10 - MAINTENANCE

CONTENTS

Page

MAINTENANCE

SERVICE SCHEDULE 1
VEHICLE INTERIOR 1
VEHICLE EXTERIOR 3
UNDER BONNET [HOOD] MAINTENANCE 4
UNDER VEHICLE MAINTENANCE 13
RECOMMENDED SERVICE ITEMS 21

SERVICE SCHEDULE

This section gives information on the range of service procedures.

Where required, instructions are given for carrying out each service procedure, or a cross reference is given, where the procedure can be found in this manual.

Service Schedule sheets are published separately to reflect the maintenance needs and intervals for each vehicle variant and model year. Procedures given in this manual must be used in conjunction with the service schedule sheets.

The Service Schedule sheets are available in pads from:
Land Rover Merchandising
PO Box 534
Erdington
Birmingham B24 0QS.
England.

VEHICLE INTERIOR

CHECK SEATS & BELTS

Check condition and security of seats, seat belt mountings, seat belts, buckles and opertion of inertia seat belts. Lubricate seat tilt pivots.

CHECK OPERATION OF FOOT BRAKE AND CLUTCH

If pedal feels 'spongy' bleed system. ***See BRAKES, Repair, Brake System Bleed (ABS)*** or ***See BRAKES, Repair, Brake System Bleed (non ABS)*** or ***See CLUTCH, Repair, Bleed Hydraulic System*** Check all hoses and pipes for security, fractures and leaks. Fit new hoses and pipes as necessary.

CHECK OPERATION OF LAMPS

Check operation of all lamps, horns and warning indicators.

CHECK OPERATION OF WIPERS

Check operation of front/rear screen wipers and washers and condition of wiper blades.

CHECK AIR BAG MODULE COVERS

Check visually for signs of damage.

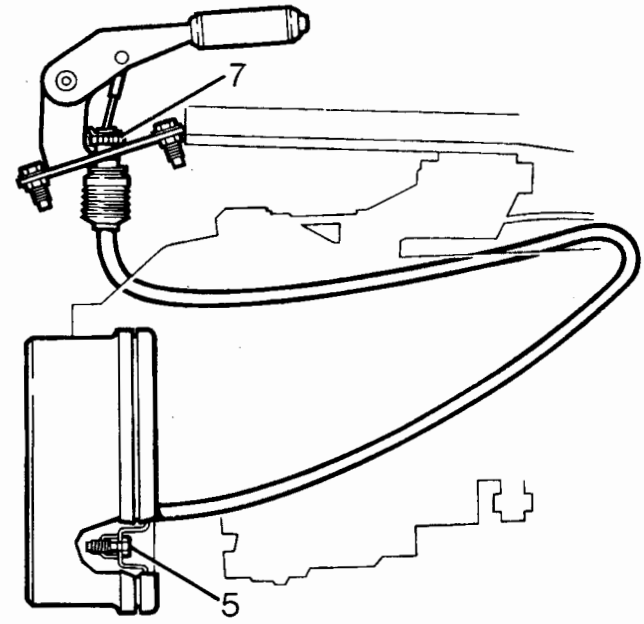
RENEW AIR BAG MODULE

Every ten years

CHECK SECURITY AND OPERATION OF PARK BRAKE

Parking brake adjust

1. Select a gear or 'P' in main gearbox.
2. Chock road wheels.
3. Release parkbrake lever.
4. Remove switch panel from centre console.



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5. Underneath vehicle, rotate brake adjuster clockwise until brake shoes are fully expanded against drum.
6. Back off adjuster until drum is free to rotate.
7. Rotate adjustment thumbwheel below parkbrake lever until parking brake is fully operational on third notch of ratchet.

△ **NOTE: Cable adjustment must ONLY be used for initial setting and to compensate for cable stretch. It MUST NOT be used to take up brake shoe wear, which MUST be adjusted at brake drum.**

8. Operate parking brake to settle shoes. Recheck parkbrake is fully operational on third notch of ratchet. Readjust if necessary.
9. Refit switch panel.

VEHICLE EXTERIOR

CHECK/ADJUST HEADLAMP ALIGNMENT

Check/adjust headlamp and auxiliary alignment.

CHECK HEADLAMP LEVELLING SYSTEM

Check system for correct operation.

CHECK FRONT WHEEL ALIGNMENT

Use recognised wheel alignment equipment to perform this check and adjustment. ***See STEERING, Adjustment, Front Wheel Alignment***

REMOVE WHEELS, CHECK TYRES

Check tyres (including spare) for compliance with manufacturers' specification.

Check visually for cuts, lumps, bulges, uneven tread wear and tread depth. Check road wheels for damage.

Check/adjust tyre pressures.

INSPECT BRAKE PADS FOR WEAR, CALIPERS FOR LEAKS AND CONDITION

Check thickness of brake pads, fit new pads if minimum thickness is less than 3,0mm. Check brake pads for oil contamination. If new brake pads required. ***See BRAKES, Repair, Front Brake Pads*** or ***See BRAKES, Repair, Rear Brake Pads***

WARNING: When renewing brake pads, it is essential that only genuine components with correct grade of lining are used. Always fit new pads as complete axle sets, NEVER individually or as a single wheel set. Serious consequences could result from out of balance braking due to mixing of linings.

Refit road wheels

Fit road wheels in original hub position. Secure in position with wheel nuts, do not fully tighten wheel nuts at this stage, lower vehicle and finally tighten wheel nuts to correct torque.

Alloy wheels: ***130 Nm.***

Steel wheels: ***130 Nm.***

CHECK SECURITY OF SPARE WHEEL

CHECK OPERATION OF DOORS, BONNET [HOOD] AND TAILGATE LOCKS

LUBRICATE ALL HINGES, DOOR CHECK MECHANISMS, BONNET [HOOD] CATCHES AND FUEL FILLER FLAP

UNDER BONNET [HOOD] MAINTENANCE

CHECK COOLING/HEATER SYSTEMS

Check cooling/heater systems for leaks and hoses for security and condition.

Cooling system hoses should be changed at first signs of deterioration.

