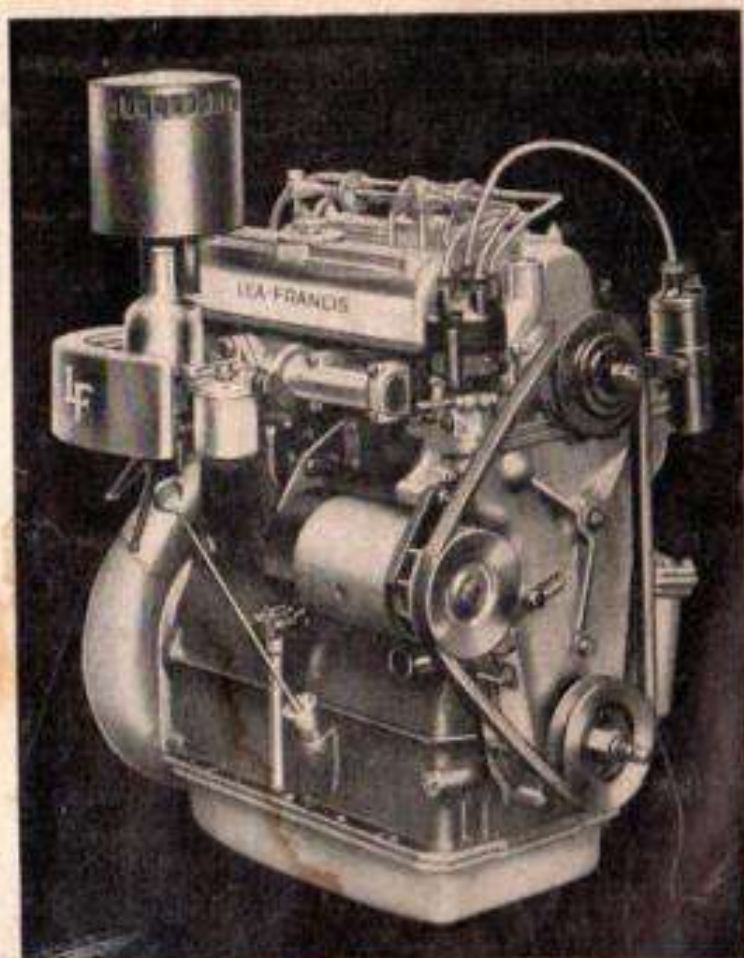




INSTRUCTION BOOK
of
LEA-FRANCIS CARS



LEA-FRANCIS 12 & 14 H.P. INSTRUCTION BOOK



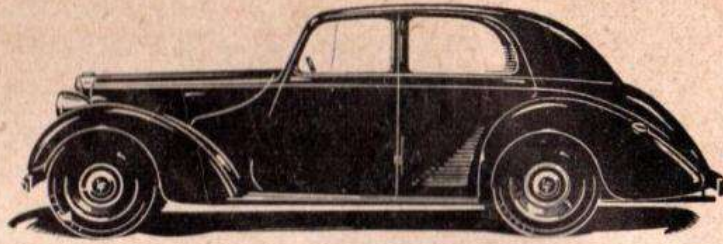
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MUCH PARK STREET - COVENTRY

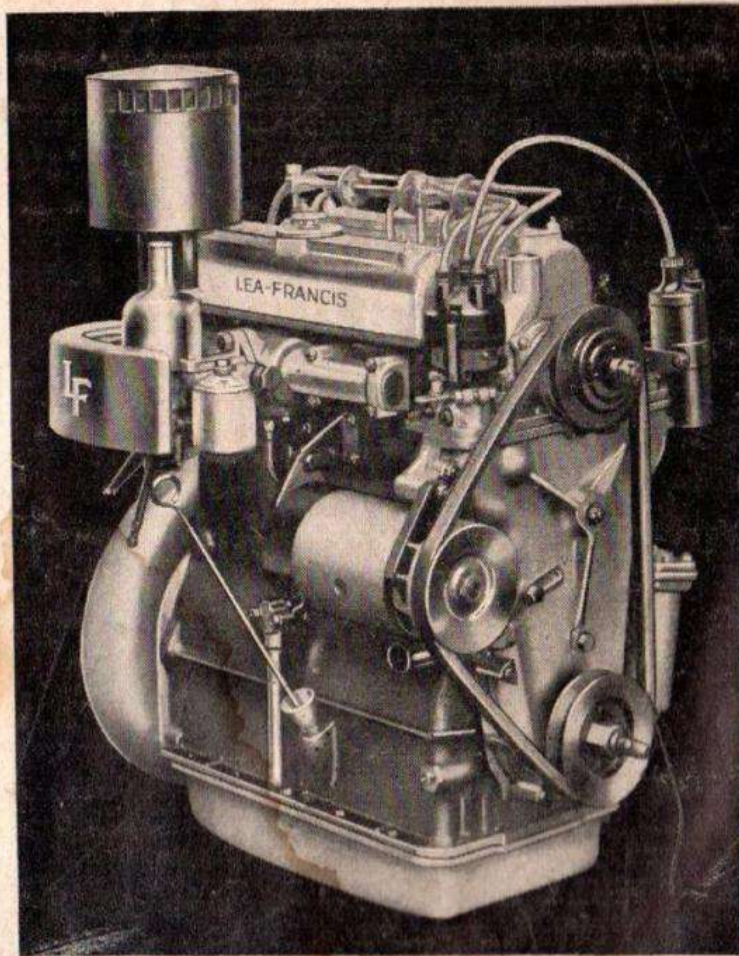
Telephone : 60204/5/6

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No attempt has been made in this book of maintenance to give details for the carrying out of major overhauls and repairs. Instead, we have endeavoured to explain with conciseness and lucidity those small operations of maintenance which, if carried out regularly, reduce wear and tear to a minimum, and result in more economical motoring.

Separate instruction booklets contain full information on Electrical Equipment, Carburetter, Petrol Pump, Brakes and Tyres, and these, which are supplied with the car, should be referred to when any adjustment is necessary to this equipment. While we have endeavoured to make our instructions as simple and clear as possible, we realise that occasionally owners find themselves in difficulty. Our Service department will be pleased to reply as fully as possible to all queries which might arise in such cases.

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IMPORTANT

RUNNING-IN

The importance of carefully running-in a new engine cannot be over-estimated, and care and restraint during the first 1,000 miles will ensure maximum performance.

THE ENGINE.

The new Lea-Francis Engine embodies the latest practice in high efficiency, un-supercharged, engine design.

Its hemi-spherical combustion chambers and valve arrangement have been proved to be the most efficient design possible, while the embodiment of dual cooling concentrates cooling water on the cylinder head, and allows the water surrounding the cylinder barrel to maintain a slightly higher temperature than the rest of the cooling system. As a result of this form of cooling, a higher compression ratio can be used without detonation or pinking, while cylinder bore wear is reduced to a minimum.

The crankshaft is fully counterbalanced and machined all over for accuracy of balance. It is carried on three bearings of ample proportions in a crankcase of very rigid design. These points make for smooth running throughout the engine speed range of 300—5,000 revs per minute.

For ease of reference, the main engine data is embodied below.

ENGINE DATA.

| | |
|-----------------------------------|--------------------------------------|
| Bore —12 h.p. | 69 mm. |
| „ 14 h.p. | 75 mm. |
| Stroke —12 h.p. | 100 mm. |
| „ 14 h.p. | 100 mm. |
| Cubic Capacity —12 h.p. | 1,496 cc. |
| „ „ 14 h.p. | 1,768 cc. |
| R.A.C. Rating —12 h.p. | 11.81 |
| „ „ 14 h.p. | 13.9 |
| Tax —12 h.p. | £15 0 0 |
| „ 14 h.p. | £18 0 0 |
| Firing Order | 1-3-4-2 |
| Sump Capacity | 10 Pints |
| Recommended Oil Pressure | 40-60 lbs. per sq. inch at 30 m.p.h. |
| Tappet Clearance, with Hot Engine | Inlet .004", Exhaust .006". |

UPPER CYLINDER LUBRICANTS.

These are added in small quantities to petrol, in proportion to the amount of petrol put into the tank. We recommend the following proprietary brands, which may be added in the proportions recommended by the manufacturers:—

Wakefield Castrollo. Mobil U.C.L.
Shell Donax U. Motorine U.C.L.

It is advisable to examine the sump oil level every 250 miles, for which purpose a dip-stick is provided on the crankcase. To check the oil level, stop the engine and wipe the dip-stick before re-inserting to ascertain the correct level.

There are two marks provided on the dip-stick. These indicate the maximum and minimum oil levels. It is dangerous to run an engine with the oil level below the bottom mark, and to run with a level above the top mark results in an excessive oil consumption.

When replacing the dip-stick be sure that it is correctly seated in its cone. See Fig. 7, Page 16.

After the first 1,000 miles, the oil should be changed, as this first filling has had the arduous task of bedding down all bearing surfaces, and has deteriorated. The new bearing surface thus formed will be better maintained by a fresh supply of oil.

Always endeavour to drain the sump with the oil warm, *i.e.*, immediately after the car comes in from the road. The drain plug is situated on the near side of the engine sump. It is advisable to clean the oil filter whenever the engine oil is changed.

Complex chemical changes form deposits in the oil which accumulate at the bottom of the sump, and cannot be drained off. It is therefore necessary, at 5,000 mile intervals, to remove the sump completely and wash away all deposit with paraffin, at the same time cleaning the gauze which surrounds the oil pump.

OIL FILTER.

This is a cylindrical unit bolted to the near-side front of the engine. It will require cleaning every time the engine oil is changed. To do this, the lid of the cylindrical filter dome should be removed when the filter element will be revealed. The element can then be unscrewed and washed in petrol.

When replacing the filter element, there is no need to use excessive force in tightening it up on its thread, but the lid on the other hand must be pulled down firmly to prevent oil leaks as this is under pressure. Check for possible oil leakage as soon as engine is running. See Diagram Fig. 7, Page 16.

OIL PRESSURE.

On this high speed engine, oil pressure is very important, and at speeds of 30 m.p.h. and over should never drop below 40 lbs. per square inch. At idling speeds pressure may drop much below this figure with safety.

OIL PRESSURE RELIEF VALVE.

This valve is fitted on the off-side front of the engine. To adjust the oil pressure, remove the cap nut which merely protects the

ENGINE DATA—continued.

Valve Timing—See Diagram Fig. 6, Page 14.

Ignition Timing—5° A.T.D.C. in fully retarded position.

Maximum Safe Revs. 5,000 r.p.m.

Sparking Plugs 14 mm.

LUBRICATION (Engine).

On pages 26 and 27 of this issue a diagram is shown giving details of all lubrication data, including the nomenclature of all recommended oils and greases.

DRAINING WATER FROM ENGINE AND RADIATOR TO PREVENT FREEZING.

Two Taps are provided for draining the engine and radiator, these are accessible by lifting the near-side of the bonnet, one tap being placed in the side of the cylinder block and the other tap directly below it in the water pipe leading to the bottom of the radiator. Both taps should be open for draining the water from the system. See illustration Fig. 4, Page 9.

