

MIDGET

1979

Driver's Handbook





MIDGET

MARK III (GAN 6UL)

Driver's Handbook

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British Leyland Motors Inc.

500 Willow Tree Road, Leonia
New Jersey 07605

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FOREWORD

This Handbook provides an introduction to your car, together with information on the care and periodic maintenance required to combine trouble-free motoring with minimal running costs.

Claims for the replacement of parts under warranty must be submitted to the supplying authorized Austin MG Dealer, or when this is not possible, to the nearest authorized Austin MG Dealer, informing them of the vendor's name and address. Except in emergency, warranty work should always be carried out by an appointed authorized Austin MG Dealer.

By keeping the Passport to Service, signed by the authorized Austin MG Dealer, or vendor in the vehicle, you can quickly establish the date of purchase and provide the necessary details if adjustments are required to be carried out under warranty.

Regular use of the Passport to Service Maintenance Scheme is the best safeguard against the possibility of abnormal repair bills at a later date. Failure to have your car correctly maintained could invalidate the terms of the Warranty and may result in unsatisfactory operation of the emission control systems.

Safety features embodied in the car may be impaired if other than genuine parts are fitted. In certain territories, legislation prohibits the fitting of parts not to the vehicle manufacturer's specification. Owners purchasing accessories while travelling abroad should ensure that the accessory and its fitted location on the car conform to mandatory requirements existing in their country of origin.

Your authorized Austin MG Dealer is provided with the latest information concerning special service tools and workshop techniques. This enables him to undertake your service and repairs in the most efficient and economic manner. The operations carried out by your authorized Austin MG Dealer will be in accordance with current recommendations and may be subject to revision from time to time.

Further details on Service Parts will be found under 'SERVICE' on page 75. Please note that references to right- or left-hand in this Handbook are made as if viewing the car from the rear.

Specification details set out in this Handbook apply to a range of vehicles and not to any particular vehicle. For the specification of any particular vehicle owners should consult their authorized Austin MG Dealer.

During running-in from new, certain adjustments vary from specification figures detailed. They will be set to specification by your authorized Austin MG Dealer at the 1,000 Mile Free Service and should be maintained throughout your car's life.

The Manufacturers reserve the right to vary their specifications with or without notice, and at such times and in such manner as they think fit. Major as well as minor changes may be involved in accordance with the Manufacturer's policy of constant product improvement.

Whilst every effort is made to ensure the accuracy of the particulars contained in this Handbook, neither the Manufacturer nor the authorized Austin MG Dealer, by whom this Handbook is supplied, shall in any circumstances be held liable for any inaccuracy or the consequences thereof.

Emission Controls

Your car is fitted with emission controls and devices required by the United States Clean Air Act. Please read carefully the 'EMISSION CONTROL SYSTEMS' section of the Handbook which contains information on the emission control systems fitted to your car and recognition of symptoms of malfunctions which could affect emissions.

It is imperative that you familiarize yourself with the contents of this section, and ensure that the car you have purchased will remain in compliance with the intentions of the above act.

All EMISSION CONTROL maintenance checks and adjustments should be entrusted to your authorized Austin MG Dealer.

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WARNING	
Many liquids and other substances used in motor vehicles are poisonous and should under no circumstances be consumed and should so far as possible be kept away from open wounds. These substances among others include anti-freeze, brake fluid, fuel, windscreen washer additives, lubricants and various adhesives.	

CATALYTIC CONVERTER PRECAUTIONS

1. Use **unleaded fuel** only. This is essential to maintain the efficiency of the emission control system. Unleaded fuel has the additional advantage that it minimizes spark plug fouling, thereby giving improved engine performance.
2. Have your car maintained in accordance with the Maintenance Summary outlined in this handbook. A correctly tuned engine minimizes exhaust emissions and achieves the optimum performance and fuel economy.
3. Do not continue to operate your car if you detect any engine malfunction. Misfire, or engine run-on may cause unusually high catalytic converter temperatures. Damage to the catalytic converter may occur if any such engine malfunctions are not rectified immediately.
4. **DO NOT LEAVE YOUR CAR UNATTENDED WITH THE ENGINE RUNNING AT ANY TIME** as an unobserved rise in engine temperature may cause damage to the engine and catalytic converter.
5. The use of a catalytic converter increases exhaust system temperatures. Do not operate or park your car in areas where combustible materials such as dry grass or leaves may come in contact with the exhaust system. The exhaust system could ignite such materials under certain weather conditions.
6. Do not run the engine with a spark plug lead disconnected or a spark plug removed or use any device that requires an insert into a spark plug hole in order to generate air pressure (e.g. tyre pump, paint spray attachment, etc.) as this could also result in catalytic converter damage.
7. Do not push or tow your car to start it. Use jumper cables. Under certain conditions, pushing or towing could damage the catalytic converter.
8. The catalytic converter contains a ceramic material. Avoid heavy impacts on the converter casing.

CONTROLS

CONTROLS *Fig. 1*

Pedals The pedals are arranged in the conventional positions.

(1) (2) (3)

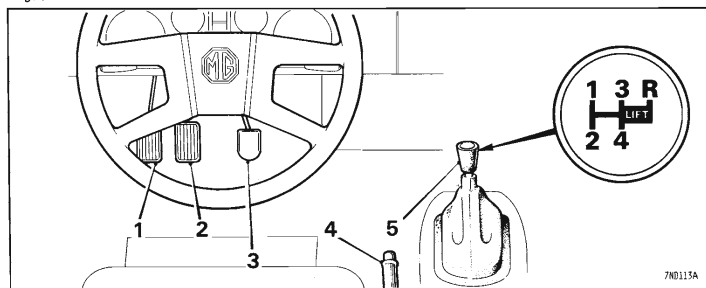
The brake pedal operates the dual hydraulic braking system applying the brakes on all four wheels, and bringing the stop warning lights into operation when the ignition is switched on.

Hand brake The hand brake is of the pull-up lever type, operating mechanically on the rear wheels only. To release the hand brake pull the lever upwards slightly, depress the button on the end of the lever and push the lever down.

Gear lever The gear positions are indicated on the lever knob. To engage reverse gear move the lever to the right in the neutral position as far as possible. Lift the lever and move it forward to engage the gear. Synchromesh is provided on first, second, third, and fourth gears.

The reverse lights operate automatically when reverse is selected with the ignition switched on.

Fig. 1



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INSTRUMENTS AND SWITCHES

IGNITION/STARTER SWITCH AND STEERING LOCK *Fig. 1*

Key number The key number appears on the key, on the number tag supplied or on a label attached to the windscreen of a new car.

NOTE THE KEY NUMBER in your **DIARY** and in a reference book at **HOME** and then **REMOVE THE LABEL** with the key number **FROM THE CAR**. Consult your authorized Austin MG Dealer regarding key replacements for the steering-column lock.

The steering-column lock (4), if used properly, will greatly reduce the possibility of the car being stolen.

Unlocking To unlock the steering, insert the key and turn it to position 'I'. If the steering-wheel has been turned to engage the lock, slight movement of the steering-wheel will assist disengagement of the lock plunger.

With the key in the position marked 'I' the ignition is switched off and the steering lock disengaged. The radio may be operated with the key in this position. The key must be in this position when towing the car for recovery.

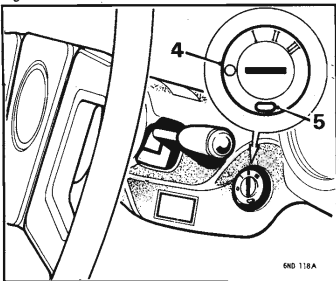
Ignition and start To switch on the ignition, turn the key to position 'II'. Further movement against spring resistance to position 'III' operates the starter motor. Release the key immediately the engine starts.

Locking To lock the steering, turn the key anti-clockwise to the position marked 'I', press the button (5), turn the key to the 'O' position and withdraw it.

WARNING: The steering lock/ignition/starter switch and its electrical circuits are designed to prevent the ignition system and starter from being energized while the steering lock is engaged. Serious consequences could result from alterations or substitution of the steering lock/ignition switch or its wiring. In no circumstances must the ignition switch be separated from the steering lock.

Do not lubricate the steering lock.

Fig. 1



INSTRUMENTS *Fig. 2*

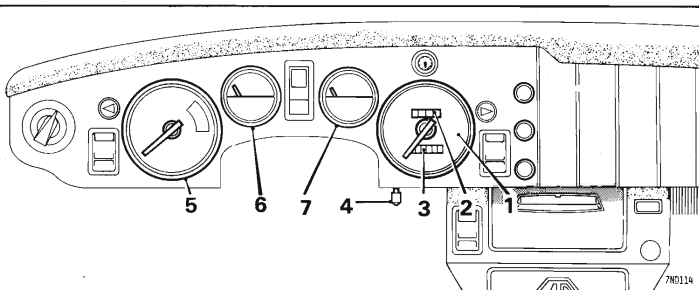
Speedometer (1) In addition to indicating the road speed this instrument also records the total distance (3) and the distance travelled for any particular trip (2). To reset the trip recorder, press the knob (4) and all the counters will return to zero.

Tachometer (5) This instrument indicates the revolutions per minute of the engine and assists the driver to use the most effective engine speed range for maximum performance in any gear (see page 15).

Coolant temperature gauge (6) The gauge indicates the temperature of the coolant as it leaves the engine cylinder head. An important note about temperature is on page 14.

Fuel gauge (7) When the ignition is switched on the fuel gauge indicates approximately the amount of fuel in the tank. An important note on filling with fuel is given on pages 13 and 54 or 62.

Fig. 2



Instruments and Switches

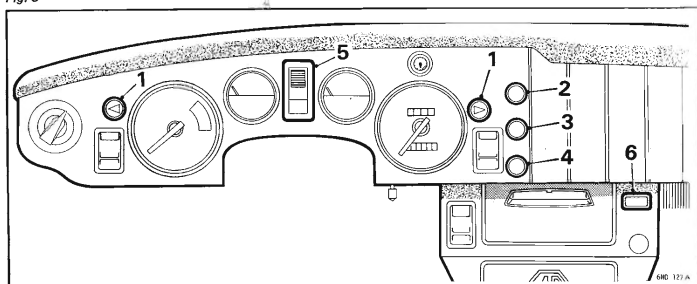
WARNING LIGHTS AND SYSTEMS *Fig. 3*

- Direction indicator (1)** GREEN. The warning light flashes when the direction indicators are operating. Additional warning is also given by the audible 'clicking' of the flasher unit.
- Oil pressure (2)** AMBER. The warning light will glow when the ignition is switched on and go out soon after the engine is running, see 'STARTING AND RUNNING INSTRUCTIONS'.
- Ignition (3)** RED. This light serves the dual purpose of reminding the driver to switch off the ignition and of being a no-charge indicator.
- Main beam (4)** BLUE. The light glows when the headlights are switched on with the beams in the raised position. The light goes out when the beams are dipped.
- Hazard (1)** GREEN. The direction indicator warning lights will flash when the hazard warning lights are operating.
- Brake (5)** RED. The warning light serves two separate functions. Firstly, if the brake system hydraulic pressure fails the lamp glows; secondly, the lamp glows as a hand brake 'on' indicator. The warning light will only operate when the ignition is switched on—see NOTE.
- Seat belt (6)** RED. The warning light will glow for eight seconds each time the ignition starter switch is operated, irrespective of whether the driver's seat belt is fastened—see NOTE.

Further information on the seat belt warning system will be found on page 24.

NOTE: As an automatic check the 'BRAKE' and 'SEAT BELT' warning lamps will glow each time the ignition key is turned to position 'III' (starter motor operating). Consult your authorized Austin MG Dealer if any of these warning lamps fail to glow when the starter is operating.

Fig. 3



Braking system The hydraulic brake system has two independent circuits. If hydraulic pressure fails in one circuit, the remaining circuit will provide an emergency brake condition on the other two wheels and allow the car to be brought to rest by brake pedal application. This would be accompanied by the warning lamp (5) glowing on the instrument panel.

IF THE WARNING LAMP (5) GLOWS AT ANY TIME EXCEPT WHEN STARTING OR WHEN THE IGNITION IS SWITCHED ON AND THE HAND BRAKE IS APPLIED, THE CAUSE MUST BE INVESTIGATED IMMEDIATELY.

Unless as a result of your investigation you are satisfied that it is safe to proceed, you should leave the vehicle where it is and call for assistance. Even if you are satisfied that it is safe to proceed, the car should only be driven in cases of real emergency, extreme care should be taken and heavy braking avoided. In deciding whether it is safe to proceed you should consider whether you will be infringing the law.

Anti-theft warning buzzer A combined ignition and steering lock with warning buzzer is fitted to the car. The warning buzzer will sound if the driver's door is opened while the key is in the lock. The buzzer will not operate if the key is removed from the lock.

When leaving the car unattended always:

Set the hand brake.

Lock the steering by removing the key from the ignition steering lock.

Lock the car doors and remove the key.

Instruments and Switches

COLUMN SWITCH

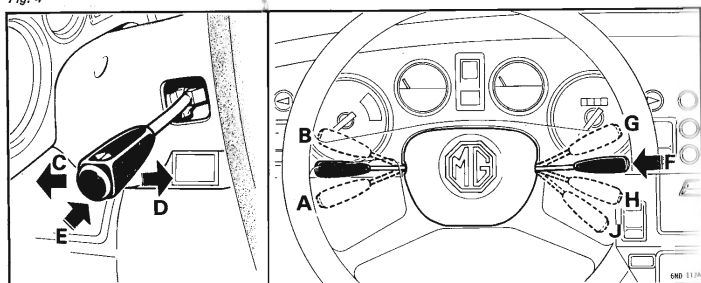
Direction indicators, main beam and horn control *Fig. 4*

- Direction indicators** The switch operates the indicators only when the ignition is switched on.
- Move the lever to position 'A' when turning left and to position 'B' when turning right.
- After making a turn the signal is self-cancelled when the steering-wheel is returned to the straight-ahead position.
- The switch lever may be held against spring pressure to select either left or right indicator and will cancel the indication immediately it is released without movement of the steering-wheel.
- A visual warning of a front or rear bulb failure is given when, after switching on an indicator, the warning lamp and the serviceable bulb on the affected side give a continuous light.
- Headlamp dipper** With the headlamps switched on at the lighting switch, move the lever forward ('C') to use the main beams; the warning light will glow (BLUE). Return the lever to the midway position to dip the beams.
- Headlamp flasher** Lift the lever towards the steering-wheel ('D') to flash the headlamps irrespective of whether they have been switched on at the lighting switch or not.
- Horns** Press the end of the lever ('E') inwards to sound the horns.

Windscreen washer and wiper control *Fig. 4*

- Windscreen washer** Press the end of the lever inwards ('F') to operate the washer jets.
- In cold weather the washer reservoir should be filled with a mixture of water and a recommended washer solvent to prevent the water freezing.
- To avoid possible damage to paintwork **do not** use radiator anti-freeze in the windscreen washer.
- Windscreen wiper** Move the lever upwards ('G') and then release it to obtain a single wipe. The lever will return to the 'off' position and the blades will park automatically at the completion of the wipe.
- To operate the wipers at normal speed move the lever down to the first position ('H') and to the second position ('J') when a higher wiping speed is required.
- NOTE:** Neither the windscreen wiper nor the washer can operate until the ignition has been switched on.

Fig. 4

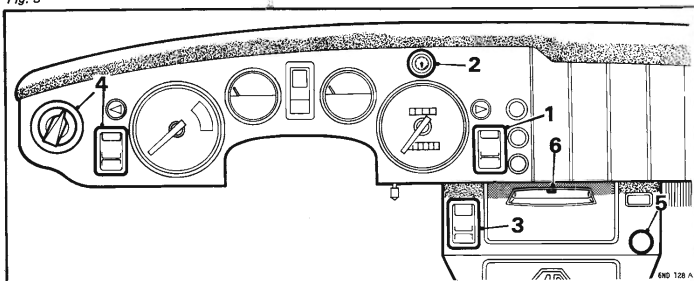


Instruments and Switches

SWITCHES *Fig. 5*

- Lighting**
(1) Press the lower end of the switch rocker to the first position to operate the parking and tail lamps and to the second position to operate the headlamps. The marking on the switch is illuminated when the panel lamps are switched on.
- Panel lamps**
(2) The panel lights will function only when the side lamps are switched on. Turning the switch knob clockwise switches on the panel lights; further clockwise movement of the knob increases the light brilliance.
- Hazard warning**
(3) To use the direction indicators as a hazard warning to other road users, press the lower end of the switch rocker, when all the direction indicators and their warning lights will operate together, irrespective of whether the ignition is on or off. The green illumination light on the face of the switch glows when the panel lights are switched on.
Return the switch to the off position to cancel the warning.
- Blower switch and heater controls**
(4) For operating instructions see 'HEATING AND VENTILATING'.
- Cigar-lighter**
(5) To operate, press the knob inwards and release. When the element has become sufficiently heated the lighter will be partially ejected, and may be withdrawn for use. The rim of the cigar-lighter is illuminated when the panel lights are switched on.
- Courtesy light**
(6) The courtesy light is controlled by a switch in the light and by a switch fitted to each door pillar. With the doors closed the light may be switched on by sliding the switch towards the steering column. Opening either door will switch on the light, and closing the door will extinguish the light.

Fig. 5



STARTING AND RUNNING INSTRUCTIONS

The following instructions are a guide for starting, running and loading the car, and include notes on the use of the controls and the indications of the instruments.

Running in The treatment given to a new car will have an important bearing on its subsequent life, and engine speeds during this early period must be limited. The following instructions should be strictly adhered to.

During the first 500 miles (800 km):

DO NOT exceed 45 m.p.h. (72 km/h).

DO NOT operate at full throttle in any gear.

DO NOT allow the engine to labour in any gear.

- Exhaust catalytic converter**
1. The catalytic converter contains ceramic material. Avoid heavy impacts on the converter casing.
 2. Use **unleaded fuel only (91 octane)**. The use of leaded fuel will seriously impair the efficiency of the emission control system.
 3. The reaction in the catalytic converter increases exhaust system temperatures. Care must be taken to avoid exhaust system contact with easily combustible materials such as dry grass.
 4. If the engine misfires, the cause must be immediately rectified to prevent catalytic converter damage.
 5. The use of any device which requires an insert into a spark plug hole in order to generate an air pressure, i.e. tyre pump or paint spray attachment, could also result in catalytic converter damage.

Choice of fuel The engine has been designed to operate only on unleaded fuel. It is essential that **unleaded fuel is used** otherwise serious damage can be caused in the catalytic converter.

Filling with fuel The filler neck of the fuel tank is designed to accept fuel dispenser nozzles of the type specified only for unleaded fuel. The dispenser nozzle must be inserted into the filler neck sufficiently to open the trap door for fuel to flow into the fuel tank.

Starting and Running Instructions

Starting	Sit in the car, then wear and fasten the seat belts; this applies to both driver and passenger. Switch on the ignition and check: - That the ignition warning light glows. - That the fuel gauge registers. Depress the throttle pedal fully and release. Operate the starter. Do not depress the throttle pedal while the starter is operated. As soon as the engine is started check: - That the oil pressure gauge registers. - The ignition warning light has gone out. Quickly depress and release the throttle pedal to set the automatic choke to its correct position. NOTE: For cars operating in sub-zero temperatures, slowly depress the throttle pedal until 2,500 rev/min is attained; maintain this speed until the engine reaches normal operating temperature.
Ignition warning lamp	The lamp should glow when the ignition is switched on, and go out and stay out at all times while the engine is running above normal idling speed. Failure to do so indicates a fault in the battery charging system. Check that the fan belt is correctly tensioned before consulting your authorized Austin MG Dealer.
Oil pressure warning lamp	The lamp will glow when the ignition is switched on and go out soon after the engine is running. If the light continues to glow, stop the engine immediately and investigate the cause. Start by checking the oil level.
Starter	Do not operate the starter for longer than five to six seconds. If after a reasonable number of attempts the engine should fail to start, switch off the ignition and investigate the cause. Continued use of the starter when the engine will not start not only discharges the battery but may also damage the starter. If the starter pinion fails to engage with the flywheel ring, or fails to disengage when the engine starts, the starter will emit a high-pitched whine; release the ignition key immediately. Should the starter pinion become jammed in mesh with the flywheel ring, turn the squared end of the armature spindle with a spanner.
Temperature gauge	Normal operating temperature is reached when the pointer is in the 'N' sector. Overheating may cause serious damage. Investigate any upward change in the temperature gauge reading immediately. Check coolant level and fan belt tension.

