1968

Reliant Scimitar GTE - SE5

Owners Handbook

Scimitar GTE 3 litre Owner's Handbook

A copy of the Owner's Handbook is provided with each car. Additional copies are available from the Service Department of your Reliant dealer.

The Company reserves the right to alter specifications and design features without notice.

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Foreword

The Scimitar GTE, a high-performance car of distinction has been designed, styled and engineered to meet the most exacting requirements in performance, appointment and comfort.

Powered by an advanced design 'Vee' engine, providing maximum flexibility and ensuring a smooth and powerful performance, the Scimitar GTE is a car for the connoisseur. As its owner, you will appreciate the importance of regular routine maintenance.

This handbook gives you, briefly, the necessary information required to keep your car in first class mechanical condition. Regular Servicing is of the utmost importance, and you will have received with your car, a booklet 'The Key to Service'. In it, you will find a series of Service Vouchers, the first of which, when signed by your Reliant Dealer, will entitle you to a Free Service after completing 600 miles (1,000 km). Details of further services, essential for the long serviceability and safety of your Scimitar GTE and the vehicle warranties, are also included in your 'Key to Service'.

The routine maintenance described in this handbook can be carried out by the owner.

However, it must be remembered that where major repairs or long-term maintenance is concerned, your Authorised Dealer has special facilities not usually available to the private owner. You are strongly recommended to make the fullest use of these facilities.

All Scimitar GTE distributors and dealers are under agreement to provide a full after-sales service at 600 miles. This service is always available near to hand, even though the dealer from whom you obtained your Scimitar GTE is some distance away. Arrangements can always be made to have your free service carried out by a dealer, preferably a Reliant Dealer, nearby. Send his name and address to the dealer who supplied your car, and he will make all the arrangements for you.

Whenever it is necessary to communicate either with the Reliant Motor Company Limited, or your dealer, please remember to always quote the chassis and engine number. You will find these on a metal plate located under the bonnet lid.

You should first familiarise yourself with the functions of the instruments and controls. To ensure safety and driving confidence, learn to handle them and interpret their readings quickly and easily.
The instruments are described as viewed from the driving seat.

INSTRUMENTS

Revolution counter (1) Figure 1
The revolution counter is a 6,000 rpm tachometer, situated at the extreme right of the instrument panel (left on LH drive vehicles).

Main beam warning light (1) Figure 2
This is a blue light, located in the right hand lower segment of the tachometer. It is illuminated when the headlight main (high) beams are on.

Right-hand direction indicator warning light (2) Figure 2
Indicates, by showing a flashing green light, that the right-hand direction indicator is operating. Located in the left hand lower segment of the tachometer. (Lower right hand segment of speedometer on LH drive vehicles.)

Oil pressure gauge (2) Figure 1
Indicates that oil is circulating the engine under the correct pressure. When starting from cold, the gauge may show a pressure rise to 60 lb. per sq. in., but will gradually fall to about 50 lb. per sq. in. as the engine temperature rises. This is perfectly normal. If a very low indication is given, or the instrument shows no pressure at all, the engine should be switched off immediately and the oil level checked by means of the engine dipstick.

Water temperature gauge (3) Figure 1
Indicates the temperature of the water in the cylinder head. Normal operating temperature is 77°C. (170°F.).

Speedometer (4) Figure 1
The speedometer is calibrated up to 140 mph and incorporates a Kilometre scale. Also included in the meter is a total mileage indicator (odometer), and an indicator showing the mileage covered on an individual journey. The latter is re-set to zero by a knurled trip knob located below the speedometer on the underside of the instrument panel. (5) **Figure 1**

Left-hand direction indicator warning light (3) Figure 2
Indicates, by a flashing green light, that the left-hand direction indicator is operating. It is located in the right hand lower segment of the speedometer. (Lower left-hand segment of the tachometer on LH drive vehicles.)

Ignition warning light (4) Figure 2
Located in the left-hand lower segment of the speedometer, the ignition warning light is red, and is illuminated when the ignition is switched on. It fades out when the alternator is charging the battery.

Fuel gauge (6) Figure 1
The fuel gauge operates from an instrument incorporated in the fuel tank itself and does not become operative until the ignition

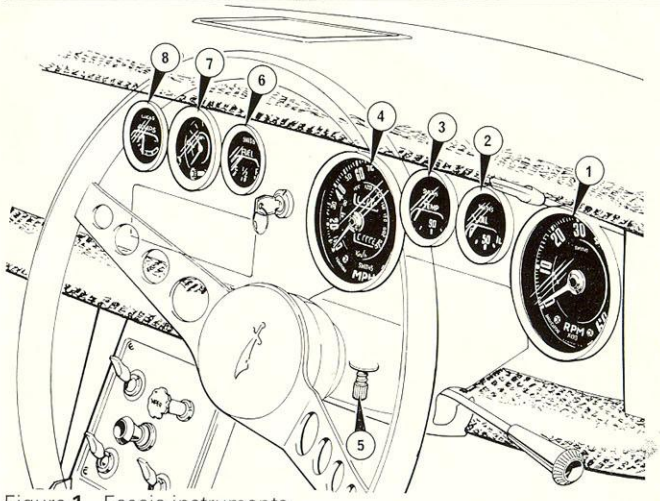


Figure **1** Fascia instruments

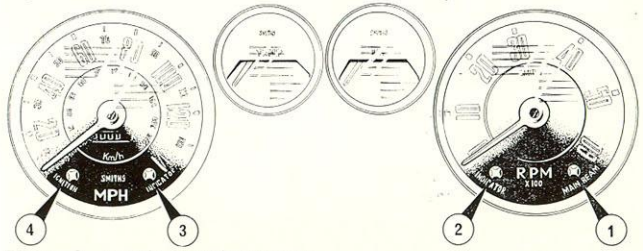


Figure **2** Fascia warning lights

Figure **1**

1 Revolution counter
2 Oil pressure gauge
3 Water temperature gauge
4 Speedometer
5 Re-set knob
6 Fuel gauge
7 Clock
8 Ammeter

Figure **2**

1 Main beam warning light
2 Right-hand direction warning light
3 Left-hand direction warning light
4 Ignition warning light

is either switched on, or when the ignition switch is turned to the left.

The engine should always be switched off whilst the tank is being filled, the ignition switch can be in the left-hand position so that the fuel gauge can be read.

Clock (7) Figure 1

The electric clock operates from the car battery, and is consequently always operating. However, it will naturally stop if the battery is disconnected for any reason. In such a case, re-set the clock as soon as the battery is reconnected; simply re-set the clock by means of the button provided. It will re-start automatically on releasing the button.

Ammeter (8) Figure 1

The ammeter is graduated to indicate the rate of charge or discharge from +50 amps charging, through zero, to —50 amps discharge.

CONTROLS AND SWITCHES

Again, switches and controls are described from right to left, viewed from the driving seat.

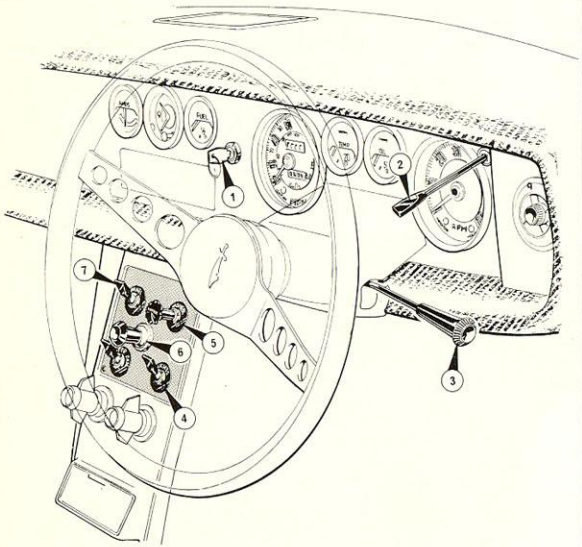


Figure **3** Fascia switches

1 Ignition switch
2 Overdrive control
3 Combined direction indicator switch (dip-switch), headlamp flasher and horn-push
4 Combined side/tail lamp and headlamp switch
5 Combined windscreen wiper and washer control
6 Cigar lighter
7 Panel lamps

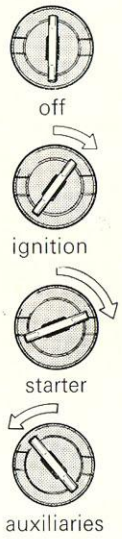


Figure **4** Ignition switch positions

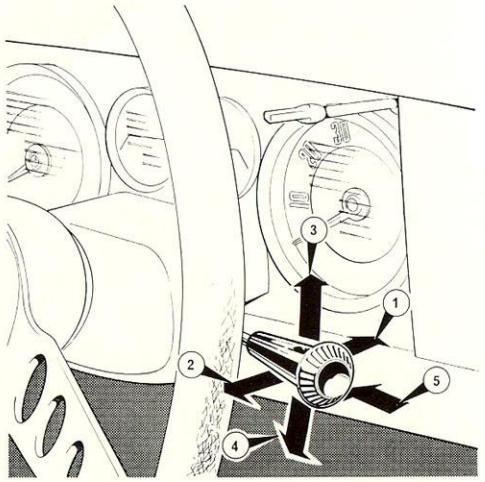


Figure **5** Indicator switch positions

1 Forward	Headlamp Flasher
2 Back	Headlamp low beam
3 Up	Left hand indicator
4 Down	Right hand indicator
5 Press	Horn

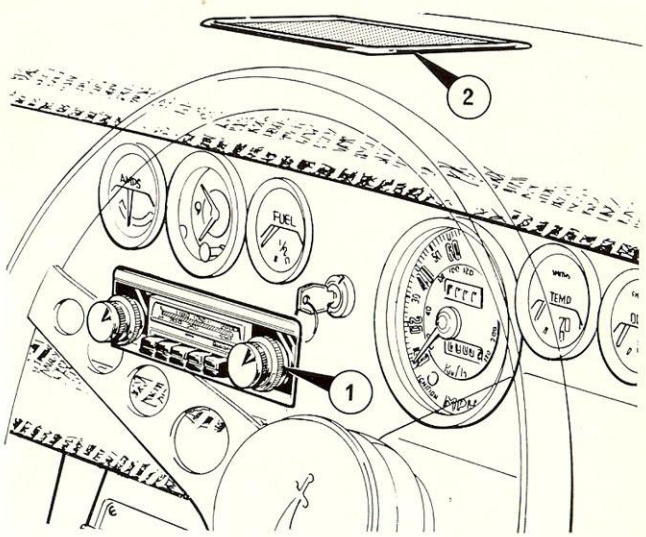


Figure **6** Radio

1 Receiver
2 Loudspeaker

Ignition switch (1) Figure 3
The ignition switch is situated adjacent to the speedometer. It serves a triple purpose; as an on-off switch for the ignition circuit; as an engine starter switch; and as a switch for the auxiliaries.
The ignition is switched on by inserting the key and turning it to the right. Continued clockwise rotation of the key against spring pressure operates the starter circuit. Anti-clockwise rotation maintains all the auxiliaries, including the fuel and temperature gauges, flashing indicators, etc., in circuit when the engine is not running. (see **Figure 4**).

Overdrive switch (2) Figure 2
The overdrive mechanism is brought into operation by a simplified arrangement necessitating only the operation of a slim lever-type switch. It provides finger tip control permitting the overdrive to be brought in or out without moving the hand from the steering wheel.

Combined direction indicator switch/dipswitch/ headlamp flasher and horn-push (3) Figure 3
A multi-purpose switch located on the right hand side of the steering column. The switch has four positions thus: (see **Figure 5**).

Radio Figure 6
The radio receiver (1) is centrally located on the panel. The loudspeaker (2) is mounted under the top panel of the facia.

Glove compartment
On the passenger side of the facia is the glove compartment provided with its own individual key for locking.

Combined side/tail lamp and head lamp switch (4) Figure 3
The switch is pulled down to the halfway position to switch on the side and tail lamps and rear number plate lamps, and fully down to switch on the headlamps.

Combined windscreen wiper and washer control (5) Figure 3
The dual windscreen wipers are brought into operation by turning the switch to the right, two positions being provided according to which wiper speed is required. The windscreen washer control is integral with the wiper switch. A spray from twin jet washers is initiated by pushing the control knob. The spray can be stopped by returning the knob to its original position.

Cigar lighter (6) Figure 3
The cigar lighter element is heated by pushing the unit in. As soon as the required temperature is reached, the unit springs back automatically.

