

SPRITE/MIDGET

1275 cc

DRIVER'S HANDBOOK

Part 1

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 Distributor or Dealer, or when this is not possible, to the nearest Distributor or Dealer, informing them of the vendor's name and address. Except in emergency, warranty work should always be carried out by an appointed Distributor or Dealer.

By keeping the Passport to Service, signed by the Distributor, 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 Distributor or 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 Distributor or 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 61. **Please note that references to right- or left-hand in this Handbook are made when 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 Distributor or Dealer.

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 Distributor or 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 and the Canadian Federal Motor Vehicle Safety 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.

[The procedures for carrying out all emission control maintenance checks and adjustments are given in Part 3 of this Manual.]

CONTROLS

Fig. 1
CONTROLS
Pedals
1) (2) (3)

The pedals are arranged in the conventional positions.

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

Hand brake (4) 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.

Rear lever (5) The gear positions are indicated on the lever knob. To engage reverse gear move the lever to the right in the neutral position until resistance is felt, apply further side pressure to overcome the resistance and then move it backwards to engage the gear. Synchromesh is provided on second, third, and fourth gears.

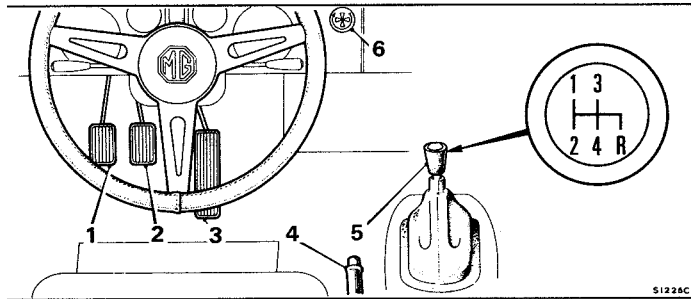
The reverse lights operate automatically when reverse is selected with the ignition switched on.

Mixture (choke) (6) Pull out the control to enrich the fuel/air mixture to assist starting when the engine is cold. Turn the control knob a quarter of a turn clockwise to lock the control in the position selected.

To release the control turn it in an anti-clockwise direction.

Notes on setting the control are given on page 6.

*Also see 'RUNNING INSTRUCTIONS'



WARNING SYSTEMS

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 steering lock. The buzzer will not operate if the key is removed from the lock.

Recommended procedure. When leaving the car unattended:

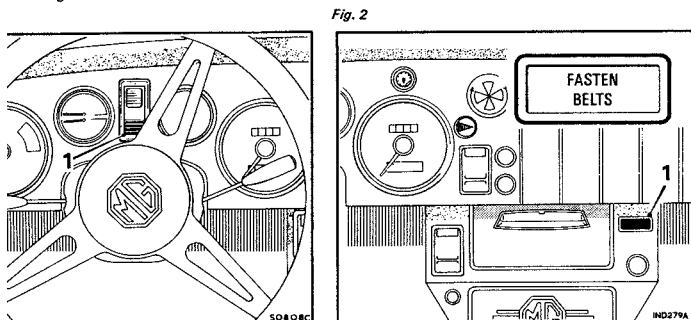
- Set the hand brake.
- Lock the steering by removing the key from the ignition steering lock.
- Lock the car doors and remove the key.

Brakes (Fig. 1) **Pressure failure warning.** The lamp (1) in the switch will glow, when the brake pedal is pressed, if any part of the hydraulic system is inoperative or on considerable adjustment of the rear brakes is required. If this occurs and in your judgement you can drive safely with braking on two wheels only, proceed at reduced speed to the nearest service facility for immediate repairs. The vehicle should not be driven in this condition except in cases of real emergency and when in your judgement you can proceed safely at reduced speed. Extreme care must be taken and heavy braking avoided.

To test the warning lamp, press the switch (1). If the bulb is functioning the lamp will glow and will go out as the switch is released. To test the hydraulic system, apply normal foot pressure to the brake pedal. The lamp will remain off if the hydraulic system is functioning satisfactorily. Check the bulb and the system frequently.

If the warning lamp glows at any time except when the bulb is being tested the cause must be investigated IMMEDIATELY.

Seat Belt Warning (Fig. 2) The seat belt warning system fitted to the car consists of a warning lamp (1) on the control console illuminating the words 'FASTEN BELTS', and a warning buzzer.



The warning system operates when the ignition is switched on (position 'II' on the ignition switch), a forward or reverse gear selected and either the driver's or passenger's seat belt is not fastened by the wearer.

PRECAUTION: A heavy parcel placed on the passenger's seat may operate the warning system. To prevent this happening fasten the passenger's seat belt.

LOCKS

It is most important that owners **MAKE A NOTE OF THE KEY NUMBERS IMMEDIATELY** on taking delivery of the car and at the same time consult their Distributor or Dealer regarding steering lock key replacements.

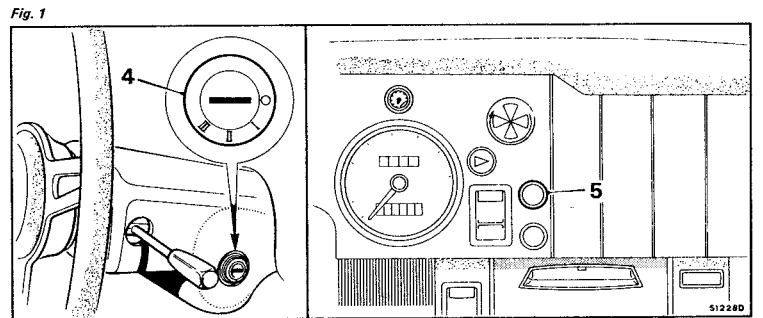
Keys Identification. To reduce the possibility of theft, locks are not marked with a number. Owners are advised to make a note of the numbers stamped on the keys, on the numbered tag supplied, or on a label stuck to the windscreen. The driver and passenger door locks use a common key. The luggage compartment and steering locks are operated by separate keys.

Steering (Fig. 1) The lock face is marked 'O' (off), 'I' (auxiliary), 'II' (ignition), 'III' (start). To lock the car steering the key must be removed from the lock (4).

To lock the steering, turn the key to position 'I', press the key in and while maintaining pressure turn the key anti-clockwise to position 'O' and withdraw the key. The steering lock is set during withdrawal of the key and rotation of the steering-wheel engages the lock. When unlocking, turn the steering to assist disengagement of the locking plunger.

Under no circumstances must the key be moved from the 'I' position towards the 'O' position. **WHEN THE CAR IS IN MOTION.** The car may be towed for recovery with the key in the lock at position 'I'.

WARNING.—The lock fitted to the steering-column works in conjunction and is integral with the ignition starter switch. The designed operating sequence prevents the engine being started with the steering LOCKED. Serious consequences may result from alterations or substitution of the ignition start switch which would permit the engine to be started with the LOCK ENGAGED. Under no circumstances must the ignition switch or the ignition engine start function be separated from the steering lock.



Ignition and starter (Fig. 1) Insert the key in the lock, and turn to position 'I'. In this position the ignition is off but electrical items not wired through the ignition switch may be operated, viz. radio. Turn the key to position 'II' to switch on the ignition; further movement to 'III' operates the starter.

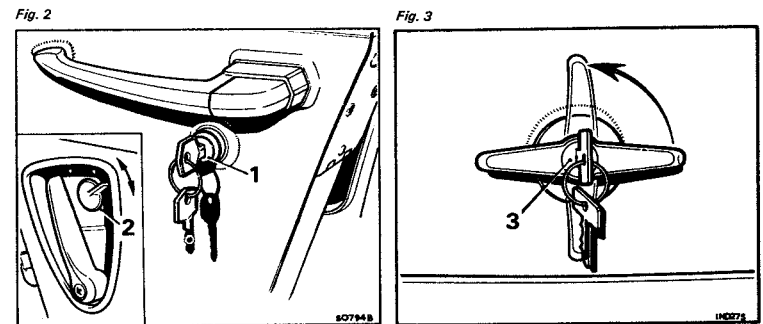
The fuel gauge or direction indicators will not operate unless the ignition switch is at position 'II'.

To remove the key from the lock, turn the key to position 'I', press the key in, and while maintaining pressure turn anti-clockwise to position 'O' and withdraw the key.

(5) **Ignition warning light (red).** The ignition warning light serves the dual purpose of reminding the driver to switch off the ignition and of acting as a no-charge indicator. The light 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.

Doors (Fig. 2) 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.

Luggage compartment (Fig. 3) The luggage compartment lid is locked by turning the key (3) clockwise one half turn.



INSTRUMENTS AND SWITCHES

ments (1) **Speedometer.** In addition to recording 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, push the knob (4) upwards and turn it clockwise, ensuring that all the counters are returned to zero.

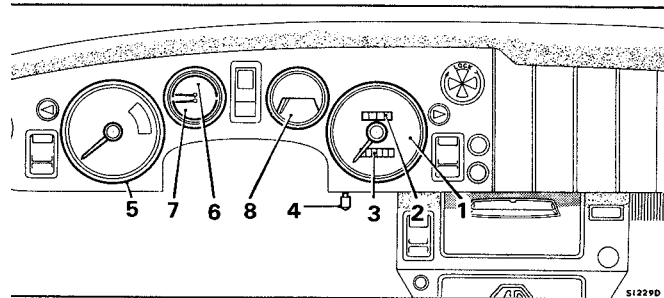
(5) **Tachometer.** The instrument indicates the revolutions per minute of the engine and assists the driver to use the most effective engine speed range for maximum performance in any gear.*

(6) **Oil.** The gauge indicates the pressure of the oil in the engine lubrication system.*

(7) **Water.** The gauge is marked 'C' (cold), 'N' (normal), and 'H' (hot), indicating the temperature of the coolant as it leaves the cylinder head.*

(8) **Fuel.** When the ignition is switched on the gauge indicates approximately the amount of fuel in the tank.*

* Also see 'RUNNING INSTRUCTIONS'

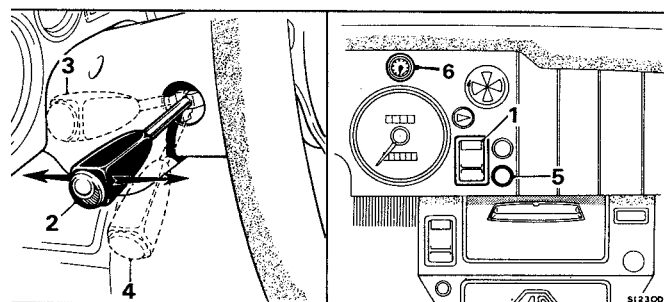


ches (1) **Lighting switch.** Press the lower end of the switch rocker to the first position to operate the parking and tail lamps and to the second position to operate the headlamps. The marking on the switch is illuminated when the panel lamps are switched on.

