TECHNICAL BULLETIN

JAGUAR SERVICE

Ride Leveling Struts Stay at Maximum Height and/ or Pressure Relief Valve Cycles – Charge Valve Blocked – Clean Hydraulic System/Install Filters

MODEL Sedan Range 1988 - 1993 MY DATE 1/94

66-22 AMENDED 9/94

Remove and destroy Bulletin 66-22, Date 1/94.
Replace with this Bulletin.
Revisions are marked with a bar and indicated in Bold Text.

ISSUE:

On 3.6 and 4.0 liter Sedan vehicles with ride leveling, the following conditions can occur:

- The rear struts rise to maximum height when the engine is started and remain fully extended until the engine is switched off.
- The power hydraulic pressure relief valve cycles continuously.

Either or both of these conditions can be caused by debris in the ride level system blocking the charge valve filter screen.

ACTION:

If either of the above conditions occur, confirm that the charge valve is the cause by disconnecting the solenoid valve electrical plug and starting the engine.

If the condition does not occur after the solenoid valves are disconnected, an electrical problem exists and this bulletin does not apply. For further diagnosis, refer to the Power Hydraulic System Focus Book (S 73).

If the condition still occurs after the solenoid valves are disconnected, disassemble the solenoid valve block and replace the charge valve. Thoroughly clean the valve block and remaining valves(s) before reassembly. For valve block service information, refer to the Power Hydraulic System Focus Book.

At the same time, perform the following procedure to install rear strut filters and clean and power hydraulic system.

<u>There are procedures for three vehicle groups:</u>

1. 1988/89 MY 3.6L Sedans.
2. 1990 to 1992 MY 4.0L Sedans (with combined reservoir for ride leveling and power steering systems).
3. 1993 MY 4.0L Sedans (with separate reservoir for ride leveling system).

<u>Procedures:</u>

NOTE: Use only approved Hydraulic System Mineral Oil when filling the power hydraulic/ride leveling reservoir.

1. <u>1988/89 MY 3.6L Sedans</u>

- Install rear strut filters using the following procedure:

A. Remove both rear struts from the vehicle. Refer to XJ6 Service Manual section 66.20.01.

B. Perform the following work on each strut:
   - Remove the coiled feed pipe and union nut from the top of the strut shaft.
   - Remove the brass restrictor from the shaft.
   - Insert a ride leveling strut filter (MMB 3435CA) to the shaft.
   - Check that the hole in the brass restrictor is clear and the sealing surfaces are clean.
   - Fit the restrictor into the shaft, against the filter.
   - Install the coiled feed pipe and torque the union nut to 14.5 ft. lbs. (±2 ft. lbs.).

C. Fit the rear struts to the vehicle.

D. Bleed the ride leveling system using the procedure given at the end of this bulletin.

2. <u>1990-1992 MY 4.0L Sedans - with combined reservoir for ride leveling and power steering systems</u>

- Install rear strut filters. Perform procedure 1, steps A through C.
- Drain the power hydraulic reservoir using the following procedure:

A. Remove the cap from the power hydraulic reservoir.
Disconnect the feed hose to the power steering pump inlet and drain the reservoir into a 2 quart waste container. Remove the reservoir from its mounts and tip it to fully drain the fluid. Discard the fluid.

B. Fit the reservoir cap. Cap off the power steering pump inlet stub pipe and feed hose to prevent dirt ingress.

- Install a new power hydraulic in-line filter using the following procedure:

A. Disconnect the ignition coil HT lead. Remove the bolts from the coil mounting strip and release the hydraulic feed hose "P" clip. Move the ignition coil rearward to provide access to the power hydraulic pump feed hose.

B. Disconnect the feed hose from the power hydraulic pump and drain the remaining fluid into the waste container. Discard the fluid.

C. Cap off the power hydraulic pump inlet stub pipe and feed hose to prevent dirt ingress.

D. Move the power hydraulic pump feed hose up to gain access to the in-line filter. Carefully remove the original filter. Do not damage the low pressure hose. Install a new filter, part number CBC 9538.

