THE

OPERATION
MANUAL

MAGNETTE

SERIES "ZA"

PUBLISHED BY
THE M.G. CAR COMPANY LTD.

SOLE EXPORTERS
NUFFIELD EXPORTS LTD.

THE M.G. MAGNETTE (Series "ZA") LUBRICATION CHART

D

EVERY 1,000 MILES
(1600 Km.)
GIVE THREE OR FOUR STROKES OF GREASE GUN FILLED WITH GREASE TO REF. D TO NIPPLES ON STEERING JOINTS.

A

EVERY 250 MILES
(400 Km.)
INSPECT OIL LEVEL IN ENGINE BY DIPSTICK AND REPLENISH IF NECESSARY WITH RECOMMENDED ENGINE OIL TO REF. A.

AFTER FIRST 500 MILES (800 Km.)
AND SUBSEQUENTLY
EVERY 3,000 MILES (5000 Km.)
DRAIN OFF OLD OIL AND REFILL WITH FRESH OIL TO REF. A

A

EVERY 1,000 MILES
(1600 Km.)
INSPECT OIL LEVEL IN GEARBOX BY DIPSTICK AND REPLENISH IF NECESSARY WITH RECOMMENDED ENGINE OIL TO REF. A.

AFTER FIRST 500 MILES (800 Km.)
AND SUBSEQUENTLY
EVERY 6,000 MILES (10000 Km.)
DRAIN OFF OLD OIL AND REFILL WITH FRESH OIL TO REF. A

D

EVERY 1,000 MILES
(1600 Km.)
GIVE THREE OR FOUR STROKES OF GREASE GUN FILLED WITH GREASE TO REF. D TO PROPELLER SHAFT NIPPLES.

B

EVERY 1,000 MILES
(1600 Km.)
INSPECT OIL LEVEL IN REAR AXLE BY REMOVING FILLER PLUG. REPLENISH IF NECESSARY TO LEVEL OF PLUG WITH OIL TO REF. B.

AFTER FIRST 500 MILES (800 Km.)
AND SUBSEQUENTLY
EVERY 6,000 MILES (10000 Km.)
DRAIN OFF OLD OIL AND REFILL WITH FRESH OIL TO REF. B

B

EVERY 12,000 MILES
(20000 Km.)
APPLY GREASE GUN FILLED WITH OIL TO REF. B TO NIPPLE ON STEERING GEARBOX, AND GIVE UP TO 10 STROKES, BUT NOT MORE. ALSO GIVE TWO STROKES TO NIPPLE ON PINION SHAFT.

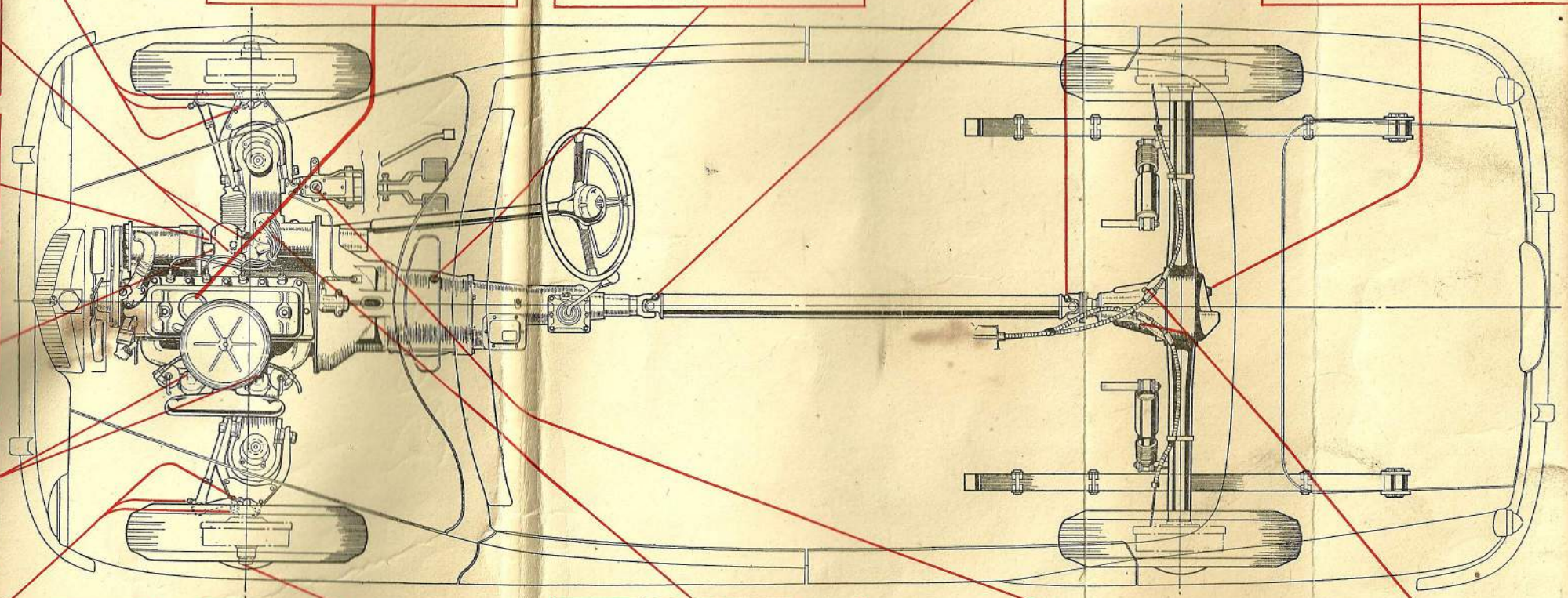
EVERY 6,000 MILES
(10000 Km.)
WITHDRAW EXTERNAL OIL FILTER ELEMENT AND FIT NEW ONE.

F

EVERY 3,000 MILES
(5000 Km.)
ADD TWO DROPS OF OIL TO REF. F TO OIL HOLE IN END OF DYNAMO BEARING.

F

EVERY 1,000 MILES
(1600 Km.)
REMOVE CAP FROM TOP OF CARBURETTER SUCTION CHAMBERS AND ADD A TEASPOONFUL OF OIL TO REF. F.



D

EVERY 1,000 MILES
(1600 Km.)
GIVE THREE OR FOUR STROKES OF GREASE GUN FILLED WITH GREASE TO REF. D TO NIPPLES ON STEERING JOINTS.

C

EVERY 6,000 MILES
(10000 Km.)
REMOVE FRONT WHEEL HUB DISCS AND PRISE OFF GREASE RETAINING CAP FROM END OF HUB. FILL CAP WITH GREASE TO REF. C AND REPLACE SECURELY.

F

EVERY 3,000 MILES
(5000 Km.)
WITHDRAW DISTRIBUTOR ROTATING ARM AND ADD A FEW DROPS OF OIL TO REF. F TO OPENING AND ALSO TO ADVANCE MECHANISM THROUGH GAP ROUND CAM SPINDLE. SMEAR CAM AND ROCKER BEARING WITH GREASE OR OIL.

EVERY 1,000 MILES
(1600 Km.)
INSPECT FLUID LEVEL IN MASTER CYLINDER SUPPLY CHAMBER AND REFILL IF NECESSARY WITH LOCKHEED GENUINE BRAKE FLUID.

E

EVERY 1,000 MILES
(1600 Km.)
GIVE HANDBRAKE CABLE NIPPLE 3 OR 4 STROKES WITH GUN FILLED WITH GREASE (REF. E)

Every 1,000 Miles (1600 km.). Use oilcan filled with oil to Ref. F on all control joints, door locks, hinges, etc.

Every 3,000 Miles (5000 km.). Remove air cleaner element, clean, re-oil, and re-fit (outside United Kingdom).

MULTIGRADE MOTOR OILS

In addition to the recommended lubricants listed in the manual, we approve the use of these new motor oils, as produced by the oil companies shown in our manuals, for all climatic temperatures unless the engine is old and in poor mechanical condition. Some are more expensive than the recommended motor oils because of their special properties and greater fluidity at low temperatures.
We also draw your attention to the simpler grease requirements for your vehicle by the use of multipurpose lithium greases.

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The M.G. MAGNETTE (Series "ZA") OPERATION MANUAL

SIXTH EDITION

A copy of this book is sent out with every M.G. Magnette car. Additional copies can be obtained at a nominal price and the part number, which should be quoted when ordering, is AKD.572.

WARNING—Additional oil filter maintenance
In addition to changing the oil filter element every 6,000 miles, further service is essential at each intervening 3,000-mile period as follows: Wash the container in petrol and either wash the element in petrol or fit a new element.

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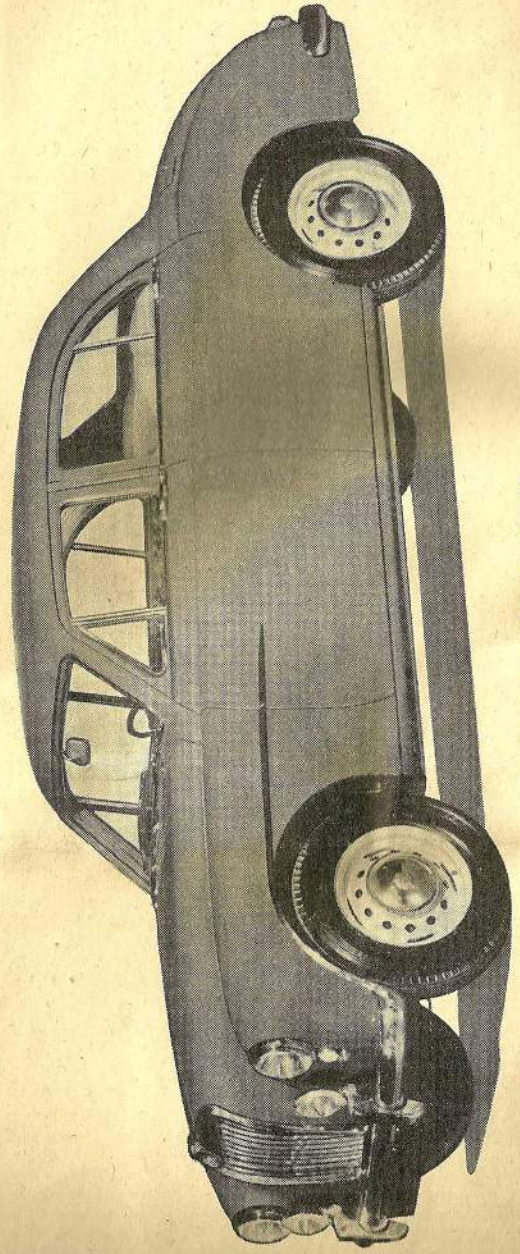


THE M.G. MAGNETTE
(Series "ZA")

FOREWORD

THE information contained in this operation manual has been confined to the essentials required for the proper running and driving of the car.

The inclusion of lengthy descriptions has been avoided and extensive use made of illustrations. Nevertheless, the owner will find all the information he requires to maintain his car in first-class condition and give it those all-important items of attention which go so far to ensure trouble-free and satisfactory service.

For owners who desire more complete information concerning the maintenance and mechanism of their vehicles the M.G. Magnette Series "ZA" Workshop Manual is available at a moderate figure. Remember that M.G. Dealers are better equipped to provide routine and repair attention than the private owner.

Every M.G. car leaving our Works is capable of giving absolute satisfaction if proper attention is given to the essential maintenance detailed in this book.

If you encounter trouble, consult or write to your nearest M.G. Dealer or to the Service Department of The M.G. Car Company Limited without hesitation. They are at your service. Note, however, that all correspondence concerning exported vehicles must be addressed to Nuffield Exports Limited.

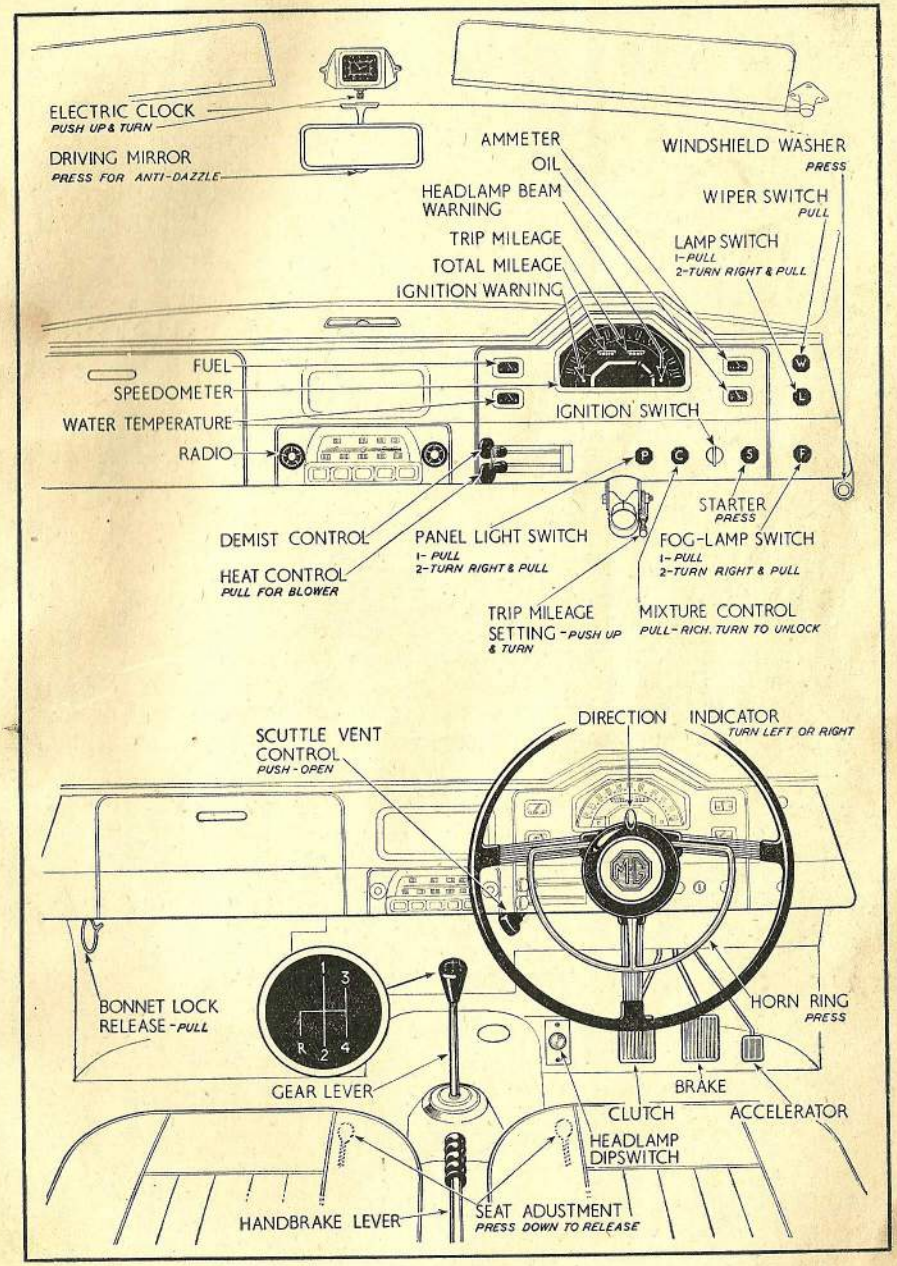
Always quote the engine and chassis numbers in any correspondence concerning the car. These numbers are stamped on the plate on the dash panel below the bonnet.

GENERAL DATA

Engine		4-cylinder, overhead valves
Bore		2·875 in. (73·025 mm.)
Stroke		3·5 in. (89 mm.)
Capacity		90·84 cu. in. (1489 cm.³)
Compression ratio		7·15 to 1
Firing order		1, 3, 4, 2
Valve clearance		·015 in. (·38 mm.) hot
Sparking plugs		Champion N8B (14 mm.)
Sparking plug gap		·019 to ·021 in. (·48 to ·53 mm.)
Contact breaker gap		·014 to ·016 in. (·36 to ·40 mm.)
Oil relief pressure		50 lb./sq. in. (3·5 kg./cm.²)
Carburetters		S.U. semi-downdraught (two)
Carburetter needle		GM
Rear axle ratio		8 : 39
Overall gear ratios :	1st	17·745
	2nd	10·793
	3rd	6·698
	4th	4·875
	Reverse	23·2
Tyre size		5·50—15
Tyre pressures :—		
Fully equipped, two up	Front	24 lb./sq. in. (1·69 kg./cm.²)
	Rear	26 lb./sq. in. (1·8 kg./cm.²)
Dimensions :—		
Track (front and rear)		4 ft. 3 in. (1·295 m.)
Turning circle (R/H and L/H)		37 ft. 6 in. (11·43 m.)
Toe-in		Nil
Wheelbase		8 ft. 6 in. (2·591 m.)
Length (overall)		14 ft. 1 in. (4·29 m.)
Width (overall)		5 ft. 3 in. (1·6 m.)
Height (overall)		4 ft. 10 in. (1·47 m.)
Ground clearance (min.)		6 in. (15 cm.)
Unladen weight (ready for road)		2,430 lb. (1102 kg.)
Capacities :—		
Fuel tank		9¼ Imp. gallons (42 litres)
Cooling system		10½ Imp. pints (6 litres)
Engine sump		7 Imp. pints (4 litres)
Gearbox		4½ Imp. pints (2·56 litres)
Rear axle		2¾ Imp. pints (1·56 litres)

Lamp bulbs—see page 45.

INSTRUMENTS AND CONTROLS



PREPARING FOR THE ROAD

Filling Up with Fuel • The Bonnet
Filling the Cooling System

FILLING UP WITH FUEL

The quantity of fuel is shown on the gauge when the ignition is switched on. The fuel tank filler is located on the left-hand side above the rear wing and the panel covering the filler cap is released by pressing the button. When closed, the panel may be locked by tightening the knurled nut inside the luggage boot.

THE BONNET

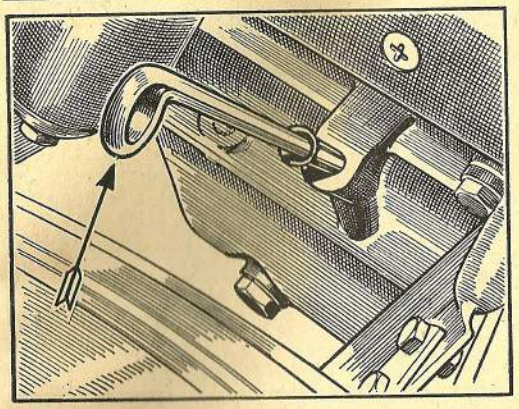
Release the bonnet catch by pulling the control ring under the left-hand end of the facia panel. To release the safety hook, insert a finger below the left-hand side of the radiator grille and push the catch lever to the right. Raise the bonnet and make sure the support is secure before working under it. To close the bonnet, secure the support rod in its clip, lower the bonnet and press downwards on the front end until the catch is heard to engage. **Make sure the bonnet is securely held by both catches before driving the car.**

FILLING THE COOLING SYSTEM

Fill the radiator to within ½ in. (13 mm.) below the bottom of the filler neck. The filler cap is retained by a bayonet catch with a graduated cam, permitting the release of internal pressure before removal. A lobe on the end of the cam guards against accidental release of the cap before the internal pressure is released. Press down and turn the cap to free it from the lobe. Unscrew the cap slowly if the engine is hot and protect the hand against escaping steam.

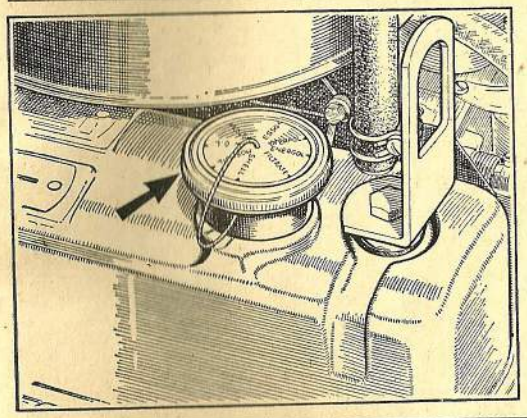
PREPARING FOR THE ROAD

Checking Engine Oil Level
Filling Up with Engine Oil • Fuel Gauge



CHECKING ENGINE OIL LEVEL

Every 250 miles (400 km.) check the supply of oil in the sump by withdrawing the dipstick on the right-hand side of the cylinder block. Wipe the lower portion of the rod, re-insert it and withdraw it again. Oil will cling to the rod and show the level of the oil present in the sump. The correct oil level is indicated by the "FULL" mark on the dipstick.



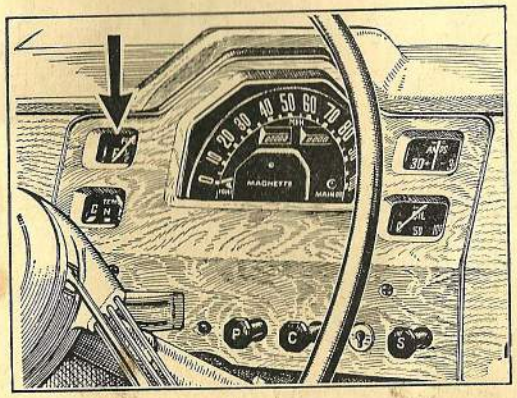
FILLING UP WITH ENGINE OIL

The filling orifice is at the forward end of the cylinder head cover, and it is provided with a quick-action cap.

