

How to ride the



Dandy 70

THE FERNDALE & DISTRICT
MOTOR CYCLE CLUB



Part One

THE CONTROLS

RIDING INSTRUCTIONS

ROUTINE MAINTENANCE

This booklet is intended as a simple and practical guide, more especially for the inexperienced owner with limited mechanical knowledge, who may be in some doubt as to what is necessary to keep his machine in good running order. The Dandy 70 has been specifically designed for long and carefree performance with extremely simple maintenance, and a glance through the following pages will indicate how modest are its requirements in this direction.

PART ONE includes driving instructions, and it also deals with the light routine maintenance which is all that is necessary until such time as decarbonisation and various mechanical adjustments become desirable.

For those who feel confident to take on more ambitious work of this nature **PART TWO** outlines the procedure for decarbonisation, brake and clutch adjustment etc., and it also serves as a useful guide for dealers and repair shops in cases where private owners prefer to entrust work of this nature to professional hands.

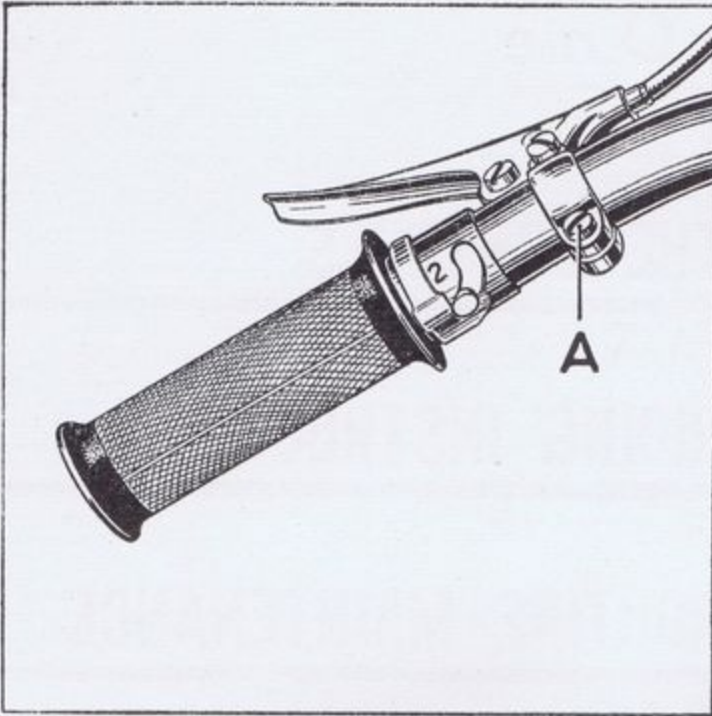


Fig. 1.

ADJUSTING THE CONTROLS

Before attempting to ride the machine set the handlebar controls to your liking. These are adjustable, being clipped to the bar as shown, and can be moved to the position most suited to your requirements by slackening off the screw A, and re-tightening afterwards.

Badly placed levers mean poor control of the machine, and can bring discomfort on long journeys.

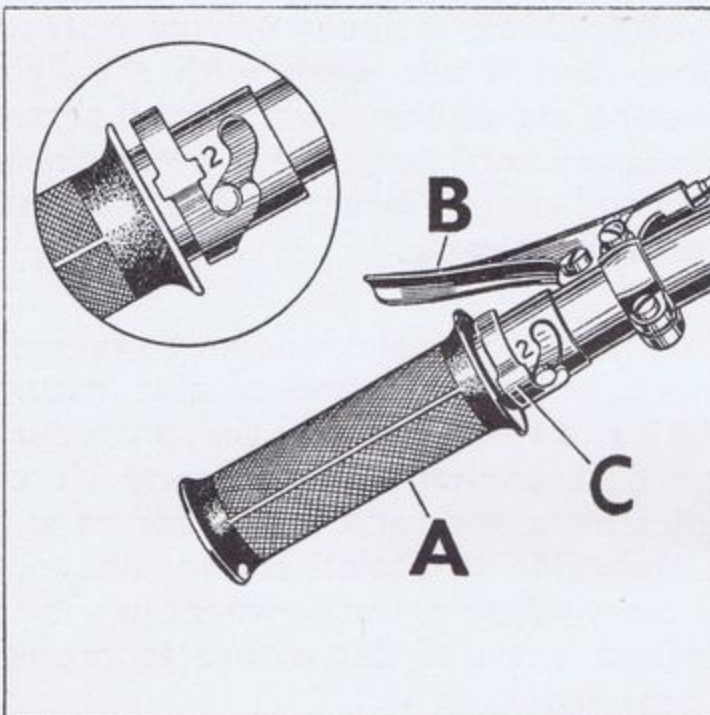


Fig. 3.

Note:—The toolbox is built into the left side of the frame and has a circular plastic cover. (See Fig. 14.)

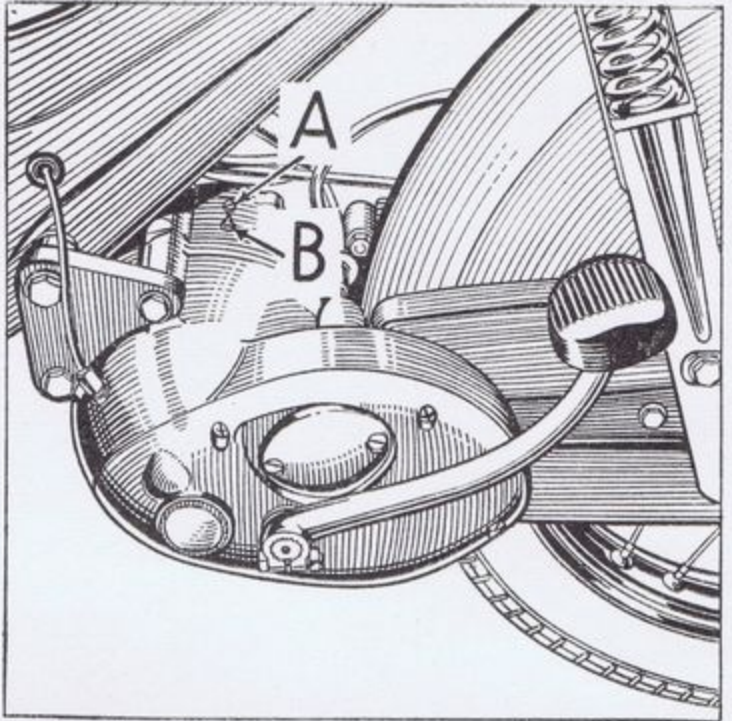


Fig. 2.

CONTROLS ON THE LEFT SIDE OF THE MACHINE

The only control on the left side of the machine is the kickstart pedal. To start the engine push the pedal down sharply with the foot.

Note:—If the ratchet fails to operate, engage low gear and rock the machine backwards and forwards. Select neutral again before operating the kickstarter pedal, otherwise the Dandy will move forward as the pedal is depressed.

CONTROLS ON THE LEFT HANDLEBAR

The twist grip A operates the gear selection. It has three positions which are seen clearly in the illustration.

1. For LOW gear
- N. For NEUTRAL
2. For HIGH gear.

Moving the twist grip to one of these positions pre-selects the gear indicated, but it is not actually engaged until the clutch is operated.

The lever B in front of the twist grip is for operating the clutch. When it is squeezed towards the bar the clutch is disengaged and the drive to the rear wheel disconnected. The clutch is re-engaged when the lever is released. This lever also automatically operates the gear change. (See Driving, page 5.)

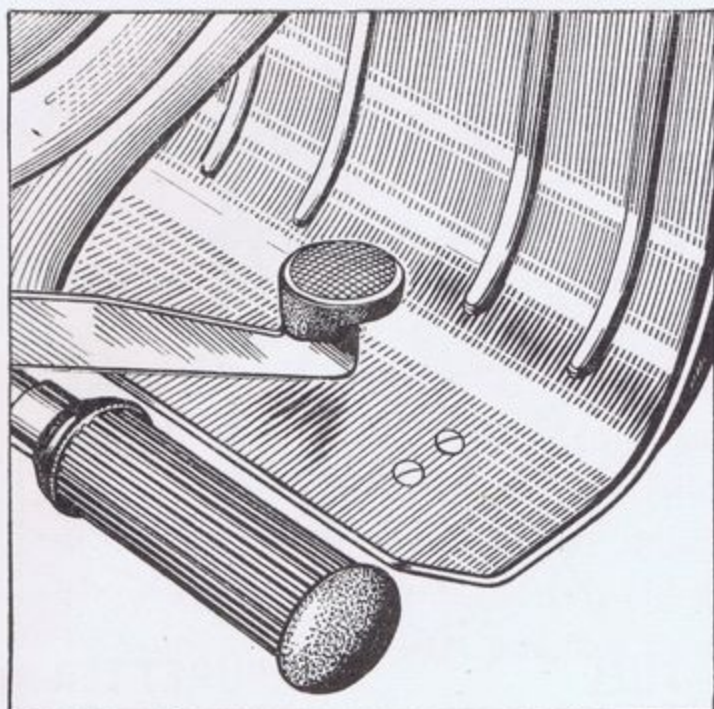


Fig. 4.

CONTROLS ON THE RIGHT SIDE OF THE MACHINE

The only control on the right hand side of the machine is the rear brake pedal, which is toe operated. Note that this does not apply both brakes — only the rear.

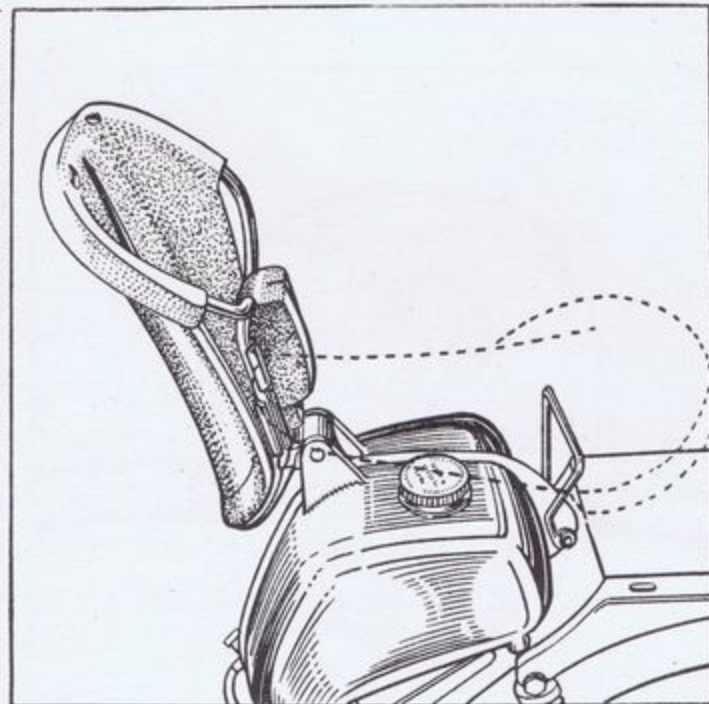


Fig. 5.

FUEL SUPPLY

The fuel tank (fill with petrol as described on page 12), is mounted at the rear of the frame under the saddle and the filler cap has a quick release bayonet fastening. To fill the tank hinge the saddle forward as shown.

The tap under the tank is opened when the knob is pulled out. To shut off the petrol push the knob in.

CONTROLS ON THE RIGHT HANDLEBAR

The twist grip A operates the carburettor throttle. To open, (i.e. to increase the engine speed), turn the grip in the direction shown by the arrow. To close, turn in the opposite direction. The total movement from throttle closed to throttle fully open is a quarter of a turn.

The hand lever B mounted in front of the twist grip is for the front brake. To operate squeeze the lever towards the bar.

Also mounted on right of handlebar are dipper switch C and the horn button D.

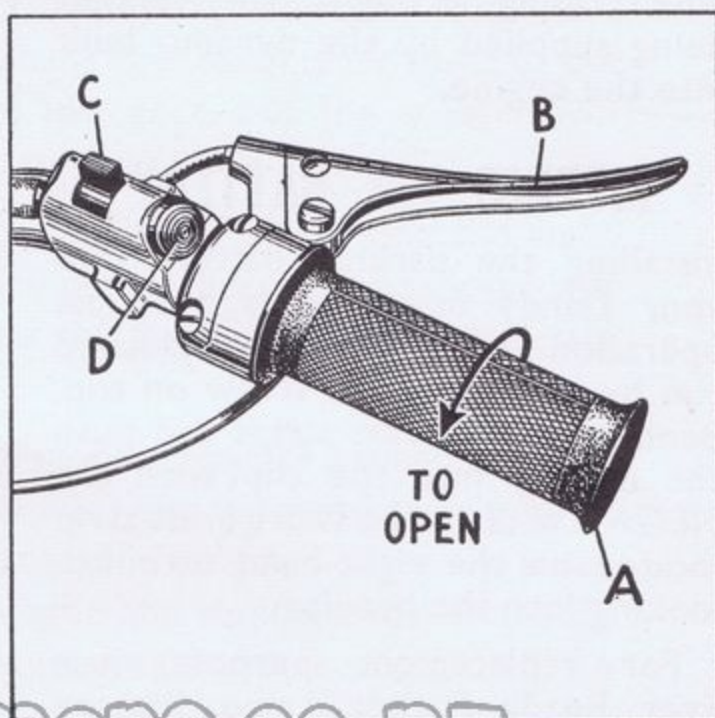


Fig. 6.

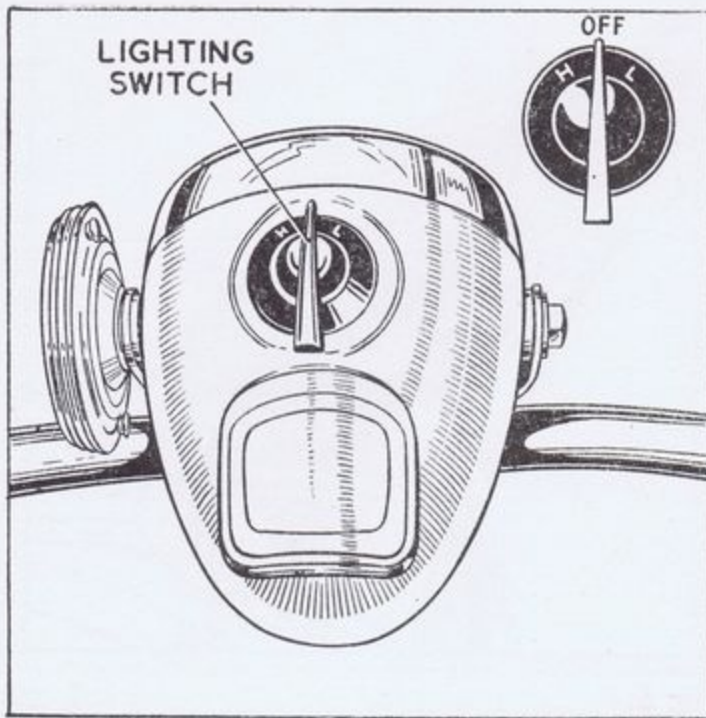


Fig. 7.