(2) **Headlamp low beam—(4) Flasher.** With the headlamps switched on at the lighting switch, move the lever down away from the steering-wheel to operate the high beam (3), lifting the lever towards the steering-wheel from the low-beam position will flash (4), the headlamp high-beams irrespective of whether the lighting switch is on or off.

(5) **Headlamp high-beam warning lamp (blue).** The warning lamp glows when the headlamps are switched on and the beam is in the raised position. The lamp goes out when the beam is lowered.

(6) **Panel lamp switch.** With the parking lamps switched on, illumination of the instruments and switches may be varied by rotating the panel lamp switch knob. Turning the switch knob clockwise from the off position illuminates the panel lamps; further clockwise movement will increase the light brilliance.



ches (1) **Direction indicators.** The switch is self-cancelling and operates the indicators only when the ignition is switched on. A visual warning of a front or rear bulb failure is given by the warning lamp and the serviceable bulb on the affected side giving a continuous light when the indicator is switched on.

(2) **Direction indicator warning lamp (green).** The arrow-shaped lamps show the direction selected and operates with the flashing direction indicators.

(3) **Hazard warning.** To use the direction indicators as hazard warning lights, press the lower end of the switch rocker; all direction indicators and the warning lamp (4), will operate together, irrespective of whether the ignition is switched on or off. The marking on the switch will be illuminated when the panel lamps are switched on.

(5) **Horn.** The horn is sounded by pressing the centre disc of the steering-wheel.

(6) **Windscreen wiper.** Move the switch lever down to operate the windscreen wipers at slow speed; further movement in the same direction will operate the wipers at fast speed. The wiper blades park automatically when the switch lever is returned to the off position.

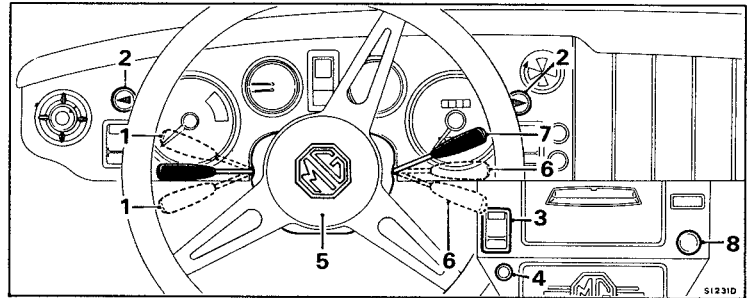
(7) **Windscreen washer.** Press the knob on the end of the switch lever to operate the windscreen washer. When the windscreen is dirty, operate the washer before setting the wipers in motion.

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.

(8) **Cigar-lighter (if fitted).** To operate, press the cigar-lighter fully in; when ready for use it will partially eject itself and may then be withdrawn. The rim of the cigar-lighter is illuminated when the panel lamps are switched on.

Radio (if fitted). Full operating instructions are supplied with the radio.

Fig. 3



BODY FITTINGS

DRIVING MIRRORS

External The mirror head is adjustable from the driving position when the window is open. To obtain the maximum rear vision the mirror and arm must be retained in the position shown.

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 on each door to open and close the windows. The ventilation panels adjacent to each window may be opened after releasing the catch.

Luggage compartment To open, turn the handle anti-clockwise and raise the lid. When fully raised the support stay will automatically spring into engagement and the lid will be held in the open position. Opening the lid automatically switches on the courtesy light.

To close, raise the lid slightly, push the catch on the support stay forward to release the locking mechanism and lower the lid. Closing the lid automatically switches off the courtesy light.

Head restraint The vertical position of the head restraint 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.

Fig. 1

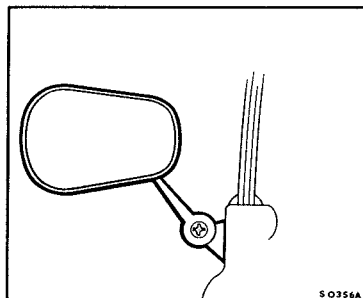
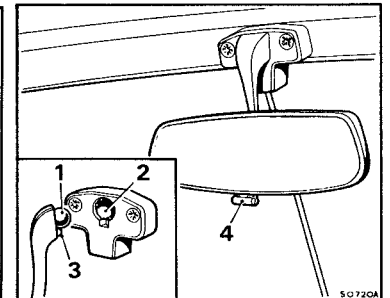


Fig. 2



Cubby box **To open.** Press the button (1) and lower the flap.
To lock. Insert the key and turn clockwise.
To unlock. Turn the key anti-clockwise.

Hard top **Fitting.** Lower the hood.

Fig. 3 and 4 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. 3). 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.

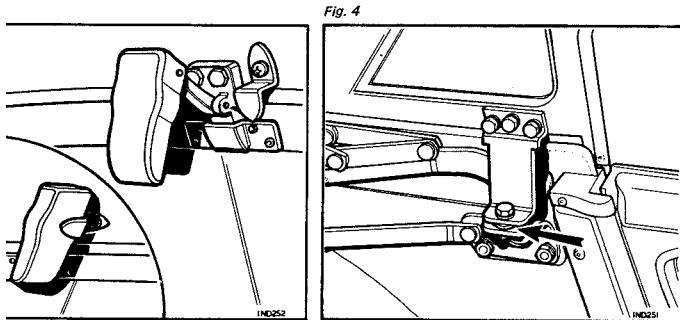
Check the width of the gap between the flanges of the side-fixing brackets (see Fig. 4), remove the bolts and fit packing washers between the flanges to the thickness of the gap.

Refit and tighten the securing bolts.

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

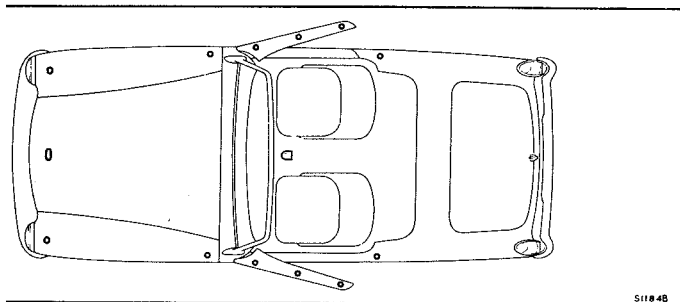
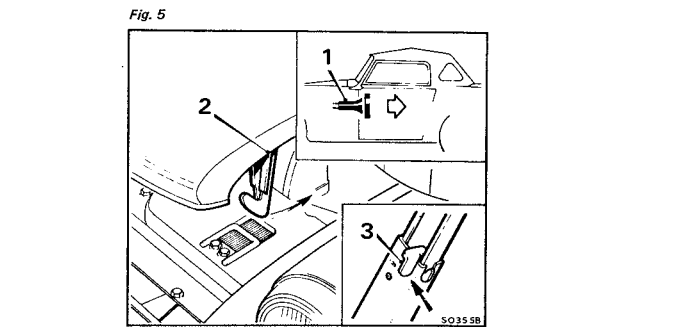
Press the safety catch (2) under the front of the bonnet and raise the bonnet. When fully raised the support stay will automatically spring into engagement and the bonnet will be held in the open position.

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.



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.

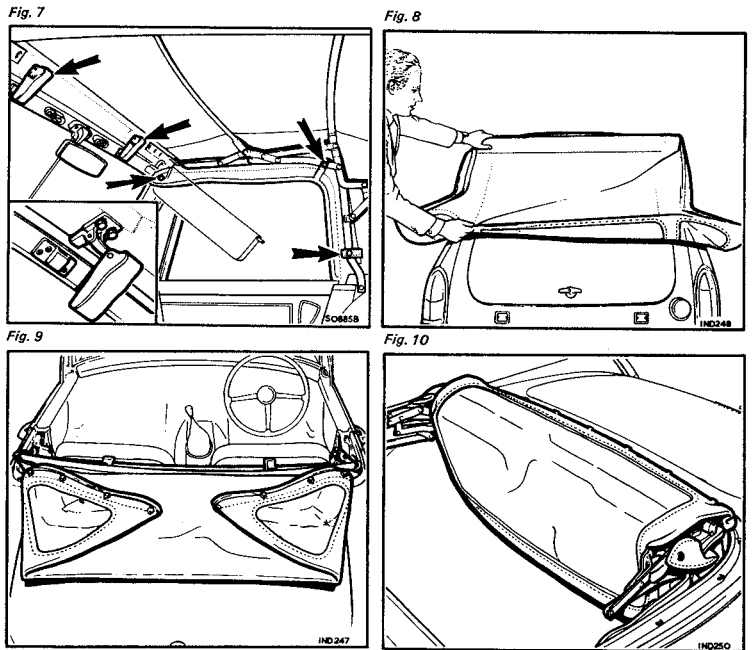
Jacking up beneath the underfloor may deform the drain apertures; always use the jacking points provided.



Hood (ft 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. 7).
- (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. 7).
- (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. 8).
- (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. 9).



- (7) Fold the hood over the frame into the rear compartment (Fig. 10).
- (8) Lay the hood cover over the hood and secure the rear edge with the fasteners (Fig. 11).
- (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. 11). Reposition the sun visors.

Raising

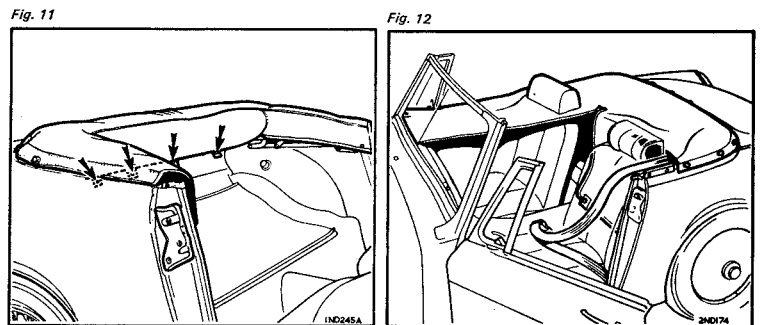
- (1) Remove the hood cover and open both doors.
- (2) Lift the hood over the frame and lay it on the luggage compartment lid.
- (3) Unfold the quarter-lights and pull the header rail forward and upwards at the point indicated by the label. Ensure that the hood material takes up its correct position 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.

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. 12). The short side zips permit the use of seat belts when the cover is folded down.

Removing. Reverse the fitting procedure.



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), in

the direction of the arrow. Release the lever and ensure that the seat back is fully locked in position; check by applying back pressure on the seat.

Strait The head restraint (3) may be raised or lowered as desired.

