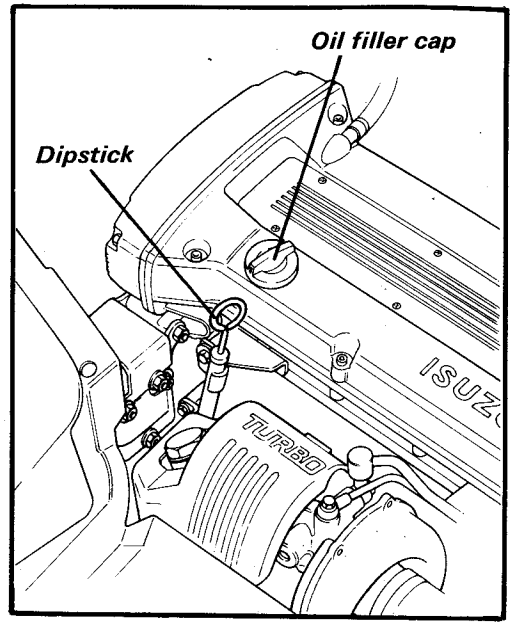
– Without the engine running, the brake servo will not operate and a much firmer pressure will be needed on the brake pedal to produce the same stopping force.
– Ensure that all State and local laws which apply to cars being towed are followed.

Engine Oil Level Check

The engine oil level should be checked regularly, such as every two or three fuel stops, and the oil level maintained near the top mark on the dipstick. It is especially important to keep a check on the oil level during the first 1,000 miles (1,700 km), as both the fuel and oil consumption will be prone to some variance until the engine components have 'bedded in'.



The best time to check the level is when the oil is warm, such as during a fuel stop. Ensure that the car is parked on a level surface and that a few minutes have elapsed since stopping the engine to allow the oil to drain back into the sump. If the level is checked when the engine is cold, do not run the engine first, as the cold oil will not readily drain back into the sump, and an artificially low reading will be obtained.

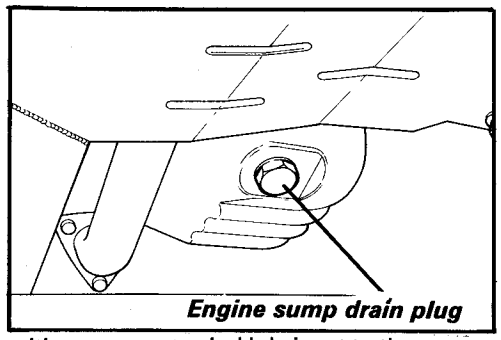
Withdraw the dipstick located at the right hand front of the engine, and wipe with a non-fluffy cloth. Replace the dipstick, pressing firmly to make sure it is fully seated, and withdraw again to inspect the oil level. The correct level is to the upper mark on the dipstick.

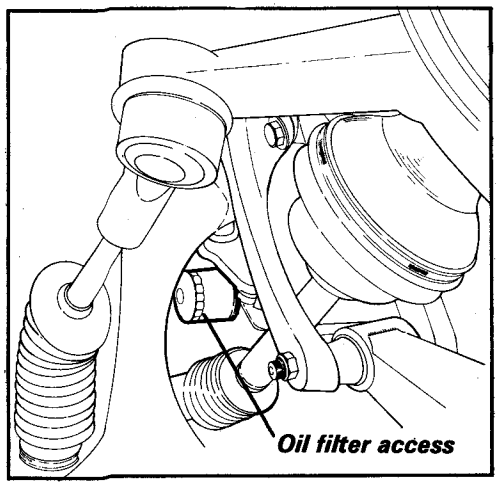
Top up if necessary, via the filler on the camshaft cover. Turn the filler cap counterclockwise to remove, and use only a recommended lubricant listed in the Technical Data section at the back of the handbook. Do NOT overfill, or the oil will become aerated and its lubricating properties degraded. The difference between high and low dipstick marks is equivalent to 1.0 litre (1.8 imp.pt). Refit the filler cap and tighten securely.

Engine Oil Change

The oil should be renewed at intervals specified in the Maintenance Schedule at the back of the handbook.

The sump plug is located at the right hand side of the sump, and should be removed to drain the sump immediately after a run when the oil is warm and the impurities are held in suspension. Allow to drain thoroughly before cleaning the drain plug (replace the sealing washer if necessary), and refitting securely. Fill with a recommended lubricant to the top mark of the dipstick.





Oil Filter

The oil filter should be renewed at intervals specified in the Maintenance Schedule at the back of the handbook.

The oil filter is horizontally mounted at the back of the engine, and is of the disposable canister type. The filter is removed from beneath the vehicle by turning in a counterclockwise direction using an oil filter wrench if necessary. Discard the filter after removal.

Before fitting a new filter, clean the mating faces on both the new filter and engine, and smear both faces with clean oil. Add a small amount of clean oil into the filter and screw on by hand sufficiently to make a firm seal, usually ⅔ to ¾ of a turn after the faces have made contact. Start the engine and check for oil leaks, tightening the filter further if necessary.

Used Engine Oil

WARNING: – Prolonged and repeated contact may cause serious skin disorders, including dermatitis and cancer.
– Avoid contact with the skin as far as possible and wash thoroughly after any contact.
– Keep out of reach of children.

PROTECT THE ENVIRONMENT – It is illegal to pollute drains, water courses and soil. Use authorised waste collection facilities, including civic amenity sites and garages providing facilities for disposal of used oil and used oil filters. It in doubt, contact your local authority for advice on disposal.

'Severe Service' Conditions

Certain operating conditions can cause rapid degradation of the oil quality, either by the accumulation of dirt particles, or by the absorption of water from condensation. The oil and filter change intervals in the Maintenance Schedule should be adhered to when the vehicle is NOT subjected to one of the following 'severe service' conditions:

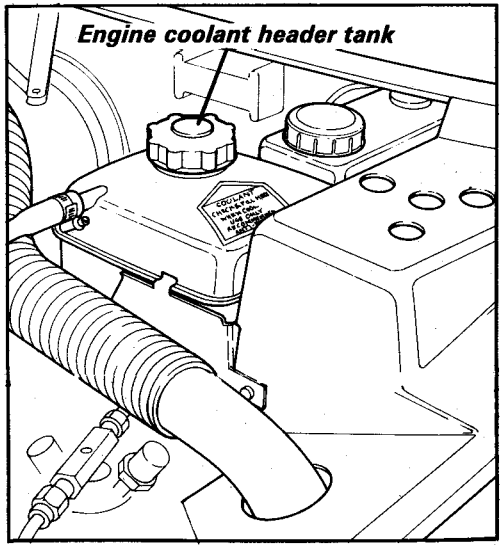
- driving in dusty areas (e.g. on unmetalled roads)
- stop/start city driving with frequent short trips where the engine never warms up thoroughly (especially in cold weather); and/or frequent or prolonged idling.

In either of the above conditions, it is recommended that the oil and filter be changed twice as frequently as is listed in the Maintenance Schedule. Change the oil and filter as soon as possible after driving in a dust storm.

Cooling System

WARNING: When the ignition is switched on, the radiator cooling fans will cycle on and off dependent on coolant temperature and air conditioning system status. Do not allow fingers or clothing to encroach in the cooling fan area at any time.

Under normal operating conditions, the engine cooling system, being a closed circuit, should not require any topping up between services. As a precaution however, every week, the level of coolant in the engine cooling header tank should be checked. The transluscent header tank is marked with a cold level indicator. The level of coolant will rise as the engine warms up and the coolant expands, and will fall again as it cools down.


Engine coolant header tank

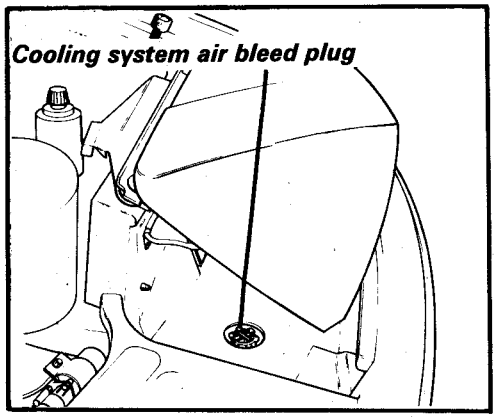
WARNING: Do NOT remove the cap from the engine cooling header tank when the engine is warm, as serious scalding could result from boiling water and/or steam.

