

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

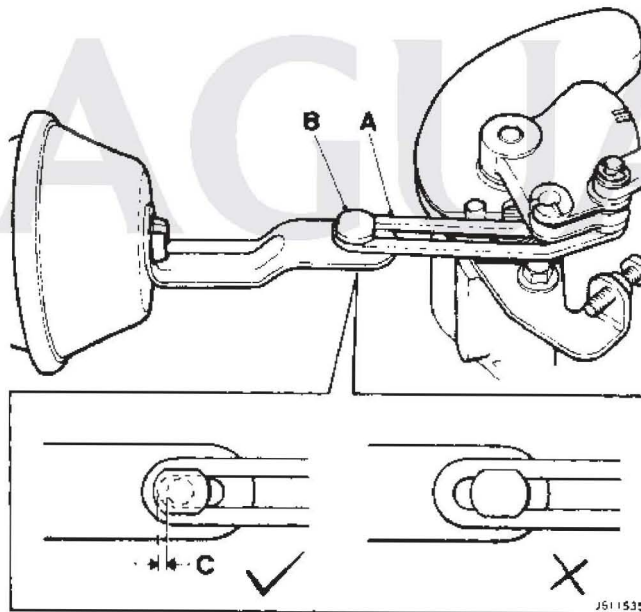


FIG 1

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).

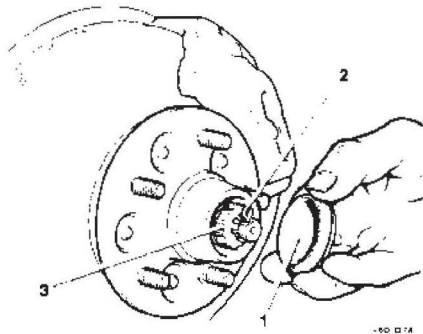


Fig. 1

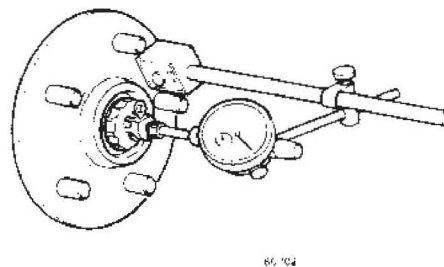


Fig. 2

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.

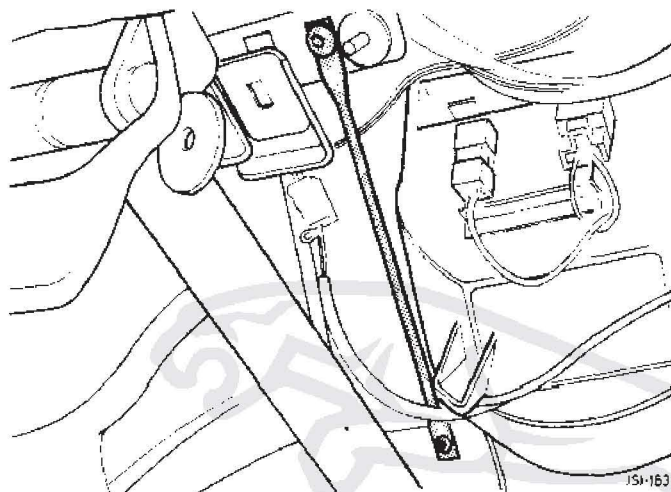


Fig. 1

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.

Service Bulletin



DATE: JANUARY 1992

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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.

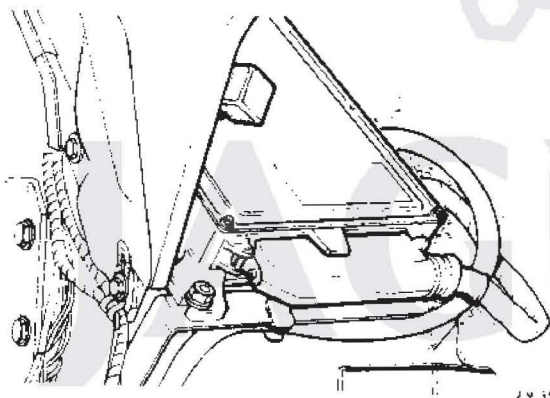


FIG 1

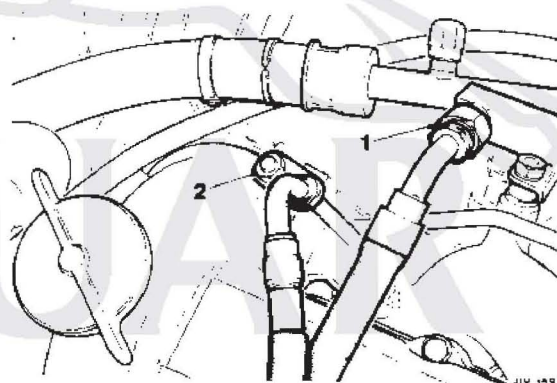


FIG 2

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 : $2,5\text{bar} \pm 0,1\text{bar}$.

Switch off the engine.

Depressurise the engine as detailed above.

