ROUTINE MAINTENANCE

Regular systematic maintenance is the key to ensuring the continued reliability and efficiency of your vehicle.

Maintenance is the owner's responsibility and you must ensure that owner maintenance operations, oil services, inspections and brake fluid and coolant changes are carried out when required and according to the manufacturer's recommendations.

The routine maintenance requirements for your vehicle are shown in the Service Portfolio book. Most of this necessary workshop maintenance requires specialised knowledge and equipment, and should preferably be entrusted to a Land Rover dealer.

Service Portfolio

The Service Portfolio book includes a Service Record section, which enables a record to be kept of all the oil services and inspections that are carried out on the vehicle. This section of the book also provides a facility for the dealer to record brake fluid changes, as well as the fitting of replacement airbag modules.

Ensure your dealer signs and stamps the book after each oil service and inspection.

Brake fluid/component replacement

Brake fluid must be completely renewed every 3 years, regardless of distance travelled.

Coolant replacement

The engine coolant (anti-freeze and water solution) needs to be replaced every 4 years, regardless of distance travelled. Your dealer will replace the coolant at the scheduled oil service.

OWNER MAINTENANCE

In addition to the routine services and inspections referred to previously, a number of simple checks must be carried out more frequently. You can carry out these checks yourself and advice is given on the pages that follow.

Any significant or sudden drop in fluid levels, or uneven tyre wear, should be reported to a dealer without delay.

Daily checks

- Operation of lights, horn, direction indicators, wipers, washers and warning lights.
- Operation of seat belts and brakes.
- Look for fluid deposits underneath the vehicle that might indicate a leak.

Weekly checks

- Engine oil level.

  NOTE: *The engine oil level should be checked more frequently if the vehicle is driven for prolonged periods at high speeds.*
- Brake fluid level.
- Power steering fluid level.
- Screen washer fluid level.
- Tyre pressures and condition.
- Operate air conditioning*.

All fluid specifications and capacities are shown in *'LUBRICANTS AND FLUIDS', page 243.*

Driving in arduous conditions

IMPORTANT INFORMATION

Special operation conditions
When a vehicle is operated in extremely arduous conditions, more frequent attention must be paid to servicing requirements.

For example: if your vehicle experiences deep wading conditions, even DAILY servicing could be necessary to ensure the continued safe and reliable operation of the vehicle.

Arduous driving conditions include:

- Repeated short distance driving (e.g. up to 5 miles), stop-start driving or idling for long periods.
- Driving in dusty and/or sandy conditions.
- Driving on rough and/or muddy roads and/or wading.
- Driving in extremely hot conditions.
- Towing a trailer or driving in mountainous conditions.

Contact a Land Rover dealer for advice.

SAFETY IN THE GARAGE

WARNING

Cooling fans may continue to operate after the engine is switched off. When the engine is hot, the cooling fans may also COMMENCE operating after the engine is switched off and continue operating for up to 10 minutes. Keep clear of all fans while working in the engine compartment.

If you need to carry out maintenance, observe the following safety precautions at all times:

- Keep your hands and clothing away from drive belts and pulleys.
- If the vehicle has been driven recently, DO NOT TOUCH exhaust and cooling system components until the engine has cooled.
- DO NOT TOUCH electrical leads or components while the engine is running, or with the starter switch turned on.
- NEVER leave the engine running in an unventilated area - exhaust gases are poisonous and extremely dangerous.
- DO NOT work beneath the vehicle with the wheel changing jack as the only means of support.
- Ensure sparks and naked lights are kept away from the engine compartment.
- Wear protective clothing, including, where practicable, gloves made from an impervious material.
- Remove metal wrist bands and jewellery before working in the engine compartment.
- DO NOT allow tools or metal parts of the vehicle to make contact with the battery leads or terminals.

WARNING

Under no circumstances should any part of the fuel system be dismantled or replaced by anyone other than a suitably qualified motor vehicle technician. Failure to comply with this instruction may result in fuel spillage with a consequent serious risk of fire.

Poisonous fluids
Fluids used in motor vehicles are poisonous and should not be consumed or brought into contact with open wounds. These include; battery acid, anti-freeze, brake and power steering fluid, petrol, diesel, engine oil and windscreen washer additives.

For your own safety, ALWAYS read and obey all instructions printed on labels and containers.

Used engine oil
Prolonged contact with engine oil may cause serious skin disorders, including dermatitis and cancer of the skin. ALWAYS wash thoroughly after contact.


It is illegal to pollute drains, water courses or soil. Use authorised waste disposal sites to dispose of used oil and toxic chemicals.

EMISSION CONTROL
Your vehicle is fitted with various items of emission and evaporative control equipment designed to meet specific territorial requirements. You should be aware that unauthorised replacement, modification or tampering with this equipment by an owner or repair shop may be unlawful and subject to legal penalties.

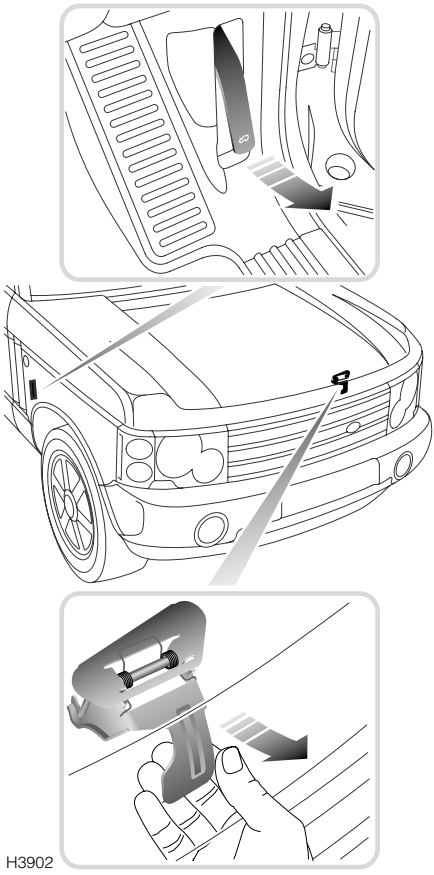
In addition, engine settings must not be tampered with. These have been established to ensure that your vehicle complies with stringent exhaust emission regulations. Incorrect engine settings may adversely affect exhaust emissions, engine performance and fuel consumption, as well as causing high temperatures, which will result in damage to the catalytic converter and the vehicle.