Gear change speeds	Under normal driving conditions, it is recommended that to maintain the most favourable exhaust emissions and fuel economy, the gears are selected at the following speeds: <table><tr><td>1st to 2nd</td><td>..</td><td>..</td><td>..</td><td>..</td><td>15 m.p.h. (24 km/h)</td></tr><tr><td>2nd to 3rd</td><td>..</td><td>..</td><td>..</td><td>..</td><td>25 m.p.h. (40 km/h)</td></tr><tr><td>3rd to 4th</td><td>..</td><td>..</td><td>..</td><td>..</td><td>40 m.p.h. (64 km/h)</td></tr></table>	1st to 2nd	..	..	..	..	15 m.p.h. (24 km/h)	2nd to 3rd	..	..	..	..	25 m.p.h. (40 km/h)	3rd to 4th	..	..	..	..	40 m.p.h. (64 km/h)
1st to 2nd	..	..	..	..	15 m.p.h. (24 km/h)														
2nd to 3rd	..	..	..	..	25 m.p.h. (40 km/h)														
3rd to 4th	..	..	..	..	40 m.p.h. (64 km/h)														
Tachometer	For normal road work, and to obtain the most satisfactory service from your engine, select the appropriate gear to maintain engine speeds of between 2,000 and 4,500 rev/min. When maximum acceleration is required upward gear selections should be made when the needle reaches the yellow sector (5,500–6,300 rev/min). Prolonged or excessive use of the highest engine speeds will tend to shorten the life of the engine. Allowing the engine to pull hard at low engine speeds must be avoided as this also has a detrimental effect on the engine. The beginning of the red sector (6,300 rev/min) indicates the maximum safe speed for the engine. Never allow the needle to enter the red sector.																		
Wet brakes	If the car has been washed, driven through water, or over wet roads for prolonged periods full braking power may not be available. Dry the brakes by applying the foot brake lightly several times, while the car is in motion. Keep the hand brake applied while using high pressure washing equipment.																		
Vehicle loading	Due consideration must be given to the overall weight carried when fully loading the car. Any loads carried on a luggage rack or downward load from a towing hitch must also be included in the maximum loading.																		
Towing	The towing weight of 1,344 lb (610 kg) is the maximum that is permissible. When using bottom gear a gradient of up to 1 in 8 can be ascended while towing a weight not exceeding this figure. It may be necessary to adjust the maximum towing weight to comply with local conditions and regulations. The recommended downward load of a trailer or caravan on the towing hitch is 75 lb (34 kg), but this may be reduced or exceeded at the discretion of the driver. Any load carried on the luggage rack or downward load from a towing hitch must also be included in the maximum loading of the vehicle.																		
Towing for recovery	Should it become necessary to tow the car, use the towing eyes provided. The ignition/steering lock key must be at positions 'I' or 'II' and must not be removed during the tow. For tow starting the key must be at position 'II'.																		

ENERGY CONSERVATION

It is essential that owners wishing to achieve the best possible degree of fuel economy ensure, as a first priority, that their vehicle is tuned to its optimum level of performance by regular maintenance in accordance with Leyland recommendations.

Apart from regular maintenance there are a number of areas where deliberate and conscious actions on the part of the owner can achieve further quite marked improvements. The following are recommended:

- After starting from cold, quickly depress and release the throttle pedal to set the automatic choke to its correct position.
- Switch off the ignition if the vehicle is expected to be stationary for more than half a minute.
- Avoid short stop-start journeys.
- Anticipate obstructions, junctions and sharp corners and adjust speed as necessary. Do not generate unnecessary speed.
- Accelerate gently through the gears.
- Decelerate gently whenever possible and avoid heavy braking.
- Stay in top gear as long as possible without labouring the engine.
- Ensure tyres are correctly inflated.
- Remove any unnecessary weight.

CAUTION: Carburettor piston damper

An incorrectly fitted or lubricated carburettor piston damper can cause a marked increase in fuel consumption. The cautionary note and instructions on carburettor damper topping-up given on page 68 of this handbook **MUST** be observed.

LOCKS, FITTINGS AND BODY

Keys Two keys and a duplicate set are provided, the large key for the steering lock/ignition switch, and the all metal key for the glovebox, the doors and luggage compartment.

To reduce the possibility of theft, locks are not marked with a number. **NOTE THE KEY NUMBERS IMMEDIATELY** on taking delivery of the car, see page 6.

Lubrication To ensure trouble-free operation it is essential that the locks, hinges and catches are adequately lubricated.

Locks. Inject a small quantity of thin oil, through the key slots and around the push-buttons. **Do not oil the steering lock.**

Hinges. Apply grease or oil to the joints of the hinges.

Bonnet catches. Apply grease to the moving surfaces of the bonnet release mechanism and oil to the release lever and safety-catch pivot points.

Doors The door key can only be inserted or withdrawn when the key and key slot (1) are vertical. Forward key movement locks, opposite unlocks. To lock the doors from inside the car, turn the locking lever (2), downwards.

Cubby box To open. Press the button (1) and lower the flap (2).

Fig. 2

To lock. Insert the key and turn clockwise.

To unlock. Turn the key anti-clockwise.

Fig. 1

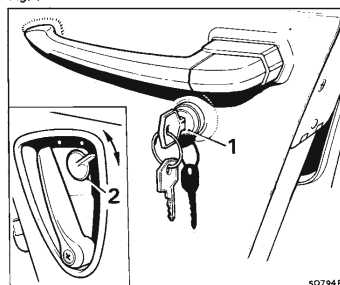
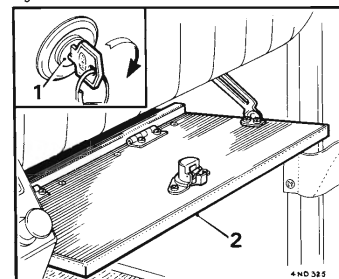


Fig. 2



Locks, Fittings and Body

Driving mirrors

Fig. 3 **External.** The mirror head is adjustable from the driving position when the window is open.

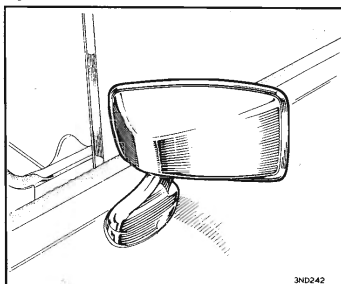
Fig. 4 **Interior.** The mirror stem with anti-dazzle head is designed to break away from the mounting bracket on impact. The stem may be refitted in the mounting bracket as follows. Align the stem ball (1) with the bracket cup (2), ensuring that the small protrusion (3) on the stem aligns with the indent of the mounting bracket. Give the stem a smart tap with a soft instrument to join the two components.

Anti-dazzle. To reduce mirror dazzle, pull the lever (4) away from the windscreen.

Windows and ventilators Rotate the handle (1) on each door to open and close the windows. The ventilation panels adjacent to each window may be opened after releasing the catch (2).
Fig. 5

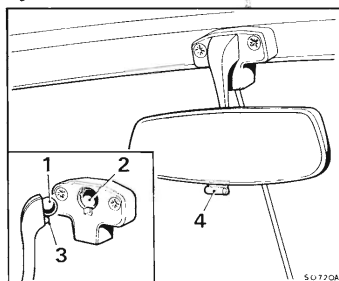
Bumpers Spilling fuel on the bumper may cause temporary local swelling of the rubber. Remove stains by lightly wiping the whole of the bumper with petrol (gasoline) or warm water and liquid detergent.

Fig. 3



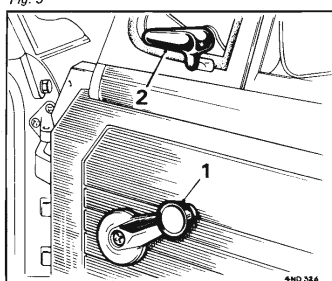
3ND242

Fig. 4



5U720A

Fig. 5



4ND324

Bonnet To raise the bonnet, pull the knob (1) located inside the car on the left-hand side below the fascia panel.
Fig. 6

Press the safety catch (2) under the front of the bonnet and raise the bonnet. When fully raised the support stay will automatically spring into engagement and the bonnet will be held in the open position.

To close, raise the bonnet slightly, push the catch (3) on the bonnet stay rearwards to release the locking mechanism and lower the bonnet. Apply light pressure with the palms of the hands at the front corners of the bonnet and press down quickly; undue force is not necessary and may cause damage. The safety catch and lock will be heard to engage.

Luggage compartment (boot) To open, insert the key and turn it clockwise, turn the handle in an anti-clockwise direction and fully raise the lid. The support stay will automatically spring into engagement and the lid will be retained in the open position. Opening the luggage compartment lid automatically switches on the courtesy lamp.
Fig. 7

To close, raise the lid slightly, push the catch (1) on the support stay forward to release the locking mechanism and lower the lid. Closing the luggage compartment lid automatically switches off the courtesy lamp.

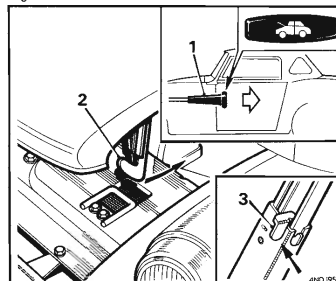
To lock, turn the key anti-clockwise and withdraw the key.

WARNING: Exhaust fumes will be drawn into the car if it is driven with the luggage compartment lid open, causing a health hazard to passengers and driver.

If it is imperative that the car be driven with the luggage compartment lid open, adverse effects can be minimized by adopting the following procedure:

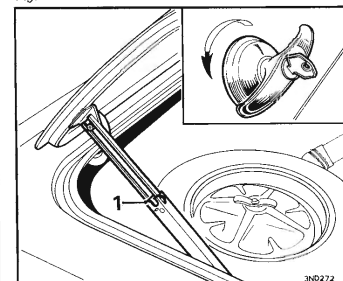
1. Close all windows.
2. Open the face vents fully.
3. Set the heater controls to circulate the maximum amount of cold or hot air.
4. Switch on the blower motor to maximum speed.
5. Do not travel at high speed.

Fig. 6



4ND195

Fig. 7



3ND272

Locks, Fittings and Body

Drain points The body and doors are provided with drain holes to allow rain-water and condensation to flow freely from the panels, thus preventing accumulated water from causing rust and corrosion. It is essential that the drain holes are kept clear and are not inadvertently blocked. When painting or applying underseal to the body underpanels or doors, temporarily seal or mask the drain holes to prevent the ingress of sealant. Periodically inspect the drain holes and clear any obstruction using a piece of stiff wire or a suitable tool.

Jacking up beneath the underfloor may deform the drain apertures; always use the jacking points provided.

Fig. 8

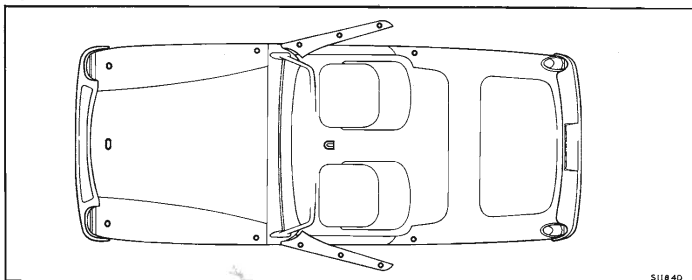


Fig. 9

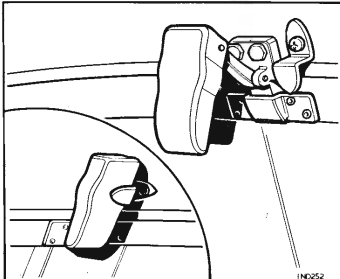
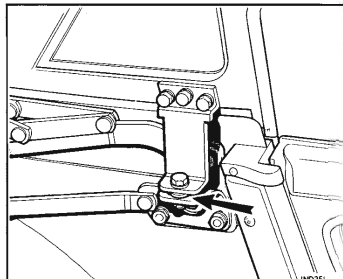


Fig. 10



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Hard top Fitting. Lower the hood.

Figs. 9 and 10 Position the hard top on the car and engage the toggle fastener tongues in their sockets on the windscreen rail. Check that the rubber sealing strip is correctly positioned forward of the rail. Fasten the toggle links and lock them with the securing brackets (inset, Fig. 9). Fit the bolts into both side-fixing brackets and tighten them down gently and evenly until the hard top seals at both sides and the rear. Do not tighten the bolts hard down.

Check the width of the gap between the flanges of the side-fixing brackets (see Fig. 10), remove the bolts and fit packing washers between the flanges to the thickness of the gap.

Refit and tighten the securing bolts.

Hood (Soft top) It is most important that the instructions for raising, lowering, and folding the hood are carried out in the sequence given. Do not apply pressure to the frame-members other than the header rail; undue force is not necessary and should be avoided. Do not fold or stow the hood when it is wet or damp.

Lowering

- (1) Unclip the sun visors and move to one side. Release the press studs on the windscreen frame and hood frame links (Fig. 11).
- (2) Release the hood from the self-fastening strip and the three fasteners on each rear quarter panel.
- (3) Open the toggle catches on the windscreen rail (inset, Fig. 11).
- (4) Press the header rail rearwards to collapse the hinge links, at the same time keeping the hood material pulled out towards the rear away from the frame (Fig. 12).

Fig. 11

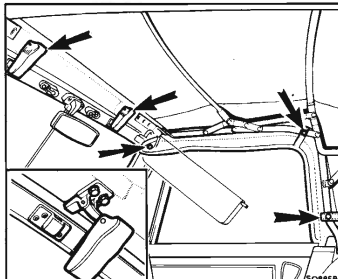
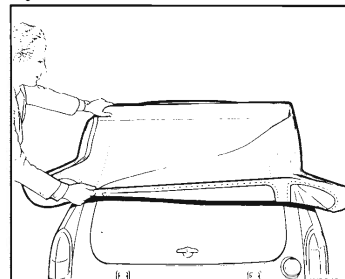


Fig. 12



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Locks, Fittings and Body

- (5) Collapse the frame into its stowage position in the rear compartment and lay the hood material on the luggage compartment lid.
- (6) Fold the quarter-light inwards, on a line between the quarter-light and back-light (Fig. 13).
- (7) Fold the hood over the frame into the rear compartment (Fig. 14).
- (8) Lay the hood cover over the hood and secure the rear edge with the fasteners (Fig. 15).
- (9) Arrange the cover and secure it at the sides with the fasteners provided at each quarter; secure the front edge to the cockpit rear panel with the four press studs (Fig. 15). Reposition the sun visors.

Raising

- (1) Remove the hood cover and open both doors.
- (2) Lift the hood over the frame and lay it on the luggage compartment lid.
- (3) Unfold the quarter-lights and pull the header rail forward and upwards at the point indicated by the label. Ensure that the hood material takes up its correct position as the frame is erected.
- (4) Engage the hood toggle fastener tongues in their sockets on the windscreen rail, check that the rubber sealing strip is correctly positioned forward of the rail, and fasten the toggle links.
- (5) Secure the hood with the fasteners on the rear quarters, windscreen side-posts, and frame hinge links.
- (6) Stow the hood cover.

Fig. 13

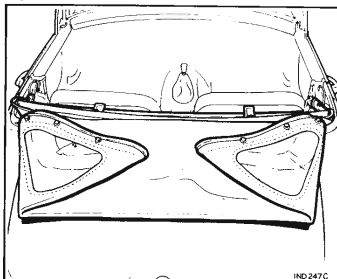
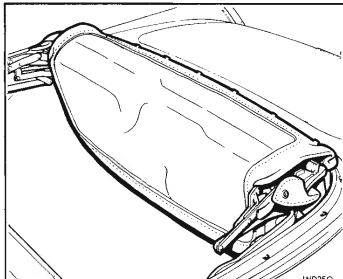


Fig. 14



Tonneau cover Fitting. Lay the cover over the cockpit and secure the rear edge and sides with the fasteners on the tonneau and quarter-panels.

Extend the cover forward and secure the front edge to the fasteners on the fascia panel top and windscreen pillars.

Usage. The centre zip allows the cover to be folded down to give access to the driving seat or both seats. Fold the cover down behind the seat and secure it with the fasteners to the heelboard (see Fig. 16). The short side zips permit the use of seat belts when the cover is folded down.

Removing. Reverse the fitting procedure.

Fig. 15

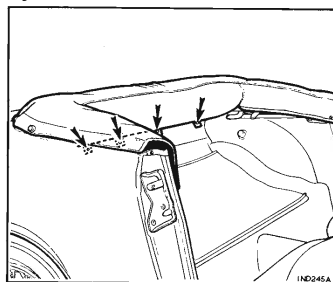
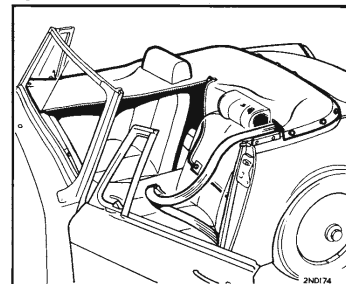


Fig. 16



SEATS AND SEAT BELTS

SEATS *Fig. 1*

Seat adjustment **Driving position.** Both seats are adjustable and can be moved easily into the most comfortable position. Move the lever (1) located beneath the front of the seat outwards; hold the lever in this position while the seat position is adjusted. The locking pin is spring-loaded and will automatically lock the seat in the required position when the lever is released.

Seat back adjustment. The rake of the back or squab of the seats can also be adjusted. Ease the body weight from the seat back and move the lever (2) rearwards. Release the lever and ensure that the seat back is fully locked in position; check by applying back pressure on the seat.

Head restraint The vertical position of the head restraint (3) may be adjusted.

To lower, push the head restraint down towards the seat.

To raise, place both hands under the restraint pad and lift the head restraint up away from the seat.

SEAT BELTS *Fig. 2*

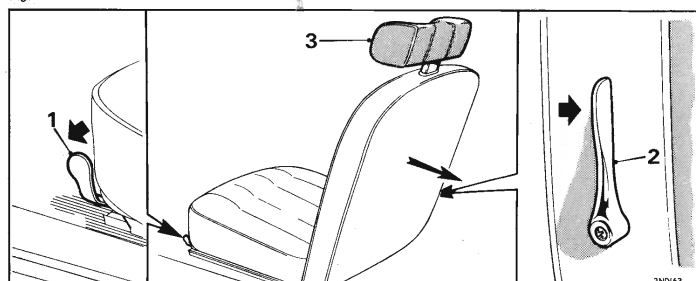
Warning system The seat belt warning system functions when the ignition/starter switch is operated.

The 'FASTEN BELTS' lamp will be switched on for eight seconds each time the ignition/starter switch is operated. The warning buzzer will sound for eight seconds if the ignition/starter switch is operated before the driver's seat belt is fastened.

