2003- 2005
Range Rover

Maintenance Description

Below are brief explanations of the items listed on the Maintenance Service Schedule. Only a qualified technician should perform the work while following procedures in the new Range Rover Workshop Manual. Always use correct methods, tools, equipment and safety precautions. Some additional details and specifications are provided in the Owner's Manual or the Workshop manuals.

1 Vehicle Interior

1.1 Reset the Service Interval Indicator

1.2 Check parking brake operation

Apply and release handbrake and check for correct operation with vehicle on slight incline.

1.3 Check operation of all lights, warning indicators and horn

Check all exterior lamp lenses for clarity and condition. Turn on side, head and tail lamps and check operation. Verify turn signals and hazard flasher operation. Check brake lamp operation. Verify horn operation. Check operation of interior courtesy lights and all instrument pack warning and indicator lights.

1.4 Check operation of front/rear wiper washer systems

Operate screen washer and turn on wipers. Ensure washer jets are correctly aimed and check for smooth, smear free operation of wiper blades across windshield at all speeds including intermittent. Verify correct operation of rear window washers/wipers and headlamp washers/wipers.

1.5 Check condition and security of seats and seat belts

WARNING: Supplementary restraint system (SRS) air bags and seat belt tensioners must be replaced every 15 years

Check operation of seat controls and verify front and rear seat fasteners are tight and permit no seat movement. Check that rear seat catch locking bars are secured to the floor and show no signs of movement.

Fully extract each seat belt and allow it to return under its own recoil mechanism. Check entire length of seat belt webbing for signs of fraying or damage. Verify seat belt mounting bolt tightness. Check correct operation of seat belt height adjusters and proper buckle to tongue engagement.

2 Vehicle Exterior

2.1 Check condition of wiper blades

Check all wiper blades for condition and signs of splits or damage. Check security of wiper arms.

2.2 Lubricate door seals

Spray silicon lubricant onto upper door seals where they contact the body. Protect other surfaces from over-spray.

3 Under Hood

3.1 Clean battery and terminals

Check battery condition by checking color of condition indicator. (Green = O.K., Black = Battery requires charging, Yellow = New battery required). Clean battery terminals and grease with petroleum jelly.

3.2 Replace pollen filter

3.3 Inspect serpentine drive belt

Check drive belt for signs of splits, fraying, oil contamination and wear.

3.4 Check and top-up brake, PAS and windshield washer fluids

Clean area around each filler cap, remove caps and check fluid level in brake fluid reservoir, PAS fluid reservoir and washer reservoir. Top-up each reservoir with correct specification fluid as necessary. Install filler caps.

3.5 Change brake fluid

Replace brake fluid at 3 year intervals.

3.6 Check coolant level

CAUTION: Ensure that coolant level is not above base of float when float is at its highest position.

With engine cold, remove expansion tank filler cap and top-up with recommended mixture of coolant and anti-freeze until float is at its highest position in the filler neck. Check anti-freeze concentration.
Check 'O' rings on filler cap for condition, replace if necessary and install cap.

3.7 Change engine coolant

Replace anti-freeze every 5 years. Verify anti-freeze concentration and check 'O' rings on filler cap for condition. Replace ‘O’-ring if necessary.

3.8 Replace spark plugs

CAUTION: Take great care when fitting spark plugs not to cross-thread plug. Costly damage to cylinder heads will result. It is essential that only the correct grade of spark plugs, approved for this engine be fitted. Incorrect grade of spark plugs may lead to piston overheating and engine failure.

Disconnect battery earth lead, remove ignition coils, and remove all 8 spark plugs.

CAUTION: Do not attempt to clean or adjust spark plug gaps. If a spark plug problem exists, replace the defective spark plug with a new one.

Fit new spark plugs and tighten to 31Nm (23 lbf.ft), install ignition coils and connect battery earth lead.

3.9 Replace Air Cleaner Element

Follow Work Shop Manual procedures for replacement of air cleaner filter element.

4 Under Vehicle

4.1 Change engine oil and replace filter

WARNING: Avoid excessive skin contact with used engine oil. Used engine oil contains potentially harmful contaminants which may cause skin cancer or other serious skin disorders. Observe care when draining oil as oil can be very hot.

With vehicle on lift, position a suitable container beneath the sump, clean the area around oil drain plug, remove oil drain plug and discard sealing washer. Allow oil to drain. Lower vehicle, remove oil filter cap, discard used 'O' ring and filter element and install new components. Tighten filter cap to 25 Nm (18 lbf.ft.).
Raise vehicle, install new seal washer on oil drain plug, install plug and tighten to 23 Nm (17 lbf.ft.). Fill engine with specified oil, start the engine and allow to idle until oil pressure light is extinguished. Check oil level and for signs of leakage.

