensuring the area is clean and dry.

XJ6

ITEM: 12

60 LOWER WISHBONE, BUSH – RENEW – 60.35.22

Part of the above operation is to renew the wishbone bushes, but the description for this part of the operation is not specific; therefore, to renew the bushes, proceed as follows:

Note: Prior to carrying out the procedure, an absorbent cloth should be placed around the brake fluid reservoir cap.

Slacken the road wheel nuts $\frac{1}{4}$ turn each.
Jack up the front of the vehicle and support with axle stands.

Note: Ensure the vehicle is high enough to access Service Tool JD 115.

Remove one wheel nut, mark the wheel relative to the stud, and remove the remaining wheel nuts.

Remove the road wheel and tyre assembly.

Fit the lower adaptors to Service Tool JD 115, then fit the tool to the front spring (Fig. 1). Engage the dowel in the slots in the suspension turret top.

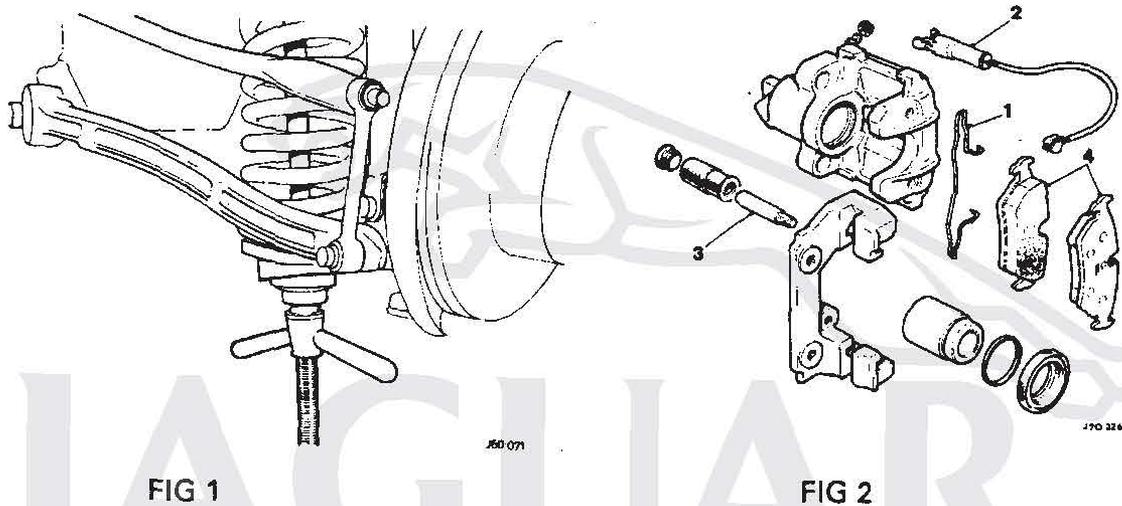
Ensure that the dowel is seated correctly.

Tighten the tool to tension the spring until the load is taken off the spring pan.

Remove the spring pan securing bolts, slacken off the tool wing nut to release the tension on the spring and release the tool from the suspension turret.

Remove the tool from the suspension assembly.

Remove the spring plates and road spring from the tool.



Carefully displace and remove the brake caliper anti-squeal spring (1 Fig. 2).

Displace the pad wear sensor multi-plug from the retaining clip then disconnect the harness multi-plug (2 Fig. 2).

Remove the caliper securing bolt dust caps then remove the socket head securing bolts (3 Fig. 2).

Remove the caliper from the carrier and safely secure the caliper to one side.

Note: Ensure the caliper is placed where the brake hose and harnesses are not stressed.

Displace and remove the brake pads (4 Fig. 2).

WARNING: BRAKE LINING / PAD DUST CAN CONTAIN ASBESTOS WHICH, IF INHALED, CAN DAMAGE YOUR HEALTH. ALWAYS USE A VACUUM BRUSH TO REMOVE DRY BRAKE LINING / PAD DUST. NEVER USE AN AIRLINE.

Ensure the brake caliper piston is fully retracted and remains in that position until the pads are refitted.

Undo and remove the track rod end to steering arm securing nut.

Fit Service Tool JD 100 to the track rod end joint.

Tighten the tool bolt to break the taper.

Undo the tool bolt and place the tool aside.

Undo and remove the steering rack to front crossmember securing nuts and bolts, and remove the spacers.