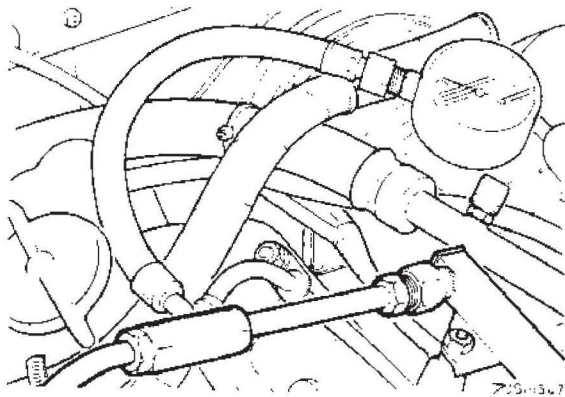


FIG 3

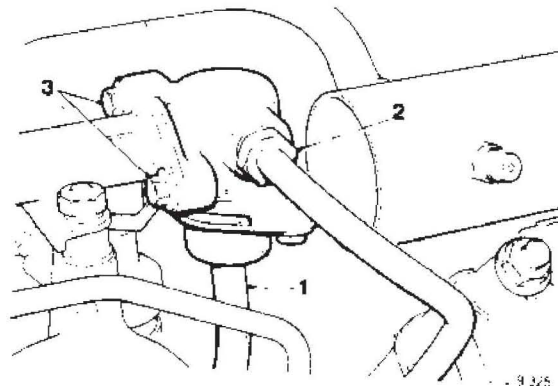


FIG 4

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.

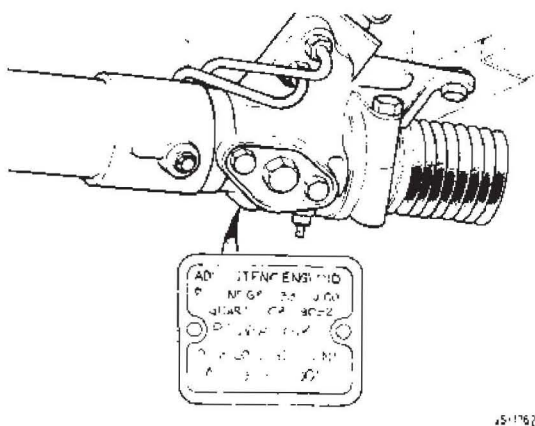


FIG 1

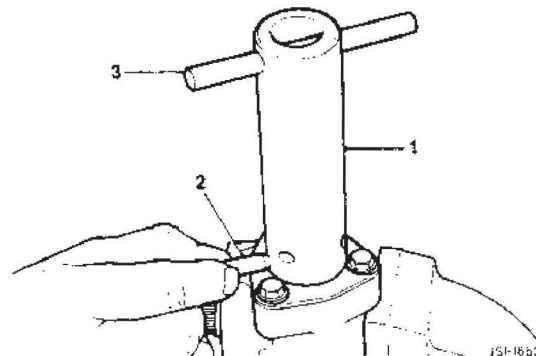


FIG 2

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).

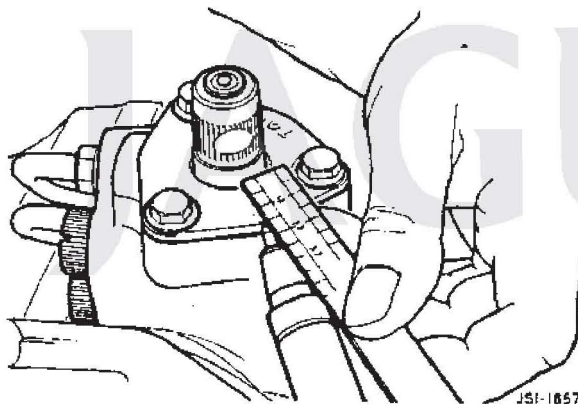


FIG 3

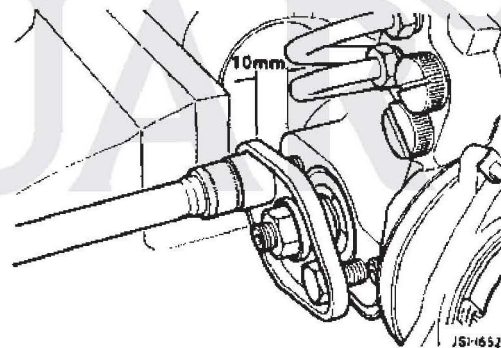


FIG 4

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.

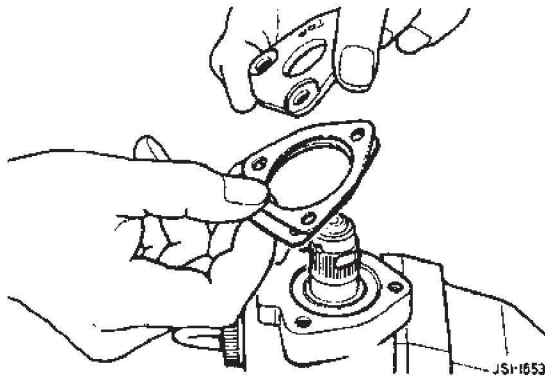


FIG 5

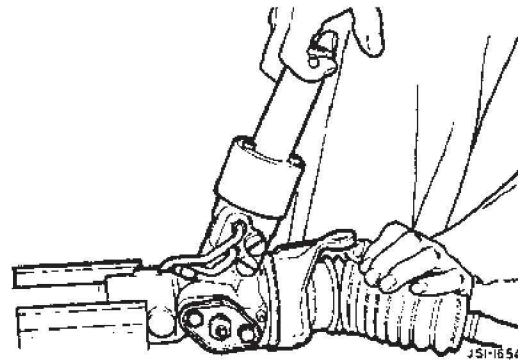


FIG 6

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.

