XJ6 & VANDEN PLAS 3.6

MAINTENANCE GUIDE

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INTRODUCTION

This Maintenance Guide covers the Jaguar XJ6 and Vanden Plas 3.6 models. The Maintenance Schedule shown on pages 2 and 3 matches the Maintenance Worksheets used when performing service. The Maintenance Procedures beginning on page 4 are keyed to the schedule and should be completed when indicated by the schedule.

References — References to left and right are made while seated in the vehicle.

Service Tools — Special tool numbers are included in the Maintenance Procedures.

Tightening Torques, Clearances, Settings — Values and dimensions for assembly and adjustment are included in the Maintenance Procedures.

Specifications — Relevant specifications are included in the Maintenance Procedures. Additionally, complete specifications are listed in the Specifications section.

MAINTENANCE SCHEDULE

1,000 mi.	7,500 mi.	15,000 mi.	
INTERIOR			
✓	✓	✓	1. **Protect interior.**
✓	✓	✓	2. **VCM warning system** — Check.
✓	✓	✓	3. **Audible warning system** — Check.
✓	✓	✓	4. **Horns** — Check operation.
✓	✓	✓	5. **Windshield wiper** — Check operation.
✓	✓	✓	6. **Windshield/headlight washers** — Check operation, delivery, and spray pattern.
✓	✓	✓	7. **Inertia switch** — Check operation.
✓	✓	✓	8. **Seat belts** — Check condition, operation.
EXTERIOR			
	✓	✓	9. **Door check mechanisms** — Lubricate.
	✓	✓	10. **Windshield wiper blade** — Clean; replace if necessary.
✓	✓	✓	11. **Radio antenna** — Clean.
UNDERBODY			
		60K mi.	12. **Fuel filter** — Replace at 60,000 miles.
✓	✓	✓	13. **Exhaust system** — Check for leakage, security, clearance.
✓	✓	✓	14. **Engine** — Check for oil leaks.
✓	✓	✓	15. **Engine oil and filter** — Replace.
✓	✓	✓	16. **Automatic transmission** — Check for oil leaks.
		30K mi.	17. **Automatic transmission fluid and filter** — Replace.
	✓	✓	18. **Rear axle** — Check oil level, leaks; top up if necessary.
	✓	✓	19. **Brake pads** — Inspect for wear; check disc condition at pad replacement.
		✓	20. **Handbrake** — Adjust.
		30K mi.	21. **Brake fluid** — Replace.
✓	✓	✓	22. **Power hydraulic hoses, pipes, unions, levelling units** — Check for chafing, cracks, corrosion, and leakage.
✓	✓	✓	23. **Braking system hoses, pipes, unions** — Check for chafing, cracks, corrosion, and leakage.
✓	✓	✓	24. **Power steering pipes, hoses, unions** — Check for chafing, security, and leakage.
✓	✓	✓	25. **Fuel system** — Check for leakage, security, corrosion, hose condition.
		✓	26. **Shock absorbers** — Check for leakage.
		✓	27. **Steering rack sealing** — Check condition.
		✓	28. **Drive shaft universal joints** — Lubricate (2 per drive shaft).
		✓	29. **Underbody anti-corrosion protection** — Check general condition.
✓	✓	✓	30. **Tires (including spare)** — Check for correct size and type; check and record tread depth; check for uneven and excessive wear; check and adjust pressure.
		✓	31. **Front wheel hubs** — Check and adjust end float.
		60K mi.	32. **Handbrake shoes** — Check wear; replace if necessary.
✓	✓	✓	33. **Road wheel lug nuts** — Torque to specification.

MAINTENANCE SCHEDULE

1,000 mi.	7,500 mi.	15,000 mi.	
ENGINE COMPARTMENT			
✓	✓	✓	**34. Protect fenders.**
✓	✓	✓	**35. Fill engine oil.**
		30K mi.	**36. Fill transmission fluid.**
		30K mi.	**37. Spark Plugs** — Replace.
✓	✓	✓	**38. High tension leads** — Check security.
✓	✓	✓	**39. Engine oil filter** — Check sealing.
		30K mi.	**40. Automatic transmission** — Check sealing.
✓	✓	✓	**41. Engine oil** — Top up as necessary.
✓	✓	✓	**42. Transmission fluid** — Top up as necessary.
✓	✓	✓	**43. Brake fluid reservoir** — Check level; top up as necessary.
		30K mi.	**44. Engine coolant** — Replace.
✓	✓	✓	**45. Cooling system (including heater matrix)** — Check hose condition. Check for leakage. Check level; protection range; top up as necessary.
		✓	**46. Air filter** — Replace.
✓	✓	✓	**47. Cruise control system** — Check vacuum hoses for security and condition.
✓	✓	✓	**48. Fuel system** — Check for leaks.
✓	✓	✓	**49. Engine** — Check for leaks.
✓	✓	✓	**50. Battery** — Check electrolyte level; top up with distilled water.
✓	✓	✓	**51. Battery terminals** — Clean and grease connections.
✓	✓	✓	**52. Washer fluid reservoir** — Check level; top up as necessary.
✓	✓	✓	**53. Power steering fluid reservoir** — Check level; top up as necessary.
✓	✓	✓	**54. Power steering system** — Check for chafing, corrosion, leakage.
		✓	**55. Air conditioning system** — Check sight glass level.
✓			**56. Air conditioning system**— Check hose condition; check for leakage.
✓	✓	✓	**57. Power hydraulic reservoir** — Check level; top up if red showing. CAUTION: HYDRAULIC SYSTEM MINERAL OIL ONLY.
		✓	**58. Power hydraulic accumulator** — Check gas charge. Note: not applicable at first 15,000 miles.
	EVERY 5 YEARS		**59. Power hydraulic system** — Replace fluid.
		30K mi.	**60. Drive belts** — Check condition and tension; replace as necessary.
		30K mi.	**61. Radiator and condenser** — Clean.
✓			**62. Headlights** — Check; adjust aim.
		52.5K mi.	**63. Oxygen sensor** — Replace.
		52.5K mi.	**64. Catalytic converters** — Replace.
		52.5K mi.	**65. Absorption canister** — Replace.
ROAD TEST			
			66. Perform comprehensive road test.
			67. Remove interior protection; clean as necessary: controls, door handles, steering wheel.

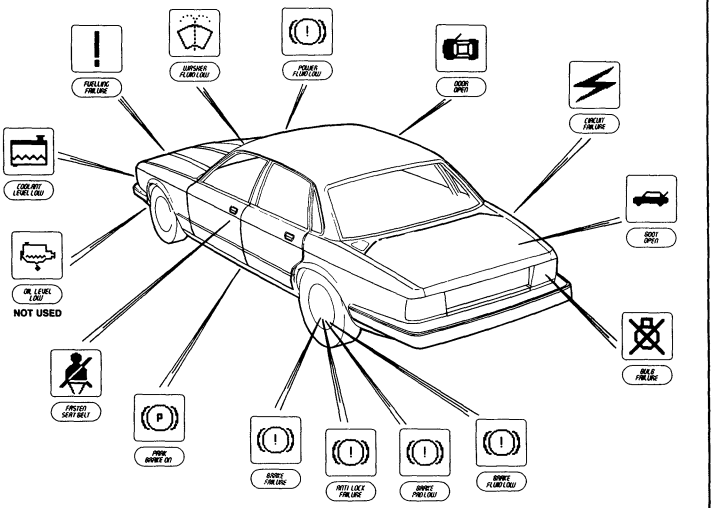


FIG 1

1. Protect Interior

Protect the interior of the vehicle from damage or dirt by covering the seats and carpets. Before working inside the vehicle, be sure hands are clean.

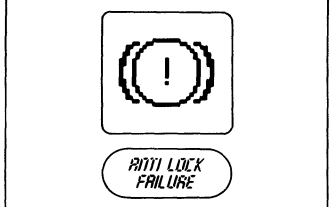


FIG 2

2. VCM Warning System — Check (FIG 1)

Anti-Lock Braking failure warning (FIG 2)

IGNITION TO II.

Observe the VCM. An amber flashing border around the anti-lock failure symbol will be displayed. Start the engine and idle until the warning symbol goes out (up to 15 seconds).

STOP THE ENGINE.

If the warning symbol does not go out after 15 seconds, an anti-lock braking system failure is indicated which requires investigation.

Note: The brake failure symbol will be displayed until the power hydraulic accumulator pressure has built up. The seat belt symbol will also display for a few cycles.

VCM Warnings

Close the trunk and all doors. Fasten the driver's seat belt if occupied. Ensure that the gear selector is in P.

Apply the brakes and release the handbrake.

Start the engine and idle until the brake failure and anti-lock failure warning symbols go out. The VCM screen should now be blank.

If any warning symbols are displayed, a condition or fault exists which must be rectified.

If the VCM remains blank, press the VCM button (FIG 3) to prove the display function. The VCM will display all symbols in sequence.

Apply the handbrake and stop the engine.

Note: The engine oil level warning symbol is displayed only. It is not used to measure oil level.

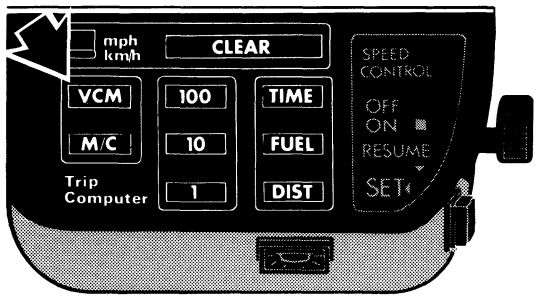


FIG 3

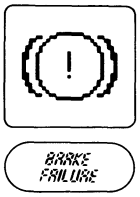


FIG 4

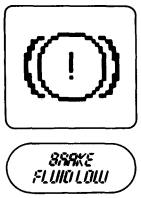


FIG 5

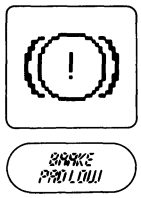


FIG 6

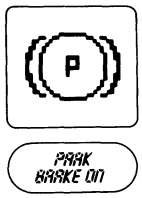


FIG 7

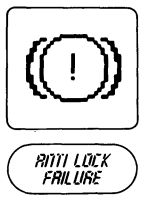


FIG 8

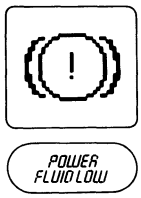


FIG 9

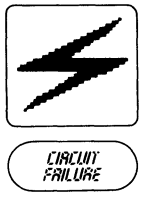


FIG 10

VCM Warnings — Explanation

BRAKE FAILURE (FIG 4)
A red flashing border will be displayed around the symbol. If the brake pedal operation and the power hydraulic pressure are normal, the warning system fault must be determined using JDS.

BRAKE FLUID LOW (FIG 5)
A red flashing border will be displayed around the symbol. Check the level of the brake fluid as detailed in operation 43. If the fluid level is correct, the warning system fault must be determined using JDS.

BRAKE PAD LOW (FIG 6)
A red flashing border will be displayed around the symbol. Inspect the brake pads for wear as detailed in operation 19. If the pads are OK, the warning system fault must be determined using JDS.

PARK BRAKE ON (FIG 7)
A red flashing border will be displayed around the symbol. Check that the handbrake is off. If the warning remains on when the brake is released, the warning system fault must be determined using JDS.

ANTI-LOCK FAILURE (FIG 8)
An amber flashing border will be displayed around the symbol. The anti-lock braking system and the warning system require JDS investigation.

POWER FLUID LOW (FIG 9)
A red flashing border will be displayed around the symbol. Check the level of the power hydraulic reservoir as detailed in operation 57. If the fluid level is okay, the warning system fault must be determined using JDS.

CIRCUIT FAILURE (FIG 10)
A red flashing border will be displayed around the symbol. The fuse box number will be identified. Refer to pages 34-35 for details of the fuses in each box. If the fuses are okay, the fault must be determined using JDS.

COOLANT LEVEL LOW (FIG 11)
A red flashing border will be displayed around the symbol. Check the level of the coolant as detailed in operation 45. If the coolant level is correct, the warning system fault must be determined using JDS.

DOOR OPEN (FIG 12)
A red flashing border will be displayed around the symbol. Check that the indicated door is closed. If closed and the warning symbol remains on, the warning system fault must be determined using JDS.

BOOT OPEN (FIG 13)
A red flashing border will be displayed around the symbol. Check the trunk. If it is closed and the warning symbol remains on, the warning system fault must be determined using JDS.

WASHER FLUID LOW (FIG 14)
An amber flashing border will be displayed around the symbol. Check the level of the washer fluid as detailed in operation 52. If the level is correct, the warning system fault must be determined using JDS.

BULB FAILURE (FIG 15)
An amber flashing border will be displayed around the symbol. The bulb warning system monitors two separate circuits — failure of turn signals, and failure of all other external bulbs. In addition to the VCM display, the turn signal indicator warning will also operate at twice its normal speed. Refer to the Bulb Chart on page 33 for bulb specifications and part numbers. If all bulbs are okay and the warning remains on the VCM, the warning system fault must be determined using JDS.

SEAT BELT (FIG 16)
A red flashing border will be displayed around the symbol. Ensure that the seat belts of all occupied seats are fastened. If the warning remains on, the warning system fault must be determined using JDS.

FUELLING FAILURE (FIG 17)
An amber flashing border will be displayed around the symbol. The fault in the engine management system must be determined using JDS.

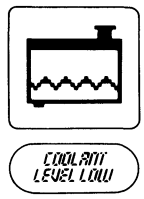


FIG 11

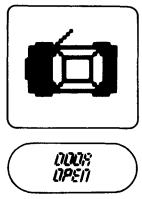


FIG 12

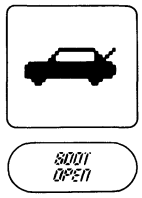


FIG 13

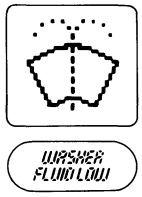


FIG 14

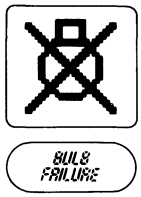


FIG 15

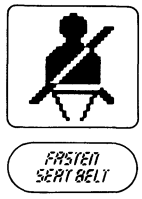


FIG 16

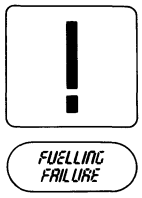


FIG 17

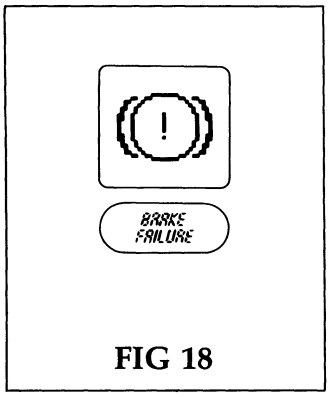


FIG 18

Check brake low pressure warning system.