HEADLAMP SWITCH

This is built into the top of the headlamp. It has three positions.

OFF — all lights switched off.

L — this switches on the parking lights, the current being supplied by a dry battery located inside the headlamp body behind the reflector.

H — this switches on the main headlamp and the tail lamp, for use when riding at night, the current being supplied by the dynamo built into the engine.

FITTING THE BATTERY

Installing the parking battery into your Dandy headlamp is a simple operation. Remove the headlamp rim by slackening the screw on top. Bend over the brass strips and push the battery into the clip with the **NEGATIVE**, i.e., the short brass strip located on the right-hand terminal, looking into the headlamp.

For replacement purposes use Ever Ready Pocket Lamp Battery (1289) or its equivalent.

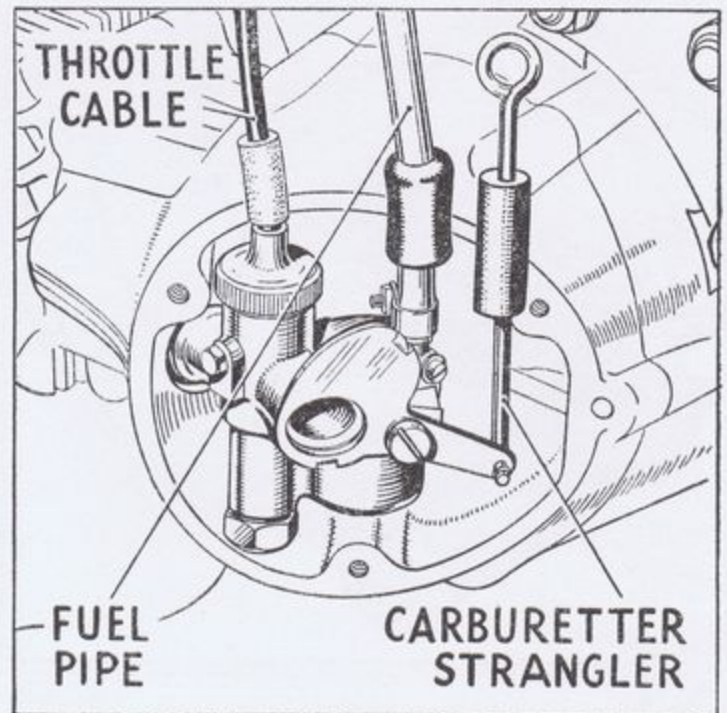


Fig. 8.

THE CARBURETTER

The carburetter is accommodated in a special compartment built into the crankcase and it is protected by a detachable cover which incorporates a gauze air filter. Projecting from the carburetter compartment are the following items.

1. The fuel pipe from the tank under the saddle.
2. The throttle control cable which is operated by the twist grip on the right handlebar.
3. The strangler control. This is a metal eyelet which when pulled up closes the strangler, and is only used for starting *when the engine is cold*. As soon as the engine starts the strangler must be opened again by pushing the strangler control downwards to its normal position.

TO START THE ENGINE.

Set the gear in neutral by placing the gear selector twist grip in the position marked "N" and operating the clutch lever once. If cold, close the strangler. Open the twist grip control a small amount and push the kickstarter pedal down gently until its ratchet is felt to engage, then push down sharply, whereupon the engine should fire at once. (Note: — If the ratchet fails to operate, see page 2.) During normal running the strangler must always be kept fully open and it should be opened immediately the engine fires, or should the weather be cold, at the earliest possible moment.

Note : While it is necessary to close the strangler when starting from cold, this may not be necessary when the engine is warm and should certainly not be so if the engine is re-started after a short wait only.

TO STOP THE ENGINE.

Close the throttle and disengage the clutch. If the engine does not stop it indicates that the throttle is not closing properly. Always turn off the fuel, or better still, turn off a few seconds before stopping the engine.

TO OPERATE THE PRE-SELECTOR GEARS.

To Engage Low Gear. To engage low gear turn the left hand twist grip to the position marked "1" releasing the safety stop "C", Fig. 3, if fitted, and de-clutch by squeezing the clutch lever towards the bar. This will automatically engage low gear, but the scooter will remain stationary until the clutch is released.

To Move Off. Open the throttle slightly by turning the right hand twist grip, and gently release the clutch lever. The scooter will begin to move forward and as soon as this happens open the throttle a little further to gain speed.

To Change Up. As soon as the scooter reaches a speed of about 10 m.p.h. change into high gear by moving the left hand twist grip to the position marked "2" and de-clutch. The gears will then automatically change to the high gear position and the clutch lever should then be immediately released. A quick and sweeter change will be obtained if the throttle twist grip is closed momentarily during this operation, but this is not absolutely essential.

To Change Down. Changing down to low gear becomes necessary when steep hills are encountered or when traffic conditions call for low speeds and rapid acceleration. Low gear is also required for starting from rest. To change to low gear turn the left hand twist grip to the position marked "1" and de-clutch, immediately re-engaging the clutch by releasing the lever. This will automatically engage low gear, and it should be noted that it is unnecessary in this case to close the throttle momentarily. It is in fact preferable not to alter the throttle opening until low gear is engaged. **IMPORTANT:** Do not engage low gear if the Dandy is exceeding 10 m.p.h. This is especially important if low gear is preselected and the clutch is operated in an emergency, such as avoiding a dog, etc.

To Select Neutral. Turn the left hand twist grip to the position marked "N", de-clutch and then immediately release the clutch lever.

Avoid sharp acceleration and braking, particularly on wet roads. Always use both brakes together and apply them smoothly and progressively. Try to anticipate the need to change gear or brake so that your riding is not jerky or untidy. Maintain a natural riding position as this provides maximum control and prevents discomfort on long journeys.

Special Note: The centre stand has only been designed to support the weight of the machine. On no account should the rider sit across the Dandy while it is on the stand.

RUNNING IN A NEW MACHINE.

The rider who has just purchased a new machine for the first time will do well to remember that all the hidden working parts are just as new as the enamel and plating which he can see, and that they must not be overloaded until they are well run-in.

This running-in is really the most important period in the life of the engine, and the handling you give it during the first 1,000 to 1,500 miles will determine what sort of service it is going to give you later.

It is advisable not to exceed half throttle in any gear during the first 500 miles. The Dandy's best performance will then not disappoint you. If you try to put it through its paces too soon you will run the risk of seizure and other trouble which may have a lasting effect on the engine and, in any case, until it is really run-in it will not be at its best.

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Avoid sudden and sharp acceleration, especially when the engine is not pulling under load.

Do not force it up hills in top gear, when a change down would ease the load.

After the first 250 miles (400 km.), remove the screwed plug C, Fig. 21, from the bottom of the crankcase and drain out any oil which may have accumulated there. With the petroil lubrication system employed there is never a considerable quantity of liquid oil in the crankcase, but whatever oil there is should be drained away, and this is preferably done while the engine is warm immediately after a run, as the oil will flow more freely and carry with it any foreign matter which may have found its way into the crankcase during the running-in process.

Make certain on replacing the plug that it is made really tight in order to prevent loss of crankcase compression.

During the running-in period the gearbox should also be drained and flushed out and this is preferably done at the same time as the crankcase. (See page 21.)

Information regarding the correct grades of oil is given in the chart on page 10.

CLEANING THE DANDY.

Regular and thorough cleaning will obviously keep your scooter looking smart and will help to retain both its new appearance and its value. It also helps to lengthen its life and maintain efficiency if the cleaning process is carried out correctly.

Take special care to prevent dust and grit from working into such parts as hubs, carburetter, brakes and gearbox.

To rub dry and caked mud from the frame or mudguards means that the enamel on these parts will be subjected to an abrasive action which will quickly destroy the polish. Soak the mud first, and then float it off with copious supplies of clean water supplied either with a hose or a sponge. If a hose is used, take care not to direct the stream of water directly on to the engine, hubs or brakes.

When all dirt is removed, dry and polish off with a clean duster.

The engine and gearbox are best cleaned with a brush and paraffin, and then dried off with a clean rag.

ROUTINE MAINTENANCE

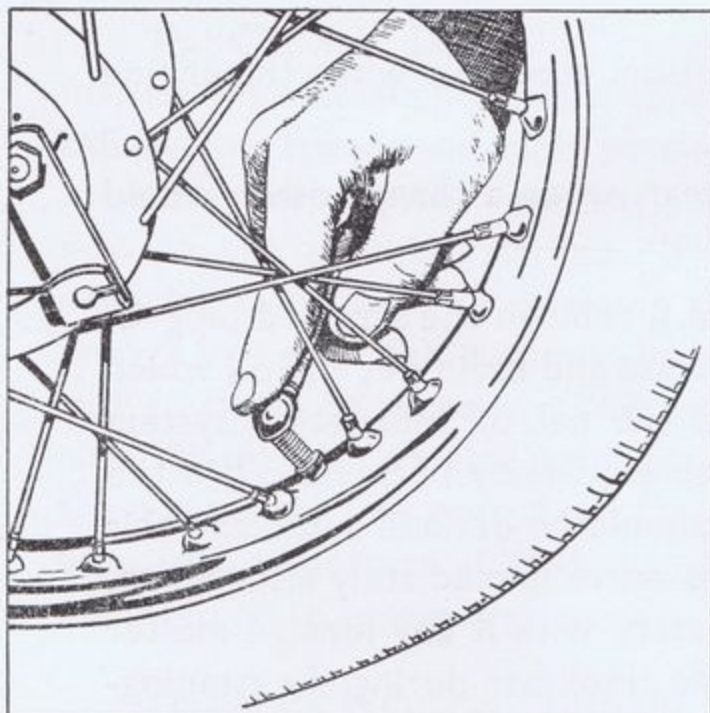


Fig. 9.

TYRE PRESSURES

Check the tyre pressures weekly with a proper tyre gauge as shown.

The correct recommended pressures are as follows :

Front Tyre : 18 lb. per sq. in.

Rear Tyre : 24 lb. per sq. in.

(Note : the above pressures are for normal riders of about 10 stone (140

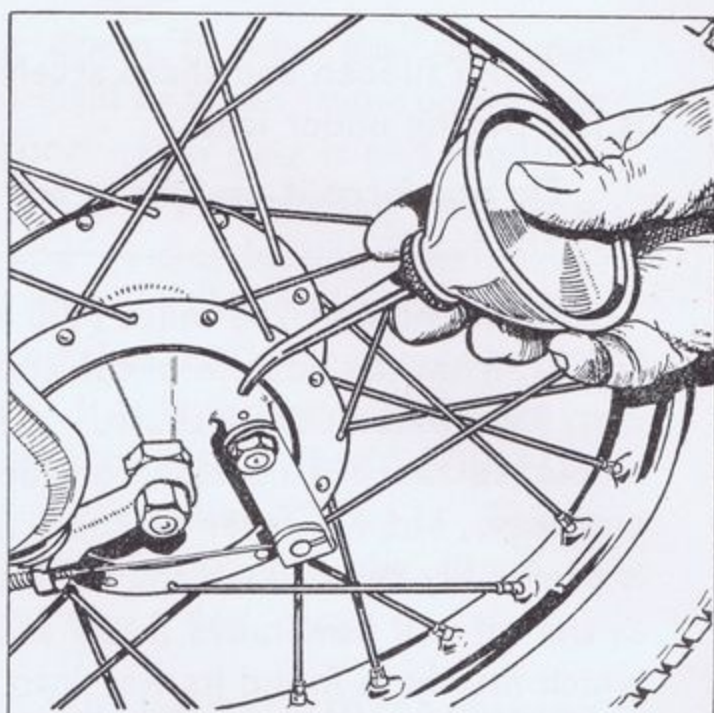


Fig. 10.

OILING THE CYCLE PARTS

Give a few drops of oil weekly to all exposed joints and cables. Use ordinary cycle oil for this purpose.

lb.) Heavier riders should inflate up to 4 lb. above these figures, and light riders of 7 or 8 stone can safely run with about 2 lb. less pressure).

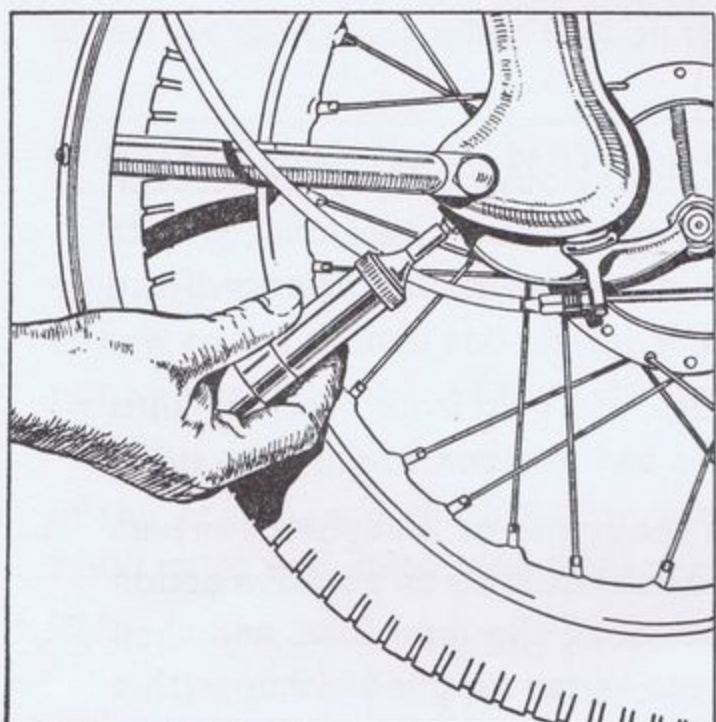


Fig. 11.