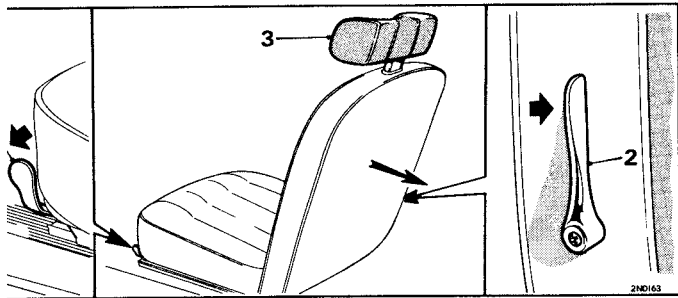
BELTS Fig. 2

Warning system See page 5 for details of the seat belt warning system which provides an audible and visual warning reminder.

fasten Lift the engagement tongue (1) and draw the belt from the reel over the shoulder and across the chest, and push it into the locking clip (2) of the short belt nearest the wearer.

release Press the release button (3) on the short belt.

o stow After releasing the belt, hook the tongue (1) onto the parking device (5).



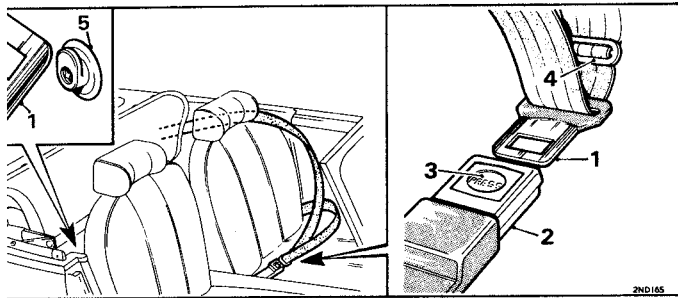
Wearing Never attempt to wear the belt other than as a complete diagonal and lap assembly. Do not try to use the belt for more than one person at any one time, even small children.

Ensure that the belt webbing is not twisted when in use, and that the belt is adjusted to the correct tightness.

of the belts After releasing the belt allow the webbing to retract into the automatic reel. Ensure that while the belt is retracted the engagement tongue has not moved on the belt to a point near the sill mounting; this can be remedied by moving the tongue (1) and belt clip (4) towards the reel.

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.**

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. Replace belts that are defective or have been subjected to severe strain in an accident.



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 at the rear of the cylinder head. The valve is opened by turning it in an anti-clockwise direction when heating is required or shut off by turning clockwise when the system is to be used for cool air ventilation.

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.

Fig. 1

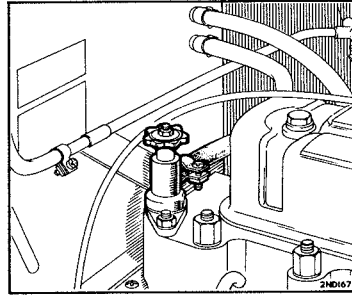
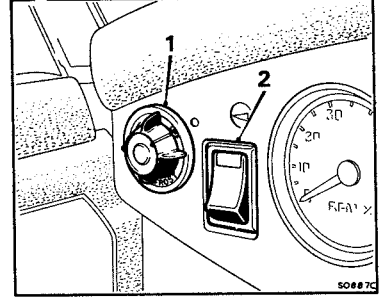


Fig. 2



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.

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.

Choice of fuel Our MG engines have been designed to operate on fuels of 91 octane rating or above and have not been developed for the regular use of unleaded or low lead gasolines. The use of such fuels cannot be recommended as they could have a detrimental effect on engine components, resulting in loss of performance, excess exhaust emissions and, possibly, complete engine failure.

Starting Check that the gear lever is in the neutral position.

Pull out the **mixture control (choke)**.

Switch on the ignition (page 3) and check:

- That the **ignition warning lamp** glows
- That the **fuel gauge** registers.

Operate the **starter**.

After the engine has started, check:

- That the **oil pressure gauge** registers
- That the **ignition warning light** has gone out.

Push the mixture control (choke) in to the minimum setting.

Check the **temperature gauge** reading.

Mixture control (choke) The function of this control is to enrich the air/fuel mixture for cold engine starting and to provide a faster idle speed without enrichment during the warm-up period.

The amount which the control knob must be pulled out to achieve easy starting will be dependent on engine temperature and prevailing conditions.

To lock the control in the required position, turn the control knob a quarter of a turn clockwise.

After the engine has been started with the aid of the choke, unlock the control and push it in gradually as the engine warms, until only about $\frac{1}{4}$ in of travel remains. With the control in this position the engine will run at a faster idle speed and attain its correct working temperature as quickly as possible.

Do not warm up the engine by allowing it to idle slowly or by leaving it to idle with the control pulled out. Driving the car onto the road while the engine is cold with the control partly pulled out is preferable to allowing the engine to idle, or run with the control pulled out, in the garage or on the driveway prior to moving off.

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 Distributor or Dealer.

Starter Do not operate the starter for longer than five to six seconds.

To prevent damage the starter cannot be operated while the engine is running.

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.

Pressure gauge The gauge should register a pressure as soon as the engine is started up. The pressure may rise above 70 lb./sq. in. (4.92 kg./cm.²) when the engine is started from cold and as the oil is circulated and warmed the pressure should then drop to between 40 and 70 lb./sq. in. (2.81 to 4.92 kg./cm.²) at normal running speeds and to approximately 20 lb./sq. in. (1.4 kg./cm.²) at idling speed.

Should the gauge fail to register any pressure, stop the engine immediately and investigate the cause. Start by checking the oil level.

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.

Speedometer 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 r.p.m.

When maximum acceleration is required upward gear selections should be made when the needle reaches the yellow sector (5,500-6,300 r.p.m.). 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 r.p.m.) indicates the maximum safe speed for the engine.

Never allow the needle to enter the red sector.

Driving 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.p.h.).

DO NOT operate at full throttle in any gear.

DO NOT allow the engine to labour in any gear.

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.

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 to 100 lb. (34 to 45 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 coverly 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'.

CLEANING

Interior Clean the carpets with a semi-stiff brush or a vacuum cleaner preferably before washing the outside of the car. The most satisfactory way to give carpets and nylon faced upholstery a thorough cleaning is with UNIPART Upholstery Cleaner, diluted one part with eight parts warm water. Apply vigorously with a semi-stiff brush, and remove the surplus with a damp cloth or sponge. Carpets should not be cleaned by the 'dry-clean' process. The plastic faced upholstery and roof lining may be treated with undiluted UNIPART Upholstery Cleaner spread thinly over the surface to be cleaned with a brush or cloth. Leave for five minutes, then wipe off with a moist sponge or cloth.

UNIPART Upholstery Cleaner can be used for cleaning and renovating all the usual upholstery materials, and rubber, but it should not be used on painted surfaces.

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 UNIPART 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.

The application of UNIPART Car Polish is all that is required to remove traffic film and to ensure the retention of the new appearance.

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 UNIPART 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 UNIPART 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.

Windscreen If windscreen smearing has occurred it can be removed with UNIPART Screen Cleaner.

Hood To clean the hood it is only necessary to use soap and water, with a soft brush to remove any ingrained dirt. Frequent washing with soap and water considerably improves the appearance and wearing qualities of the hood, and it should be washed at least as often as the rest of the car.

Do not use caustic soaps, detergents, or spirit cleaners to clean the hood or the hood back-light.

UNIPART products mentioned above are obtainable from your Distributor or Dealer.

Cooling System

Frost precautions Anti-freeze can remain in the cooling system for two years provided that the specific gravity of the coolant is checked periodically and anti-freeze added as necessary. The specific gravity check should be carried out by an authorized Distributor or Dealer.

Only top up when the cooling system is at its normal running temperature in order to avoid losing anti-freeze due to expansion.

After the second winter the system should be drained and flushed. Refer to the instructions given for draining the cooling system, then clean out the system thoroughly by flushing water through the radiator passages using a hose inserted in the radiator filler orifice. (See Editor's Note at end of Part 1)

Before adding the recommended anti-freeze make sure that the cooling system is watertight; examine all joints and renew any defective hose.

We recommend owners to use UNIPART Frostbeat or Bluecol Anti-freeze to protect the cooling system during frosty weather and reduce corrosion to the minimum. We also approve the use of anti-freeze which conforms to specification B.S.3151 or B.S.3152.

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

Anti freeze %	Commences to freeze		Frozen solid		Amount of anti-freeze		
	°C.	°F.	°C.	°F.	Pts.	U.S. Pts.	Litres
25	-13	9	-26	-15	1½	2	.85
33½	-19	-2	-36	-33	2	2½	1.14
50	-36	-33	-48	-53	3	3½	1.17

WHEELS AND TYRES

Jacking up The jack is designed to lift one side of the car at a time. Apply the hand brake, and place a wedge against each side of one of the wheels on the opposite side of the car to the one being jacked.

Fig. 1

Remove the plug from the jacking socket located in the door sill panel and insert the lifting arm of the jack into the socket. Make certain that the jack 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.

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 wheel nuts on pressed type wheels for tightness each week. Take care not to overtighten (torque wrench setting 44 to 46 lb. ft. (6.08 to 6.36 kg. m.)).

Fig. 1

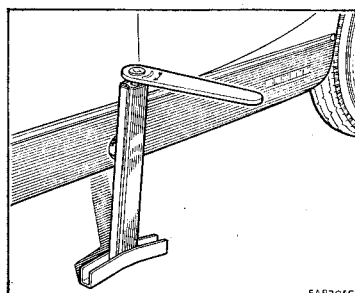
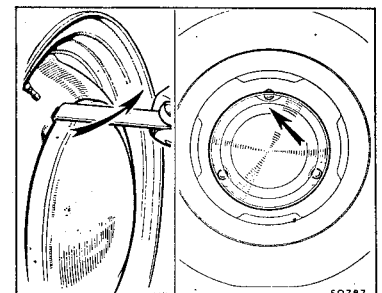


Fig. 2



ed type Insert the wheel disc lever in the recess provided in the road wheel and lever off the disc, using a sideways motion.

ing the To refit the hub disc, place the disc rim over two of the three retaining shoulders of the wheel. Position the disc on the third retaining shoulder and snap the rim into the locked position by striking the disc a quick blow with a clenched hand in the position shown (Fig. 2).

ing and 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 with the wheel nut spanner (securing nuts must be fitted with the taper side towards the wheel), and lower the jack. Fully tighten the wheel nuts, tightening them diagonally and progressively, at the same time avoid over-tightening.

Replace the wheel disc and jack socket plug.

ire type Use the spanner to slacken the octagonal hub nuts.

ing and Always jack up a wheel before using the hammer, and always hammer the nuts tight.

Locknuts 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.