ENGINE OFF; IGNITION TO II.

Sit in the vehicle; ensure that all doors and the trunk are closed.

Apply the handbrake and disconnect the driver's seat belt.

The park brake and seat belt warning symbols will flash alternately on the VCM.

Pump the brake pedal to depressurize the accumulator (approximately 15 times) until the brake pedal becomes "hard."

A red flashing border around the symbol for brake failure will be displayed on the VCM (FIG 18).

If the warning does not appear, the warning system fault must be determined using JDS.

3. Audible warning system — Check.

If any of the audible warnings do not operate, the fault must be determined using JDS.

PARK
IGNITION OFF.
Apply the handbrake and position the gear selector lever in P. Move the selector lever out of P; the audible warning will sound. Move the selector lever back to P; the warning will not operate.

SEAT BELT
IGNITION TO II.
Sit in the driver's seat with the seat belt connected and close the door. Open the door; the audible warning will sound. Close the door; the warning will not operate.
IGNITION OFF.

KEY IN IGNITION
KEY IN IGNITION.
Sit in the driver's seat and close the door. Open the door; the audible warning will sound. Close the door; the warning will not operate.

TURN SIGNALS
Switch ON hazard warning; the audible warning will sound. Switch OFF the hazard warning; the warning will not operate.
IGNITION TO II.
Move the lever up or down; the audible warning will sound. Cancel the turn signals; the warning will not operate.

4. Horns — Check operation.

IGNITION TO II.

Press the end of the switch lever to sound the horns (FIG 19).

If the horns do not sound, the fault must be determined using JDS.

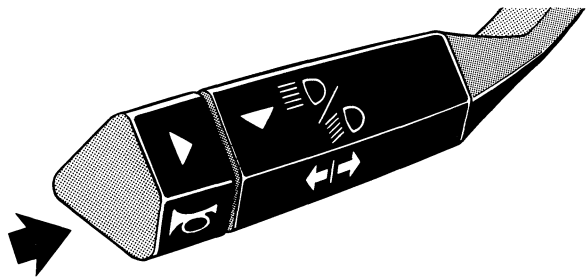


FIG 19

5. Windshield wiper — Check operation.

If any of the wiper switch positions (FIG 20) do not operate, the fault must be determined using JDS.

IGNITION TO II.

Push the wiper switch lever to position 1 for normal speed operation.

Push the wiper switch lever to position 2 for high speed operation.

Push the wiper switch lever to position 0 to cancel the function and park the wiper blade.

Push the wiper switch lever down against spring pressure and release. The blade will perform an intermittent sweep with a 5 second delay. Push the lever down against spring pressure to cancel the function.

Pull the wiper switch lever towards the steering wheel and release for a single sweep.

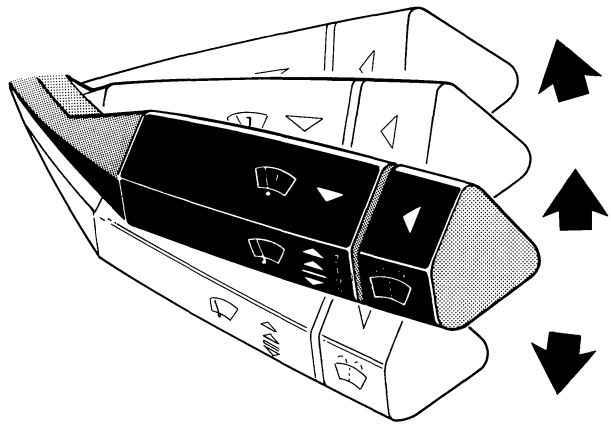


FIG 20

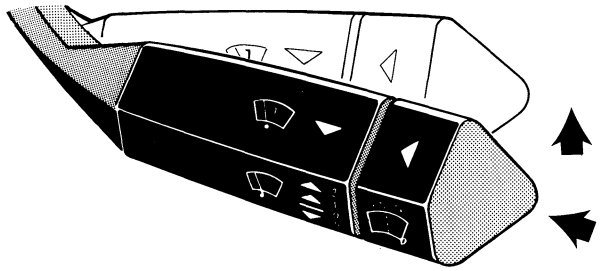


FIG 21

6. Windshield/headlight washers — Check operation, delivery and spray pattern.

IGNITION TO II.

Switch ON the headlights.

Push the wiper switch lever to position 1 and press the end of the wiper switch lever to operate the washers (FIG 21). Observe the wash/wipe cycle on the windshield and the headlights (headlight wash on VDP only).

Switch the wiper, ignition, and lights OFF.

If the windshield washer jets are clogged they can be cleared using a suitable implement.

Reposition the windshield washer jets if necessary by inserting a suitable implement into the jet orifice and moving the jet to the required position.

Note: The headlight washer jets are not adjustable.

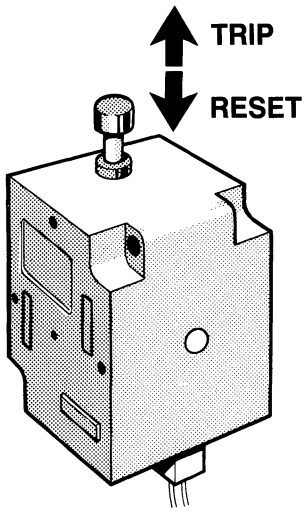


FIG 22

7. Inertia switch — Check operation.

Unlock the trunk and lock all the doors.

IGNITION TO II.

Trip the inertia switch (FIG 22).
The following should occur:

- instrument display out
- all ignition fed circuits switch OFF
- fuel filler cap locks
- trunk locks
- all doors unlock

If all or any functions do not occur, the fault must be determined using JDS. Reset the inertia switch. The instrument display should come on.

Verify door lock operation.

IGNITION OFF.

8. Seat belts — Check condition, operation.

Check all seat belt webbing for imperfections, cuts, fraying or damage.

Sit in the driver's seat and fasten the seat belt. Pull the shoulder belt sharply in a downwards direction; the belt should lock. Repeat for all shoulder belts.

If any seat belt is found to be damaged or the inertia mechanism is not working correctly, the seat belt must be replaced.

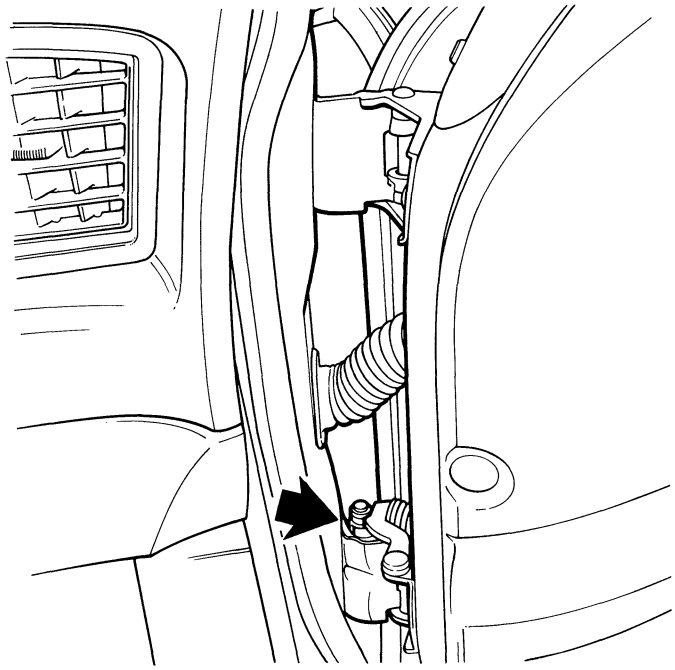


FIG 23

9. Door check mechanisms — Lubricate.

CAUTION: Do not grease the door striker plates or lubricate the door lock barrels. (This will prevent lubricants from contaminating the electrical circuits.)

Open all the doors and clean the door check mechanism (FIG 23). Lightly lubricate the checks using a multipurpose lithium base grease.

10. Windshield wiper blade — Clean, replace if necessary.

Lift the wiper blade clear of the windshield. Wipe clean and check for wear, cracks or damage.

If the wiper blade is damaged, press the retaining clip and withdraw the wiper blade (FIG 24).

After installing the new blade, check that it is held securely in the wiper arm.

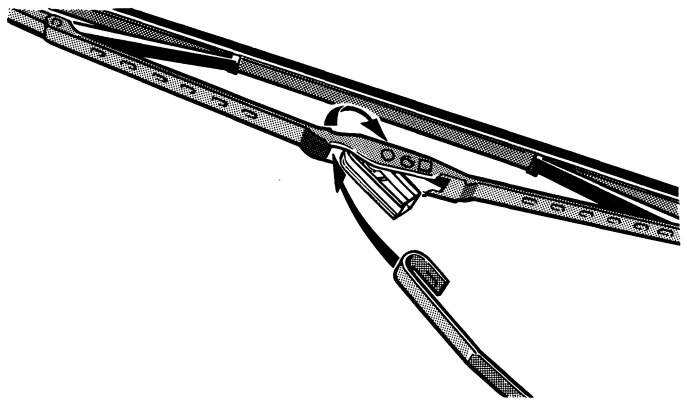


FIG 24

11. Radio antenna — Clean.

IGNITION TO II.

Switch the radio ON and allow the antenna to extend. Wipe with a clean cloth in an upwards direction.

Switch the radio OFF.

IGNITION OFF.

12. Fuel Filter — Replace at 60,000 miles.

WARNING: THIS OPERATION RESULTS IN FUEL AND FUEL VAPOR BEING RELEASED WHICH ARE EXTREMELY FLAMMABLE. EXERCISE ALL APPROPRIATE SAFETY PRECAUTIONS WHEN PERFORMING WORK ON THE FUEL SYSTEM.

Depressurize the fuel system first. Remove the passenger side dash liner. Disconnect the fuel pump relay (FIG 25). Start and run the engine until it stops. Switch OFF the ignition.

Disconnect the battery ground strap.

Place a container below the filter to catch any remaining fuel.

Remove the filter outlet banjo bolt (FIG 26) and position the hose away from the filter. Discard the copper washers. Install protective plugs on the hose and filter.

Disconnect the filter inlet union and position the hose away from the filter. Install protective plugs on the hose and filter.

Loosen but do not remove the mounting clamp hardware.

Remove the filter assembly.

Remove the filter inlet adaptor and carefully drain the filter.

Remove the filter front cover and foam pad. Discard the filter in a safety container.

Use new copper washers and install the new filter in reverse order.

Reinstall the relay.

Reinstall the dash liner.

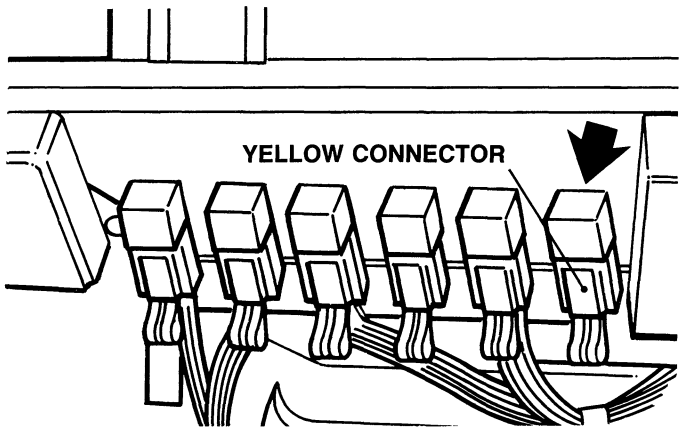


FIG 25

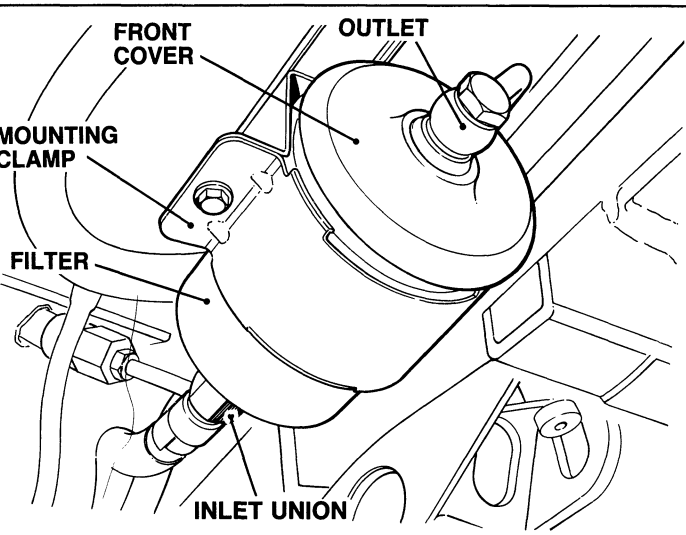


FIG 26

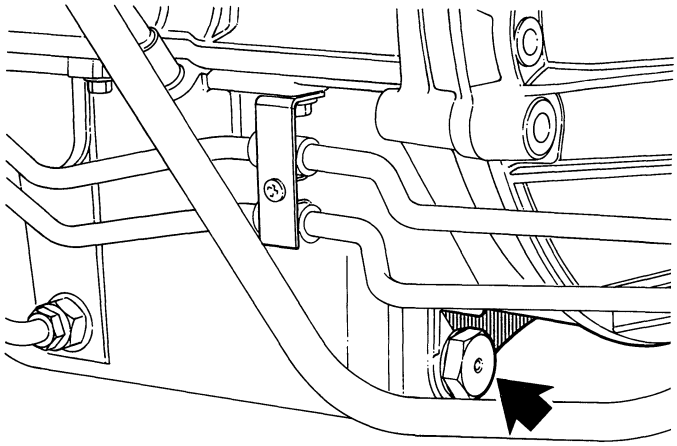


FIG 27

13. Exhaust system — Check for leakage, security, clearance.

Check exhaust system and joints for leaks and general condition.

Check security of mountings.

Check for adequate clearance.

14. Engine — Check for oil leaks.

Check the bottom of the engine for any signs of oil leakage.