Wearing Always wear a belt as a complete lap and diagonal assembly and never at any time wear it loosely, as this reduces its protection. Ensure that the belt is lying flat and not twisted. Always stow a seat belt that is not in use.

Never attempt to use a seat belt for more than one person, even for small children.

Fig. 1



To fasten Lift the engagement tongue (1) from the stowing device (2) and draw the belt over the shoulder and across the chest and push it into the locking device (3) nearest the wearer.

NOTE: Withdraw the belt from the reel with a steady pull; sudden snatches should be avoided as these will lock the reel.

To release Depress the panel (4) marked 'PRESS' on the locking device.

To stow Allow the belt to retract fully, manually assist the last few inches to retract. Hook the engagement tongue (1) onto the stowing device (2). To prevent the tongue sliding down the belt, ensure that the slide (5) is close to the tongue when the belt is stowed on the stowing device.

Testing **WARNING:** This test must be carried out under safe road conditions, i.e. on a dry, straight paved road, during a period when the road is free from traffic. With the belts in use, drive the car at 5 m.p.h. (8 km./h.) and brake sharply. The automatic locking device should operate and lock the belt. It is essential that the driver and passenger are sitting in a normal relaxed position when making the test. The retarding effect of the braking must not be anticipated.

If a belt fails to lock, consult your authorized Austin/MG Dealer.

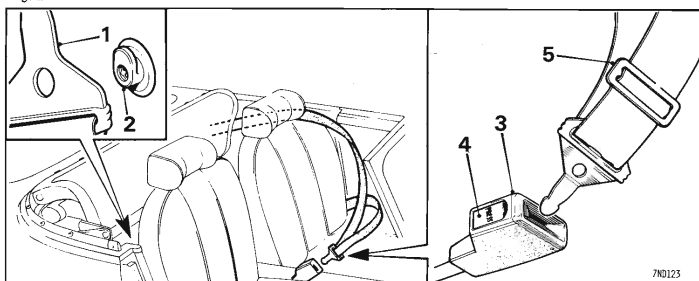
Care of the belts No unauthorized alterations or additions to the belts should be made. Inspect the webbing periodically for signs of abrasion, cuts, fraying and general wear; pay particular attention to the fixing points and adjusters.

Do not attempt to bleach the belt webbing or re-dye it. If the belts become soiled, sponge with warm water using a non-detergent soap and allow to dry naturally.

Do not use caustic soap, chemical cleaners or detergents for cleaning. Do not dry with artificial heat or by direct exposure to the sun.

Renew a seat belt assembly that has withstood the strain of a severe impact.

Fig. 2



HEATING AND VENTILATING

HEATER The heating and ventilating system is designed to provide fresh air either heated by the engine cooling system or at outside temperature to the car at floor level and for demisting and defrosting to the windscreen.

Air distribution Two doors, located one at each side of the gearbox tunnel, control distribution of air between screen and car interior. To supply air to the car, open the doors; to boost the flow of air to the screen, close the doors.

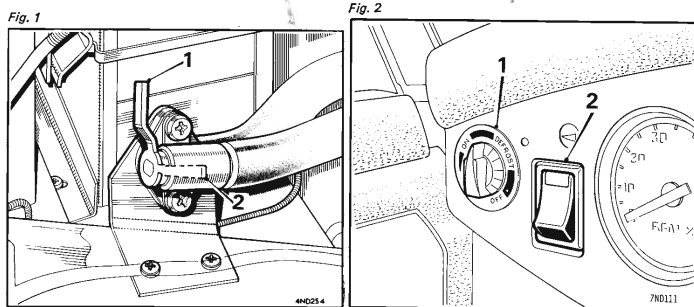
Controls Heater (Fig. 1). A valve controlling the flow of coolant through the heater unit is fitted on the bulkhead beside the battery. The valve is opened (1) by moving the lever towards the battery. Moving the lever away from the battery closes (2) the valve.

Air flow (Fig. 2). The knob (1) operates a valve in the air intake and controls the flow of air to the car interior. Turn the knob anti-clockwise from the 'OFF' position to open the valve, the valve is fully open when the knob is turned to the 'ON' position.

Booster. Press the lower end of the switch rocker (2) to boost the air flow.

Illumination The markings on the booster switch, the control dial and the position indicator on the rotary control knob are illuminated when the panel lamps are switched on.

Usage By varying the settings of the air flow control, opening or closing the air distribution doors, and utilizing the booster blower, a wide range of settings can be obtained for heating, when the heater valve is open, or for ventilating when the valve is shut, to suit prevailing conditions.



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CLEANING

Interior Carpets: Clean with a semi-stiff brush or a vacuum cleaner, preferably before washing the outside of the car. Occasionally give the carpets a thorough cleaning with a suitable upholstery cleaner. Carpets must not be 'dry-cleaned'.

Plastic faced upholstery: Clean with diluted upholstery cleaner. Spot clean with upholstery cleaner spread thinly over the surface with a brush or cloth, leave for five minutes, then wipe over with a damp sponge or cloth.

Body Regular care of the body finish is necessary if the new appearance of the car exterior is to be maintained against the effects of air pollution, rain, and mud.

Wash the bodywork frequently, using a soft sponge and plenty of water containing car shampoo. Large deposits of mud must be softened with water before using the sponge. Smears should be removed by a second wash in clean water, and with the sponge if necessary. When dry, clean the surface of the car with a damp chamois-leather. In addition to the regular maintenance, special attention is required if the car is driven in extreme conditions such as sea spray or on salted roads. In these conditions and with other forms of severe contamination an additional washing operation is necessary which should include underbody hosing. Any damaged areas should be immediately covered with paint and a complete repair effected as soon as possible. Before touching-in light scratches and abrasions with paint, thoroughly clean the surface. Use petrol/white spirit (gasoline/hydrocarbon solvent) to remove spots of grease or tar.

Bright trim Never use an abrasive on stainless, chromium, aluminium, or plastic bright parts and on no account clean them with metal polish. Remove spots of grease or tar with petrol/white spirit (gasoline/hydrocarbon solvent) and wash frequently with water containing car shampoo. When the dirt has been removed polish with a clean dry cloth or chamois-leather until bright. Any slight tarnish found on stainless or plated components which have not received regular attention may be removed with chrome cleaner. An occasional application of light mineral oil or grease will help to preserve the finish, particularly during winter when salt may be used on the roads, but these protectives must not be applied to plastic finishes.

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COOLING SYSTEM

Expansion tank and cap
Fig. 1

The expansion tank (1) and the spill tank (2) collect the coolant displaced by expansion when the engine is heated to normal running temperature. The displaced coolant is returned to the radiator when the system cools. The cap (3) on the expansion tank maintains the pressure in the cooling system to 15 lbf/in² (1.05 kgf/cm²) maximum when the engine is running. If the system is hot, protect the hands against escaping steam, turn the cap anti-clockwise until the stop is felt, wait until all pressure has escaped, then press down and turn further until the cap can be lifted off.

Checking

The coolant level must only be checked when the system is **cold**. Remove the expansion tank cap to check the coolant level which must be maintained to the half-full point of the tank.

Draining
Fig. 1

To drain the cooling system, stand the car on level ground, remove the expansion tank cap (3), and the filler plug (4) from the coolant outlet elbow. Slacken the hose clip and disconnect the bottom hose (5) at its connection to the radiator. Remove the drain plug (6) on the cylinder block.

Collect the coolant in a clean container if it is to be used again as cars are filled with a 50 per cent solution of anti-freeze before they leave the factory.

There is no provision for draining the heater, expansion tank or spill tank.

Filling
Fig. 1

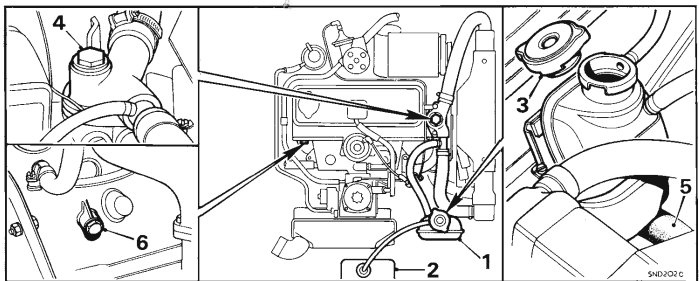
Anti-freeze must be used in the cooling system when freezing conditions are encountered.

Refit the drain plug (6), re-connect the bottom hose to the radiator, and check all other hose connections.

Fill the system with coolant through the filler orifice until the level is up to the bottom of the threads. Refit the filler plug. Top up the expansion tank with coolant to the half-full point and refit the cap.

Run the engine until normal operating temperature is reached. Stop the engine, allow the system to cool, and remove the expansion tank cap. Remove the filler plug and top up to the bottom of the threads and refit the filler plug. Top up the expansion tank to the half full point and refit the cap.

Fig. 1



Frost precautions

Water expands when it freezes, and if precautions are not taken there is considerable risk of bursting the radiator, cylinder block, or heater. The heater unit cannot be drained with the cooling system; it is therefore essential to use anti-freeze in the cooling system in freezing conditions.

When freezing conditions are likely to be encountered, have the specific gravity of the coolant checked by your authorized Austin MG Dealer, and add anti-freeze to give the required protection.

After the second year the system should be drained and flushed by inserting a hose in the filling orifice and allowing water to flow through until clean. Make sure that the cooling system is water-tight, examine all joints and replace any defective hose with a new one. Refill with the appropriate anti-freeze solution and add 0.25 pint (¼ U.S. pint, 0.15 litre) of neat anti-freeze to the expansion tank.

We recommend owners to use an ethylene glycol based anti-freeze to specification B.S. 3151/2 or S.A.E. J1034 to protect the cooling system during frosty weather and reduce corrosion to the minimum.

The correct quantities of anti-freeze for different degrees of frost protection are:

<i>Anti-freeze</i>	<i>Commences to freeze</i>		<i>Frozen solid</i>		<i>Amount of anti-freeze</i>		
<i>%</i>	<i>°C</i>	<i>°F</i>	<i>°C</i>	<i>°F</i>	<i>Pts.</i>	<i>U.S. Pts.</i>	<i>Litres</i>
25	—13	9	—26	—15	2½	3	1·42
33½	—19	—2	—36	—33	3½	4	1·84
50	—36	—33	—48	—53	4½	5½	2·7

WHEELS AND TYRES

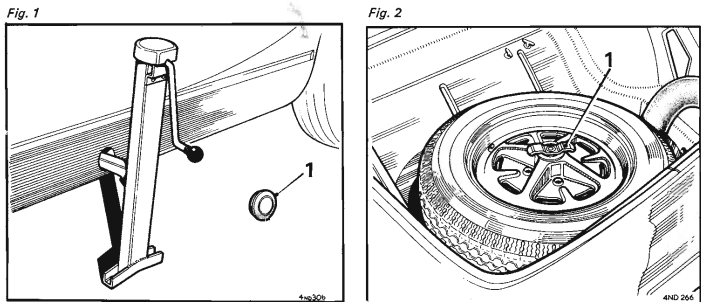
- Jacking up
Fig. 1

The jack is designed to lift one side of the car at a time. Apply the hand brake, and **block the wheels on the opposite side to that being jacked**; use a wood block jammed tight against the tyre tread.
- Remove the plug (1) from the socket in the sill panel and insert the arm of the jack into the socket. **Make certain that the lifting arm is pushed fully into the socket and that the base of the jack is on firm ground.** The jack should lean slightly outwards at the top to allow for the radial movement of the car as it is raised.
- WARNING. Do not work beneath the vehicle with the lifting jack as the sole means of support. Place suitable supports under the front side-members or rear axle to give adequate support and safety while working.
- Jack
maintenance

If the jack is neglected it may be difficult to use in a roadside emergency. Examine it occasionally, clean off accumulated dust, and lightly oil the thread to prevent the formation of rust.
- WHEELS
Preventive
maintenance

Owners are recommended to check the wheel nuts on pressed-type wheels for tightness each week. Take care not to overtighten (torque wrench setting 45 lbf ft (6.22 kgf m)).
- Spare wheel
Fig. 2

The spare wheel is stowed in the well of the luggage compartment.
- Unscrew the clamp plate (1) to release the spare wheel.
- When refitting, position the wheel face down in the well of the luggage compartment and retain in position with the clamp plate.
- The spare wheel tyre on new cars is inflated above the recommended running pressure. The pressure must be checked and adjusted before use.

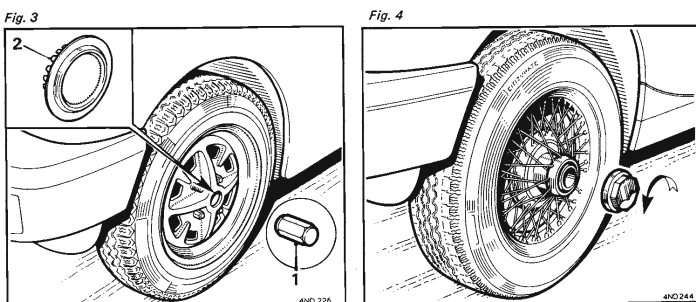


- Pressed type
Removing and
refitting
Fig. 3

Slacken the four nuts securing the road wheel to the hub; turn anti-clockwise to loosen and clockwise to tighten. Raise the car with the jack to lift the wheel clear of the ground and remove the nuts. Withdraw the road wheel from the hub.
- When refitting the road wheel locate the wheel on the hub, lightly tighten the nuts (1) with the wheel nut spanner, and lower the jack. Fully tighten the wheel nuts, tightening them diagonally and progressively to the correct torque wrench setting.
- If the spare wheel is to be fitted, remove the centre trim (2) from the original wheel and fit it to the wheel in use.
- Replace the wheel disc and jack socket plug.
- Wire type
(When fitted)
Removing and
refitting
Fig. 4

Use the spanner and hammer to slacken and tighten the octagonal hub nut.
- Always jack up a wheel before using the tools and always tighten the hub nuts fully.
- Hub nuts are marked 'LEFT' or 'RIGHT' to show to which side of the car they must be fitted, and also with the word 'UNDO' and an arrow.
- Before replacing a wheel wipe all serrations, threads, and cones of the wheel and hub and then lightly coat them with grease. If a forced change is made on the road, remove, clean, and grease as soon as convenient.
- Maintenance

When the car is new, after the first long run or after 50 miles (80 km) of short runs, jack up the wheels and use the hammer and spanner to make sure they are tight.



Wheels and Tyres

TYRES

Tyre markings Max. load and inflation figures. Tyres are marked with the maximum load and inflation pressure figures. When fitting replacement tyres ensure that they are to the same specification and marking. The permissible load and tyre pressures are shown on page 73 of this handbook.

Wear indicator. Tyres fitted as original equipment have wear indicators incorporated in their tread pattern. When the tyre tread has worn down until 0.06 in (1.5 mm) of the tread is remaining the wear indicator bar will appear across the full width of the tread pattern.

Tyre maintenance Tyres, including the spare, must be maintained at the pressures recommended (see 'GENERAL DATA'); check with an accurate tyre gauge at least once a week, and regulate as necessary. Pressures should be checked when the tyres are cold; do not reduce the pressure in warm tyres where the increase above the normal pressure is due to temperature. See that the valve caps are screwed down firmly by hand. The cap prevents the entry of dirt into the valve mechanism and forms an additional seal on the valve, preventing any leakage if the valve core is damaged. The spare wheel supplied with new cars is inflated above the recommended running pressure. The pressure must be checked and adjusted before use.

Excessive local distortion can cause the casing of a tyre to fracture and may lead to premature tyre failure. Tyres should be examined regularly, especially for cracked walls, exposed cords, etc. Flints and other sharp objects should be removed from the tyre tread; if neglected, they may work through the cover. Any oil or grease which may get onto the tyres should be cleaned off by using fuel sparingly. Do not use paraffin (kerosene), which has a detrimental effect on rubber.

Tubeless tyres Normally a tubeless tyre will not leak as a result of penetration by a nail or other puncturing object, provided that it is left in the tyre. At a convenient time have the tyre removed for vulcanizing. If a small diameter puncture has been made a temporary repair can be carried out with the tyre manufacturer's plugging kit.

NOTE: The insertion of a plug to repair a puncture in a tubeless tyre must be regarded as a temporary measure and a permanent vulcanized repair must be made as soon as possible. In no circumstances should a plug repair be made to the side wall of a tyre.

The instructions given for the temporary repair of tubeless tyres must be disregarded when tubes are fitted. If in any doubt, consult your authorized Austin MG Dealer.

Tubes When repairing tubes, have punctures or injuries vulcanised. Ordinary patches should only be used for emergencies. Vulcanising is absolutely essential for tubes manufactured from synthetic rubber.

Replacement Radial-ply tyres are standard equipment and replacements must be of the radial-ply type.

Wheel and tyre balancing Unbalanced wheel and tyre assemblies may be responsible for abnormal wear of the tyres and vibration in the steering. Consult your authorized Austin MG Dealer.

BRAKES AND MASTER CYLINDERS

Brake and clutch master cylinder The level of the fluid in the brake master cylinder reservoir is visible through the plastic reservoir (1); the level must be maintained up to the position marked (2) on the side of the reservoir.

Fig. 1

To check the level of the fluid in the clutch master cylinder reservoir (3), remove the plastic filler cap. The fluid level must be maintained at the bottom of the filler neck.

Use only **Lockheed Universal Brake Fluid (Series 329S)** or **Castrol Girling Brake Fluid**; alternatively, use a brake fluid conforming to **F.M.V.S.S. 116 D.O.T.3** specification with a minimum boiling-point of 260° C (500°F). Before refitting the filler caps check that the breather holes (indicated by the arrows) in the caps are clear. The centre disc (4) of the brake reservoir cap may be removed for cleaning.

Brake pedal A free movement of $\frac{1}{2}$ in (3.2 mm) (A), measured at the pedal pad must be maintained on the pedal. To adjust the free movement, slacken the stop light switch locknut (1) and turn the switch (2) clockwise to decrease or anti-clockwise to increase the clearance. Tighten the stop light switch locknut.

Fig. 2

Fig. 1

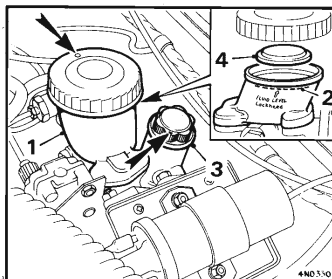
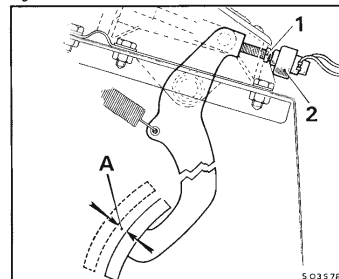


Fig. 2



Brakes and Master Cylinders

Front brakes Adjustment of the disc brakes to compensate for friction pad wear is automatic and manual adjustment is therefore not required. Before the lining material (arrowed) has worn down to the minimum permissible thickness of $\frac{1}{8}$ in (1.6 mm) or will have done so before the next inspection is due, the brake pads must be renewed. Special equipment is required, and new pads should be fitted by an authorized Austin MG Dealer.

Fig. 3

Rear brakes Excessive brake pedal travel is an indication that the rear brake-shoes require adjusting. The brakes on both rear wheels must be adjusted to regain even and efficient braking.

Adjusting

Fig. 4

Block the front wheels, fully release the hand brake and jack up each rear wheel in turn. Turn the adjuster (1) in a clockwise direction (viewed from the centre of the car) until the wheel is locked, then turn the adjuster back until the wheel is free to rotate without the shoes rubbing. Repeat the adjustment on the other rear brake.

Inspecting

**rear brake
linings**

Block the front wheels, release the hand brake, and jack up each rear wheel in turn. Remove the road wheel and slacken off the brake-shoe adjuster fully. Remove the two countersunk screws (pressed wheels) or the four nuts (wire wheels) and withdraw the brake-drum.