When fully cold, the level of coolant should be up to the 'cold' mark on the header tank. If overfilled, the excess coolant will be ejected when the engine is warm, and if the level is allowed to fall too low, overheating may result. If necessary, top up the system, being sure to use an approved coolant mixture (see below) in order to maintain full protection from freezing damage and corrosion. Extremely hard water (hardness exceeding 250 parts per million) should not be used in the cooling system. In such areas, distilled, de-ironised or filtered rain water should be used.

At service intervals, the matrices of all the cooling radiators (especially the close finned oil cooler radiator) should be checked externally for clogging by insects, leaves or other debris, and if necessary, a water jet used from behind to clear the finning.

To drain the engine cooling system, set the heater temperature control to 'hot', remove the header tank cap, and disconnect the radiator bottom hose.

To refill the system, reconnect the bottom hose securely, set the temperature control to hot, and fill with coolant via the header tank, until up to the cold level indicator mark. Bleed air from the radiator by removing the bleed plug in the left hand headlamp pod well (raise headlamps), and refit when all air is bled. Run the engine, and top up the header tank as necessary until the level stabilises or starts to rise. Stop the engine and allow to cool fully. Bleed the radiator again, top up the header tank to the cold indicator level, and fit the pressure cap.


Cooling system air bleed plug

Note that after stopping a warm engine, a coolant circulation electric pump may be heard running, or in certain conditions, start running a few minutes after engine switch off. This feature helps control engine temperature and prevents coolant loss in conditions of 'heat soak'. The pump will switch off when coolant temperature has fallen to a specified level.

Anti-Freeze/Corrosion Inhibitor

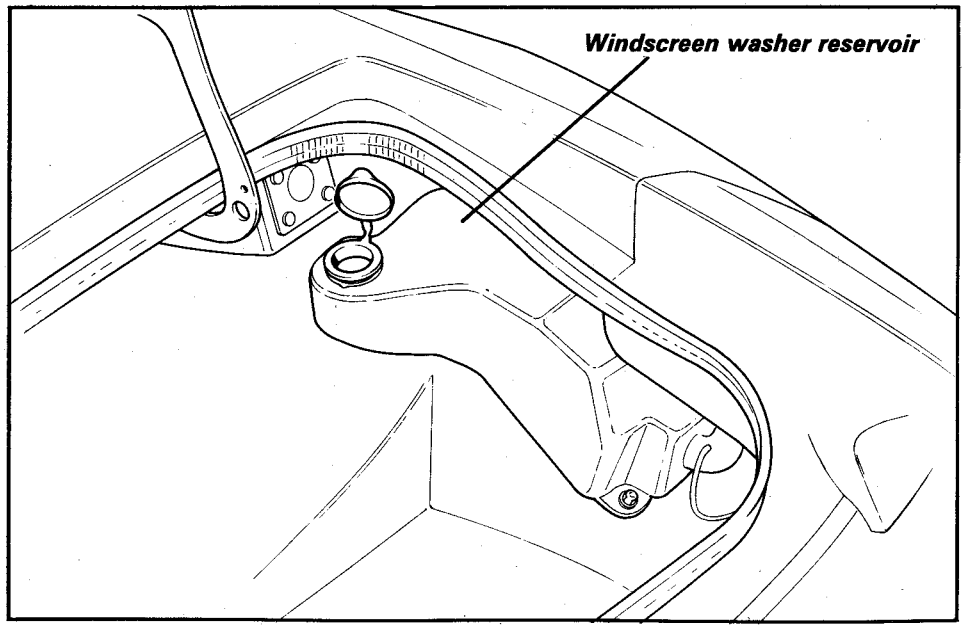
It is important that the coolant should contain an anti-freeze with corrosion inhibitor to protect the engine and heat exchangers from both frost damage, and corrosion of the metallic elements. Use of a good quality ethylene glycol anti-freeze, protects against these dangers as well as improving the cooling efficiency of the system. When new, the system is filled with a 40% anti-freeze concentration which is suitable for all but the very coldest climates, which should use concentrations up to 60% strength. In warm climates it is recommended that the concentration is not allowed to fall below 25%, in order to maintain full corrosion protection.

The effective level of mono-ethylene glycol in the system may be measured using a hydrometer, but the level of corrosion inhibitors, whose effectiveness diminishes over a period of time, can only be assured by the renewal of the coolant mixture every year.

For recommended anti-freeze products/specification, see 'Technical Data'.

Washer Reservoir

The windscreen washer reservoir is situated at the right hand side of the boot, and should be kept topped up with clean water and a suitable proprietary solvent. Do NOT use radiator anti-freeze in the reservoir as this could seriously damage the paintwork.



If the washer fluid level becomes low, and needs replenishing, an amber tell tale reminder in the instrument panel will glow.

Brakes

Hydraulically operated front and rear disc brakes are used, with vacuum servo assistance. The brake circuit is a 'diagonally split' system, with the right hand front and left hand rear brakes operated from one conpartment in the tandem master cylinder, and the remaining two brakes, from a second compartment. In this way, in the unlikely event of a component failure or loss of fluid, one of the two circuits will still function. Pressure proportioning valves are incorporated into each of the rear circuits, to reduce the likelihood of the rear wheels locking first on heavy braking, and aid vehicle stability and control.

The servo unit uses engine supplied vacuum to reduce the pedal effort needed. If the engine is not running, no vacuum will be generated and the servo will not function. The brakes will therefore need a harder push for a given stopping distance. Never coast downhill with the engine switched off, but if this situation should arise, avoid repeated application of the brakes, or the stored vacuum will be rapidly used up.

The parking brake is mechanically actuated by a cable linkage, and operates on the rear wheels only.

Brake Pads

Brake adjustment to compensate for pad wear, is automatic, but the brake pad thickness should be checked at every service, and under no circumstances should the thickness be allowed to fall below 2.0 mm (front) or 1 mm (rear). If the brakes are in very frequent or arduous use, as when driving in mountainous terrain, it is recommended that they be examined at more frequent intervals.

Brake Pipes & Hoses

At the recommended service intervals, the brake pipes and flexible hoses should be carefully examined for signs of damage, corrosion or perishing, especially in areas where salt is used on the road surface in the winter months.

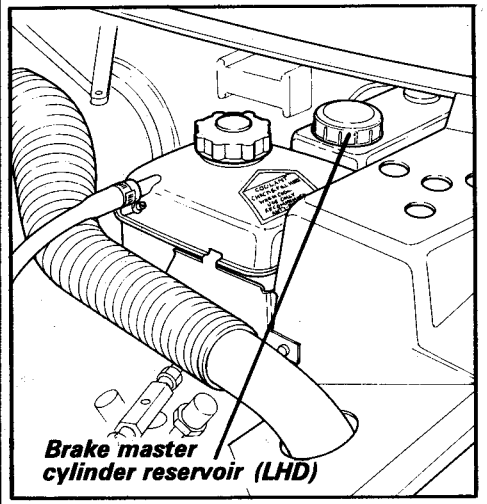
Brake Fluid Reservoir

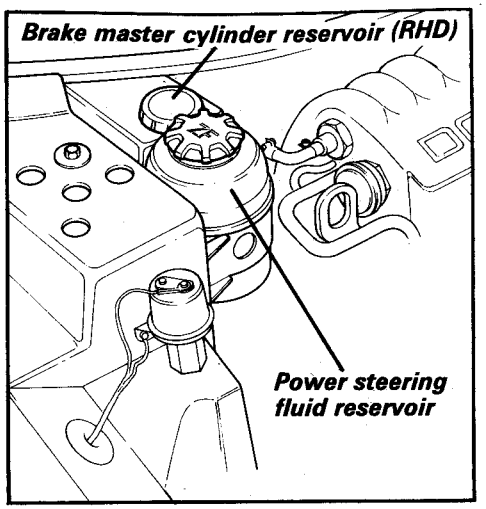
Under normal circumstances, there is no requirement for routine 'topping up' of the brake master cylinder reservoir. A visual safety check is all that is required.