Clean, fresh oil is essential.

Use one of the engine oils recommended under Ref. A, page 64.

For instructions on draining the sump see page 29.



FUEL GAUGE

The quantity of fuel in the tank is indicated on the upper left-hand (right-hand in L.H.D. cars; see page 52) dial on the instrument panel.

The gauge is of the electrical type with a recording unit housed on the fuel tank.

PREPARING FOR THE ROAD

Starting Up when Cold
Starting Up when Hot

STARTING UP

Cold. See that the gear lever is in its neutral position. (See page 9.)

Pull out the mixture control knob. (See page 9.)

Switch on the ignition by inserting the key in the switch and turning it clockwise (centre).

Push in the starter switch knob smartly (bottom), when the engine should revolve and start.

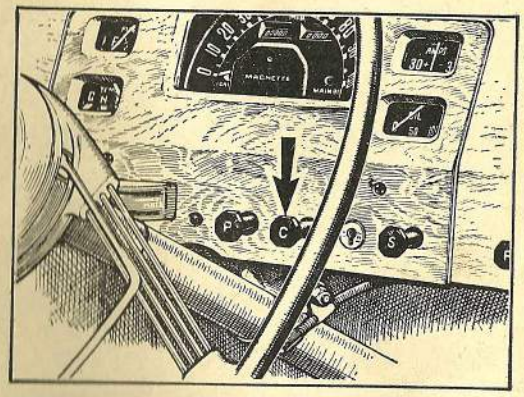
Release the starter switch immediately the engine fires.

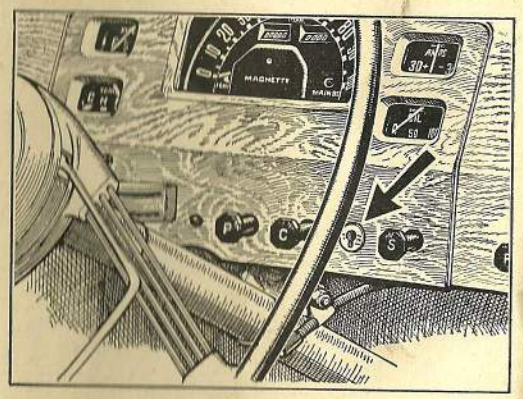
Gradually return the mixture control knob to the off position as quickly as the warming engine will allow. (See page 9.)

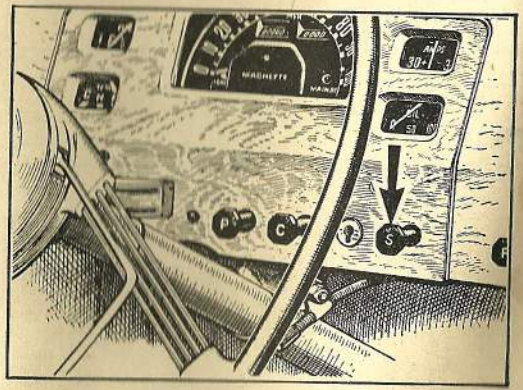
Hot. See that the gear lever is in its neutral position. Switch on the ignition by inserting the key in the switch and turning it clockwise. Push in the starter switch knob smartly, when the engine should revolve and start. Release the starter switch immediately the engine fires.

Do not use the mixture control when the engine is hot.

(See *"Left-hand-drive cars," page* 52.)







STARTING

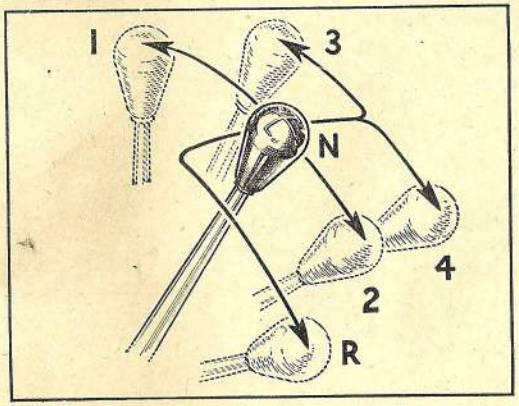
Warming Up • Running In
Gear Lever • Mixture Control

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., corresponding to a speed of 15 m.p.h. or 24 k.p.h. in top gear), so that it attains its correct working temperature as **quickly as possible.**

RUNNING IN

It is a great mistake to drive a new car either fast or hard (labouring up inclines on top gear). **For the first 200 miles (320 km.) 35 m.p.h. (56 k.p.h.) must not be exceeded in top gear, 26 m.p.h. (42 k.p.h.) in third gear, 15 m.p.h. (24 k.p.h.) in second gear or 10 m.p.h. (16 k.p.h.) in bottom gear.** The engine speeds should then only be increased gradually and progressively until at least 1,000 miles (1600 km.) have been covered.



GEAR LEVER

Gear change lever positions are shown here.

To select reverse gear the lever must be pushed fully to the left against the pressure of a spring, and then moved rearwards.

MIXTURE CONTROL (MARKED "C")

The mixture control can be drawn out and locked to give a rich mixture for starting purposes. Turn the knob clockwise through 90° to release.

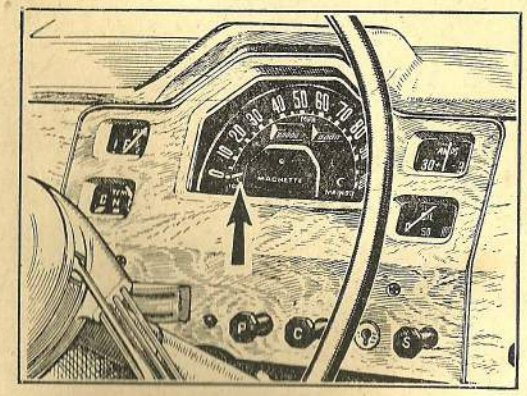
On no account should the engine be run for any length of time with the knob in this position. It should be returned to the off position as soon as possible.

THE SWITCHES

Ignition Warning Light · Horn and Direction Indicator Switch · Head- and Sidelamp Switch

IGNITION WARNING LIGHT

The ignition warning light glows red when the ignition is switched on. It will go out when the dynamo is charging. It will glow red if the dynamo is not delivering sufficient current. It may glow when the engine is idling in traffic, but no harm will be done so long as the engine is running. On no account must it be allowed to glow for more than a few moments with the car and engine stationary. Switch off the ignition immediately.



HORN SWITCH

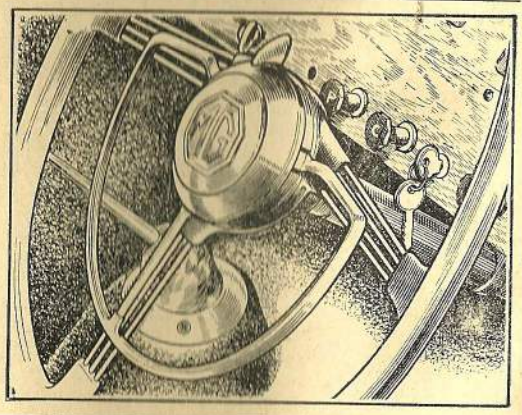
This is the semi-circular ring in the centre of the steering wheel, actuated by light finger pressure.

DIRECTION INDICATOR SWITCH

The direction indicators are actuated by the switch finger above the steering wheel hub.

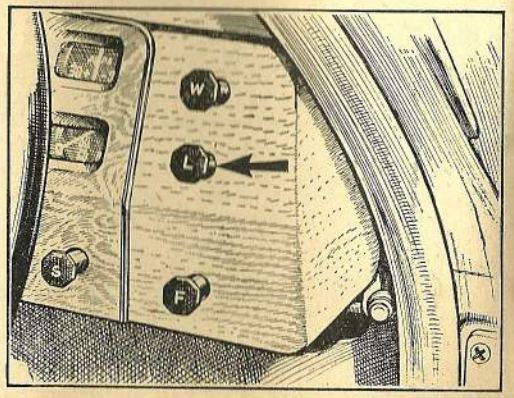
FLASHER WARNING LIGHT

On L.H.D. cars fitted with flashing indicators a green warning light is located between the starter and fog-lamp switches.



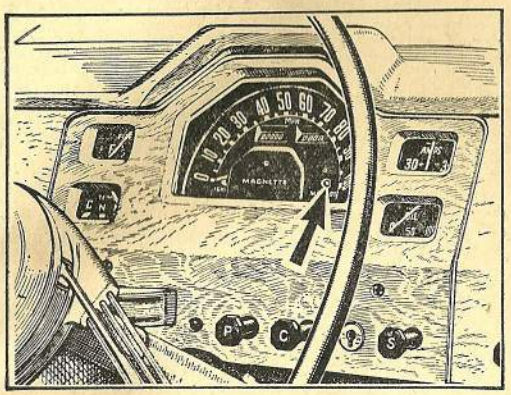
HEADLAMP AND SIDELAMP SWITCH (MARKED "L")

The side- and tail-lamps operate when the knob marked "L" is pulled out to its first stop. A twist to the right and a further pull will switch on the headlamps. The headlamp beams are further controlled by the foot-operated dip-switch. (See page 52.)



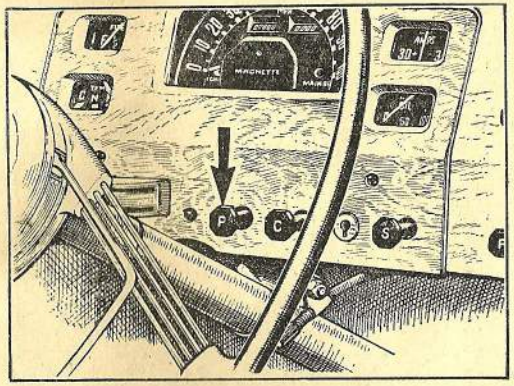
THE SWITCHES

Headlamp Beam Warning Light · Panel Light Switch · Windshield Wiper Switch



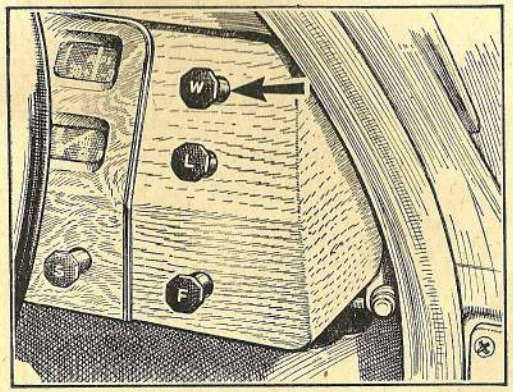
HEADLAMP BEAM WARNING LIGHT

A small bulb at the bottom of the speedometer dial glows red when the headlamp main beams are in the raised position. (See page 52.)



PANEL LIGHT SWITCH (MARKED "P")

Can only be switched on when the sidelamps are on. Pull out to light the speedometer; turn and pull again to light the clock and remaining instruments. (See page 52.)



WINDSHIELD WIPER SWITCH (MARKED "W")

Pull out the knob to switch on both blades. The blades are self-parking when the motor is switched off.

The wiper only operates when the ignition is switched on. (See page 52.)

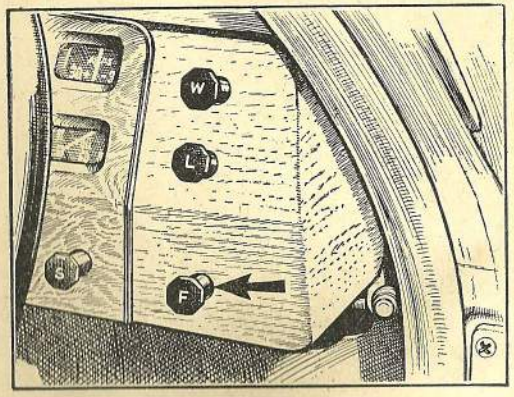
THE SWITCHES

Fog-lamp Switch · Interior Lamp Switch Reverse Lamp

FOG-LAMP SWITCH (MARKED "F")

The switch is on the right-hand side of the panel and the light only comes into operation when the switch is operated if the sidelamps are on.

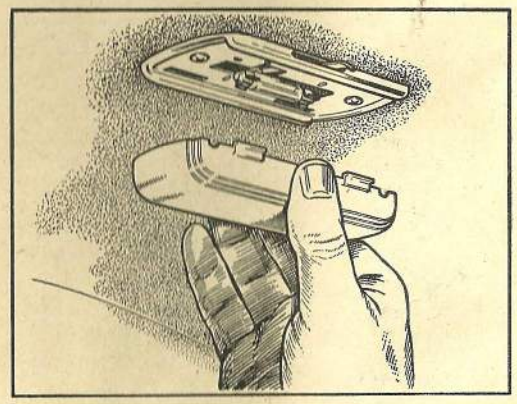
Pull out the switch knob to its first stop to switch on the left-hand fog-lamp. A twist to the right and a further pull will switch on the other lamp as well. (See page 52.)



INTERIOR LAMP SWITCH

The interior lamp is located in the roof, and the lever-type switch is fitted in the base of the lamp body. The cover is secured with four clips. To remove, pinch lightly with the fingers, move towards the rear, and lower the front edge clear of the clips. The cover can then be completely removed. The festoon-type bulb is secured between two spring posts.

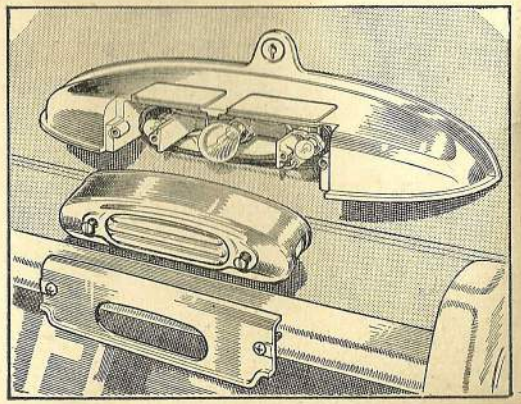
See page 45 for details of replacement bulbs.



REVERSE LAMP

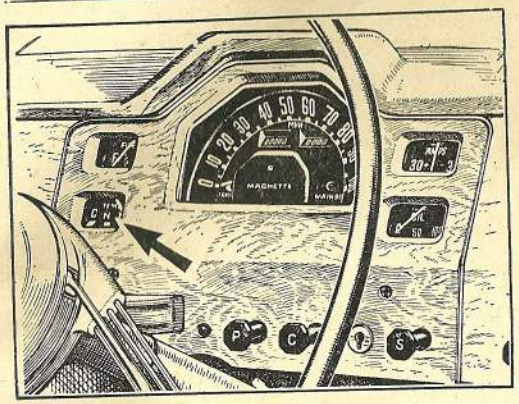
The reverse lamp is automatically switched on when the gear lever is moved into the reverse position, provided the ignition is switched on. When the reverse gear is disengaged it is switched off automatically.

The reverse lamp is the large central bulb between the number-plate illumination bulbs.



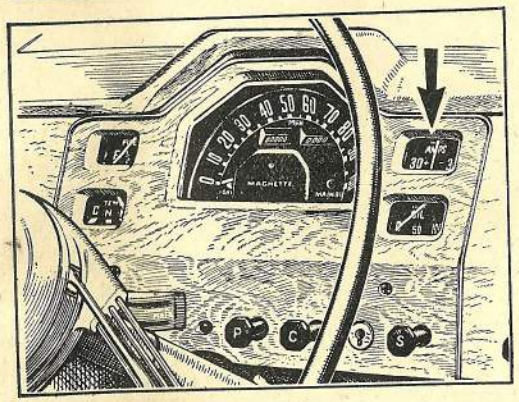
GAUGES

Water Temperature Gauge Ammeter · Oil Pressure Gauge



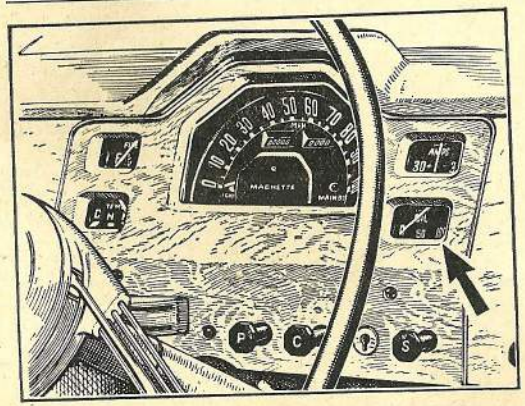
WATER TEMPERATURE GAUGE

The bottom left-hand dial indicates the temperature of the water in the cooling system when the ignition is switched on. When the ignition is switched off the indicating needle moves over to the right into the high-temperature position. The normal temperature position is indicated by a prominent mark at approximately three-quarters of the scale. If the needle passes this point when the ignition is switched on something is wrong. (See page 52.)



AMMETER

This instrument shows the rate at which the battery is being charged or discharged. A discharge will be shown if the demand of the equipment switched on is greater than the dynamo output. When the battery is fully charged the charging rate will be low, due to the functioning of the automatic voltage control. This gives an indication of the condition of the battery. (See page 52.)

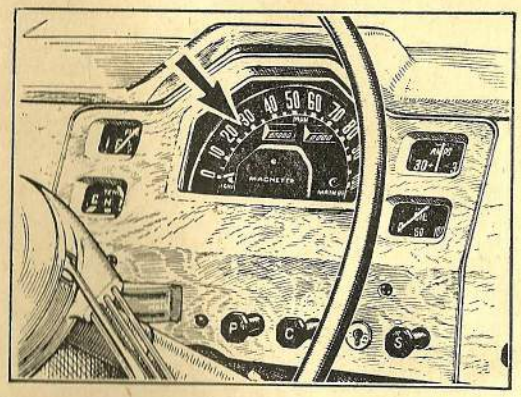


OIL PRESSURE GAUGE

The oil gauge, which is located on the right of the panel, shows the pressure of the oil being delivered by the oil pump and indicates that the pump is functioning correctly. A pressure between 40 and 50 lb./sq. in. (2·8 and 3·5 kg./cm.²) is shown under normal running conditions. A lower figure is shown when the engine is running slowly. (See page 52.)

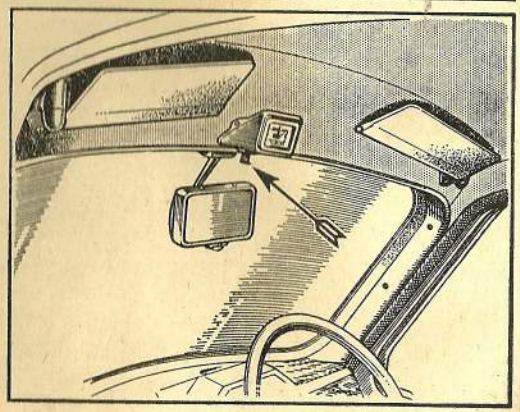
THE INSTRUMENTS

Speedometer
Clock • Driving Mirror



SPEEDOMETER

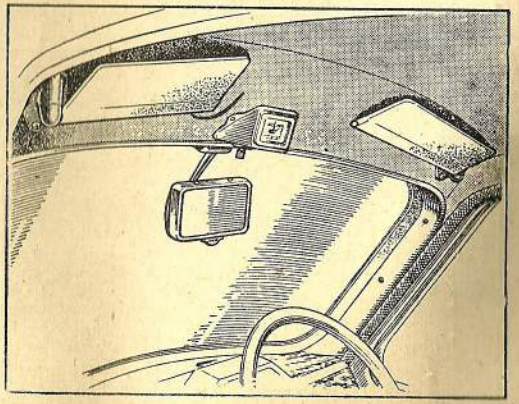
The speedometer has both trip and total mileage recorders. The trip recorder is reset to zero by a knob secured to the right-hand side of the steering column. Press the small knob inwards and turn it until the figures read zero. (See page 52.)



ELECTRIC CLOCK

The hands are set by turning the control knob below the centre of the instrument after pushing it upwards to engage the setting mechanism. Setting the hands will automatically start the clock.

To regulate the clock, remove it from its mounting and turn the exposed regulating screw very slightly anti-clockwise if the clock is gaining or clockwise if it is losing. The bulb is reached by removing the clock from its mounting.

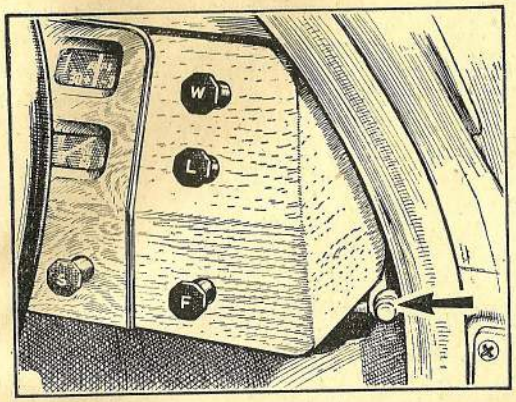


ANTI-DAZZLE DRIVING MIRROR

The angle of reflection of the two-position driving mirror is controlled by the metal tongue protruding below the casing of the mirror. Press the tongue forward to obtain dazzle-free reflection. Normal rear vision is restored when the tongue is pulled to the rear.