Inspect the linings for wear, and clean out the dust from the backplate assembly and drum.

Refit the drum and road wheel and adjust the brake-shoes.

**Replacing
brake-shoes
or pads**

When it becomes necessary to renew the brake-shoes or pads it is essential that only genuine shoes or pads, with the correct grade of lining, are used. Always fit new shoes or pads as complete axle sets, never individually or as a single wheel set. Serious consequences could result from out-of-balance braking due to mixing of linings.

Replacement brake-shoes or pads are obtainable from your authorized Austin MG Dealer.

Fig. 3

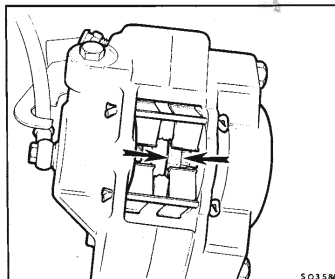
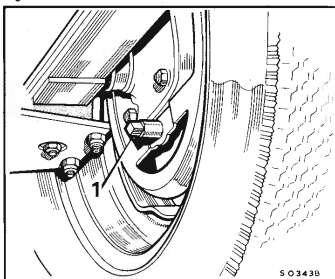


Fig. 4



Hand brake The hand brake is automatically adjusted with the rear brakes. If there is excessive movement of the hand brake lever, consult your authorized Austin MG Dealer.

**Preventive
maintenance**

In addition to the recommended periodical inspection of brake components it is advisable as the car ages, and as a precaution against the effects of wear and deterioration, to make a more searching inspection and renew parts as necessary.

It is recommended that:

- (1) Disc brake pads, drum brake linings, hoses, and pipes should be examined at intervals no greater than those laid down in the Maintenance Summary.
- (2) Under normal operating conditions brake fluid should be changed completely every 18 months or 19,000 miles whichever is the sooner.
- (3) All fluid seals in the hydraulic system and all flexible hoses should be renewed every 3 years or 37,500 miles whichever is the sooner. At the same time the working surface of the piston and of the bores of the master cylinder, wheel cylinders, and other slave cylinders should be examined and new parts fitted where necessary.

Care must be taken always to observe the following points:

- (a) At all times use the recommended brake fluid.
- (b) Never leave fluid in unsealed containers. It absorbs moisture quickly and can be dangerous if used in the braking system in this condition.
- (c) Fluid drained from the system or used for bleeding is best discarded.
- (d) The necessity for absolute cleanliness throughout cannot be over-emphasized.

ELECTRICAL

Polarity The electrical installation on this car is **NEGATIVE** (—) earth return and the correct polarity must be maintained at all times. Reversed polarity will permanently damage semi-conductor devices in the tachometer, and the radio transistors (when fitted).

Before fitting a radio or any other electrical equipment, make certain that it has the correct polarity for installation in this vehicle.

Battery The battery must be kept clean and dry, and the terminals should be smeared with petroleum jelly. The vehicle must be level when the electrolyte in the cells is being checked.

Fig. 1

More frequent topping-up of the electrolyte levels may be necessary in hot weather or when long journeys are made.

DO NOT USE A NAKED LIGHT WHEN CHECKING THE LEVELS and do not use tap water for topping-up.

NOTE: Do not leave the battery in a discharged state for any length of time. When not in regular use have the battery fully charged, and every fortnight give a short refresher charge to prevent permanent damage to the battery plates.

The electrolyte levels (1) in each cell are visible through the translucent battery case or may be checked by fully raising the vent cover (2) and tilting it to one side. The electrolyte level in each cell must be maintained so that the separator plates (3) are just covered. To avoid flooding, the battery must not be topped up within half an hour of it having been charged from any source other than the generating system fitted to the car.

To top up the levels raise the vent cover and pour distilled water into the trough (4) until all the rectangular filling slots (5) are full and the bottom of the trough is just covered. Press the cover firmly into position; the correct quantity of distilled water will automatically be distributed to each cell. In extremely cold conditions, run the engine immediately after topping-up to mix the electrolyte.

IMPORTANT: The vent cover must be kept closed at all times, except when topping-up. The electrolyte will flood if the cover is raised while either trickle- or fast-charging the battery. Fast charging should only be undertaken in extreme circumstances, and must not exceed 40 amps for a maximum period of one hour. A single-cell heavy discharge tester cannot be used on this type of battery. On no occasion should the vent cover be detached from the battery.

Battery boost starting and charging

Fig. 2

BATTERY BOOSTING AND CHARGING

CAUTION: The following precautions must be observed to avoid the possibility of serious damage to the charging system or electrical components of the vehicle.

A high speed battery charger must not be used as a starting aid.

When connecting an additional battery to boost a discharged battery in the vehicle, ensure that:

- the booster battery is of the same nominal voltage as the vehicle battery;
- the interconnecting cables are of sufficient capacity to carry starting current;
- the cables are interconnected one at a time and to the booster battery first;
- the cables are connected between the battery terminals in the following order: first, + (positive) to + (positive) and then — (negative) to — (negative);
- the engine speed is reduced to 1,000 rev/min or below before disconnecting the boost battery. The vehicle battery must never be disconnected while the engine is running.

Battery charging

A high speed charger may only be used if the battery has been completely disconnected from the vehicle electrical system. Certain types of maintenance-free batteries, for example the lead-calcium type, can be damaged by high speed chargers. If in doubt, consult your authorized Austin MG Dealer.

When charging the battery in the vehicle from an outside source such as a trickle charger, ensure that:

- the charger voltage is the same as the nominal voltage of the battery;
- the charger positive (+) lead is connected to the positive (+) terminal of the battery;
- the charger negative (—) lead is connected to the negative (—) terminal of the battery.

Fig. 1

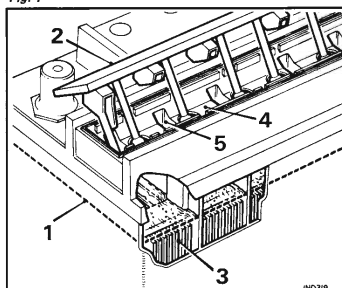
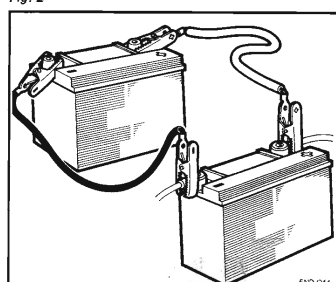


Fig. 2



Electrical

ALTERNATOR The following precautions must be observed to prevent inadvertent damage to the alternator and its control equipment.

Polarity. Ensure that the correct battery polarity (**negative ground**) is maintained at all times; reversed battery or charger connections will damage the alternator rectifiers.

Battery connections. The battery must never be disconnected while the engine is running.

FUSES The fuses are housed under the fuse cover (1) mounted in the engine compartment adjacent to the battery.

Fig. 3

Fuse connecting 1-2. The fuse (2) protects one parking lamp, one tail lamp, one number-plate lamp, and one front and rear side marker lamp.

Fuse connecting 3-4. The fuse (3) protects one parking lamp, one tail lamp, one number-plate lamp, and one front and rear side marker lamp.

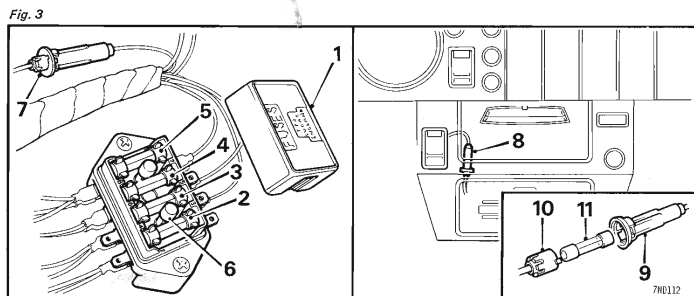
Fuse connecting 5-6. The fuse (4) protects the circuits which operate only when the ignition is switched on. These circuits are for the direction indicators, brake stop lamps, reverse lamps and seat belt warning.

Fuse connecting 7-8. The fuse (5) protects the equipment which operates independently of the ignition switch, namely horns, interior and luggage compartment lamps, headlamp flasher, brake failure warning lamp, door and seat belt audible warning and the cigar-lighter (if fitted)

Two spare fuses (6) are provided and it is important to use the correct replacement fuse. The fusing value, current rated 17 amp. continuous (35 amp. blow rated), is marked on a coloured slip of paper inside the glass tube of the fuse.

Line fuses **Running-on control valve (if fitted).** The 17 amp. continuous current rated (35 amp. blow rated) line fuse (7) protects the running-on control valve circuit which operates when the ignition is switched off.

Fig. 3



Hazard warning. The 17 amp. continuous current rated (35 amp. blow rated) line fuse (8) protects the hazard warning lamps and is located behind the hazard warning switch. It is accessible only when the centre console is withdrawn (see page 42).

Radio (if fitted). A separate additional line fuse protects the radio. See the instructions supplied with the radio for the correct fuse ratings.

To change line fuse, hold one end of the cylindrical fuse holder (9), push in, and twist the other end (10). Remove the fuse (11) from the cylindrical holder.

Blown fuses A blown fuse is indicated by the failure of all the units protected by it, and is confirmed by examination of the fuse when withdrawn.

Before renewing a blown fuse inspect the wiring of the units that have failed for evidence of a short-circuit or other fault.

HEADLAMPS

Light unit

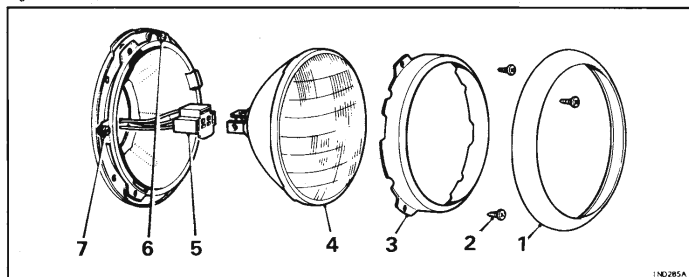
Fig. 4

To remove a light unit, ease the bottom of the outer rim (1) forwards and lift it off the retaining lugs at the top of the lamp. Unscrew the three inner rim retaining screws (2), remove the inner rim (3), withdraw the light unit (4), and disconnect the three-pin plug (5).

To fit a light unit, connect the three-pin plug, position the light unit in the headlamp body ensuring that the three lugs formed on the outer edge of the light unit engage in the slots formed in the body, and fit the inner retaining rim. Refit the outer rim.

Beam setting Two adjusting screws are provided on each headlamp for setting the main beams. The screw (6) is for adjusting the beam in the vertical plane, and the screw (7) is for horizontal adjustment. The beams must be set in accordance with local regulations; resetting and checking should be entrusted to your authorized Austin MG Dealer, who will have special equipment available for this purpose.

Fig. 4



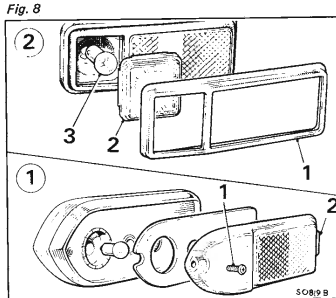
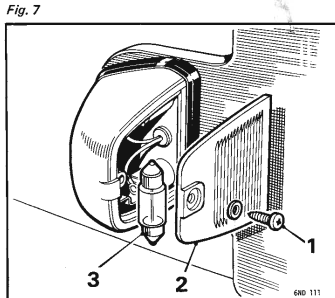
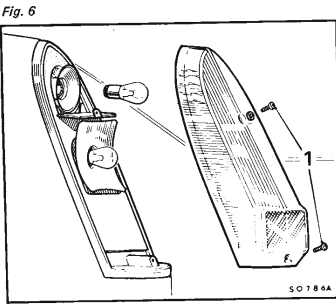
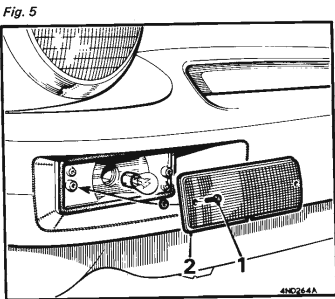
Electrical

LAMPS
Parking and direction indicator lamps
Fig. 5

To gain access to the parking and direction indicator bulb, unscrew the two retaining screws (1) and withdraw the lens (2).

Stop, tail, and direction indicator lamps
Fig. 6

Remove the lens retaining screws (1) and slide the lens upwards to gain access to the direction indicator and stop/tail bulbs.



Number-plate lamp
Fig. 7

To change a bulb, remove the screw (1), lift and pull the lens (2) clear of the lamp body and unclip the bulb (3) from its contacts. When refitting ensure that the lens engages in the seal lip.

Side marker lamps
Fig. 8

(1) **Front (amber).** To renew a bulb, remove the securing screw (1) and lift off the lamp lens, noting that one end is secured by a locating tab (2). When refitting, ensure that the sealing rubber is positioned correctly and that the lens tab (2) is located beneath the lamp body rim before refitting the securing screw.

(2) **Rear (red).** To gain access to the bulb (3), the rubber lips retaining the chrome bezel and lamp lens should be eased open with a screwdriver and the bezel (1), and lens (2), removed. When refitting ensure that the thick end of the wedge-shaped lens faces rearwards.

Reverse lamps
Fig. 9 (A)

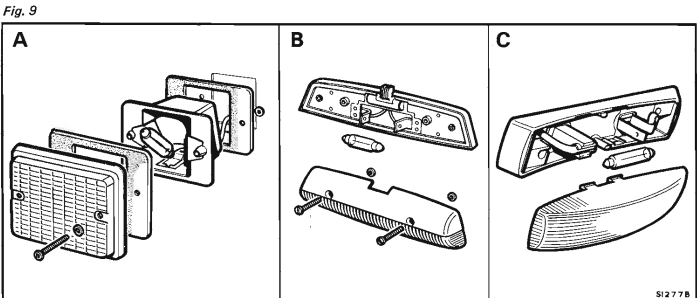
To renew a bulb, remove the two securing screws and withdraw the lens. Press the bulb down towards the lower contact and withdraw it from the lamp. Fit one end of the new bulb into the hole in the lower contact, then press the top of the bulb into the lamp until the point of the cap engages in the hole in the upper contact.

Interior courtesy lamp
Fig. 9 (B)

To replace a defective bulb, remove the two screws securing the lamp lens. Withdraw the festoon-type bulb from the retaining clips.

Luggage compartment lamp
Fig. 9 (C)

The lens is held in the lamp by four locating lugs. To gain access to the bulb, gently squeeze the sides of the lens together and withdraw it from the lamp. The bulb may then be withdrawn from its contacts.



Electrical

Warning panel and illumination lamps Figs. 10 and 11

Access to the bulbs is gained from the back of the fascia or by removing the centre console.

Centre console. Remove the four screws (12) on each side, securing the centre console. Withdraw the console, tilting the top forward slightly to clear the under edge of the fascia.

Heater control lamp bulb. Remove the push-fit bulb holder (1) from the control and remove the bayonet fixing type bulb (2).

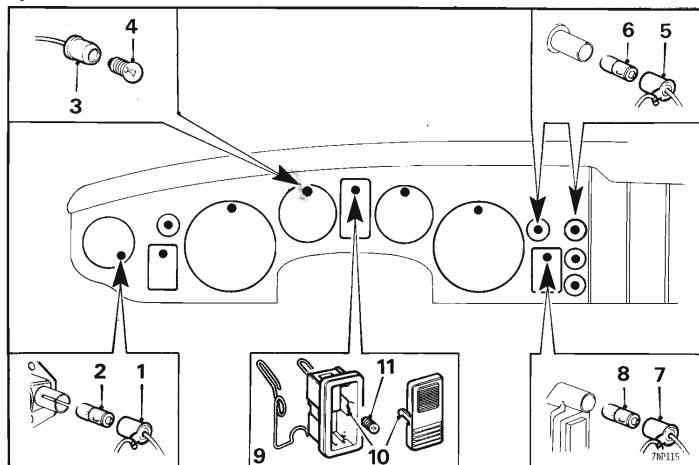
Instrument panel lamp bulbs. Remove the push-fit bulb holders (3) from the instruments and unscrew the bulb (4).

Warning lamp bulbs. Remove the push-fit bulb holders (5) from the lamps and remove the bayonet type fixing bulbs (6). To remove the ignition and high beam warning bulbs the centre console must also be withdrawn.

Lights and heater booster switch bulbs. Remove the push-fit bulb holders (7) from the switches and remove the bayonet type fixing bulbs (8). To remove the lights switch bulb the centre console must also be withdrawn.

Brake failure warning lamp. Remove the retaining spring clip (9) and withdraw the holder/test-push assembly from the fascia. Through the two pivot holes in the holder depress the pivot legs (10) and remove the test-push rocker from its holder. Unscrew and remove the bulb (11).

Fig. 10

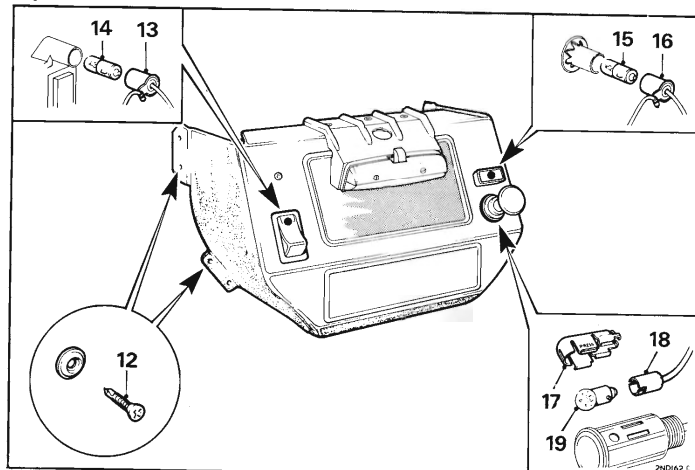


Hazard switch bulb. Withdraw the centre console. Remove the push-fit bulb holder (13) from the switch, and remove the bayonet fixing type bulbs (14).

Seat belt warning lamp bulb. Withdraw the centre console. Remove the push-fit bulb holder (16) from the lamp and remove the bayonet fixing type bulb (15).

Cigar lighter illumination bulb. Withdraw the centre console. Squeeze the sides of the bulb hood (17) and remove the hood. Remove the bulb holder (18) from the hood clip and remove the bayonet fixing type bulb (19).