ROAD TESTING DYNAMOMETERS ('rolling roads')
Because your vehicle is equipped with anti-lock brakes and permanent four-wheel drive, it is essential that any dynamometer testing is carried out ONLY by a qualified person familiar with the dynamometer testing and safety procedures practiced by Land Rover dealers. Contact your Land Rover dealer for further information.

PREPARATION FOR WINTER
Before the onset of winter, to prevent the door seals from freezing closed, apply Land Rover silicone spray to the flocked seals across the tops of the doors.

This action will need to be repeated at the start of each winter to maintain protection.

BONNET OPENING



1. From inside the vehicle on the driver's side, pull the bonnet release handle (see upper inset).
2. Lift the bonnet safety catch lever (lower inset) and raise the bonnet.

Closing the bonnet

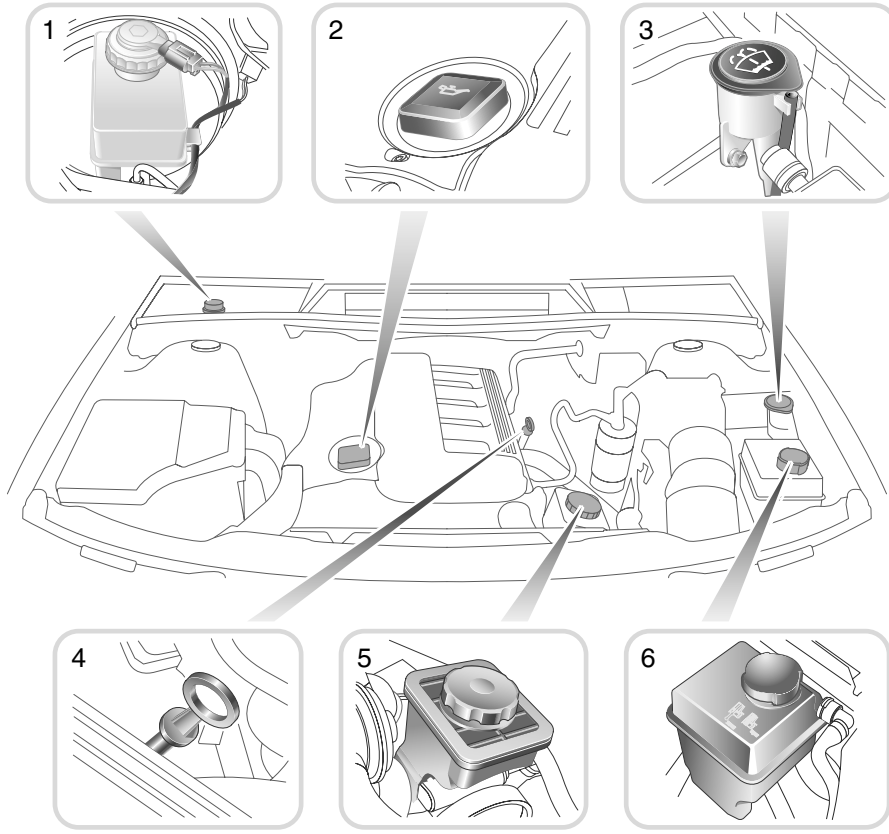
WARNING

DO NOT drive with the bonnet retained by the safety catch alone.

After closing the bonnet, check that the lock is fully engaged by attempting to lift the front edge of the bonnet. This should be free from all movement.

Engine Compartment

DIESEL ENGINE



H3965

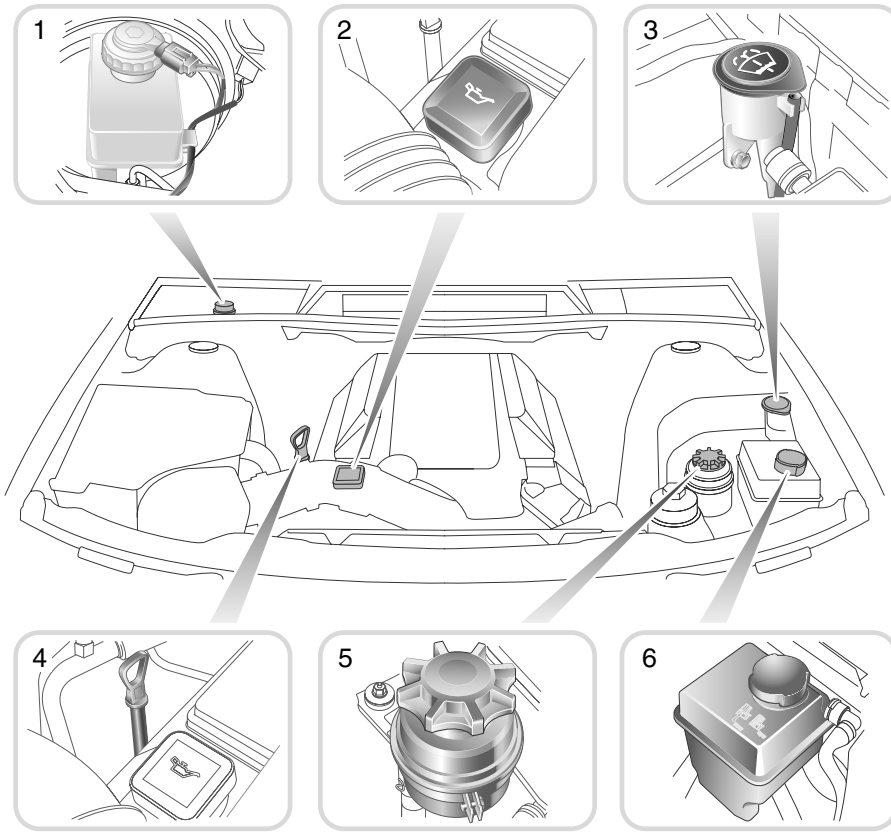
1. Brake fluid reservoir.
2. Engine oil filler cap.
3. Washer reservoir.
4. Engine oil dipstick.
5. Power steering reservoir.
6. Cooling system reservoir.

WARNING

While working in the engine compartment, ALWAYS observe the safety precautions listed under 'Safety in the garage' on a previous page.

Engine Compartment

PETROL ENGINE



H3906

1. Brake fluid reservoir.
2. Engine oil filler cap.
3. Washer reservoir.
4. Engine oil dipstick.
5. Power steering reservoir.
6. Cooling system reservoir.

