

SECTION P

LUBRICATION

Section No. P.1	Daily service. <i>Engine.</i>
Section No. P.2	1,000 miles service. <i>Steering gear.</i> <i>Propeller shaft.</i> <i>Gearbox.</i> <i>Rear axle.</i> <i>Carburetter dampers.</i> <i>Hand brake cable.</i>
Section No. P.3	3,000 miles service. <i>Engine oil change.</i> <i>Air cleaners.</i> <i>Dynamo.</i> <i>Distributor.</i>
Section No. P.4	6,000 miles service. <i>Gearbox oil change.</i> <i>Rear axle oil change.</i> <i>Front wheel hubs.</i> <i>Engine oil filter</i> <i>Water pump.</i>
Section No. P.5	12,000 miles service. <i>Steering gearbox.</i>

Correct lubrication of any piece of mechanism is of paramount importance, and in no instance is it of greater importance than in the correct choice of lubricant for a motor-car engine. Automobile engines have different characteristics, such as operating temperatures, oiling systems, size of oilways, clearances, and similar technicalities, and the use of the correct oil is therefore essential.

NOTE.—The letters given in brackets throughout the Manual refer to the appropriate section of the recommended lubricants table given on page P.7.

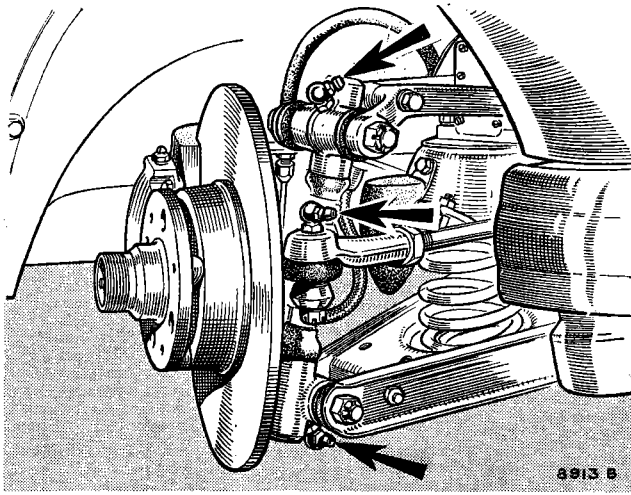


Fig. P.1

The steering gear grease nipples on the right-hand side

Section P.1

DAILY SERVICE

ENGINE (A)

Inspect the oil level in the engine, and refill if necessary to the 'MAX' mark on the dipstick. The oil filler cap is on top of the exhaust camshaft cover and is released by turning it anti-clockwise.

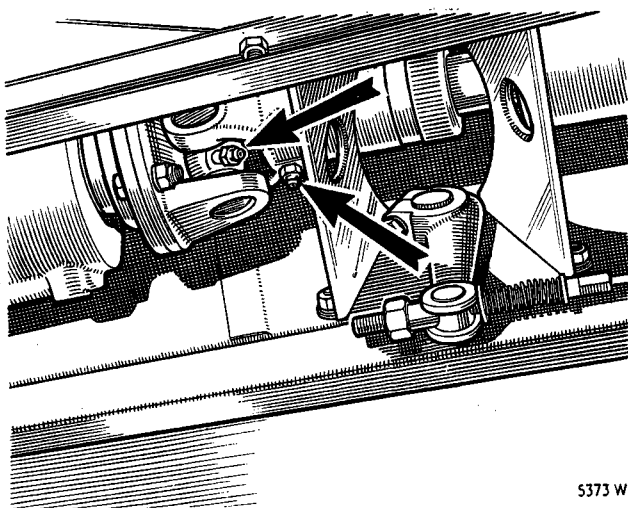


Fig. P.2

The universal joint and sliding yoke grease nipples at the front end of the propeller shaft

Section P.2

1,000 MILES (1600 Km.) SERVICE

Carry out the instructions detailed in Section P.1 and then continue with the following:

STEERING GEAR (C)

Grease nipples are provided at the top and bottom of each swivel pin and on the steering tie-rods. The grease gun filled with grease (Ref. C, page P.7) should be applied to the nipples and three or four strokes given.

