

INSTRUCTION
MANUAL

FOR THE

“WOLSELEY”

TEN

Revs

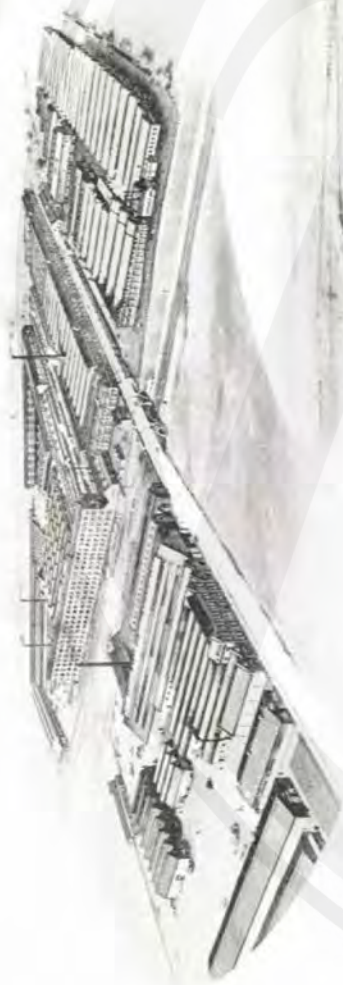
INSTITUTE



WOLSELEY MOTORS LTD

*Proprietors—*VICKERS LIMITED

ADDERLEY PARK
WORKS



WARD END
WORKS



The Birmingham Works of
WOLSELEY MOTORS LTD.
Total Area 100 acres.

No. 606.



By Appointment to
H.M. Queen Alexandra.

Price 7 6 net.

INSTRUCTION MANUAL

FOR THE

"WOLSELEY" TEN



WOLSELEY MOTORS LIMITED

(Proprietors—VICKERS LIMITED).

HEAD OFFICE:

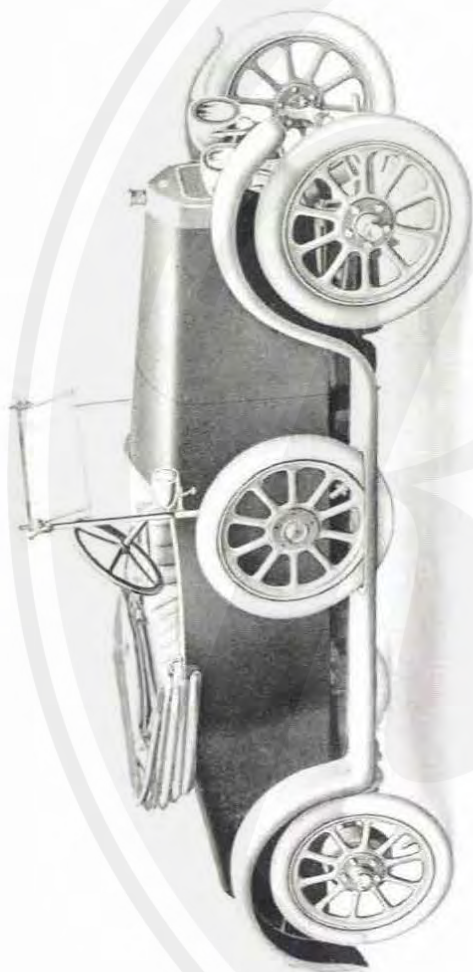
ADDERLEY PARK, BIRMINGHAM.

Telegrams—"Exactitude, Birmingham."
Telephone—Central 4361 (eight lines).

LONDON: Petty France, Buckingham Gate, Westminster, S.W.1

Telegrams—"Autovent, Vic., London."
Telephone—Victoria 6220 (six lines)
Receivers—Victoria 7744 (three lines)
Telegrams—"Wolseleyan, Sloane, London."

BOMBAY: Sandhurst Bridge Road, Chaupatty.



THE "WOLSELEY" TEN TWO SEATER.

This is the No. to be quoted in all correspondence or when ordering replacement.

Makers' Car No.

Type of Car

Owner:

Car Registration No.

Licence No.

Date Renewal Due

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THE "WOLSELEY" TEN.

Introduction.

THIS book of reference has been compiled for the help and guidance of our clients in the care, adjustment, and maintenance of the "Wolseley" Ten.

The design and construction of the car is such that all the mechanical details will be easily followed from the illustrations shown, even by those who do not possess any mechanical training.

We have endeavoured by careful selection of illustrations to enable our clients to give that care and attention to the lubrication systems and all parts of the car which are indispensable for its economical and satisfactory working. As far as possible we have dealt with all difficulties which may arise, but at the same time realise that there will be occasions when it will be difficult to diagnose some fault. We are always pleased to give such cases our special attention.

WOLSELEY MOTORS LIMITED

(Proprietors - VICKERS LIMITED)

ADDERLEY PARK, BIRMINGHAM



THE CHASSIS OF THE "WOLSELEY 10 TEN"

I.

General Description.

The chassis frame is constructed of pressed steel and is of tapered channel section. The engine has four cylinders, the bore and stroke of which are $2\frac{5}{16}$ in. (65 m/m) and $3\frac{3}{4}$ in. (95 m/m) respectively. The normal engine speed is 1,700 revolutions per minute.

The Treasury rating is 10.5.

The clutch is of the multiple disc type.

The gear box is of the sliding spur gear type, combined with the rear axle, giving three speeds forward and one reverse, the gear change being by side lever and selector gate mechanism.

A live type rear axle, driven by worm gearing, is fitted.

All four wheels are mounted on Timken taper roller bearings.

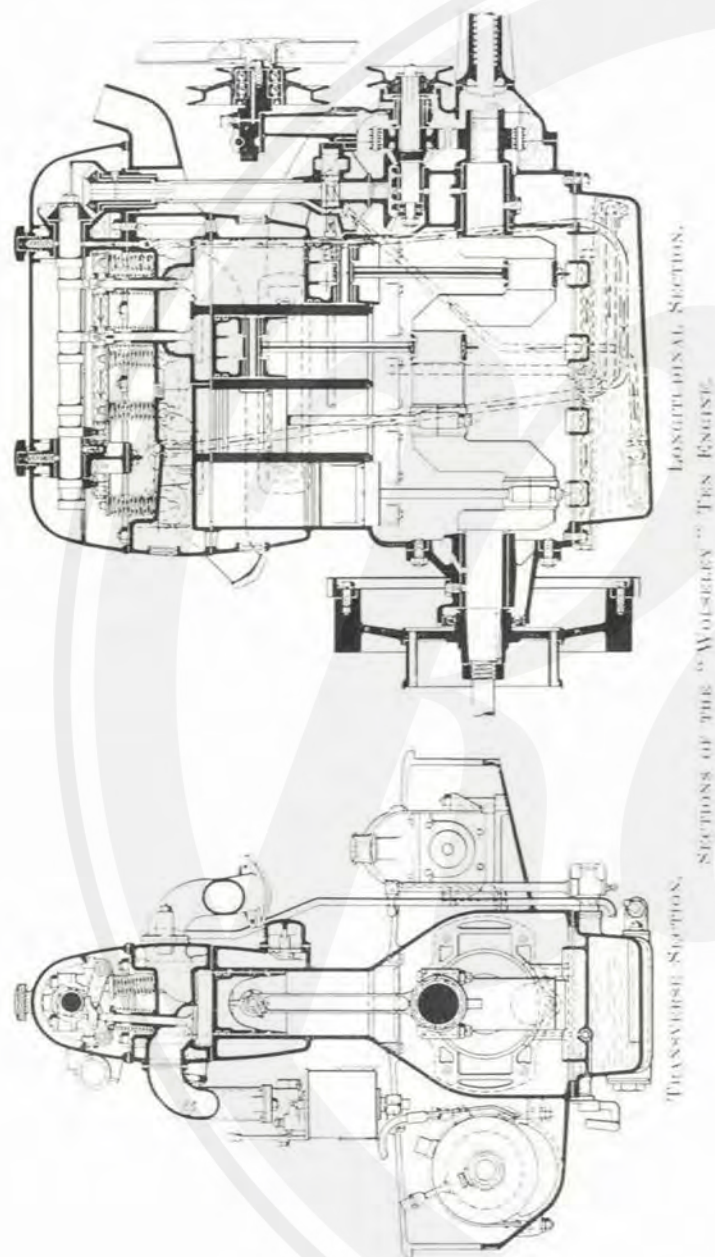
The petrol tank is fitted beneath the scuttle and fuel is fed by gravity to the carburetter.

The steering is through a worm and wheel. The ignition control lever is mounted on the steering wheel, and the throttle is controlled by a pedal, a hand adjustment being provided for starting and slow running.

There are two independent brakes, operating inside drums attached to the rear wheels, and actuated by a pedal and hand lever respectively.

The radiator is of the honeycomb type. Water circulation is maintained by thermo-syphon action, assisted by a fan.

Electric starting and lighting equipment is included in the standard specification.



II.

The Motor.

The motor is constructed with monobloc cylinders and detachable head. The valves are situated in the head, and are operated through rockers by an overhead camshaft. The camshaft drive is by an inverted tooth chain from the crankshaft to a countershaft immediately above it, from which a vertical shaft carries the drive through bevel gearing to the camshaft. The outer end of the countershaft carries the fan driving pulley.

The valves, which are inclined from the vertical, are actuated by set screws in the rocker arms, these set screws constituting a ready means of adjusting the clearance. The camshaft and valve operating mechanism is enclosed by an aluminium cover, which is removable by unscrewing two nuts.

The crankshaft is of the two-bearing type, and is carried in white metal bearings. The gudgeon pins work in phosphor bronze bearings secured in the pistons, the pins being fixed in the small ends of the connecting rods. The big ends of the connecting rods are lined with white metal.

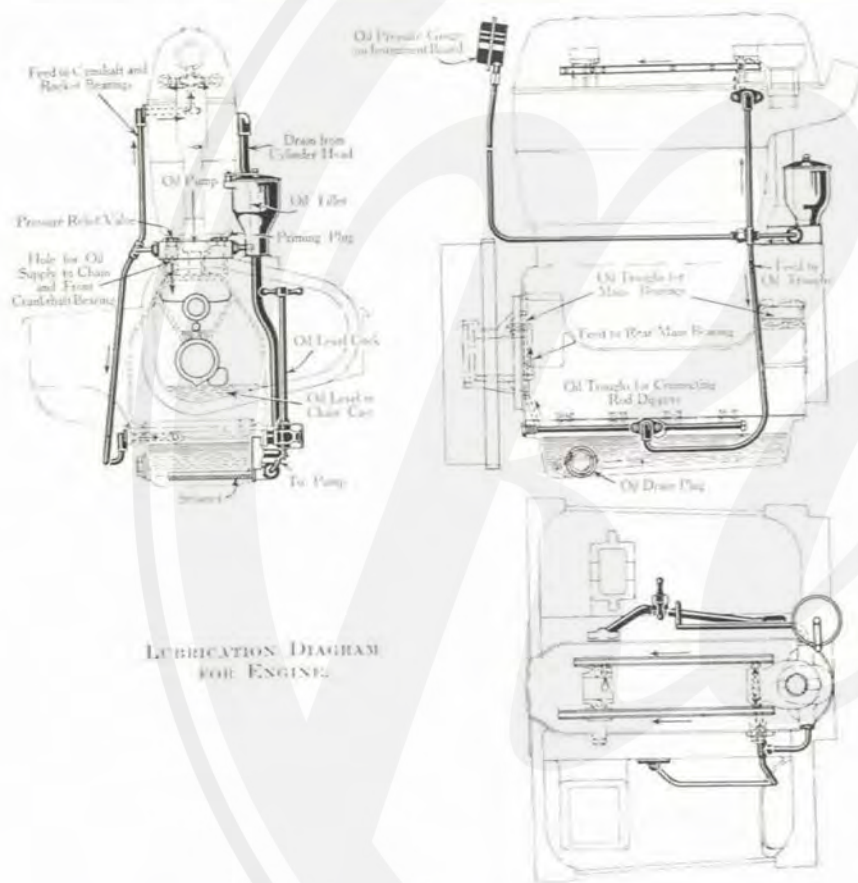
The cast-iron pistons, which have two rings, are lubricated by splash from dippers on the connecting rods.

LUBRICATION.

Selection of Lubricant.—Efficient lubrication with oil of good quality is undoubtedly the most important feature in connection with the up-keep of a car. The engine oil we recommend is "**Wolseley**" Extra Heavy Filtrate, a high-grade pure mineral oil, for which all our engines are adjusted. This oil has been used by us for many years, during which time we have spent much money on careful and accurate testing to ensure the best all-round results, and we strongly recommend owners of "**Wolseley**" cars to take advantage of our exhaustive experiments and experience.

Description of Lubrication System.—The lubrication system is automatic.

The engine oil base forms a reservoir, from which the oil is drawn through a detachable strainer to the oil pump. This is driven from the vertical shaft and is situated at the point where



LUBRICATION DIAGRAM
FOR ENGINE

the latter leaves the crankcase. Oil is delivered by the pump to the crankshaft bearings and the troughs which span the oil base, and also to the timing gear. In addition, a pipe is fitted by which oil is taken to the cams and the bearings of the camshaft and rockers, the surplus oil being returned to the oil base.

Oil Pressure Gauge.—A pressure gauge on the instrument board enables the driver to see that a sufficient pressure is maintained in the lubrication system. The pressure should not fall below 3 lbs. per sq. inch for efficient lubrication. The pressure will, of course, vary with the engine speed and the heat of the oil.

Replenishing Lubrication System.—An oil filler is provided on the crankcase for this purpose. First open the oil level cock and then pour oil into the filler. When it commences to drip from the level cock, turn off the cock and replace the filler cap.

When the oil base is filled to the correct level there should be sufficient for 250 to 300 miles' running. It is advisable, however, to replenish by adding oil, say, every 150 miles, special care being taken that it is never added to excess, as this causes a foul exhaust and much carbon deposit on the pistons.

The oil in the base should be changed about every 2,000 miles, as after a time it loses some of its lubricating properties.

It is of vital importance that no foreign matter should find its way into the engine with the oil; the strainer provided in the filler orifice should therefore always be used.

Oil Strainer.—If the oil is up to the level of the cock and the pressure, as shown by the gauge, is much below normal at normal engine speed, the oil filter should be examined and cleaned.

After a new car has run about 1,000 miles, the oil base should be drained by removing the drain plug and any deposit which may have collected in the sump should be washed out with paraffin. If the oil base is removed it is necessary to refill the troughs with oil before replacing it. It is preferable to use a brush for cleaning purposes, but on no account must fluffy material be used as particles are certain to remain in the oil base, and eventually choke the strainer.

Removal of Carbon Deposit.—Although the amount of oil splashed to the pistons and cylinder walls is reduced to the minimum compatible with efficient service, some is liable to work past the

rings to the tops of the pistons and the cylinder heads: these therefore require cleaning occasionally to remove the carbon deposit. This may be accomplished by removing the cylinder head. The sequence of operations is as follows—

Remove the bonnet and radiator stay. Empty the radiator, detach the water connections and remove the radiator. Detach the carburettor from the inlet pipe and hot air pipe. Disconnect the ignition wires from the sparking plugs and take out No. 4 sparking plug. Remove exhaust branch from cylinder head. Disconnect the oil feed and drain pipe from cylinder head. Take off the camshaft cover and undo the nuts securing the cylinder head to the cylinder block. Loosen the screw securing the bevel wheel to the vertical shaft and the cylinder head will be ready for lifting off. Great care should be taken not to damage the induction pipe joints or the cylinder joint if it is intended to use these again.

It is advisable, while the cylinder head is removed, to examine the valves and seats as to their condition. If these exhibit a pitted surface, they should be ground in in accordance with instructions given on page 16.

The faces of the cylinder and head must be thoroughly scraped and cleaned, but on no account should a file be used for this purpose.

When refitting the cylinder head a new copper and asbestos joint should preferably be used, although the old one may be used again if it is intact.

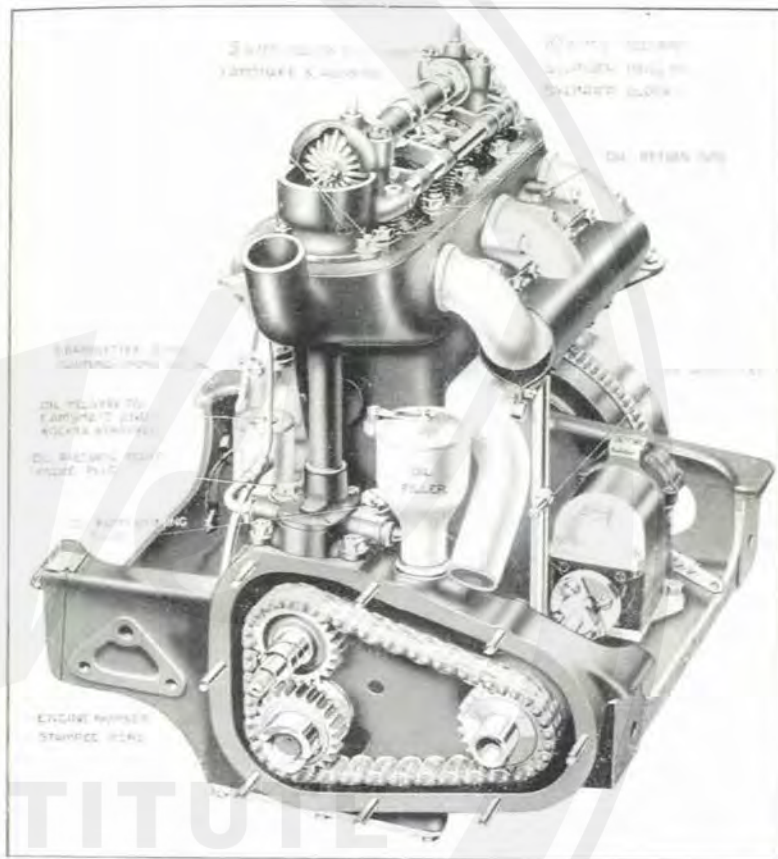
Great care must be taken that the joint does not burr up around the stud holes: also that it is clear of the cylinder bores.

No red lead or similar material should be used when making the joint, but as a further safeguard against leakage the joint may be dressed on both sides with shellac varnish or thick boiled linseed oil.

The joint should be nipped down evenly by tightening each nut a little at a time.

Do not tighten all the nuts up at one end of the cylinder head, or difficulty will be found when an attempt is made to tighten up those at the other end.

Screw down a nut at one end a little, and then go to the other end, and thus backwards and forwards until all the nuts are tight.



ENGINE WITH CYLINDER HEAD AND CHAIN COVER REMOVED.

To ensure a tight joint, the nuts should be further tightened after the engine is hot.

Carbon deposit, if excessive, causes pre-ignition, which is manifested by the "pinking" noise made when the engine is labouring on a stiff hill or when picking up on one of the high gears (see also page 23).

ENGINE TIMING.

Engine Timing Gears.—Access is obtained by removing the radiator and the engine front cover.

The lubrication of the timing wheels and chain is automatic, as the chain at its lowest point continually runs through a bath of oil. **On no account should grease** be put into the timing gear case, as it is in direct communication with the crankcase.

Valve Grinding and Adjustment.—Should the valves require grinding in, this operation should be carried out as follows—

Remove the cylinder head (see page 14). Remove the camshaft and rockers entire after taking off the five nuts indicated on page 15. Release the valve springs by removing the cotters from above the spring cups, and lift out the valves. The valves should then be smeared with a suitable grinding paste, and ground to their seats by means of a screwdriver or brace and bit. When "grinding-in" only slight pressure is necessary. A suitable paste is put up in convenient tins, and can be supplied on application.

While "grinding-in," the valve should be frequently lifted and moved round at the same time, so that the seating may be ground quite true all over. A light spring under the valve head will be found to be of some assistance.

After this operation the valves and seats must be thoroughly cleaned with a material which does not leave fluff. Do not swill with petrol or paraffin, as it is liable to wash the grinding material into the working parts.

In the event of a new valve being fitted, it will, of course, be necessary to grind it to its seat.

A minimum amount of wear takes place on the valve operating mechanism, as all dirt and foreign matter is excluded by the cover, and the parts are constantly subjected to a copious supply of lubricant.

The rockers which actuate the valves are provided with set-screws, by which the clearance between the rockers and valves may be adjusted. The correct clearance is .003 of an inch.