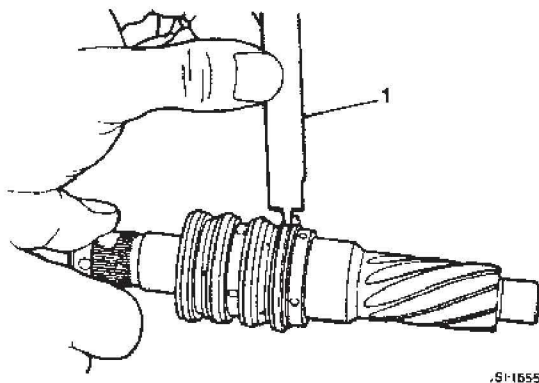


FIG 7

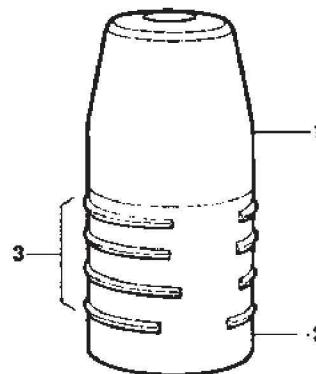


FIG 8

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).

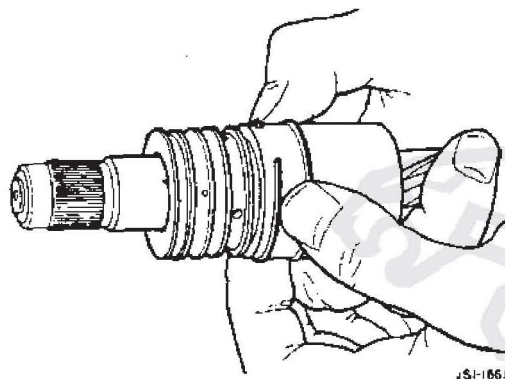


FIG 9

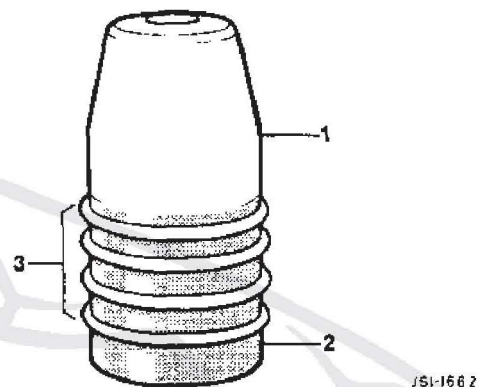


FIG 10

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.

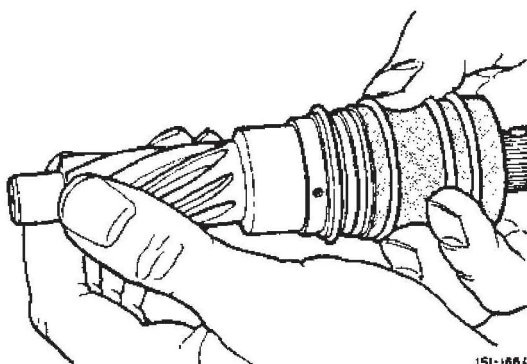


FIG 11

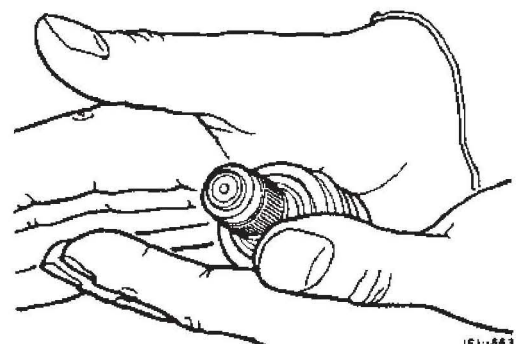


FIG 12

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.

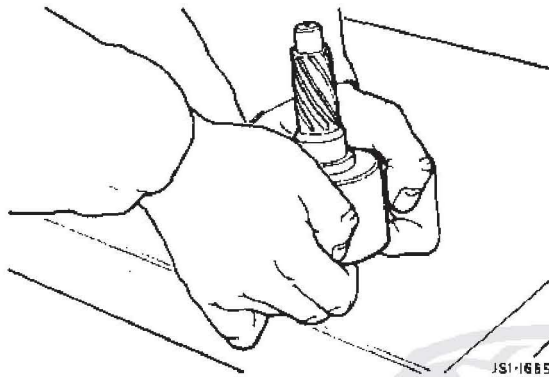


FIG 13

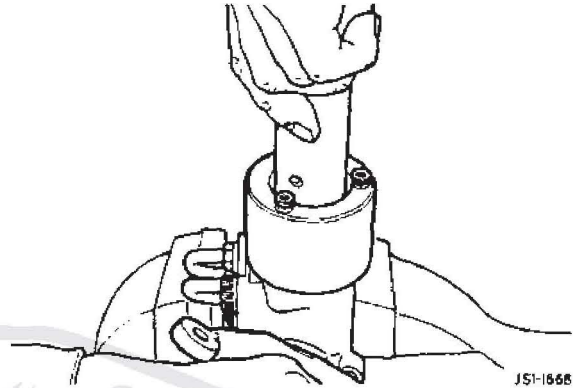


FIG 14

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).

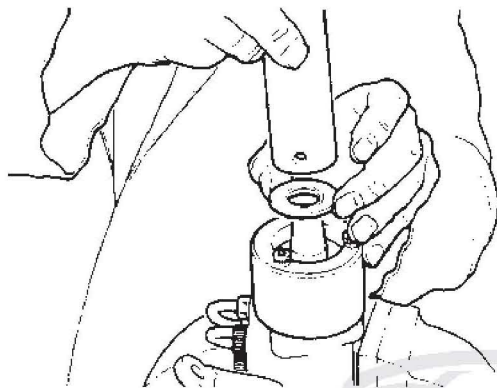


FIG 15

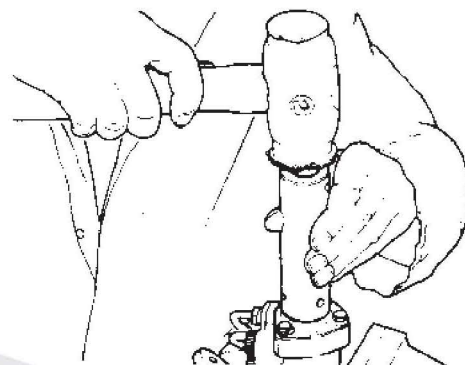


FIG 16

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).