WARNING

While working in the engine compartment, ALWAYS observe the safety precautions listed under 'Safety in the garage' on a previous page.

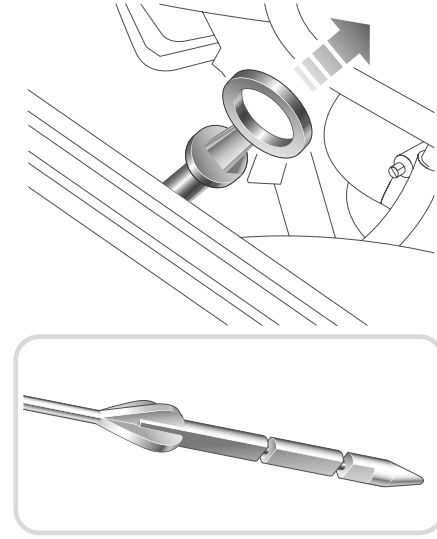
CHECK & TOP-UP

Check the oil level at least every 250 miles, when the engine is COLD and with the vehicle resting on level ground.

NOTE: *If it is necessary to check the oil level when the engine is hot, switch off the engine and let the vehicle stand for five minutes to allow the oil to drain back into the sump. DO NOT start the engine.*

As a general guide, if the level on the dipstick:

- is nearer to the upper mark than the lower, add no oil.
- is nearer to the lower mark than the upper, add half a litre of oil.
- is below the lower mark, add one litre of oil and re-check the level after a further five minutes.



H3963

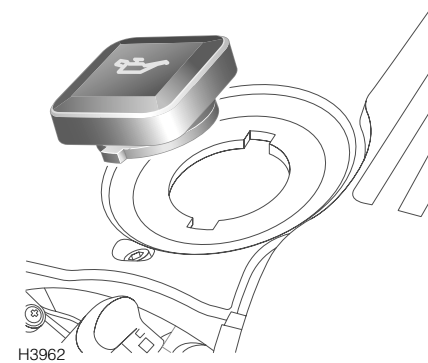
Oil specification

It is essential to use an oil suitable for the climatic conditions in which the vehicle is to be operated. Precise specifications are shown in *'LUBRICANTS AND FLUIDS', page 243*. If in doubt, contact your Land Rover dealer.

Diesel engine vehicles

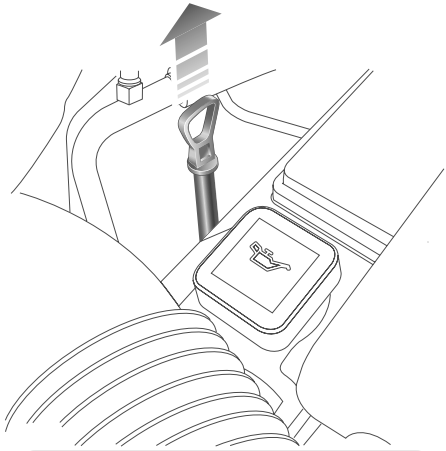
1. Withdraw the dipstick and wipe the blade clean.
2. Fully re-insert the dipstick and withdraw again to check the level, which should NEVER be allowed to fall below the lower mark on the dipstick.
3. To top-up, unscrew the oil filler cap and add oil to maintain the level between the UPPER and LOWER marks on the dipstick.

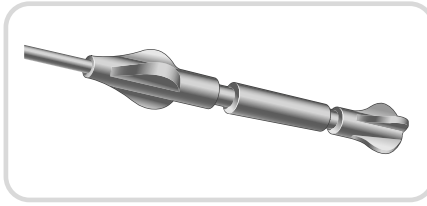
   DO NOT OVERFILL! Clean up any oil spillage incurred when topping-up.
4. Check the oil level again.



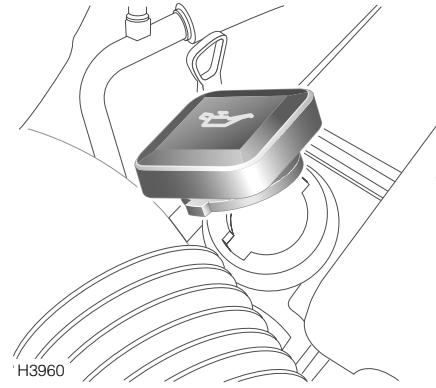
H3962

Petrol engine vehicles





H3961



H3960

1. Withdraw the dipstick and wipe the blade clean.
2. Fully re-insert the dipstick and withdraw again to check the level, which should NEVER be allowed to fall below the lower mark on the dipstick.
3. To top-up, unscrew the oil filler cap and add oil to maintain the level between the UPPER and LOWER marks on the dipstick.

   DO NOT OVERFILL!

COOLANT CHECK AND TOP-UP

WARNING

NEVER remove the filler cap when the engine is hot -escaping steam or scalding water could cause serious personal injury.

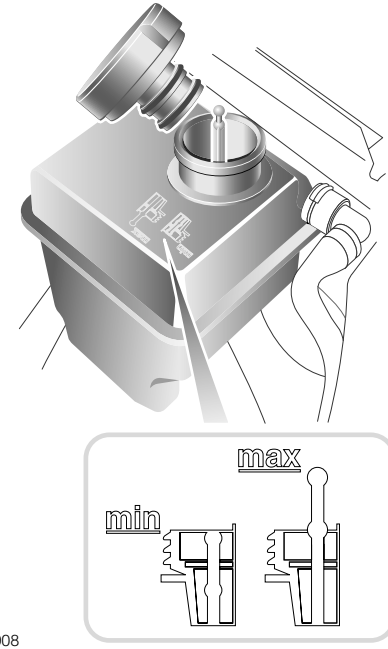
Unscrew the filler cap slowly, allowing the pressure to escape before removing completely.

NEVER run the engine without coolant.

Anti-freeze will damage painted surfaces; soak up any spillage with an absorbent cloth immediately and wash the area with a mixture of car shampoo and water.

NEVER top-up with salt water. When travelling in territories where the water supply contains salt, always ensure you carry a supply of fresh (rain or distilled) water.

Avoid spilling anti-freeze onto a hot engine - a fire may result.



H3908

The coolant level in the expansion tank should be checked at least weekly (more frequently in high mileage or arduous operating conditions). Always check the level WHEN THE SYSTEM IS COLD.