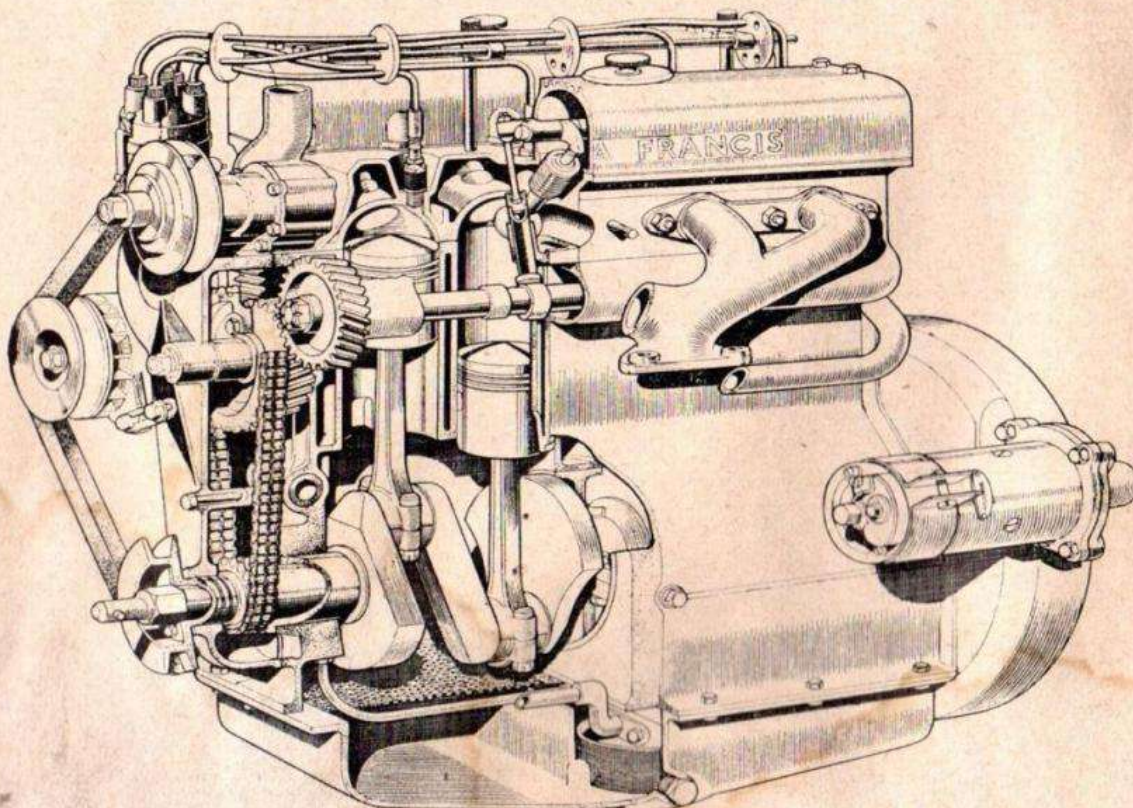


Fig. 1

Courtesy of "The Motor"

ENGINE LAYOUT—This sectioned view of the 14 h.p. Lea-Francis engine shows clearly the camshafts set well up in the cylinder block and the very short pushrods which can be employed by virtue of this location.

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adjustment, and slacken off the nut locking the screw adjustment. By means of a screwdriver the threaded portion may now be screwed either in or out. Screwing in a clockwise direction increases the oil pressure, while screwing in the reverse direction reduces the pressure.

It is rarely necessary to alter this adjustment, and whenever possible it should be done by an expert.

A drop in oil pressure, or a fluctuating pressure should be investigated, while on no account should an engine be run when the oil pressure has failed completely.

A drop in oil pressure may be due to foreign matter under the relief valve, when it will be necessary to remove the large hexagon body in which the adjustment is situated. The valve spring and valve can then be removed, and the seatings of both the cylinder block and piston valve should then be wiped with clean rag. See Diagram Fig. 7, Page 16.

IGNITION.

Removal of the moulded cap of the distributor will reveal all parts requiring attention here. The distributor points, when open to their maximum extent, should have a gap of .012". All distributors fitted to Lea-Francis engines have an automatic advancing mechanism, and a manual control on the steering column. For details of lubrication and the adjustment of contact breaker points, please refer to page 24 of the Lucas Electrical booklet.

Sparking plugs and their high tension leads should be inspected every three to five thousand miles. Wires with minute cracks in the rubber may eventually cause trouble, and should be renewed. Plug gaps should be adjusted to .020" to .022" by carefully bending outside electrodes only; centre electrodes should on no account be bent.

We fit as standard equipment a sparking plug which is easily dismantled for cleaning. When reassembling these plugs, take care that joint washers seat correctly, and that joints are pulled up tightly. While plugs are removed from the engine, it is advisable to cover up plug holes.

CARBURETTER.

After about 500 miles, when the engine has settled down, it is often necessary to adjust the slow running mixture. This should be carried out with the engine warm, and set to run at approximately 500 r.p.m. The method by which the mixture is adjusted will be clear from the carburetter booklet.

The carburetter fitted has an extra refinement in the form of an oil damper, incorporated in the carburetter piston. This will need replenishing with a light machine oil monthly. It is accessible by removing the knurled oil cap nut to which is attached a small piston. This piston, when *in situ*, is carried in the hollow stem of the carburetter piston, and this hollow stem should be filled with oil. A slight resistance will be felt on replacing the damper piston, which shows it to be functioning properly.

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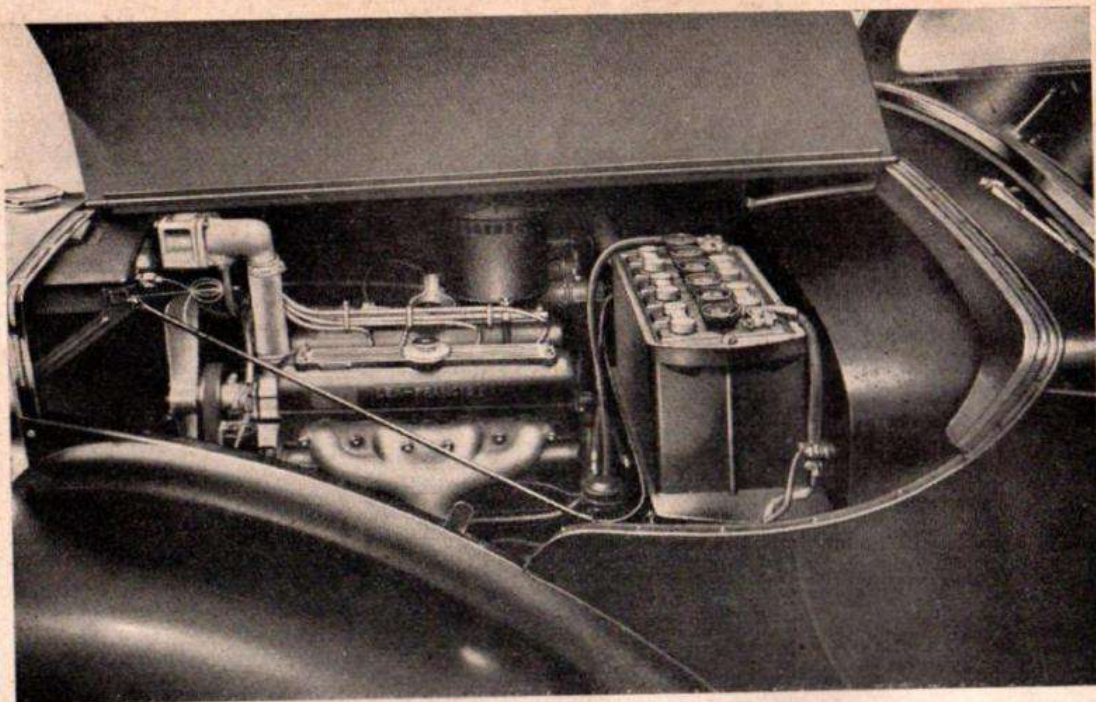


Fig. 2

General view with near-side of bonnet lifted.

Below, off-side view.