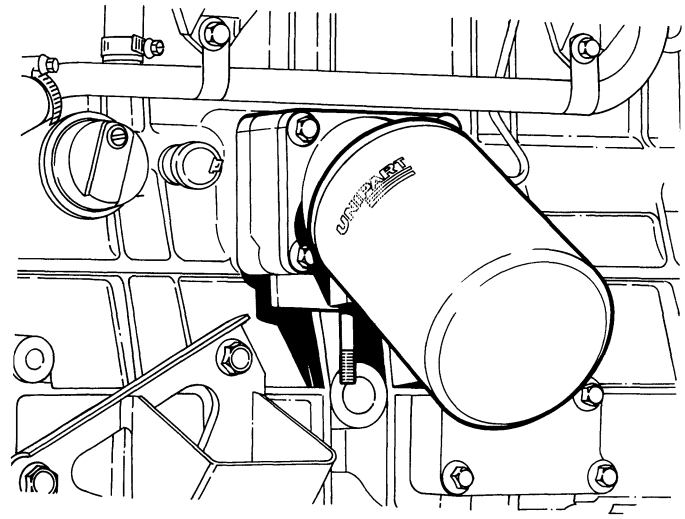


FIG 28

15. Engine oil and filter — Replace.

This should be done when the engine oil is warm.

Remove the drain plug (30 mm) and discard the copper washer (FIG 27).

Remove the oil filter (FIG 28).

Clean the oil filter mounting surface.

Lubricate the seal on the new filter with clean engine oil.

Install and hand tighten the new filter ⅜ to ½ turn after initial contact.

Clean the drain plug and install a new copper washer. Wipe the drain plug boss on the sump.

Install the drain plug and torque to 30-35 lb. ft. (41-47 Nm).

16. Automatic transmission — Check for oil leaks.

Check the automatic transmission for any signs of oil leakage.

17. Automatic transmission fluid and filter — Replace.

This should be done when the transmission fluid is warm.

Before removing the drain plug, clean the area around the plug.

Remove the plug and drain the fluid (FIG 29).

Disconnect the dipstick tube union and drain the remaining fluid (FIG 29).

Remove the pan bolts and clamps. Lower the pan and drain off any remaining fluid.

Remove and discard the pan gasket. Clean the pan, magnets and mating surfaces.

Remove the filter screws. Remove the filter and discard the "O" ring (FIG 30).

Clean the filter mating surfaces. Install the new filter with a new "O" ring.

Install the pan with a new gasket. Torque the pan bolts to 6 lb. ft. (8 Nm).

Clean the unions and reconnect the dipstick tube. Torque the union nut to 15 lb. ft. (20 Nm).

18. Rear Axle — Check oil level, leaks; top up if necessary.

Check the axle for any signs of oil leakage.

Clean the area around the fill plug and remove the plug (FIG 31). If necessary, top up with SAE 90 oil to the bottom thread in the fill hole.

Install and tighten the fill plug.

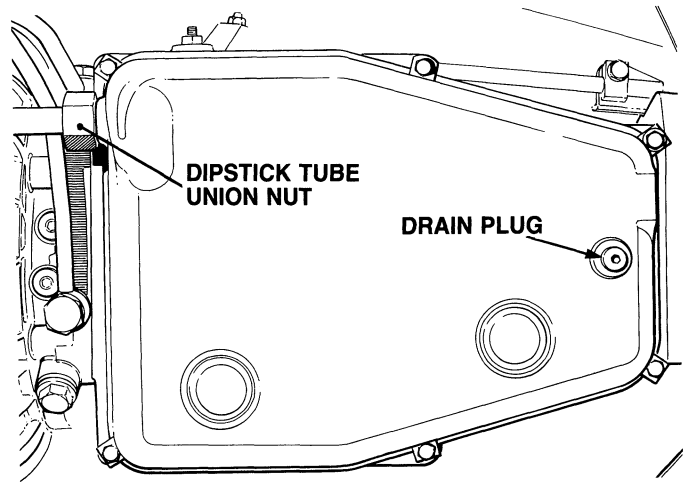


FIG 29

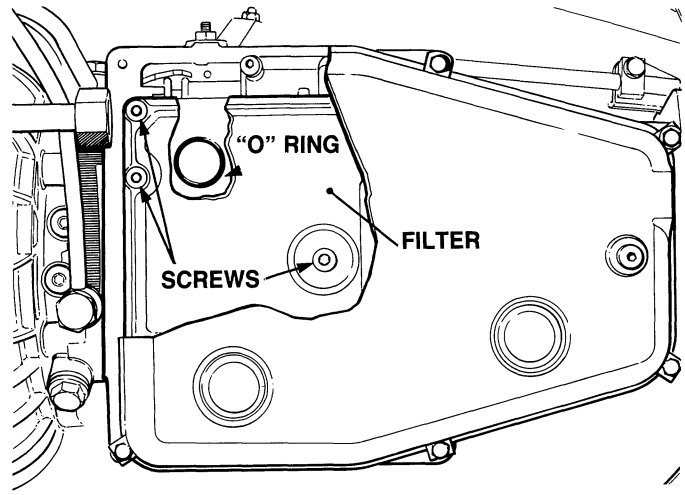


FIG 30

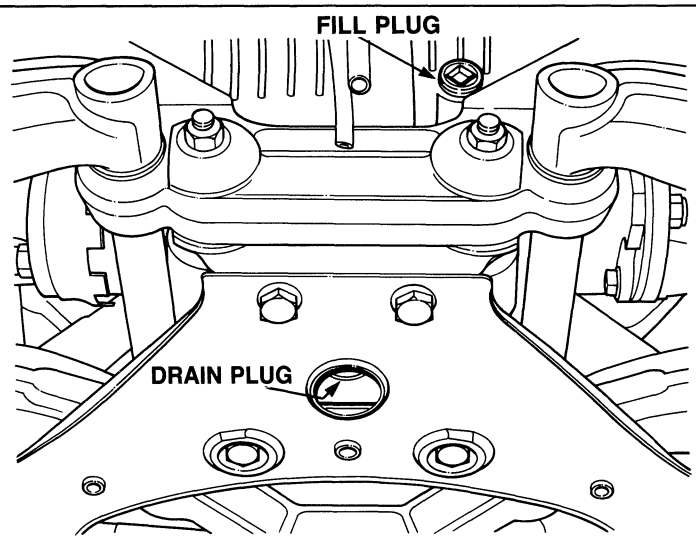


FIG 31

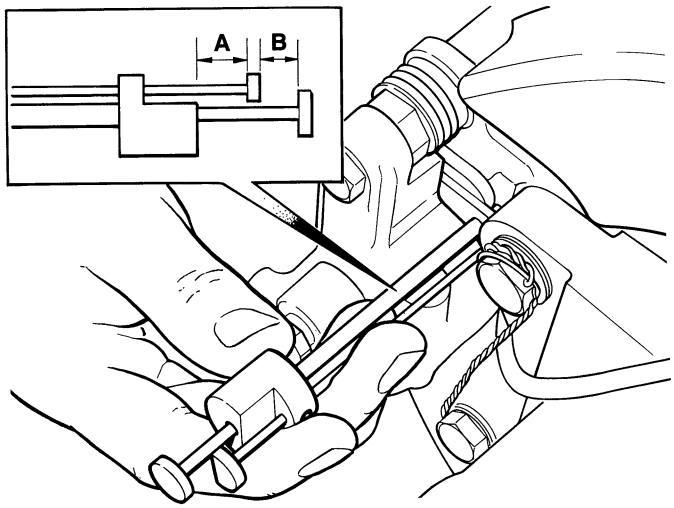


FIG 32

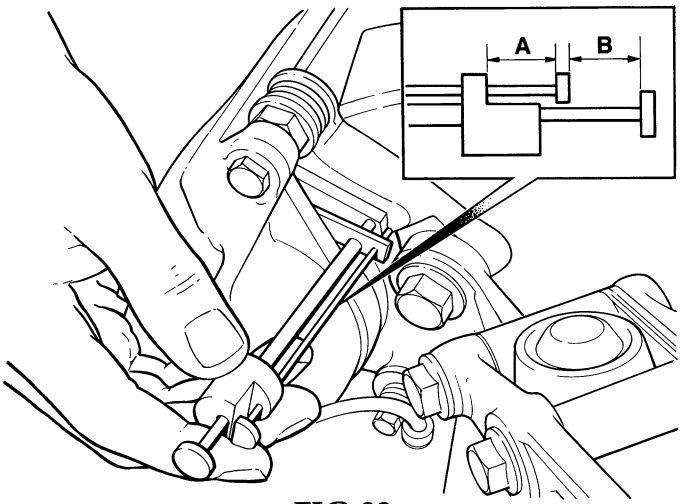


FIG 33

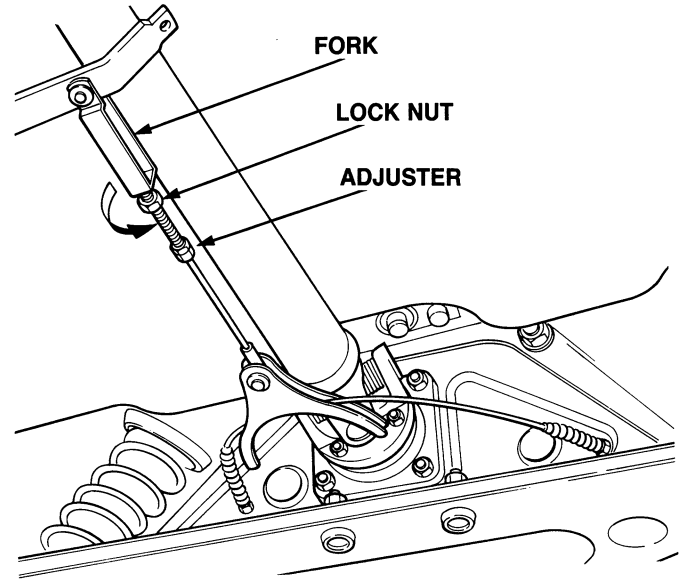


FIG 34

19. Brake pads — Inspect for wear; check disc condition at pad replacement.

Inspect the brake pads at each wheel using tool JD 136.

Pull out both measuring tool pins as far as possible and hook the foot (adjacent to the circlip or crimp) under the piston housing inner face.

Contact the center pin on the back of the inner brake pad. Contact the off-center pin on the disc inner surface between the inner pad and the caliper body.

Carefully remove the measuring tool. Remaining pad thickness is indicated by dimension A and B.

Note that the front (FIG 32) and rear (FIG 33) require different measurements for dimension A.

The brake pads should be evenly worn. Any variation in excess of 1.5mm between dimensions A and B, or when either reading is approximately 3.5mm or less requires visual inspection with the road wheel removed.

Minimum pad thickness: Front 4mm, Rear 3mm.

20. Handbrake — Adjust.

Loosen the adjuster locknut, and tighten the adjuster until 3 to 5 clicks on the handbrake lever ratchet can be attained. Tighten the locknut (FIG 34).

NOTE: When tightening the locknut, hold the fork to prevent twisting.

Ensure that the rear wheels can be rotated without drag. Light running contact is permissible.

Lightly apply a multipurpose lithium grease to the cables and lever pivots.

21. Brake fluid — Replace.

CAUTION: DO NOT ALLOW BRAKE FLUID TO CONTACT THE VEHICLE PAINTWORK.

CAUTION: USE ONLY NEW DOT 4 BRAKE FLUID.

Remove the dust caps from the bleed nipples. Attach a bleed tube to the right rear caliper bleed screw with the open end in a container. Loosen the bleed screw.

Use a pressure bleeder or manually flush and bleed the system. Pump out most, but not all the fluid in the reservoir. Do not allow the reservoir to empty; top up with new fluid as necessary during the operation. When clean fluid is observed at the bleed tube outlet, hold the pedal down and tighten the bleed nipple.

Repeat the operation for the left rear caliper, the right front caliper, and the left front caliper, in that order.

Top up the reservoir. Apply heavy pressure to the brake pedal and ensure that no leaks are present and that the system is properly bled.

Reinstall all dust caps.

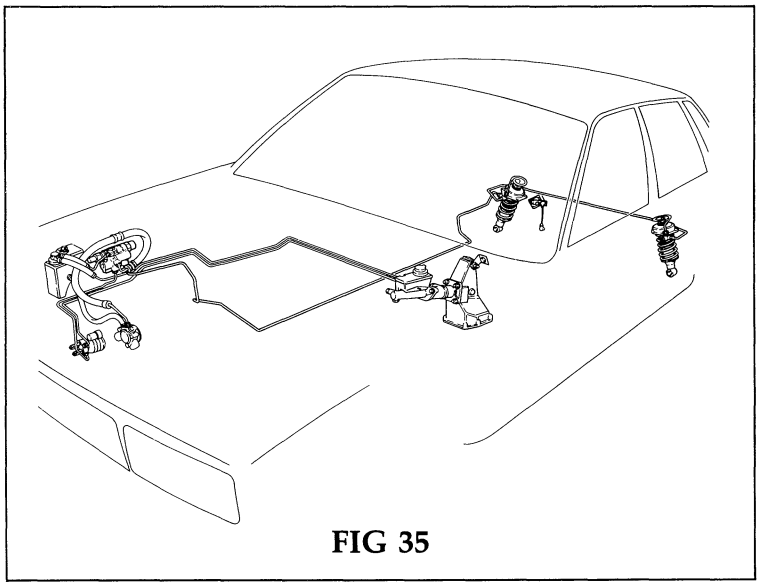


FIG 35

22. Power hydraulic hoses, pipes, unions, levelling units — Check for chafing, cracks, corrosion, and leakage.

Visually inspect the power hydraulic system (FIG 35).

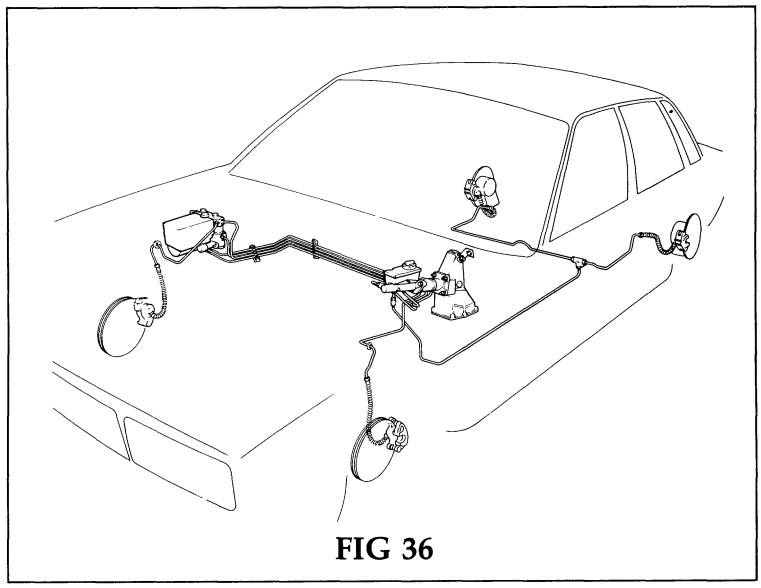


FIG 36

23. Braking system hoses, pipes, unions — Check for chafing, cracks, corrosion, and leakage.

Visually inspect the brake hydraulic system (FIG 36).