Every week, check the level of fluid in the brake fluid reservoir located at the driver's side rear of the engine bay: Without disturbing the filler cap, check that the level lies between the 'max' and 'min' marks moulded on the transluscent reservoir body. As the brake pads wear, the level will drop gradually from the 'max' mark towards the 'min', but if the level drops rapidly over a short period, have your Lotus dealer investigate without delay. If the level is found to be below the 'min' mark, it is likely there has been some fluid loss, and that air will have entered the hydraulic system. The car should not be driven until the fault has been investigated and rectified.

Brake fluid is hygroscopic, and absorbs water from the atmosphere over a period

of time, resulting in the lowering of the boiling point of the fluid, and corrosion of the hydraulic system. For optimum safety and brake performance, the brake fluid should be renewed every twelve months by your Lotus dealer.





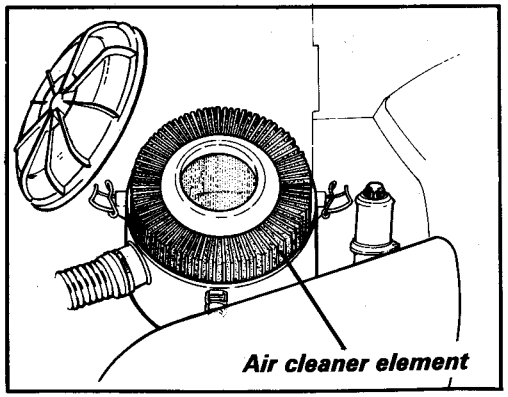
Power Steering Fluid Reservoir (if fitted)

On cars fitted with power steering, the hydraulic fluid reservoir is located at the right hand rear of the engine bay. When other fluid levels are being checked, wipe clean the cap and top of the steering reservoir before unscrewing the cap and inspecting the fluid level shown on the dipstick integral with the cap.

The two marks on the dipstick correspond to the correct hot level (top mark – use when the car has been driven several miles, and the reservoir is hot to the touch), and to the correct cold level (lower mark). If any topping up is required, use ONLY the approved fluid – Nippon Oils 'Besco A.T.F.Dexron' – available from your Lotus dealer under part number A100E6088V. Refit the reservoir cap securely.

Air Cleaner Element

The folded paper type air cleaner element is housed in a cylindrical box at the left hand front of the engine bay, and should be removed and inspected at each service. When the vehicle is operated in a relatively dust free environment, the element should be renewed at intervals specified in the Maintenance Schedule, but where a dusty or smog laden atmosphere prevails, more frequent replacement is required dependent on the level of pollution.



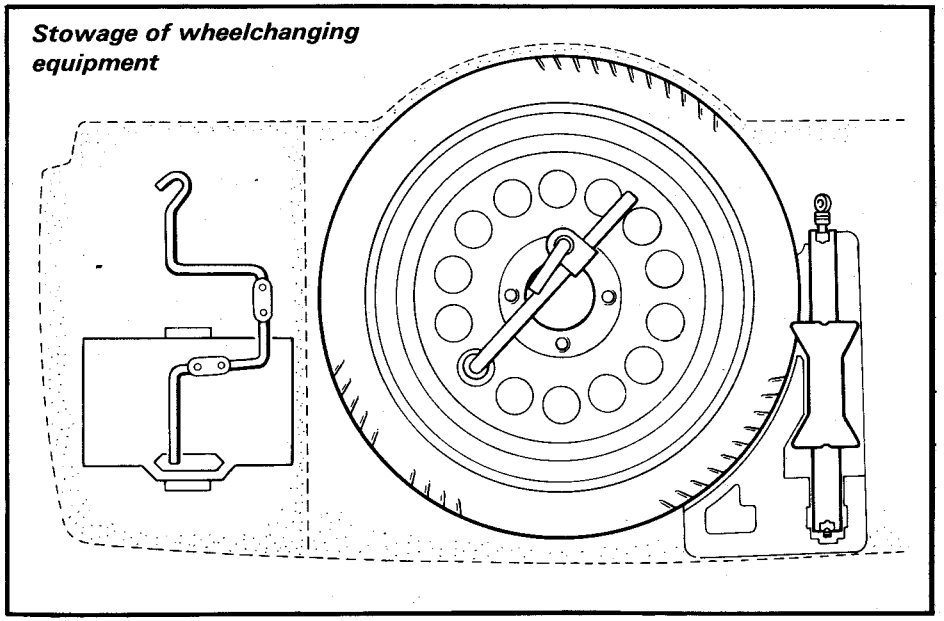
Before removing the filter element, the precaution should be taken of disconnecting the engine intake hose from the filter box in order to prevent any possibility of dirt entering the hose and engine. The filter element may then be withdrawn from the housing after releasing the four over-centre clips, and removing the lid. Thoroughly clean out the inside of the filter box before fitting a new element, ensuring that it is correctly seated. Refit the cover lid, and engine intake hose.

Spare Wheel & Jack

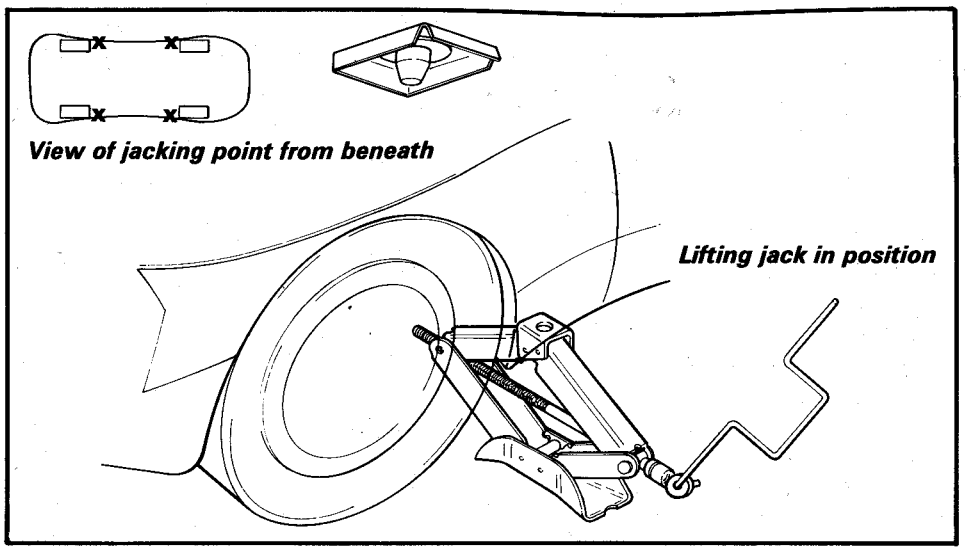
A 'compact' spare wheel is used on the Elan to enhance luggage space, and, through its light weight, makes mounting of the spare easier. A plastic bag is supplied in which to place the damaged tyre assembly.

In the event of a puncture, proceed as follows to fit the spare wheel.

1. Ensure that the vehicle is parked on a firm level surface. Firmly apply the parking brake, engage first or reverse gear, and chock the wheel diagonally opposite to that being changed.



2. The spare wheel, wheelbrace and jack are mounted beneath the boot floor. Pull up the boot floor, and turn the wheel clamping screw counterclockwise to release the spare wheel and wheelbrace. Unclip the jack handle from the underside of the floor, and remove the jack from its location to the right of the spare wheel well.



View of jacking point from beneath

Lifting jack in position

3. Before jacking up the car, use the wheelbrace to turn the four wheel bolts half a turn counterclockwise. Place the jack beneath the appropriate jacking point, either just ahead of the rear wheelarch, or to the rear of the front wheelarch. Turn the jack screwthread clockwise to raise the jack, and position carefully so that the hole in the jack platform, engages with the conical bolt head in the body at the jacking point. Do NOT use the jack at any other position.
4. Hook the jack handle into the screwthread, and operate the jack to raise the car only sufficiently for the tyre to clear the ground. Continuously monitor the security and stability of the jack during this process.

WARNING: Do not get into the vehicle or run the engine whilst the car is supported by the jack. Under no circumstances must ANY work be carried out under the car when it is raised on the jack, unless a chassis stand is used to support the car.