The engine should be quite cold when the adjustment is made. Do not overstrain the locking screw, although it should be pulled quite tight.

The correct timing of the valves depends solely on the form of the cam and relation of the engine gear wheels, and cannot be altered by the user unless gears or chains are dismantled.

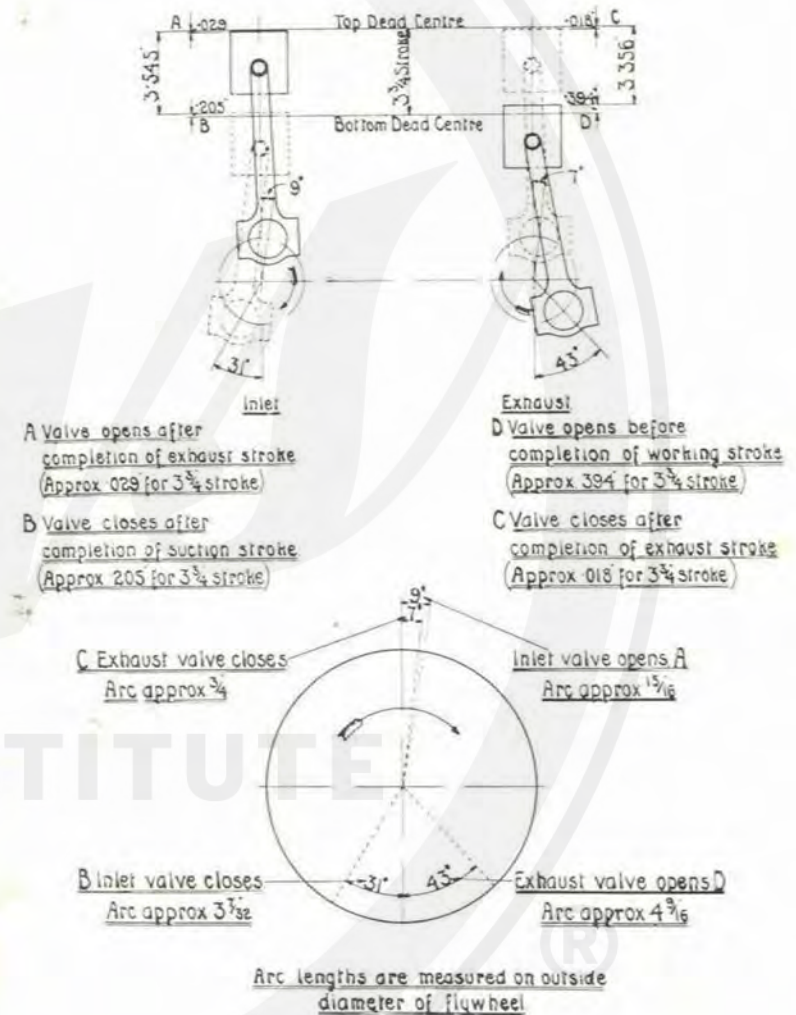


DIAGRAM OF VALVE SETTING.

III.

Cooling System.

The cooling is effected by means of a radiator of large capacity in front of the motor, assisted by a fan, placed immediately behind the radiator. The circulation is maintained by the thermo-syphon system.

The radiator is filled through a filler in the top, and the water should be replenished as may be found necessary. A gauze strainer is fitted in the filler, and is removable, but should always be used when filling up.

The expansion of the water on being heated is sufficient to cause an appreciable wastage during the first few miles' running, or while the temperature is reaching its maximum after filling up with cold water. This wastage need not cause any apprehension, as after running a few miles the surplus water will have been ejected, and further loss by evaporation will be very slight, except under abnormal conditions. Under ordinary working conditions the cooling system should require very little attention.

Filling the Cooling System.—It is essential when filling the radiator that the water should be clean. If hard water is generally used, depositing lime or magnesia, a strong boiling solution of washing soda will assist in removing the deposit, but care must be taken that this solution does not come into contact with the paintwork. If the ordinary water of the district is very hard, it is preferable to use rain water well strained.

To Empty the Cooling System.—Remove drain plug (No. 7 on page 32) with a box spanner at the lowest part of the system after unscrewing the radiator cap. In cold weather it is necessary to guard against frost, and if it is not possible to store the car

in a warm building, the precaution should be taken of draining all the water away, refilling—with hot water, if available—when the car is again wanted for use. If the water in the system is allowed to freeze, there is great risk of bursting the cylinders or radiator.

We do not advocate too frequent draining of the cooling system and refilling with fresh water, as this increases the amount of solid matter deposited on the radiator tubes.

Fan.—The fan is driven by a belt from a pulley on the bevel countershaft. The tension of the belt is adjustable by rotating the eccentric portion of the fan spindle. It should not be adjusted too tightly, or damage will be done to the bearings. The fan belt must be kept tight as it transmits the power which drives the dynamo.

A few spots of oil should be added to the lubricator every week.

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IV.

Carburetter.

THE ZENITH CARBURETTER is designed to give flexibility at all speeds, good acceleration and economical fuel consumption. It is also provided with a starting and slow running device.

The compound jet, shown at 1, consists of two distinct jets, the central one, which is called the main jet, being of the usual type, and fed direct from the float chamber. Under suction the flow of fuel from this jet increases faster than the flow of air, and gives a mixture which gradually becomes too rich. The outer jet, which is really a continuation of the compensating jet, has an opposite effect, supplying a gradually weakening mixture as the speed increases, because it delivers only what the compensator supplies, which, being open to the air, is unaffected by the suction in the carburetter itself.

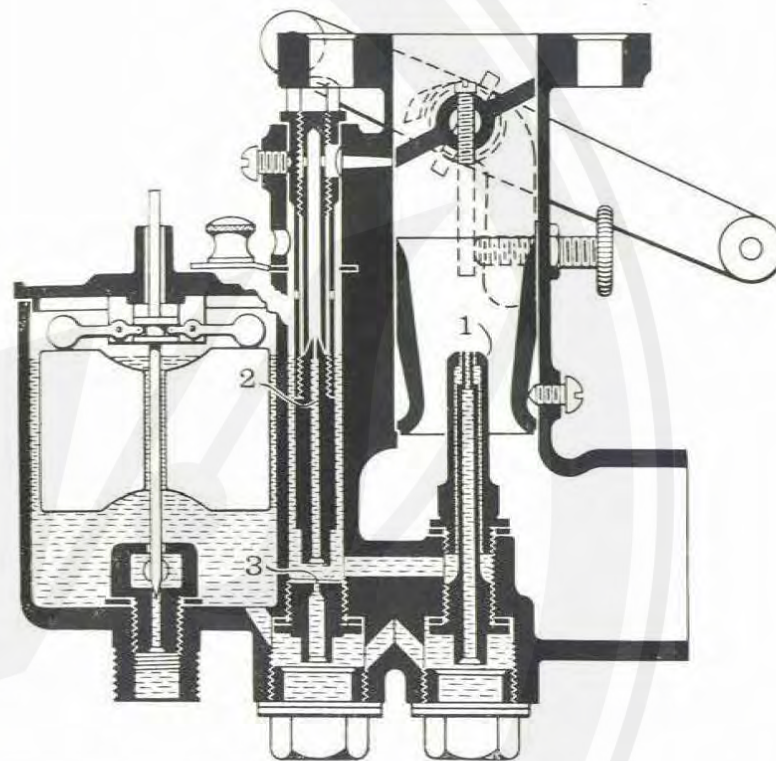
The two jets working in combination therefore maintain a balance, and the result is a constant mixture at all speeds.

The starting and slow-running jet, 2, communicates with the carburetter at the point where the suction is greatest when the throttle is just open. Consequently this starting jet is at the most sensitive point, and easy starting and good slow running is assured. Also when closing the throttle the slow running jet comes into action as soon as the suction on the main jets is too weak to draw fuel from them.

The compensating jet, 3, feeds fuel into the well above it, and is supplied from the float chamber, and, as before mentioned, both being open to the air, it is unaffected by the suction in the carburetter itself.

From thence the fuel passes up the side of the main jet, and also up the starting and slow running jet.

The reserve of fuel in the well when the engine is running slowly greatly facilitates acceleration, as it passes very quickly through the main jet cover and balances the sudden rush of air that passes through the carburetter on opening the throttle quickly.



ZENITH CARBURETTER FITTED TO THE "WOLSELEY" TEN.

When warm, if correctly set, the engine accelerates freely and quickly from the minimum to high speeds. When cold the engine may accelerate better if the throttle is opened gradually. During cold weather it is very important to warm the engine thoroughly by running it for several minutes before attempting to drive the car.

When the car is used in tropical countries and during hot weather, it may be advisable to turn the sleeve controlling the hot air supply to the carburetter so as to admit cooler air.

Hints on Locating Carburetter Faults.—If, after a period of satisfactory running, the engine runs badly, first ascertain if fuel is properly supplied, and that the pipe to the carburetter is not blocked up. If fuel comes out of the jet freely on flooding the carburetter, there is no doubt of this. Also see that the induction pipe joints are quite tight.

Should the float chamber flood, the following are the most likely causes—

- (1) The float may have developed a leak, and become wholly or partly filled with fuel, therefore being unable to hold the needle valve tight.
- (2) There may be a little grit under the needle valve, which will probably be removed by allowing the fuel to flood through for an instant. The needle valve should be held up for a short time, and not pulled up and down, as this is liable to damage the valve seat.
- (3) The needle valve seat may require re-grinding, which should be carefully done, great care being taken that there is no grit on the seat when being ground, or it will be ruined. The best grinding medium is jewellers' rouge.

If the carburetter is dismantled for cleaning it is essential, if the best results are to be obtained, that it is correctly adjusted after assembly. The slow running choke (with the round milled head) should be screwed right down with the finger and thumb and then turned back one half turn and locked in this position with the locking nut. The throttle lever stop should be unscrewed until the throttle is completely closed and then screwed up one-half to two-thirds of a turn and locked in position with the locking nut. This will open the throttle very slightly to the correct starting position. When it is desired to stop the engine the ignition should be switched off.

"Pinking."—"Pinking" is due to the spontaneous ignition of the residue of the charge after primary ignition has occurred around the sparking plug points, caused by the pressure rising to such an extent that the spontaneous ignition temperature of the mixture is attained.

As this pressure depends upon the initial compression, it follows that a high efficiency engine is more liable to "pinking" than one having a relatively low compression.

The liquid fuels at present available vary considerably in their spontaneous ignition temperatures, and some of them have a comparatively low spontaneous ignition temperature, and consequently the tendency to "pinking" is greater when using these fuels in a modern high efficiency engine.

A ready means of preventing "pinking" is, however, available. Benzol has a spontaneous ignition temperature several hundred degrees above that of any petroleum spirit, and if mixed with any type of petrol in equal proportions, practically eliminates the tendency to "pinking."

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V.

Ignition System.

Magneto.—The magneto is chain driven from the motor. It requires only occasional lubrication, about two drops of oil in each lubricator every 1,000 miles. The machine must be kept clean and free from damp. The metal segments in the distributor require cleaning about every 1,500 miles with ordinary metal polish.

Contact Breaker.—The contact breaker is fitted on the rear end of the armature spindle, and is held in position by a screw, the removal of which will allow the contact breaker to come away.

The distance between the platinum points when the lever is depressed by the steel segments must not exceed $\cdot 015$ inches. The distance may be adjusted by means of the screw. A gauge, which is combined with the special spanner, is supplied for this purpose.

Special care should be taken that the platinum points of the contact breaker are always free from oil, as otherwise it is impossible to make a good contact, and may cause misfiring.

The spark at the plug occurs at the moment of separation of the platinum points, each plug firing in succession according to the position of the brush in the distributor.

Timing of the Ignition.—Variation in the time of ignition is effected by causing the platinum points to separate earlier or later. For this purpose the timing lever is arranged so that it can be rotated; the position of the cams being thereby advanced or retarded.

Setting of the Ignition.—In order to check the setting of the ignition, if occasion arises, the engine should be cranked until the piston in No. 1 cylinder reaches top dead centre on compression

stroke, when the platinum points of the contact breaker with the ignition fully retarded should be just on the point of breaking and figure No. 1 opposite the window in the distributor cover. The order of firing is—1, 3, 4, 2. No. 1 cylinder is the front one.

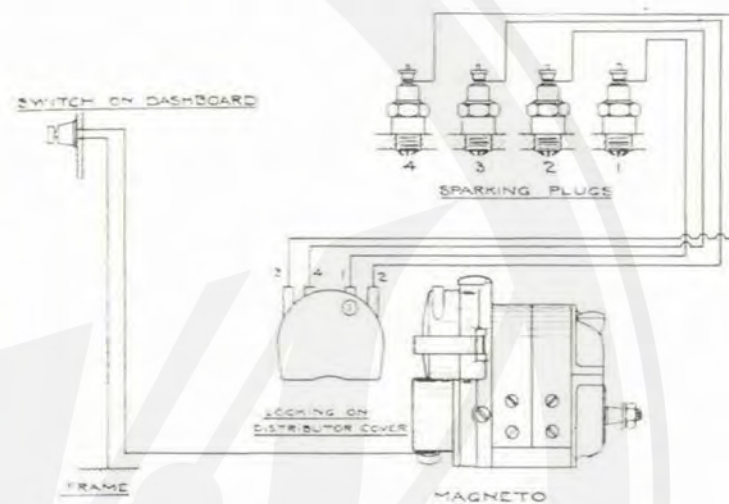


DIAGRAM SHOWING ORDER OF FIRING AND CORRECT WIRING.

Fault Location.—In the event of the ignition proving defective, the cause may generally be most quickly located by proceeding in the following manner—

- (1) If missing occurs in one cylinder only, examine the plug: the points may be short-circuited, the gap too wide, or the insulation weak through excessive sooting. The gap should be about 0.4 mm (0.015 inch or $\frac{1}{16}$ inch); bad insulation may sometimes be remedied by washing the plug out with petrol. As a rough test, the plug may be removed and allowed to spark when lying on the cylinder cover; a spark under these conditions is not an absolute proof of the efficiency of the plug, however, as it can happen that the same plug might fail to spark under compression.

- (2) Defective insulation or a loose or broken wire in one of the high tension cables leading from distributor to plugs may occasionally be responsible.
- (3) Complete failure of the ignition may mean that the wire leading from the magneto to the cut-off switch has been accidentally earthed. This may be tested immediately by disconnecting the wire at the magneto, when it should again operate normally if this has been the cause.
- (4) Another possible cause of complete failure of the ignition is the sticking of the contact breaker. If this is the case, the hole in the fibre bush forming the bearing should be very slightly enlarged.

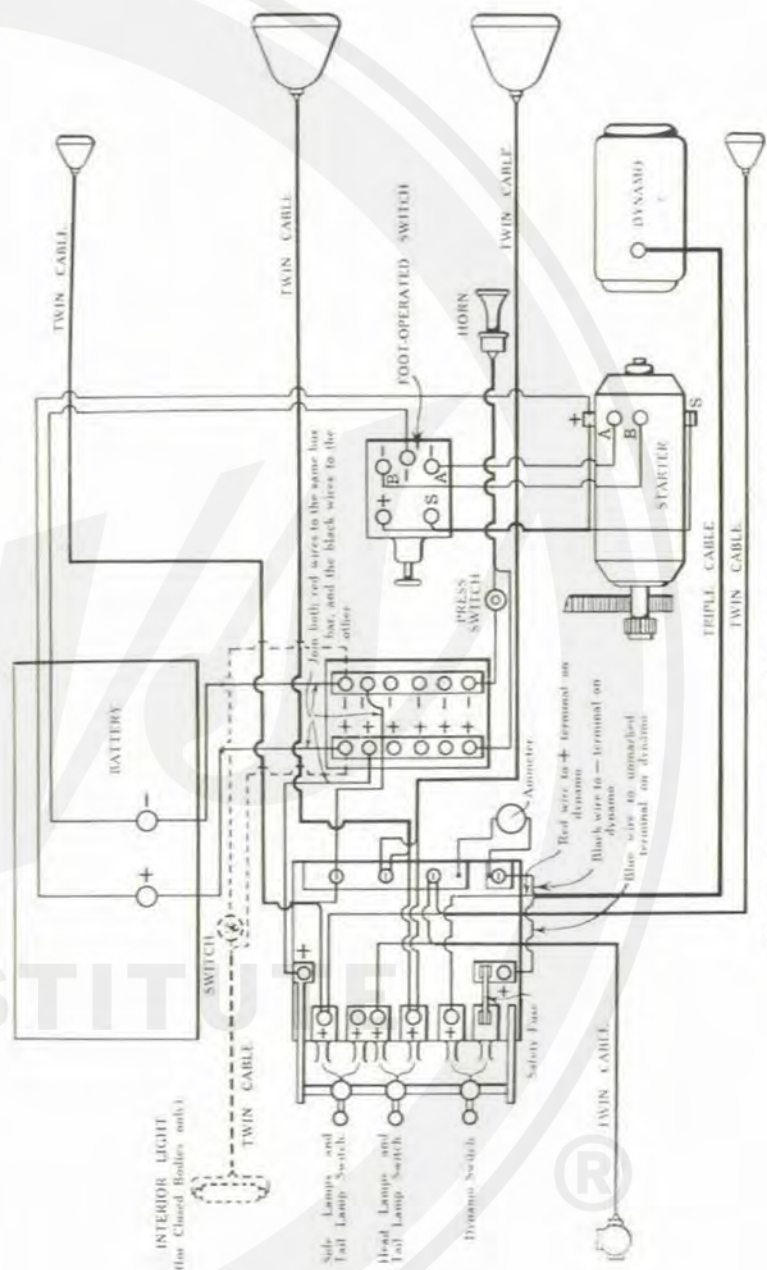
ELECTRICAL STARTING AND LIGHTING EQUIPMENT.

Dynamo.—A few drops of oil should be put in each lubricator and the free wheel every 1,000 miles or so.

The commutator should be examined occasionally, and, if necessary, cleaned with a piece of rag. Should the surface be rough, or glazed with carbon, it may be carefully smoothed with very fine glass-paper. See that the brushes slide freely in their boxes.

Starter.—When starting the engine electrically do not forget to set the carburetter and ignition controls the same as when starting by hand. Press down the starter switch to about half its traverse and dwell momentarily there before urging the plunger right home. The plunger should be released immediately the engine fires.

As the starter is only used at intervals, it does not require lubricating as often as the dynamo, and a few spots of oil in the lubricator and the driving pinion thread every month will be sufficient. If the pinion should become sluggish on the thread, clean the threads with a small brush dipped in paraffin; a little fresh gear oil should then be added.



WIRING DIAGRAM FOR C.A.V. ELECTRICAL EQUIPMENT.

Dynamo Switch.—Until it is known that the battery is fully charged, the dynamo switch should always be on while the engine is running.

When the battery is fully charged there is no object in further charging until the lights are required, when the dynamo should always be switched on. If any doubt is felt, however, as to whether the battery is charged or not, the electrolyte should be tested with a hydrometer.

All battery connections must be kept tight, as bad contact will cause the field fuse in the switch-box to "blow."

Belt Adjustment.—To tighten up the dynamo belt, screw up the outer jack screw on the swinging bracket a little, and unscrew the inner jack screw until the slack in the belt is taken up. The belt should not be adjusted too tightly or excessive load will be put on the dynamo bearings.

Battery.—It is absolutely essential for the efficient working of the electrical equipment that the battery is kept in good condition.

The best indication of the state of the battery is the strength of the acid. The specific gravity of the acid should be 1.225 when fully charged, and should never be discharged below 1.170. Should the battery be slightly overcharged, no harm will be done, but much harm can be done by excessive discharging. Hydrometers for testing the specific gravity of the electrolyte can be supplied to order.

The electrolyte in the cells should be maintained at a level of about $\frac{1}{4}$ inch above the tops of the plates by the addition of pure distilled water as often as required, care being taken, however, not to reduce the density below the figures given above.

Never add acid except to compensate for spillage. The battery must be kept clean, and if any water or acid has been spilt it must be wiped off at once. The connections must be kept tight. Any corrosion of the metal should be removed and the parts smeared with vaseline.

Never bring a naked light near the battery.

Keep the vent holes clear.

Care should be taken that the battery is held firmly in position to prevent jolting, or the connections will be broken.

