

AKD879B

THE



SERIES MGA
(Twin Cam)

DRIVER'S HANDBOOK



ALL CAR OWNERS

should read



FIRST-CLASS TECHNICAL AND
SPORTS SECTIONS ARE REGULAR
FEATURES OF THIS WIDELY READ
MONTHLY MAGAZINE

Technical articles dealing with maintenance
and tuning help Morris, Wolseley, Riley and
M.G. car owners to get the best out of their
cars. Expert advice of technical staff
is at the service of all readers

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MOTRING

The Nuffield Organization
Cowley, Oxford, England

Component	A			B	C	D	E	F
	Engine and Air Cleaner							
Climatic conditions	Tropical and temperate 40° (104° F.) to 120° F. (-12° C.)	Extremely cold down to 0° F. (-12° C.)	Arctic consistently down to -40° F. (-40° C.)	Steering Gearbox and Rear Axle (Hypoid Gears)	Lubrication Nipples	Oilpan and Carburetor	Upper Cylinder Lubrication	Wheel Hubs and Hand Brake Cable
	Medium Filtrate 1/2	Zero Filtrate 20	Sub-Zero Filtrate 10W	All conditions 40 (S.A.E. 40)	Arctic conditions consistent with -40° F. (-40° C.) Hypoid Filtrate Gear 90 Hypoid Filtrate Gear 80	All conditions Super Lithium Filtrate or E.P. Filtrate Gear 140	All conditions Zero Filtrate 20	All conditions Filtrate Petroley
FILTRATE								
STERNOL	Sternol W.W. 30	Sternol W.W. 20	Sternol W.W. 10	Ambroline W.W. 90	Ambroline E.P. 80	Sternol W.W. 20	Sternol Magikoyl	Ambroline L.H.T.
DUCKHAM'S	Duckham's NOL Thirty	Duckham's NOL Twenty	Duckham's NOL Ten	Duckham's Hypoid 90	Duckham's Hypoid 80	Duckham's NOL Twenty	Duckham's Adcoyl Liquid	Duckham's L.B. 10 Grease
CASTROL	Castrol X.L.	Castrol Z	Castrol	Castrol Hypoid	Castrol Hypoid Light	Castrolite	Castrolite	Castrolite L.M.
ESSO	Esso Extra Motor Oil 20W/30	Esso Extra Motor Oil 10	Esso Extra Motor Oil 10	Esso Extra Motor Oil Compound 90	Esso Extra Motor Oil Compound 80	Esso Extra Motor Oil 20W/30	Esso Upper Cylinder Lubricant	Esso Multipurpose Grease H
MOBIL	Mobilil A	Mobilil Arctic	Mobilil 10W	Mobilil G.X. 90	Mobilil G.X. 80	Mobilil Arctic	Mobilil Upperlube	Mobililgrease M.P.
BP ENERGOL	Energol S.A.E. 30	Energol S.A.E. 20W	Energol S.A.E. 10W	Energol E.P. 90	Energol E.P. 80	Energol S.A.E. 20W	Energol U.C.L.	Energol L. 2
SHELL	Shell X-100 30	Shell X-100 20/30W	Shell X-100 10W	Shell Spirax 90 E.P.	Shell Spirax 80 E.P.	Shell X-100 20/30W	Shell Upper Cylinder Lubricant	Shell Retinax A



Series MGA
(Twin Cam)

DRIVER'S HANDBOOK

THIRD EDITION

A copy of this Driver's Handbook is sent out with every M.G. (Series MGA Twin Cam) car. Additional copies are obtainable only from an M.G. Distributor and Part No. AKD879B should be quoted when ordering.

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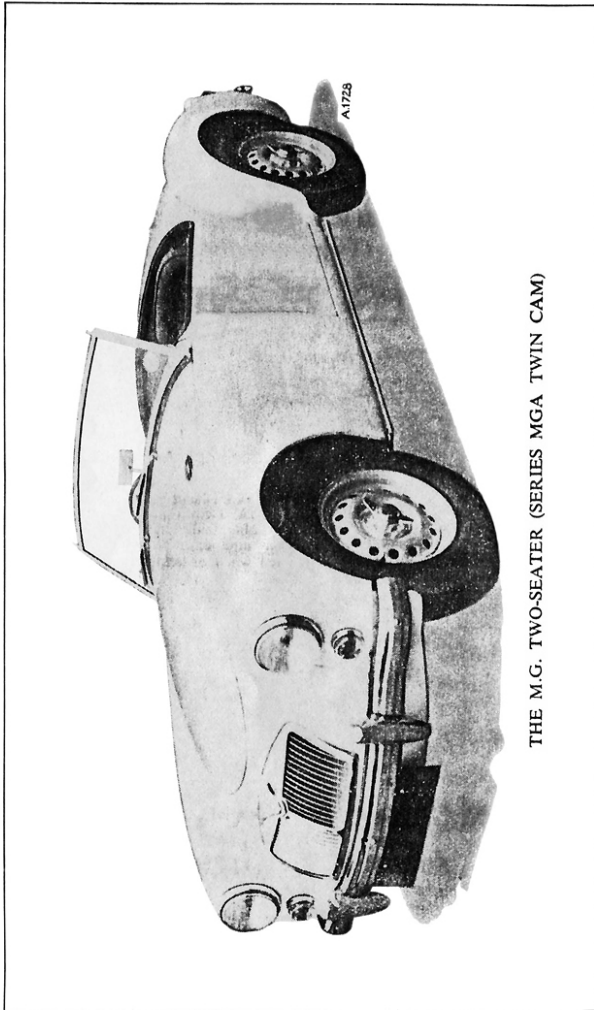
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THE M.G. TWO-SEATER (SERIES MGA TWIN CAM)

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FOREWORD

THE information contained in this Driver's Handbook has been confined to the essentials necessary for the proper running and driving of the car. Nevertheless, the owner will find all the information required to maintain the car in first-class condition and to enable him to give it those all-important items of attention which go so far to ensure trouble-free and satisfactory service.

Every M.G. car leaving the Works is capable of giving absolute satisfaction if attention is given to the essential maintenance operations detailed in this book. Remember that M.G. Distributors/Dealers are better equipped to provide routine and repair service than the owner-driver; therefore, if you encounter trouble consult your Distributor or Dealer—they are at your service.

An exchange scheme for many major items and assemblies is run by B.M.C. Service Limited; ask your Distributor or Dealer for details.

For those requiring information of a more detailed and technical nature than is contained in the Driver's Handbook a Workshop Manual is available at a reasonable price from your Distributor or Dealer.

IDENTIFICATION

When communicating with the Company or your Distributor/Dealer always quote the car and engine numbers; the registration number is of no use and is not required.

Note that all correspondence concerning exported cars must be addressed to Nuffield Exports Limited.

Car number. Stamped on a plate mounted on the engine bulkhead shelf.

Engine number. On a metal plate fixed to the rear of the engine behind the cylinder block.

The engine number comprises a series of letters and numbers, presenting, in code, the capacity, make, and type of unit, ancillaries fitted, and the type of compression, together with the serial number of the unit.

The major components of this vehicle also have serial numbers, and should it be necessary to quote them at any time they will be found in the following locations:

Gearbox. Stamped on the top of the gearbox to the left of the dipstick and filler plug.

Rear axle. Stamped on the front of the axle tube on the left-hand side adjacent to the spring seat.

Body. Stamped on a metal plate fixed to the bulkhead and situated between the right-hand bonnet hinge and the fuse unit.

GENERAL DATA

Engine	4 cylinders, twin overhead camshafts
Bore	2.968 in. (75.39 mm.)
Stroke	3.5 in. (88.9 mm.)
Capacity	1588 c.c. (96.906 cu. in.)
Compression ratio	9.9 : 1
Firing order	1, 3, 4, 2
Valve clearance	.014 to .015 in. (.356 to .381 mm.) (cold)
Spark plug:	
Normal use	Champion N3 (formerly NA10), 14 mm., $\frac{3}{4}$ in. reach
Competition work or hard driving	Champion N58R
Spark plug gap	.025 in. (.635 mm.)
Contact breaker gap	.014 to .016 in. (.406 to .41 mm.)
Rear axle ratio	4.3 : 1
Overall gear ratios:	
First	15.652 : 1
Second	9.520 : 1
Third	5.908 : 1
Fourth	4.3 : 1
Reverse	20.468 : 1
Tyre size	5.90—15 Road Speed
Tyre pressures:	
Normal	Front: 18 lb./sq. in. (1.27 kg./cm. ²) Rear: 20 lb./sq. in. (1.4 kg./cm. ²)
Full load or fast driving	Front: 22 lb./sq. in. (1.55 kg./cm. ²) Rear: 24 lb./sq. in. (1.69 kg./cm. ²)
Competition work, sustained high-speed driving	Front: 24 lb./sq. in. (1.69 kg./cm. ²) Rear: 26 lb./sq. in. (1.83 kg./cm. ²)
Dimensions:	
Track—Front	3 ft. 11 $\frac{3}{4}$ in. (1.217 m.)
Rear	4 ft. 0 $\frac{1}{2}$ in. (1.242 m.)
Turning circle	32 ft. 6 in. (9.91 m.)
Toe-in	Nil
Wheelbase	7 ft. 10 in. (2.388 m.)
Length (overall)	13 ft. 0 in. (3.96 m.)
Width (overall)	4 ft. 10 in. (1.473 m.)
Height (overall)	4 ft. 2 in. (1.27 m.)
Ground clearance	6 in. (15.24 cm.)
Kerbside weight (ready for road)	19 cwt. 2 qrs. 1 lb. (991 kg.)
Capacities:	
Fuel tank	10 gal. (45.4 litres, 12 U.S. gal.)
Cooling system	13 $\frac{1}{2}$ pints (7.7 litres, 16.2 U.S. pints)
Engine sump (including filter)	13 $\frac{1}{2}$ pints (7.7 litres, 16.2 U.S. pints)
Gearbox	4 $\frac{1}{2}$ pints (2.56 litres, 5.4 U.S. pints)
Rear axle	2 $\frac{1}{2}$ pints (1.28 litres, 2.75 U.S. pints)
Lamp bulbs—see page 30	

NOTE.—References to right or left hand in this Handbook are made when viewing the car from the rear.

IMPORTANT

Your attention is drawn to the following points, compliance with which, we suggest, will prove mutually beneficial.

1. WARRANTY CERTIFICATE

- Completion of the Warranty Certificate 'tear-off' slip at the time of vehicle purchase when sent to the Factory will ensure registration of ownership by the British Motor Corporation.
- Retention of the Owner's portion of the Certificate, signed by the Distributor and Owner, in a safe place in the vehicle (by quickly establishing ownership) will help to expedite any adjustments under Warranty if such adjustments are required to be carried out by a B.M.C. Distributor and Dealer other than the supplier of your vehicle.

2. CLAIMS UNDER WARRANTY

Claims for replacement of material or parts under warranty must always 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.

3. PREVENTIVE MAINTENANCE

Service vouchers are produced for your convenience, and the use of these is the best safeguard against the possibility of abnormal repair bills at a later date. Prevent rather than Cure.

4. REPLACEMENT PARTS

When Service Parts are required insist on genuine B.M.C. (MOWOG) Parts as these are designed and tested for your vehicle and in addition warranted for 12 months by the British Motor Corporation. ONLY WHEN GENUINE PARTS ARE USED CAN B.M.C. ACCEPT RESPONSIBILITY.



When purchasing replacement parts or having repairs done owners are requested to see that a label similar to the one illustrated here is attached to the invoice rendered. These labels are issued by B.M.C. Service Limited or Nuffield Exports Limited and constitute a guarantee that genuine B.M.C. parts are supplied.

Our world-wide network of Distributors and Dealers is at your service.

PERIODICAL ATTENTION

Every 12,000 miles (19200 km.)

1. **Engine**
Remove carburettor suction chambers and pistons, clean, reassemble, and top up.
Remove carburettor float-chambers, empty sediment, and refit.
Lubricate carburettor controls.
Check valve clearances, and adjust if necessary.
Clean and re-oil air cleaner elements.
Check dynamo drive belt tension.
Lubricate water pump sparingly.
Clean carburettor and fuel pump filters.
2. **Ignition**
Check automatic ignition control, lubricating distributor drive shaft and cam and advance mechanism.
Check, and adjust if necessary, distributor contact points.
Fit new sparking plugs.
3. **Clutch**
Check level of fluid in hydraulic clutch master cylinder.
4. **Steering**
Check steering and suspension moving parts for wear.
5. **Brakes**
Change road wheels round diagonally, including spare, to regularize tyre wear.
Make visual inspection of brake lines and pipes.
Check level of fluid in hydraulic brake master cylinder.
6. **Hydraulic dampers**
Examine all hydraulic dampers for leaks, and top up if necessary.
7. **Radiator**
Drain, flush out, and refill radiator header tank.
8. **General**
Tighten rear road spring seat bolts.
9. **Body**
Check, and tighten if necessary, door hinges and striker plate securing screws.
Lubricate door hinges, bonnet lock, and operating mechanism.
10. **Electrical**
Check battery cell specific gravity readings and top up to correct level.
Lubricate dynamo bearing.
Check headlamp beam setting, and reset if necessary.
11. **Lubrication**
Drain engine, flush out with flushing oil, and refill with fresh oil.
Change oil in gearbox and rear axle.
Fit new oil filter element.
Lubricate steering rack and pinion.
Lubricate speedometer cable.
Lubricate all grease nipples.
Repack front hub caps with grease.
12. **Wheels and tyres**
Check tyre pressures.
Check wheel alignment.

Every 24,000 miles (38400 km.)

Carry out the 12,000 miles (19200 km.) service, with the following amendment:

Lubrication

Remove engine sump and pick-up strainer, clean, and reassemble, filling with fresh oil.