If it is necessary to remove the filler cap before the system has fully cooled, loosen the cap slowly, allowing the air pressure to escape gradually.

Top-up with a 50% mixture of anti-freeze and water so that the float protrudes slightly from the filler neck, in accordance with the illustration inset. **DO NOT OVERFILL!**

Ensure the cap is tightened fully after top-up is completed.

If the level has fallen appreciably, suspect leakage or overheating and arrange for your dealer to examine the vehicle.

ANTI-FREEZE

WARNING

Anti-freeze is poisonous and can be fatal if swallowed - keep containers sealed and out of the reach of children. If accidental consumption is suspected, seek medical attention immediately.

Prevent anti-freeze coming in contact with the skin or eyes. If this occurs, rinse immediately with plenty of water.

Anti-freeze contains important corrosion inhibitors. The anti-freeze content of the coolant must be maintained at 50% ± 5% all year round (not just in cold conditions). To ensure that the anti-corrosion properties of the coolant are retained, the anti-freeze content should be checked once a year and completely renewed every 4 years, regardless of distance travelled. Failure to do so may cause corrosion of the radiator and engine components.

The specific gravity of a 50% anti-freeze solution at 20°C is 1.075 and protects against frost down to -36°C.

Coolant specification
Use ONLY a 50% mix of water and Texaco AFC Coolant. If this is unavailable, use any ethylene glycol based anti-freeze (containing no methanol) with only Silicate based non-phosphate corrosion inhibitors.

In an emergency - and only if this type of anti-freeze is unavailable - top-up the cooling system with clean water, but be aware of the resultant reduction in frost protection. DO NOT top-up or refill with conventional anti-freeze formulations. If in doubt consult a Land Rover dealer.

BRAKE FLUID

WARNING

Brake fluid is highly toxic - keep containers sealed and out of the reach of children. If accidental consumption of fluid is suspected, seek medical attention immediately.

If brake fluid should come into contact with the skin or eyes, rinse immediately with plenty of water.

Take care not to spill fluid onto a hot engine - a fire may result.

DO NOT drive the vehicle with the fluid level below the 'MIN' mark.

Brake fluid will damage painted surfaces; soak up any spillage with an absorbent cloth immediately and wash the area with a mixture of car shampoo and water.

Check

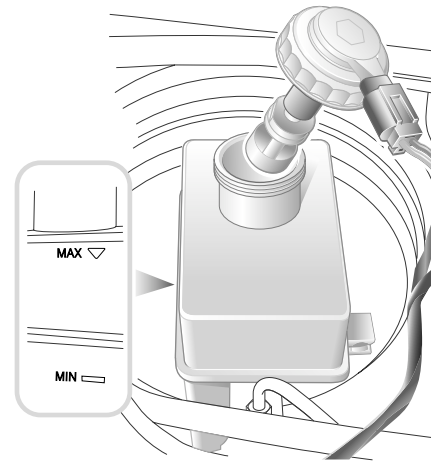
The fluid level may fall slightly during normal use as a result of brake pad wear but should not be allowed to fall below the 'MIN' mark. Any substantial drop in fluid indicates a leak in the system, in which case the vehicle must NOT be driven and you should contact your dealer.

WARNING

Contact your dealer immediately if brake pedal travel is unusually long or if there is any appreciable drop in brake fluid level.

With the vehicle on level ground, check the fluid level at least every week (more frequently in high mileage or arduous operating conditions). Check the level visually through the side of the transparent reservoir without removing the filler cap.

Top-up



Wipe the filler cap clean before removing to prevent dirt from entering the reservoir. Unscrew the cap (1/8 turn) and top-up the reservoir to the 'MAX' mark using Shell Donax YB brake fluid conforming to DOT 4 specification.

Use only new fluid from an airtight container (old fluid from opened containers or fluid previously bled from the system will have absorbed moisture, which will adversely affect performance, and must NOT be used). **DO NOT OVERFILL!**

Brake fluid must be completely renewed every 3 years regardless of distance travelled.

POWER STEERING FLUID

WARNING

Power steering fluid is highly toxic - keep containers sealed and out of reach of children. If accidental consumption of fluid is suspected, seek medical attention immediately.

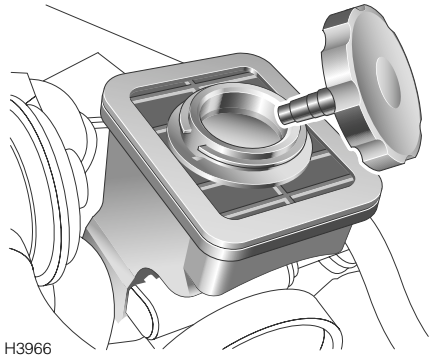
If power steering fluid should come into contact with the skin or eyes, rinse immediately with plenty of water.

Do not spill power steering fluid onto a hot engine - a fire may result.

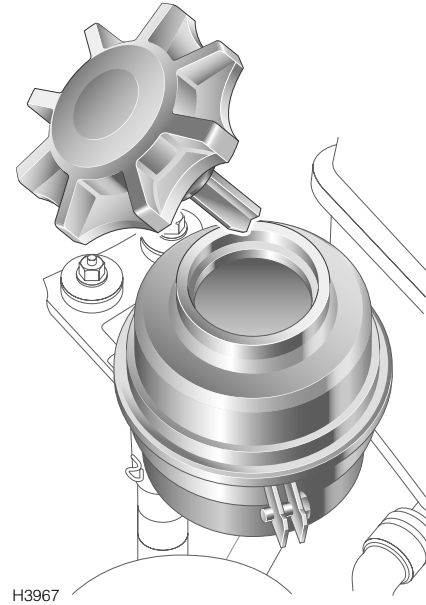
Power steering fluid will damage painted surfaces: Soak up any spillage with an absorbent cloth immediately and wash the area with a mixture of car shampoo and water.

Check and Top-up

Check and top-up the fluid level ONLY with the engine switched off and the system cold, and ensure that the steering wheel is not turned after stopping the engine.