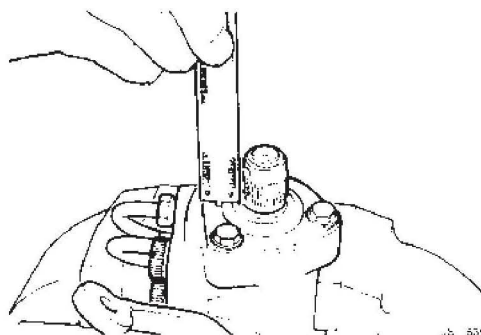


FIG 17

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.

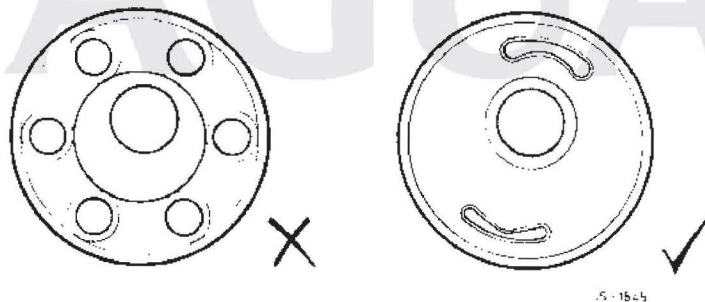


FIG 1

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.

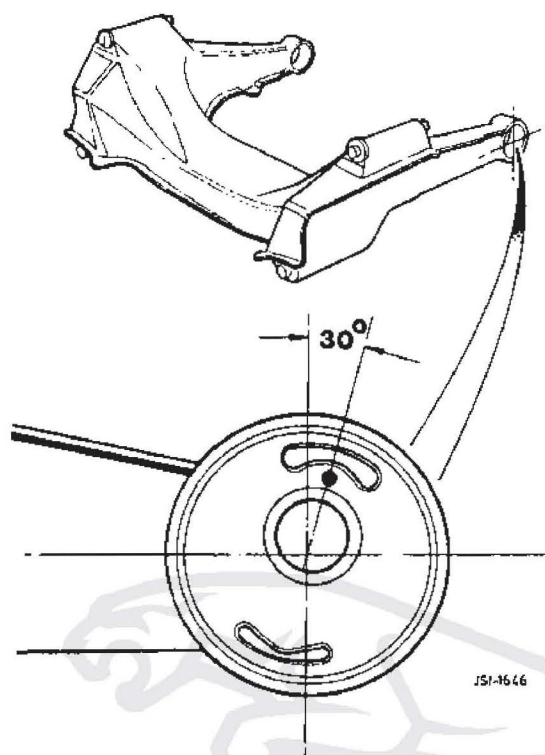


FIG 2

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

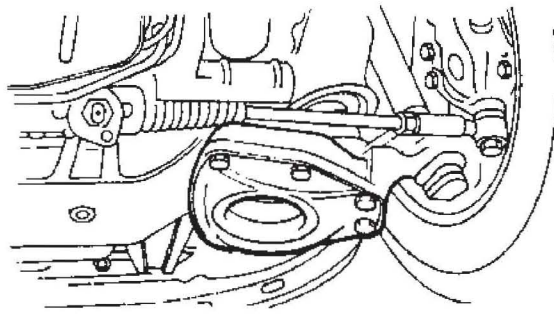
60 FRONT HUB SEAL REPLACEMENT

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:

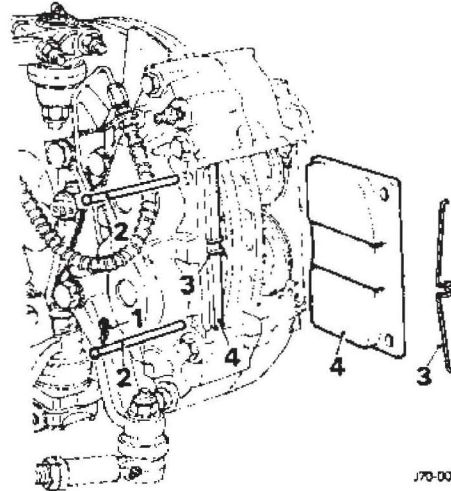
Note: Prior to carrying out the procedure, an absorbent cloth should be placed around the brake fluid reservoir cap

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



J08 005

FIG 1



J70-007

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).

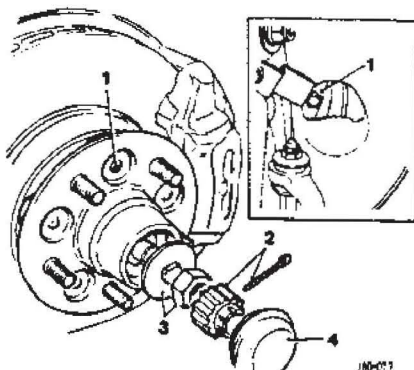
WARNING: BRAKE LINING DUST CAN CONTAIN ASBESTOS WHICH, IF INHALED, CAN DAMAGE YOUR HEALTH. ALWAYS USE A VACUUM BRUSH TO REMOVE DRY BRAKE LINING DUST. NEVER USE AN AIRLINE.