5. Remove the wheel bolts, and withdraw the wheel from the hub. Place the wheel into the plastic bag provided for carriage to a tyre depot.
6. Mount the spare wheel onto the hub and fit the original wheel bolts turning clockwise. Tighten lightly using the wheelbrace.
7. Lower the car using the jack handle to wind down the jack, and restow the jack in its location in the boot underfloor.
8. Tighten the wheelbolts securely in a diagonal sequence. At the first opportunity, have the wheelbolt torque checked, and set to 80 – 88 Nm (59 – 65 lbf.ft). Check and set the spare tyre pressure to 4.0 bar (60 lb/in^2).

WARNING: The spare wheel supplied is for EMERGENCY USE ONLY, and must be replaced with the normal wheel and tyre equipment as soon as possible. Only one spare wheel may be used on the vehicle at any one time. When the spare wheel is in use, differential tyre wear will be experienced and the handling characteristics of the car modified. It is therefore necessary to observe the following recommendations:
– Less than moderate speeds and cornering loads should be employed, i.e. no more than half the car's potential relative to the pertaining road conditions subject to a recommended maximum speed of 50 mph (80 km/h) under the most favourable conditions.
– When following other vehicles, Lotus recommend that you observe the U.K. Highway Code or the American Safety Council guidelines for vehicle spacing; this advice applies equally to spare wheel usage as to all other motoring situations.
– Spare wheel tyre pressure: 4.0 bar (60 lb/in^2).

Before re-fitting the standard wheel, ensure that the mating face on both the wheel and hub is clean, and free from corrosion; otherwise a wheel vibration and/or loosening of the wheel bolts may occur.

Always restow the spare wheel and wheel changing equipment in their correct locations to prevent insecure items causing damage to other components or to the body: Place the spare wheel into the boot floor well with the outside of the wheel downmost, and a wheelbolt hole positioned over the securing thread hole in the body. Fit the clamping screw through the wheelbrace clip, and with the wheelbrace positioned as shown in the diagram, with the socket end fed into one end of the wheel vent holes, secure the wheel and wheelbrace. Fit the jack handle into its clips on the underside of the boot floor, and the jack into its moulded housing.

Tyres

The Michelin MXX-2 (Turbo) or Michelin MXV-2 (N.A.) tyres fitted to the car from new, are engineered to provide the optimum balance of ride and handling characteristics, and are the ONLY tyres approved by Lotus for all year round use on this vehicle. The tyres should be inspected regularly for signs of cuts, abrasions or other damage, and for any uneven tread wear patterns. Uneven treadwear may indicate that the suspension geometry or dampers require attention from your dealer. Safety considerations should always be paramount when assessing tyre condition and serviceability, and the tyre replaced if any doubt exists, or if the legal tread depth limits are approached.

The cold tyre pressures should be checked every week, or every 1,000 miles (1,700 km), whichever is the sooner, and corrections made as necessary. The spare tyre pressure should also be checked occasionally. See 'Technical Data' at the back of the handbbook for tyre pressures. Underinflation will cause excessive wear, rapid deterioration of the tyre sidewalls, and poor handling, whereas overinflation results in a hard ride and increased susceptibility to tyre damage. It is important that the tyre pressures are adjusted only when the tyres are cold (driven less than one mile), as

their pressure at other times is dependent on how warm the tyres are. It is usual for pressures to increase by 0.3 – 0.5 bar (4 – 8lb/in^2) when the tyres are warmed to normal running temperature. Always replace the tyre valve dust cap to prevent the ingress of dirt and moisture into the valve, which could cause leakage.

At specified service intervals, the wheel and tyre assemblies should be balanced with the wheel located by the centre spigot – NOT by the wheel bolt holes. In order to maintain the correct handling feel and minimum steering wheel shake, it is very important that the radial and lateral run out of the tyres are to the high standard required by Lotus Cars. If any difficulty is experienced with replacement tyres, refer to the tyre manufacturer.

Winter Tyres

Winter tyres provide enhanced performance in snow and in icy conditions, but cannot be expected to match the exceptional performance levels of the standard fitment tyres under all other conditions which may be encountered. Winter tyres should not therefore be used as a 'year round' fitment.

Michelin X M + S 185/60 x 14 winter tyres, with or without studs, may be fitted only in complete car sets, using approved 14 in. steel wheels **together with alternative wheel bolts** (see your dealer). For tyres without studs, a maximum speed of 118 mph (190 km/h) must be observed. If studded tyres are fitted, in countries that permit their use, further speed restrictions will apply, and a warning sticker must be applied to the back of the vehicle by the tyre fitting depot. Details of the speed restrictions for studded tyre usage in European countries, are listed in 'Technical Data'.

Battery

WARNING:

POISON/DANGER – CAUSES SEVERE BURNS – KEEP OUT OF REACH OF CHILDREN. Contains sulphuric acid – avoid contact with skin, eyes or clothing.

Antidote: External – flush with water; Internal – drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call physician immediately; Eyes – flush with water for 15 minutes and get prompt medical attention.

Batteries produce explosive gases. Keep sparks, flames and cigarettes away. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries.

CAUTION:

i) Disconnect the **negative** (earth; black; '–') battery cable first, and re-connect last, to minimise the possibility of an accidental short to earth of the battery positive connection.

ii) Before disconnecting the battery, wait for at least ten seconds after switching off the ignition to allow the engine management system to adjust the setting of some components ready for re-starting.

iii) After battery re-connection, a change in the engine performance characteristics may be noted for a period whilst the computer controlled engine management system 're-learns' some of its settings. The duration of this period will depend on driving style, but may be shortened by steady cruising in 4th gear at about 40 mph.

iv) Whenever the battery is re-connected, or a 'jump' start attempted, first ensure that the keys are removed from the vehicle, since under certain circumstances the central door locking may operate and lock both doors.

v) If fitting electrical accessories of any description, note that these also must be of **negative earth** polarity.

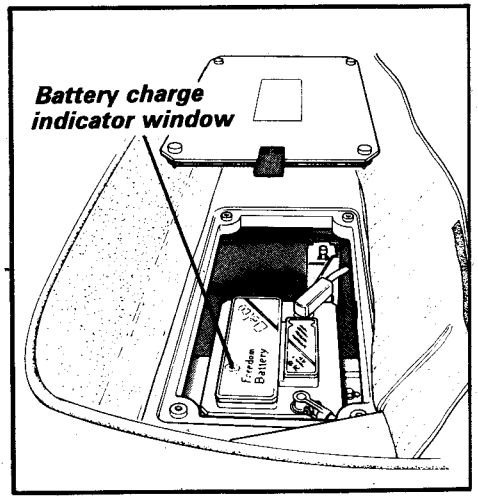
The battery is located beneath the floor of the roof stowage compartment on the right hand side, and is accessible as follows:

If the soft top is raised –

1. Release the two over-centre latches at the windscreen header rail, and pull back the front of the soft top to release the roof tensioning mechanism.
2. Raise the rear edge of the soft top sufficiently to enable the roof stowage lid to be raised (pull release handle in the right hand door jamb).
3. At the right hand side of the roof stowage compartment, pull back the rear edge of the carpet to reveal the battery access cover. Use the tag provided to pull the cover from its four corner fasteners.

If the soft top is down –

1. Open the roof stowage lid (pull release handle in the right hand door jamb), and pull out the folded soft top assembly.
2. At the right hand side of the roof stowage compartment, pull back the rear edge of the carpet to reveal the battery access cover. Use the tag provided to pull the cover from its four corner fasteners.



A Delco Remy 'Freedom' maintenance free battery is fitted, which requires no routine topping up of the electrolyte; and no such provision is made. The battery is equipped with a built in hydrometer which provides a visual indication of the state of charge of the battery. This need be referred to only if engine cranking, or other electrical problems arise. Incorporated into the top of the battery casing, is a small round window, which should be wiped clean and viewed vertically with the aid of a lamp in poorly lit conditions (do NOT use a naked flame!). One of three possible conditions will be observed:

Green dot visible within dark area – battery is sufficiently charged for normal use.

Dark with no green dot – battery is in a low state of charge and should be re-charged before use.

Clear or light yellow – electrolyte level is low due to battery or charging system fault. See your dealer.