NOTE: The arrow on the new filter must point toward the hydraulic pump inlet.

E. Refit the power hydraulic reservoir to its mounts and position the feed hoses to their original locations.

F. Remove the protection caps and reconnect the feed hoses to the power steering pump and the power hydraulic pump.

G. Install the ignition coil mounting strap bolts with the hydraulic hose "P" clip on the inboard bolt and the ground wire eyelet on the outboard bolt. Connect the HT wire.

- Fill the reservoir with new fluid and install the cap.
- Start the engine and turn the steering wheel lock to lock twice to blend the power steering system.
- Bleed the ride leveling system using the procedure given at the end of this bulletin.

3. 1993 MY 4.0L Sedans - with separate reservoir for ride leveling system

- Install rear strut filters. Perform procedure 1, steps A through C.

> NOTE: Strut filters were introduced in production from approximate VIN 676400. If charge valve blockage occurs on vehicles after VIN 676400, discard the existing strut filters and install new filters.

- Drain the ride leveling fluid reservoir using the following procedure:

  A. Remove the ride levelling fluid reservoir from its mounts. Remove the cap from the reservoir. Disconnect the feed hose from the reservoir and drain the reservoir into a 2 quart waste container. Tip the reservoir to fully drain the fluid. Discard all fluid.

  B. Reconnect the feed hose. Refit the reservoir to its mounts.

- Fill the reservoir with new hydraulic fluid and install the reservoir cap.
- Bleed the ride levelling system using the procedure given at the end of this bulletin.

ALL MODELS - Ride Leveling System Bleeding Procedure

- Drive the vehicle on a ramp (wheels must support the weight of the vehicle).
- Apply the parking brake and place the gear selector in P (park).
- Top-up the power hydraulic fluid reservoir.
- Start the engine and raise the ramp.
- Disconnect the ride height sensor link rod at the rear suspension right side lower wishbone.
- Raise the sensor link rod approximately 1 inch. The rear of the vehicle will rise after approximately 20 seconds.
- Switch off the engine when the "pulsing" is felt in the strut feed pipe.
- Remove the bleeder valve cover at the top of the left strut. Connect one end of the hose to the valve and place the other end in a waste container.
- Open the bleeder valve and allow fluid flow until the suspension lowers fully.
- Tighten the bleeder valve.
- Top-up the fluid reservoir.
- Start the engine and repeat the bleeding operation.
- Remove the bleed hose and refit the bleeder valve dust cover.
- Top-up the fluid reservoir.
- Start the engine
- Raise the rear suspension by moving the sensor link rod.
- When "pulsing" is felt in the strut feed pipe, reconnect the sensor link rod to the suspension wishbone. The vehicle will return to normal ride height after approximately 20 seconds.
- Lower the ramp and top-up the reservoir.

REPAIR POLICY:

On 1990-92 models with a low pressure hose filter, the filter must be removed carefully to prevent damage to the hose. The low pressure hose must not be changed unless it is leaking from the "Y" joint.

PARTS INFORMATION:

PART NUMBER	DESCRIPTION	QTY.
CBC 9701	Charge Valve	1
MMB 3435CA	Strut Filters	2
CBC 9538 (Req'd for 90 - 92 MY vehicles only)	In-Line Filter	1
JLM 9886	HSMO - Bottles	4

WARRANTY INFORMATION:

Charge valve blocked - Replace charge valve

Fault Code:	GT GP CB
Repair Operation Number:	66.30.18/09
Time Allowance:	0.70 hrs.

Install strut filters/clean hydraulic system

Repair Operation Number: 66.91.24

VIN RANGE		TIME ALLOWANCE
500001 to 594575	(88/89 MY)	1.90 hrs.
594576 to 667828	(90 thru 92 MY)	2.55 hrs.
667829 - onwards	(93 MY)	2.05 hrs.

WARRANTY POLICY:

Low pressure hoses that are changed for leaking must be returned to Jaguar Cars for inspection. Hoses that are not leaking will be debited from the warranty claim.