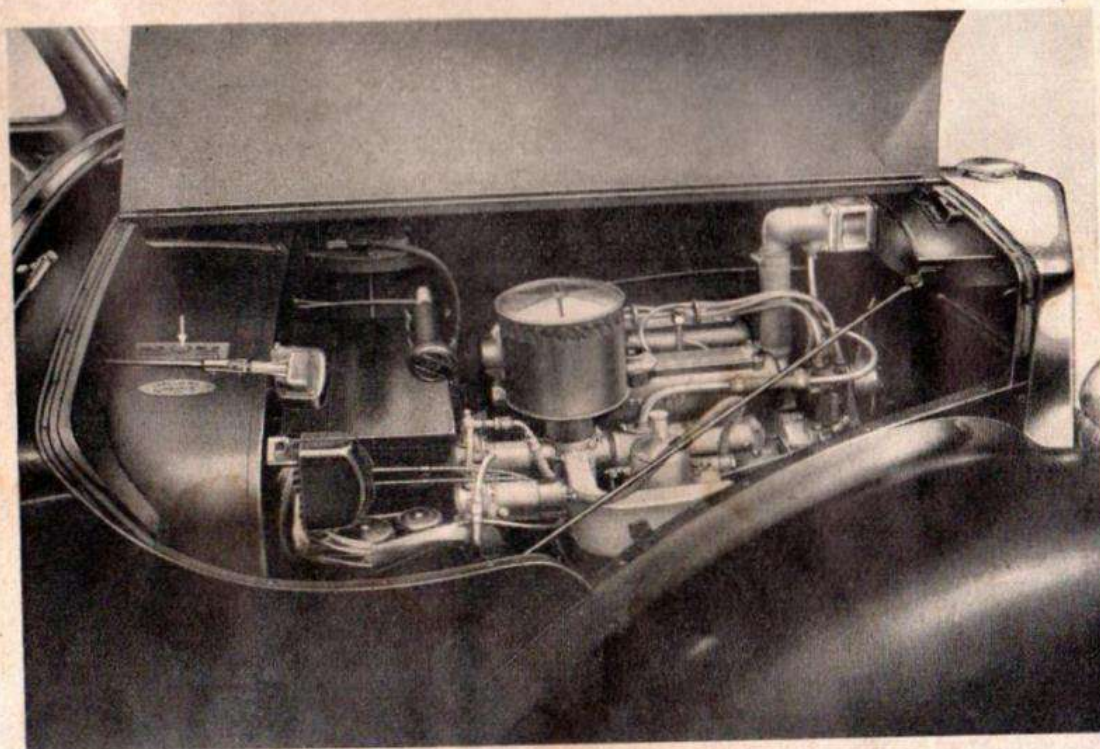


Fig. 3

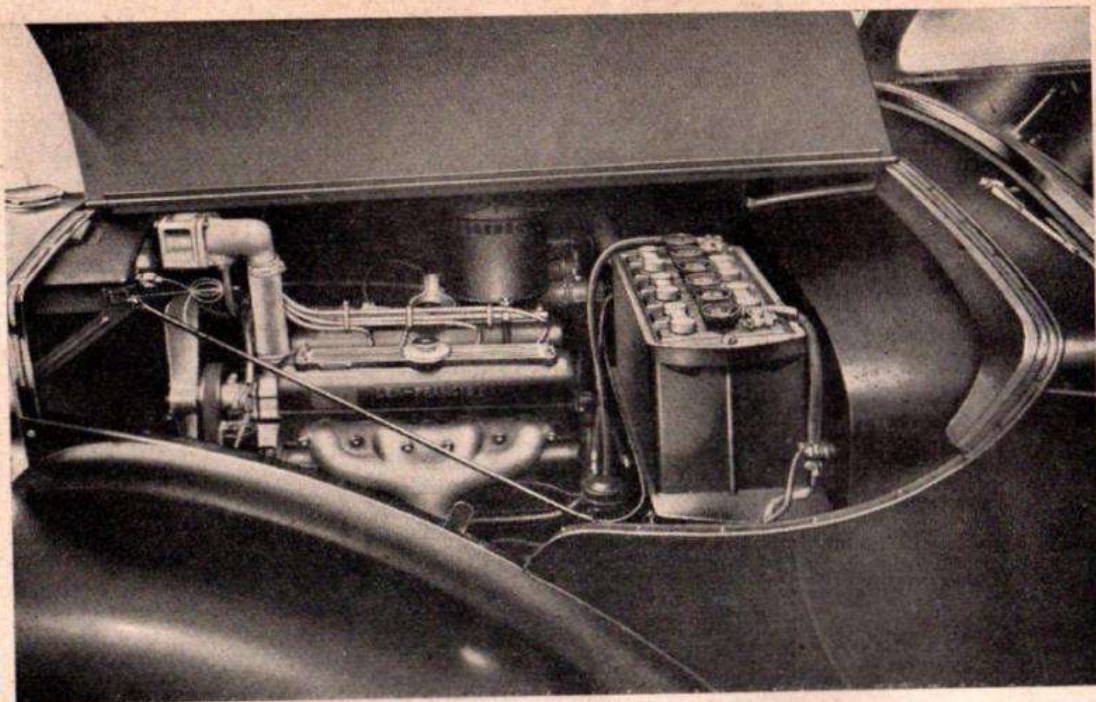


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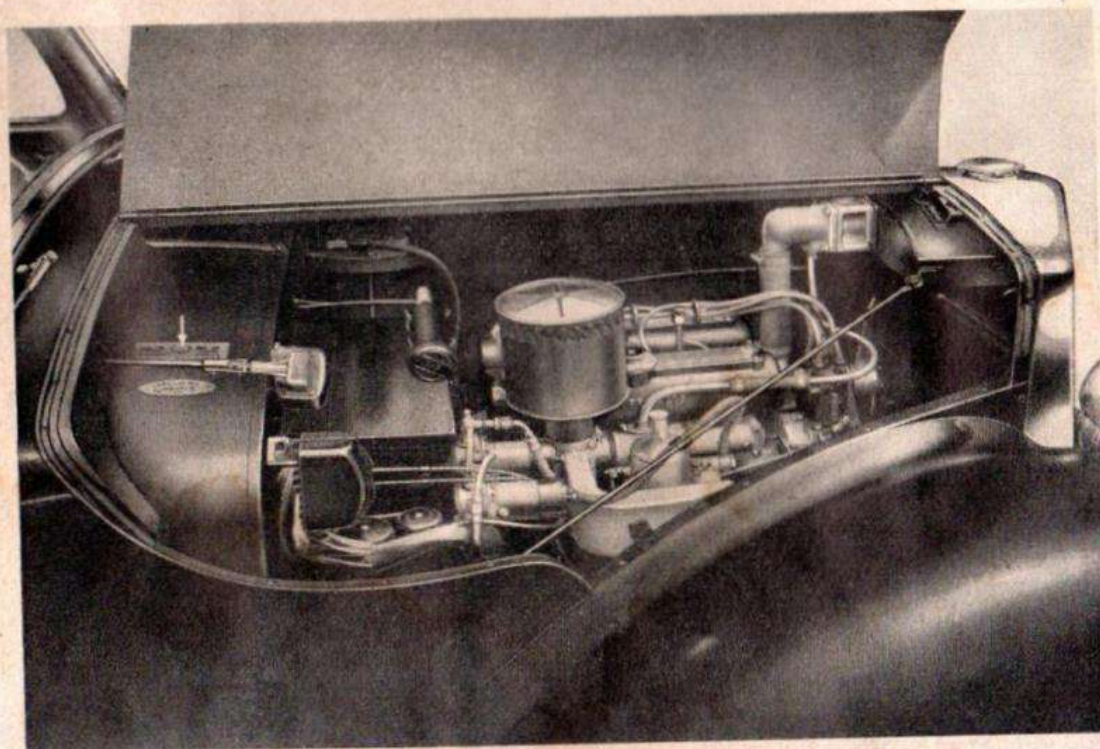


Fig. 3

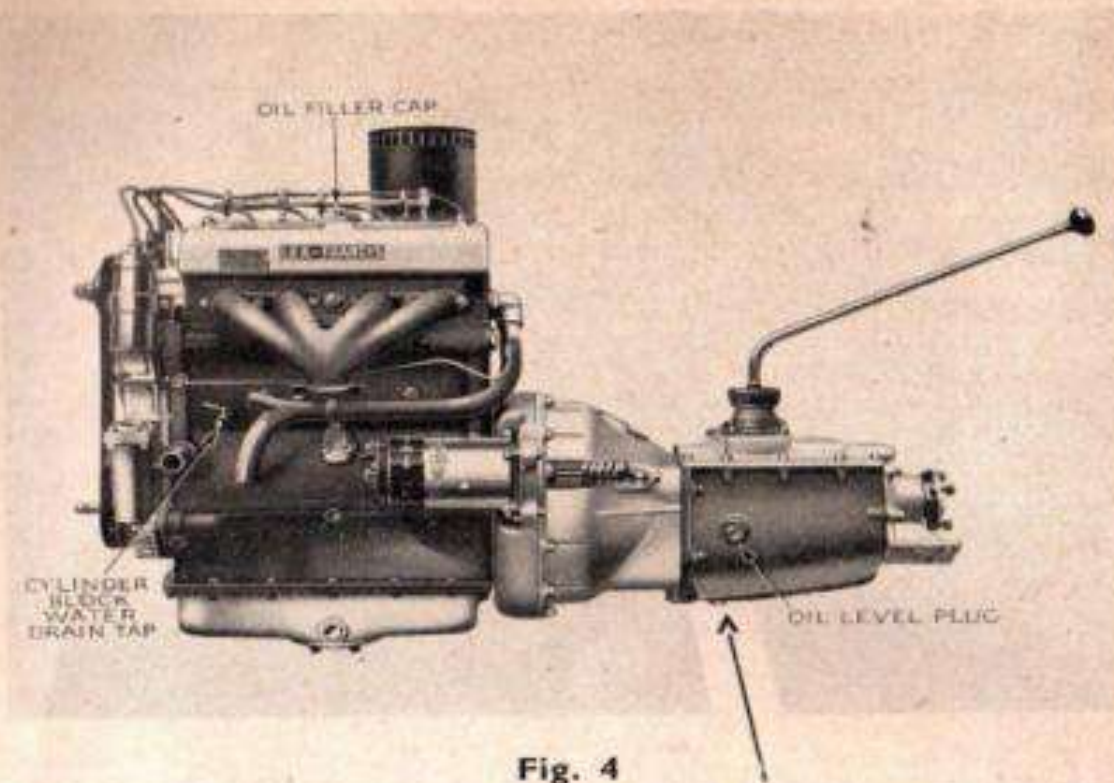


Fig. 4

Note position of gearbox drain plug.

General view of Engine and Gearbox.

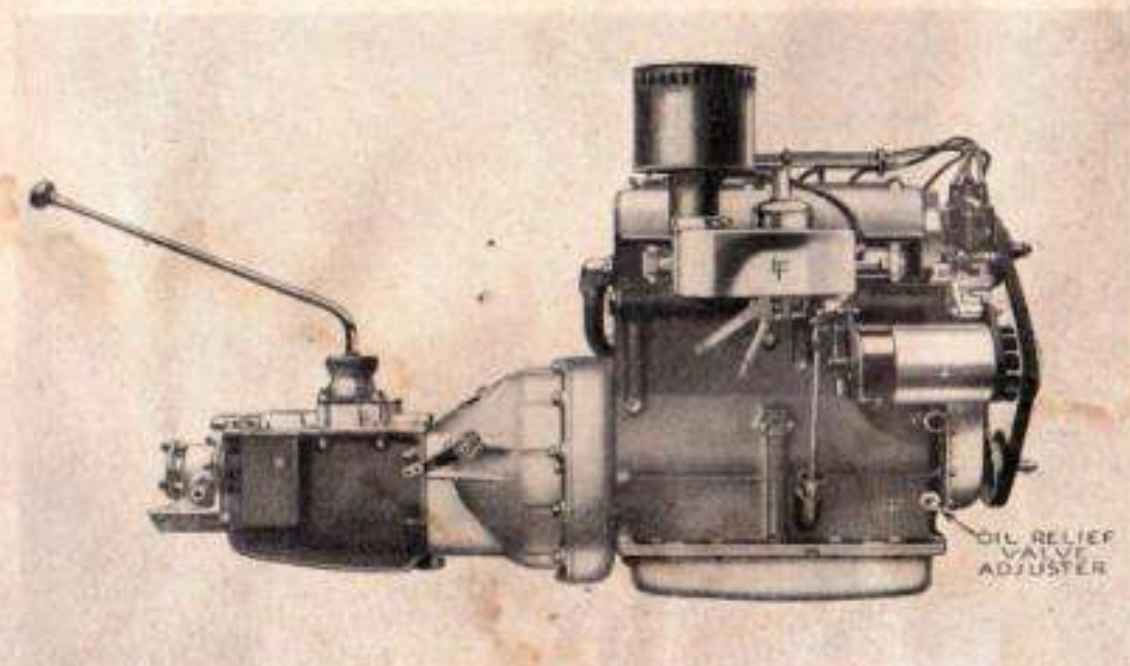


Fig. 5

WATER PUMP.

The sealing gland in the water plump is a carbon ring, and cannot be adjusted in any way.

The pump spindle is mounted on ball bearings, for which a greaser is provided. One shot from the grease gun every 5,000 miles will provide all the lubrication necessary.

TAPPET ADJUSTMENT.

This operation should always be performed with the engine at normal running temperature, and the clearances required under this condition are .006" for the exhaust valves and .004" for the inlet valves.

Remove both aluminium rocker covers by first taking off the two oil filler caps, and then the self locking nuts.

If the following procedure is adopted in spacing the tappets, the chances of errors occurring will be minimised.