Panel lamps (7) Figure 3
The panel lamps are operated by a toggle switch (7) on the switch panel. Flick the switch downwards to illuminate the instruments after switching on the sidelamps and tail lamps.

Heater fan switch (1) Figure 7
The heater fan switch brings a booster fan into operation in the heater system. It can also be used for boosting cool air.

Heater control (2) Figure 7
The heater and ventilation controls regulate the heating to your requirements. Turn clockwise to increase heat.

Ventilation control (3) Figure 7
The ventilation control is mounted to the left of the heater control and is similar in appearance.
The heater apertures are located one either side of the central console.

Fresh air vents (4) Figure 7
At the two extremities of the facia are two fully rotatable and adjustable fresh air nozzles.

Choke
Your car is fitted with an automatic choke. Before starting the engine, first press the accelerator pedal right down. Next remove your foot from the pedal. Then start the engine. The engine will then receive the rich mixture it requires for starting from cold. After the car has been driven a short distance, the engine will warm sufficiently for the mixture to be returned to normal. This adjustment is completely automatic and is taken care of by the choke mechanism.

FOOT OPERATED CONTROLS

All the foot-operated controls are situated conventionally.

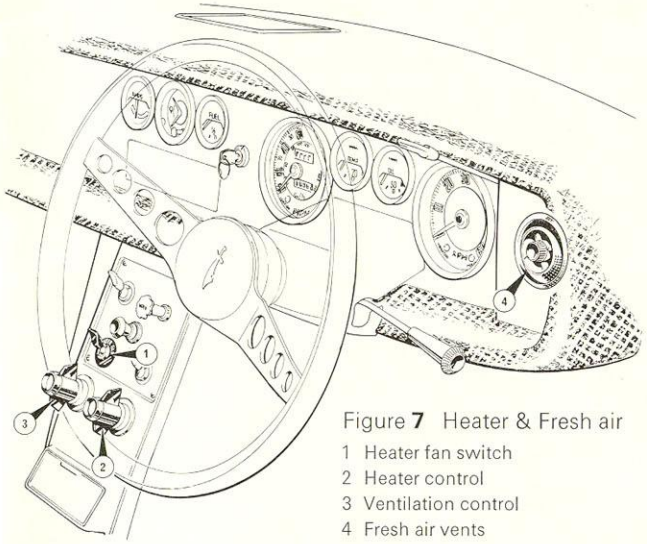


Figure **7** Heater & Fresh air
1 Heater fan switch
2 Heater control
3 Ventilation control
4 Fresh air vents

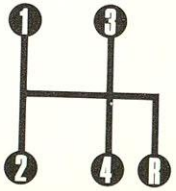


Figure **8** Gear lever positions

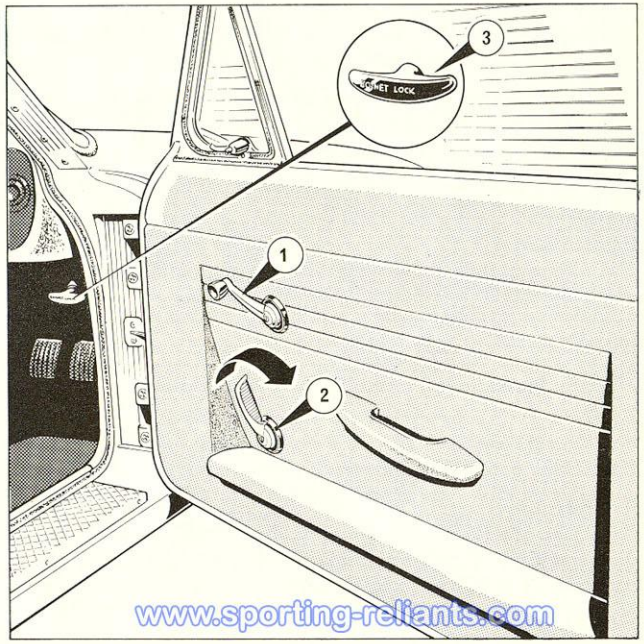


Figure **9** Door handles & bonnet lock
1 Window winding handle
2 Door pull handle
3 Bonnet release

Throttle pedal
The throttle pedal is located to the right of the brake pedal.

Brake pedal
The footbrake is operated by a pendant pedal actuating a hydraulic system to initiate operation of 10⅝ in. disc brakes on the front wheels and 9 in. diameter drum brakes on the rear wheels. The pedal is fully adjustable at the brake master cylinder and at the pad stem.

Clutch pedal
The clutch pedal is also of the fully adjustable pendant type, operating a 9 in. dry plate clutch, hydraulically.

HAND CONTROLS

The handbrake lever is located in a central position alongside the driver's seat. It operates on the rear brakes only. To apply the handbrake pull the handbrake lever upwards; it is retained in position by a ratchet and pawl.

Handbrake
To release the handbrake, pull the lever slightly upwards and at the same time press the button at the top of the handgrip. Push the lever downwards to its 'fully off' position.

Gearchange
Gearchange is effected by a short lever operating through a remote control mechanism, to a four speed synchromesh gearbox. The gear lever positions are shown in the diagram. Always ensure that the gear lever is in neutral, before starting the engine.
Never attempt to engage reverse gear unless the car is stationary.

CONTROLS ON DOOR AND BODY Figure 9

The doors are wide-opening, with wind-up windows. The usual window winding handle and door pull handle are fitted. (1) and (2).

Locking the doors
Zero-torque locks are provided. There is therefore no need to slam the doors in order to ensure that they are locked.
Both the driver's door and the passenger's door are lockable from outside the car, by means of a tumbler lock, and are unlocked using the same key as that used for the ignition switch.

Bonnet release (3) Figure 9
The bonnet is released by pulling a T-shaped handgrip which is situated immediately under the facia, to the right of the steering column (left on LH drive). Operation of this lever unlocks the bonnet, and it will rise slightly under spring pressure. The bonnet can then be opened from outside the car. First release the safety catch at the front of the bonnet. Raise the bonnet to its fully-open position. It is held in this position by a ratchet-type prop bar.
To close the bonnet, release the holding lever on the prop bar, and lower the bonnet gently until the locking devices are contacted. Hand pressure on the bonnet will then close the locks.

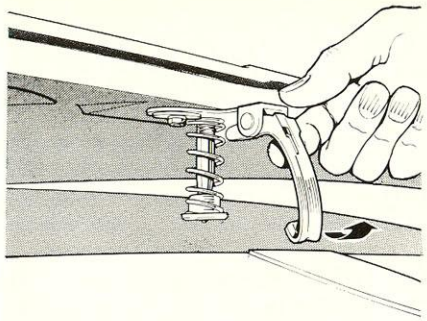


Figure **10** Bonnet catch

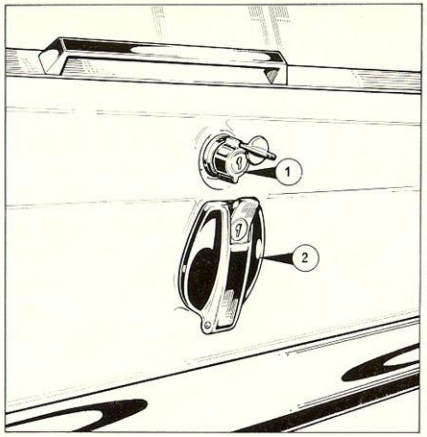


Figure **11** Hinged rear window
1 Window lock 2 Petrol filler lock

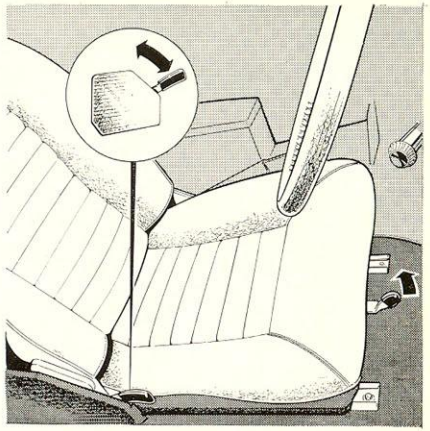


Figure **12** Front seat adjustments

Figure **13** Rear seats

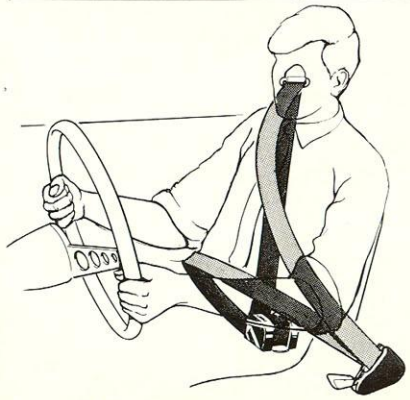


Figure **14** Safety belts

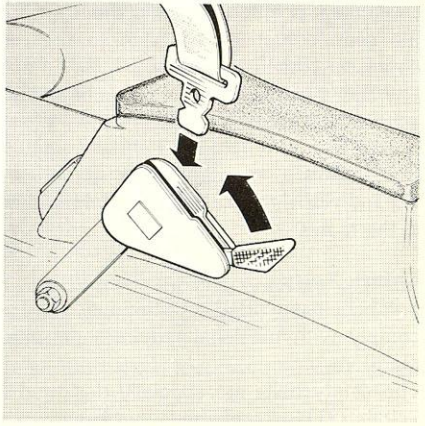


Figure **15** Safety belt release

Hinged rear window Figure 11
To open the hinged rear window, insert the ignition key in the lock, (1) turn it clockwise, and withdraw it. Turn the domed head in a clockwise direction and the rear window can then be raised and will remain open in any desired position.

SEATS

Front seats
Both the driver's and passenger's seats have fore-and-aft adjustment by moving the lever located near the floor in a horizontal direction.
The seats have reclining backs which can be placed in any convenient position by lifting the lever on the outboard side of the seat, adjusting the back to the required position, then depressing the lever to lock.
The seat height is also adjustable by moving the rod located across the base of the seat.

Rear seats
The individual rear seats fold down readily to give a larger space at the rear.

Safety Belts
Safety belts are fitted in both driver's and passenger's position to comply with the legal requirements applicable in the United Kingdom.
The safety belts are specially designed and approved for the Scimitar GTE. Complete layout is shown in **Figure 14**.

With the occupant seated, the shoulder strap must pass over the outboard shoulder and diagonally across the chest for both driver and passenger. To fasten, slide the tongue into the automatic fastening device, and when locked a 'click' will be heard.
To release, pull the release lever back and pull the tongue away (**Figure 15**). The inertia reel will automatically rewind the belt and eliminates stowage.
Cleaning:– The webbing should be lightly brushed with a mild soap and warm water; but avoid soaking and dry naturally, away from heat. **Do not** boil, bleach or dye as this may severely reduce the effective strength of the belt.
The belt should be inspected at regular intervals for signs of severe fraying or having been cut. If these signs occur or if the belt has been severely stressed during an accident the belt should be replaced.

Before starting

The careful driver will daily check the radiator water and engine oil levels, topping up if necessary, The tyre pressures and battery electrolyte level should also be checked regularly and corrected if necessary.

Before starting the engine make sure that the gear lever is in the neutral position and that the handbrake is applied.

Starting the engine

As stated earlier your car is equipped with an automatic choke. Before starting the engine, first press the accelerator pedal right down. Next remove your foot from the pedal. Then start the engine by turning the ignition key fully clockwise, but release as soon as the engine fires.

Once this simple operation has been carried out the engine will receive the rich mixture it requires for starting from cold. After the car has been driven a short distance the engine will warm sufficiently for the mixture to return to normal. This adjustment is automatically taken care of by the choke mechanism.

If any difficulty is experienced in starting a hot engine, the starter can be operated with the accelerator depressed. Release the accelerator as soon as the engine fires. However, the procedure mentioned above should always be used for starting from cold.

Do not race a cold engine. In order to reach normal running temperature quickly you should drive away steadily as soon as the engine has been started.

Driving

The gear-change positions are shown on page 9. When starting from rest, depress the clutch pedal fully and move the gear into first gear. Gradually release the clutch pedal, at the same time gently pressing the accelerator and releasing the handbrake. The car will move smoothly away. Never use force on the gear lever, even if the gear will not engage easily. Instead, return the lever to neutral, momentarily release the clutch pedal and depress it again, then it should be possible to engage the gear.

As the car gains speed, change up through the gears. If conditions are such that the engine labours or the car loses speed, change down. It is good practice to select a lower gear when descending a steep hill.