WINDSHIELD WASHER

Windshield Washer Control and Filling
Seat Adjustment

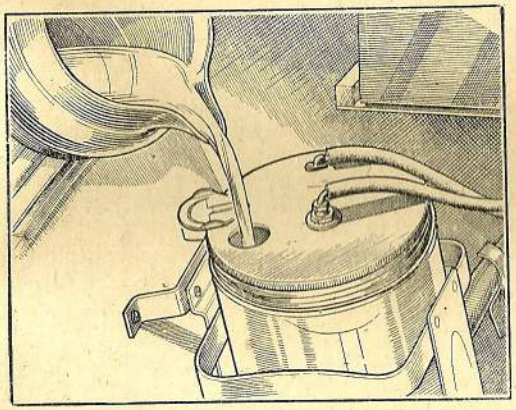


WINDSHIELD WASHER CONTROL

The operating button for the windshield washer is below the extreme end of the facia.

The quantity of fluid sprayed onto the windshield is dependent on the depression in the manifold.

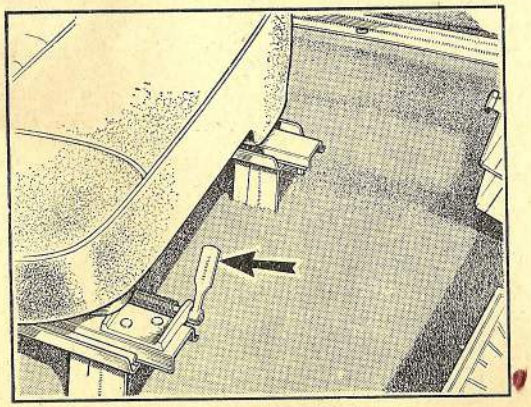
To obtain a large discharge, temporarily remove the foot from the accelerator while giving the operating button a short depression. (See page 52.)



FILLING THE WINDSHIELD WASHER

The container is easily filled through the hinged filler cap opening in the container top.

The container should be kept filled with water to which should preferably be added some "Trico" fluid. This prevents freezing of the water in cold weather and improves the cleaning properties. On no account use radiator anti-freeze.



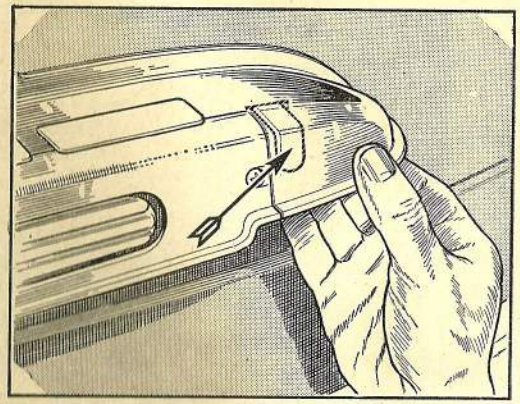
SEAT ADJUSTMENT

A lever is provided at the end of the seat and must be lifted to release the catch and allow adjustment of the seat position.

Make sure the catch is in proper engagement with the slide after adjustment has been carried out.

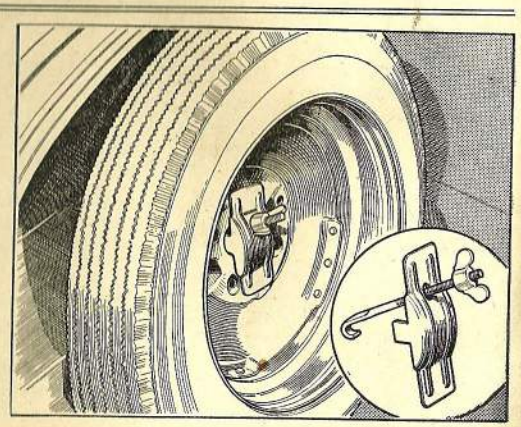
EQUIPMENT

Luggage Boot
Spare Wheel · Tool Kit



LUGGAGE BOOT

Release the catch by pulling rearwards on the lever concealed beneath the right-hand side of the number-plate lamp shield. Raise the counterpoised lid to the required position. The boot lid can be locked in the closed position by the separate key provided.



SPARE WHEEL

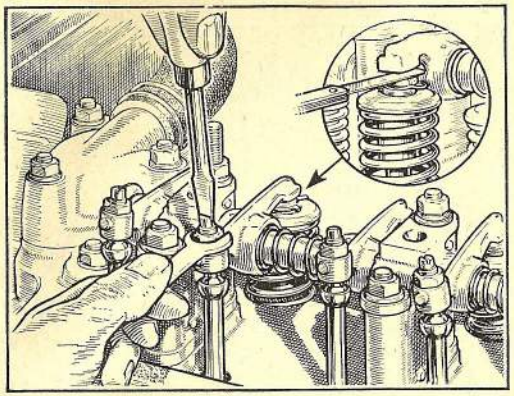
This is stored in the luggage boot on the left-hand side. Slacken the wing nut and unhook the retaining bolt and plate to release the wheel. The spare wheel should always be maintained in good repair and inflated to the right pressure. It should also be exchanged with the road wheels periodically to ensure even wear on all tyres—every 3,000 miles (5000 km.) is suggested.

TOOL KIT, JACK AND STARTING HANDLE—Housed in luggage boot.

Ring-type tappet spanner.
Wheel brace.
Ring spanner (cylinder head nuts).
Tappet feeler gauge (·015″).
Pair of pliers.
Grease gun. Tool roll.
Adjustable spanner.
Two tyre levers.
Lockheed bleeder screw and tube.
Tyre valve spanner.
Distributor feeler and screwdriver.
Key for drain plugs.
Tyre pump.
Set of box spanners :
$\frac{7}{16}'' \times \frac{1}{2}''$, $\frac{9}{16}'' \times \frac{5}{8}''$, $\frac{11}{16}'' \times \frac{3}{4}''$ and tommy bar.
Sparking plug box spanner : $\frac{1}{2}'' \times \frac{9}{16}''$.
Set of open spanners :
$\frac{7}{16}'' \times \frac{1}{2}''$, $\frac{9}{16}'' \times \frac{5}{8}''$, $\frac{11}{16}'' \times \frac{3}{4}''$ double-ended.
Screwdriver (for recessed head screws).
Screwdriver (for slotted head screws).
Jack with handle.
Starting handle with special bracket.
" Tipon " paint touch-up brush and paint.

MAINTENANCE ATTENTION

Tappet Clearance
Clutch Pedal Clearance



TAPPET CLEARANCES

Both inlet and exhaust valves should have a clearance of ·015 in. (·38 mm.) when hot. It is very important to set

No. 1	valve	with	No. 8	fully	open
No. 3	,,	,,	No. 6	,,	,,
No. 5	,,	,,	No. 4	,,	,,
No. 2	,,	,,	No. 7	,,	,,
No. 8	,,	,,	No. 1	,,	,,
No. 6	,,	,,	No. 3	,,	,,
No. 4	,,	,,	No. 5	,,	,,
No. 7	,,	,,	No. 2	,,	,,

CLUTCH PEDAL CLEARANCE

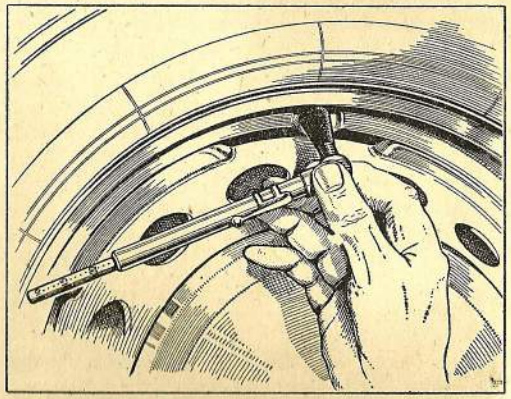
The hydraulic clutch actuating mechanism is self-adjusting and does not need service attention other than maintenance of the level of the fluid in the master cylinder as detailed on page 25.
Should the free movement of the pedal become less than $\frac{5}{32}$ in. (4 mm.), the adjustment between the pedal and the master cylinder should be reset. This is only likely to be required at long intervals and should be entrusted to a recognised M.G. Dealer.

MAINTENANCE ATTENTION

Tyre Pressures
Steering Gear • Fuel Pump

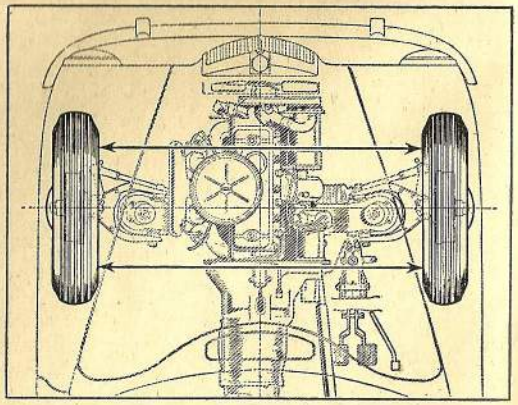
CHECKING TYRE PRESSURES

The tyre pressures should be checked periodically. See page 37. The correct tyre pressures are :—
Front : 24 lb./sq. in. (1·69 kg./cm.²).
Rear : 26 lb./sq. in. (1·8 kg./cm.²).
An extra 2 lb./sq. in. (·14 kg./cm.²) should be given when the car is fully laden or driven fast.



FRONT WHEEL ALIGNMENT

Excessive and uneven tyre wear is usually caused by faulty wheel tracking. The wheels should run parallel to each other, but care must be used to ensure that the measurements are taken at axle level and that the rims run true. Correct setting of the front wheels entails the use of a wheel alignment gauge, and the owner is advised to entrust this work to an authorised M.G. Dealer, who has the necessary equipment.



FUEL PUMP CONNECTIONS

If the pump fails to work regularly make sure that the earth wire is properly connected and giving a good contact to earth.
Make sure also that the terminal nut holding the cable at the pump cover end is reasonably tight.

CLEANING THE FILTER

Every 6,000 miles (10000 km.) withdraw the fuel pump filter and clean it thoroughly in fuel. The filter is inserted into the bottom of the pump body and is easily withdrawn by unscrewing its hexagon attachment screw. When cleaning it do not use rag—always use a stiff brush and clean fuel.

MAINTENANCE ATTENTION

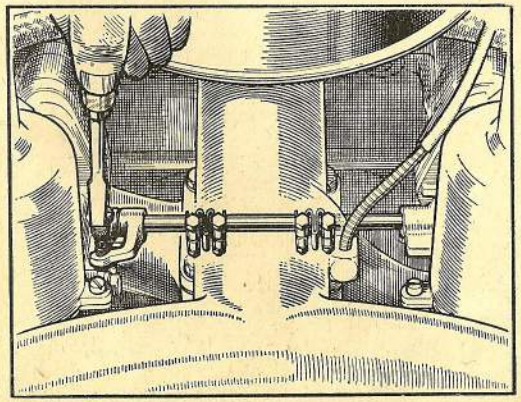
Carburetter Filters • Mixture Control
Slow-running

CARBURETTER FILTERS

To ensure a free flow of fuel to the float-chambers the filters should be removed at intervals of about 6,000 miles (10000 km.) 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.

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 operating lever on the front carburetter.
This gap regulates the action of 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.



SLOW-RUNNING ADJUSTMENT

Slow-running adjustments are carried out by adjusting the position of the carburetter throttle lever stop screw, located at the rear of each carburetter, until gentle slow running is attained.
It is important that both carburetters are set exactly alike, and you are advised to entrust this to an M.G. Dealer.

THE CARBURETTERS

Adjusting the Jets

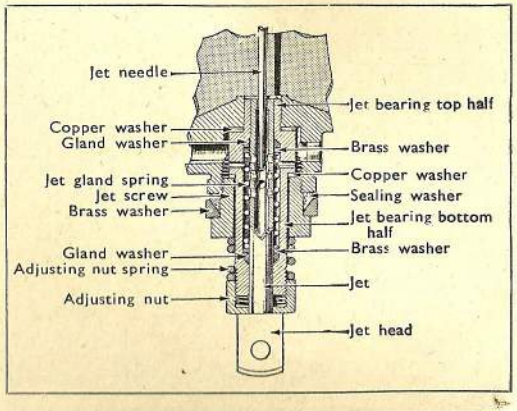
ADJUSTING THE JETS

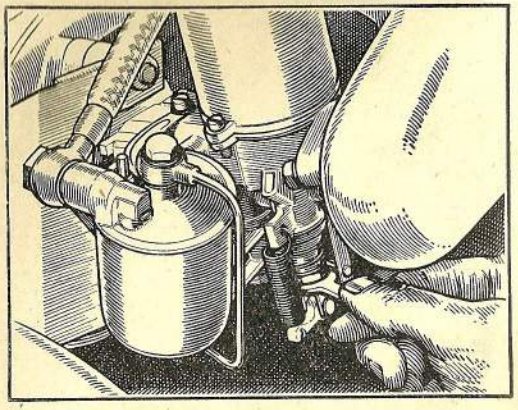
Run the engine until it attains its normal running temperature. Set the slow-running screws on the carburetter throttle levers so that the throttles are both open the same amount. This is indicated by the same suction noise at each carburetter.

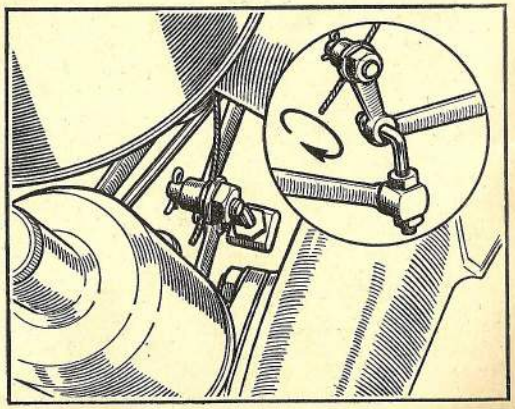
Disconnect the mixture control wire from the end of the jet levers, and screw the jet adjusting nuts well downwards. The jet actuating levers are held in contact with the jet heads by their return springs and must be kept in contact the whole time.

The jet adjusting nuts should now be screwed inwards 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 the general performance on the road should be entirely satisfactory. Check by raising each carburetter piston $\frac{1}{32}$ in. (·8 mm.). If the engine speed increases momentarily the setting is right. If the engine stalls the setting is too weak. If the engine continues to run at an increased speed it is too rich.

Reconnect the mixture control wire, giving it a twist as shown for automatic locking of the control knob. Make sure that the knob has ample clearance when the jet is in contact with the adjusting nut. Finally adjust idling speed by turning each throttle screw an equal amount.







UPHOLSTERY AND JACK

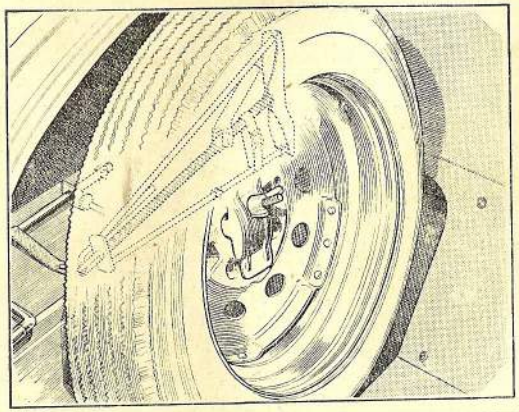
Care of the Upholstery

Jack Location • Jack Operation

UPHOLSTERY

The upholstery should be cleaned at regular intervals by wiping it with a damp cloth and polishing it with a clean soft cloth when it is dry.

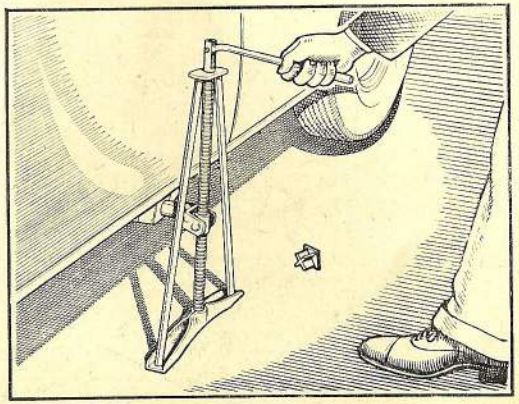
The use of polish is quite unnecessary. **Do not use detergents or caustic soap.**



JACK LOCATION

The screw-type jack is carried in clips in the luggage boot and strapped in position behind the spare wheel, from which it is easily withdrawn when required for use.

Before using the jack screw the lifting bar into a suitable position to enter the lifting sockets below the centre pillar.



JACK OPERATION

The jack is designed to lift one side of the car at a time.

Apply the hand brake and remove the rubber plug from the socket below the centre pillar. Insert the arm of the jack and raise the car. As the car swings over when one side is raised, the jack should be initially positioned leaning slightly inwards so that it is vertical when the wheels are clear of the ground.

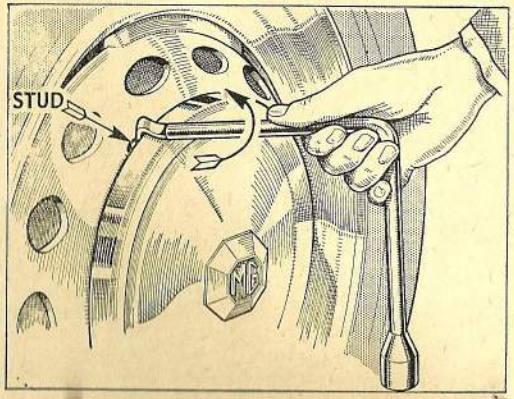
REMOVING WHEELS AND TYRES

Removing Wheel Discs
Removing Wheels • Removing Tyres

REMOVING THE WHEEL DISCS

Remove the wheel disc by inserting the flattened end of the wheel nut spanner in the recess provided in the road wheel and levering off the hub cover, using a sideways motion of the spanner. A radial movement of the spanner will open out the rim of the disc.

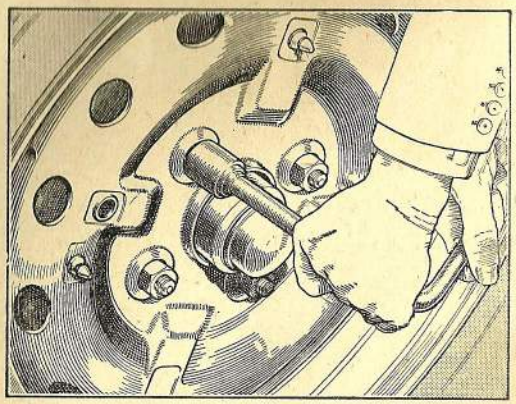
To refit the hub disc, the rim should be placed over two of the studs on the wheel centre and the outer face given a sharp blow with the fist over the third stud.



REMOVING THE WHEELS

Slacken the four nuts securing the road wheel to the hub. The wheel nuts have right-hand threads. Raise the car to lift the wheel clear of the ground and remove the nuts. Withdraw the road wheel from the hub.

Reverse this procedure when replacing the road wheel and ensure that the securing nuts are tight and fitted with the tapered side towards the wheel. Every 1,000 miles (1600 km.) check the wheel securing nuts for tightness.

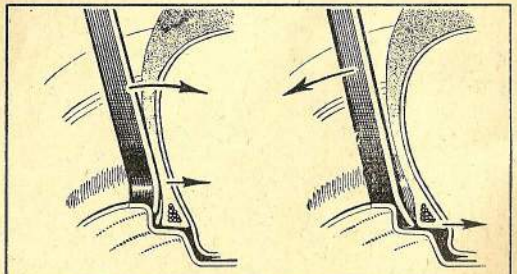


REMOVING TYRES

Removing and refitting will be quite easy if the wire edges are adjusted into the rim base before any attempt is made to lift the bead over the wheel rim.

If the bead fits tightly on the rim seating, free it by using tyre levers as indicated.

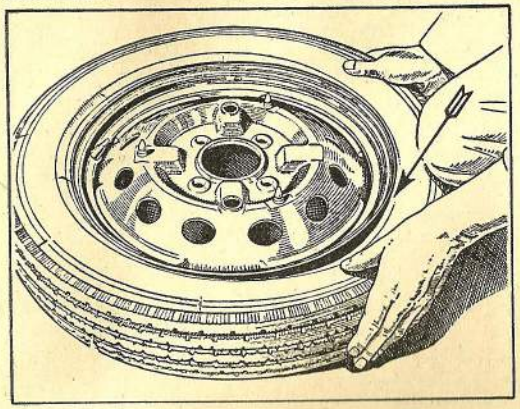
Screw out the valve interior to deflate the tyre completely. Push both edges of the cover into the base of the rim opposite the valve (see " Tubeless Tyres," p. 24).



1. Insert lever between bead and rim with curved end against tyre. Press lever towards tyre.
2. Insert second lever in space between bead and rim with curved end outwards, and pull lever away from tyre. Repeat at intervals round tyre until bead is free Several circuits of tyre may be necessary.