THE GREASE GUN

Give a few strokes of the grease gun every 1,000 miles to the front forks.

For the correct grades of grease, see page 10.

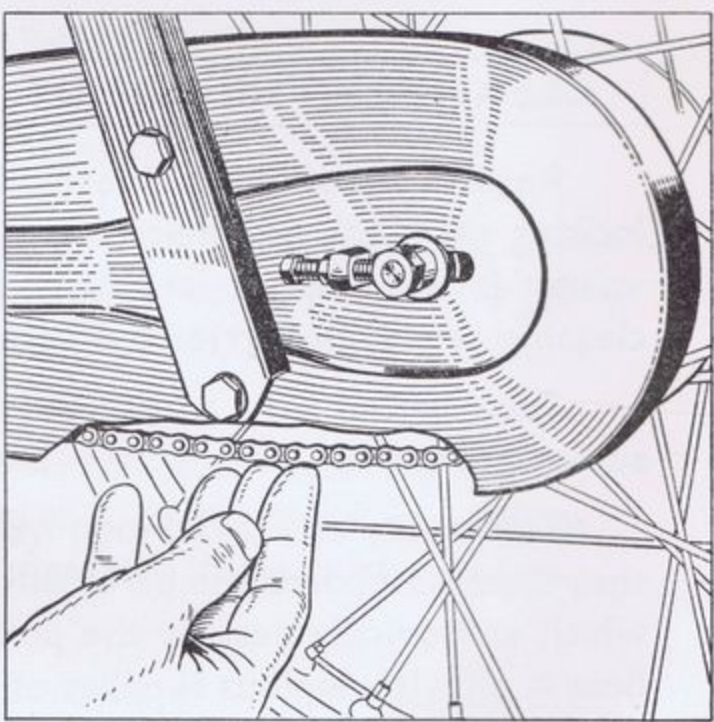


Fig. 12.

CHECKING CHAIN TENSION

Check the driving chain adjustment every 1,000 miles by feeling the free up and down movement as shown. This should amount to not more than $\frac{3}{4}$ inch. If incorrect, adjust as described on page 23.

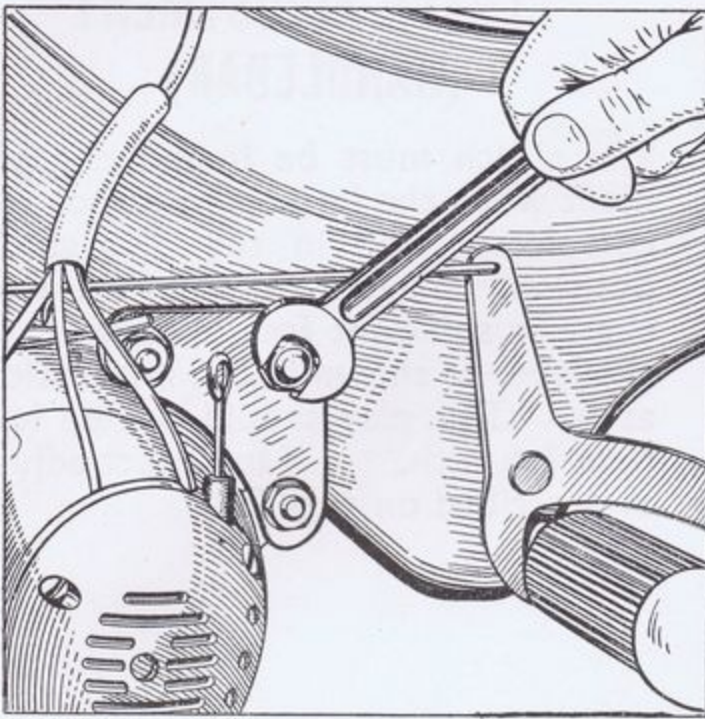


Fig. 13.

CHECKING NUTS AND BOLTS

Check that all nuts are tight every 2,000 miles. They are not likely to work loose, but this is a wise precaution and well worth the small amount of time and trouble involved.

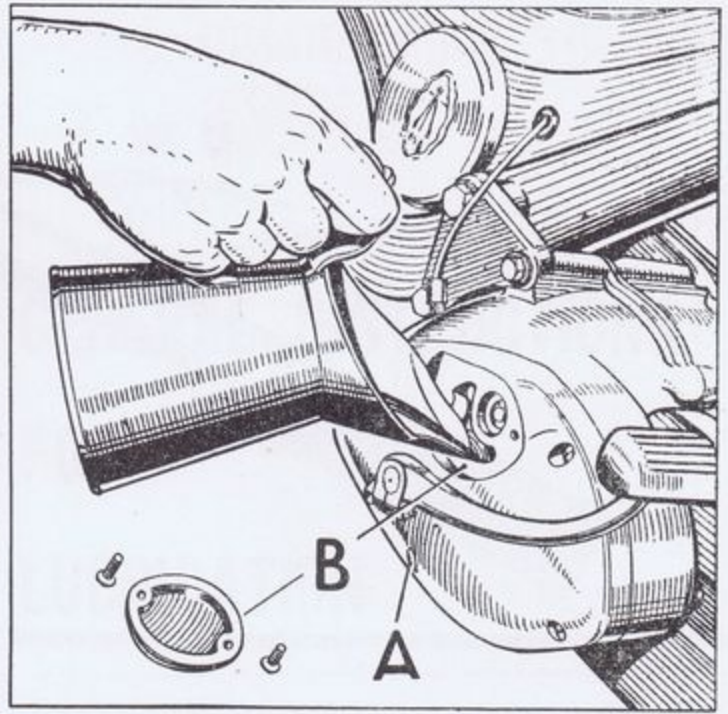


Fig. 14.

TOPPING-UP GEARBOX

Drain and refill the gearbox every 2,000 miles. Remove the bottom screw A to drain, and replace before pouring in fresh oil through orifice B. Approximate capacity $\frac{1}{2}$ pint (190 c.c.). For correct grades see page 10.

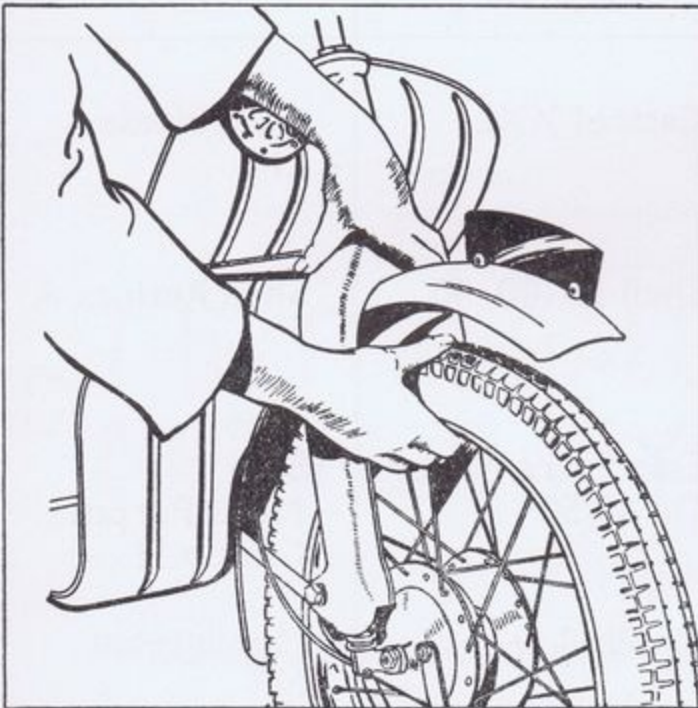


Fig. 15.

CHECKING WHEEL BEARINGS

Check hub adjustment every 2,000 miles by raising the wheel clear of the ground, and feeling the shake at the rim. If there is no shake the adjustment is set too tight, but it must not exceed about $\frac{1}{64}$ th inch, (i.e. just perceptible). If incorrect adjust as described on page 23.

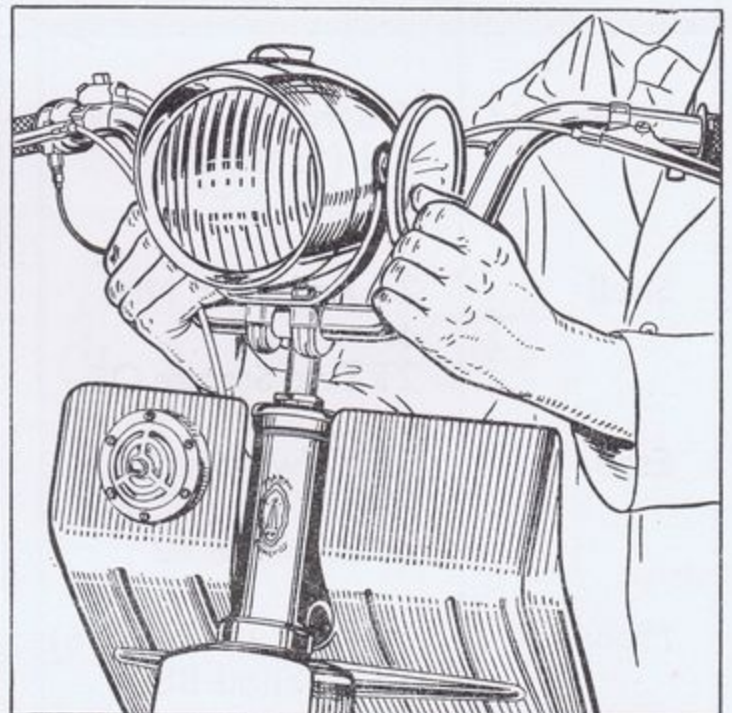


Fig. 16.

CHECKING STEERING HEAD

Test for play every 2,000 miles by feeling for shake as shown in the illustration. If there is no shake the adjustment is set too tight, but it must not exceed about $\frac{1}{64}$ th inch, (i.e. just perceptible). If incorrect adjust as described on page 25.

CLUTCH ADJUSTMENT (HANDLEBAR)

The clutch must be in full engagement when the lever is released, and completely free in the disengaged position. To ensure this see that there is sufficient free movement at the lever as shown in the illustration at A. This play should not be less than $\frac{1}{8}$ th inch. If incorrect adjust as described on page 20.

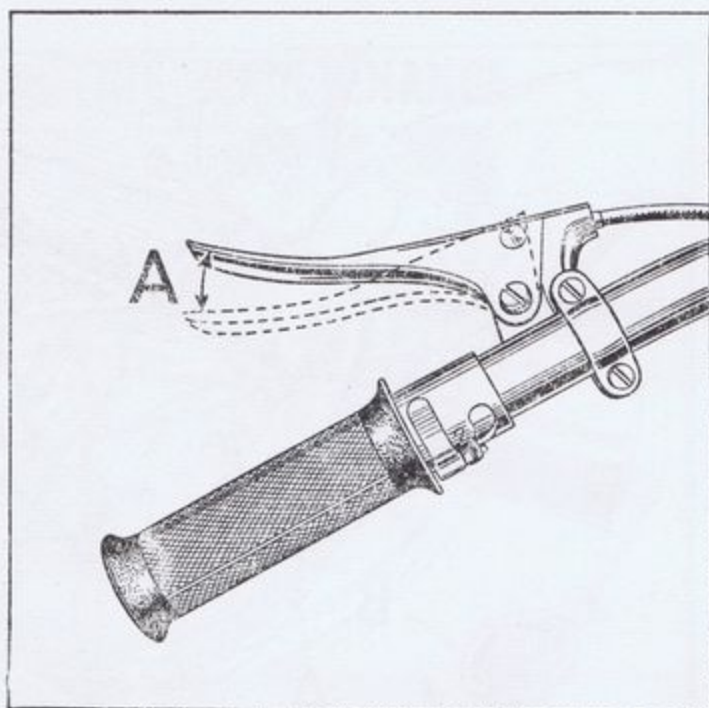


Fig. 17.

RECOMMENDED LUBRICANTS (Summer and Winter)

Mix one of the following Oils with petrol in the ratio of 1 : 20 unless otherwise shown.

BRAND	OIL		* GREASE POINTS
	ENGINE	GEARBOX	
Wakefield	Castrol Two-Stroke Oil (1: 16) or Castrol XXL	Castrol XXL	Castrol LM
Shell	2T Petroiler Mix or 2T Two Stroke Oil	Shell X-100 40	Shell Retinax A
Esso	Esso Two-Stroke Motor Oil (1: 16) or Essolube 40	Esso Extra Motor Oil 40/50	Esso Multi-Purpose Grease H
Mobil	MobilMix TT (1: 16) or Mobiloil BB	Mobiloil D	Mobilgrease MP
BP	BP Zoom or Energol Two Stroke Oil	Energol SAE 40	Energol L2
Regent	Regent Motor Oil 2T	Regent Havoline Motor Oil SAE 40	Regent Marfak Multipurpose 2

Drain the crankcase every 2,000 miles as described on page 7.

* Including engine main bearings on later models (see page 12).

Part Two

**GENERAL INSTRUCTIONS
FOR
LUBRICATION**

ADJUSTMENTS

DECARBONISATION

OVERHAUL, ETC.