First turn the engine slowly until No. 1 (nearest radiator) inlet valve just starts to lift. Then space No. 4 inlet and exhaust valves by slackening off lock-nuts on each rocker ball adjuster, inserting the appropriate feeler gauge between valve and rocker, and adjusting by means of a screwdriver until the feeler gauge is nipped just sufficiently to be moved by the thumb and finger. Maintain this adjustment with the screwdriver, and re-tighten the lock-nuts.

Next with the engine turned round until No. 3 inlet valve is on the point of opening, space the valves of No. 2 cylinder. Follow this by spacing No. 1 cylinder with No. 4 inlet valve just open, and finally space No. 3 cylinder with No. 2 inlet valve just opening. By this method, each tappet is spaced on the same portion of the cam profile.

To prevent the possibility of oil leaks, on replacing the rocker covers, see that their joints are correctly positioned before tightening the nuts.

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The following table indicates the maximum recommended engine speeds in the various gears, with their corresponding road speeds ; and the overall gear ratios, with the various combinations of gearbox and axle ratio.

OVERALL RATIOS AND SPEEDS IN GEARS
SYNCHROMESH GEARBOX
AXLE RATIO—4.875 to 1

| GEAR | RATIO | R.P.M. | M.P.H. |
|------|-------|--------|--------|
| 1st | 17.2 | 4,000 | 19.5 |
| 2nd | 10.4 | 4,500 | 36 |
| 3rd | 6.9 | 5,000 | 60 |
| Top | 4.875 | 5,000 | 75 |

TYRE SIZE 5.50 × 17 = 728 REVS PER MILE.



PETROL PUMPS.

Two electric petrol pumps are fitted, permanently connected by pipes to the carburetter.

The electric current is supplied to one pump at a time, from a switch which is placed underneath the off-side of the scuttle. This switch in the mid-way position is off, and both pumps are disconnected from the battery. Swinging the switch lever to the right or to the left brings one pump into use. The other pump then becomes spare. It is advisable to leave the switch in the off position as a precautionary measure when the car is parked.

DECARBONIZING.

One of the most extensive operations which the average owner is likely to attempt in the course of maintenance is that of decarbonizing.

This should be carried out after the first 8,000 to 10,000 miles.

Carbon will make itself apparent by a tendency for the engine to "pink" and occasionally by "spitting" at the carburetter.

The water should first be drained completely at both drain taps. These are accessible by lifting the near-side of the bonnet, one being placed in the side of the cylinder block and the other in the pipe leading to the bottom of the radiator.

As with any other operation affecting the electrical equipment, it is advisable to turn the master battery switch to the "off" position during the process of decarbonizing.

Take out the set-pins securing the ends of the bonnet hinge, and lift off the bonnet. It is best to obtain assistance with this, one person lifting at each side.

The distributor cap, complete with its five high tension leads, should be removed, and with this the complete wire carrier. It will be necessary to remove the high tension lead from the coil, and the low tension lead from the coil to distributor, at each end.

Next remove the carburetter and air silencer complete, by disconnecting the flexible petrol pipe at the petrol pump, removing the manual jet control and the two nuts securing the carburetter flange to the induction pipe. The throttle ball joint will be easily removed after the spring clip has been lifted.

The induction pipe now has to be taken off by unscrewing all nuts, it can then be withdrawn from its studs.

Take off the rocker covers and remove all push-rods. To remove a push-rod, turn engine until the valve is closed, and slacken the lock-nut of the ball adjuster a few turns, until a screwdriver will just go underneath the nut. A screwdriver placed under the nut, and resting on top of the rockers, can now be used as a lever to open the valve, thus freeing the push-rod.

The next, and very important operation, is to wire up all tappets to the rocker shafts, using short lengths of 16-20 gauge iron or copper wire. The tappet ends have small holes drilled in their sides, and if the wire is hooked in these holes, and then bent over the rocker shafts, the tappets will be held in position while the cylinder head is lifted. If tappets are not wired up as instructed they will fall and become damaged when attempts are made to lift the head.

At the front of each rocker shaft there is a small copper pipe, which feeds oil to the rockers. Remove these completely and wash out carefully.

Disconnect the exhaust pipe from the exhaust manifold, at the three bolt flange, also the hot-spot union and pipe which is connected to the thermostat.

Slacken the dynamo adjuster and remove the auxiliary drive belt, also take off the hose between the water pump and radiator and the water pipe from the rear of the cylinder head.

If all the cylinder head nuts are now removed, the head can be lifted clear. Some of the cylinder head studs serve to secure the rocker brackets as well, but these brackets need not be disturbed.

REMOVING CARBON.

Tappet holes should be plugged with large corks, and the four oil drain holes protected with rag, while the carbon is being removed from the crown of the pistons. Remove the carbon from the centre of the piston crown only, leaving an annular ring of deposit on the edges of approximately $\frac{1}{4}$ " in width. Do not scratch the piston crowns or attempt to polish them with emery cloth.

Having removed the valves, the cylinder head, valves and ports should be scraped clean of carbon deposit. The valves may best be cleaned with fine emery cloth, by revolving each valve in the chuck of a hand brace secured in a vice. Care, however, should be taken to keep the emery cloth off the actual angular seat of the valve. Grind in all valves, each to its original seat, using a fine carborundum paste, until a seat of uniform width is obtained. Do not use too much paste or excessive pressure when grinding, otherwise the valve seating may be cut too deep.

RE-ASSEMBLY.

When re-assembling the head, note the system of numbering adapted for the valves, and replace them in their original positions. On re-assembling valves smear their stems and seats with engine oil.

It should not be necessary to remove the tappets, but if this is done, see that they too are returned to their original places.

Before replacing the cylinder head, see that the gasket is undamaged, and give it a coating on both sides with a good oil jointing compound, such as "Hermetite."

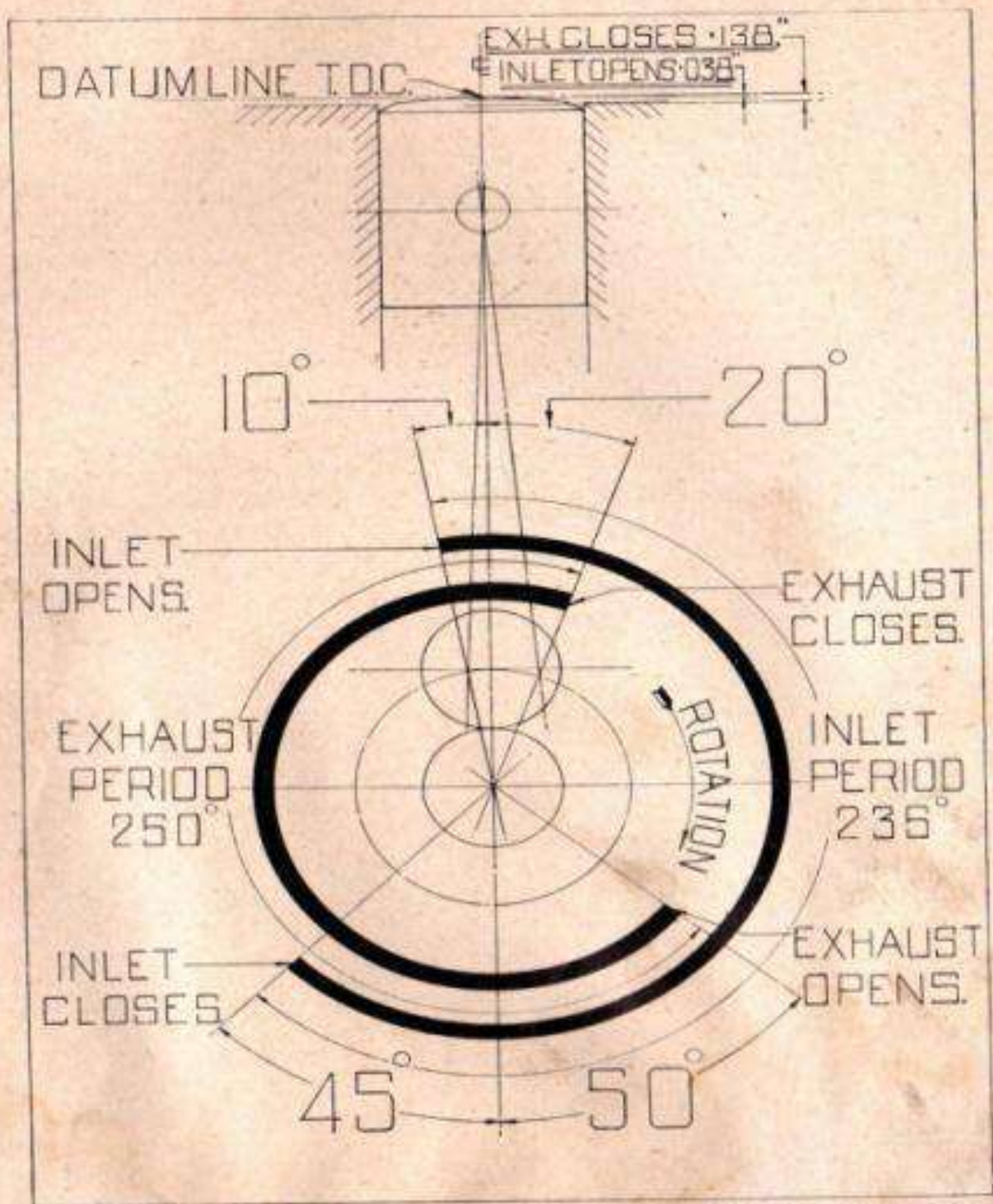


Fig. 6

Timing Diagram

When tightening the cylinder head nuts, start at the centre four, and tighten just sufficiently to nip the head. Then, taking nuts alternately on either side of the centre, and on alternate sides of the head, tighten all to the same extent. This subjects the gasket to a uniform pressure and holds it flat for the final tightening. Finally, tighten all nuts to the full extent in the same order, and set tappets to an approximate clearance.

Assuming now that all parts except the bonnet have been replaced, fill up with water and check all water joints for leaks. If this examination is satisfactory, run the engine steadily until the water temperature reaches approximately 80° C. and switch off. The rocker covers must now be removed immediately after stopping the engine and the cylinder head studs given a further pull down, keeping strictly to the previous order. Having finally pulled the head into position, adjust the tappets accurately, adapting the procedure previously indicated.



ENGINE OILING DIAGRAM showing direction of Oil-flow under pressure. Note position of Oil-filter and Oil-pressure relief valve.