WHEELS AND TYRES

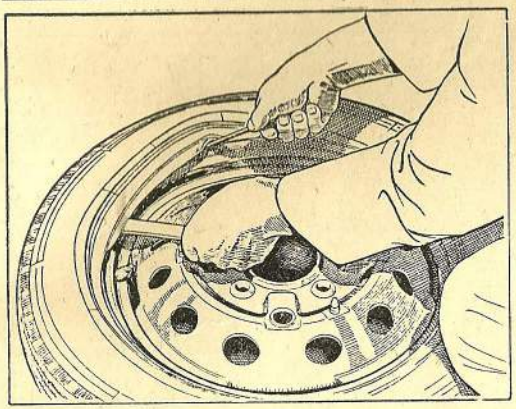
Removing Tyres
Replacing Tyres • Tyre Balance



REMOVING TYRES—*continued*

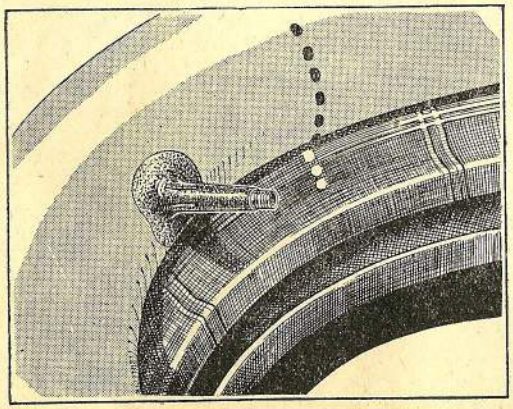
Starting at the valve, lever the edge of the cover over the rim of the wheel. Push the valve through the hole in the rim and pull out the tube.

Do not use force in attempting to stretch the edges of the tyre over the rim as this may damage the tyre or break the wire fitted in the bead.



REPLACING TYRES

Refit the tube to the cover, replace the valve parts and put a little air into the tube. Fit the cover, starting opposite the valve and pushing it well into the rim base; finish at the valve and fully inflate the tube.



TYRE BALANCE

The spots on the tube should be fitted against those on the cover. In tubeless tyres the spots should be at the valve position.

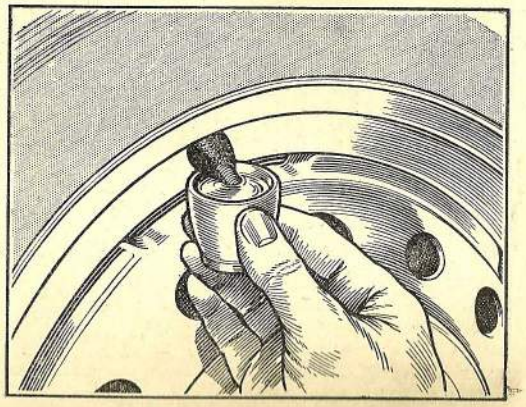
WHEELS AND TYRES

Tyre Valves
Tubeless Tyres · Repairs

TYRE VALVES

Valves may be tested by holding them immersed in a small quantity of water. If the seating is faulty as shown by air bubbles, the valve interior should be renewed.

Valve caps must be securely tightened to prevent the entry of dust and water and to act as additional seals. Do not place a valve cap on a dusty surface, and make sure it is clean when replaced.



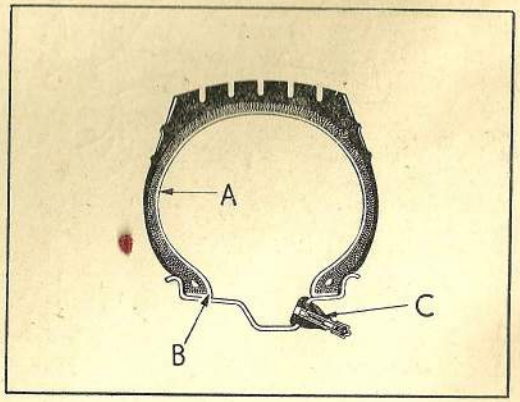
TUBELESS TYRES

Remove and replace as a normal cover, but note: Initial inflation can be carried out with a foot pump and tourniquet, but is more easily accomplished with an air-line.

As the tyre bead forms the air seal in the wheel rim, great care must be taken not to damage the bead; use levers in good condition.

Penetration does not normally result in deflation. (See "Repairing Tubeless Tyres.")

"A" Inner lining. "B" Seal at rim and bead. "C" Valve.



REPAIRING TUBELESS TYRES

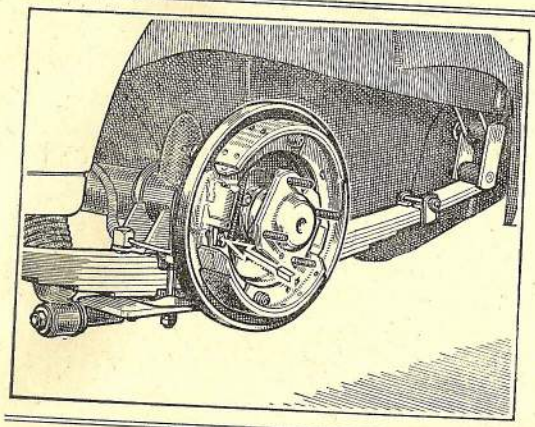
When convenient the penetrating object should be removed and the tyre repaired. Small-diameter penetrations can be repaired with the tyre manufacturer's plugging kit without removing the tyre. More extensive damage requires the removal of the tyre for vulcanising.

REPAIRING TUBES

Punctured tubes should preferably be vulcanised, but cold patching is satisfactory if correctly carried out.

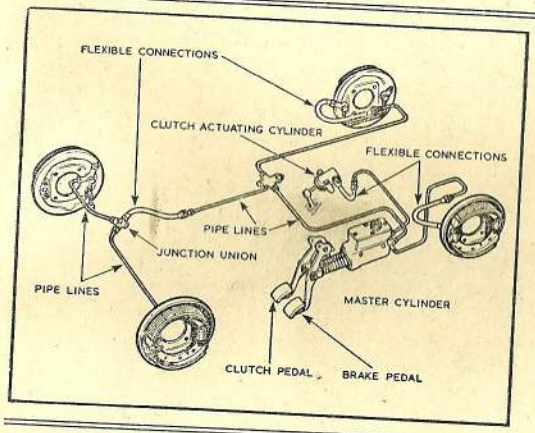
THE HYDRAULIC BRAKES

Brake-shoe Assembly · Hydraulic System
Replenishing Brake Fluid



BRAKING SYSTEM

The brakes are of the Lockheed hydraulic type, providing automatic compensation and incorporating two leading shoes on each front wheel. The rear brakes are fitted with one leading shoe and one trailing shoe on each wheel to provide adequate braking in reverse. They are actuated by a master cylinder which is situated immediately in front of the foot brake pedal.

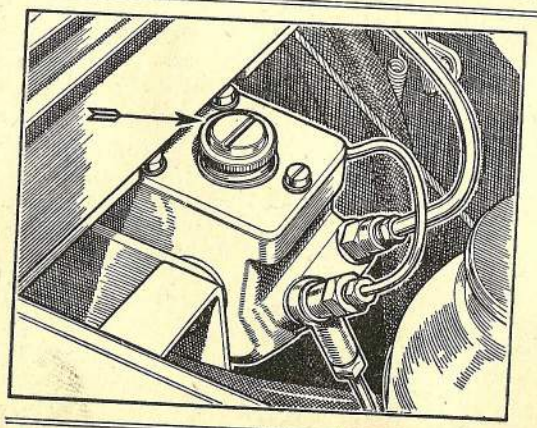


HYDRAULIC SYSTEM

Pressure on the brake pedal is conveyed to fluid contained within the master cylinder and equally distributed through the system by special pipe lines to each individual brake-shoe.

The rear brake-shoes are in addition operated mechanically by the hand brake lever, which requires no separate adjustment.

Need for brake adjustment is indicated by excessive travel of the brake pedal.



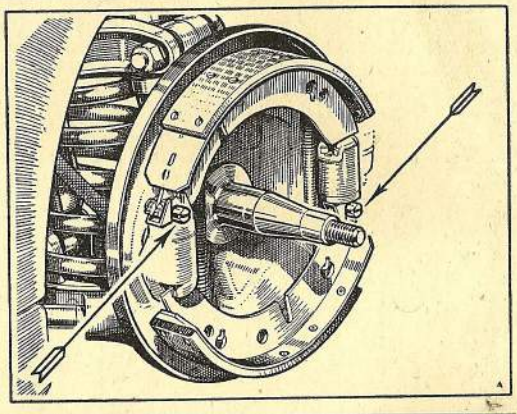
TOPPING UP WITH FLUID

Every 1,000 miles (1600 km.) the fluid level must be checked by raising the bonnet and examining the fluid level in the container. Unscrew the filler plug; the fluid level should be $\frac{1}{2}$ in. (12 mm.) below the bottom of the filler neck, and must never be above this. Use only Lockheed Genuine Brake Fluid.

THE HYDRAULIC BRAKES

Brake Adjustments

Front Shoe • Rear Shoe

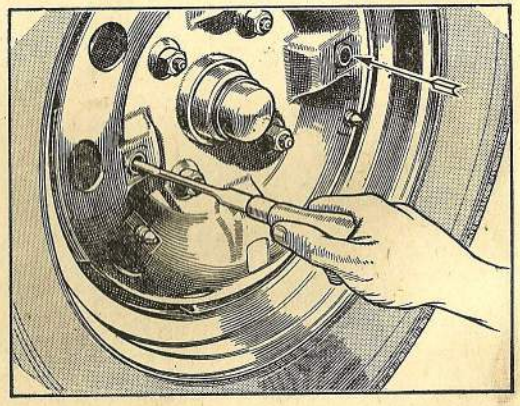


BRAKE ADJUSTMENTS

These are required when excessive travel of the brake pedal takes place on application.

Placing suitable blocks beneath the wheels remaining in contact with the ground, use the special jack provided in the tool kit to raise each wheel of the car in turn.

The front brakes. Remove the front hub cap and rubber plug from the hole in the wheel; rotate the wheel until one of the adjustment screws is visible through the hole provided in the brake-drum. With a screwdriver turn the screw as far as it will go in a clockwise direction until the drum is locked solid, then turn the screw anti-clockwise **one** notch only. The brake-drum should then be free to rotate without the shoes rubbing. Turn the wheel until the adjustment screw diametrically opposite is visible and carry out the same procedure on this. The brake-shoes on this wheel are now fully adjusted.

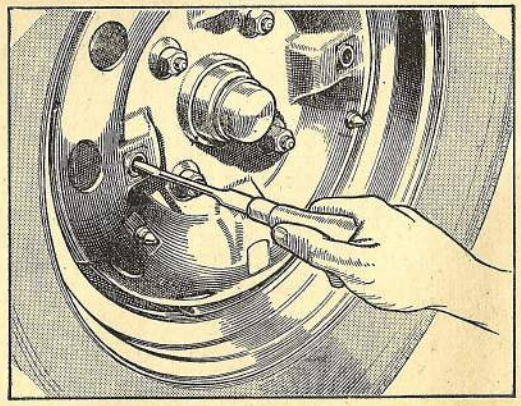


The rear brakes. The procedure is similar to that detailed for the front brakes, except that there is only one adjuster, which controls both brake-shoes.

It is essential that the hand brake should be fully released while the rear brake-shoes are being adjusted.

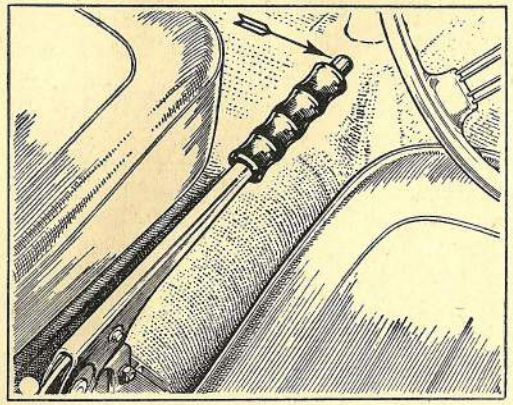
Adjustment of the rear brake-shoes automatically adjusts the hand brake mechanism and no separate adjustment is required.

(See note on page 27.)



HAND BRAKE AND SUSPENSION

Hand Brake • Independent Front Suspension • Rear Suspension

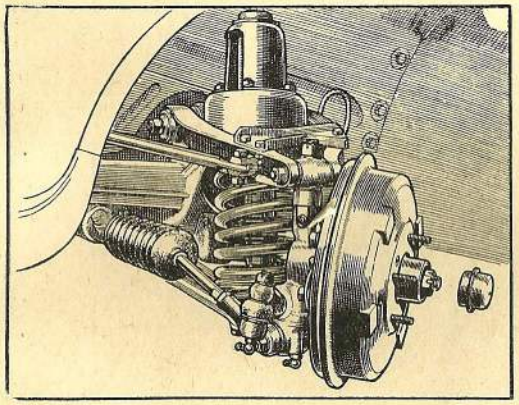


HAND BRAKE

The hand brake operates on the rear brake-shoes and is automatically adjusted when hydraulic brake adjustment is made.

On no account must any attempt be made to adjust the hand brake cables themselves, as this will interfere with the hydraulic brakes.

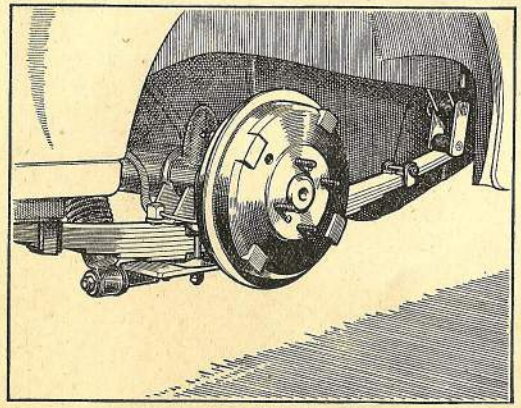
The ratchet comes into operation when the lever is pulled up and is released when the pull of the brakes is taken and the knob on the end of the lever is depressed.



INDEPENDENT FRONT SUSPENSION

The M.G. independent front suspension gives perfect stability and a high standard of riding comfort. In combination with the direct-acting rack and pinion steering gear it also provides light and accurate control.

Springing is by means of large coil springs interposed between the lower wishbone structure and the frame with concentric hydraulic telescopic dampers.



REAR SUSPENSION

The flexible laminated rear springs are mounted on rubber bushes, obviating the need for lubrication. To ensure maximum stability the axle movement is controlled by hydraulic dampers.

The rear spring "U" bolts should be examined every 6,000 miles (10000 km.).

500 MILES FREE SERVICE

Early Attention Important
Items Included in Free Service

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 :—

- Drain oil from engine, gearbox and rear axle, and refill with fresh oil.
- Oil and grease all points of the car.
- Tighten cylinder head and manifold nuts to recommended pressures.
- Check tightness of valve rocker-shaft brackets to recommended pressures.
- Check tappet 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.
- Examine and adjust, if necessary, sparking plug and distributor points.
- Check working of automatic ignition controls and, if necessary, reset ignition timing.
- Check front wheel alignment and steering connections. Adjust if necessary.
- Check tightness of universal joint nuts, wheel nuts, spring clips and wing (fender) bolts.
- Check clutch pedal for free movement and adjust if necessary.
- Check fluid level in master cylinder and top up if necessary.
- Check braking system functionally and bleed lines if necessary.
- Check electrical system functionally.
- Examine battery and top up to proper level with distilled water or diluted acids as may be required. Clean and tighten terminals.
- Inspect dampers for leaks.
- Test tyres for correct pressures.
- Check doors for ease in opening and closing. If necessary, lightly smear with a suitable lubricating agent all dovetails and striking plates.

ALL MATERIALS CHARGEABLE TO THE CUSTOMER

LUBRICATION (Engine)

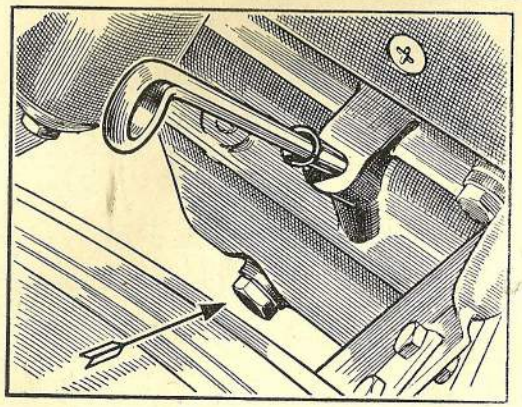
Oil Pressures • Engine Drain Plug

ENGINE LUBRICATION

Engine oil is carried in the sump below the cylinder block. The oil is drawn through a gauze internal filter and pumped through the main gallery and suitable drillings to the bearings, timing chain, rockers, etc. An external filter is fitted, the bowl of which forms part of the main oil gallery and is filled with oil at full pressure, a proportion of which passes through the filter element and is returned to the engine.

Normal oil pressure should be approximately 40 to 50 lb./sq. in. (2·8 to 3·5 kg./cm.^{2}). When the engine is first started and the oil is cold, pressures considerably above this may be recorded.

Only oils of recommended makes and grades should be used. See page 64 for a list of recommended lubricants, and Lubrication Chart for a note on Multigrade Oils and lubrication points.



DRAINING THE SUMP

Drain the engine oil from the sump after the first 500 miles (800 km.) and subsequently after every 3,000 miles (5000 km.).

Refill with one of the recommended oils.

The drain plug is located on the right-hand side of the engine sump, and this should be removed, preferably when the engine oil is hot, and the oil allowed to drain completely.

Clean the plug before replacing.

LUBRICATION (Gearbox)

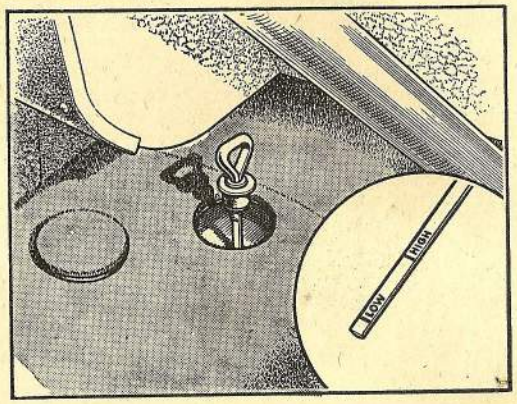
Draining the Gearbox · Refilling the Gearbox · Topping Up the Gearbox

GEARBOX (A)

The filler cap is located on the right-hand side of the gearbox and incorporates a dipstick. They are accessible when the rubber inspection plug has been removed.

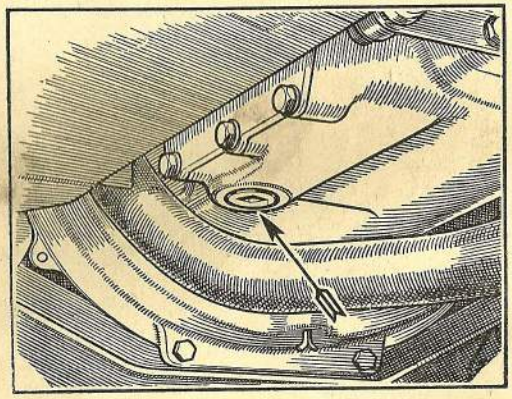
The gearbox should be drained after the first 500 miles (800 km.) by unscrewing the drain plug with the special spanner and filled with the correct amount of the recommended lubricant.

Clean the drain plug thoroughly before it is replaced and tightened.



REFILLING THE GEARBOX (A)

When the gearbox has been drained completely through the plug indicated, 4½ Imperial pints (2·56 litres) of oil are required to fill it. The oil should be poured in through the filler plug shown above until it reaches the "HIGH" mark on the dipstick. After the first 500 miles (800 km.) and subsequently every 6,000 miles (10000 km.) the gearbox should be drained and then filled with fresh oil.



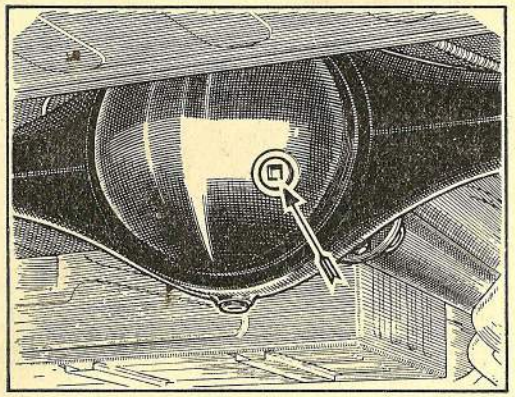
TOPPING UP THE GEARBOX (A)

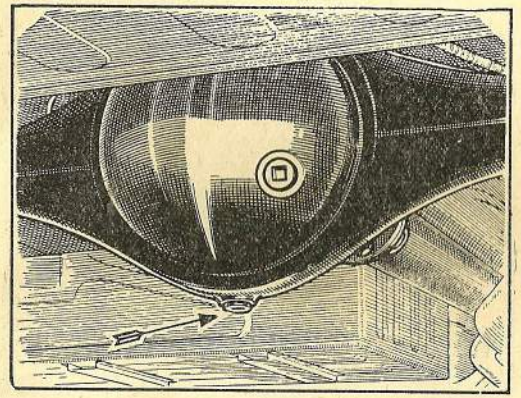
Check the oil level and top up as necessary at intervals of 1,000 miles (1600 km.), taking care to ensure that the gearbox is not filled above the "HIGH" mark on the dipstick. If the level is too high, oil may get into the clutch case and cause clutch slip.

Use one of the Engine Oils recommended on page 64 under Reference A. This is essential.