CHECK BRAKE SERVO HOSE FOR SECURITY AND CONDITION

CHECK FUEL EVAPORATIVE LOSS CONTROL SYSTEM FOR LEAKS - V8

CHECK FUEL FILLER CAP SEAL FOR LEAKS

CHECK CONDITION OF HEATER PLUG WIRING FOR FRAYING, CHAFING AND DETERIORATION - Tdi

CHECK IGNITION WIRING

Check ignition wiring and high tension leads for fraying, chafing and deterioration.

CLEAN DISTRIBUTOR CAP - V8

The electronic ignition employs a Lucas 35DLM8 distributor.
Internal operating parts of distributor are pre-set at factory and do not normally require resetting. Adjustments should only be made if unit is known to be faulty or damaged. Distributor maintenance consists of following items.

1. Clean outer surfaces of distributor cap to remove dirt, grease etc.
2. Unclip cap, check cap for cracks.
3. Wipe inside cap with lint free cloth.
4. Check rotor arm, cap and flash shield tracking.

   DO NOT DISTURB clear plastic insulating cover (flash shield) which protects magnetic pick-up module.

LUBRICATE DISTRIBUTOR ROTOR SPINDLE - V8

Apply a spot of clean engine oil into rotor spindle after rotor arm has been removed.

CLEAN/ADJUST SPARK PLUGS - V8

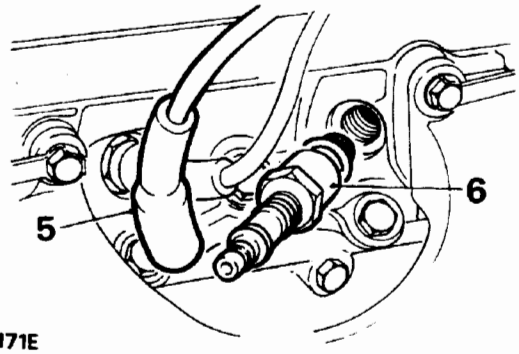
RENEW SPARK PLUGS - V8

Clean, adjust and renew

1. Take great care when fitting spark plugs not to cross-thread plug, otherwise costly damage to cylinder head will result.
2. Clean or replace spark plugs as applicable.
3. It is essential that correct type of spark plugs are fitted.
4. Incorrect grade of plugs may lead to piston overheating and engine failure.

Remove

5. Disconnect battery negative lead. Remove H.T. leads from spark plugs.
6. Remove plugs and washers.



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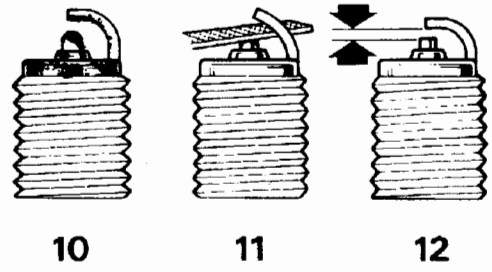
Clean spark plugs

7. Fit plug into 14 mm adaptor of approved spark plug cleaning equipment. Wobble plug in adaptor with circular motion for three or four seconds only with abrasive blast in operation. Important: Excessive abrasive blasting will lead to severe erosion of insulator nose. Continue to wobble plug in adaptor with air only, blasting plug for a minimum of 30 seconds: this will remove abrasive grit from plug cavity.
8. Wire-brush plug threads; open gap slightly, and vigorously file electrode sparking surfaces using a point file. This operation is important to ensure correct plug operation by squaring electrode sparking surfaces.
9. Set electrode gap to recommended clearance.
10. Shows dirty plug.
11. Filing plug electrodes.
12. Clean plug, set to correct gap.



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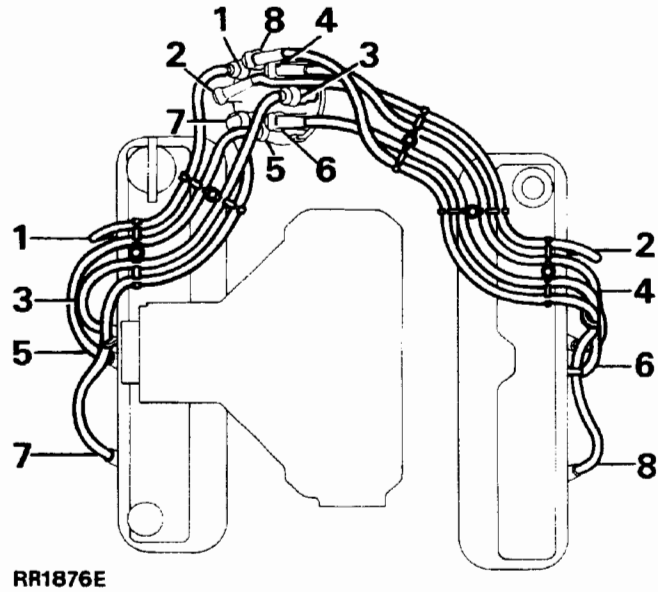
13. Test plugs in accordance with plug cleaning machine manufacturers' recommendations.
14. Satisfactory plugs can be refitted.
15. When pushing leads onto plugs, ensure that shrouds are firmly seated.

Fitting H.T. leads

16. Ensure replacement H.T. leads are correctly refitted as illustrated.
    Failure to observe this instruction may result in cross-firing between two closely fitted leads which are consecutive in firing order.



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CHECK/ADJUST VALVE CLEARANCES. - Tdi

Valve adjustment. ***See GENERAL SPECIFICATION DATA, Information, Engine - 300Tdi***

RENEW FUEL FILTER ELEMENT - Tdi

Drain off water and sediment

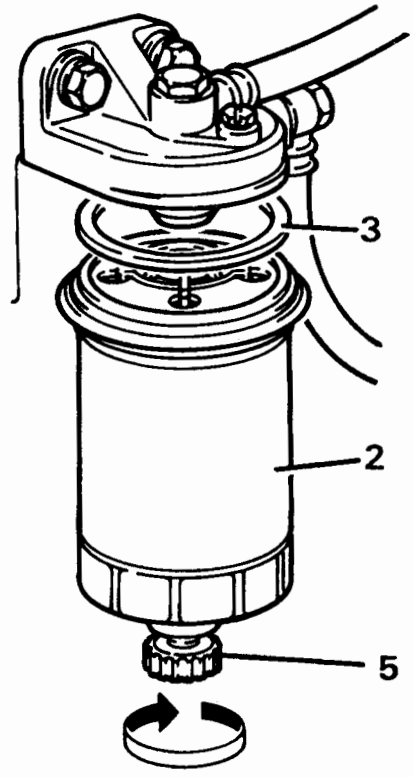
CAUTION: It is essential that any water and sediment in fuel filter is drained off, as water in fuel can result in damage to injection pump.