The gearbox has synchromesh on all forward gears. It is not necessary to double declutch when changing up or down. Remember that before selecting reverse gear it is necessary to stop the car. When you stop, depress the clutch before the car finally halts; apply the handbrake, move the gear lever to neutral and then release the clutch.

Driving overdrive

The overdrive is operative on 3rd and top gear only, and with the overdrive engaged the gear change procedure is the same as that for the conventional drive.

To engage overdrive push the switch lever on the facia down (see also page 6).

Minimum engagement speeds are dependent on road conditions

and it is essential that the car continues to run easily without sign of engine labouring.

Maximum disengagement speeds:–

Top gear 90 mph	(145 kph)
Third gear 65 mph	(105 kph)

Disengagement of the overdrive at speeds higher than those stated above could cause damage from 'over-revving'.

Running-in

Running-in is largely a matter of common sense. The aim should be to avoid imposing undue stresses on the engine and transmission during the early stages of use.

Therefore, you should avoid fast starts for the first 600 miles (1,000 km), although speeds not in excess of 60 mph (96·6 kph) in top gear, 45 mph (72·4 kph) in third gear, 30 mph (48·3 kph) in second gear, and 20 mph (32·2 kph) in first gear, subject to legal speed limits, will assist in running-in. However, avoid maintaining the same engine or road speed for long periods. Vary your speed as much as practicable and release the accelerator now and again.

Do not allow the engine to labour, particularly when driving up steep hills; change down in good time, but bear in mind that changing down too soon can result in undesirably high engine speeds.

After the first 600 miles (1,000 km) your Reliant Dealer will service your car free of charge. Correct attention at this first service will do much to ensure subsequent trouble-free motoring.

General hints

Do not rest your foot on the clutch pedal unless you are changing gear. Do not coast downhill with the car in gear and the clutch depressed. Whatever the road or traffic conditions, always keep the appropriate gear engaged. When travelling downhill with the engine acting as a brake, do not switch off the ignition.

To reduce the risk of skidding on slippery surfaces, apply the brakes cautiously and progressively, but on a bend under these conditions try to avoid applying the brakes. Accelerate gently, but if the car does start to skid, steer into the direction in which the car is skidding. Use the brakes sparingly, if at all, until the car is brought back into the line of travel.

Routine maintenance

Regular routine inspection, maintenance, lubrication, and, in general, planned servicing, of your Scimitar GTE are absolutely essential to ensure trouble-free motoring and to get the best out of your car.

Much of the maintenance required is a matter of common sense, is very quickly carried out, and can be done as a matter of course by the owner. Other items of maintenance require special equipment and should be carried out by your Scimitar GTE dealer, at the periods prescribed. However, neglect of even the simplest item can have serious consequences.

Of all items of servicing, lubrication plays the predominant part. Be certain to use the recommended lubricants. A chart is given on page 40.

Maintenance periods

These fall into well-classified categories;

1 Regular day-by-day attention.
2 Maintenance at the first 600 miles.
3 Maintenance at all subsequent 3,000 mile periods.

Full details of the Service Schedules are given on page 41 of this handbook.

The following notes are only intended as a brief guide to the general requirements of routine inspection, maintenance, lubrication and adjustment. Fuller details on any point can be obtained from your Scimitar GTE Dealer or direct from the Reliant Motor Company Limited.

Engine oil

Ensure that the car is standing on level ground, and withdraw the engine dipstick, located on the right-hand side of the engine. Wipe it with a clean rag, replace, and again withdraw. The oil level will be shown by the mark left by the oil on the lower end of the dipstick.

There are two marks on the dipstick; **full** and **danger.** Top up with the recommended grade oil to the full mark. Note: The distance between the **full** and **danger** markings on the dipstick represents two pints of oil. (See lubrication chart page 40).

Under no circumstances, allow the level to become so low that it falls to the section marked **danger.**

You can either carry out this operation yourself or alternatively, get into the habit of having your oil level checked whenever you stop at a service station for petrol. All reputable service stations carry out this service willingly, and stock the requisite grade of oil.

The total capacity is 9·5 pints (5·35 litres).

Radiator

Remove the radiator filler cap, and top up, as necessary, to the overflow pipe. Remember to top up with anti-freeze solution as well as water, if you already have anti-freeze in the system.

Tyre pressures

The pressures should be checked while the tyres are cool, otherwise misleading readings may be obtained. A weekly check must be considered the absolute minimum. Ensure that all valve caps are in position. Inspect tyres for any sign of damage. Clean off any oil or grease.

Recommended tyre pressures are:–

Front 24 lb per sq in (1·69 kg per sq cm)

Rear 24 lb per sq in (1·69 kg per sq cm)

The figures quoted are for all driving conditions.

The maximum pressures should not exceed 24 lbs per sq in (1·69 kg per sq cm) at both front and rear.

Note

The standard tyre equipment (Pirelli Cinturato SR) is suitable for sustained speeds up to 112 mph (180 kph).

Fuel

Check that there is ample petrol in the tank for any trip you are about to make. The petrol level is indicated on the fuel gauge, which becomes operative as soon as you switch on the ignition, or the auxiliaries. The petrol tank has a capacity of 17 gallons (77 litres). The filler cap is lockable and situated centrally at the rear of the body (2) **Figure 11.**

Always use a recommended petrol of the correct grade. Your engine is fitted with a high compression head. It is adjusted to run on a 97 octane fuel (British Standards four star rating). If a lower octane fuel is used – between 88 (two star rating) and 95 (three star rating) – retard the distributor setting 4°.

Checking the battery

The battery is located in the engine compartment. Check the acid in each cell. It should cover the plates by about $\frac{1}{4}$ in to $\frac{3}{8}$ in (6 cm to 9 cm). If the level has dropped below this top-up each cell.

Use distilled water. Under no circumstances should ordinary tap water be used.

At the same time ensure that the battery connections are tight. The terminals should be given a light coating of petroleum jelly. Keep the top of the battery clean. As a precautionary measure, wipe it over periodically with a rag moistened in ammonia, in order to neutralise any acid on the battery surface.

If the battery is at any time disconnected, ensure that it is re-connected with the **negative** terminal earthed.

Lighting system

It is a wise precaution to check the lighting system at least once a week, or before starting on a trip. This is simply a matter of operating the appropriate controls (lighting switch; dip switch; turn indicator lever and headlamp flasher; panel light switch; stop lamps), and ensuring that all lighting components are in full working order.

Windscreen washer

Check the contents of the windscreen washer bottle, and replenish if necessary.

Hydraulic fluid reservoirs

Check the level of the clutch and brake hydraulic reservoirs. This is readily achieved by removing the reservoir caps. They are situated with their master cylinders. (1) and (2) **Figure 16.**

Top-up as necessary, bringing the level to the point indicated on the reservoir casing.

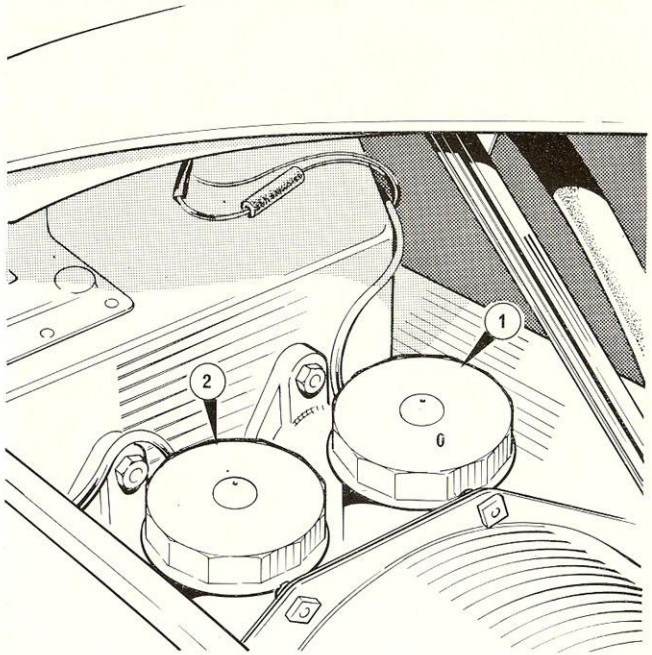


Figure **16**
1 Clutch hydraulic fluid reservoir
2 Brake hydraulic fluid reservoir

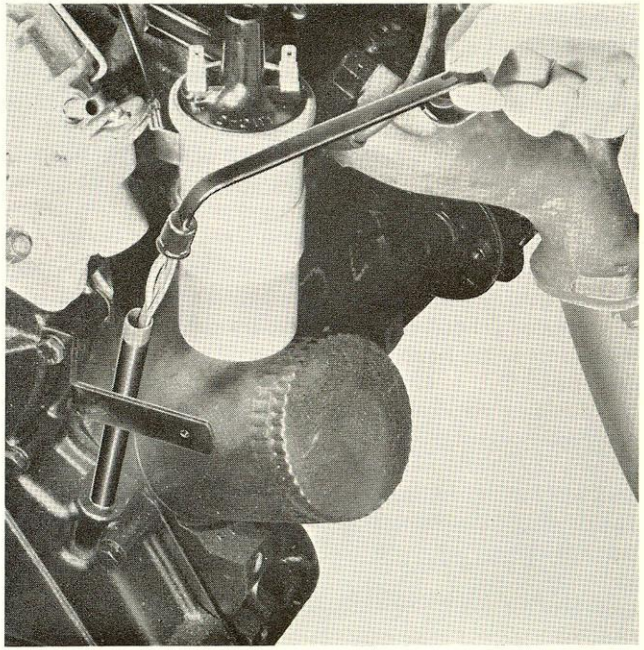


Figure **17** Dipstick

Important: Top-up reservoirs only with Castrol Girling Brake Fluid (Amber) when necessary. Use no other fluid otherwise seals may be damaged and cause brake failure.
Before removal of the cap on either reservoir, wipe both the reservoirs themselves and the caps with a clean dry cloth, to ensure that no dirt enters the system.
It is essential to ensure that the hydraulic fluid is un-contaminated by dirt or through any other cause.

Engine oil drain and refill

At the first 600 miles, this is covered by the special 'After-Sales Service' already mentioned. It is preferable to drain the engine when the oil is hot. To drain remove the drain plug situated at the bottom of the sump, and allow the oil to run into a suitable drain pan.
Make certain that drainage is fully completed. Then, using an approved grade of oil, first replace the drain plug and then refill through the oil filler mounted on the valve rocker cover until the level reaches the **full** mark on the dipstick. (see **Figure 17**.)
The oil should be changed at subsequent 6,000 miles (10,000 km) intervals.

Gearbox oil level

Remove filler and level plug (2) and top up the oil level (600 miles).
Drain and refill the gearbox (with or without overdrive) at the first 3,000 miles service and top-up at subsequent 3,000 miles, (5,000 km).
Ensure that the vehicle is standing on level ground and, preferably, carry out the oil change while the oil is hot, in order to ensure maximum drainage.
Remove the gearbox drain plug (1) and the combined filler/level plug (2). Ensure that complete drainage has been achieved. Replace drain plug, and refill to the correct level. Replace the combined filler/level plug. Capacity without overdrive $3\frac{1}{4}$ pints (1·9 litres), with overdrive $3\frac{3}{4}$ pints (2·2 litres).

Rear axle

To drain, the plug is removed, together with the combined level and filler plug. To refill, the drain plug is replaced, and the axle is replenished, through the level filler plug. Capacity 2 pints (1·1 litres).
Checking the oil level and topping up is readily affected by means of the combined filler/level plug. Change oil every 9,000 miles (15,000 km).

Steering unit

All steering connections are checked under the 'After-Sales' servicing arrangement. The steering unit is of the rack and pinion type, friction damped. The steering wheel is 15 in (381 mm) in diameter. Three turns achieve full lock.