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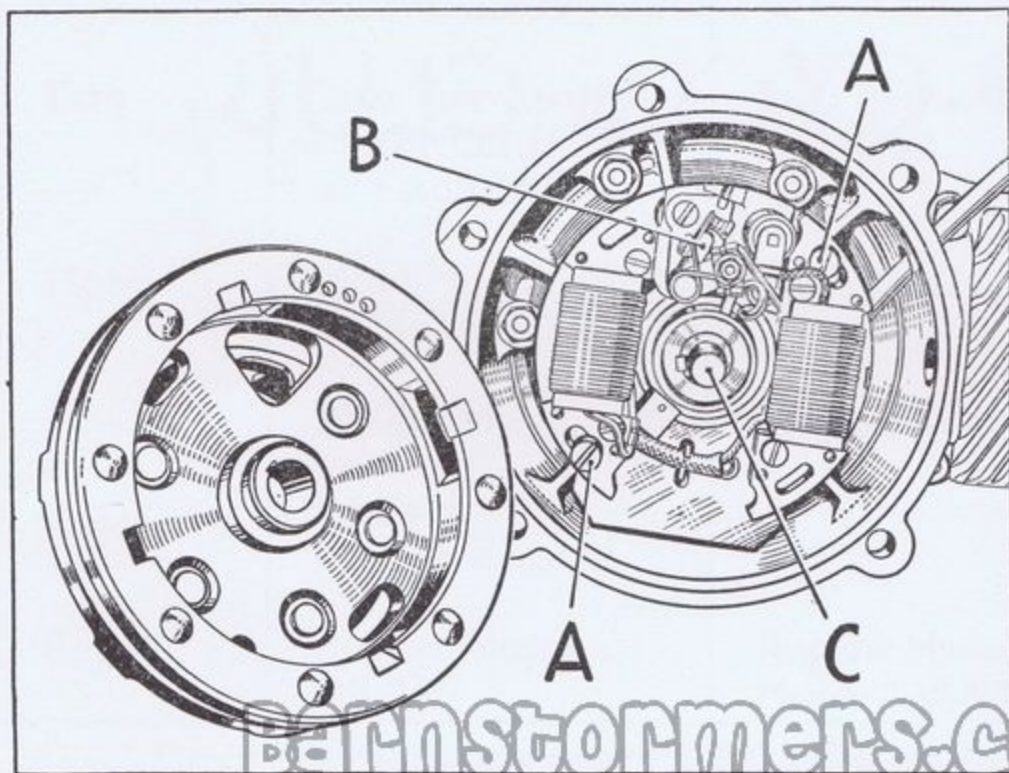
Lubrication. Lubrication for the engine is provided by oil dissolved in the petrol to provide a mixture commonly called "petroil". The filler cap on top of the petrol tank will be found to incorporate a tubular extension which projects into the tank. This serves as a measure for the lubricating oil and is used for preparing the correct mixture of petrol and oil required. The correct proportion of oil to petrol is given on page 10. The grades of oil recommended on page 10 should be used, as lighter grades will prove unsuitable.

For correct running of the engine and also for adequate lubrication, it is essential that the oil should be completely dissolved in the petrol, and it is, therefore, preferable to mix the two in a separate container before pouring into the tank. If this is not possible however, as for instance, when obtaining petrol from a wayside pump, the oil should be put into the petrol after filling up with the latter and the machine should be shaken thoroughly to ensure correct mixing of the two liquids. If this is not done, there is the risk of liquid oil undiluted with petrol lying at the bottom of the tank, reaching the carburetter and clogging the fuel supply system. As the only lubrication for the engine is by means of fuel drawn in through the carburetter the scooter must not be coasted downhill for long periods with the throttle shut as the engine may suffer seizure through lack of lubrication.

Special Note. On later models the engine lubrication is supplemented by the provision of a grease nipple for the main bearings. The space between the bearings is packed with grease during assembly, and this should be checked every 4 — 5,000 miles. Remove screw A, Fig. 2, Page 4 and apply the grease gun to nipple B until it starts to exude from the screw hole at A, then replace the screw.

Ignition Timing and Contact Breaker. The ignition timing is accurately set within very close limits during assembly of the engine at the factory, and in common with other two-stroke engines it is of the fixed type without manual or automatic control.

Any variation in timing can only be secured by moving the stator housing Fig. 18, or the adjusting plate B. The former can be rotated



through a very small angle by releasing the two screws A, not forgetting to re-tighten them after the adjustment has been completed. This can only be accomplished when the engine unit has been removed from the frame (see page 15). This, however, is only intended for adjustment during original assembly and should never be touched subsequently.

Fig. 18. Contact Breaker (Lucas).

The adjustment of the contact breaker points on the other hand calls for inspection at intervals, because the proper functioning of the ignition system depends upon the setting of the gap between the contact breaker points.

The contact breaker mechanism has been specially designed for long life with the result that inspection and re-adjustment of the points is not likely to become necessary at intervals of less than 5,000 miles (8,000 kilometres) as described on page 26 and this means that the operation need only be carried out at every third decarbonisation.

To Adjust the Contact Breaker Points.

The engine unit must be separated from the gearbox and removed from the frame (see page 15). Rotate the engine by means of the shaft C, Fig. 18, until the contact

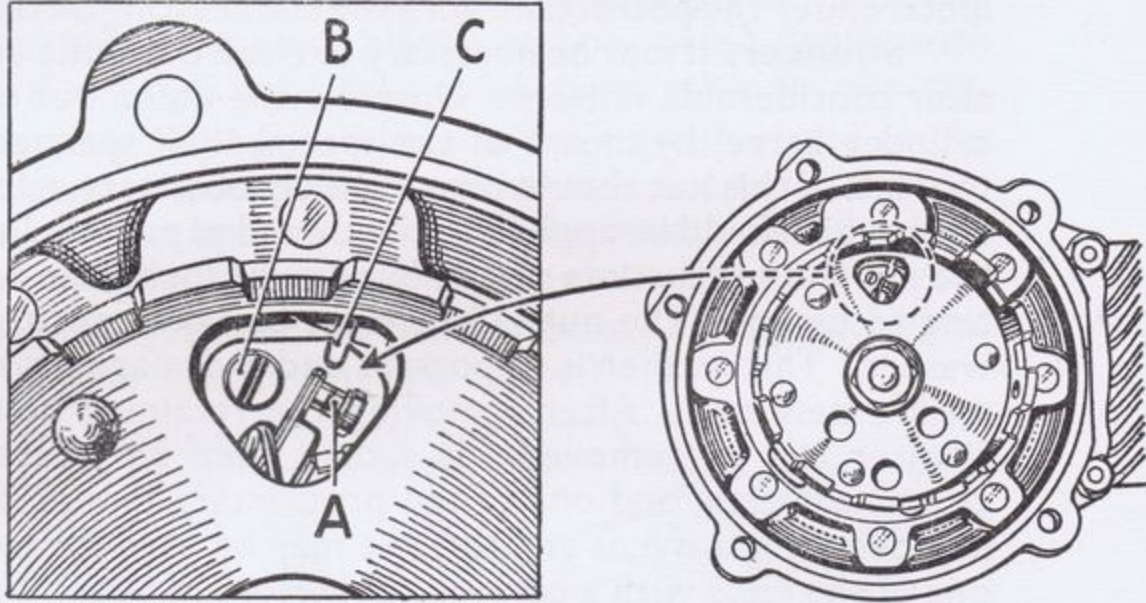


Fig. 19. Adjusting the Contact Breaker Points (Lucas).

breaker points A, Fig. 19, are visible through the orifice. Insert a feeler gauge between them, the correct gap in this position should be $\cdot 015$ in. ($0\cdot 44$ mm.) and if this is found to be incorrect, slacken the screw B and move the adjusting plate at the slot C with a screwdriver until the correct gap of $\cdot 015$ in. has been restored. Finally re-tighten the screw B and re-assemble.

To Check the Ignition Timing. Remove the sparking plug and turn the engine until the piston is felt to be at top dead centre, by means of a suitable rod inserted through the sparking plug hole, and then turn the engine back until the piston has descended $\frac{5}{32}$ in. (4 mm.). With the piston in this position, the contact breaker rocker arm should be commencing to rise on the contact breaker cam, and the points should have opened not more than $\cdot 002$ in. ($\cdot 05$ mm.). If they are open more than this the timing is too far advanced. If they are open less, the timing is excessively retarded, although a small variation in either direction is not detrimental to the running of the engine.

DECARBONISATION.

Decarbonising is extremely simple and should be carried out at regular intervals of about fifteen hundred miles (2,500 kilometres) if consistent results are to be expected. The symptoms indicating an excessive deposit of carbon are undue roughness of the engine and a tendency to pink under load, erratic running with excessive four and eight stroking, and an appreciable falling off in power. This latter

item is particularly noticeable when the exhaust port becomes fouled with carbon as it causes an obstruction to the free escape of the exhaust gas, and interferes with the correct scavenging of the cylinder which is so necessary for the efficient transfer of combustible mixture from the crankcase. Removal of this deposit alone may often suffice to restore the engine performance.

During the complete operation the rear end of the machine may be raised if desired. Place a length of rope under the petrol tank, and tie the ends to the shed or garage door, so lifting the rear wheel clear of the ground. Alternatively, place a box or chair on either side of the machine. Lift the machine up by inserting a length of wood or metal under the petrol tank with the ends resting on the boxes or chairs.

Silencer. It may be necessary to clean the baffle unit in the silencer after considerable mileage. Unscrew the union nut on the side of the cylinder barrel by means of the special "C" spanner included in the tool kit. If this nut should prove unduly obstinate, a few drops of penetrating oil should be applied to the threaded portion immediately above the nut and a little time should be allowed for this to act before attempting to unscrew the nut. Care must be taken not to lose the copper washer. This washer is important and if damaged it must be replaced with a new one. After removing the retaining bolt D, Fig. 20, the silencer can be removed. It should then be treated with a strong caustic solution, and one of the proprietary brands of cleaner recommended for gas ovens and the like may be used for this purpose. Plug one of the ends with a cork or rubber or a wooden bung and pour the solution in the other end, taking care not to get any on the outside as it may damage the external finish, allow it to stand, preferably overnight,

and then wash out with plenty of running water.

Removal of the Cylinder Head.

The exhaust pipe must be disconnected by releasing the union nut on the side of the cylinder barrel as explained under the previous heading. Disconnect the high tension lead from the sparking plug and unscrew the latter. Remove the two bolts A, Fig. 20, on the rear fork. Take off the nuts B and withdraw the wheel spindle a small amount.

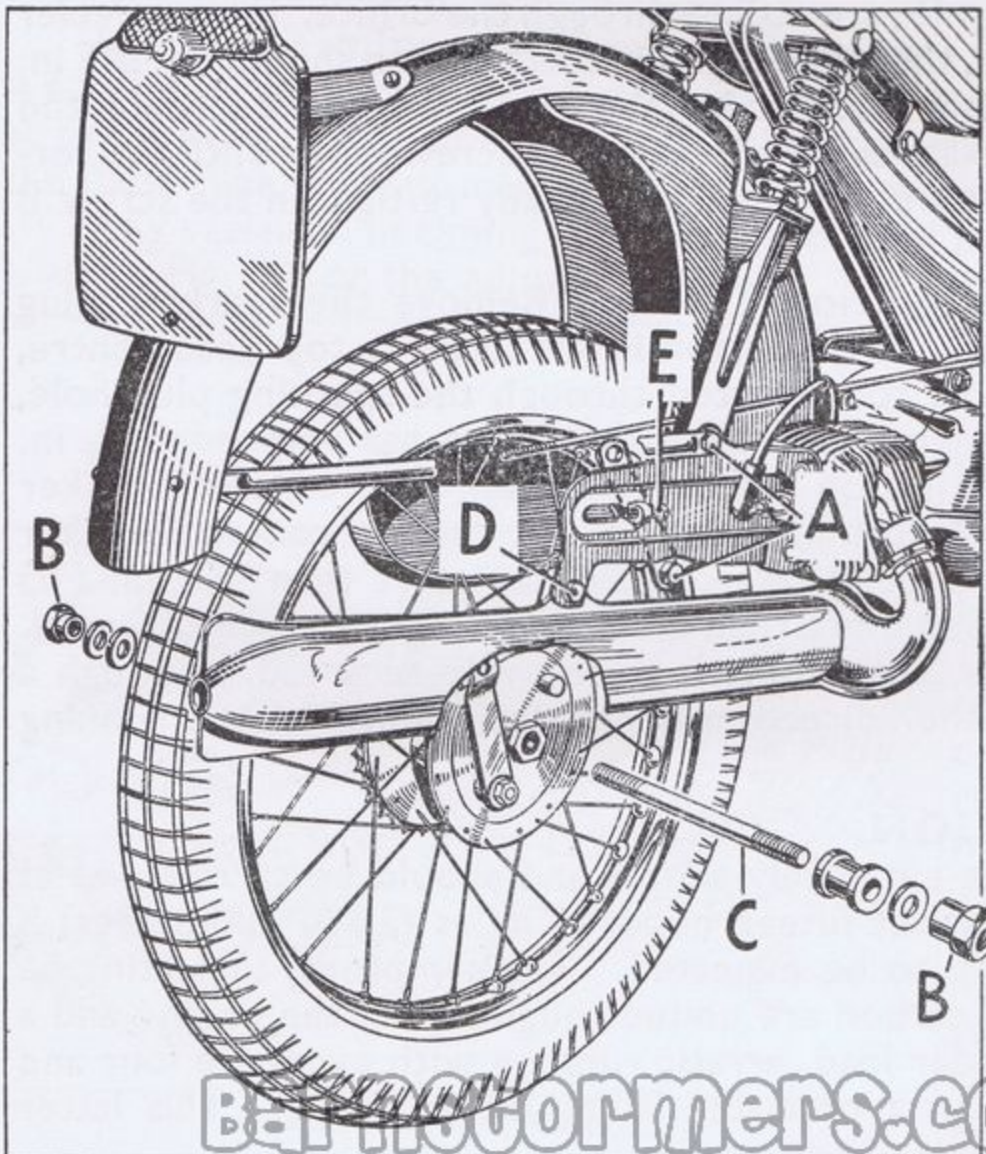


Fig. 20.

Rear Wheel Removal.

The swinging arm blade, cylinder head and barrel are attached to the crankcase by means of four long studs, and when the four nuts on top of the cylinder head are removed, pull the swinging arm fork clear so as to enable the cylinder head to be removed.

The Cylinder Head, Ports and Piston. Remove all carbon deposit from the cylinder head, bearing in mind that the aluminium is soft and easily damaged if the decarbonising tool is carelessly applied, and carefully wipe clean to ensure removal of all loose particles.

Scrape off any carbon which has accumulated on the crown of the piston, taking care again not to damage the relatively soft surface of the metal itself, and after removing all the carbon, polish lightly with fine emery cloth if desired and finally wipe clean with an oily rag.

Most of the carbon deposit is likely to have accumulated in the exhaust port. Scrape this out carefully, taking care not to let the tool slip into the bore and damage the surface of the latter. Finally, wipe the exhaust port and cylinder bore absolutely clean.

Before re-assembling, smear the cylinder bore liberally with clean engine oil. (For further dismantling see below.)