1. Hold a small receptacle beneath drain cock. Unscrew the drain cock half a turn.
2. Drain off water and sediment.
3. Tighten the drain cock immediately fuel starts to flow from drain cock.

NOTE: Any delay in tightening drain cock when fuel starts to flow could possibly mean bleeding fuel system.

Renew fuel filter element

1. Clean area around filter, place a container beneath.
2. Unscrew filter, a quantity of fuel will be released, and discard filter.



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3. Wet seal of new filter with fuel.
4. Screw new filter into position.
5. Ensure that drain cock is secure.

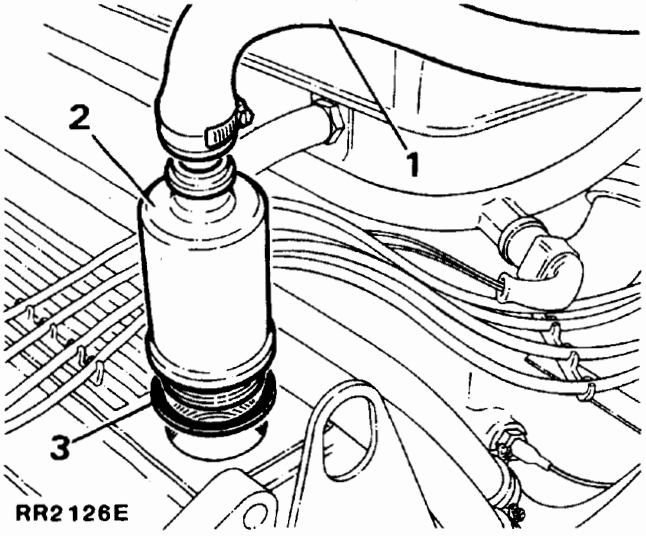
CHECK POSITIVE CRANKCASE VENTILATION (PCV) SYSTEM FOR LEAKS AND HOSES FOR SECURITY AND CONDITION - V8

RENEW AIR CLEANER ELEMENT
- V8 CATALYST - Tdi
- V8 NON CATALYST

To renew air cleaner element
See FUEL SYSTEM, Repair, Air Cleaner

CLEAN ENGINE BREATHER FILTER - V8

1. Release hose clamp and pull hose off canister.
2. Unscrew canister and remove it from rocker cover.
3. Remove large 'O' ring from threaded end of canister.
4. Visually inspect condition of wire screen within canister, if in poor condition fit new assembly, if in acceptable condition clean screen as follows:
5. Immerse canister in small amount of solvent and allow solvent to dissolve and loosen any debris.
6. Remove canister from solvent and dry in still air.



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WARNING: Do not use compressed air line to remove remaining solvent or debris in canister, this could cause fire or personal injury.

Refitting breather/filter

1. Fit new rubber 'O' ring.
2. Screw canister into rocker cover, hand tight only.
3. Refit hose, tighten clamp securely.

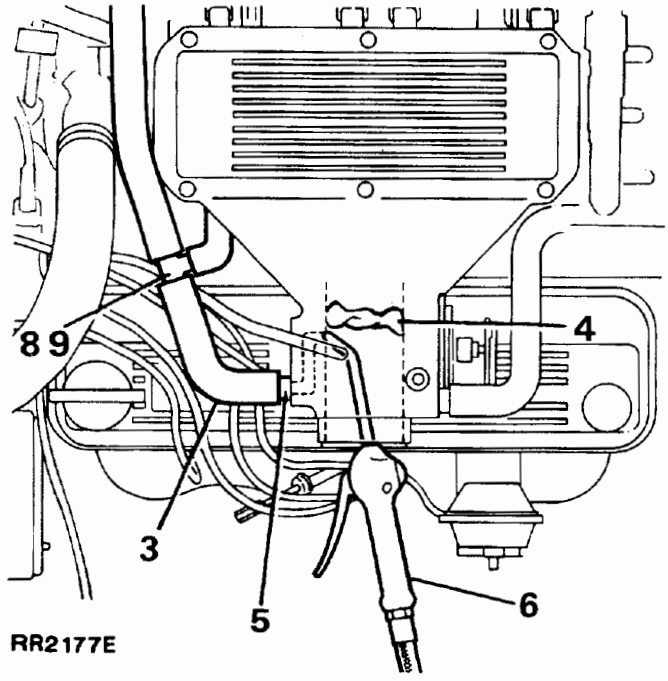
CLEAN PLENUM CHAMBER VENTILATION PASSAGEWAY - V8

Cleaning plenum chamber ventilation passageway can be carried out without removing plenum chamber from ram housing.

CAUTION: Care must be taken to prevent debris from passageway passing beyond throttle butterfly disc.

WARNING: Safety glasses must be worn when performing this operation. Ensure that debris is not blown into atmosphere which could be harmful to other persons closeby.

1. Disconnect battery negative lead.
2. Release hose clamp and remove hose from plenum chamber inlet.
3. Remove crankcase ventilation hose from side of plenum chamber.
4. Insert a piece of lint free cloth down throttle butterfly bore to prevent debris passing throttle butterfly.
5. Place a cloth over tube protruding from side of plenum from which ventilation hose was removed to prevent debris from passageway being blown into atmosphere.



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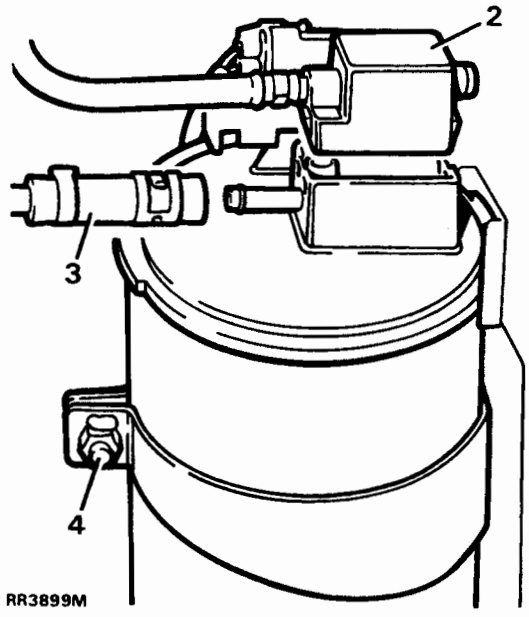
6. Use a compressed air line with a slim bent nozzle to enable passageway to be cleaned out from within throttle butterfly bore.
7. Any remaining matter can be dislodged using soft bent wire or pipe cleaner. Finally blow out passageway again to remove remaining debris.
8. Remove small 'T' piece between crankcase ventilation hoses and check it is free from blockages, clean as necessary.
9. Refit 'T' piece and hoses, tighten hose clamps securely.