PROPELLER SHAFT (C)

The two needle-type universal joints and the front end sliding yoke should receive grease gun attention (Ref. C, page P.7). The front end of the propeller shaft is provided with two grease nipples and there is also one at the rear.

GEARBOX (A)

Top up the oil level and 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. The combined filler plug and dipstick are located beneath the rubber plug in the gearbox cover.

REAR AXLE (B)

The combined filler and level plug is reached from below the rear of the car and must be removed with the special key provided in the tool kit. The oil level should be replenished if necessary to the level of the filler plug hole. (See Fig. P.10.)

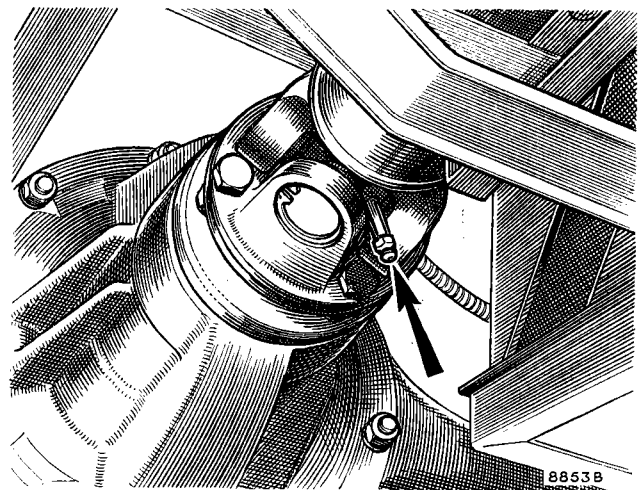


Fig. P.3

The rear universal joint grease nipple

NOTE.—It is essential that only Hypoid oil be used in the rear axle. (See page P.7.)

CARBURETTER DAMPERS (D)

Unscrew the oil cap at the top of each suction chamber, pour in a small quantity of thin engine oil, and replace the caps. Under no circumstances should a heavy-bodied lubricant be used. Failure to lubricate the piston dampers will cause the pistons to flutter and reduce acceleration.

An oil indicated under Ref. D (page P.7) should be used.

HAND BRAKE CABLE (C)

The grease nipple on the hand brake cable should be given three or four strokes with a grease gun filled with grease to Ref. C (page P.7).

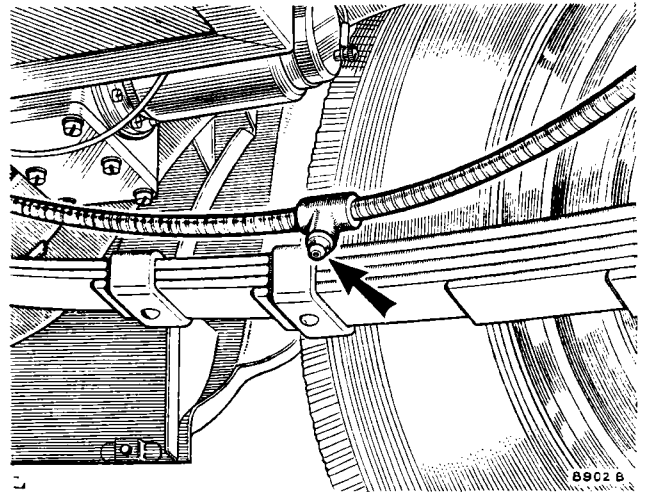


Fig. P.5

The hand brake cable grease nipple

Section P.3

3,000 MILES (5000 Km.) SERVICE

Carry out the instructions detailed in Section P.2, except those under 'ENGINE' (Section P.1), and continue with the following:

ENGINE OIL CHANGE (A)

Drain the oil from the engine sump after 3,000 miles (5000 km.). The drain plug is on the right-hand side of the sump and should be removed after a journey while the oil is still warm and will drain easily.

Unscrew the central bolt to release the oil filter sump, withdraw the element, and wash it in petrol (gasoline).