Focussing the Head Lights.—When it becomes necessary to fit a new bulb, the lamp should be properly focussed on the road, the simplest method being to focus on an object about 100 yards from the car, adjusting the position of the bulb by means of the holder until the best illumination is obtained.

In case of failure of any of the lamps, the bulb should be examined. If this is found good, the plug contact where the wire enters the lamp should be examined, as it may be found that dirt has entered, causing a bad connection. If this is correct, examine the contact plug where the wire leaves the chassis. Loose terminals on the switchboard or battery will cause a fluctuating light.

Reflectors should only be touched when absolutely necessary. A very fine chamois leather is the best thing to clean the surface; an ordinary cloth will spoil the high finish of the silver.

Fuse.—This is placed in main negative dynamo circuit, and will be found inside switch box. It will blow should the battery or dynamo circuit become disconnected in any way. When replacing fuse, care should be taken that the wire is pushed well down in clips.

VI.

Chassis Details.

CLUTCH.

The clutch is of the multiple steel disc type, fully enclosed and running in oil.

It is necessary to add oil occasionally to make up for wastage, one of the plugs provided (see page 31) being removed for this purpose.

We recommend "Wolseley" disc clutch oil as being the most suitable, and we attach great importance to this recommendation, as we have found in several instances that clutches have been ruined, and sometimes damage to the change speed gears has been caused solely on account of the use of an unsuitable lubricant.

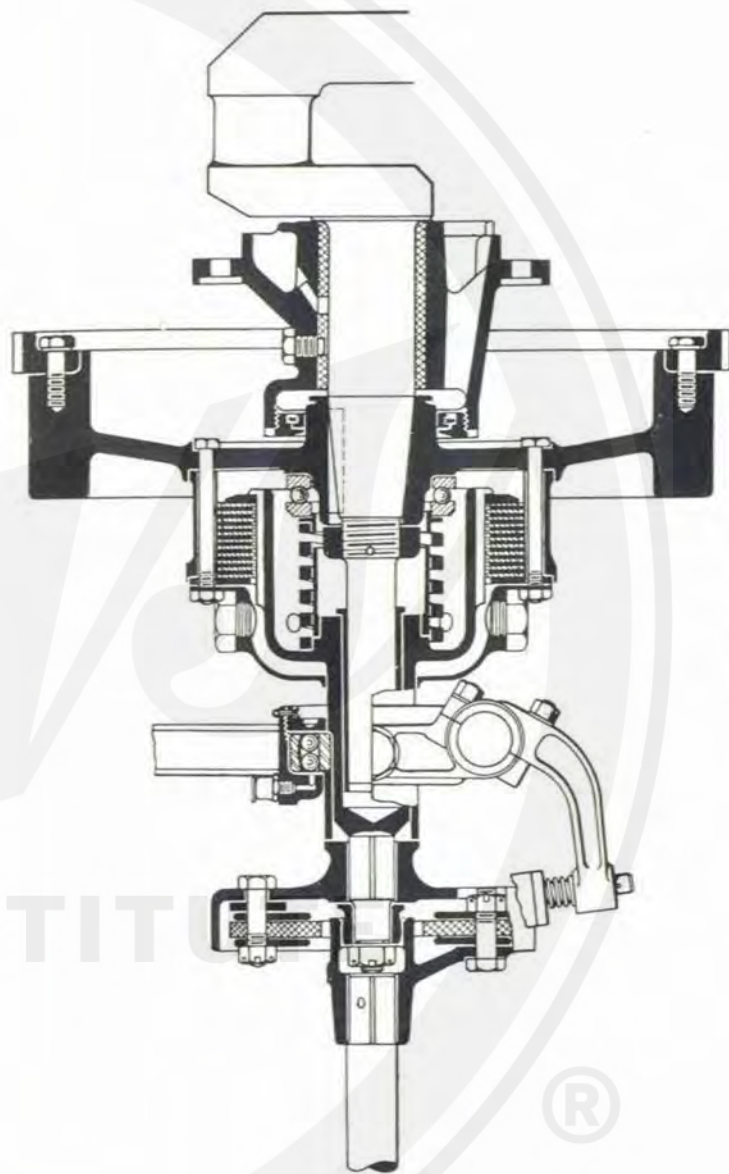
Never run the clutch with paraffin or graphite.

The car should not be driven with a slipping or fierce clutch. Slipping will cause heating and wear; fierceness may cause serious damage to the mechanism and tyres.

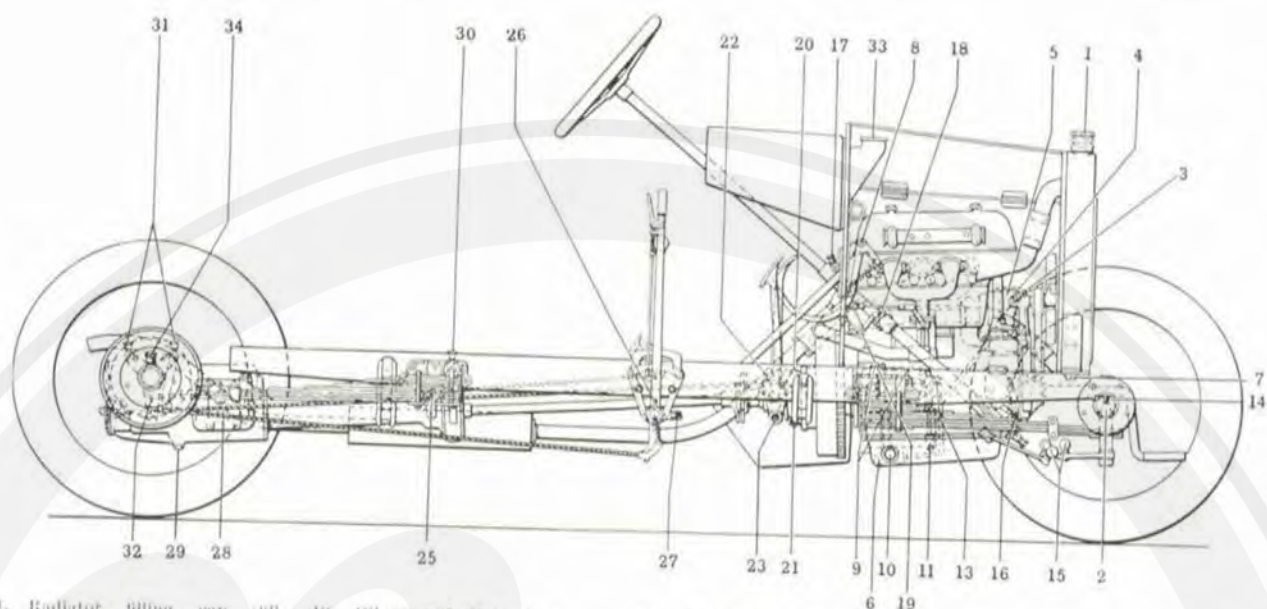
If the clutch slips the following points should be looked into—

The clutch pedal may be fouling the floor board, thus preventing the full engagement of the clutch. The spring tension may have become reduced owing to wear on the plates; additional ones should be put in to make up the thickness. If the plates when taken out are found to be scored, it is advisable to return them to the works for treatment.

The oil (if not "Wolseley" disc clutch oil) may be too thick, or too much may have been added. Tightness of the universal joint or stiffness in the pedal actuation may also prevent the full pressure of the spring taking effect on the plates. These details should be kept well lubricated.



SECTION OF CLUTCH.

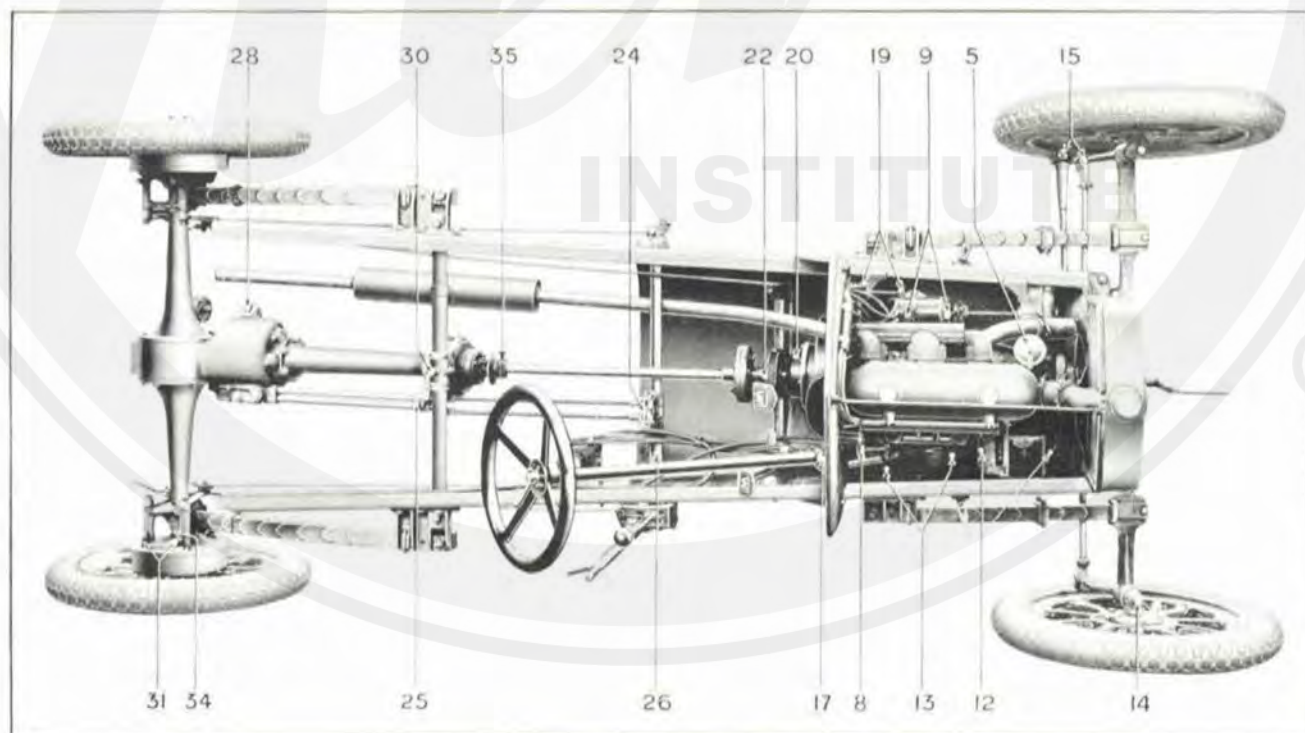


1. Radiator filling cap (fill through strainer).
2. Grease the hub bearings (remove hub caps).
3. Oil the fan bearing.
4. Adjustment for fan belt.
5. Crank chamber oil filler (fill through strainer).
6. Engine oil strainer.
7. Drain for water circulation.
8. Oil the accelerator pedal bearing.
9. Oil the magneto.

10. Oil reservoir drain plug.
11. Oil level cock.
12. Oil the dynamo.
13. Oil the starter.
14. Grease the swivel pins (top and bottom).
15. Oil the steering joints.
16. Oil the steering worm.
17. Grease both steering column bearings.
18. Oil the control block.
19. Oil the magneto control bearings.

20. Oil plug for clutch.
21. Drain plug for clutch.
22. Oil the clutch thrust bearings.
23. Grease the pedal shaft bearings.
24. Oil the change speed rod joints.
25. Oil the change speed rods bracket.
26. Oil the change speed sliding shaft bearing.
27. Grease the hand lever cross tube bearings.

28. Gear-box and axle case oil filler.
29. Gear-box drain plug.
30. Grease the tongue tube ball socket (two greasers).
31. Grease the brake actuating splines.
32. Grease the spring pins.
33. Petrol tank filler (fill through strainer).
34. Oil the rear wheel bearing.
35. Oil the universal joint.



CHASSIS LUBRICATION DIAGRAMS.

The letterpress refers to both diagrams—elevation and plan.

If the clutch is too fierce more oil should be used.

The ball bearing in the clutch withdrawal collar and also the pins which transmit the pressure from the pedal should be lubricated occasionally.

The clutch stop should be cleaned occasionally with a duster moistened with petrol.

Propeller Shaft.—The drive is taken from the clutch to the gear-box first-motion shaft by a propeller shaft, which is provided with universal joints at each end.

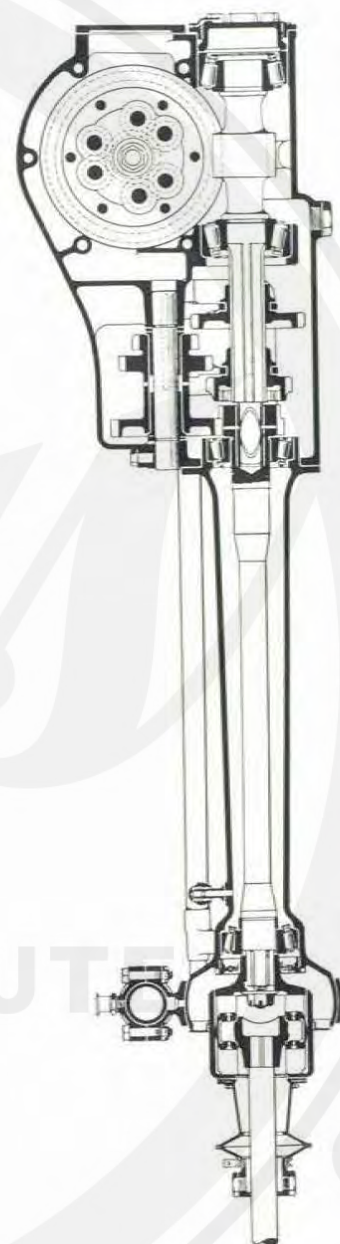
The joint enclosed in the torque tube ball should be lubricated with gear oil every 500 miles. One of the plugs in the clip which secures the leather cover to the shaft should be removed, and the oil injector screwed in. **Do not use grease for lubricating the universal joint.**

The fabric universal joint should not require any attention.

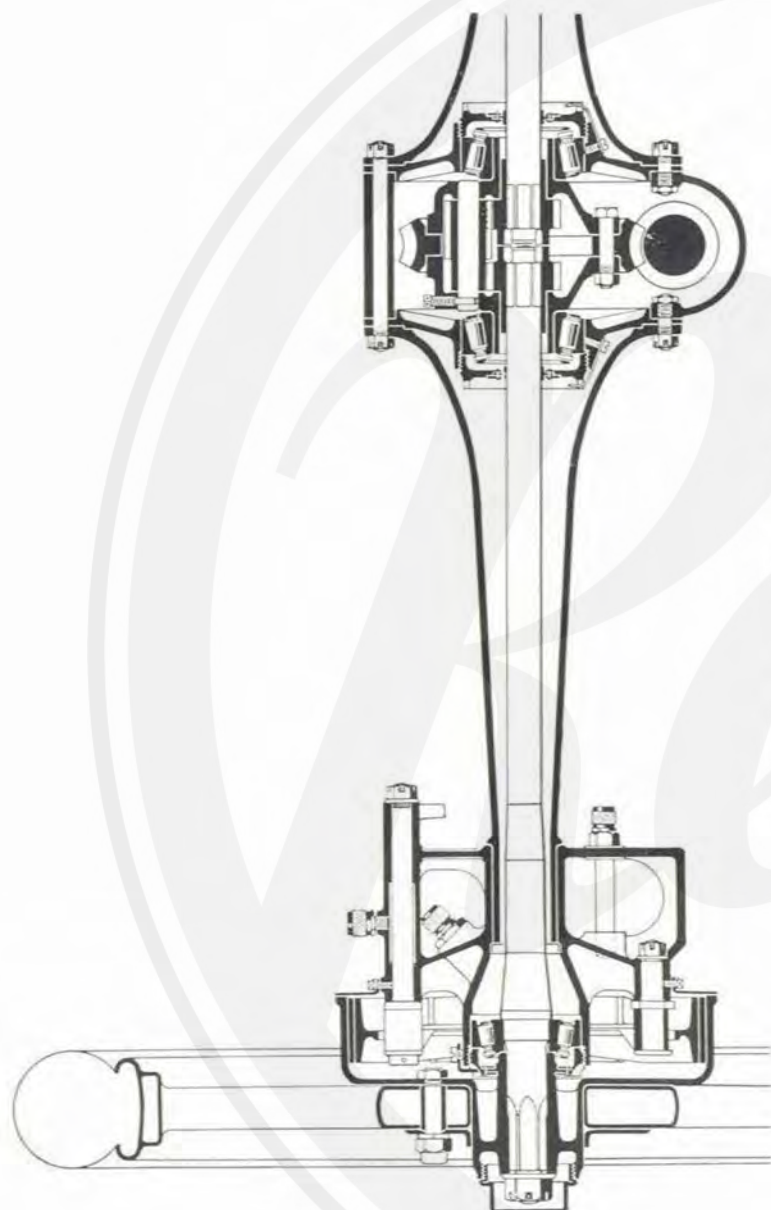
TORQUE TUBE

This is rigidly bolted to the axle casing at the rear end, and is carried by a swinging ball socket at the front end. Two greasers are provided for the lubrication of the ball and socket. Use "Wolseley" Filtrate Cup Grease.

Combined Gear-box and Live Axle.—The gear-box is of the three-speed type with direct drive on top. The bearings in the gear-box supporting the worm and first motion shaft are Timken tapered roller bearings. These bearings are adjustable, but adjustment should not be required except after long service. For lubrication we strongly advise clients to use only "Wolseley" Filtrate Gear Oil. On no account should thicker oil, grease, or *graphite* be used. An inspection cover is provided on the side of the gear-box. The gears should be inspected occasionally and the gear oil replenished as required. When replenishing the gear-box, it should be filled to the level of the filler. After every 2,000 miles the gear-box and axle should be thoroughly washed out with paraffin, using a brush to make sure that all foreign matter has been washed away.



SECTION OF TORQUE TUBE, GEAR-BOX AND REAR AXLE



CROSS SECTION THROUGH REAR AXLE.

As the live axle is combined with the gear-box, the lubrication arrangements are together, the inner bearings being automatically lubricated from the oil in the case. The rear axle is fitted with worm gearing, end play in the worm shaft being taken up by adjustment of the Timken bearings. The thrust on the worm shaft and worm wheel is taken by Timken tapered roller bearings. The differential shaft bearings near the road wheels are enclosed in the ends of the axle tubes and a little gear oil must be added through the plugs provided every 1,000 miles.

When adjustment of Timken bearings is necessary we recommend that it should be done by an accredited repairer.

Oil the change speed rod joints occasionally.

Brakes.—The brakes are of the internal enclosed double-acting shoe type, there being two pairs of shoes operating inside each brake drum. One pair is actuated quite independently of the other pair in the same drum, each pair being operated by the hand lever and pedal respectively.

The brakes are fitted with renewable fabric linings.

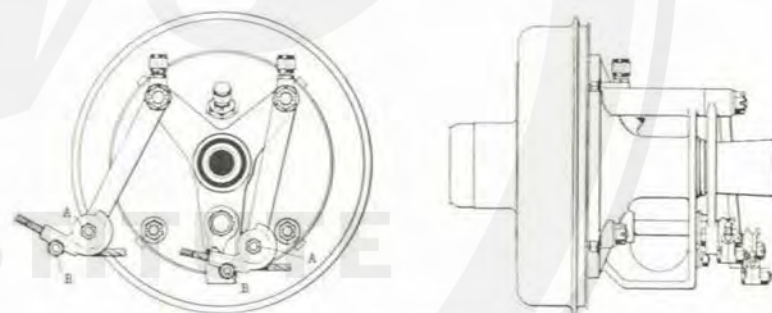


DIAGRAM SHOWING BRAKE ADJUSTMENT.

To adjust the cables undo the nut ("A") in the centre of the adjusting disc on the brake lever until the ratchet is disengaged, then turn the disc until the slack in the cable is taken up, and tighten the nut again. When the full range of adjustment has been taken

up in this way, set back the ratchet and undo the nut ("B") which secures the cable in the clip. Draw the cable through and tighten up the nuts again.

Front Axle.—The front axle is a steel drop forging, carrying the swivel axles in plain bearings. These bearings are lubricated through the grease cups fitted to the top and bottom of the swivel (No. 14, page 32). "Wolseley" Filtrate Motor Grease should be used for this purpose.

The front wheels run on Timken taper roller bearings, which are adjustable, but require little attention beyond ensuring adequate lubrication.