RENEW CHARCOAL CANISTER - V8

Charcoal canister

Remove

1. Disconnect battery negative lead.
2. Pry out purge valve.
3. Disconnect pipe.
4. Loosen bolt.
5. Remove charcoal canister.



Refit

6. Reverse removal procedure.

CHECK CONDITION OF DRIVE BELT - V8 - Tdi

RENEW - V8 - Tdi

Renew V8 drive belt. ***See ENGINE, Repair, Drive Belt - Renew***

Renew Tdi drive belt. ***See ENGINE, Repair, Drive Belt - Renew***

CHECK THROTTLE AND AUTOMATIC TRANSMISSION CABLE OPERATION

CHECK/TOP UP AUTOMATIC TRANSMISSION FLUID LEVEL

△ **NOTE: Transmission fluid level is checked when fluid is cold with engine idling in neutral.**

1. Ensure vehicle is on level ground.
2. Check fluid level registers between MAX and MIN marking on dipstick.

CHECK SECURITY OF JACK, BRACE AND CHOCKS

CHECK ENGINE EMISSION CONTROL SYSTEM V8

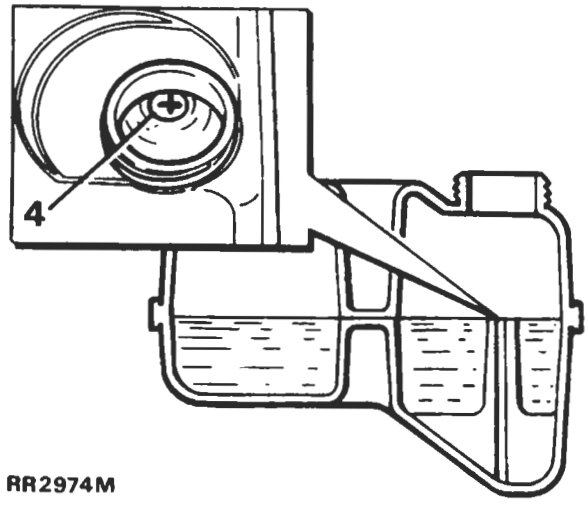
CHECK OPERATION OF ELECTRONIC CONTROL UNIT/SYSTEMS - V8

CHECK/TOP UP COOLING SYSTEM

1. To prevent corrosion of aluminium alloy engine parts it is imperative that cooling system is filled with a solution of water and phosphate free anti-freeze, winter or summer. Never fill or top up with plain water.

⚠ **WARNING: Do not remove filler cap when engine is hot because cooling system is pressurised and personal scalding could result.**

2. When removing filler cap, turn cap slowly anti-clockwise, pause and allow all pressure to escape.
3. Continue to turn until cap is removed.
4. When engine is cold expansion tank coolant should be level with top of indicator post, visible inside tank through filler hole.
5. If necessary, top up cooling system with premixed coolant. Use soft water whenever possible, if local water supply is hard, rainwater should be used.



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6. When replacing filler cap it is important that it is tightened down fully. Failure to tighten filler cap properly may result in water loss, with possible damage to engine.

The cooling system should be drained and flushed at 2 year intervals or at onset of second winter. Refer to Coolant Requirements. ***See COOLING SYSTEM, Adjustment, Coolant Requirements***

CHECK/TOP UP POWER STEERING FLUID RESERVOIR

1. Remove fluid reservoir cap. Check that fluid is up to high mark on dipstick.

CHECK/ TOP UP CLUTCH AND BRAKE FLUID RESERVOIRS

⚠ **CAUTION: Brake fluid can damage paintwork. If spillage occurs, wash affected area IMMEDIATELY with a large quantity of water.**

CHECK/TOP UP WASHER RESERVOIR

Top up washer reservoir to within 25 mm of filler neck. Use a screen washer solvent/anti-freeze solution to assist removing mud, flies and road film and protect against freezing.

LUBRICATE ACCELERATOR CONTROL LINKAGES AND PEDAL PIVOT

CHECK/ADJUST IGNITION TIMING - V8

Check ignition timing.

If 3.9. ***See ENGINE TUNING DATA, Information, Engine - 3.9 V8***

If 4.2. ***See ENGINE TUNING DATA, Information, Engine - 4.2 V8***

CHECK/ADJUST ENGINE IDLE SPEED - Tdi

For idle speed. ***See ENGINE TUNING DATA, Information, Engine - 300Tdi***

CHECK/ADJUST STEERING BOX

Check steering box for fluid leaks.

Check that there is no backlash in steering box in straight ahead position. Adjust steering box if necessary. ***See STEERING, Adjustment, Power Steering Box***

CLEAN BATTERY CONNECTIONS

Remove battery terminals, clean and coat with petroleum jelly.

A low maintenance battery is installed in vehicle. Dependent upon climate conditions electrolyte levels should be checked as follows:

Temperate climates, every three years.
Hot climates, every year.

RENEW CAMSHAFT DRIVE BELT - Tdi

Renew camshaft drive belt. ***See ENGINE, Repair, Camshaft Drive Belt and Gears***

The engine timing gears are driven by a flexible rubber belt which must be renewed at intervals determined by the severity of operating conditions. In reasonable, temperate climate operation, renew the belt every 120,000 km (72,000 miles) or every six years whichever occurs earlier.

In adverse operating conditions such as work in dusty atmospheres, high ambient temperatures and desert and tropical zones, renew the belt every 60,000 km (36,000 miles) or every three years whichever occurs earlier.