CONTROLS

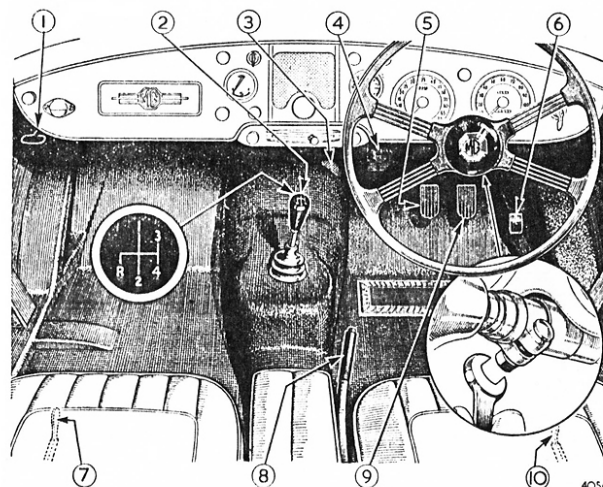
Gear lever

The four forward gears and the reverse gear are engaged by moving the lever to the positions indicated in the illustration inset below.

To engage the reverse gear move the lever to the left of the neutral position until resistance is felt, apply side pressure to the lever to overcome the resistance, and then pull it backwards to engage the gear.

Synchromesh engagement is provided on second, third, and fourth gears.

Ensure that the gear lever is in the neutral position before attempting to start the engine.



The controls

- | | |
|-----------------------------|----------------------|
| 1. Bonnet release. | 6. Accelerator. |
| 2. Gear lever. | 7. Seat lock. |
| 3. Gearbox oil filler plug. | 8. Hand brake lever. |
| 4. Headlamp dip switch. | 9. Foot brake. |
| 5. Clutch pedal. | 10. Seat lock. |

Brake pedal

The centre pedal operates the hydraulic disc brakes on all four wheels and will also operate the twin stop warning lamps when the ignition is switched on.

Clutch pedal

The left-hand pedal operates the hydraulic clutch release. Do not allow the foot to rest on the clutch pedal while driving as this will cause excessive wear of the operating mechanism.

CONTROLS

Hand brake

The hand brake lever is located alongside the gearbox cover and operates the rear wheel brakes only.

To operate, pull up the lever and press the knob in the end with the thumb to lock the lever in position. To release the brakes, pull upwards on the lever to release the lock automatically and then push downwards.

Always apply the hand brake when parking.

Steering column adjustment (optional extra)

The steering column is adjustable for length. This enables the steering wheel to be placed in the most comfortable driving position after slackening a clamp bolt below the wheel hub.

Always retighten the nut securely after adjustment. See the inset in the illustration on page 5.

Headlamp beam dip switch

This is situated to the left of the clutch pedal and is foot-operated. The switch will dip the headlamp beams on one depression and raise them on the next.

To give the driver clear indication when the headlamp beams may dazzle approaching drivers a warning light in the speedometer dial glows when the headlamp beams are in the raised position.

Bonnet lock release

The bonnet is hinged at the rear and the lock is released by pulling on the ring below the instrument panel on the extreme left-hand side of the car.

The bonnet is still held by the safety catch, which must be released before the bonnet can be raised. (See page 14.)

To re-lock the bonnet in the fully closed position after opening, press downwards on the front of the bonnet until the lock is heard to engage.

Seat adjustment

A lever is provided at the front of each seat and this must be pressed outwards to release the catches and allow the seat to slide.

The seat will lock in the desired position as the lever is released.

Door locks (Coupé only)

The door on the driver's side of both the left- and right-hand-drive two-seater coupé is locked from the outside of the car, using the ignition key. The passenger door is locked by lifting the interior door handle to its uppermost position. Push the handle downwards to unlock the door.

PERIODICAL ATTENTION

Every 4,000 miles (6400 km.)

Carry out the 1,000 miles (1600 km.) service.

Every 5,000 miles (8000 km.)

Carry out the 1,000 miles (1600 km.) service.

Every 6,000 miles (9600 km.)

1. *Engine*
 - Top up carburettor piston dashpots.
 - Lubricate carburettor controls.
 - Top up radiator header tank.
 - Check dynamo drive belt tension.
 - Lubricate water pump sparingly.
 - Clean and re-oil air cleaner elements.
 - Clean carburettor and fuel pump filters.
2. *Ignition*
 - Check automatic ignition control, lubricating distributor drive shaft and cam and advance mechanism.
 - Check, and adjust if necessary, distributor contact points.
 - Clean and adjust sparking plugs.
3. *Clutch*
 - Check level of fluid in hydraulic clutch master cylinder.
4. *Brakes*
 - Change road wheels round diagonally, including spare, to regularize tyre wear.
 - Make visual inspection of brake lines and pipes.
 - Check level of fluid in hydraulic brake master cylinder.
5. *Hydraulic dampers*
 - Examine all hydraulic dampers for leaks and check fluid level in front dampers.
6. *General*
 - Tighten rear road spring seat bolts.
7. *Body*
 - Check, and tighten if necessary, door hinges and striker plate securing screws.
 - Lubricate door hinges, bonnet lock, and operating mechanism.
8. *Electrical*
 - Check battery cell specific gravity readings and top up to correct level.
9. *Lubrication*
 - Change oil in engine, gearbox, and rear axle.
 - Fit new oil filter element.
 - Lubricate all grease nipples (except steering rack and pinion).
 - Repack front hub caps with grease.
10. *Wheels and tyres*
 - Check tyre pressures.
 - Check wheel alignment.

Every 7,000 miles (11200 km.)

Carry out the 1,000 miles (1600 km.) service.

Every 8,000 miles (12800 km.)

Carry out the 1,000 miles (1600 km.) service.

Every 9,000 miles (14400 km.)

Carry out the 3,000 miles (4800 km.) service.

Every 10,000 miles (16000 km.)

Carry out the 1,000 miles (1600 km.) service.

Every 11,000 miles (17600 km.)

Carry out the 1,000 miles (1600 km.) service.

PERIODICAL ATTENTION

Every 1,000 miles (1600 km.)

1. **Engine**
Top up carburettor piston dashpots.
Lubricate carburettor controls.
Top up radiator.
2. **Clutch**
Check level of fluid in hydraulic clutch master cylinder.
3. **Brakes**
Make visual inspection of brake lines and pipes.
Check level of fluid in hydraulic brake master cylinder.
4. **Hydraulic dampers**
Examine all hydraulic dampers for leaks.
5. **Electrical**
Check battery cell specific gravity readings and top up to correct level.
6. **Lubrication**
Top up engine, gearbox, and rear axle oil levels.
Lubricate all grease nipples (except steering rack and pinion and water pump).
7. **Wheels and tyres**
Check tyre pressures.
Check wheel nuts for tightness.

Every 2,000 miles (3200 km.)

Carry out the 1,000 miles (1600 km.) service.

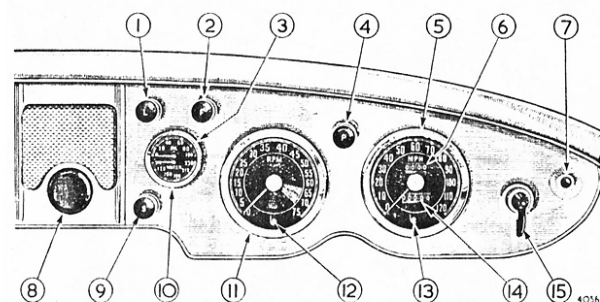
Every 3,000 miles (4800 km.)

1. **Engine**
Top up carburettor piston dashpots.
Lubricate carburettor controls.
Top up radiator header tank.
Check dynamo drive belt tension.
Clean and re-oil air cleaner elements.
2. **Ignition**
Check automatic ignition control, lubricating distributor drive shaft and cam and advance mechanism.
Check, and adjust if necessary, distributor contact points.
Clean and adjust sparking plugs.
3. **Clutch**
Check level of fluid in hydraulic clutch master cylinder.
4. **Brakes**
Change wheels round diagonally, including spare, to regularize tyre wear.
Make visual inspection of brake lines and pipes.
Check level of fluid in hydraulic brake master cylinder.
5. **Hydraulic dampers**
Examine all hydraulic dampers for leaks.
6. **Body**
Lubricate door hinges, bonnet lock, and operating mechanism.
7. **Electrical**
Check battery cell specific gravity readings and top up to correct level.
8. **Lubrication**
Change engine oil.
Top up gearbox and rear axle oil levels.
Lubricate all grease nipples (except steering rack and pinion and water pump).
9. **Wheels and tyres**
Check tyre pressures.

SWITCHES

Ignition switch

Turn the ignition switch key clockwise to switch on the ignition. Do not leave it switched on when the engine is not running, except for very short periods. The fuel pump and gauge are brought into action by this switch, which is also the master switch for the windshield wipers and direction indicators. Without the removable key the engine cannot be started.



The instruments and switches

- | | |
|----------------------------------|----------------------------------|
| 1. Headlamp and sidelamp switch. | 9. Starter switch. |
| 2. Fog lamp switch. | 10. Water temperature gauge. |
| 3. Oil gauge. | 11. Revolution indicator. |
| 4. Panel lamp switch. | 12. Ignition warning light. |
| 5. Speedometer. | 13. Headlamp beam warning light. |
| 6. Trip mileage. | 14. Total mileage. |
| 7. Flasher warning light. | 15. Direction indicator switch. |
| 8. Horn button. | |

Starter switch

Pull out the knob marked 'S' to operate the starter motor. The switch must be pulled out smartly and pushed in immediately the engine starts.

If the engine does not start at once, allow it to come to rest before using the switch again.

Lamp switch

To switch on the sidelamps, tail lamps, and number-plate illumination lamp pull out the knob marked 'L.'

Turn the knob clockwise and pull out again to switch on the headlamps.

See 'Headlamp beam dip switch' on page 6.

Fog lamp switch

A fog lamp is not fitted as standard equipment, but the switch marked 'F' on the instrument panel is connected to the battery and is ready for use when a fog lamp is connected to it.

Pull out the knob to switch on the fog lamp.

Horn-push

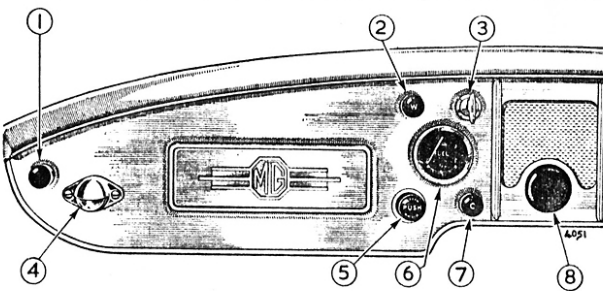
This is the black button below the grille in the centre of the panel.

SWITCHES

Panel lamp switch

To illuminate the instruments turn the control knob 'P' clockwise. The first movement of the knob will switch on the lamps, and further turning to the right will dim the lamps.

The panel lamps will operate only when the sidelamps are also switched on.



The Instruments and switches

- | | |
|-----------------------------|-------------------------------|
| 1. Map-reading lamp switch. | 5. Windshield washer control. |
| 2. Windshield wiper switch. | 6. Fuel gauge. |
| 3. Ignition switch. | 7. Choke control. |
| 4. Map-reading lamp. | 8. Horn button. |

Direction indicator switch

The lever-type switch on the outer edge of the panel controls the flashing indicator unit. The unit will operate only while the ignition is switched on and flashes the sidelamp and tail lamp on the side of the car to which the switch lever is moved until it is automatically switched off.

While the flashing unit is switched on the warning light next to the switch will show green.

Windshield wiper switch

Pull out the control 'W' to set the wiper blades in motion. Push in the knob to switch off the motor and park the blades.

The windshield wipers are self-parking and operate only when the ignition is switched on.

Choke or mixture control

To enrich the mixture and assist starting when the engine is cold pull out the knob marked 'C' and lock it in position by turning it anti-clockwise.

Turn the knob clockwise and push it inwards to the normal running position as soon as the engine is warm enough to run without the rich mixture.

Never allow the engine to run for any length of time with the knob pulled out.

Map-reading lamp

The map-reading lamp is controlled by the adjacent knob, which must be pulled out to switch on the light. The lamp will only operate while the sidelamps are switched on.

PERIODICAL ATTENTION

500 miles (800 km.) free service

During the early life of the car, soon after it has completed 500 miles (800 km.), you are entitled to have it inspected free of charge by the M.G. Dealer from whom you purchased it, or, if this should not be convenient, by any other M.G. Dealer by arrangement. This attention given during the critical period in the life of the car makes all the difference to its subsequent life and performance.

This service includes:

- Engine**
 - Tighten cylinder head and manifold nuts to recommended pressures.
 - Check tightness of camshaft bearing cap nuts to recommended pressures.
 - Check valve clearances, and reset if necessary.
 - Tighten fan belt if necessary.
 - Check all water connections, and tighten clips if necessary.
 - Examine and clean carburetters, and reset slow-running adjustment if necessary.
- Ignition**
 - Examine, and adjust if necessary, sparking plugs and distributor points.
 - Check working of automatic ignition control, and if necessary reset ignition timing.
- Clutch**
 - Check clutch pedal for free movement, and bleed if necessary.
 - Check fluid level in master cylinder, and top up if necessary.
- Steering**
 - Check front wheel alignment and steering connections; adjust if necessary.
- Brakes**
 - Check braking system functionally, and bleed lines if necessary.
 - Check fluid level in master cylinder, and top up if necessary.
- Hydraulic dampers**
 - Inspect hydraulic dampers for leaks.
 - Examine oil levels, and top up if necessary.
 - Check mounting bolts for tightness.
- Body**
 - Check doors for ease in opening and closing. If necessary, lightly smear with a suitable lubricating agent all dovetails and striking plates.
- Electrical**
 - Check electrical system functionally.
 - Examine battery and top up to correct level with distilled water if necessary.
 - Clean and tighten terminals.
- General**
 - Check tightness of universal joint nuts, spring clips, and wing (fender) bolts.
- Lubrication**
 - Drain oil from engine, gearbox, and rear axle, and refill.
 - Oil and grease all points of car.
- Wheels and tyres**
 - Test tyres for correct pressures.
 - Check tightness of wheel nuts.

Regular servicing, as proved by presentation of completed voucher counterfoils, could well enhance the value of your vehicle in the eyes of a prospective purchaser.

ALL MATERIALS CHARGEABLE TO THE CUSTOMER

Daily. Inspect oil level in crankcase. Refill if necessary. See that radiator is full of water.

Weekly. Test tyre pressures.

