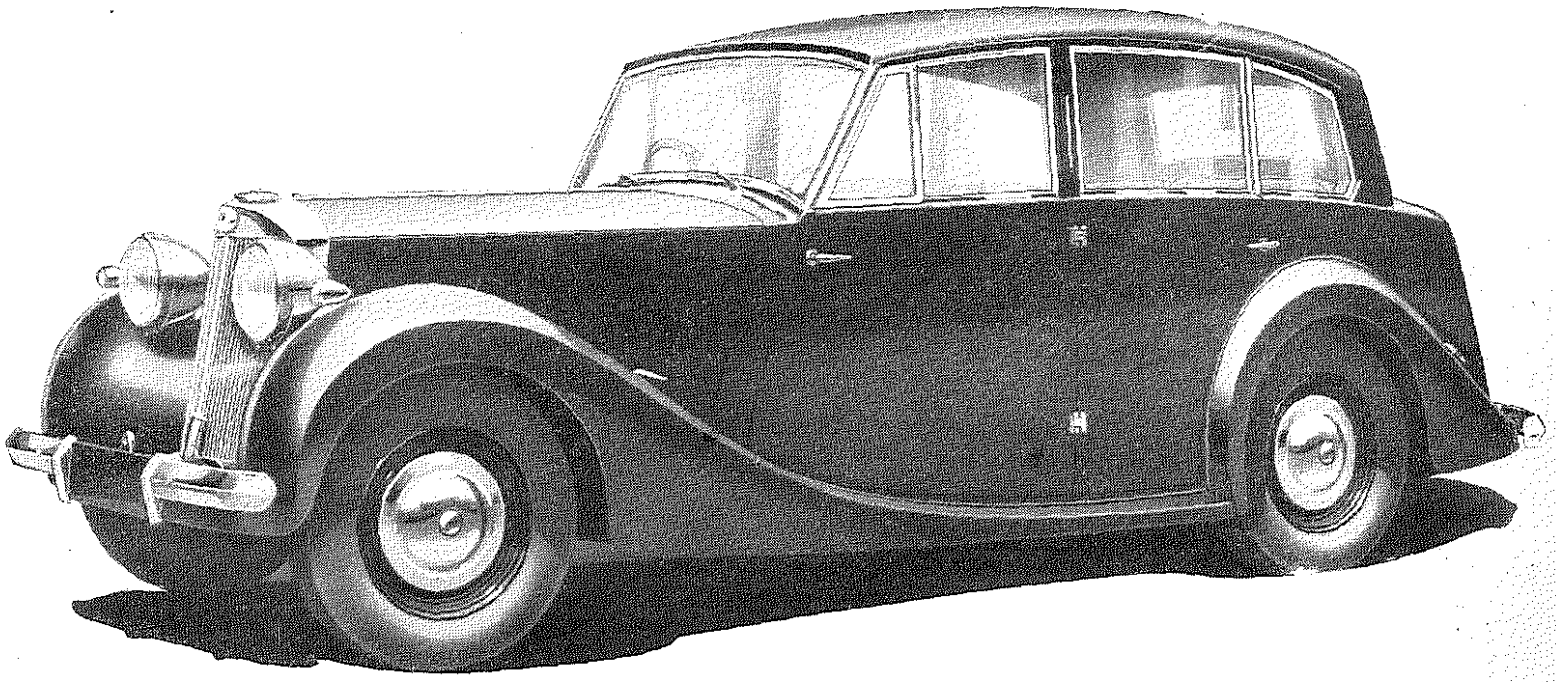


THE TRIUMPH SALOON

FOREWORD

The object of this book is to paint a clear picture in your mind of the car and its needs, technical terms have been avoided as far as possible.

Every effort has been made in the design to limit the attention necessary, however there will be certain points which must be attended to regularly.

By carefully reading the book, especially the lubrication section, and keeping an eye on the car's mileage, you will be able to ensure that your car receives all the service it needs and as a result increase its life appreciably.

A section on decarbonising and valve grinding has been included for the sake of the engineer owners who would prefer to do the work themselves. However, for the not so experienced owner we strongly recommend that these operations are carried out by a competent mechanic or, preferably, a Triumph Agent.

It is worth noting that technical articles appear in the *Standard Car Review* which is published monthly.

LICENCE DATA

Car number (Commission number)	Plate on dash
Engine number	On cylinder block (Both numbers are to be seen by lifting the bonnet)
Cubic capacity	127.6 cu. in. (2088 c.c.)

GENERAL SPECIFICATION

Number of cylinders	4
Bore of cylinders	3.347 in. (85 mm.)
Stroke of crank	3.622 in. (92 mm.)
Compression ratio	6.7
Firing order	1, 3, 4, 2
Brake H.P. (Road Setting)	68 at 4,200 R.P.M.

Oil Capacity.

Engine	12 pints	(6.8 litres)
Gearbox	1½ pints	(0.8 litres)
Rear axle	2 pints	(1.1 litres)
Water Capacity of cooling system	18 pints	(10.2 litres)
Fuel Capacity	15 galls.	(68 litres)

Dimensions

Wheelbase	9′ 0″	(274 cm.)
Track—Front	4′ 3″	(130 cm.)
Rear	4′ 6″	(137 cm.)
Ground clearance (under axle)	8″	(20 cm.)
Turning circle (between kerbs)	40′ 0″	(12.2 metres)
Tyre size	5.75″—16″	

Overall Dimensions

Length	14′ 10″	(452 cm.)
Width	5′ 4″	(163 cm.)
Height (unladen)	5′ 5″	(166 cm.)

GENERAL SPECIFICATION

WEIGHTS. *Excluding extra equipment.*	Complete with Tools and tank full of Petrol.	Shipping Weight
Saloon	cwts. qrs. lb. 25 1 14 (1243 Kg.)	cwts. qrs. lb. 22 3 14 (1160 Kg.)

VALVE TIMING. [With valve-rocker clearance set at 0.014″ (0.35 mm.)].

Inlet valve opens 10° before top dead centre.

Inlet valve closes 50° after bottom dead centre.

Exhaust valve opens 50° before bottom dead centre.

Exhaust valve closes 10° after top dead centre.

(10 *degrees before or after T.D.C. is equivalent to* 0.035″ *piston travel*).

The equivalent distances measured round the flywheel adjacent to the starter teeth :

10° ..... 1″ (2.54 cm.)

50° ..... $4\frac{31}{32}$″ (12.6 cm.)

VALVE-ROCKER CLEARANCES (measured with engine cold).

Inlet 0.010″ (0.25 mm.)

Exhaust 0.012″(0.3mm.)

IGNITION TIMING

Set to fire at top dead centre (distributor contact points just opening). As the advance is entirely automatic, the setting is at full retard.

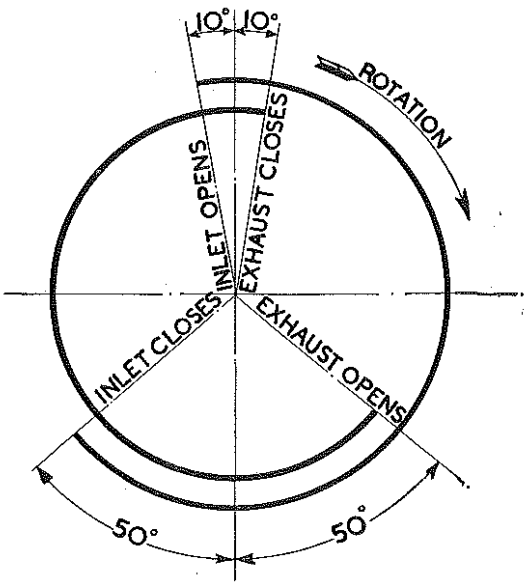


Fig. 1 Timing Diagram

Contact breaker gap should be set at 0.012″ (0.3 mm.)

ROAD SPEED DATA

Gearbox ratios	Top 1	2nd 1.67	1st 3.54	Reverse 4.11
Overall ratios	4.625	7.71	16.35	18.99
Engine speeds at 10 m.p.h. (16 km/hr.)	590	990	2090	2430

NOTE.—Engine speeds at other car speeds are, for all practical purposes, directly proportional to those given above.

DESIRABLE ENGINE SPEED LIMITS

(Particularly in gears lower than top)

The engine is capable of " revving " very fast, yet the driver should avoid continued " over-revving," which is most likely to occur in the lower gears. We strongly recommend that the driver shall not **continually** exceed the car speeds given below which correspond to approximately 4,000 engine r.p.m.

ROAD SPEED IN M.P.H. AT 4,000 R.P.M.

Top	Second	First
65 m.p.h. (105 km/hr.)	40 m.p.h. (65 km/hr.)	20 m.p.h. (30 km/hr.)

The above speeds are given in round figures so that the owner can easily remember them.

See page 16 for running-in speeds recommended.

MANAGEMENT OF THE CAR

CONTROLS, SWITCHES AND INSTRUMENTS

The position of the controls, switches and instruments will readily be understood by reference to Fig. 2.

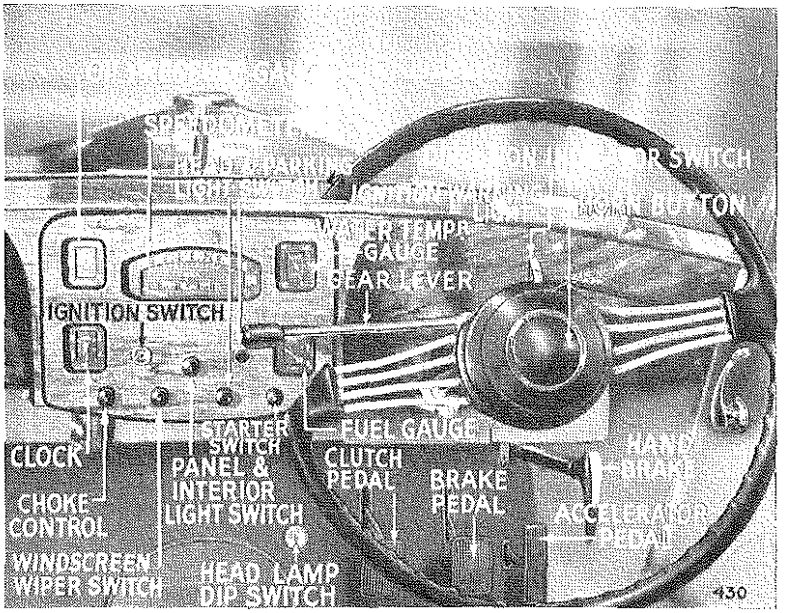


Fig. 2. Controls, switches and instruments.

FOOT OPERATED CONTROLS

Accelerator. The pedal is connected by a short Bowden cable to the carburettor throttle. Do not depress pedal when starting engine from cold.

Brake. Operating four wheel hydraulic brakes.

Clutch. Press pedal to disengage drive from engine to gearbox. **Do not rest your foot on the pedal when driving, or hold clutch out to free wheel, as this will cause unnecessary wear to the carbon thrust pad.**

HAND OPERATED CONTROLS

Choke Control (Carburettor easy start). Pull out when starting engine from cold (see page 12 for full instructions).

Gear Lever. For selecting the gears, see Figs. 3 or 3a.

The lever is spring loaded downwards between second and top gear positions.

Always select neutral position before starting the engine.

Handbrake. Pull to operate rear wheel brakes. The lever will be held in any position by the ratchet. To release ratchet, first pull lever and press trigger.

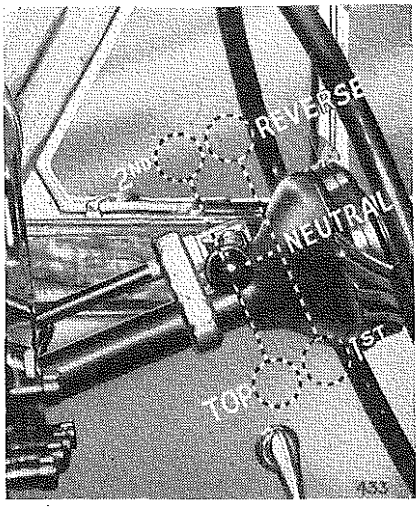


Fig. 3. Right-hand drive
Gear positions

MANAGEMENT OF CAR—Controls, Switches and Instruments

SWITCHES

Brake Light. The switch is connected to the brake pedal mechanism, but will operate the red rear lights only with the ignition switched on.

Direction Indicator. This switch will automatically be returned to " off " as the steering wheel is being brought back to the straight ahead position. The indicator will only operate with the ignition switched on.

Head, Tail and Parking Lamp. Pull knob to switch on parking lights. Turn slightly clockwise and pull again to switch on the head lights. Press foot operated switch to dip head light, press again for " full on " position. The switch " dips " the left-hand beam and switches off the right-hand beam. On some export models, both headlamp beams dip when the dip switch is operated.

Horn. Press button on steering wheel to operate horns.

Ignition. Turn clockwise to switch on. Do not leave the switch "on" when engine is stationary, to avoid the battery being discharged by the current flowing through the coil windings.

Panel and Interior Lights. Pull knob to switch on panel light, turn slightly clockwise and pull again to switch on interior light. These lights will only operate when the parking lights are switched on.

Reversing Light. The switch is actuated by the gear lever mechanism, and will operate when reverse gear is engaged, with the ignition switched on.

Starter Motor. Press to operate engine starter (see page 12 for full instructions).

Windscreen Wiper. Pull to operate wipers, they will only function when the ignition is switched on. Push to stop when arms are in the desired parking position.

INSTRUMENTS

Clock. The clock is electrically operated and the hand can be "set" by pressing upwards the small knurled knob (situated below the instrument panel, above brake lever) and turning in the desired direction. The action of setting the hands to the correct time will restart the clock.

Fuel Gauge. Registers the amount of fuel in the tank. It operates automatically when the ignition is switched on.

Oil Pressure Gauge. Indicates pressure of oil being pumped to the bearings. It does not show the amount of oil in the sump (excepting that if the oil level is very low the pressure usually falls due to overheating).

A habit should be made of occasionally reading the oil pressure during the course of a run, to see that the oil pump is functioning correctly. **The oil pressure gauge should read between 40 and 60 lbs./sq. in. (2.8—4.2 Kg./sq. cm.) when the car is travelling at normal speeds and the oil is hot.** Of course, only a low oil pressure will be registered when the engine is idling or running at low speeds, this is quite normal.

Speedometer. Registers vehicle's speed and total distance covered, and is fitted with a trip which is cancelled by pushing up the serrated knob (which is situated under the dash) and turning anti-clockwise.

Warning Light. Glows red when ignition is switched on with the engine idling or stopped. It is an indication that current is being drawn from the battery for the ignition circuit, or other purposes that are controlled by the ignition switch.

Water Temperature Gauge. The gauge shows the temperature of the cooling water at the thermostat. With the engine warmed up the gauge should register a temperature of between 60° and 70° during normal running.

REGULAR INSPECTION

Maintain the oil level in the engine sump at the top mark on the dipstick. Wipe the stick before taking a reading (see Fig. 4). Dipstick on left side of engine, near distributor.

The water level in the radiator should occasionally be examined, and if necessary replenished. It is advisable to use clean rain water when replenishing the radiator as the use of hard water results in a deposit on the inner side of the cooling surfaces, thus reducing efficiency.

Tyre pressures should be checked weekly by application of a gauge directly to the valve. The correct pressures are given on page 36. It is usually a good plan to have the spare tyre inflated to a slightly higher pressure than that recommended for the rears, *i.e.* approximately 32 lb./sq. in. (2.25 kg./sq. cm.) It will be a simple matter to release the pressure, should the tyre be required for use.

The acid level in the battery should be examined fortnightly and maintained so that it is just level with the top of the separators. A mirror will be found useful when checking the acid level. Use only distilled water when replenishing (obtainable from the local chemist or garage). Do not overfill or the acid may splash out and do damage. Keep the filler plugs screwed tight to prevent leakage of acid.

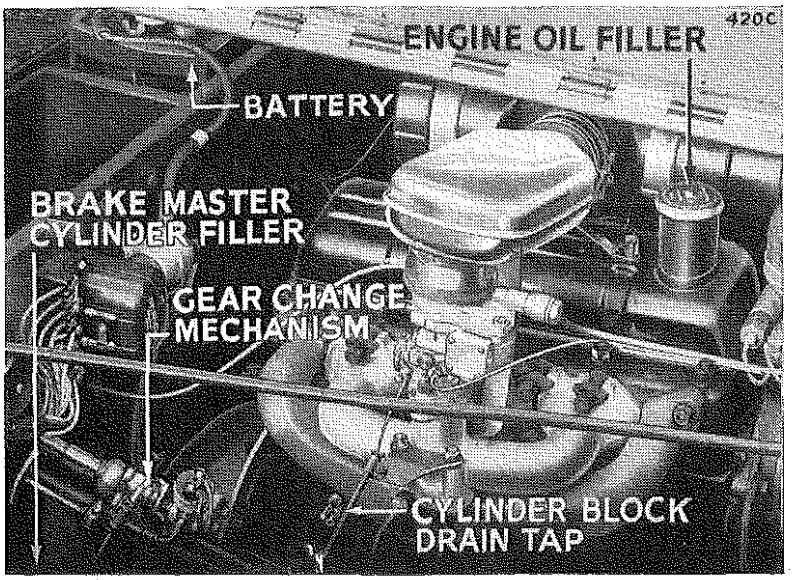


Fig. 4. View under bonnet.

THE ENGINE

TO START THE ENGINE

Starting when Engine is cold

Place the gear lever in the neutral position and see that the handbrake is on. Pull the carburettor choke control out to the stop, switch on the ignition and press the starter switch button. If the engine does not start on the first application of the starter **Do not re-operate until starter motor has come to rest.** This is to avoid damage to the starter pinion. When the engine has become sufficiently warmed up, push the choke control back to the **half-out** position. After one or two minutes driving, as the engine warms up, it will be possible to push the control right in without causing the engine to run with undue hesitation. Difficulty is sometimes experienced in starting if the atmosphere is very damp, causing moisture to collect on the exposed porcelain portions of the sparking plugs. Caps are provided on the Triumph plugs to minimise this trouble. If the battery has been allowed to get into a run-down condition it is best to use the starting handle. When the engine fails to start do not keep the choke control out too long or the sparking plugs will become wet with petrol and it will be necessary to remove and dry them. **It is important that the accelerator pedal should not be depressed when starting the engine from cold** as the effect of the carburettor choke device is upset when the throttle is open. It will usually be found possible to reverse out of the garage on the choke control alone, usually in the intermediate position, without using the accelerator.

When the car has been left standing for some considerable time, the fuel level in the carburettor float chamber may have become rather low due to evaporation. The hand primer on the fuel pump can be used under such circumstances, before the starter is operated, to conserve the electrical energy in the battery (see page 54.)

Starting in very cold conditions

In very cold weather the oil in the engine and gearbox becomes thick when the car has been standing for some hours. Thick oil causes the engine to be " stiff " and an

unusual effort is required to turn the crankshaft. This can be reduced to a minimum by using the recommended oils. It is advisable to free the engine, giving the crankshaft a few turns, using the starting handle. This relieves the load on the starter. Under these conditions the clutch pedal may be depressed when operating the starter, to relieve the motor of the considerable drag in the gearbox. Intelligent use of the starter, as described, will greatly prolong the life of the battery.

It is also advisable to add 1½% of engine oil to the fuel in very cold weather. This is at the rate of quarter of a pint of oil to each two gallons of fuel. However, this practice should not be continued excepting under these very cold conditions. The addition of oil to the petrol will improve the lubrication of the cylinder bores, which is desirable when the engine is working in exceptionally cold weather.

Starting with Engine warm or hot

When restarting the engine while it is still hot the accelerator pedal should be depressed to about one third of its travel before pressing the starter button. If difficulty is experienced in starting, due to the use of the choke device when the engine is hot, the mixture may be momentarily too rich, in which case depress the accelerator to the full extent whilst operating the starter with the choke control pushed right in.

Warming up

In order to minimise cylinder wear the engine should be warmed up quickly, when starting from cold in winter, the engine may be " idled " for a minute to let the oil circulate but it should not be allowed to idle for long periods, neither should the engine be raced up to high speeds.

To accomplish rapid warming up, the engine should not be started from cold until it is desired to drive the car away. After starting, the choke control should be pushed back to the half-way position. A speed of approx. 30 m.p.h. in top gear may be regarded as a desirable warming up speed.

Do not forget to push the control right in as soon as the engine will allow, and do not give full throttle until the engine has warmed up. An automatic thermostat is fitted in the cooling system, incorporating a bye-pass, which greatly assists in quick warming up.

COOLING SYSTEM

In frosty weather some steps must be taken to prevent the cooling water freezing, as water expands when freezing thus causing a great bursting pressure, with considerable risk of a cracked cylinder block or radiator and consequent leaks.

If the garage is not heated the water may be drained, but it is desirable to use an anti-freeze mixture. As the cooling system is fitted with a thermostat there is a risk of the radiator block freezing while the engine is running during the warming up period when the thermostat is shut. Even though the car has been left in a warm garage and water is not frozen at the start of the run.

Draining

For the purpose of draining, taps are provided in the radiator bottom tank and at the rear of the cylinder block on the right-hand side.

Anti-Freeze Mixtures

We recommend owners to use Smith's "Bluecol" non-corrosive anti-freeze (inhibited Glycol base compound) in order to protect the cooling system during frosty weather and reduce corrosion to a minimum. Drain sufficient water away and replace by "Bluecol." If this is attended to, particularly when the car is new, corrosion will be checked and result in a clean cooling system. If the anti-freeze is added when the weather has already become cold, then it is advisable to drain all the water away and mix the anti-freeze with water in a

watering can. If the anti-freeze is put directly into the radiator it may take some time to mix with the cylinder jacket water, due to the thermostat preventing circulation until the jacket water is hot.

The recommended "Bluecol" proportions for your car are given below. With this anti-freeze in the cooling water it is unnecessary to drain the system, even in the coldest weather, and one filling lasts the whole winter. "Bluecol" does not evaporate; therefore it is only necessary to top up with water in the usual manner.

Recommended "Bluecol" proportions for protection from various degrees of frost.

Degrees of Frost, °F	15	25	35
Proportion	10%	15%	20%
Amount of "Bluecol"	2 pints	3 pints	4 pints

NOTE.—We recommend that you provide for the cooling system, ample protection against sudden fall in temperature, by using in your car the 20% proportion of "Bluecol."

Caution

Before adding the anti-freeze preparation make sure that the water hose clips are securely fitted and the cylinder head nuts are tight. If the solution is able to escape through a leaking gasket into the cylinders it may be burnt into a tacky substance capable of doing harm to the engine. However, this could only happen in the rare event of a faulty gasket.

If the car is taken to a garage for any repair which involves draining the radiator it is advisable to state that the radiator contains an anti-freeze, so that the cooling water can be preserved and used again.

NEW ENGINES

When the car is new, the engine may seem to be somewhat lacking in power due to the working surfaces not having become fully bedded down. This will continue for the first 200 or 300 miles (320-480 km.) during which time the engine will become gradually " run-in " (with proper use). The power will then improve as the car is used for the first 1,000 miles (1,600 km.), and this will be accompanied by a corresponding improvement in petrol consumption. The engine sump should be drained and refilled with new oil at the completion of the first 1,000 miles (see page 20).

At approximately 5,000 miles much benefit is gained by having the valves ground in as described on page 56. Although this involves some slight inconvenience in giving attention to a new engine, the trouble is well repaid by the results obtained.

It is inadvisable to drive a new car fast or to run the engine at high speed in the low gears. The good and lasting bearing surfaces obtainable by careful running-in are well worth the patience required to drive the car at only moderate speeds for at least the first 500 miles (800 km.).

We do not recommend that the engine should be religiously driven at the specified speeds for the first 500 miles (800 km.), but suggest that " running-in " should be progressive and that no harm is done if the engine is allowed to " rev " fairly fast so long as it is thoroughly warm, providing it is not **pulling hard.** Also do not let the engine pull hard at low speeds, always select a lower gear.