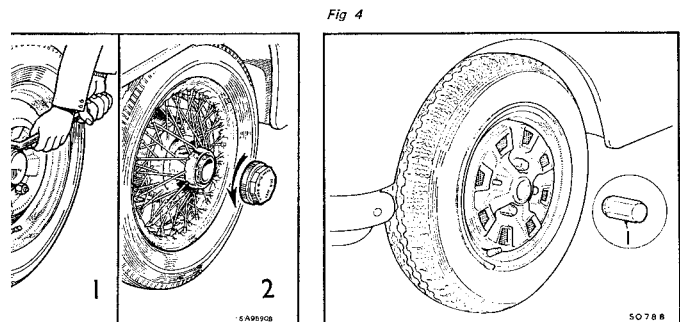
tenance When the car is new, after the first long run or after 50 miles of short runs, jack up the wheels and hammer the nuts to make sure that they are tight.

Once a year remove the wheels for examination and regreasing.

TYRES 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 15 of this handbook.

dial-ply Radial-ply tyres (SP) should only be fitted in sets of four, although in certain circumstances it is permissible to fit a pair on the rear wheels; tyres of different construction must not be used on the same axle. A pair must never be fitted to the front wheels with conventional tyres at the rear. Consult your Distributor or Dealer before changing to radial-ply tyres.

The positional changing of wheels must not be undertaken if radial-ply tyres have been fitted to the rear wheels only.



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. of the tread is remaining the wear indicator bar will appear across the full width of the tread pattern.

ressure **Spare wheel.** The spare wheel supplied with new cars is inflated above the recommended running pressure. The pressure must be checked and adjusted before use.

Tyre 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, 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.

Repairs When repairing tubes, have punctures or injuries vulcanized. Ordinary patches should only be used for emergencies. Vulcanizing is absolutely essential for tubes manufactured from synthetic rubber. (See Editor's Note at end of Part I)

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

nd tyre Unbalanced wheel and tyre assemblies may be responsible for abnormal wear of the tyres and vibration in the steering. Consult your Distributor/Dealer.

BRAKES

Brake and clutch master cylinder

Fig. 1

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.

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. 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. (See Editor's Note at end of Part I)

Brake pedal

Fig. 2

A free movement of $\frac{1}{8}$ 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. 1

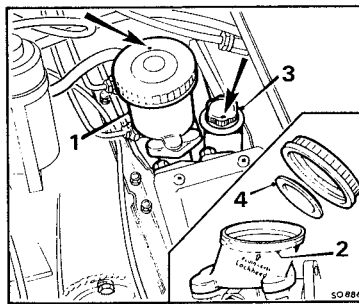
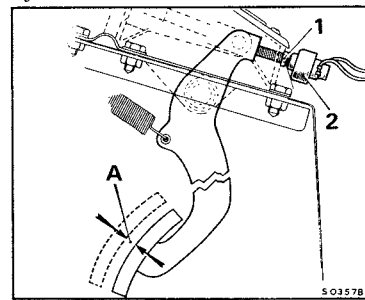


Fig. 2



Front brakes

Fig. 3

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 $\frac{1}{16}$ 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 Distributor or Dealer.

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 (arrowed) 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 Distributor or Dealer.

Fig. 3

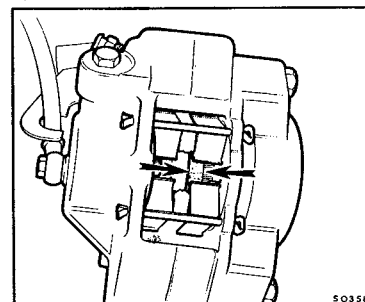
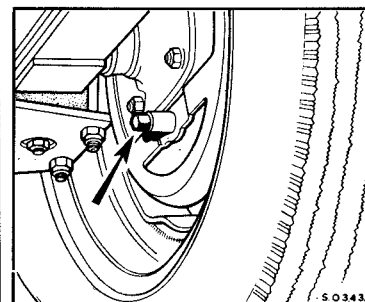


Fig. 4



Hand brake

The hand brake is automatically adjusted with the rear brakes. If there is excessive movement of the hand brake lever, consult your Distributor or Dealer.

Lubrication

Fig. 5

Charge the nipples on the hand brake balance lever (2) and hand brake cable (1) with one of the recommended greases.

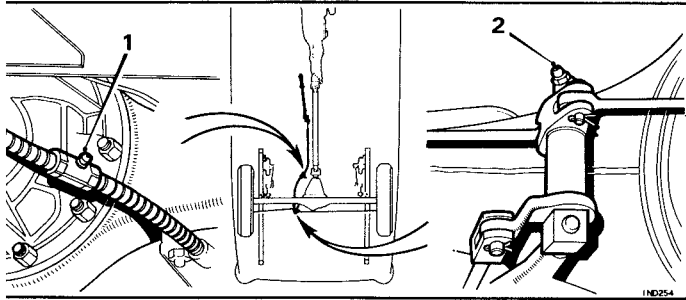
Preventive maintenance In addition to the recommended periodical inspection of brake components it is advisable as the car ages, and as a precaution against the effects of wear and deterioration, to make a more searching inspection and renew parts as necessary.

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 Passport to Service.
- (2) Brake fluid should be changed completely every 18 months or 18,000 miles whichever is the sooner.
- (3) All fluid seals in the hydraulic system should be renewed, and all flexible hoses should be examined and renewed if necessary every 3 years or 36,000 miles (60,000 km.) 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 this can be dangerous if used in the braking system.
- (c) Fluid drained from the system or used for bleeding is best discarded.
- (d) The necessity for absolute cleanliness throughout cannot be over-emphasized.



TRICAL

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 alternator and 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.

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.

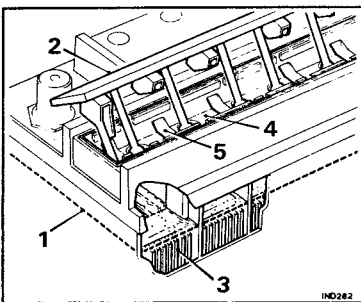
(See Editor's Notes at end of Part 1)

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.

'Pacemaker' (Type A9, AZ9, A11, AZ11). The electrolyte levels (1) 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.

Fig. 1



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

Fig. 2

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. (35 amp. blow rated), is marked on a coloured slip of paper inside the glass tube of the fuse.

Line fuses Auxiliary equipment. The 35 amp. line fuse (7) protects the windscreen wiper, windscreen washer, heater blower motor and radio circuits when the ignition is switched off and the ignition switch is in position '1'.

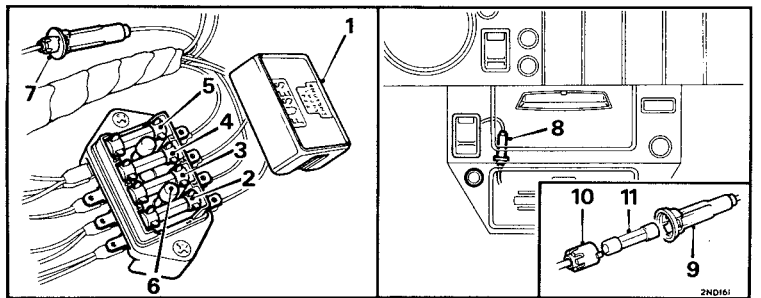
Fig. 2

Hazard warning. The 35 amp. 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 10).

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 a 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.

Fig. 2



Blown fuses The units which are protected by the fuses can be identified from the wiring diagram. 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.

Accessories If an electrical accessory is being fitted and it is required to operate independently of the ignition circuit it should be connected to terminal '8' on the fuse block; if it is required to operate only when the ignition is switched on, connect it to terminal '6'. The terminal numbers are marked on the fuse block.

HEADLAMPS

Light unit

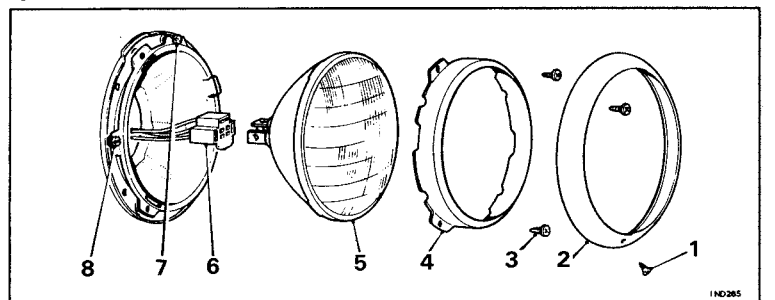
Fig. 3

To remove a light unit, remove the outer rim retaining screw (1) and withdraw the outer rim (2). Unscrew the three inner rim retaining screws (3), remove the inner rim (4), withdraw the light unit (5), and disconnect the three-pin plug (6).

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 (7) is for adjusting the beam in the vertical plane, and the screw (8) is for horizontal adjustment. The beams must be set in accordance with local regulations; resetting and checking should be entrusted to your Distributor or Dealer, who will have special equipment available for this purpose.

Fig. 3



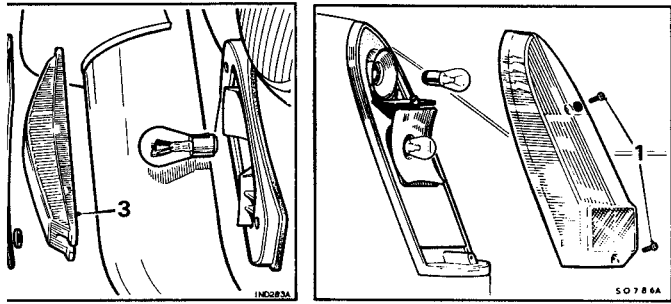
LAMPS Parking and direction indicator lamps

Fig. 4

To gain access to the parking and direction indicator bulb, unscrew the two retaining screws (1) and withdraw the rim (2) and lens (3).

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

Fig. 5



Number-plate lamp To renew a bulb, remove the two securing screws and lift off the lamp hood (1) and lens (2). When refitting, ensure that the lamp lens seal (3) is correctly positioned. Tighten the screws evenly and progressively to compress the seal.

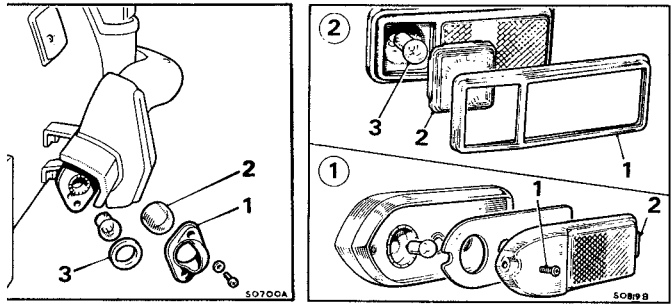
Fig. 6

Front marker lamps (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.

Fig. 7

(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.

Fig. 7



Rear lamp 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.