BODY ATTENTION

Coachwork, wings, and windshield

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

Frequent washing of the bodywork, using a soft sponge with plenty of water containing a mild detergent, is recommended. Large deposits of mud must be softened with water before using the sponge. When clean, dry the surface of the car with a damp chamois-leather. Any damaged parts should immediately be covered with paint and a complete repair effected as soon as possible. When 'touching-in' light scratches and abrasions with paint ensure that all traces of wax polish are removed from the effected area beforehand.

Methylated spirits (denatured alcohol) should be used to remove spots of grease or tar from the bodywork, windshield, and bright parts of the car.

The application of a good-quality liquid polish is recommended to give added lustre to the paintwork. Do not allow silicone- or wax-based polishes to come into contact with the windshield; they have been known to have a detrimental effect on the wiper blades and are difficult to remove.

Chromium and stainless steel

The chromium and stainless steel parts should not on any account be cleaned with metal polish. Wash them frequently with soap and water and when the dirt has been removed polish the surface with a clean dry cloth, or a chamois-leather, until bright. The slight tarnish that may be found on stainless steel that has not received regular washing may be removed with impregnated wadding such as that used on silverware.

An occasional application of wax polish or light oil will help to preserve the finish, particularly during winter, when salt may be used on the roads.

Interior

Clean the carpets in the car, preferably before washing the outside, by using a stiff brush or a vacuum cleaner. The leather or leathercloth cushions and door trim may be cleaned periodically by wiping over with a damp cloth. Dust and dirt if allowed to accumulate too long will eventually work into the pores of the leather, giving it a soiled appearance that is not easily remedied. A little neutral soap may be used but detergents, caustic soaps, petrol, or spirits of any kind must not be used.

Hood

When necessary, the hood cloth may be cleaned with water applied with a brush without impairing its waterproof qualities.

Soaps and mild detergents may be used provided the hood surfaces are well washed with water afterwards.

INSTRUMENTS

Speedometer

In addition to indicating the speed of the car, the speedometer records the trip and total distances. The trip recorder enables the distance of a particular journey to be recorded and is reset to zero by pushing upwards the knob below the instrument and turning it anti-clockwise until the figures read zero.

Main beam warning light

The warning light at the bottom of the speedometer dial glows red when the headlamp main beams are in use as a reminder to dip the beams when approaching other traffic.

Engine revolution indicator

The speed of the engine is indicated by this dial, which is calibrated in hundreds of revolutions per minute. Normal use of the engine will not require speeds over 6,000 r.p.m. and great care must be taken if the needle does approach the amber sector of the dial, which commences at 6,500 r.p.m. Under favourable conditions the needle may be allowed to enter the amber sector, but **under no circumstances must it enter the red sector.**

Ignition warning light

The warning light at the bottom of the revolution indicator dial glows red when the ignition is switched on and will go out again when the engine is started and its speed is increased sufficiently for the dynamo to charge the battery. Should the light glow at all engine speeds, the dynamo is not charging the battery and the wiring circuit and dynamo drive belt should be examined immediately.

Do not leave the ignition switched on for more than a few moments while the engine is stationary.

Oil pressure gauge

The pressure of the oil in the engine lubricating system as shown on the gauge should be between 30 and 80 lb./sq. in. (2.1 and 5.6 kg./cm.²) under normal running conditions. Approximately 10 lb./sq. in. (·7 kg./cm.²) should be shown when the engine is idling.

Water temperature gauge

The temperature of the cooling water leaving the cylinder head is indicated by this gauge and should be approximately 160 to 190° F. (71 to 88° C.) when the engine is running normally. If the normal running temperature is greatly exceeded the cause must be traced and rectified immediately.

Fuel gauge

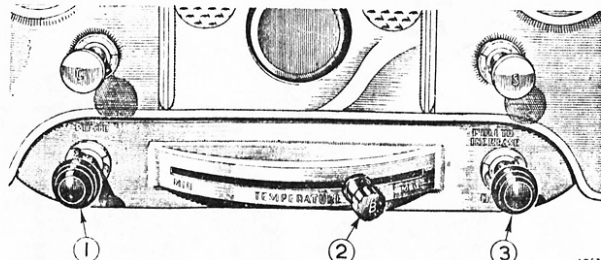
This operates only when the ignition is switched on and indicates the quantity of fuel in the tank.

OPTIONAL EQUIPMENT

Heating and ventilating

When the 2.75-kw. heating and demisting unit is fitted fresh air is ducted from the radiator grille to the heating element and blower motor mounted below the bonnet. Water from the engine cooling system is used to heat the element.

Warmed air issues from the toeboard or the windshield demisting vents according to the position of the controls mounted below the instrument panel. In warm weather the controls may be set to provide unheated fresh air for ventilation.



1. Air control. 2. Blower switch and temperature control. 3. Demist control.

Air. The left-hand knob controls the air supply. When the knob is pushed in the air duct is open and air at atmospheric temperature will enter the car when it is in motion and will issue from the toeboard or demisting vents.

Air blower. Pull out knob marked 'B' on the temperature control lever to switch on the blower motor, if the ignition is switched on also, and this will increase the flow of air into the car and may be used to give a supply of air when the car is stationary or travelling at low speed.

If the blower motor is switched off and the air control knob pulled outwards to close the air duct fresh air cannot enter the car from the toeboard or windshield vents.

Demist. The right-hand knob on the heater unit control panel operates a shutter in the panel above the gearbox cover. When the control is pushed into the normal position the shutter is open and most of the air from the unit will enter the car at the toeboard, while some will issue from the vents below the windshield. As the knob is pulled out the shutter closes and more air is delivered to the demisting vents, giving the maximum supply of air to the windshield. This is the demist position of the control and also the windshield defrost position when the heater is operating and the blower is switched on.

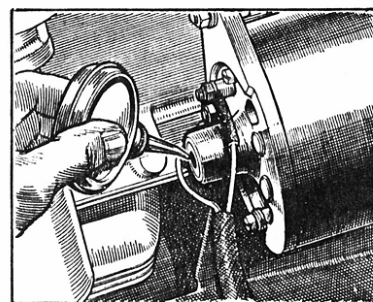
Temperature. The temperature lever operates the water valve on the engine. When the lever is in the left-hand position the hot water supply is cut off and

EVERY 12,000 MILES (19200 Km.)

Dynamo lubrication (D)

Add two drops of engine oil to Ref. D (page 64) in the lubrication hole in the centre of the rear end bearing plate.

Do not over-oil.



The lubrication hole for the dynamo end bearing. Do not overlubricate

Engine-flushing (A)

Remove the engine sump drain plug and allow the old oil to drain completely. Replace the plug and pour in through the engine filler cap approximately 6½ pints (3.7 litres) of flushing oil. A flushing oil supplied by one of the recommended lubricant manufacturers (page 64) should be used. Run the engine at fast tick-over speed for 2½ to 3 minutes. After stopping the engine special care must be taken to ensure complete drainage of the flushing oil.

Replace the sump drain plug and fill the engine with oil to Ref. A (page 64).

Speedometer cables

Every 12,000 miles (19200 km.) the speedometer outer casing should be unscrewed from the speedometer head and the inner cable extracted and lubricated sparingly with grease to Ref. F; oil must not be used. After returning the inner cable into its outer casing the upper end should be withdrawn approximately 8 in. (20 cm.) and the surface grease wiped off before reconnecting it to the speedometer head.

Sparkling plugs

New sparking plugs should be fitted every 12,000 miles (19200 km.). Ensure that only the recommended plugs are used and that they are set to the correct gap (see page 45) before installation.

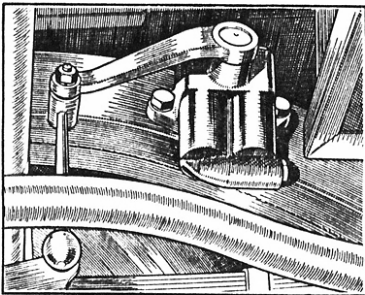
For a complete summary of the attention to be given every 12,000 miles (19200 km.) see also page 60.

EVERY 12,000 MILES (19200 Km.)

Rear dampers

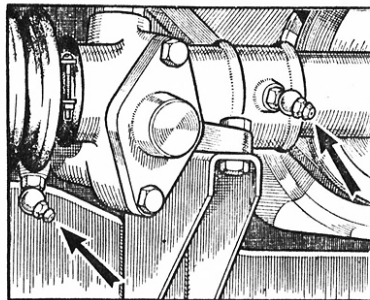
It is not possible to top up the rear dampers in position and it is therefore necessary to remove them completely for cleaning and replenishing.

Clean the top of the damper and remove the filler plug. Top up the damper until the level is just below the bottom of the filler hole. The use of Armstrong Super (Thin) Shock Absorber Fluid No. 624 is recommended for the dampers. If this fluid is not available a good-quality mineral oil conforming to Specification 20/20W may be used. This alternative is not suitable for low-temperature operation and is also deficient in various other ways. Work the arm up and down to expel trapped air before replacing the plug.



The rear dampers must be removed for topping up

The arrow on the left of the illustration indicates the pinion nipple and the other arrow the steering rack nipple



Steering rack (B)

The two oil nipples for the steering rack and pinion are reached from beneath the front of the car.

Give the rack nipple 10 strokes only and the pinion nipple two strokes only with a gun filled with oil to Ref. B (page 64).

OPTIONAL EQUIPMENT

air entering the car through the unit will not be heated. As the lever is moved to the right the water supply is increased until the maximum temperature is obtained.

As a general guide, here are some of the more frequently required positions:

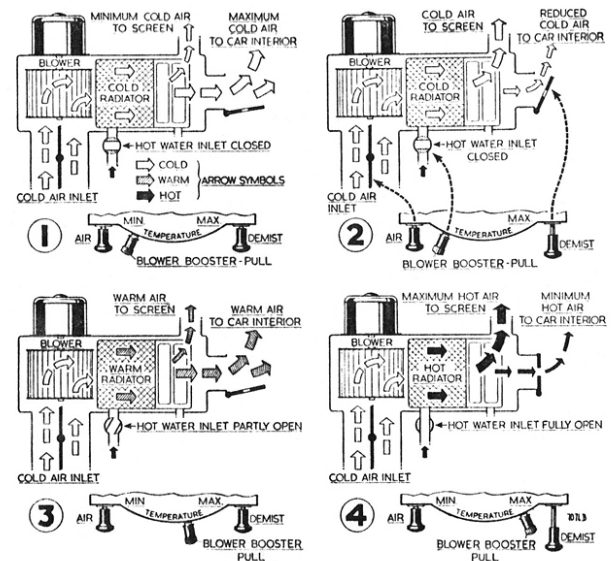
No additional ventilation or heating. Pull out the air control, push the temperature control to the left.

1. *Hot weather.* Push in the air and demist controls. Move the temperature control to the left. To increase the supply of air switch on the blower motor.

2. *Warm weather.* Set the controls as for hot weather. To increase the supply of air switch on the blower motor. To prevent mist forming on the windshield pull out the demist control partially.

3. *Cold weather.* Place the air control in its normal position. Place the temperature lever according to the degree of heating required. Switch on the blower to increase the air supply (if demisting is required pull out the demist control).

4. *Severe cold.* Move the temperature control to the right for maximum heating and pull out the demist control fully to give a maximum supply of hot air to the windshield. Switch on the blower motor to increase air flow.

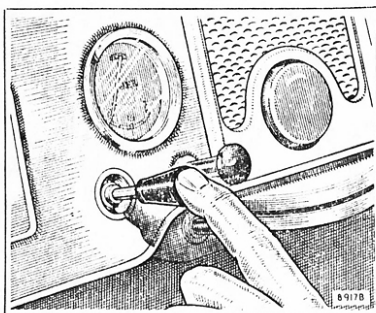


OPTIONAL EQUIPMENT

Windshield washer

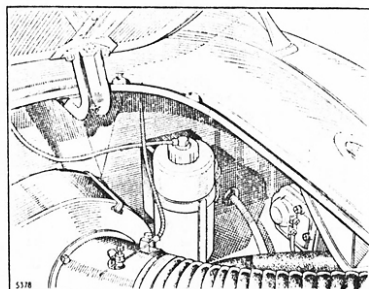
The washing equipment supplied as an optional fitting is operated by pumping the knob on the instrument panel. As the knob moves towards the panel a jet of cleaning fluid is ejected onto the windshield from nozzles on the scuttle.

Set the windshield wipers in motion before operating the cleaning jets.



Pump the knob on the instrument panel to eject cleaning fluid onto the windshield

The unbreakable bottle in which the windshield washer fluid is stored



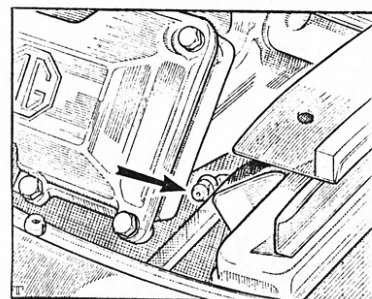
Windshield washer fluid

Fluid for the windshield is stored in an unbreakable bottle clipped to the engine bulkhead on the opposite side to the brake and clutch master cylinders. When refilling with fluid unscrew the cap from the bottle and lift the bottle from its clip.

EVERY 6,000 MILES (9600 Km.)

Water pump lubrication

Give the nipple on the water pump body one stroke only with the gun filled with S.A.E. 140 oil. The oiling of the pump must be done very sparingly, otherwise oil will flow past the bearings onto the face of the seal and impair its efficiency.



Give the grease nipple on the water pump one stroke only with the gun filled with S.A.E. 140 oil

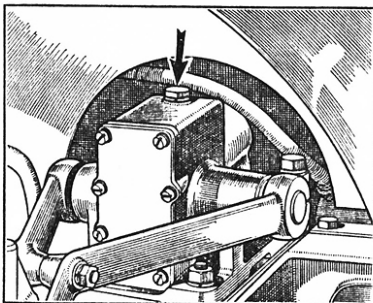
For a complete summary of the attention to be given every 6,000 miles (9600 km.) see also page 59.

EVERY 6,000 MILES (9600 Km.)