The following table gives the permissible speeds in top gear :—

During the first 250 miles (400 km.)	40 M.P.H. (64 km/hr.)
During the following 150 miles (240 km.)	45 M.P.H. (72 km/hr.)
During the following 100 miles (160 km.)	50 M.P.H. (80 km/hr.)

During the first 500 miles (800 km.) it is inadvisable to exceed the following speeds in the gears :—

In first gear	15 M.P.H.	(24 km/hr.)
In second gear	30 M.P.H.	(48 km/hr.)

When new cars leave the works 3% of engine oil is added to the fuel. The owner could with advantage continue to add 1½% of engine oil (¼ pint to 2 gallons of fuel) during the running-in period. (First 500 miles.)

Alternatively, we have found the use of an upper cylinder lubricant to be of advantage, particularly in new engines, and recommend the use of such a lubricant, particularly until the engine is thoroughly " run-in." The lubricant should be mixed with the fuel in the proportions given on the container. Such lubricants may be used with advantage throughout the life of the car particularly during wintry weather.

Running-in compounds containing Acheson's colloidal graphite are available. They are prepared in a form suitable for addition to the oil in the engine sump. These should only be used during the running-in period for new or reconditioned engines. [First 500 miles (800 km.)].

DRIVING THE CAR

To obtain a minimum of clutch wear, always start away in first gear unless facing downhill, in which case second gear may be engaged. If the driver engages a higher gear in order to save a gear change the clutch will have to be slipped unduly, resulting in unnecessary wear.

Gear Changing

The gear lever, situated on the steering column, operates through the system of a sliding rod, connecting rods and levers to the gearbox, and a minimum of effort is required to change from one gear to another. The position of the lever for selection of the various gears is given on page 8. When in the neutral position, the gear lever is spring loaded downwards and rests between top and second gears. The synchromesh gearbox provides a synchronised easy gear change for the three forward gears.

When changing into a synchronised gear the movement should be slow and deliberate. **DO NOT HURRY.** Upon its first movement the gear lever will encounter a slight resistance from the synchronising cones. The

continuance of a steady pressure will synchronise the gears and the resistance will be overcome as the driving dogs slide into engagement.

The gear lever must always be moved right home to secure full engagement.

Do not attempt to engage reverse gear whilst the car is travelling forward.

Using the Brakes

The four wheel hydraulic brakes are very powerful and require only a small effort to slow down the car. Do not apply the brakes harshly except in emergency as this only causes undue tyre wear and discomfort to passengers.

Engine as a Brake

When travelling downhill using the engine as a brake, *i.e.*, with gear engaged, **do not switch off the ignition.** This would allow unburnt mixture to accumulate in the exhaust system, and when switching on again, there is a likelihood of an explosion with consequent damage to the system.

GENERAL UPKEEP

LUBRICATION

This is one of the most important subjects in connection with the upkeep of a car and careful attention to the following instruction will be amply repaid by the results obtained.

For the recommended periods of lubrication see the lubrication chart folded inside rear cover of this book. The correct lubricants to be used are given on pages 95 and 96.

Grease Gun

One grease gun is supplied in the tool kit and should be filled with the grease recommended for wheel hubs. This grease can be used for general chassis lubrication as well as for hub bearings. We also specify an alternative grease which is recommended as being superior for general chassis lubrication but is unsuitable for wheel hub lubrication, because, due to its oily nature, it may escape from the hub bearing on to the brake linings. Thus any car owner desiring to use this type of lubricant would require an additional grease gun for general chassis lubrication, retaining the other gun for wheel hub lubrication only.

Whilst the above applies to the owner desiring to attend to the lubrication of his car personally, most owners will prefer to have these operations carried out by a Triumph Agent.

THE NECESSITY FOR HIGH QUALITY OIL

There are many reputable oils on the market and many more " cheap " oils of indifferent quality. The use of high quality lubricant is an essential safeguard. It has to be sufficiently fluid to give immediate lubrication when starting from cold and to maintain sufficient body during a fast run on a hot day. A first class oil can withstand the combustion flames playing on the cylinder walls and it will not form an undue amount of carbon in the combustion heads. It will keep down the rate of cylinder and bearing wear so that the engine will maintain its performance over many years. In this way, the money spent on high quality oil represents a valuable insurance against premature old

age and unnecessary breakdowns. The lubricants which we recommend are obtainable everywhere and have maintained a uniform high standard of quality over many years. They can be trusted to withstand all demands made upon them and possess a margin of safety which is completely adequate.

Obtaining the correct Grade

In ordering your oil be careful to state the make as well as the grade. For example, never ask for XL, A, " Double " or " 30," but always use the correct wording as given in the columns on page 95 or 96 according to the brand chosen and see that the oil is drawn from a container bearing the well known trade mark.

Draining

To drain the engine, gearbox or rear axle, remove the plug provided beneath each unit, this process is assisted by opening the filler to allow ingress of air, and by draining when the oil is warm after a run of at least 10 miles (16 km.) Under these conditions impurities in the oil will be well mixed and will flow away with the oil during the draining process.

Flushing Oils (see recommended Lubricants, page 95 or 96).

We advocate the occasional use of flushing oil during the draining and refilling operation of the engine sump. The normal procedure is as follows :

Drain the sump while the engine is hot, screw in the drain plug and pour four pints of flushing oil into the oil filler.

Start the engine and adjust the throttle so that a fairly fast idling speed is obtained.

Occasional short bursts of acceleration should be given to distribute the oil throughout the engine and then after ten minutes running drain the sump and repeat the operation with a fresh charge.

With very dirty engines, it may be necessary to lengthen the period somewhat or even to use a third charge of flushing oil.

Refill the sump with new engine oil, the small quantity of flushing oil left in the filter will not be harmful.

ENGINE

We recommend low viscosity oils for use in the engine sump. These oils, whilst maintaining sufficient body when hot, also are fluid enough to give early lubrication to cylinder walls, etc., when starting the engine from " cold," a quality not possessed by the " heavier" oils in sufficient degree for use in modern engines. They are each of the correct viscosity and character to afford complete lubrication protection. Additives which dilute the oil or otherwise impair this protection must NOT be used.

We therefore stress the value of using only the recommended oils. After many thousands of miles running the rate of oil consumption will increase. When the rate becomes higher than one gallon per 1,000 miles (1 litre per 400 km.), it will be desirable to use the next heavier grade of the brand of oil you normally employ.

The working parts of the engine are lubricated by oil contained in the sump, drawn through a filter by the gear type pump and delivered under pressure to the crankshaft journals, crankpins, connecting rod little ends, camshaft bearings and rocker shaft. Oil returning from the rocker gear lubricates the tappets and cams. The jets of oil from connecting rod bearings lubricate the pistons and the timing chain is fed with oil from the camshaft bearing. Suitable oil seals are embodied at the front and rear ends of the crankshaft which effectively prevent oil leaking along the shaft.

Every 200 miles (320 km.) the oil level should be checked and topped up if necessary. Withdraw dipstick and wipe clean, then insert and push fully home before withdrawing for reading (see Fig. 4). Should the level be at the lower mark on the dipstick 4 pints (2.2 litres) of oil will be required for topping up.

The regular addition of oil not only maintains the correct level, but also tends to keep up the quality of the lubricant. However, gradual deterioration takes place until it becomes advisable occasionally to drain the sump and refill with fresh oil. If the engine is found to require very little oil for replenishment, then it is desirable to drain the oil every 2,500 miles (4,000 km.) and refill with fresh oil.

Once every year, if flushing oils have not been used, it is advisable to remove the sump and thoroughly clean out with petrol. Dry off with a smooth rag or good quality brush, taking care not to let any fluff or hairs remain, and leave for a quarter of an hour whilst the remaining film evaporates before replacing the sump. In the meantime, brush with fuel the gauze intake filter.

Do not forget to refill with clean oil when the sump is replaced.

Caution

Do not attempt to clean out the sump with paraffin or petrol unless it is removed from the engine, as any remaining liquid will tend to dilute the oil.

The Oil Cleaner

The Oil Cleaner has been designed to filter the oil to a very fine degree and the only attention it requires is to see that the filtering cartridge is removed and that a new replacement cartridge of the correct type is fitted at periods not exceeding 10,000 miles (16,000 km.).

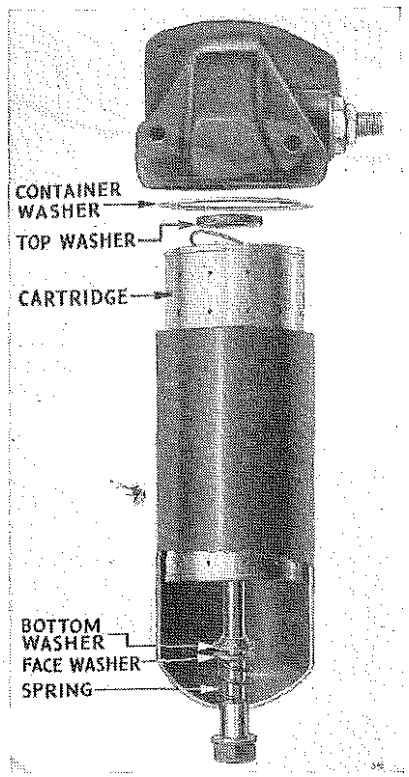


Fig. 5. Oil cleaner.

It is essential that this operation be carried out at the specified periods to ensure the full filtration of the oil.

The cleaner manufacturer's name and cartridge number, which are clearly marked on the top of the cleaner body, must be quoted when obtaining a replacement cartridge.

To renew the cartridge, unscrew the securing bolt and remove the container, the cartridge can then be withdrawn. Wipe out the container to remove foreign matter trapped by the filter, using a non-fluffy cloth and inspect afterwards to make certain that no cloth fibres remain.

It is desirable to discard the old container and cartridge washers, replacing them with new ones, every time the cartridge is renewed. When reassembling the container ensure that the washers and spring are correctly positioned (see Fig. 5). Do not tighten the bolt more than is necessary to obtain an oil tight joint.

Approximately one pint of oil will be lost due to the removal of the container and the sump should be topped up with new oil after assembly. However, as this operation should be done when the engine oil is being drained the refilling of the sump by the specified amount will automatically allow for this loss.

The container should not be disturbed until cartridge renewal is required ; to do so invites the hazard that the accumulated dirt on the outside of the container may be allowed to contaminate the inside and thus be carried into the bearings when the engine is re-started.

If at any time the cleaner body is removed from the crankcase, take great care to fit the joint washer correctly, otherwise damage will be caused when next the engine is started, through the " blanking-off " of the oil passages. It is advisable to fit the washer to the crankcase and ensure that the holes in the washer match those in the crankcase before attaching the body.

Ignition Distributor see (Fig. 6)

Every 5,000 miles (8,000 km.), the cam should be smeared lightly with engine oil. A pronounced squeak occurs when the cam is quite dry. Withdraw the moulded rotor arm from the top of the spindle (care should be taken because this part is made of a brittle material) but do not remove the screw exposed to view. Apply, by means of oil-can, a few drops of thin machine oil around the edge of the screw and down the hole provided, to lubricate the cam bearings and distributor spindle respectively. At the same time, place a single drop of clean engine oil on the contact breaker arm pivot.

On earlier models the distributor spindle was lubricated via the hole in the screw.

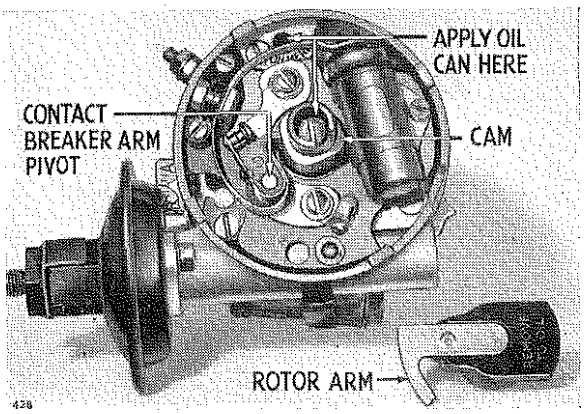


Fig. 6. Ignition distributor.

When replacing the rotor arm make sure that it is pushed on as far as possible.

The moving parts of the automatic advance mechanism should be lubricated with winter grade engine oil. This can

When replacing the rotor arm make sure that it is pushed on as far as possible.

The moving parts of the automatic advance mechanism should be lubricated with winter grade engine oil. This can be squirted through the gap between the cam and the base plate. Take great care not to allow any oil to get on or near the contacts.

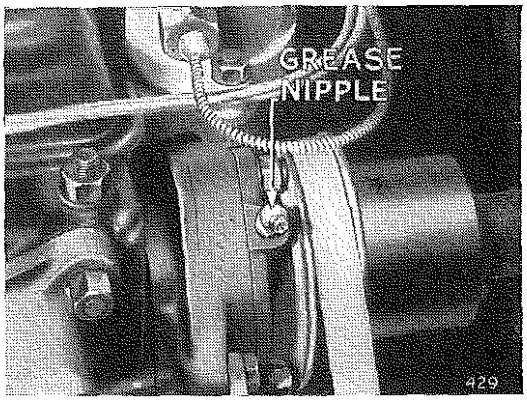


Fig. 7. Water Pump Bearing.

Water Pump and Fan

There is one nipple provided (see Fig. 7) to which the grease gun should be applied every 1,000 miles. **Give two strokes only with the gun.**

Dynamo and Starter

Once every 10,000 miles unscrew the cap of the lubricator at the commutator end. If the lubricating wick is dry, the cap should be filled with petroleum jelly.

The bearing at the driving end of the dynamo is packed with grease before leaving the works and after a considerable mileage the dynamo should be removed for cleaning, adjustment and repacking of the bearings with grease. This should be done preferably by the nearest Triumph or Lucas Service depot.

The starter is fitted with special bearings which require no lubrication.

Air Cleaner and Silencer. Home Use. The air cleaner gauze should be re-oiled with engine oil in order to ensure effective filtering of the air. Every 5,000 miles (8,000 km.) it is advisable to remove the air cleaner and wash in petrol, particularly the gauze, after which soak the gauze in oil and allow to drain before finally wiping over and re-fitting.

CLUTCH SHAFT BEARINGS

The oil can should occasionally be applied to the clutch bearings (one at each side of the clutch housing), the oil holes are accessible from underneath the car. This operation requires a pump type of oil can.

CLUTCH AND BRAKE PEDAL BEARINGS

Grease nipples are provided (see Fig. 8), they are accessible from underneath the car.

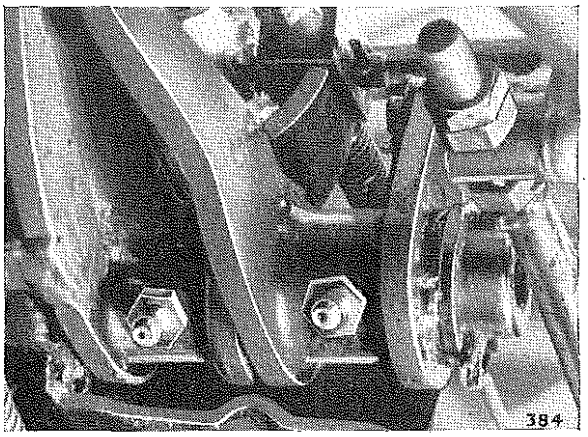


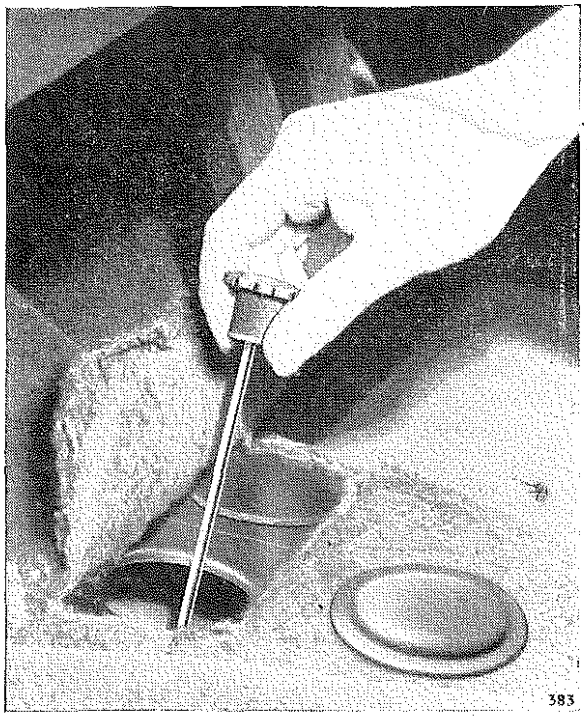
Fig. 8. Pedal Bearings.

GEARBOX

The correct oil only should be used in the gearbox as the use of very thick oil or grease will spoil the operation of gear changing.

Every 2,500 miles (4,000 km.) the oil level should be checked and topped up if necessary.

To check the oil level, raise the carpet and remove the rubber plug from the gearbox domed cover plate, thus exposing the dipstick (see Fig. 9). The plug is on the left-hand side for right-hand drive cars and vice versa.



Withdraw dipstick and wipe clean, then insert stick and push it fully home before withdrawing for reading. The correct level is to the top mark. The dipstick orifice is also the gearbox oil filler.

Every 10,000 miles (16,000 km.) the gearbox should be drained and refilled with new oil (see page 95 or 96).

Fig. 9. Gearbox, oil filler and dipstick.

REAR AXLE

It is essential to drain and replenish the axle with "Hypoid" oil every 5,000 miles (8,000 km.).

The hypoid bevel gears fitted in the rear axle require a special lubricant to ensure efficient operation and long life.

This type of gear incorporates a sliding action between the exceptionally sturdy gear teeth, resulting in silent operation. However, the rubbing action is too severe for normal axle oils, so special "Hypoid" oils have been developed which contain additives that make the oil capable of withstanding pressures many times heavier than normal oils can cope with. A further feature of "Hypoid" oils is that they are "lighter," that is to say more fluid than normal axle oils. However, the special additives begin to lose their properties in the course of use, and the oil tends to revert to a light gear oil.

Thus it is advisable to completely drain and replenish with new "Hypoid" oil every 5,000 miles (8,000 km.) and in any event do not exceed a period of 10,000 miles (16,000 km.).

It is desirable to have the oil level checked during this period,

and if the oil level is below the bottom mark on the dipstick do not " top up " but drain the oil and refill with new oil, this will overcome the danger of mixing the various grades of oil.
The filler is accessible from underneath the car or by removing the cover below the rear seat cushion. Clean away mud before unscrewing the filler plug to avoid grit falling into the axle.

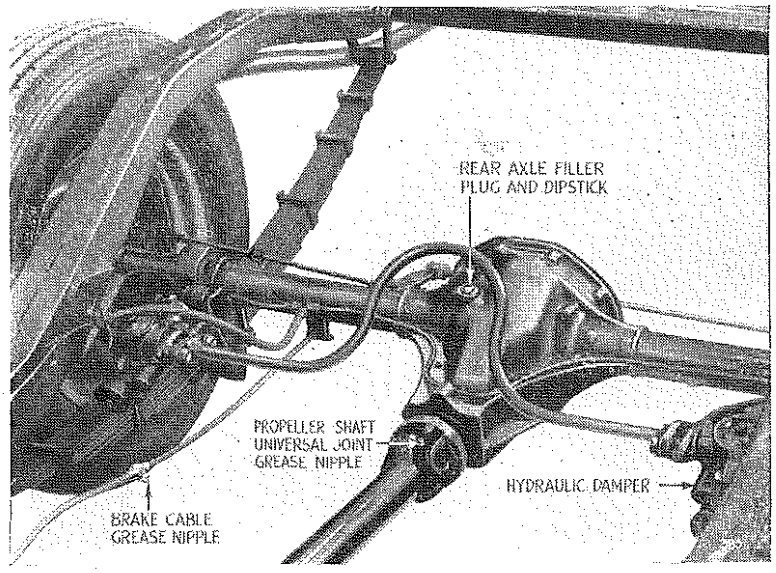


Fig. 10. Rear of chassis.

A dipstick is provided to indicate the oil level (see Fig. 10) and should not be screwed in when testing the oil level, but rested on top of the threads. The correct level is to the top mark on the dipstick.

BRAKES

It is important that the filler cap on the brake fluid reservoir, integral with the master cylinder (see Fig. 11) should be removed every 5,000 miles (8,000 km.), the fluid level checked and

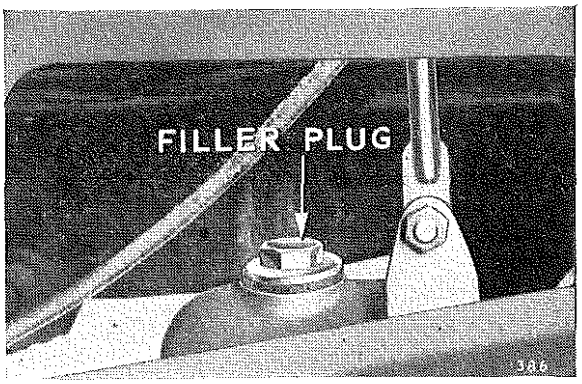


Fig. 11. Brake master cylinder filler.

topped up if necessary. Always clean the area around the plug before removing it, this will lessen the risk of grit falling into the chamber after removal of the plug. The reservoir should be filled to within half-an-inch of the top, and never less than half full (see page 95 or 96 for the correct fluid). As the cups in the master and all wheel cylinders are pure rubber it is imperative to use only the recommended fluid. Mineral oils would, in a very short time, distort and ruin them.

Handbrake Cables and Conduits

To ensure free, efficient action, it is essential that the handbrake cables be kept well lubricated, particularly where they are enclosed by the conduit.

Grease nipples are fitted in the conduits, one located under the bonnet and the other on the right-hand side of chassis to the front of the rear axle, to which the grease gun should be applied every 5,000 miles (8,000 km.). This operation should be carried out with the handbrake applied.

During the winter months it is very important to keep the bottom cable regularly lubricated as this prevents the entry of water which on cold nights will freeze, thus locking the brake cable.

When lubricating the cables, grease is forced both ways and the gun should be pumped until grease exudes at the end of the conduit.

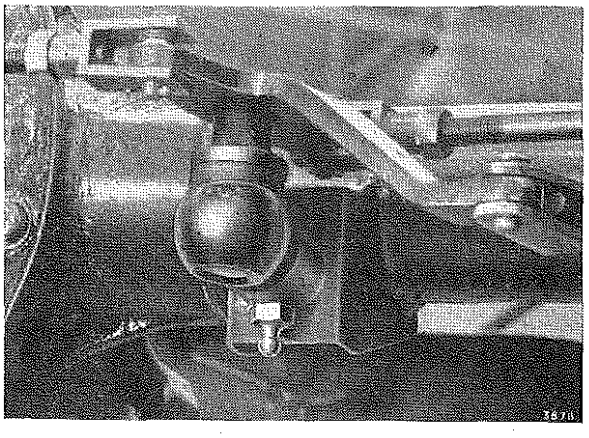


Fig. 12. Handbrake compensator.

Brake Pedal Bearing (page 25).

Handbrake Compensator

A grease nipple is provided on the compensator which is situated on the rear axle casing (see Fig 12).

WHEEL HUBS

The front and rear hubs require a small but regular supply of grease as specified on page 95 or 96, every 5,000 miles (8,000 km.). It is essential that the correct type of grease be used, this has a high melting point. Five strokes of the " hand " grease gun will normally be sufficient as it is inadvisable to overload the hubs with grease. **The grease should not be used from a machine unless it is certain that the machine reservoir contains the correct grade of grease.**

Front Hubs

To grease the hub bearings, jack up and remove the front wheel, when the grease nipple will be exposed (see Fig. 13a).

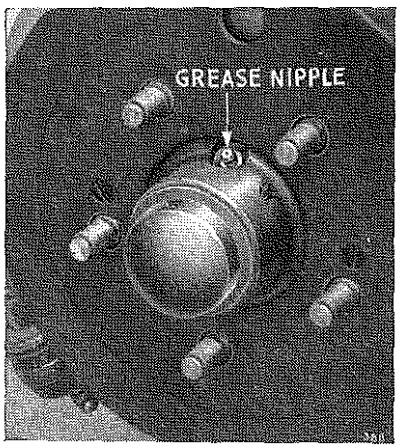


Fig. 13a. Front hub lubricator.