CROSS SECTION

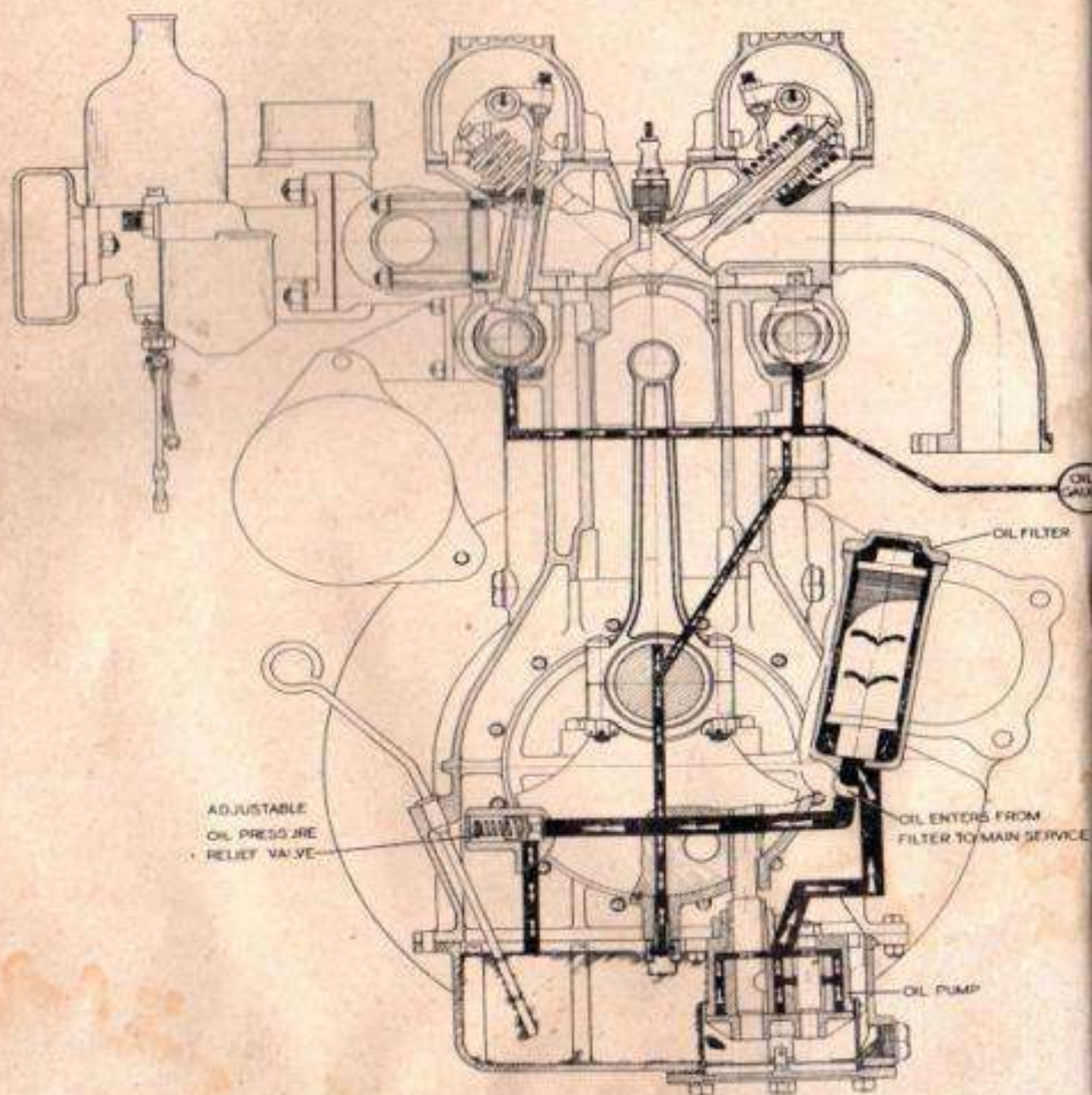


Fig. 7

LONGITUDINAL SECTION

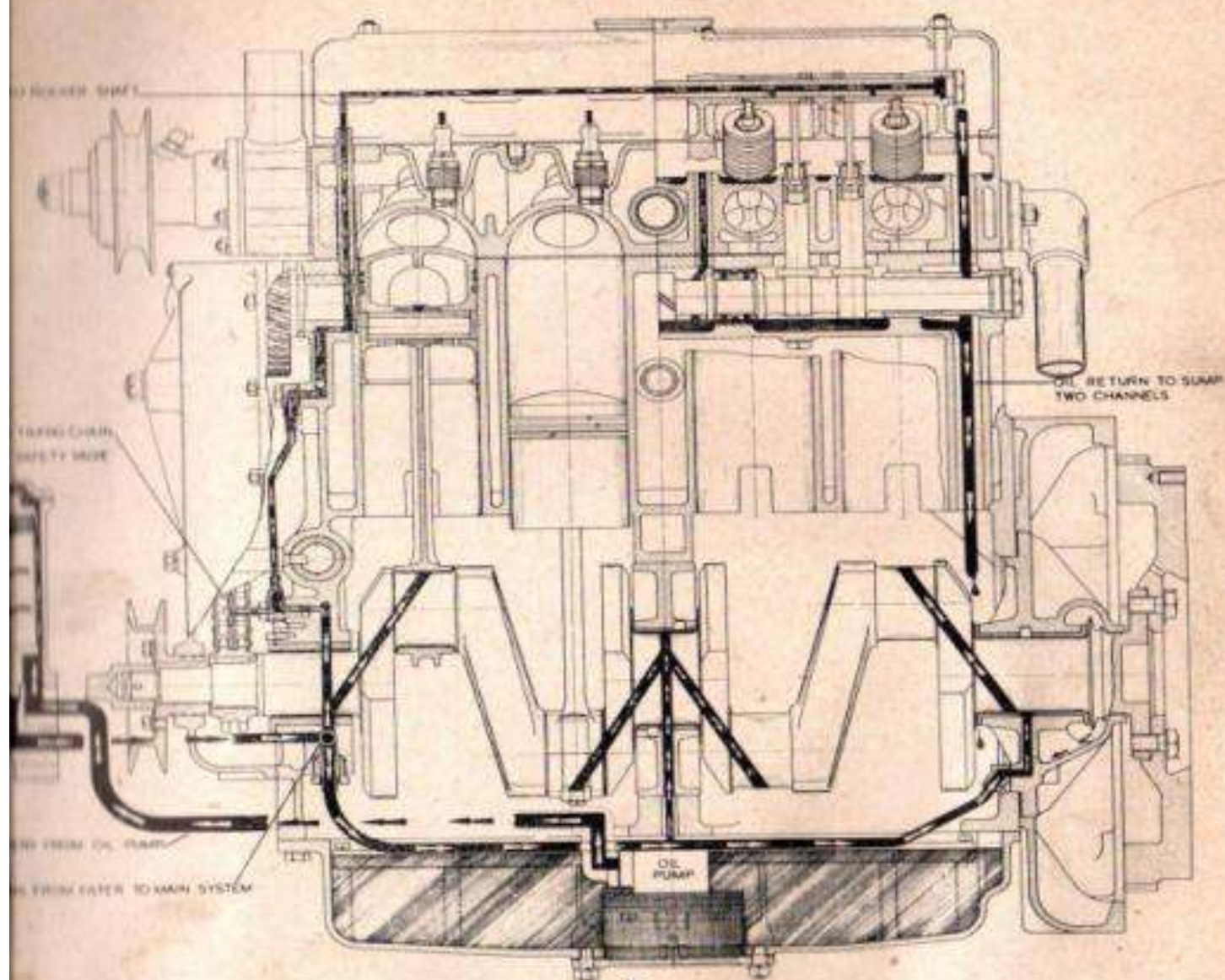


Fig. 8

THE OIL SUMP FILTER can be removed by unscrewing four nuts on the bottom face of the oil sump. This filter should be removed periodically and washed with paraffin.

LONGITUDINAL SECTION

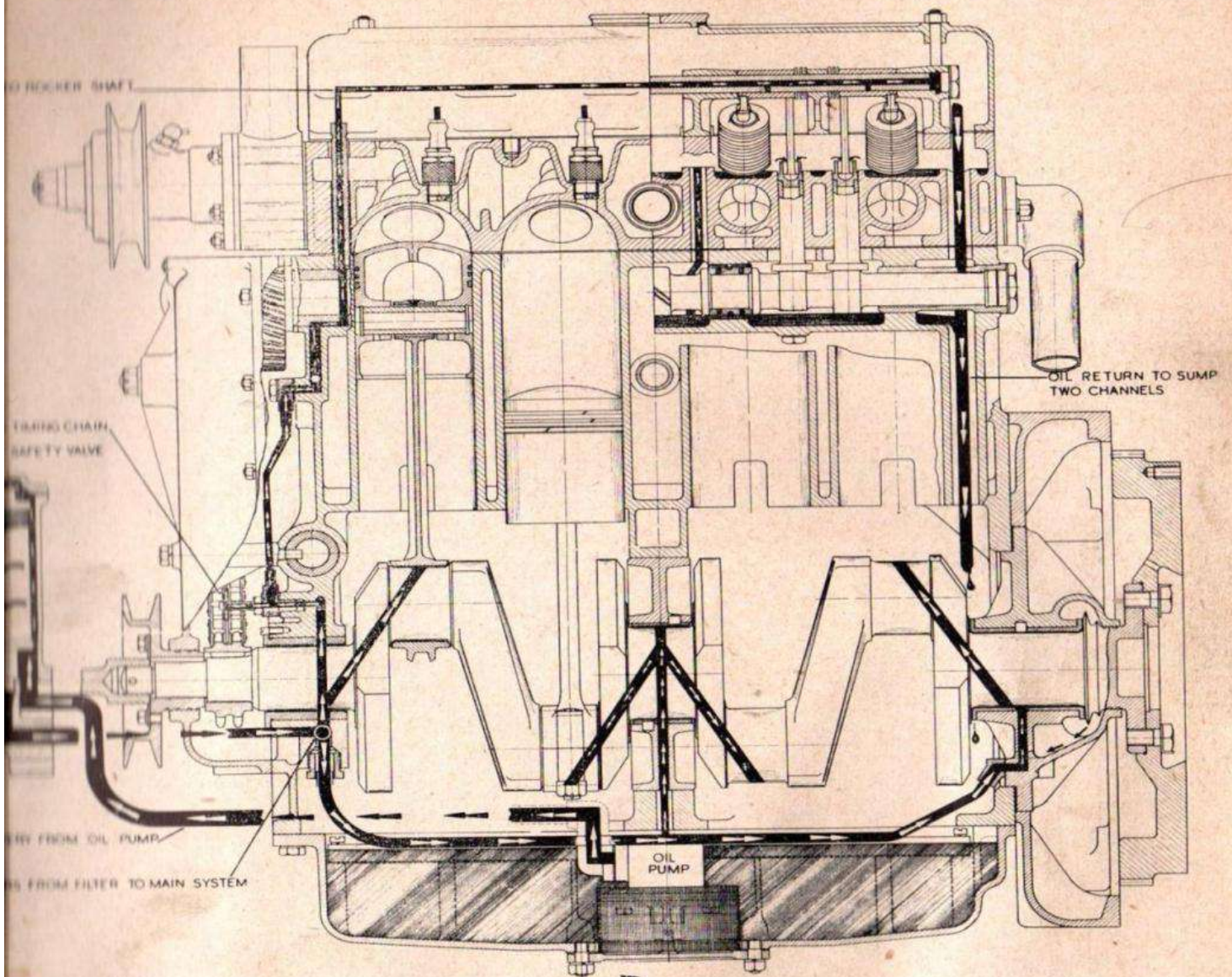


Fig. 8

THE OIL SUMP FILTER can be removed by unscrewing four nuts on the bottom face of the oil sump. This filter should be removed periodically and washed with paraffin.