LUBRICATION (Rear Axle)

Rear Axle Filler and Level Plug · Rear Axle Drain Plug · Propeller Shaft Lubrication





REAR AXLE (B)

Access to the combined filler plug and level indicator is gained from under the car (upper illustration).

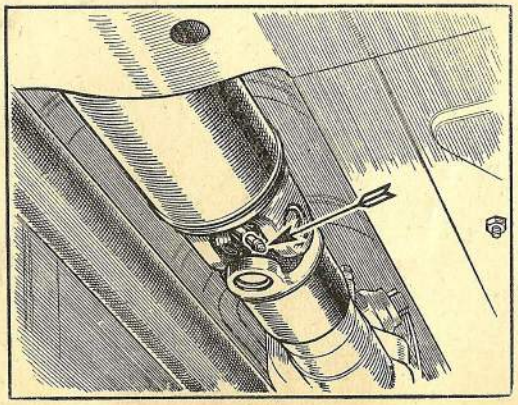
A square-headed drain plug is fitted in the base of the differential housing, and is unscrewed by means of the special spanner in the tool kit.

The oil should be drained from the rear axle after the first 500 miles (800 km.). The axle must then be filled with one of the oils to Ref. B, page 64, to the level of the filler plug. Approximately 2¾ pints (1·56 litres) of oil are required to refill the axle.

Topping up should take place at intervals of 1,000 miles (1600 km.).

The axle should be completely drained and then refilled with fresh lubricant of the correct grade every 6,000 miles (10000 km.).

Clean the drain plug before replacing.



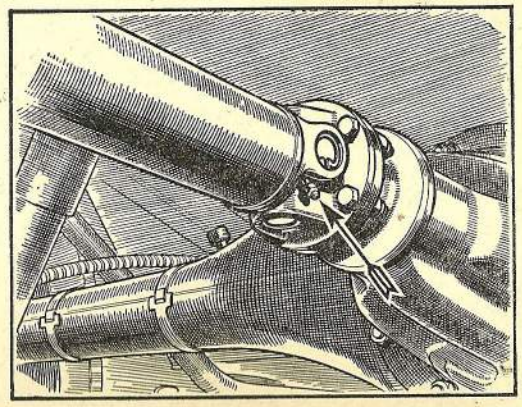
PROPELLER SHAFT (D)

The two needle-type universal joints should receive grease gun attention every 1,000 miles (1600 km.). The recommended lubricants are indicated under Ref. D, page 64.

Access to the front universal joint nipple is gained from the under side of the car. The sliding joint is of the reverse spline type and is automatically lubricated from the gearbox.

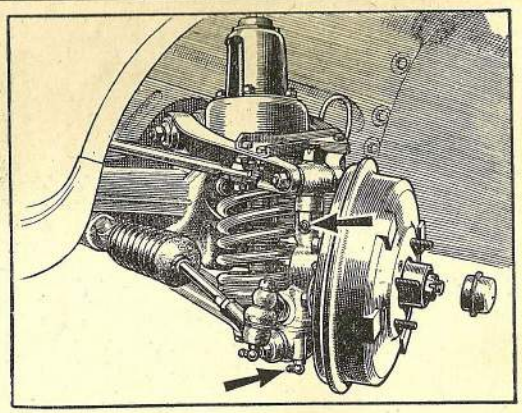
LUBRICATION

Propeller Shaft Universal Joint
Swivel Pin · Steering Gearbox



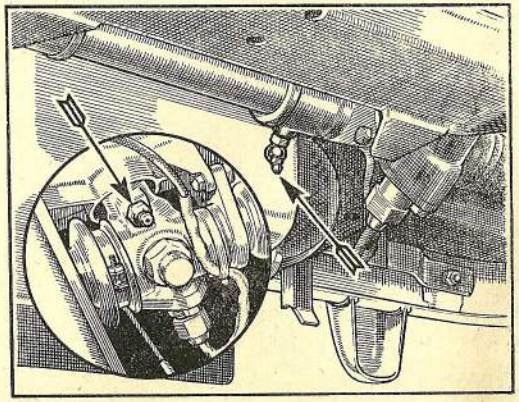
PROPELLER SHAFT UNIVERSAL JOINT (D)

The rear universal joint grease nipple is here shown. Access to it is obtained from under the car, and the grease gun filled with grease to Ref. D, page 64, should be applied every 1,000 miles (1600 km.) and three or four strokes given.



STEERING GEAR (D)

Grease nipples are provided at the top and bottom of each swivel pin. The grease gun should be filled with grease to Ref. D, page 64, and applied to the nipples every 1,000 miles (1600 km.). Three or four strokes of the gun should be given.

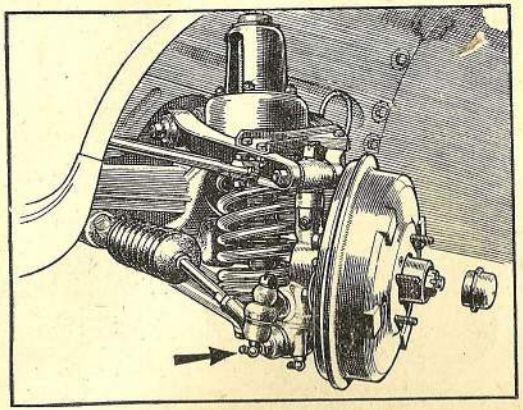


STEERING GEARBOX (B)

A greaser is provided on the rack housing and on the pinion shaft. Every 12,000 miles (20000 km.) apply the grease gun to the rack nipple and give up to ten strokes. At the same time give two strokes of the gun to the nipple on the pinion.

LUBRICATION

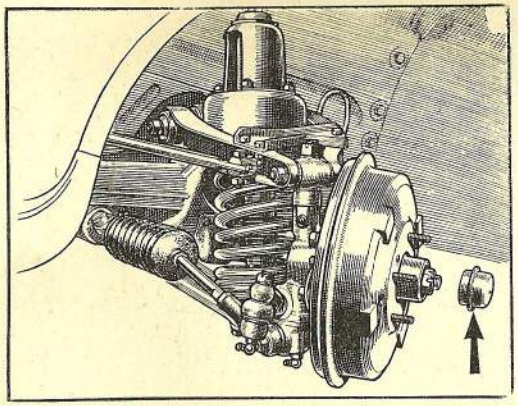
Tie-rods
Front and Rear Hubs · Carburetter Damper



TIE-ROD LUBRICATION (D)

Every 1,000 miles (1600 km.) the grease gun should be applied to the nipple on the ends of the steering tie-rods and given three or four strokes.

The inner ball joints of the tie-rod (those within the concertina-type rubber boots) are automatically lubricated from the steering gear-box housing.

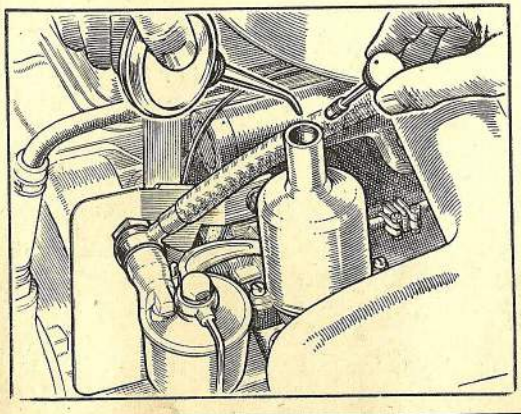


REAR HUBS

The rear hubs are automatically lubricated from the rear axle lubrication system and need no separate lubrication attention.

FRONT HUBS (C)

Every 6,000 miles (10000 km.) the front wheel hub covers should be removed and the grease-retaining cap carefully prised off the end of the hub, refilled with grease to Ref. C, page 64, and replaced.



CARBURETTER DAMPER (F)

Every 1,000 miles (1600 km.) unscrew the oil caps at the tops of the suction chambers and pour in a small quantity of engine oil to Ref. F, page 64, and replace the caps.

In no circumstances should a heavy-bodied lubricant be used. Failure to lubricate the piston dampers will cause the pistons to flutter, and reduce acceleration.

Any Beer Your #

House

OUTSIDE MIRROR PART #

5906-1057

Any Beer Your #

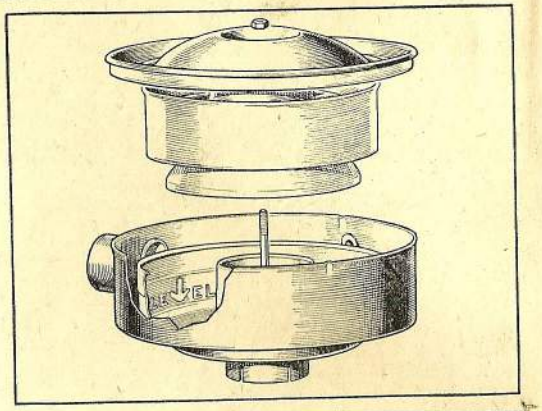
House

OUTSIDE MIRROR PART #

5906-1057

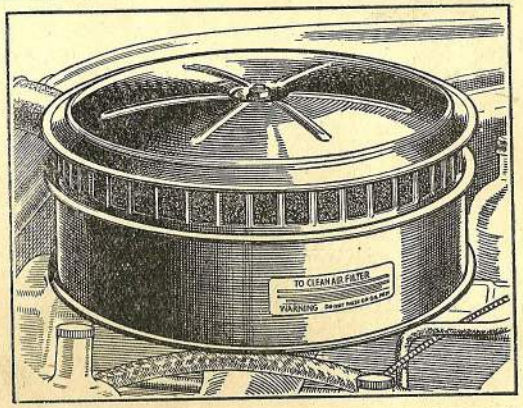
LUBRICATION

Air Cleaner • Oil Filter



AIR CLEANER (A)
(OUTSIDE UNITED KINGDOM)

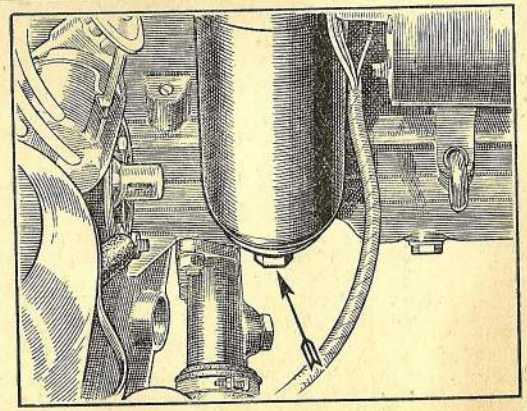
Every 3,000 miles (5000 km.) remove the cover, lift out the filter element and wash in fuel. Allow to drain and dry thoroughly. Clean out the sludge from the oil container and fill with fresh engine oil to the level indicated.



AIR CLEANER (A)
(UNITED KINGDOM)

Every 6,000 miles (10000 km.) remove the cover, lift out the filter element and clean in paraffin (kerosene). Allow to drain, and dry thoroughly.

Soak the wire mesh in engine oil and allow to drain before re-assembling the air cleaner.



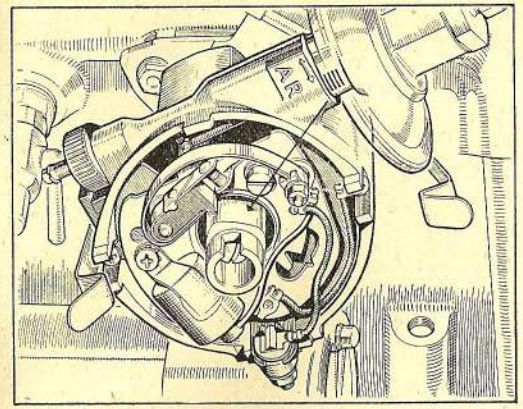
THE OIL FILTER

The main oil filter is of the renewable element type and the element must be replaced **with a new one** after every 6,000 miles (10000 km.). The filter is released by undoing the central bolt connecting the filter body to the filter head.

When fitting the new element, make sure that the seating washer for the filter body is in good condition and that the body is correctly fitted.

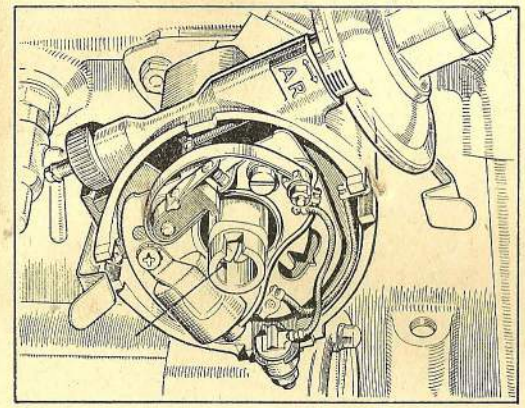
LUBRICATION

Distributor Cam • Distributor Cam Bearing
Distributor Automatic Timing Control



EVERY 3,000 MILES (5000 Km.) (D)

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

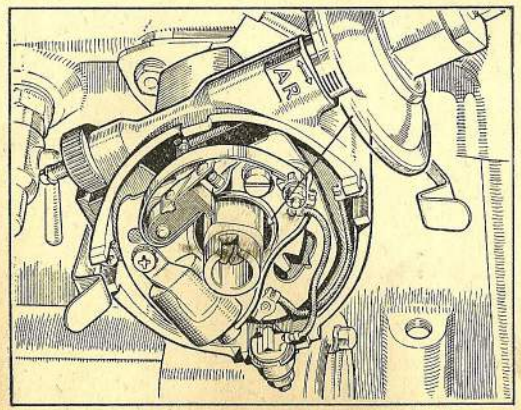


EVERY 3,000 MILES (5000 Km.) (F)

Distributor cam bearing. Lift the rotor off the top of the spindle by pulling it squarely and add a few drops of thin engine oil to Ref. F, 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.



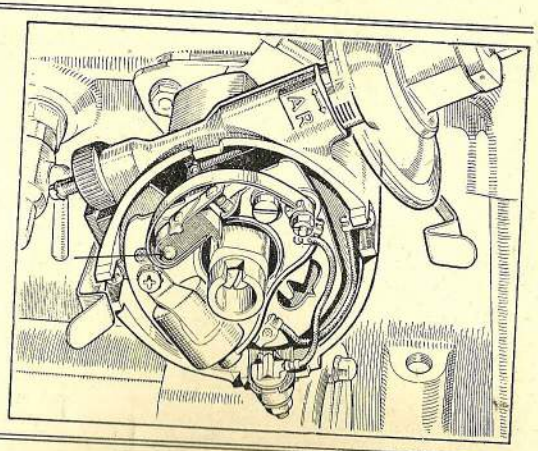
EVERY 3,000 MILES (5000 Km.) (F)

Automatic timing control.

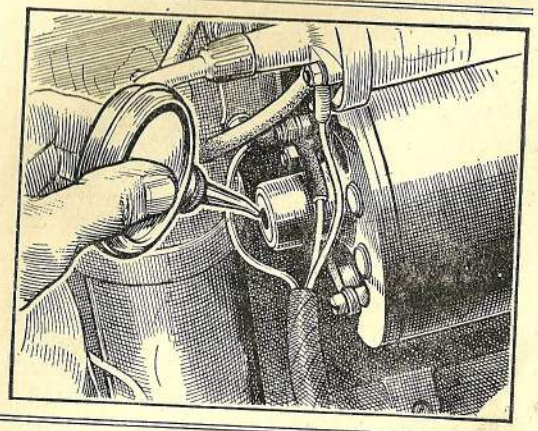
Add a few drops of thin engine oil to Ref. F, page 64, through the hole in the contact breaker base through which the cam passes. Do not allow any oil to get on or near the contacts. Do not over-oil.

LUBRICATION

Contact Breaker Pivot
Dynamo • The Grease Gun



EVERY 3,000 MILES (5000 Km.) (F)
Contact breaker pivot. Place a small amount of clean engine oil to Ref. F, page 64, on the pivot on which the contact breaker lever works. Do not allow oil or grease to get onto the contacts.



EVERY 3,000 MILES (5000 Km.) (F)
Dynamo lubrication. Add two drops of thin engine oil to Ref. F, page 64, in the oil hole provided in the end of the dynamo commutator end bearing. Do not over-oil.

THE GREASE GUN

The grease gun is filled by unscrewing the large cap on the end of the container and pushing the automatic feed plunger to the bottom, then filling the body with grease.

The gun is, in effect, a high-pressure pump and it has a hydraulic-type connection. By applying the gun to the grease nipples and pushing on the gun grease is forced into the bearings.

Use the correct grease for each purpose.

PERIODICAL ATTENTION

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

After first 500 miles (800 km.). Drain old oil from engine; **do not flush** but merely fill with fresh oil. Examine valve rocker clearances and adjust if inadequate. Tighten cylinder head stud nuts.

Drain old oil from gearbox and rear axle and replenish with fresh oil.

NOTE.—This service is free under the M.G. 500 Miles Free Service Scheme. (See page 28.)

Every 250 miles (400 km.). Inspect oil level in crankcase. Top up if necessary. (See page 7.)

Every 500 miles (800 km.). See that the radiator is full of water. The level should never be allowed to fall until the opening for the cylinder head outlet pipe is not covered.

Check tyre pressures.

Every 1,000 miles (1600 km.). Lubricate all nipples **except** steering rack and pinion.

Inspect the oil levels in the gearbox and rear axle, and top up as necessary with oil to Ref. A and Ref. B respectively on page 64.

Examine level of fluid in the Lockheed brake and clutch supply tank and replenish as necessary with Lockheed Genuine Brake Fluid. The level should never be above ½ in. (12 mm.) from the bottom of the filler hole nor should the tank ever be less than half-full.

Make visual inspection of hydraulic lines and pipes. Inspect dampers for leaks.

Top up the battery with distilled water.

Add thin engine oil to Ref. F, page 64, to the carburetter dashpots.

Use an oilcan filled with thin oil to Ref. F, page 64, sparingly on the door hinges, bonnet locks, carburetter controls, hand brake lever mechanism and seat runner.

Check brakes and adjust if necessary.

Every 3,000 miles (5000 km.). Drain the engine and refill with oil to Ref. A, page 64.

Withdraw the rotor arm from the distributor and add a few drops of oil to the aperture. Lubricate the automatic advance mechanism and the contact breaker rocker-arm pivot with oil to Ref. F, page 64.

Add two drops of oil to the dynamo end bearing through the hole in the cover.

Clean and re-oil the air cleaner (outside United Kingdom).

Check the dynamo belt tension and adjust as necessary.

Clean the fuel pump points. Check the contact breaker gap.

Change wheels round to regularise tyre wear.

Clean and examine the sparking plug gaps; adjust as necessary.

Every 6,000 miles (10000 km.). Remove the filters from the carburetters and fuel pump, clean and replace.

Renew the engine oil filter element.

Clean and re-oil the air cleaner (United Kingdom).

Drain the gearbox and rear axle and refill with oil.

Remove the grease caps from the front hubs and refill with grease to Ref. C, page 64.

Check the valve rocker clearances.

Tighten the door hinge and striker plate fixing screws and spring seat bolts.

Lubricate Trafficators. Check wheel alignment.

PERIODICAL ATTENTION

Draining the Cooling System

Every 12,000 miles (20000 km.). Inspect hydraulic dampers for leaks.
Apply the oilgun filled with oil to Ref. B, page 64, to nipple on steering pinion shaft and give two strokes. Give up to ten strokes on the steering gearbox nipple.
Fit new sparking plugs.
Check the dynamo and starter brushes.
Drain and flush out radiator.
Check steering and suspension moving parts for wear.

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

DRAINING THE COOLING SYSTEM

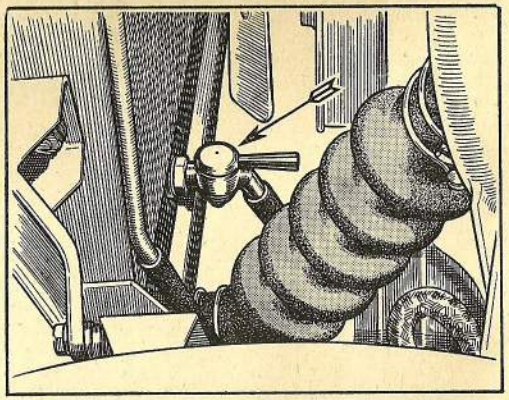
The radiator drain tap is fitted on the left-hand side of the radiator bottom tank, as indicated by the arrow in the top illustration.

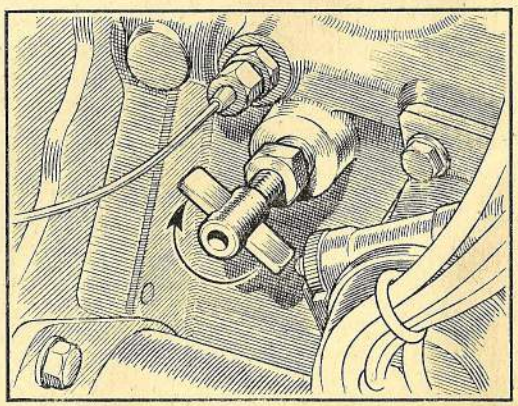
Owing to the location of the water pump a certain amount of water is trapped in the cylinder block and cannot be drained from the radiator.