Removing the Engine from the Frame. Every 5,000 miles (8,000 kilometres), or third decarbonisation, it is a good idea to examine the piston and rings and the big-end for wear. This is best accomplished by removing the engine unit from the frame.

Remove the wheel spindle nut B, Fig. 20, and the two bolts A on the swinging arm fork. Take off the carburetter cover plate B, Fig. 21, by unscrewing the three screws. Detach the petrol pipe and throttle cable from the carburetter. Pull off the toolbox cover and disconnect the lead from the dynamo to the headlamp by pulling it apart at its snap connector. Finally, remove the six nuts A. The complete engine unit can then be pulled away from the gearbox unit leaving the latter in position in the frame.

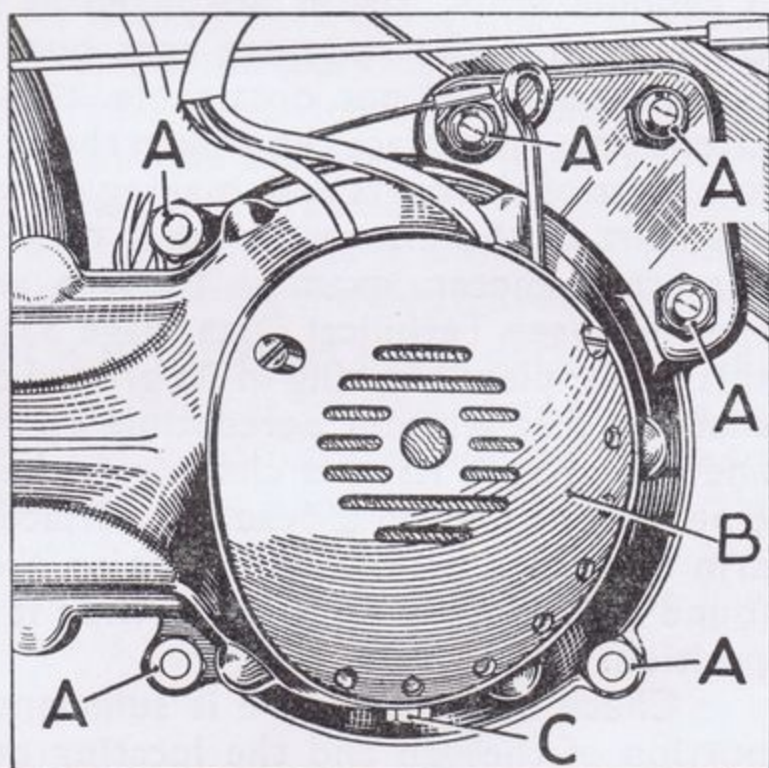


Fig. 21. Removing Engine from Frame.

Take care when removing the barrel to support the piston as it emerges from the end of the bore in order that it may not be damaged as it falls clear.

Piston. It should not be necessary to remove this from the connecting rod, but if it should be desired to do this for any reason, first remove the circlip from one end of the gudgeon pin using a pair of pointed nose pliers or some suitable instrument to lever the circlip

out. Then holding the piston firmly in the hand, tap the gudgeon pin out from the other end. If it is too tight to move, it can be released by warming the piston by means of a rag soaked in hot water and wrung out. Application of this rag will cause the aluminium alloy of the piston to expand more than the steel gudgeon pin, thus releasing the latter which can then be freely pushed or tapped out.

Piston Rings. Now examine the piston rings noting that these are located in their grooves by means of pegs which engage in the piston ring gaps. If in good condition, the rings will be found to present a uniformly smooth metallic surface over their entire peripheries, and if they are in this condition and obviously have a certain amount of "springiness" as evidenced by the fact that their free gap is considerably greater than the closed gap when in the bore they should not be disturbed. If, on the other hand, the rings show signs of heat as evidenced by brown or more highly discoloured patches, they should be replaced by new rings, and in this case particular attention should be paid to the fit of the ends of the rings on their locating pegs in the piston ring grooves, and they should also be checked in the bore to ensure that they have an adequate gap. These points will not arise if genuine B.S.A. spares are fitted as the gaps on these are already correct when the rings are sent out, but if for any reason genuine B.S.A. spares are not obtainable, these points must receive careful attention. First place the ring in the cylinder bore in a position where it is clear of the ports and, making certain that it is square by pressing the skirt of the piston against it or a suitable bar of material of the correct diameter, examine the gap which should be not less than specified (see Technical Data, page 33). Having satisfied yourself on this point, place the ring in its groove on the piston and make certain that it is free without perceptible up and down play. If it is not free and the groove itself is clean, rub the ring down on a piece of fine emery cloth laid on a dead flat surface, using a rotary motion of the arm to ensure uniform pressure on the ring. As soon as the ring is found to be free in its groove, wipe it absolutely clean and fit it into position.

Check also that there is sufficient clearance between the inner portion of the gap and the locating peg in the groove. Do this by closing the ring in its groove by finger pressure until there is no gap, thus shewing that there is clearance at the peg underneath. If the gap will not close, indicating that the steps are binding on the peg, ease the steps gently with a dead smooth file. If the piston has been removed from the connecting rod refit it, first putting a smear of oil on the gudgeon pin, not forgetting a new circlip to replace the one which was removed.

The piston must be replaced in its original position — i.e., with piston ring gaps on the opposite side to the exhaust port.

Big-end Bearing. While the cylinder is off it is as well to test the big-end bearing for wear. This is done by taking hold of the connecting rod stem and pulling it upwards until the crank is at top dead centre. Then holding it in this position try gently but firmly to pull and push the connecting rod in the direction of its travel in order

to feel whether there is any play. If the big-end is in a sound condition there should be no play in this direction, although it may be possible to rock the rod sideways. If vertical play is perceptible in the big-end and you do not feel qualified to decide whether the amount in evidence is permissible or not, you should seek expert advice. This point is not likely to give trouble, however, provided that the machine has been carefully used and adequately lubricated, for the big-end bearing is of ample dimensions for the work it has to do. But if for any reason the big-end bearing has deteriorated as the result of neglect or abuse, it should be replaced and unless you have the necessary experience and facilities for this class of work it is preferable to have it done by an expert repairer.

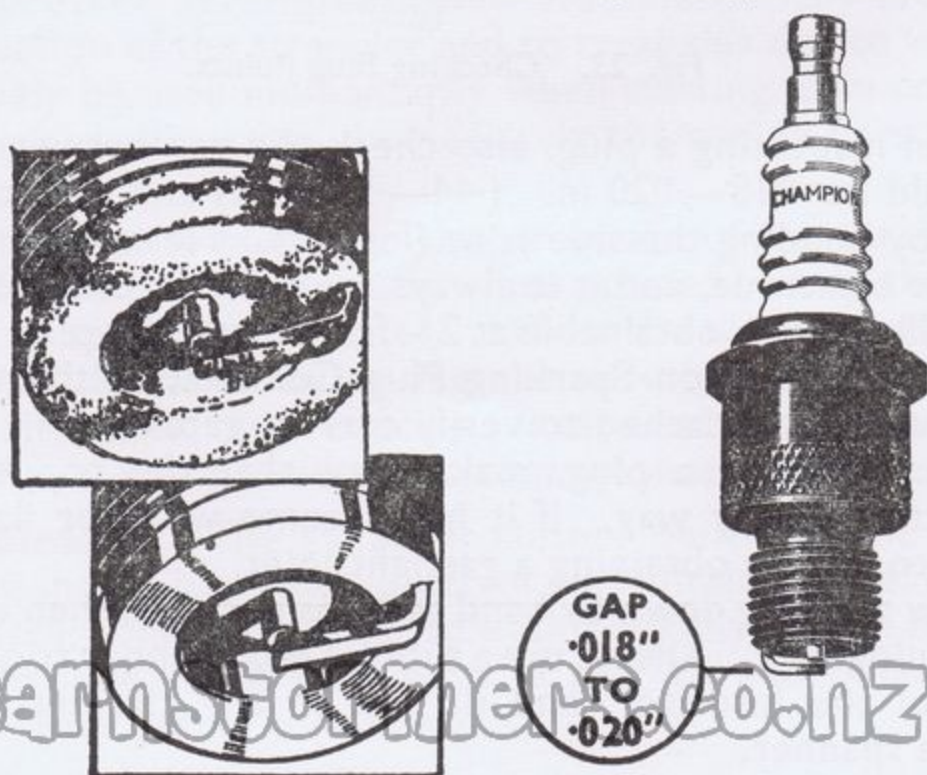
Re-assembly. Rebuild the complete engine assembly before attempting to put the unit back into the frame as follows :

Before attempting to replace the cylinder barrel over the piston smear the latter with new engine oil. Place the barrel over the piston, carefully manipulating the rings into the end of the bore, seeing that they enter freely without the application of force. As soon as the cylinder barrel is home replace the cylinder head. Refit the swinging arm and tighten down the cylinder holding nuts, doing this in diagonal order so as to avoid distortion. Examine the sparking plug and replace if sound. Re-assembly into the frame is carried out in the reverse order to dismantling. Clean the crankcase and gearcase faces carefully to remove all traces of jointing compound. Take care not to damage the soft aluminium surface. The mating surfaces should be lightly coated with jointing compound before bolting the two halves together.

Re-assembly from this point is as described under decarbonising.

Sparking Plug. The sparking plug is of great importance in satisfactory engine performance, and every care should be taken to fit the correct type when replacements are necessary. There is little to be gained by experimenting with different plugs as the make and type fitted by us as official factory equipment is best suited to the requirements of the motor. This is Champion type No. L7, Fig. 22.

Fig. 22.
The Sparking
Plug.



Remove the sparking plug every 1,000 miles (1,500 kilometres) or so for inspection. If the carburation system is in correct adjustment the sparking plug points should remain clean almost indefinitely. An over-rich mixture from the carburetter will, however, cause the formation of a sooty deposit on the points and, later, on the plug end face (as upper view, Fig. 22). If therefore such a deposit is found, clean it off carefully and check your carburetter. Too high a proportion of oil in the petrol mixture will also cause plug fouling (see page 10). The continued use of leaded fuel may also eventually produce a deposit on the plug, this time of a greyish colour.

A light deposit due to any of these causes can easily be cleaned off, but if it is allowed to accumulate, particularly inside the body, the plug may spark internally with an adverse effect on engine performance if, indeed, it does not stop the engine altogether. The plug should be cleaned and tested at regular intervals, and it is suggested that this service be performed at your garage on a special "Air Blast" service unit. If eventually the cleaning process fails to restore the plug to its original condition of efficiency, it should be replaced by a new one.

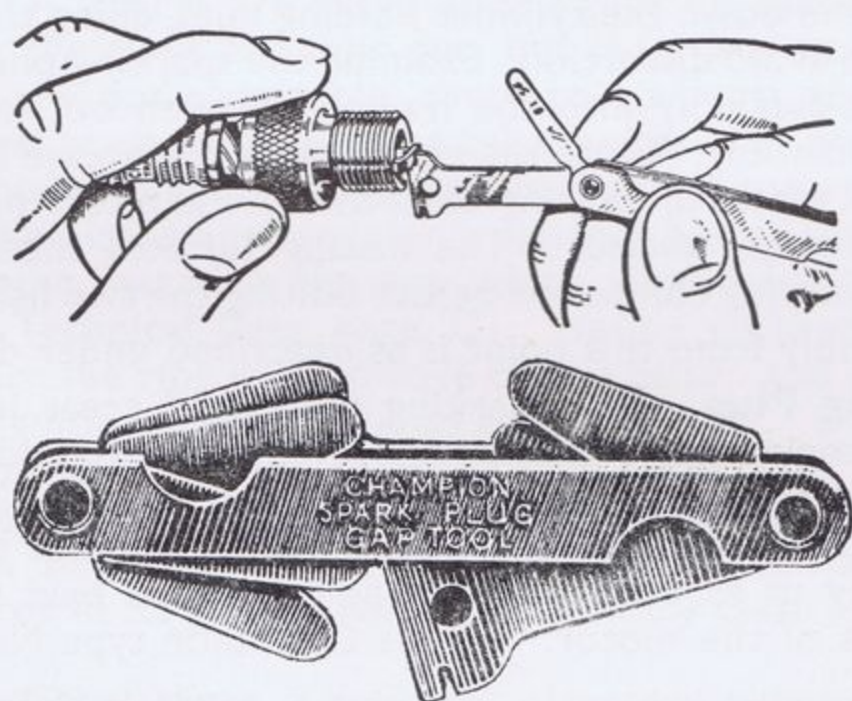


Fig. 23. Checking Plug Points.

When inspecting a plug, also check the gap between the points. This should be $.018$ — $.020$ in. ($.44$ — $.50$ mm.) and adjustment should be made by bending the side wire (Fig. 23). Never attempt to move the centre electrode, and it is always advisable to use the special plug gap tool illustrated, obtainable at 2/- from any Champion Plug stockist or from the Champion Sparking Plug Co. Ltd., Feltham, Middlesex. Feeler gauges are attached to verify correct gap.

When refitting a plug, make sure that the copper washer is not defective in any way. If it has become worn or flattened, fit a new one to ensure obtaining a gastight joint.

Screw the plug down by hand as far as possible, then use a spanner for tightening only. Always use a tubular box spanner to avoid possible fracture of the insulator, and do not in any circumstances use an adjustable spanner.

Paint splashes, accumulation of grime and dust, etc., on the top half of the insulator, are often responsible for poor plug performance. The plug should be wiped frequently with a clean rag.

CARBURATION.

So long as the engine continues to run satisfactorily the carburetter is best left alone, particularly by the inexperienced rider. Access to the carburetter, however, can be obtained by taking off the cover plate B, Fig. 21, which is held in position by three screws.