Diesel engines



Petrol engines

Wipe the filler cap clean to prevent dirt from entering the reservoir. Remove the filler cap and, using a lint-free cloth, wipe the dipstick clean. Refit the filler cap fully and remove it again to check the fluid level. Add fluid to the reservoir until the level is between the upper mark and the bottom of the dipstick. **DO NOT fill above the upper mark on the dipstick.**

WARNING

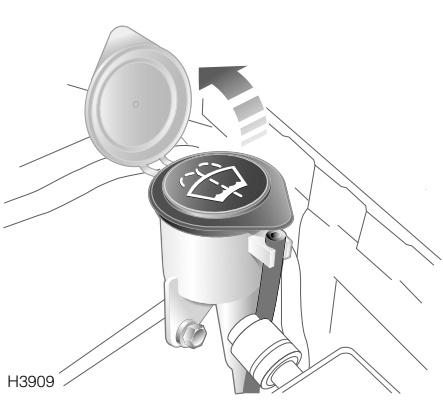
The engine must NOT be started if the fluid level has dropped below the bottom of the dipstick - severe damage to the pump could result.

Emergency operation
Any large or sudden drop in the fluid level must be investigated by a qualified dealer.

If it can be established that fluid loss is slow, then the reservoir may be topped-up to the upper level mark to enable the vehicle to be driven to the nearest qualified dealer for examination.

If the fluid level has dropped below the lower level mark, top-up the reservoir before starting the engine, or damage to the steering pump could result.

WINDSCREEN WASHER TOP-UP



The windscreen washer reservoir supplies both front and rear screen washer jets and headlight washer jets*.

Check the reservoir level at least every week and top-up with a mixture of water and Land Rover Parts STC 8249 Screenwash. Preferably mix the recommended quantities of water and screenwash in a separate container before topping-up, and always follow the instructions on the container. Note that an approved screenwash is necessary to prevent freezing in very cold weather.

Operate the washer switches periodically to check that the nozzles are clear and properly directed.

WARNING

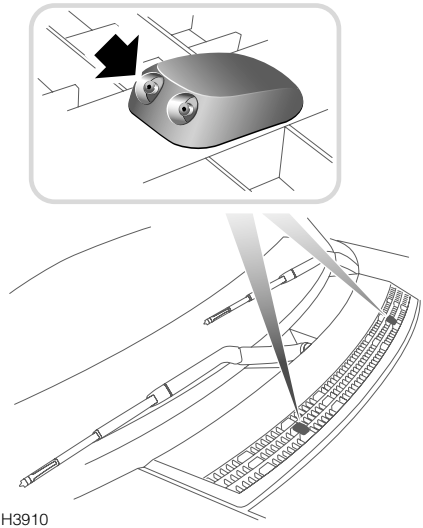
DO NOT use an anti-freeze or vinegar/water solution in the washer reservoir - anti-freeze will damage painted surfaces, while vinegar can damage the windscreen washer pump.

Some screenwash products are inflammable, particularly if high or undiluted concentrations are exposed to sparking. DO NOT allow screenwash to come into contact with naked flames or sources of ignition.

Body panels may suffer discolouration as a result of screenwash spillage. Take care to avoid spillage, particularly if an undiluted or high concentration is being used. If spillage occurs, wash the affected area immediately with water.

WASHER JETS

The windscreen washer jets are set during manufacture and should not need adjusting. However, if adjustment is ever necessary, insert a needle into the jet orifice and lever gently to position each jet so that the spray is directed towards the centre of the windscreen.



H3910

The rear screen jets located in the wiper arm are not adjustable.

Should any jet become obstructed, insert a needle or thin strand of wire into the orifice to clear the blockage.

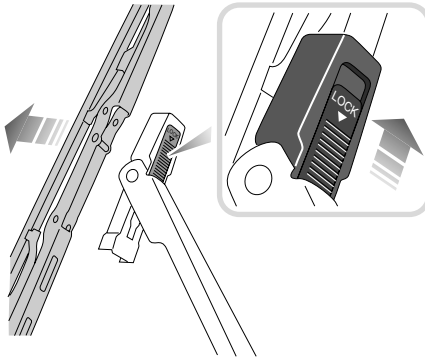
HEADLIGHT WASHERS*

The spray jets are set during manufacture and should not need to be adjusted.

NOTE: *Ensure an approved screen washer solvent is used in the windscreen washer reservoir to prevent freezing.*

WIPER BLADE REPLACEMENT

Front wiper blades



H3912

Lift the wiper arm away from the windscreen. Disconnect the blade by pushing the locking tab (see inset in illustration) to the unlock position.

Fitting a replacement blade is a reversal of this process. Check that the blade is securely locked before returning the wiper assembly to the windscreen.

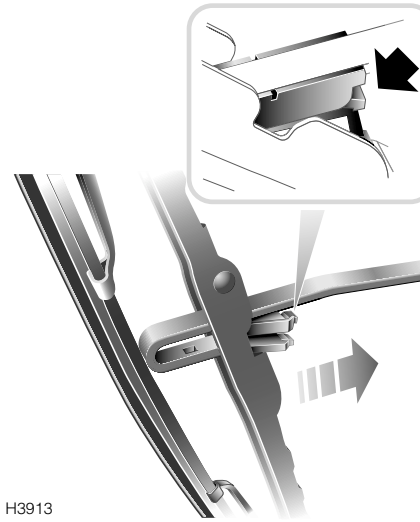
Only fit replacement wiper blades that are identical to the original specification.

Grease, silicone and petrol based products impair the blade's wiping capability. Wash the wiper blades in warm soapy water and periodically check their condition.

If signs of hardness or cracking in the rubber are found, or if the wipers leave streaks or unwiped areas on the windscreen during use, then the wiper blades should be replaced.

Clean the windscreen regularly with an approved glass cleaner and ensure the screen is thoroughly cleaned before fitting replacement wiper blades.

Rear wiper blade



H3913

Lift the wiper arm away from the rear screen and pivot the blade assembly away from the arm. Press the tab (arrowed in inset), to release the blade assembly and slide the assembly off the end of the wiper arm. Carefully replace the arm to its stowed position.

To replace, position the wiper arm into the aperture in the middle of the blade assembly and push firmly into position until the blade clips into place.

Headlight wiper blade*

The headlight wiper blade and wiper arm are an integral unit and should only be replaced by qualified personnel.

BATTERY SAFETY

WARNING

Batteries contain acid, which is both corrosive and poisonous. If spillage occurs:

- ***On clothing or the skin - remove any contaminated clothing immediately, flush the skin with large amounts of water, and seek medical attention urgently.***
- ***In the eyes - flush with clean water immediately for at least 15 minutes. Seek medical attention urgently.***

Swallowing battery acid can be fatal unless IMMEDIATE action is taken - seek medical attention urgently.