CHASSIS

GEARBOX

Four speeds and reverse, synchromesh on 2nd, 3rd and 4th gears.

The only attention required by this box is to drain the oil after the first 500 miles, and refill with $3\frac{1}{2}$ pints of one of the recommended grades, care being taken not to exceed the quantity stated. Subsequently drain the gearbox every 5,000 miles.

GEARBOX OILS.

See Maintenance Chart—pages 26 and 27.

CLUTCH.

The clutch, brake and accelerator pedals, are lubricated by grease nipples. The adjustable link between the clutch pedal and the clutch actuating fork is also lubricated from the grease nipple at the pedal end, but requires an occasional supply of oil at the other joint.

The shaft carrying the clutch operating fork is carried in bosses in the bell housing, one on either side. These bosses are drilled for lubricating from an oil can. See Maintenance Chart.

Attention to the lubrication of the above points will be necessary if a clutch shows signs of becoming stiffer than usual in operation. Stiffness may cause a clutch to slip slightly before taking up the drive, after a gear change has been made.

The thrust, for disengaging the clutch, is taken through a carbon type thrust bearing and this on no account should be lubricated. Particular care should be exercised in keeping oil and grease off the clutch plate. As the clutch plate wears, the pedal moves towards the driver and for this reason there must be at least 1" of free travel in the clutch pedal before the clutch starts to disengage. To check this movement, first draw the pedal forward until it comes up against its stop. From this position, to the point where clutch disengagement is felt to commence, should necessitate a pedal pad travel of 1" to $1\frac{1}{4}$ ". If this free travel does not obtain, an adjustment must be made to the link between the clutch pedal and the lever on the operating fork shaft.

REAR AXLE AND PROPELLER SHAFT.

The orthodox type of semifloating axle with spiral bevel final drive is employed in conjunction with an open propeller shaft.

As in the case of the engine and gearbox, drain axle of oil at 500 miles and refill with one of the recommended oils. Subsequently drain axle and refill with fresh oil at 5,000 mile intervals. (Capacity 3 pints.)

The propeller shaft has universal joints with needle roller bearings. These bearings are lubricated on assembly but require periodical attention as shown on Maintenance Chart. This applies to both front and rear ends of propeller shaft. On the front of the shaft, however, there is a sliding spline coupling lubricated by a greaser. The greaser will be found just behind the front coupling, and is accessible from underneath the car. The rear propeller shaft coupling is accessible by removing the rear seat board as in the case of rear axle lubrication, give these points one or two shots from the grease gun every 1,000 miles.

RECOMMENDED AXLE OILS.

See Maintenance Chart.

WHEEL HUBS.

All wheel hubs will require greasing at 1,000 mile intervals.

The wheel disc is removed by inserting a screwdriver between disc and wheel (in the indent provided) and then lever off.

On the rear hubs, the grease nipples are accessible by removing the wheel discs.

On the front hubs, a grub screw will be seen on removing the discs, and after removing the screw, the nipple of the grease gun should be inserted. About six shots from the grease gun will suffice on these occasions.

Where wire wheels have been fitted (on special order) the splines of the hubs require greasing at 1,000 mile intervals.

GENERAL PURPOSE GREASES FOR HUBS, etc., are indicated on the Maintenance Chart.

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GENERAL PURPOSE GREASES FOR HUBS, etc., are indicated on the Maintenance Chart.

BRAKES.

The Girling brakes fitted to the Lea-Francis cars need practically no attention with the exception of being kept in adjustment, and an occasional glance given to the front and rear compensators to make sure they are free in their bearings.

Instructions for the adjustment and relining of brakes will be found in the Girling pamphlets, which owners are urged to follow carefully, when carrying out either of these operations.

The rear brake operation is through a flexible cable. This length of cable is provided with a central nipple, and should be greased at about 1,000 mile intervals.

STEERING AND FRONT AXLE.

All ball joints on the steering linkage, and the swivel bushes of both stub axles, require lubrication from grease gun.

The steering box has a filler plug, and will need topping up at intervals of about 1,000 miles. The oil level should just reach the bottom of the filler plug. The grades of oil recommended for use in the steering box are identical to those for use in the rear axle.

* (Always bear in mind that tyre pressures have a great influence on steering, and keep these up to the values recommended in the Dunlop tyre booklet. It is worth while, after 10,000 to 15,000 miles, to have the front wheels checked for toe-in, which should be $\frac{1}{8}$ ". Toe-in greater than $\frac{3}{16}$ " should always be corrected, as this amount will give rise to excessive wear on the front tyres.

SHOCK ABSORBERS.

At intervals of 8,000 miles the oil level in each shock absorber should be inspected, and topped up if necessary. Front shock absorbers are accessible by jacking up the car and removing the front wheel, while the rear shock absorbers are provided with small inspection covers, situated under the rear seats. The oil level in the shock absorber should reach to within $\frac{1}{2}$ " of the top.

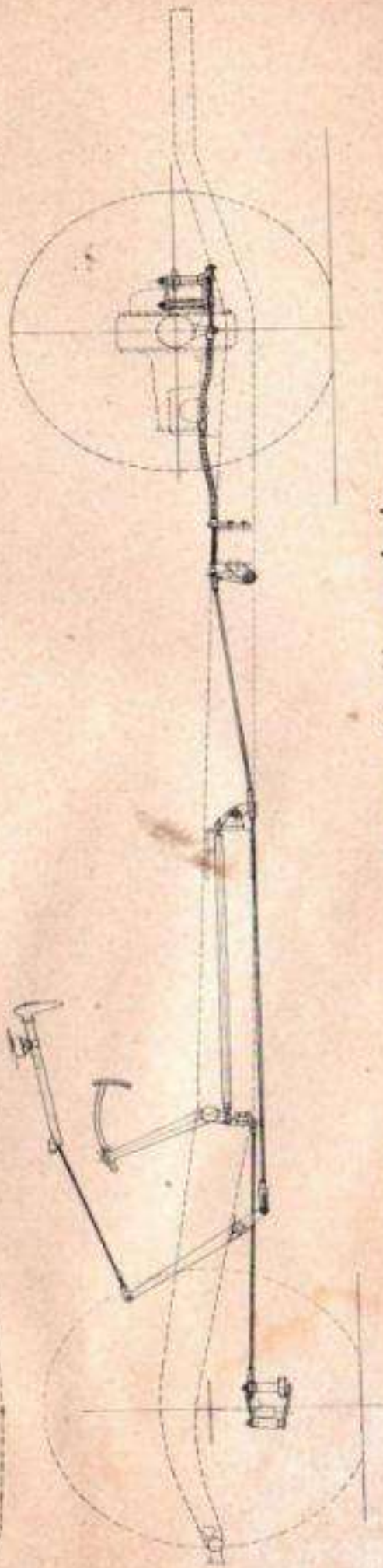
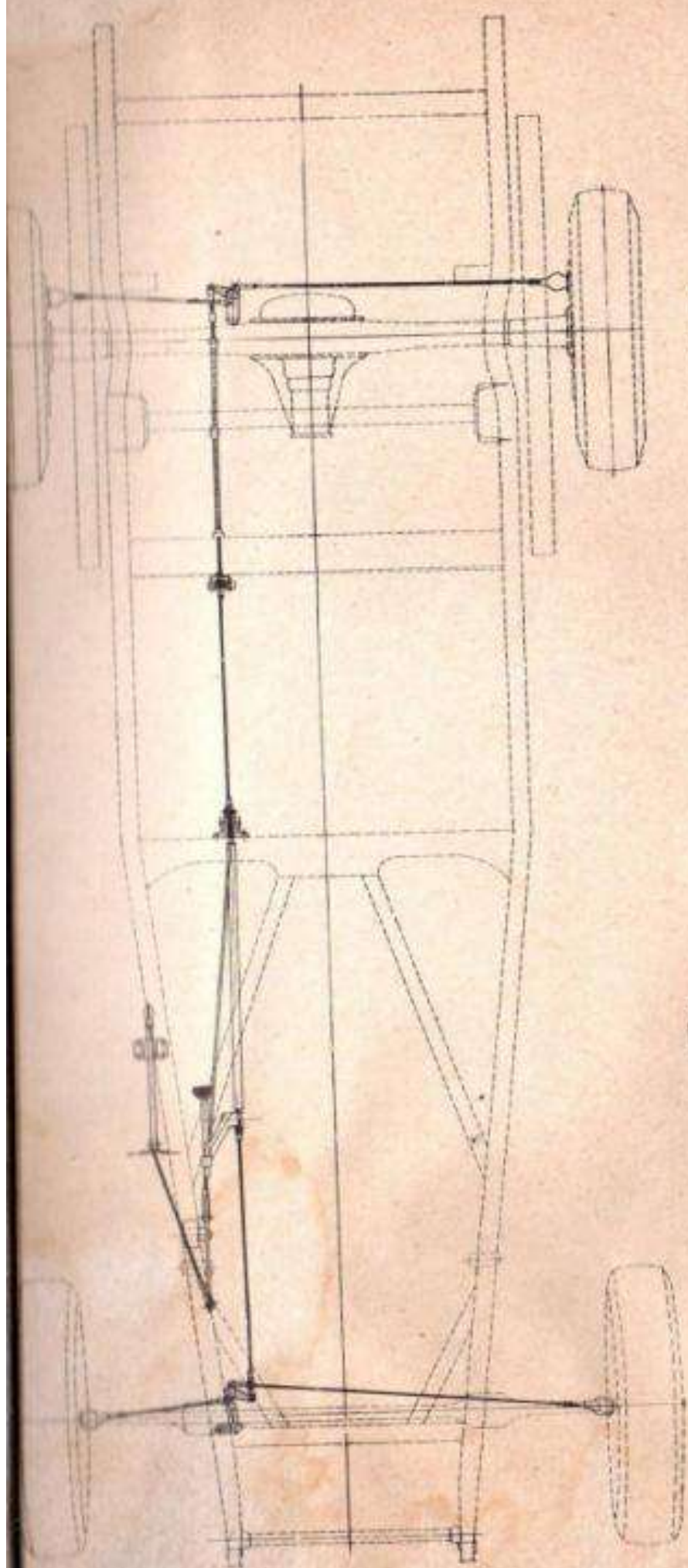


Diagram of braking mechanism

Fig. 9

BRAKES.