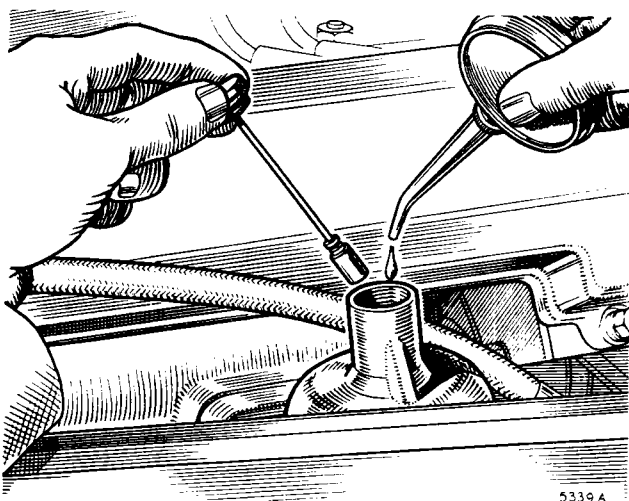


Fig. P.4

Add a small quantity of thin engine oil to the carburetter dampers

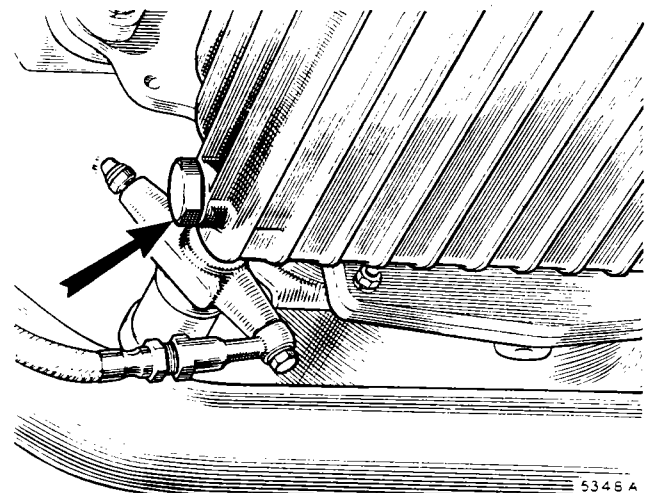


Fig. P.6

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

Allow the element to dry thoroughly before it is replaced. Care must be taken to see that the filter sump is seating correctly when replaced and that there are no oil leaks. As an alternative a new element can be fitted.

AIR CLEANERS (A)

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

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

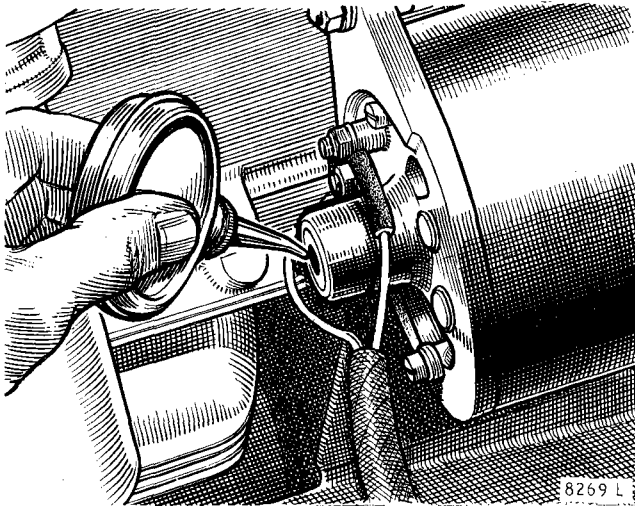


Fig. P.7

Lubricate the dynamo with a few drops of thin engine oil in the hole in the centre of the rear end bearing

DYNAMO (D)

Add two drops of engine oil to Ref. D, page P.7, in the lubrication hole in the centre of the rear end bearing plate.

Do not over-oil.

DISTRIBUTOR

Cam bearing (D)

Lift the rotor off the top of the spindle by pulling it squarely and add a few drops of thin engine oil (Ref. D, page P.7) to the cam bearing. Do not remove the screw which is exposed.

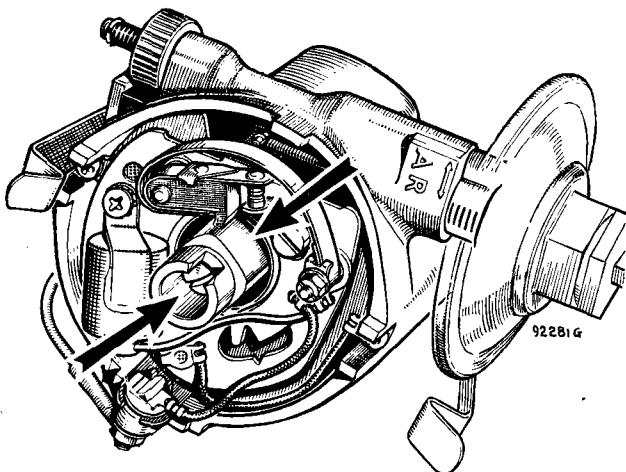


Fig. P.8

Add a few drops of thin engine oil to the cam bearing (lower arrow) and lightly smear the cam (upper arrow) with small amount of grease

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.