Front dampers

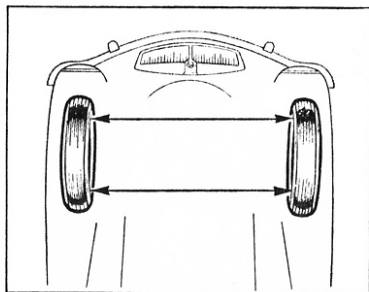
Before topping up, the front damper bodies and wing valance must be thoroughly cleaned, particularly round the filler plug on top of the damper body.

When clean, the filler plug may be removed and the damper topped up to the level of the bottom of the filler plug hole. The use of Armstrong Super (Thin) Shock Absorber Fluid No. 624 is recommended for the dampers. If this fluid is not available a good-quality mineral oil conforming to Specification 20/20W may be used. This alternative is not suitable for low-temperature operation and is also deficient in various other ways. Rock the car before replacing the plug in order to expel trapped air.



The arrow indicates a front damper filler plug. Thoroughly clean all around the plug before removing it

The front wheels should be parallel to each other when in the straight-ahead position



Front wheel alignment

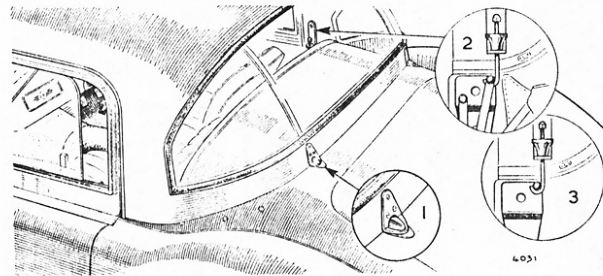
Excessive and uneven tyre wear is usually caused by faulty wheel alignment. The front wheels should be set parallel, and care should be taken that the measurements are taken at axle level and that the rims run true.

Since correct alignment is so important and entails the use of a special gauge, this work should be entrusted to an Authorized M.G. Dealer.

OPTIONAL EQUIPMENT

Fitting the hard-top

The hard-top can be fitted either with or without the hood removed from the vehicle. If the hood is to be kept in the car, then it should be stowed away neatly prior to fitting the hard-top. The plated retaining brackets at the rear edge of the hard-top canopy should first be engaged with the anchor brackets (1) on the tonneau panel above the boot lid. Next, the hook-type side clips should be fitted over the hood frame pivot pins (2) and the knurled knobs should be fitted over the hood frame pivot pins (2) and the knurled knobs screwed up lightly. Attach the front of the canopy by the method used to secure



the folding hood, and after tightening the winged bolts the knurled knob on each side clip should also be fully tightened.

If the hood is not required it can be removed completely and special attachment brackets (available from an M.G. Distributor or Dealer) fitted in place of the hood frame pivot plates (3). The de-luxe aluminium sidescreens must be used with the hard-top.

The following items of equipment are available as optional fittings:

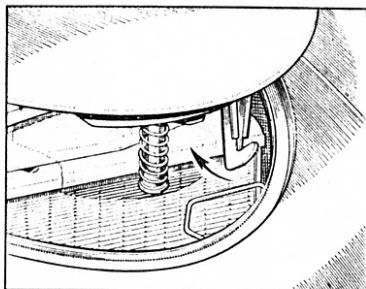
Tonneau cover.	De-luxe sidescreens.
Radiator blind (see page 18).	Competition windshield assembly.
Heating and demisting equipment (see pages 10 and 11).	Luggage carrier.
Twin horns.	Wing driving mirror.
Fog lamps (see page 7).	Cold air ventilation kit.
Cigar lighter.	Ashtray.
H.M.V. car radio (provision has been made for easy installation).	Badge bar.
Windshield washer.	Sun visors (Coupé only).
Detachable hard-top.	Adjustable telescopic steering column.
Oil cooler.	Competition de-luxe seats.
Headlamp flasher switch.	4.5 : 1 ratio axle.

BODY DETAILS

Bonnet safety catch

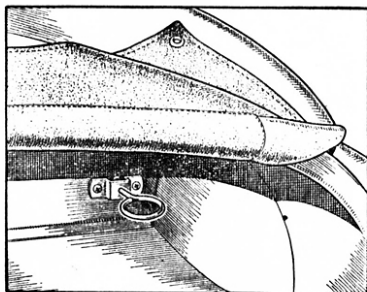
After releasing the bonnet lock from inside the car (page 6) push back the safety catch and raise the bonnet.

Release the prop from the under side of the lid and place its end in the hole provided in the deflector above the fan blades.



Release the bonnet lock from inside the car and push back the safety catch at the front of the bonnet

Pull the ring in the left-hand corner of the hood stowage compartment to release the boot lid



Opening the luggage boot

Tip forward the left-hand seat and pull the ring at the rear of the hood stowage compartment on the left-hand side.

Raise the boot lid and support it with the prop clipped to the under side.

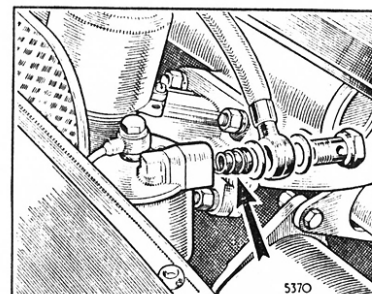
To close the lid stow the prop and press down until the lock is heard to engage.

EVERY 6,000 MILES (9600 Km.)

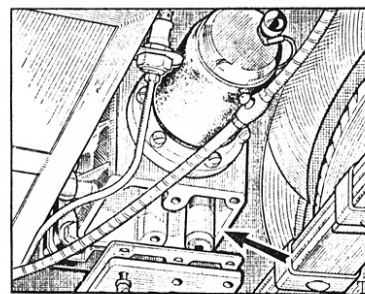
Carburettor filters

To ensure a free flow of fuel to the float-chambers the filters should be removed and thoroughly cleaned with a stiff brush and fuel. Never use rag. The filters are situated behind the banjo-type union at the junction of the fuel pipe to each float-chamber lid.

Replace the filters with their helical springs first and their open ends outwards. Replace the fibre washers correctly.



The carburettor filters must be replaced with their open ends outwards



Remove the six screws securing the base plate of the fuel pump and withdraw the filter

Fuel pump filter

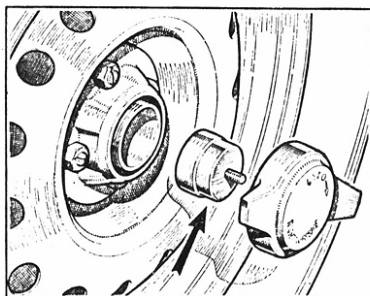
Clean off the fuel pump, withdraw the filter, and clean it thoroughly in fuel. The filter is inserted into the bottom of the pump body and is released by unscrewing the six securing screws.

When cleaning the filter do not use rag—always use a stiff brush and clean fuel. The fuel pump is fitted beneath the hood stowage compartment floor. Raise the hood and remove the spare wheel. The floor is removed by releasing the two quick-release screws.

EVERY 6,000 MILES (9600 Km.)

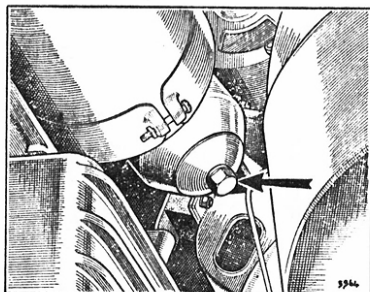
Front wheel hubs (F)

Unscrew the front wheel retaining nuts with the copper hammer provided in the tool kit and withdraw the grease-retaining caps. Pack the hubs with grease to Ref. F (page 64) and replace.



After removing the winged hub nut the grease-retaining cap may be withdrawn

Unscrew the central casing bolt and the filter bowl may be withdrawn



Oil filter

The external oil filter is of the renewable-element type and is located on the right-hand side of the cylinder block. The filter is released by undoing the central bolt securing the filter body to the filter head. When fitting the new element make sure that the sealing washer for the filter body is in good condition and that the body is correctly fitted.

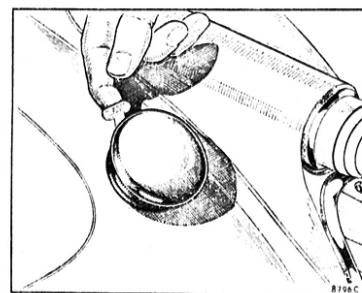
BODY DETAILS

Filling the fuel tank

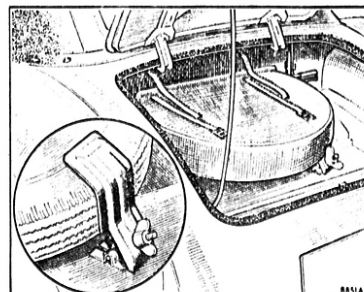
The quantity of fuel in the tank is indicated on the instrument panel and the filler cap is at the rear of the car on the right-hand side.

Lift the small lever on the cap to release and raise the cap. Press the cap downwards to close it.

It is recommended that a fuel with an octane rating between 95 and 98 is used under normal touring conditions, but when optimum performance is required the use of fuel rated between 99 and 101 octane will be found beneficial. Fuels with an octane rating below 93 are not suitable.



Lift the lever on the fuel tank filler to release the cap



Unscrew the winged nut on the spare wheel clamp to release the wheel. Maintain the correct air pressure in the tyre

Spare wheel

The spare wheel is housed in the luggage compartment and is clamped in position beneath the cover.

Remember that the spare wheel tyre should be maintained at the normal running pressure of the rear tyres.

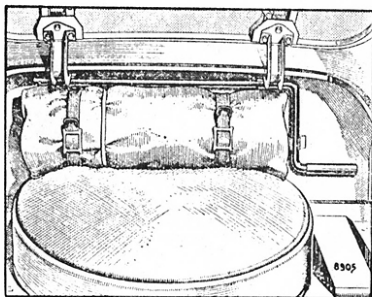
For tyre pressures see page 4.

STARTING HANDLE AND TOOL KIT

Starting handle and tool kit

The starting handle is located in spring clips above the spare wheel in the luggage compartment and the jack and tool kit are housed in a roll strapped above the spare wheel.

When using the starting handle keep the thumb on the same side of the handle as the palm of the hand for safety in case of a backfire.



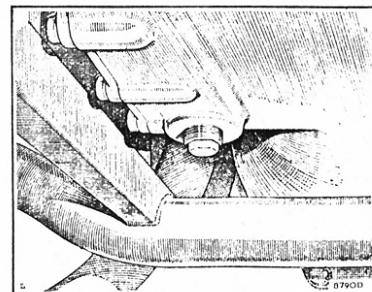
The starting handle and tool kit are housed in the boot above the spare wheel

EVERY 6,000 MILES (9600 Km.)

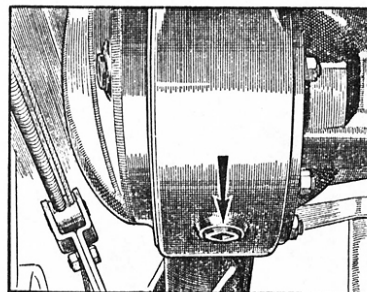
Draining the gearbox (A)

Remove the gearbox drain plug and drain off the oil.

When the gearbox has been drained completely $4\frac{1}{2}$ Imperial pints (2.56 litres, 5.4 U.S. pints) of oil to Ref. A (page 64) are required to refill it. The oil should be poured in through the filler plug shown on page 41.



The gearbox drain plug



The rear axle drain plug. Use the special key provided in the tool kit for both filler and drain plugs

Rear axle (B)

Remove the drain plug with the special key in the tool kit and drain off the oil. Refill with Hypoid oil to Ref. B (page 64) to the level of the filler plug hole.

Approximately $2\frac{1}{2}$ pints (1.28 litres, 2.75 U.S. pints) of oil are required to refill the axle.

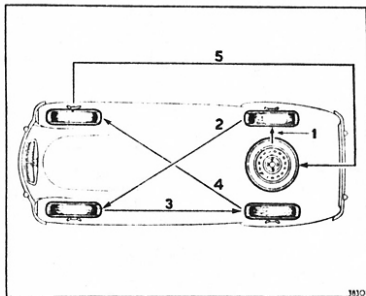
EVERY 3,000 MILES (4800 Km.)

Care of tyres

Every 3,000 miles (4800 km.) the running position of the tyres should be changed and the spare should come into use. This will equalize the tyre wear of the front and rear wheels and prolong the life of the tyres.

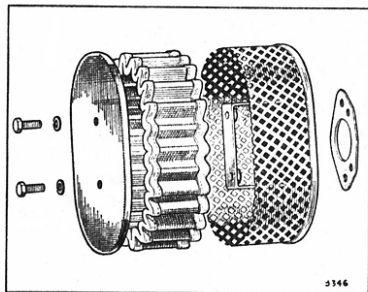
Inspect the tyres frequently and remove any pieces of flint, stone, or glass which may have become embedded in the covers.

See 'Front wheel alignment', page 52.



Change the wheels round diagonally and bring the spare into use as shown in this illustration

The components of the air cleaner are clearly shown in this illustration



Air cleaners (A)

Wash the filter elements in fuel and allow to dry. Re-oil the elements with S.A.E. 20 engine oil and allow to drain before reassembling.

When servicing it is only necessary to withdraw the two hexagon-headed screws and lift off the outer cover to release the corrugated element.

For a complete summary of the attention to be given every 3,000 miles (4800 km.) see also page 58.

RUNNING INSTRUCTIONS

Running-in speeds

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.

WARNING.—Considerable internal damage can be caused by over-revving the engine, and under no circumstances should its speed be allowed to exceed 7,000 revolutions per minute.

Starting up

See that the gear lever is in the neutral position and that the hand brake is on.

Pull out the mixture control knob and turn it to lock it in the open position. Use of this control is unnecessary when the engine is hot, and it need only be pulled out part of the way if the engine is warm.

Switch on the ignition and pull the starter switch knob smartly. The engine should revolve and start. Release the knob immediately the engine fires.

Gradually return the mixture control to the normal position as soon as the warming engine will allow.

Warming up

It is extremely bad practice to allow the engine to warm up from cold by letting it idle slowly. The correct procedure is to let the engine turn over fairly fast (approximately 1,000 r.p.m.), so that it attains its correct working temperature **AS QUICKLY AS POSSIBLE.**

Good driving

Always change down early when encountering a gradient. It is bad practice to allow an engine to labour on a hill, and the engine is unable to pick up properly on the lower gear if changing is left too late.