Hoses should be flexed by hand to check their condition.

24. Power steering pipes, hoses, unions — Check for chafing, security, and leakage.

Visually inspect the power steering system (FIG 37).

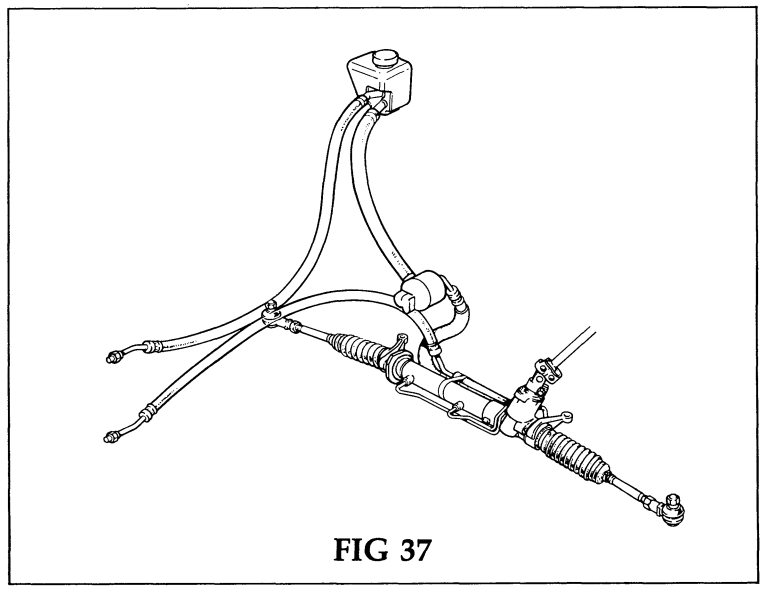


FIG 37

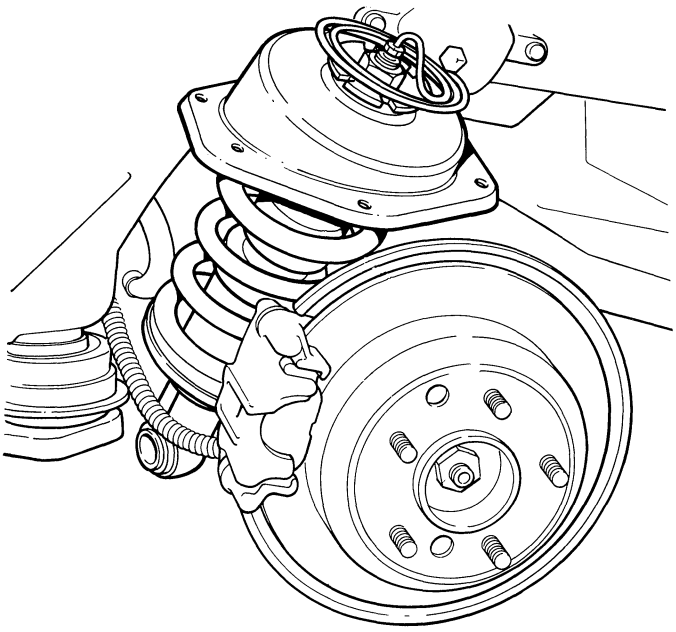


FIG 38

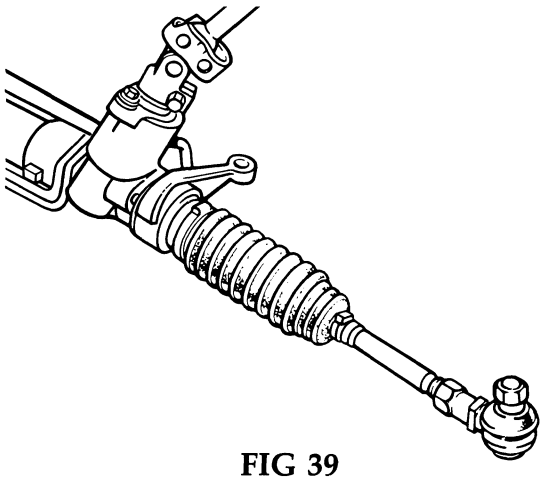


FIG 39

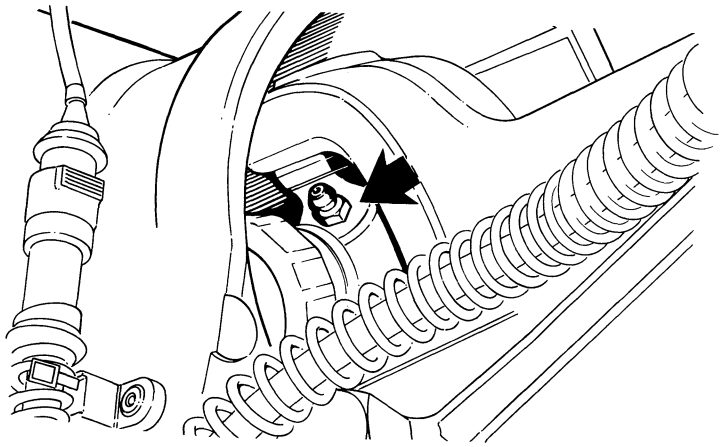


FIG 40

25. Fuel system — Check for leakage, security, corrosion, hose condition.

Check connections and unions for leakage; tighten if necessary.

Visually inspect the fuel system. Hoses should be flexed by hand to check their condition.

26. Shock absorbers — Check for leakage.

Visually inspect all shock absorbers (FIG 38).

27. Steering rack sealing — Check condition.

Visually inspect the steering rack gaiters and tie rod end seals to ensure that they are seated correctly, in good condition, and are not leaking (FIG 39).

28. Drive shaft universal joints — Lubricate (2 per drive shaft).

Clean the nipples and lubricate each with multipurpose lithium base grease (FIG 40).

29. Underbody anti-corrosion protection — Check general condition.

Visually check the general condition of the anti-corrosion protection.

Apply new sealant as necessary to areas where damage or flaking has occurred.

30. Tires (including spare) — Check for correct size and type; check and record tread depth; check for uneven and excessive wear; check and adjust pressure.

Check for correct size and type —
Pirelli P5 205/70 VR 15 Cinturato.

Measure the tread depth at the first major groove from the inside and the outside, and at three points radially (FIG 41).

Minimum tread depth: 4mm (5/32 in.)
Maximum depth variation: 1mm

CAUTION: TIRES MUST BE REPLACED IN AXLE SETS.

Check each tire for wear and damage. Note any wear pattern which would indicate suspension misalignment or worn components.

Check and adjust tire pressure to the following specification:

NORMAL DRIVING
Front 27 PSI / Rear 30 PSI
HIGH SPEED (ABOVE 100 MPH)
Front 33 PSI / Rear 36 PSI

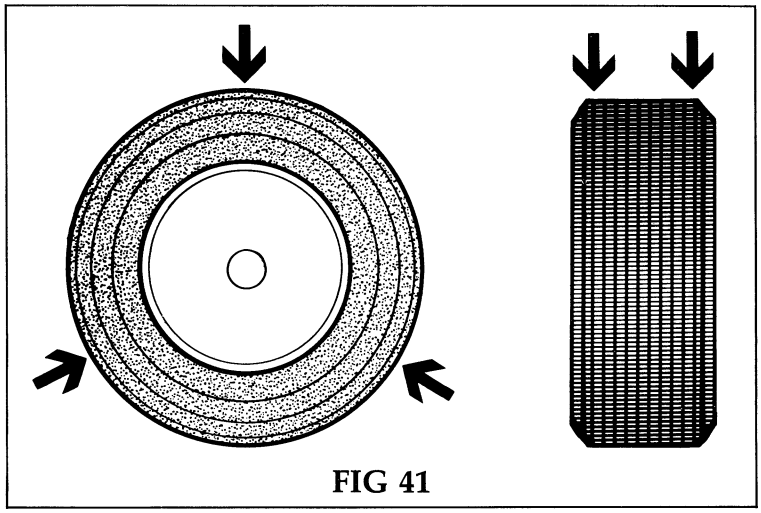


FIG 41

31. Front wheel hubs — Check and adjust end float.

Remove both front wheels.

Remove the dust cap.

Mount a dial indicator on the hub and contact the pin on the end of the axle.

Move the hub in and out and measure the end float. If 0.005 in. or more, remove the cotter pin and nut cover, and adjust the spindle nut to obtain 0.001 to 0.003 in. end float (FIG 42).

Install the nut cover with a new cotter pin.

Reinstall the dust cap.

Reinstall the wheel and torque the lug nuts to 75 lb.ft. (102 Nm).

Repeat the procedure for the opposite side.

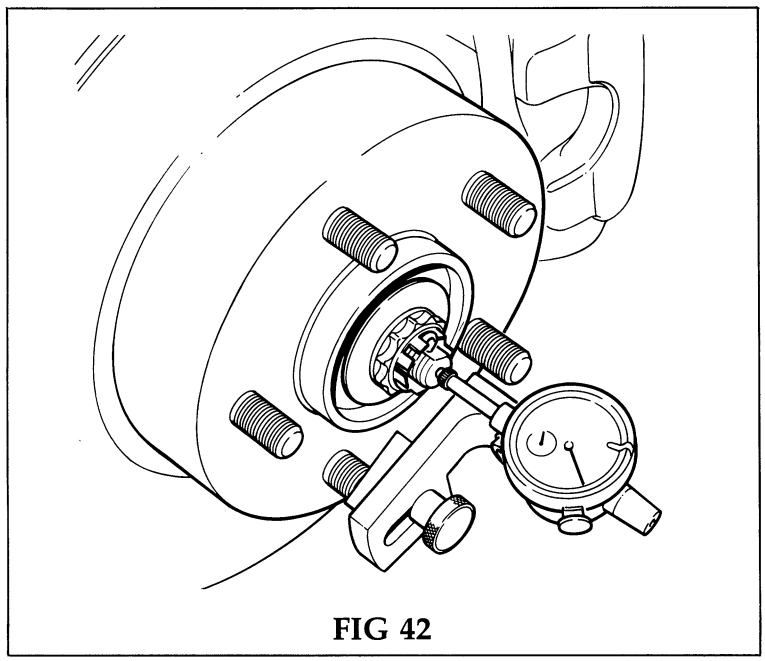


FIG 42

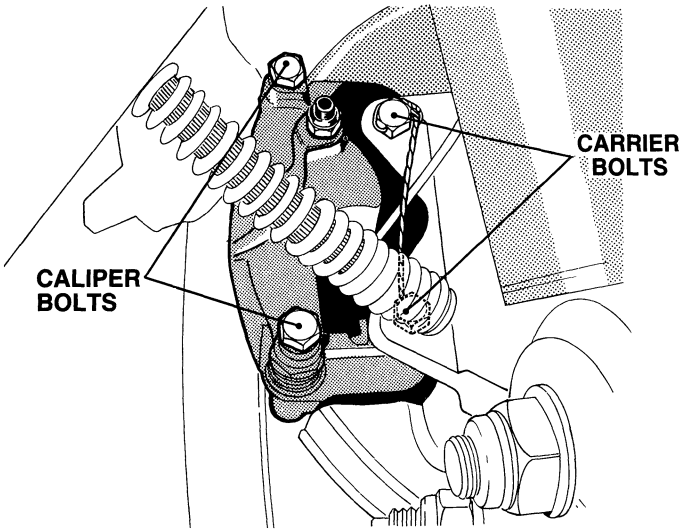


FIG 43

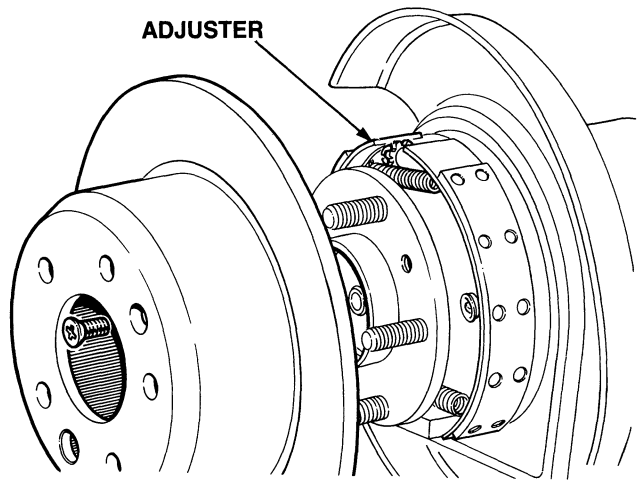


FIG 44

32. Handbrake shoes — Check wear; replace if necessary.

WARNING: BRAKE LINING DUST MAY CONTAIN ASBESTOS WHICH IF INHALED, CAN BE A HEALTH HAZARD. NEVER USE COMPRESSED AIR TO REMOVE BRAKE LINING DUST.

Remove both rear wheels. Cut the tie strap securing the pad wear sensor harness and disconnect the block connector.

Remove the lower caliper mounting bolt (FIG 43) and pivot the caliper up for access to the brake pads. Remove the outer pad. Carefully remove the safety wire from the carrier bolt (FIG 43). Remove the inner pad and harness assembly. Remove the caliper upper bolt and remove the caliper. Do not allow the caliper to hang by the hydraulic hose.

Remove the carrier bolts (FIG 43) and remove the carrier.

Back off the brake shoe adjuster. Remove the disc retaining screw and remove the disc (FIG 44).

Inspect the brake shoe linings for cracking, glazing, contamination, and thickness. Minimum thickness 1.5mm. Replace the shoes if necessary.

Centralize the brake shoes and set the adjuster so that disc can be installed. Install the disc and retaining screw. Torque the screw to 8-12 lb.ft. (11-16 Nm). Be sure the handbrake lever in the vehicle is fully off and adjust the shoes until they lock the disc. Then, loosen the adjuster until the shoes have light running contact only.

Reinstall the carrier and torque the bolts to 41-46 lb.ft. (55-62 Nm). Install new safety wire.

Reinstall the caliper and pads in reverse order. Apply LOCTITE and torque the caliper bolts to 23-29.5 lb.ft. (55-62 Nm). Reconnect the pad wear sensor harness and secure with a new tie wrap.