A second drain tap is therefore fitted on the right-hand side of the engine at the lowest point of the cooling passages, as indicated in the bottom illustration.

It is essential to open this tap to drain the system completely.

Caution.—As it is impossible to drain the heater unit it is advisable to use anti-freeze in the cooling system if the car is to be used under conditions where freezing may take place. (See page 39.)





COLD WEATHER PRECAUTIONS

Draining the Cooling System
Attention to Bodywork

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, an anti-freezing solution must be used in the radiator since it is not possible to drain the heater unit.

We recommend owners to use Smiths "Bluecol," Filtrate "Nevafreze" or Shell "Snowflake" non-erosive anti-freeze in order to protect the cooling system during frosty weather and reduce corrosion to a minimum.

The correct quantities of anti-freeze for different degrees of frost resistance in the M.G. Magnette (Series "ZA") are :—

7° F. (—14° C.)	0° F. (—18° C.)
15% solution	20% solution
Quantity : 1½ pints (·9 litre)	Quantity : 2 pints (1·14 litres)

If temperatures below 0° F. or —18° C. are likely to be encountered a solution of at least 25% of anti-freeze must be used.

First decide what degree of frost protection is required before adding the anti-freeze to the radiator.

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 cap, keeping the two 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 subsequent expansion.

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

BODYWORK ATTENTION

The car should be washed and dried thoroughly before applying polish. The use of a good-quality non-abrasive polish is essential.

Grease and tar spots must be carefully removed with a wadding pad dipped in petrol (gasoline).

Methylated spirits (de-natured alcohol) should be used to remove tar spots and other stains from the windshield. It has been found that the use of some silicon- and wax-based polishes for this purpose can be detrimental to the wiper blades.

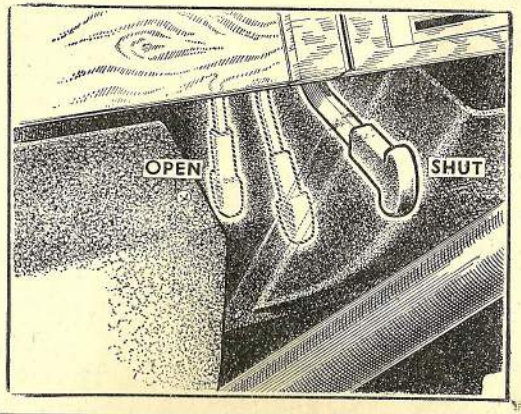
Chromium plating should be washed frequently with soap and warm water. Metal polishes or abrasives must on no account be used. Scratches and minor damage to the paintwork may be touched up with the "Tipon" touch-up brush and paint supplied with the car's tool kit. Clean the damaged area thoroughly before applying the new paint. See also page 21.

HEATING AND VENTILATING

Ventilation • Heating • Demisting

VENTILATION

When fresh air (unheated) is required in the interior of the car, place the "AIR" lever in the "OFF" position, the "TEMP" lever in the "COLD" position and fully open the scuttle ventilator. Note that the heater matrix will require an appreciable time to cool down after the "TEMP" lever has been moved to the "COLD" position.



HEATING

Recirculated air

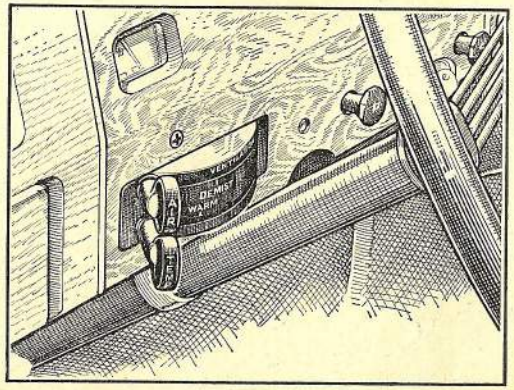
Close the ventilator, pull out the temperature control knob to switch on the blower, and place the "TEMP" lever in the "WARM" or "HOT" position as required.

Fresh air

Partly open the ventilator, switch on the blower and place the "TEMP" control in the "WARM" or "HOT" position as necessary.

DEMISTING

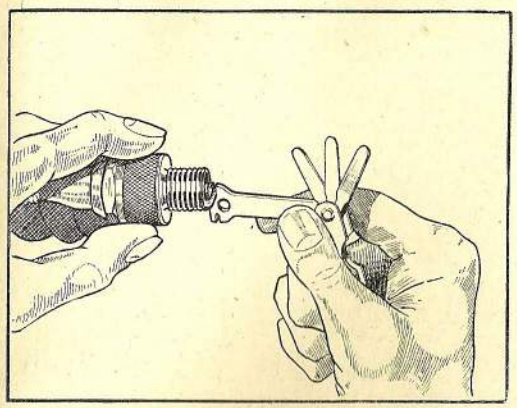
Warm or hot air is delivered to the windshield when the "AIR" lever is moved to "DEMIST" or "DEFROST." For maximum heat at the windshield for defrosting, place the "TEMP" lever in the "OFF" position and the "AIR" lever in the "DEFROST" position ; switch on the blower.

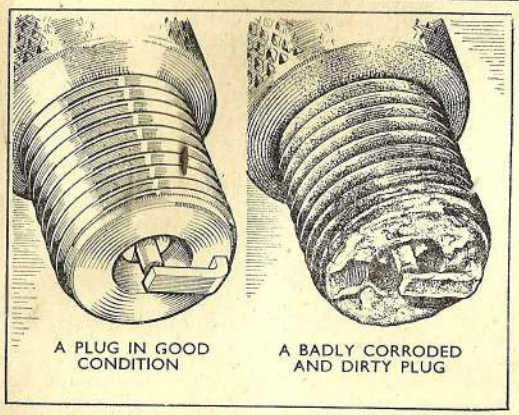


SPARKING PLUGS

Sparking Plug Gap

Replacing Sparking Plugs • Starting Handle





A PLUG IN GOOD CONDITION

A BADLY CORRODED AND DIRTY PLUG

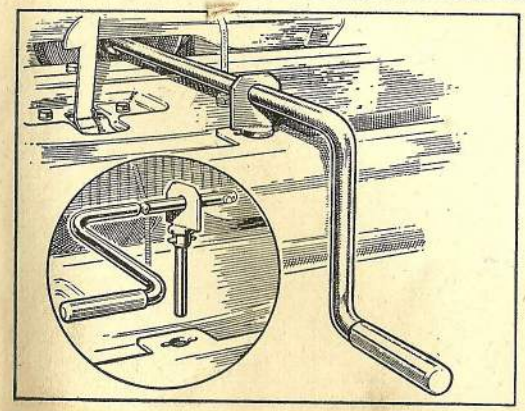
SPARKING PLUGS

The sparking plugs are of great importance to satisfactory engine performance and the correct type should be used for replacement. There is little to be gained by experimenting with different plugs, as those fitted as standard equipment are best suited to the engine. These are Champion N8B, 14 mm. and the gap between the points should be from ·019 to ·021 in. (·48 to ·53 mm.).

When adjusting the gap always move the side wire—never bend the centre wire. The Champion Sparking Plug Co. supply a special combination gauge and setting tool which is recommended.

To save fuel and ensure easy starting the plugs should be cleaned and tested at intervals of 3,000 miles (5000 km.), preferably by a garage with a special air-blast service unit.

Plugs which are oily, dirty or corroded like the one shown on the right cannot give good results. Every 12,000 miles (20000 km.) it will be found economical to fit a set of new plugs.



STARTING HANDLE

The starting handle with its front support bracket is stored in the boot behind the spare wheel.

To use the handle, raise the bonnet and insert the support bracket in the hole provided by holding the shaft of the handle parallel with the bumper. Turn the handle till the shaft lines up with the engine and insert it in the starting dog.

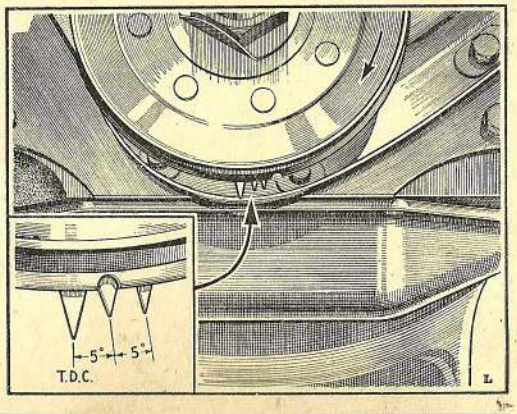
When turning the engine by hand keep the thumb on the same side of the handle as the palm, for safety in case of backfire.

ELECTRICAL EQUIPMENT

Top Dead Centre Position
Ignition Adjustment · Ignition Setting

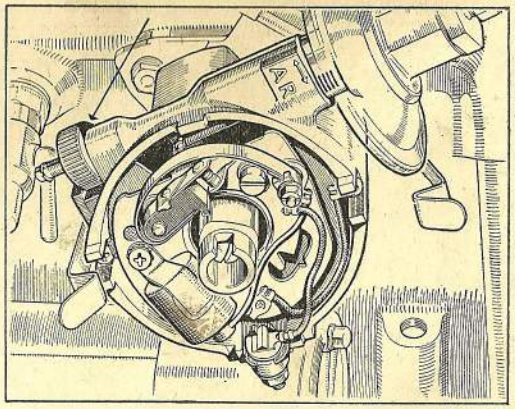
TOP DEAD CENTRE

To facilitate location of the top dead centre position of the crankshaft for Nos. 1 and 4 cylinders the rim of the crankshaft pulley is marked with a notch which coincides with one of three pointers on the timing cover.
The longer pointer indicates T.D.C. The second and third (from left to right) give 5° and 10° B.T.D.C. respectively.



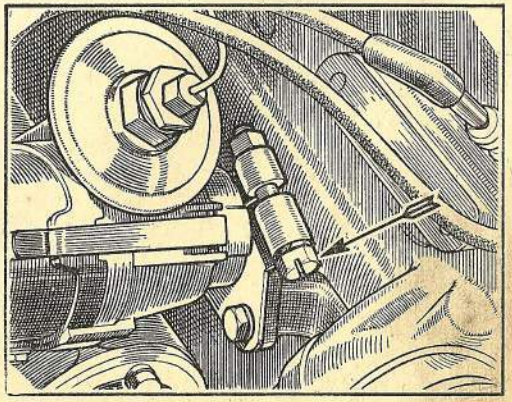
IGNITION ADJUSTMENT

Adjustment is provided for the ignition point to enable the best setting to be attained to suit varying fuels.
This consists of a knurled nut giving micrometer adjustment for the firing point.
Turning the nut clockwise retards the ignition. Turning it anti-clockwise advances the ignition.
The barrel of the screwed spindle has graduations to indicate the setting.



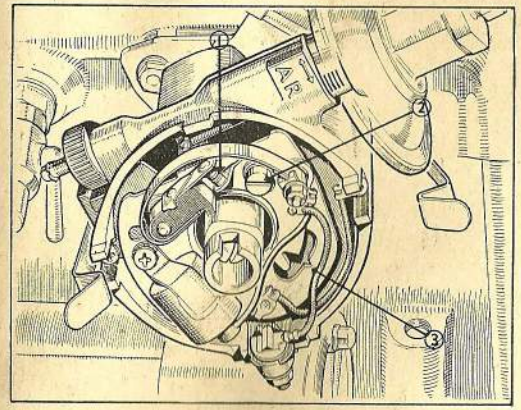
IGNITION SETTING

The normal ignition setting is with the spark taking place 8° before top dead centre or $\frac{3}{8}$ in. (9·5 mm.) on the periphery of the crankshaft pulley.
The ignition point can be adjusted with the knurled adjusting nut indicated above. Do not disturb the pinch-bolt at the base of the distributor unless absolutely necessary or the ignition timing will be lost.



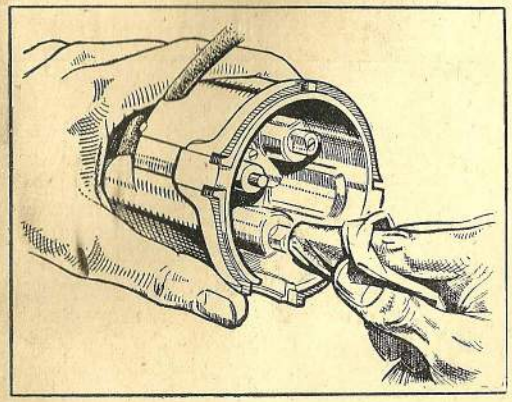
ELECTRICAL EQUIPMENT

Distributor Maintenance
Cleaning Cover · Cleaning Contact Breaker



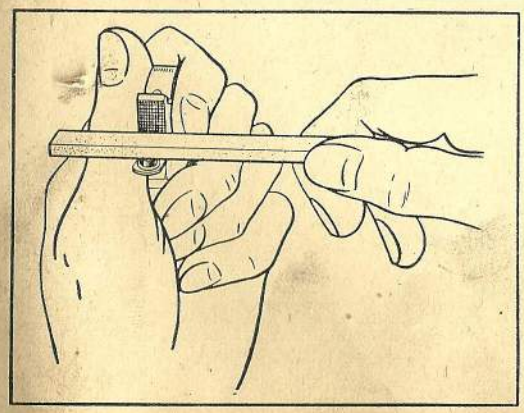
ADJUSTING CONTACTS

Turn the engine until the contacts are fully opened; check the gap (1) with the gauge on the tool kit. To adjust, slacken the securing screw (2), insert the blade of a screwdriver in the cut-out (3) and move the contact plate by turning the screwdriver to left or right as required. The gauge should be a sliding fit in the gap.



EVERY 6,000 MILES (10000 Km.)

Distributor cleaning. Wipe the inside and outside of the moulded distributor cap with a soft dry cloth, paying particular attention to the space between the terminals. See that the small carbon brush on the moulding works freely in its holder.
If the contact breaker points are burned or blackened, clean them with a fine carborundum stone or with very fine emery cloth. Afterwards wipe away any trace of dirt or metal dust with a petrol (gasoline) moistened cloth.
Cleaning of the contacts is made easier if the contact breaker lever carrying the moving contact is removed. To do this unscrew the nut securing the end of the spring, remove the spring washer and flat washer and lift off the lever complete with spring. After cleaning, check the contact breaker setting on replacement.



ELECTRICAL EQUIPMENT

Battery

Topping Up · Checking Specific Gravity

BATTERY

Remove the filler plug from each of the cells monthly or every 1,000 miles (1600 km.) 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.

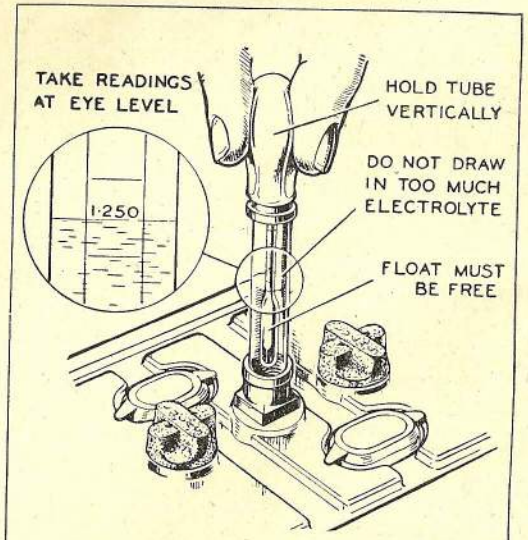
CHECKING SPECIFIC GRAVITY

Check the condition of the battery by taking hydrometer readings of the specific gravity of the electrolyte in each of the cells. Readings should not be taken immediately after "topping up" the cells. The specific gravity readings and their indications are as follows :—

1·280–1·300	Battery fully charged.
About 1·210	Battery about half-discharged.
Below 1·150	Battery fully discharged.

These figures are given assuming that the temperature of the solution is about 60° F. (16° C.). The readings for all cells should be approximately the same. If one cell gives a reading very different from the rest, it may be that acid has been spilled or has leaked from this particular cell, or there may be a short-circuit between the plates, in which case the battery should be examined by a Lucas Service Depot or Agent.

USE OF THE HYDROMETER



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

ELECTRICAL EQUIPMENT

Panel Lights · Replacement Bulbs

PANEL LIGHTS

The bulbs can be reached from the back of the panel but more easily by removing the panel mask and instruments. To do this, unscrew the set screws securing the heater control knobs; press up the pins and remove the control knobs; unscrew the two Phillips screws in the face of the panel mask, and remove the mask. Remove the securing screws from the instrument concerned and the bulb is then easily extracted.

REPLACEMENT BULBS

	Lucas No.	*Volts*	*Watts*
Headlamps (Main), Home & Export (R.H.D.)	354 (dip left)	12	42/36
Headlamps, Export (L.H.D.)	301 (dip right)	12	36/36
Headlamps, Export (Europe except France)	360 (vertical dip)	12	45/35
Sidelamps	989	12	6
Stop/tail-lamps	361	12	6/18
Number-plate illumination lamp	989	12	6
Roof lamp (festoon)	254	12	6
Ignition warning light	987	12	2·2
Headlamp beam warning light	987	12	2·2
Flasher lamp warning light	987	12	2·2
Panel lights (three)	987	12	2·2
Panel (main illumination lamp)	989	12	6
Reverse lamp	221	12	18
Fog-lamp	323	12	48
Trafficator lamps (festoon)	256	12	3
Flashing direction indicator lamps (front)	221	12	18
Clock illumination	B.M.C. Part No. 37H5115		

NOTE.—Vehicles for use in the North American market are fitted with sealed-beam headlamps.

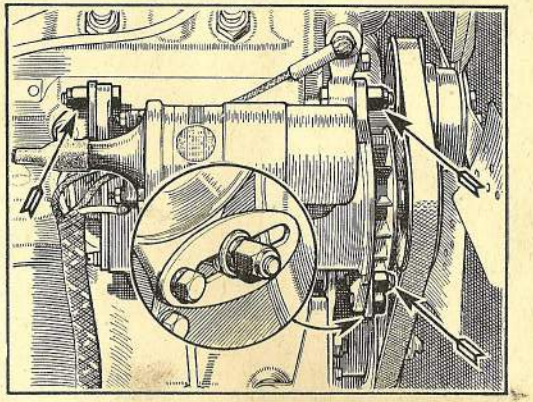
ELECTRICAL EQUIPMENT

Dynamo Driving Belt · Starter Operation
Jammed Starter Pinion

DYNAMO DRIVING BELT

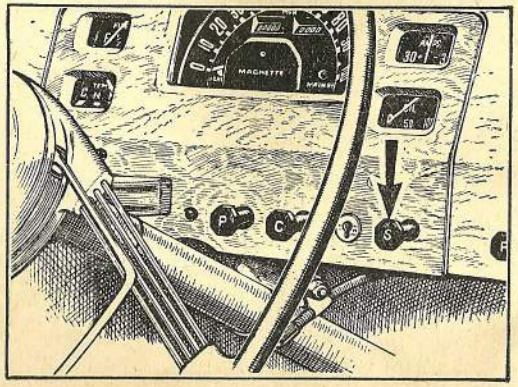
Inspect the dynamo driving belt and adjust if necessary to take up any slackness. Care should be taken to avoid over-tightening the belt, otherwise undue strain will be thrown on the dynamo bearings.

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).



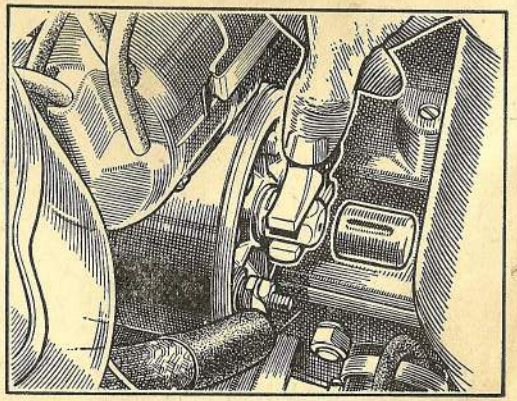
USING THE STARTER

1. See that the controls are properly set.
2. Operate the starter switch firmly and release it as soon as the engine fires.
3. Do not operate the starter when the engine is running. If the engine will not fire at once, allow it to come to rest before using the switch again.
4. Do not run the battery down by keeping the starter on when the engine will not start. (See page 52.)



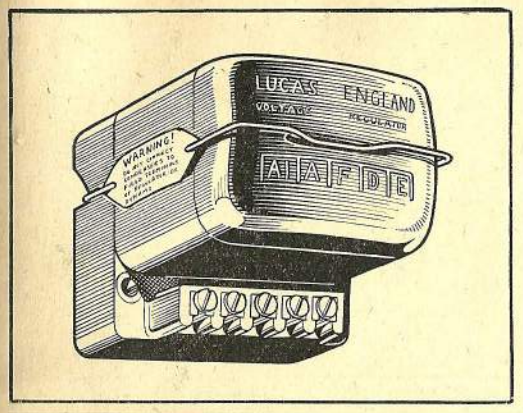
JAMMED STARTER PINION

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 square end of the shaft extension at the commutator end, after removing the protecting cap.