The setting employed is suitable for a very wide range of climatic temperature and road conditions, and it is highly improbable that the rider will need to modify it in any way. If, however, it is felt that the conditions under

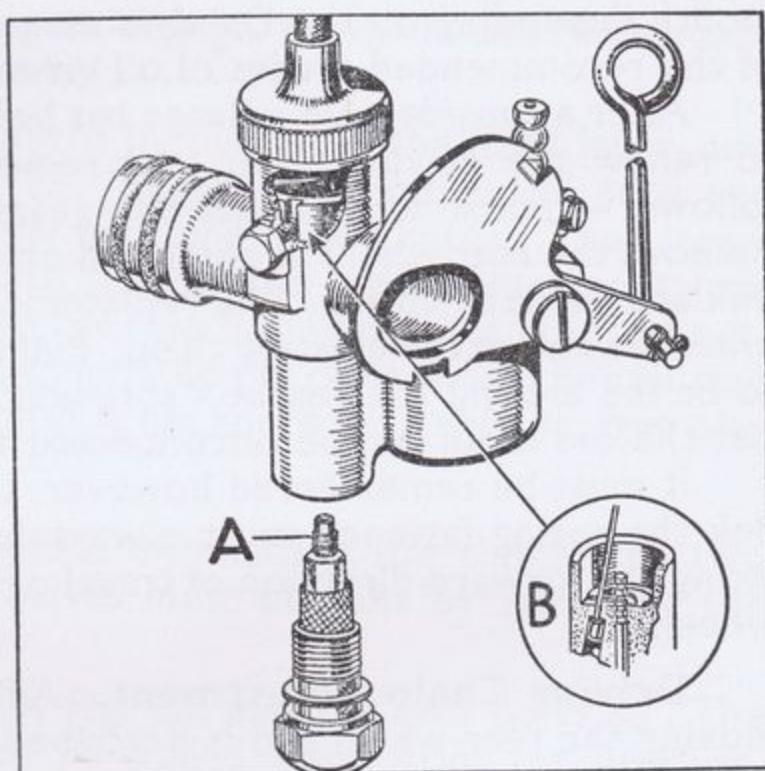


Fig. 24. Carburetter.

which the machine is operated might permit of a slightly more economical setting this can be provided by the fitting of a smaller main jet A, Fig. 24, or by lowering the jet needle B one notch. The former alteration will supply a slightly weaker mixture throughout the entire range of throttle opening, whereas an alteration to the jet needle position has little or no effect on the full throttle setting. Conversely, the fitting of a larger main jet enriches the mixture throughout the entire range, while raising the jet needle a notch has a similar effect on intermediate throttle openings only. It is emphasised, however, that no alteration to the setting should be made except for special requirements, and only then on expert advice.

Carburetter Strangler. New riders especially are advised to study the action of the strangler and to treat this device with respect. It should only be used momentarily when starting from cold and even then only when necessary. Immediately the engine fires it should be opened.

The strangler is built into the air intake of the carburetter, and consists of a slotted plate which, when rotated, varies the amount of air admitted to the carburetter. When the strangler is closed (i.e. brought into operation by raising the wire loop seen in Fig. 8) this closes the air intake, thus reducing the air admitted to the carburetter to a minimum and providing in consequence a very rich mixture.

Air Cleaner. The gauze air cleaner built into the carburetter cover plate should be rinsed in petrol periodically, say, every time the engine is decarbonised, in order to wash away any foreign matter which has been trapped in the wire mesh, as this will upset the carburation and cause heavy petrol consumption.

TRANSMISSION.

Care of the Driving Chain. To maintain the rear chain in good condition it must be lubricated regularly. Every 250 miles or once a month depending on the Dandy's usage, lubricate the chain with one of the recommended grades of oil given on page 10.

After a considerable mileage has been covered it will be necessary to renew the driving chain. Its removal should be carried out as follows:— Make certain that the gears are in the neutral position. Remove the rear wheel as described on page 22, disconnect the spring link and part the chain. The replacement chain should now be joined onto one end of the existing chain. Pull the chain, causing the new one to be fed around the gearbox sprocket. When this has been carried out the old chain can be disconnected and discarded.

It must be remembered however, that when replacing the spring link the spring fastener must always be put on with the closed end facing the forward direction of travel of the chain. Finally, replace the wheel.

Driving Chain Adjustment. Adjustment of the chain involves moving the rear wheel and is described on page 23.

Clutch Control. The main clutch adjustment is totally enclosed in the gearbox, and is exposed when the plug is removed. It consists of an adjusting pin B, Fig. 25, screwed into the clutch withdrawal sleeve and a locknut A to secure it in position. This adjusting pin presses against the clutch withdrawal rod with a steel ball inter-

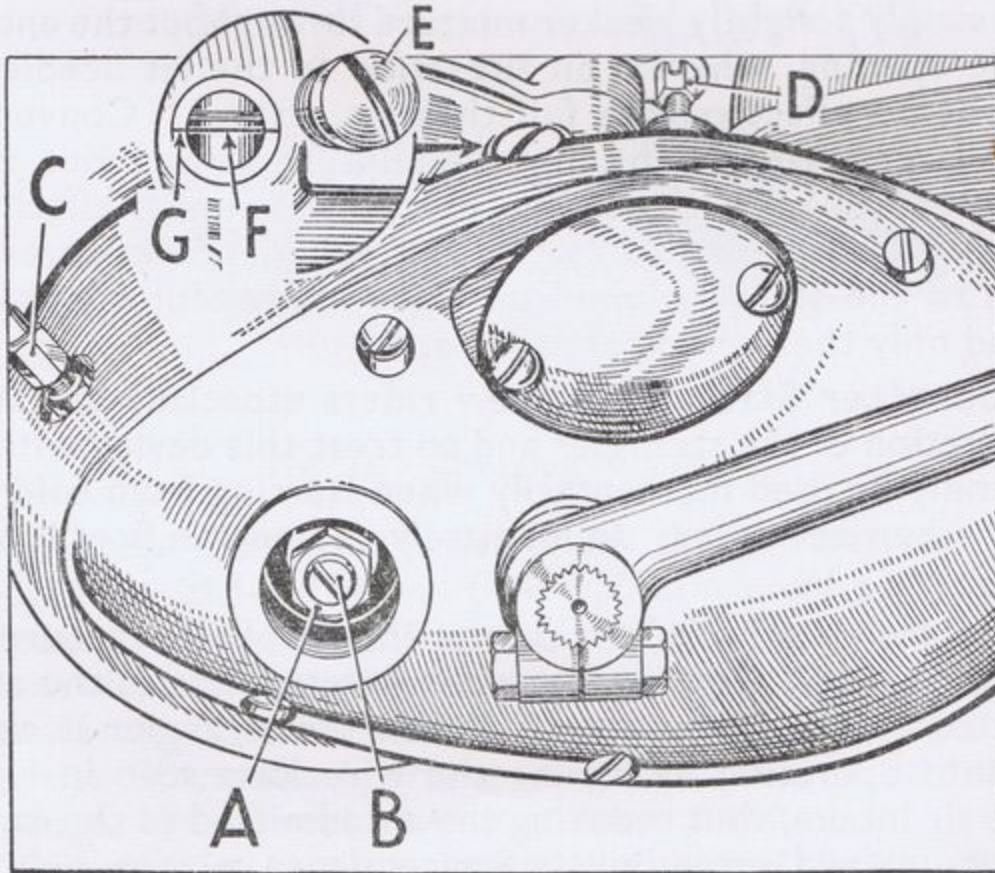


Fig. 25. Adjusting Clutch and Pre-Selector.

posed. The withdrawal mechanism must at all times be so adjusted that there is a slight amount of play between the pin, the steel ball and the operating rod, in order that the clutch springs may exert their full pressure. If there is not sufficient play there will be a tendency for

the clutch to slip continually owing to reduced spring pressure, and this in turn will cause overheating and serious damage to the clutch. If the play becomes excessive, difficulty will be experienced in changing gear, as the clutch may not fully dis-engage, in which case the control should be adjusted as explained below.

To adjust, disengage the clutch by pulling in the hand lever, and releasing the locknut A, Fig. 25. Engage the clutch and turn the adjusting pin B with a screwdriver back one or two turns. Then screw the adjusting pin in gently until it is felt to meet some resistance. Unscrew it half a turn, disengage the clutch and re-tighten the locknut. When this adjustment has been completed the cable should be adjusted by means of the adjuster at C until it has approximately $\frac{1}{8}$ in. free play at the handlebar end.

Clutch Dismantling. Before dismantling the clutch, the two inner crankcase and gearcase halves must be split by removing the six nuts A, Fig. 21.

Remove the spindle nuts B, Fig. 20, and the two bolts A. The complete engine unit can then be pulled away from the gearbox. With the engine removed from the frame the clutch is exposed and should be dismantled as explained below.

Removal of the six cot-
ters B, Fig. 26, after pressing
down spring cups A, will en-
able the clutch end plate to be
withdrawn. When the
spring pressure plate is re-
moved, the cork and plain
clutch plates can be with-
drawn. If obvious signs of
glazing are present, the fric-
tion plate must be replaced.
Replacement will also be
necessary if the plain plates
are scored. It is advisable to
renew the clutch springs
while the clutch is dismantled,
as with continual pressure
they tend to lose their spring-
iness.

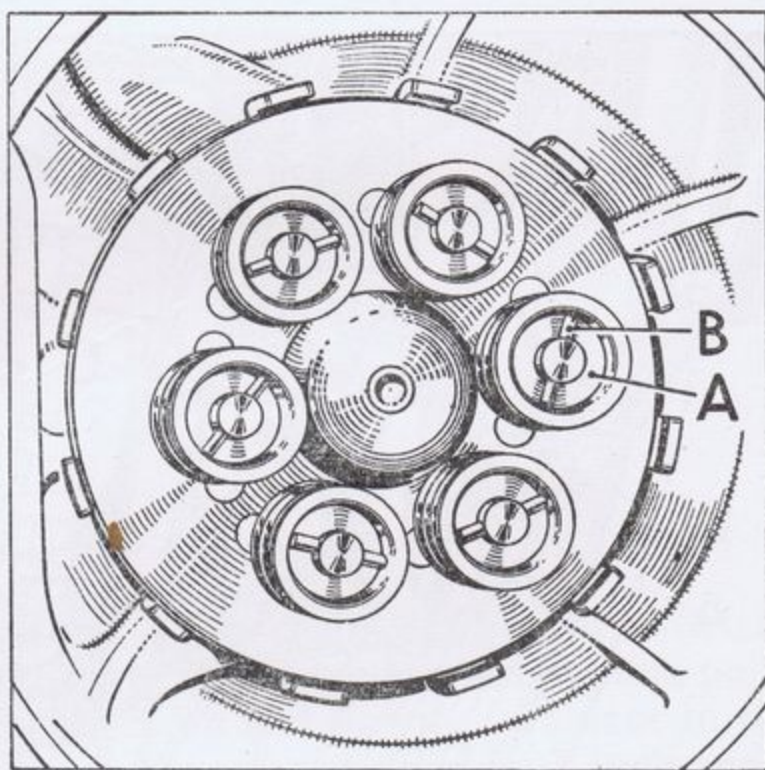


Fig. 26. Clutch Springs.

Re-assembly is carried out in the reverse order. Before joining the crankcase and gearcase together see page 17.

Gearbox. The gearbox, although built in unit construction with the engine, is self-contained as regards lubrication. Engine oil is used for lubricating the gears (see page 10). The gearbox capacity is $\frac{1}{3}$ pint (190 c.c.). When topping up the gearbox remove the filler plug B, Fig. 14, and pour engine oil in until it just reaches the level of the lower orifice shown in Fig. 25.

To change the oil in the gearbox remove the drain screw A, Fig. 14, at the bottom of the gearbox outer cover and drain out the old oil. Wash out the gearbox with flushing oil and refill with new oil through filler hole to the correct level.

Pre-selector Gear Control. This is accurately set at the factory during assembly, and as its action is simple and straightforward it is not likely to require any attention. If for any reason such as broken or stretched Bowden control cable the mechanism requires to be re-adjusted, this should be carried out in the following manner. Place the twist grip in the neutral position marked N, and disengage the clutch, whereupon the operating fork and coupling dogs should automatically move to the neutral position. If they fail to do this remove the locking plate holding the Bowden adjuster D, Fig. 25 and also unscrew plug E. Then screw the adjuster in or out, as required, until the edge of the sleeve F comes exactly into line with the marks G on the plug boss. When this position is arrived at the gears should be in adjustment for correct operation. Do not forget to replace the adjuster locking plate and also plug E.

WHEELS.

The bearings are packed with grease during assembly which will last until the machine is in need of a complete overhaul.

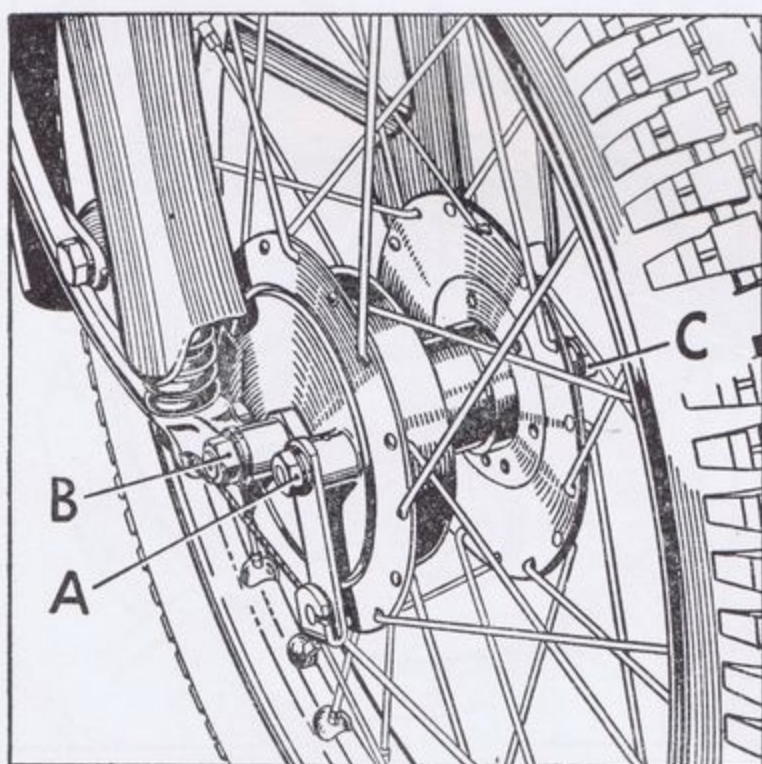


Fig. 27. Front Wheel Removal.

Front Wheel Removal.