Install the wheel. Torque the lug nuts to 75 lb.ft. (102 Nm).

Repeat the procedure for the opposite side.

Adjust the handbrake cable as detailed in operation 20.

33. Road wheel lug nuts — Torque to specification.

Torque all lug nuts to 75 lb.ft. (102 Nm).

34. Protect fenders.

Before working in the engine compartment, protect both front fenders with covers.

CAUTION: DO NOT START THE ENGINE UNTIL THE ENGINE OIL AND TRANSMISSION FLUID HAVE BEEN FILLED.

35. Fill engine oil.

Fill the engine (FIG 45) with 8.5 quarts (8 liters) of A.P.I. SE/SF specification engine oil. (Refer to the lubrication specifications for viscosity, page 32.)

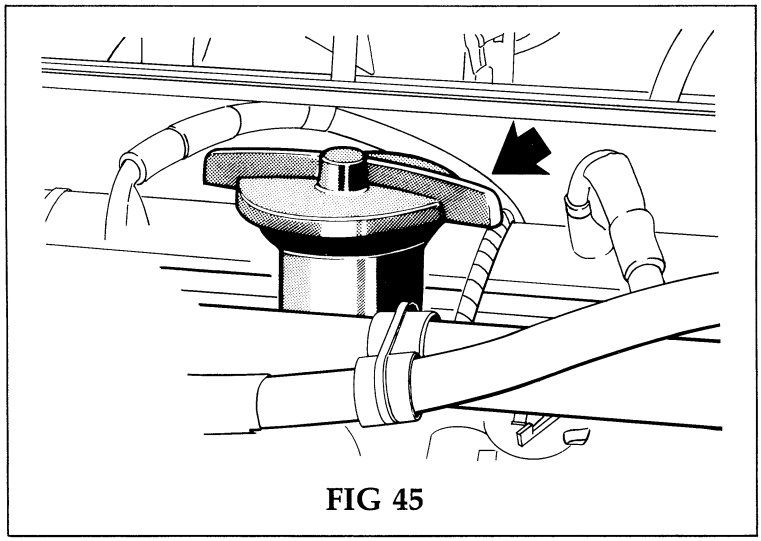


FIG 45

36. Fill transmission fluid.

Add approximately 3 quarts of Dexron 2D automatic transmission fluid (FIG 46).

37. Spark Plugs — Replace.

Ensure that all high tension leads are identified by cylinder number (No. 1 at front of engine) before disconnecting them.

Remove the spark plugs using a long 5/8 in. spark plug socket.

Clean the spark plug sealing areas on the cylinder head by wiping with a clean cloth.

Refer to the emissions placard in the engine compartment for spark plug specification and electrode gap.

Install the new plugs. Torque to 17-21 lb.ft. (23-28.5 Nm).

Reconnect the high tension leads.

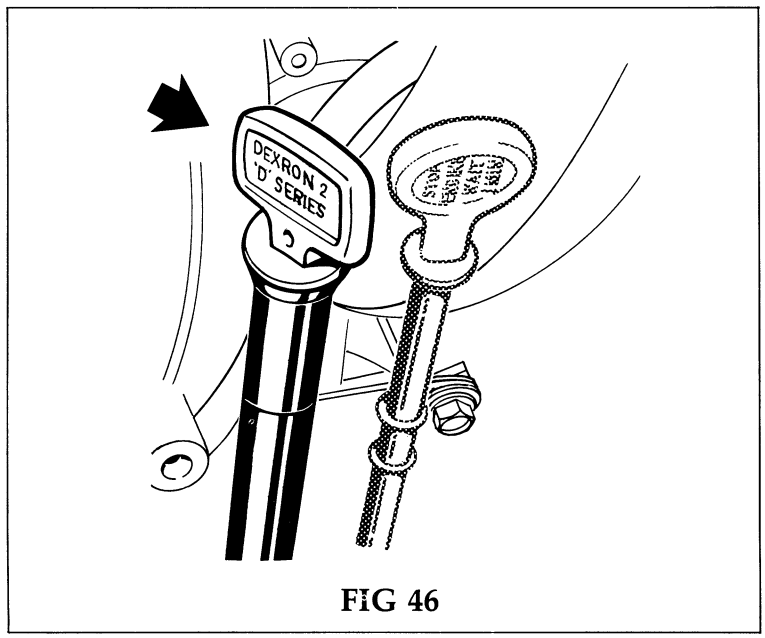


FIG 46

38. High tension leads — Check security.

Check that each high tension lead is firmly connected at the spark plug and at the distributor. Also check that the coil high tension lead is firmly connected at both ends.

39. Engine oil filter — Check sealing.

Start the engine and allow it to idle. Check below the engine for any signs of leakage from the filter. If necessary, hand tighten the filter.

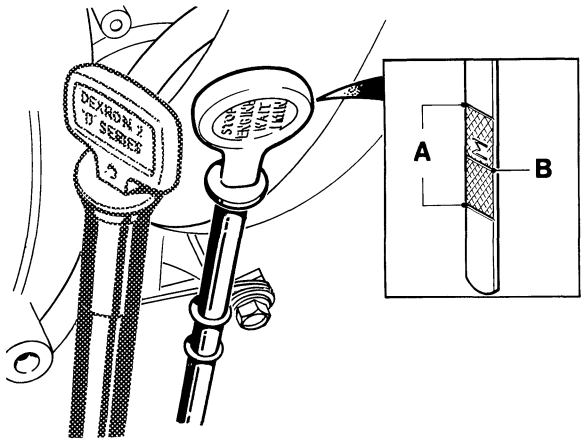


FIG 47

40. Automatic transmission — Check sealing.

With the engine running, check below the transmission for any signs of leakage.

41. Engine oil — Top up as necessary.

Stop engine and wait one minute. Then, check the oil level (FIG 47). If the level is in the knurled area (A), no oil is required. If the level is below the knurled area, add 1 quart of A.P.I. SE/SF specification engine oil. (Refer to the lubrication specifications for viscosity, page 32.)

NOTE: If the vehicle has stood for a long period of time before the oil level is checked, use the following procedure — oil level above M (B), no oil required; oil level below M, add 1 quart.

Run the engine; stop and recheck the level after one minute.

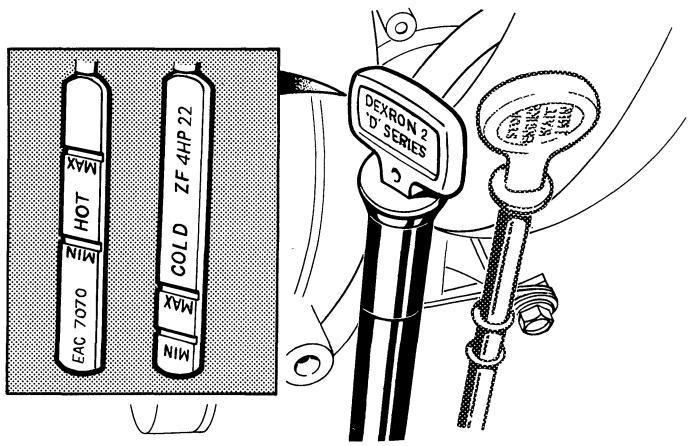


FIG 48

47. Transmission fluid — Top up as necessary.

Apply the handbrake and select P. Start the engine, allow it to idle.

Apply the brakes and move the gear selector through the complete range of gears to ensure that the transmission system is primed. Select P.

Check the fluid level with the engine idling. If necessary, add Dexron 2D transmission fluid to bring the level to MAX on the dipstick (FIG 48).

The COLD side of the dipstick is used for level check only before the vehicle has reached normal operating temperature.

The HOT side is used once normal operating temperature has been reached.

43. Brake fluid reservoir — Check level; top up as necessary.

CAUTION: DO NOT ALLOW BRAKE FLUID TO CONTACT THE VEHICLE PAINTWORK.

CAUTION: USE ONLY NEW DOT 4 BRAKE FLUID.

Top up if necessary to the base of the filler neck (FIG 49). The fluid level will drop as the brake pads wear; however, if the level is very low, a leak may be indicated. The location of the fluid leakage must be identified and repaired.

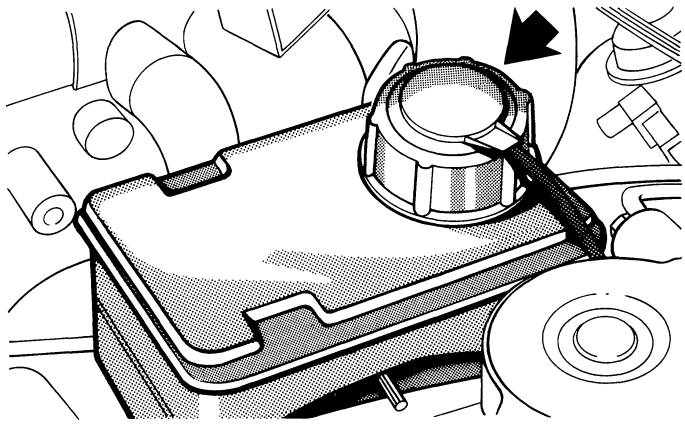


FIG 49

44. Engine coolant — Replace.

WARNING: COOLING SYSTEM IS UNDER HIGH PRESSURE WHEN ENGINE IS HOT. OBSERVE EXTREME CAUTION. SLOWLY RELEASE PRESSURE TO AVOID DANGER OF SCALDING.

Remove the expansion tank cap.

Remove the radiator drain plug (FIG 50) and drain the coolant. Reinstall the drain plug.

Fill the cooling system with a 55% solution of anti-freeze and water.

PHOSPHATE FREE ANTI-FREEZE: PART #JAG 110

SYSTEM FILL CAPACITY: 13.5 quarts

Reinstall the expansion tank cap. Start and idle the engine. Set the climate control to full heat. Run the engine until the thermostat opens.

Turn OFF the engine and carefully remove the fill cap. Top up as necessary with anti-freeze solution.

Check for coolant leaks from the drain plug and tighten if necessary.

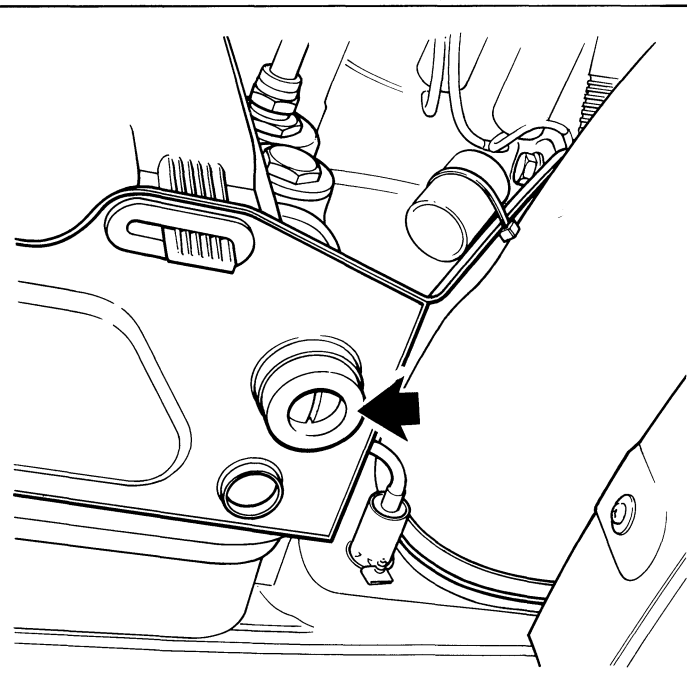


FIG 50

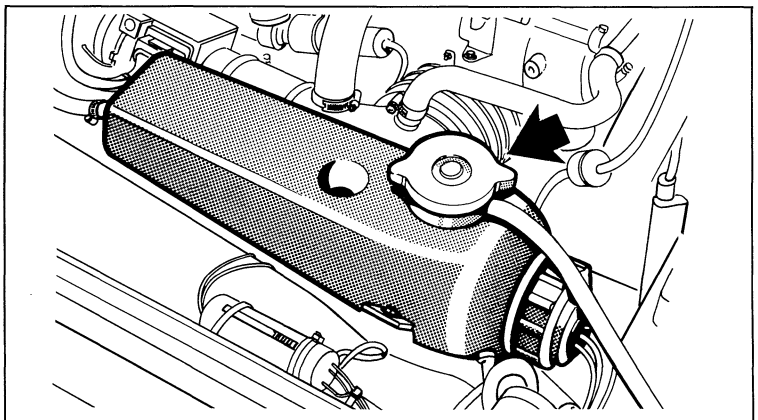


FIG 51

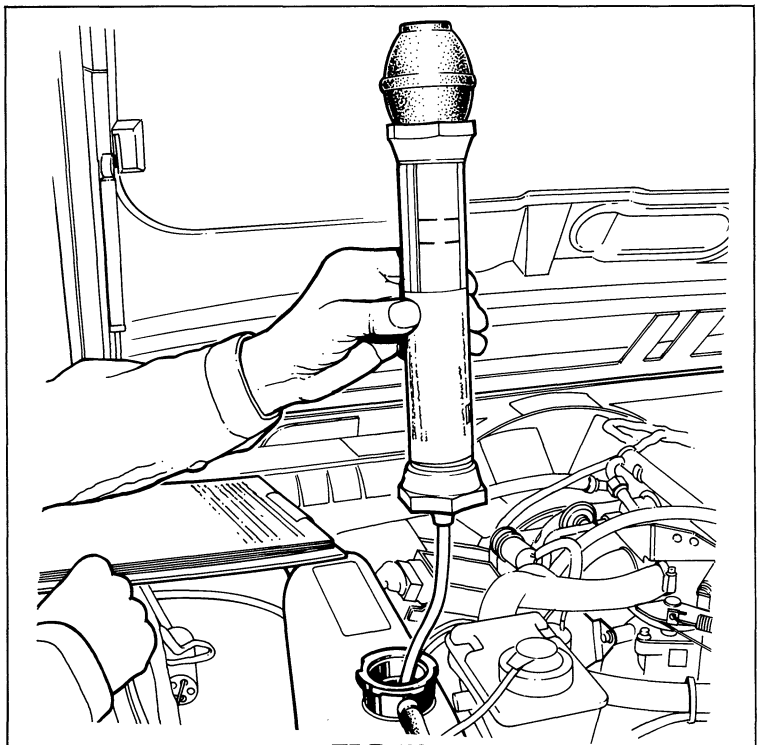


FIG 52

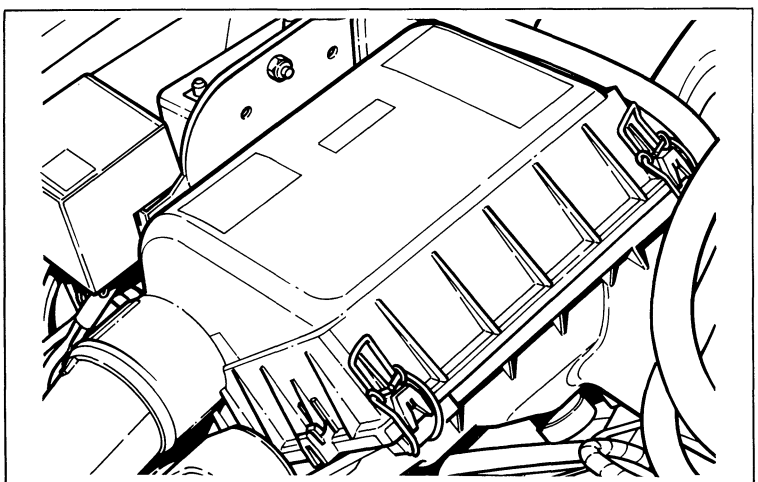


FIG 53

45. Cooling system (including heater matrix) — Check hose condition. Check for leakage. Check level, protection range; top up as necessary.