⚠ **CAUTION: If the drive belt is not renewed at the correct interval, it could fail, resulting in serious damage.**

EXTERNALLY CHECK INTERCOOLER FOR OBSTRUCTION - Tdi

Clear any trapped dirt or flies from veins of intercooler

CLEAN INTERCOOLER ELEMENT - Tdi

Remove

1. Remove intercooler element.
2. Flush intercooler with ICI 'GENKLENE' or 'D-SOLVE' propriety cleaner, following the manufacturer's instructions.
3. Dry the intercooler completely ensuring that no liquid remains in the element.

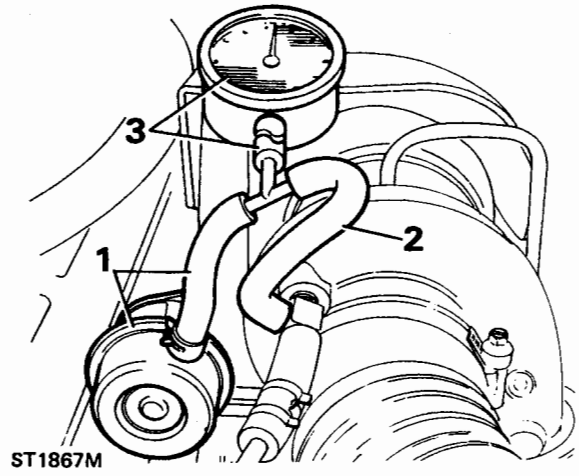
Refit

4. Refit intercooler element.

CHECK TURBO CHARGER BOOST PRESSURE - Tdi

For boost pressure. ***See ENGINE TUNING DATA, Information, Turbocharger***

1. Disconnect, from turbocharger, hose to actuator. Insert into a suitable "T" piece.
2. Connect a short length of suitable hose to turbocharger and connect other end to "T" piece.
3. Connect a further length of hose to third leg of the "T" piece and other end to a pressure gauge capable of reading in excess of 61 cm Hg. The pressure gauge hose must be capable of reaching passenger compartment so that gauge may be observed.
4. To check maximum boost pressure, drive vehicle normally but in such a manner that full throttle can be maintained whilst climbing a hill with engine speed held steady between 2,500 and 3,000 rev/min.



UNDER VEHICLE MAINTENANCE

Vehicles operating under severe conditions of dust, sand, mud and water should have oils changed and lubrication carried out at more frequent intervals than is recommended in maintenance schedules.

RENEW ENGINE OIL AND FILTER - Tdi

⚠ **CAUTION: Serious damage to the turbocharger will result is engine is run above idling speed before oil pressure is restored.**

RENEW ENGINE OIL AND FILTER - V8

⚠ **CAUTION: To prevent an airlock occuring after removing filter, fill new filter with oil and fit immediately after removing old filter. If airlock does occur fill oil pump with petroleum jelly.**

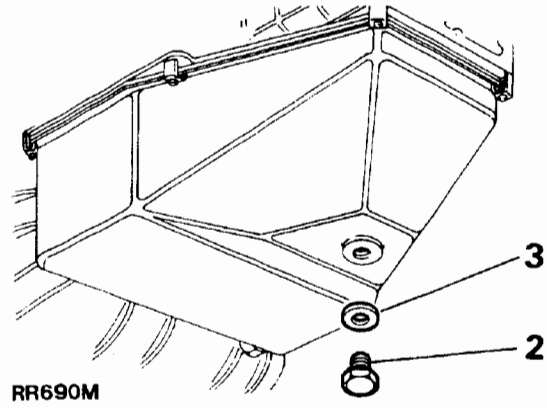
CHECK/TOP UP MANUAL GEARBOX OIL - V8

1. Place vehicle on ramp or level ground.
2. Remove oil filler level plug. If necessary, inject new oil into the gearbox until it runs out of filler hole. Fit plug. Tighten to ***30 Nm.***

RENEW MANUAL GEARBOX OIL

RENEW AUTOMATIC GEARBOX FLUID AND OIL SCREEN

1. Place vehicle on either ramp or level ground. Place suitable container to drain gearbox fluid. Disconnect battery negative lead.
2. Remove gearbox dipstick, located at rear of right hand rocker cover, to aid oil drainage. Release plug from bottom of sump and allow fluid to drain completely.
3. Refit plug using a new sealing washer. Tighten to ***10 Nm.***

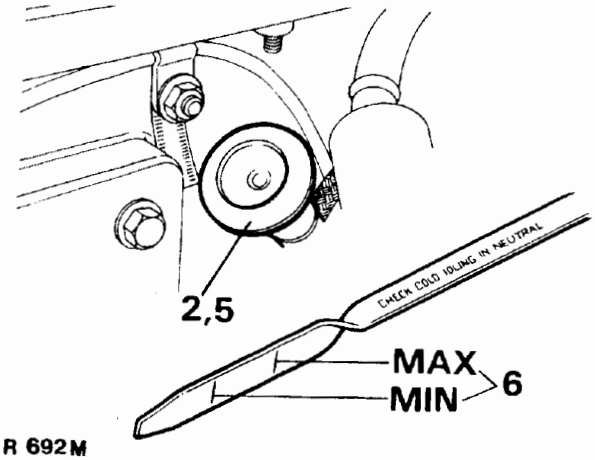


Refill ZF Automatic Gearbox and Check Fluid Level.

△ **NOTE: The fluid level must checked when fluid is cold and engine idling in park gear.**

4. Ensure vehicle is on level ground.
5. Refill or top-up with correct quantity and grade of fluid. ***See LUBRICANTS, FLUIDS AND CAPACITIES, Information, Recommended Lubricants and Fluids***

6. Reconnect battery negative lead. Start and run engine, apply footbrake, select Position 1, revert to park position, release footbrake. Check fluid level, this must be between two markings on dipstick.