It is important, however, that the car should not be run when the wheels have excessive end play. In this case the bearings should be adjusted until the end play becomes only just perceptible. The bearings must not be over-tightened, and it will be found necessary if adjustment is required, to remove a little metal from the end of the axle with a file or by other means.

The internal cones are a good sliding fit on the axle, so that they can be adjusted easily.

The external cups are a tight fit in the housing.

If the hub bearings have been removed for any purpose, the cups must not be hammered into position, but replaced by applying a steady even pressure.

The front hub bearings are lubricated by removing the hub cap and filling the hub with grease. The advantage of keeping the hubs full of grease is that thereby water is excluded from the bearings. Care should be taken that the grease is free from grit.

A film of lubricant should always appear outside the inner hub bearing and also outside the upper swivel pin bearing.

Carriage Springs.—In all cars the springs are standardised, and are made to various specifications to suit different types of bodies, and it is essential that the load on the chassis should be approximately what is provided for in the spring specification.

If modifications or additions are made to the body after leaving our works, the suspension of the car may require modification to give the best results.



SECTIONAL VIEW OF FRONT HUB AND SWIVEL AXLE.

If the spring plates are allowed to get rusty, the action of the springs is restricted.

It is therefore necessary to lubricate with grease between the leaves occasionally. The easiest way to do this is to jack up the car so that the springs are entirely relieved of weight, and then separate the leaves by inserting a screwdriver or chisel. A thin strip of metal dipped in a mixture of graphite and grease can then be passed between the parted leaves.

The bolts securing the springs to the spring brackets should be examined weekly during the first few weeks' driving of the car to ensure that they are kept tight, as the spring plates may "settle" slightly, and thus cause the bolts to become slack, with the result that the bracket might fracture if the slackness is not taken up. The bolts holding the spring brackets to the frame should also be examined periodically, and tightened if necessary, as a slack bolt allows hammering and consequent fracture of the bracket.

It is most necessary that the rear spring pins should be kept lubricated (No. 32, page 32), as even if they do not squeak they rapidly wear if allowed to become dry. Lubricators are provided for this purpose.

Detachable Steel Wheels.—These should be removed periodically and the parts well greased, otherwise they may be difficult to detach. The photographs on the opposite page illustrate the method of jacking-up the car for this purpose. After the car has been jacked-up, the wheel can be easily taken off after unscrewing the five hub nuts.

Steering.—The steering is of the worm and wheel type, the worm being adjusted for end play by the screw in the bottom of the casing.

The steering lever is rigidly fixed to the worm wheel, and is connected to the axle by means of a ball-jointed steering tube which passes across the chassis to the steering arm on the near



THE ABOVE PHOTOGRAPHS ILLUSTRATE THE CORRECT POSITION FOR PLACING THE JACK UNDER THE FRONT AND REAR AXLES FOR RAISING THE CAR.

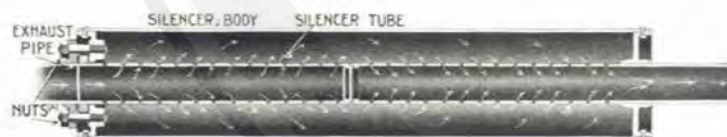
side swivel axle. The joints of the steering tube, and also those of the steering cross rod behind the axle, must be frequently oiled (say every 200 miles). The steering column bearing should be lubricated weekly through the cup provided. It is important that the steering worm box is kept full of gear oil.

The nuts securing the steering arms to the axle swivels should be periodically examined and tightened up if necessary, as if they are at all slack the excessive strain caused by the consequent hammering is liable to cause fracture by fatigue, and may result in a serious accident.

It is important, to prevent undue strain on the steering and wear of front tyres, that the front wheels should be correctly set. The correct setting is that the measurement from centre to centre of the tyre, at lines passing through the centre of the wheels, should be $\frac{1}{4}$ inch less at the front than at the back.

When a car is stationary, the wheels should never be forced round by the steering wheel. This causes unnecessary strain to be placed on the steering gear unless assistance is rendered by someone also pulling the road wheels in the direction required. When manœuvring, the slightest movement of the car is sufficient to prevent this strain.

Silencer.—After the car has run a considerable distance the holes in the silencer centre tube may require cleaning, as they gradually become choked with soot. Unscrew the nuts A, detach the exhaust pipe, and draw out the tube. A choked silencer results in loss of power.



SECTIONAL VIEW OF SILENCER.

Fuel Tank.—When filling, to avoid injury to the varnish, the tin should be tipped with the spout on top. Always use a strainer. A strainer is combined with the fuel cock, and the cup should be removed occasionally for cleaning.

Bonnet.—Bonnet catches and hinges should be oiled occasionally.

Tyres.—The tyres are such an important item in the upkeep of a car that they should receive very careful attention, in order that the best service shall be secured from them. In the first place, it is very necessary to see that all tyres are fully inflated to their correct pressure. This varies according to the weight of the car and the size of the tyres, and therefore it is advisable to obtain from the tyre manufacturers their special books of instruction for guidance.

The pressure for the tyres should be approximately 50 lbs.

We always recommend clients to carry, in addition to the spare wheel, one or two spare inner tubes for replacement in case of more than one puncture, as it is not always possible to effect a satisfactory repair to a punctured tube by the roadside.

INSTITUTE



VII

Hints on the Care of a "Wolseley" Ten.

Before starting a journey make sure there is sufficient fuel in the tank to feed the engine at least as far as the next prearranged stopping place. Inconvenience is often caused to driver and passengers if the tank has to be replenished on the road side. Always carry a spare can.

Replenish the oil in the engine sump and see that the lubrication system is working properly, also see that the universal joint in the transmission is thoroughly lubricated. Make sure the clutch has sufficient oil but does not slip.

Fill up the radiator.

The brakes should be examined to see that they are working freely and are properly adjusted, and also that the cam spindles are adequately lubricated.

The tyres should be pumped if necessary, not forgetting the spare. See that the detachable wheels are properly fixed, and are readily removable if found necessary.

Make sure the spares are sufficient and are reasonably accessible.

Hints on Driving.—Don't try to start the engine with the throttle too far open. (See page 48.)

Don't unduly flood the carburetter.

Don't open the throttle too far or too quickly until engine is sufficiently warm, otherwise you may have a "pop back," and if the carburetter has been flooded a more or less serious fire.

Don't slip the clutch unduly.

Don't accelerate the engine after changing up until the clutch is home.

Don't hang on to the high gears too long when ascending hills. It is a good rule to change down when the engine speed has dropped to about 1,700 r.p.m. (See page 55.)

Hints on Care of Car.—Don't grind in valves unless it is really necessary.

Don't swill out valve pockets with paraffin or any other liquid after grinding—clean them with a piece of good clean rag.

Don't neglect the tyres—see recommendations by tyre makers.

Don't let detachable rims and wheels get rusty.

Don't allow a chipped place on the wheels or axle get rusty, as the rust will eat under the surface of the surrounding enamel and blister it off. Use black japan to touch up any parts should the enamel chip. This should be laid on as thinly and evenly as possible.

Don't let the door hinges, dovetails, screen, hood and grille joints get rusty for want of a little oil.

Don't let screen joints remain loose; they soon wear and perhaps cannot then be tightened up.

Don't force windows unduly—if they are tight at any time apply a little soap or vaseline to the grooves. When lowering windows don't let them fall with a bang.

Don't lean upon the doors of a car when open. Shut the doors with sufficient smartness to ensure that the slam lock engages fully.

Don't let accumulators rattle in their boxes or run down, and don't let the acid be spilt.

A very slight smearing of the bonnet with linseed oil will prevent spotting of the paint on the bonnet if applied before the car goes out into the rain.

When cushions get wet, remove and dry them as soon as possible, and don't put them back until the leather is thoroughly dry.

The hood curtains should not be taken off until they are dry, otherwise they will shrink, and perhaps then cannot be replaced without altering buttons. Neither should the hood be folded when it is wet.

The car should not be left dirty longer than absolutely necessary. If mud is allowed to dry on, it quickly destroys the lustre of the varnish.

Neither canvas nor leather hoods should be left folded when the car is not in use.

If the car is kept standing for any length of time it should be covered by a large dry sheet, of sufficiently fine texture to keep the dust off without excluding the light.

To destroy or prevent moths in woollen upholstery, use paraffin and camphor. This mixture should be placed in a saucer, and if a closed body is fitted the carriage should be completely shut up.

Hints on Cleaning Car.—Don't have the car wiped with a dry cloth, even if only dusty. Use plenty of water, and soap if necessary, to remove grease. A vacuum cleaner is very useful for removing dust from the upholstery of a car. When washing the car with a hose don't let the water get in any joints of doors, &c. This applies specially to covered bodies. If water is driven into the joints it may get behind the panels and cause the grain of the wood to rise, distort the panels, and spoil the appearance of the car.

Don't use petrol, benzol or paraffin to assist in removing grease. Use a soapy lather and thoroughly rinse with clean water. Use turpentine for cleaning the aluminium surfaces.

For cleaning silver plating the finest jewellers' rouge should be used, the ordinary polish being too abrasive.

Use soap and water for cleaning canvas hoods; on no account use petrol or benzol if the hood material is rubber proofed.

Hints for Cars in Regular Service.—The following hints may be found useful where a car is in regular service, assuming a daily run of about 100 miles—

- Daily.** Grease front axle swivel pins (top and bottom) (14).
Fill up fuel tank (33).
Fill up radiator (1).
Replenish oil in crankcase (5).
Oil the fan bearing (3).
- Every** Grease brake cam spindles (31).
Two Days. Give rear spring pin lubricators one turn (32).
Oil the steering joints (15).
Oil clutch thrust bearing (22).
- Weekly.** Oil accelerator pedal bearing (8).
Give steering column lubricator one turn (17).
Grease torque bar ball socket (two greasers) (30).
Oil change speed rod bracket (25).
Oil change speed rod jaw joints (24).
Lubricate universal socket (35) (use "Wolseley" filtrate gear oil).
Oil change speed tube (26).
Grease pedal shaft bearings (23).
Replenish oil in steering box (16).
- Monthly.** Lubricate magneto, dynamo and starter—two drops of oil in each hole (9, 12 and 13).
Examine front hub to see if adjustment of bearings is required.
Examine and clean magneto distributor.
Remove rear hub and clean and oil brake joints.
Fill the front hubs with "Wolseley" filtrate cup grease.
Lubricate rear wheel bearing (34) (use "Wolseley" filtrate gear oil).
Replenish oil in gear-box (28) (use "Wolseley" filtrate gear oil).
- (Reference numbers apply to diagrams on pages 32 and 33.)*

VIII

Driving a "Wolseley" Ten.

Driving.—Skilled driving of a car is only acquired by practice, and when a driver is able to manipulate without conscious effort of will the clutch, brakes, ignition, and throttle levers, a car can be said to be safe in his charge.

When driving in traffic or passing other vehicles on the road, the driver should never take any risks, but should be ready to declutch or apply the brakes on the instant if necessary. The brakes should never (unless in case of emergency) be strongly applied, as this can inflict injury to the tyres or cause a side-slip; at the same time causing unnecessary wear on the mechanism.

When descending long or dangerously steep gradients, the hand brake should be used alternately with the foot brake, but neither brake should be kept on long enough at one time to over-heat it. In such circumstances a throttled engine has a very steadying influence, especially if, in the case of a really steep gradient, a lower gear is engaged before the descent is begun.

Do not continue running the car if it is not working properly. Stop at the first convenient place and make what adjustments are necessary.

Starting Up.—To start the engine from cold turn the hand throttle adjuster anti-clockwise until the carburettor throttle lever is right back on its stop. Switch on and fully advance the ignition, turn on the petrol and flood the carburettor by holding up the needle valve for a moment. The engine should then start immediately the starter switch is operated or the starting handle used.

When the engine has started the hand throttle adjuster may then be turned clockwise to increase the slow running speed of the engine.

It may be found that when the engine is hot, starting is facilitated by opening the throttle a little with the hand adjuster.



CONTROL MECHANISM OF "WOLSELEY" TEN

It is not advisable to open the throttle too far or too quickly, until the engine is sufficiently warmed, or the carburetter may pop back, and if it has been flooded there is the risk of fire.

Gear Changing.—The art of changing gears can only be acquired by practice, and we do not advise a novice to undertake the charge of a car without having first received a course of instruction.

Changing Up.—Before changing up the speed of the car should be increased until it is reasonably fast for the gear in use; then

From First to Second—

(1) Release the accelerator pedal, declutch, and draw the change-speed lever across the gate and pull it back into the second gear.

From Second to Top—

(2) Accelerate the engine until its speed is reasonably fast for the gear on which the car is running.

(3) Release the accelerator pedal, declutch, and push the change-speed lever forward into top gear.

When everything is in proper order these movements of the gear lever may be made quite leisurely.

Changing Down to a Lower Gear—

(1) Release the accelerator pedal, declutch momentarily, and put the gear lever into neutral.

(2) With the clutch in (the gear lever still in neutral), accelerate the engine to the speed necessary to engage with the next gear below. (Several tests have shown us that it normally takes about one second for this speed to be reached on the level.) Immediately the time has elapsed the lever can be pressed home and the gears will engage noiselessly. During this operation it must be understood that with the exception of the momentary depression already referred to no pressure must be exerted on the clutch pedal.

IX.

Care of Coachwork.

Care of Varnish and Paintwork.—To ensure the varnish and paint work keeping its appearance for the longest possible period, it is most important that the car is never put away in a dirty condition. When the car is washed down a plentiful drenching with the hose should be given before attempting to sponge down. This removes most of the mud and grit, leaving very little for the sponge to gather. If the sponge and water is used without this preliminary, the sponge picks up a lot of grit, which, after a few washings, will scratch the surface and render it dull.

After the car has been washed down, it should be wiped over with a chamois leather to remove the beads of water, which, if left on (especially in sunlight) may cause spottings, and in extreme heat blistering.

When a car is at rest it is an advantage for it to be kept in the shade, as the heat of the sun has an injurious effect on the paintwork and tyres.

If the varnish becomes spotted, the application of a little linseed oil by means of a soft rag or lint may have a beneficial effect.

Spots of tar should be removed by rubbing with a little pure vaseline, which can be removed with a soft leather as soon as it has softened the tar.

The use of so-called cleaning compounds is not recommended, plenty of cold water being all that is required.

Do not use petrol, benzol, or paraffin in the water for cleaning; it will crack the varnish.

Hoods.—When cleaning hoods always use soap and water. It is to be particularly remembered that on no account should petrol or benzol be used if the hood material is rubber-proofed.

The hood should never be lowered when it is wet, and neither canvas nor leather hoods should be left folded when the car is not in use.

Care of Leather Upholstery.—When cleaning the car, water should not be allowed to splash on to the upholstery. A soft dry cloth should always be sufficient to remove superficial dust, and a brush can be used in awkward places. On no account must oil or oily rags be allowed to come in contact with the leather. A small spot of oil will develop and spread to a surprising extent. If by chance the leather becomes spotted with oil or grease, this can be usually removed by means of rectified benzine, applied with a wad of clean cotton wool, care being taken not to disturb the colour. Should the spot prove obstinate, however, rubber solution is usually efficacious. The best rubber solution only should be employed, and must be spread over the spot with the finger. If allowed to dry thoroughly, it can then be rubbed off without leaving any traces behind. Linseed oil is the worst offender, and we know nothing that will successfully deal with this. After the leather has been in use for some time, and the surface begins to look a little dull, it can be improved by sponging with a weak solution of egg albumen, and when thoroughly dry rubbing vigorously with a stiff brush.

To sum up—

Clean down as soon as possible.

Use plenty of water.

Use cold water.

Keep hoods up and covered bodies completely closed when the car is not in use.

Keep out of the sun when at rest.

Remove tar spots with vaseline.

X.

Storage, Overhauling &c.

Storage.—The motor-house should be a dry, well-ventilated building, and preferably arranged so that it can be heated during cold weather. It should be kept clean and free from dust and should be sufficiently large to allow a gangway around the car for convenience of inspection, and also because the car is liable to suffer from dampness if it is placed too close to the walls of the house. As a safeguard against fire, a chemical extinguisher should be kept handy. Fuel should be stored in a separate building. It is advisable to fill the tank when the car is outside the motor-house.

When filling with fuel, water, or oil, a gauze strainer should be used in order that no dirt may pass through.

Lubricating oil and grease may be stored in the motor-house, preferably in steel drums, so that supplies may be drawn off as required.

To keep the floor of the motor-house clean from any oil which may drop from the motor while standing, a sheet-iron tray should be kept under the motor and gear-box. Convenient dimensions for this tray are 5 ft. long by 2 ft. wide, with sides about 1 inch high.

To preserve the appearance of a car it should be washed down immediately it comes in from the road, and never left to stand dirty.

A dark garage is the best for the tyres. When the car is not in regular use it should be jacked up or put on blocks to take the weight off the tyres.

Overhauling.—It is convenient to have in the motor-house an engineer's bench fitted with a parallel vice, and provided with a few tools, so that adjustments and small repairs may be done at once, instead of being neglected and only taken in hand when absolutely necessary.

By immediately attending to any adjustments or replacements that may be required, a car is not only kept in better order, but the cost of upkeep is also reduced to a minimum, as if one portion of the mechanism fails to do its work properly undue strain is thrown on other parts, with consequent risk of sudden breakdown.

The following special tools are recommended to clients for garage use—Wheel hub withdrawer and spring leaf lifter for greasing the springs.

Spare Parts.—When ordering spare parts, to avoid any possibility of error, it is essential that the **number of the car** should be given, and, if possible, the number of the parts in our spare parts catalogue. If there is any doubt on these points, it is advisable to send the old part or a sketch of the part required.

We would remind clients when sending telegrams for parts to make them clear, as it is far better to put a few extra words in a telegram than risk having an incorrect part forwarded.

Guarantee.—We undertake, subject to the terms specified in our catalogues and sales specifications, to repair or renew within a period of twelve months from date of delivery of any chassis or autocar from our works, any part or parts which may be discovered within such period to be defective in material or workmanship.

When a claim is contemplated it is of the utmost importance that we should be immediately notified as to the reason for the claim, and also the car number, so that we may have the opportunity of advising how the matter should be dealt with.

Insurance.—For the convenience of their customers WOLSELEY MOTORS LTD. have made arrangements for the issue of LLOYDS POLICIES in accordance with the terms given in the catalogue. Policies can be obtained through our offices and depots, or through any of our agents.

In the event of accident, repairs up to any amount may be put in hand immediately, either with ourselves or with one of our authorised agents, without waiting for permission of the insurers, provided the repair permit is produced, which, together with a list of authorised repairers, is supplied with each policy. *Necessary temporary repairs, or permanent repairs up to £10, may be executed immediately by any competent repairer, without consent of the insurers.*

Capacity of Petrol Tank	5 galls.
Amount of water required when refilling system	19 pints
Amount of "Wolseley" Filtrate required when refilling lubricating system	4½ pints
Amount of "Wolseley" Filtrate Gear Oil to be put into Axle and Gear-box after washing out	3 pints
Amount of "Wolseley" Disc Clutch Oil required when filling clutch	3 ozs.

Motor.

Number of cylinders...	...	...	...	...	4
Bore	...	...	...	...	2 ³ / ₁₆ in.
Stroke	...	...	...	...	3 ³ / ₄ in.
Normal revolutions per minute	...	...	...	...	1,700
Treasury rating	...	...	...	...	10.5 h.p.
Wheel base	...	...	...	...	8 ft. 3 in.
Track	...	...	...	...	3 ft. 10 in.
Axle ratios	...	...	...	...	7/38 4/21
Road speed (m.p.h.) at normal engine revolutions—					
1st	...	...	...	...	8 9
2nd	...	...	...	...	16 17
3rd	...	...	...	...	25 26
Reverse	...	...	...	...	10 11
Tyres	...	...	...	...	710 × 90 m/m.

WOLSELEY MOTORS LTD.

Proprietors—VICKERS LIMITED

List of
Spare Parts
for the
“WOLSELEY”
TEN

INSTITUTE

Head Office and Works—Adderley Park, Birmingham.

Telegrams—
“EXACTITUDE, BIRMINGHAM.”

Telephone—
Birmingham Central 4361 (12 lines).

London Repair Works—Gatliff Road, Commercial Road, Pimlico S W.

Telephone—6220 (6 lines).

Telegrams—“Autovint, Vic., London.”