To remove the front wheel from the forks, the brake cam spindle should be uncoupled by unscrewing the nut A, Fig. 27. The cam spindle is held on a square and careful note should be made of its position on this square for re-assembly. If a speedometer is fitted disconnect the cable from the speedometer gearbox. Take off the spindle nut B, and withdraw the wheel spindle C. As the spindle is withdrawn support the weight of the wheel; with the spindle withdrawn the wheel can be taken out sideways away from the brake anchor pin.

Rear Wheel Removal and Replacement. To remove the rear wheel, place the machine on its stand. Slacken the lower bolt A, Fig. 20, to free the brake anchor strap. Screw the chain adjusters E in as far as they will go. Remove the rear brake adjuster. Unscrew the nuts B and withdraw the wheel spindle C. Move the wheel forward as far as it will go and disconnect the chain from the wheel sprocket. The wheel can then be withdrawn by either lifting the rear of the machine, or by leaning it over.

Re-assembly is carried out in the reverse order, but it is essential that the two distance pieces are replaced in their correct positions, i.e. the large one on the right hand side of the machine.

Wheel Bearings. The bearings are correctly adjusted when there is just perceptible side play (about 1/64 in.) detectable at the wheel rim. If the bearings require adjustment, slacken the wheel spindle Nut A, Figs. 28 and 29. Rotate the knurled adjusting ring B, turning in a clockwise direction to take up any slack. Then, gripping the knurled ring B firmly, re-tighten the spindle nut A and re-check the adjustment. (Note : In the case of the rear wheel, adjustment is preferably carried with the wheel removed.)

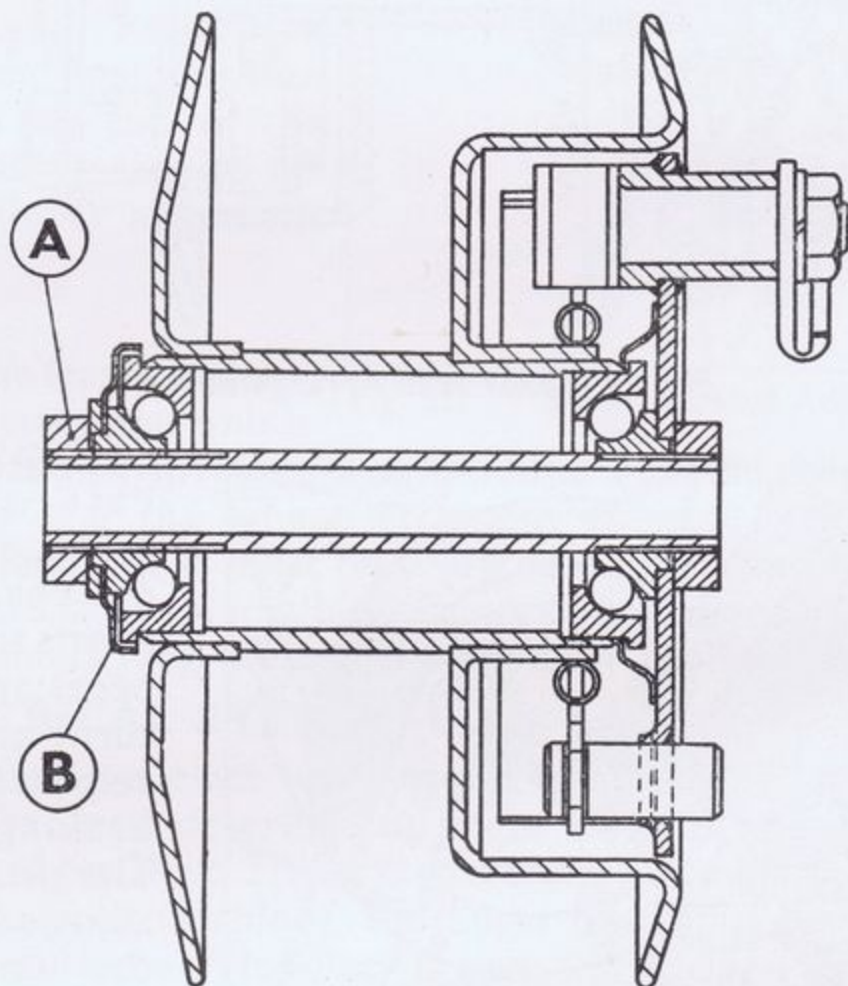


Fig. 28. Front Hub Arrangement.

Driving Chain Adjustment. The chain is adjusted with the machine on its stand. Rotate the wheel slowly until the tightest point in the chain is found, then check its up and down movement in the centre of the chain run. The total movement should be $\frac{3}{4}$ inch and if it varies from this setting then the chain must be adjusted by moving the rear wheel. Unscrew the wheel spindle nuts B, Fig. 20, slightly, and screw the adjusters E in or out as the case may be until the chain tension is correct.

Wheel Alignment. It is advisable to check the wheel alignment whenever the chain is adjusted, or the rear wheel is removed from the frame. The wheel alignment can be checked by glancing along the lines of both wheels when the front wheel is set straight, or by means of a long straight edge placed along the sides of the wheels. With the front wheel set straight ahead, the straight edge should touch both wheels.

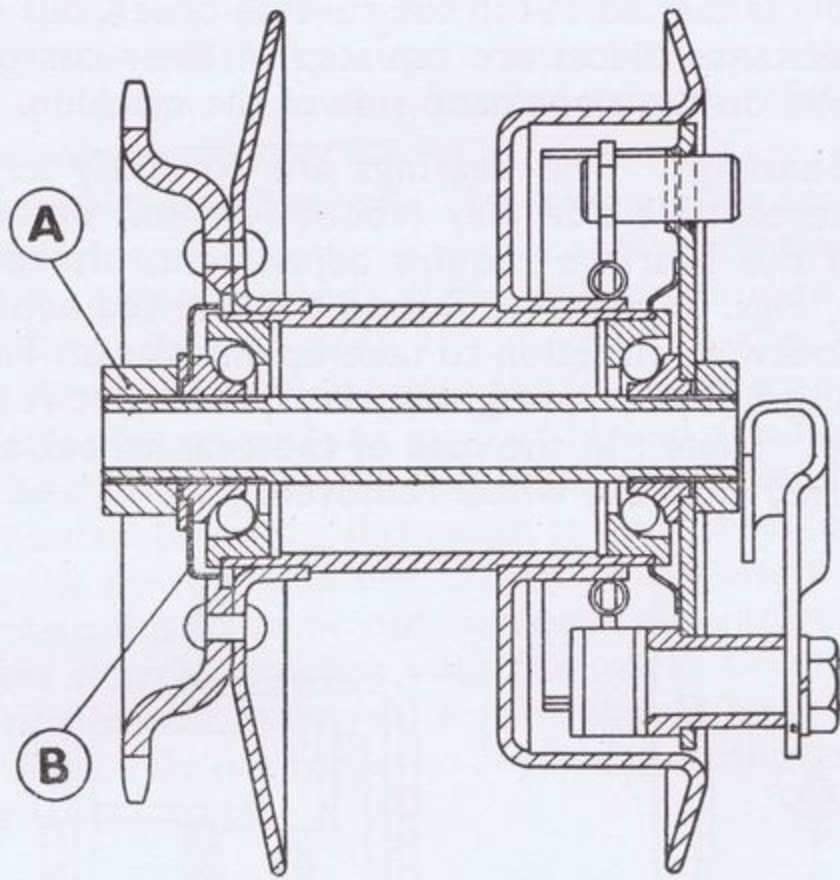


Fig. 29. Rear Hub Arrangement.

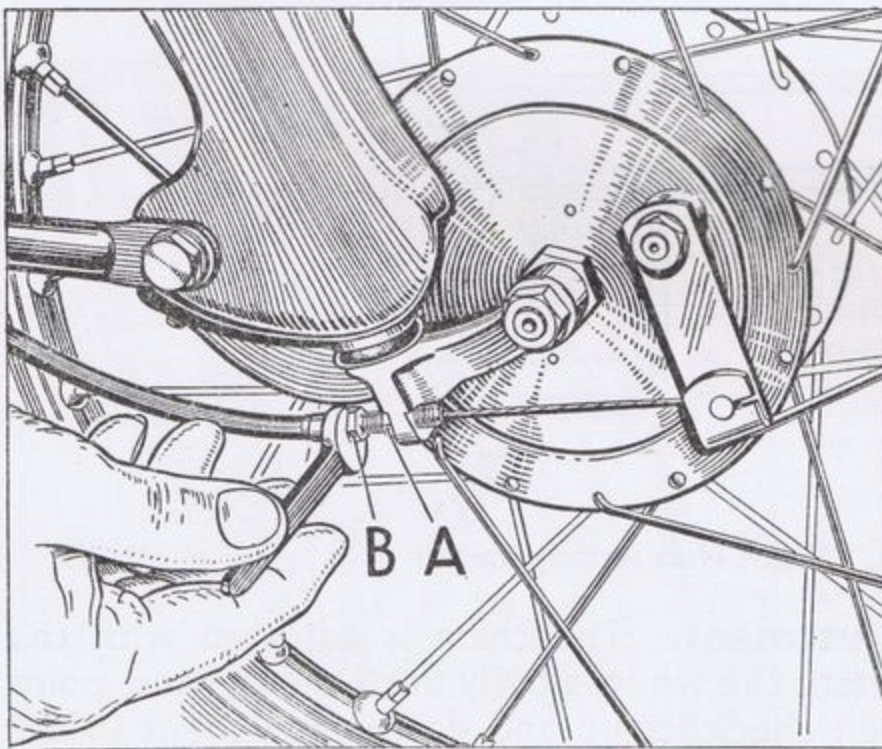


Fig. 30. Front Brake Adjustment.

Brakes. In the case of the rear brake, a knurled nut on the brake rod effects any adjustment necessary, and a few turns are all that is required to improve braking efficiency. The front brake is adjusted by means of the screwed cable stop at the lower end of the forks. Release locknut A and turn the adjuster B as shewn in Fig. 30.

FRAME AND FORKS.

Forks. There is no adjustment for the leading link type forks fitted to this machine. The only maintenance required is regular lubrication of the fork springs through the grease nipples attached to each fork as indicated on page 8.

Steering Head Adjustment. It is first necessary to raise the front wheel clear of the ground — this can best be done by lifting the machine on its stand and putting some small weight on the saddle or

carrier causing the rear wheel to rest on the ground. Test for play by grasping the handlebars as shown in Fig. 16 and attempt to rock them up and down. If play can be detected, the head bearing requires adjusting. Release the hexagon A, Fig. 31, on top of the handlebar, slightly. Slacken the locknut B, and turn the adjusting nut C which is underneath, until any slackness has been taken up. Do not overtighten or the steering will be stiff and the ball races may be damaged. Re-tighten the locknut, and finally tighten the hexagon on top of the handlebar, taking care to re-set the handlebar alignment correctly.

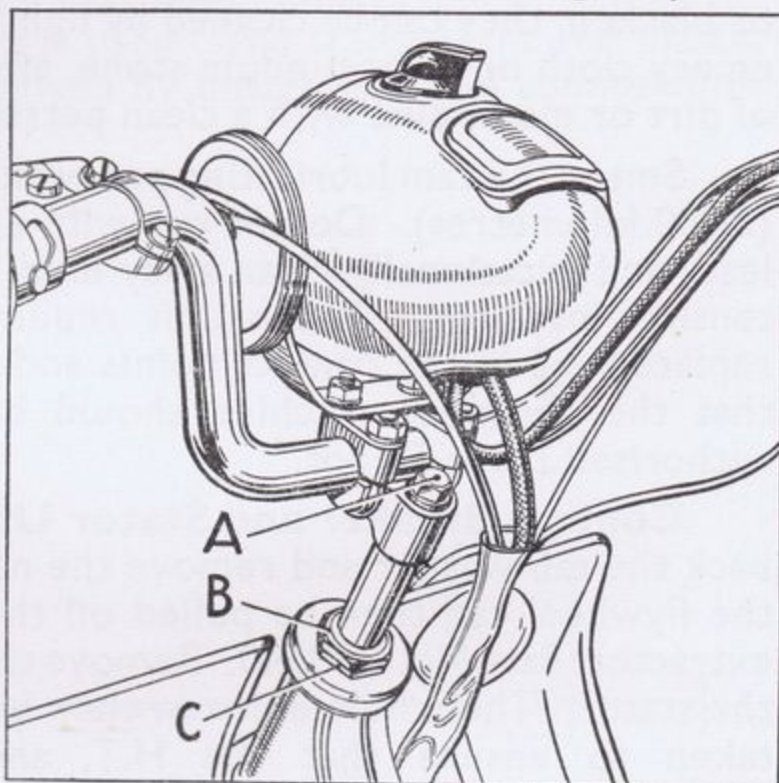


Fig. 31. Steering Head Adjustment.

Frame. The frame will not require any attention unless the machine has been involved in an accident. It should then be inspected very carefully and the wheel alignment checked. If the frame is damaged or distorted it must be replaced or returned to your B.S.A. dealer for rectification if feasible. The rear fork silentbloc type bushes have an extremely long life and the need for replacement is unlikely.

THE ELECTRICAL SYSTEM.

Two alternative electrical systems are fitted to the Dandy 70, these being the Lucas described on pages 25 to 27 and the Wico-Pacy described on pages 28 to 31. It is therefore advisable to check which set is fitted to your machine; the Lucas headlamp can be identified from Fig. 31 while the Wico-Pacy is seen in Fig. 33.

To gain access to the ignition system the engine unit must first be removed from the frame as explained on page 15. The equipment consists of a permanent magnet alternator which supplies direct lighting.

Generator. The flywheel comprises four special alloy magnets with laminated pole pieces. It is self keeping and may be separated from the stator without any loss of magnetism. The laminated stator has four poles, wound with coils of enamelled copper wire for the lighting circuit. The high tension coil is located behind the stator, and cannot be seen unless the stator is removed from the crankcase.

The set requires very little maintenance, and if the following notes are observed, the life of the machine should prove trouble free. Check, and if necessary, re-adjust the contact breaker points every 5,000 miles (8,000 km.) as described on page 12.

At the same time clean the contacts by inserting a dry piece of paper between them and withdrawing while the contacts are in the

closed position. The engine must not be used with the contacts smeared or covered with grease or they will burn and blacken causing an adverse effect on engine starting and performance. If they do burn or blacken, they can be cleaned by lightly polishing with a piece of fine emery cloth or carborundum stone, afterwards wiping away any trace of dirt or metal dust with a clean petrol moistened cloth.