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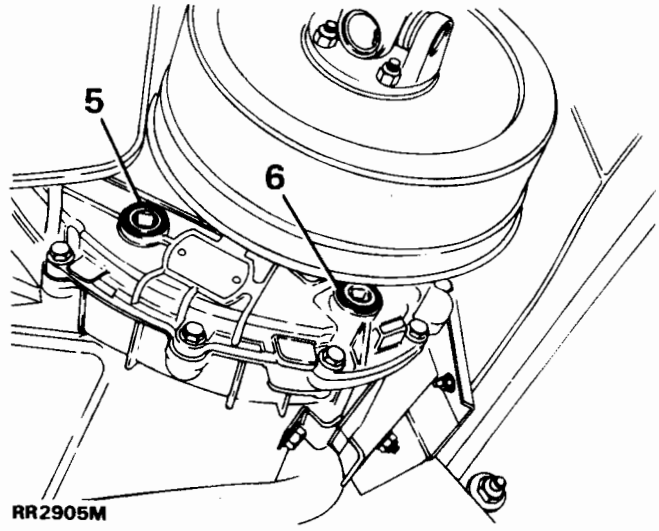
Oil screen replacement ZF automatic gearbox.
See AUTOMATIC GEARBOX, Repair, Oil screen

RENEW TRANSFER GEARBOX OIL

1. Before renewing oil ensure that vehicle is level, either on a ramp or on ground.
2. Disconnect battery negative lead.
3. Clean immediate area around filler/level and drain plugs.

WARNING: When draining gearbox care should be taken to ensure that oil is not hot as personal scalding could result.

4. Place a container under gearbox to drain oil into.
5. Remove filler/level plug to vent gearbox and assist draining.
6. Remove drain plug and allow oil to drain.



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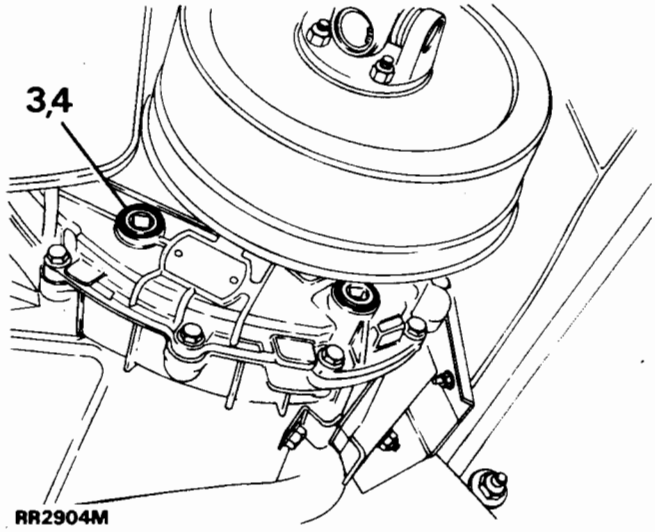
7. Thoroughly clean drain plug threads prior to applying fresh 'Hylomar' sealant. Fit plug Tighten to ***25 Nm.***
8. Fill gearbox with correct quantity and grade of oil until oil seeps from filler level hole. Wipe away any surplus oil.
9. Thoroughly clean filler/level plug threads prior to applying fresh 'Hylomar' sealant. Fit plug Tighten to ***25 Nm.***
10. Reconnect battery negative lead.

CHECK/TOP UP TRANSFER GEARBOX OIL

1. Before topping up oil ensure that vehicle is level, either on a ramp or on ground.
2. Disconnect battery negative lead.
3. Clean immediate area around filler/level plug.
4. Remove plug and fill gearbox with recommended grade of oil, until oil starts to seep from filler/level hole.
5. Clean any previously applied sealant from filler/level plug.
6. Apply Hylomar sealant to threads of plug and refit plug. Tighten to ***25 Nm.***



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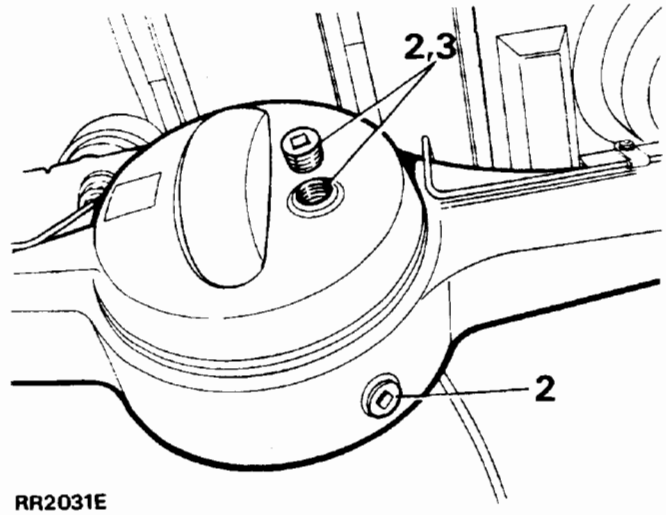
7. Wipe away any surplus oil.
8. Reconnect battery negative lead.

RENEW FRONT AND REAR AXLE OIL

1. Vehicle must be level. Place container under axle to be drained.
2. Using a 13mm square drive wrench, remove drain and filler/level plugs from axle. Allow oil to drain completely. Clean and refit drain plug.
3. Inject new oil of recommended make and grade until it reaches level hole. Clean and refit filler/level plug and wipe away surplus oil.



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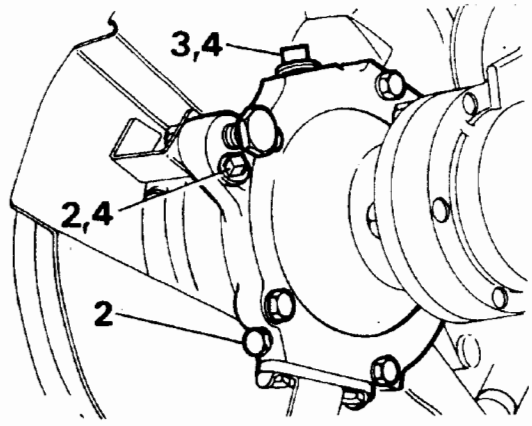
CHECK/TOP UP FRONT AND REAR AXLE OIL

1. Vehicle must be level.
2. Using a 13mm square drive wrench, remove filler/level plug from axle.
3. If necessary inject new oil of recommended make and grade until it reaches level hole. Clean and refit filler/level plug and wipe away surplus oil.

RENEW SWIVEL PIN HOUSING OIL

1. Vehicle must be level. Place container under swivel to be drained.
2. Remove drain and level plugs, allow oil to drain completely, clean and refit drain plug.
3. Remove filler plug and inject recommended make and grade of oil it reaches level hole.
4. Clean and refit level and filler plugs, wipe away any surplus oil.