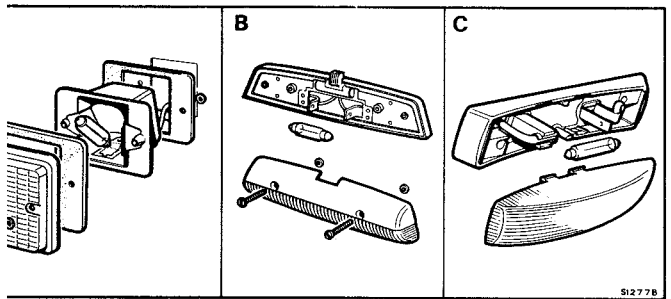
Fig. 8 (A)

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

Fig. 8 (B)

Front lamp 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.

Fig. 8 (C)



Instrument panel lamps Access to the bulbs is gained from the back of the fascia and/or by removing the centre console.

Centre console. Remove the four screws (12) 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).

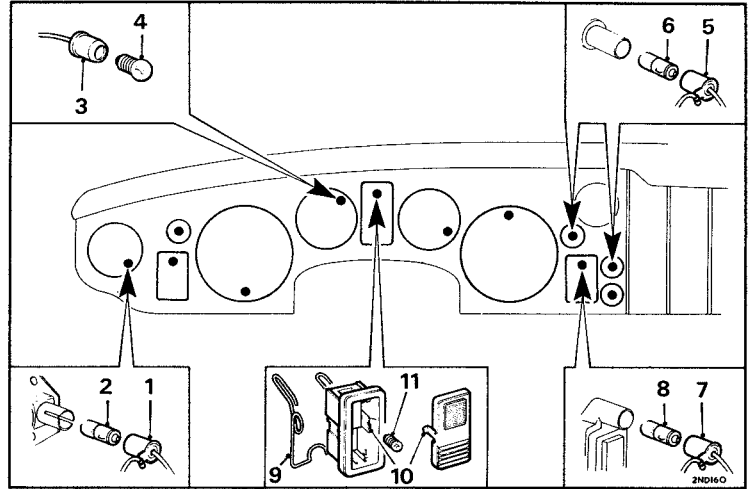
Instrument panel lamp bulbs. Remove the push-fit bulb holders (3) from the instruments and unscrew the bulb (4).

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. 9



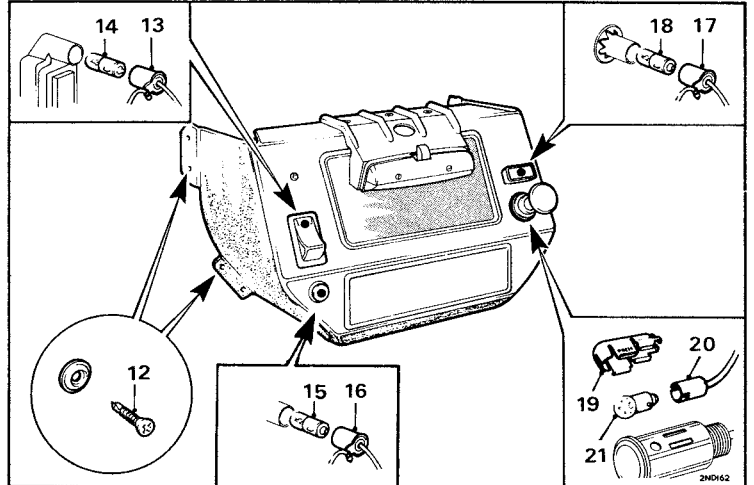
Hazard switch bulb. Withdraw the centre console. Remove the push-fit bulb holder (13) from the switch, and remove the bayonet fixing type bulbs (14).

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

Seat belt warning lamp bulb. Withdraw the centre console. Remove the push-fit bulb holder (17) from the lamp and remove the bayonet fixing type bulb (18).

Cigar-lighter (if fitted) illumination bulb. Withdraw the centre console. Squeeze the sides of the bulb hood (19) and remove the hood. Remove the bulb holder (20) from the hood clip and remove the bayonet fixing type bulb (21).

Fig. 10



Replacement bulbs		Volts	Watts	Part No.
Headlamp—sealed beam	12	50/40	—
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	GLB 989
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 987
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
Hazard warning lamp	12	2	GLB 987
Seat belt warning lamp	12	2	GLB 281
Switch illumination	12	2	GLB 281
Heater rotary control illumination	12	2	GLB 281

WIPER

Arms To reposition a wiper arm, hold the spring clip (1) clear of the retaining groove in the spindle (2) and withdraw the arm. Place the arm in the required position and press it onto the spindle until it is secured by the clip.

Blades To renew a wiper blade, pull the wiper arm (4) away from the windscreen, press down the arm against the spring fastener (3) and pull the blade from the arm. Insert the end of the wiper arm into the spring fastener of the new blade and push the blade into engagement with the arm.

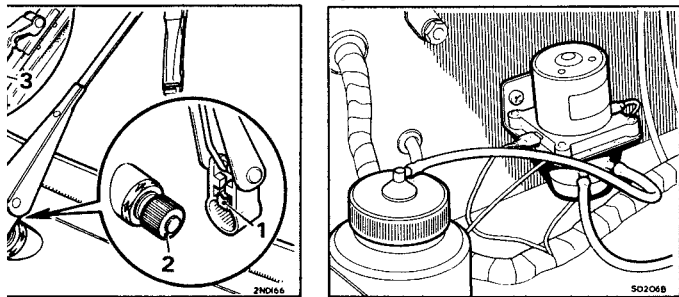
Washer The electric pump for the windscreen washer is mounted on the left-hand side of the engine compartment bulkhead. The fluid flow is indicated on the pump just above the fluid connections.

PUMP Fuel is delivered to the carburetters by an S.U. electric fuel pump. The pump is situated beneath the luggage compartment on the right-hand side.

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.



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 Austin MG Dealer control service station.

The dynamic ignition timing must be checked after cleaning, resetting, or renewing of the distributor contacts. (See Editor's Note at end of Part 1)

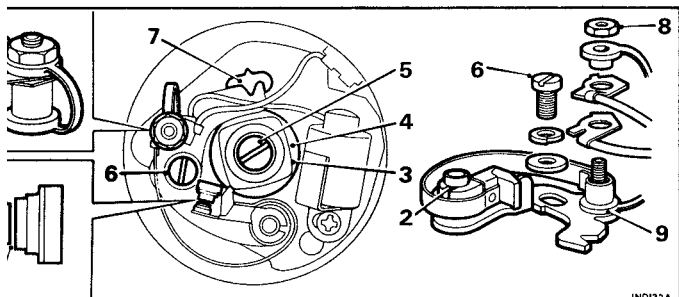
Basic tuning data will be found on the Vehicle Emission Control Information Label located in the engine compartment.

Distributor **Cleaning contacts.** Inspect the contact points (1) and, if burned, clean with fine emery cloth or fine carborundum stone. Wipe the contacts clean with a fuel-moistened cloth. Renew pitted or worn points.

Lubrication. Very lightly smear the pivot post (2) and around the cam (3) with grease. Add a few drops of oil through the hole in the contact breaker plate to lubricate the centrifugal weights and around the screw (5) in the centre of the cam spindle (do not remove this screw as clearance is provided for oil to pass). **Avoid over-lubricating.** Carefully wipe away all surplus lubricant and see that the contact breaker points are perfectly clean and dry.

Contact breaker gap. Turn the crankshaft until the points are fully open. Check the contact gap (1) with a feeler gauge (see 'GENERAL DATA'); the gauge should be a sliding fit in the gap.

If the gap varies appreciably from the gauge thickness, slacken the contact plate securing screw (6) and adjust the gap by inserting a screwdriver in the notched hole (7) at the end of the plate and turning clockwise to decrease and anti-clockwise to increase the gap. Tighten the securing screw. Turn the crankshaft and recheck the gap. Refit the rotor, wipe the inside of the distributor cover clean and refit.



Spark plugs

The spark plugs should be cleaned, preferably with an air-blast service unit.



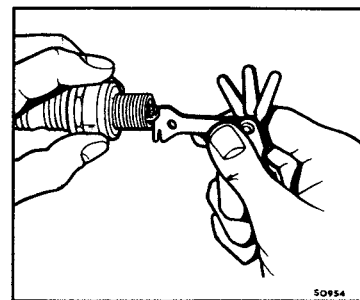
Check the plug gaps, and reset if necessary to the recommended gap (see 'GENERAL DATA'). To reset, use a special Champion spark plug gauge and setting tool; move the side electrode, never the centre one.

When refitting the plugs make sure that the washers are not defective in any way.

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.

When fitting new spark plugs ensure that only the recommended type and grade are used (see 'GENERAL DATA').

Fig. 2



ENGINE

LUBRICATION

Checking Fig. 1

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

The filler (2) is on the forward end of the rocker cover and is provided with a quick-action cap. The filler cap also incorporates a filter for the crankcase emission control system.

Draining To drain the engine oil, remove the drain plug (1) located on the right-hand side at the rear of the sump. This operation should be carried out while the engine is warm.

Clean the drain plug; check that its copper sealing washer is in a satisfactory condition, 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.

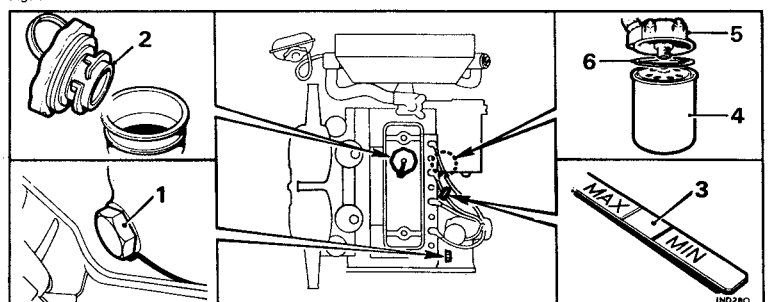
Oil filter changing Fig. 1

The oil filter is a disposable cartridge type.

To renew, unscrew the cartridge (4) from the filter head (5) and discard the cartridge.

NOTE. If difficulty in unscrewing the cartridge is experienced, consult your Distributor or Dealer.

Fig. 1



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

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

SYSTEM

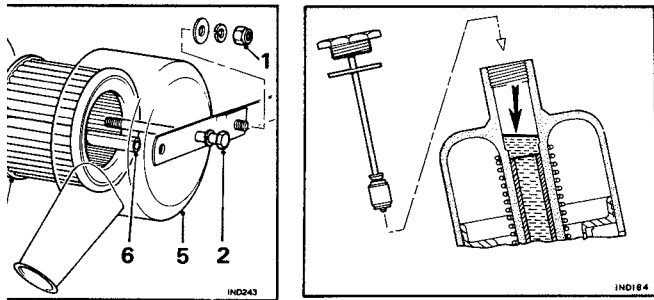
Filters The elements of the carburetter air cleaners must be renewed every 12,000 miles (20,000 km.) or 12 months; more frequent changes may be necessary in dusty operating conditions.