Cylinder head bolts

Cylinder head bolts are examined and tightened under 'After-Sales' arrangement.
If it is necessary for you to tighten the cylinder head bolts

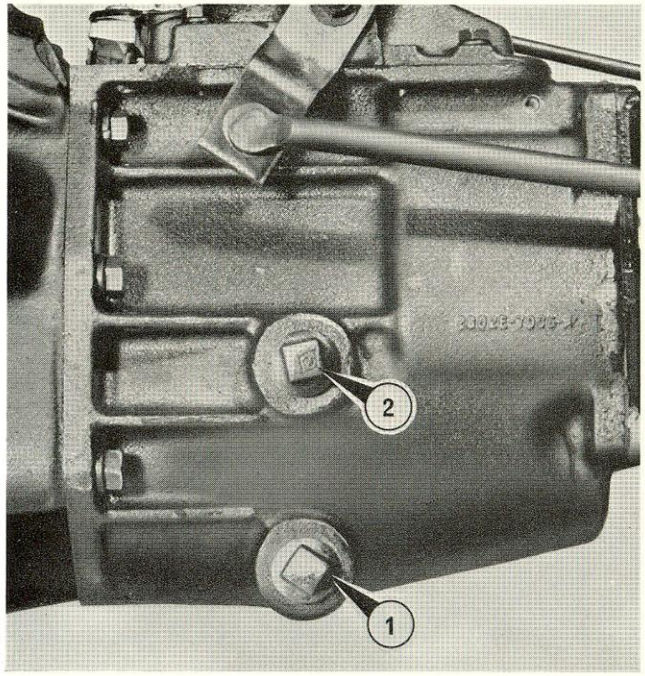


Figure **18** Gearbox oil level

1 Gearbox drain plug
2 Combined filler/level plug

yourself, ensure that the operation is carried out in the sequence shown in the accompanying illustration. It is important, also, to avoid over-tightening. Employ a torque wrench. Tighten bolts in the following stages in the sequence shown.
45 to 55 lb ft (6·22 – 7·60 kg m) torque
55 to 65 lb ft (7·60 – 8·98 kg m) torque
65 to 70 lb ft (8·98 – 9·67 kg m) torque
Re-tighten all nuts to 65 – 70 lb ft (8·98 – 9·67 kg m) when the engine is at running temperature.
The cylinder head bolts should be undone in the reverse order to that shown for assembly.

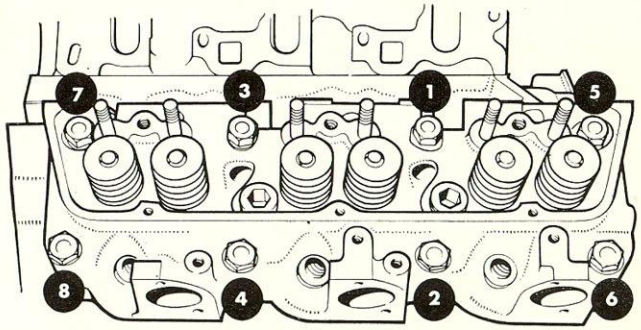


Figure **19** Cylinder head bolt tightening sequence

Manifold bolts

The inlet manifold is an aluminium casting mounted on the cylinder heads between the Vee and thus forms a cover for the tappet chamber.

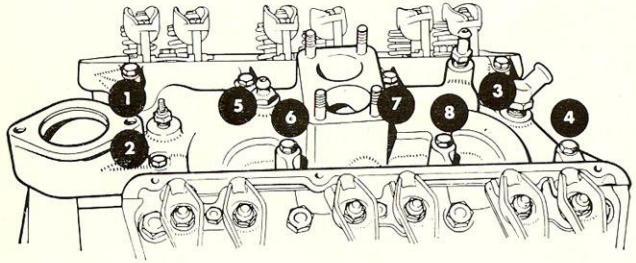


Figure **20** Manifold tightening sequence

The gasket is of a composition type material with cork inserts at each end to form an oil-tight joint between the manifold and the front and rear walls of the cylinder block tappet chamber. When fitting the manifold tighten the bolts progressively in the sequence shown as follows:–

3 to 6 lb ft (0·41 – 0·83 kg m) torque
6 to 11 lb ft (0·83 – 1·52 kg m) torque
13 to 16 lb ft (1·80 – 2·21 kg m) torque

Re-tighten all bolts to 13 – 16 lb ft (1·80 – 2·21 kg m) torque when the engine is at the normal operating temperature after first re-tightening the cylinder head bolts.

Exhaust manifolds

A cast iron exhaust manifold is used for each bank of cylinders and is bolted to the cylinder head, on the outside of the 'Vee'. Each manifold has separate ports for each cylinder and incorporates a flange for attaching the exhaust pipe.

The manifolds are fitted with asbestos gaskets, which are reinforced with perforated steel, and are retained by bolts fitted with plain washers

Valve clearance

The clearances should be checked when the engine is hot, preferably while the engine is running. The specified clearance is:–

Exhaust 0·018 in (0·45 mm) hot. Inlet 0·010 in (0·25 mm) hot.

To adjust, turn rocker retaining nut in a clockwise direction to reduce and anti-clockwise to increase clearance.

Adjust valves in the following order and ensure that the correct clearance is used in relation to exhaust and inlet valves.

Valves open	Valves to adjust
1 and 6	7 (in) and 10 (ex)
8 and 11	4 (in) and 5 (ex)
2 and 3	9 (in) and 12 (ex)
7 and 10	6 (in) and 1 (ex)
4 and 5	11 (in) and 8 (ex)
9 and 12	2 (in) and 3 (ex)

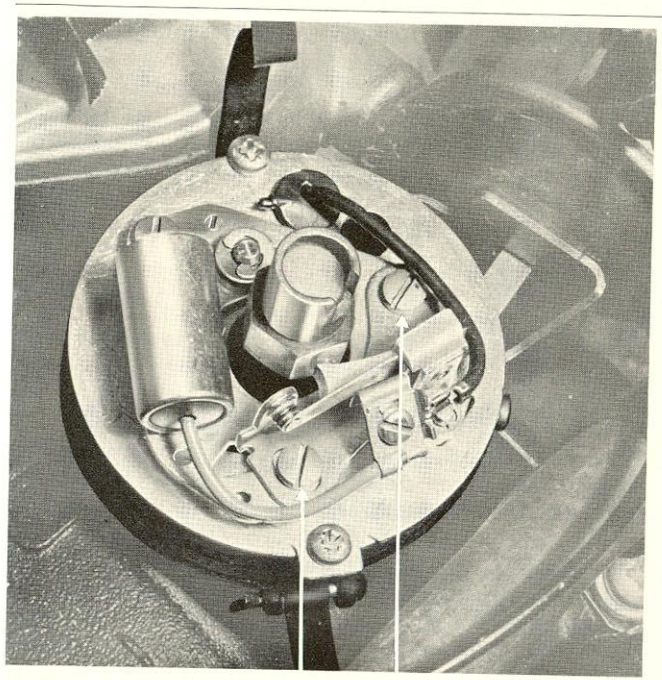


Figure **21** Distributor adjusting screws

Distributor adjustment

The distributor incorporates automatic timing control and operates from a 12-volt ignition coil. The ignition timing is checked and re-set if necessary; the sparking plugs are examined and adjusted if necessary, and the distributor contact breaker points are examined and, if required, re-set; all within the 'After-Sales Service' schedule.

To adjust the distributor contact points. The gap should be adjusted to 0·025 in (0·64 mm).

The setting should be such that, when the contact breaker heel of the moving contact is on the highest point of the cam, there is a gap of 0·025 in. This is affected by slackening the two locking screws on the fixed contact and moving it until the correct gap is obtained, using a feeler gauge. Tighten the locking screws securely.

Re-check the gap to ensure that it has not been varied during locking. Re-adjust if necessary.

Distributor lubrication

Remove the distributor cap by releasing the clips. Apply one or two drops of engine oil to the felt wick situated within the end of the cam spindle. Smear a thin film of lithium base grease on the contact breaker cam. **Caution**: Do not over-lubricate any part of the distributor, otherwise lubricant may reach the breaker contacts, resulting in burning and difficult starting.

Distributor contact breaker adjustment

The contact breaker points should be checked and adjusted every 6,000 miles (10,000 km).

Check the condition and alignment of the points and fit a new set if the contacts are worn or burnt. Contacts showing a greyish colour and only slight signs of pitting need not be renewed. Fit a new contact breaker assembly if the points are badly burnt.

Points which have become dirty or contaminated with oil or grease should be cleaned with a stiff brush and carbon tetrachloride.

When refitting the rotor arm ensure that it fits squarely on the cam spindle with the slot and lug in line. Press the rotor into position so that the lower face abuts the cam.

Check that the high tension leads are securely retained and then refit the distributor cap.

Timing the ignition Figure 22

Time the distributor so that when the timing mark on the crankshaft pulley is adjacent to the appropriate timing pointer (12° BTDC) with No. 1 cylinder on compression, the distributor points are just opening and the rotor is pointing towards No. 1 high tension pick up in the distributor cap.

Brake adjustment Figure 23

Servicing at the 600 mile 'After Sales' check includes a functional examination of the braking system, adjustment of brakes; and bleeding the hydraulic system if necessary.

No servicing is required for the front disc brakes.

To adjust the rear drum brakes. Chock the front wheels and jack up the rear wheels. With the handbrake released, ensure that the brake drums are cold. Turn the square-headed adjuster at the rear of the back plate in a clockwise direction, until resistance is felt. Then slacken the adjuster until the wheel rotates freely. Two clicks are normally sufficient. Spin the wheel as rapidly as possible and apply the brakes hard, in order to centralise the shoes in the drum.

Carry out this operation on both rear wheels.

For detailed instructions on bleeding the hydraulic system, see page 28.

Clutch pedal adjustments

Testing the clutch pedal free movement, and the carrying out of any adjustment necessary, are also included in the 'After-Sales' schedule for the 600 mile period.

When the clutch mechanism is correctly adjusted, there should be just perceptible clearance between the pedal push rod and the master cylinder piston; clearance of $\frac{1}{16}$ in (1·6 mm) between the clutch release arm and the operating cylinder push rod; and the pedal should return to its stop without any sign of hesitation. All adjustments can be quickly checked at the clutch pedal. Very slight movement of the pendant-type pedal should be sufficient to take up the initial clearance between push rod and master cylinder piston.

There should be approximately $\frac{1}{2}$ to $\frac{3}{4}$ in free travel before the clutch begins to be released.

To adjust, disconnect the release arm spring; slacked the operating rod locknut; and turn the domed adjusting nut. Turning in a clockwise direction increases the free movement;

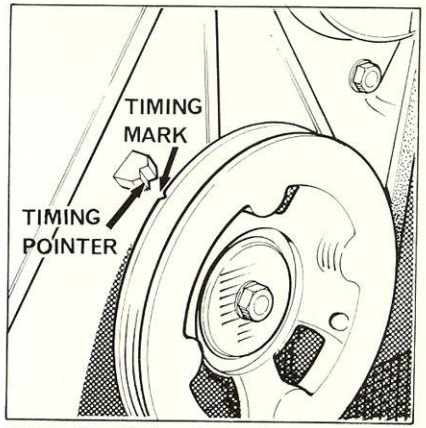


Figure **22** Timing the ignition

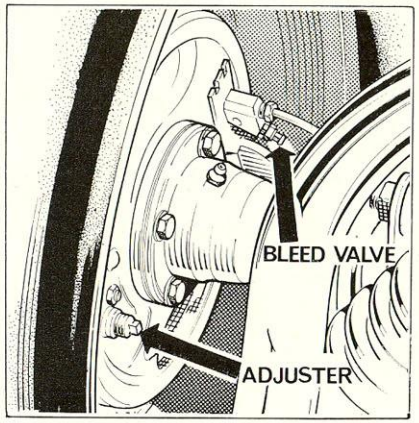


Figure **23** Rear brake adjustment

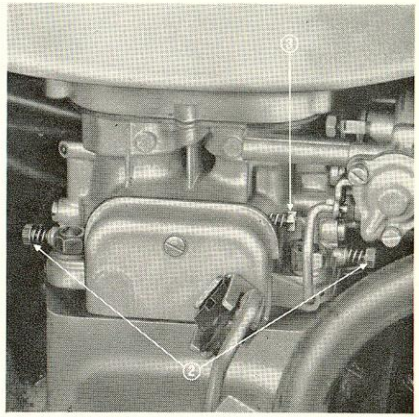


Figure **24** Carburettor slow running

turning anti-clockwise reduces it. Ensure that the locknut is fully tightened, and re-engage the return spring.

Adjustment of carburettor slow running Figure 24

Run the engine allowing it to warm up. To adjust the slow-running, screw in the throttle stop screw (3) until a fast idling speed is obtained, then turn the volume control screw (2) in or out until the engine runs evenly, ensuring that both screws are turned simultaneously and in equal amounts.

Re-adjust the throttle stop screw if the engine is running too fast, followed by further re-adjustment of the volume control screws (2).

These operations should be repeated until the idling speed is satisfactory.