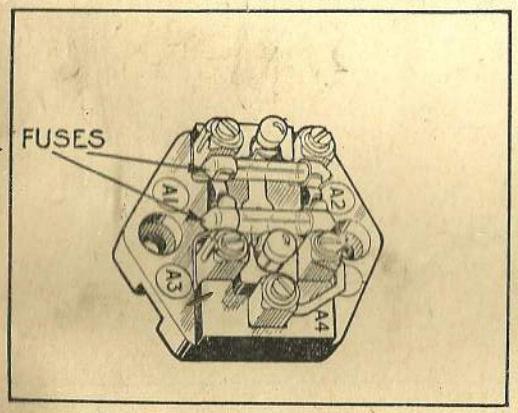
ELECTRICAL EQUIPMENT

Control Box
Fuses · Spare Fuses



CONTROL BOX

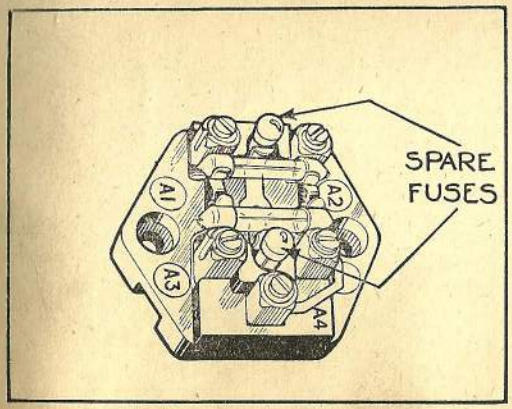
The cut-out and regulator are accurately set before leaving the Works and they must not be tampered with. The cover protecting them is therefore sealed. The fuses are carried in a separate fuse box and are accessible without removing the cover protecting the regulator and cut-out units.



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-lamp, etc.)



SPARE FUSES

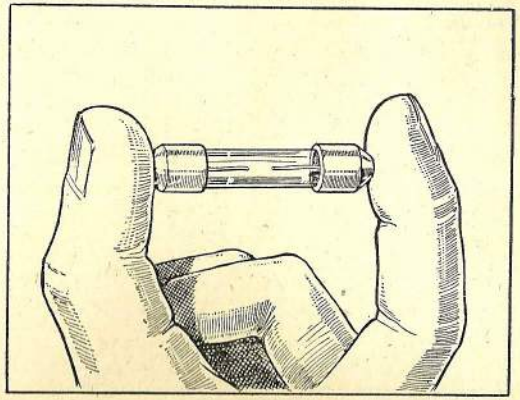
Spare fuses are provided and it is important to use only the correct replacement fuse. The fusing value is marked on a coloured paper slip inside the glass tube of the fuse. If the new fuse blows immediately and the cause of the trouble cannot be found, have the equipment examined at a Lucas Service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

ELECTRICAL EQUIPMENT

Blown Fuses · Renewing High-tension Cables Direction Indicators

BLOWN FUSES

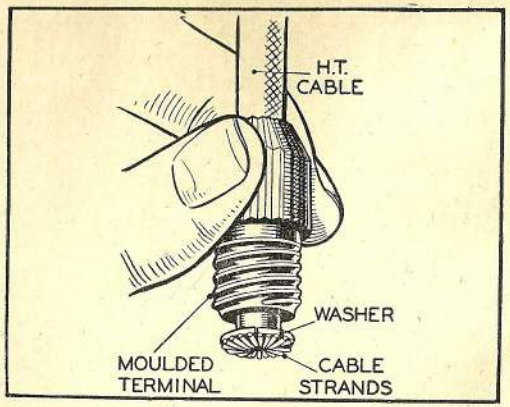
The units which are protected by the fuses can readily be identified on the wiring diagram. A blown fuse is indicated by the failure of all the units protected by it, and is confirmed by examination of the fuse when withdrawn. Before replacing a blown fuse, inspect the wiring of the units that have failed for evidence of a short circuit or other fault. Remedy the cause of the trouble before fitting a new fuse.



RENEWING HIGH-TENSION CABLES

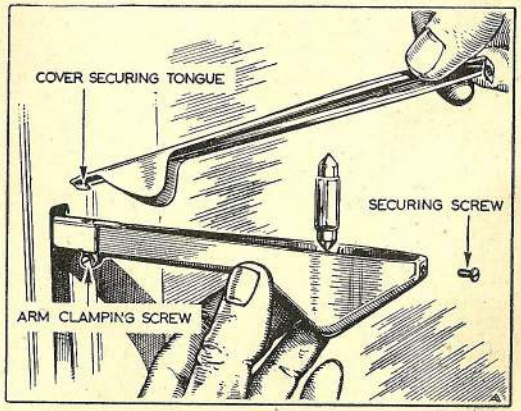
The high-tension cables connecting the coil to the distributor and the distributor to the sparking plugs may, after long use, show signs of perishing. They must then be replaced by 7 mm. rubber-covered ignition cable.

Bare end of cable for $\frac{1}{4}$ in. (6 mm.), pass it through its moulded terminal and washer and spread out the strands to ensure good contact. Occasionally check that the terminal connections are quite tight.



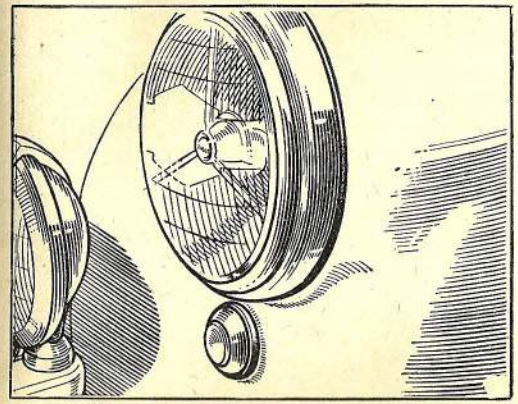
DIRECTION INDICATORS

The arm of the Trafficator direction indicators can be renewed if damaged by releasing it from its operating mechanism after removing the cover plate and bulb as indicated on page 52 and releasing the clamping screw.



ELECTRICAL EQUIPMENT

Headlamps · Anti-dazzle Device Removing the Lamp Front and Light Unit



HEADLAMPS

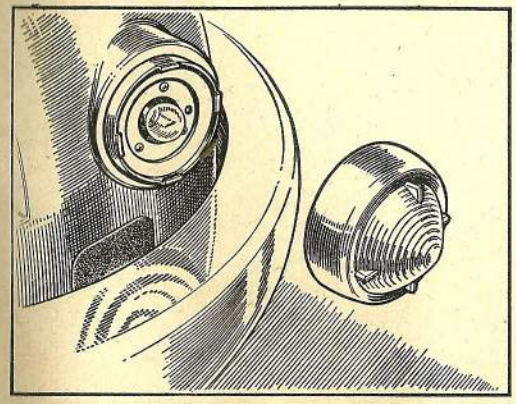
The headlamps are built into the wings.

The design of the headlamp bulb and its holder is such that the bulb is correctly positioned in relation to the reflector, and no focusing attention is required when a replacement bulb is fitted.

Vehicles for the North American market are fitted with sealed-beam lamp units.

ANTI-DAZZLE DEVICE

Both headlamps are fitted with double-filament main bulbs. On operation of the dip-switch the main driving beam in each headlamp is extinguished and the dipped beams come into action. When the full beams are in action a red warning light on the facia panel in front of the driver glows, providing a warning to the driver to dip his headlamps when meeting oncoming traffic. On dipping the beams the light is extinguished.



TAIL- AND STOP-LAMPS

The tail-lamp rim and glass are held in position on the lamp body by four tongues and catches.

To remove the glass press the rim inwards to disengage the catches and turn it anti-clockwise till the tongues are clear of the catches.

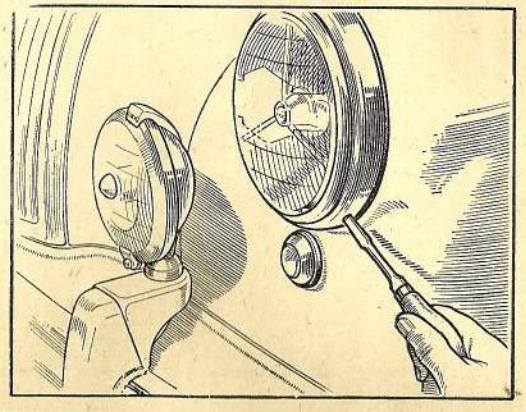
Removal of the glass permits renewal of the twin-filament bulb, which has an offset bayonet attachment, preventing incorrect assembly.

ELECTRICAL EQUIPMENT

Removing Light Unit • Replacing Bulbs
Replacing Light Unit and Lamp Front

TO REMOVE THE LIGHT UNIT

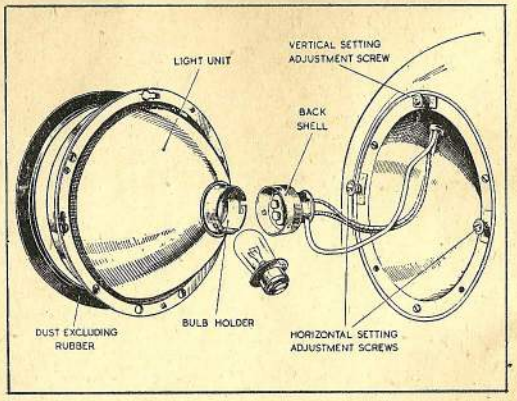
Unscrew the securing screw at the bottom of the lamp rim and lift off the rim. Remove the dust-excluding rubber, which will reveal three spring-loaded screws. Press the light unit inwards against the tension of the springs and turn it in an anti-clockwise direction until the heads of the screws can pass through the enlarged ends of the keyhole slots in the rim.



REPLACING BULBS

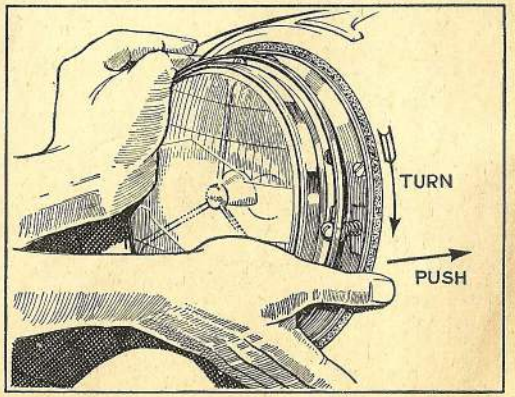
Withdrawal of the light unit gives immediate access to the bulb carrier for replacement. Twist the back shell anti-clockwise and pull it off. The bulb can then be withdrawn from its holder.

Fit the replacement bulb in the holder, with the slot in its disc in engagement with the projection in the holder. Engage the projections on the back shell with the holder slots, press on and twist to the right until its catch engages.



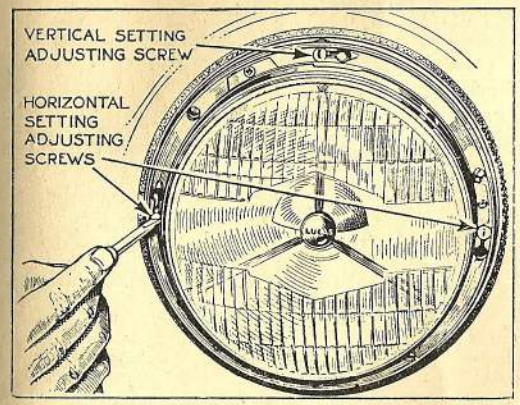
REPLACING THE LIGHT UNIT AND LAMP FRONT

Position the light unit so that the heads of the adjusting screws pass through the slotted holes in the flange, press the unit inwards and turn it in a clockwise direction as far as it will go. Replace the dust-excluding rubber and refit the front rim.



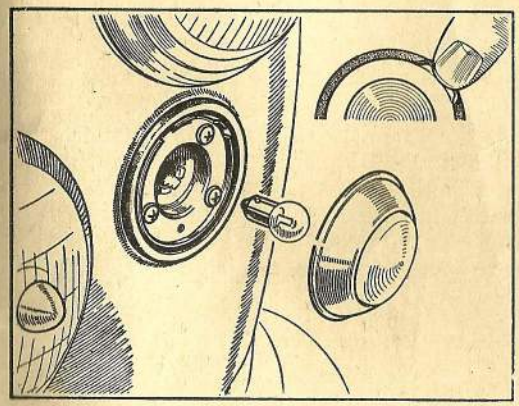
ELECTRICAL EQUIPMENT

Setting Headlamps • Sidelamps
Fog-lamp



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 above. Vertical adjustment is made by turning the screw at the top of the lamp. Horizontal adjustment can be altered by using the adjustment screws on each side of the light unit.

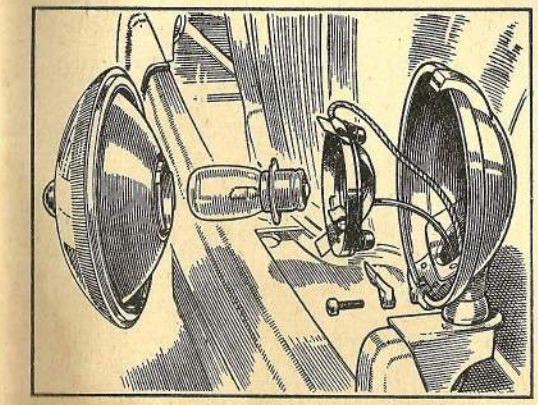


SIDELAMPS

Access to the sidelamp bulb for replacement is obtained by removing the lamp glass and rim, which are retained in position by a rubber sealing flange.

Only the fingers should be used when folding back the flange for removal and refitting.

Removal should be started from the bottom and the rim finally released from its catch at the top. On replacement, first engage the rim with the top catch before refitting the rubber retainer.



FOG-LAMP

Access to the fog-lamp bulb is obtained by slackening the retaining screw of the lamp rim catch below the lamp. The catch can now be moved aside to permit removal of the lamp unit.

Withdraw the back shell by pressing it inwards and turning it to clear its catches in order to release the pre-focused bulb.

The beam is adjusted by slackening the lamp securing nut and moving the lamp on its mounting.

ELECTRICAL EQUIPMENT

Trafficator Bulbs
Number-plate Lamps · Left-hand drive

TRAFFICATOR BULBS

The bulb is retained in the Trafficator by the arm cover. Raise the arm and withdraw the screw from the end of it to release the cover and bulb.

The festoon-type bulb is held in a moulded recess in the plastic arm and is easily withdrawn for renewal.

When replacing the cover slide it along the arm until its inner end can be hooked over the end of the arm and then fasten it in position with the screw.

NUMBER-PLATE LAMPS

The number-plate lamps only operate when the side- and tail-lights are switched on. Access to the bulbs is easily obtained by removing the cover, after unscrewing the two Phillips screws securing the centre section of the plated number-plate and reverse lamp housing and then removing the two slotted screws beneath it which locate the lamp cover. The two small lamps illuminate the number-plate, the large one being the reverse lamp.

LEFT-HAND-DRIVE CARS

In left-hand-drive cars the positions of the instruments, switches and controls are as follows:—

The instruments are grouped on the left in front of the steering wheel, ammeter and oil pressure gauges on the left of the speedometer, water temperature and fuel gauges on the right.

The windshield wiper and lighting switches are at the extreme left of the facia. The remaining switches and control knobs are in the same sequence as illustrated but reading from the left.

The windshield washer control is grouped with the bonnet release below the left-hand end of the facia.

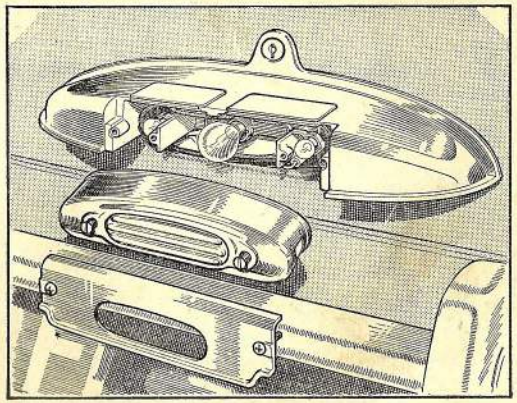
A foot-operated dip-switch is to the left of the pedals.

ELECTRICAL EQUIPMENT

Reverse Lamp
Windshield Wiper · Horns

REVERSE LAMP

The large centre bulb is for the reverse lamp. The two small ones illuminate the number-plate.

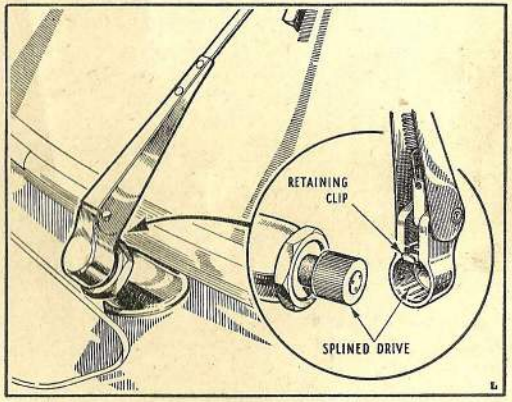


WINDSHIELD WIPER

The windshield wiper arms are operated from an electric motor through a reduction gearbox and flexible rack connection.

The wiper arms are attached to the driving spindles by means of splines and a retaining spring clip.

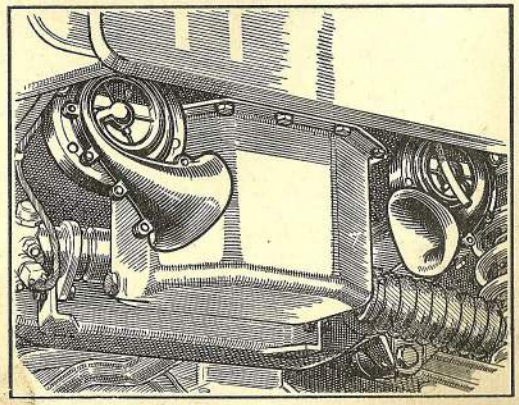
Should it be necessary to alter the position of the arms they can be removed by holding back the spring clip with a screwdriver and drawing the hub of the arm off the splines. The arm can then be replaced in the desired position.



HORNS

All horns are adjusted to give their best performance before leaving the Works, and they will give a long period of service without attention.

It is important that the horn attachment bolts are kept tight. Loose attachments are often responsible for poor performance.



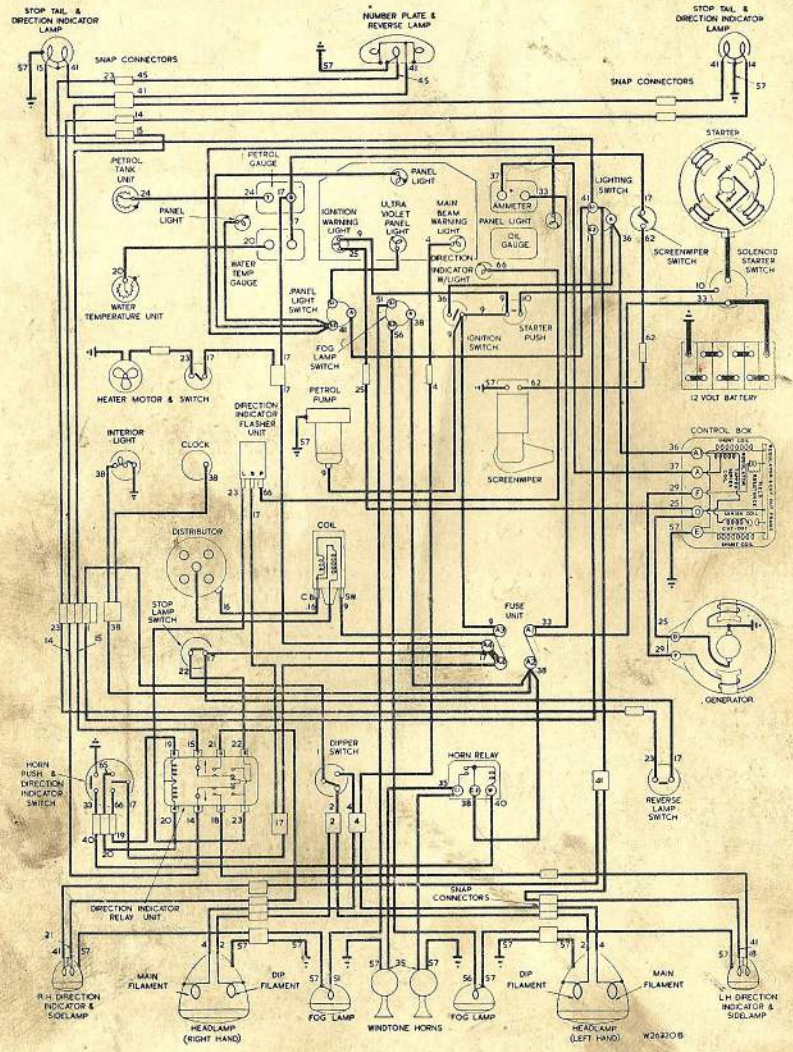
LUCAS SERVICE DEPOTS
(Home)

BELFAST 51/55 Upper Library Street.	*Telegrams :* *Telephone :*	"Servdep, Belfast." Belfast 25617.
BIRMINGHAM, 18 Great Hampton Street.	*Telegrams :* *Telephone :*	"Lucas, Telex, Birmingham." Central 5050.
BRIGHTON, 4 85 Old Shoreham Road, Hove.	*Telegrams :* *Telephone :*	"Luserv, Brighton." Hove 38993.
BRISTOL, 4 345 Bath Road.	*Telegrams :* *Telephone :*	"Kingly, Bristol." Bristol 76001.
CARDIFF 54a Penarth Road.	*Telegrams :* *Telephone :*	"Lucas, Cardiff." Cardiff 28361.
DUBLIN Portland Street North, North Circular Road.	*Telegrams :* *Telephone :*	"Luserv, Dublin." Dublin 46195.
EDINBURGH, 11 60 Stevenson Road, Gorgie.	*Telegrams :* *Telephone :*	"Luserv, Edinburgh." Edinburgh 62921.
GLASGOW, C.3 4/24 Grant Street, (St. George's Road).	*Telegrams :* *Telephone :*	"Lucas, Glasgow." Douglas 6591.
LEEDS, 8 64 Roseville Road.	*Telegrams :* *Telephone :*	"Luserdep, Leeds, 8." Leeds 28591.
LIVERPOOL, 13 450/470 Edge Lane.	*Telegrams :* *Telephone :*	"Luserv, Liverpool, 13." Stoneycroft 4721.
LONDON Dordrecht Road, Acton Vale, W.3.	*Telegrams :* *Telephone :*	"Dynomagna, Ealux, London." Shepherd's Bush 3160.
LONDON 757/759 High Road, Leyton, E.10.	*Telegrams :* *Telephone :*	"Luserdep, Leystone, London." Leytonstone 3361.
MANCHESTER Talbot Road, Stretford.	*Telegrams :* *Telephone :*	"Lucas, Stretford." Longford 1101.
NEWCASTLE UPON TYNE, 1 64/68 St. Mary's Place.	*Telegrams :* *Telephone :*	"Motolite, Newcastle-on-Tyne." Newcastle 25571.