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INTRODUCTION

THIS list of Spares for the "Wolseley" Ten H.P. Car has been compiled in order to facilitate the ordering of parts which require replacement. The parts are grouped into components, and all the principal pieces are illustrated. When ordering, clients should quote the reference number, together with the description of the part, in order to minimise the possibility of error.

We would particularly impress upon clients the importance of always quoting the Maker's Car Number (not registered Car Number), which will be found on the metal nameplate on the dashboard. Unless this is done, we cannot be responsible if incorrect parts are supplied.

We reserve to ourselves the right to alter any part as may be considered advantageous, and therefore it is possible that illustrations shown in this book may not in all cases exactly resemble the actual part required. If, however, the Maker's Car Number is quoted, the correct part will be despatched.

All parts sent to be repaired must be forwarded carriage paid. These may be forwarded to either of the addresses on the title page, and must bear the Sender's Name, Address, and Maker's Car Number.

All parts sent for repairs are acknowledged as soon as received.

Cars sent to be repaired are driven by members of our staff entirely at customer's own risk.

Cases will be credited at two-thirds of the price charged, if returned in good condition, carriage paid, within ten days.

To avoid delay, customers with whom we have no ledger account should send cash with order.

All prices are subject to alteration without notice.

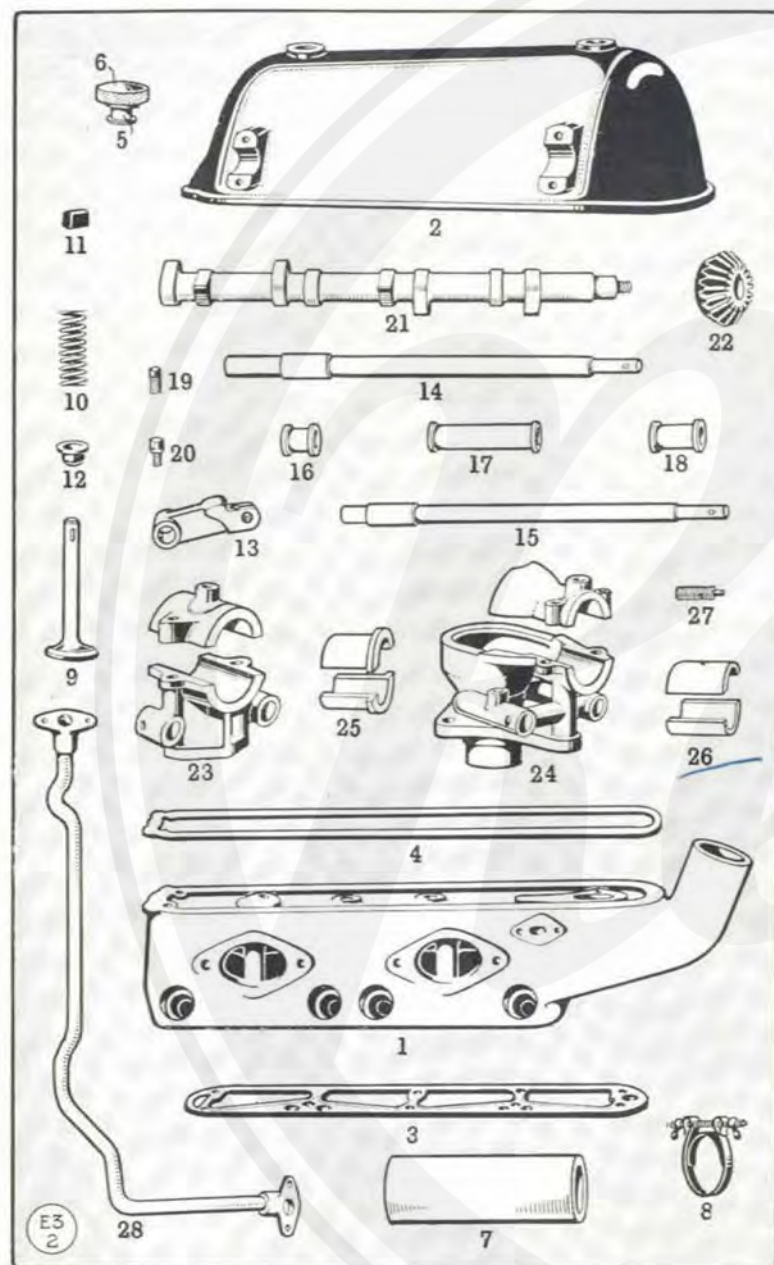
WOLSELEY MOTORS LTD.

Crankcase, Oil-Base, Engine Chain Cover &c.



No. of Illustration	Ref. No. for Ordering	Description of Part	Price Each. £ s. d.
—	E3001	Crankcase and Cylinders complete, with Main Bearings, Oil Base, Engine Chain Cover, (less Chain Wheels and Shafts) ...	...
—	E3002	Crankcase and Cylinders complete, with Bearings and Rear Bearing Housing ...	...
1	E3003	Crankcase and Cylinders (machined only) ...	...
2	128751	Blank Flange for Cylinders ...	...
3	121376	Crankshaft Bearing (front) ...	...
4	121377	Thrust Ring for Bearing ...	...
5	126353	Set Pin for Main Bearings ...	...
6	121785	Crankshaft Bearing (rear) ...	...
7	122025	Housing for Crankshaft Bearing (rear) ...	...
—	E3004	Oil Retaining Gland Nut complete ...	...
8	121913	Gland Nut ...	...
9	121914	Ring for Nut ...	...
10	121915	Ring for Nut ...	...
11	443	Plug for Crankcase ...	...
12	E3005	Oil Base (machined only), with Feed Pipe ...	...
13	143323	Oil Level Cock ...	...
—	E3006	Oil Strainer, complete ...	...
14	121796	Oil Strainer Body ...	...
15	E3007	Oil Strainer ...	...
—	141386	Joint for Oil Strainer Body (not shown) ...	...
16	E3008	Oil Pipe complete, with Nuts and Nipples (from Strainer to Oil Pump) ...	...
17	54864	Oil Drain Plug ...	...
—	E3009	Leather Washer (not shown) ...	...
18	124550	Packing Washer between Crankcase and Oil Base ...	...
19	E3010	Engine Chain Cover ...	...
20	E3011	Bush for Chain Cover ...	...
—	E3012	Oil Filler complete, with Strainer and Cover ...	...
21	122623	Oil Filler Body ...	...
22	E3013	Oil Strainer for Filler ...	...
23	126624	Cover for Oil Filler ...	...
24	E3014	Spring Clip for Cover complete with Knob and Pin ...	...
25	126615	Water Inlet Pipe ...	...
26	121792	Joint for Water Inlet Pipe ...	...
27	67074	Joint Washer for Water Inlet Pipe Stud ...	...
28	E3015	Rubber Connection for Inlet Pipe ...	...
29	50136	Clips for Connection ...	...
—	E3016	Piston and Connecting Rod, assembled Complete ...	...
—	E3017	Piston complete, with Rings ...	...
30	E3018	Piston (machined only) ...	...
31	E3019	Piston Rings ...	...
32	121368	Bush for Piston ...	...
33	121370	Gudgeon Pin ...	...
34	121369	Taper Pin for Gudgeon Pin ...	...
35	E3020	Connecting Rod, assembled ...	...
36	E3021	Bolt for Connecting Rod ...	...
37	126592	Crankshaft (machined only) ...	...
38	E3022	Nut for Flywheel ...	...
—	E3023	Starting Handle (assembled complete) ...	...
39	E3024	Starting Handle and Shaft with Tube and Peg fitted ...	...
40	63335	Peg for Starting Handle ...	...
41	121714	Spring for Starting Handle ...	...
42	121727	Bearing for Starting Handle ...	...

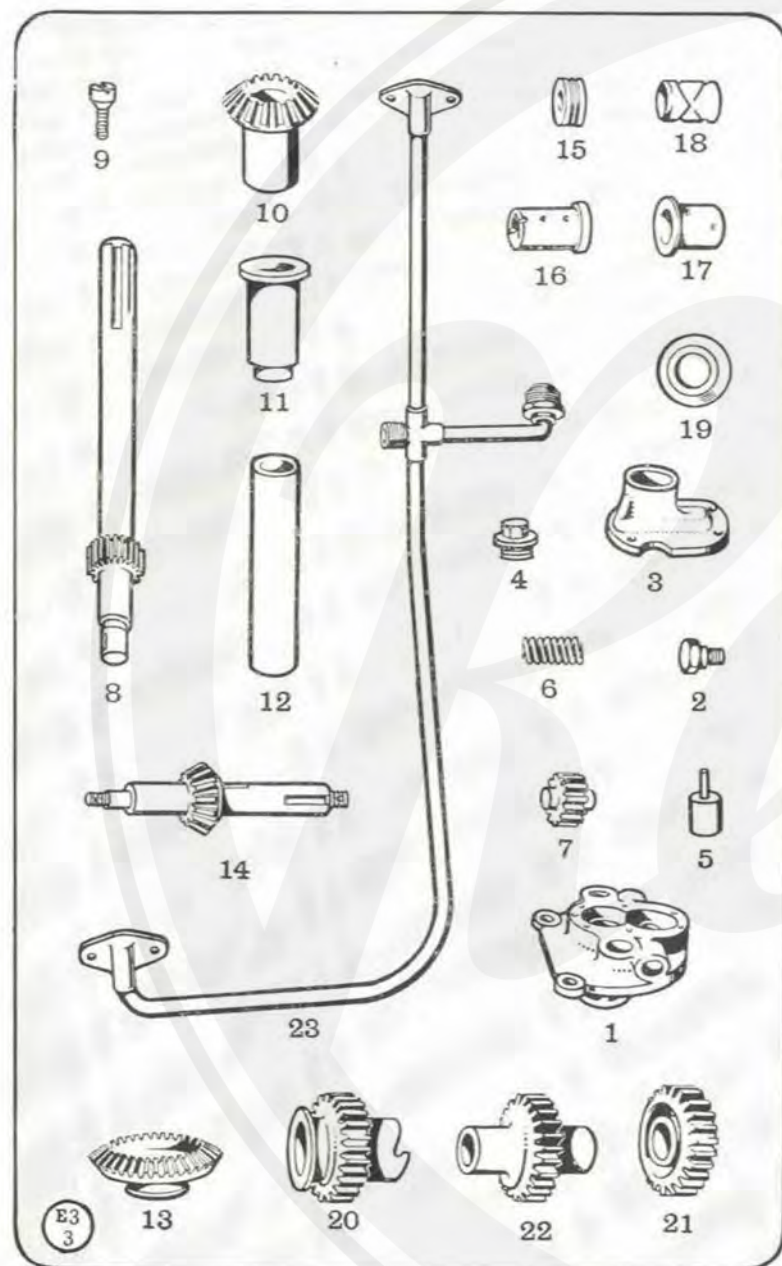
Please state maker's car number when ordering.



Cylinder Head, Camshaft, Valves, &c.

No. of Illustration.	Ref. No. for Ordering.	Description of Part	Price Each. £ s. d.
—	E3025	Cylinder Head assembled complete, with Camshaft, Valves, &c.	...
—	E3026	Cylinder Head assembled with Valves	...
1	126610	Cylinder Head (machined only)	...
2	126734	Cover for Cylinder Head	...
3	126570	Joint between Cylinder and Cylinder Head	...
4	E3027	Joint between Cylinder Head and Cover	...
5	121752	Nut for Cylinder Head Cover	...
6	121751	Head for Nut	...
7	E3028	Rubber Connection Cylinder Head to Radiator	...
8	41830	Clips for Rubber Connection	...
—	E3029	Valve assembled complete (in Carrying Block), with Spring Cotter and Cup	...
9	121741	Valve (Inlet and Exhaust)	...
10	65637	Spring for Valves	...
11	38283	Cotter for Valve	...
12	122438	Cup for Valve	...
13	127854	Valve Rocker	...
14	142218	Valve Rocker Shaft (long)	...
15	142217	Valve Rocker Shaft (short)	...
16	121798	Distance Piece for Rocker Shaft (short)	...
17	121799	Distance Piece for Rocker Shaft (long)	...
18	121800	Distance Piece for Rocker Shaft (intermediate)	...
19	121754	Adjusting Screw	...
20	121906	Pinching Screw	...
—	E3030	Camshaft and Bevel Wheel assembled	...
21	E3031	Camshaft	...
22	144297	Bevel Wheel	...
23	E3032	Camshaft Bearing and Cap (rear) assembled with Bushes	...
24	E3033	Camshaft and Vertical Shaft Bearing and Cap (front end) assembled with Bushes	...
25	E3034	Bush for Camshaft Bearing (front)	...
26	E3035	Bush for Camshaft Bearing (rear)	...
27	121789	Stud for Bearing Cap	...
28	E3036	Overflow Oil Pipe complete with Flanges (from Cylinder Head to Oil Base)	...
—	141387	Joints for Oil Pipe Flange (not shown)	...

Please state maker's car number when ordering.



Oil Pump and Vertical Shaft Driving Details.

No. of Illustration.	Ref. No. for Ordering.	Description of Part.	Price Each. £ s. d.
—	E3037	Oil Pump, complete with Vertical Shaft and Oil Pump Bevel Wheel	...
1	122723	Oil Pump Body	...
2	2733	Plug	...
3	122724	Cover	...
4	122721	Plug for Relief Valve	...
5	122722	Relief Valve	...
6	127434	Relief Valve Spring	...
7	63281	Oil Pump Driven Gear	...
NOTE.—Oil Pump Driving Gear is solid with Vertical Shaft.			
8	142887	Vertical Driving Shaft	...
9	143049	Expanding Screw for Top End of Vertical Shaft	...
10	144298	Bevel Wheel for Vertical Shaft (top)	...
11	121705	Bush for Bevel Wheel	...
12	121736	Cover Tube for Vertical Shaft	...
13	144300	Bevel Wheel for Vertical Shaft (lower)	...
14	144299	Camshaft Driving Shaft	...
15	125927	Ball Thrust Bearing	...
16	127065	Bush (long) for Camshaft Driving Shaft	...
17	121707	Bush (short) for Camshaft Driving Shaft	...
18	121706	Sleeve for Short Bush	...
19	54821	Oil Thrower	...
20	E3038	Crankshaft Chain Wheel	...
21	E3039	Bevel Shaft Chain Wheel	...
22	E3040	Magneto Chain Wheel	...
—	E3041	Chain for Engine Gears (not shown)	...
23	E3042	Main Feed Oil Pipe, complete with Flanges and Tee Piece (from Oil Pump to Camshaft and Oil-base Troughs)	...
—	141387	Joint for Oil Pipe Flange (not shown)	...

Please state maker's car number when ordering.

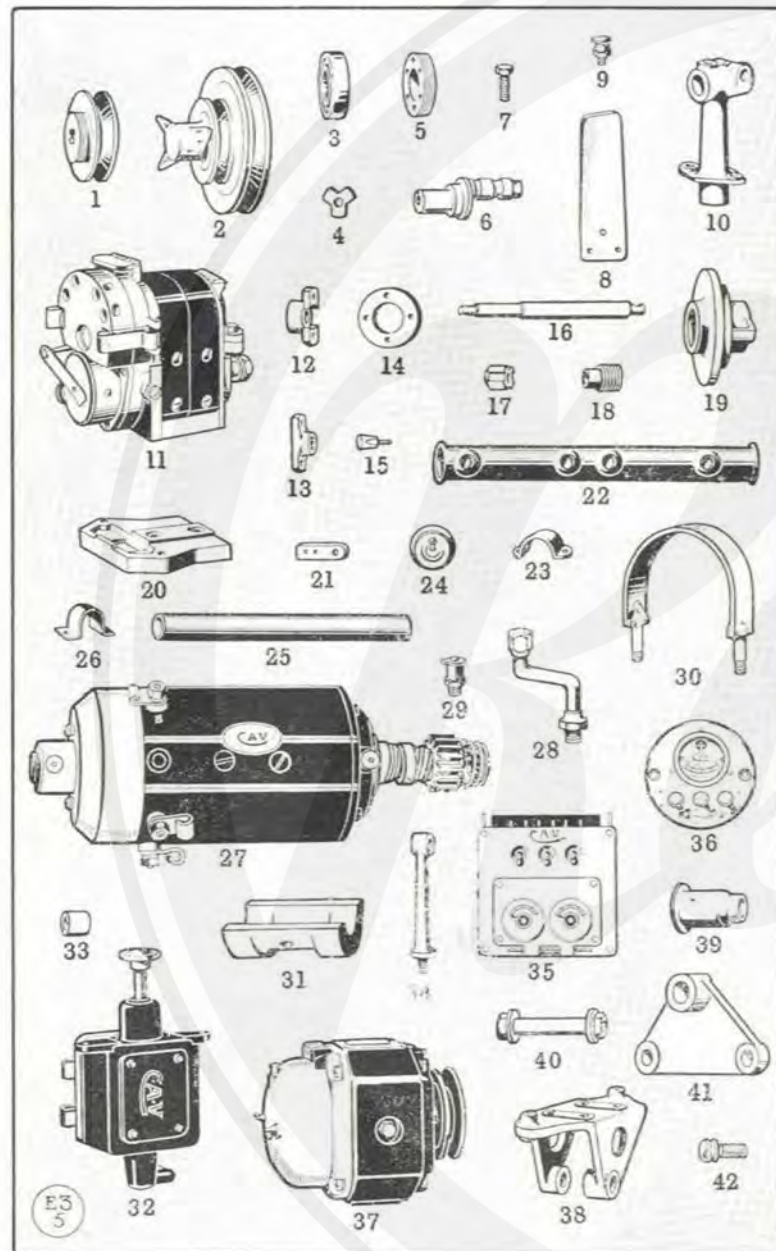
Carburettor and Details.



No. of Illustration.	Ref. No. for Ordering.	Description of Part.	Price Each. £ s. d.
—	E3043	Carburettor complete with Induction Pipe	...
1	128670	Induction Pipe	...
2	121791	Joints for Induction Pipe	...
3	128737	Joints between Induction Pipe and Carburettor	...
4	E3044	Hot Air Muff (R.H.)... ..	...
5	E3045	Hot Air Muff (L.H.)... ..	...
6	144534	Hot Air Pipe to Carburettor	...
7	142584	Air Adjuster	...
8	142585	Spring for Air Adjuster	...
9	142586	Pin for Air Adjuster	...
10	E3046	Throttle Connection Rod, complete with Jaw Joints	...
11	E3047	Carburettor Body	...
12	E3048	Main Jet	...
13	E3049	Main Jet Plug	...
14	E3050	Washer for Plug	...
15	E3051	Cover for Main Jet	...
16	E3052	Choke Tube	...
17	E3053	Screw for Holding Choke Tube	...
18	E3054	Throttle Valve	...
19	E3055	Spindle for Throttle Valve	...
20	E3056	Screw for Throttle Valve	...
21	E3057	Long Throttle Lever... ..	...
—	E3058	Short Throttle Lever, complete with screw and Locknut	...
22	E3059	Short Throttle Lever	...
23	E3060	Screw and Nut	...
24	E3061	Compensating Jet	...
25	E3062	Plug for Compensating Jet	...
26	E3063	Washer for Plug	...
27	E3064	Adjustment Piece of Slow-running Device	...
28	E3065	Regulating Screw for Slow-running Device	...
29	E3066	Screw for Holding Slow-running Device	...
30	E3067	Float Chamber Cover	...
31	E3068	Spring Knob for Cover	...
32	E3069	Balance Weights	...
33	E3070	Pins for Balance Weights (not shown)	...
34	E3071	Needle Valve and Collar	...
35	E3072	Float	...
36	E3073	Seating for Needle Valve	...

Please state maker's car number when ordering.

Fan, Ignition and Starting and Lighting.