Sparking plugs

The sparking plugs (Autolite AG 22) should be set to a gap within a range of 0·023 to 0·028 in (0·548 mm to 0·711 mm). Replace at 12,000 miles (20,000 km).

Front wheel tracking

The toe-in, camber and castor angles should be checked at the same time as the car is in for 'After-Sales' servicing, since specialised equipment is necessary in order to carry out this operation accurately.

Your Scimitar toe-in adjustment should be from zero to $\frac{1}{16}$ in (1·6 mm).
Camber angle 0° to $\frac{1}{2}$° + ve
Castor angle 2° 40′ + ve.

Engine oil filter Figure 25
The engine oil filter is of the full flow cartridge type, which is completely discarded when dirty.
To fit a new filter, first remove the sump drain plug and allow oil to drain and replace the plug. Unscrew the filter in an anti-clockwise direction and discard completely. Clean the mounting pad and screw the new filter onto the insert until the gasket just contacts the mounting pad, then tighten half a turn.
Refill the engine with a new oil of the grade specified on page 40.

Oil filler cap
The gauze filter in the oil filler cap should be cleaned at the first 3,000 miles (5,000 km) and thereafter every 6,000 miles (10,000 km) or whenever the engine oil is changed.

Emission control valve Figure 26
The emission control valve should be cleaned at the first 3,000 miles (5,000 km) and thereafter every 6,000 miles (10,000 km) or whenever the engine oil is changed.
To remove the emission control valve disconnect the hose and pull the valve out of its grommet in the right-hand rocker cover. Do not try to run the engine with the hose disconnected from the control valve, as the fuel mixture strength will be excessively

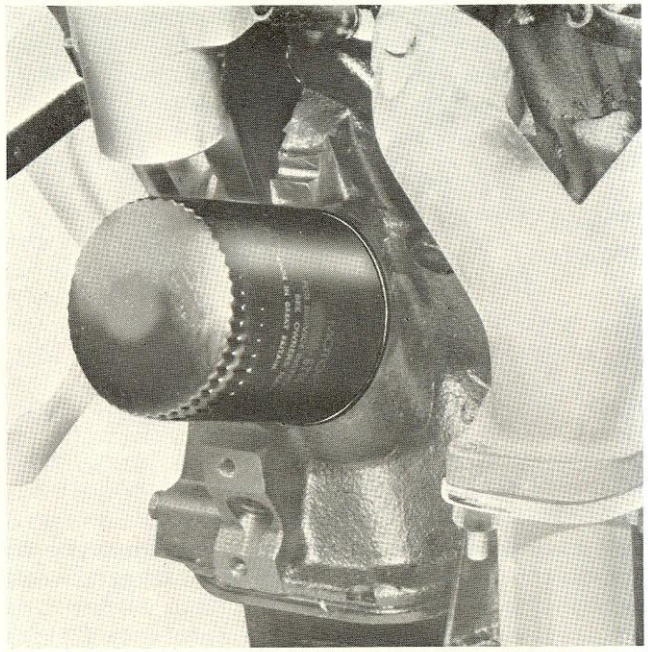


Figure **25** Engine oil filter

weakened. Dismantle the valve by removing the circlip (4) and extract the valve seat, (1) valve (2) and spring (5). Wash the components in petrol to remove any sludge or lacquer that may be present. Reassemble the components in the reverse order to removal and refit the circlip. Push the valve back into its grommet in the rocker cover and reconnect the hose.

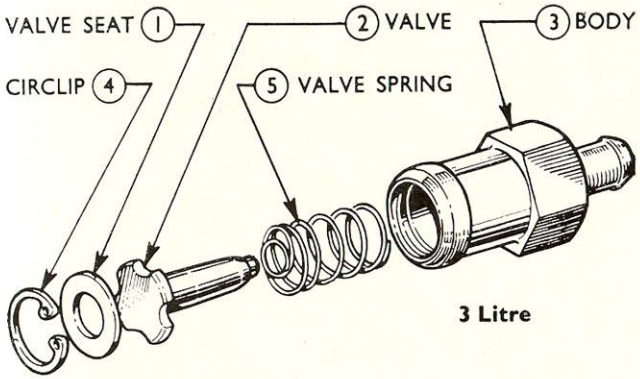


Figure **26** Emission control valve

Fan belt tension Figure 27

Free movement of $\frac{1}{2}$ in (1·3 cm) measured midway between alternator and fan pulley. If required adjust by slackening the front lower mounting bolts and the front adjusting bolt. Move the unit to give the correct amount of tension and re-tighten the bolts.

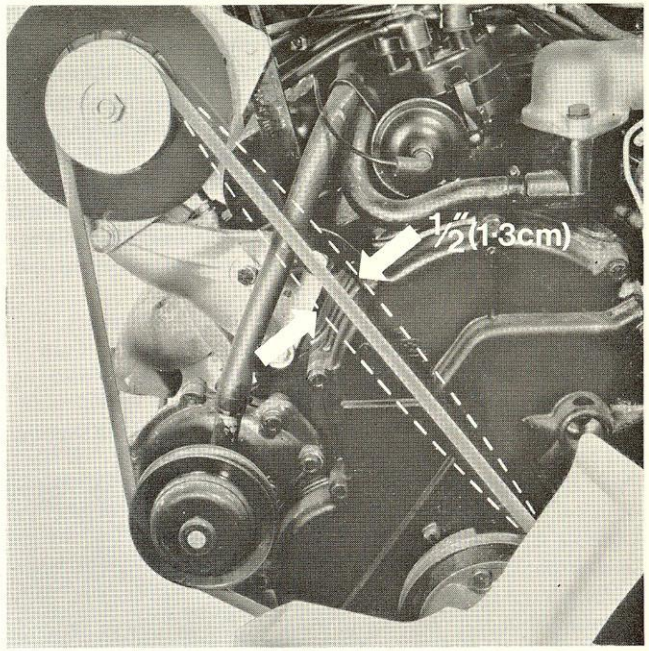


Figure **27** Fan belt tension

Air cleaner Figure 28

To clean the paper element, remove the top cover and withdraw the element. Hold the element vertically and gently tap against a smooth horizontal surface until all dirt and dust is removed.

The paper element should be renewed every 12,000 miles (20,000 km).

Fuel pump sediment bowl and filter Figure 29

Unscrew clamp nut on top of the pump, detach glass bowl and clean sediment from pump body and screen using petrol. Check gasket. Replace filter, screen and glass bowl. Tighten clamp nut.

Alternator

The alternator is belt driven from the crankshaft pulley. The mechanical construction of the alternator differs from a generator in that the field rotates (the rotor), and the generating windings are stationary (the stator).

Wipe away any dirt or oil which may collect around the slip ring end cover ventilating apertures.

The bearings are packed with grease during assembly and do not require attention.

Note:—

Serious damage can occur to the alternator if the following points are not observed:

1 Ensure that the negative terminal of the battery is earthed. Reversed cable connections will burn out the alternator diodes.

2 Never earth the output (B +) terminal of the alternator. It should be connected directly with the battery positive terminal.

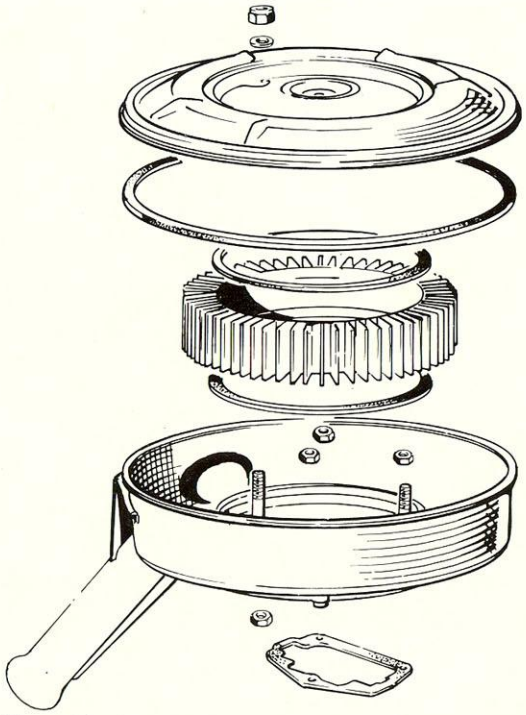


Figure **28** Air cleaner

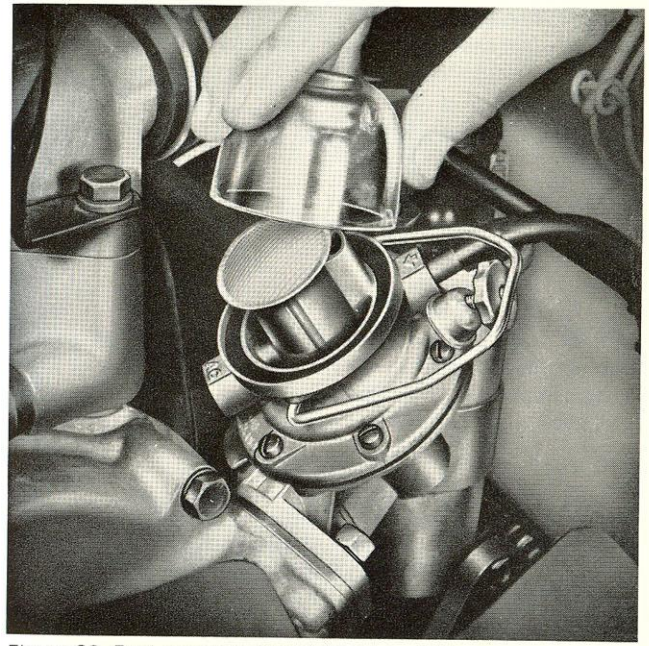


Figure **29** Fuel pump sediment bowl and filter

3 Always disconnect the battery earth cable at the battery before removing the alternator or its connecting wires. Serious damage to the wiring harness and the alternator can result from accidentally earthing the output terminal.
4 Never attempt to operate the alternator with the output lead between the battery and output terminal disconnected. A very high voltage will develop which could burn out the rotor or damage the diodes.
5 When the battery is to be re-charged in the car, disconnect both battery cables before connecting a charger.

Rear brakes

At 3,000 mile (5,000 km) intervals, the rear brake linings should be examined for wear. First remove the road wheels. Then remove the rear brake drum to check the condition of the linings.

Brakes – hydraulic fluid cylinders

At the same time as the rear brake linings are being checked, examine the brake hydraulic cylinders. If there are any visible signs whatever of leakage past the seals, contact your authorised dealer immediately. The seals will probably require renewing.

Re-adjustment of rear brakes

Refit the brake drums. Check the movement of the brake pedal. Adjustment of the rear brakes automatically affects the hand-brake.

Handbrake adjustment

To take up superfluous movement, jack up both rear wheels and

lock the shoes by means of the handbrake adjusters provided, with the handbrake in the **off** position. Adjust the cable length by means of the cable adjuster until all slack is taken out of the linkage. Release the adjusters until the wheels turn freely. Check the handbrake to ensure that it is now in required adjustment.

The handbrake operates mechanically and is quite independent of the hydraulic system. It is applied by means of a cable and compensating linkage mounted on the rear axle casing. It operates the rear brakes through levers incorporated in the back plates.

Front brakes

The $10\frac{5}{8}$ in disc brakes fitted to the front wheels, require no manual adjustment, since they are automatically self-adjusting. However, the brake pads should be inspected every 3,000 miles, (5,000 km) in order to determine the amount of lining wear.

To examine the brake pads, remove the road wheel and measure the distance between the contact face of the disc and the adjacent face of the brake pad support plate to which the lining material is attached.

Ask your authorised dealer to renew the pad if measurement of the pad lining shows that the thickness of the linings has been reduced to no less than $\frac{1}{8}$ in (3·18 mm).

Bleeding the Hydraulic system

Bleeding – elimination of air from the hydraulic system – should only be necessary when any part has been disconnected or damaged; or if the fluid level in the reservoir has fallen so low that air has been introduced into the master cylinder.

The procedure can be carried out readily by your Scimitar dealer. If you carry out the operation yourself, an assistant will be needed.

1 Top up the supply tank and ensure that all hydraulic connections are secure.

2 Fit a bleed tube over the left-hand rear wheel cylinder bleed valve with the free end of the tube immersed in a clean glass jar containing clean **Castrol Girling Brake Fluid (Amber).**

3 Unscrew the bleed valve about three quarters of a turn. Your assistant should now operate the brake pedal. The operation of the brake pedal is important. The pedal should be pushed down hard through the full stroke, followed by three short rapid strokes and then the pedal should be allowed to return quickly to its stop with the foot right off. (see **Figure 30**).