Undo and remove the anti-roll bar link arm lower securing nut and bolt.

Undo and remove the upper ball joint securing bolts, note the position and collect the castor shims.

Reposition the stub axle assembly outwards.

Displace and remove the split pin securing the fulcrum shaft nut.

Undo and remove the fulcrum shaft nut.

Remove the shock absorber lower mounting securing bolt / nut.

Carefully lower the wishbone / stub axle assembly to the floor.

Displace the pivot bolt to allow removal of the front wishbone, remove the front wishbone.

Remove the serrated spacer.

Manoeuvre the steering rack to give clearance, displace and remove the fulcrum bolt.

Remove the rear wishbone/stub axle assembly.

Remove the remaining serrated spacer.

Using a suitable workbench with a vice:

Secure the front wishbone arm in the vice, ensuring that the top hat of the bush faces upwards.

Using a suitable hacksaw, cut and remove the bush top hat sides (Fig. 3).

Undo the vice.

Position the wishbone arm between the press adaptor plates.

Fit and align bush removal tool JD 143-4 to the bush (Fig. 4).

Using the press, displace and remove the bush.

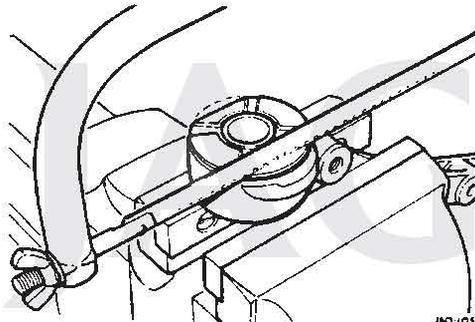


FIG 3

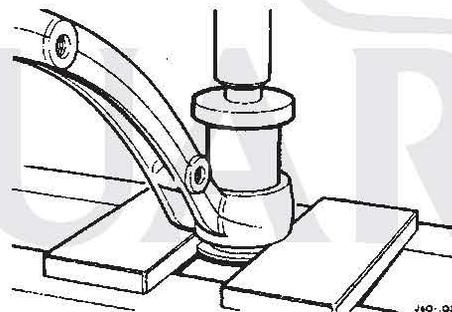


FIG 4

Place tool JD 143 to the press.

Fit and align the adaptor ring JD 143-1.

Fit and align adaptor tool JD 143-2 to the adaptor ring, ensuring that the narrow end of the tool is uppermost.

Install the wishbone in the press and align the new bush to the wishbone.

Align the large diameter of the bush replacer tool JD 143-3 to the bush (Fig. 5).

Using the press fully seat the bush into the wishbone.

Remove the wishbone front arm and bush replacer tool from the press.

Align tool JD 143-3/2 to the press.

Carefully align the wishbone rear arm / hub assembly to give the best / most surface contact between the wishbone and the narrow leg of tool JD 143-3/2.

Align removal tool JD 143-3/1 to the bush (Fig. 6).

Using the press, carefully displace and remove the bush.

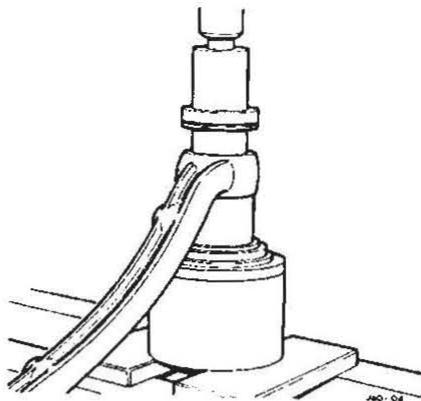


FIG 5

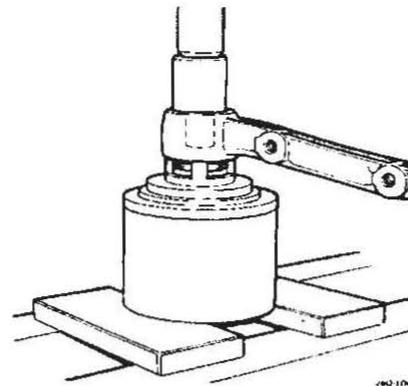


FIG 6

Remove the wishbone assembly from the press.
 Using a suitable cleaning agent, clean the wishbone arm faces.
 Reposition tool JD 143-3/2 in the press.
 Align the wishbone rear arm / hub assembly to give the best / most surface contact between the wishbone and the narrow leg of tool JD 143-3/2.
 Carefully align the new bush to the wishbone.
 Align bush replacer tool JD 143-3/1 to the bush (Fig. 7).
 Using the press, fully seat the bush into the wishbone arm until the upper face of the bush is level with the upper face of the wishbone (see detail in Fig. 7).
 Remove the wishbone assembly and the tools from the press.