Carburetter The air cleaner covers and elements should only be removed when the elements are being renewed. To fit new elements, remove the interconnecting bracket securing nut (1) and unscrew the air cleaner bolts (2) from the mounting plate (3). Lift off the assembly, remove the cover (5) and extract the element (4) and the distance pieces (6) for the air cleaner bolts.

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

Operation **Carburetter.** Unscrew the damper cap at the top of the carburetter and withdraw the damper. Top up with clean engine oil to bring the oil level 1 inch below the top of the carburetter damper tube. Push the damper assembly back into position and screw in the cap. Under no circumstances should heavy bodied lubricant be used. Failure to lubricate the piston damper may cause the piston to flutter and reduce acceleration and have an adverse effect on exhaust emission.

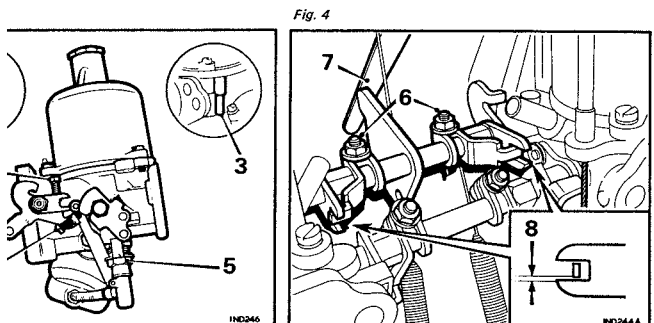
Throttle. Lubricate the carburetter throttle and choke control linkages and cables, and the accelerator pedal fulcrum.



Adjusting The efficient operation of the engine and exhaust emission control equipment depends not only on correct carburetter settings but also on correct ignition timing, contact breaker and spark plugs and valve rocker clearances. It is essential that these items are checked before adjusting the carburetters. Tuning of the carburetters is confined to setting the idle and fast idle speeds and the mixture setting at idle speed. Adjustments should only be undertaken on cars required to conform with exhaust emission control regulations if the use of a reliable tachometer, carburetter balance meter and an exhaust gas analyser (CO meter) is available.

1. Remove the air cleaners.
2. Top up the carburetter piston dampers with recommended engine oil to the correct level.
3. Check the throttle control for correct functioning.
4. Ensure that the mixture control (choke) will return fully, that the cable has $\frac{1}{8}$ in. (2 mm.) free play (1) before it starts to pull on the lever and a small clearance exists between the fast idle screws (2) and their cams.
5. Raise each carburetter lifting pin (3), release the pin and check that the piston falls freely onto the bridge of the carburetter, indicated by a distinct metallic click. Consult your Distributor/Dealer if the piston fails to fall freely.
6. Connect a reliable tachometer.
7. Start the engine and run it at a fast idle speed until it attains normal running temperature then run it for a further five minutes.
8. Increase the engine speed to 2,500 rev./min. for 30 seconds.

NOTE.—Tuning can now be commenced. If delay prevents the adjustment being completed within three minutes, increase the engine speed to 2,500 rev./min. for 30 seconds and then continue tuning. Repeat this clearing procedure at three minute intervals until tuning is completed.



9. Check the idle speed (tachometer), see 'GENERAL DATA' and check the carburetters for balanced air intake using a balance meter.
10. If the balance is not correct, adjust as follows: release a throttle connector (6) between the carburetters and adjust by turning the throttle adjusting screw (4) on one of the carburetters until the balance is correct. Then adjust the idle speed by turning the throttle adjusting screw (4) on each carburetter by the same amount. Re-check the carburetter balance. Check the throttle shaft pin clearance and adjust if necessary—see paragraph 17.

If a smooth idle at the correct speed and balance is not obtainable adjust the idle speed mixture setting as follows:

11. Stop the engine. Remove each suction chamber and piston, and screw the jets (5) up until they are flush with the bridge of the carburetter or up as far as possible. Turn down the jet adjusting nut (5) on each carburetter two complete turns. Refit the piston and suction chambers and top up the piston damper oil levels.

NOTE.—This operation need not be carried out if it is known that the jets are in the same relative position.
12. Start the engine. Turn the jet adjusting nut (5) on both carburetters in the same direction, one flat at a time, up to weaken or down to richen, within the limits of the adjustment restrictor until the fastest speed is recorded on the tachometer. Now turn the nuts up slowly until the speed just commences to fall. Turn the nuts down very slowly by the **minimum amount** until the maximum speed is regained.
13. Using the exhaust gas analyser check that the percentage CO reading is within the prescribed limits. If the reading falls outside the limits reset both jet adjusting screws equally by the minimum amount necessary to bring the reading just within the limits. If a smooth idle at the correct speed or the prescribed CO reading cannot be obtained you should consult your Austin MG Dealer.
14. Recheck the idle speed and carburetter balance and adjust as necessary with the throttle adjusting screws.
15. Set the throttle interconnection clamping levers so that the link pin is 0.012 in. (0.31 mm.) away from the lower edge of the forks (see inset 8) as follows:
 16. Stop the engine and slacken both clamping bolts (6) on the throttle spindle interconnection.
 17. Insert a 0.012 in. (0.3 mm.) feeler gauge (7) between the throttle shaft stop and the carburetter heat shield. Move each throttle spindle interconnection lever downwards until the lever pin rests on the lower arm of the carburetter throttle fork. Tighten the clamping bolts (6) Fig. 4 on each fork, ensuring that there is approximately $\frac{1}{8}$ in. (0.79 mm.) end float on the interconnection rod. Remove the feeler gauge. The pins on the throttle spindle lever should then have clearance in the throttle fork.
 18. Ensure that $\frac{1}{8}$ in. (2 mm.) free movement exists before the cable starts to pull on the lever.
 19. Run the engine at 1,500 r.p.m. and check the carburetters for balance.
 20. Pull out the mixture control knob until the linkage is about to move the carburetter jets. Lock the knob in position.
 21. Using the balance meter to ensure equal adjustment, turn the fast idle adjusting screws equally to give the fast idle speed—see 'GENERAL DATA'. Stop the engine.
 22. Refit the air cleaners.

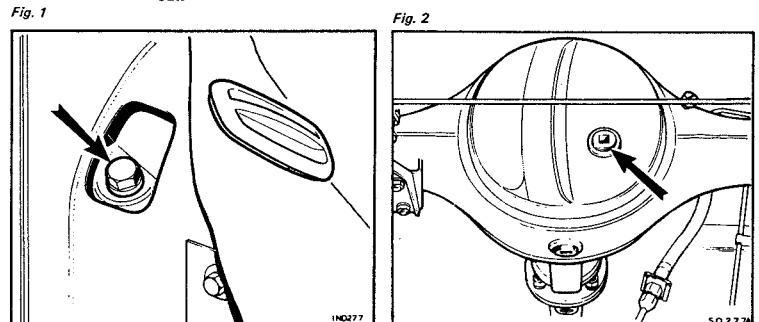
GEARBOX AND REAR AXLE

Gearbox To gain access to the gearbox combined oil filler and level plug, lift the floor covering on the left-hand side of the gearbox cover and remove the rubber plug. 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; ensure that the car is standing level when checking. 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.

Ensure that the rear axle oil is not drained when the After-sales Service is carried out.



STEERING AND SUSPENSION

Lubrication A lubrication nipple for the steering rack is located on the right-hand side of the rack housing, which is accessible when the bonnet is raised. When lubricating give a maximum of 10 strokes with an oil gun filled with one of the recommended oils.

axle pins Two lubricating nipples (1) and (2) are provided on 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.

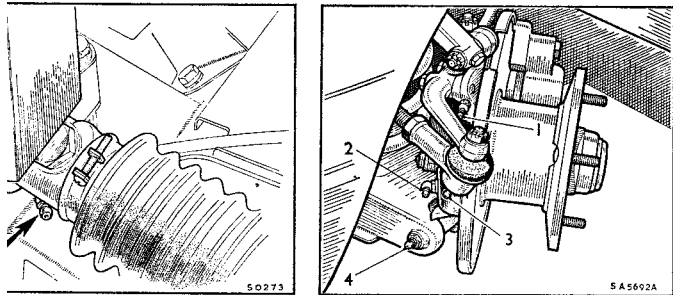
Steering tie-rod ball joint The steering tie-rod ball joint at each side is provided with a lubrication nipple (3). To lubricate, charge the nipples with one of the recommended greases.

spension r fulcrum pins A lubricating nipple (4) is provided on each of the outer fulcrum pins. To lubricate, charge the nipples with one of the recommended greases.

t wheel gment Incorrect front wheel alignment can cause excessive and uneven tyre wear. The front wheels must be set parallel or toe-in $\frac{1}{8}$ in. (3.2 mm.) to each other when the steering is in the straight-ahead position.

To set the wheel alignment correctly requires the use of a special gauge; this work should be entrusted to your Distributor or Dealer.