Battery Charging

If the hydrometer indicates that the battery needs recharging, the battery should first be removed to a well ventilated area to avoid a build up of fumes in the battery compartment. Observe the safety precautions at the beginning of this section, before disconnecting first the negative battery cable, and then the positive cable. Use a socket wrench to release the clamp plate at the base of the battery front side, and carefully lift the battery out. Take care when handling the battery to avoid sharp knocks or shocks, and keep as upright as possible.

Charge the battery following the charger manufacturers instructions while observing these basic rules:

- If the green dot shows in the hydrometer, there is no need to charge the battery. Charging attempts will only increase the possibility of undesirable overcharge effects.
- Do not attempt to charge the battery if the hydrometer is clear or light yellow and there has been a cranking problem – replace the battery.
- Depending on state of charge, temperature and charger capacity, the battery will accept a charging rate of between 3 and 50 amps. However, at high rates the battery may eject electrolyte through the vents, and/or become hot – over 52°C (125°F). Reduce the charging rate and/or stop for a time to allow the battery to cool.
- Continue charging until the green dot is visible in the hydrometer.

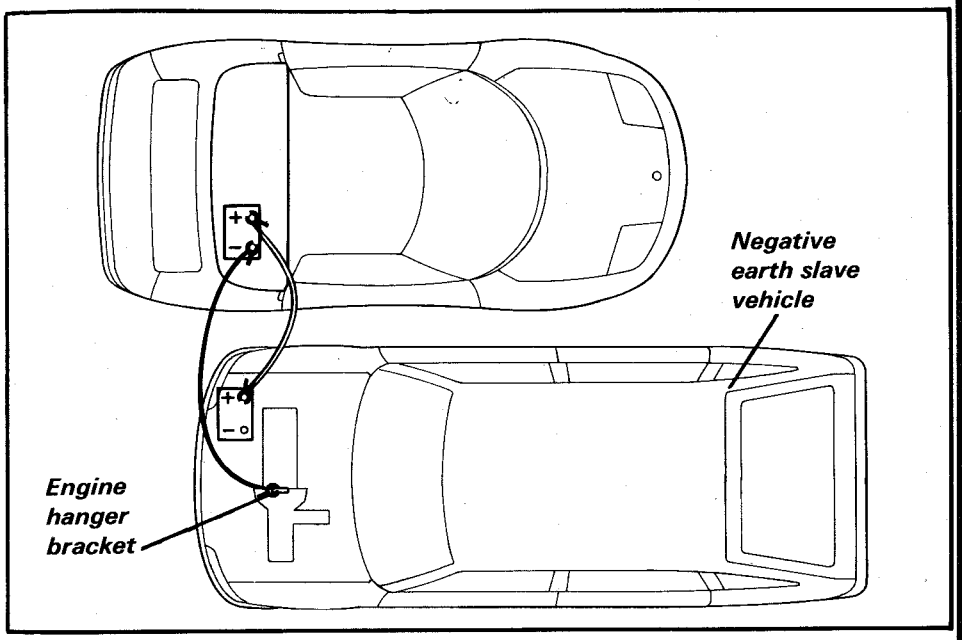
When the battery is fully charged, replace in its compartment and secure with the clamp plate. Re-connect the positive lead first and the negative last.

'Jump' Starting

If the battery becomes discharged to the extent that the engine cannot be started, proprietary good quality 'jumper cables' may be used to connect with the battery of a second vehicle in order to provide the energy necessary for starting.

WARNING: It is most important that the correct procedure is followed in order to avoid damage to either car's electrical system, and most importantly, to minimise the danger of a spark induced battery explosion. Check that the slave vehicle also has a NEGATIVE EARTH electrical system.

i) With the engine of the slave vehicle running at a fast idle, use one jumper cable (red) to connect the positive (+) terminals of both batteries.
ii) Connect one end of the other jumper cable (black) to the negative (–) terminal of the discharged battery.
iii) A spark will occur when the other end of this cable (the final connection) is connected to an earth on the slave vehicle. This connection should therefore be made to a point away from the battery, and away from any fuel vapour area or moving parts. An engine hanger bracket is often ideal.

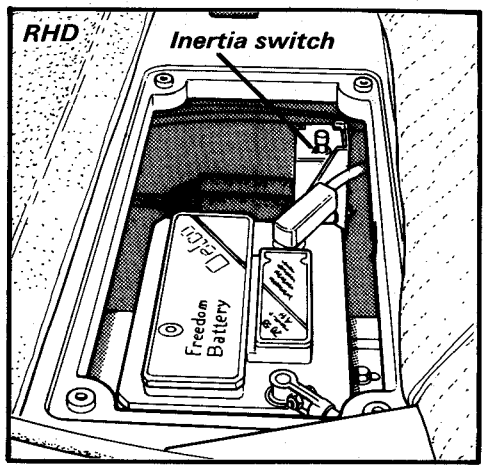


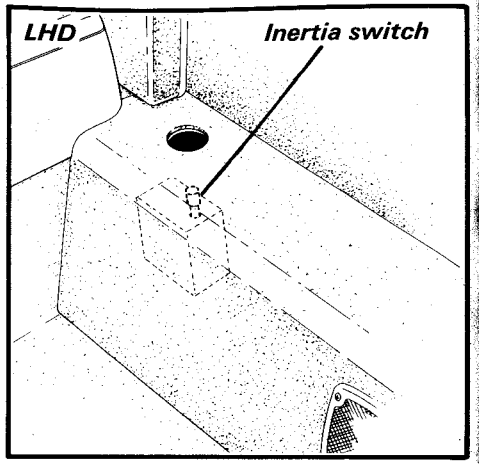
iv) Start the car in the usual way and run at a fast idle.
v) A spark will occur at the first disconnection of a jumper cable, so it is essential that the first disconnection is made from the slave vehicle earth. Both batteries (especially the discharged one) will be 'gassing' heavily at this time, and if the first disconnection is made at a battery terminal, there is a danger that the hydrogen gas may be ignited by the spark with a resultant explosion.
vi) Have the cause of the flat battery investigated and rectified.

Inertia Switch

The safety inertia switch is designed to operate on impact, such as will occur in an accident, to cut out the fuel pump, and minimise any fire hazard. The central door locking system is also activated to unlock both doors.

On right hand drive cars, the switch is located in the battery compartment beneath the





right hand side of the roof stowage compartment floor, and on left hand drive cars, beneath the left hand speaker trim panel. The switch may be reset by pressing down the plunger which pops up when the switch is triggered, with an access grommet provided for this purpose on left hand drive cars.

Fuses

The two main fuseboxes are located ahead of the passenger door hinge post, and in the top of the instrument binnacle.

For access to the former, use a small coin to release the quarter turn fastener at the front lower edge of the fusebox protective cover, and unhook the cover from the top and rear edges to reveal the 25 fuses. For those in the instrument binnacle, remove the access panel on top of the binnacle, by releasing the two panel retaining screws. Eight fuses are fitted at the inboard end of the relay panel. On right hand drive cars, a further four fuses are fitted to the right of the relay panel, and on left hand drive cars, fuses are fitted above the four relays fitted on the scuttle beam.

In addition, the two fuses for the radio, together with two fuses and a connector block for a cellular telephone, are located next to the inertia switch: on RHD cars within the battery compartment; on LHD cars beneath the left hand speaker trim panel.

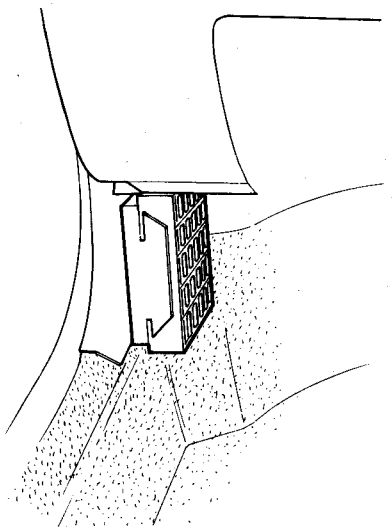
The fuses are coloured according to their amperage rating and may be pulled out from their slots using the fuse extractor tool clipped to the main fusebox bracket in the passenger footwell.