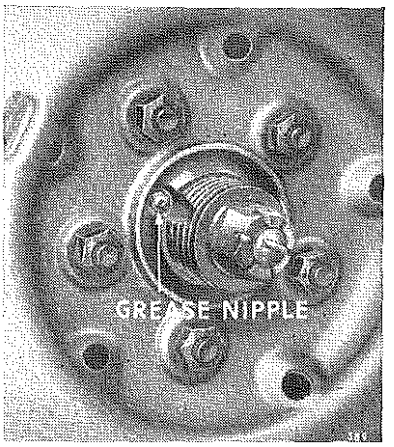


Fig. 13b. Rear hub lubricator.

Rear Hubs

These bearings are lubricated via nipples (see Fig. 13b) accessible on removal of the nave plate.

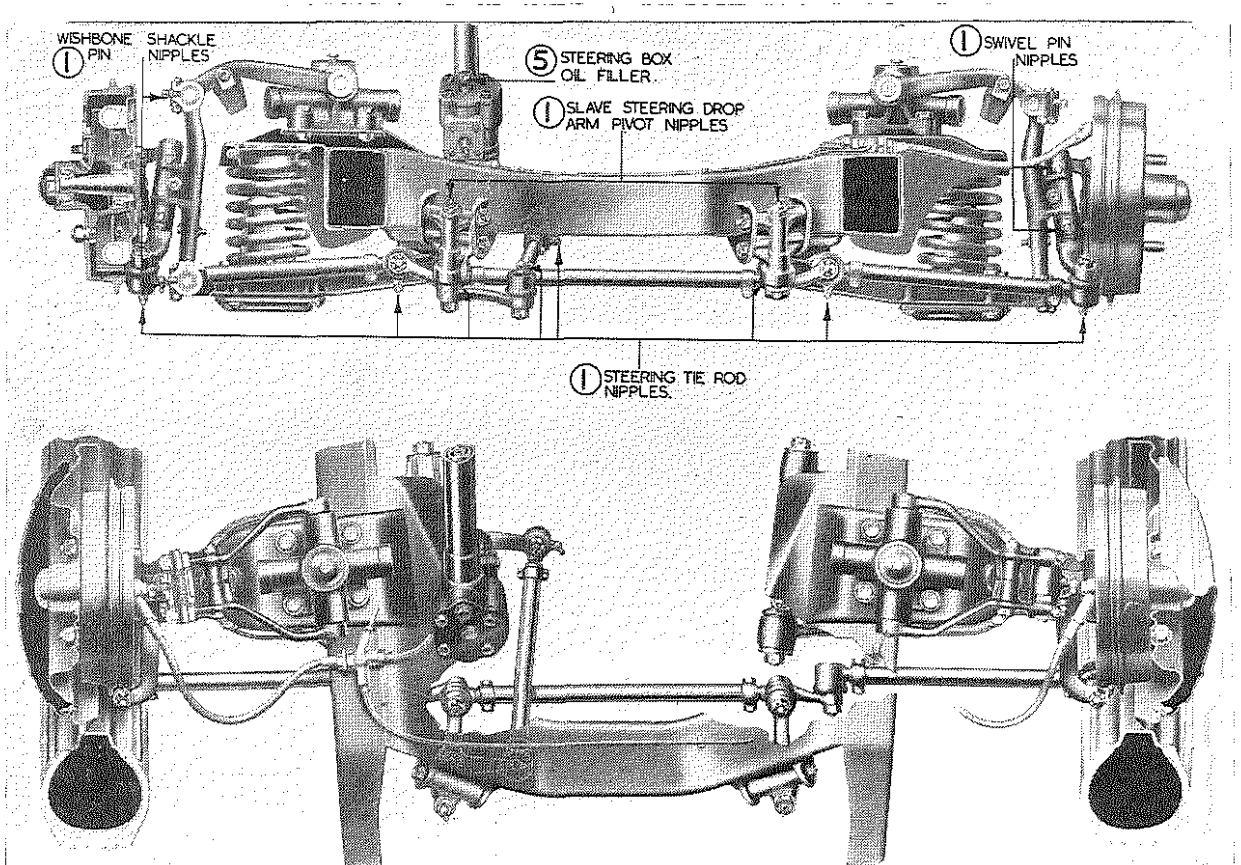


Fig. 14. Front suspension lubrication. *(The numerals indicate the attention periods in thousands of miles.)*

wish-bone shackle (see Fig. 14). Do not lubricate the inner bushes of the shackles as they contain rubber.

It is an advantage when greasing the king pin bushes to jack up the front of the car so that the suspension hangs free. This will allow grease to cover the thrust washer faces as it exudes from the lower bush as the grease gun is applied.

To maintain the best riding qualities of the independent suspension it is essential that it is properly and regularly lubricated. The distance of 1,000 miles (1,600 km.) between lubrication of the suspension pivots should be regarded as a maximum.

REAR ROAD SPRINGS

The spring blades should not be allowed to get rusty as this will prevent the correct working of the springs and provide a hard suspension.

Service stations are often equipped to spray the springs with penetrating oil, but this is not lasting in effect, and it is advisable afterwards to paint over with rear axle or engine oil.

It is the area around the tips of the blades which most requires the lubricant, as it is at these points that one blade presses upon the next. The blade clips should also be oiled.

Rubber bushes are fitted in all the rear spring eyes and must not be lubricated.

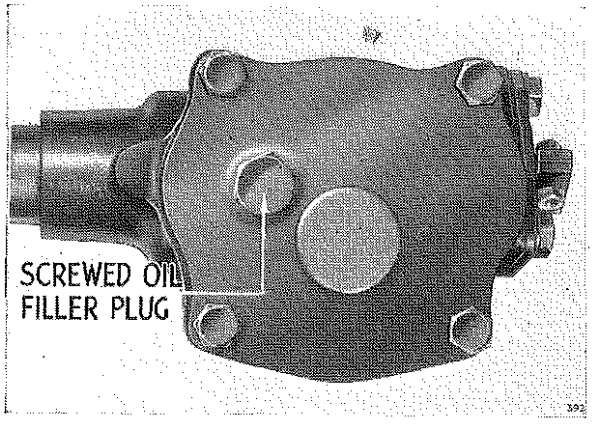


Fig. 17. Steering box oil filler.

STEERING

To lubricate the steering unit, remove the screwed plug and top-up with oil to the level of the orifice (see Fig. 17), this should be carried out every 5,000 miles (8,000 km.).

Grease nipples are provided on all steering ball joints and the "slave" steering drop arm pivot (see Fig. 14). These nipples should receive attention with the grease gun every 1,000 miles (1,600 km.) as their duty is high.

HYDRAULIC DAMPERS

The piston type dampers fitted should not require any attention such as "topping up." If they leak they should be serviced by the makers. Your car may be fitted with either Armstrong or Girling Hydraulic dampers, the fluids used in each are given on page 95 or 96.

GEAR CHANGE MECHANISM

The only attention necessary is to ensure that the mechanism is regularly lubricated at the dog clutch, the adjacent control column bushes (see Fig. 18), and the two selector rod bushes on the frame side member (see lubrication chart).

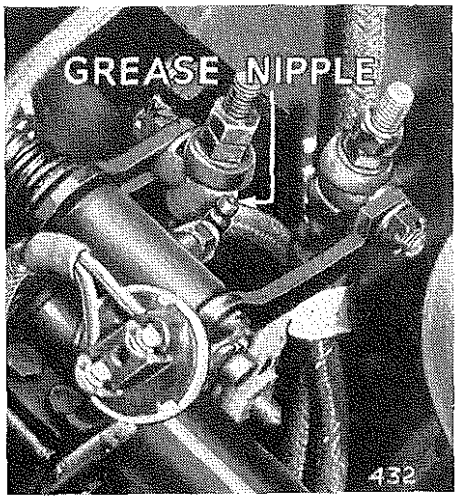


Fig. 18. Gear change mechanism (Right-hand drive model)

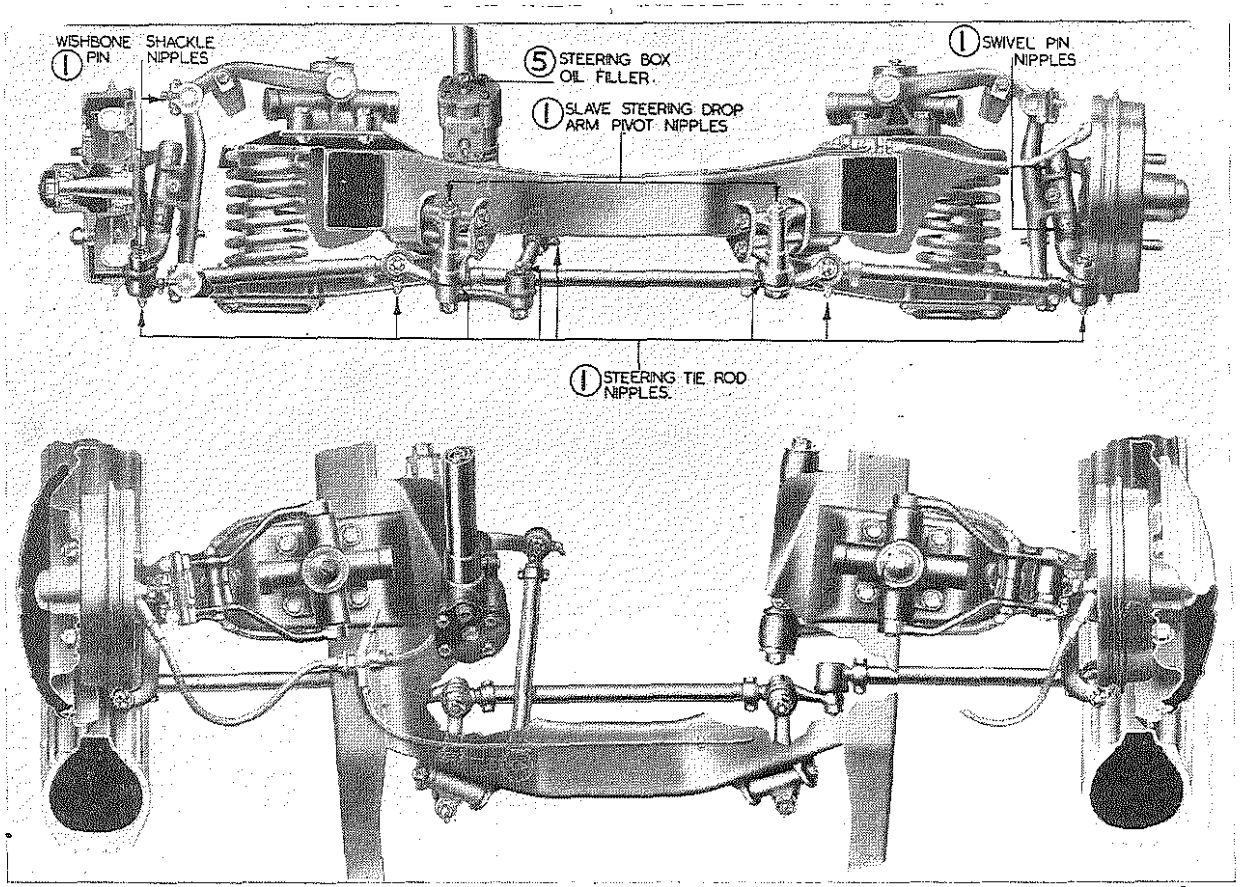


Fig. 14. Front suspension lubrication. (*The numerals indicate the attention periods in thousands of miles.*)

Nave Plate Removal and Refitting

Engage the special lever provided in kit, in one of the wheel depressions (see Fig. 15), and lever off the Nave Plate.

To refit plate, place its edge over the securing studs or clips as far as possible and give a sharp tap with the hand on the plate, to spring it into the correct position.

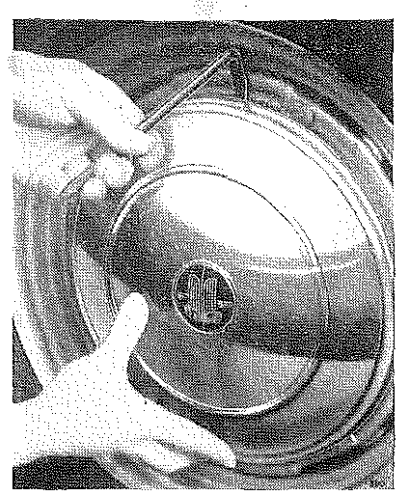


Fig. 15. Nave plate removal.

PROPELLER SHAFT

The universal joints are of the needle roller bearing type and each is fitted with a nipple for greasing. A nipple is also fitted to the front end of the shaft for lubrication of the sliding splines (see Fig. 16). The three nipples should receive attention with the grease gun every 5,000 miles (8,000 km.), using grease recommended on page 95 or 96.

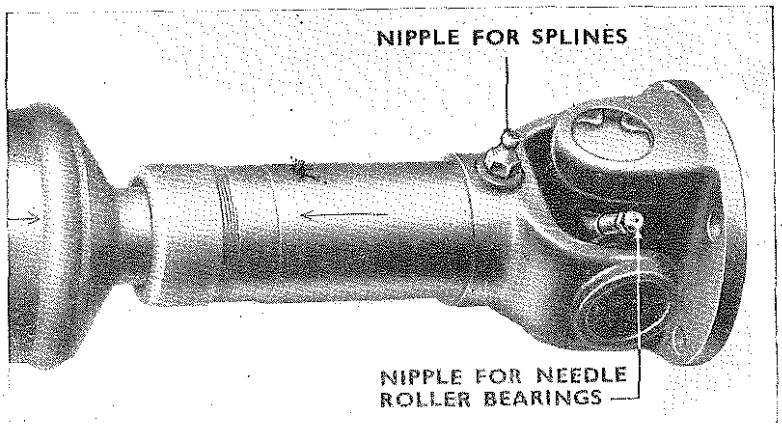


Fig. 16. Propeller shaft lubrication.

FRONT SUSPENSION

Nipples are provided for the lubrication of the swivel pin bearings, suspension pivots, ball joints and outer bush of each

wish-bone shackle (see Fig. 14). Do not lubricate the inner bushes of the shackles as they contain rubber.

It is an advantage when greasing the king pin bushes to jack up the front of the car so that the suspension hangs free. This will allow grease to cover the thrust washer faces as it exudes from the lower bush as the grease gun is applied.

To maintain the best riding qualities of the independent suspension it is essential that it is properly and regularly lubricated. The distance of 1,000 miles (1,600 km.) between lubrication of the suspension pivots should be regarded as a maximum.

REAR ROAD SPRINGS

The spring blades should not be allowed to get rusty as this will prevent the correct working of the springs and provide a hard suspension.

Service stations are often equipped to spray the springs with penetrating oil, but this is not lasting in effect, and it is advisable afterwards to paint over with rear axle or engine oil.

It is the area around the tips of the blades which most requires the lubricant, as it is at these points that one blade presses upon the next. The blade clips should also be oiled.

Rubber bushes are fitted in all the rear spring eyes and must not be lubricated.

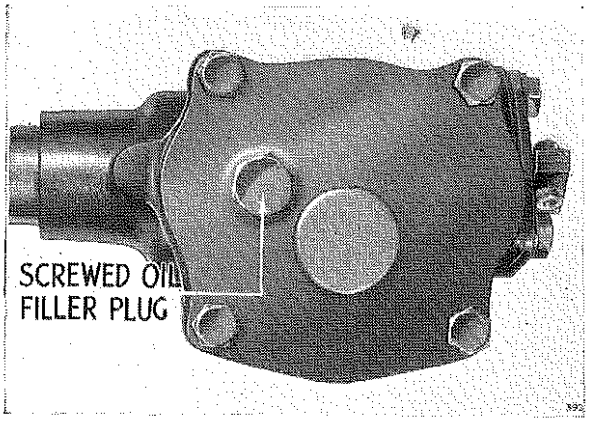


Fig. 17. Steering box oil filler.

STEERING

To lubricate the steering unit, remove the screwed plug and top-up with oil to the level of the orifice (see Fig. 17), this should be carried out every 5,000 miles (8,000 km.).

Grease nipples are provided on all steering ball joints and the "slave" steering drop arm pivot (see Fig. 14). These nipples should receive attention with the grease gun every 1,000 miles (1,600 km.) as their duty is high.

HYDRAULIC DAMPERS

The piston type dampers fitted should not require any attention such as "topping up." If they leak they should be serviced by the makers. Your car may be fitted with either Armstrong or Girling Hydraulic dampers, the fluids used in each are given on page 95 or 96.

GEAR CHANGE MECHANISM

The only attention necessary is to ensure that the mechanism is regularly lubricated at the dog clutch, the adjacent control column bushes (see Fig. 18), and the two selector rod bushes on the frame side member (see lubrication chart).

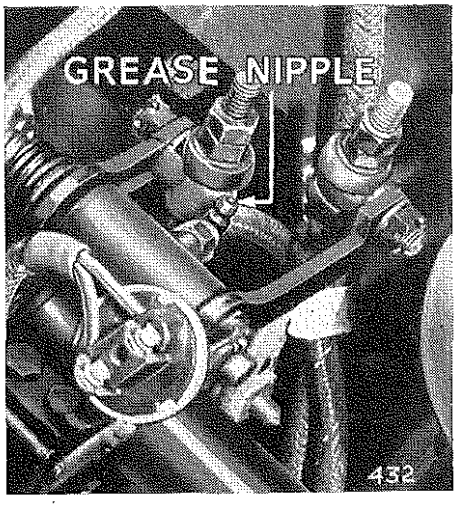


Fig. 18. Gear change mechanism (Right-hand drive model)

HINGES, CONTROLS, DOOR LOCKS, ETC.

There are several small control joints which should be given occasional attention with the oil can. Bonnet catches, hinges and door locks should be smeared with oil occasionally.

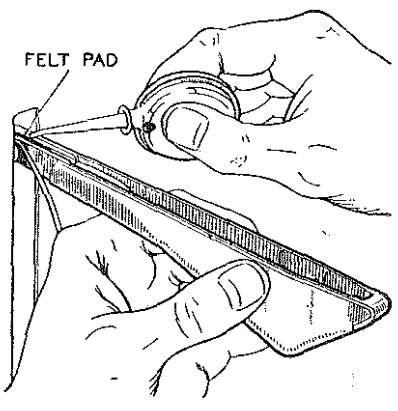
The connections on the handbrake and ratchet mechanism, the clutch operating links, etc., all require attention to allow the controls to work freely and prevent unnecessary wear.

ACCELERATOR CONTROLS

Apply oil to cable at each end of the casing and work the pedal to spread the oil inside casing.

DIRECTION INDICATORS

A little thin oil should be applied by means of a small brush to the catch pin between the arm and the operating mechanism. This can be done when the indicator is switched up.



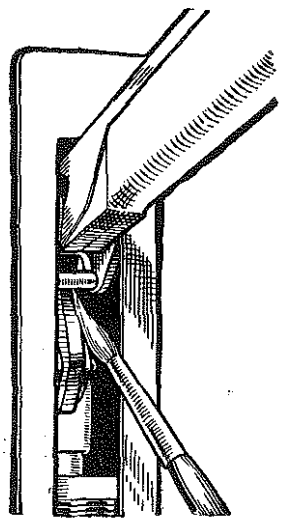


Fig. 19. Lubrication of direction indicator mechanism.

Also withdraw the screw on the underside of the arm end and slide off the arm cover. Place the connecting wire to the bulb on one side and apply a drop of thin machine oil to the lubricating pad at the top of the arm. To replace the arm cover, slide it in an upward direction so that the side plates engage with the slots on the underside of the spindle bearing and secure with the screw.

WINDSCREEN WIPER

The windscreen wiper motor is adjusted and packed with grease before leaving the works and therefore requires no additional attention.

CARE OF TYRES.

Maintain the correct inflation pressure by weekly tests with a gauge applied directly to the valve. The maintenance of correct tyre pressure is a large factor in tyre life and the steering of the car.

Tyres lose their pressure due to diffusion, even though there is no porosity or leakage due to a puncture or faulty valve. The loss varies from 1 to 3 lb. per sq. in. per week and must be made up if the tyre is to give proper service.

Examine the tyres occasionally for flints or other road matter which may have become embedded in the tread. If the car is driven where tacks or short nails may be picked up, these also may be found buried in the tread. If these are left in they may eventually work through the cover and puncture the tube. Fill up any large holes with a suitable compound, obtainable for the purpose.

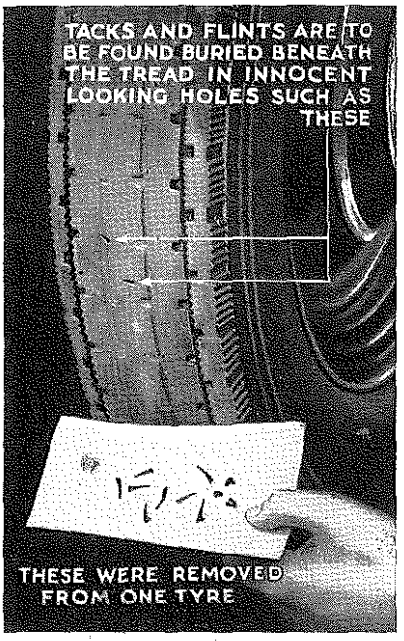


Fig. 20. Tyre tread examination.

Oil should not be allowed to get on the tyres. If any should accidentally do so, clean off by using petrol sparingly.

Do not drive over sharp edged kerbs or "bump" them with the side of the tyre, as this is liable to fracture the cotton tyre casing, and in the latter case upset the front wheel alignment or even bend the wheel "out of truth."

CORRECT TYRE PRESSURES (Fully-laden condition)
Front—22 lb./sq. in (1.6 kg./sq. cm.)
Rear—26 lb./sq. in. (1.85 kg./sq. cm.)

It is assumed that the above pressures are maintained by weekly attention. If the owner is able to check the pressure only every two or three weeks, then it is advisable to inflate the tyres by an additional 2 lbs./sq. in. On the other hand, it is permissible for a more comfortable ride, when carrying only two persons, to run with pressures 2lbs./sq. in. below those recommended, provided they are checked weekly or some convenient time when purchasing fuel.

WHY TYRE RESULTS VARY

Speed. Car owners vary greatly in the speed at which they habitually drive. The rate of tread wear at 50 m.p.h. is double that at 30 m.p.h.

Rapid Acceleration and Cornering. During wheel slippage caused by rapid acceleration or severe cornering, excessive tread wear takes place due to the abrasion of the tyre against the road surface.

Braking. Some owners "drive on the brakes." It is established that where this practice is adopted, and especially if stops are frequent, the rate of tyre wear increases considerably.

TYRE FITTING AND REMOVAL

To remove tyre. Remove all valve parts and push both cover edges into the base of the rim at the part diametrically opposite the valve, then lever the cover edge near the valve over the rim edge. When this operation is correctly carried out the cover edge comes easily over the rim.

Inextensible wires are incorporated in the edges of wired type tyres. Therefore do not attempt to stretch over the rim the wire edges of the tyre cover.

To fit tyre. Push one edge of the cover over the edge of the rim. It will go quite easily if the part first put on is pushed right down into the rim base.

Very slightly inflate the inner tube—do not distend it—place it in the cover with the valve through the hole in the rim.

(Take care that the valve which is fitted in the side of the tube is on the correct side of the rim.)

Fit the second edge of the cover, commencing at a point diametrically opposite the valve, and push the edge down into the base of the rim.

Small levers may be gently used to ease the last few inches over the rim edge. Be careful not to nip the tube.

Whilst inflating, see that the edges of the cover are seated evenly round the rim ; check by the line on the cover.

FRONT WHEEL ALIGNMENT

The alignment of the front wheels is most important in its effect on tyre wear and good steering. Excessive toe-in will lead to severe tyre wear particularly on the " kerb side " front tyre.

" **Toe-in** " or " **toe-out** " is the amount by which the front wheels are inclined from parallel.

The outer tie-rod tubes are threaded at both ends, and revolving these tubes will, therefore, either shorten or increase the ball joint centres, thus altering the wheel alignment.

Each tie-rod tube is prevented from rotation by a bolted clamp at each end.