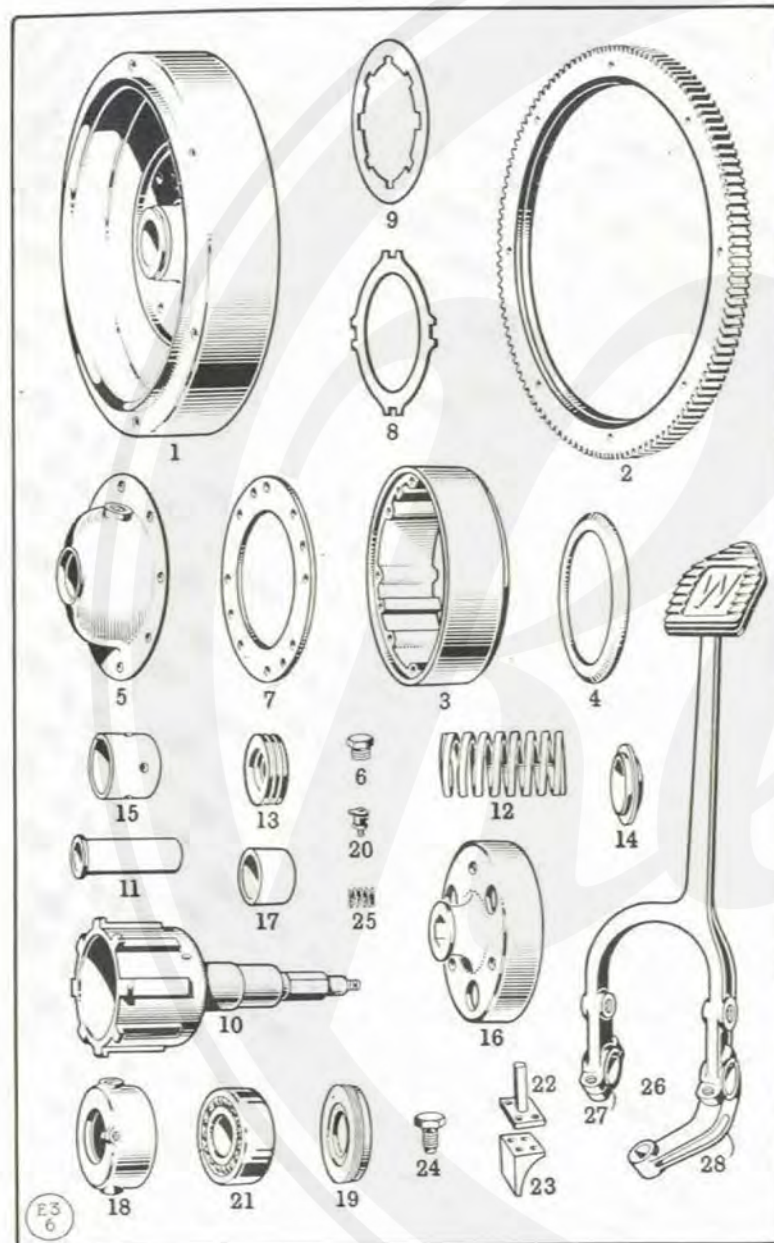


No. of Illustration.	Ret. No. for Ordering.	Description of Part.	Price Each. £ s. d.
—	E3074	Fan assembled with Pulley and Pedestal	...
—	E3075	Fan assembled with Pulley and Bearings	...
—	E3076	Fan Centre assembled with Blades	...
1	142622	Fan Driving Pulley ...	...
2	142619	Fan Driven Pulley ...	...
3	19180	Ball Bearing for Pulley ...	...
4	126643	Washer between Fan Bearings ...	...
5	126641	Adjusting Nut for Bearings...	...
6	142620	Fan Spindle ...	...
7	E3077	Set Screw for Spindle ...	...
8	146642	Fan Blades ...	...
9	16340	Oiler ...	...
10	126640	Fan Pedestal ...	...
—	E3078	Fan Belt (Engine to Fan) ...	...
—	E3079	Fan Belt (Dynamo to Fan) ...	...
11	E3080	Magneto (Z.A.4 Type) ...	...
—	E3081	Coupling for Magneto, complete	...
12	126616	Coupling for Magneto Spindle	...
13	126617	Coupling for Magneto ...	...
14	126618	Coupling Disc ...	...
15	126619	Cutter for Coupling ...	...
16	144173	Magneto Driving Spindle ...	...
17	126546	Driving Spline for Magneto Spindle	...
18	144174	Oil Thrower for Magneto Spindle	...
19	E3082	Bearing Bracket for Magneto Chain Wheel	...
20	E3083	Magneto Base Plate ...	...
21	143505	Extension Piece for Ignition Lever on Magneto ...	...
22	E3084	Ignition Wire Tube (on Engine)	...
23	121918	Clip for Tube ...	...
24	144100	Magneto Switch ...	...
25	E3085	Ignition Wire Tube (attached to Dashboard)	...
26	128867	Clips ...	...
—	E3086	Set of H.T. Wire ...	...
—	E3087	Set of L.T. Wire ...	...
27	E3088	Starter Motor (Z.C.) ...	...
28	E3089	Lubricator Tube assembled...	...
29	37024	Lubricator ...	...
30	E3090	Strap for Starting Motor ...	...
31	144352	Packing Piece for Starter Motor	...
32	127555	Starter Switch (Z Type) ...	...
33	145456	Collar for Starter Switch Support	...
34	144527	Support Pin for Starter Switch	...
35	E3091	Switchboard No. 10 ...	...
36	E3092	Switchboard No. 12 ...	...
37	E3093	Dynamo (N.C. Type) ...	...
38	142623	Dynamo Bracket ...	...
39	144707	Bush for Bracket ...	...
40	142625	Pivot for Bracket ...	...
41	142626	Bracket for Pivot ...	...
42	142831	Adjusting Screws for Dynamo Bracket	...

(NOTE.— For Starter Gear Ring see page 71).

Please state maker's car number when ordering.

Clutch and Control.

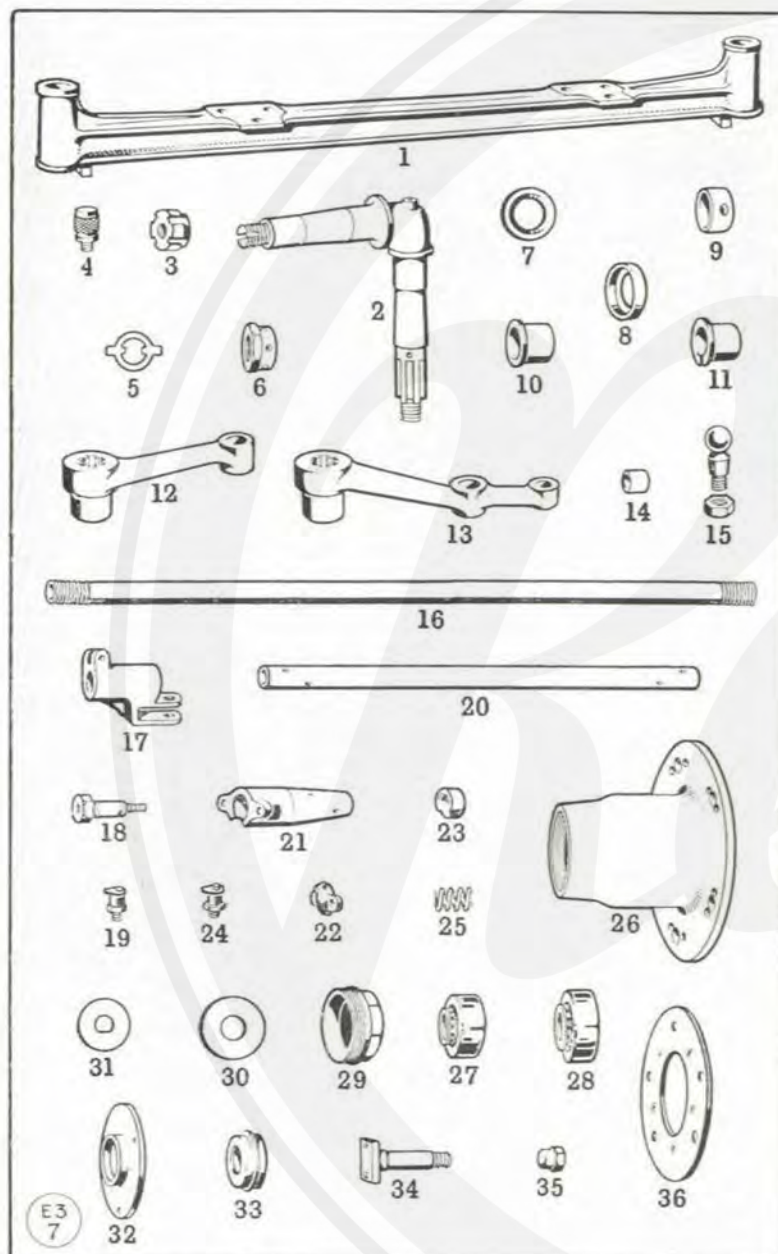


No. of Illustration.	Ref. No. for Ordering.	Description of Part.	Price Each.		
			£	s.	d.
—	E3094	Clutch assembled complete, with Universal Joint and Flywheel	...	...	...
1	E3095	Flywheel	...	...	...
2	E3096	Gear Ring for Flywheel	...	...	...
3	127218	Clutch Case	...	...	...
4	127221	Clutch Plate Ring	...	...	...
5	E3097	Clutch Case Cover	...	...	...
6	2511	Plug	...	...	...
7	E3098	Clutch Cover Ring	...	...	...
8	122652	Clutch Plate (Driver)	...	...	...
9	E3099	Clutch Plate (Driven)	...	...	...
10	E3100	Clutch Centre with Bush fitted	...	...	...
11	143113	Bush	...	...	...
12	127114	Clutch Spring	...	...	...
13	64089	Thrust Bearing	...	...	...
14	127228	Clutch Spring Retaining Ring	...	...	...
15	E3101	Clutch Stop Distance Piece	...	...	...
16	143114	Clutch Stop Pulley (this also forms part of Universal Joint)	...	...	...
NOTE.—For Universal Joints see page 77					
17	143616	Distance Piece for Clutch Centre	...	...	...
18	143148	Thrust Ring	...	...	...
19	143149	Cover Nut	...	...	...
20	16340	Oiler	...	...	...
21	E3102	Thrust Ring Bearing	...	...	...
22	E3103	Clutch Stop complete	...	...	...
23	143124	Clutch Stop Plunger	...	...	...
24	143125	Fibre for Clutch Stop	...	...	...
25	143127	Pin for Thrust Ring	...	...	...
26	143808	Spring for Clutch Stop	...	...	...
27	E3104	Clutch Pedal complete	...	...	...
28	E3105	Cap for Clutch Pedal (N.S.)	...	...	...
29	E3106	Cap for Clutch Pedal (O.S.)	...	...	...

NOTE.—For Pedal Shaft and Brackets see page 83.

Please state maker's car number when ordering.

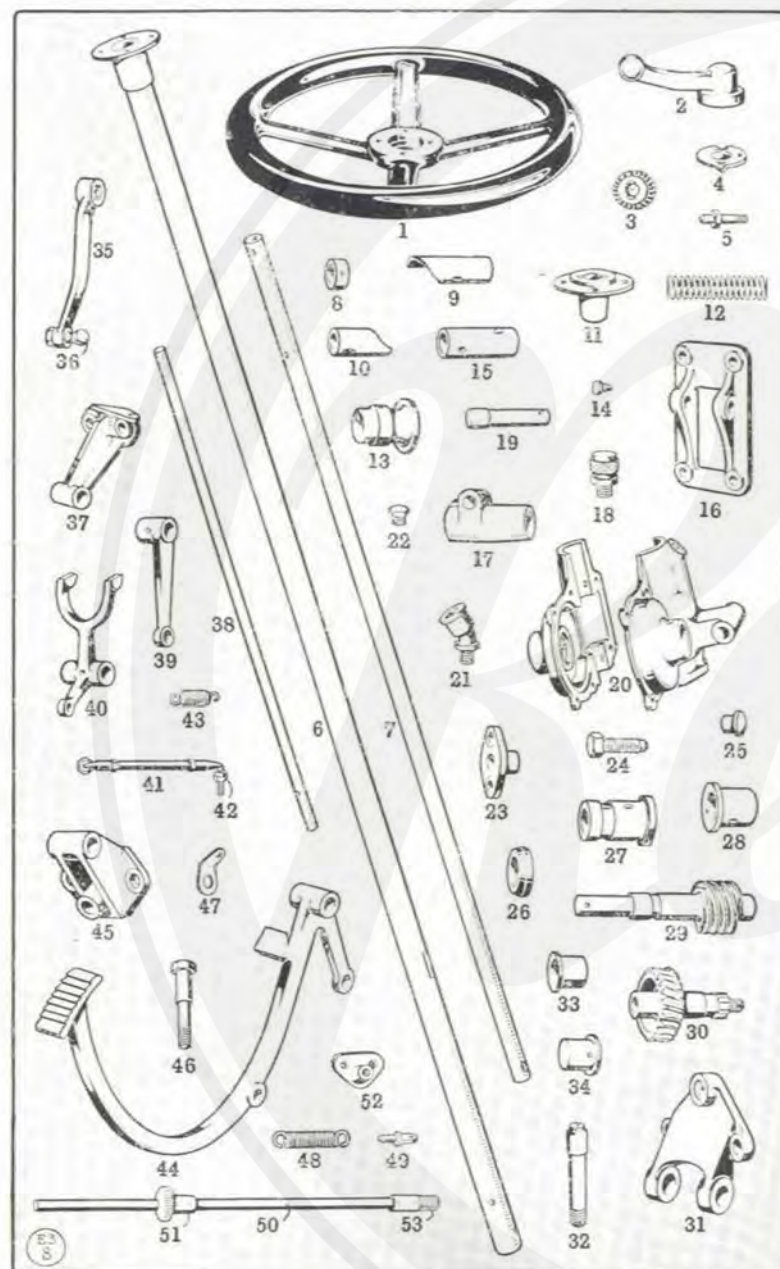
Front Axle, Swivels and Hubs.



No. of Illustration.	Ref. No. for Ordering.	Description of Part.	Price Each.
			£ s. d.
—	E3107	Front Axle, complete with Hubs, Bearings, Steering Levers, Steering Cross Tube, and Steering Connecting Tube ...	...
—	E3108	Front Axle assembled, with Swivels, Steering Levers, and Steering Cross Tube ...	...
1	143044	Front Axle (machined only) ...	...
—	E3109	Swivel Axle with Nuts and Lubricator (O.S. and N.S.) ...	...
2	E3110	Swivel Axle ...	...
3	143179	Nut for Swivel (Bottom) ...	...
4	51009	Lubricator ...	...
5	143178	Locking Washer for Nut ...	...
6	126661	Nut for Swivel Arm ...	...
7	144364	Distance Piece for Swivel ...	...
8	143180	Dust Cover ...	...
9	126659	Cover for Swivel Nut ...	...
10	144349	Bush for Swivel (top) ...	...
11	143088	Bush for Swivel (bottom) ...	...
—	E3111	Steering Lever with Bush and Nut (O.S.) ...	...
12	143189	Steering Lever (O.S.) ...	...
—	E3112	Steering Lever with Bush, Nut, and Ball Pin (N.S.) ...	...
13	143188	Steering Lever (N.S.) ...	...
14	143501	Bush for Steering Levers ...	...
15	E3113	Ball Pin and Nut (for N.S. Lever) ...	...
—	E3114	Steering Cross Tube assembled with Jaws, Pins, and Oilers ...	...
—	E3115	Steering Cross Tube assembled with Jaws ...	...
16	144347	Steering Cross Tube ...	...
17	143630	Jaw End for Cross Tube ...	...
18	143299	Pin for Jaw End ...	...
19	16340	Lubricator for Pin ...	...
—	E3116	Steering Connecting Tube assembled ...	...
20	143639	Steering Connecting Tube ...	...
21	128109	End Piece for Connecting Tube ...	...
22	128110	Cap for End Piece ...	...
23	128111	Bearing Block for End Piece ...	...
24	16340	Oiler for Cap ...	...
25	128041	Spring for End Piece ...	...
—	E3117	Front Hub assembled, with Bearings ...	...
26	E3118	Front Hub ...	...
27	126755	Timken Bearing (235) ...	...
28	126754	Timken Bearing (258) ...	...
29	141071	Cap for Front Hub ...	...
30	126665	Dust Plate for Hub ...	...
31	126656	Retaining Washer ...	...
32	E3119	Dust Plate for Hub ...	...
33	E3120	Dust Plate Cover ...	...
—	E3121	Front Wheel (not shown) ...	...
34	E3122	Wheel Bolt ...	...
35	E3123	Cap Nut for Bolt ...	...
36	141341	Nave Plate for Wheel ...	...

Please state maker's car number when ordering.

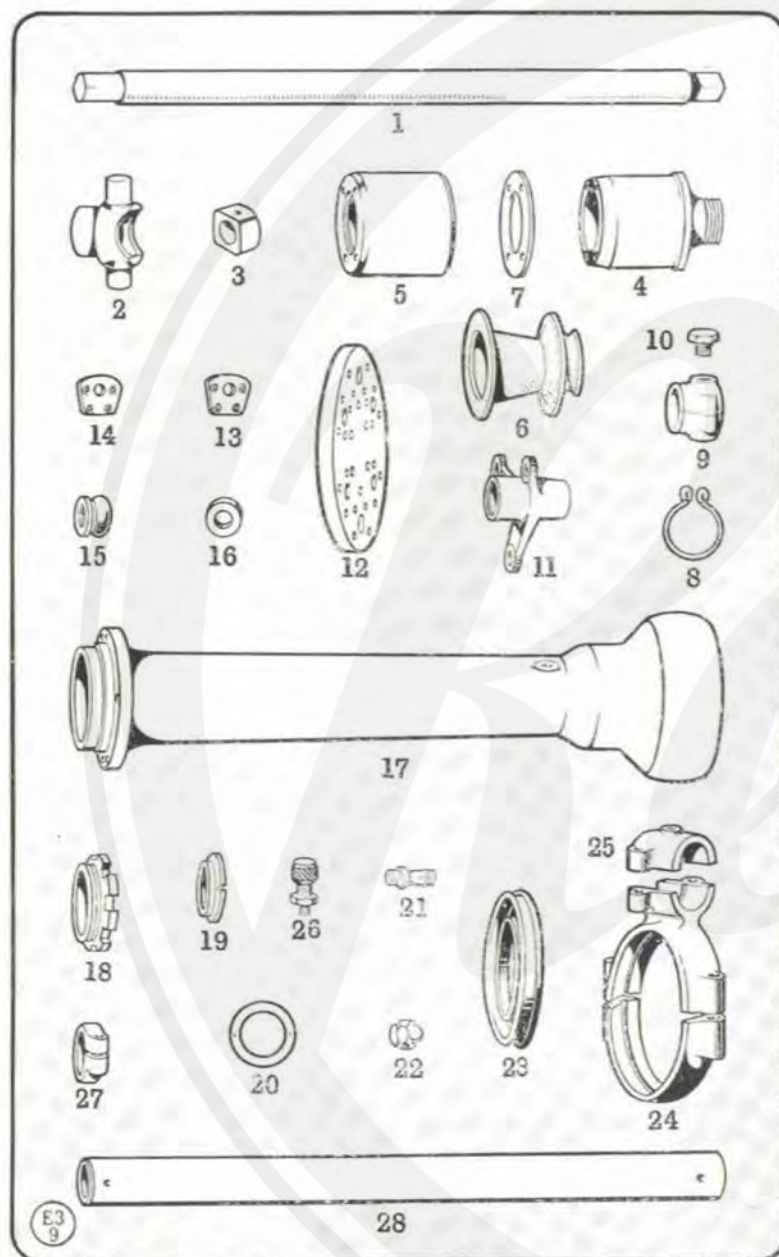
Steering and Control.