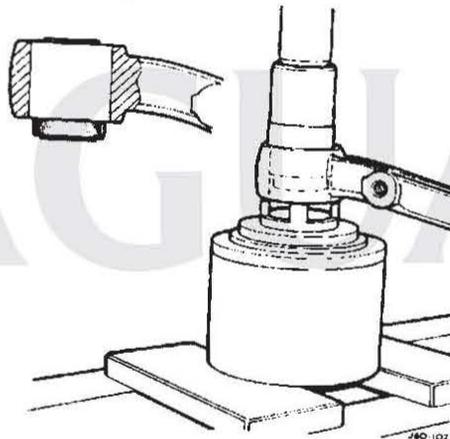


FIG 7

Repeat the procedure on the opposite front side of the vehicle.
 When all bushes have been replaced, reverse the removal procedure to refit the wishbones, brake assemblies and road springs.

Refit the road wheels then lower the vehicle from the axle stands and torque-tighten the wheel nuts.

Pump the brake pedal to centralise the pads.

WARNING: APPLICATION OF THE BRAKE PEDAL MUST BE CARRIED OUT, AS THE BRAKES WILL NOT OPERATE EFFICIENTLY UNTIL THE PADS ARE CORRECTLY POSITIONED.

Note: Ensure the steering geometry is checked and set correctly.

Remove the absorbent cloth from around the brake fluid reservoir cap, ensuring the area is clean and dry.

XJ6

ITEM: 13

76 DASH LINER REMOVAL TOOL

A quantity of dash liners has been replaced due to damage caused by their removal. A Service Tool (JD 188) has now been developed to assist with this procedure. To remove a dash liner, driver's or passenger's side of vehicle, proceed as follows:

Open the appropriate door to gain access to the dash liner.
Undo and remove the dash liner securing screws (Fig.1).

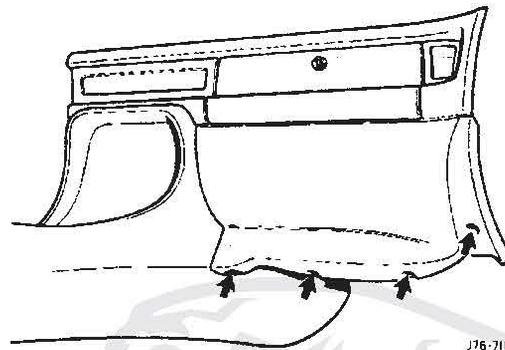


FIG 1

Insert Service Tool JD 188 behind the dash liner. Locate onto the upper flange with the 'V' cut-out in the tool either side of the first fir tree retainer (Fig. 2). Displace the fir tree retainer from the plastic retainer socket by gently twisting the tool handle (Fig. 2). Remove the remaining retainers in the same manner.

Note: On vehicles fitted with a steel armature, the tool **must** be inserted between the dash liner and the steel armature (Fig. 3).

The number of dash liner retainers is different between Federal and U.K. vehicles. To avoid any damage to the dash liner, always ensure all retainers have been carefully displaced before removal.

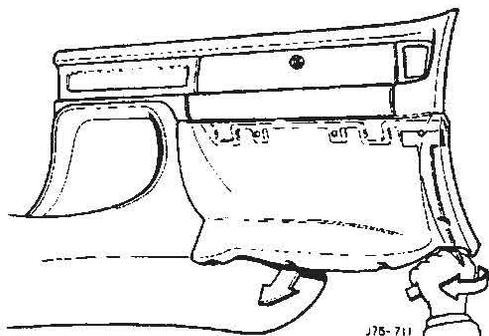


FIG 2

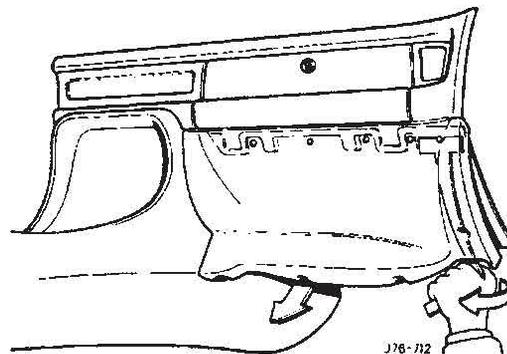


FIG 3

Note: The illustrations show L.H.D. passenger's side only. The procedure for the driver's side and R.H.D. vehicles is carried out in the same manner.