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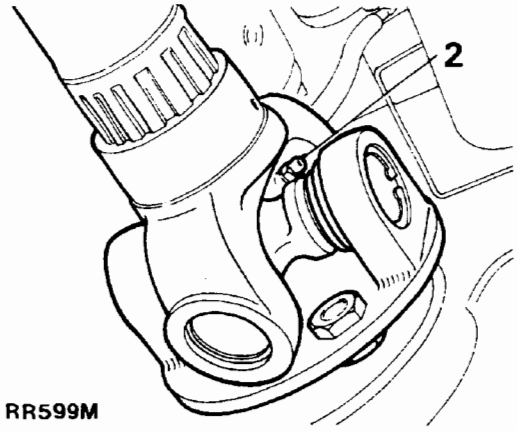
LUBRICATE PROPELLER SHAFT SLIDING, AND UNIVERSAL JOINTS

1. Clean all grease nipples on front and rear propeller shafts.
2. Using a low pressure hand grease gun, apply recommended grease, to grease nipples at front and rear propeller shaft universal and sliding joints.

△ **NOTE: The rear propeller shaft flexible coupling is not fitted with a grease nipple.**



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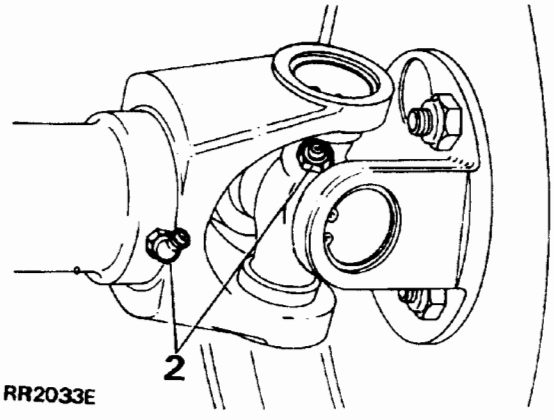

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LUBRICATE PARKBRAKE MECHANICAL LINKAGE

CHECK VISUALLY BRAKE, FUEL, CLUTCH PIPES/UNIONS FOR CHAFING LEAKS AND CORROSION

CHECK EXHAUST SYSTEM FOR LEAKS, SECURITY AND DAMAGE

CHECK FOR FLUID LEAKS FROM POWER STEERING AND SUSPENSION SYSTEMS, HYDRAULIC PIPES AND UNIONS FOR CHAFING AND CORROSION

CHECK/TIGHTEN STEERING UNIT AND STEERING ROD BALL JOINT FIXINGS, CHECK CONDITION OF OF BALL JOINTS AND DUST COVERS

Ball joints are lubricated for their normal life during manufacture and require no further lubrication. This applies ONLY if rubber boot has not been dislodged or damaged. Joints should be checked at specified mileage intervals but more frequently if vehicle is used under arduous conditions.

1. Check for wear in joints by moving ball joint up and down vigorously. If free movement is apparent fit a new joint assembly.

CHECK TIGHTNESS OF PROPELLER SHAFT COUPLING BOLTS

Tighten propellor shaft nuts to ***47Nm.***

ENSURE FRONT AND REAR AXLE BREATHERS ARE FREE FROM OBSTRUCTION

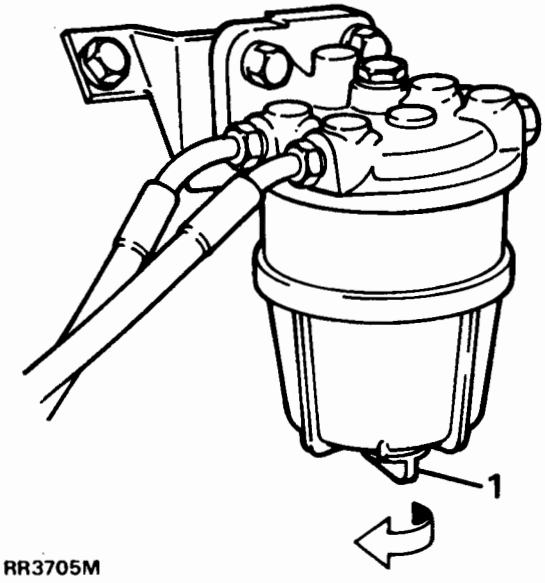
CHECK/TIGHTEN FRONT AND REAR AXLE SUSPENSION LINK FIXINGS, CHECK CONDITION OF MOUNTING RUBBERS

CLEAN FUEL SEDIMENTER - Tdi

Fuel sedimenter
The sedimenter is attached to left-hand side of chassis frame near fuel tank. It increases the working life of the fuel filter by removing larger droplets of water and larger particles of foreign matter from fuel.

Drain off water

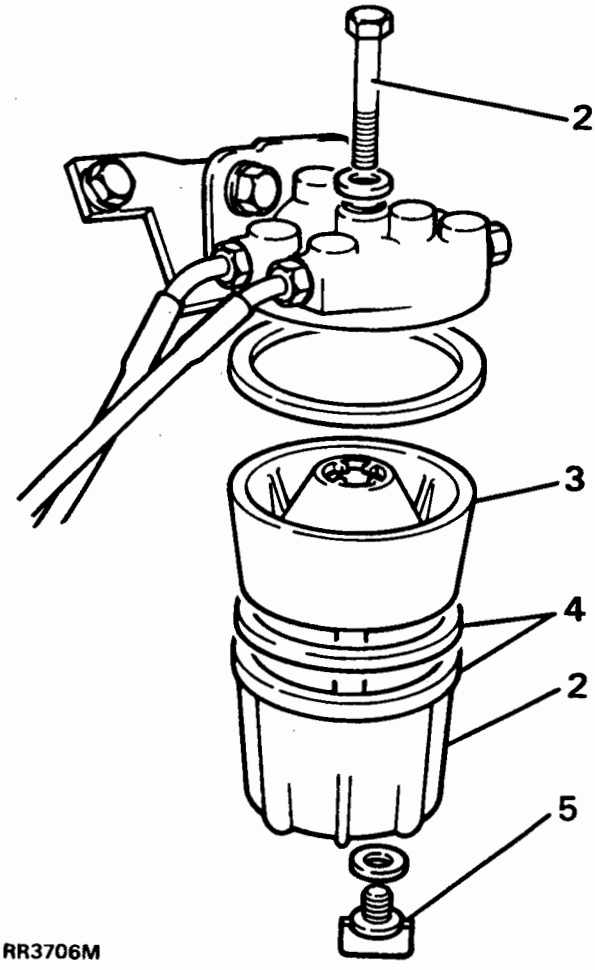
1. Loosen drain plug, allow water to run out. Tighten plug immediately pure diesel fuel starts to flow.