Always take your foot off the clutch pedal when you are not actually operating the clutch. This saves clutch wear.

It is advisable to engage a lower gear when descending a steep hill and leave the clutch engaged to obtain the advantage of the braking action of the engine. Don't coast with the clutch pedal depressed.

Always apply the brakes gently and progressively. Violent braking throws unnecessary strain on the car and tyres, causes skidding, and is dangerous. A good and careful driver anticipates the need for braking. Never attempt to engage reverse gear when the car is moving forwards or a forward gear when the car is moving backwards.

COOLING SYSTEM

Cold weather precautions

If the car is not stored in a warmed building steps must be taken to prevent the cooling water from freezing during frosty weather. Water upon freezing expands, with the result that there is a very considerable risk of bursting either the radiator or the cylinder block by the pressure generated. As a precautionary measure when frost is anticipated the water should be drawn from the radiator and engine (see pages 19 and 20) before the car is stored for the night, or, better still, an anti-freeze solution may be used in the radiator.

We recommend owners to use Bluecol, Shell Snowflake, or Esso Anti-freeze in order to protect the cooling system during frosty weather and reduce corrosion to a minimum. The use of any other anti-freeze which conforms to Specification B.S.3151 and B.S.3152 is also approved.

Warning

As the cooling system is sealed, relatively high temperatures are developed in the header tank. For this reason anti-freeze solutions having an alcohol base are unsuitable owing to their high evaporation rate producing rapid loss of coolant and a consequent interruption of the circulation of coolant.

Only anti-freeze of the ethylene glycol or glycerine type is suitable for use in the cooling system.

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

15° frost	..	..	..	1½ pints (.85 litre, 1.8 U.S. pints).
25° frost	..	..	..	2 pints (1.14 litres, 2.4 U.S. pints).
35° frost	..	..	..	3½ pints (2 litres, 4.2 U.S. pints).

First decide what degree of frost protection is required before adding the anti-freeze to the radiator. If temperatures below 0° F. (—18° C.) are likely, solutions of 25 per cent. or more must be employed. Consult your local Dealer for the correct proportions.

Before introducing anti-freeze mixture to the radiator it is advisable to clean out the cooling system thoroughly by swilling out the passages with a hose inserted in the filler neck, keeping the drain taps open. Only top up when the cooling system is at its normal running temperature in order to avoid losing anti-freeze due to expansion.

Make sure that the cooling system is watertight and examine all joints, replacing any defective rubber hose with new.

The capacity of the cooling system is 13½ pints (7.7 litres, 16.2 U.S. pints).

Important

Never use a muff on the radiator grille to protect the cooling system in cold weather as this would seal the carburettor and heater unit air supply. The radiator must be protected by a blind such as the type available as an optional extra fitting.

EVERY 3,000 MILES (4800 Km.)

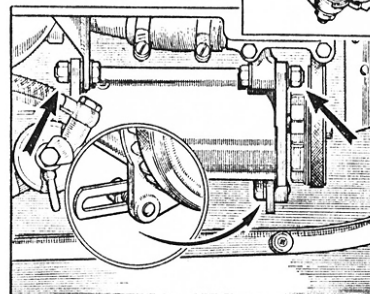
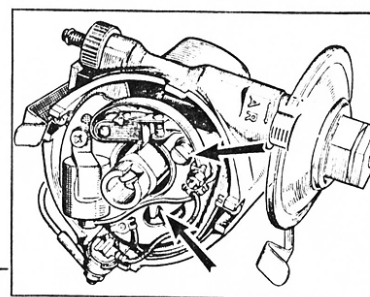
Contact breaker gap

Check the contact gap with the gauge on the small screwdriver in the tool kit. Turn the engine with the starting handle until the contacts are fully open and the gauge should then be a sliding fit. If the gap varies appreciably, slacken the contact plate screw, insert a screwdriver in the adjusting slots, and move the plate until the gap is correct. Retighten the screw.

The correct gap is .014 to .016 in. (.36 to .41 mm.) and the gauge is .016 in. thick. If the contacts appear pitted or blackened they should be removed and cleaned with a fine carborundum stone or fine emery-cloth.

To release the contacts remove the nut, washer, and insulator from the retaining post and lift off the moving contact and the two insulating washers. Take out the two screws and remove the contact plate. Set the gap after replacing. Thoroughly wipe the distributor cap to ensure that it is clean.

The contact plate securing screw and screwdriver adjusting slots are here indicated by the arrows



Slacken the two bolts attaching the top of the dynamo to the engine and also the two bolts securing the slotted adjusting link below the dynamo body when the belt tension requires adjusting

Dynamo driving belt

Inspect the dynamo driving belt and adjust if necessary to take up any slackness. Care should be taken to avoid overtightening the belt, otherwise undue strain will be thrown on the dynamo bearings.

The belt tension is adjusted by slackening the bolts of the dynamo cradle and moving the dynamo the required amount by hand. Tighten up the bolts thoroughly, particularly the one passing through the slotted adjusting link (inset).

EVERY 3,000 MILES (4800 Km.)

Distributor cam bearing (D)

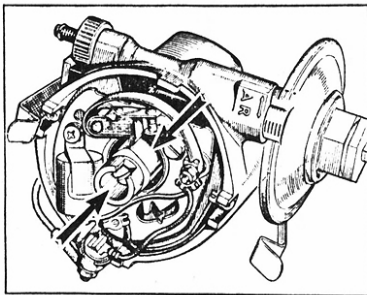
Lift the rotor off the top of the spindle by pulling it squarely and add a few drops of thin engine oil to Ref. D (page 64) to the cam bearing. Do not remove the screw which is exposed.

There is a clearance between the screw and the inner face of the spindle for the oil to pass.

Replace the rotor with its drive lug correctly engaging the spindle slot and push it onto the shaft as far as it will go.

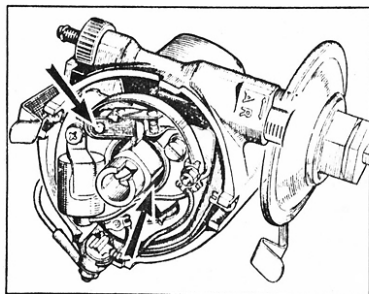
Distributor cam (F)

Lightly smear the cam with a very small amount of grease to Ref. F (page 64), or if this is not available clean engine oil can be used.



A slight trace of grease or engine oil should be applied to the rotating cam. The cam bearing should also receive a few drops of oil

Lubricate the advance mechanism and the contact breaker lever pivot at the stipulated intervals



Automatic timing control (D)

Carefully add a few drops of thin engine oil to Ref. D (page 64) through the hole in the contact breaker base through which the cam passes. Do not allow oil to get on or near the contacts. Do not over-oil.

Contact breaker pivot (D)

Add a spot of engine oil to Ref. D (page 64) to the moving contact pivot pin.

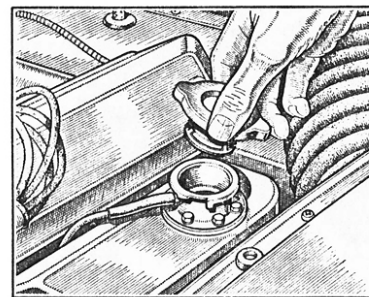
COOLING SYSTEM

Filling the radiator

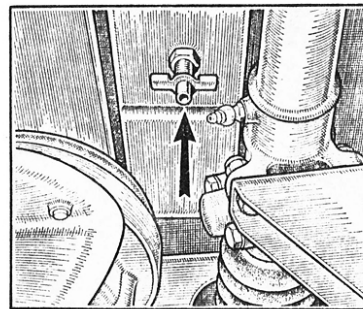
The header tank should be filled until the water level is approximately $\frac{1}{4}$ in. (6.35 mm.) below the bottom of the filler neck.

Unscrew the filler cap slowly if it is being removed while the engine is hot.

The filler cap is retained by a bayonet catch with a graduated cam which permits release of internal pressure prior to removal. A lobe on the end of the cam guards against accidental release of the cap before the internal pressure is relieved. **Protect your hand against escaping steam.**



The cooling system is filled through the header tank, which is mounted alongside the engine on the left-hand side. Great care must be taken when removing the filler cap if the engine is hot



The radiator drain tap is located on the right-hand side of the radiator bottom tank. Access is gained from beneath the car

Radiator drain tap

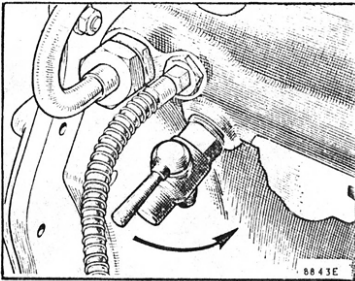
This tap is located on the front of the radiator bottom tank on the right-hand side and is accessible from below the front bumper between the number-plate and the over-rider. Release the header tank filler cap carefully (see above) when draining the radiator. To drain the cooling system completely the engine drain tap must also be opened.

COOLING SYSTEM

Engine drain tap

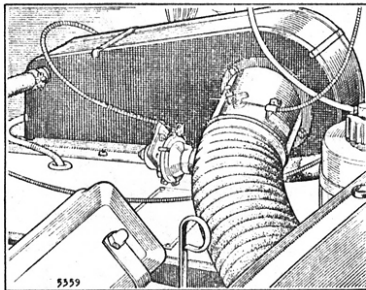
To drain the water from the engine carefully release the header tank filler cap (see page 19) and open the tap on the rear right-hand side of the cylinder block.

To drain the cooling system completely the radiator drain tap also must be opened.



The cylinder block drain tap is located on the right-hand side of the engine at the rear

Anti-freeze mixture must be used when a heater is fitted as the cooling system cannot be completely drained



Heater unit

When a heater unit is fitted the water cannot be drained from it completely by opening the engine and radiator drain taps, and it is essential that an anti-freeze mixture is used in the cooling system to prevent damage by freezing.

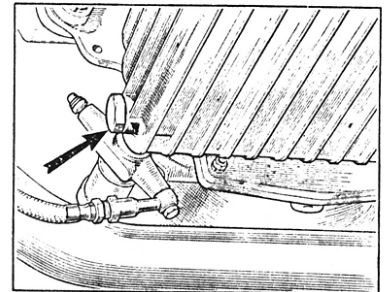
To assist draining the system when a heater unit is fitted the temperature control lever on the heater panel should be in the right-hand or 'MAX' position.

EVERY 3,000 MILES (4800 Km.)

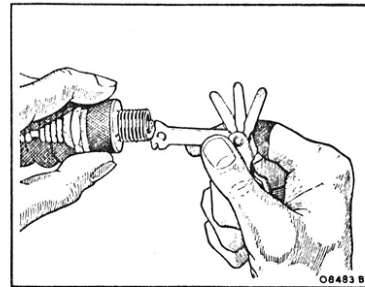
Draining the sump (A)

Drain the oil from the engine sump and refill with new oil to Ref. A, page 64. The drain plug is on the right-hand side of the sump and should be removed after a journey while the oil is still warm and will drain easily.

The sump capacity is 13½ pints (7.7 litres, 16.2 U.S. pints), including the oil filter.



The engine sump drain plug is located on the right-hand side of the engine



Use the special Champion sparking plug gauge and setting tool and move the side wire on the plug, never the centre electrode

Sparkling plugs

The sparking plugs should be cleaned preferably by a service station with a special air-blast service unit, and the gaps should be reset to .025 in. (.635 mm.).

Use the special Champion sparking plug gauge and setting tool and move the side wire on the plug, never the centre one.

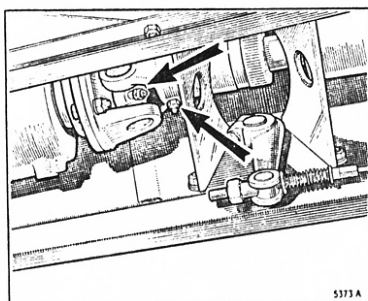
Plugs which are oily, dirty, or corroded cannot give good results.

Fit a set of new plugs every 12,000 miles (19200 km.).

EVERY 1,000 MILES (1600 Km.)

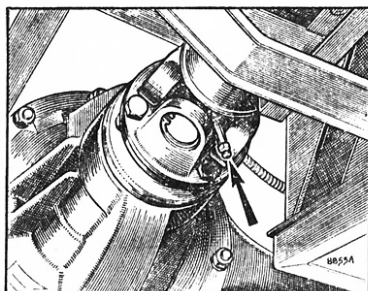
Propeller shaft (C)

Lubrication nipples are provided on the front and rear universal joints and also on the sliding yoke at the front end of the propeller shaft. Three or four strokes of the grease gun filled with lubricant to Ref. C (page 64) are required.



The grease nipples for the front universal joint and the sliding yoke

The grease nipple for the rear universal joint

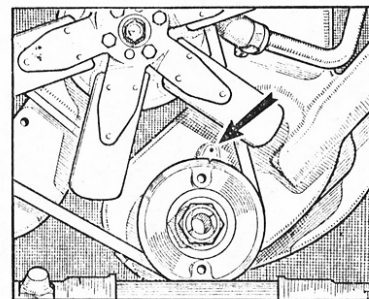


For a complete summary of the attention to be given every 1,000 miles (1600 km.) see also page 58.

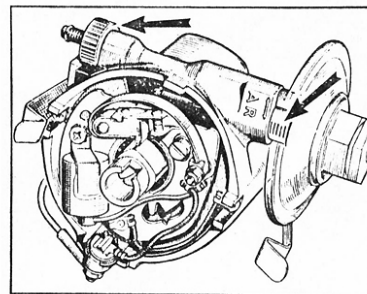
IGNITION EQUIPMENT

Ignition timing

The rim of the crankshaft pulley is marked with a notch which will coincide with the small projection in the timing chain case when No. 1 and No. 4 pistons are in the T.D.C. position. Under normal conditions the contacts should start to open at this point, but due to different conditions slight variations may be required. If pinking should occur due to the use of fuels in the lower range of our recommendations, slight retarding of the ignition can be tolerated. **Under no circumstances should the ignition be advanced beyond T.D.C.**



When the groove in the crankshaft pulley coincides with the small projection in the timing case the engine is at T.D.C.