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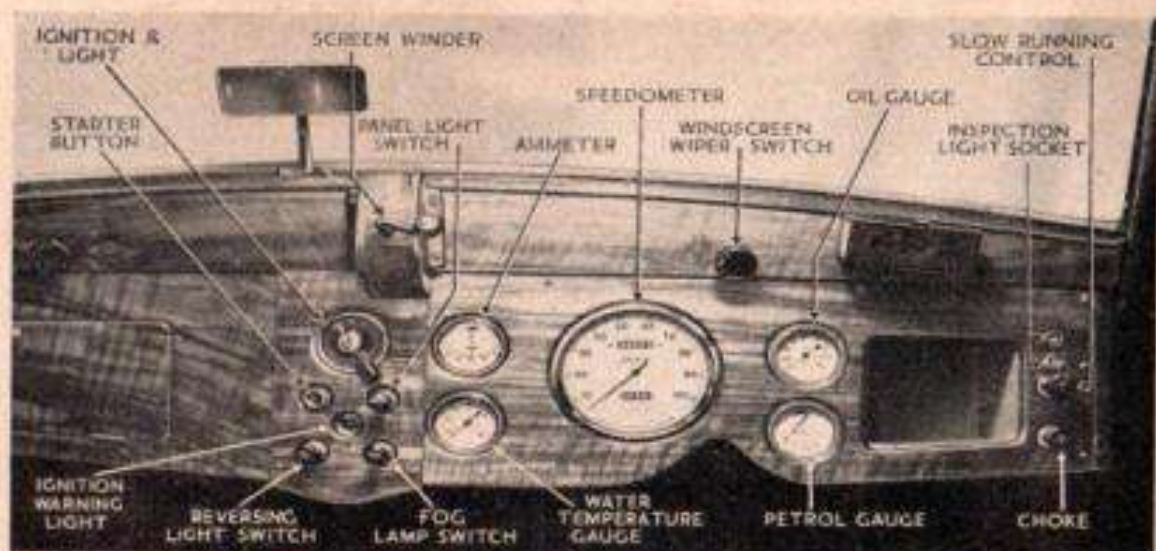


Fig. 10

View of instrument panel from the driver's seat with steering wheel deleted to show layout.

Below, the steering wheel in position.

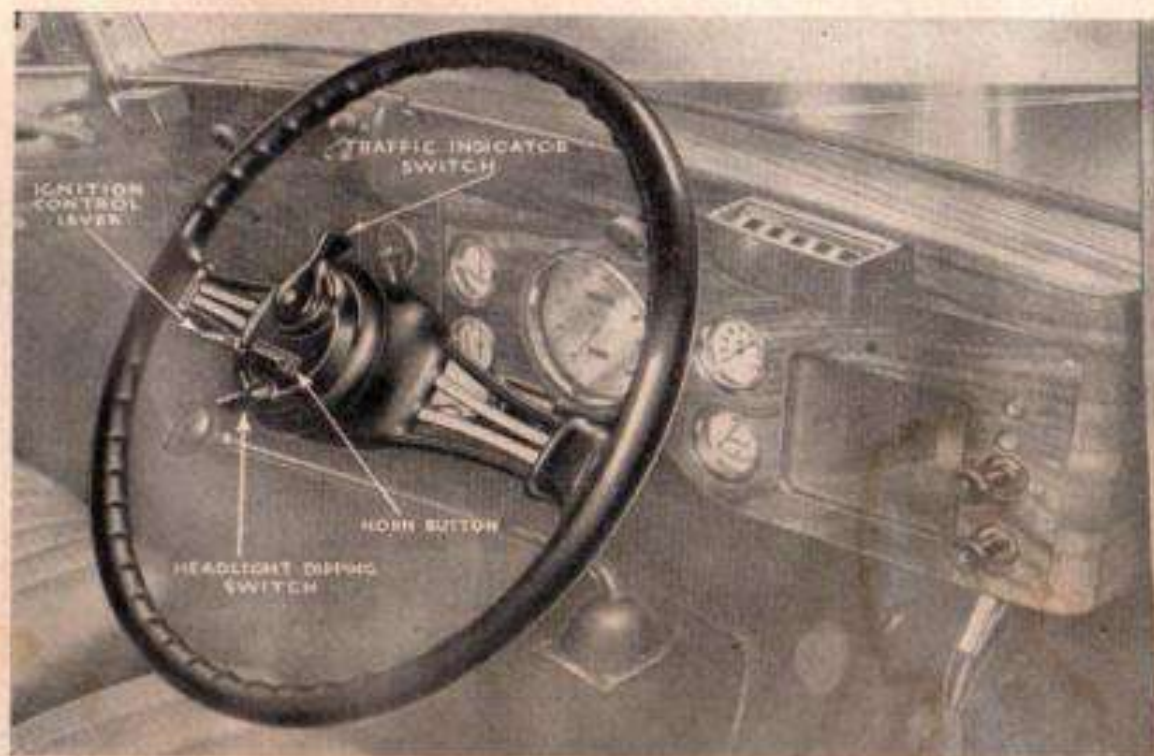


Fig. 11

SHOCK ABSORBER OILS.

Girling Damper Fluid.

Shell Donax A.1.

Mobil Shock Absorber Oil Light.

SPRINGS.

Road springs should be cleaned with a wire brush, and sprayed with penetrating oil every 5,000 miles. The springs derive great benefit from this treatment, and riding comfort is maintained.

JACKING SYSTEM ; D.W.S. Built-in Jacks are fitted.

The jacks are situated as follows :—

One in centre of front axle and one on each rear spring, operated by handle supplied in tool kit.

If it is intended to remove a wheel, see that the foot of the jack rests on firm ground. Be sure to wind car jacks right back to fully retracted position after use.

It is advisable to oil the thread of the jacks occasionally.

MASTER SWITCH.

Situated on the near-side, underneath the dash, is a small black knob controlling the master battery switch. Turning this switch in the " off " direction isolates the battery from the rest of the electrical circuits.

This safeguard should be used whenever anything affecting the electrical equipment is being done on the car. All possibility of a short circuit occurring is then avoided.

Ensure that the switch is rotated to its fullest extent.

When leaving the car unattended the master switch is a safeguard against theft, also switch off every night when the car is in the garage.

GENERAL DATA

| | |
|---|------------------------|
| Track | 4 ft. 4 ins. |
| Wheel Base | 9 ft. 3 ins. |
| Tyre Size | 5.50 × 17 ins. |
| Tyre Pressure | 24 lbs. front and rear |
| Turning Circle | 37 ft. 0 ins. |
| Overall Length—Four-Light Saloon | 15 ft. 1 in. |
| Overall Width—Four-Light Saloon | 5 ft. 4 ins. |
| Overall Height—Four-Light Saloon—Static Laden | 5 ft. 1 in. |
| Petrol Tank Capacity | 11 gallons |
| Gearbox Capacity | 3½ pints |
| Rear Axle Capacity | 3 pints |
| Radiator and Engine Capacity | 2 gals., 2 pints |
| Sump Capacity | 10 pints |
| Ground Clearance—Laden | 7 ins. |

TOOL KIT

| | No. Off |
|--|---------|
| Adjustable Spanner | 1 |
| Screwdriver | 1 |
| Pliers | 1 pair |
| 1 lb. Hammer | 1 |
| $\frac{5}{16}$ "— $\frac{3}{8}$ " Open-ended Spanner | 1 |
| $\frac{3}{16}$ "— $\frac{1}{4}$ " Open-ended Spanner | 1 |
| Punch | 1 |
| $\frac{7}{16}$ " Whit. Box Spanner | 1 |
| $\frac{1}{2}$ "— $\frac{7}{16}$ " Whit. Box Spanner | 1 |
| $\frac{3}{8}$ "— $\frac{5}{16}$ " Whit. Box Spanner | 1 |
| $\frac{1}{4}$ "— $\frac{3}{16}$ " Whit. Box Spanner | 1 |
| Tommy Bar | 2 |
| $\frac{1}{8}$ " Whit. Box Spanner | 1 |
| No. 4 B.A. Open-ended Spanner | 1 |

| Part No. | Description | |
|----------------|--------------------------------|---|
| D.W.S. Mk. 1 | Jack Handle | 1 |
| Peima No. 84 | Tyre Pump | 1 |
| Tecalemit | | |
| No. G.B.2751/2 | Grease Gun—Plastigun "L" | 1 |
| | Licence Holder | 1 |
| E.1426 | Wheel Brace | 1 |
| E.1578 | Starting Handle | 1 |
| E.1734 | Tool Bag | 1 |
| | Tyre Levers | 2 |
| | Schrader Valve Key | 1 |

CARE OF COACHWORK

Only good quality cellulose cleaner and wax polish should be used for cleaning the body and wings to maintain the lustre of a new car.

Leather upholstery may be cleaned with soap and water, and polished with furniture cream.

A little oil applied to the door hinges, and to the mechanism of the locks, is a great advantage provided surplus oil is afterwards wiped away. The hinges and locks of the luggage boot should also be oiled occasionally.

Care should be taken that the windscreen wipers are not trapped when closing the screen, this precaution will prevent water entering the car when driving in the rain.

INTERIOR LIGHTING OF BODY.

The rear corner lights are each fitted with an individual switch for the passengers use, but there is a small switch situated under the scuttle near the handbrake which bring them under the driver's control.

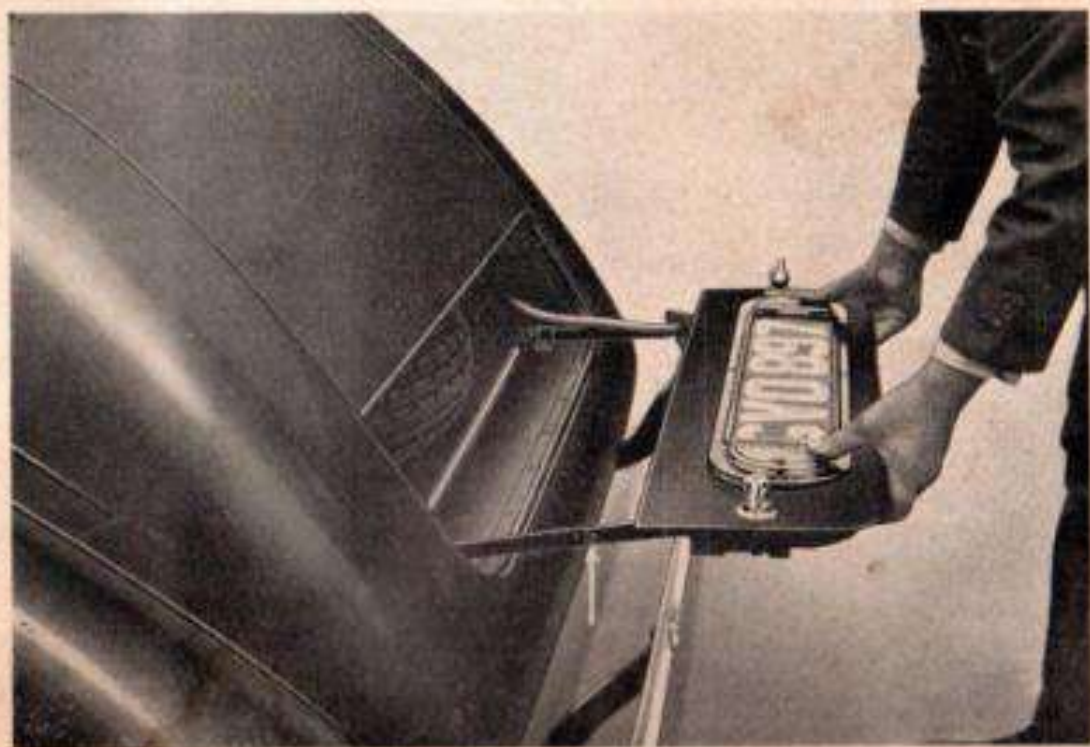


Fig. 12

The cover of the spare wheel compartment will slide back into position easily if the runners are straightened at the joint when pushed. (The joint is shown by a white arrow in the above illustration.)