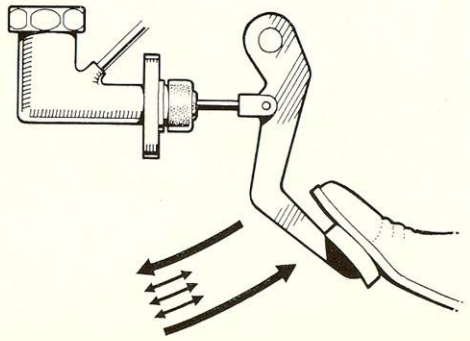


Figure **30**

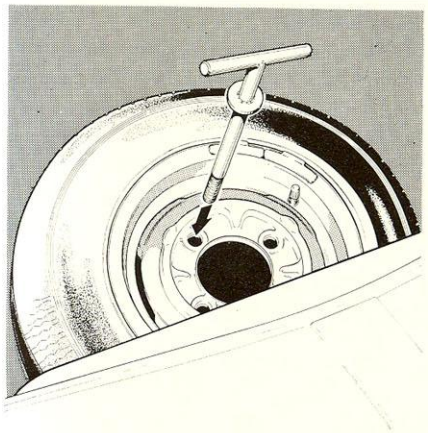


Figure **31** Spare wheel

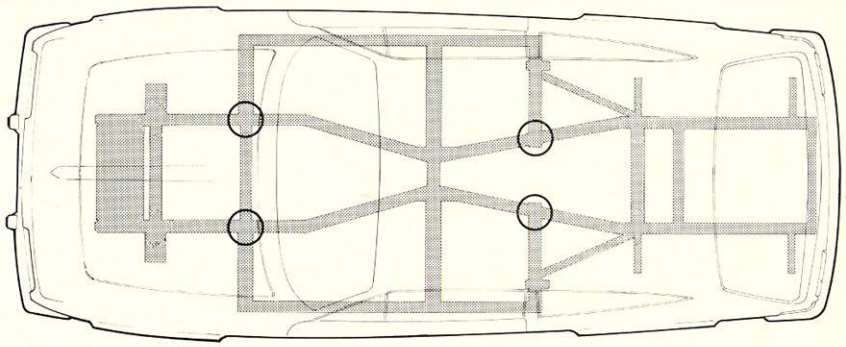


Figure **32** Jacking points

This action should be repeated until the air is dispelled at each bleed screw. Always remove the floor mat or any other object which may obstruct the full stroke of the pedal.

Wheels and tyres

Spare wheel and lifting jack

The tools are housed in the recess located beneath the carpet at the rear of the vehicle.

The spare wheel is located in the engine compartment. Unscrew the retaining bolt to remove. (see **Figure 31**).

Wheel changing

Ensure that the car is on level ground and that the handbrake is applied.

The recommended jacking points under the chassis main longitudinal frame members are indicated in the chassis diagram (**Figure 32**).

Reposition the road wheels every 3,000 miles (5,000 km) incorporating the spare wheel in the manner shown in **Figure 33**.

Care must be taken to replace the wheel trims with the rubber washers, plain washers and wheel-nuts in the correct order.

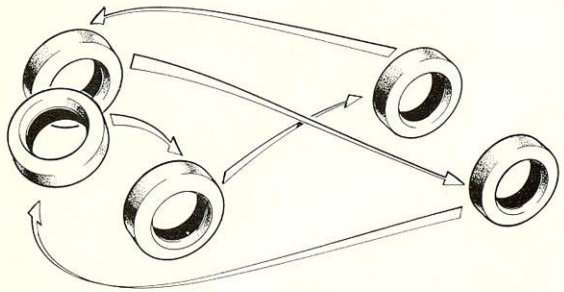


Figure **33** Repositioning wheels

Cooling system

The pressurised cooling system incorporates a radiator mounted in front of the engine and a remote header tank. The use of pressurisation allows the engine to operate at slightly higher temperatures without boiling. Remember this when you remove the cap from the header tank. Turn it slowly, or if the system is very hot, allow it to cool first, otherwise you may be scalded. Frost precautions:– Protect the system by using the approved anti-freeze mixture. Ethyleneglycol or glycerine are satisfactory and are readily available from your authorised dealer. Ensure that they are mixed in the recommended proportion. Bluecol is recommended by the Manufacturer.
Test the solution periodically, or ask your authorised dealer to do so. Top up the system as necessary, being careful to use the solution in the correct proportion.

Under no circumstances use a salt solution as an anti-freeze medium.
Anti-freeze solution gives rise to greater danger of seepage through inadequate joints. After anti-freeze has been added therefore, it is always a wise precaution to re-examine the hoses, clamps, and cylinder head, for any signs of leakage. Total capacity of system 20 Imp pts (11·34 litres).

Fuses

The fuse blocks are situated on the left-hand side of the engine compartment at the rear of the battery.

To change a fuse, lift off the cover and replace the blown fuse. If a fuse blows repeatedly a circuit fault is indicated. If you cannot trace the source, consult your dealer.

Alternator

The only attention the alternator is likely to require is the occasional changing of the brushgear commutator.

Dirty commutators can be cleaned by holding a petrol-moistened cloth (ensure that it is non-fluffy) lightly against the commutator, while the latter is rotated.

A badly scored commutator will require the attention of your dealer.

Brushes that are too worn down to allow the spring to hold them firmly against the commutator should be replaced.

Headlamps

Access is gained by removing the three Phillips screws securing the lamp unit cowl as shown in **Figure 34** (1).

The twin headlamps are of the 'sealed beam type', the filament in each light unit being sealed between the lens and reflector. Replacement of the light unit is necessary in the event of filament failure. Maximum efficiency is obtained and discomfort to other road users is prevented, if the lamps are correctly adjusted ensuring that the beam is not projected above the horizontal particularly when the vehicle is fully laden.

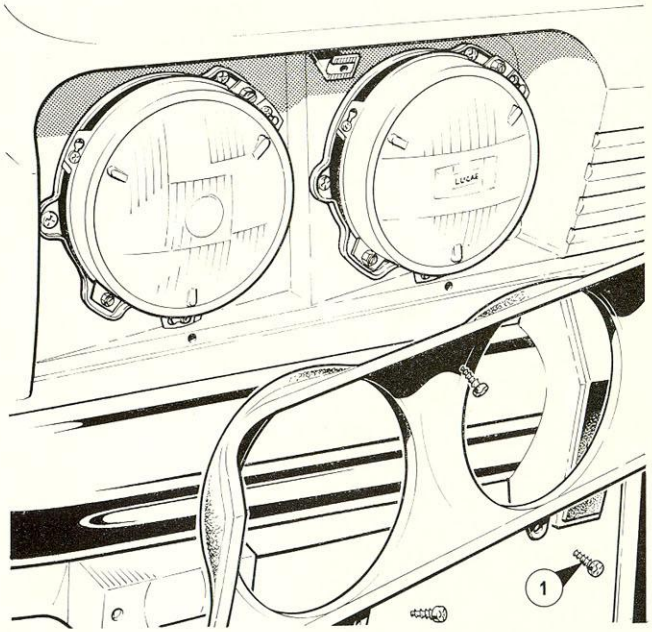


Figure **34** Headlamps

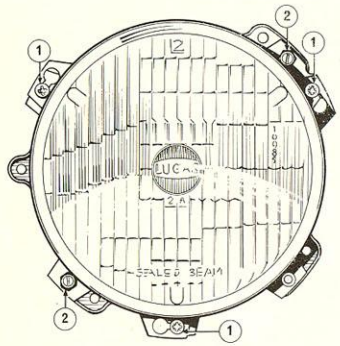


Figure **35** Headlamp adjustment

1 Rim fixing screw
2 Beam adjusting screw

To remove the sealed beam unit slacken three screws (1) **Figure 35** press the rim inwards and turn it counter-clockwise to enable it to be lifted over the screw heads. Release the light unit by pulling the adaptor from the rear of the unit. Do not disturb the beam aiming screws.

Install a new unit by reversing the foregoing procedure.

The headlamps should be set so that the main driving beams are parallel with the road surface. If adjustment is required remove the headlamp cowl.

Horizontal adjustment is obtained with the top 'beam adjusting screw' (2) **Figure 35** and vertical adjustment with the bottom screw (2) **Figure 35.**

Take the advice of your dealer on when to check and adjust your headlamp beams.

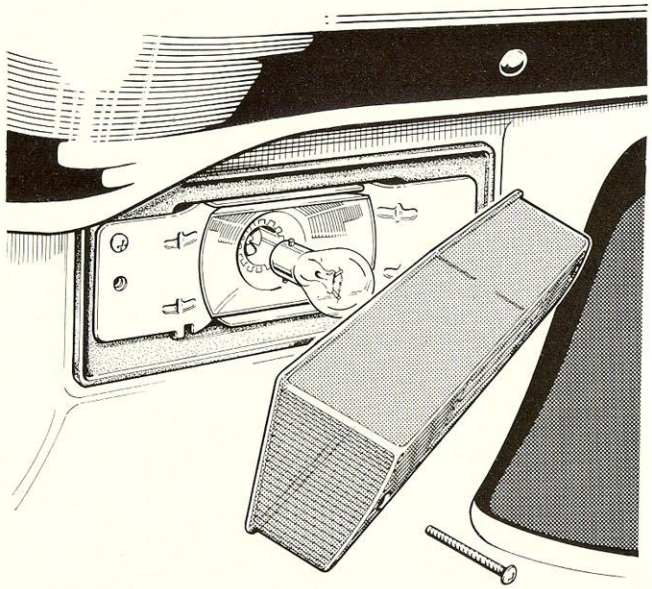


Figure **36** Front indicator lamp

Flashing indicators (front)

The glass is retained by two screws. When replacing a bulb undo the two screws, the glass can then be removed and the bulb replaced in the conventional way.

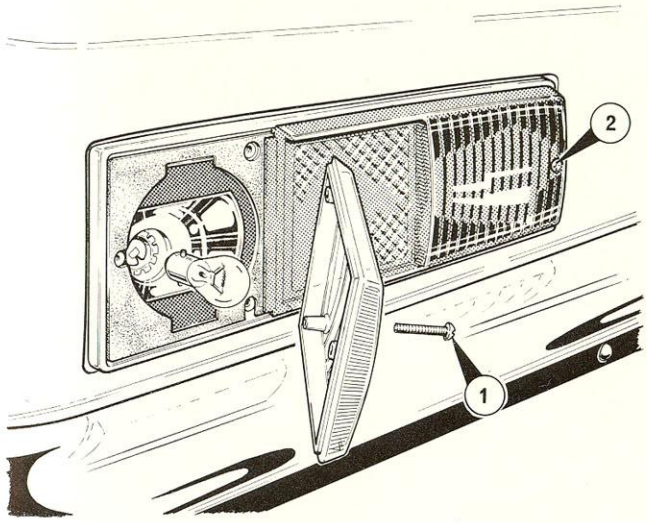


Figure **37** Stop/tail and rear indicators

Stop/tail lamps and rear indicators

The stop/tail lamps and rear flashing indicators are housed separately within one unit. To gain access to the stop/tail lamp undo the screw (1) and carefully remove the glass. When removing the glass of the rear flashing indicator it is important to slightly slacken screw (1) before undoing screw (2) and carefully remove the flasher lens.

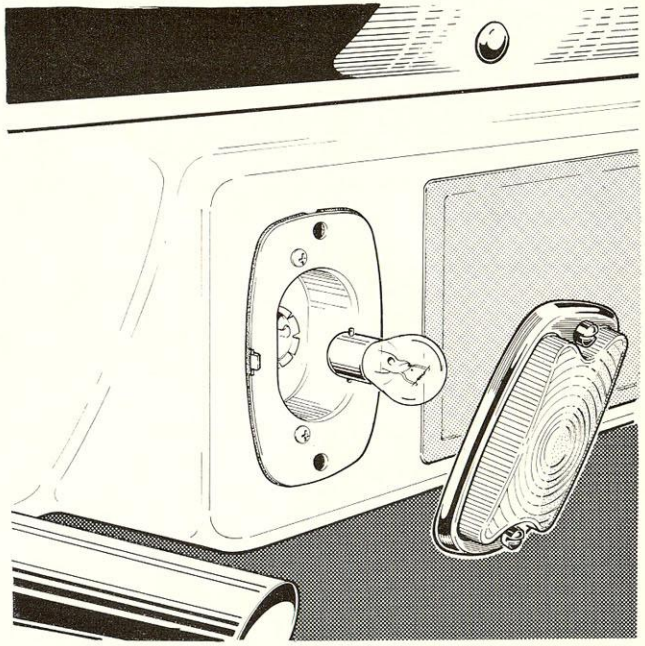


Figure **38** Reversing lamps

Reversing lamps

To gain access undo two screws and remove the glass.