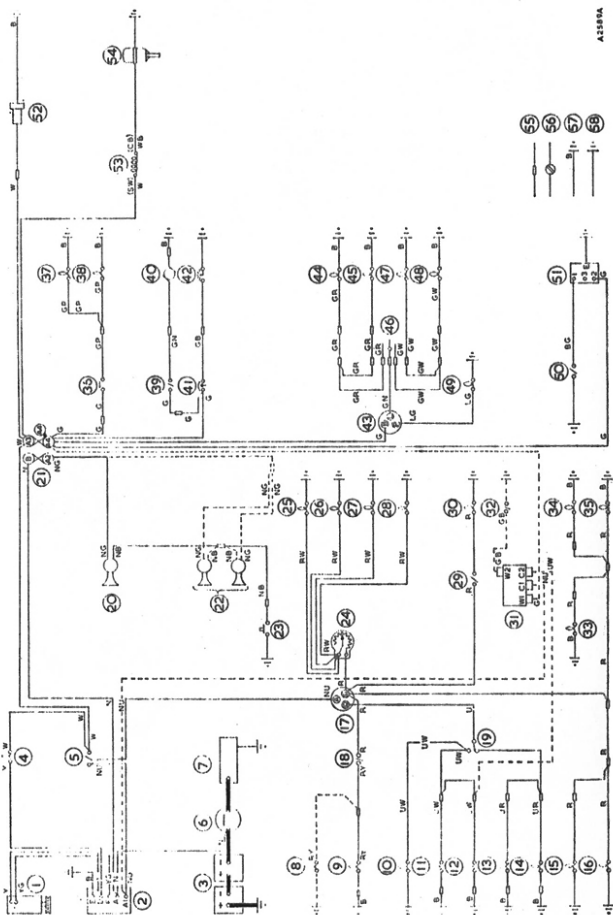


Turn the milled nut (left arrow) clockwise to retard the ignition or anti-clockwise to advance, noting the degree of change on the scale (right arrow)

Distributor advance adjustment

The automatic advance of the distributor timing is controlled by a centrifugal mechanism. In addition, a vernier adjustment is provided to give control over the actual ignition point with varying conditions and fuel (see above). Turn the milled nut clockwise to retard the ignition or anti-clockwise to advance, and note the degree of change on the scale.

WIRING DIAGRAM (R.H.D. AND L.H.D.)

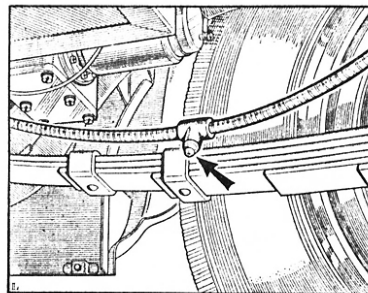
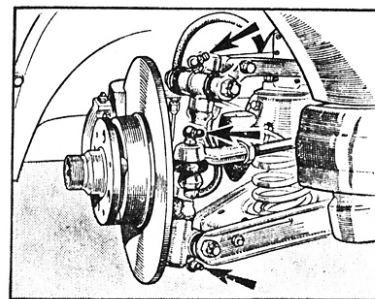


EVERY 1,000 MILES (1600 Km.)

Steering gear (C)

Lubrication nipples are provided at the top and bottom of each swivel pin and on the steering tie-rods. The grease gun should be filled with lubricant to Ref. C (page 64). Three or four strokes of the gun should be given.

The front suspension grease nipples which require regular attention. This illustration shows the right-hand side only



A grease nipple is provided on the hand brake cable and will be found near the front end of the right-hand rear spring

Hand brake cables (F)

The grease nipple on the hand brake cable should be given three or four strokes with a grease gun filled with grease to Ref. F (page 64).

Batteries

Remove the filler plug from each of the cells and examine the level of the electrolyte in each. If necessary, add sufficient distilled water to bring the electrolyte just above the top of the separators. Do not use tap-water and do not use a naked light when examining the condition of the cells. Do not overfill. Wipe away all dirt and moisture from the top of the battery. Refer to page 24 for further details.

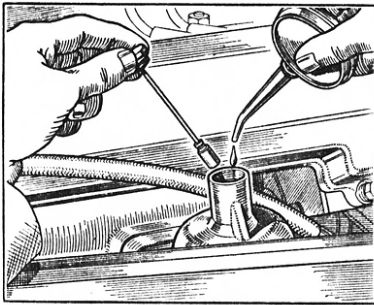
EVERY 1,000 MILES (1600 Km.)

Carburettor dampers (D)

Unscrew the oil cap at the top of each suction chamber, pour in a small quantity of thin engine oil, and replace the caps. **Under no circumstances should a heavy-bodied lubricant be used.**

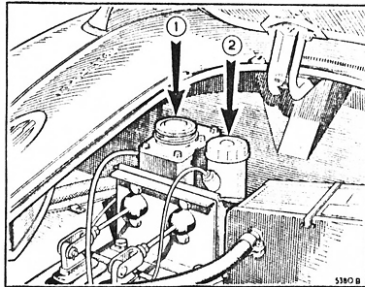
Failure to lubricate the piston dampers will cause the pistons to flutter and reduce acceleration.

An oil indicated under Ref. D (on page 64) should be used.



Lubricating the carburettor piston damper

The brake master cylinder (arrowed 1) and the clutch master cylinder (arrowed 2)



Brake and clutch fluid

Remove the brake and clutch master cylinder caps and check the level of the fluid in each cylinder.

The master cylinders are mounted on the driver's side of the dash panel below the bonnet, and the fluid level should be $\frac{1}{4}$ in. (6.3 mm.) below the bottom of the filler neck and never above this.

Wakefield Crimson Fluid is recommended for use in the brake master cylinder and Girling Fluid in the clutch cylinder. If these fluids are not available a fluid conforming to Specification S.A.E. 70.R1 should be used.

KEY TO WIRING DIAGRAM (R.H.D. AND L.H.D.)

- | | | |
|-------------------------------|--------------------------------------|--|
| 1. Generator. | 21. Fuse unit. | 41. Fuel gauge. |
| 2. Control box. | 22. Twin windtone horns (if fitted). | 42. Fuel tank unit. |
| 3. Two 6-volt batteries. | 23. Horn-push. | 43. Flasher unit. |
| 4. Ignition warning light. | 24. Panel lamp rheostat. | 44. L.H. rear flasher. |
| 5. Ignition switch. | 25. Panel lamp. | 45. L.H. front flasher. |
| 6. Starter switch. | 26. Panel lamp. | 46. Flasher switch. |
| 7. Starter motor. | 27. Panel lamp. | 47. R.H. front flasher. |
| 8. R.H. fog lamp (if fitted). | 28. Panel lamp. | 48. R.H. rear flasher. |
| 9. L.H. fog lamp. | 29. Map lamp switch. | 49. Flasher warning light. |
| 10. Main beam warning light. | 30. Map lamp. | 50. Windshield wiper switch. |
| 11. R.H. headlamp main beam. | 31. Headlamp flick relay. | 51. Windshield wiper motor. |
| 12. L.H. headlamp main beam. | 32. Headlamp flick switch. | 52. Fuel pump. |
| 13. L.H. headlamp dip beam. | 33. L.H. tail lamp. | 53. Ignition coil. |
| 14. R.H. headlamp dip beam. | 34. Number-plate lamp. | 54. Distributor. |
| 15. L.H. pilot lamp. | 35. R.H. tail lamp. | 55. Snap connectors. |
| 16. R.H. pilot lamp. | 36. Stop lamp switch. | 56. Terminal blocks or junction box. |
| 17. Lighting switch. | 37. L.H. stop lamp. | 57. Earth connections made via cable. |
| 18. Fog lamp switch. | 38. R.H. stop lamp. | 58. Earth connections made via fixing bolts. |
| 19. Dipper switch. | 39. Heater switch (when fitted). | |
| 20. Horn. | 40. Heater motor. | |

CABLE COLOUR CODE

B. Black	P. Purple	Y. Yellow
U. Blue	R. Red	D. Dark
W. Brown	S. Slate	L. Light
G. Green	W. White	M. Medium
K. Pink		

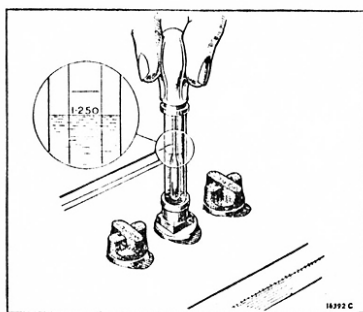
When a cable has two colour code letters the first denotes the main colour and the second denotes the tracer colour

ELECTRICAL EQUIPMENT

Batteries

Raise the hood and remove the spare wheel and hood stowage floor. The floor is secured by two quick-release screws. Remove the battery cell filler plugs and add sufficient distilled water to bring the surface of the electrolyte level with the top of the separators. Take care not to overfill the cells and do not use a naked flame when examining them. Tap-water must not be used. Always clean the battery tops before removing the filler plugs.

Never leave the batteries in a discharged state for any length of time. Have them fully charged, and every fortnight give them a short refreshing charge to prevent any tendency for the plates to become permanently sulphated.



The correct use of the hydrometer

Checking specific gravity

Check the specific gravity of the electrolyte in each of the cells with a hydrometer. Readings should not be taken immediately after topping up the cells. The readings and their indications, assuming that the temperature of the solution is about 60° F. (16° C.), are as follows:

1.280 to 1.300	Battery fully charged.
About 1.210	Battery about half-discharged.
Below 1.150	Battery fully discharged.

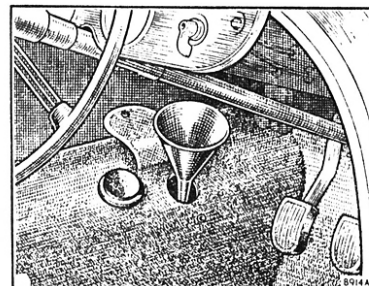
If one cell gives a reading very different from the rest, the battery should be examined by a Lucas Service Depot or Agent.

EVERY 1,000 MILES (1600 Km.)

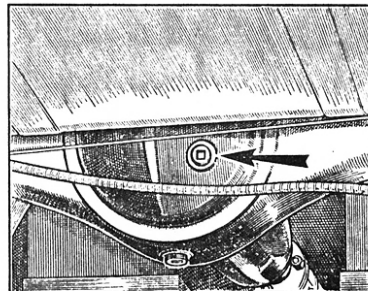
Gearbox (A)

When replenishing the gearbox care must be taken to ensure that it is not filled above the 'HIGH' mark on the dipstick. If the level is too high oil may get into the clutch case and cause clutch slip.

The combined filler plug and dipstick is located beneath the rubber plug on the gearbox cover.



The gearbox oil filler is located beneath a flap and rubber plug on the gearbox cover



Use the square spanner provided to remove the rear axle filler and level plug

Rear axle (B)

The combined filler and level plug is reached from below the rear of the car and must be removed with the special key provided in the tool kit. The oil level should be checked, and replenished if necessary to the level of the filler plug hole.

NOTE.—It is essential that only Hypoid oil be used in the rear axle. (See page 64.)

MAINTENANCE ATTENTION

DAILY

Radiator

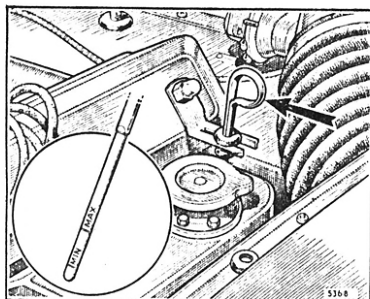
Check the level of water in the radiator, and top up if necessary.

Checking the engine oil

Check the quantity of oil in the sump by withdrawing the dipstick at the rear of the engine on the left-hand side.

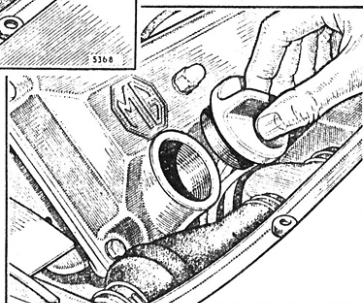
Wipe the lower portion of the rod, reinsert it, and withdraw it again.

Oil will cling to the rod and show the actual quantity present in the sump. The normal oil level is indicated by the 'MAX' mark on the dipstick and should not be allowed to fall very far below this mark.



The engine oil dipstick with the markings shown in the inset

The oil filler cap must be turned anti-clockwise to release it



Filling up with engine oil

The filler cap is on top of the exhaust camshaft cover and is released by turning anti-clockwise.

Clean, fresh oil is essential, and a list of the recommended lubricants is given at the end of this Handbook.

WEEKLY

Tyre pressures

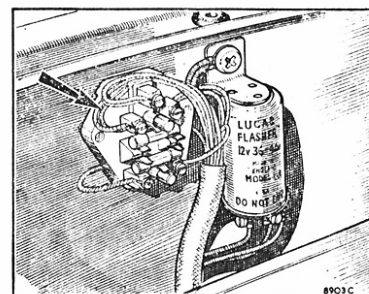
Check all tyre pressures, using a tyre gauge, and inflate, if necessary, to the recommended pressures. Ensure that the valves are fitted with screw caps, inspect the tyres for possible damage, and wipe off any oil or grease.

ELECTRICAL EQUIPMENT

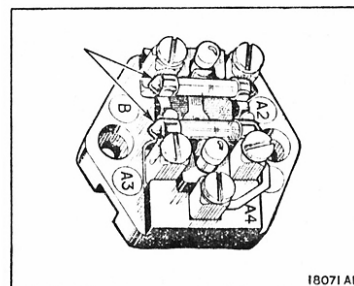
Fuses

Fuse connecting 'A1' and 'A2'. This fuse protects the accessories which are connected so that they operate irrespective of whether the ignition is on or off.

Fuse connecting 'A3' and 'A4'. This fuse protects the accessories which are connected so that they operate only when the ignition is switched on (stop lamps, etc.).



The fuses are carried in the separate fuse block mounted on the bulkhead



Two spare fuses are housed in holders on the fusebox

Spare fuses

Spare fuses are provided and it is important to use only the correct replacement fuse. The fusing value is marked on a coloured paper slip inside the glass tube of the fuse. If the new fuse blows immediately and the cause of the trouble cannot be found, have the equipment examined at a Lucas Service Depot.