WARNING: COOLING SYSTEM IS UNDER HIGH PRESSURE WHEN ENGINE IS HOT. OBSERVE EXTREME CAUTION. SLOWLY RELEASE PRESSURE TO AVOID DANGER OF SCALDING.

Inspect all hoses and connections for condition and leakage. Tighten connections as necessary. Check the condition of the overflow hose at the expansion tank.

The coolant level (FIG 51) must be checked only when the engine is cold. Remove the expansion tank cap and top up with a 55% solution of anti-freeze and water to the base of the filler neck.

PHOSPHATE FREE ANTI-FREEZE: PART #JAG 110

The protection range is checked with an approved coolant hydrometer (FIG 52). A specific gravity of 1.074 is the equivalent of a 55% solution.

NOTE: The coolant temperature must be at least 60°F for accurate measurement. Warm up the engine for a few minutes if necessary.

46. Air filter — Replace.

Release the four spring clips and remove the air filter and cover assembly (FIG 53).

Remove and discard the filter.

Clean the cover and all mating surfaces.

Position a new filter in the cover and reinstall the assembly into the air filter box.

Locate and snap the four spring clips into position.

47. Cruise control system — Check vacuum hoses for security and condition.

Inspect the hoses (FIG 54) and ensure that all connections are secure.

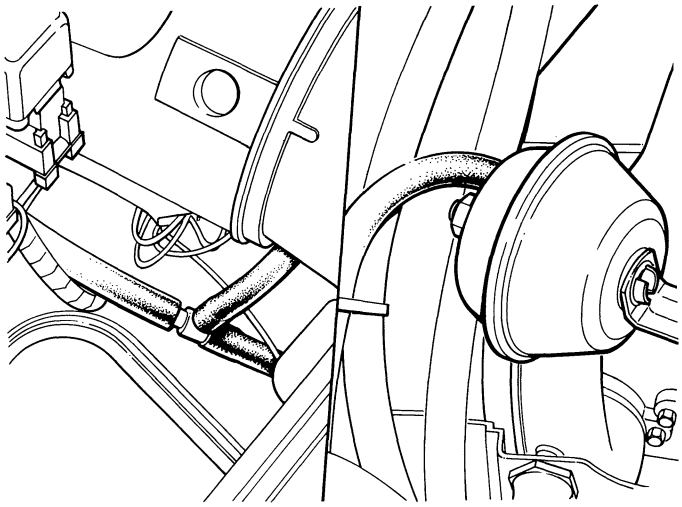


FIG 54

48. Fuel system — Check for leaks.

Inspect all fuel lines and unions for leakage. Inspect fuel rail and injectors for leakage.

49. Engine — Check for leaks.

Check the upper portion of the engine for any signs of leakage.

50. Battery — Check electrolyte level; top up with distilled water.

Remove the battery retaining bracket and the cell covers (FIG 55). The correct fluid level is 4-9mm above the plates. If necessary, top up with distilled water by pouring into the filling trough.

Reinstall the covers and retaining bracket.

CAUTION: DO NOT OVERFILL THE BATTERY.

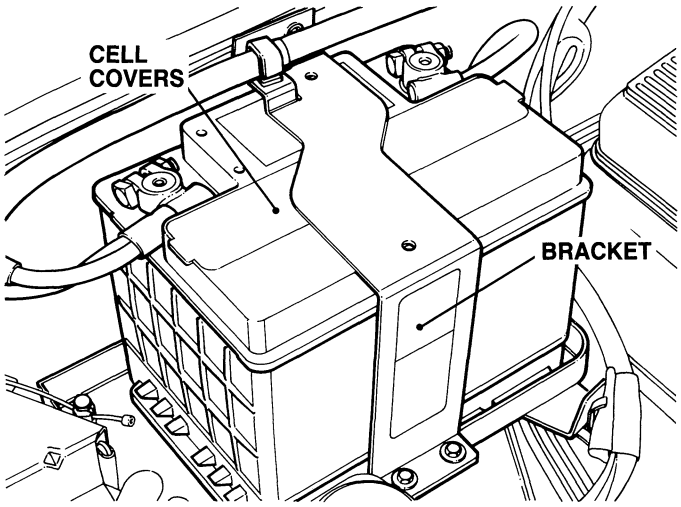


FIG 55

51. Battery terminals — Clean and grease connections.

Carefully remove both battery cables. Clean the terminals and the cable clamps. Reconnect and coat the terminals and clamps with petroleum jelly.

52. Washer fluid reservoir — Check level; top up as necessary.

Fluid level is visible through the reservoir (FIG 56). If necessary, top up with washer fluid.

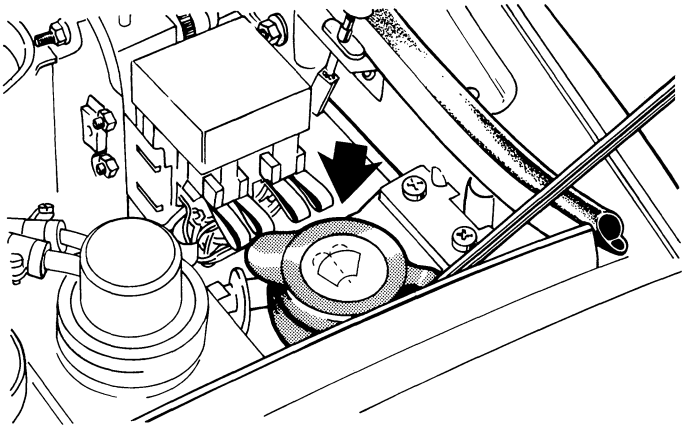


FIG 56

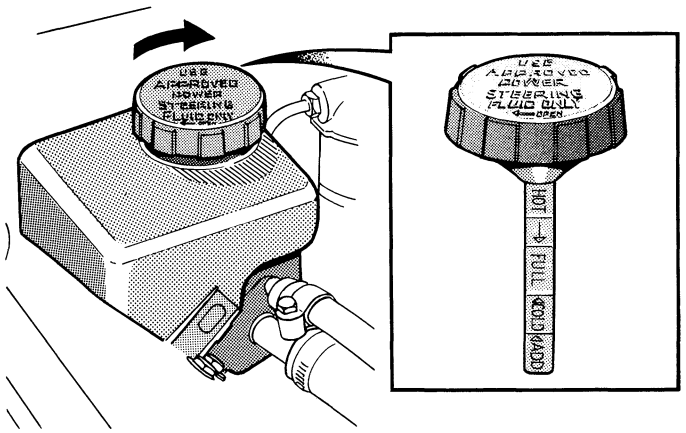


FIG 57

53. Power steering fluid reservoir — Check level; top up as necessary.

Carefully remove the reservoir filler cap (left hand thread) to prevent any foreign matter from entering the system. Wipe the dipstick and reinstall fully to obtain an accurate reading (FIG 57). Top up as necessary with Dexron 2D automatic transmission fluid or power steering fluid type F.

The COLD side of the dipstick is used to check the level before the system has reached normal operating temperature.

The HOT side is used once normal temperature has been reached.

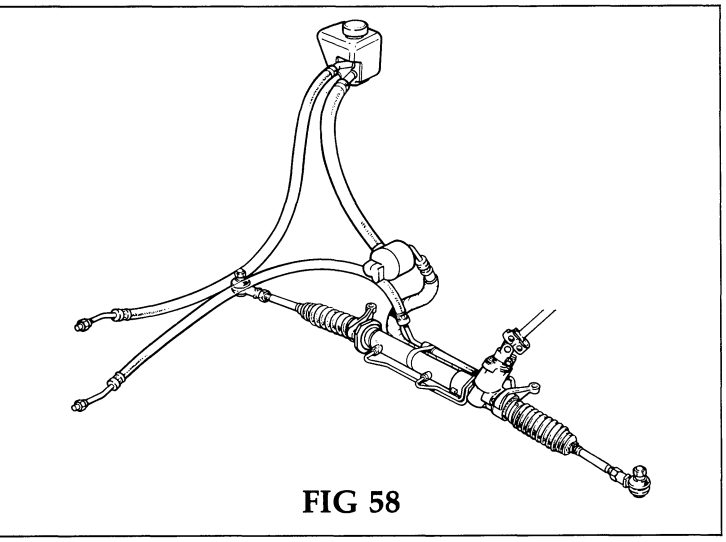


FIG 58

54. Power steering system — Check hose condition; check for leakage.

Visually inspect the hoses, pipes, and unions for chafing and corrosion. Check for any signs of leakage (FIG 58).

55. Air conditioning system — Check sight glass level.

Ensure that the compressor drive belt is tensioned correctly as detailed in operation 60.

Start the engine and set the climate control to full cool and allow the system to stabilize.

Observe the sight glass at 1000 RPM. Then slowly increase engine speed to 1800 RPM and observe again (FIG 59). The sight glass should be clear of frothing and bubbles.

NOTE: At ambient temperature below 70°F, slight foam is normal.

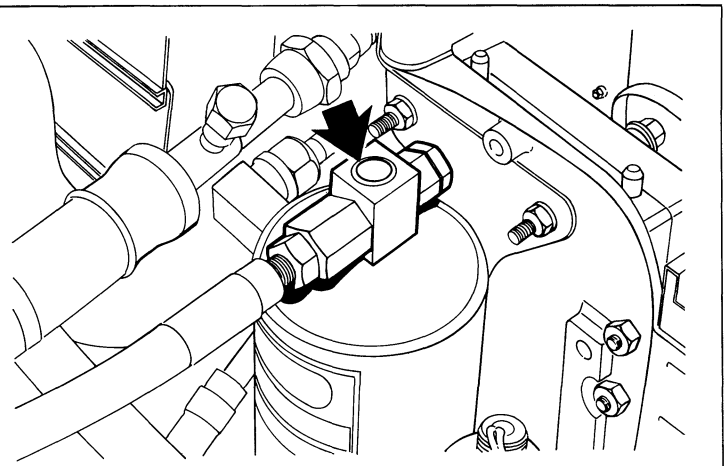


FIG 59

56. Air conditioning system — Check hose condition; check for leakage.

Visually inspect the hoses and connections for any signs of damage or leakage.

57. Power hydraulic reservoir — Check level; top up if red showing.

CAUTION: USE ONLY CASTROL HYDRAULIC SYSTEM MINERAL OIL SUPPLIED IN HALF LITER DISPENSING CONTAINERS.

Stand toward the front of the vehicle and check the reservoir sight glass from the side (FIG 60). If the indicator is showing green, the level is okay; if red is showing, topping up is required.

Clean, then remove the filler dust cover. Insert the container dispensing tube into the filler. Push against the spring pressure and turn until the tube is locked in position.

Add one container of new Hydraulic System Mineral Oil. Then check the sight glass. If necessary, fill with additional containers of oil until the indicator shows green.

NOTE: If the indicator turns green while adding a container of oil, continue filling the remainder of the container.

Release the dispensing tube by pushing down against the spring pressure and turning.

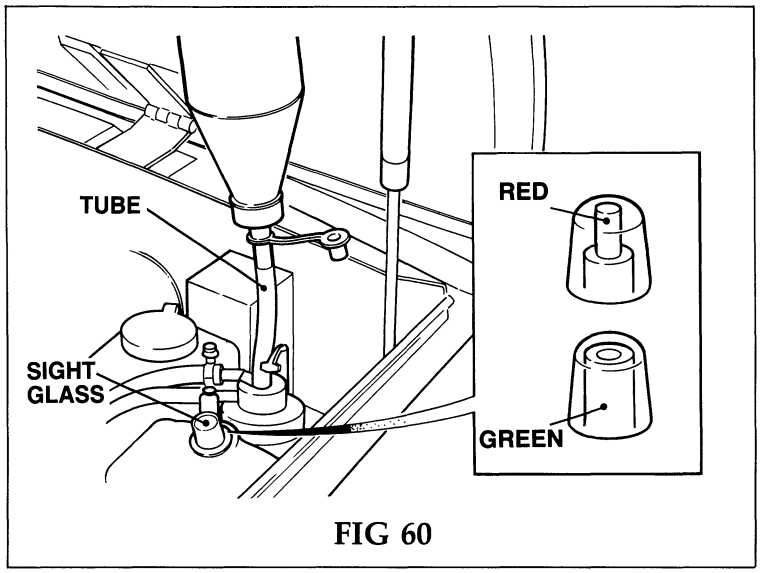


FIG 60

58. Power hydraulic accumulator — Check gas charge.

Observe the accumulator main pressure feed hose (FIG 61). Start and idle the engine until the hose visibly relaxes indicating that the system is fully charged. Stop the engine.

Disconnect the brake boost return hose at the power hydraulic reservoir and insert the open end into a container graduated in cc's (FIG 61).

Pump the brake pedal until oil stops flowing into the container and the pedal is hard. This occurs when the accumulator pressure is exhausted.

Note the quantity of oil in the container; it should be between 10 and 240cc. If less than 10cc or more than 240cc, the accumulator or the power hydraulic system is not operating correctly.

Reconnect the return hose. Start engine and idle until the system is fully charged. Stop the engine and top up the reservoir as detailed in operation 57.