XJ6**ITEM: 14****80 HEATER BLOWER MOTOR ASSEMBLY – DRIVER’S SIDE**

The repair operation time for renewing the driver’s side heater blower motor assembly has changed on all XJ6 vehicles from VIN 629286.

The repair operation times are now as follows:

LEFT-HAND DRIVE VEHICLES

80.20.12	Blower Assembly Left-Hand – Renew	01.25 Hours
80.20.12/09	As 80.20.12 (Less JDS Allowance)	00.90 Hours

RIGHT-HAND DRIVE VEHICLES

80.20.11	Blower Assembly Right-Hand – Renew	01.25 Hours
80.20.11/09	As 80.20.11 (Less JDS Allowance)	00.90 Hours

Please amend your repair time schedules accordingly.

No other repair times are affected.

To achieve these times in service, adhere to the procedure detailed in Service Bulletin JD 08/91, Item 56.

The bulletin item refers to “air conditioning blower motor assembly”, but the procedure for renewal of the heater blower motor assembly is identical.

XJ6**ITEM: 15****82 HEATER TO AIR CONDITIONING RETRO-FIT CONVERSION**

When installing the air conditioning retro-fit kit to vehicles built prior to VIN 607111, the following additional parts are required to supplement main kit JLM 10755 in order to provide efficient and stable air conditioning operation:

- CBC 9133 Electric motor assembly.
- JLM 1947 Motor assembly installation kit.
- JLM 10793 Sensor assembly to A/C unit link harness.

These vehicles are not equipped with a motorised aspirator / in-car sensor as original equipment; the above parts comprise the service fit aspirator / sensor assembly.

Full details of installation of the aspirator / sensor assembly can be found in Service Bulletin JD 09/89, Item 47 and an addendum sheet to be included with main kit JLM 10755.

In addition to the above modification, system installation necessitates replacement of the crankshaft damper/pulley assembly on earlier vehicles.

- 2.9 vehicles produced prior to engine number 107821 require fitment of damper assembly EBC 2225.
- 3.6 vehicles produced prior to engine number 106424 require fitment of damper assembly EBC 1441.

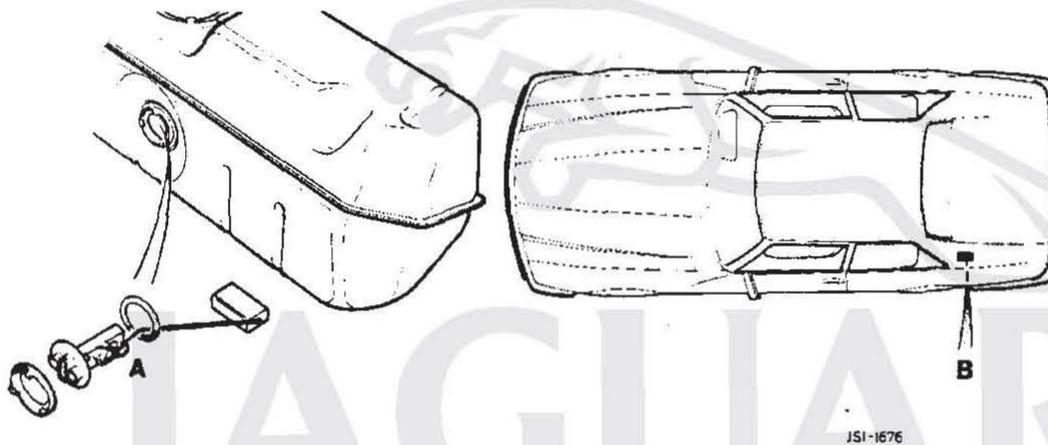
XJ-S FACELIFT**ITEM: 16****86 ANTI-SLOSH MODULE / FUEL TANK SENDER UNIT – FAULT DIAGNOSIS**

With the introduction of the XJ-S Facelift range, an anti-slosh module has been incorporated into the fuel gauge circuit, which damps the gauge needle movement and controls the low fuel warning indication.