Correct Wheel Alignment

The wheels should **Toe-in** $\frac{1}{8}$".

To Check and Adjust Wheel Alignment

Jack up each front wheel in turn until just clear of "ground." Spin wheel to test for run-out. Set wheel so that maximum run-out is at the top. Lower and remove the jack.

This operation will tend to correct for errors which might otherwise occur due to wheel run-out.

Set the steering in the "straight ahead" position and measure the distance between the two front wheel rims at a height above the ground approximately equal to that of the wheel hubs. Take this measurement both in front of and behind

the hub centres. The amount by which the front measurement is more than the rear is termed "toe-out." When the wheels are parallel, the measurements are equal.

If adjustment is found necessary proceed as follows: Slacken the clamp bolts at each end of the left hand tie-rod. Revolve the tie-rod tube anti-clockwise to toe-out or clockwise to toe-in the wheels, the direction of rotation being viewed from the left-hand road wheel. One complete turn of the tie-rod tube will alter alignment by approximately $\frac{1}{2}$" measured at the wheel rims.

When adjustment is complete ensure that the ball joints are in the centre of "swing" before securely tightening tie-rod tube clamps. The clamps must, of course, be positioned as shown in Fig. 14 (page 30).

THE JACK

A screw jack is provided which is adapted to lift any wheel of the car as required.

Fit the jack in position as shown, making sure that it is right home in its socket, and that it stands firm with its legs apart before operating the handle. Apply the handbrake or chock the wheels which will remain on the ground, before using the jack.

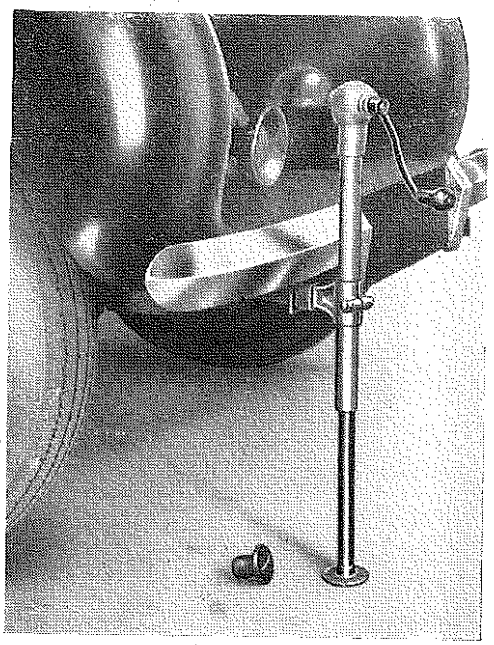


Fig. 21. Jacking the car.

Rear Wheel Jacking.

A jack socket is provided under the body, immediately forward of the rear wheel.

If a jack is used under the rear axle case, **take great care** to ensure that the jack pad does not touch the rear cover plate when lifting, otherwise there is a risk of damage and consequent oil leak.

To remove nave plate and road wheel, see page 31.

BODYWORK

CARE OF BODYWORK

The "finish" used for coachwork is remarkably durable but in order to retain the lustre of the finish, it is necessary to take a little trouble in cleaning and polishing it occasionally.

Although dust may be removed with a duster, yet if it has been wet, it is advisable to clean off with a sponge and water. Always use water when removing mud, and when the car is clean finally wipe over with an almost dry chamois leather. All chromium parts should be cleaned frequently with a little soap and water, finished off with a damp chamois leather, and then be polished with a soft dry rag. If, due to neglect, the plate becomes spotted it is necessary to use a chromium plate cleaner. The radiator grilles should be kept smart in appearance in the same manner.

Washing alone will not keep up the brilliance of the paintwork and polishing with a suitable polish, specially prepared for this purpose, such as Duckham's DA Liquid Wax Polish No. 13, is advisable. Occasional removal of the "traffic film" which accumulates over the finish is well worth while, and special cleaners for the purpose are available. The finish will improve in appearance if properly looked after.

Tar is best removed before it has had time to set. This may be done by the aid of a little paraffin or petrol. However, it often happens that tar becomes firmly attached, and attempts to remove it are made when the car is being cleaned. Special tar removers are available for this purpose which are designed to dissolve tar without damage to the parts.

For parts requiring lubrication see page 34.

If, for example, the door hinges are left unlubricated they will eventually wear and cause the door to fall out of proper location with the door catch and dovetail. This leads to door rattles which can be avoided by careful attention to proper lubrication.

The interior of the body should be dusted occasionally, and the carpets taken out, shaken and brushed. Grime may be removed from the leather upholstery by the application of a little soap and a damp cloth, followed by a final wipe down with an almost dry sponge or wash-leather. When a vacuum cleaner is available it can be used with advantage to help clean the interior of the car.

DOOR ADJUSTMENT

The doors are provided with spring loaded dovetails for the purpose of preventing rattle and governing the pressure on the lock bolt when the door is closed.

The lock plates and dovetails are adjustable so that when wear eventually takes place they can be re-positioned. This adjustment should preferably be carried out by a coach fitter.

FRONT SEAT ADJUSTMENT

The front seat is adjustable for " leg length " by operating the handle which is situated under the front of the seat.

SPARE WHEEL AND TOOL COMPARTMENT

Saloon

The spare wheel and tools are located inside boot lid. The tool roll and starting handle are kept in the engine compartment.

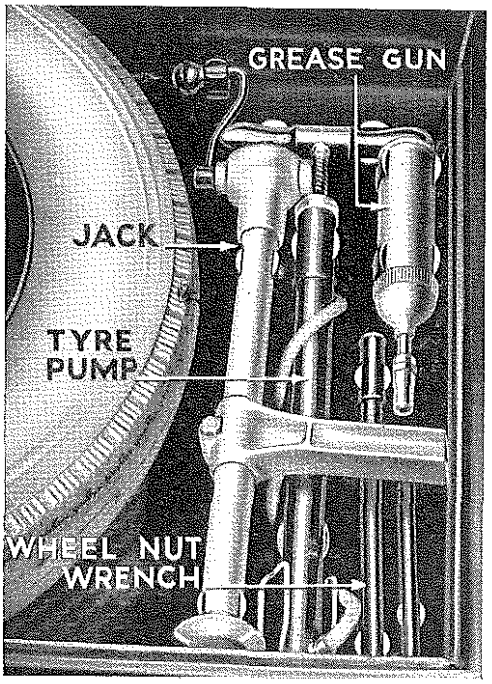


Fig. 22. Triumph Saloon tool kit layout.

Boot Lock

The boot can be locked in the down position as shown in Fig. 22a.

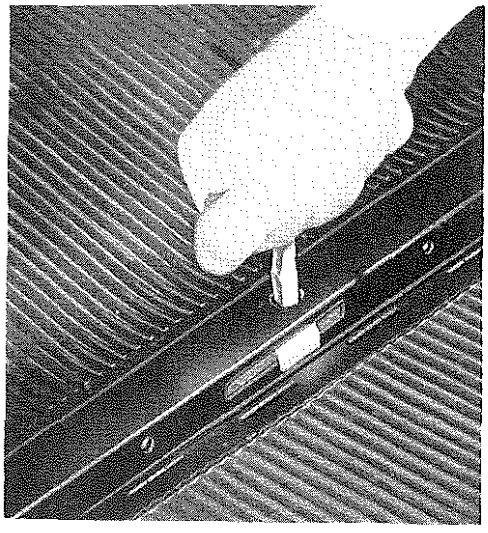


Fig. 22a. Locking boot in down position.

RUNNING ADJUSTMENTS

Various adjustments are necessary from time to time in order to keep the mechanism in efficient running order. The periods between depend largely upon the manner in which the car is used and no definite time can be given here for carrying out these corrections. The car should be examined, however, every 5,000 miles (8,000 km.) and any adjustments which appear necessary can then be made (see page 69).

ENGINE

Cylinder Head Nuts

After the first 1,000 miles (1,600 km.) the cylinder head nuts should be checked, with engine warm, for tightness in the order shown in Fig. 23.

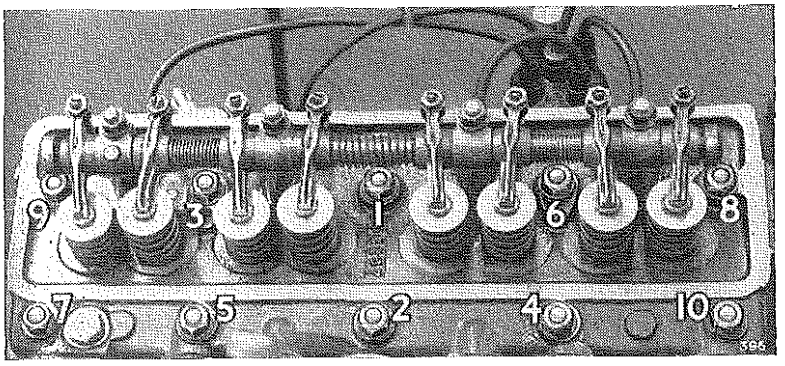


Fig. 23. Order of tightening cylinder head nuts.

Valve-Rocker Clearances

A clearance between the valve stem and the valve cap is necessary to ensure correct closing of the valves and efficient running of the engine.

The correct running clearance is 0.010 (0.25″ mm.) for the inlet valves and 0.012 (0.3″ mm.) for the exhaust valves measured with engine cold. Two gauges are provided in the tool kit for the purpose of setting these clearances.

If a rocker becomes noisy, it may be silenced by adjusting the clearance to the correct amount. Do not set the valve clearances too small or the engine will not maintain good tune.

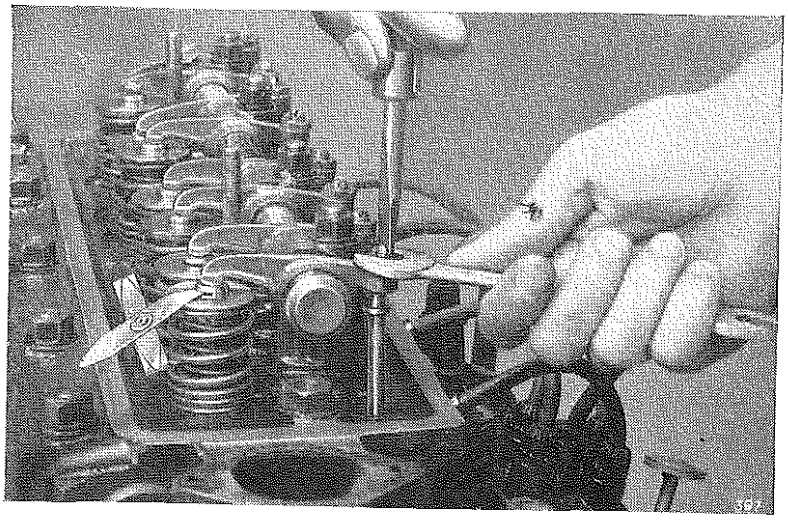


Fig. 24. Valve-rocker clearance.

Adjustment of Valve-Rocker Clearance

Remove the air silencer and the rocker cover and turn the crankshaft with the starting handle for half a revolution after the valve to be adjusted has closed.

Rotate valve cap until the clearance measuring slot is in a convenient position and insert the correct feeler (see Fig. 24). Slacken the lock nut and adjust the rocker screw with a screwdriver until the gauge is a sliding fit between the top of the valve stem and the inside of the valve cap.

Now tighten the lock nut and check that the clearance has not altered.

Ignition Timing

The ignition is automatically advanced to suit the ever changing needs of the engine. **When fully retarded, i.e., engine at rest, the ignition should be set to fire at top dead centre.**

The ignition is correctly set at the works and should not normally be adjusted, excepting as described on page 56. If the ignition setting has been disturbed it may be re-set as described below. We would emphasise the advantage of setting the distributor correctly, so that the automatic range can function as designed.

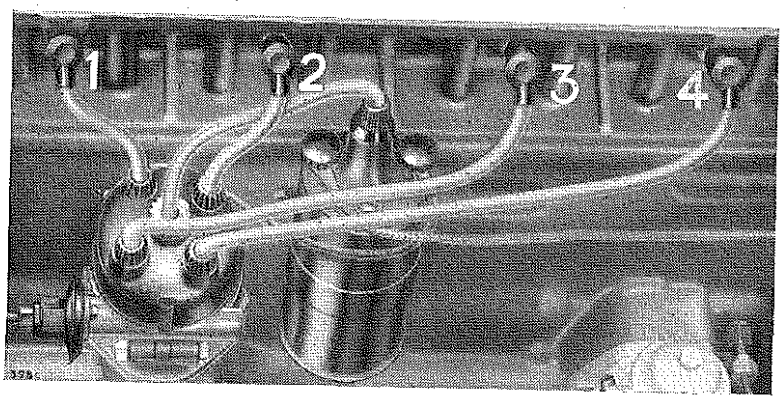


Fig. 25. Ignition Timing (firing order).

The setting recommended above should be regarded as a starting point, as individual engines may require more or less advance than this. Maximum power is obtained by giving the greatest possible advance without causing pinking. Minor adjustments can readily be made on the road.

To advance ignition turn the distributor body clockwise, and vice versa. Do not alter the ignition more than 1° at a time (2° on flywheel).

To obtain **top dead centre** position turn the crankshaft until the small drilled hole in the belt pulley is in line with the pointer attached to the timing cover.

The firing orders are given in Fig. 25. The distributor is shown marked corresponding to the cylinder numbers to which the high tension cables should go. The cylinder numbers are counted in sequence, No. 1 being the cylinder nearest to the radiator.

Valve Timing

See page 5 for correct valve timing. To obtain top dead centre see Ignition Timing, page 45.

Sparking Plugs

The sparking plugs were adopted for original equipment after lengthy tests as sparking plug types vary in suitability for different engines, it is important that the correct type of plug be fitted when making replacements.

This is Champion No. L10—$\frac{1}{2}$" reach.

The gaps (*i.e.*, the width between the firing point of the centre electrode and the earth point) are originally set and should be maintained at thirty-two thousandths of an inch (0.8 mm.) to ensure even running of the engine.

Misfiring, especially at high speeds and under heavy pulling at low speeds, invariably indicates that the gap setting of the plugs is too wide, whilst erratic slow running can be accounted for by too narrow a gap setting. If the porcelain insulation is cracked, either inside or outside, the plug will behave erratically and should be replaced. Care should be taken when removing plugs for examination not to damage the porcelain.

Faulty high tension cables from the distributor to the sparking plug terminals, and the distributor points being out of adjustment can also account for the sparking plugs misfiring.

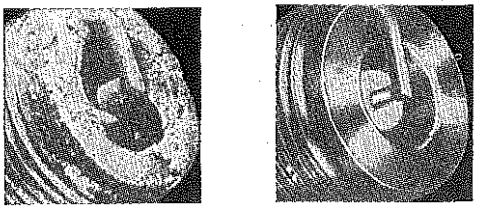
CLEANLINESS. The portion of the insulator projecting above the body of the sparking plugs and the special caps should be kept clean by means of regular attention with a dry, clean rag. The special cap is provided to prevent moisture collecting on the plug porcelain when the engine has been left stationary in a damp atmosphere, which normally results in difficult starting.

In the rare event of the plugs becoming damp, starting may be made impossible for the following reasons :—

1. Due to continuous use of the electric starter without the engine firing, the interior of the combustion chamber will become very wet with fuel. This will wet the interior portion of the sparking plug insulator and so prevent a spark occurring at the plug points. In this case remove the plug and dry it.

2. If the battery happens to be in a low state of charge it will not give a sufficient current to the ignition circuit during the period when the starter is operated, in which case the starting handle should be used.

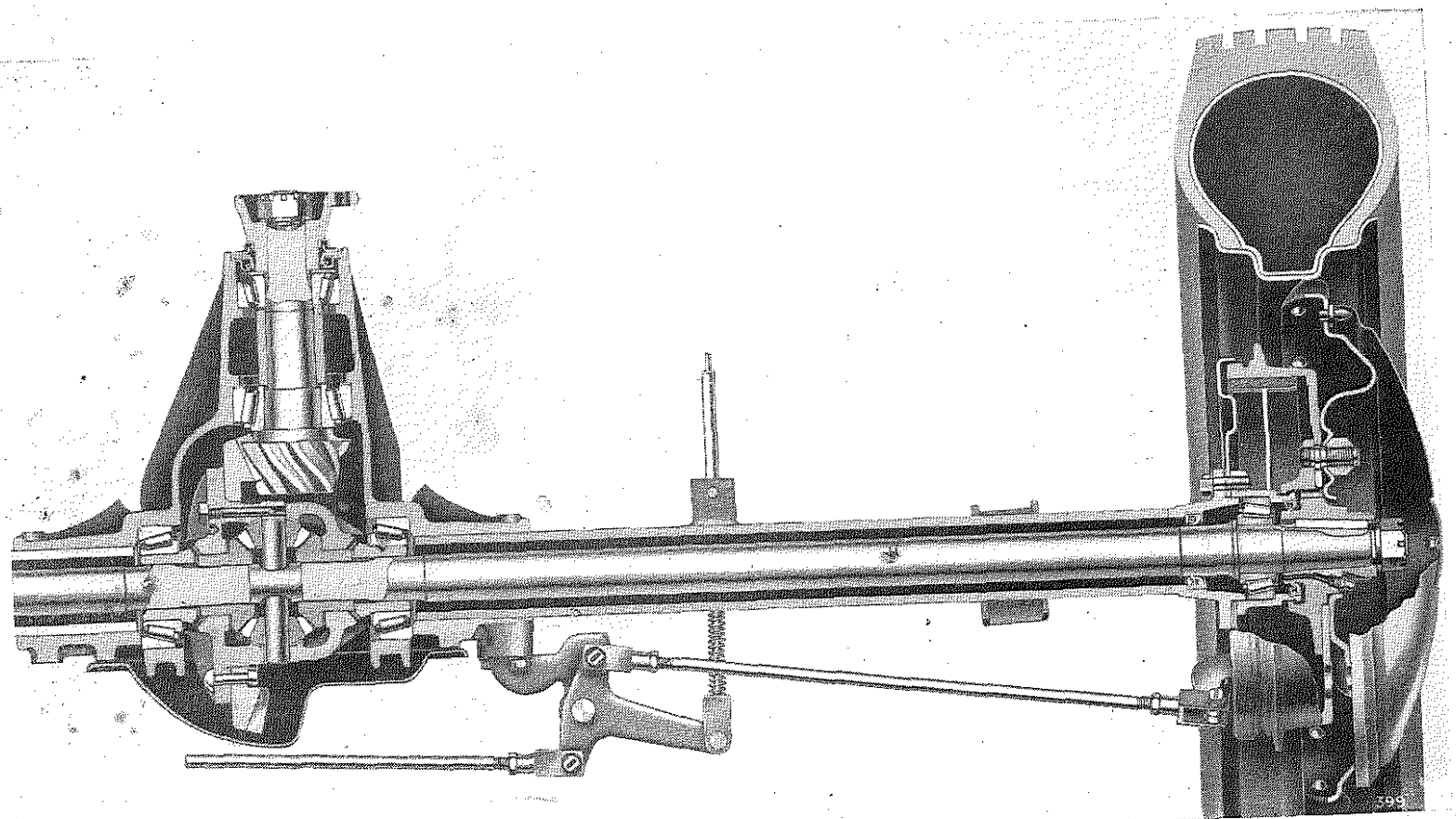
PLUG CLEANING. Current practice is to clean plugs in a machine which directs a jet of fine abrasive material on to the lower part of the insulator and shell, effectively removing *in a few seconds* all carbon or other deposit. This should be done at 5,000 miles (8,000 km.) intervals, preferably by a Triumph agent.



Oily, dirty, worn out plugs — a sluggish, wasteful, hard starting engine.

New, clean, efficient plugs — a quick starting, responsive engine.

Fig. 26. Plug before and after cleaning.



Rear axle section.

Fig. 28.

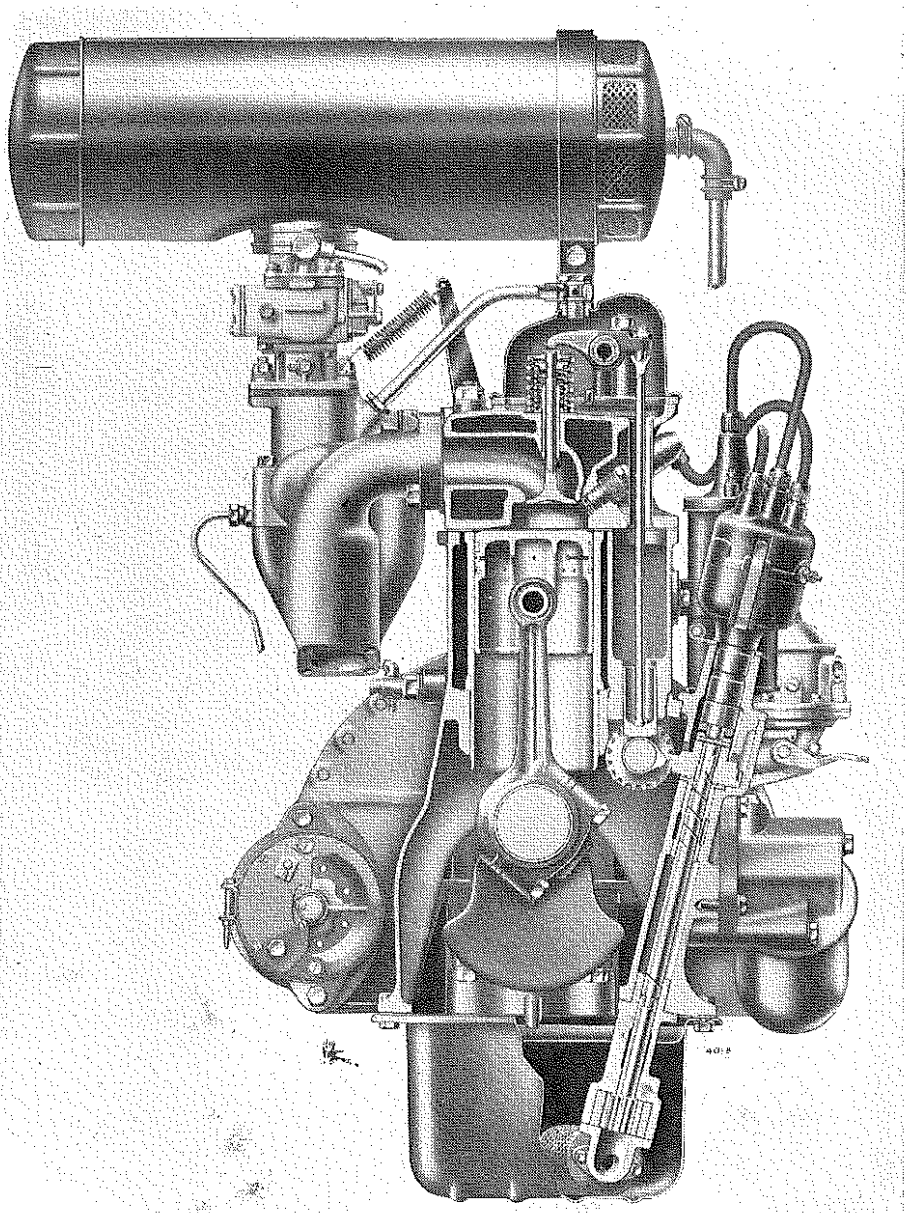


Fig. 29. Engine cross section.

Carburettor

The correct sizes of choke and jets are fitted to the carburettor and it is inadvisable to alter them as they are the result of exhaustive bench and road tests.

Slow running adjustments are provided and these are the only points that may require attention after the engine has become run-in. Two adjusting screws are shown in Fig. 30, one for limiting the closing of the throttle and thus the idling speed. The other screw regulates the strength of the idling mixture. There is also a screw which sets the full open position. Don't interfere with this.

CHOKE AND JET SIZES

Component	Size of Jet
Choke tube	25
Main jet	135
Air correction jet	190
Pilot jet (slow running)	55
Starter jet	130

SLOW RUNNING ADJUSTMENT. We recommend that the carburettor be adjusted to run at a fairly fast idling speed, because an engine which is regulated to a minimum speed when hot, is apt to stall when cold.