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.

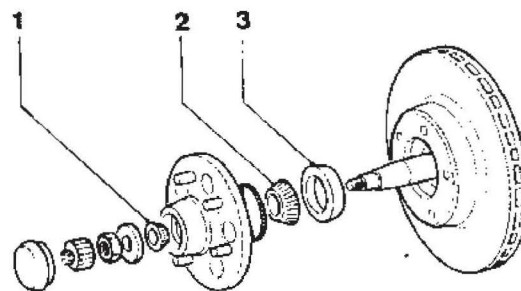
Prise of the hub grease cap (4 Fig. 3). Remove the hub nut split pin and cover (2 Fig. 3). Remove the hub nut and 'D' washer (3 Fig. 3). Carefully remove the hub assembly from the stub axle. Remove the outer bearing (1 Fig. 4) from the hub assembly.

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).



J60-001

FIG 3



J60-006

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).

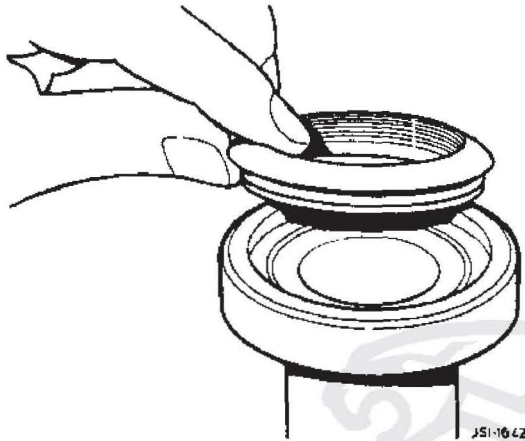


FIG 5

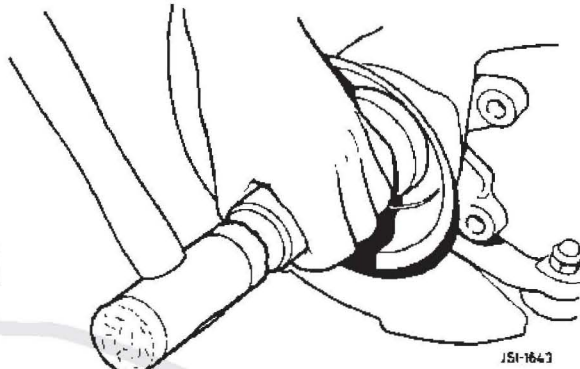


FIG 6

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).

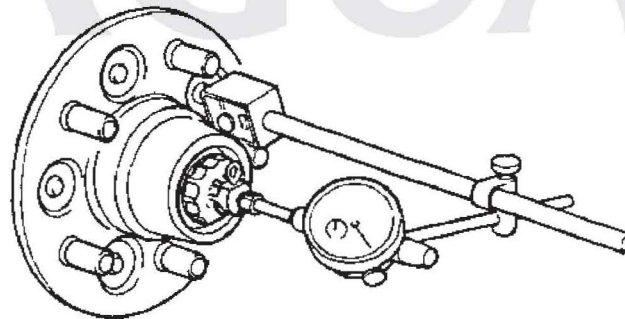


FIG 7

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.

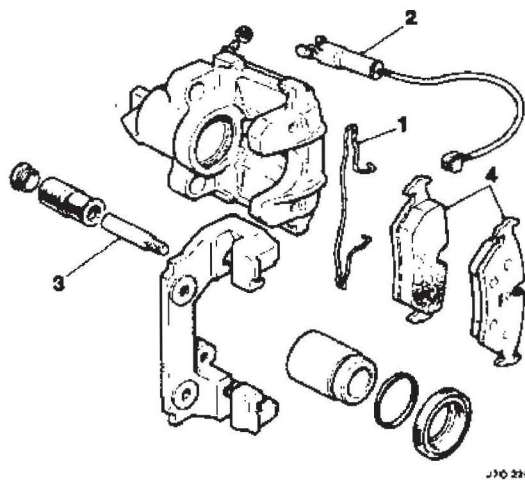


FIG 1

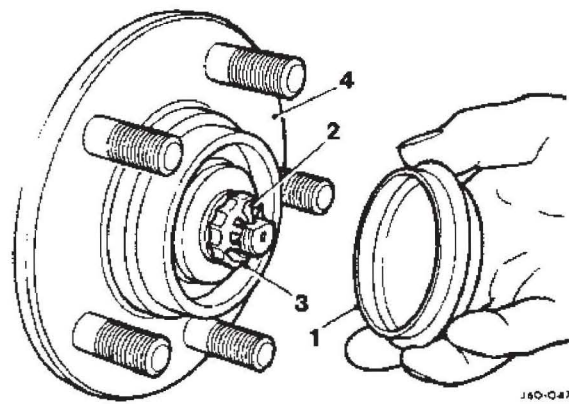


FIG 2

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.