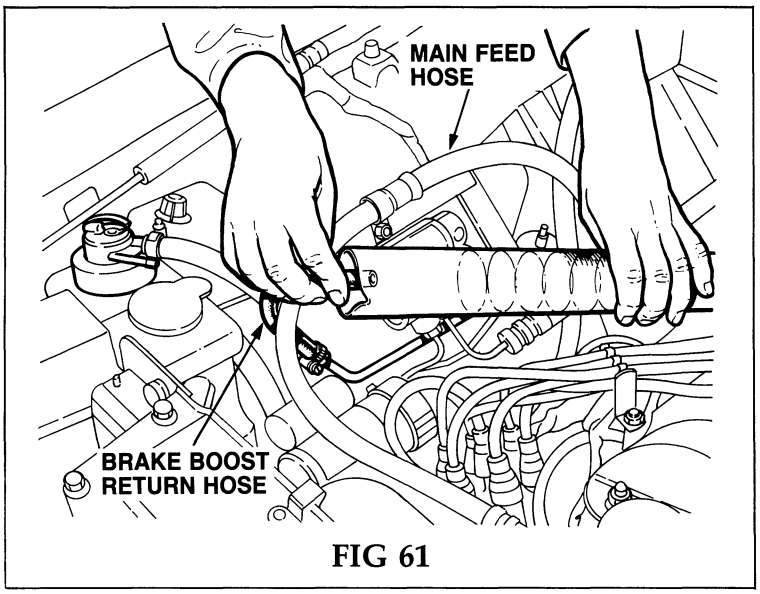


FIG 61

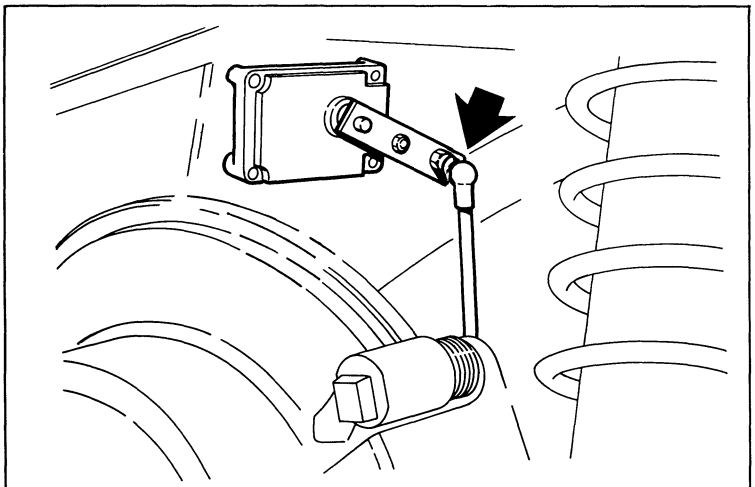


FIG 62

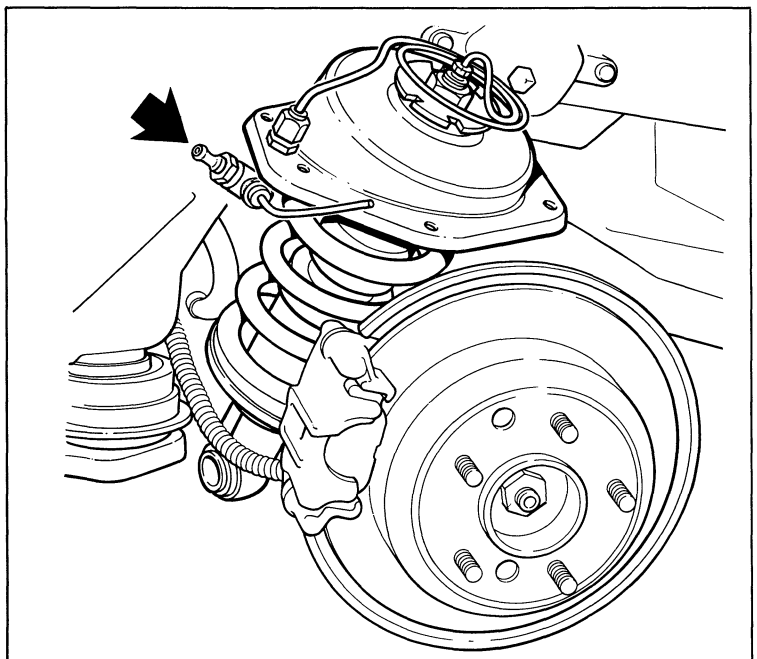


FIG 63

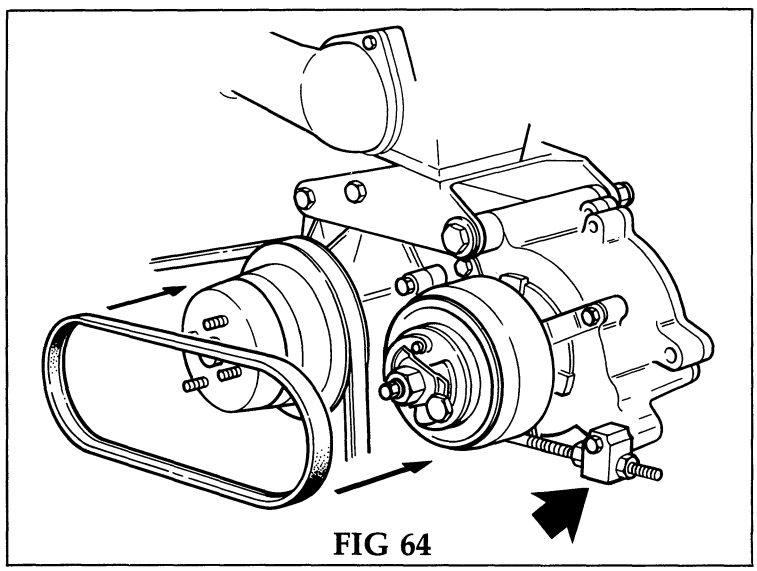


FIG 64

59. Power hydraulic system — Replace fluid.

CAUTION: USE ONLY CASTROL HYDRAULIC SYSTEM MINERAL OIL SUPPLIED IN HALF LITER DISPENSING CONTAINERS.

Raise the vehicle and disconnect the ride levelling sensor link (FIG 62). Push the arm fully up and leave in this position.

Connect a length of tubing to the bleed screw and insert the open end into a container. Loosen the bleed screw at the left ride levelling unit and allow the oil to drain (FIG 63).

Start the engine and run until oil flow from the bleed screw stops. Stop the engine, remove the tube and tighten the bleed screw. Lower the vehicle but keep the wheels off the floor.

Disconnect the brake boost return hose at the power hydraulic reservoir and insert the open end into a container (FIG 61).

Purge the brake boost portion of the system by pumping the brake pedal until oil stops flowing into the container and the pedal is hard. Discard the used oil.

Fill the reservoir as detailed in operation 57.

Start the engine and run for 1½ minutes. Stop the engine and repeat the procedure for purging the brake boost portion of the system. Discard the used oil. Reconnect the return hose to the reservoir.

Raise the vehicle and reconnect the sensor link to the ride levelling sensor.

Check and top up the reservoir as detailed in operation 57.

Check all connections for signs of leakage and tighten as necessary.

60. Drive belts — Check condition and tension; replace as necessary.

Inspect all drive belts for wear, damage, and correct tension. Replace and/or adjust as necessary. Be sure to loosen all pivoting hardware before making adjustment to the air pump (FIG 64), compressor (FIG 65), or alternator drive belts (FIG 66). Tighten the hardware after adjustment.

⅜ in. BELTS
INITIAL LOAD: 60 lbs.
RETENSION: 50 lbs.

½ in. BELTS
INITIAL LOAD: 120 lbs.
RETENSION: 100 lbs.

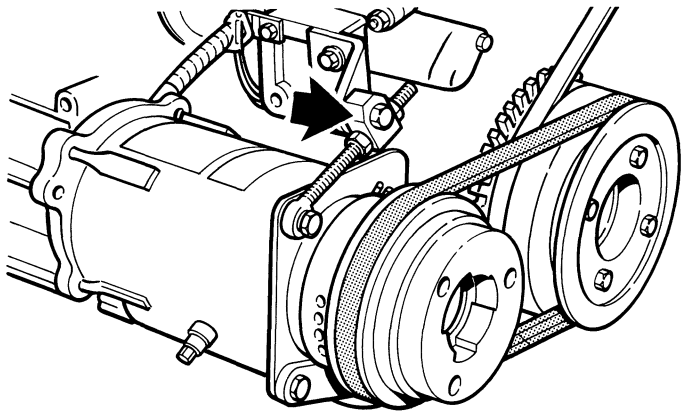


FIG 65

61. Radiator and condensor — Clean.

Remove debris from the radiator and condensor by applying low pressure air from the engine side.

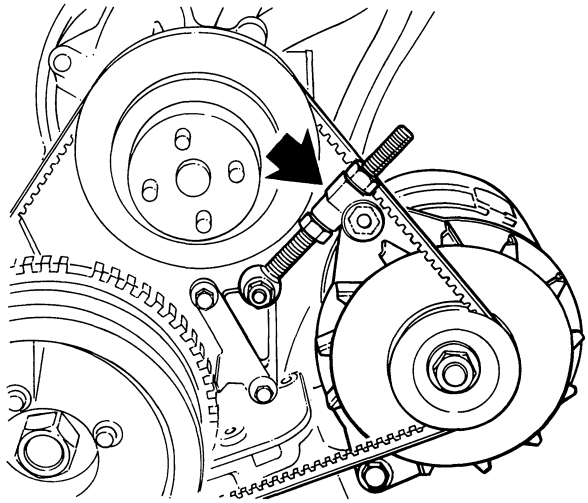


FIG 66

62. Headlights — Check; adjust aim.

Check and adjust tire pressures (see operation 30).

Start at the right side outboard light, switched on low beams. Adjust the horizontal and vertical setting with the two knurled screws (FIG 67). Repeat the procedure for the left side outboard light.

Switch the light to high beams and adjust the right side inboard light first (FIG 67), then the left side inboard light.

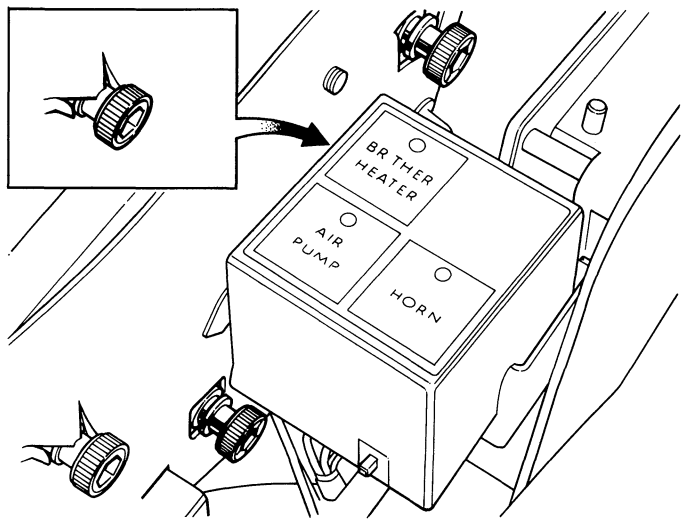


FIG 67

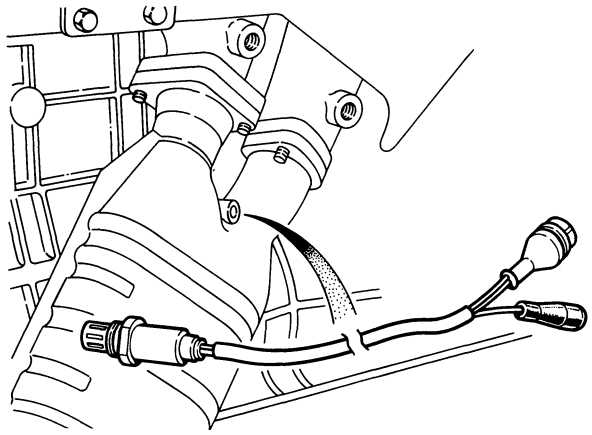


FIG 68

63. Oxygen sensor — Replace.

Disconnect the battery ground cable.

Disconnect and remove the oxygen sensor from the exhaust down pipe (FIG 68). Clean the mounting boss and seat.

Apply anti-seize compound to the threads of the new sensor. Install and torque to 37 lb.ft. (50 Nm). Reconnect the sensor harness and reconnect the battery ground cable.

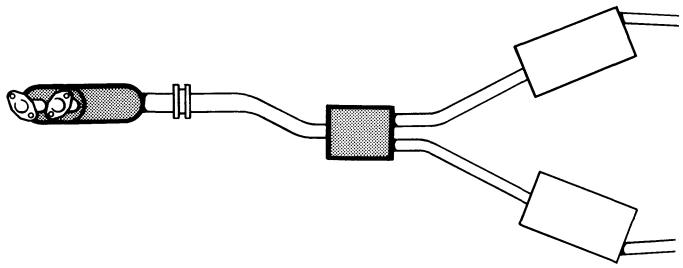


FIG 69

64. Catalytic convertors — Replace.

Replace both the down pipe and intermediate pipe assemblies (FIG 69).

Use new manifold sealing gaskets and exhaust sealant during installation.

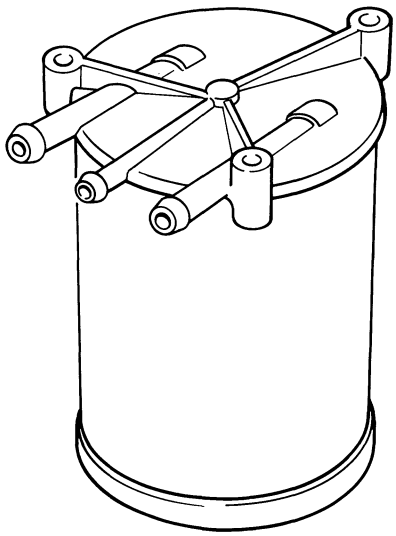


FIG 70

65. Absorption canister — Replace.

Raise the vehicle and turn the steering wheel full right to access the canister located under the left front wheel arch.

Disconnect the hoses and remove the canister (FIG 70).

Install the new canister ensuring that the hoses are connected correctly.