Fig. 11

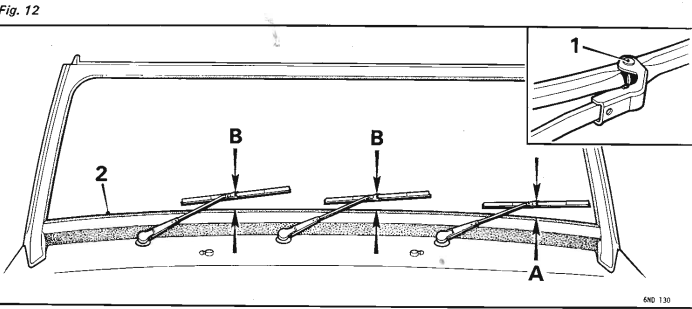


Electrical

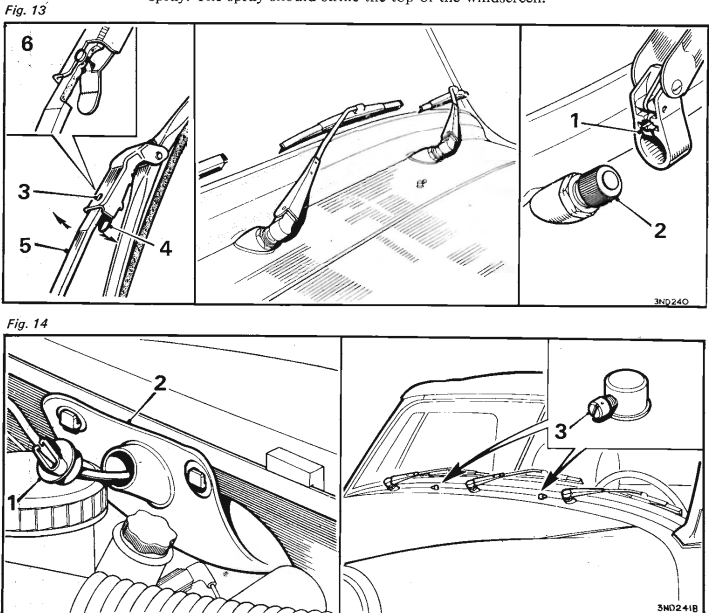
Replacement bulbs			Volts	Watts	Part No.
Headlamp—sealed beam	..	..	12	60/50	BHA 5382
Sidelamp (with flasher)	..	..	12	5/21	GLB 380
Stop/tail	..	..	12	5/21	GLB 380
Reverse	..	..	12	18	BFS 273
Number-plate lamp	..	..	12	6	BFS 254
Direction indicator	..	..	12	21	GLB 382
Side marker lamp, front and rear	..	..	12	5	BFS 501
Ignition warning	..	..	12	2	GLB 281
Main beam	..	..	12	2	GLB 281
Direction indicator warning lamp	..	..	12	2	GLB 281
Oil pressure warning lamp	..	..	12	2	GLB 281
Brake warning lamp	..	..	12	1.5	GLB 280
Panel illumination lamp	..	..	12	2.2	GLB 987
Cigar-lighter illumination	..	..	12	2.2	BFS 643
Luggage compartment lamp	..	..	12	6	GLB 254
Courtesy lamp	..	..	12	6	GLB 254
Seat belt warning lamp	..	..	12	2	GLB 281
Switch illumination	..	..	12	2	GLB 281
Heater rotary control illumination	..	..	12	2	GLB 281

WINDSCREEN WIPER AND WASHER

Wiper arms
Fig. 12 To re-position a wiper arm on the spindle, hold the spring clip (1) clear of the retaining groove in the spindle and withdraw the arm. Position the arm on the spindle (2).
Fig. 13 Ensure that there is a distance between the top wiper blade pivot (1) and the windscreen rubber (2) in the position shown as follows:
‘A’—Left-hand arm $\frac{1}{4}$ to 1 in.
‘B’—Centre and right-hand arm $\frac{3}{8}$ to $\frac{1}{2}$ in.
Press the arm down onto the spindle until it is retained in position by the clip.



Wiper blade
Fig. 13 To renew a wiper blade pull the arm away from the windscreen. Hold the fastener (3) and the spring retainer (4) away from the wiper arm (5) and withdraw the blade assembly from the arm.
Insert the end of the wiper arm into the spring fastener of the new blade and push the blade into engagement (6) with the arm.
To ensure efficient wiping it is recommended that wiper blades are renewed annually.
Windscreen washer
Fig. 14 The windscreen washer system should be checked for correct operation and the reservoir refilled if necessary every week and before a long journey in addition to the mileage intervals given in ‘MAINTENANCE SUMMARY’.
Washer reservoir. To fill the reservoir (2), remove the cap (1) and lift the reservoir from its mounting.
In cold weather the washer reservoir should be filled with a mixture of water and a recommended washer solvent to prevent the water freezing.
On no account should radiator anti-freeze or methylated spirits (denatured alcohol) be used in the windscreen washer.
Jet adjusting. Turn the jet (3) using a small screwdriver to adjust the height of the spray. The spray should strike the top of the windscreen.



IGNITION

Ignition timing The ignition timing is set dynamically to give optimum engine performance with efficient engine emission control. Electronic test equipment must be used to check the ignition timing setting and the automatic advance (see 'GENERAL DATA'). Checking and adjustment to the ignition timing setting should be carried out by your authorized Austin MG Dealer control service station.

Basic tuning data will be found on the Vehicle Emission Control Information Label located in the engine compartment.

Distributor Release the retaining clips and remove the cover (1). Remove the rotor arm (2) and the anti-flash shield (3).

Fig. 1

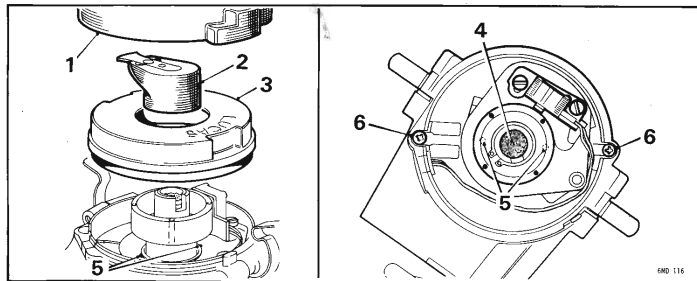
Lubrication. Add a few drops of oil to the felt pad (4) in the top of the timing rotor carrier.

Remove the anti-flash shield and lubricate the pick-up plate centre bearing with a drop of oil in each of the two holes (5) in the base plate.

CAUTION: Do not disturb the screw (6) securing the base plate.

Cleaning. With a clean nap-free cloth wipe the inside of the distributor cover, the rotor arm and the anti-flash shield. Refit the anti-flash shield, ensuring that the cut-outs are aligned with the distributor cover retaining clips. Refit the rotor arm and the cover.

Fig. 1



Spark plugs

Fig. 2

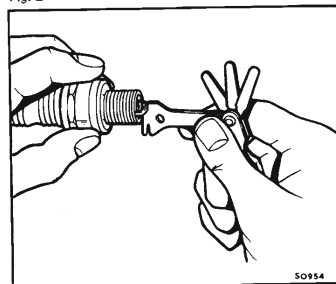
Disconnect the H.T. lead from each spark plug, and partly unscrew each plug. Clean the area of the cylinder head surrounding the seating of each plug, then unscrew each plug and discard it.

Check the gaps of new plugs, and reset if necessary to the recommended gap (see 'GENERAL DATA'). To reset, use a Champion spark plug gauge and setting tool; move the side electrode, never the centre one.

NOTE: Ensure that only the recommended type and grade of spark plug are used (see 'GENERAL DATA').

Screw the plug down by hand as far as possible, then use a spanner for tightening only. Always use a tubular box spanner to avoid possible damage to the insulator, and do not under any circumstances use a movable wrench. Never overtighten a plug, but ensure that a good joint is made between the plug body, washer, and cylinder head. Wipe clean the outside of the plugs before reconnecting the H.T. leads.

Fig. 2



ENGINE

LUBRICATION

Checking The level of the oil in the engine sump is indicated by the dipstick (1) on the right-hand side of the engine. Maintain the level between the 'MAX' (3) and 'MIN' (2) marks on the dipstick and never allow it to fall below the 'MIN' mark. The oil level should always be checked before a long journey.

Fig. 1

The filler cap (4) is on the rear end of the rocker cover.

Draining To drain the engine oil, remove the drain plug (5) located on the left-hand side at the rear of the sump. This operation should be carried out while the engine is warm.

Fig. 1

Clean the drain plug, and refit.

Filling Fill the engine with the correct quantity of recommended oil. Run the engine for a short while then allow it to stand for a few minutes before checking the level with the dipstick.

Fig. 1

Oil filter The oil filter is a disposable cartridge type and is located on the left-hand side of the engine.

Fig. 2

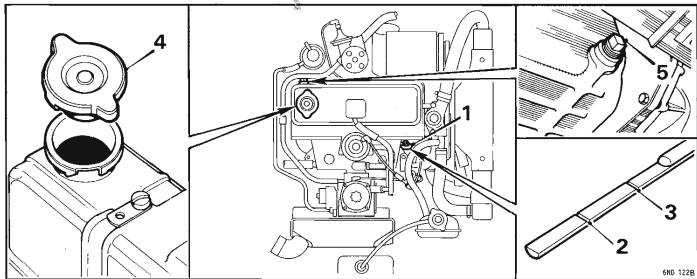
To renew the filter, disconnect the hose (1) from the air pump, unscrew the cartridge (2) from the cylinder block. If the adaptor (3) remains attached to the cartridge, unscrew the adaptor from the cartridge and screw it into the cylinder block. Discard the cartridge.

NOTE: If difficulty in unscrewing the cartridge is experienced, consult your authorized Austin MG Dealer.

Wipe the engine joint face (4) clean and smear with oil. Smear the new seal (5) with oil and fit it into the groove in the new cartridge. Screw the cartridge to the adaptor, using hand force only. Connect the hose to the air pump.

Refill the engine with the correct quantity of a recommended oil, start the engine and check for oil leakage.

Fig. 1



DRIVE BELT

Fan

Fig. 3

Tension. When correctly tensioned, a total deflection of $\frac{1}{4}$ in (19 mm) under moderate hand pressure, should be possible at the midway point (1) of the longest belt run between the pulleys.

Adjusting. To adjust the belt tension, slacken the securing nut and bolt (2) and adjusting link bolts (3), and move the alternator to the required position. Apply any leverage necessary to the alternator end bracket (4) only and not to any other part; to avoid damaging the drive-end bracket the lever should preferably be of wood. Tighten the bolts and re-check the belt tension. **DO NOT OVERTIGHTEN** as this will impose an excess loading on the drive bearings.

Fig. 2

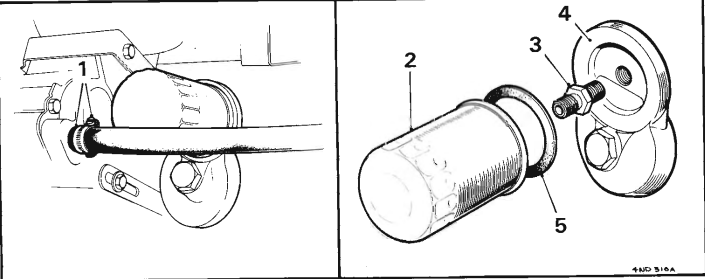
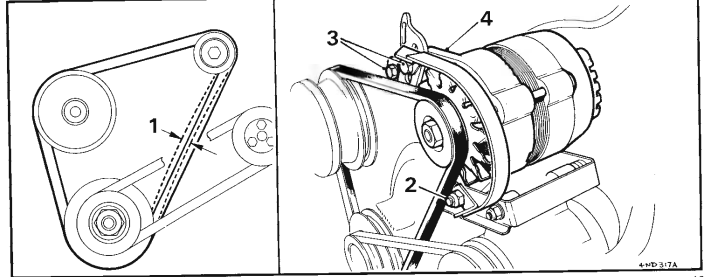


Fig. 3



Engine

VALVE ROCKER CLEARANCE

Checking Disconnect the purge pipe (1) from the rocker cover and unscrew the retaining screws (2). Release the collar and seal (3) from the rocker cover. Remove the rocker cover (4) and insert a 0.010 in (0.25 mm) feeler gauge (5) between the valve rocker arms and valve stems. The gauge should be a sliding fit when the engine is cold. Check each clearance in the following order:

Fig 4

Check No. 1 valve with No. 8 fully open. Check No. 8 valve with No. 1 fully open.

"	"	3	"	"	6	"	"	"	6	"	"	3	"
"	"	5	"	"	4	"	"	"	4	"	"	5	"
"	"	2	"	"	7	"	"	"	7	"	"	2	"

Adjusting Slacken the adjusting screw locknut (6) on the opposite end of the rocker arm and rotate the screw (7) clockwise to decrease or anti-clockwise to increase the clearance. Retighten the locknut when the clearance is correct, holding the screw against rotation with a screwdriver. Re-check the clearance.

Refitting Clean the rocker cover sealing face and fit a new gasket (8) to the rocker cover. Refit the cover, the brackets, and connect the purge pipe.

EMISSION CONTROL SYSTEMS—except California

You and each subsequent owner of the car are urged to make sure that the recommended maintenance procedures are carried out at the intervals specified. For the emission controls to continue to function effectively, it is strongly recommended that you arrange for regular maintenance inspections to be carried out by your authorized Austin MG Dealer or by any other qualified service outlet which regularly performs such service on British Leyland cars.

You have been provided with a Passport to Service which contains a facility to record that maintenance has been carried out at the recommended mileages.

You should have the maintenance record completed by your authorized Austin MG Dealer (or by other dealer or station equipped to render such service) at the regular mileage intervals indicated in the Schedule. The Handbook and Passport to Service should be handed to subsequent purchasers of the vehicle at the time of sale so that the maintenance instructions are available and that the record of maintenance can be continued.

You are also urged to study with care the section covering 'MALFUNCTION IDENTIFICATION'. Study of this section will be of aid to you in detecting possible malfunctions of the emission controls so that necessary service measures can immediately be taken.

IMPORTANT

Your attention is particularly drawn to the following:

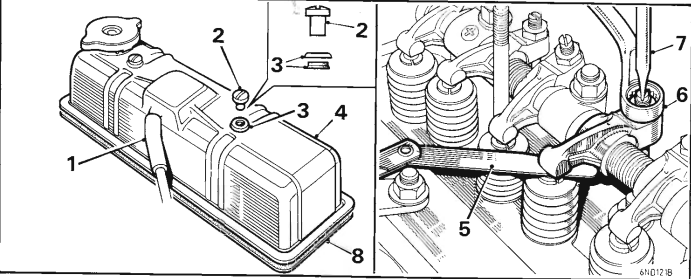
- 1. Maintenance and service charges applicable to the emission control system are not covered by the warranty and are not reimbursable, unless shown to have been caused by defects in materials and workmanship covered by the warranty.
- 2. The engine has been designed for the regular use of unleaded fuel. Leaded fuel or low lead fuel must not be used as such fuels will seriously impair the efficiency of the emission control system and cause permanent damage to the catalytic converter.

General description

This section gives a general description of the crankcase, exhaust and fuel evaporative emission control systems fitted to this vehicle and the function of their individual components. It must be emphasized that correct carburettor adjustment and ignition timing which have been pre-set at the factory are essential for the efficient functioning of the exhaust emission controls. Should it become necessary to check or adjust these settings this work should be carried out by an authorized Austin MG or British Leyland Dealer who has the specialist equipment and training to undertake these adjustments.

The basic engine tuning data will be found on the emission control information label located in the front of the engine compartment.

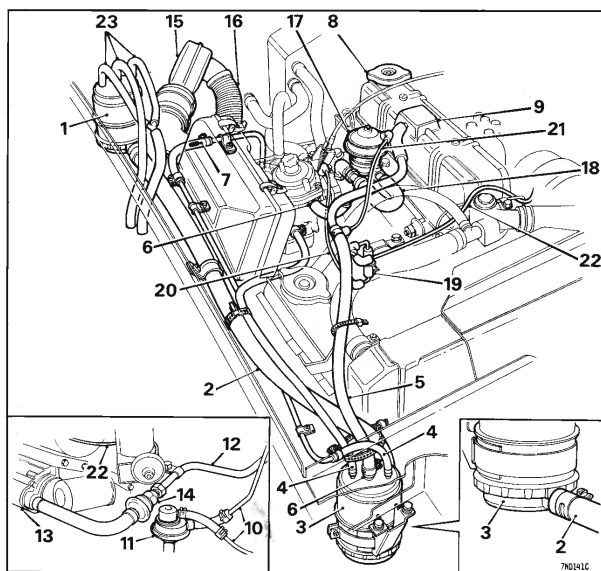
Fig. 4



Emission Control Systems—except California

Crankcase emission control The engine crankcase breather outlet incorporates an oil separator flame-trap (arrestor) in the top of the valve rocker cover which is connected by hoses to the controlled depression chamber between the piston and the throttle disc of the carburettor. Piston blowby fumes are drawn into the depression chamber of the carburettor from the rocker cover, and are joined by purged air from the primary charcoal canister of the fuel evaporate loss system. These fumes combine with the inlet charge for combustion in the normal way.

THE EMISSION CONTROL COMPONENTS



- | | |
|---|--|
| 1. Secondary charcoal adsorption canister | 13. Air pump |
| 2. Canister inter-connecting pipe | 14. Check valve |
| 3. Primary charcoal adsorption canister | 15. Air temperature control valve |
| 4. Vapour lines | 16. Hot air hose |
| 5. Purge line | 17. Exhaust gas recirculation valve |
| 6. Restricted connection | 18. E.G.R. valve pipe |
| 7. Restrictor | 19. Flame trap |
| 8. Sealed oil filler cap | 20. Flame trap line to carburettor |
| 9. Oil separator/flame trap (arrestor) | 21. Flame trap line to E.G.R. valve |
| 10. Fuel pipe | 22. Flame trap line to distributor vacuum unit |
| 11. Fuel pump | 23. Vent pipes |
| 12. Air injection pipe | |

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Exhaust emission control The exhaust emission control system is designed to give the required degree of control of the carbon monoxide, unburnt hydrocarbons and oxides of nitrogen content of exhaust gases.

The emission control system is a combination of engine components and air injection techniques and consists of a special carburettor, air injection into the exhaust manifold and exhaust gas recirculation.

The quantity of air-polluting elements in the gases leaving the exhaust pipe is reduced by adding air to the hot gases immediately they leave the combustion chambers of the engine. The injection of air into the exhaust gases promotes a continued conversion of the undesirable hydrocarbon and carbon monoxide components of the exhaust gases to relatively harmless carbon dioxide and water.

The exhaust gas recirculation valve mounted on the exhaust manifold will re-circulate a controlled quantity of the exhaust gases to reduce combustion chamber temperature.

The catalytic converter is fitted into the exhaust system in order to reduce carbon monoxide and hydrocarbon emissions.

An air pump mounted on the front of the engine, and belt driven from the crankshaft pulley, supplies air under pressure through a hose, a check valve, and distribution pipe to the exhaust manifold. The check valve prevents high pressure exhaust gases from blowing back into the pump due to, for example, pump drive failure.

The carburettor is manufactured to a special exhaust emission specification and is tuned to give the maximum emission control consistent with retaining vehicle performance and drivability. The metering needle is arranged in such a manner that it is always lightly spring loaded against the side of the jet to ensure consistency of fuel metering. A throttle by-pass valve limits the inlet manifold depression and ensures that during conditions of engine overrun the air/fuel mixture enters the engine cylinders in a burnable condition consistent with low emission levels.

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Emission Control Systems—except California

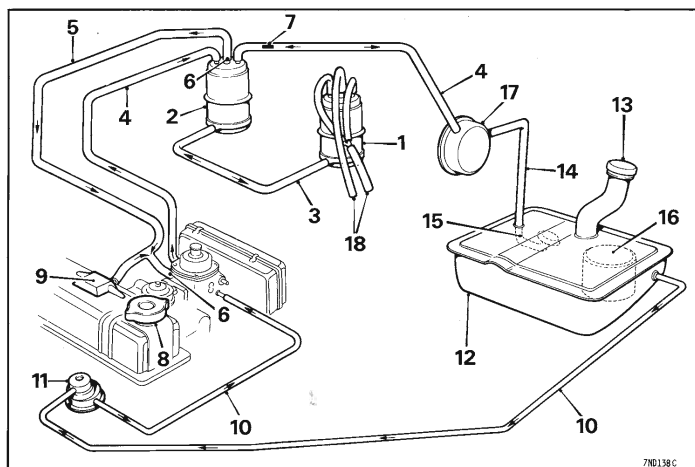
Fuel evaporative loss control To prevent air pollution by vapours from the fuel tank and the carburettor vents, the control equipment stores the vapour in both of the charcoal-filled canisters while the engine is stopped and disposes of it via the engine crankcase emission control system when the engine is running.