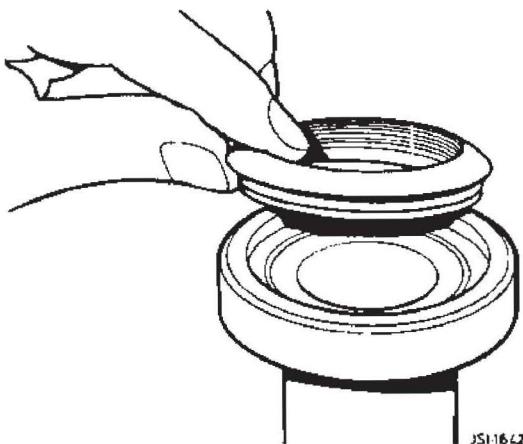


FIG 3

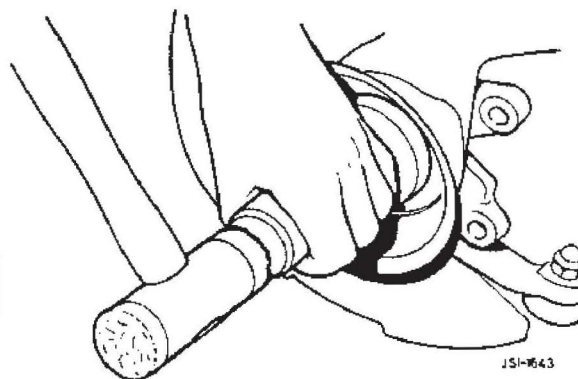
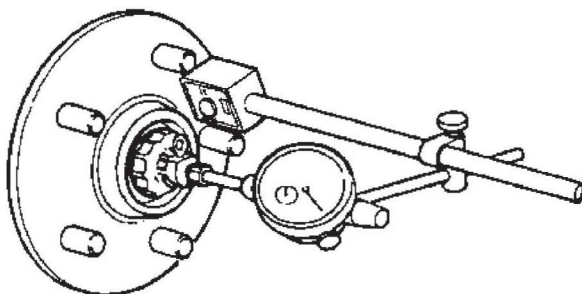


FIG 4

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).



60 102

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.

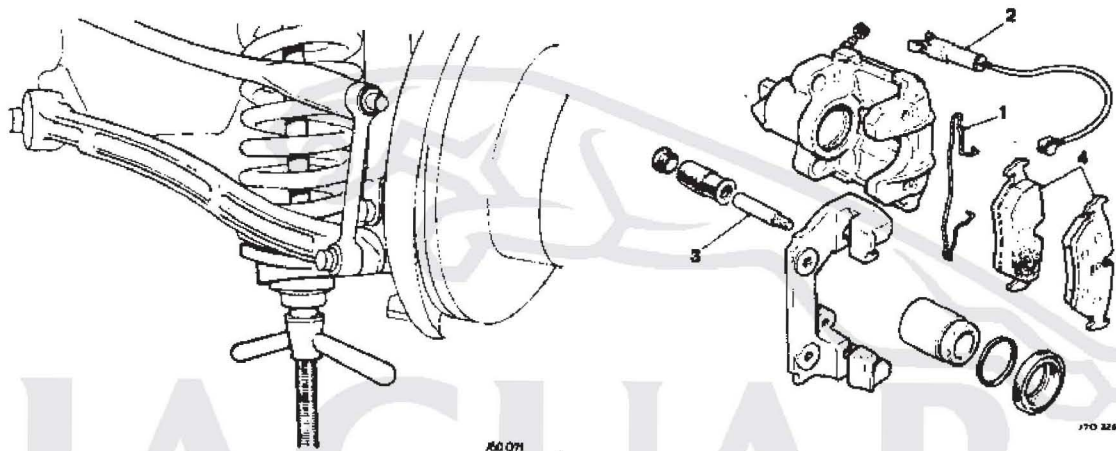


FIG 1

FIG 2

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.

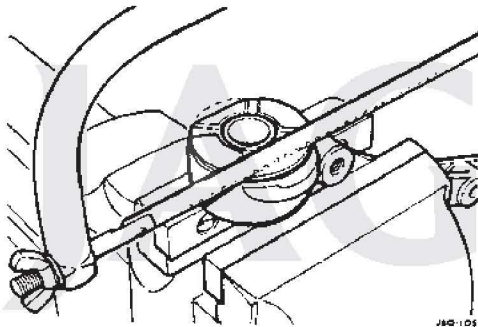


FIG 3

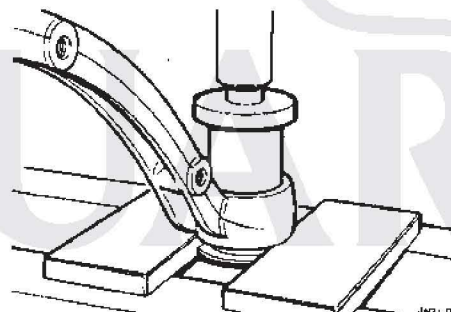


FIG 4

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.

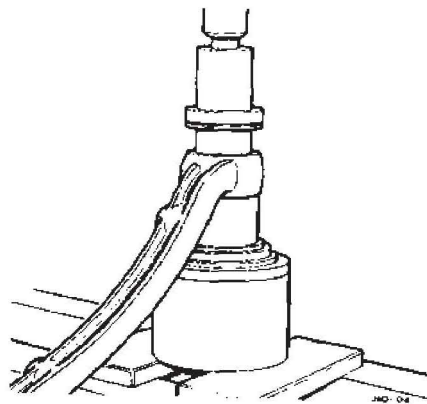


FIG 5

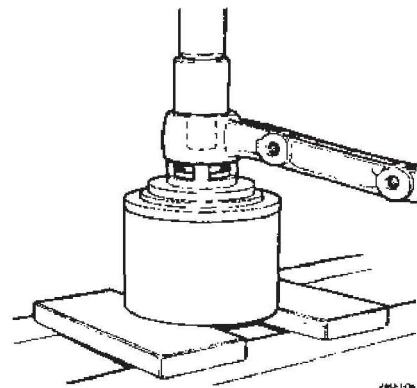


FIG 6

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.