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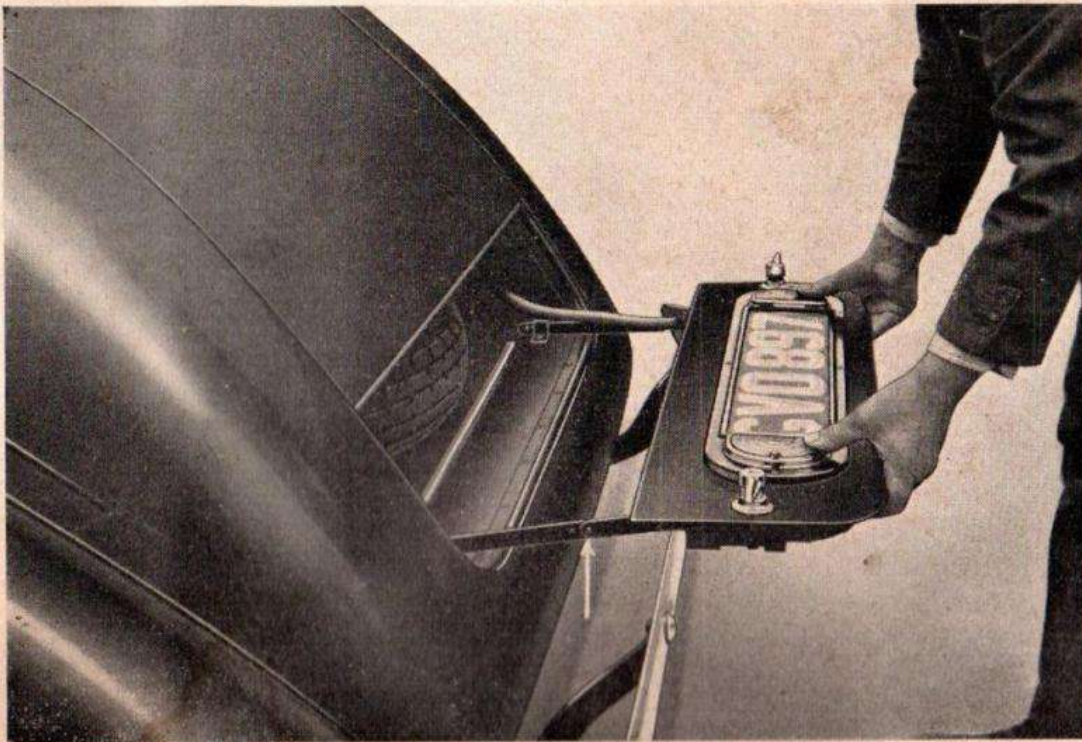


Fig. 12

The cover of the spare wheel compartment will slide back into position easily if the runners are straightened at the joint when pushed. (The joint is shown by a white arrow in the above illustration.)

MAINTENANCE CHART

(Section 1)

| | |
|--------------------------------------|--|
| WEEKLY OR EVERY 300 MILES | CHECK TYRE PRESSURES |
| MONTHLY OR EVERY 1000 MILES | CLEAN OUT CARBURETTOR CLEAN OUT PETROL FILTER CHECK BATTERY ACID LEVEL |
| EVERY SIX MONTHS OR 5000 MILES | SMEAR DISTRIBUTOR CAM WITH VASELINE |
| ANNUALLY OR EVERY 8000 MILES | CHECK :— SHOCK ABSORBER FLUID LEVEL |

| OILS AND GREASES | | | | | | | |
|--|-----------|----------|----------------------|--------------------|-------------------------|--------------------------|--------------------------|
| (1) DRAIN OUT AND REPLENISH | Summer : | | Castrol 'XL' | Esso '30' | Motorine 'M' | Double Shell | Mobiloil 'A' |
| | Winter : | | Castrolite | Esso '20' | Motorine 'E' | Single Shell | Mobiloil Arctic |
| | GEARBOX | | Castrol 'XXL' | Esso '50' | Motorine 'B' De Luxe | Triple Shell | Mobiloil 'BB' |
| (2) REPLENISH | REAR AXLE | STEERING | Castrol Hi Press. | Esso Expee '90' | Motorine 'EP' | Shell Spirax E.P. 140 | Mobiloil 'EP' / 'EPW' |
| | GEARBOX | | Castrol 'XXL' | Esso '50' | Motorine 'B' De Luxe | Triple Shell | Mobiloil 'BB' |
| (3) PRESSURE GREASE GUN | REAR AXLE | STEERING | Castrol Hi Press. | Esso Expee '90' | Motorine 'EP' | Shell Spirax E.P. 140 | Mobiloil 'EP' / 'EPW' |
| | GEARBOX | | Castrol 'XXL' | Esso '50' | Motorine 'B' De Luxe | Triple Shell | Mobiloil 'BB' |
| (4) OIL CAN | | | Castrol 'XL' | Esso '30' | Motorine 'M' | Double Shell | Mobiloil 'A' |
| (5) DISTRIBUTOR SPINDLE OIL CUP TYPE | | | Castrol 'XL' | Esso lube '30' | Motorine 'M' | Double Shell | Mobiloil 'A' |
| (6) APPLY GREASE | | | Castrol Hi Press. | Esso Grease | Belmoline 'C' | Shell Retinax R.L. | Mobil Grease No. 4 |

All lubricants recommended by us are of the highest standard of quality and have proved entirely satisfactory in extended service. They are each of the correct viscosity and character to afford complete lubrication protection.

MAINTENANCE CHART

(Section 1)

| | |
|--------------------------------------|--|
| WEEKLY OR EVERY 300 MILES | CHECK TYRE PRESSURES |
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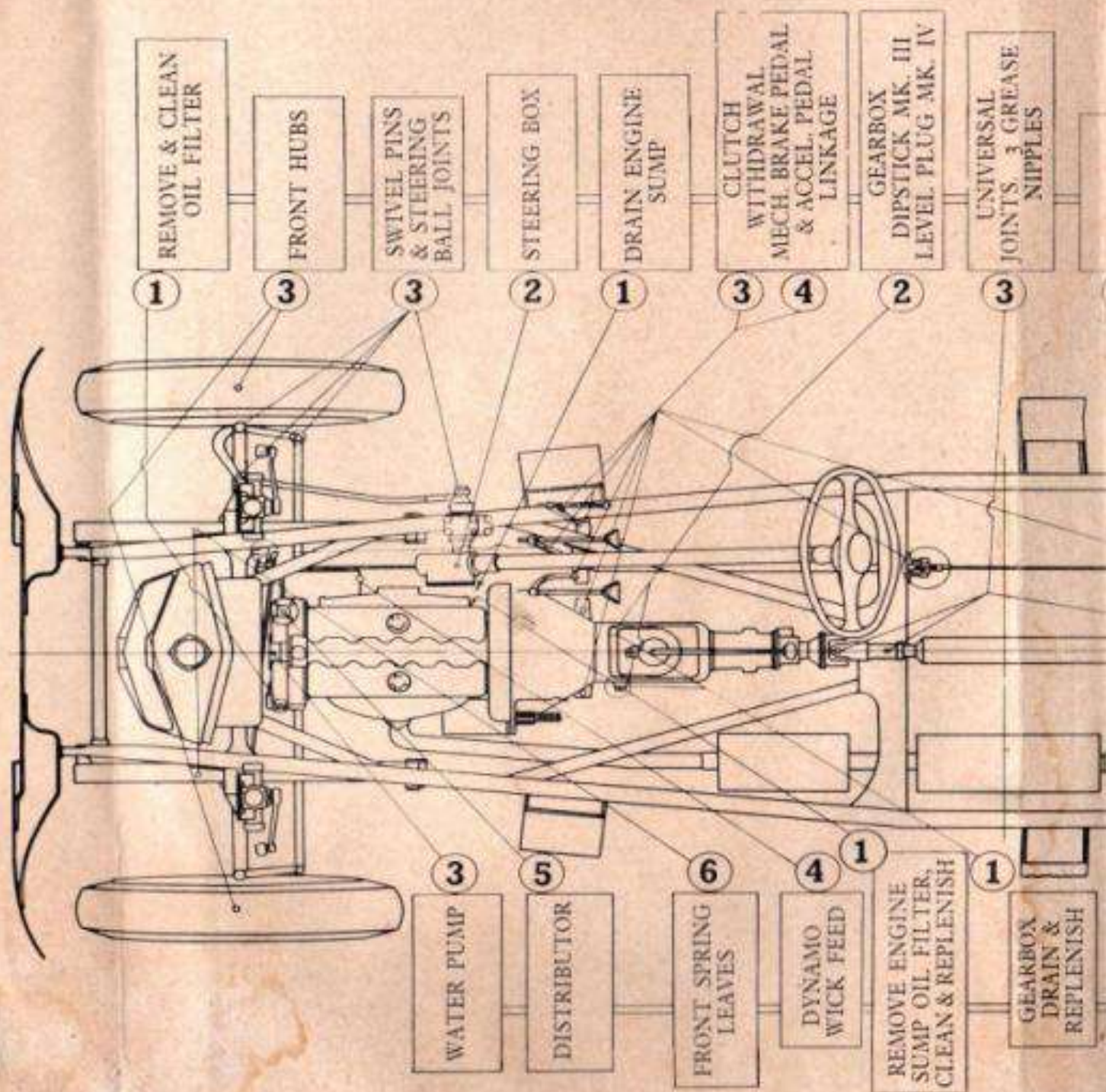
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| (2) REPLENISH | REAR AXLE | STEERING | Castrol HI Press. | Esso Expee '90' | Motorine 'EP' | Shell Spirax E.P. 140 | Mobiloil 'EP' / 'EPW' |
| | GEARBOX | | Castrol 'XXL' | Esso '50' | Motorine 'B' De Luxe | Triple Shell | Mobiloil 'BB' |
| (3) PRESSURE GREASE GUN | REAR AXLE | STEERING | Castrol HI Press. | Esso Expee '90' | Motorine 'EP' | Shell Spirax E.P. 140 | Mobiloil 'EP' / 'EPW' |
| | | | Castrolite Heavy | Esso Grease | Belmoline 'C' | Shell Retinax R.B. | Mobil Grease No. 4 |
| (4) OIL CAN | | | Castrol 'XL' | Esso '30' | Motorine 'M' | Double Shell | Mobiloil 'A' |
| (5) DISTRIBUTOR SPINDLE OIL CUP TYPE | | | Castrol 'XL' | Essolube '30' | Motorine 'M' | Double Shell | Mobiloil 'A' |
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MAINTENANCE CHART FOR

(Section 2)

DAILY:—CHECK ENGINE OIL LEVEL, RADIATOR WA



LEA-FRANCIS CARS

TER, PETROL LEVEL AND REPLENISH