66. Perform comprehensive road test.

Before driving, check the following:

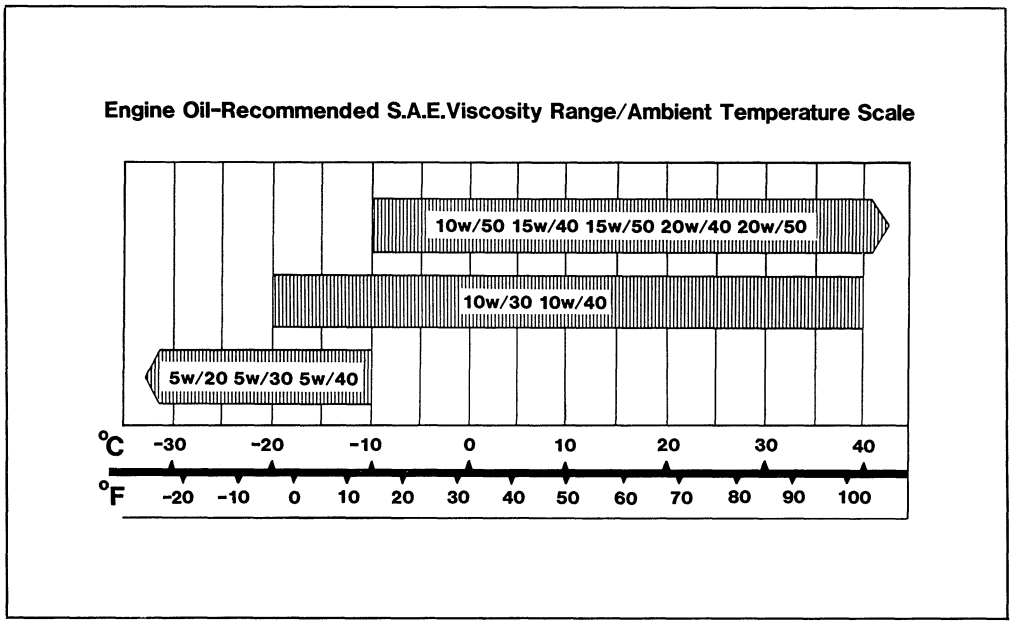
- Vehicle starts only in "P" or "N."
- Starter motor operates smoothly.
- Engine starts easily.
- Oil warning and battery condition warning indicators go out after starting.
- Oil pressure and battery condition indicators register.
- Tachometer operates.
- Engine runs smoothly and quietly.
- Foot and handbrakes operate.
- "P" PARK for engagement.
- Power seat operation.
- Power mirrors operation.
- Central locking operation.
- Windows and sun roof operation.
- Interior lighting.
- Exterior lighting.

When driving, check the following:

- VCM function.
- Instrumentation function.
- Engine and drive train performance.
- Throttle operates smoothly.
- Steering.
- Suspension and wheel balance.
- Braking performance and operation.
- Cruise control operation.
- Trip computer operation.
- Climate control operation.
- Radio and antenna operation.
- Heated mirrors and rear window operation.
- Turn signal cancel operation.
- Windshield washer aim and wiper operation.
- Abnormal body noise.
- Wind noise.

67. Remove interior protection — Clean as necessary: controls, door handles, steering wheel.

Ensure that any soiling which may have occurred during the maintenance procedures is thoroughly cleaned.



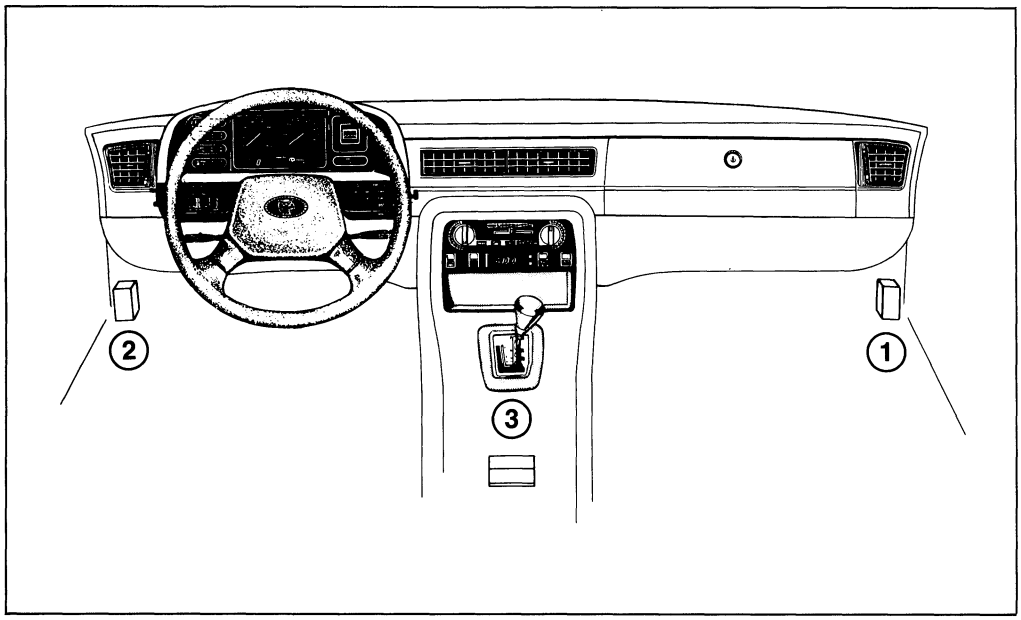
System	Specification	Capacity
ENGINE	A.P.I. SE/SF (viscosity—see chart)	8.5 quarts with filter
AUTOMATIC TRANSMISSION	Dexron 2 D	3.2 quarts *
GREASE POINTS	Multipurpose Lithium base grease	As required
POWER HYDRAULIC	Castrol 5966 Hyd. Sys. Mineral Oil	As required
POWER STEERING	Dexron 2 D or Type F	As required
BRAKE HYDRAULIC	DOT 4	.51 quarts
COOLING	JAG 110 Anti-freeze 55% solution	13.5 quarts
WASHER	Washer Fluid	6.6 quarts

*If pan is removed and filter replaced.

CAUTION: ONLY GENUINE JAGUAR REPLACEMENT BULBS MUST BE USED TO PREVENT ERRONEOUS VCM BULB FAILURE WARNING.

BULB CHART

DESCRIPTION	RATING	TYPE	PART NO.
HEADLIGHTS — INNER	12V 50W	SEALED BEAM	JLM215
HEADLIGHTS — OUTER	12V 35/35W	SEALED BEAM	JLM216
FRONT FLASHER AND SIDE LIGHT	12V 5/21W	DBL. FILAMENT 380	JLM9594
FOG LIGHTS — FRONT	12V 55W	HALOGEN 479	JLM9588
FOG LIGHTS — REAR	12V 21W	REGULAR 382	C9126
UNDER HOOD LIGHT	12V 5W	REGULAR 989	JLM9601
SIDE MARKER LIGHT	12V 4W	REGULAR 233	JLM9589
DOOR HAZARD LIGHT	12V 5W	FESTOON 239	JLM9590
INSTRUMENT ILLUMINATION	12V 2.2W	CAPLESS 132	JLM646
GEAR SELECTOR ILLUMINATION	12V 1.2W	CAPLESS 286	C38966
GLOVE BOX LIGHT	12V 5W	FESTOON 239	JLM9590
CIGAR LIGHTER ILLUMINATION	12V 1.2W	CAPLESS 286	C38966
ROOF CONSOLE MAP LIGHT	12V 5W	HALOGEN 468	JLM846
ROOF CONSOLE COURTESY LIGHT	12V 10W	FESTOON 265	JLM847
INTERIOR LIGHT SEAT HEAD REST	12V 5W	FESTOON 239	JLM9590
REAR QUARTER READING LIGHT	12V 4W	REGULAR 233	JLM9589
HIGH MOUNTED STOP LIGHT	12V 5W	CAPLESS 501	JLM9600
LUGGAGE COMPARTMENT LIGHT	12V 5W	FESTOON 239	JLM9590
STOP LIGHT	12V 21W	REGULAR 382	C9126
REVERSE LIGHT	12V 21W	REGULAR 382	C9126
REAR LIGHT	12V 21W	REGULAR 382	C9126
TAIL LIGHT	12V 5W	REGULAR 207	JLM9587
LICENSE PLATE LIGHT	12V 5W	FESTOON 239	JLM9590



CIRCUIT #1 — RIGHT FUSE BOX

FUSE NO.	VALUE	CIRCUIT
1	15A	Right front door: window, puddle light.
2	10A	Door lock control, trunk lock.
3	20A	Right blower.
4	15A	Right headlight high beam.
5	5A	Right front lights: side/side marker, turn signals.
6	20A	Heated rear window, trunk lamp, antenna, heated door mirrors, right rear quarter reading light.
7	7.5A	Right rear lights: stop, reverse, turn signals, fog, high mounted stop light.
8	20A	Front and rear cigar lighters.
9	20A	Not used.
10	20A	Radio, sun roof, door key heaters, glove box light, map light, interior headrest lights, state illumination.
11	15A	Cooling fan, air conditioning compressor clutch, under hood lamps.
12	3A	Right rear lights: tail, license plate, side marker.
13	15A	Right rear door: window, puddle light.
14	10A	Right headlight low beam.

CIRCUIT #2 — LEFT FUSE BOX

FUSE NO.	VALUE	CIRCUIT
1	15A	Left front door: window, puddle light.
2	3A	Instrument pack.
3	20A	Left blower.
4	15A	Left headlight high beam.
5	5A	Left front lights: side/side marker, turn signals.
6	3A	Power hydraulic (down).
7	7.5A	Left rear lights: stop, reverse, turn signals.
8	25A	Right seat movement and seat heater.
9	20A	Not used.
10	25A	Left seat movement and seat heater.
11	20A	Wipers and horns.
12	3A	Left rear lights: tail, license plate, side marker.
13	15A	Left rear door: window, puddle light. Left rear quarter reading light, fuel filler flap.
14	10A	Left headlight low beam.

CIRCUIT #3 — CENTER FUSE BOX

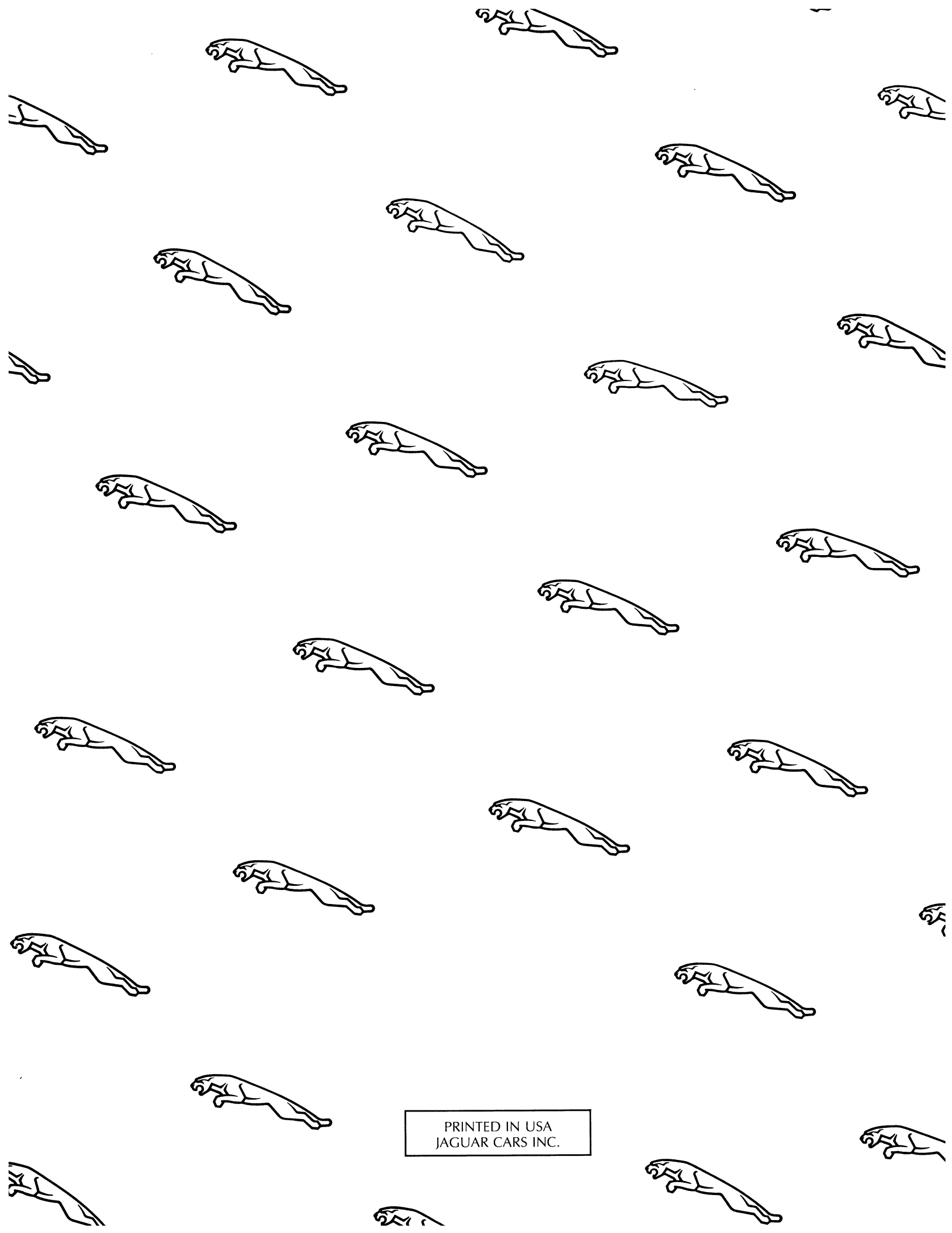
FUSE NO.	VALUE	CIRCUIT
1	3A	Bulb failure modules: right rear/left front, alternator control.
2	3A	Bulb failure modules: left rear/right front.
3	5A	Cruise control.
4	3A	Power hydraulic (up, charge).
5	3A	Cooling fan, heated washer jets, breather heater.
6	7.5A	Radio illumination, breather heater.

SEPARATE FUSES

FUSE NO.	VALUE	CIRCUIT
In-Line	10A	Windshield washer. (Located adjacent to power steering reservoir.)
In-Line	30A	Power wash. (Located adjacent to power steering reservoir.)

TIRES	Pirelli P5 205/70 VR 15 Cinturato
TIRE PRESSURES	NORMAL DRIVING Front 27 PSI/Rear 30 PSI HIGH SPEED DRIVING Front 33 PSI/Rear 36 PSI
FRONT WHEEL HUB "END FLOAT"	0.001-0.003 in. (Adjust at 0.005 in.)
DRIVE BELT TENSION	⅜ in. Belts — INITIAL LOAD 60 lbs. RETENSION 50 lbs. ½ in. Belts — INITIAL LOAD 120 lbs. RETENSION 100 lbs.


JAGUAR



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