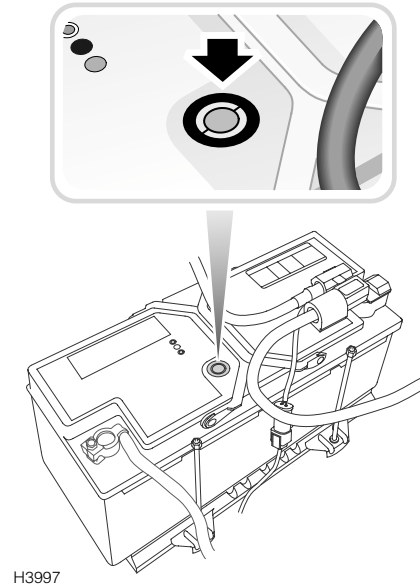
During normal operation batteries emit explosive hydrogen gas - ensure sparks and naked lights are kept away from the engine compartment.

For your safety, remove all metal wrist bands and jewellery before working in the engine compartment and NEVER allow the battery terminals or vehicle leads to make contact with tools or metal parts of the vehicle.

BATTERY MAINTENANCE

The battery is designed to be maintenance free, so topping-up is unnecessary. On the top of the battery there is a battery condition indicator (arrowed in inset). Examine the indicator periodically to check the battery's condition. When the indicator shows:

- GREEN - the battery is in a good state of charge.
- DARK (turning to black) - the battery needs charging.
- CLEAR (or light yellow) - the battery must be replaced. Do not charge the battery or jump start the vehicle in this condition.



H3997

NOTE: *When checking the battery condition indicator, if necessary, clean the battery top to ensure a clear view.*

If the indicator shows clear or yellow, tap the indicator with the handle of a screwdriver to disperse any air bubbles. If the colour is unchanged, the battery must be replaced.

Battery disconnection, charging, removal and replacement

There may at times be a requirement to disconnect the battery, eg, to necessitate Interlock Code emergency deactivation - *see your Audio & Navigation handbook.*

- Turn the starter switch off and remove the starter key.
- Wait for at least two minutes before starting the disconnection procedure. Ensure you have your remote handset available as you may have to turn off the alarm sounder.
- Disconnect ONLY the negative ('-') terminal.

- Wait for two minutes before reconnecting the battery.

If the alarm sounds when the battery is reconnected, use the key fob to turn it off.

WARNING

The battery positive ('+') terminal is fitted with a pyrotechnic charge, designed to disconnect the battery as a safety precaution in the event of a severe collision. For this reason, the battery charging, disconnection and removal should only be attempted by qualified personnel.

WARNING

Battery posts, terminals and related accessories contain lead and lead compounds. Wash hands after handling.

Effects of battery disconnection

Following disconnection and subsequent reconnection of the vehicle battery, a number of the vehicle systems will be reset automatically. This may take a few minutes and with some systems, sensors have to detect certain actions whilst driving before full operability returns. This in no way affects the safe operation of the vehicle.

CARING FOR YOUR TYRES

WARNING

DEFECTIVE TYRES ARE DANGEROUS! Do not drive if any tyre is damaged, is excessively worn, or is inflated to an incorrect pressure.

Always drive with consideration for the condition of the tyres, and regularly inspect the tread and side walls for any sign of distortion (bulges), cuts or wear.

The most common causes of tyre failure are:

- Bumping against kerbs
- Driving with under or over-inflated tyres

NOTE: *If possible, protect tyres from contamination by oil, grease, fuel and other automotive fluids.*

Tyre pressures

Correctly inflated tyres will ensure that you enjoy the best combination of tyre life, ride comfort, fuel economy and road handling.

Under-inflated tyres wear more rapidly, can seriously affect the vehicle's road handling characteristics and fuel consumption, as well as increasing the risk of tyre failure.
Over-inflated tyres give a harsher ride, wear unevenly and are more prone to damage.

Tyre pressures should be checked at least once a week with normal road use, but should be checked DAILY if the vehicle is used off-road.

Check the pressures (including the spare wheel) when the tyres are cold - be aware that it only takes a mile of driving to warm up the tyres sufficiently to affect the tyre pressures.

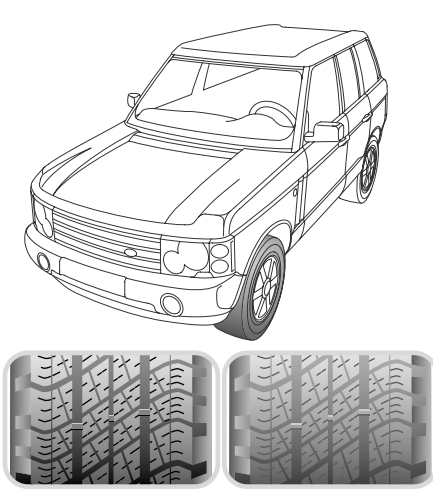
Air pressure naturally increases in warm tyres; if it is necessary to check the tyres when they are warm (after the vehicle has been driven for a while), you should expect the pressures to have increased between 4 and 6 lbf/in^2 (0.3 to 0.4 bar). In this circumstance, NEVER let air out of the tyres in order to match the recommended pressures.

WARNING

If the vehicle has been parked in strong sunlight or used in high ambient temperatures, DO NOT reduce tyre pressures; instead, move the vehicle into the shade and allow the tyres to cool before checking.

The recommended pressures for cold tyres are shown in *'WHEELS & TYRES', page 248*.

Tyre wear



H3831

Tyres fitted as original equipment have wear indicators moulded into the tread pattern. When the tread has worn down to 1.6 mm the indicators start appearing at the surface of the tread pattern, producing the effect of a continuous band of rubber across the width of the tyre.

A tyre MUST be replaced as soon as an indicator band becomes visible or the tread depth reaches the minimum permitted by legislation.

Tread depth must be checked regularly (at every maintenance service, or more frequently). Always replace a tyre before the tread reaches a remaining depth of 1.6 mm. DO NOT drive with tyres worn to this limit, the safety of the vehicle and occupants will be adversely affected.

NOTE: *After off-road use, check to make sure there are no lumps or bulges in the tyres or exposure of the ply or cord structure.*

Valves

Keep the valve caps screwed down firmly - they prevent dirt from entering the valve. Check the valve for leaks (listen for a tell-tale hissing) when you check the tyre pressure.