The fuel tank venting is designed to ensure that no liquid fuel is carried to the storage canisters with the vapours and that vapours are vented through the control system.

The capacity of the fuel tank is limited by a specially positioned filler vent tube and ensures sufficient volume is available after filling to accommodate fuel which would otherwise be displaced as a result of a high temperature rise.

Warning: When filling with fuel do not attempt to add more than the capacity given in 'GENERAL DATA'. Slow filling, or allowing the level to drop and then adding more fuel, is not recommended and can result in spillage due to expansion.

THE LAYOUT OF THE FUEL EVAPORATIVE LOSS CONTROL SYSTEM



- | | |
|---|----------------------------|
| 1. Secondary charcoal adsorption canister | 10. Fuel pipe |
| 2. Primary charcoal adsorption canister | 11. Fuel pump |
| 3. Canister inter-connecting pipe | 12. Fuel tank |
| 4. Vapour lines | 13. Sealed fuel filler cap |
| 5. Purge line | 14. Vapour line |
| 6. Restricted connection | 15. Vapour tube |
| 7. Restrictor | 16. Capacity limiting tank |
| 8. Sealed oil filler cap | 17. Separation tank |
| 9. Oil separator flame trap (arrestor) | 18. Vent pipes |

MALFUNCTION IDENTIFICATION

Check the following items regularly for visual signs of a malfunction and also if any of the driving symptoms listed should persistently occur. If you are unable to locate and/or correct the malfunction you are advised to contact your authorized Austin MG Dealer immediately.

- Visual checks**
1. Condition and adjustment of drive belts.
 2. Baked or overheated hose between air pump, diverter valve and check valve.
 3. All hoses for security, damage and deterioration.
 4. Fuel leakage.
 5. Oil filler cap for sealing.
 6. Fuel filler cap for sealing.

- Driving symptoms**
1. Violent backfire in exhaust system.
 2. Hesitation to accelerate on re-opening the throttle after sudden throttle closure.
 3. Engine surges (erratic operation at varying throttle openings).
 4. Engine idles erratically or stalls.
 5. Noisy air pump.
 6. Ignition warning light on above idle speed (slack or broken fan belt).
 7. Smell of fuel vapours.
 8. Engine stops after short running periods (fuel starvation).
 9. Lack of power.
 10. Excessive fuel consumption.
 11. Engine misfires (engine jerks on cruise and acceleration).
 12. High temperature indicated (overheating of coolant).

Emission Control Systems—except California

MAINTENANCE OPERATIONS

All items marked * in the 'MAINTENANCE SUMMARY' given on pages 76 to 82 are emission control related.

Adsorption canisters

Fig. 1

The charcoal adsorption canisters (5) and (10) must be renewed every 50,000 miles.

To remove the secondary canister. Disconnect two outer vent pipes (1) and the central vent pipe (2) from the top of the canister. Disconnect the inter-connecting pipe (3) from its connection on the canister. Remove the securing bracket nut and bolt (4) and remove the secondary canister (5).

To remove the primary canister. Disconnect the purge pipe (6), vapour pipes (7) and inter-connecting pipe (8) from their connections in the canister. Remove the securing nut and bolt (9) and remove the primary canister (10).

NOTE: Transfer the restrictor in the primary canister outlet pipe (6) to the new canister.

Refitting. When refitting, ensure that all connections to the secondary and primary canisters are secure.

Air pump

Fig. 2

Drive belt tension. When correctly tensioned, a total deflection of $\frac{1}{4}$ in (13 mm) under moderate hand pressure, should be possible at the midway point of the belt run.

Adjusting. Slacken the securing bolt (1) and the two adjusting link bolts (2), move the air pump to the required position. Tighten the bolts and re-check the belt tension. **DO NOT OVERTIGHTEN.**

Purge and vapour line restrictors

Figs. 3 and 4

To check, disconnect the purge line (1) from the primary adsorption canister, and the purge line (2) from the carburetter, also disconnect the hose (3) from the vapour pipe.

Examine the orifice of the primary canister restrictor (4), the carburetter restrictor (5) and the vapour line restrictor (6) for obstruction. Clear any dirt or deposit from a restrictor orifice, using a length of wire.

WARNING: DO NOT use air pressure to clear any dirt.

Exhaust gas recirculation valve

Fig. 4

Servicing the E.G.R. valve (7) should be carried out by your authorized Austin MG Dealer.

Fig. 1

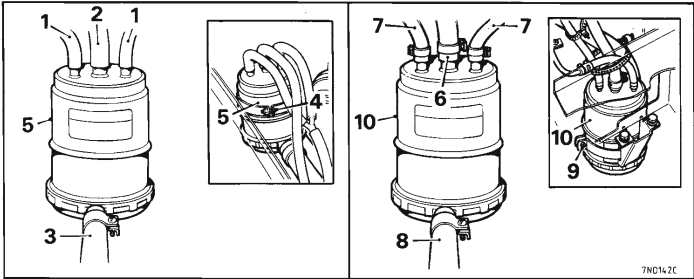


Fig. 2

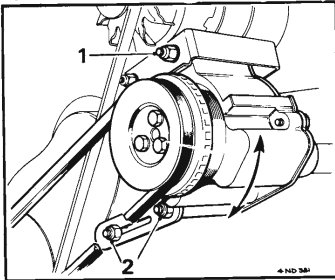


Fig. 3

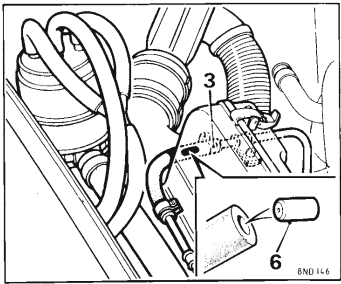
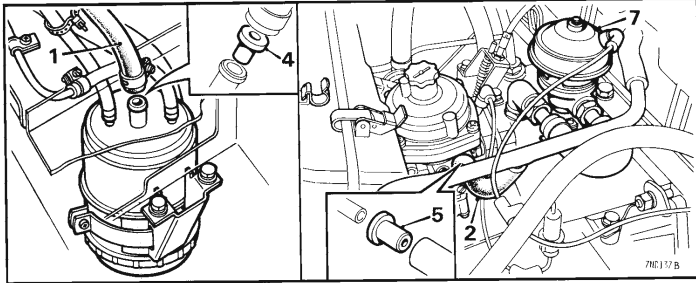


Fig. 4



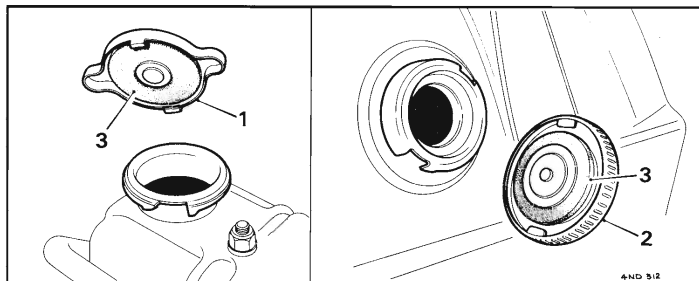
Emission Control Systems—except California

Filler caps Both the engine oil filler cap (1) and the fuel tank filler cap (2) are non-venting and form a seal on the filling apertures.

Fig. 5

IT IS ESSENTIAL TO THE SATISFACTORY OPERATION OF THE EVAPORATIVE LOSS SYSTEM THAT BOTH CAPS ARE ALWAYS REFITTED CORRECTLY. A DEFECTIVE CAP OR CAP SEAL (3) MUST BE REPLACED.

Fig. 5



EMISSION CONTROL SYSTEMS—California

You and each subsequent owner of the car are urged to make sure that the recommended maintenance procedures are carried out at the intervals specified. For the emission controls to continue to function effectively, it is strongly recommended that you arrange for regular maintenance inspections to be carried out by your authorized Austin MG Dealer or by any other qualified service outlet which regularly performs such service on British Leyland cars.

You have been provided with a Passport to Service which contains a facility to record that maintenance has been carried out at the recommended mileages.

You should have the maintenance record completed by your authorized Austin MG Dealer (or by other dealer or station equipped to render such service) at the regular mileage intervals indicated in the Schedule. The Handbook and Passport to Service should be handed to subsequent purchasers of the vehicle at the time of sale so that the maintenance instructions are available and that the record of maintenance can be continued.

You are also urged to study with care the section covering 'MALFUNCTION IDENTIFICATION'. Study of this section will be of aid to you in detecting possible malfunctions of the emission controls so that necessary service measures can immediately be taken.

IMPORTANT

Your attention is particularly drawn to the following:

1. Maintenance and service charges applicable to the emission control system are **not** covered by the warranty and are not reimbursable, unless shown to have been caused by defects in materials and workmanship covered by the warranty.
2. The engine has been designed for the regular use of **unleaded fuel**. Leaded fuel or low lead fuel must not be used as such fuels will seriously impair the efficiency of the emission control system and cause permanent damage to the catalytic converter.

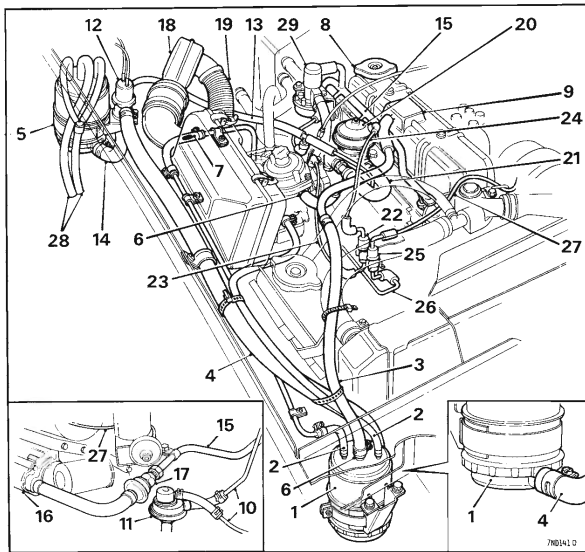
General description This section gives a general description of the crankcase, exhaust and fuel evaporative emission control systems fitted to this vehicle and the function of their individual components. It must be emphasized that correct carburettor adjustment and ignition timing which have been pre-set at the factory are essential for the efficient functioning of the exhaust emission controls. Should it become necessary to check or adjust these settings this work should be carried out by an authorized Austin MG or British Leyland Dealer who has the specialist equipment and training to undertake these adjustments.

The basic engine tuning data will be found on the emission control information label located in the front of the engine compartment.

Emission Control Systems—California

Crankcase emission control The engine crankcase breather outlet incorporates an oil separator flame-trap (arrestor) in the top of the valve rocker cover which is connected by hoses to the controlled depression chamber between the piston and the throttle disc of the carburettor. Piston blowby fumes are drawn into the depression chamber of the carburettor from the rocker cover, and are joined by purged air from the primary charcoal canister of the fuel evaporative loss system. These fumes combine with the inlet charge for combustion in the normal way.

THE EMISSION CONTROL COMPONENTS



- | | |
|---|---|
| 1. Primary charcoal adsorption canister | 15. Air injection pipe |
| 2. Vapour lines | 16. Air pump |
| 3. Purge line | 17. Check valve |
| 4. Connecting pipe | 18. Air temperature control valve |
| 5. Secondary charcoal adsorption canister | 19. Hot air pipe |
| 6. Restricted connection | 20. Exhaust gas recirculation valve |
| 7. Restrictor | 21. E.G.R. valve pipe |
| 8. Sealed oil filler cap | 22. E.G.R. valve flame trap |
| 9. Oil separator/flame trap (arrestor) | 23. E.G.R. valve flame trap line to carburettor |
| 10. Fuel pipe | 24. Flame trap line to E.G.R. valve |
| 11. Fuel pump | 25. Distributor flame trap |
| 12. Running-on control valve | 26. Distributor flame trap line to carburettor |
| 13. Sensing pipe | 27. Flame trap line to distributor vacuum unit |
| 14. Running-on control hose | 28. Air vent pipe |
| | 29. Gulp valve |

Exhaust emission control The exhaust emission control system is designed to give the required degree of control of the carbon monoxide, unburnt hydrocarbons and oxides of nitrogen content of exhaust gases.

The emission control system is a combination of engine components and air injection techniques and consists of a special carburettor, air injection into the exhaust manifold and exhaust gas recirculation.

The quantity of air-polluting elements in the gases leaving the exhaust pipe is reduced by adding air to the hot gases immediately they leave the combustion chambers of the engine. The injection of air into the exhaust gases promotes a continued conversion of the undesirable hydrocarbon and carbon monoxide components of the exhaust gases to relatively harmless carbon dioxide and water.

The exhaust gas recirculation valve mounted on the exhaust manifold will re-circulate a controlled quantity of the exhaust gases to reduce combustion chamber temperature.

The catalytic converter is fitted into the exhaust system in order to reduce carbon monoxide and hydrocarbon emissions.

An air pump mounted on the front of the engine, and belt driven from the crankshaft pulley, supplies air under pressure through a hose, a check valve, and distribution pipe to the exhaust manifold. The check valve prevents high pressure exhaust gases from blowing back into the pump due to, for example, pump drive failure.

Air from the pump is also supplied to a gulp valve, the outlet of which is connected to the engine inlet manifold. A small-bore sensing pipe connected between the inlet manifold and the diaphragm chamber of the gulp valve relays changes in manifold depression to the valve which will open under certain conditions such as those created by deceleration or engine overrun.

When the gulp valve opens, a small quantity of air is admitted directly into the inlet manifold to lean off the rich air/fuel mixture which is present in the manifold under conditions immediately following throttle closure. This mixture, having been reduced to a burnable condition, combines with engine inlet charge for combustion in the engine cylinders in the normal way.

The carburettor is manufactured to a special exhaust emission specification and is tuned to give the maximum emission control consistent with retaining vehicle performance and drivability. The metering needle is arranged in such a manner that it is always lightly spring loaded against the side of the jet to ensure consistency of fuel metering. A throttle by-pass valve limits the inlet manifold depression and ensures that during conditions of engine overrun the air/fuel mixture enters the engine cylinders in a burnable condition consistent with low emission levels.

Emission Control Systems—California

Fuel evaporative loss control

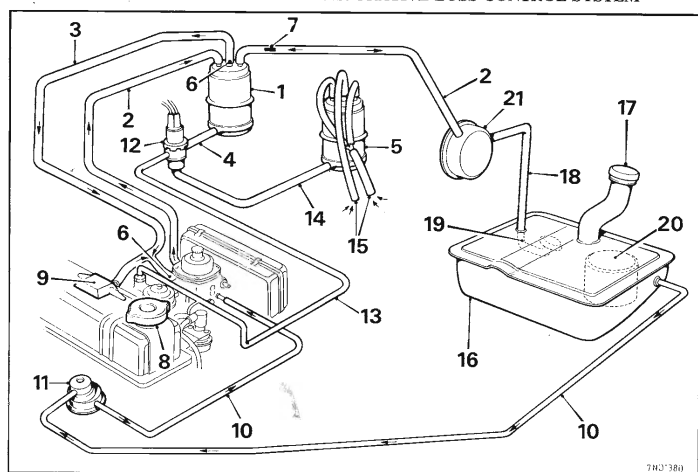
To prevent air pollution by vapours from the fuel tank and the carburettor vents, the control equipment stores the vapour in both of the charcoal-filled canisters while the engine is stopped and disposes of it via the engine crankcase emission control system when the engine is running.

The fuel tank venting is designed to ensure that no liquid fuel is carried to the storage canisters with the vapours and that vapours are vented through the control system.

The capacity of the fuel tank is limited by a specially positioned filler vent tube and ensures sufficient volume is available after filling to accommodate fuel which would otherwise be displaced as a result of a high temperature rise.

Warning: When filling with fuel do not attempt to add more than the capacity given in 'GENERAL DATA'. Slow filling, or allowing the level to drop and then adding more fuel, is not recommended and can result in spillage due to expansion.

THE LAYOUT OF THE FUEL EVAPORATIVE LOSS CONTROL SYSTEM



1. Primary charcoal adsorption canister
2. Vapour lines
3. Purge line
4. Connecting pipe
5. Secondary charcoal adsorption canister
6. Restricted connection
7. Restrictor
8. Sealed oil filler cap
9. Oil separator/flame trap (arrestor)
10. Fuel pipe
11. Fuel pump

12. Running-on control valve
13. Sensing pipe
14. Running-on control hose
15. Air vent pipe
16. Fuel tank
17. Sealed fuel filler cap
18. Vapour line
19. Vapour tube
20. Capacity limiting tank
21. Separation tank

MALFUNCTION IDENTIFICATION

Check the following items regularly for visual signs of a malfunction and also if any of the driving symptoms listed should persistently occur. If you are unable to locate and/or correct the malfunction you are advised to contact your authorized Austin MG Dealer immediately.

Visual checks

1. Condition and adjustment of drive belts.
2. Baked or overheated hose between air pump, diverter valve and check valve.
3. All hoses for security, damage and deterioration.
4. Fuel leakage.
5. Oil filler cap for sealing.
6. Fuel filler cap for sealing.
7. Catalytic converter warning light on.

Driving symptoms

1. Violent backfire in exhaust system.
2. Hesitation to accelerate on re-opening the throttle after sudden throttle closure.
3. Engine surges (erratic operation at varying throttle openings).
4. Engine idles erratically or stalls.
5. Noisy air pump.
6. Ignition warning light on above idle speed (slack or broken fan belt).
7. Smell of fuel vapours.
8. Engine stops after short running periods (fuel starvation).
9. Lack of power.
10. Excessive fuel consumption.
11. Engine misfires (engine jerks on cruise and acceleration).
12. High temperature indicated (overheating of coolant).

Emission Control Systems—California

MAINTENANCE OPERATIONS

All items marked * in the 'MAINTENANCE SUMMARY' given on pages 76 to 82 are emission control related.

Adsorption canisters Fig. 1

The charcoal adsorption canisters (6) and (11) must be renewed every 50,000 miles.

To remove the secondary canister. Disconnect the two outer vent pipes (1) and the central vent pipe (2) from the top of the canister. Disconnect the running-on control hose (3) from its connection on the canister. Remove the securing bracket nut and bolt (4) and the running-on control valve bracket nut and bolt (5) and remove the secondary canister (6).

To prevent the engine running on after the ignition has been switched off, a control valve is fitted to the air vent pipe of the secondary adsorption canister. The valve is a self-contained unit and requires no regular maintenance. Care should be taken when renewing the secondary adsorption canister not to disturb the valve or its connections.

To remove the primary canister. Disconnect the purge pipe (7), vapour pipes (8) and the connecting pipe (9) from their connections on the canister. Remove the securing bracket nut and bolt (10) and remove the primary canister (11).

NOTE: Transfer the restrictor in the primary canister outlet pipe (7) to the new canister.

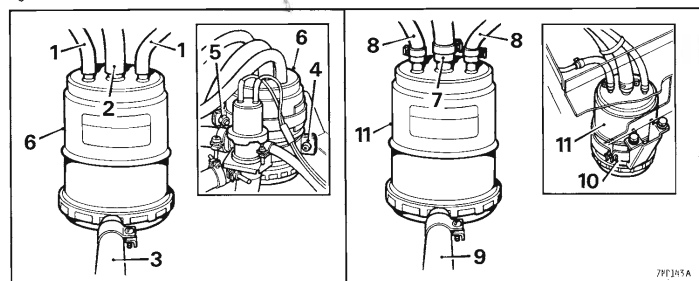
Refitting. When refitting, ensure that all connections to the primary and secondary canisters are secure.

Air pump Fig. 2

Drive belt tension. When correctly tensioned, a total deflection of $\frac{1}{2}$ in (13 mm) under moderate hand pressure, should be possible at the midway point of the belt run.