Commence with the regulator screw screwed out $1\frac{1}{2}$ complete turns and the throttle screw set to the lowest possible idle, and under these circumstances the engine should have a tendency to "hunt." Now screw in the regulator screw until the engine runs evenly. This may cause the engine speed to increase, in which case the throttle screw should again be rotated until the engine idles slowly.

CLEANING THE JETS AND FILTER. It may happen that foreign matter enters the float chamber and is sucked into the jets, so preventing the flow of fuel and causing the engine to falter. Fig. 30 shows the jets which may be removed for cleaning purposes. Care should be taken not to enlarge the jet orifice. The filter incorporated in the fuel pipe union can be removed for cleaning after the union bolt has been removed.

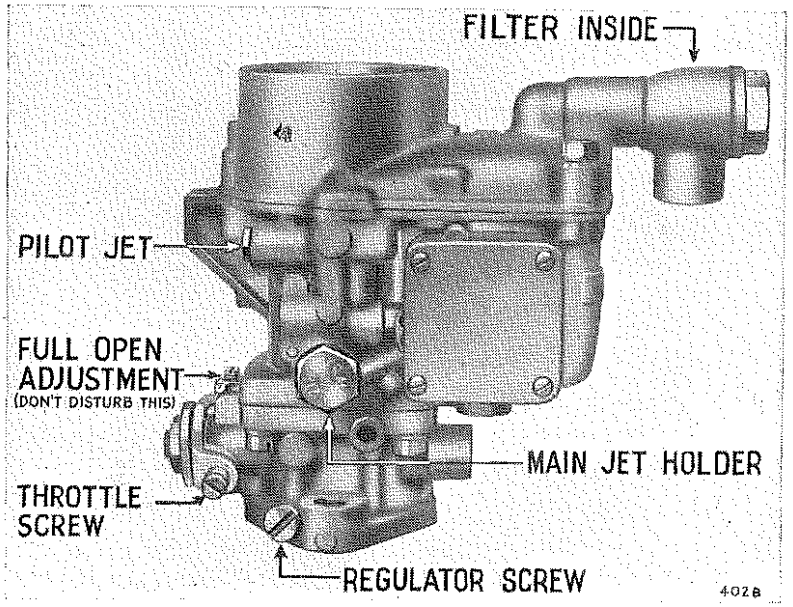


Fig. 30. Carburettor.

NOTE.—A fully comprehensive booklet on each type of Solex carburettor can be obtained post paid on remittance of 1/- to Solex Ltd., 223/231, Marylebone Road, London, N.W.1.

Besides giving full instructions on tuning the carburettor, the booklet contains a helpful chart on engine and carburettor fault diagnosis, many useful general hints and tips, a complete price list of spare parts, a list of Solex Service Stations throughout the country, and a non-technical survey of the importance of good carburation and how to maintain it.

Fuel Pump

The fuel pump is mounted on the left-hand side of the crankcase and provides a constant pressure of fuel to the carburettor float chamber when the engine is running.

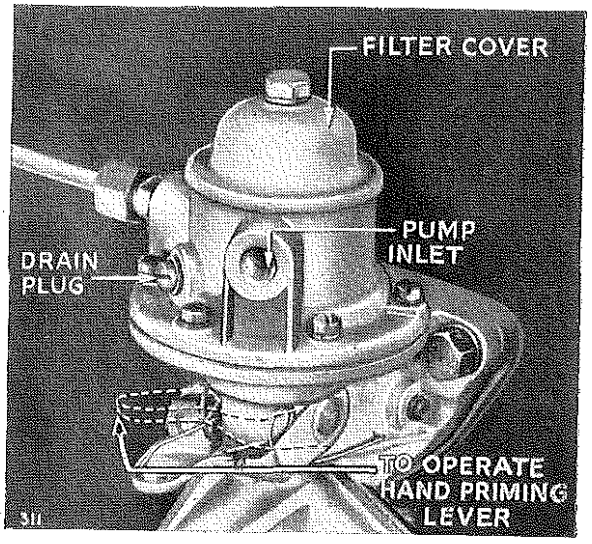


Fig. 31. Fuel pump.

A hand primer is fitted to the pump which can be used to pump fuel to the carburettor if the float chamber is not already full, under which condition a slight pumping resistance is felt before the lever reaches the stop. When the float chamber is full the lever can be pulled up to its stop, without any resistance being felt along its travel. This is also the case if the engine has come to rest in such a position that the pump diaphragm is fully depressed; in which case give the crankshaft one complete turn with the starting handle then operate the hand primer.

PUMP FAILURE. If the pump is suspected of not delivering fuel to the carburettor, slacken the carburettor union, then turn the crankshaft with the starting handle. It is not sufficient to test by operating the hand primer. If the pump is delivering, fuel will leak at this slack connection. **If the pump fails to supply fuel to the carburettor, attend to the following points.**

1. Ensure that there is fuel in the tank.

2. *Clean the filter.*
   Remove the filter cover and gauze, clean out the sediment chamber, swill the gauze in fuel and replace. Make

certain that the cork washer lies flat on its seat and makes an air-tight joint, and that the fibre washer is under the head of the cover screw. Tighten the screw just sufficiently to ensure a fuel-tight joint. Over-tightening will either destroy the cork or fibre washers, crack the cover, or fracture the main casting.

3. *Inspect Joints.*
   Examine the pipes and connections for possible leakage. If fuel leaks at the diaphragm, tighten the screws alternatively to ensure a good joint.

4. *Fuel pipe blocked.*
   Remove the pipe from the pump inlet and, with the aid of a tyre pump, blow through the pipe, this should remove any foreign matter which may be restricting the flow of fuel.

If the pump should fail to work after attending to the above points, it should be renewed and the old pump sent to the nearest A.C. Service Station or Triumph Service Depot.

NOTE TO SERVICE STATIONS AND GARAGES

After removal of the valve chamber of any type of A.C. Fuel Pump, it is important that the chamber should only be replaced whilst the pump diaphragm is at the top of its stroke. This is to ensure sufficient flexing of the diaphragm to allow for its normal working movement.

Cylinder Sleeves

If it is found necessary at any time to remove the cylinder sleeves, they can be quite easily lifted out. The joint washer should always be renewed to avoid the risk of consequent water leak as it is most unlikely that the sleeves can be raised without tearing the washer which surrounds each pair of sleeves.

No jointing compound is necessary on assembly.

Decarbonising and Valve Grinding

It is recommended that the cylinder head be removed for decarbonising and valve grinding after the first 5,000 miles. This is chiefly to give attention to the valve seats, the metal of which becomes stabilised during this period. Thereafter it will be found that decarbonisation will be required only after a period of about 20,000 miles (32,000 km.). Providing that the engine is running satisfactorily after this period and that each cylinder gives a normal compression, showing that the valves are seating reasonably well, it is much better to leave it alone and delay decarbonising for as long as the engine continues to run satisfactorily.

After the car has covered a considerable mileage it may be necessary, due to the increased carbon deposit, to set back slightly the ignition (see page 45), to prevent a metallic sounding noise termed " pinking." It is evident when pulling hard up-hill or when accelerating from low speed in top gear. In spite of all precautions the time will come when the cylinder head must be removed for decarbonising and attention to the valve seats. This is necessary when there is a lack of compression in one or more cylinders or through loss of power resulting from the need for excessive retarding of the ignition to prevent " pinking."

The grinding of the valves becomes necessary in order not only to increase the efficiency of the engine, but to prevent a badly seating valve becoming worse and getting burnt.

PROCEDURE

Many owners would prefer to have these operations carried out by a competent mechanic and we recommend that the work should be done by your Triumph Agent ; but for those desiring to do this work themselves, the method is outlined below :—

Dismantling

1. Remove one terminal from battery to prevent the possibility of a " short " (see page 70).
2. Drain the cooling system (see page 14). If anti-freeze solution is present it may be preserved and used again on assembly.
3. Remove air silencer from carburettor and rocker cover.
4. Disconnect top water hose and the bye-pass pipe at the thermostat.

5. Remove thermometer bulb from thermostat after unscrewing gland nut. Flats may be provided on bulb extension so that a spanner may be used to prevent twisting of the pipe when gland nut is being turned.
6. Remove heater hoses (if fitted).
7. Disconnect carburettor controls, fuel pipe and pipe joining ignition distributor.
8. Disconnect inlet manifold drain pipe.
9. Remove sparking plug leads.
10. Remove rocker cover and withdraw its securing studs.
11. Remove rocker shaft complete with standards, each standard being secured by a single nut to the cylinder head.
12. Remove outer valve springs, valve caps and push rods.
13. Disconnect exhaust manifold from exhaust pipe.
14. Remove cylinder head.
    Do not insert any tool such as a screwdriver between the cylinder head and cylinder face, as this would damage the gasket and head surfaces. If any water should find its way into the bores, wipe it away immediately.
    If the gasket is in good condition, preserve it carefully for refitting.

    NOTE. The procedure of turning the crankshaft in order that the compression will " break " the seal of the cylinder head should not be practised with this design of engine.
    Once the cylinder head has been removed it is important that the crankshaft is not rotated unless the cylinder sleeves are firmly clamped down against their seatings. This can be accomplished by using two tubes and washers as shown in Fig. 33. If this precaution is not observed the sleeves may rise, tearing the joint washer, with consequent risk of water leaking into the crankcase after assembly.
15. Remove inlet and exhaust manifold as a unit from cylinder head.
16. Remove valves. The inner valve spring exerts only a light load and it can be compressed by hand, for collar removal.

    Care should be taken not to mix the valves and to ensure this they are numbered accordingly.

Decarbonising

Before starting to clean off the carbon from the piston crowns, first turn the crankshaft until any two pistons are near the top dead centre position, then fill the remaining cylinder bores and the push rod chambers with clean rag to prevent any chips of carbon falling into the cylinders (see note on page 57).

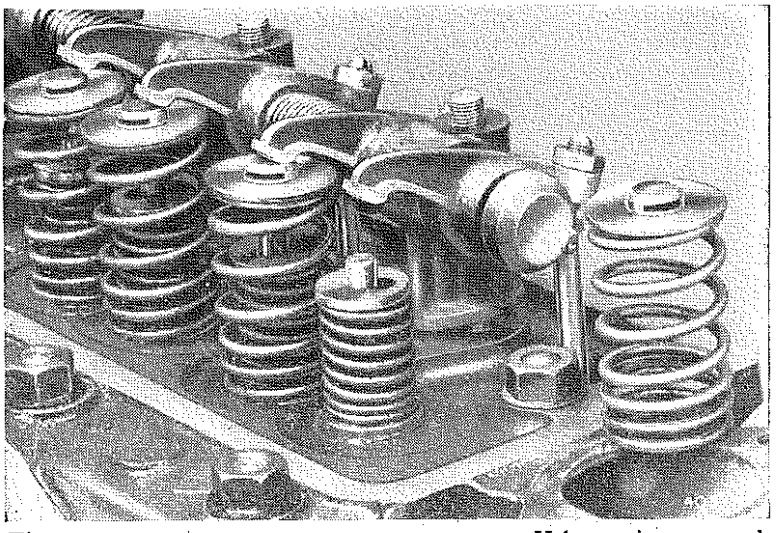


Fig. 32. Valve spring removal.

We recommend that the carbon inside the top edge of the cylinder be left intact, together with a $\frac{1}{8}$" (3 mm.) wide band at the edge of the piston, otherwise its removal may adversely affect oil consumption.

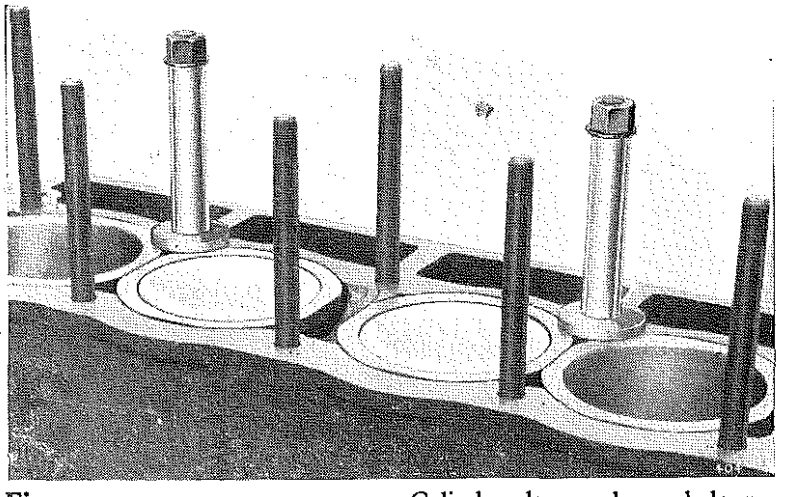


Fig. 33. Cylinder sleeves clamped down.

Scrape the piston crown and the carboned portions of the cylinder face, using an old screwdriver or similar blunt tool in a " chiselling " manner. Care should be taken to avoid carbon chips dropping between the sleeves into the cylinder block.

Then give the starting handle a part turn and treat the two other pistons in the same way.

The cylinder head should now be scraped, but first remove the sparking plugs, and when the operation is complete wipe the chambers clean. Scrape clean the valve ports, but be careful not to scratch the valve seats, and when completed, wipe clean with a petrol-damped rag. Do not polish the parts with emery cloth or other abrasive, for the particles may, on assembly, get into the cylinder bores and do serious harm. The sparking plugs should then be cleaned and the points reset (see page 46) before replacing them in the cylinder head.

When finally cleaning the head see that the stud holes are also clean to avoid particles of loose carbon dropping on to the gasket when refitting the head.

Clean the carbon off the underside of the valve heads as well as off the top, using a blunt knife and finishing with a fuel-damped rag. Carefully remove carbon from both sides of cylinder head gasket.

Valve Grinding

In order that the valves shall be gas tight, it is necessary for the bevelled surfaces of the valve and cylinder seat to make perfect contact when fitted together. This is achieved by grinding the two surfaces together, but each valve must be ground into the correct seat as indicated by the numbers stamped on the valves (*No.* 1 *valve is nearest to the radiator*).

A small tin of special grinding paste may be obtained containing both fine and coarse grades.

The grinding process consists in coating the bevelled face of the valve with grinding paste and refitting the valve in its guide.

A small spring may, with advantage, be fitted under the valve head for the purpose of lifting the valve from its seating during the grinding operation. Turn the valve to and fro and after each movement, allow the spring to lift the valve, then press down into another position before giving the next turn. This will keep the grinding even.

Continue these operations until the surfaces assume an even matt appearance, then wipe away all traces of paste from the valve seats and ports as any paste finding its way into the cylinder bores or valve guides would do serious harm.

If the valve seats are in fairly good condition it will only be necessary to use the fine paste, but if this is insufficient to

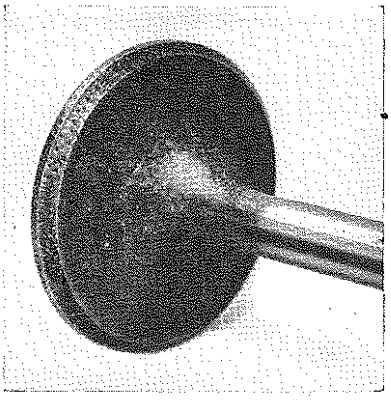


Fig. 34. Showing badly pitted valve.

produce a clean surface, a little coarse paste must be used, finishing off with fine grade. When the valves are badly pitted (see Fig. 34) they should either be renewed or refaced. Do not attempt to grind them in, or you will remove an undue amount of metal from the cylinder head seats. It should be remembered that the steel valves are much harder than the cast iron seats with which they engage.

When refacing valves remove the least amount necessary to give a clean face, and reject those valves whose head thickness above seat edge is less than $\frac{1}{32}''$ (1 mm.). If the head is too thin the edges are apt to curl when the valve becomes hot. The valve face has an included angle of 90°.

If the seats are badly worn or pitted they should be recut with a valve seat cutter.

Should a valve be found to have embedded itself by wear, into the cylinder head face, leaving a step, a shallow cutter of approximately 15° should be used prior to using the 89° cutter (i.e. 1° less than the valve face).

The cutter pilot must be a good fit in the valve guide to ensure a concentric seat. The normal width of seat is $\frac{1}{16}$".

When a valve or seat is recut, the valve must be lightly ground in to ensure perfect contact.

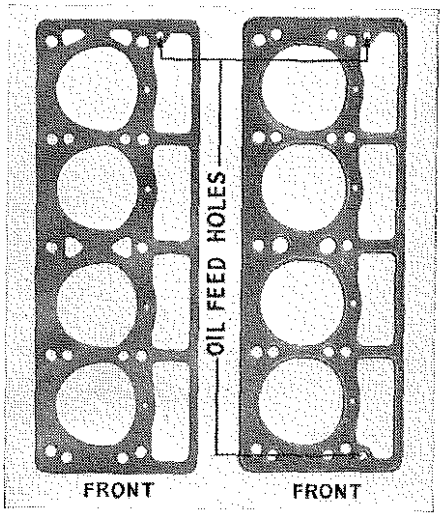
Assembling

The valves may now be assembled, so smear the stems with oil before fitting.

Before replacing the gasket on the cylinder face it is advisable to smear it with clean grease, which will prevent the gasket sticking when the head is next removed.

If the gasket has been damaged do not risk the possibility of a water leak but fit a new one.

There are two types of gasket and it is essential that they are fitted correctly, one has ONE oil feed hole, the other has TWO.



Figs. 35 & 35a.
Cylinder Head Gasket.

The gasket shown in Fig. 35 MUST be fitted with the plain side uppermost. The gasket shown in Fig. 35a should be fitted with the plain side downwards against the cylinder block.

When replacing the cylinder head nuts tighten them gradually in the sequence shown on page 43. This will produce an even pressure on the gasket and prevent undue strain in the cylinder head casting. If a new gasket has been fitted it will be necessary later to go over the nuts again and give them a further tightening. This should be done when the engine has been thoroughly warmed through.

Before refitting the complete rocker shaft, slacken the lock nuts and screw back the adjusting screws. This will facilitate assembly. The outer valve springs are close-coiled at one end and when fitting, the close-coiled end should be against the cylinder head.

When tightening down the rocker pedestals **ensure that the valve caps are locating properly on the valve stems.** Failure to attend to these items may result in damage to the push rods.

Adjust the valve-rocker clearances as described on page 44. Smother the rocker gear with oil, particularly where the rockers bear on to the valve caps, before fitting the rocker cover.

When replacing the rocker cover ensure that the cork washer is undamaged and shellaced to the cover, otherwise oil may leak through the joint.

Fit the rubber collar to half its length into the air cleaner orifice when positioning the cleaner on the carburettor, this will ensure that the rubber is in the correct position when the air cleaner is bolted down.

Gaskets which may require renewal when Decarbonising.

Detail No.	No. off	Description
61312	1	Cylinder Head Gasket.
60535	1	Carburettor Gaskets.
60574	2	
57924	1	Exhaust Pipe Gasket.
60256	2	Manifold Gaskets.
56286	2	Cylinder Bottom Gasket (only required if sleeves are to be withdrawn).

CLUTCH

A Borg & Beck single dry plate clutch is fitted, having a six-spring flexible centre. This carries friction facings and is gripped between the flywheel and clutch pressure plate by the action of helical springs. By this means the drive is transmitted from the flywheel to the gearbox primary shaft on which the clutch plate is mounted. Three toggles are incorporated with the clutch cover and when the clutch pedal is depressed these toggles lift the pressure plate away from the clutch plate and so release the drive between the engine and gearbox. This type of clutch is particularly sweet in action and takes up the drive in a smooth manner. The clutch is correctly set before leaving the works and it will be some considerable time before it requires re-adjustment.

Adjustment

Indication that adjustment is required is given when :—

1. The free pedal movement is reduced to about $\frac{1}{4}$" (6 mm.)

or

2. The free pedal movement increases until the clutch will not be fully released when the pedal is fully depressed.

It is then necessary to adjust the clearance until there is backlash or free movement of about $\frac{1}{2}$" (13 mm.) measured at the pedal pad. This will provide the $\frac{1}{16}$" (1.5 mm.) clearance required at the toggle ring.

It is unnecessary to remove the floor pan to carry out this adjustment as the nuts are accessible from beneath (see Fig. 36).

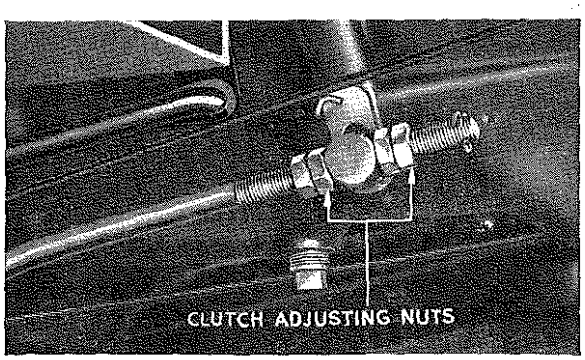


Fig. 36. Clutch adjustment.

BRAKES

Lockheed hydraulic brakes are fitted to all four wheels. Two leading shoe type being used on front wheels, leading and trailing shoe type on rear wheels.

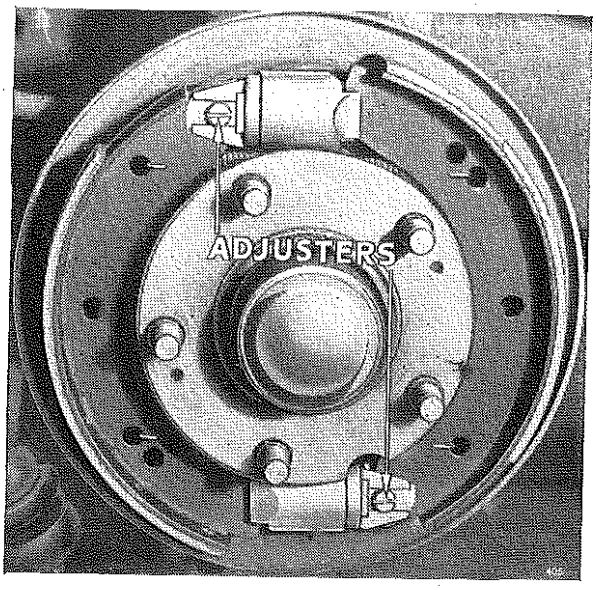


Fig. 37. Brake shoe assembly, front.

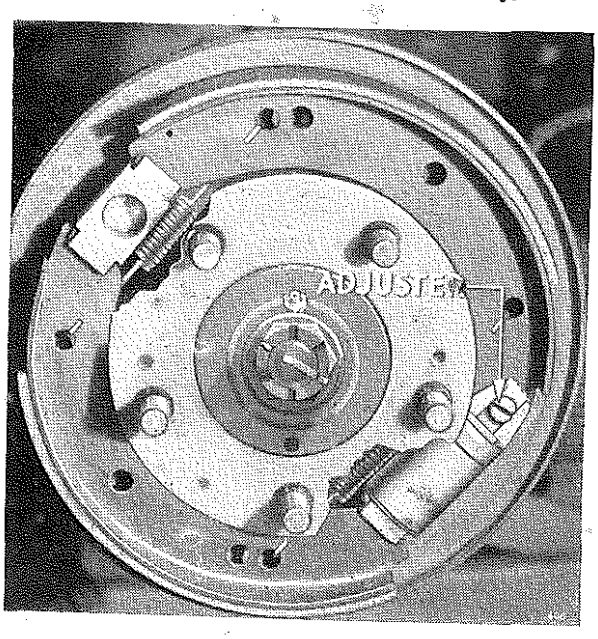


Fig. 38. Brake shoe assembly, rear.

The pedal operates the brakes on all four wheels hydraulically, whilst the handbrake control operates the brakes on the rear wheels, by means of cable and rods.

It must be remembered that the presence of oil, grease or similar foreign matter on a brake shoe will seriously affect the coefficient of friction and in consequence the retarding effect of that particular brake, in spite of the fact that it is being applied with the same force as the others. In such cases, the brake drum should be thoroughly cleaned with fuel and the brake shoes replaced by new replacement shoes. Cleaning the brake shoe is not satisfactory.