In addition there are Lucas Service Agents in most centres.

A list of Lucas Overseas Service Depots can be obtained on application to Nuffield Exports Limited, Cowley, Oxford, England.

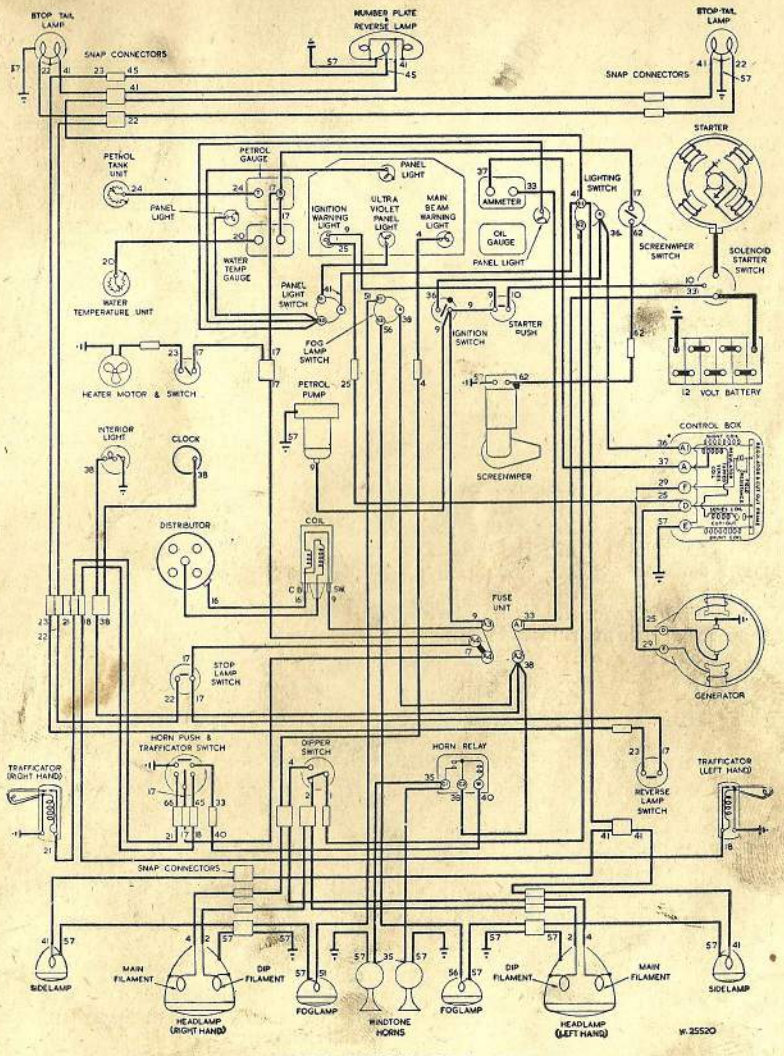
WIRING DIAGRAM
(Left-hand Drive)



KEY TO CABLE COLOURS

1 Blue
2 Blue *with* Red
3 Blue *with* Yellow
4 Blue *with* White
5 Blue *with* Green
6 Blue *with* Purple
7 Blue *with* Brown
8 Blue *with* Black
9 White
10 White *with* Red
11 White *with* Yellow
12 White *with* Blue
13 White *with* Green
14 White *with* Purple
15 White *with* Brown
16 White *with* Black
17 Green
18 Green *with* Red
19 Green *with* Yellow
20 Green *with* Blue
21 Green *with* White
22 Green *with* Purple
23 Green *with* Brown
24 Green *with* Black
25 Yellow
26 Yellow *with* Red
27 Yellow *with* Blue
28 Yellow *with* White
29 Yellow *with* Green
30 Yellow *with* Purple
31 Yellow *with* Brown
32 Yellow *with* Black
33 Brown
34 Brown *with* Red
35 Brown *with* Yellow
36 Brown *with* Blue
37 Brown *with* White
38 Brown *with* Green
39 Brown *with* Purple
40 Brown *with* Black
41 Red
42 Red *with* Yellow
43 Red *with* Blue
44 Red *with* White
45 Red *with* Green
46 Red *with* Purple
47 Red *with* Brown
48 Red *with* Black
49 Purple
50 Purple *with* Red
51 Purple *with* Yellow
52 Purple *with* Blue
53 Purple *with* White
54 Purple *with* Green
55 Purple *with* Brown
56 Purple *with* Black
57 Black
58 Black *with* Red
59 Black *with* Yellow
60 Black *with* Blue
61 Black *with* White
62 Black *with* Green
63 Black *with* Purple
64 Black *with* Brown
65 Dark Green
66 Light Green

WIRING DIAGRAM
(Right-hand Drive)



KEY TO CABLE COLOURS

1 Blue
2 Blue *with* Red
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38 Brown *with* Green
39 Brown *with* Purple
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62 Black *with* Green
63 Black *with* Purple
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65 Dark Green
66 Light Green

ACCESSORIES AND EQUIPMENT

Special Proprietary Fittings
Servicing and Claims Against

The following proprietary equipment and parts therefor can either be obtained direct from the manufacturers, the Service Department of The M.G. Car Co. Ltd., or will be supplied by any authorised M.G. Dealer at current list prices.

All claims for replacement of alleged defective parts must be referred direct to the respective manufacturers. See Conditions of Warranty.

NOTE.—All correspondence and claims in connection with proprietary fittings on exported cars should be addressed to Nuffield Exports Limited, Cowley, Oxford, England, and not to the manufacturers.

Name of Part	*Name and Address of Manufacturer*
Dynamo	Joseph Lucas Ltd., Great Hampton Street, Birmingham.
Starter	Ditto
Ignition Coil	Ditto
Distributor	Ditto
Switchbox	Ditto
Control Box	Ditto
Batteries	Ditto
Lamps	Ditto
Horns (Electric)	Ditto
Starter Switch	Ditto
Windshield Wiper	Ditto
Observation Mirror	Ditto
Switch Panel Main Instrument Housing	Ditto
Electric Bulbs	Ditto
Stop-light Switch	Ditto
Trafficators	Ditto
Lifting Jacks	Smiths Jacking Systems Ltd., Jackall Works, Edgware Road, London, N.W.2.
Speedometer and Cable	British Jaeger Instruments Ltd., Chronos Works, North Circular Road, London, N.W.2.
Clock	Ditto
Fuel Gauge and Attachment (Elec.)	Ditto
Grease Gun	Tecalemit Ltd., Plymouth, Devon.
Carburetter	The S.U. Carburetter Co. Ltd., Wood Lane, Erdington, Birmingham, 24.
Fuel Pump	Ditto
Tyres	Dunlop Rubber Co. Ltd., Fort Dunlop, Erdington, Birmingham.
Hydraulic Dampers	Makers indicated on dampers.
Oil Filter	Purolator : Automotive Products, Tachbrook Road, Leamington Spa. A.C.-Delco : A.C.-Sphinx Sparking Plug Co. Ltd., Dunstable, Beds.
Radiator	To :—Authorised M.G. Radiator Repair Stations.
Tools	R. T. Shelley Ltd., Aston Brook Street, Birmingham. Abingdon King Dick, Acocks Green, Birmingham.
Tyre Pump	R. T. Shelley Ltd., Aston Brook Street, Birmingham.
Sparking Plugs	Champion Sparking Plug Co. Ltd., Feltham, Middlesex.

SERVICE PARTS

IMPORTANT

When purchasing replacement parts or having repairs done, owners of M.G. cars are requested to see that only genuine M.G. parts are supplied.

An extensive car maintenance service is provided by The M.G. Car Co. Ltd., but it is unfair to the makers to expect the continuance of their support if the structure of the car has been disturbed by the use of replacement parts that are not genuine M.G. parts.

Replacement parts that are not of genuine M.G. Car Co. manufacture cannot be relied upon to be of a satisfactory specification, material or workmanship, and therefore the Company cannot be expected to extend their Warranty to cars which have been fitted with parts not of their manufacture.

All authorised M.G. Distributors and Dealers are under contract to supply only genuine M.G. parts.

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Notes

Printed in Great Britain by The Nuffield Press Limited, Cowley, Oxford, England. 29/17 (2629) 6/56—2m

KEY TO RECOMMENDED LUBRICANTS

	A				B		C	D	E	F
Component	Engine and Air Cleaner			Gearbox	Steering Box and Rear Axle (Hypoid Gears)		Water Pump and Wheel Hubs	Chassis Greasing Nipples, etc.	Cables and Control Joints	Oilcan and Carburetter
Climatic Conditions	**Tropical and temperate down to 32° F. (0° C.)**	**Cold and extreme cold down to 0° F. (−18° C.)**	**Arctic below 0° F. (−18° C.)**	**All temperatures**	**Tropical and temperate down to 10° F. (−12° C.)**	**Extreme cold below 10° F. (−12° C.)**	**All conditions**	**All conditions**	**All conditions**	**All conditions**
"SHELL"	"Shell" X—100 30	"Shell" X—100 20/20 W	"Shell" X—100 10 W	"Shell" X—100 30	"Shell" Spirax 90 E.P.	"Shell" Spirax 80 E.P.	"Shell" Retinax A	"Shell" Retinax A	"Shell" Retinax A	"Shell" X—100 20/20 W
"FILTRATE"	Medium "Filtrate" 30	Zero "Filtrate" 20	Sub-Zero "Filtrate" 10	Medium "Filtrate" 30	Hypoid "Filtrate" Gear 90	Hypoid "Filtrate" Gear 80	Super Lithium "Filtrate" Grease	Super Lithium "Filtrate" Grease	Super Lithium "Filtrate" Grease	Zero "Filtrate" 20
"STERNOL"	"Sternol" W.W. 30	"Sternol" W.W. 20	"Sternol" W.W. 10	"Sternol" W.W. 30	Ambroleum E.P. 90	Ambroleum E.P. 80	"Ambroline" L.H.T. Grease	"Ambroline" L.H.T. Grease	"Ambroline" L.H.T. Grease	"Sternol" W.W. 20
"DUCKHAM'S"	Duckham's N.O.L. "Thirty"	Duckham's N.O.L. "Twenty"	Duckham's N.O.L. "Ten"	Duckham's N.O.L. "Thirty"	Duckham's Hypoid 90	Duckham's Hypoid 80	Duckham's L.B. 10 Grease	Duckham's L.B. 10 Grease	Duckham's L.B. 10 Grease	Duckham's N.O.L. "Twenty"
"CASTROL"	"Castrol" X.L.	"Castrolite"	"Castrol" Z	"Castrol" X.L.	"Castrol" Hypoy	"Castrol" Hypoy 80	"Castrolease" L.M.	"Castrolease" L.M.	"Castrolease" L.M.	"Castrolite"
"ESSO"	"Esso" Extra Motor Oil 20 W/30	"Esso" Extra Motor Oil 20 W/30	"Essolube" 10	"Essolube" 30	"Esso" Expee Compound 90	"Esso" Expee Compound 80	"Esso" Multipurpose Grease H	"Esso" Multipurpose Grease H	"Esso" Multipurpose Grease H	"Esso" Extra Motor Oil 20 W/30
"MOBILOIL"	Mobiloil "A"	Mobiloil "Arctic"	Mobiloil 10 W	Mobiloil "A"	Mobilube "G.X." 90	Mobilube "G.X." 80	Mobilgrease M.P.	Mobilgrease M.P.	Mobilgrease M.P.	Mobiloil "Arctic"
B.P. "ENERGOL"	"Energol" S.A.E. 30	"Energol" S.A.E. 20 W	"Energol" S.A.E. 10 W	"Energol" S.A.E. 30	"Energol" E.P. S.A.E. 90	"Energol" E.P. S.A.E. 80	"Energrease" L.3	"Energrease" L.3	"Energrease" L.3	"Energol" S.A.E. 20 W

THE M.G. MAGNETTE (Series "ZA") LUBRICATION CHART

D

EVERY 1,000 MILES
(1600 Km.)
GIVE THREE OR FOUR STROKES OF GREASE GUN FILLED WITH GREASE TO REF. D TO NIPPLES ON STEERING JOINTS.

A

EVERY 250 MILES
(400 Km.)
INSPECT OIL LEVEL IN ENGINE BY DIPSTICK AND REPLENISH IF NECESSARY WITH RECOMMENDED ENGINE OIL TO REF. A.

AFTER FIRST 500 MILES (800 Km.)
AND SUBSEQUENTLY
EVERY 3,000 MILES (5000 Km.)
DRAIN OFF OLD OIL AND REFILL WITH FRESH OIL TO REF. A

A

EVERY 1,000 MILES
(1600 Km.)
INSPECT OIL LEVEL IN GEARBOX BY DIPSTICK AND REPLENISH IF NECESSARY WITH RECOMMENDED ENGINE OIL TO REF. A.

AFTER FIRST 500 MILES (800 Km.)
AND SUBSEQUENTLY
EVERY 6,000 MILES (10000 Km.)
DRAIN OFF OLD OIL AND REFILL WITH FRESH OIL TO REF. A

D

EVERY 1,000 MILES
(1600 Km.)
GIVE THREE OR FOUR STROKES OF GREASE GUN FILLED WITH GREASE TO REF. D TO PROPELLER SHAFT NIPPLES.

B

EVERY 1,000 MILES
(1600 Km.)
INSPECT OIL LEVEL IN REAR AXLE BY REMOVING FILLER PLUG. REPLENISH IF NECESSARY TO LEVEL OF PLUG WITH OIL TO REF. B.

AFTER FIRST 500 MILES (800 Km.)
AND SUBSEQUENTLY
EVERY 6,000 MILES (10000 Km.)
DRAIN OFF OLD OIL AND REFILL WITH FRESH OIL TO REF. B

B

EVERY 12,000 MILES
(20000 Km.)
APPLY GREASE GUN FILLED WITH OIL TO REF. B TO NIPPLE ON STEERING GEARBOX, AND GIVE UP TO 10 STROKES, BUT NOT MORE. ALSO GIVE TWO STROKES TO NIPPLE ON PINION SHAFT.

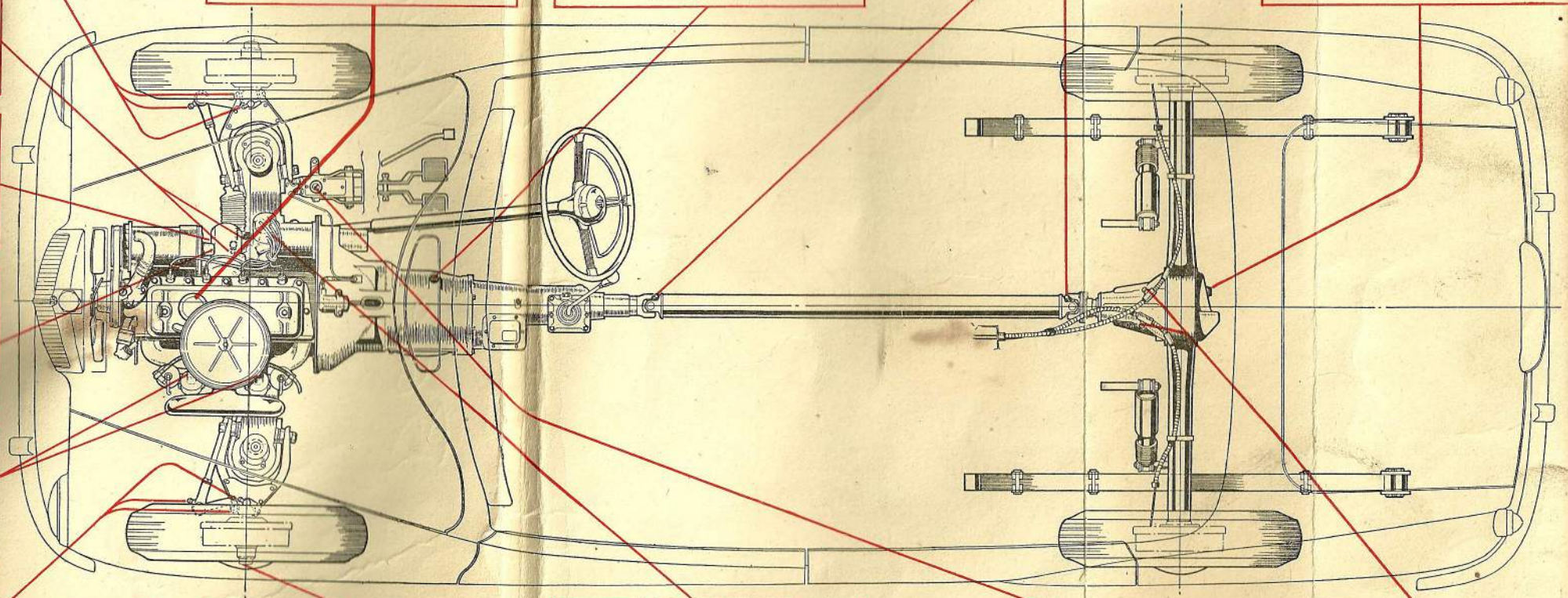
EVERY 6,000 MILES
(10000 Km.)
WITHDRAW EXTERNAL OIL FILTER ELEMENT AND FIT NEW ONE.

F

EVERY 3,000 MILES
(5000 Km.)
ADD TWO DROPS OF OIL TO REF. F TO OIL HOLE IN END OF DYNAMO BEARING.

F

EVERY 1,000 MILES
(1600 Km.)
REMOVE CAP FROM TOP OF CARBURETTER SUCTION CHAMBERS AND ADD A TEASPOONFUL OF OIL TO REF. F.



D

EVERY 1,000 MILES
(1600 Km.)
GIVE THREE OR FOUR STROKES OF GREASE GUN FILLED WITH GREASE TO REF. D TO NIPPLES ON STEERING JOINTS.

C

EVERY 6,000 MILES
(10000 Km.)
REMOVE FRONT WHEEL HUB DISCS AND PRISE OFF GREASE RETAINING CAP FROM END OF HUB. FILL CAP WITH GREASE TO REF. C AND REPLACE SECURELY.

F

EVERY 3,000 MILES
(5000 Km.)
WITHDRAW DISTRIBUTOR ROTATING ARM AND ADD A FEW DROPS OF OIL TO REF. F TO OPENING AND ALSO TO ADVANCE MECHANISM THROUGH GAP ROUND CAM SPINDLE. SMEAR CAM AND ROCKER BEARING WITH GREASE OR OIL.

EVERY 1,000 MILES
(1600 Km.)
INSPECT FLUID LEVEL IN MASTER CYLINDER SUPPLY CHAMBER AND REFILL IF NECESSARY WITH LOCKHEED GENUINE BRAKE FLUID.

E

EVERY 1,000 MILES
(1600 Km.)
GIVE HANDBRAKE CABLE NIPPLE 3 OR 4 STROKES WITH GUN FILLED WITH GREASE (REF. E)

Every 1,000 Miles (1600 km.). Use oilcan filled with oil to Ref. F on all control joints, door locks, hinges, etc.

Every 3,000 Miles (5000 km.). Remove air cleaner element, clean, re-oil, and re-fit (outside United Kingdom).

MULTIGRADE MOTOR OILS

In addition to the recommended lubricants listed in the manual, we approve the use of these new motor oils, as produced by the oil companies shown in our manuals, for all climatic temperatures unless the engine is old and in poor mechanical condition. Some are more expensive than the recommended motor oils because of their special properties and greater fluidity at low temperatures.
We also draw your attention to the simpler grease requirements for your vehicle by the use of multipurpose lithium greases.

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