Voltage regulator

This is a sealed unit located on the engine bulkhead which controls the charging rate of the dynamo in accordance with the needs of the battery. It requires no attention and should not be disturbed.

ELECTRICAL EQUIPMENT

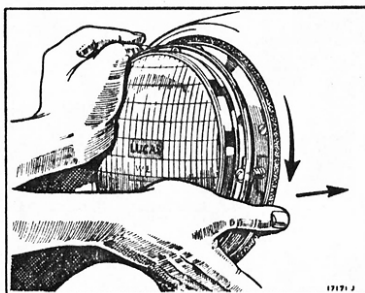
Headlamps (except European type)

To reach the headlamp bulb remove the rim after extracting the retaining screw from the under side, push the lamp reflector and glass assembly inwards against the springs, turn it anti-clockwise until the locating screws register with the enlarged ends of the slots, and withdraw the light unit. Depress the back-shell and turn it to release the bulb. When replacing the bulb ensure that the slot in the bulb flange engages the keyway in the holder.

To replace the back-shell push it home against the spring pressure and turn it to engage the bayonet attachment.

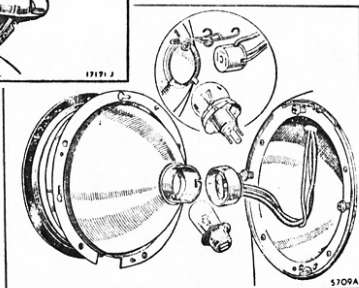
Refit the lamp unit by positioning it so that the heads of the adjusting screws pass through the slotted holes in the flange, press the unit inwards, and turn it clockwise as far as it will go.

Replace the dust-excluding rubber and refit the front rim, locking it in position with the retaining screw.



Push in the light unit and turn in an anti-clockwise direction to remove. Push in and turn clockwise (as shown) when replacing

The headlamp unit removed, showing the bulb holder and back-shell, etc., with the European-type lamp inset



Headlamps (European type)

The European-type headlamps are fitted with special front lenses and bulbs giving an asymmetrical light beam. Access to the bulb is achieved in the same way as for right-hand-drive cars, but the bulb is released from the reflector by withdrawing the three-pin socket and pinching the two ends of the wire retaining clip to clear the bulb flange.

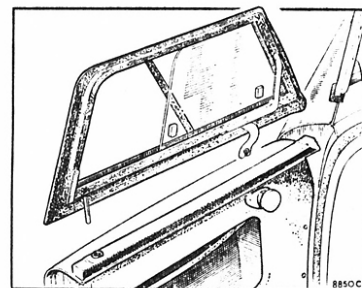
When replacing the bulb care must be taken to see that the rectangular pip on the bulb flange engages the slot in the reflector seating for the bulb.

Replace the spring clip with its coils resting in the base of the bulb flange and engaging the two retaining lugs on the reflector seating.

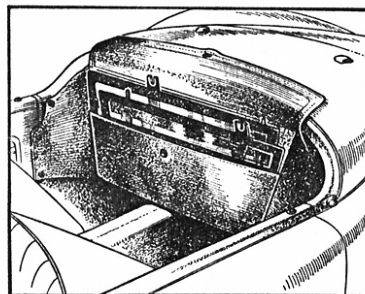
SIDESCREENS

Sidescreens

The sidescreens are attached to the doors by means of a pin and socket at the rear and by a bracket at the front which is clamped in position by a pin and knurled nut.



To remove the sidescreens slacken the wing nut which clamps the front bracket and lift up the screens



Stow the sidescreens with the cranked brackets at opposite ends

Sidescreen stowage

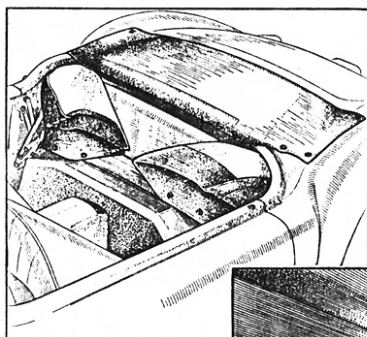
The sidescreens are stowed in a container behind the seats, and each should be placed in a separate pocket with the cranked bracket at opposite ends and facing the rear of the car.

FOLDING THE HOOD

Folding the hood

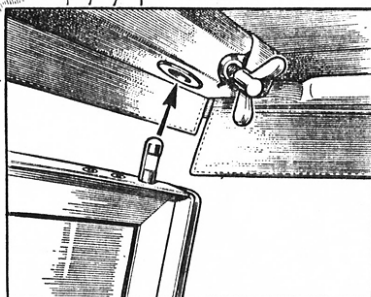
Never fold the hood when it is wet or damp—wait until it is dry.

- (1) Release the hood from the top of the windshield.
- (2) Release the rear of the hood from the three buttons and the turnbuckle at each side. Pull on the centre knob to release each button.
- (3) Raise the front of the hood slightly to release the tension in the canvas, and pull the bottom of the hood to the rear to release it from the two anchor brackets above the luggage boot lid.
- (4) Tip the seats forward, unfasten the sidescreen container, and turn it over onto the tonneau panel.



The hood is stored in the compartment behind the seats

The hood is secured at the front by two wing bolts, which are slackened to release the hood



- (5) Leave the rear window panel suspended over the body panel and collapse the hood into the stowage compartment, pulling the material clear of the hood irons and folding it over the front rail. Fold the rear window forward over the hood, pulling out the spare material at each side and folding it neatly over the front of the window.
- (6) Push the folded hood well into the stowage compartment and bring the sidescreen container forward to cover the hood.
- (7) Remove the sidescreens and stow them in the container pockets with the cranked bracket of each screen at opposite ends and facing the rear.
- (8) Secure the sidescreen container over the folded hood with the six buttons.

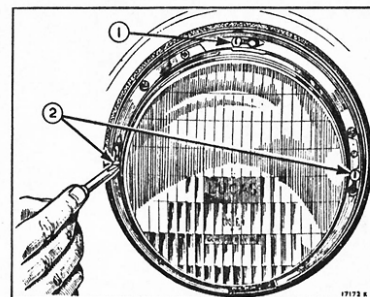
ELECTRICAL EQUIPMENT

Setting headlamps

The lamps should be set so that the main driving beams are parallel with the road surface or in accordance with local regulations. If adjustment is required remove the rim as described on page 26. Vertical adjustment is made by turning the screw at the top of the lamp. Horizontal adjustment can be effected by using the adjustment screws on each side of the light unit.

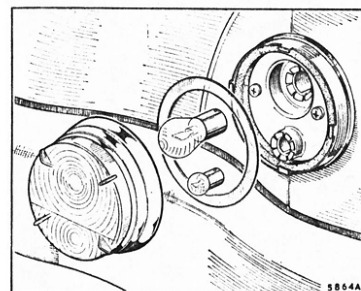
Remember that the setting of the beams is affected by the load on the car and the consequent spring deflection. The lamps should therefore always be set with the normal load on the car.

Avoid setting the main beams above horizontal; they will dazzle oncoming traffic and give inferior road illumination.



The method of setting the headlamp beams

1. Vertical setting adjusting screw.
2. Horizontal setting adjusting screws.



Push the lamp front inwards and turn in an anti-clockwise direction to remove

Pilot and flasher lamps

To reach the bulb push the lamp front inwards and turn it anti-clockwise until it is free to be withdrawn. Reverse the movement to replace the front.

Both bulbs are of the bayonet-fixing type and may be replaced either way round.

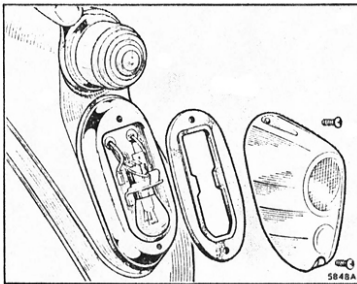
ELECTRICAL EQUIPMENT

Tail, stop, and flasher lamps

Each tail and stop lamp cover is secured by two screws and the bulb is accessible after the cover and rubber seal are removed.

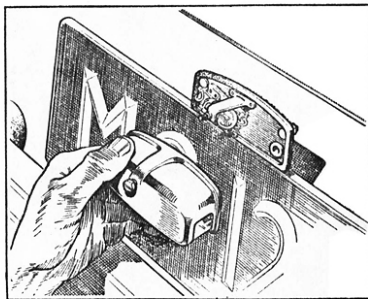
The dual-filament tail and stop lamp bulb must provide the brighter light for indication of stopping, and to ensure this the bulb has offset pegs and can only be fitted in one position.

Fold back the rubber flange surrounding the flasher lamp rim to remove the rim and lens. Only the fingers should be used when folding back the flange.



To gain access to the tail lamp bulb remove the two screws securing the cover and pull off the cover and rubber seal. Fold back the rubber flange on the flasher lamp to remove the lens

Slacken the small retaining screw in the centre of the number-plate lamp to remove the cover



Number-plate lamp

The number-plate lamp only operates when the sidelamps and tail lamps are switched on.

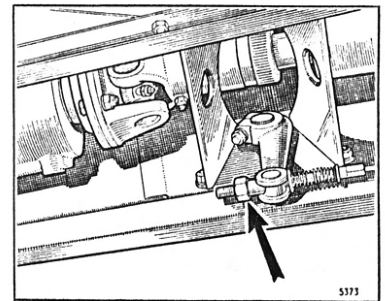
A single bayonet-fixing bulb is fitted and the cover may be removed after slackening the small retaining screw.

HAND BRAKE ADJUSTMENT

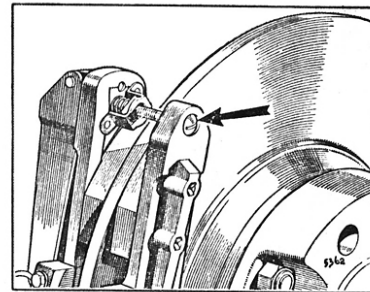
Hand brake adjustment

A separate cable-operated parking mechanism is mounted on each of the rear brake callipers, and adjustment should be made in the following manner when the travel of the hand brake lever becomes excessive.

Raise the rear of the car, making certain that the front wheels are suitably blocked to prevent the car running forward, and remove both rear wheels. The hand brake lever should be in the fully off position whilst the adjustments are made.



The brass cable adjuster nut fitted to the hand brake relay lever



The hand brake calliper adjuster bolt fitted on both the rear wheel disc brakes

Slacken the brass adjuster nut fitted to the relay lever (located beside the front universal joint on the propeller shaft) so that the operating cable hangs loosely.

Tighten the adjuster bolt on each brake calliper until the pads 'nip' the brake disc. Screw up the brass adjuster nut on the relay lever until the cable is in tension.

Set the clearance between the pads and the brake disc by unscrewing each adjuster bolt until the discs rotate freely. This will require approximately one-third of a turn.

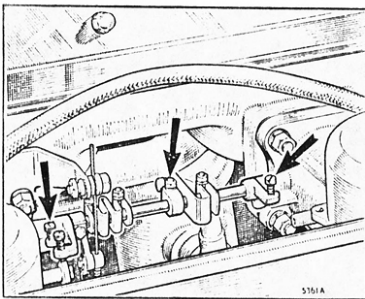
CARBURETTER ADJUSTMENTS

Slow-running adjustment

Before slow-running adjustments are attempted the nut indicated by the centre arrow in the illustration below should be slackened to allow each carburetter spindle to operate independently. Adjustment to the slow running is made by resetting the position of the throttle lever stop screws, which are spring-loaded, until gentle slow running is attained. A small peg in one lever fits loosely in a hole in the other lever to form a connection between the two spindles. When the slow running is correctly set tighten the lever clamping nut with the peg located in the centre of the hole, with both throttles closed.

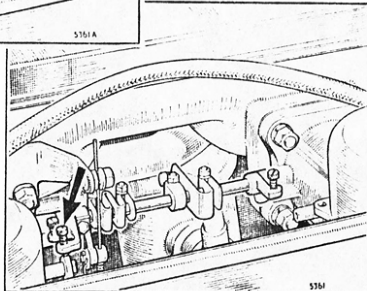
Make sure that there is a small clearance between the mixture and throttle interconnecting lever and its abutment screw.

It is important that both carburetters are set **exactly** alike, and you are advised to entrust this to an M.G. Dealer.



After slackening the nut indicated by the centre arrow the slow running can be regulated on each carburetter by adjusting the two screws indicated by the outer arrows

With the mixture control knob right home there should be a small clearance between the adjusting screw (arrowed) and the cam beneath it



Mixture control linkage adjustment

When the mixture control knob on the instrument panel is right home there must be a small gap between the adjusting screw and the interconnecting lever on the front carburetter. This gap determines the degree of interlinkage between the throttle and the mixture control and should be set so that there is just clearance between the end of the adjusting screw and the anvil of the rocking lever linked to the jet operating lever.

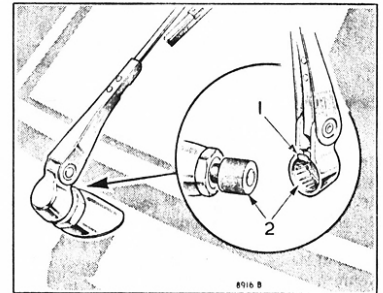
ELECTRICAL EQUIPMENT

Windshield wiper blades

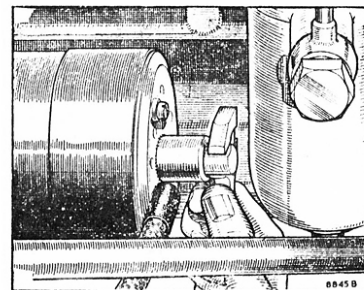
To reposition the wiped area on the glass the arm must be withdrawn from the spindle after pressing the spring retaining clip and then refitted on another spline.

To disengage a blade pull the arm away from the windshield and pivot the blade upwards.

When fitting a new rubber withdraw the old squeegee from the flexible carrier, taking care not to lose the locating pins.