Punctured tyres

Your vehicle is fitted with tubeless tyres, which may not leak if penetrated by a sharp object, provided the object remains in the tyre. If you are aware of this occurring, reduce speed immediately and drive with caution until the spare wheel can be fitted.

A puncture of this kind will eventually cause the tyre to lose pressure, which is why regular (and frequent) checking of tyre pressures is important. Punctured or damaged tyres must be permanently repaired or replaced as soon as possible. DO NOT DRIVE WITH A PUNCTURED TYRE!

Replacement tyres

Wheel rims and tyres are matched to suit the handling characteristics of the vehicle. For safety, ALWAYS check that replacement tyres comply with the original specification (see *'WHEELS & TYRES', page 248*) and that the load and speed ratings shown on the side wall are the same as that of the original equipment. Contact your Land Rover dealer for further information or assistance.

WARNING

ALWAYS use the same make and type of radial-ply tyres front and rear. DO NOT use cross-ply tyres, or interchange tyres from front to rear.

Your vehicle is fitted with road wheels that will NOT accept inner tubes. DO NOT fit a tubed tyre.

DO NOT replace wheels with any type other than genuine Land Rover parts. Wheels and tyres are designed for both off-road and on-road use and have a very important influence on vehicle handling. Alternative wheels which do not meet original equipment specifications should not be fitted.

Always have replacement wheels and tyres balanced before use.

SNOW CHAINS

Snow chains are designed for use on metalled roads in extreme snow conditions only, and are not recommended for off-road use. If it is necessary to fit snow chains to your vehicle, ALWAYS observe the following:

- ***Front wheels:*** Snow chains must not be fitted to the front wheels unless the vehicle is equipped with 235/65 R18 tyres.
- ***Rear wheels:*** Snow chains can be fitted to the rear wheels of any vehicle, provided the wheels and tyres conform to one of the original equipment or applicable accessory fit specifications listed later in the handbook (see *'WHEELS & TYRES', page 248*).
- Whether chains are to be fitted to the rear wheels only, or to all four wheels, then ONLY Land Rover approved chains should be used - these are designed for your vehicle and will eliminate any risk of damage to other components. Approved snow chains are only available from a Land Rover dealer.
- Always adhere to the snow chain fitting and retensioning instructions and the speed limitations recommended for varying road conditions. NEVER exceed 30 mph.
- ONLY fit snow chains in pairs.
- Avoid tyre damage by removing the chains as soon as the road is free from snow.

WARNING

DO NOT fit unapproved snow chains - this could damage tyres, wheels, suspension and brake components and could result in damage to the bodywork of the vehicle.

WASHING YOUR VEHICLE


H3854

WARNING

Some high pressure cleaning systems are sufficiently powerful to penetrate door and window seals and damage rubbing strips and locking mechanisms. Never aim the water jet directly at heater air intakes, body and sunroof seals, or at any components that might easily be damaged.

Wash your vehicle frequently using a sponge and generous quantities of cold or lukewarm water containing a car shampoo. Rinse and dry off with a chamois leather.

- Do not use hot water!
- Do not use detergent soap products or washing-up liquid!
- In hot weather, do not wash the vehicle in direct sunlight.

Underbody maintenance

Corrosive materials used for snow and ice removal and dust control can collect on underbody parts. If these materials are not removed, accelerated rusting can occur. Use a hose to regularly flush the underbody with plain water, taking particular care to thoroughly clean those areas where mud and other debris can easily collect.

Similarly, after off-road driving or wading in muddy or salt water conditions, use a hose to wash underbody components and other exposed parts of the vehicle.

When using a hose, do not direct the jet into the heater air intake ducts, or through the wheel trim apertures onto the brake components, or at the door, window or sunroof seals, where water pressure could penetrate the seals.

If damage or corrosion to the underbody area is detected, please have the vehicle checked by a dealer at the earliest opportunity.

Removing tar spots

Use white spirit to remove tar spots and stubborn grease stains from paintwork. Then wash immediately with soapy water to remove all traces of spirit.

Body protection

After washing, inspect the paintwork for damage. Any stone chips, fractures or deep scratches in the bodywork should be repaired promptly. Bare metal will corrode quickly and can develop into major repair expense. Some exterior panels of your vehicle are made of aluminium which will not corrode in the same manner as steel. However, any damage should still receive prompt attention. Minor chips and scratches can be repaired with touch-up materials available from your dealer. Larger areas of damage need to be corrected to professional standards immediately.

Polishing
Occasionally treat the paint surface with an approved polish containing the following properties:

- Very mild abrasives to remove surface contamination without removing or damaging the paint.
- Filling compounds that will fill scratches and reduce their visibility.
- Wax to provide a protective coating between the paint and the elements.

NOTE: *DO NOT apply car polish to the unpainted areas of the bumper mouldings - polish will become ingrained in the textured finished.*

Glass and mirrors
Clean the rear window with a soft cloth to avoid damaging the heating elements. DO NOT scrape the glass or use an abrasive cleaning fluid.

Mirror glass is particularly susceptible to damage. Wash with soapy water. DO NOT use abrasive cleaning compounds or metal scrapers to remove ice.

CLEANING THE INTERIOR

Plastic materials
Clean plastic-faced or cloth covered surfaces with diluted upholstery cleaner and wipe with a clean cloth.

NOTE: *DO NOT polish fascia components - for safety, these should remain non-reflective.*

Leather
Leather seats, steering wheel and trim features should be cleaned with a damp cloth moistened with undiluted upholstery cleaner. Leave for five minutes, and then repeat the operation using a clean cloth and water - but avoid flooding the area! Dry and polish the leather with a dry, lint-free cloth.

DO NOT use petrol, detergents, furniture creams or polishes!

Carpet and fabrics
Clean with diluted nylon upholstery cleaner - test on a concealed area first.

Instrument pack, clock and radio
Clean with a dry cloth only! DO NOT use cleaning fluids or sprays.