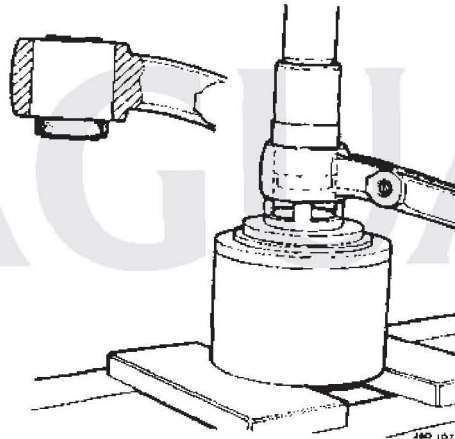


FIG 7

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).

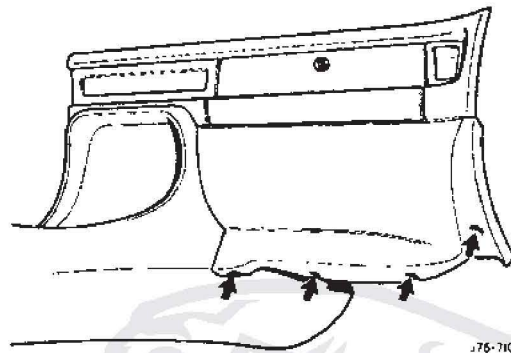


FIG 1

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.

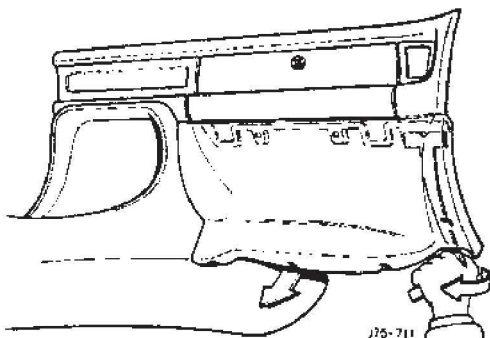


FIG 2

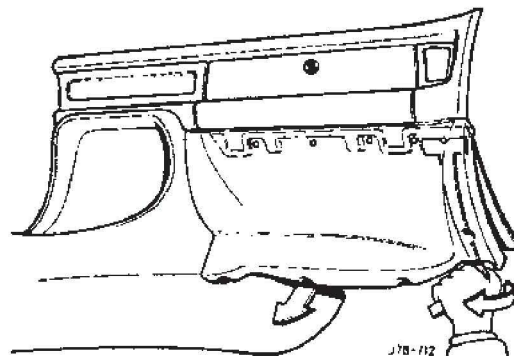


FIG 3

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.

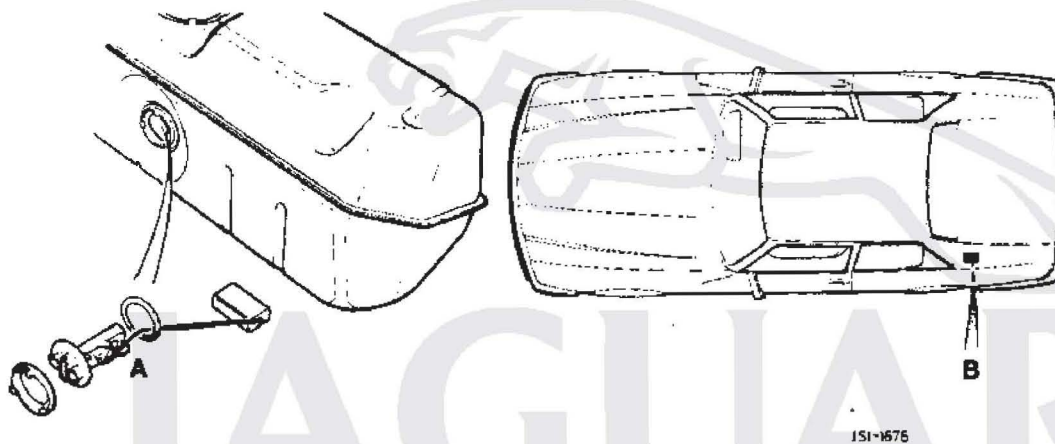
XJ-S FACELIFT**ITEM: 16****86 ANTI-SLOSH MODULE / FUEL TANK SENDER UNIT – FAULT DIAGNOSIS**

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).

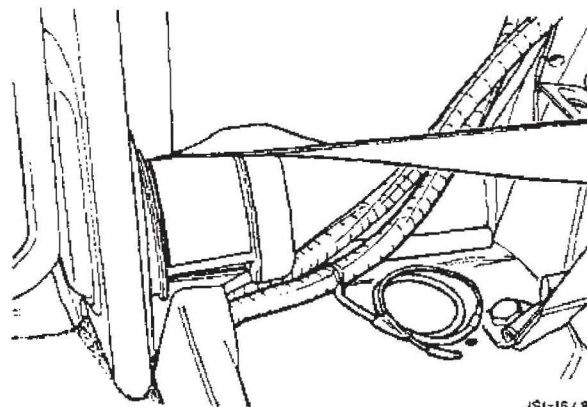


FIG 1

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).

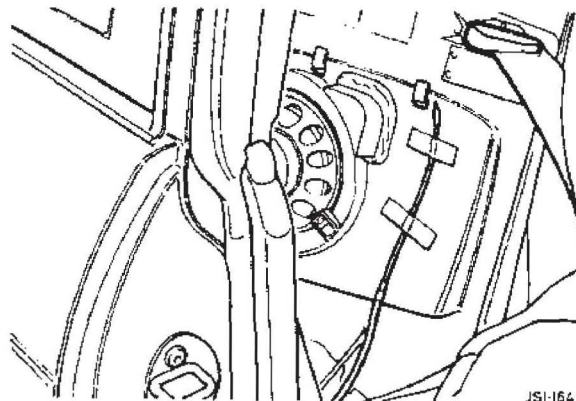


FIG 2

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.