4.2 Remove road wheels

Mark the wheel-to-stud relationship to ensure that the wheels are refitted in the same position and remove the wheels.

4.3 Inspect brake pads and calipers for leaks and wear

Remove pads and check for even wear. Check brake disc condition and thickness. Check calipers for fluid leaks. Clean brake dust from pads, calipers and disc shields. Install front and rear brake pads.

4.4 Check tire pressures

Check tire pressures and set to recommended pressure levels.

4.5 Check tires for damage and tread depth

Measure the tread depth across the width of the tire and around the circumference. Check tires for compliance with manufacturer's specification. Ensure there are no cuts, lumps, bulges, or uneven/excessive tread wear.

4.6 Check AT Fluid Level

CAUTION: The gearbox fluid level must only be checked when the temperature of the fluid is between 30°C and 40°C (90°F and 110° F). The reading obtained will be incorrect if the fluid is outside this temperature range.

With the vehicle on a lift, apply handbrake and position chocks under front and rear wheels. Connect test equipment to monitor gearbox fluid temperature, start engine, move selector lever from 'P' through all gear positions, pausing in each gear position for 2-3 seconds and return to 'P' position.

WARNING: Avoid excessive skin contact with mineral oil. Observe due care when draining gearbox fluid as the fluid can be very hot.

Clean area around filler/level plug and with the engine running, remove filler/level plug and allow excess fluid to drain off.
If no fluid loss is apparent when filler/level plug is removed, with the engine at idle, fill gearbox with recommended fluid until a small thread of fluid runs from oil filler/level plug hole. Move selector lever from 'P' through each gear position and return to 'P' allowing any excess fluid to drain off. Install a new sealing washer and tighten filler/level plug to 35 Nm (26 lbf.ft.).

4.7 Inspect for under vehicle fluid leaks

Check for oil leaks from engine, automatic gearbox, transfer box and front and rear differentials. Pay particular attention to areas around oil seals. Check brake servo hose for cracks, leaks and chafing and electrical harnesses for chafing and damage.

4.8 Inspect steering components for wear

Check steering components, steering rod ball joints and dust covers for tightness and wear.

4.9 Check suspension bolts and fasteners

Verify suspension system bolts are tight.

4.10 Inspect brake, fuel lines for leaks, corrosion or damage

Inspect brake pipes are correctly routed and secure and that unions and pipes are free from chafing contact, leaks and corrosion.
Check visible fuel pipes and unions for chafing, leaks and corrosion. Verify all pipes and hoses are correctly routed and secure.

4.11 Inspect PAS hoses for leaks, corrosion or damage

Check for fluid leaks from power steering.

4.12 Inspect suspension plumbing for leaks, corrosion or damage

Check suspension air pipes and unions for chafing, leaks and corrosion. Verify all pipes and hoses are correctly routed and secure.

4.13 Lubricate wheel centers

Clean wheel hub center and centering hub area and apply a thin coat of anti-seize compound to wheel hub center.

4.14 Install road wheels

CAUTION: Tighten nuts by diagonal selection using suitable torque wrench. Power tools should NOT be used.

Install wheels on same axle but on the opposite side. If direction tires install to original position. Tighten wheel nuts to 140 Nm (103 lbf.ft.).

4.15 Exhaust system

Check for signs of exhaust system leaks, damage and security.

5 Anti-Corrosion Check

NOTE Small blister in the underbody sealer are acceptable if metal is NOT exposed.

Check all visible areas for corrosion.

6 Remedial Work Required

Check either “YES” or “NO” indicating if the inspection has revealed anything requiring additional repair procedures.

7 Road Test

7.1 Road Test

Check for correct operation of starter switch and that engine starts correctly. With vehicle stationary, turn steering from lock to lock. Check for smooth operation and ensure there is no undue noise from power steering pump or drive belt. Perform the following vehicle checks:

- Check all vehicle systems for correct operation.
- Check for unusual engine, gearbox and suspension noises.
- Check braking system operation.
- Check for smooth gear engagement.
- Check engine performance.
- Check operation of all instruments and warning devices where practicable.
- Where possible, check for correct operation of hill descent control (HDC) mechanism. This should not be carried out if excessive journey time is required.

Check all fluid levels after road test and top-up if necessary.

7.2 Record Service in Passport to Service booklet.