Adjusting. Slacken the securing bolt (1) and the two adjusting link bolts (2), move the air pump to the required position. Tighten the bolts and re-check the belt tension. **DO NOT OVERTIGHTEN.**

Fig. 1



Purge and vapour line restrictors Figs. 3 and 4

To check, disconnect the purge line (1) from the primary adsorption canister, and the purge line (2) from the carburetter, also disconnect the hose (3) from the vapour line.

Examine the orifice of the primary canister restrictor (4), the carburetter restrictor (5) and the vapour line restrictor (6) for obstruction. Clear any dirt or deposit from the restrictor orifice, using a length of wire.

WARNING: DO NOT use air pressure to clear any dirt.

Exhaust gas recirculation valve Fig. 4

Servicing the E.G.R. valve (7) should be carried out by your authorized Austin MG Dealer.

Fig. 2

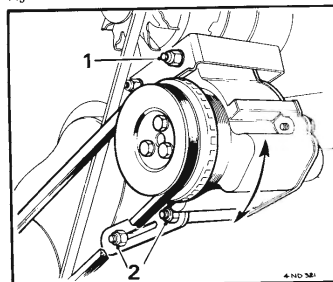


Fig. 3

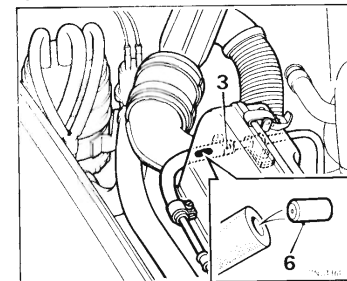
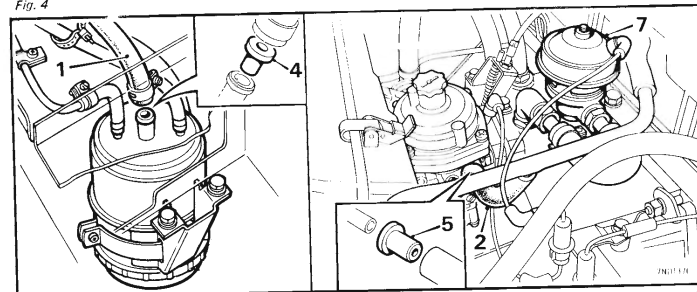


Fig. 4

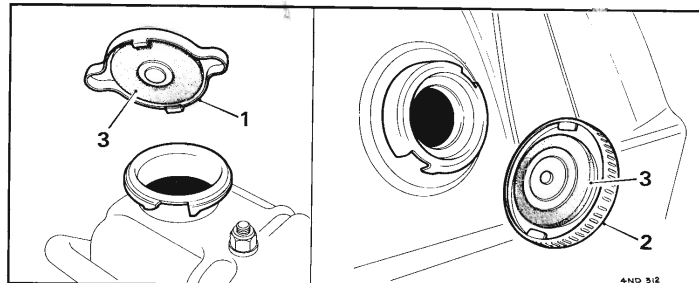


Emission Control Systems—California

Filler caps Both the engine oil filler cap (1) and the fuel tank filler cap (2) are non-venting and form a seal on the filling apertures.
Fig. 5

IT IS ESSENTIAL TO THE SATISFACTORY OPERATION OF THE EVAPORATIVE LOSS SYSTEM THAT BOTH CAPS ARE ALWAYS REFITTED CORRECTLY. A DEFECTIVE CAP OR CAP SEAL (3) MUST BE REPLACED.

Fig. 5



FUEL SYSTEM

AIR CLEANER

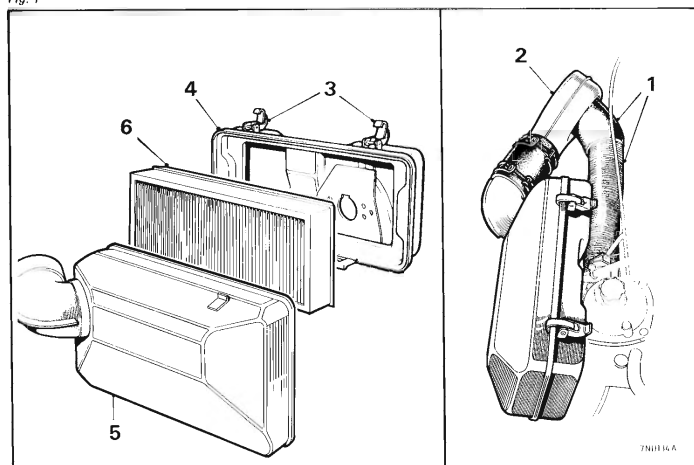
The element of the air cleaner must be renewed every 12,500 miles or 12 months; more frequent changes may be necessary in dusty operating conditions.

Element changing Disconnect the hot air pipe (1) from the air temperature control valve (2). Release the two clips (3) on the top of the casing (4). Move the cover (5) and element (6) away from the casing and then withdraw. Discard the element.
Fig. 1

Thoroughly clean the air cleaner cover and casing. Fit a new element into the cover, ensuring the seal of the element faces the casing. To refit the cover, locate the spigots of the cover in the lower lip of the casing and secure with the two clips. Connect the hot air pipe to the air temperature control valve.

Air intake temperature control The temperature of the air entering the carburettor is controlled by a valve fitted to the intake of the air cleaner. The control valve (2) should be inspected for condition and operation by your authorized Austin MG Dealer.
Fig. 1

Fig. 1



Fuel System

FUEL PUMP The fuel pump is mounted on the left-hand side of the engine. The cover should be removed and the filter gauze cleaned.

Cleaning Slacken the hose clip and remove the hose (1) from the pump top cover. Unscrew the centre bolt (2), withdraw the top cover (3) and remove the filter gauze (4). Wash the filter gauze in clean fuel. Check that the gasket (5) is in position and in good condition; renew if necessary. Fit the filter gauze and top cover, and secure with the centre bolt.

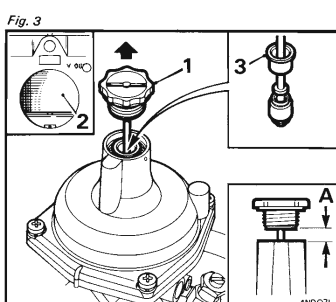
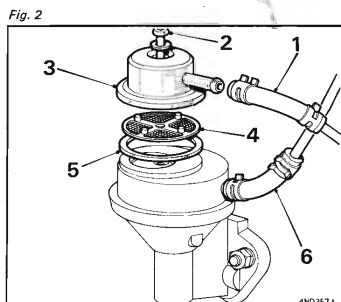
IMPORTANT: Tighten the centre bolt to 10 to 14 lbf in (0.11 to 0.16 kgf m).

After starting the engine inspect the fuel pump for air and fuel leaks. Check the inlet (1) and outlet (6) hoses for leaks and serviceability.

CARBURETTER

Air pollution control The carburettor incorporates features which assist in reducing exhaust emissions. Maladjustment or the fitting of parts not to the required specification may render these features ineffective.

Carburettor damper **Checking oil level.** Unscrew the damper cap (1) from the carburettor top cover. Carefully raise the damper to the top of its travel. Lower the damper back into the hollow piston rod. If the oil level in the hollow piston rod is correct, resistance should be felt when there is a gap of approximately $\frac{1}{4}$ in (A) between the cap and the carburettor top cover. Top up if necessary. Screw the damper cap firmly into the carburettor top cover.



Topping-up the oil level. Remove the air cleaner. Unscrew the damper cap (1) from the carburettor top cover. Raise the piston (2) with a finger, and at the same time lift the damper (1) and carefully ease the retaining cap (3) from the hollow piston rod to release the damper assembly from the piston. With the piston raised, top up the hollow piston rod with a recommended engine oil until the level is $\frac{1}{4}$ in below the top of the hollow piston rod. Lower the piston. **UNDER NO CIRCUMSTANCES SHOULD A HEAVY BODIED LUBRICANT BE USED.** Ensure the oil level is correct. Raise the piston and carefully press the retaining cup into the hollow piston rod. Screw the damper cap firmly into the carburettor top cover. Refit the air cleaner.

Tuning The tuning of the carburettor is confined to setting the idle speed and mixture strength (CO percentage). Adjustment should only be undertaken by your authorized Austin MG Dealer who will have the essential special equipment for this purpose.

TRANSMISSION

Ensure that the car is standing on a level surface when checking the oil levels.

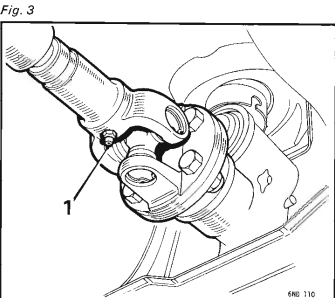
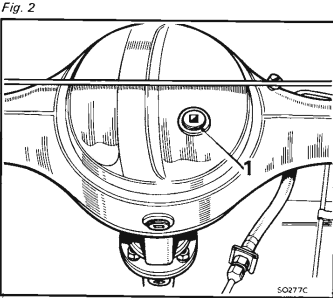
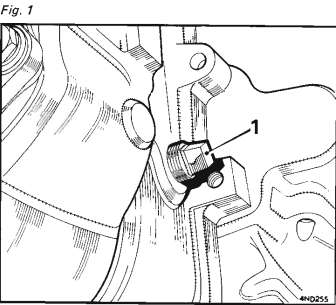
Do not drain the gearbox or the rear axle during the 1,000 Mile Free Service.

Gearbox The gearbox combined oil filler and level plug is located on the right-hand side of the gearbox. Clean around the filler plug before removing it.

The oil level should be maintained at the bottom of the filler plug aperture threads.

Rear axle A combined oil filler and level plug is located on the rear of the axle. The oil level should be maintained at the bottom of the plug aperture. After topping-up the oil level, allow sufficient time for any surplus oil, which may have been added accidentally, to run out of the aperture before replacing the plug.

Propeller shaft A nipple (1) is provided at the front end of the propeller shaft for lubricating the sliding yoke. To lubricate, give three or four strokes of a gun filled with a recommended grease.



STEERING AND SUSPENSION

LUBRICATION

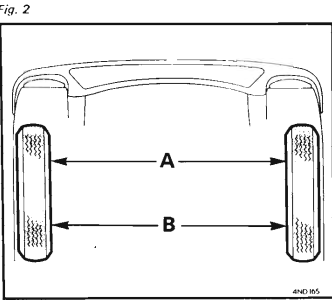
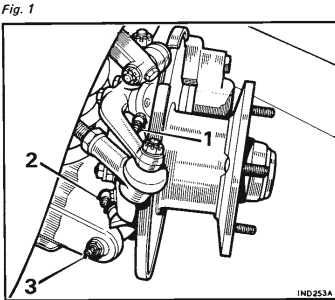
Swivel axle pins Two lubricating nipples (1) and (2) are provided in each swivel pin. To lubricate, charge the nipples with one of the recommended greases. To ensure full penetration of the lubricant, this operation is best carried out with the car partly jacked up.

Front suspension outer fulcrum pins A lubricating nipple (3) is provided on each of the outer fulcrum pins. To lubricate, charge the nipples with one of the recommended greases.

STEERING RACK Inspect the gaiters or bellows of the steering rack for leakage of lubricant and deterioration. If leakage of lubricant is evident, consult your authorized Austin MG Dealer.

FRONT WHEEL ALIGNMENT Incorrect wheel alignment can cause excessive and uneven tyre wear. The front wheels must be set so that the distance 'A' is $\frac{1}{16}$ in to $\frac{3}{32}$ in (toe in) less than the distance 'B'.

Wheel alignment requires the use of a special gauge and this work should be entrusted to your authorized Austin MG Dealer.



GENERAL DATA

During running-in from new certain adjustments vary from the specification figures detailed. They will be set to specification by your authorized Austin MG Dealer at the **1,000 Mile Free Service** and should thereafter be maintained throughout the car's life.

Engine	Engine type	.. .. .	PE 94J	
	Bore	.. .. .	2.9 in	73.7 mm
	Stroke	.. .. .	3.44 in	87.5 mm
	Cubic capacity	.. .. .	91.0 in ³	1493 cm ³
	Compression ratio: L.C.	.. .. .	7.5 : 1	
	Firing order	.. .. .	1, 3, 4, 2	
	Valve rocker clearance (cold)	.. .. .	0.010 in.	0.25 mm
	Idle speed	.. .. .	700 to 900 rev/min	
	Oil pressure: Normal (approx.)	.. .. .	40 to 60 lbf/in ²	2.81 to 4.2 kgf/cm ²
	Idling (approx.)	.. .. .	20 lbf/in ²	1.4 kgf/cm ²
	Exhaust gas content (carbon monoxide) at idle speed	.. .. .	3 to 7% (5% nominal)	
Ignition	Distributor	.. .. .	Lucas type 45DE4	
	Serial number	.. .. .	41697—all States except California 41698—California only	
	Spark plugs	.. .. .	Champion N12Y	
	Spark plug gap	.. .. .	0.025 in	0.64 mm
	Stroboscopic ignition timing:			
	All States except California	.. .. .	10° B.T.D.C. at idle speed	
	California only	.. .. .	2° A.T.D.C. at idle speed	
Fuel system	Timing marks	.. .. .	Notch on crankshaft pulley, pointers on timing chain cover	
Fuel system	Recommended fuel	.. .. .	Unleaded fuel (91 octane)	
	Carburettor	.. .. .	Zenith Stromberg type CD4T	
	Carburettor needle	.. .. .	45Q—all States except California 45R—California only	
	Pump	.. .. .	A.C. mechanically operated diaphragm	
Transmission	Rear axle ratio	.. .. .	3.72 : 1	
	Overall gear ratios:			
	First	.. .. .	12.69 : 1	
	Second	.. .. .	7.86 : 1	
	Third	.. .. .	5.33 : 1	
	Fourth	.. .. .	3.72 : 1	
	Reverse	.. .. .	13.96 : 1	
Transmission	Top gear speed per 1,000 rev/min	.. .. .	17.3 m.p.h.	27.7 km/h

Dimensions	Track:			
	Pressed spoked wheel:			
	Front	.. .. .	3 ft 10 ¹ / ₈ in.	118.27 cm
	Rear	.. .. .	3 ft 9 in	114.30 cm
	Wire wheel:			
	Front	.. .. .	3 ft 10 ¹ / ₈ in	117.63 cm
	Rear	.. .. .	3 ft 9 ¹ / ₂ in	114.93 cm
	Turning circle: Left lock	.. .. .	32 ft 1 ¹ / ₂ in	9.79 m
	Right lock	.. .. .	31 ft 2 ¹ / ₂ in	9.51 m
	Front wheel alignment toe-in	.. .. .	Parallel to ¹ / ₈ in	0 to 3.2 mm
	Wheelbase	.. .. .	6 ft 8 in	2.03 m
	Overall length	.. .. .	11 ft 9 in	3.6 m
	Overall width: Pressed spoke wheel	.. .. .	4 ft 7 ¹ / ₈ in	1.41 m
Capacities	Wire wheel	.. .. .	4 ft 8 ¹ / ₂ in	1.44 m
	Overall height	.. .. .	4 ft ¹ / ₄ in	1.13 m
	Ground clearance	.. .. .	3 ¹ / ₄ in	82.55 mm
Capacities	Fuel tank	.. .. .	7.5 U.S. gal	6 ¹ / ₂ gal 29 litres
	Engine sump including filter	.. .. .	9.6 U.S. pt	8 pt 4.5 litres
	Gearbox	.. .. .	1.75 U.S. pt	1 ¹ / ₂ pt 1.3 litres
	Rear axle	.. .. .	2.1 U.S. pt	1 ³ / ₄ pt 1.0 litre
	Cooling system (with heater)	.. .. .	11.4 U.S. pt	9 ¹ / ₂ pt 5.42 litres
	Heater	.. .. .	0.6 U.S. pt	¹ / ₂ pt 0.25 litre
Wheels and tyres				
	Wheel size: Pressed spoked	.. .. .	4J SL×13	
	Wire	.. .. .	4J×13	
	Tyres: Size	.. .. .	145 SR—13	
Tyres	Type	.. .. .	Radial ply (with tube when wire wheels fitted)	

Tyre pressures

Condition		Normal driving			Sustained high speed		
		lbf/in ²	kgf/cm ²	bars	lbf/in ²	kgf/cm ²	bars
Normal load	Front	22	1.55	1.52	26	1.8	1.79
	Rear	24	1.7	1.66	28	2.0	1.93
Maximum load	Front	22	1.55	1.52	26	1.8	1.79
	Rear	26	1.8	1.79	30	2.1	2.07

Refer to page 74 for 'Weights'.

General Data

Weights

Loading conditions		Total weight	Distribution	
			Front	Rear
Kerbside	Including full fuel tank and all optional extras	1,849 lb (839 kg)	941 lb (427 kg)	908 lb (412 kg)
Normal	Kerbside weight including driver and passenger	2,149 lb (975 kg)	1,034 lb (469 kg)	1,115 lb (506 kg)
Gross	Maximum weight condition, refer to note below	2,229 lb (1011 kg)	1,003 lb (455 kg)	1,226 lb (556 kg)
Maximum permissible towing weight		1,344 lb (610 kg)		
Recommended towbar hitch load		75 lb (34 kg)		

NOTE: Due consideration must be given to the overall weight when fully loading the car. Any loads carried on a luggage rack or downward load from a towing hitch must also be included in the maximum loading.

SERVICE

Service Your authorized Austin MG Dealer is provided with the latest information concerning special service tools and workshop techniques. This enables him to undertake your service and repairs in the most efficient and economic manner.

Identification When communicating with your authorized Austin MG Dealer always quote the commission and engine numbers. When the communication concerns the transmission units or body details it is necessary to quote also the transmission casing and body numbers.

Car number. Stamped on a plate secured to the left-hand door post and to a plate secured to the top of the fascia.

Engine number. Stamped on a plate secured to the left-hand side of the cylinder block, or stamped directly onto the cylinder block.

British Leyland Motors Inc.

600 Willow Tree Road, Leonia
New Jersey 07605

Telephone: (201) 461/7300 Telex: 135491

MAINTENANCE SUMMARY

Basic engine tuning data will be found on the Vehicle Emission Control Information label located in the engine compartment.

Detailed maintenance instructions will be found on the page indicated after each item.

The following items should be checked weekly by the driver:

- Engine oil level (48)
- Brake fluid level (33)
- Radiator coolant level (28)
- Battery electrolyte level (36)
- Windshield washer reservoir fluid level (45)
- All tyre pressures (73).
- All lights for operation
- Horn operation
- Windshield wipers operation

MAINTENANCE INTERVALS

* These items are emission related

Service	Mileage $\times$ 1000	Monthly intervals	Page No.
A	1	1	68
B	3, 9, 16, 22, 28, 34, 41, 47	3	69
C	6, 19, 31, 44	6	70
D	12.5, 37.5	12	71
E	25, 50	24	73

NOTE: The service intervals are based on an annual mileage of approximately 12,500 miles. Should the vehicle complete substantially less miles than this per annum, it is recommended that a 'C' service is completed at six-month intervals, and a 'D' service at twelve-month intervals.

'A' SERVICE

Lubrication

- Lubricate all grease points (except hubs and steering rack) (84).
- Renew engine oil (48).
- Check/top up brake fluid reservoir (33).
- Check/top up clutch fluid reservoir (33).
- Check/top up battery electrolyte (36).
- Check/top up cooling system (28).
- Check/top up gearbox oil (70).
- Check/top up rear axle oil (70).
- Check transmission for oil leaks.
- *Lubricate accelerator control linkage (and pedal pivot); check operation (84).
- Lubricate all locks and hinges (**not steering lock**).