See page 27 for checking level of fluid in reservoir. If it is found to be particularly low it is an indication that a leak has developed somewhere in the system and it should be traced and rectified without delay.

Do not reline the shoes, but fit genuine Lockheed replacement shoes. These shoes have the right type of lining machined to the correct radii.

Should the shoes be removed, care must be exercised to ensure that the pull-off springs are located behind the shoes and hooked through the correct holes as shown in Figs. 37 and 38.

Adjustment of Brake Shoes

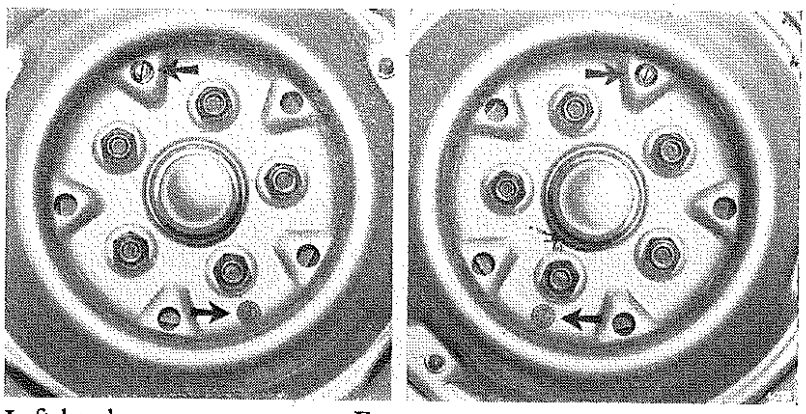
After a considerable mileage it may be found necessary to adjust the brakes. This is evident when the brake pedal has to be depressed to within 1″ of the floor before the brakes operate. There are TWO adjusters to each front wheel and ONE to each rear wheel (see Figs. 37 and 38).

The following procedure should be followed to correctly adjust the brakes.

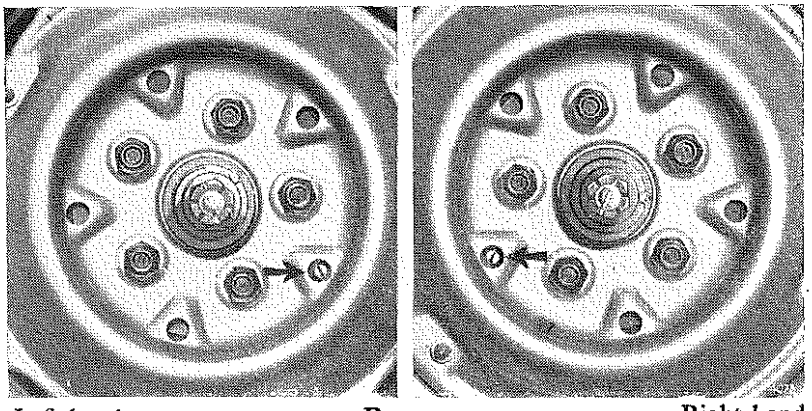
1. Apply the brakes hard with the car stationary, to position the shoes in the drum.
2. Jack up the car and remove the nave plates.
3. Rotate wheel until hole in brake drum coincides with screwdriver slot in micram adjuster (see Fig. 39).
4. Insert a screwdriver and turn the adjuster clockwise until the shoe contacts the brake drum, then turn

adjuster back one notch. There is a constant drag on the rear wheels due to the action of the differential and the axle oil, don't confuse this with the brake drag.

5. Replace nave plates and remove jack.



Left-hand **Front** Right-hand



Left-hand **Rear** Right-hand

Fig. 39. Position of brake adjusters.

Handbrake Adjustment

Adjustment of the brake shoes as previously described automatically readjusts the handbrake mechanism. The rods are correctly set before leaving the works and only maladjustment will result from tampering with the mechanism.

Bleeding the System

Except for periodical inspection of the fluid level in the reservoir chamber and lubrication of the handbrake cables and connections (see page 27) no attention should be necessary. If, however, a pipe joint is uncoupled at any time, or the wheel cylinder cups are inspected or replaced, the system must be bled in order to expel any air which may have been admitted.

Air is compressible, and its presence in the system will effect the working of the brakes.

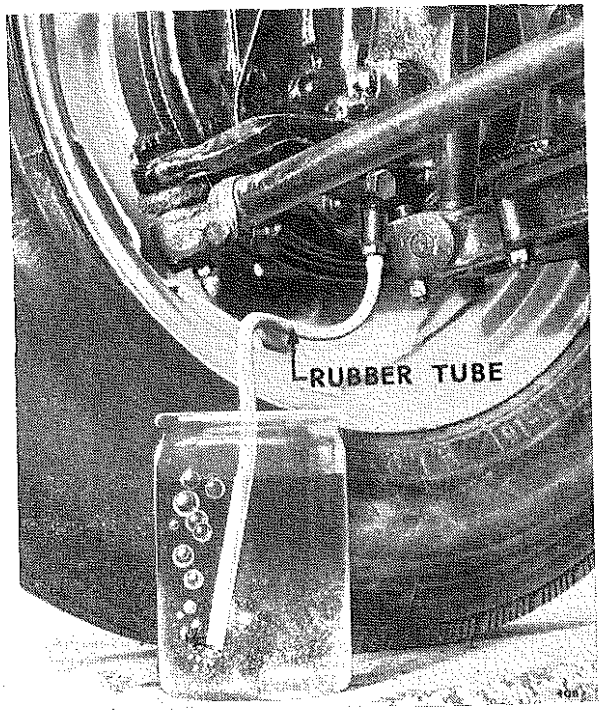


Fig. 40. Bleeding the brakes.

Whilst the majority of owners will prefer to have these operations carried out by a Triumph Agent, for the benefit of those desiring to carry out their own running adjustments, the procedure is as follows :—

1. Remove the front road wheel to allow access to master cylinder reservoir.

2. Wipe clean the bleeder nipple of the brake concerned and fit a piece of rubber tube over it, allowing the tube to hang in a clean container partially filled with fluid, so that the end of the pipe is below the level of the fluid (see Fig. 40).

3. Unscrew the bleeder nipple one complete turn with a suitable spanner. There is only one bleeder nipple to each wheel.

4. The fluid reservoir of the master cylinder must be topped up before commencing the bleeding operation, and must be kept at least half-filled during the whole operation, otherwise more air will be drawn into the system via the master cylinder. Always clean the area around the plug before removing it, this will lessen the risk of grit falling into the chamber after removal of the plug.

   Seven to eight strokes of the pedal will reduce the fluid level from full to half-full.

5. Depress the brake pedal quickly and allow it to return without assistance.

   Repeat this pumping operation with a slight pause between each depression of the pedal. Observe the flow of fluid being discharged into the glass jar and when all air bubbles cease to appear, hold the pedal firmly down and securely tighten the bleeder nipple.

NOTE. Depending upon the position at which a pipe joint has been uncoupled it will be necessary to bleed the system at either both the front or both the back wheels. If the pipe was uncoupled at the master cylinder then the system must be bled at all four wheels.

PROPELLER SHAFT

If the propeller shaft has been removed it is essential when re-assembling the front end splines to see that the arrows on the universal joint and propeller shaft end are in line (see Fig. 16, page 31) so that the propeller shaft will transmit uniform motion.

A single universal joint does not transmit uniform motion when the driving and driven shafts are inclined to one another, but when two joints are used, one at each end of the propeller shaft, and set in correct relation one to the other, the errors of one are corrected by the errors of the other and uniform motion ensues. Hence the importance of re-engaging the splines correctly when they have been taken apart.

HYDRAULIC DAMPERS

If these are removed, or for some reason new ones are fitted, it is advisable to hold the hydraulic damper right way up in a vice, check level of fluid and replenish if necessary. Pump the pistons to each end of the stroke by moving the lever to its full extent. This will dispel any air which may have entered the chamber. After this operation, re-check the fluid level and keep the hydraulic damper the right way up until it is fitted in place.

LOOSE BOLTS OR NUTS

All the vital nuts are locked in position by split pins, locking wire, or by an additional lock nut or lock washer. It is, however, desirable that the car should be examined every 5,000 miles (8,000 km.) so that if any nut is found to be loose it may be tightened. The wheel nuts can periodically be checked by the owner himself and occasionally removed, oiled and refitted.

The general examination of the chassis is a mechanic's job.

ELECTRICAL SYSTEM

A 12 volt earth return (or one wire) lighting and starting set is fitted.

As the frame parts are not insulated, one cable should be disconnected from the battery terminal before removing any electrical unit, otherwise there is risk of a serious "short."

IGNITION

See page 10 for the function of the red warning lamp bulb. Although the failure of this bulb will not affect the ignition, the bulb should be replaced at the earliest opportunity by one of the same size and type, *i.e.*, Lucas No. 987, 12 volt, 2.2 watt (see page 79).

Misfiring, etc.

If misfiring occurs, check that the fault is not due to a defect in the carburettor, fuel supply, sparking plugs, etc.

The engine will run erratically in the rare occurrence of a wire having broken inside its insulated casing. The trouble is then difficult to trace.

Examine the high tension leads. If they are cracked and perished, replace with 7 mm. rubber covered ignition cable.

To fit new Cables to Coil and Distributor

Thread the knurled moulded nut over the lead, bare the cable for about $\frac{1}{4}$" (6 mm.), thread the wire through the brass washer provided, and bend back the strands as shown in Fig. 41.

Cleaning and Adjustment of Distributor Contacts. Every 5,000 miles (8,000 km.) wipe the inside and outside of the moulded distributor cover with a soft dry cloth, paying particular attention to the space between the terminals. See that the small carbon brush on the inside of the moulding works freely on its holder.

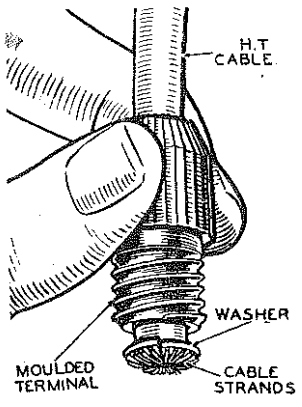


Fig. 41. Fitting high tension cable to coil and distributor.

Examine the contact breaker. The contacts must be free from grease or oil. If they are burned or black-

ened clean them with a fine carborundum stone or with very fine emery cloth. Afterwards wipe away any trace of dirt or metal dust with a cloth moistened in petrol.

After cleaning check the contact breaker gap. To do this turn the crankshaft with the starting handle until the contacts are fully opened and insert the gauge [0.012" (0.3 mm.)' provided on the ignition screwdriver, between the contacts.

If the setting is correct the gauge will be a sliding fit, but if the gap varies appreciably from the gauge the setting should be adjusted. Keep the engine in the position to give maximum opening of the contacts and slacken the two screws securing the plate carrying the fixed contact. Move the plate until the gap is set to the thickness of the gauge, tighten the two screws and re-check the setting.

THE BATTERY

Lucas GTW9A. 12v. 51 amp. hr.

About once every fortnight (more frequently in hot climates), top up each cell with distilled water to bring the acid solution (electrolyte) level with the top of the separators. Do not use tap water and do not use a naked light when examining the condition of the cells.

Keep the terminals clean and well covered with petroleum jelly. If they are corroded,scrape them clean, assemble and cover with petroleum jelly. Wipe away all dirt and moisture from the top of the battery, and make sure that the connections and fixing bolts are clean. Occasionally check the condition of the battery by taking hydrometer readings of the specific gravity of the electrolyte in each of the cells. Readings should not be taken immediately after topping up the cells. Specific gravity readings and their indications are as follows :—

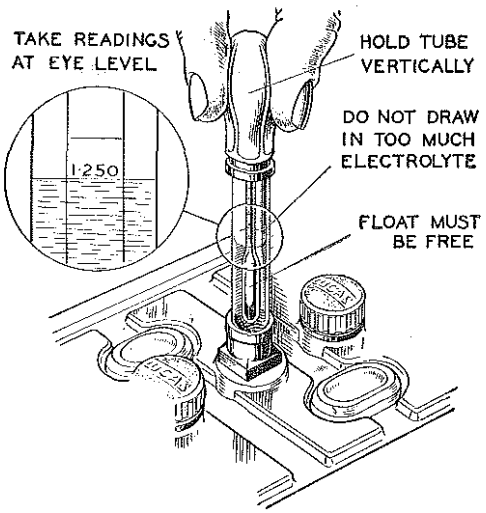


Fig. 42. Checking electrolyte specific gravity.

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

These readings are given assuming the temperature of the solution is about 60°F. If the electrolyte temperature exceeds this 0.002 must be added to the hydrometer reading for each 5° rise from 60°F, to give the true specific gravity at the normal temperature of 60°F. Similarly 0.002 must be deducted from the hydrometer reading for every 5°F below 60°F.

The readings of all cells should be approximately the same. If one cell gives a reading very different from the rest, it may be that acid has been spilled or has leaked from this particular cell, or there may be a short circuit between the plates. In the latter case the battery should be examined by a Triumph or Lucas Service Agent or Depot.

Never leave the battery in a discharged condition for any length of time. Have it fully charged, and every fortnight give it a short refreshing charge.

THE DYNAMO

The dynamo is of the compensated voltage control and operates in conjunction with the regulator unit which is housed alongside the cut-out in the control box.

The regulator unit ensures that the dynamo charges the battery at the rate best suited to its condition. It automatically provides a large charging current for a discharged battery and a low trickle charge for a battery in a fully charged state.

When the engine is at rest, or running slowly, the dynamo does not develop sufficient current to charge the battery, and under these circumstances, the battery would discharge itself through the dynamo if the cut-out were not fitted. The cut-out is operated by the dynamo voltage, and when, due to increasing speed, the dynamo develops sufficient voltage to actuate the cut-out, the points make contact and so allow current to flow from the dynamo to the battery. In this system, current cannot flow in the reverse direction. The cut-out requires no attention,

it is correctly adjusted by the manufacturers and the sealed unit must not be tampered with.

The brush gear and commutator on the dynamo will not normally require any attention. After 50,000 miles (80,000 km.) however, it is advisable to have the unit serviced at a Lucas depot.

Belt Tightness

See that the belt is sufficiently tight to drive the dynamo. It can be adjusted by slackening the securing nuts and swinging the dynamo in the desired direction. Retighten the nuts whilst holding the dynamo in the adjusted position. Don't over-tighten the belt as this would put an undue load on the dynamo and the water pump bearings.

THE STARTER MOTOR

To obtain the longest life from the starter and battery, the following points should be observed when starting :—

1. See that the controls are properly set.
2. Press the starter button, and, of course, release it as soon as the engine fires.
3. Never operate the starter while the engine is still running. If the engine will not fire at once, allow it to come to rest before pressing the button again.
4. Do not run the battery down by keeping the starter on, when the engine will not start.

Cleaning and Lubrication

The starter brush gear and commutator will not normally require attention. After 50,000 miles (80,000 km.) however, it is advisable to have the unit serviced at a Triumph or Lucas Service depot.

Should the starter pinion become jammed in mesh with the flywheel, then it can be released by turning the crankshaft with the starting handle in the normal manner, or select top gear and rock the car backwards and forwards until the pinion releases itself.

Starter Motor only turns Crankshaft slowly

The battery may be run down due to leaving the ignition switch on, or leaving the car standing with the head lamps on. The grade of oil in the engine sump may be too heavy.

Starter Motor will not turn Crankshaft

This may be due to a broken connection between the starter and battery or a bad contact.

If the red warning light goes out when the starter button is pressed, then the battery is in a run down condition and the engine should be started by hand.

If the motor hums but does not engage with the flywheel when the starter button is pressed, then :—

(*a*) The battery may be in a run down condition.

(*b*) The brushes are sticking or the commutator requires cleaning.

(*c*) Battery terminals are not clean or secure.

CONTROL BOX AND FUSES

The control box, mounted on the wing valance, in front of the battery, houses the voltage regulator and cut-out. These units are carefully and accurately set before leaving the works and must not be tampered with.

Fuses

The fuse holders are clearly marked (see Fig. 43), to show the circuits which the fuses protect. Spare fuses are clipped to the side of the control box. When replacing a fuse, it is important to use the correct replacement (Lucas No. 188216, 35 amperes capacity). The fusing value is marked on a coloured paper slip inside the tube.

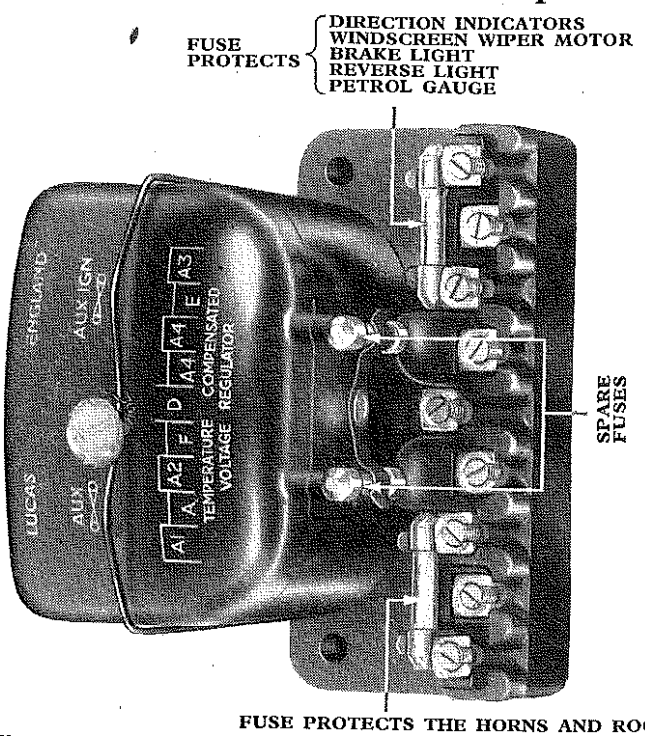


Fig. 43. Control box and fuses.

A blown fuse will be indicated by the failure of all the units protected by it, and is confirmed by examination of the fuse. If it has blown, the broken ends of the wire will be visible inside the glass tube. Before replacing a blown fuse, inspect the wiring of the units that have failed, for evidence of a short circuit or other fault which may have caused the fuse to blow and remedy the cause of the trouble. If it is not possible to locate the cause of the trouble and the new fuse blows immediately, the equipment should be examined by a Triumph or Lucas Agent or Service Depot.

LAMPS

Head Lamps
Bulbs Fitted

		Lucas No.	Voltage	Wattage
Home :	Left-hand Lamp	302	12	48/48
	Right-hand Lamp	185	12	48
Export :	Left-hand drive Both Lamps	303	12	48/48
	Right-hand drive Both Lamps	302	12	48/48

The lamps fitted to the Triumph have the reflector and glass sealed as a unit. The bulb has a " pre-focus " cap accurately located and correctly positioned relative to the reflector, thus no adjustment to focusing is required when a replacement bulb is fitted.

Should it be desired to travel in countries where the " rule of the road " is changed, it may be an advantage to fit alternative headlamp bulbs in order to alter the direction of the " dipped " beam. The bulbs, Lucas No. 302, should be replaced by Lucas No. 303 and vice versa.

Alignment

The lamp must be set to ensure that the beam is projected below the horizontal, taking into account that the lamp must be dipped slightly more to compensate for road inequalities and heavy loads which may be carried in the rear of the vehicle.

To Check and Adjust Alignment

Park the car in front of a garage door or wall and square to it. The car must stand on level ground and the front of the lamps should be approximately 25 ft. from the " screen." The car must be unladen and the tyres at the correct pressures.

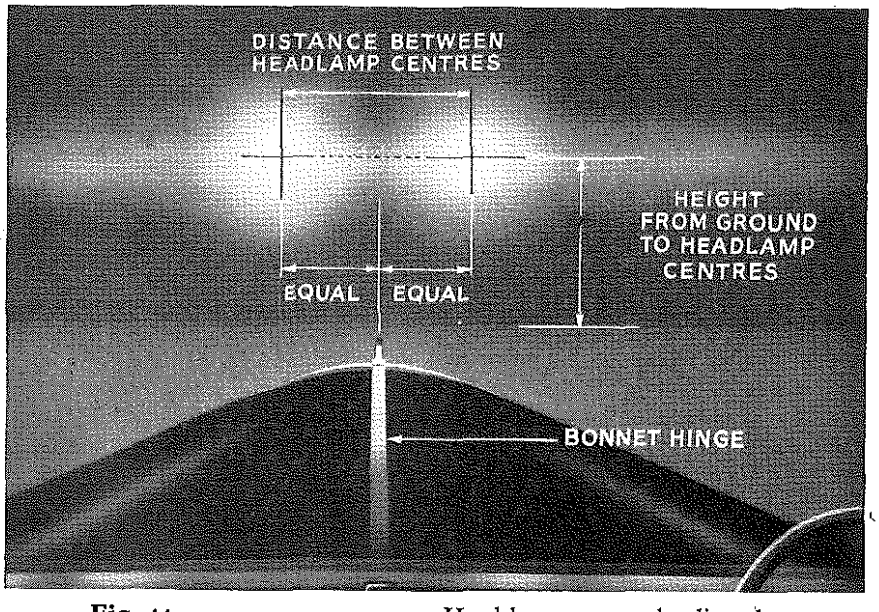


Fig. 44. Head lamps correctly aligned.

A point should be marked on the screen in line with the centre of the bonnet. Two crosses should be drawn on the " screen " 33″ above the ground level and 26″ apart, measured equally about the centre point (see Fig. 44). Switch on the headlamps and adjust the lamps if necessary, until the centre of each circle of light coincides with the centre of its respective cross.

NOTE—Headlamps Fitted to Home Models

It will be noticed when aligning lamps that the beam images from the two lamps differ somewhat in shape. This is because the design of the double filament bulb varies slightly from that of the single filament type.

Removal of Lamp Front

To remove the lamp front for cleaning or bulb replacement, place first and second finger around the securing clip at the bottom of the lamp, pull it towards you and swing it down out of engagement with the rim. Ease the rim from the bottom of the lamp first before completely removing. When replacing, locate the top of the rim first before pushing the bottom home.

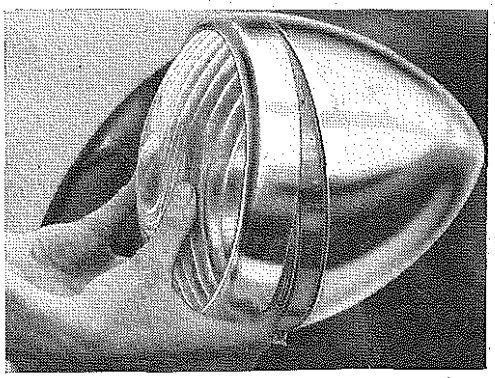


Fig 45 Headlamp (front removal)

Bulb Replacement

Rotate the back shell anti-clockwise and pull off, then the headlamp bulb can be removed. Care should be taken to see that the bulb does not drop out.

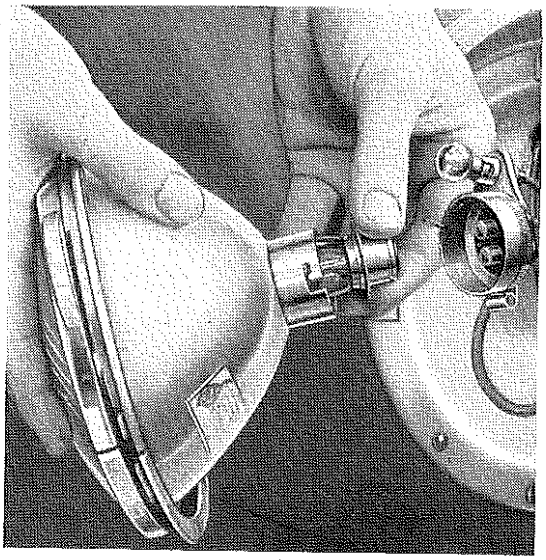


Fig. 46. Headlamp light unit with backshell removed.

Side Lamps

(Lucas No. 207, 12 volt 6 watt single contact bulbs fitted.)

To replace bulb, release the fixing screw at the back of the lamp and pull the front complete with bulb-holder away from the lamp body. The bulb can then be withdrawn (see Fig. 47).