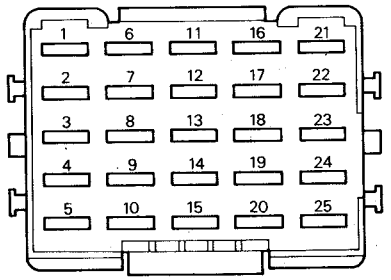
Fuse colours: 2A – Black; 3A – Violet; 4A – Pink; 5A – Orange; 7.5A – Brown; 10A – Red; 15A – Light Blue; 20A – Yellow; 25A – Clear.

Upgrading a fuse rating, or interchanging any of the relays or modules, could result in permanent damage to a circuit or electrical component. If in doubt, consult your Lotus dealer.

Main Fusebox (A) – ahead of passenger door hingepost

Fuse	Rating	Circuit
1	15A	Horns
2	7.5A	Air Cond.
3	7.5A	Fuel Pump
4	10A	RHD Lighting
	7.5A	LHD CDL
5	10A	ECM
6	5A	RH Sidelamps
7	5A	LH Sidelamps
8	3A	Radio Relay Logic (USA)
9	–	
10	3A	VSV
11	10A	Hazard
12	3A	Batt Services
13	5A	Stoplamps
14	5A	Int. Lamps
15	15A	Rear Fog
16	10A	DI & Reverse
17	15A	Wash/wipe
18	3A	Ignition I
19	3A	Mirror Timer
20	3A	Ign. Relay
21	5A	Mirrors
22	3A	Window Switch
23	20A	Heater Blower
24	15A	Cigar Lighter
25	–	

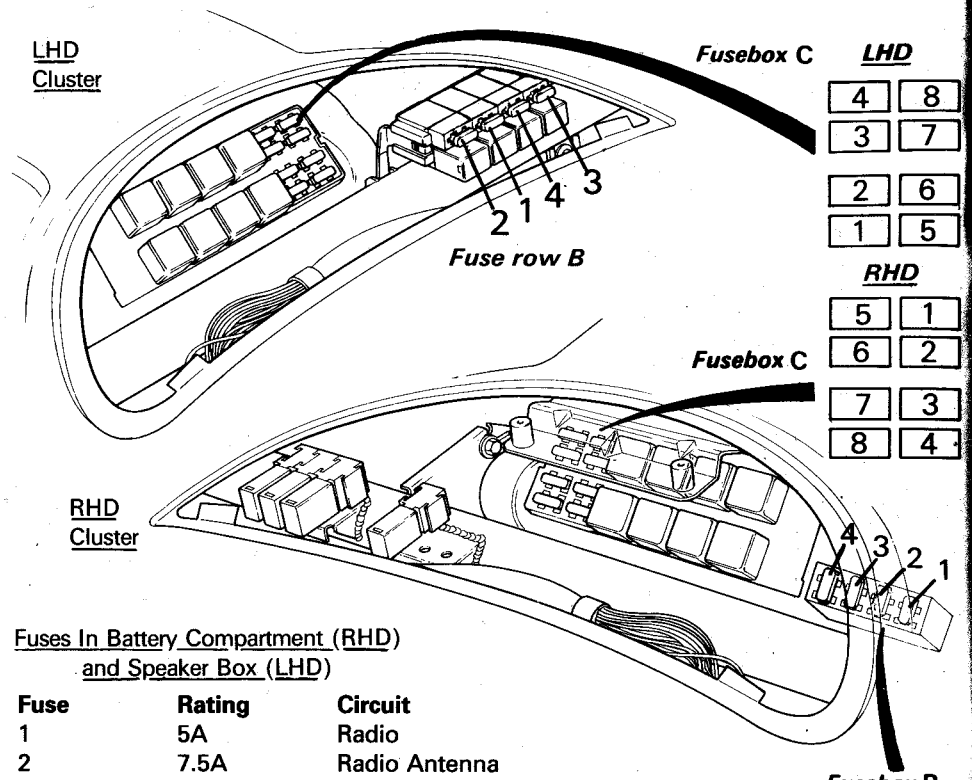




Fuses Above Instrument Cluster

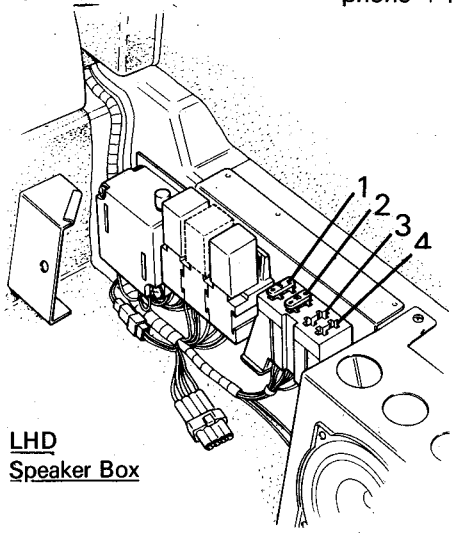
Fuse	Rating	Circuit
Fusebox/Row B		
1	20A	RH Window Lift
2	20A	LH Window Lift
3	15A	RH Cooling Fan
4	15A	LH Cooling Fan

Fuse	Rating	Circuit
Fusebox C		
1	15A	LH H/L Motor
2	15A	RH H/L Motor
3	7.5A	RHD CDL
	10A	LHD Lighting
4	5A	Coolant Pump
5	7.5A	LH Dip Beam
6	7.5A	RH Dip Beam
7	7.5A	LH Main Beam
8	7.5A	RH Main Beam

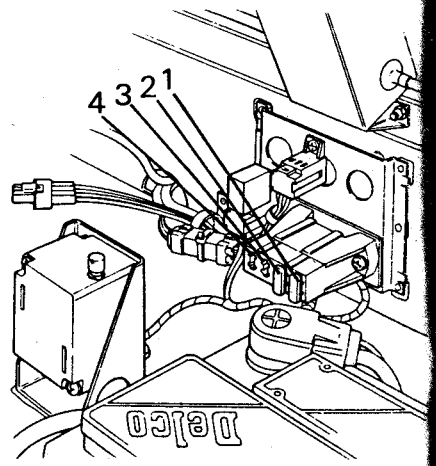


Fuses In Battery Compartment (RHD) and Speaker Box (LHD)

Fuse	Rating	Circuit
1	5A	Radio
2	7.5A	Radio Antenna
3	–	'phone +12V Battery
4	–	'phone +12V Ignition