Engine

- Check for oil leaks.
- *Check driving belts; adjust or renew (49 and 56 or 65).
- *Check cooling and heater systems for leaks and hoses for security and condition.
- *Check crankcase breathing and evaporative loss system hoses for security.
- Check security of engine mountings.
- *Check/adjust torque of cylinder head nuts.
- *Check/adjust valve clearances (50).
- *Check security of E.G.R. valve operating lines.
- *Check exhaust system for leaks and security.

'A' SERVICE—continued

Ignition

- *Check ignition wiring for fraying, chafing and deterioration.
- *Check/adjust ignition timing, using electronic equipment.
- *Check security of distributor vacuum unit line (all States except California).
- *Check security of distributor vacuum unit line and operation of vacuum unit (California only).

Fuel system

- *Check fuel system for leaks, pipes and unions for chafing and corrosion.
- *Top up carburettor piston damper (68).
- *Check/adjust deceleration by-pass valve.
- *Check/adjust carburettor idle settings.

Safety

- Check/adjust operation of all washers and top up reservoir (45).
- Check tyres for external cuts in tyre fabric, exposure of ply or cord structure, lumps or bulges.
- Check/adjust tyre pressures, including spare (73).
- Check tightness of road wheel fastenings (30).
- Check condition and security of steering unit, joints and gaiters.
- Check security of suspension fixings.
- Check steering rack/gear for oil/fluid leaks.
- Check shock absorbers for fluid leaks.
- Check/adjust foot and hand brake (34).
- Check visually hydraulic hoses, pipes and unions for chafing, cracks, leaks and corrosion.
- Check/adjust front wheel alignment.
- Check output of charging system.
- Check function of original equipment, i.e. interior and exterior lamps, horns, wipers, and warning indicators.
- Check/adjust headlamp alignment (39).
- Check operation of all door, bonnet and boot locks.
- Check operation of window controls.
- Check condition and security of seats and seat belts.

Road Test

- Road/roller test and check function of all instrumentation.
- Report additional work required.

'B' SERVICE

Lubrication

- Lubricate all grease points (except hubs and steering rack) (84).
- Check/top up engine oil (48).
- Check/top up brake fluid reservoir (33).
- Check/top up clutch fluid reservoir (33).
- Check/top up battery electrolyte (36).
- Check/top up cooling system (28).
- Check/top up gearbox oil (70).
- Check/top up rear axle oil (70).
- Check transmission for oil leaks.

Engine

- Check for oil leaks.
- *Check cooling and heater systems for leaks and hoses for security and condition.
- *Check exhaust system for leaks and security.

Maintenance Summary

'B' SERVICE—continued

Fuel system

- *Check fuel system for leaks, pipes and unions for chafing and corrosion.

Safety

- Check/adjust operation of all washers and top up reservoir (45).
- Check tyres for tread depth, and visually for external cuts in fabric, exposure of ply or cord structure, lumps or bulges.
- Check that tyres comply with manufacturer's specification (73).
- Check/adjust tyre pressures, including spare (73).
- Check tightness of road wheel fastenings (30).
- Check condition and security of steering unit, joints and gaiters.
- Check steering rack/gear for oil/fluid leaks.
- Check shock absorbers for fluid leaks.
- Check/adjust foot and hand brake (34).
- Check visually hydraulic hoses, pipes and unions for chafing, cracks, leaks and corrosion.
- Check function of original equipment, i.e. interior and exterior lamps, horns, wipers, and warning indicators.
- Check, if necessary renew, wiper blades (45).
- Check/adjust headlamp alignment (39).
- Check condition and security of seats and seat belts.
- Check operation of seat belt warning system.
- Check rear view mirror for cracks and crazing.

Road test

- Report additional work required.

'C' SERVICE

Lubrication

- Lubricate all grease points (except hubs and steering rack) (84).
- Renew engine oil.
- Renew engine oil filter (48).
- Check/top up brake fluid reservoir (33).
- Check/top up clutch fluid reservoir (33).
- Check/top up battery electrolyte (36).
- Check/top up cooling system (28).
- Check/top up gearbox oil (70).
- Check/top up rear axle oil (70).
- Check transmission for oil leaks.
- Lubricate hand brake mechanical linkage.
- *Lubricate accelerator control linkage (and pedal pivot); check operation (84).
- Lubricate all locks and hinges (**not steering lock**).

Engine

- Check for oil leaks.
- *Check cooling and heater system for leaks, and hoses for security and condition.
- *Check exhaust system for leaks and security.

Fuel system

- *Check fuel system for leaks, pipes and unions for chafing and corrosion.

'C' SERVICE—continued

Safety

- Check/adjust operation of all washers and top up reservoir (45).
- Check tyres for tread depth, and visually for external cuts in fabric, exposure of ply or cord structure, lumps or bulges.
- Check that tyres comply with manufacturer's specification (73).
- Check/adjust tyre pressures, including spare (73).
- Check tightness of road wheel fastenings (30).
- Check condition and security of steering unit, joints and gaiters.
- Check security of suspension fixings.
- Check steering rack/gear for oil/fluid leaks.
- Check shock absorbers for fluid leaks.
- Inspect brake pads for wear and discs for condition (34).
- Check/adjust foot and hand brake (34).
- Check visually hydraulic hoses, pipes and unions for chafing, cracks, leaks and corrosion.
- Check/adjust front wheel alignment.
- Clean and grease battery connections.
- Check output of charging system.
- Check function of original equipment, i.e. interior and exterior lamps, horns, wipers, and warning indicators.
- Check, if necessary renew, wiper blades (45).
- Check/adjust headlamp alignment (39).
- Check operation of all door, bonnet, and boot locks.
- Check condition and security of seats and seat belts.
- Check operation of seat belt warning system.
- Check rear view mirror for cracks and crazing.

Road test

- Road/roller test and check function of all instrumentation.
- Report additional work required.

Brakes

- It is further recommended that at 19,000 miles the brake fluid is renewed. This additional work should be carried out by your authorized Austin MG Dealer.

'D' SERVICE

Lubrication

- Lubricate all grease points (except hubs) (84).
- Lubricate steering rack (every 37,500 miles only).
- Renew engine oil (48).
- Renew engine oil filter (48).
- Check/top up brake fluid reservoir (33).
- Check/top up clutch fluid reservoir (33).
- Check/top up battery electrolyte (36).
- Check/top up cooling system (28).
- Check/top up gearbox oil (70).
- Check/top up rear axle oil (70).
- Check transmission for oil leaks.
- Lubricate hand brake mechanical linkage.
- *Lubricate distributor (46).
- *Lubricate accelerator control linkage (and pedal pivot); check operation (84).
- Lubricate all locks and hinges (**not steering lock**).

Maintenance Summary

'D' SERVICE—continued

Engine

- Check for oil leaks.
- *Check driving belts; adjust or renew (49 and 56 or 65).
- *Check cooling and heater systems for leaks, and hoses for security and condition.
- *Renew carburetter air cleaner element (67).
- *Check air injection system hoses/pipes for condition and security.
- *Check air intake temperature control system.
- *Check crankcase breathing and evaporative loss systems. Check hoses/pipes and restrictors for blockage, security and condition.
- *Check/adjust valve clearances (50).
- *Check exhaust system for leaks and security.

Ignition

- *Check ignition wiring for fraying, chafing and deterioration.
- *Renew spark plugs (47).
- *Check security of distributor vacuum unit line (all States except California).
- *Check security of distributor vacuum unit line and operation of vacuum unit (California only).
- *Clean distributor cap; check for cracks and tracking.
- *Check coil performance on oscilloscope.
- *Check/adjust ignition timing, using electronic equipment.

Fuel system

- *Clean fuel pump filter (68).
- *Check fuel system for leaks, pipes and unions for chafing and corrosion.
- *Top up carburetter piston damper (68).
- *Check/adjust deceleration by-pass valve.
- *Check/adjust carburetter idle settings.
- *Check condition of fuel filler cap seal.

Safety

- Check/adjust operation of all washers and top up reservoir (45).
- Check tyres for tread depth and visually for external cuts in fabric, exposure of ply or cord structure, lumps or bulges.
- Check that tyres comply with manufacturer's specification (73).
- Check/adjust tyre pressures, including spare (73).
- Check tightness of road wheel fastenings (30).
- Check condition and security of steering unit, joints and gaiters.
- Check security of suspension fixings.
- Check steering rack/gear for oil/fluid leaks.
- Check shock absorbers for fluid leaks.
- Inspect brake linings/pads for wear, drum/discs for condition (34).
- Check/adjust foot and hand brake (34).
- Check visually hydraulic hoses, pipes and unions for chafing, cracks, leaks and corrosion.
- Clean and grease battery connections.
- Check/adjust front wheel alignment.
- Check output of charging system.
- Check function of original equipment, i.e. interior and exterior lamps, horns, wipers, and warning indicators.
- Check, if necessary renew, wiper blades (45).
- Check/adjust headlamp alignment (39).
- Check operation of all door, bonnet, and boot locks.
- Check operation of window controls.
- Check condition and security of seats and seat belts.
- Check operation of seat belt warning system.
- Check rear view mirror for cracks and crazing.

'D' SERVICE—continued

Road test

- Road/roller test and check function of all instrumentation.
- Report additional work required.

Brakes

It is further recommended that every 37,500 miles the brake fluid, hydraulic seals, and hoses in the brake and clutch hydraulic systems are renewed. Examine working surfaces of pistons and bores in, master, slave and wheel cylinders, and renew parts as necessary. This additional work should be carried out by your authorized Austin MG Dealer.

Steering

- At every 37,000 miles the steering rack should be lubricated. This additional work should be carried out by your authorized Austin MG Dealer.

'E' SERVICE

Lubrication

- Lubricate all grease points (except hub and steering rack) (84).
- Renew engine oil (48).
- Renew engine oil filter (48).
- Check/top up brake fluid reservoir (33).
- Check/top up clutch fluid reservoir (33).
- Check/top up battery electrolyte (36).
- Check/top up cooling system (28).
- Check/top up gearbox oil (70).
- Check/top up rear axle oil (70).
- Check transmission for oil leaks.
- Lubricate hand brake mechanical linkage.
- *Lubricate distributor (46).
- *Lubricate accelerator control linkage (and pedal pivot); check operation (84).
- Lubricate all locks and hinges (**not steering lock**).

Engine

- Check for oil leaks.
- *Check driving belts; adjust or renew (49 and 56 or 65).
- *Check cooling and heater systems for leaks, and hoses for security and condition.
- *Renew carburetter air cleaner element (67).
- *Check air injection system hoses/pipes for condition and security.
- *Check air intake temperature control system.
- *Check crankcase breathing and evaporative loss systems. Check hoses/pipes and restrictors for blockage, security and condition.
- *Check/adjust valve clearances (50).
- *Check E.G.R. system
- *Renew adsorption canisters (56 or 64) } (every 50,000 miles only).
- *Check exhaust system for leaks and security.

Maintenance Summary

'E' SERVICE—continued

Ignition

- *Check ignition wiring for fraying, chafing and deterioration.
- *Renew spark plugs (47).
- *Check security of distributor vacuum unit line (all States except California).
- *Check security of distributor vacuum unit line and operation of vacuum unit (California only).
- *Clean distributor cap; check for cracks and tracking.
- *Check coil performance on oscilloscope.
- *Check/adjust ignition timing, using electronic equipment.

Fuel system

- *Clean fuel pump filter (68).
- *Check fuel system for leaks, pipes and unions for chafing and corrosion.
- *Top up carburettor piston damper (68).
- *Check/adjust deceleration by-pass valve.
- *Check/adjust carburettor idle settings.
- *Check condition of fuel filler cap seal.

Safety

- Check/adjust operation of all washers and top up reservoir (45).
- Check tyres for tread depth, and visually for external cuts in fabric, exposure of ply or cord structure, lumps or bulges.
- Check that tyres comply with manufacturer's specification (73).
- Check/adjust tyre pressures, including spare (73).
- Check tightness of road wheel fastenings (30).
- Check condition and security of steering unit, joints and gaiters.
- Check security of suspension fixings.
- Check steering rack/gear for oil/fluid leaks.
- Check shock absorbers for fluid leaks.
- Inspect brake linings/pads for wear, drums/discs for condition (34).
- Check/adjust foot and hand brake (34).
- Check visually hydraulic hoses, pipes and unions for chafing, cracks, leaks and corrosion.
- Check/adjust front wheel alignment.
- Clean and grease battery connections.
- Check output of charging system.
- Check function of original equipment, i.e. interior and exterior lamps, horns, wipers, and warning indicators.
- Check, if necessary renew, wiper blades (45).
- Check/adjust headlamp alignment (39).
- Check operation of all door, bonnet, and boot locks.
- Check operation of window controls.
- Check condition and security of seats and seat belts.
- Check operation of seat belt warning system.
- Check rear view mirror for cracks and crazing.

Road test

- Road/roller test and check function of all instrumentation.
- Report additional work required.

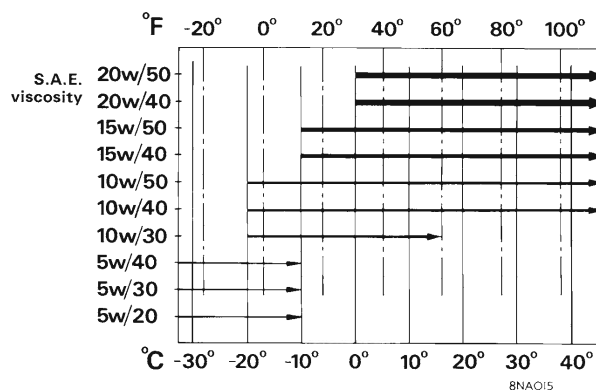
LUBRICATION

The lubrication systems of your new vehicle are filled with high quality oils.

You should always use a high quality oil of the correct viscosity range in the engine, gearbox and rear axle during subsequent maintenance operations or when topping-up. The use of oils not to the correct specification can lead to high oil and fuel consumption and ultimately to damage to the engine, gearbox or rear axle components.

Oil to the correct specification contains additives which disperse the corrosive acids formed by combustion and also prevent the formation of sludge which can block oilways. **Additional oil additives should not be used.** Servicing intervals must be adhered to.

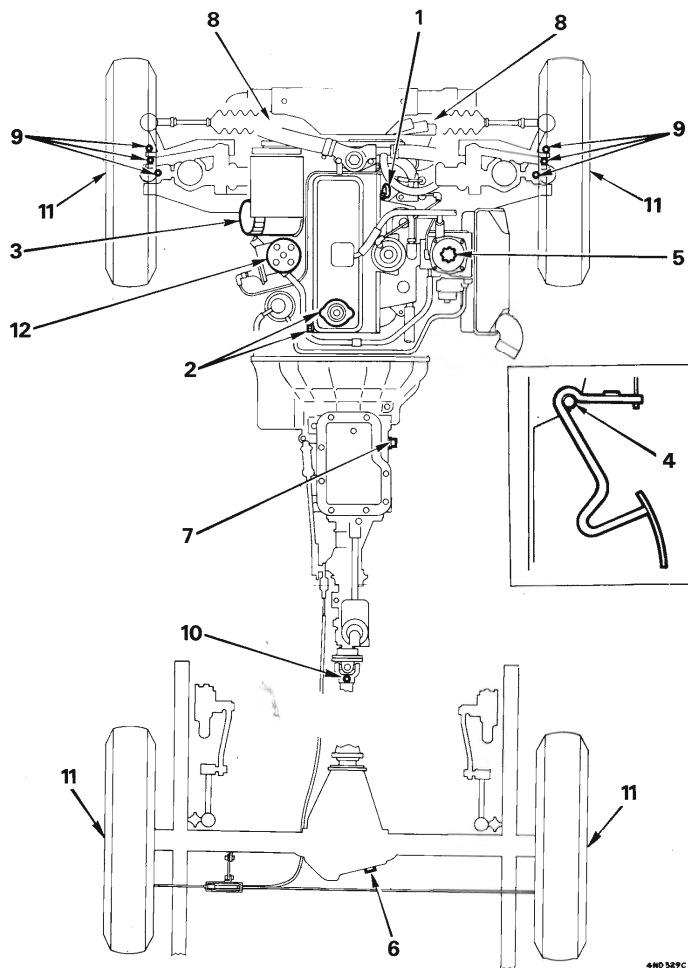
Engine Use a well-known brand of oil to B.L.S. OL.2 or MIL-L-2104B or A.P.I. SE quality, with a viscosity band spanning the temperature range of your locality.



Synchromesh gearbox and rear axle Top up with H.D. 90 (MIL-L-2105B) above -10°C (10°F).
Top up with H.D. 80 (MIL-L-2105B) below -5°C (20°F).
Top up with H.D. 75W (MIL-L-2105B) below -30°C (-20°F).
Complete fill with E.P. 80 (MIL-L-2105B) all temperatures.

Steering rack and grease points Use Multipurpose Lithium Grease N.L.G.I, consistency No. 2.

Lubrication



4ND 529C

NOTE: Ensure that the vehicle is standing on a level surface when checking the oil levels.

WEEKLY

- (1) ENGINE. Check oil level and top up if necessary.

'A' SERVICE

- (2) ENGINE. Drain and refill with new oil.
- (4) THROTTLE. Lubricate throttle control linkage, cable and accelerator pedal fulcrum.
- (5) CARBURETTOR. Top up carburettor piston damper.
- (6) REAR AXLE. Check oil level, and top up if necessary.
- (7) GEARBOX. Check oil level, and top up if necessary.
- (9) FRONT SUSPENSION (6 nipples) } Give three or four strokes with a grease gun.
- (10) PROPELLER SHAFT (1 nipple)
- (11) WIRE WHEELS. Lubricate wire wheel and hub splines.
- LOCKS, HINGES AND LINKAGES. Lubricate all door, bonnet, luggage compartment locks and hinges (**not steering lock**).
- FRICTION POINTS. Spray lubricant on all friction points.

'B' SERVICE

- (1) ENGINE. Check oil level and top up if necessary.
- (4) THROTTLE. Lubricate throttle control linkage, cable and accelerator pedal fulcrum.
- (6) REAR AXLE. Check oil level, and top up if necessary.
- (7) GEARBOX. Check oil level, and top up if necessary.
- (9) FRONT SUSPENSION (6 nipples) } Give three or four strokes with a grease gun.
- (10) PROPELLER SHAFT (1 nipple)
- (11) WIRE WHEELS ONLY. Grease wheel and hub splines.
- FRICTION POINTS. Spray lubricant on all friction points.

'C' SERVICE

- (2) ENGINE. Drain and refill with new oil.
- (3) ENGINE OIL FILTER. Remove disposable cartridge, fit new.
- (4) THROTTLE. Lubricate throttle control linkage, cable and accelerator pedal fulcrum.
- (6) REAR AXLE. Check oil level, and top up if necessary.
- (7) GEARBOX. Check oil level, and top up if necessary.
- (9) FRONT SUSPENSION (6 nipples) } Give three or four strokes with a grease gun.
- (10) PROPELLER SHAFT (1 nipple)
- (11) WIRE WHEELS ONLY. Grease wheel and hub splines.
- LOCKS, HINGES AND LINKAGES. Lubricate all door, bonnet, luggage compartment locks and hinges (**not steering lock**); and the hand brake mechanical linkage.
- FRICTION POINTS. Spray lubricant on all friction points.

'D' AND 'E' SERVICES

Carry out a 'C' service in addition to the following items (5) and (12).

- (5) CARBURETTORS. Top up carburettor piston damper.
- (8) STEERING. Lubricate steering rack (every 37,500 miles).
- (12) DISTRIBUTOR. Lubricate all parts as necessary.

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AKM 4386 MG MIDGET—USA