DATE: JULY 1993

PAGE: 1 of 3

REF: JD 14/93

ALL AJ6 AND V12 ENGINES COMMENCING 1993 MY

ITEM: 10

11 MODIFICATION TO SPECIAL TOOL FOR CRANKSHAFT DAMPER

Following a running change to certain dimensions on the crankshaft damper, prior to the introduction of the V12 6.0L engine, it is necessary to carry out a minor corresponding modification to the Special Tool 18G 1436, to permit the use of the tool on this engine.

With the modification carried out, the Special Tool will then fit to either the earlier or later pattern of dampers.

Modification is only required to the existing Special Tool, identified as 18G 1436, supplied to Dealers prior to January 1993. From this date all stock of the tool has been modified and identified by suffix 'A'. From January 1993, issues have only been made of the modified Special Tool, 18G 1436A.

Modification Method:

Refer to Fig. 1. below. Using a round file, slot the outer two holes by 1mm each, towards the centre of the tool, as indicated by the highlighted zone in the illustration.

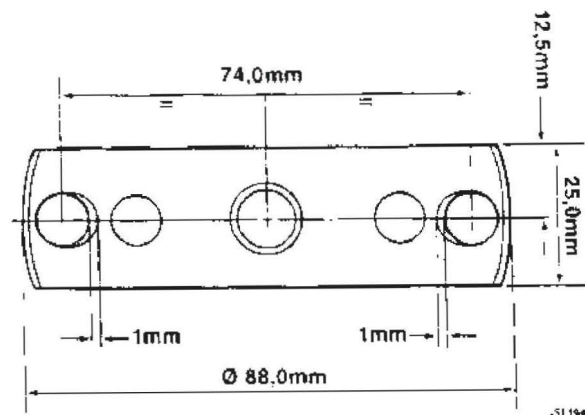


Fig. 1

XJ6 / XJ12 MODELS

ITEM: 11

60 FRONT ROAD SPRING ALIGNMENT

Further instructions have been added to the following operations:

60.20.01 Front Road Spring – Renew

60.20.02 Front Road Spring Vehicle Set – Renew

60.20.03 Front spring Pan – Renew

Note: The instructions apply to 1993 M.Y. vehicles onward. However, they can also be applied when renewing, removing or refitting front road springs to earlier vehicles.

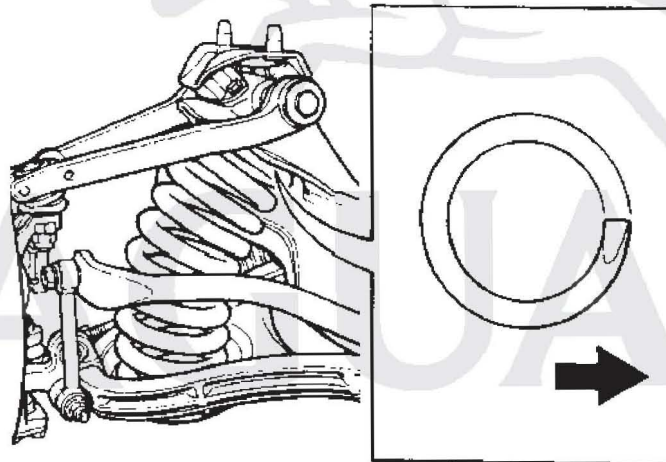
When fitting front road springs, to prevent a possible foul condition with the anti-roll bar, the springs should be fitted and aligned as follows:

Right hand spring.

Set the spring with its top tang end toward the front of the vehicle (Fig. 1).

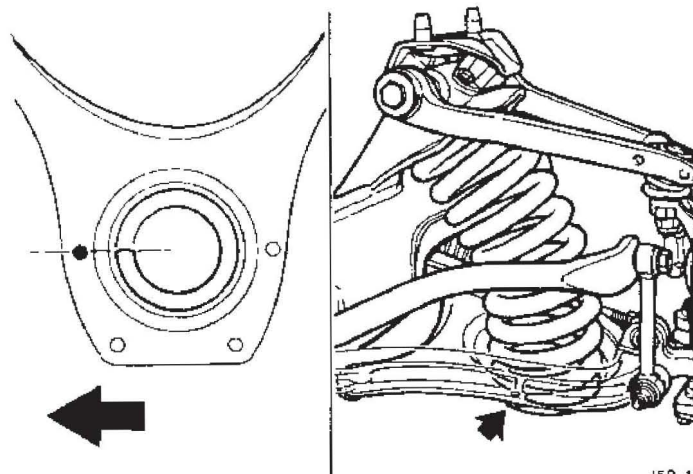
Left hand spring.

Set the spring with its bottom tang end to align with the front, middle bolt hole, of the spring pan (Fig. 2).



J60-112

Fig. 1 Right hand spring.



J50-111

Fig. 2 Left hand spring.

XJ6 / XJ12 ALL MODELS

ITEM: 12

70 FRONT BRAKE DISC SHIELD FIXING SCREWS

From an approximate VIN of 674930, the fixing screws for the XJ6 / XJ12 front brake disc shield have been changed in production. The later type of fixing screw and a revised torque figure may be used on earlier-built vehicles. This should overcome any problems of the earlier fixing screws working loose in service.

Original part:	Description	-	Button-headed screw
	Part No.	-	SB 106101 PJ
	Torque figures	-	7 – 9 Nm
Replacement part:	Description	-	Torx-headed screw
	Part No.	-	JXL 10612 F
	Torque figures	-	10 – 12 Nm