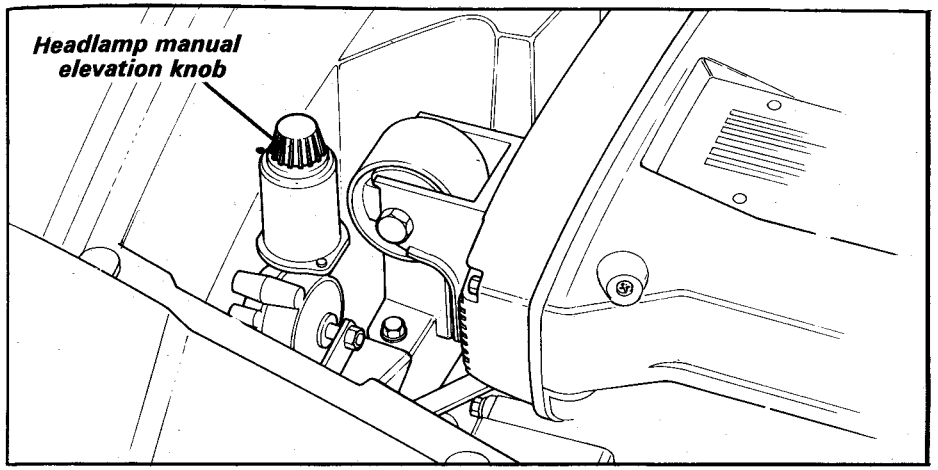
LHD
Speaker Box



RHD Battery Compartment

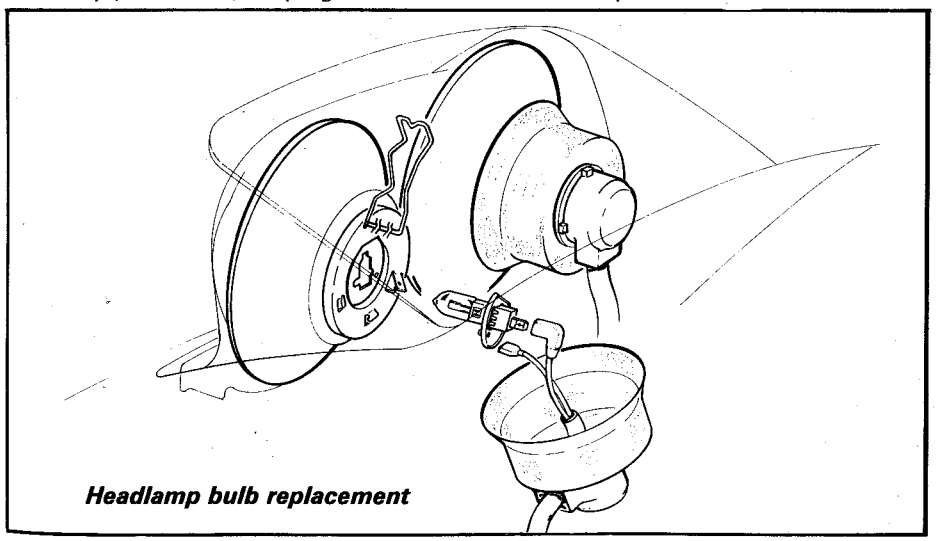
Emergency Headlamp Elevation

Each headlamp pod is raised and lowered by an electric motor located behind the pod in the engine bay. For maintenance, or in an emergency, the pods may be raised manually by turning the motor shaft using the knob on top of the motor body. If necessary, unplug the electrical connector block.



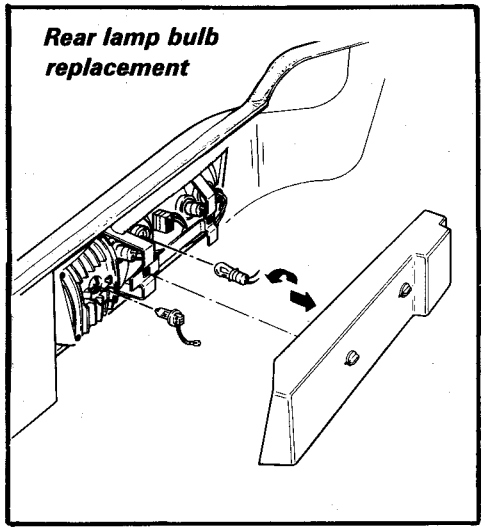
Bulb Replacement

Headlamps: Raise the headlamp pods by switching on the headlamps, or winding up manually (see above). Unplug the electrical connector, pull off the rubber boot, and



unhook the wire spring clip securing the halogen bulb. **NOTE** – Do not touch any part of a halogen bulb glass envelope with the fingers, as the greasy deposit left behind will drastically shorten the bulb's life.

Fit the new bulb into position, retain with the spring clip, fit the protective boot and connect the electrical plug.



Rear Lamp Cluster: The rear lamp cluster bulbs are accessible from within the boot after removing the protective cover secured by two quarter turn fasteners. With the exception of the rear fog lamps, all the bulb holders may be twisted and pulled out from the lamp body, and the bayonet fitting bulbs removed. The rear fog lamps use halogen H3 bulbs retained by a spring wire clip. **NOTE** – Do not touch any part of a halogen bulb glass envelope with the fingers, as the greasy deposit left behind will drastically shorten the bulb's life.

Front Sidelamp & Turn Indicator: Remove the two screws securing the lens, and push and twist the bayonet fitting bulb.

Side Repeater Lamp: Access to the back of the lamp is provided via the space ahead of the open door. Twist the bulbholder counterclockwise to remove, and pull out the capless bulb.

Interior Lamp: Prise out the lamp from the interior mirror body using the slot at the outer edge of the lamp. Pull out the bulb holder and the capless bulb.

Instrument & Tell Tale Bulbs: The replacement of these bulbs should be entrusted to your dealer.

VEHICLE WARRANTY

United Kingdom:

Should you find it necessary to have repairs carried out under the terms of the Warranty, wherever possible return your car to the Lotus Car Dealer from whom it was purchased. If this is not practicable, any other Lotus Dealer can undertake Warranty Service if you provide proof of the car's Warranty, a convenient method being the presentation of the Owner's Handbook.

By observing the following points, you should not find any difficulty in having your claim handled.

1. Explain the nature of your concern to the Lotus Dealer and make it clear that the car is within the Warranty period, evidence of this being provided by the Registration of Sale page at the back of this handbook. At the same time it is necessary to show that the recommended routine services have been carried out at the specified intervals by a Lotus approved dealer – which is, in fact, a requirement of the Warranty.

2. The Warranty covers only defects of material or workmanship; normal maintenance adjustments or replacements are excluded. Examples of normal maintenance, which are carried out during routine servicing are, adjustments to drive belts, wheel bearings, body locks and catches, steering or headlamp alignment, tightening of nuts, bolts or hose clips, wheel balancing, rectification of interior or exterior finish due to wear and exposure, replacement of bulbs, sparking plugs, filters, etc., or replacement of broken glass. Please note that the tyres, battery and radio are proprietary parts and are warranted separately by the individual manufacturers; however, Lotus Dealers will assist in making a claim if required.

3. Lotus Dealers can settle most claims including labour charges without prior reference to the Factory. In some cases it is necessary for the dealer to obtain authority from Lotus before proceeding with the repair. However, your Dealer will handle such matters for you with the minimum delay. Where the Dealer is not satisfied that the claim is due either to faulty material and/or workmanship, a charge may be made in respect of repairs. The claim will then be submitted to Lotus Cars Ltd. for adjudication and will be dealt with as quickly as possible, if accepted you will be reimbursed by the Dealer.

4. Should it be necessary to have repairs carried out whilst the car is abroad, the services of a Lotus Dealer should be sought. However, Lotus Dealers in Export Territories are not obligated under the United Kingdom Warranty scheme and may make a charge for the repairs. In cases of this nature, retain your invoice for presentation to your own Lotus Dealer on your return, who will arrange any reimbursement consideration to be made. If a reimbursement is made it will be at the current United Kingdom rate only.

Export Territories:

In order to give an expeditious service allied to local conditions, Lotus Cars Ltd., sell cars to Lotus Dealers/Importers who make and administer their own Warranty with their Dealer Network, which may well be in accordance with some, or all, of the foregoing. Owners of cars in Export Territories are therefore recommended to familiarise themselves with the procedure as it applies when purchasing the car.

Where an owner removes his place of residence to another Territory, while the car is still within the Warranty, he should apply to the selling Dealer/Importer for the recommended Warranty procedure.

Personal Export:

Where an owner purchases a car under this scheme, for delivery in the United Kingdom, the United Kingdom Warranty shall apply only while the owner is resident in the United Kingdom. If the owner removes the car to his country of residence (named at time of purchase) or some other Territory during the Warranty period, he shall notify the Distributor/Importer for that Territory. The remainder of the Warranty period will be covered by the said Distributor/Importer, only after such notification.

This explanation is a guide to the Warranty procedure. For full details of the vehicle Warranty, refer to the Warranty Certificate.

RECOMMENDED LUBRICANTS

Engine

In order to ensure the longevity and reliability of the vehicle, it is most important that only the specified lubricants are used. Adhere strictly to both the quality standard and viscosity rating, for the temperature range in which the vehicle will operate before the next service. The two most common oil quality classifications to be found labelled on oil containers, are API (American Petroleum Institute) and CCMC (Committee of Common Market Constructors). If neither of these classifications, with the specified standard is quoted, do not use the oil.

Manufacturer	SAE Viscosity Above –20°C	SAE Viscosity Below –20°C	API	CCMC
Preferred Various	10W/30	5W/30	SF/CD or SG	G2 or G3
Alternatives Various	15W/40	5W/30	SF/CD or SG	G2 or G3
Mobil 1 Rally Formula	5W/50	5W/50	SG	G3

Oil change – distance) whichever interval* – time) sooner		6,000 miles (10,000 km) 12 months (NA) 6 months (Turbo)
Filter change interval*	– N.A.	At 6,000 miles then every 12,000 miles (20,000 km) or 12 months (whichever sooner)
	–Turbo	6,000 miles (10,000 km) or 12 months (whichever sooner)

* In severe service conditions (dusty areas, or cold, stop/start driving), change twice as frequently.