Fig. 2



GENERAL DATA

Engine	Engine type	12CC 12CD (4-cylinder overhead valve)
	Engine type (evaporative loss)	12CJ, 12V
	Bore	2.78 in. (70.61 mm)
	Stroke	3.2 in. (81.28 mm)
	Cubic capacity	77.8 cu. in. (1274.86 c.c.)
	Compression ratio	8.8:1—Late U.S.A., 8.0:1
	Firing order	1,3,4,2
	Valve rocker clearance (cold)	.012 in. (.3 mm)
	Idle speed (12CC)	700 r.p.m. (hot)
	Idle speed (other)	1,000 r.p.m.
	Fast idle speed	1,100 r.p.m. to 1,200 r.p.m.
	Oil pressure	Normal (approx.) 40 to 70 lb./sq. in. (2.81 to 4.92 kg./cm. ²) Idling (approx.) 20 lb./sq. in. (1.4 kg./cm. ²)
Ignition	Spark plugs (12CC)	Champion UN12Y
	Spark plugs (other)	Champion N.9.Y
	Spark plug gap	.024 to .026 in. (.62 to .66 mm)
	Static ignition timing (12CC):	
	High compression	7° B.T.D.C.
	Low compression	7° B.T.D.C.
	Stroboscopic ignition timing:	
	(12CC)	22° at 1,000 r.p.m.
	(12CD, 12CJ)	10° B.T.D.C. at 1,000 r.p.m.
	Stroboscopic ignition timing (12V) (vacuum disconnected)	9° B.T.D.C. at 1,500 r.p.m.
Fuel system	Carburetors	Twin S.U. type HS2
	Carburetor needle	ABC (spring-loaded type)
	Early cars	AN, AAC
	Pump (12V)	S.U. type AUF 305 electric
	(other)	S.U. (Electric) type AUF 206
Transmission	Rear axle ratio	3.9 : 1
	Overall gear ratios: First	12.48 : 1
	Second	7.472 : 1
	With synchromesh	Third 5.292 : 1 Fourth 3.9 : 1 Reverse 16.044 : 1
Dimensions		Pressed spoked disc Wire
	Track: Front	3 ft. 10 $\frac{1}{8}$ in. (118.27 cm.) 3 ft. 10 $\frac{1}{8}$ in. (117.63 cm.) 3 ft. 10 $\frac{1}{8}$ in. (117.63 cm.)
	Rear	3 ft. 10 in. (116.84 cm.) 3 ft. 8 $\frac{1}{2}$ in. (113.66 cm.) 3 ft. 9 $\frac{1}{2}$ in. (114.93 cm.)
	Turning circle: Left lock	32 ft. 1 $\frac{1}{2}$ in. (9.79 m.)
	Right lock	31 ft. 2 $\frac{1}{2}$ in. (9.51 m.)
	Front wheel alignment	Parallel to $\frac{1}{8}$ in. toe-in (0 to 3.2 mm.)
	Wheelbase	6 ft. 8 in. (2.03 m.)
	Overall length	11 ft. 5 $\frac{3}{8}$ in. (3.49 m.)
	Overall width	4 ft. 6 $\frac{1}{2}$ in. (1.4 m.)
	Overall height	4 ft. $\frac{5}{8}$ in. (1.22 m.)
	Ground clearance	5 in. (12.7 cm.)
Capacities	Fuel tank	6 gallons (7.2 U.S. gallons, 27.3 litres)
	Fuel tank (evaporative loss)	5 gallons (6 U.S. gallons, 22.7 litres)
	1974 Fuel tank (evaporative loss)	6 $\frac{1}{2}$ gallons (7.7 U.S. gallons, 29 litres)
	Engine sump (including filter)	6 $\frac{1}{2}$ pints (7.8 U.S. pints, 3.7 litres)
	Gearbox	2 $\frac{1}{2}$ pints (2.7 U.S. pints, 1.3 litres)
	Rear axle	1 $\frac{1}{2}$ pints (2.1 U.S. pints, .99 litre)
	Cooling system (with heater)	6 pints (7 U.S. pints, 3.4 litres)

Wheels and tyres	Wheel size: Pressed spoked	44J SL x 13
	Pressed disc	3.5D x 13
	Wire	41 x 13

Tyres:	<i>Size</i>	<i>Type</i>
	5.20 x 13S	Cross ply
	145SR x 13	Radial ply

Tyre pressures

	5.20—13S		145SR—13	
	Cross-ply tyres		Radial-ply tyres	
	Front	Rear	Front	Rear
Normal car weight	18 lb./sq. in. (1.27 kg./cm. ²)	20 lb./sq. in. (1.4 kg./cm. ²)	22 lb./sq. in. (1.55 kg./cm. ²)	24 lb./sq. in. (1.69 kg./cm. ²)
Maximum weight	18 lb./sq. in. (1.27 kg./cm. ²)	24 lb./sq. in. (1.69 kg./cm. ²)	22 lb./sq. in. (1.55 kg./cm. ²)	26 lb./sq. in. (1.83 kg./cm. ²)

It is recommended that for sustained speeds at near the maximum the above tyre pressures are increased by 4 lb./sq. in. (.28 kg./cm.²).

Weights

	Including	Total weight	Distribution	
			Front	Rear
Kerbside	Full fuel tank, all optional extras and accessories	1,701 lb. (772 kg.)	861 lb. (391 kg.)	840 lb. (381 kg.)
		1974: 1,746 lb. (792 kg.)	868 lb. (394 kg.)	1974: 878 lb. (398 kg.)
Normal	Kerbside weight, driver, passenger, and 50 lb. luggage	2,051 lb. (930 kg.)	948 lb. (429 kg.)	1,103 lb. (500 kg.)
		1974: 2,046 lb. (928 kg.)	966 lb. (438 kg.)	1974: 1,080 lb. (500 kg.)
Maximum	Normal weight and towbar hitch load	2,151 lb. (975 kg.)	913 lb. (413 kg.)	1,238 lb. (561 kg.)
		1974: 2,196 lb. (996 kg.)	933 lb. (423 kg.)	1974: 1,263 lb. (573 kg.)
Maximum permissible towing weight		1,344 lb. (610 kg.)		
		1974: 1,344 lb. (610 kg.)		
Towbar hitch load		Maximum 100 lb. (45.4 kg.)		

MAINTENANCE SUMMARY

[NOTE—See page 382 for Maintenance Summary issued in 1975.]

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

Weekly or before a long journey

- Check oil level in engine and top up if necessary
- Check battery and top up to correct level if necessary
- Check coolant level and top up if necessary
- Check windscreen washer and top up if necessary
- Check tyre pressures including spare and adjust if necessary

Maintenance Intervals

†These items are emission related



Carry out the services indicated by X in column

The lubrication service at 3,000-mile or 3-month intervals
A at 6,000-mile or 6-month intervals
B at 12,000-mile or 12-month intervals

LUBRICATION

	Lubrication Service	A	B
Change engine oil	X	X	X
Fit new oil filter	X	X	X
Check level of all fluid reservoirs, brake, clutch, rear axle, transmission, battery, windscreen washer	X	X	X
Check all tyre pressures, including spare	X	X	X
Lubricate all grease fittings	X	X	X
Lubricate all locks and hinges	X	X	X
†Lubricate all throttle and choke controls and cables	X	X	X
†Lubricate steering rack and pinion	X	X	X
	At 30,000 miles or 36 months		
ENGINE			
†Check all drive belts. Adjust if required		X	X
†(Renew all belts at 24,000 miles or 24 months)		X	X
†Check all hoses, vacuum, air and water for condition and tightness		X	X
†Renew all air filter cleaner elements (air pump and carburetter)		X	X
†Adjust valve rocker clearances		X	X
†Tighten all manifold nuts		X	X
†Visually check exhaust and intake systems for leaks		X	X
†Check heating and cooling system for leaks		X	X
†Check resistor in rocker cover purge line for obstruction		X	X
†Check air injection manifold for damage, leaks and security		X	X
†Inspect the check and gulp valves and renew if necessary		X	X
†Inspect air pump, correct or renew if necessary		X	X
		At 24,000 miles or 24 months	

	A	B
N		
park plugs		X
breaker points		X
distributor cam, breaker pivots and advance mechanism	X	X
clean and examine distributor cap for cracks and tracking, and the carbon for sticking and wear		X
distributor cap every 24,000 miles or 24 months)		X
clean and examine high tension leads for damage, deterioration and secure high tension leads every 24,000 miles or 24 months)		X
STEM		
carburettor piston damper	X	X
fuel line filter		X
charcoal canister	At 24,000 miles or 24 month intervals	X
condition of fuel filler cap seal and renew if necessary		X
SCOPE CHECK		
adjust breaker points, resistance and dwell	X	X
adjust ignition timing and distributor advance characteristics (vacuum corrected)	X	X
distributor vacuum advance at idle	X	X
adjust idle speed and mixture setting	X	X
adjust choke and carburettor fast idle speed setting	X	X
check, engine cylinder comparison		X
park plugs (cruise and unload condition); clean and adjust if necessary	X	X
charging system output	X	X
DRIVE AND SUSPENSION		
check for leaks	X	X
check bearing joints for security, backlash and gaiter condition	X	X
check and adjust front wheel alignment	X	X
check for chafing, leaks and corrosion on all hydraulic pipes and unions	X	X
check brake pedal travel, check hand brake operation	X	X
check brake pads for wear and discs for condition	X	X
check brake linings and pads for wear, drums and discs for condition		X
ELECTRICAL		
check operation of lamps, horns, indicators and windscreen wipers	X	X
check battery connections	X	X
check headlamp beam alignment and adjust if necessary	X	X
check and replace windscreen wiper blades; if necessary replace	X	X
FUEL AND CLUTCH PIPES		
check fuel and clutch pipes and unions for chafing, leaks and corrosion	X	X
check for exhaust for leakage and security	X	X
EXTERIOR AND TYRES		
check that tyres comply with manufacturer's specification		X
check and report depth of tread, cuts in tyre fabric, exposure of ply or structure, lumps or bulges	X	X
check tightness of road wheel nuts	X	X
check condition and security of seats and seat belts	X	X
check rear view mirror for looseness, cracks or crazing	X	X

The rule on the preceding pages is the minimum service required to maintain your vehicle under normal driving conditions. For other than normal driving conditions, and those caused by seasonal wear we recommend that you consult your Distributor or Dealer.

WARRANTY

Service Your Distributor or 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.

Parts and accessories Genuine BRITISH LEYLAND and UNIPART parts and accessories are designed and tested for your vehicle and have the full backing of the British Leyland Factory Warranty. ONLY WHEN GENUINE BRITISH LEYLAND AND UNIPART PARTS ARE USED CAN RESPONSIBILITY BE CONSIDERED UNDER THE TERMS OF THE WARRANTY.

For more information on UNIPART, see your British Leyland Distributor or Dealer.

Genuine British Leyland and UNIPART parts and accessories are supplied in cartons and packs bearing either or both of these symbols.



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.

Identification When communicating with your Distributor or 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.

Commission number. Stamped on a plate secured to the left-hand side of the bonnet lock platform.

Engine number. Stamped on a plate secured to the right-hand side of the cylinder block.

Gearbox number. Stamped on the left-hand side of the gearbox casing.

Rear axle number. Stamped on the front of the left-hand rear axle tube near the spring seating.

Supplementary tool kit To supplement the tool kit a waterproof canvas roll containing the following is obtainable from all Distributors. Part No. AKF 1596 should be quoted.

6 spanners: $\frac{5}{8}$ in. x $\frac{3}{8}$ in. A.F. 1 pair 6 in. pliers.
 $\frac{7}{16}$ in. x $\frac{1}{2}$ in. A.F. 1 7 in. x $\frac{3}{8}$ in. diameter tommy-bar.
 $\frac{1}{2}$ in. x $\frac{9}{16}$ in. A.F. 1 $\frac{1}{2}$ in. x $\frac{9}{16}$ in. A.F. tubular spanner.
 $\frac{5}{8}$ in. x $\frac{3}{8}$ in. A.F. 2 screwdrivers.
 $\frac{3}{4}$ in. x $\frac{11}{16}$ in. A.F.
 $\frac{3}{4}$ in. x $\frac{7}{8}$ in. A.F.

British Leyland Motors Inc.