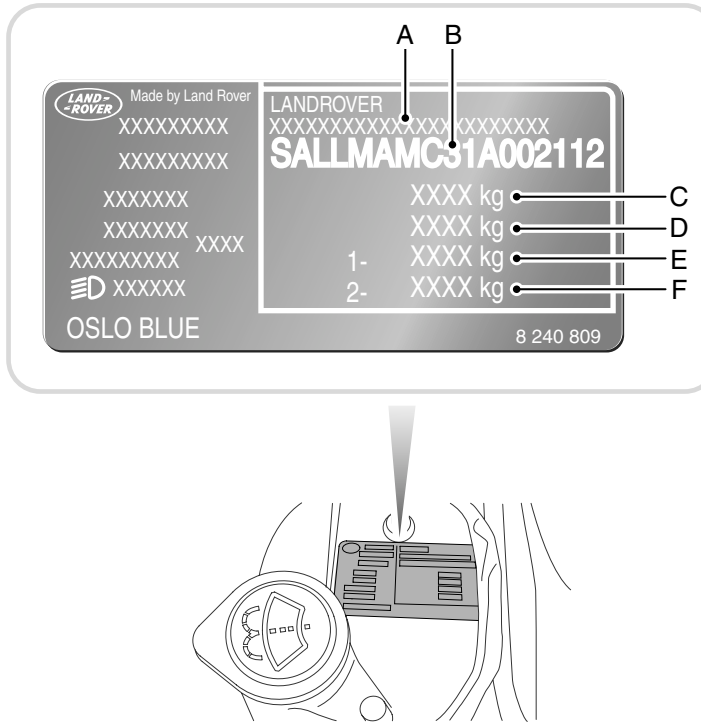
Seat belts
Extend the belts, then use warm water and a non-detergent soap to clean. Allow the belts to dry naturally, and do not retract them or use the vehicle until they are completely dry.

Airbag module covers
To prevent airbag SRS damage, the steering wheel centre pad and area of the fascia panel containing the passenger airbag should ONLY be cleaned sparingly with a damp cloth and upholstery cleaner.

DO NOT allow these areas to be flooded with liquid, and DO NOT use petrol, detergent, furniture cream or polishes.

Identification Numbers

VEHICLE IDENTIFICATION NUMBER (VIN)



A. Type approval (where required)
B. Vehicle Identification Number (VIN)
C. Gross vehicle weight (where required)
D. Gross train weight (where required)
E. Maximum front axle load (where required)
F. Maximum rear axle load (where required)

If you need to communicate with a Land Rover dealer, you may be asked to quote the Vehicle Identification Number (VIN).

The VIN (and recommended maximum vehicle weights) is stamped on a plate riveted to the top of the left hand front suspension tower in the engine compartment (this should match the VIN recorded in the Service Portfolio book).

In addition, as a deterrent to car thieves and to assist the police, the VIN is stamped on a plate which is visible through the lowest part of the left side of the windscreen and also stamped on the vehicle body (on the front face of the right hand front suspension tower).

PARTS AND ACCESSORIES

WARNING

The fitting of non-approved parts and accessories, or the carrying out of non-approved alterations or conversions, may be dangerous and could affect the safety of the vehicle and occupants, and also invalidate the terms and conditions of the vehicle warranty.

Your vehicle has been designed, built and tested to cope with a variety of off-road driving conditions, some of which can place the severest possible demands on control systems and components. As such, fitting replacement parts and accessories that have been developed and tested to the same stringent standards as the original components will safeguard the continued reliability, safety and performance of your vehicle.

To augment the vehicle's already impressive performance, a comprehensive range of Land Rover-approved spare parts and accessories is available, enabling the vehicle to fulfil a wide variety of roles, and enhancing and protecting the vehicle in the many tasks to which it can be applied.

Land Rover parts are the only parts built to original equipment specifications AND approved by Land Rover designers; this means that every single part and accessory has been rigorously tested by the same engineering team that designed and built the vehicle and can therefore be guaranteed for twelve months with unlimited mileage.

A full list and description of all accessories is available from your Land Rover dealer.

Electrical equipment

WARNING

It is extremely hazardous to fit or replace parts or accessories whose installation requires the dismantling of or addition to either the electrical or fuel systems.

ALWAYS consult a Land Rover dealer before fitting any accessory.

Fitting inferior quality parts or accessories, may be dangerous and could invalidate the vehicle warranty.

It is recommended that you always consult a Land Rover dealer for advice regarding the approval, suitability, installation and use of any parts or accessories before fitting.

AFTER SALES SERVICE

The After Sales Parts service is of paramount importance, both in the UK and across the world. In the UK there are over 100 authorised Land Rover dealers, all computer linked for rapid ordering of parts and accessories.

In addition, with franchised representation in over 100 countries worldwide, Land Rover are able to support your vehicle wherever you go.

Only Land Rover dealers are able to provide the full range of recommended parts and accessories that meet our rigorous standards of safety, durability and performance.

Travelling abroad

In certain countries, it is illegal to fit parts which have not been made to the vehicle manufacturers' specification.

Owners should ensure that any parts or accessories fitted to the vehicle while travelling abroad will also conform to the legal requirements of their own country when they return home.

Emergency Information

Tailgate Emergency Release

EMERGENCY MANUAL OPERATION 203

Wheel Changing

TOOL KIT 204
WHEEL CHANGING SAFETY 205
REMOVING THE SPARE WHEEL 207
CHANGING A WHEEL. 209
LOCKING WHEEL NUTS. 212

Emergency Starting

STARTING AN ENGINE WITH A DISCHARGED BATTERY 213
USING BOOSTER CABLES. 214
RECEIVING A BOOSTER START. 215
GIVING A BOOSTER START. 216

Towing the Vehicle

TOWING EYES 218
TOWING FOR RECOVERY 219
TRANSPORTER OR TRAILER LASHING. 220

Fuses

FUSES 221
PASSENGER COMPARTMENT FUSE BOX 222
REAR LOADSPACE FUSE BOX. 226

Bulb Replacement

REPLACING BULBS 227
HEADLIGHT MAIN BEAM. 229
HEADLIGHT DIPPED BEAM 230
FRONT DIRECTION INDICATOR AND SIDELIGHT. 231
REAR LIGHT CLUSTER (Tail, indicator & fog lights) 232
REVERSE LIGHTS 233
NUMBER PLATE LIGHTS 234
SIDE REPEATER LIGHT 234
FRONT FOG LIGHTS 235
DOOR/PUDDLE/LOWER FOOTWELL LIGHTS . . 236
GLOVEBOX LIGHT 236
UPPER FOOTWELL LIGHTS. 237
LUGGAGE LIGHTS 237
TAILGATE LIGHT 238
MAP LIGHT 238
VANITY MIRROR LIGHT 239