No. of Illustration.	Ref. No. for Ordering.	Description of Part.	Price Each.
	E3124	Steering assembled complete (including Steering Wheel, Control Lever, Worm and Worm Wheel, Worm Box and Worm Segment Levers) ...	...
	E3125	Steering Column complete (with Steering Wheel and Control Lever) ...	...
1	E3126	Steering Wheel ...	...
2	E3127	Ignition Control Lever ...	...
3	145577	Serrated Disc for Ignition Control Lever ...	...
4	145578	Plate for Ignition Control Lever ...	...
5	127928	Bolt for Steering Wheel ...	...
6	E3128	Steering Column assembled, with Top Flange ...	...
	E3129	Ignition Control Tube assembled with Ignition Lever, Collar, and Ignition Control Racks ...	...
7	144279	Ignition Control Tube ...	...
8	142122	Collar for Ignition Control Tube ...	...
9	144291	Ignition Control Rack (upper half) ...	...
10	144289	Ignition Control Rack (lower half) ...	...
11	E3130	Flange for Control Tube ...	...
12	142227	Spring for Ignition Control Tube ...	...
13	128503	Ignition Control Sleeve ...	...
14	36544	Pin for Sleeve ...	...
15	141993	Steering Tube Bush ...	...
16	127914	Steering Column Bracket ...	...
17	127624	Steering Column Bearing ...	...
18	51009	Greaser ...	...
19	127920	Pin for Bracket ...	...
	E3131	Steering Box, assembled complete with Bushes, Covers, Studs, and Nuts ...	...
20	E3132	Steering Box (unadjusted only) ...	...
21	146950	Lubricator Elbow ...	...
22	443	Plug for Elbow ...	...
23	145596	Adjusting Flange ...	...
24	128571	Adjusting Screw ...	...
25	943726	Thrust Button for Steering Worm ...	...
26	128582	Thrust Washer ...	...
27	143518	Bearing Bush for Steering Box (large) ...	...
28	143521	Bearing Bush for Steering Box (small) ...	...
29	E3133	Steering Worm ...	...
30	E3134	Worm Wheel ...	...
31	142624	Steering Box Bracket ...	...
32	128166	Swivelling Pin for Bracket ...	...
33	143519	Bearing Bush for Worm Wheel (large) ...	...
34	E3135	Bearing Bush for Worm Wheel (small) ...	...
35	E3136	Steering Lever complete, with Ball Pin and Nut ...	...
36	E3137	Ball Pin and Nut ...	...
37	128437	Ignition Cross Rod Bracket ...	...
38	143506	Ignition Control Cross Rod ...	...
39	143504	Ignition Control Lever ...	...
40	128439	Ignition Control Sleeve Lever ...	...
41	E3138	Ignition Control Rod complete with Ball Joints ...	...
42	E3139	Ball Joint for Control Rod ...	...
43	142226	Spring for Ignition Control ...	...
44	143029	Accelerator Pedal ...	...
45	143028	Accelerator Pedal Bracket ...	...
46	128113	Pin for Pedal ...	...
47	127656	Spring Anchor Plate ...	...
48	E3140	Spring ...	...
49	128944	Spring Eye ...	...
50	E3141	Hand Throttle Adjusting Spindle complete ...	...
51	144495	Knob for Spindle ...	...
52	66284	Adjusting Spindle Bearing ...	...
53	65893	Hand Throttle Adjusting Screw ...	...

Please state maker's car number when ordering.

Propeller Shaft, Universal Joints and Torque Tube.

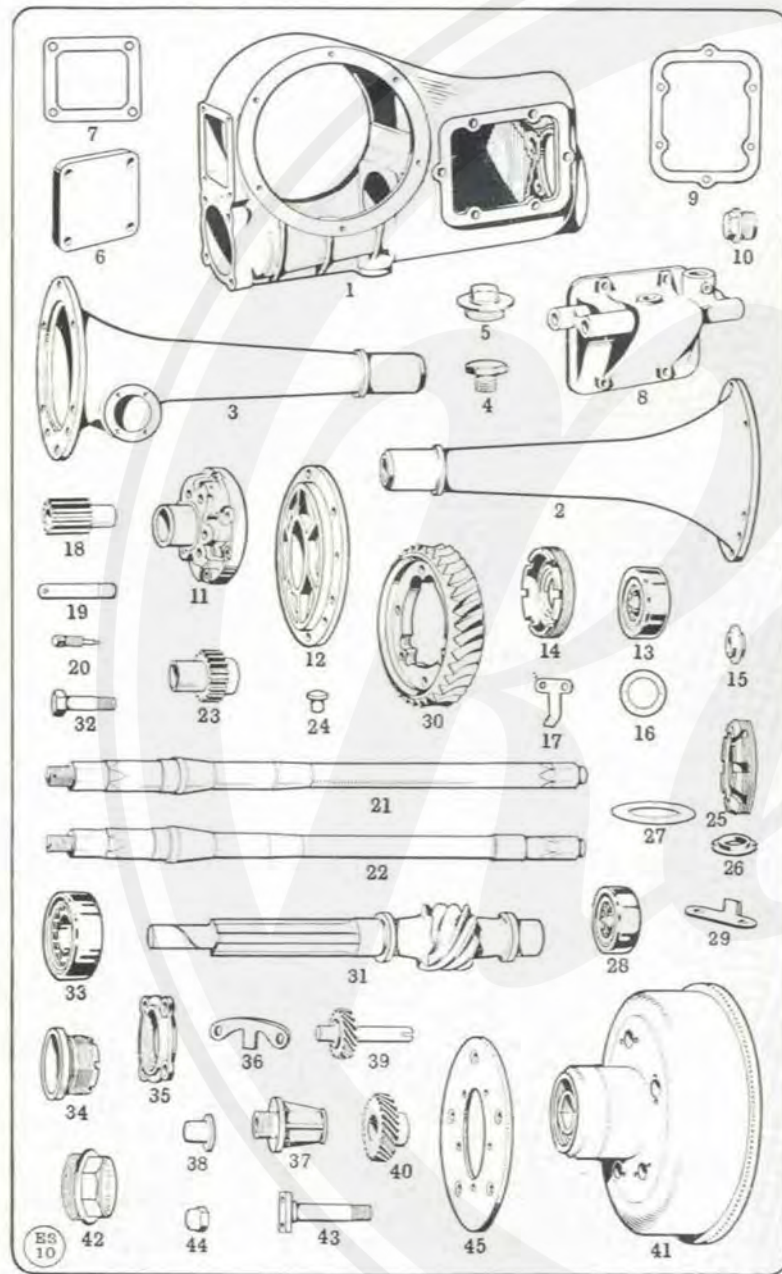


No. of Illustration.	Ref. No. for Ordering.	Description of Part.	Price Each.
			£ s. d.
1	143225	Propeller Shaft	...
2	143224	Rear Universal Centre	...
3	143222	Bearing Blocks	...
4	143219	Universal Joint (Rear)	...
5	144678	Cover for Universal Joint	...
6	144659	Leather Dust Cover	...
7	143220	Cover Plate for Dust Cover	...
8	E3143	Clip for Dust Cover	...
9	E3144	End Piece for Dust Cover, complete	...
10	443	Plug for End Piece	...
—	E3145	Front Universal Joint, assembled complete	...
11	127266	Front Universal Centre on Propeller Shaft	...
—	E3146	Fabric Ring assembled with Plates	...
12	127264	Fabric Ring for Universal Joint	...
13	128419	Universal Joint Plates	...
14	143726	Universal Joint Plates	...
15	127275	Centreing Piece	...
16	143126	Distance Piece for Universal Joint	...
17	127261	Torque Tube	...
—	E3147	Bearing Nut complete	...
18	142888	Bearing Nut	...
19	63524	Oil Retaining Gland	...
20	63619	Plate for Gland	...
21	143144	Breather Tube	...
22	143145	Cover for Breather	...
23	143223	Cover for Torque Tube Front End and Universal Joint	...
—	E3148	Torque Tube Bracket, complete	...
24	E3149	Torque Tube Bracket (in halves)	...
25	E3150	Cap for Bracket	...
26	62608	Oiler for Cap	...
26	62608	Oiler for Bracket	...
27	127277	Collar for Bracket	...
28	127883	Torque Tube Supporting Tube	...

NOTE.—For Supporting Tube Brackets
see Rear Spring Brackets on page 85.

Please state maker's car number when ordering.

Rear Axle and Gear Box.

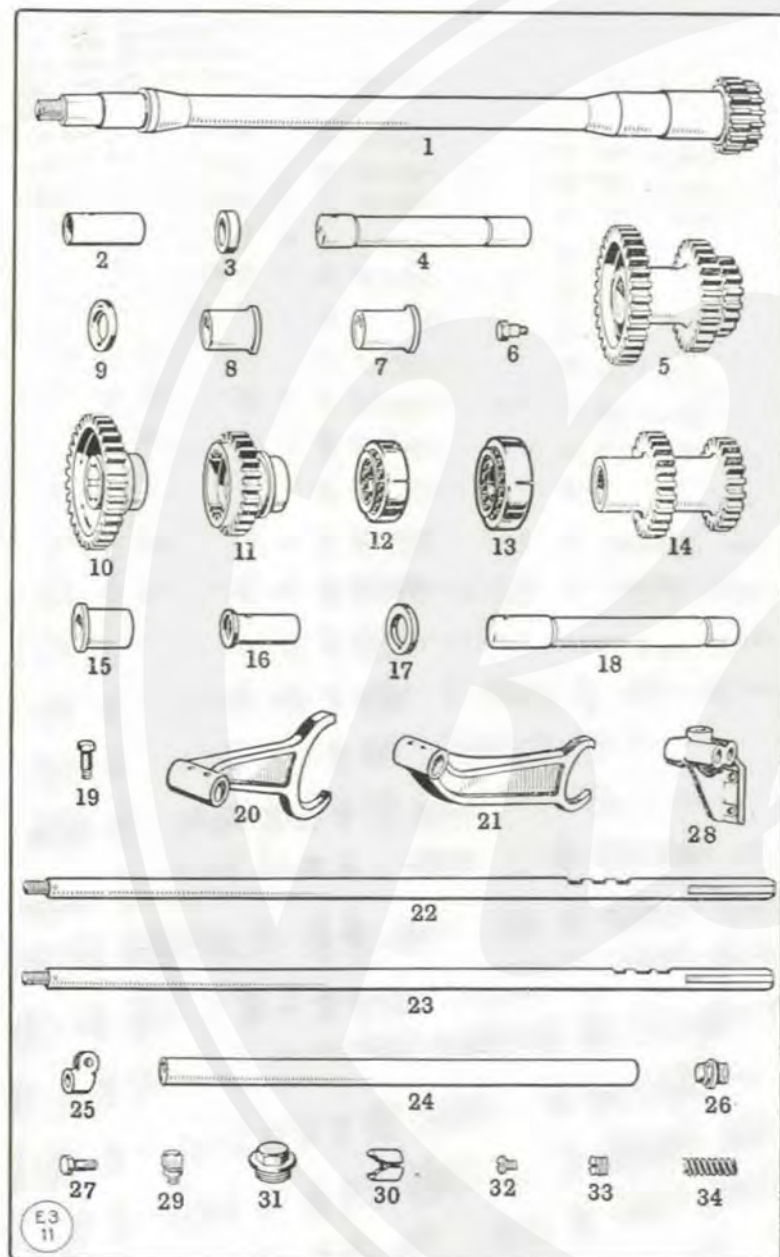


No. of Illustration.	Ref. No. for Ordering.	Description of Part.	Price Each.		
			£	s.	d.
—	E3151	Gear-box and Axle assembled complete	110	0	0
1	E3152	Gear-box and Rear Axle Case (machined only)	100	0	0
2	127513	Axle Tube (O.S.)	100	0	0
3	142703	Axle Tube (N.S.)	100	0	0
4	142758	Gear-box Plug	100	0	0
5	018577	Gear-box Plug	100	0	0
6	62971	Worm Wheel Inspection Cover	100	0	0
7	63307	Joint for Cover	100	0	0
8	127282	Cover for Gearbox (Side)	100	0	0
9	144440	Joint for Cover	100	0	0
10	127292	Plug for Gearbox Cover	100	0	0
—	E3153	Differential Cages assembled with Pinions, Pins and Worm Wheel	100	0	0
—	E3154	Differential Cages assembled with Pinions and Pins only	100	0	0
11	E3155	Differential Cage	100	0	0
12	142497	Bearing Plate for Differential Cage	100	0	0
13	127617	Timken Bearing for Bearing Plate for Differential Cage	100	0	0
—	E3156	Adjusting Sleeve complete for Bearing Plate	100	0	0
14	127515	Adjusting Sleeve	100	0	0
15	127516	Retaining Ring	100	0	0
16	127517	Retaining Flange	100	0	0
17	127525	Locking Spring for Adjusting Sleeve	100	0	0
18	139001	Differential Pinion	100	0	0
19	127518	Pin for Pinion	100	0	0
20	127533	Locking Screw	100	0	0
21	E3157	Differential Shaft (O.S.)	100	0	0
22	E3158	Differential Shaft (N.S.)	100	0	0
23	E3159	Pinion for Differential Shaft	100	0	0
24	43726	Thrust Button for Differential Shaft	100	0	0
—	E3160	Adjusting Nut complete for Differential Shaft End	100	0	0
25	63458	Adjusting Nut	100	0	0
26	63524	Oil Retaining Gland	100	0	0
27	63619	Riveting Plate	100	0	0
28	63610	Timken Bearing on Differential Shaft	100	0	0
29	63679	Locking Plate for Adjusting Nut	100	0	0
30	E3161	Worm Wheel	100	0	0
31	E3162	Worm Shaft	100	0	0
32	E3163	Worm Wheel Bolt	100	0	0
33	60825	Timken Bearings on Worm Shaft	100	0	0
34	143241	Adjusting Nut for Worm Shaft Bearing	100	0	0
35	143242	Cover for Bearing	100	0	0
36	143243	Locking Plate	100	0	0
37	142794	Speedometer Bearing Bracket	100	0	0
38	142795	Bush for Driven Wheel	100	0	0
39	142796	Speedometer Driven Wheel	100	0	0
40	142797	Speedometer Driving Wheel	100	0	0
41	E3164	Rear Hub and Brake Drum	100	0	0
42	E3165	Hub Cap	100	0	0
—	E3166	Rear Wheel (not shown)	100	0	0
43	E3167	Bolt for Wheel	100	0	0
44	E3168	Cap Nut for Bolt	100	0	0
45	141341	Nave Plate for Wheel	100	0	0

Note.—For Gear-box Gears see page 81.

Please state maker's car number when ordering.

Gear-box Gears and Change Speed.

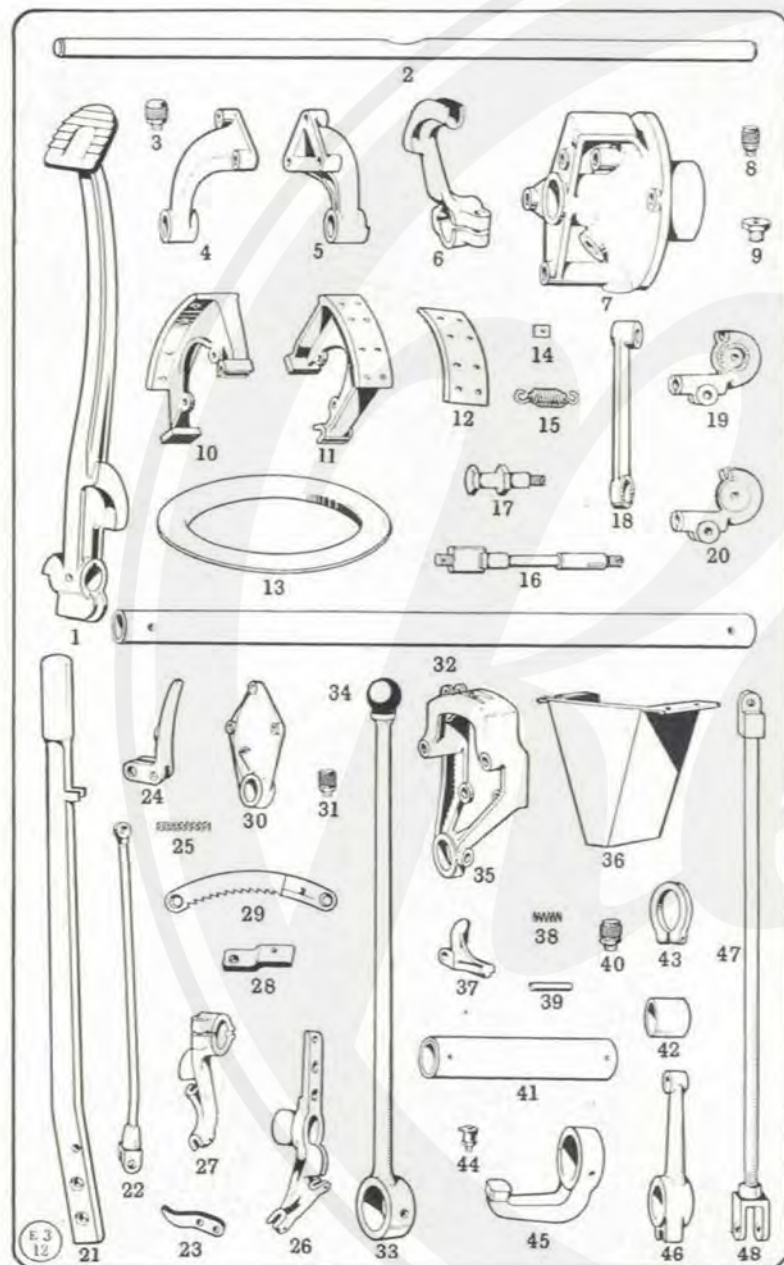


No. of Illustration.	Ref. No. for Ordering.	Description of Part.	Price Each.		
			£	s.	d.
(For Gear-box Casing see page 79.)					
1	E3169	First Motion Shaft and Bush	...	...	...
2	62990	Bush for First Motion Shaft	...	...	...
3	144205	Distance Piece on First Motion Shaft	...	...	...
4	78887	Spindle for Countershaft Gear	...	...	...
5	125808	Countershaft Gear	...	...	...
6	79308	Locking Screw for Countershaft Spindle	...	...	...
7	62991	Bush for Countershaft	...	...	...
8	62992	Bush for Countershaft	...	...	...
9	62954	Thrust Washer	...	...	...
10	665230	Sliding Gear (First and Reverse)	...	...	...
11	125809	Sliding Gear (Second and Third)	...	...	...
12	44981	Bearing for First Motion Shaft (small)	...	...	...
13	44982	Bearing for First Motion Shaft (large)	...	...	...
14	E3170	Reverse Gear and Bushes	...	...	...
15	62991	Bush for Reverse Gear (small)	...	...	...
16	65245	Bush for Reverse Gear (large)	...	...	...
17	62954	Thrust Washer	...	...	...
18	78888	Spindle for Reverse Gear	...	...	...
19	79308	Locking Screw for Reverse Spindle	...	...	...
20	127283	Change Speed Fork (First and Reverse)	...	...	...
21	127284	Change Speed Fork (Second and Third)	...	...	...
22	127285	Change Speed Rod (First and Reverse)	...	...	...
23	127286	Change Speed Rod (Second and Third)	...	...	...
24	127294	Cover Tube for Change Speed Rod	...	...	...
25	127287	Eye Piece for Change Speed Rod	...	...	...
26	127290	Cover for End of Rod	...	...	...
27	127289	Bolt for Eye Piece	...	...	...
28	143535	Bracket for Change Speed Rod	...	...	...
29	51009	Lubricator	...	...	...
30	127319	Plunger for Change Speed Rod	...	...	...
31	127320	Plug for Plunger	...	...	...
32	127321	Locating Screw for Plunger	...	...	...
33	127322	Plug for Change Speed Rod End	...	...	...
34	127355	Spring for Plunger	...	...	...

NOTE.—For Change Speed Control see page 82.