Following isolated concerns with this circuit, some Dealer confusion has arisen during fault diagnosis, which has resulted in the unnecessary replacement of components.

In order to assist Dealers, this Bulletin has been designed to identify possible fault conditions which may occur and details the correct diagnosis procedures.

PLEASE NOTE that the following information refers only to the anti-slosh module and the fuel tank sender unit; it is not a fault diagnosis of the fuel gauge.

COMPONENT LOCATION

A – Fuel Tank Sender Unit

B – Anti-Slosh Module

ANTI-SLOSH MODULE TERMINAL VOLTAGES

The five terminals of the anti-slosh module have the following voltage ranges at normal operating voltage of 13.5 V :

Pin 1	Gauge	2.49 V to 11.08 V dependent on fuel quantity
Pin 2	Low Fuel Warning	Battery voltage (13.5 V) when off; 0.1 V to 1 V when on
Pin 3	Ignition	Battery voltage (13.5 V)
Pin 4	Sender Unit	2.49 V to 11.08 V dependent on fuel quantity
Pin 5	Ground	0 V

POSSIBLE FAULT CONDITIONS**Loss of damping**

Turn off the ignition. Remove the upper wire from the fuel sender unit and connect the wire to ground.

Turn on the ignition and check the gauge; the pointer should rise rapidly to a position above the "full" mark.

Disconnect the upper wire of the sender from ground and check that the fuel gauge starts to fall. If the low fuel warning light illuminates within 12 seconds of this operation, replace the anti-slosh module.

Turn off the ignition and reconnect the fuel sender unit correctly.

No low fuel warning lamp with gauge reading empty.

Turn off the ignition. Remove the upper wire from the fuel sender unit.

Turn on the ignition. Check that the gauge reads empty and that the warning lamp is on.

If the warning lamp fails to illuminate, check the voltage on the warning lamp output of the anti-slosh module (pin 2). If the voltage is less than 0.9 volts, the fault does not lie in the anti-slosh module; therefore, check the lamp and harness. If the voltage is more than 0.9 volts, change the anti-slosh module.

Turn off the ignition and reconnect the sender unit correctly.

Low fuel warning lamp stays on over the full range of the gauge.

Turn off the ignition. Remove the anti-slosh module and turn on the ignition.

If the warning lamp goes out, replace the anti-slosh module. If the warning lamp stays on, check the vehicle wiring.

Too slow to reach final position when the ignition is turned on.

If the fuel gauge takes longer than 15 seconds to display its final position on the gauge when the ignition is turned on, replace the anti-slosh module.

Fuel gauge constantly reads full.

Turn off the ignition. Remove the upper wire from the fuel sender unit. Turn on the ignition.

Check that the gauge reads empty and that the warning light is on.

If the gauge reads full, turn off the ignition and remove the anti-slosh module. Switch the ignition back on; if the gauge reads empty, replace the anti-slosh module. If the gauge reads full, check the vehicle wiring and the gauge.

Turn off the ignition. Refit the anti-slosh module and reconnect the sender unit correctly.

Fuel gauge always reads empty.

Turn off the ignition. Remove the upper wire from the fuel sender unit.

Turn on the ignition. Check that the gauge reads empty and that the warning lamp is on.

Turn off the ignition. Connect the upper wire of the sender unit to ground.

Turn on the ignition and check that the gauge rises to full. If the gauge does not rise to full, turn off the ignition and remove the anti-slosh module. Connect the fuel gauge to ground. If the gauge rises to full, change the anti-slosh module. If the gauge does not rise to full, check the vehicle wiring, the sender unit and the gauge.

Turn off the ignition, refit the anti-slosh module and reconnect the sender correctly.

Fuel gauge reads above empty when tank is empty.

DO NOT remove the sender unit from the tank.

With either a new sender unit or a 250 Ohm resistor connected in place of the existing sender unit, check that the gauge drops to empty. If it is above empty, replace the anti-slosh module. If the gauge reads empty, check the sender unit or the gauge.

Check for normal operation.

SENDER UNIT FAULT DIAGNOSIS

Gauge flickers and swings to zero intermittently.