Capacity – refill including filter	3.5 litre (6.2 imp. pt.)
– refill without filter change	3.3 litre (5.8 imp. pt.)

Transmission (Gearbox & Final Drive Assembly)

Only approved product	Mobil 1 RTS 9775 Fully Synthetic Motor Oil
Viscosity	SAE 5W/30
Lotus part number	A100F6036V
Oil change interval	30,000 miles (50,000 km)
Capacity – refill	1.8 litre (3.2 imp.pt)

Steering

Only approved product	Nippon Oils 'Besco A.T.F. Dexron'
Lotus part number	A100E6088V

Rear Hubs

Lubricant type	Lithium Complex type wheel bearing grease
Consistency	NLGI No. 2

Brake System

Hydraulic fluid	DOT 3 or DOT 4

Engine Coolant Additive

Type	Ethylene Glycol blend
Concentration – recommended	40%
– minimum	25%
– maximum (severe climates)	60%
Quantity (at 40% concentration)	2.5 litre (4.4 imp. pt.)

TECHNICAL DATA

Engine

Type	4 cylinder, in line
Designation – N.A.	4XE1 – M
– Turbo	4XE1 – MT
Capacity	1588 cm^3 (96.9 in^3)
Bore	80.00 mm (3.145 in)
Stroke	79.00 mm (3.110 in)
Compression Ratio – N.A.	9.8:1
– Turbo	8.5:1
Valve Actuation	DOHC with hydraulic tappets
Firing Order	1,3,4,2
Maximum Engine Speed – N.A.	7,700 rpm
– Turbo	7,200 rpm
Idle Speed – N.A.	900 rpm
– Turbo	950 rpm
Spark Plugs – Type – N.A.	NGK BKR6E–11 or ND K20PR-U11
– Turbo – recommended	NGK BKR6E or ND K20PR-U
– alternative	NGK BKR7E–11 or ND K22PR–U11
– Gap – suffix '11' or 'U11'	1.1mm (0.043 in)
– others	0.8mm (0.031 in)
Fuel Injection Type	Electronic Multi-Point
Injection Timing – N.A.	Simultaneous double fire
– Turbo	Semi-sequential double fire
Oil Pressure – Minimum	0.35 bar at warm idle

Transmission

Type: Manual, 5 speed + reverse

Gear	Internal ratio	Final Drive		mph/1000 rpm		km/h/1000 rpm	
		N.A.	Turbo	N.A.	Turbo	N.A.	Turbo
First	3.333 : 1	4.177	3.833	4.84	5.20	7.78	8.35
Second	1.916 : 1	4.177	3.833	8.41	9.04	13.5	14.5
Third	1.333 : 1	4.177	3.833	12.1	13.0	19.5	20.9
Fourth	1.027 : 1	4.177	3.833	15.7	16.9	25.3	27.2
Fifth	0.829 : 1	4.177	3.833	19.4	20.9	31.3	33.6
Reverse	3.583 : 1	4.177	3.833	4.50	4.85	7.24	7.78

Dimensions

Overall Length	3803 mm (149.7 in)
Overall Width – excl. mirrors	1734 mm (68.3 in)
– inc. mirrors	1885 mm (74.3 in)
Overall Height (roof erected)	1230 mm (48.4 in)
Wheelbase	2250 mm (88.6 in)

Track – Front	1486 mm (58.5 in)
– Rear	1486 mm (58.5 in)
Ground Clearance	130 mm (5.1 in)
Kerb Weight – N.A.	997 kg (2198 lb))full fuel tank
– Turbo	1020 kg (2249 lb))
Gross Weight – N.A.	1215 kg (2679 lb) › inc occupants
– Turbo	1238 kg (2730 lb) › & luggage
Maximum Luggage Capacity	40 kg (88 lb)

Capacities

Engine – Refill – Inc. Filter	3.5 litre (6.2 imp. pt)
– Without Filter	3.3 litre (5.8 imp. pt)
– Dry	4.75 litre (8.4 imp. pt)
Add/Full Dipstick Mark Difference	1.1 litre (1.9 imp. pt)
Transmission	1.9 litre (3.35 imp. pt)
Engine Cooling System	6.25 litre (11.0 imp. pt)
Fuel Tank	46 litre (10.2 imp. gall)

Front Suspension

Ride Height (for geometry check)	165 mm (forward inboard pivot of lower wishbone)
Camber	–0.25°; ± 0.25°
Castor	+ 1°; + 0.5°, –0
Steering Axis Inclination	10.5°
Scrub Radius	– 3mm
Toe-out	0° to 0.25° total

Rear Suspension

Ride Height (for geometry check)	174 mm (rear inboard pivot of rear wishbone)
Camber	– 0.5°; ± 0.25°
Toe-in	+ 2.0mm **each side**; ± 1 mm

Wheels

Type – Standard	Light alloy, 4 bolt fixing
– For Winter Tyre	Steel, 4 bolt fixing
– Temporary Spare	'Compact' steel, 4 bolt fixing
Size – Standard	6½J x 15 H2E 60
– For Winter Tyre	6J x 14
– Temporary Spare	3.5J x 14 H2
Wheel Bolt Torque*	80 – 88 Nm (59 – 65 lbf.ft)

* Note that the wheel bolts for the winter steel wheels are shorter than those for the standard alloy wheels. Torque remains unchanged.

Tyres

Type – Standard – N.A.	Michelin MXV – 2
– Turbo	Michelin MXX – 2
– Winter Tyre	Michelin X M + S with/without studs
– Temporary Spare	Goodyear space saver
Size – Standard – N.A.	205/50 VR15
– Turbo	205/50 ZR15
– Winter Tyre	185/60 x 14
– Temporary Spare	T105/70 R14
Pressures – Standard – N.A.	2.2 bar (32 lb/in^2) front & rear
– Turbo	1.8 bar (26.5 lb/in^2) front & rear
– Winter Tyre	2.0 bar (29 lb/in^2) front & rear
– Temporary Spare	4.0 bar (60 lb/in^2)
Winter Tyre Speed Limitation	118 mph (190 km/h)

Limitations on use of **Studded** Winter Tyre:

Country	**Period**	**Maximum Speed mph (km/h)**	
		Normal Roads	**Motorways**
Austria	15th Nov – 7th April	50 (80)	62 (100)
Belgium	1st Nov – 31st March	37 (60)	56 (90)
Denmark	1st Oct – 30th April	50 (80)	62 (100)
Finland	1st Oct – 30th April	50 (80)	75 (120)
France	15th Nov – 15th March	56 (90)	56 (90)
Germany	NOT PERMITTED		
Holland	NOT PERMITTED		
Italy	15th Nov – 15th March	56 (90)	75 (120)
Norway	15th Oct – 30th April	50 (80)	56 (90)
Switzerland	1st Nov – 31st March	50 (80)	NOT PERMITTED
Sweden	1st Oct – 30th April	43 (70)	68 (110)
U.K.	NOT PERMITTED		

Brakes

Type	Ventilated front discs, solid rear discs
Disc Size – Front	256 mm
– Rear	236 mm
Operation	Tandem master cylinder with direct acting vacuum servo
Circuit	Diagonal split
Parking Brake	Cable operation of rear calipers Self adjusting

Electrical

Voltage/Polarity	12V negative earth
Alternator	Nippondenso 60A
Battery – type	Delco Freedom Maintenance Free 842
– cold start perf. (DIN)	255A
– Euro size code	L2

Light Bulbs	**Wattage**	**Replacement Bulb Number**	**Type**
Headlamps – outer	55	448	H1
– inner	55	448	H1
Front Sidelamps	5	501	W10/5
Front Turn Indicators	21	382	P25 – 1
Stop Lamps	21	382	P25 – 1
Tail Lamps	5	207	R19/5
Rear Turn Indicators	21	382	P25 – 1
Rear Fog Lamps	55	453	H3
Reversing Lamps	21	382	P25 – 1
Side Repeater Lamps	5	501	W10/5
Interior Lamps	5	501	W10/5
Boot Lamp	10	258	SU8.5 – 8