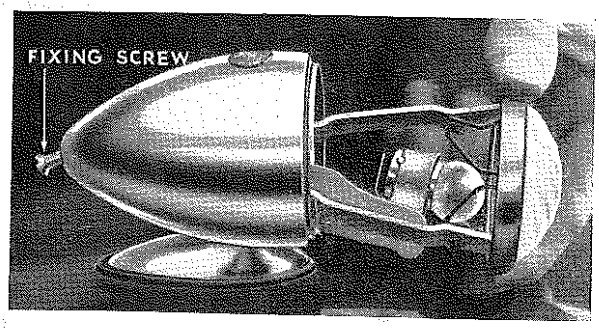


Fig. 47. Side lamp bulb removal.

Tail and Brake Lamps (Lucas No. 207 12 volt 6 watt single contact bulbs fitted). To obtain access to the bulbs for replacement, unscrew the knurled screw at the edge of each glass cover. The covers can then be swung open (see Figs. 48 and 49).

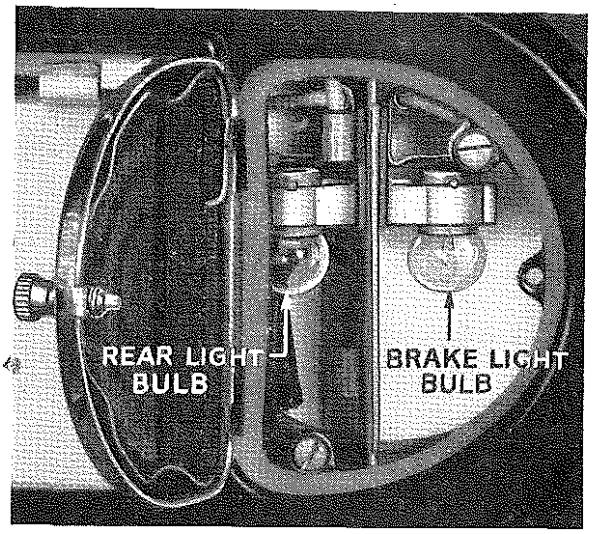


Fig. 48. Tail lamp.

Reversing lamp (Lucas No. 1, 12 volt 24 watt single contact bulb fitted).

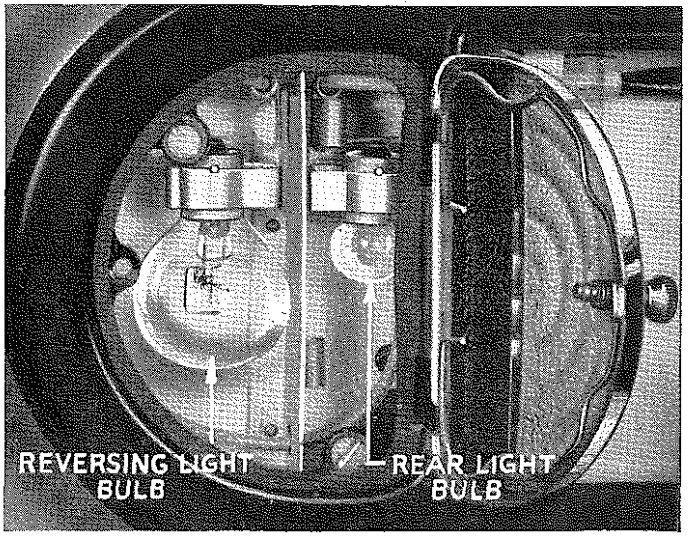


Fig. 49. Tail and reversing lamp.

Roof Lamp

(Lucas No. 207, 12 volt 6 watt single contact bulb fitted). To gain access to the bulb, release clip and remove " glass." Ensure that tongue on one end of " glass " is inside holder before clipping it back into position.

Ignition Warning Light

(Lucas No. 987, 12 volt 2.2 watt screw cap type bulb fitted). For access to ignition warning light and instrument panel lights unscrew the two wing nuts at the back of facia panel and remove as a whole.

Direction Indicators

(Lucas No. 256, 12 volt 3 watt festoon type bulbs fitted). To replace bulb withdraw the cover as explained on page 34, fit new bulb and replace cover.

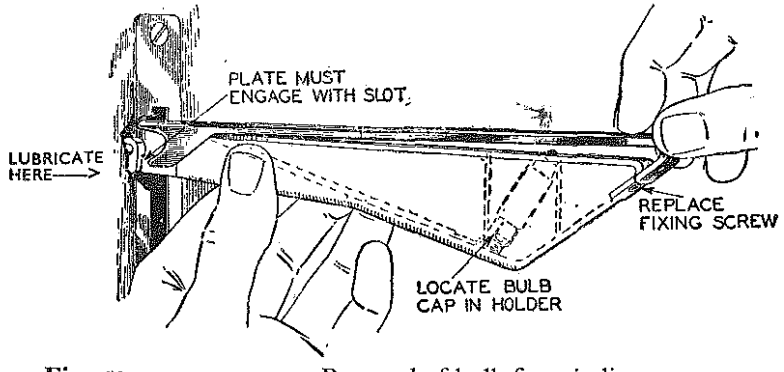


Fig. 50. Removal of bulb from indicator arm.

Instrument Panel Lights

(Lucas No. 987, 12 volt 2.2 watt screw cap type bulb fitted). See " Ignition Warning Light " for replacement of bulbs.

WINDSCREEN WIPER

For operation, see page 9, for lubrication, see page 35.

WINDTONE HORNS

Each electric horn, before being passed out of the works, is adjusted to give its best performance, and will give long periods of service without any attention. No adjustment is required in service.

If for any reason the note is unsatisfactory do not attempt to dismantle the horn, but return it to a Lucas Service Depot for examination.

FUEL GAUGE

An electrical gauge fitted on the instrument panel indicates the amount of fuel in the tank and is brought into operation when the ignition is switched on. A rheostat incorporated in the tank unit, is fitted in the top of the fuel tank and connected by an arm to the float which indicates the fuel level by setting the

rheostat resistance in a corresponding manner. Thus each fuel level has a different electrical resistance which is suitably indicated on the gauge.

Important

1. On no account should the float arm be bent other than as supplied. The float arm provides both top and bottom stops which prevent the contact arm over-travelling the resistance.
2. Please give the following details in all communications with the makers dealing with fuel gauge units :—
   Year and model of car.
   Code numbers of meter and tank unit.

Localisation of Faults

Symptom	Cause	Remedy
Meter reads full.	(1) Tank unit cable disconnected or broken.	Re-connect.
	(2) Tank unit not "earthed."	Clean body of tank unit and fixing ring.
Meter reads empty.	(1) Meter supply disconnected.	Re-connect.
	(2) Case of meter not "earthed."	Make connection with case of fixing stud to "earth."
	(3) Faulty meter.	Return for repair.
	(4) Tank unit cable "earthed."	Replace cable.
	(5) Terminal on tank unit "earthed."	Return for repair.

ELECTRICAL COMPONENT SPECIFICATION

Specification of Equipment			Bulbs			
	Model	Service No.		Lucas No.	Voltage	Watt.
			Head Lamps.			
Battery	GTW9A	—	Main.			
			Home : Left-hand lamp	302	12	48/48
Control Box	RF 95/2	37065	Right-hand lamp	185	12	48
			Export : Left-hand drive			
Coil	B12	45012	Both lamps	303	12	48/48
			Right-hand drive			
Dynamo	C39PV	22250	Both lamps	302	12	48/48
			Side lamps	207	12	6
Distributor	DVX4A	40144	Tail and brake lamps	207	12	6
Starter	M418G	25526	Reverse lamp	1	12	24
			Trafficators	256	12	3
Fuses	188216	35 amperes capacity	Ignition warning and panel lights	987	12	2.2
			Interior lamp	207	12	6

SERVICE

Any Triumph owner who experiences any doubt or difficulty with the performance of his car is invited to communicate with his agent, and **it is particularly desirable to seek the advice of one of our agents in the locality, preferably the supplier of the vehicle, who, being thoroughly conversant with all our models, will rapidly diagnose the symptoms of any peculiarity and be able to advise a remedy.**

Considerable car is exercised in the choice of all Triumph Agents, particularly to ensure that they are suitably equipped to give after-sales service.

MAINTENANCE

All our principal Agents hold comprehensive stocks of spares for current models.

Every TRIUMPH chassis has a distinguishing number. This is known as the car commission number, and should always be quoted, together with the engine number when spares or renewals are ordered.

When ordering spare parts it is always advisable to give, in addition to the car commission number, a brief description of the part required.

NOTES

INDEX

INDEX—*continued*

INDEX—*continued*

INDEX TO ILLUSTRATIONS

INDEX TO ILLUSTRATIONS—*continued*

RECOMMENDED LUBRICATING OILS

Component		Vacuum	Wakefield	Energol	Shell	Esso	Duckham's
ENGINE	Air Temp. °F. Over 70°	Mobiloil A	Castrol XXL	Energol Auto 200	Shell X-100, S.A.E. 40 or Double Extra	Essolube 40	Duckham's N.P. "Forty"
	40° to 70°	Mobiloil A	Castrol XL	Energol Auto 150	Shell X-100, S.A.E. 30 or Double Shell	Essolube 30	Duckham's N.P. "Thirty"
	10° to 40°	Mobiloil Arctic	Castrolite	Energol Auto 125	Shell X-100, S.A.E. 20 or Single Shell	Essolube 20	Duckham's N.P. "Twenty"
	—10° to 10°	Mobiloil Arctic Special	Castrol Z	Energol Auto 80	Shell X-100, S.A.E. 10 or Silver Shell	Essolube 10	Duckham's N.P. "Ten"
	Upper Cylinder Lubricant	Mobil Upperlube	Castrollo	Energol U.C.L.	Shell Donax U	Esso Upper Motor Lubricant	Duckham's Adcoids
	Flushing Oils	Mobiloil Arctic Special	Wakefield Flushing Oil	Energol Flushing Oil	Shell Donax F	Esso Flushing Oil	Duckham's N.P. "Ten"
GEARBOX	Over 10°	Mobilube CW	Castrol XXL	Energol Transmission 300	Shell X-100, S.A.E. 50 or Triple Shell	Essolube 50	Duckham's N.P. "Fifty"
	Below 10°	Mobilube CW Special	Castrol XL	Energol Transmission 200	Shell X-100, S.A.E. 30 or Double Shell	Essolube 30	Duckham's N.P. "Thirty"
REAR AXLE	Over 10°	Mobilube GX 90	Castrol Hypoy	Energol Transmission 300/EP	Shell Spirax 90EP	Esso XP Compound 90	Duckham's Hypoid 90
	Below 10°	Mobilube GX 80	Castrol Hypoy 80	Energol Transmission 200/EP	Shell Spirax 80EP	Esso XP Compound 80	Duckham's Hypoid 80
STEERING BOX		Mobilube GX 140	Castrol Hi-Press	Energol Transmission 700/EP	Shell Spirax 140EP	Esso XP Compound 140	Duckham's XS Press 140
WHEEL HUBS ENGINE WATER PUMP	*(Hand Gun)*	Mobilgrease No. 5	Castrolease Heavy	Energrease Chassis Pressure No. 2	Shell Retinax RB	Esso Bearing Grease	Duckham's H.B.B.
CHASSIS. Grease Nipples	*(Hand or Pressure Gun)*	Mobilgrease No. 4	Castrolease Medium	Energrease Chassis Pressure No. 2	Shell Retinax C	Esso Chassis Grease	Duckham's Laminoid Soft
	Oil Points *(Oil Can)* Body and Chassis	Mobiloil Arctic	Oilit	Energol Auto 125	Shell X-100, S.A.E. 20 or Single Shell	Esso Handy Oil	Duckham's N.P. "Twenty."
REAR ROAD SPRINGS		Mobilgrease No. 2	Castrol Penetrating Oil	Energol Penetrating Oil	Shell Donax P	Esso Penetrating Oil	Duckham's Laminoid Liquid
		ALTERNATIVELY USE REAR AXLE OR ENGINE OIL					
BRAKE CABLES		Mobilgrease No. 4	Castrolease Brake Cable Grease	Energrease Graphited No. 1	Shell Retinax C	Esso Graphite Grease	Duckham's Keenol KG.16
BRAKE RESERVOIR		LOCKHEED ORANGE BRAKE FLUID OR LOCKHEED No. 5 BRAKE FLUID LOCKHEED AMERICAN BRAKE FLUID No. 21					
HYDRAULIC DAMPERS	Girling	WAKEFIELD GIRLING DAMPER OIL (THIN)					
	Armstrong	ARMSTRONG SUPER THIN SHOCK ABSORBER OIL					
Alternative Oils	Girling	Mobil Shock Absorber Oil Light	Castrol Shockol	Energol Shock Absorber Oil	Shell Donax A1	Esso Shock Absorber Oil	Duckham's S.A.P.
	Armstrong	Mobiloil Arctic	Castrolite	Energol Auto 80	Shell Donax A2	Esso Hydraulic Oil Medium	—

RECOMMENDED LUBRICANTS — BRITISH ISLES

COMPONENT	VACUUM	WAKEFIELD	PRICE'S	SHELL	ESSO	DUCKHAM'S
ENGINE Summer	Mobiloil A	Castrol XL	Energol S.A.E. 30	Double Shell	Essolube 30	Duckham's N.P. " Thirty "
Winter	Mobiloil Arctic	Castrolite	Energol S.A.E. 20	Single Shell	Essolube 20	Duckham's N.P. " Twenty "
Upper Cylinder Lubricant	Mobil Upperlube	Castrollo	Energol U.C.L.	Shell Donax U	Essomix	Duckham's Adcoids
Flushing Oils	Mobil Engine Flushing Oil	Wakefield Flushing Oil	Price's Flushing Oil	Shell Flushing Oil	Esso Flushing Oil	Duckham's N.P. " Ten "
GEARBOX	Mobiloil B.B.	Castrol XXL	Energol S.A.E. 60	Triple Shell	Essolube 50	Duckham's N.P. " Fifty "
REAR AXLE	Mobilube G.X. 90	Castrol Hypoy	Energol E.P. S.A.E. 90	Shell Spirax 90 E.P.	Esso Expee Compound 90	Duckham's Hypoid 90
STEERING BOX	Mobilube E.P.	Castrol Hi-Press	Energol E.P. S.A.E. 140	Shell Spirax 140 E.P.	Esso Expee Compound 140	Duckham's X.S. Press 140
WHEEL HUBS ENGINE WATER PUMP (*Hand Gun*)	Mobil Hub Grease	Castrolease Heavy	Belmoline C	Shell Retinax RB	Esso Grease	Duckham's H.B.B.
CHASSIS. Grease Nipples (*Hand or Pressure Gun*)	Mobilgrease No. 4	Castrolease Medium	Belmoline C	Shell Retinax C	Esso Grease	Duckham's Laminoid Soft
Oil Points (*Oil can*) Body and Chassis	Mobil Handy Oil	Oilit	Energol S.A.E. 20	Single Shell	Essolube 20	Duckham's N.P. "Twenty"
REAR ROAD SPRINGS	Mobil Spring Oil	Castrol Penetrating Oil	Price's Penetrating Oil	Shell Donax P	Esso Penetrating Oil	Duckham's Laminoid Liquid
	ALTERNATIVELY USE REAR AXLE OR ENGINE OIL					
BRAKE CABLES	Mobil Graphited Grease	Castrolease Brake Cable Grease	Belmoline C.G.	Shell Retinax C	Esso Graphite Grease	Duckham's Keenol KG 16
BRAKE RESERVOIR	LOCKHEED ORANGE BRAKE FLUID					
HYDRAULIC DAMPERS Girling	WAKEFIELD GIRLING DAMPER OIL (THIN)					
Armstrong	ARMSTRONG SUPER (THIN) SHOCK ABSORBER OIL					

W. W. Curtis Ltd., Coventry

A FEW DON'TS FOR BEGINNERS

DON'T neglect to read this Handbook and if any point is not clear ask for further instructions from your Service Agent.

DON'T run your engine for any considerable time whilst in an enclosed space, such as a garage with the doors closed. The dangers of carbon-monoxide poisoning from the exhaust gases are very real under such circumstances.

DON'T neglect to pay regular attention to lubrication and always use a good lubricant as recommended.

DON'T rev. the engine immediately after starting up, but give the oil time to circulate (see page 12).

DON'T continue to run the engine if the oil pressure gauge indicates an abnormally low pressure or if the needle fluctuates unduly, but examine the engine to find the cause. This may be lack of oil.

DON'T run the engine with too little water in the radiator.

DON'T allow the engine to run too fast during the first 500 miles (see page 16).

DON'T forget to make full use of the gearbox when climbing hills. Don't change "up" too soon.

DON'T apply your brakes suddenly except in emergency, it is bad for the passengers, the tyres, the car as a whole and the driver behind who may not be able to pull up as quickly as you.

DON'T forget that rapid cornering not only is uncomfortable for your passengers, but also causes great strains on the chassis and high loads on the wheel bearings, in addition to excessive tyre wear.

DON'T continue to run the car if you feel that there is some slight defect or falling off in power. Investigate this and if you cannot trace the trouble get in touch with our Agent.

DON'T neglect your tyre pressures and examine the covers for flints as well—this will save you money (see page 36).

DON'T omit to readjust the alignment of your head lamps if they have become incorrectly adjusted. You will get more pleasure when driving at night and will not inconvenience other road users (see page 76).

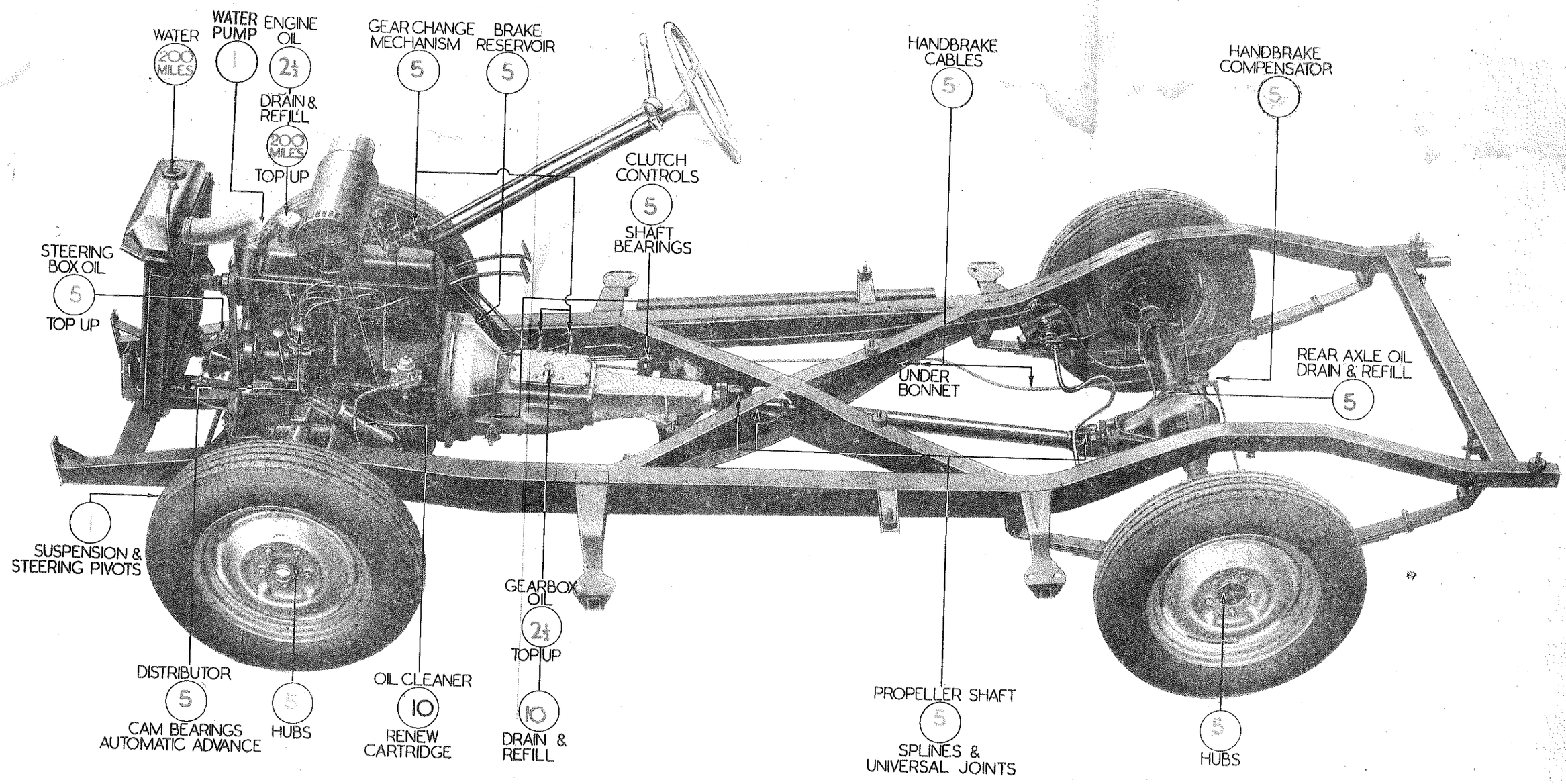
DON'T forget to switch off the ignition and put the hand brake on when the car is at rest.

DON'T neglect the level of the acid in the battery—which is quite accessible by raising the bonnet.

DON'T forget to engage a lower gear when about to descend a very steep hill.

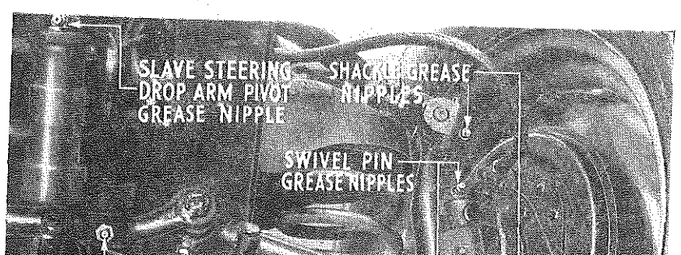
DON'T omit to read "The Highway Code," a copy of which can be obtained from the local licensing authority.

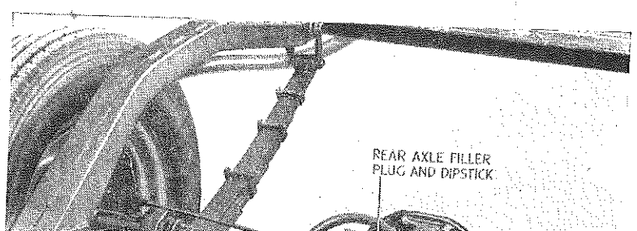
Fig. 50. LUBRICATION CHART—Fold Out.

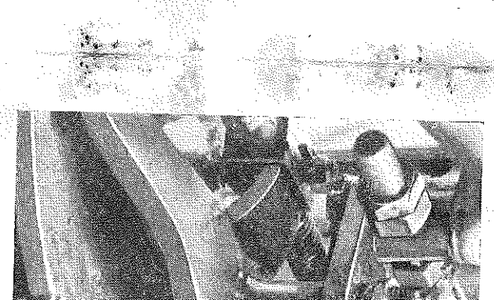


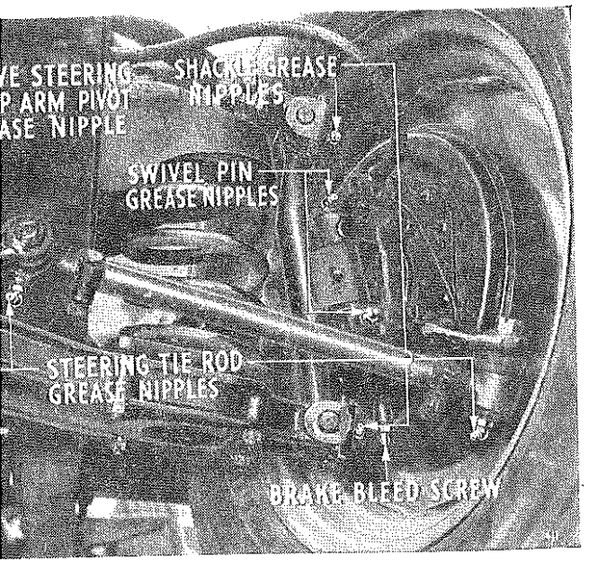
CHASSIS

The Chart is laid out to simplify lubrication, the items requiring similar attention being grouped in distinctive colours. If in doubt, turn to the page referred to in the respective column. The coloured numerals indicate the attention periods in thousands of miles.