The likely fault with this symptom is an intermittent open circuit on the sender unit. It is difficult to diagnose this with the sender unit in the fuel tank. The recommended test is to obtain a new sender unit and connect it to the car and holding it in the same orientation as the vehicle, move it through its full travel slowly, watching the gauge for normal operation. If all appears well, the sender unit in the tank should be changed for the new one. If the symptoms persist, check the wiring and the gauge.

Note: During heavy cornering, i.e. traffic islands, etc, needle movement will occur towards the empty position, particularly on right-hand manoeuvring.

Recovery to the correct fuel gauge indication after the cornering manoeuvre will be slow due to the operation of the anti-slosh module. This is normal and should not be interpreted as a fault.

XJ-S COUPE / CONVERTIBLE – 92 MY

ITEM: 17

86 ALARM SYSTEM OPERATION

Investigation into Dealer reports of poor operation of the alarm system on XJ-S 92 MY vehicles has shown that a final operation has been omitted from the supplied installation instructions. Therefore, where customer complaints are received, the following action should be taken.

1. Remove the right-hand rear quarter lower trim pad assembly.
2. Identify the alarm antenna coiled in the harness (refer to Fig 1).

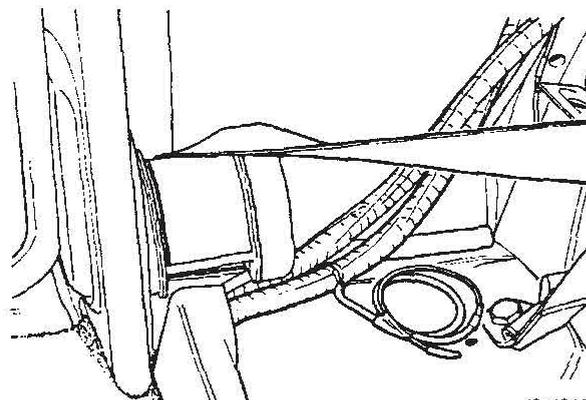


FIG 1

3. Remove the adhesive tape from the antenna, uncoil and straighten.
4. Position the rear quarter trim panel assembly to the vehicle.
5. Attach the straightened antenna to the rear of the trim panel in vertical attitude, using suitable adhesive tape (refer to Fig 2).

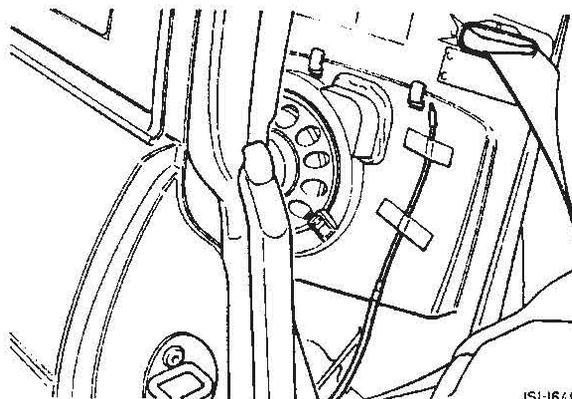


FIG 2

6. Refit the trim panel.

The above action only applies to VIN range 179737 onwards.

Parts Warranty claims for this work should be made using Complaint Code 9SSX and quoting SRO 86-91-42 (Coupe) or 86-91-42/70 (Convertible).

Total time allowance is 0.20 Hours (Coupe) and 0.25 Hours (Convertible).

Dealers and Importers using electronic claim submissions should use Claim Type 03.

It is intended that this operation will shortly be integrated into the vehicle build and an appropriate VIN will be issued in a future Service Bulletin.

XJ6 LHD ONLY

ITEM: 18

86 72AH BATTERY

A larger capacity 72aH battery has been introduced on all left-hand-drive XJ6 vehicles from VIN 653463.

This new battery (Part Nos: DBC 6429 [wet] and JLM 10455 [dry]) is not interchangeable with either previous left-hand-drive or right-hand-drive vehicles.

XJ6 / XJ-S

ITEM: 19

86 18 EM IGNITION AMPLIFIER

Investigation of recent warranty returns has identified instances of ignition amplifiers being changed and, in the process, being removed from their base-plates.

These parts should not be separated and must only be replaced as a complete assembly. Under no circumstances should they be dismantled.

Any parts returned through warranty will be rejected if incomplete or if attempts to split the assembly have been made.