Cam (C)

Lightly smear the cam with a very small amount of grease (Ref. C, page P.7), or if this is not available clean engine oil can be used.

Automatic timing control (D)

Carefully add a few drops of thin engine oil (Ref. D, page P.7) through the hole in the contact breaker base through which the cam passes. Do not allow the oil to get on or near the contacts. Do not over-oil.

Contact breaker pivot (D)

Add a spot of engine oil (Ref. D, page P.7) to the moving contact pivot pin.

Section P.4

6,000 MILES (10000 Km.) SERVICE

Carry out the instructions detailed in Sections P.2 and P.3 except those under 'GEARBOX' and 'REAR AXLE' (Section P.2), and continue with the following:

GEARBOX OIL CHANGE (A)

Drain the gearbox oil, using the special key in the tool kit to remove the drain plug.

When the gearbox has been drained completely replace the drain plug and refill with oil to Ref. A (page P.7) through the filler hole shown in Fig. P.10.

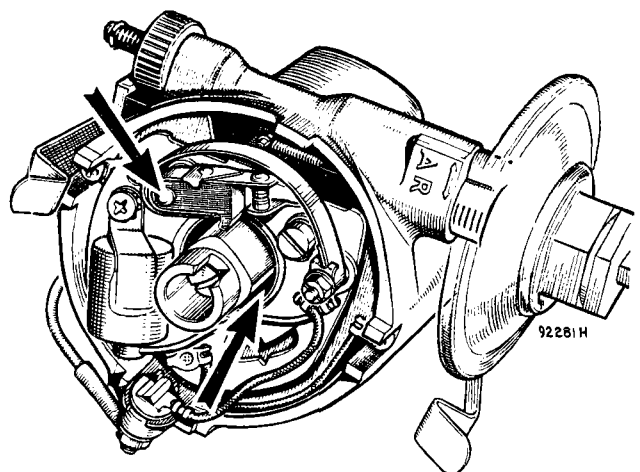


Fig. P.9

The contact breaker pivot is indicated by the upper arrow. The lower arrow indicates the aperture through which the automatic timing control is lubricated

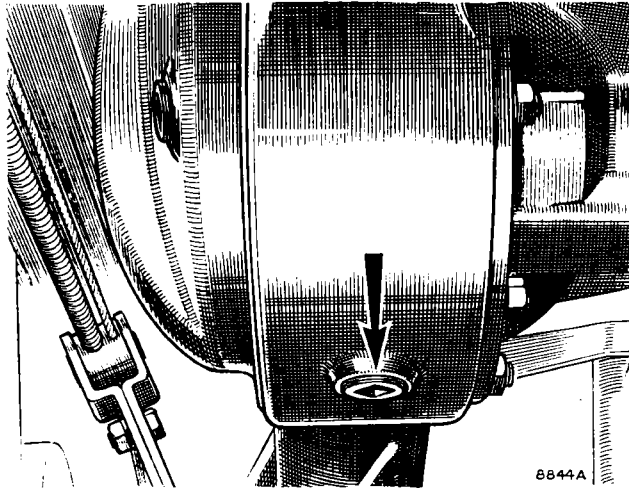


Fig. P.10

The rear axle drain plug is indicated by the arrow. The combined filler and level plug may be seen at the rear of the axle casing