Interior lamps

The doors are provided with a spring-loaded plunger switch, which when released by opening a door closes its contact to illuminate the interior lamps. The cover of either of the interior lamps can be removed by unscrewing two screws.
Both interior lights use a festoon-type bulb.

Rear number-plate illumination lamp Figure 39

The cover is secured by a single screw (1) which, when removed, allows access to the bulbs for replacement purposes.

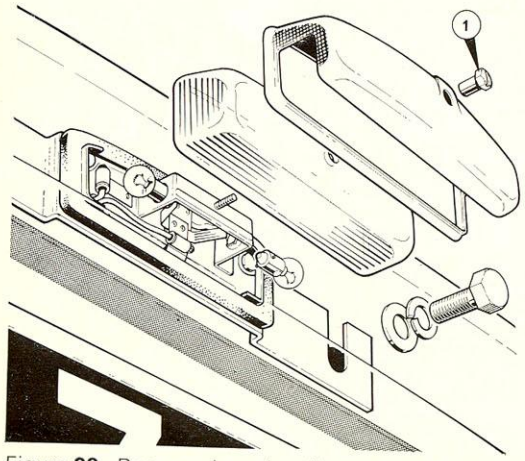


Figure **39** Rear number-plate illumination lamp

Bulb Type and Ratings	
Headlamp (Inner)	Sealed beam unit 5¾″ dia Single filament type 1A. 12·8V. 37·5 watt
Headlamp (Outer)	Sealed beam unit 5¾″ dia Double filament type 2A. 12·8V. 37·5/ 50 watt
Direction indicator	12V. 21 watt Single centre contact
Stop/tail	12V. 21/6 watt Small bayonet offset pin
Reversing lights	12V. 21 watt Single centre contact
Bonnet/boot light	12V. 6 watt Miniature centre contact
Interior lights	Festoon type 12V. 6 watt (38 x 10 mm)
Warning lamps and panel lamps	12V. 2·2 watt Miniature edison screw, single contact
Clock	12V. 2 watt Single contact BA7S
Switch panel	Festoon type 12V. 3 watt (38 x 10 mm)
Pilot lights	12V. 5 watt Capless

Radio

For optimum results from the receiver it is advisable to ensure that the aerial mast is kept clean, and that the sliding sections are occasionally lubricated with a light oil or upper cylinder lubricant. Should the overall quality and sensitivity of the receiver show a noticeable deterioration, or should interference become excessive, do not immediately suspect the receiver. The fault is more often with the installation and all leads and suppressors should be checked.

Aerial trimming is carried out when the receiver is initially installed and no further adjustment is normally necessary unless the aerial is replaced. However, should it be necessary to check the aerial matching, access to the trimmer screw is obtained by pulling off the tuning knob. With the aid of a small screwdriver the set may be trimmed to the aerial, by tuning to a weak station near 300 metres Medium Wave and adjusting the screw for maximum volume. It is essential to turn the screw through the position for maximum volume and return to maximum position to ascertain that the peak position has been found.

The suppression equipment fitted is rigorously tested and will withstand extremes of temperature and vibration. An engine in a poor state of tune can produce vibratory conditions sufficient to damage the suppressors. This will cause an increase in engine interference, and should be remedied immediately.

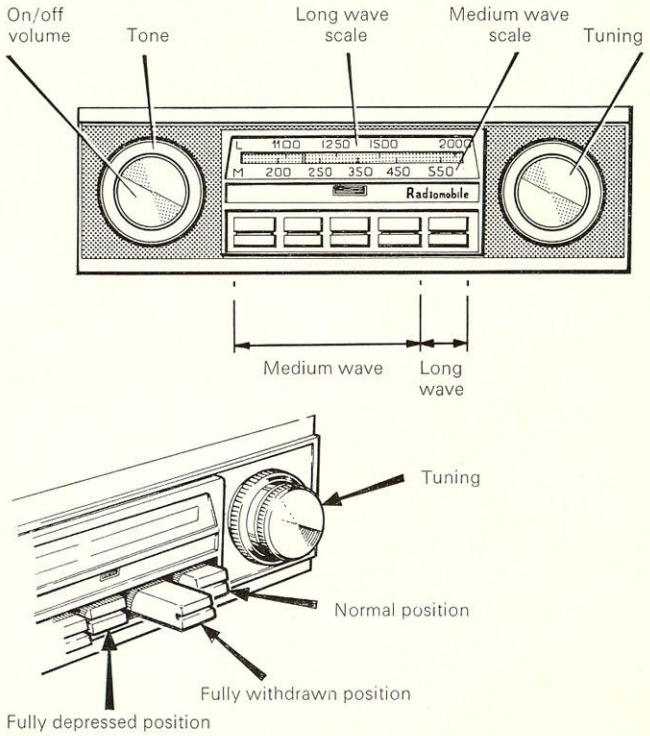


Figure **40** Radio

Station guide

BBC Service Areas

Radio 1 (Popular Music)
247 m Medium Wave

Radio 2 (Light Programme)
1500 m Long Wave

Radio 3 (Third Programme)
Radio Three is obtainable in Central and Southern England on 464 m, elsewhere on 194 m Medium Wave

Radio 4 (Home Service)

London	330/202 m
West of England	285/206 m
North of England	434/261 m
Northern Ireland	224 m
Midland	276 m
Welsh	341 m
Scottish	371 m

The smaller knob on the left-hand control not only switches the **on** and **off** but also governs the volume. The larger control on the left-hand knob varies the bass and treble tones.

Either long or medium wave stations may be tuned with the right-hand control knob, or by depressing the push button of the required station which can be pre-set. (**Figure 40**).

To change from the medium to long wave depress the extreme right-hand push-button and then tune to the station required.

Push-button setting

Any four medium wave-band stations and one long-wave station may be pre-set for automatic selection by means of the push-button controls.

To set a push-button for a medium wave-band station first switch on the radio and then depress one of the four medium wave buttons. Tune in accurately with the manual tuning knob to the required station, fully withdraw the depressed medium wave push-button (**Figure 40**) and then push this button in to lock the tuning.

When each push-button has been set in this way it is only necessary to depress the correct push-button to obtain the station desired.

To pre-set the long wave-band push-button, carry out the above instructions, using the extreme right-hand push-button.

Care of bodywork

The body fitted to the Scimitar GTE is manufactured from glass fibre. This is a completely inert material impervious to weather conditions and highly resistant to impact damage. Severe impact will not dent the material, it will crack or shatter, still retaining its original form.

Repairs can be carried out quite easily, and require no skilled labour such as panel beating.

Cleaning is carried out in the normal manner with water, sponge, and chamois leather, finishing off with an approved polish.

The chrome parts should be kept free from rust. During winter months take care that the salt or calcium chloride solutions used to treat icy roads are removed from the chrome as quickly as possible. A chrome cleaner can be used periodically, but this must be a recommended preparation which is non-abrasive.

Minor repairs to the bodywork can be carried out quite simply. Repair kits for such work are available either from your Scimitar dealer or the manufacturers. The kit comprises a small sheet of glass fibre mat, a small tin of resin, and a small bottle of catalyst which acts as a hardening agent for mixing with the resin.

Lubrication

Lubricating nipples are situated at the upper wishbone ball-joints at (1) see **Figure 41** and at the lower trunnions (1) **Figure 42**. Apply three or four strokes of the grease gun every 3,000 miles (5,000 km).

The rear axle hub bearings should be greased at 600 miles (1,000 km) and thereafter at every 3,000 miles (5,000 km), three strokes of the grease gun is sufficient, see (9) **Figure 43.** Two lubricating nipples are located on the handbrake cable linkage, two strokes of the grease gun every 3,000 miles (5,000 km) see (10) **Figure 43.**

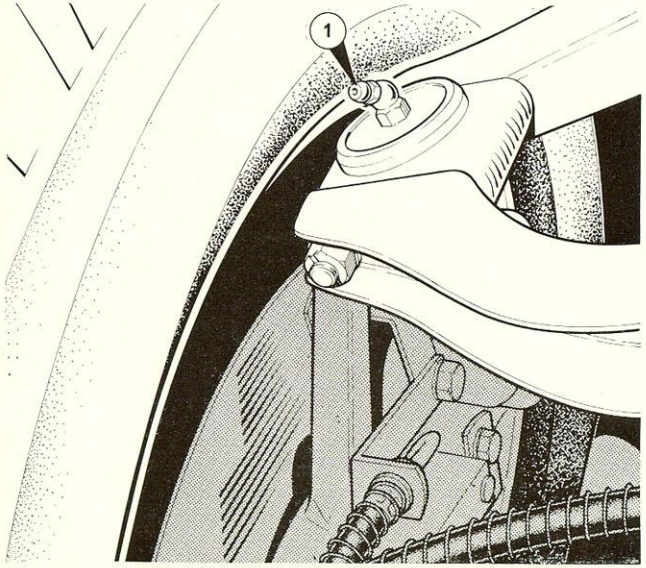


Figure **41** Upper wishbone ball-joint

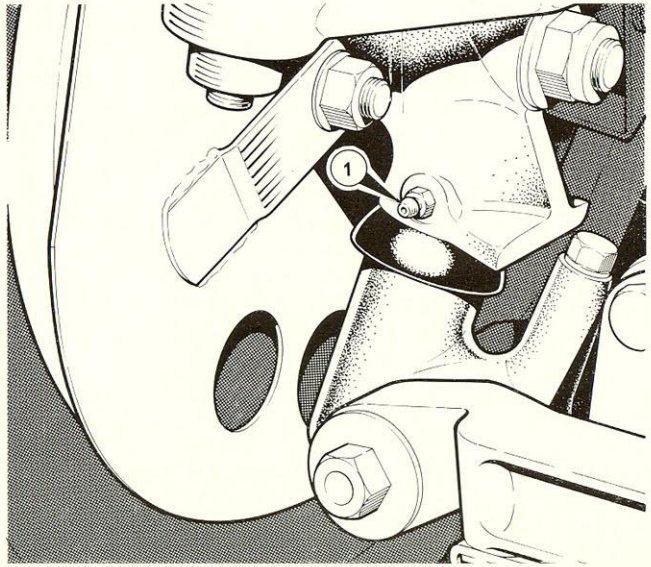
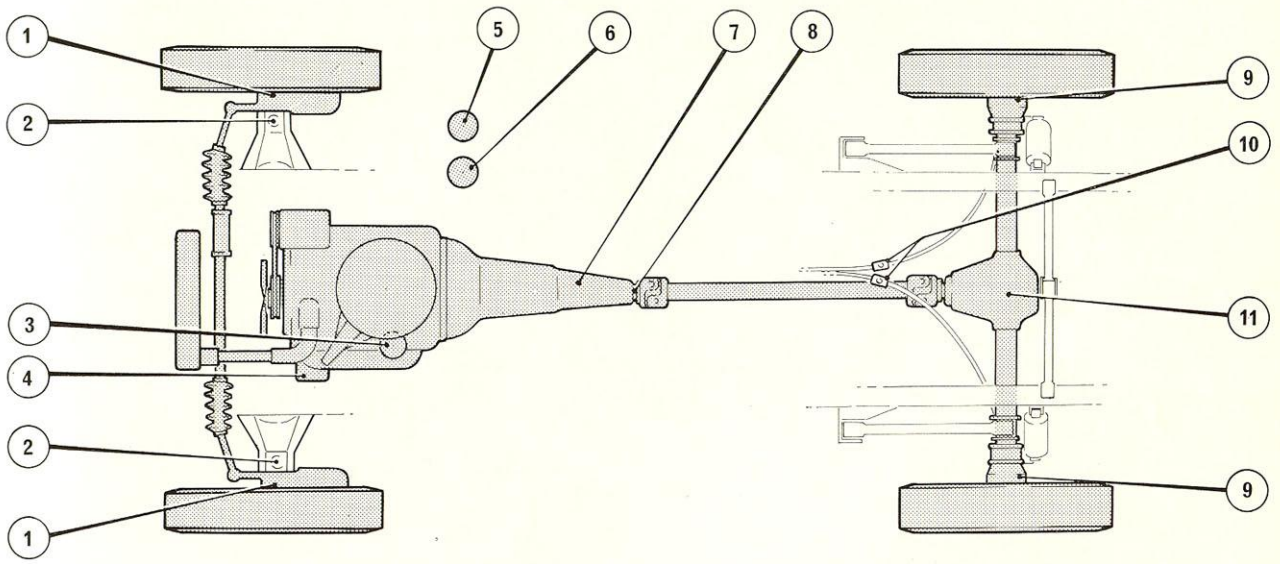