To reposition the wiper arm press the spring clip (1), withdraw the arm, and refit on another spline (2)



A jammed starter pinion may be freed by turning the armature shaft by means of a spanner

Jammed starter pinion

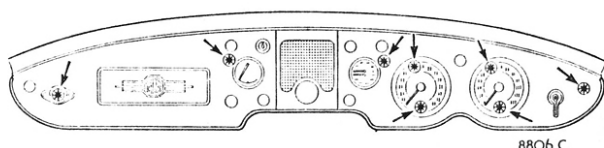
In the event of the starter pinion becoming jammed in mesh with the flywheel, it can usually be freed by turning the starter armature by means of a spanner applied to the shaft extension at the commutator end. This is accessible after removing the small protective cap.

ELECTRICAL EQUIPMENT

Panel and map lamps and warning lights

There are four lamps illuminating the instruments, and their locations, together with the three warning lights and map lamp, are shown by the arrows in the accompanying illustration.

The bulbs are accessible from below the instrument panel.



The location of the panel bulbs

Replacement bulbs (12-volt)

Replacement bulbs (12-16W)		<i>B.M.C.</i>
	<i>Watts</i>	<i>Part No.</i>
Headlamps (R.H.D. except Sweden)	50/40	13H140
Headlamps (R.H.D. Sweden—dip vertical—hooded) ..	45/40	3H921
Headlamps (L.H.D. Europe—except France—dip vertical)	45/40	13H138
Headlamps (L.H.D. France—dip vertical—yellow) ..	45/40	13H139
Headlamps (L.H.D. except Europe—dip right)	50/40	13H141
Stop/tail lamps (irreversible)	6/21	1F9026
Number-plate lamp and pilot lamps	6	2H4817
Panel lamps and warning lights	2-2	2H4732
Flashing indicator lamps	21	1F9012

CARBURETTER ADJUSTMENTS

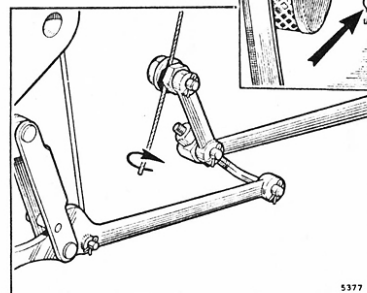
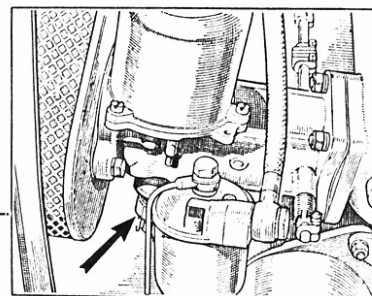
Adjusting the jets

Run the engine until it attains its normal running temperature and release the inter-carburettor throttle and mixture linkage. Set the slow-running screws on the carburettor throttle actuating levers so that the throttles are both open the same amount. This is indicated by the same suction noise at each carburettor.

Disconnect the mixture control wire from the end of the brass lever actuating the rear jet, and screw the jet adjusting nuts well downwards.

Note that the jet actuating levers must be kept in contact with the jet heads the whole time.

Each jet is adjusted by regulating the position of the large spring-loaded nut which forms the abutment for the jet head on each carburettor



When reconnecting the mixture control wire twist the inner cable slightly in a clockwise direction, looking at the end of the wire

The jet adjusting nuts should now be screwed upwards slowly (thus gradually weakening the mixture) until the engine idles evenly, firing on all cylinders regularly, and running at its best speed. This will be the normal slow-running position when the engine is hot, and as the jet needles are of the correct size the general performance on the road should be entirely satisfactory. Check by raising each carburettor piston with the pin provided beneath the dashpot flange. If the engine speed increases momentarily the setting is right. If the engine stalls the setting is too weak. If the engine speed increases permanently it is too rich.

The mixture control wire may be reconnected when the adjustment is satisfactory, care being taken to see that the control knob has ample clearance when the jet heads are in contact with the adjusting nuts. Final adjustment for slow running is then carried out by adjusting each of the carburettor throttle lever stop screws an equal amount before reconnecting the throttle and mixture linkage.

WHEELS AND TYRES

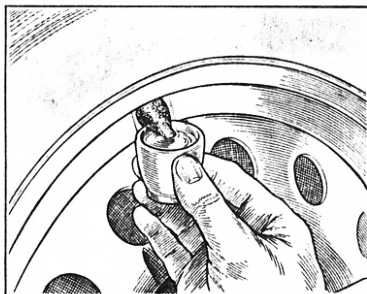
Valve interiors

It is advisable always to have spare interiors handy, and these are procurable suitably packed in small metal containers. A small extracting and fitting tool is supplied in the tool kit.

Always make sure that valve interiors are screwed well home on replacement.

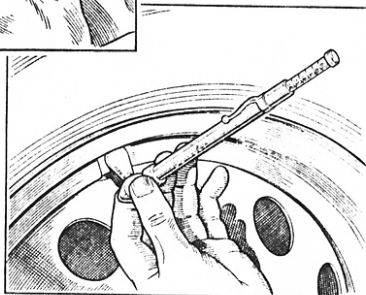
Tyre valves

The airtightness of the valve depends upon the proper functioning of its interior. It may be tested for airtightness by rotating the wheel until the valve is at the top and inserting its end in an eggcup full of water. If bubbles appear the interior is faulty and should be replaced by a new one.



The airtightness of the tyre valves can be checked with an eggcup filled with water

The tyre pressures should be checked and adjusted at least once a week. Check the pressure of the spare wheel at the same time



Checking tyre pressures

The tyre pressures should be checked and, if necessary, adjusted at least once a week. Gauges for testing tyre pressures can be bought from all reputable motor dealers.

The correct tyre pressures are given on page 4.

Valve caps

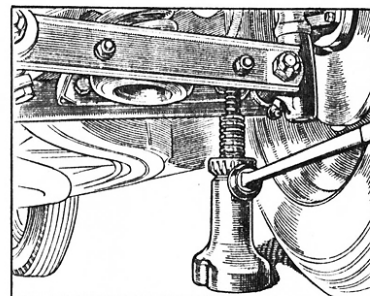
The valve caps should be kept firmly tightened to prevent dust and water entering and damaging the valve seats. The caps also act as an additional air seal.

When they are removed for tyre inflation or removal they should always be put in a clean place.

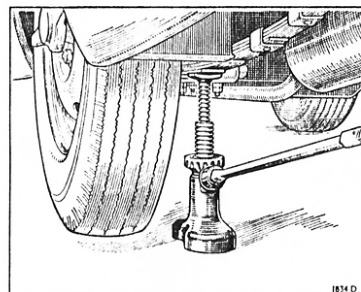
WHEELS AND TYRES

Jacking up (front)

The screw-type jack should be placed under the lower wishbones with its pad engaging the depression between the spring seating and the lower link.



The lifting jack must be positioned under the front suspension arm between the spring seating and the lower link



The lifting jack positioned for raising a rear wheel. Place the jack under the spring as close as possible to the axle

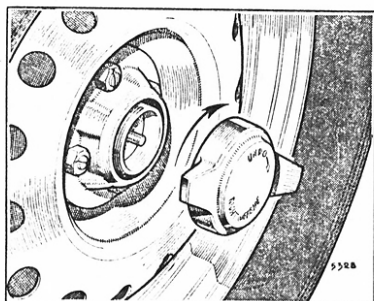
Jacking up (rear)

The screw-type jack should be placed under the rear spring, close to the axle, when lifting the rear of the car.

WHEELS AND TYRES

Removing and replacing the wheels

Use the copper mallet provided in the tool kit to slacken the winged hub nut used to secure the wheel to its splined shaft. The hub nuts on the left-hand side of the car have right-hand threads (turn anti-clockwise to unscrew) and the nuts on the right-hand side of the car have left-hand threads (turn clockwise to unscrew).



Turn the winged hub nuts clockwise to unscrew on the right-hand side of the car and anti-clockwise on the left-hand side

Each road wheel drives on four large pegs which locate in four holes in the face of each wheel hub. Make certain that these pegs register correctly in the holes before tightening the winged hub nuts. If the wheel is fitted correctly the nut should screw up approximately six turns.

A right-hand front wheel is shown in the illustration.

WHEELS AND TYRES

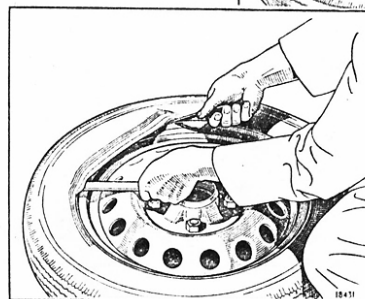
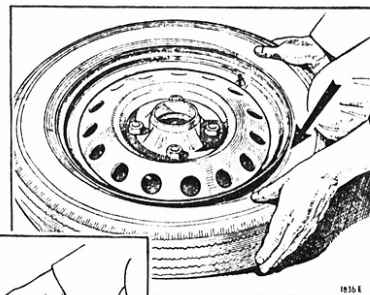
Tyre removal

Inextensible wires are incorporated in the edges of tyres. Do not attempt to stretch the edges of the tyre cover over the rim. Force is entirely unnecessary and dangerous, as it merely tends to damage the cover edges. Fitting or removing will be quite easy if the wire edges are carefully adjusted into the rim base. If the cover edge fits tightly on the rim seating it should be freed by using the tyre levers as indicated.

Remove all valve parts to completely deflate the tyre and push both cover edges into the base of the rim at the point diametrically opposite to the valve, then lever the cover edge near the valve over the rim edge (see illustration below).

This permits the tyre valve to be pushed through the hole in the rim and the inner tube to be withdrawn for attention when required.

The cover beads should be pushed into the well-base of the rim opposite to the valve, as indicated by the arrow



The cover edge can then be levered over the rim close to the valve position to remove it, or replace it, as required

Tyre replacement

A similar technique has to be employed when replacing the tyre, first fitting the tyre into the rim at a point opposite to the valve and finishing the fitting in the region of the valve, keeping the beaded edge in the well-base of the rim.

Repairing tubes

Have punctures or injuries vulcanized. Ordinary patches should only be used for emergencies.

Vulcanizing is absolutely essential in the case of tubes manufactured from synthetic rubber.

LUBRICATION CHART

KEY TO DIAGRAM

MULTIGRADE MOTOR OILS

In addition to the lubricants recommended in this Handbook we also approve the use of the multigrade motor oils produced by the oil companies shown in our publications for all climatic conditions unless the engine is in poor mechanical condition.

DAILY

- (1) ENGINE. Check the oil level with the dipstick. Replenish if necessary with new oil (Ref. A).

EVERY 1,000 MILES (1600 Km.)

- (2) STEERING. Give three or four strokes with the grease gun filled to Ref. C to the nipples on the steering joints on both sides of the car.
- (3) BRAKES. Inspect the fluid level in the brake master cylinder supply chamber, and top up if necessary with Wakefield Crimson Fluid.
- (4) CLUTCH. Inspect the fluid level in the clutch master cylinder supply chamber, and top up if necessary with Girling Fluid.
- (5) GEARBOX. Check the oil level with the dipstick. Replenish if necessary with new oil (Ref. A).
- (6) REAR AXLE. Replenish the oil to the level of the filler plug hole. Use new oil (Ref. B).
- (7) HAND BRAKE. Give the cable nipple three or four strokes with the gun filled with grease (Ref. F).
- (8) PROPELLER SHAFT. Give the nipples three or four strokes with the gun filled to Ref. C.

- (9) CARBURETTORS. Remove the cap from each suction chamber and insert a small quantity of oil (Ref. D).

EVERY 3,000 MILES (4800 Km.)

- (10) DISTRIBUTOR. Withdraw the rotating arm and add a few drops of oil (Ref. D) to the spindle and also to the advance mechanism. Smear the cam and contact pivot with grease or oil.
- (11) ENGINE. Drain the used oil from the sump. Refill to the 'MAX' mark on the dipstick with new oil (Ref. A).

EVERY 6,000 MILES (9600 Km.)

- (12) GEARBOX. Drain the used oil and refill to the 'HIGH' mark on the dipstick with new oil (Ref. A).
- (13) REAR AXLE. Drain the used oil and refill to the level of the filler plug hole with new oil (Ref. B).
- (14) FRONT HUBS. Remove the front wheel hub discs and grease caps. Fill the caps with grease (Ref. F) and replace.
- (15) OIL FILTER. Renew the element and wash the bowl in fuel.
- (16) WATER PUMP. Give the nipple one stroke only with the gun filled with S.A.E. 140 oil.

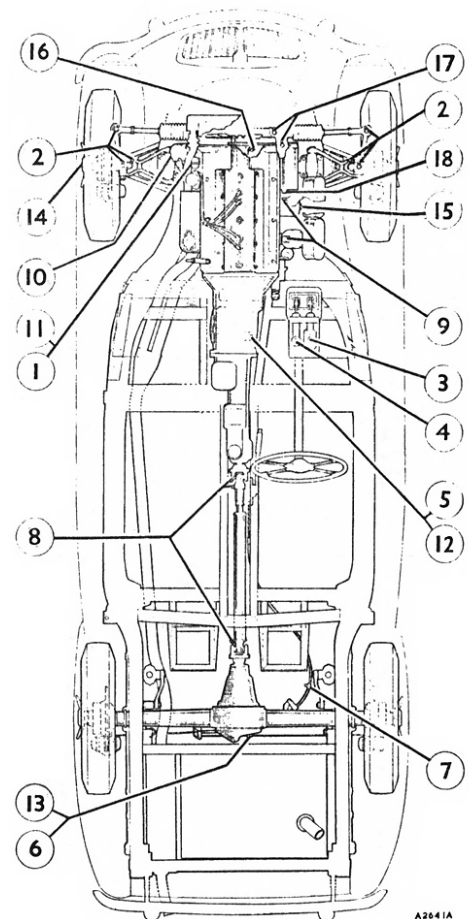
EVERY 12,000 MILES (19200 Km.)

- (17) STEERING RACK. Give up to 10 strokes to the nipple on the steering rack and two strokes only to the pinion shaft nipple with the gun filled with oil (Ref. B).
- (18) DYNAMO. Add two drops of oil (Ref. D) to the oil hole in the rear end bearing plate.

FOR A COMPLETE SUMMARY OF MAINTENANCE ATTENTION REFER TO PAGES 57-60

NOTE.—Oil and grease references are detailed on page 64.

The 'MGA' (Twin Cam) LUBRICATION DIAGRAM



A2641A