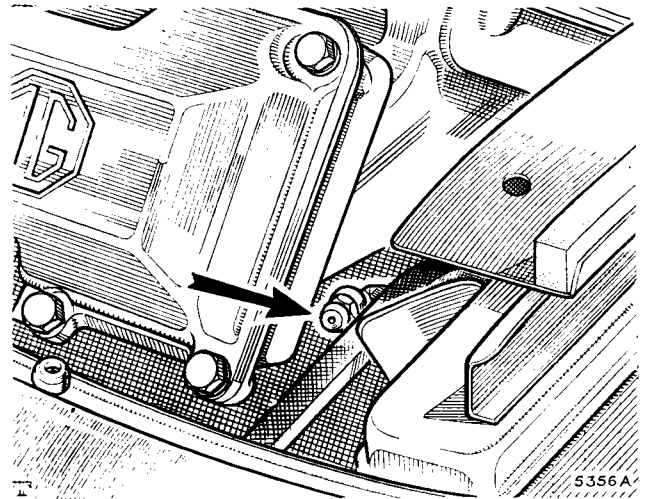


Fig. P.12

The arrow indicates the water pump oil nipple, which must receive one stroke only from the oil gun

REAR AXLE OIL CHANGE (B)

Remove the drain plug with the special key in the tool kit and drain out the oil. Refill with Hypoid oil (Ref. B, page P.7) to the level of the filler plug hole.

FRONT WHEEL HUBS (C)

Remove the front wheel hub nuts and pull out the grease-retaining cap from the end of each hub using a suitable extractor.

Pack with grease (Ref. C, page P.7) and replace.

ENGINE OIL FILTER

Fit a new engine oil filter element. The filter is released by unscrewing the central bolt securing 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 fitted securely to prevent oil leaks.

WATER PUMP

Give the nipple on the water pump body **one stroke only** with the gun filled with S.A.E. 140 oil. The oiling

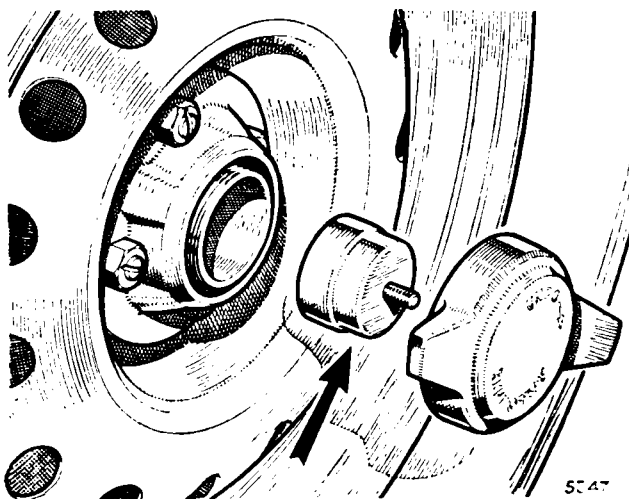


Fig. P.11

Unscrew the hub nut and withdraw the grease-retaining cap to repack the hub with grease

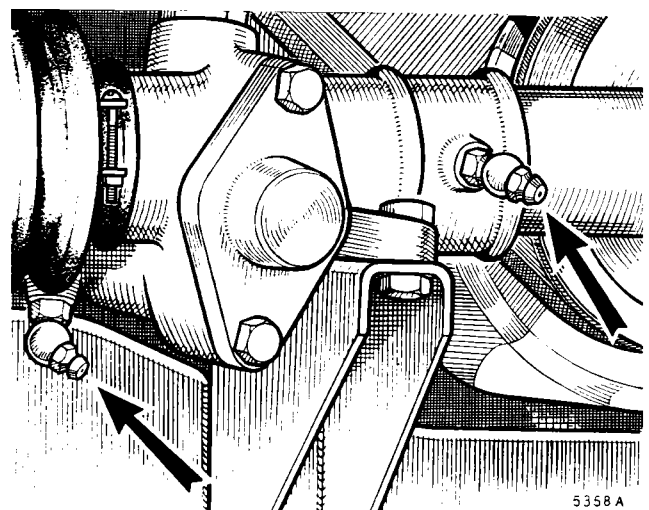


Fig. P.13

The steering rack grease nipples which must receive attention

of the pump must be done very sparingly, otherwise oil will flow past the bearings onto the face of the carbon sealing ring and impair its efficiency.

Section P.5

12,000 MILES (20000 Km.) SERVICE

Carry out the instructions detailed in Sections P.2, P.3, and P.4 in addition to the following:

STEERING GEARBOX (B)

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

Give the gearbox nipple 10 strokes **only** and the pinion nipple two strokes **only** at the same time with a gun filled with oil to Ref. B (page P.7).