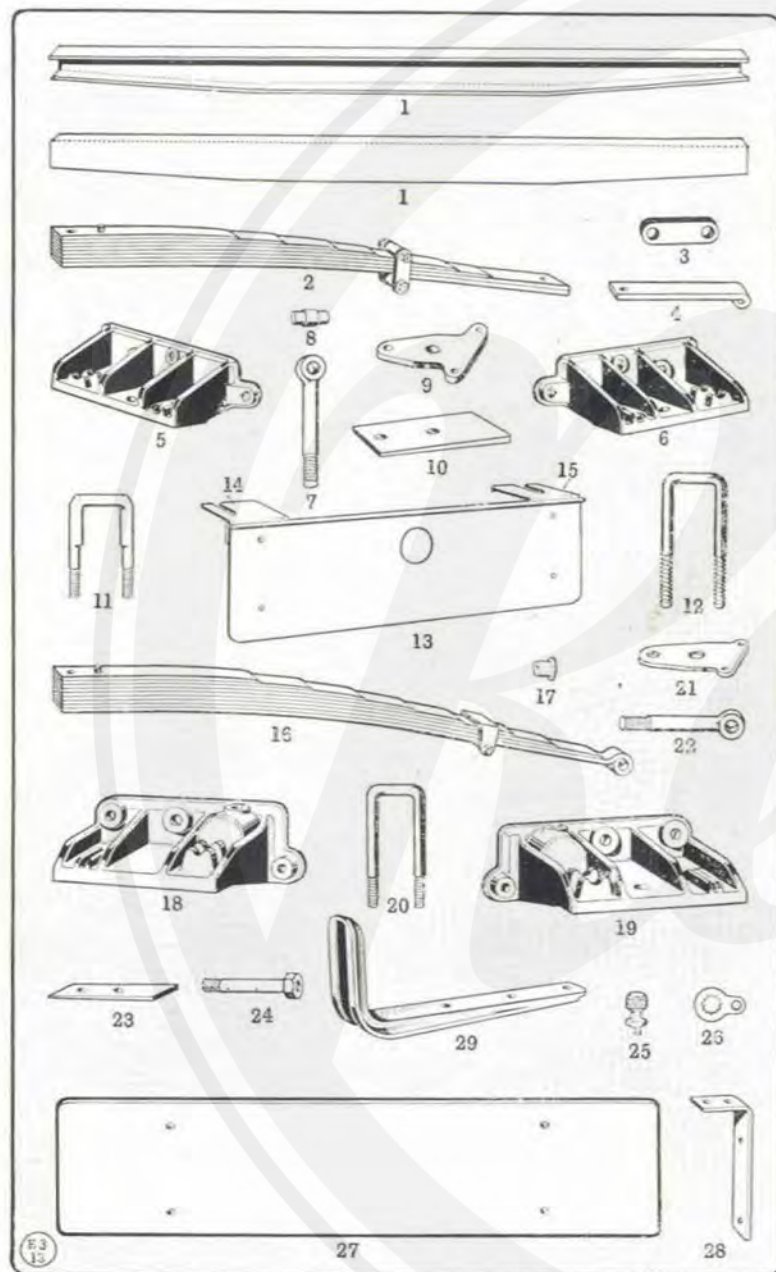
Please state maker's car number when ordering.

Brakes, Brake Control and Change Speed.



No. of Illustration.	Ref. No. for Ordering.	Description of Part.	Price Each.
1	143523	Brake Pedal	...
2	143527	Pedal Shaft	...
3	51009	Lubricator	...
4	143524	Bracket for Pedal Shaft (N.S.)	...
5	143525	Bracket for Pedal Shaft (O.S.)	...
6	143526	Brake Lever (N.S.) for Foot Brake	...
7	E3171	Brake Bracket (O.S. and N.S.)	...
For Rear Hub Bearing see page 79.			
8	51009	Lubricator	...
9	145979	Plug	...
10	E3172	Brake Shoe, Lined	... (per set)
11	E3173	Brake Shoes (for Foot Brake)	...
12	E3174	Brake Shoes (for Hand Brake)	...
13	E3175	Lining for Shoes (Foot Brake)	...
14	E3176	Lining for Shoes (Hand Brake)	...
For Brake Drum see Reference No. E3164, page 79.			
15	122520	Dust Excluder for Brake Drum	...
16	122521	Locking Plate for Brake Drum Set Screw	...
17	142610	Brake Spring	...
18	142591	Operating Cam and Spindle (N.S. Hand Brake)	...
19	142592	Operating Cam and Spindle (O.S. Hand Brake)	...
20	142593	Operating Cam and Spindle (O.S. Foot Brake)	...
21	142594	Operating Cam and Spindle (N.S. Foot Brake)	...
22	127522	Brake Shoe Pin	...
23	E3177	Foot Brake Lever complete with Cable Adjusting Bracket (O.S.)	...
24	E3178	Foot Brake Lever complete with Cable Adjusting Bracket (N.S.)	...
25	E3179	Hand Brake Lever complete with Cable Adjusting Bracket (O.S.)	...
26	E3180	Hand Brake Lever complete with Cable Adjusting Bracket (N.S.)	...
27	143908	Brake Lever (O.S. Hand Brake)	...
28	143910	Brake Lever (N.S. Hand Brake)	...
29	143909	Brake Lever (O.S. Foot Brake)	...
30	143911	Brake Lever (N.S. Foot Brake)	...
31	E3181	Brake Cable Adjusting Bracket (Hand or Foot, O.S.)	...
32	E3182	Brake Cable Adjusting Bracket (Hand or Foot, N.S.)	...
33	E3183	Brake Cable (Foot Brake, not shown)	...
34	E3184	Brake Cable (Hand Brake, not shown)	...
35	E3185	Hand Brake Lever assembled complete	...
36	E3186	Hand Brake Lever	...
37	E3187	Pawl Rod for Hand Brake Lever	...
38	64016	Pawl for Hand Brake Lever	...
39	E3188	Grip Lever	...
40	15164	Spring	...
41	143281	End Piece for Hand Brake Lever	...
42	143283	Brake Lever (N.S.)	...
43	143284	Pawl Lip and Quadrant Guide	...
44	E3189	Hand Brake Quadrant with Stop for Hand Brake Lever	...
45	127440	Brake Tube Bracket (N.S.)	...
46	51009	Lubricator	...
47	127446	Brake Tube	...
48	E3190	Change Speed Lever	...
49	65842	Knob for Lever	...
50	E3191	Change Speed Bracket	...
51	145050	Cover for Change Speed Bracket	...
52	127449	Reverse Stop	...
53	65508	Spring for Reverse Stop	...
54	69533	Pin for Reverse Stop	...
55	51009	Lubricator for Change Speed Bracket	...
56	127444	Change Speed Tube	...
57	127447	Bush for Change Speed Tube	...
58	127676	Collar for Change Speed Control	...
59	16340	Oiler for Tube	...
60	665868	Selector for Change Speed	...
61	65867	Operating Lever for Change Speed	...
62	E3192	Connecting Rod for Change Speed with Jaw Joint	...
63	142920	Jaw Joint	...

Please state maker's car number when ordering.

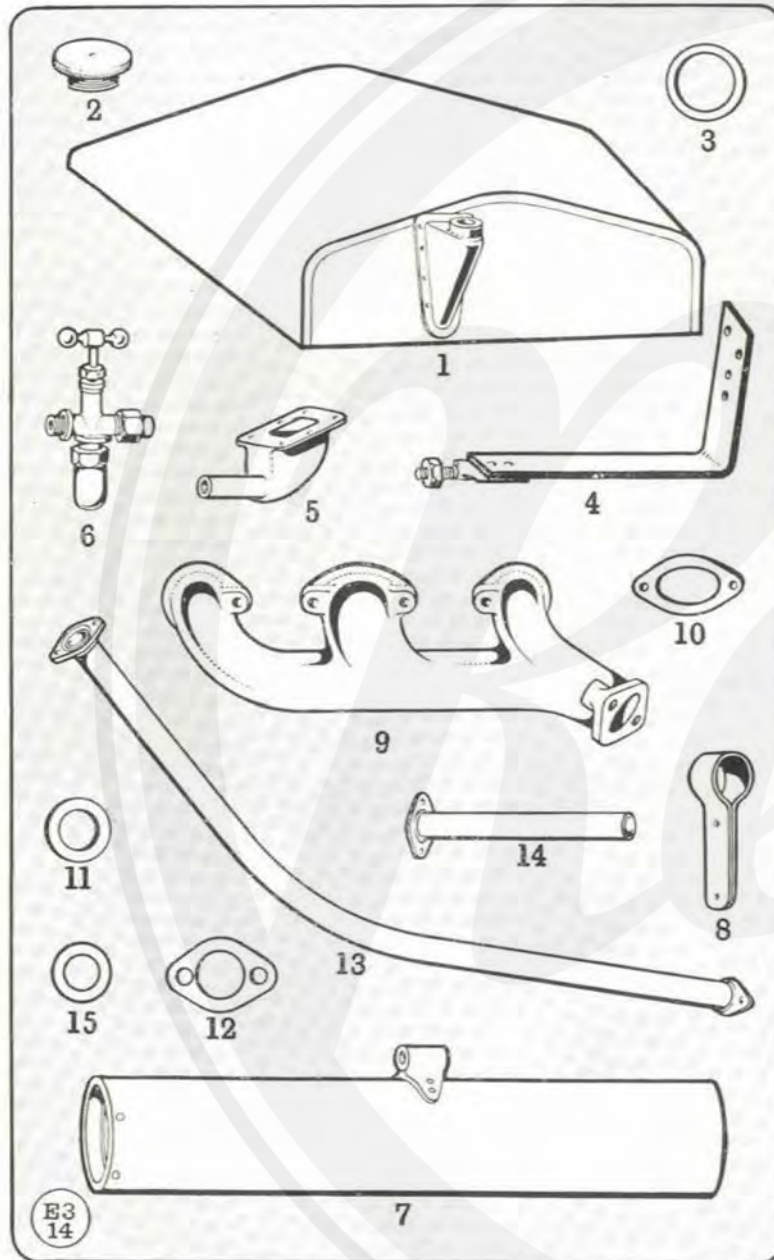


Frame Fittings and Spring Suspension.

No. of Illustration.	Ref. No. for Ordering.	Description of Part.	Price Each. £ s. d.
—	E3193	Frame complete	...
1	127232	Frame Side Member (O.S. and N.S.) ...	...
2	E3194	Front Spring complete	...
3	142589	Front Spring Clip Plate	...
4	142588	False Plate for Front Spring	...
5	127384	Front Spring Bracket (O.S.)	...
6	127385	Front Spring Bracket (N.S.)	...
7	E3195	Front Spring Bolt	...
8	127387	Pin for Spring Bolt	...
9	127388	Spring Clip Plate	...
10	127389	Packing Piece	...
11	127890	Front Spring Clips (small)	...
12	E3196	Front Spring Clip (large)	...
13	145958	Front Number Plate... ..	...
14	145971	Bracket for Front Number Plate (O.S.) ...	...
15	145972	Bracket for Front Number Plate (N.S.) ...	...
16	E3197	Rear Spring (Bushed)	...
17	50844	Bush for Rear Spring	...
18	127383	Rear Spring Bracket (O.S.)	...
19	127382	Rear Spring Bracket (N.S.)	...
20	E3198	Rear Spring Clip (large)	...
21	127381	Rear Spring Clip Plate	...
22	E3199	Rear Spring Bolt	...
23	127390	Packing Piece	...
24	143037	Rear Spring Pin	...
25	51009	Lubricator for Pin	...
26	143038	Locking Plate	...
27	143839	Rear Number Plate	...
28	143838	Bracket for Number Plate	...
29	E3200	Step Bracket and Accumulator Box Stay...	...
—	E3201	Lamp Bracket (rear) (not shown) ...	...

Please state maker's car number when ordering.

Petrol Tank Exhaust Pipes &c.



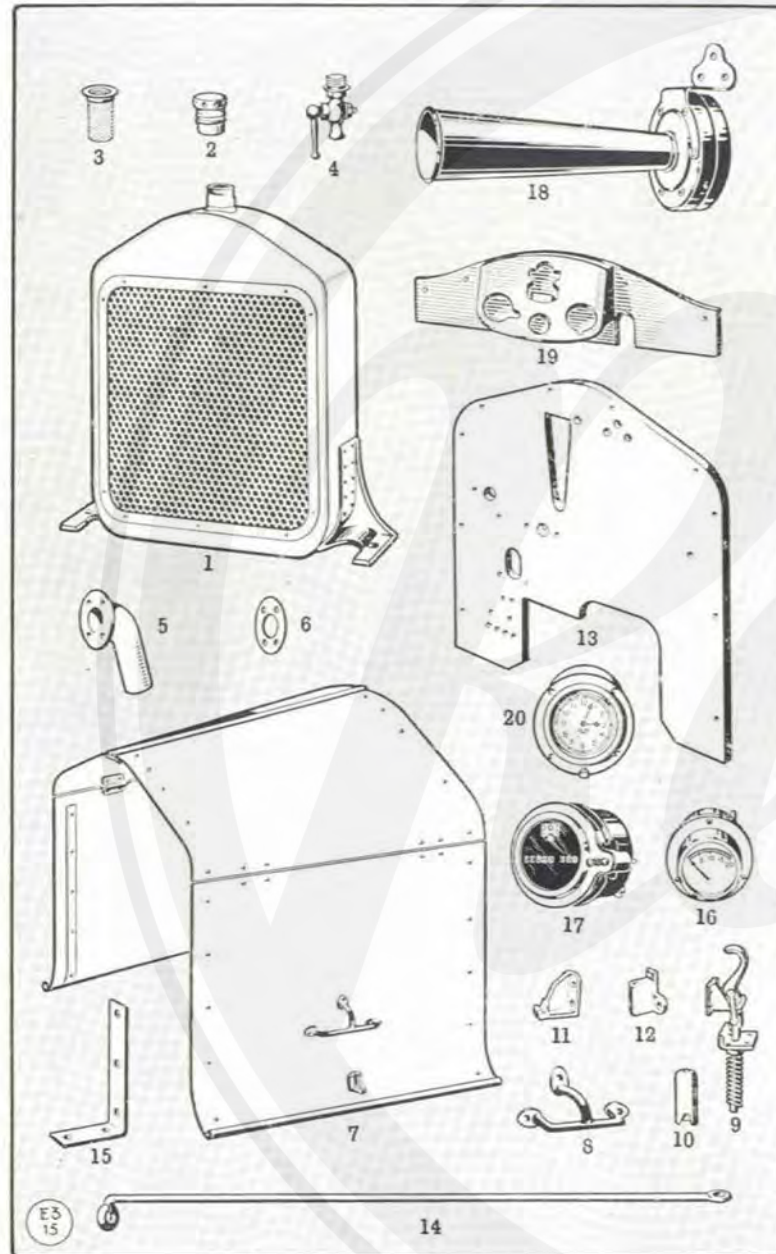
No. of Illustration.	Ref. No. for Ordering.	Description of Part.	Price Each. £ s. d.
1	E3202	Petrol Tank, complete with Filler ...	...
2	E3203	Filler Cap ...	...
3	E3204	Washer for Cap ...	...
4	E3205	Strap for Petrol Tank ...	...
5	E3206	Sump for Petrol Tank ...	...
6	E3207	Petrol Cock and Strainer ...	...
—	E3208	Set of Petrol Pipes complete ...	...
7	E3209	Silencer assembled complete ...	...
8	128350	Silencer Supporting Strap ...	...
9	127566	Exhaust Branch ...	...
10	121911	Joint for Exhaust Branch (large) ...	...
11	121790	Joint for Exhaust Branch (small) ...	...
12	128101	Joint for Exhaust Pipe (front end) ...	...
13	E3210	Exhaust Pipe assembled with Flanges (from Engine to Silencer) ...	...
14	E3211	Exhaust Pipe assembled with Flange (rear of Silencer) ...	...
15	E3212	Joint Washer for Exhaust Pipes and Silencer ...	...

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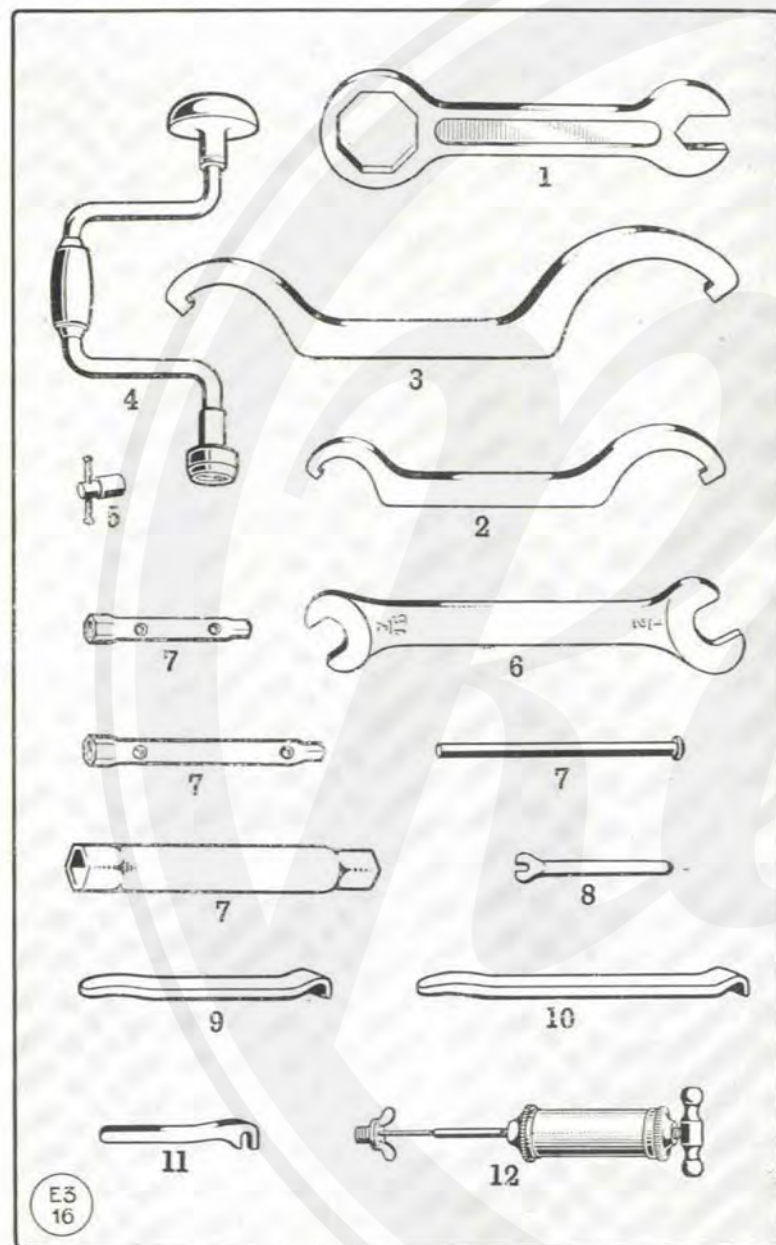
Radiator Bonnet and Dashboard.



No. of Illustration.	Ref. No. for Ordering.	Description of Part.	Price Each.		
			£	s.	d.
1	E3213	Radiator complete	...	...	...
2	36820	Cap for Radiator	...	...	...
3	37013	Strainer for Radiator	...	...	...
4	E3214	Drain Cock for Radiator	...	...	...
5	141310	Inlet Pipe for Radiator	...	...	...
—	—	Rubber Connection (Cylinder Head to Radiator, see page 63)	...	...	...
—	—	Rubber Connection (Radiator to Water Inlet, see page 61)	...	...	...
6	128213	Washer for Inlet Pipe	...	...	...
7	E3215	Bonnet complete (unpainted)	...	...	...
8	17860	Bonnet Handle	...	...	...
9	E3216	Bonnet Catch complete	...	...	...
10	141990	Cover for Bonnet Catch	...	...	...
11	143545	Hook for Bonnet Catch	...	...	...
12	143546	Bracket for Bonnet Catch	...	...	...
13	E3217	Dashboard	...	...	...
14	122516	Radiator and Dashboard Stay	...	...	...
15	E3218	Dashboard Support Bracket	...	...	...
16	142492	Oil Pressure Gauge	...	...	...
—	E3219	Oil Pipe complete, with Nuts and Nipples (from Oil Pump to Pressure Gauge)	...	...	...
17	E3220	Speedometer complete, with Cable and Clips	...	...	...
18	E3221	Electric Horn complete, with Press Switch	...	...	...
19	E3222	Instrument Board	...	...	...
—	E3223	Bracket for Instrument Board (not shown)	...	...	...
20	E3224	Clock with Flush Ring	...	...	...

Please state maker's car number when ordering.

Special Tools.



No. of Illustration.	Ref. No. for Ordering.	Description of Part.	Price Each. £ s. d.
1	144914	Hub Cap Spanner	...
2	045824	Gland Spanner (small)	...
3	045825	Gland Spanner (large)	...
4	142855	Brace for Road Wheels Nuts	...
5	145785	Jet Spanner for Zenith Carburetter	...
6	E3225	Double-ended Spanner ($\frac{3}{16}$ in. to $\frac{3}{4}$ in.) per set	...
7	E3226	Box Spanners (including Tommy Bar) per set	...
8	146114	Spanner for Valve Tappet Adjusting Screw	...
9	144857	Plain Tyre Lever (small)	...
10	144855	Plain Tyre Lever (large)	...
11	146115	Spanner for Valve Tappet Pinching Screw	...
12	64131	Grease Injector	...
—	E3227	Jack (not shown)	...
—	E3228	Tyre Pump with Gauge (not shown)	...

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