RR3705M

Clean element

1. Disconnect fuel inlet pipe from sedimenter and raise pipe above level of fuel tank. Support in this position to prevent fuel draining from tank.
2. Support sedimenter bowl, loosen bolt on top of unit and remove bowl.
3. Remove sedimenter element, clean all parts in kerosene.



RR3706M

4. Fit new seals, reassemble sedimenter.
5. Loosen drain plug, when pure diesel fuel runs out, tighten plug.
6. Start engine and check sedimenter for leaks.

CHECK FOR OIL LEAKS FROM ENGINE AND TRANSMISSION

DRAIN FLYWHEEL HOUSING IF DRAIN PLUG IS FITTED FOR WADING

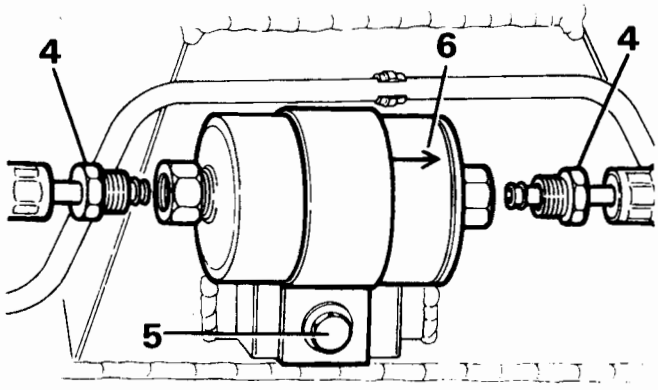
CHECK/TIGHTEN FUEL TANK FIXINGS

RENEW FUEL FILTER - V8

WARNING: Ensure that fuel handling precautions given in Section 01 - Introduction regarding fuel handling are strictly adhered to when carrying out following instructions. ***See INTRODUCTION, Information, Fuel Handling Precautions***

WARNING: The spilling of fuel is unavoidable during this operation. Ensure that all necessary precautions are taken to prevent fire and explosion.

1. Depressurise fuel system. ***See FUEL SYSTEM, Repair, Depressurising Fuel system***
2. The fuel line filter is located on right hand chassis side member forward of fuel tank filler neck. Access to filter is gained through right hand rear wheel arch.
3. Thoroughly clean area around hose connections to prevent ingress of foreign matter into fuel system.



RR2966E

4. Loosen two fuel unions and remove hoses from filter canister.
5. Release securing bolt and bracket, remove filter from chassis side member.
6. Fit a new filter observing direction of flow arrow on canister.
7. Fit inlet and outlet hoses. Tighten to ***30 Nm.***
8. Refit fuel pump relay.
9. Reconnect battery negative lead.
10. Recode radio.
11. Start engine and inspect hose connections for fuel leaks.

ABS VEHICLES - CHECK ROAD WHEEL SPEED SENSOR ELECTRICAL HARNESS FOR DAMAGE

RENEW OXYGEN SENSORS

See EMISSION CONTROL, Repair, Lambda (Oxygen) Sensor

RENEW CATALYTIC CONVERTERS

See MANIFOLD AND EXHAUST SYSTEM, Repair, Exhaust System Complete

CARRY OUT ROAD OR ROLLER TEST

WARNING: The front and rear axles cannot be driven independently due to the viscous coupling. Before brake testing a single axle, reomve the propeller shaft to the rear axle, AND select neutral in BOTH main gearbox and transfer gearbox. Run the engine at idle speed to maintain servo vacuum.

For details of dynamometer testing ***See INTRODUCTION, Information, Dynamometer Testing - Non Anti-Lock Brake Vehicles See INTRODUCTION, Information, Dynamometer Testing - Vehicles with Anti-Lock Brakes (ABS)***

Check following items:

1. Inhibitor switch only operates in P and N.
2. Engine for excessive noise.
3. Clutch for slip, judder or spin.
4. Automatic gear selection/shift speeds.
5. Gear selection/noise - high/low range.
6. Steering for abnormal noise/effort.
7. Steering for free play.
8. All instruments, gauges and warning indicators.
9. Heater and air conditioning systems.
10. Heated rear screen.
11. Shock absorbers - ride irregularities.
12. Foot brake, on emergency stop, pulling to one side, binding, pedal effort.
13. Parkbrake efficiency.
14. Seat reclining and latching.
15. Fully extend seat belt, check operation of retraction and latching. Inertia belts lock when snatched or vehicle on slope.
16. Road wheel balance.
17. Transmission for vibrations.
18. Body noises, squeaks and rattles.
19. Excessive exhaust smoke.
20. Engine idle speed.
21. Endorse service record.
22. Report any unusual features of vehicle condition and additional work required.

RESET EMISSION MAINTENANCE REMINDER - USA

The emission maintenance reminder is designed to activate at 52,500 and 105,000 miles respectively and will illuminate a 'Service Engine' red warning light in instrument binnacle.

The emission maintenance reminder must be reset after required maintenance has been carried out and a new tamperproof label fitted by a Land Rover of North America dealer.

Reset

1. The control unit is located rear of RH front seat.
2. Identify control unit and remove from plug.
3. Remove tamperproof label to reveal access hole for resetting.
4. Place a thin metallic probe into access hole and momentarily electrically short between reset pins inside unit.

RECOMMENDED SERVICE ITEMS

Refer to Service Schedule sheets for intervals.

Clean sunroof drain tubes, clean and lubricate guide rails and slides.

Renew the hydraulic brake fluid. ***See BRAKES, Repair, Brake System Bleed.***

Renew all hydraulic brake fluid, seals, brake servo filter and flexible hoses.

All working services of the master cylinder and caliper cylinders should be examined and renewed where necessary.

ABS vehicles only - renew hydraulic brake fluid and flexible hoses examine the working surfaces of the caliper cylinders and renew the seals or cylinders where necessary.

Air cleaner - When the vehicle is used in dusty or field conditions or deep wading, frequent attention to the air cleaner may be required.

ABS vehicles used extensively in arduous off-road conditions - check the rear wheel road speed sensor for abrasive wear.