600 Willowtree Road, Leonia
New Jersey 07605

Telephone: (201) 461/7300 Telex: 135491

British Leyland Motors

Canada Limited

4445 Fairview Street

P.O. Box 5033

Burlington Ontario Canada

Telephone: (416) 632/3040 Telex: 021678

TUNING MODIFICATIONS

Tuning modifications For competition, circuit racing, and speed trials a wide range of MG Factory Special Tuning parts are available through your Distributor or Dealer. Full details of the varying stages of tune and the fitting of the parts listed below are given in Tuning Booklet C-AKD 5098.

Warning: The car is delivered from the factory in its standard form tuned to give maximum performance with complete reliability, and meeting any U.S. legal requirements as to emission control and safety regulations.

Super-tuned cars should be utilized only in off-road competition driving. Super-tuning, modifications, alterations to the car from its factory-delivered standard form may prohibit its use on public roads.

REMINDER: The warranty provides that it is invalidated if the car is used for racing.

Engine Half-race and full-race camshafts. Lightened timing gears. Competition cylinder head. Competition pistons, competition inlet and exhaust valves. Competition valve spring sets. Competition valve gear. Large capacity, deep sump. Competition oil cooler. Competition large bore manifold. Lightened flywheel.

Carburettor Twin $1\frac{1}{2}$ in. or $1\frac{3}{4}$ in. S.U. carburettors and full installation kit. Weber twin-choke carburettors and full installation kit.

Ignition Competition distributor with a special advance curve. Racing sparking plugs.

Transmission Competition clutch assembly and driven plate. Range of axle ratios. Front and rear road springs. Limited slip differential. Heavy-duty axle shafts. Close-ratio gears.

Suspension Front anti-roll bar and installation kit. Competition setting shock absorbers. Front suspension lowering kit.

Wheels and brakes Wide-rim wire wheels. Competition brake pads.

Miscellaneous Lightweight bucket seats. Leather bonnet straps. Alternator pulleys for reduced speed.

For further details see your Distributor or Dealer or write to:

Special Tuning Department

Austin Morris Group BRITISH LEYLAND UK LIMITED

Body and Assembly Division MG Plant

ABINGDON-ON-THAMES BERKSHIRE ENGLAND

Telephone: Abingdon 251 Telex: 83128 Telegrams: Emgee, Abingdon



RECOMMENDED LUBRICANTS

Component	Engine, Synchronmesh Gearbox, Overdrive, Distributor, Carburetter, and Oil-can			Rear Axle and Steering Gear		Grease Points	Upper Cylinder Lubrication
	All temperatures above -10° C. (10° F.)	Temperatures -15° to 5° C. (0° to 20° F.)	All temperatures below -15° C. (0° F.)	All temperatures above -10° C. (10° F.)	All temperatures below -5° C. (20° F.)		
Climatic conditions	All temperatures above -10° C. (10° F.)	Temperatures -15° to 5° C. (0° to 20° F.)	All temperatures below -15° C. (0° F.)	All temperatures above -10° C. (10° F.)	All temperatures below -5° C. (20° F.)	All conditions	All conditions
Viscosity requirement	S.A.E. 10W/50 S.A.E. 10W/40 S.A.E. 20W/50 or S.A.E. 20W/40	S.A.E. 10W/50 S.A.E. 10W/40 or S.A.E. 10W/30	S.A.E. 5W/30 or S.A.E. 5W/20	S.A.E. 90 Hypoid	S.A.E. 80 Hypoid		
Minimum performance level		MIL-L-2104B	MIL-L-2104B	MIL-L-2104B	MIL-L-2105B	Multipurpose Lithium Grease N.L.G.I. Consistency No. 2	Upper Cylinder Lubricant
BP	BP Super Visco-Static	BP Super Visco-Static 10W/30 or 10W/40	BP Super Visco-Static	BP Hypogear 90 EP	BP Hypogear 80 EP	BP Energrease MP	BP Power Lube
SHELL	Super Shell Motor Oil	Super Shell Motor Oil	Shell Super Motor Oil 5W/30	Shell Spirax Heavy Duty 90	Shell Spirax Heavy Duty 80	Shell Darina AX	Shell Upper Cylinder Lubricant
FILTRATE	Filtrate Super 20W/50	Filtrate Super 10W/30	Filtrate 5W/20	Filtrate Epex 90	Filtrate Epex 80	Filtrate Super Lithium Grease	Filtrate Petroyle
STERNOL	Sternol Super W.W. Motor Oil	Sternol W.W. Multigrade 10W/40	Sternol W.W. Multigrade 5W/20	Sternol Ambroleum HD 90	Sternol Ambroleum HD 80	Sternol Ambroline Grease LHT 2	Sternol Magikoyl
DUCKHAMS	Duckhams Q. 20-50	Duckhams Q. 5500	Duckhams Q5-30	Duckhams Hypoid 90S	Duckhams Hypoid 80S	Duckhams L.B. 10 Grease	Duckhams Adcoid Liquid
CASTROL	Castrol GTX or Castrol XL 20/50	Castrolite or Castrol Super	Castrol CR1 5W/20	Castrol Hypoy B. 90	Castrol Hypoy B. 80	Castrol L.M. Grease	Castrollo
ESSO	Uniflo or Esso Extra Motor Oil 20W/50	Uniflo or Esso Extra Motor Oil 10W/30	Esso Extra Motor Oil 5W/20	Gear Oil G.X. 90	Gear Oil G.X. 80	Esso Multi-purpose Grease H	Esso Upper Cylinder Lubricant
MOBIL	Mobiloil Special 20W/50 or Super 10W/50	Mobiloil Super 10W/50	Mobiloil 5W/20	Mobilube HD 90	Mobilube HD 80	Mobilgrease MP	Mobil Upperlube

LUBRICATION

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.

Every 6,000 miles or 6 months

- 1) ENGINE. Drain and refill with new oil.
 - 1) ENGINE OIL FILTER. Remove disposable cartridge, fit new.
 - 1) CARBURETTORS. Top up carburetter piston damper.
 - 1) THROTTLE AND CHOKE. Lubricate throttle and choke control linkages, cables, and accelerator pedal fulcrum.
 - 1) DISTRIBUTOR. Lubricate all parts as necessary.
 - 1) REAR AXLE. Check oil level, and top up if necessary.
 - 1) GEARBOX. Check oil level and top up if necessary.
 - 1) STEERING TIE-ROD BALL JOINT (2 nipples)
 - 1) FRONT SUSPENSION (6 nipples)
 - 1) HAND BRAKE CABLE (1 nipple)
 - 1) HAND BRAKE COMPENSATING LEVER
- } Give three or four strokes with a grease gun.
- Lubricate all door, bonnet, boot locks, and hinges, and hand brake mechanical linkage.

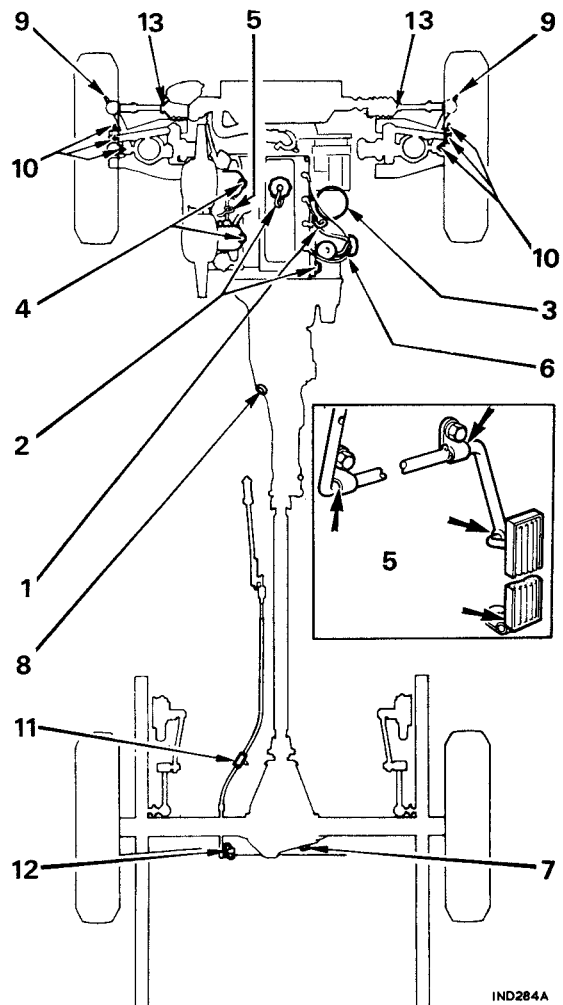
Every 30,000 miles or 36 months

STEERING RACK. Lubricate steering rack—this work must be entrusted to your Distributor or Dealer.

Lubrication service at 3,000 miles or 3 months

- ENGINE. Drain and refill with new oil.
 - THROTTLE AND CHOKE. Lubricate throttle and choke control linkages, cables, and accelerator pedal fulcrum.
 - REAR AXLE. Check oil level, and top up if necessary.
 - GEARBOX. Check oil level, and top up if necessary.
 - STEERING TIE-ROD BALL JOINT (2 nipples)
 - FRONT SUSPENSION (6 nipples)
 - HAND BRAKE CABLE (1 nipple)
 - HAND BRAKE COMPENSATING LEVER (1 nipple)
- } Give three or four strokes with a grease gun.
- Lubricate all door, bonnet, boot locks, and hinges and hand brake mechanical linkage.

Recommended oils and greases are given above.



IND284A

EDITOR'S NOTES

Cooling System

Anti-freeze solutions

You can check the specific gravity of the coolant solution by using an anti-freeze hydrometer. With this instrument, a quantity of coolant is sucked in and the position of a glass float indicates the specific gravity of the solution, usually in terms of the temperature at which ice begins to form.

A more thorough job of flushing can be done if the thermostat is removed from its housing and the housing reinstalled before flushing.

Wheels and Tires

Tire Maintenance

"Vulcanizing" is a process of tire repair in which a patch is applied under heat and pressure.

Brakes

Brake and clutch master cylinder

Only the brake fluids specified should be used. Other brake fluids may have a lower boiling point and will boil in disc brake systems under hard usage. This can cause temporary malfunction until the fluid has cooled (pedal will feel spongy).

Electrical

Battery

Do not use a naked light, or open flame, when examining the condition of the cells. The reason for this is that hydrogen and oxygen gases are produced under normal charging conditions and the mixture of these two gases in the proper proportions is explosive.

Checking the specific gravity

When checking the specific gravity of a battery be sure to use a battery hydrometer, not an anti-freeze hydrometer.

Ignition

Checking ignition timing

The spark timing may be set with a commercially available timing light. A flash occurs every time the No. 1 cylinder fires, illuminating the timing marks at the crankshaft pulley. The engine should be run at the rpm specified in "General Data" and the knurled nut adjusted until the setting corresponds to that listed in "General Data" for the engine type you are working with.