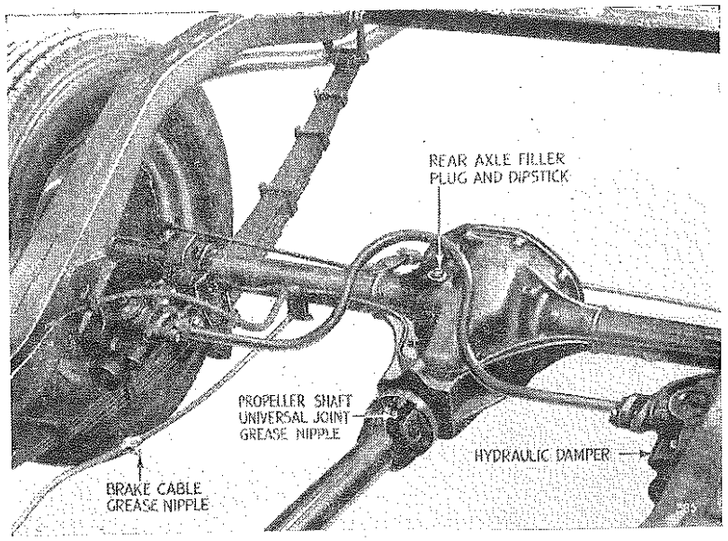




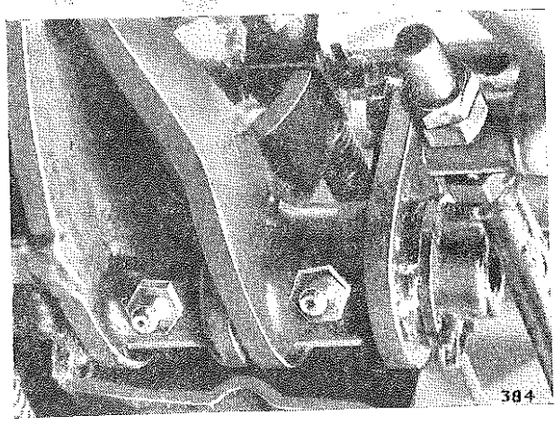




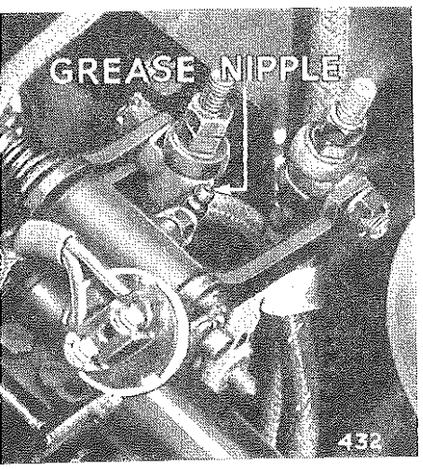
FRONT SUSPENSION



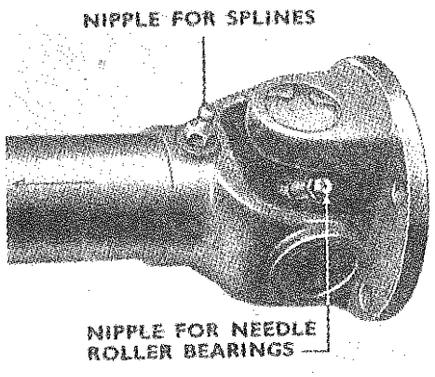
REAR OF CHASSIS



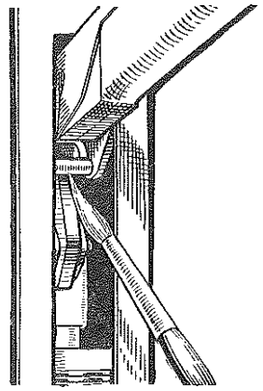
PEDAL BEARINGS



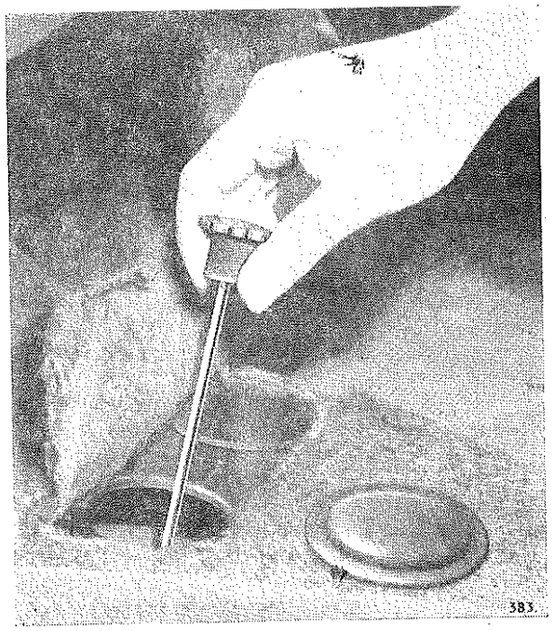
GEAR CHANGE MECHANISM



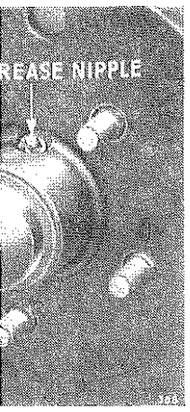
PROPELLER SHAFT

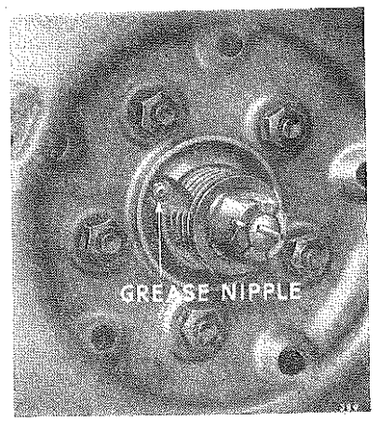


DIRECTION INDICATORS

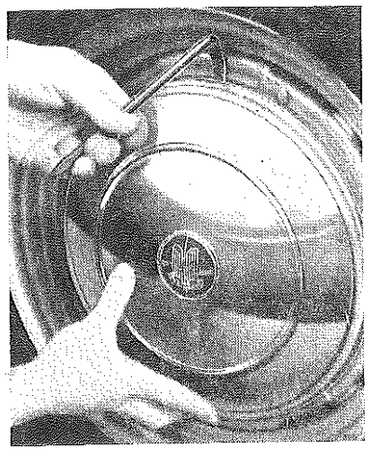


GEARBOX OIL FILLER

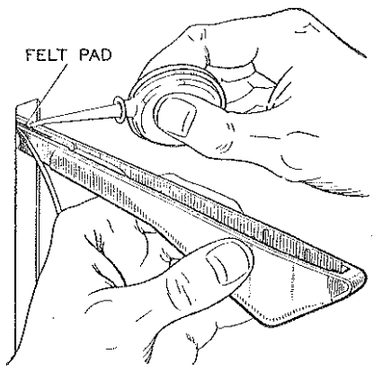


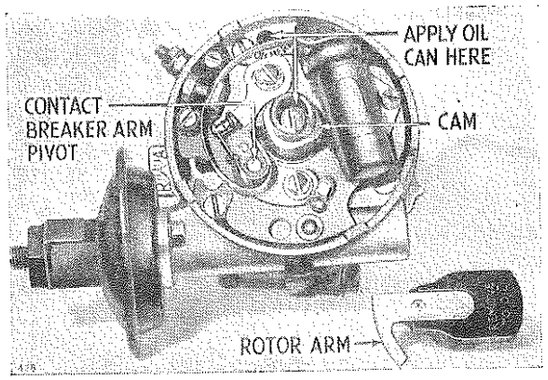


REAR WHEEL HUB LUBRICATION



NAVE PLATE REMOVAL





IGNITION DISTRIBUTOR

ITEMS			DETAILS		PAGE REF.	MILEAGE INTERVAL IN THOUSANDS
Front Axle Swivel Pins		(4 nipples)	THREE OR FOUR STROKES	GREASE GUN	31	1
Wishbone Shackle Pins	Upper	(2 nipples)			31	1
	Lower	(2 nipples)			31	1
Steering	Tie-rods	(8 nipples)			33	1
	'Slave' Drop Arm	(2 nipples)			33	1
Propeller Shaft	Splines	(1 nipple)			31	5
	Universal Joints	(2 nipples)			31	5
Hand Brake	Cable	(2 nipples)			28	5
	Compensator	(1 nipple)			29	5
Pedal Bearings		(2 nipples)			25	5
Engine Water Pump and Fan			TWO STROKES		24	1
Wheel Hubs		(4 nipples)	FIVE STROKES		29	5
Gear Change Mechanism			OIL AS RECOM-MENDED	OIL CAN	33	5
Ignition Distributor	Cam and Spindle Bearings				23	5
	Automatic Advance Mechanism				23	5
Accelerator and Handbrake Lever					34	5
Clutch Shaft Bearing					25	5
Controls (Clutch, etc.)					34	5
Direction Indicators					34	10
Doors, Locks, Hinges and Bonnet Catches					34	5
Engine Sump	200 MILES		TOP UP OIL LEVEL		11	
			DRAIN & REFILL WITH NEW OIL		21	2½
Gearbox			TOP UP OIL LEVEL		25	2½
			DRAIN AND REFILL WITH NEW OIL		26	10
Rear Axle					26	5
Steering Box			TOP UP OIL LEVEL		33	5
Road Springs			CLEAN AND OIL		32	5
Air Cleaner			OIL AS RECOMMENDED		24	5
Dynamo Wick			APPLY PETRO-LEUM JELLY		24	10
Hydraulic Brake Reservoir			TOP UP OIL LEVEL		27	5
Oil Cleaner			RENEW CARTRIDGE		22	10

IMPORTANT TO OWNERS

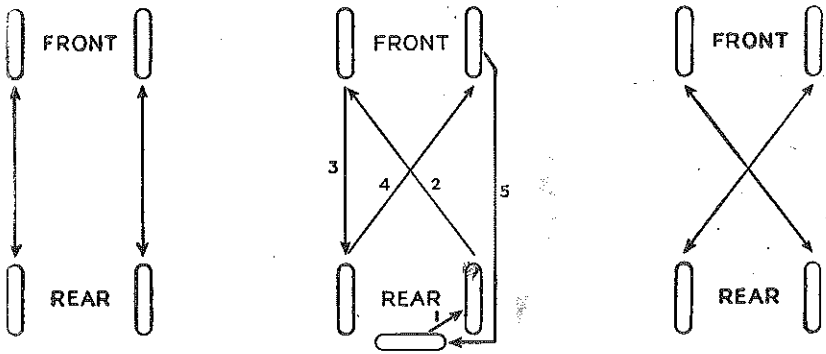
★

THE MODERN INDEPENDENTLY SPRUNG CAR PERMITS FAST CORNERING SPEEDS AND HIGH AVERAGE SPEEDS.

YOUR TYRES ARE THE FINAL MEDIUM THROUGH WHICH THIS IS ATTAINED.

TO OBTAIN THE BEST MILEAGE FROM YOUR TYRES, IT IS NECESSARY TO INTERCHANGE THE TYRES AND WHEELS AT FREQUENT INTERVALS PREFERABLY EVERY 2,000 MILES.

THE FOLLOWING METHODS ARE RECOMMENDED. THE CHOICE WILL DEPEND ON THE JACKING SYSTEM ON THE CAR AND WHETHER IT IS DESIRED TO INTRODUCE THE SPARE WHEEL INTO THE SEQUENCE.



Change wheels without removing tyres.

DUNLOP RUBBER CO. LTD.
FORT DUNLOP, BIRMINGHAM, 24

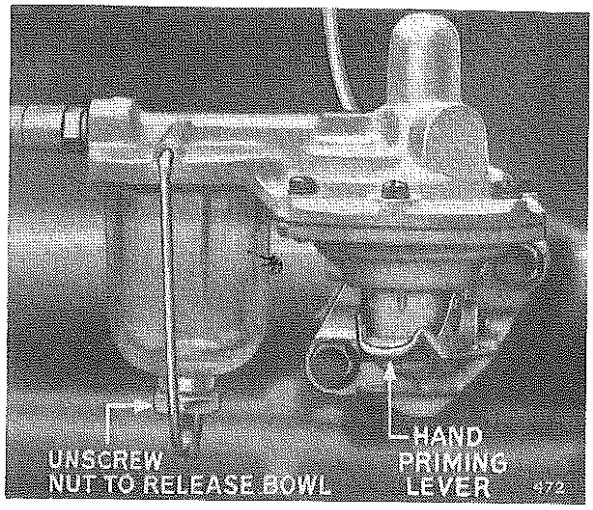
LF9/23(S) Reprinted April, 1950

J.C.100

TRIUMPH RENOWN ERRATA

Page 54—Fuel Pump

The fuel pump now fitted is of the type shown below. The glass bowl acts as a sediment chamber for the petrol passing to the pump. The foreign matter collects on the underside of the gauze and, being washed off by the petrol, sinks to the bottom of the bowl. To remove the sediment detach the bowl by unscrewing the nut at its base and wash the bowl out with the fuel that will be in it. When refitting the bowl tighten the nut just sufficient to ensure a fuel-tight joint, as over-tightening may result in damage.



Page 78—Fig. 46.

This illustration is not strictly correct as it shows the incorporation of a parking bulb.

Page 95—Recommended Lubricants : Overseas

Gearbox. Over 10°, should read as recommended for gearbox below 10°. For Mobilube CW Special substitute Mobiloil A.

Below 10°, should read as recommended for engine 10°—40°.

Chassis. Grease Nipples. Substitute Castrolease CL for Castrolease Medium.

Page 96—Recommended Lubricants : British Isles

Gearbox should read as Engine—Summer.

Steering Box—for Mobilube EP substitute Mobilube GX.140.

Chassis—for Castrolease Medium substitute Castrolease CL.

Page 39, Fig. 21, JACKING THE CAR

Cars supplied with a triangulated jack should be raised with the jack fitted in the socket in the manner shown in Fig. 21A.

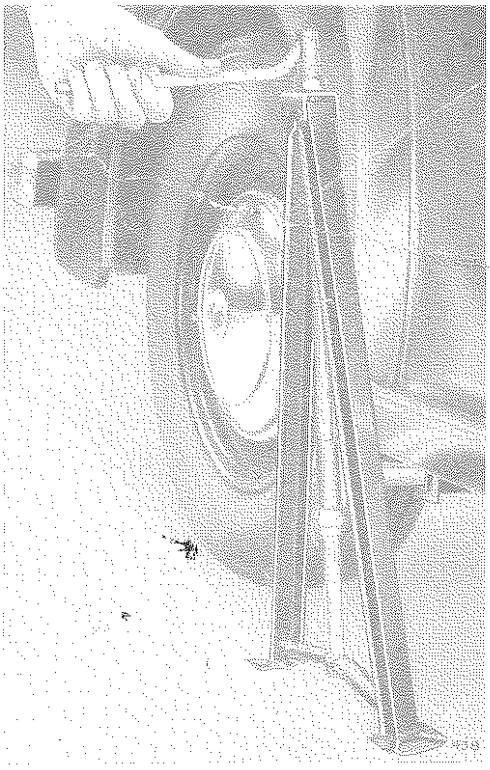


Fig. 21A. Jacking the Car.

Page 41, TOOL KIT.

The tool kit layout will be as shown in Fig. 22A for vehicles fitted with the triangulated jack mentioned above.

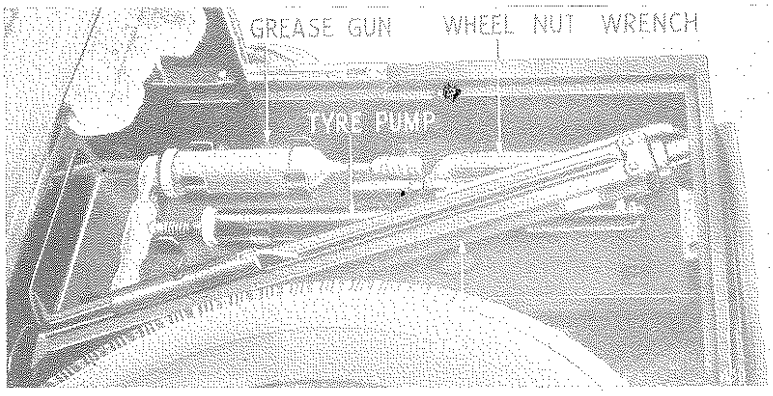


Fig. 22A. Tool Kit Layout

TRIUMPH RENOWN

ADDENDA

CLAYTON CAR HEATER

Fitted to TRIUMPH RENOWN, Type C.B.

GENERAL DESCRIPTION

A small electric motor is built into the heater unit with a fan fitted to each end of the shaft. Both fans draw air into the periphery of the unit past the Clayton Still high efficiency wire-wound tubes circulating the hot water from the engine cooling system. The front fan discharges part of the air thus warmed through the two flaps into the car. The rear fan passes the remainder of the warmed air through suitably disposed pipes to the de-mister slots situated at the base of the windscreen.

Controls and Operation

The rheostat control on the dash panel just to the left of the steering column controls the fans. The first movement switches the fan on to full speed, *i.e.* maximum air flow to the car interior and further turning reduces the speed of the electric motor. A brass tap situated at the rear of cylinder head controls the water supply. In warm weather this may be turned off so that the fans circulate cool air inside the car. Flaps are provided on the heater to control the distribution of the air supply to the interior.

When refilling the radiator, it is advisable to ensure that the brass tap on the cylinder head is in the open position.

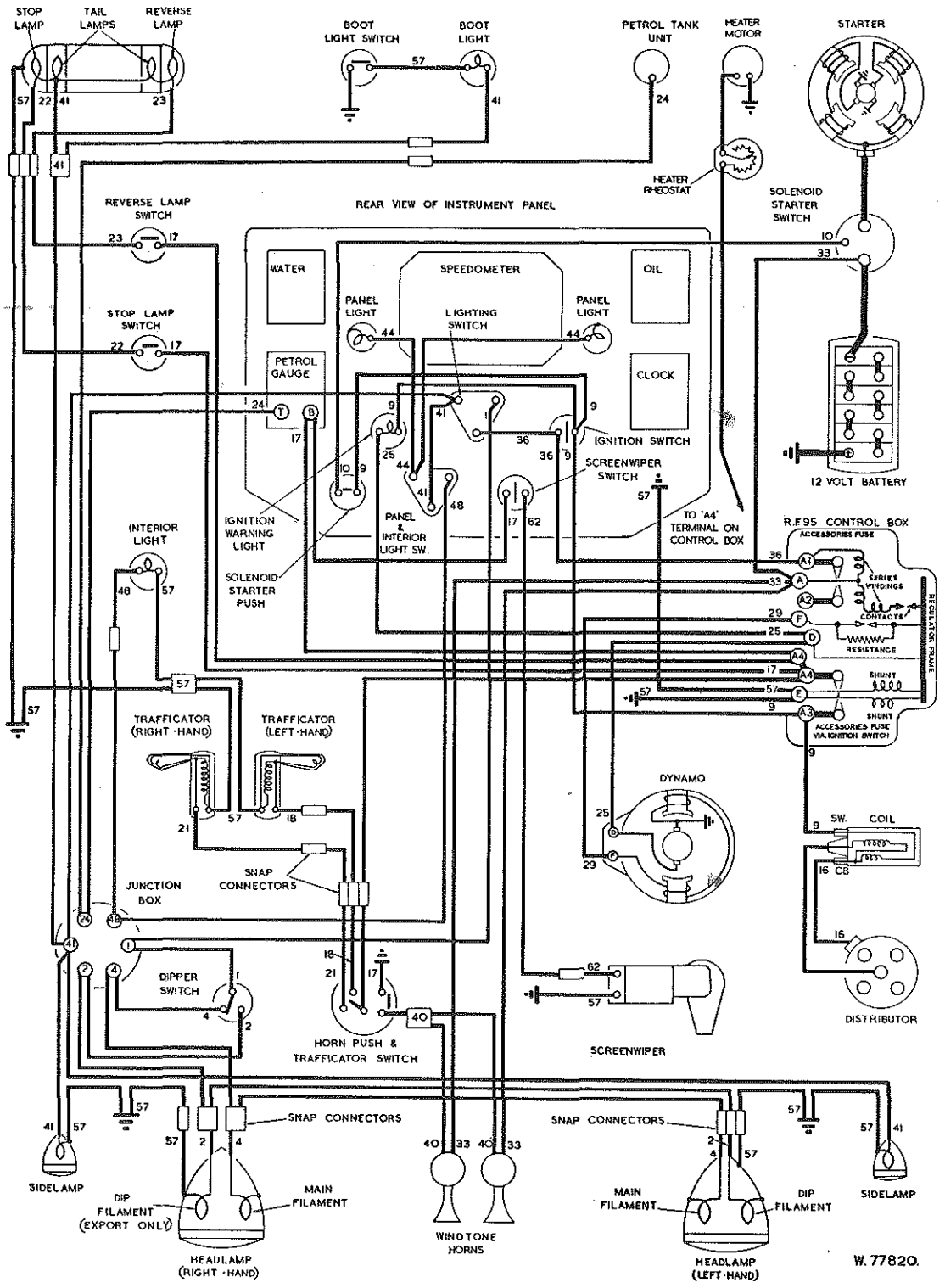
Page 39, WHEEL ALIGNMENT

When checking wheel alignment and adjustment of tie rods is necessary. Adjust left-hand tie rod for small corrections, but if the correction is greater than $\frac{1}{16}$" adjust both outer tie rods equally.

If after adjustment the steering wheel is not in the central position with the road wheels straight ahead, the drag link may be altered to bring the steering wheel central.

LUCAS
ELECTRICAL EQUIPMENT

TRIUMPH " RENOWN " CARS
(1950)
HOME AND EXPORT MODELS



KEY TO CABLE COLOURS

1 BLUE	14 WHITE with PURPLE	27 YELLOW with BLUE	40 BROWN with BLACK	53 PURPLE with WHITE
2 BLUE with RED	15 WHITE with BROWN	28 YELLOW with WHITE	41 RED	54 PURPLE with GREEN
3 BLUE with YELLOW	16 WHITE with BLACK	29 YELLOW with GREEN	42 RED with YELLOW	55 PURPLE with BROWN
4 BLUE with WHITE	17 GREEN	30 YELLOW with PURPLE	43 RED with BLUE	56 PURPLE with BLACK
5 BLUE with GREEN	18 GREEN with RED	31 YELLOW with BROWN	44 RED with WHITE	57 BLACK
6 BLUE with PURPLE	19 GREEN with YELLOW	32 YELLOW with BLACK	45 RED with GREEN	58 BLACK with RED
7 BLUE with BROWN	20 GREEN with BLUE	33 BROWN	46 RED with PURPLE	59 BLACK with YELLOW
8 BLUE with BLACK	21 GREEN with WHITE	34 BROWN with RED	47 RED with BROWN	60 BLACK with BLUE
9 WHITE	22 GREEN with PURPLE	35 BROWN with YELLOW	48 RED with BLACK	61 BLACK with WHITE
10 WHITE with RED	23 GREEN with BROWN	36 BROWN with BLUE	49 PURPLE	62 BLACK with GREEN
11 WHITE with YELLOW	24 GREEN with BLACK	37 BROWN with WHITE	50 PURPLE with RED	63 BLACK with PURPLE
12 WHITE with BLUE	25 YELLOW	38 BROWN with GREEN	51 PURPLE with YELLOW	64 BLACK with BROWN
13 WHITE with GREEN	26 YELLOW with RED	39 BROWN with PURPLE	52 PURPLE with BLUE	

WIRING DIAGRAM
No. W7782 0
12 VOLT

ISSUED:

JANUARY 1950

F/150/L

NUMBERS INDICATE CABLE IDENTIFICATION COLOURS, SEE KEY ABOVE.