LUBRICATION

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The following is a list of lubricants recommended:

A ENGINE AND AIR CLEANER								
<i>Climatic conditions</i>	Esso	Mobil	Shell	BP Energol	Filtrate	Sternol	Duckham's	Castrol
Tropical and temperate down to 32° F. (0° C.)	Esso Extra Motor Oil 20W/30	Mobiloil A	Shell X-100 30	Energol S.A.E. 30	Medium Filtrate 30	Sternol W.W. 30	Duckham's NOL Thirty	Castrol X.L.
Extreme cold down to 10° F. (-12° C.)	Esso Extra Motor Oil 20W/30	Mobiloil Arctic	Shell X-100 20/20W	Energol S.A.E. 20W	Zero Filtrate 20	Sternol W.W. 20	Duckham's NOL Twenty	Castrolite
Arctic consistently below 10° F. (-12° C.)	Esso Motor Oil 10	Mobiloil 10W	Shell X-100 10W	Energol S.A.E. 10W	Sub-Zero Filtrate 10W	Sternol W.W. 10	Duckham's NOL Ten	Castrol Z
GEARBOX								
All conditions	Esso Extra Motor Oil 20W/30	Mobiloil A	Shell X-100 30	Energol S.A.E. 30	Medium Filtrate 30	Sternol W.W. 30	Duckham's NOL Thirty	Castrol X.L.
B REAR AXLE (HYPOID), STEERING GEAR								
All conditions down to 10° F. (-12° C.)	Esso Expee Compound 90	Mobilube G.X. 90	Shell Spirax 90 E.P.	Energol E.P. S.A.E. 90	Hypoid Filtrate Gear 90	Ambroleum E.P. 90	Duckham's Hypoid 90	Castrol Hypoy
Arctic consistently below 10° F. (-12° C.)	Esso Expee Compound 80	Mobilube G.X. 80	Shell Spirax 80 E.P.	Energol E.P. S.A.E. 80	Hypoid Filtrate Gear 80	Ambroleum E.P. 80	Duckham's Hypoid 80	Castrol Hypoy Light
C WHEEL HUBS AND ALL GREASE POINTS								
All conditions	Esso Multi-purpose Grease H	Mobilgrease M.P.	Shell Retinax A	Energol L. 3	Super Lithium Filtrate Grease	Ambroline L.H.T.	Duckham's L.B. 10 Grease	Castrol L.M.
D UTILITY LUBRICANT, S.U. CARBURETTER DASHPOT, OILCAN POINTS, ETC.								
All conditions	Esso Extra Motor Oil 20W/30	Mobiloil Arctic	Shell X-100 20/20W	Energol S.A.E. 20W	Zero Filtrate 20	Sternol W.W. 20	Duckham's NOL Twenty	Castrolite
E UPPER CYLINDER LUBRICANT								
All conditions	Esso Upper Cylinder Lubricant	Mobil Upperlube	Shell Upper Cylinder Lubricant	Energol U.C.L.	Filtrate Petroyle	Sternol Magikoyl	Duckham's Adcoild Liquid	Castrollo

KEY TO THE 'MGA' (Twin Cam) LUBRICATION CHART

DAILY

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

EVERY 1,000 MILES (1600 Km.)

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

EVERY 3,000 MILES (5000 Km.)

- (10) **DISTRIBUTOR.** Withdraw the rotating arm and add a few drops of oil (Ref. D) to the spindle and also to the advance mechanism. Smear the cam and contact pivot with grease or oil.
- (11) **DYNAMO.** Add two drops of oil (Ref. D) to the oil hole in the rear end bearing plate.

- (12) **OIL FILTER.** Wash the element and bowl in fuel and refit or fit a new element.

- (13) **ENGINE.** Drain the used oil from the sump. Refill to the 'MAX' mark on the dipstick with new oil (Ref. A).

EVERY 6,000 MILES (10000 Km.)

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

EVERY 12,000 MILES (20000 Km.)

- (19) **STEERING RACK.** Give up to 10 strokes to the nipple on the steering rack and two strokes only to the pinion shaft nipple with the gun filled with oil (Ref. B).

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.

THE 'MGA' (Twin Cam) LUBRICATION CHART