Figure **42** Lower trunnion

Figure **43** Lubrication points diagram



1	Front hub	Repack	
2	Upper Wishbones	Grease	
	Lower Trunnions		
3	Engine oil filler cap	Oil	
4	Engine oil filter	Renew	
5	Brake master cylinder	Top-up fluid	
6	Clutch master cylinder	Top-up fluid	
7	Gearbox	Oil	
8	Propshaft splines	Grease	
9	Rear bearing	Repack	
10	Handbrake cables and linkage	Grease	
11	Rear axle	Oil	

Recommended lubricants (Not listed in order of preference)
(British Isles)

(Summer and Winter)

	Castrol	Duckhams	Esso	Mobil	Petrofina	Shell	BP
Engine	Castrol GTX Castrolite Castrol XL	Duckhams Q5500 or Duckhams No. 1 Twenty	Esso Extra Motor Oil 10W/30	Mobiloil Special 10W/30 or Mobil Super	Fina Multi-grade Motor Oil 10W/30	Shell Super Motor Oil or Shell X-100 20W	BP Visco-Static or BP Energol SAE 20W
Gearbox	Castrol Hypoy Light	Duckhams No. 1 EP 80	Esso Gear Oil GP 80	Mobilube GX 80	Fina Pontonic MP SAE 80	Shell Spirax 80 EP	BP Gear Oil SAE 80 EP
Rear axle	Castrol Hypoy	Duckhams Hypoid 90	Esso Gear Oil GP 90/140	Mobilube GX 90	Fina Pontonic MP SAE 90	Shell Spirax 90 EP	BP Gear Oil SAE 90 EP
Rear wheel bearings and front hub	Castrolease LM	Duckhams Hypoid 80	Esso Multi-Purpose Grease H	Mobilgrease MP	Fina Bentex A3	Shell Retinax A	Energrease L2
Chassis	Castrolease MS3	LBM 10 Grease	Esso MP Grease (Moly)	Mobil Grease Special	Fina Marson LM2	Shell Retinax AM	BP Energrease L21M
Important: Brake and clutch reservoirs	Castrol Girling **Amber** brake and clutch fluid must be used						

Daily and weekly attention
Check engine oil level – daily
Check radiator level – daily
Check battery electrolyte level – weekly
Check levels of brake and clutch fluid reservoirs – weekly
Check tyre pressures – weekly

At first 600 miles (1,000 km)
Top-up engine oil
Top-up gearbox oil (standard transmission with or without overdrive)
Drain and refill rear axle oil
Lubricate throttle linkage, handbrake linkage, door and luggage compartment locks, and bonnet safety catch pivot
Top-up battery
Top-up radiator
Top-up windshield washer reservoir
Top-up clutch and brake fluid reservoir
Tighten cylinder head and manifold bolts to correct torques
Check and adjust valve clearances
Adjust fan belt tension
Examine and adjust distributor points
Clean sediment from fuel filter
Check brakes
Check front wheel bearing adjustment
Check rear hub nuts
Check wheel nuts
Correct tyre pressures
Check front suspension retaining bolts
Check front wheel toe-in, also rear wheel to front wheel alignment
Check door operation and adjust (where necessary)
Check operation of controls, instruments, lights, horn and windshield wiper, etc.
Check battery connections
Check for water or oil leaks
Road or roller test and adjust carburettor and ignition if required

At first 3,000 miles (5,000 km) or three months (whichever is reached first)
Oil or grease all lubrication points
Change engine oil and fit new oil filter
Change gearbox oil (with or without overdrive)
Top-up rear axle oil level
Check front suspension retaining bolts
Check boot type gaiters on steering joints and renew if suspect
Check front brake pads and rear brake shoes
Check handbrake cable adjustment
Lubricate distributor
Lubricate bonnet safety catch
Lubricate all linkages
Lubricate door and luggage compartment locks
Top-up clutch and brake master cylinder reservoirs
Clean and adjust sparking plug gaps
Examine distributor points and adjust, clean coil and distributor cap

Clean sediment from fuel filter
Clean oil filler cap
Clean emission control valve
Clean air cleaner element
Check and adjust valve clearance
Adjust fan belt tension if required
Check battery connections, test battery condition and top-up as necessary
Top-up radiator
Top-up windshield washer reservoir
Correct tyre pressures if necessary
Reposition road wheels
Check instruments and lights and align if necessary
Road or roller test and adjust carburettor and ignition if required

At first 6,000 miles (10,000 km) or six months (whichever is reached first)
Oil or grease all lubrication points
Top-up engine oil
Top-up gearbox oil (with or without overdrive)
Top-up rear axle oil level
Check front suspension retaining bolts
Check boot type gaiters on steering joints and renew if suspect
Check front brake pads and rear brake shoes
Check handbrake cable adjustment
Lubricate distributor
Lubricate bonnet safety catch
Lubricate all linkages
Lubricate door and luggage compartment locks
Top-up clutch and brake master cylinder reservoirs
Clean and adjust sparking plug gaps
Examine distributor points and adjust, clean coil and distributor cap
Clean sediment from fuel filter
Clean oil filler cap
Clean air cleaner element
Check and adjust valve clearance
Adjust fan belt tension if required
Check battery connections, test battery condition and top-up as necessary
Top-up radiator
Top-up windshield washer reservoir
Correct tyre pressures if necessary
Reposition road wheels
Check instruments and lights and align if necessary
Road or roller test and adjust carburettor and ignition if required

At first 9,000 miles (15,000 km) or nine months (whichever is reached first)
Oil or grease all lubrication points
Change engine oil and fit new oil filter
Top-up gearbox oil (with or without overdrive)
Drain and refill rear axle oil
Check front suspension retaining bolts
Check boot type gaiters on steering joints and renew if suspect

Check front brake pads and rear brake shoes
Check handbrake cable adjustment
Lubricate distributor
Lubricate bonnet safety catch
Lubricate all linkages
Lubricate door and luggage compartment locks
Top-up clutch and brake master cylinder reservoirs
Clean and adjust sparking plug gaps
Examine distributor points and adjust, clean coil and distributor cap
Clean sediment from fuel filter
Clean oil filler cap
Clean emission control valve
Clean crankcase ventilation regulator valve
Clean air cleaner element
Check and adjust valve clearance
Adjust fan belt tension if required
Check battery connections, test battery condition and top-up as necessary
Top-up radiator
Top-up windshield washer reservoir
Correct tyre pressures if necessary
Reposition road wheels
Check instruments and lights and align if necessary
Road or roller test and adjust carburettor and ignition if required

At first 12,000 miles (20,000 km) or twelve months (whichever is reached first)

Oil or grease all lubrication points
Top-up engine oil
Top-up gearbox oil (with or without overdrive)
Top-up rear axle oil level
Check front suspension retaining bolts
Check boot type gaiter on steering joints and renew if suspect
Check front brake pads and rear brake shoes
Check handbrake cable adjustment
Lubricate distributor
Lubricate bonnet safety catch
Lubricate all linkages
Lubricate door and luggage compartment locks
Top-up clutch and brake master cylinder reservoirs
Examine distributor points and adjust, clean coil and distributor cap
Clean sediment from fuel filter
Clean oil filler cap
Check and adjust valve clearance
Adjust fan belt tension if required
Check battery connections, test battery condition and top-up as necessary
Top-up radiator
Top-up windshield washer reservoir
Correct tyre pressures if necessary
Reposition road wheels

Check instruments and lights and align if necessary
Remove front hub and disc assemblies, wash out bearings, repack with grease, replace and adjust
Renew air cleaner element
Check front wheel toe-in, also rear wheel to front wheel alignment
Change sparking plugs
Road or roller test and adjust carburettor and ignition if required

Hydraulic brake and clutch systems

Change fluid in hydraulic brake and clutch systems every eighteen months. Change seals every three years or 36,000 miles (whichever is reached first).

General specification

Engine	
Number of cylinders	6 60° Vee
Bore of cylinders	3·6878 in (93·670 mm)
Stroke of crankshaft	2·851 in (72·42 mm)
Cubic capacity	182·7 cu in (2994 cc)
Compression ratio	8·9:1
Valve clearance (hot)	
– Inlet	0·010 in (0·25 mm)
– Exhaust	0·018 in (0·45 mm)

Performance data	
Brake horse power (max)	144 at 4750 rpm
Torque (max)	192·5 lbs ft (26·6 kg m) at 3,000 rpm

Lubrication (Engine)	
Pump type	Eccentric bi-rotor or sliding vane
Oil filter	External full flow pressure relief type
Oil pressure	45 to 50 lbs/sq in (3·16 to 3·51 kg/sq cm)

Ignition system	
Contact breaker gap	0·025 in (0·64 mm)
Spark plugs – type	Autolite AG22 (·14 mm)
– gap	·023 to ·028 in (·59 to ·70 mm)
Firing order	1(R) 4(L) 2(R) 5(L) 3(R) 6(L)
Ignition timing (static)	12° before TDC

Cooling system	
	Pressurised radiator, with remote header tank, crankshaft mounted fan and water pump with thermostatic heat control

Radiator	
Cap pressure	10 lbs/sq in (·703 kg/ sq cm)

Fuel system	
Carburettor	Weber 40 DFA – I

Air cleaner	
	Paper element type

Fuel pump	
Type	Mechanical AC Delco
Pressure	$2\frac{3}{4}$ to $4\frac{1}{4}$ lb/sq in (0·193 to 0·299 kg/sq cm)

Clutch	
Type	Single dry plate 9 in (228·6 mm) dia diaphragm spring
Operation	Hydraulic – Pendant pedal

Gearbox

Type	Four forward gears and reverse, Synchromesh on all forward gears.
Control	Centre floor mounted remote control

Gear ratios

1st	2nd	3rd	4th
3·163:1	2·214:1	1·412:1	1:1

Reverse 3·346:1
Overdrive Unit 0·82:1

Rear axle

Type	Hypoid, spiral bevel, semi floating
Ratio	3·58:1

Brakes

System	Vacuum servo assisted
Type – Front	10·63 in disc (270 mm)
– Rear	9 in x 1·75 in drum (228·6 mm x 19·1 mm)
Handbrake	Lever-type handbrake operating rear brakes

Suspension

Front	Independent through wishbone, coil spring and telescopic damper units
Rear	Coil spring and telescopic damper units to axle located by parallel trailing arms. Transverse location by Watt linkage

Steering

Type	Rack and pinion
Castor angle (Static laden)	2° 40′
Camber angle (Static laden)	0° to $\frac{1}{2}$°
Steering axis inclination (KPI)	9° to $8\frac{1}{2}$°
Toe-in	0 to $\frac{1}{16}$ in (0 to 1·6 mm)
Turning circle	35 ft (10·668 m)

Chassis data

Wheelbase	$99\frac{1}{2}$″ (2528 mm)
Track – Front	$55\frac{1}{4}$″ (1,403 mm)
– Rear	$53\frac{1}{8}$″ (1,349 mm)
Ground clearance (minimum)	$5\frac{1}{2}$″ (139 mm)

Exterior dimensions

Overall length	171″ (4,343 mm)
Width	$64\frac{1}{2}$″ (1,638 mm)
Height	52″ (1,320 mm)

Index

Weight	
Kerb	2,500 lbs
Max towing weight	20 cwts
Capacities	
Engine (incl filter)	9·5 Imp pts (5·35 litres)
Gearbox	3·25 Imp pts (1·8 litres)
– with overdrive	3·75 Imp pts (2·13 litres)
Rear axle	2·1 Imp pts (1·1 litres)
Cooling system (incl heater)	20 Imp pts (11·34 litres)
Fuel tank	17 Imp gals (77 litres)
Electrical system	
Battery	Lucas type D11/13 – 12 volt
Control box	Lucas 4TR Silicon semi-conductor
Alternator	Lucas 11AC Max output 45-amps charging voltage 13·5
Tyre	
Size	185 x 14 Cinturato SR