Smear the cam lubricating pad with a little grease every 5,000 miles (8,000 kilometres). Do not run with a faulty or damaged high tension lead, and occasionally clean away mud and dirt from around the high tension insulator. If the unit requires any attention beyond the replacement of the contact points and condenser, it is recommended that the complete machine should be taken or despatched to an authorised Lucas Depot.

Contact Breaker and Stator Unit. To remove this, first bend back the tab washer and remove the nut. The clutch driving cup and the flywheel can then be pulled off the mainshaft with the aid of an extractor, Part No. 61-3540. Remove the two screws A, Fig. 18 holding the stator. The whole unit can then be withdrawn, but care must be taken to ensure that the H.T. and lighting cables are pulled through the outer casing without any damage being sustained to them.

Electric Horn. The horn is adjusted at the factory to give its best performance and will give a long period of service without any attention. If it becomes uncertain in action, giving only a choking sound, or does not vibrate, it does not follow that it has broken down. First ascertain that the trouble is not due to some outside source such as a loose connection, or a short circuit in the wiring. If none of the above suggestions prove successful, the horn may be re-adjusted as follows :

Remove the cover nut on the front of the horn and slacken the locknut located beneath it. A slight turn of the screw in or out while depressing the horn button with the engine running, will enable the best note to be obtained. Finally, re-tighten the locknut. If the horn still gives trouble, it should be taken to a Lucas Service Depot, or removed and returned to the manufacturers for rectification.

Headlamp. The lamp front, together with the reflector and bulb assembly, is secured to the main headlamp body by means of a screw on top of the lamp. To replace a bulb or battery therefore, it is only necessary to slacken the screw and the rim can be removed.

The best way of checking the setting of the lamp is to stand the scooter in front of a light coloured wall at a distance of about 25 feet. If necessary, slacken the bolts securing the headlamp and move the lamp until, with the main driving light switched on, the beam is projected straight ahead and parallel with the ground. With the lamp in this position, the height of the beam centre on the wall should be the same as the height of the centre of the headlamp from the ground.

Note: The satisfactory operation of the ignition system depends on good earth connections being maintained at all times. If the headlamp bulb filament burns out when riding with the lamp on, the

ignition system will be rendered inoperative, since the generator coils supplying the ignition system are connected to earth through the bulb filament. By turning the lighting switch to the "OFF" or "PARK" position the engine will continue to run, but the burnt out bulb(s) should be replaced at the first opportunity.

Rear Lamp. A single bulb is used, The transparent red plastic portion of the lamp can be removed by unscrewing the countersunk screw.

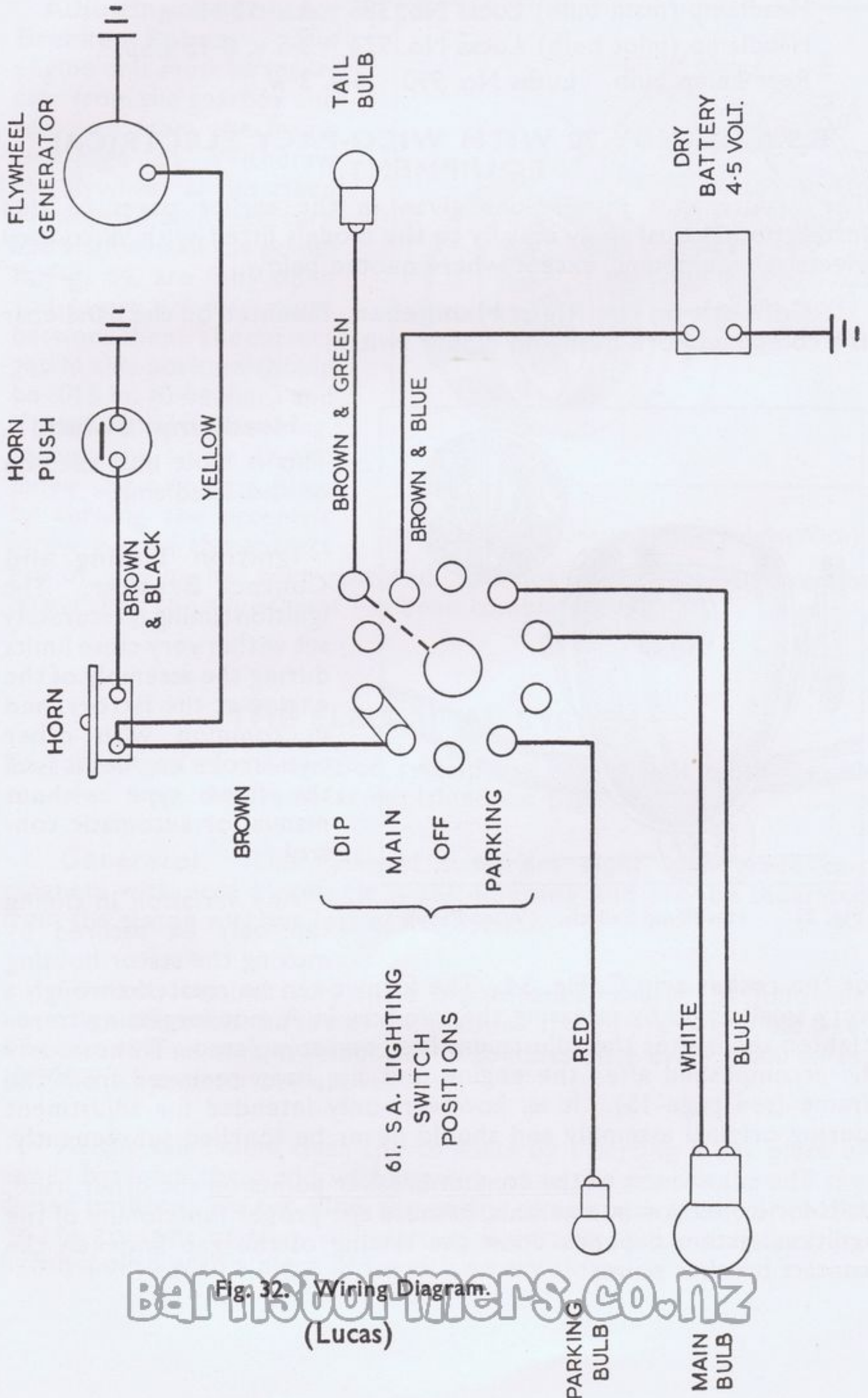


Fig. 32. Wiring Diagram.
(Lucas)

GENERAL NOTES.

The wiring is connected by means of snap connectors at various convenient places on the machine and it is desirable occasionally to check it over and make certain that these connections are tight.

BULB TYPES.

- Headlamp (main bulb) Lucas No. 386 6 v. 15/15 w.
- Headlamp (pilot bulb) Lucas No. 974 3.5 v. 0.15 amp.
- Rear Lamp bulb Lucas No. 990 6 v. 3 w.

B.S.A. DANDY 70 WITH WICO-PACY ELECTRICAL EQUIPMENT.

The maintenance instructions given in the earlier pages of this Instruction Manual apply equally to the models fitted with Wico-Pacy electrical equipment, except where quoted below.

Controls on the Right Handlebar. Mounted on the handlebar is a combined horn push and dipper switch.

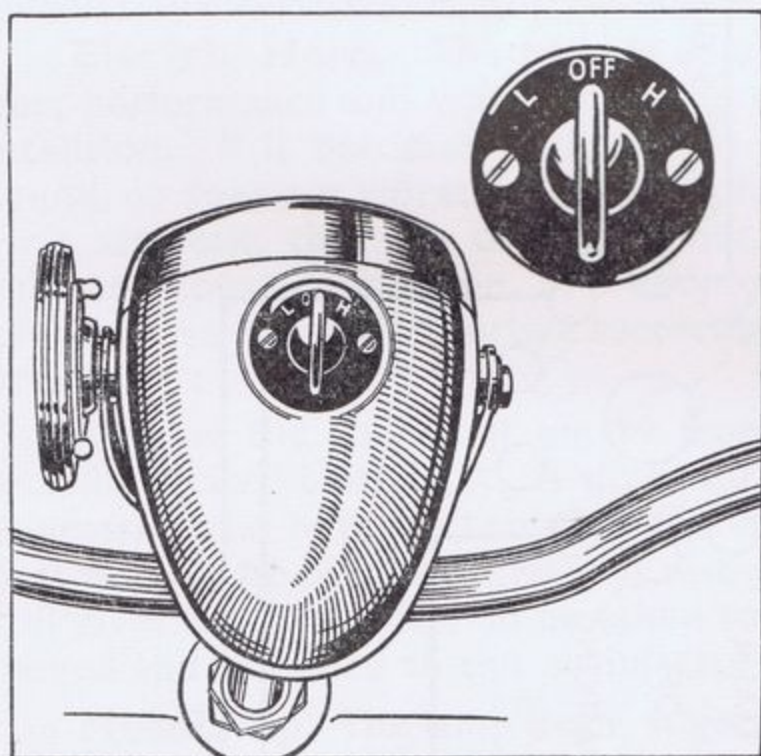


Fig. 33. Headlamp Switch. (Wico-Pacy)

Headlamp Switch.

This is built into the top of the headlamp.

Ignition Timing and Contact Breaker. The ignition timing is accurately set within very close limits during the assembly of the engine at the factory, and in common with other two-stroke engines it is of the fixed type without manual or automatic control.

Any variation in timing can only be secured by moving the stator housing

or the rocker arm C, Fig. 34. The former can be rotated through a very small angle by releasing the two screws A, not forgetting to re-tighten them after the adjustment has been completed. This can only be accomplished after the engine unit has been removed from the frame (see page 15). It is, however, only intended for adjustment during original assembly and should never be touched subsequently.

The adjustment of the contact breaker points on the other hand, calls for inspection at intervals, because the proper functioning of the ignition system depends upon the setting of the gap between the contact breaker points.

The contact breaker mechanism has been specially designed for long life with the result that inspection and re-adjustment of the points is not likely to become necessary at intervals of less than 5,000 miles (8,000 km.) as described below. This does, in fact, mean that the operation need only be carried out at every third decarbonisation.

Adjusting the Contact Breaker Points.

The engine unit must be separated from the gearbox and removed from the frame (see page 15). Withdraw the flywheel as described on page 26 and then turn the engine until the points B, Fig. 34, are fully open and insert a feeler gauge between them. The correct gap in this position should be .018 in. (0.44 mm.) and if this is found to be wrong, release the screw D and move the adjusting plate by turning the eccentric screw E until the correct gap of .018 in. has been restored. Do not forget to re-tighten the screw after the adjustment has been completed.

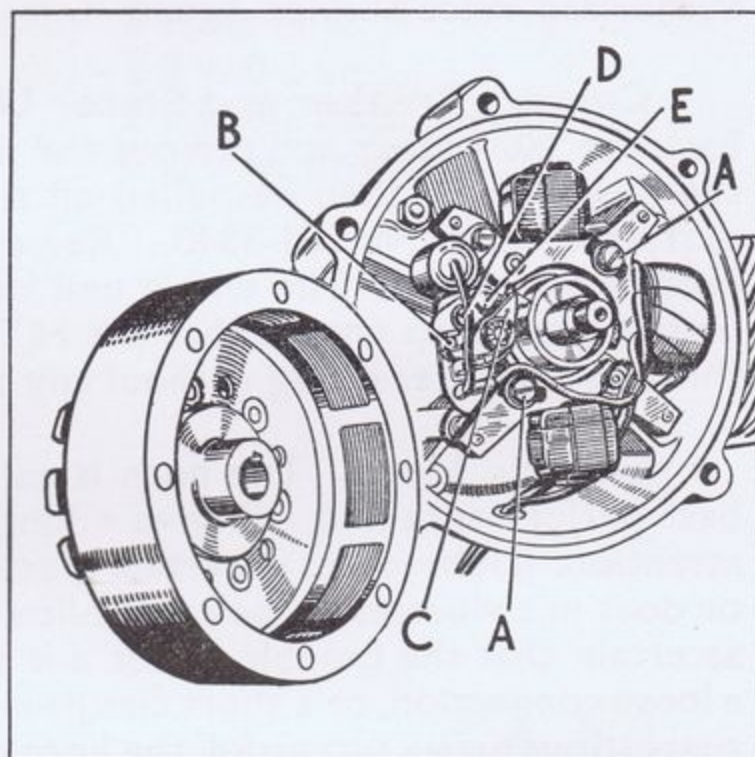


Fig. 34.

Adjusting the Contact Breaker Points(Wico).

Do not forget to re-tighten the screw after the adjustment has been completed.

THE ELECTRICAL SYSTEM.

To gain access to the ignition system the engine unit must first be removed from the frame as explained on page 15.

Generator. The flywheel comprises eight high grade cast magnets with pole pieces. It is **self-keeping** and may be separated from the stator without loss of magnetism.

The set requires very little maintenance, and if the following notes are observed the life of the machine should prove trouble free. Check, and if necessary, re-adjust the contacts once every 5,000 miles, (8,000 km.) as described above.

At the same time clean the contacts by inserting a dry piece of paper between them and withdrawing while the contacts are in the closed position. Do not allow the engine to run with grease or petrol on the contacts or they will start to burn and blacken. If they do, lightly polish with a piece of smooth emery cloth.

Smear the cam lubricating pad with a little grease every 5,000 miles (8,000 km.). Do not run with a faulty or damaged high tension lead, and occasionally clean away mud and dirt from around the high tension insulator. If the unit requires any attention beyond the replacement of the contact points and condenser, it is recommended that the complete machine should be taken or despatched to an authorised Wico Service Agent.

Contact Breaker and Stator Unit. To remove this, first bend back the tab washer and remove the nut. The clutch driving cup and the flywheel can then be pulled off the mainshaft with the aid of an extractor, Part No. 61-3540. Remove the two screws A, Fig. 34 holding the stator. The whole unit can then be withdrawn, but care must be taken to ensure that the H.T. and lighting cables are pulled through the outer casing without any damage being sustained to them.

Electric Horn. The horn is adjusted at the factory to give its best performance and will give a long period of service without any attention. If it becomes uncertain in action, giving only a choking sound, or does not vibrate, it does not follow that it has broken down. First ascertain that the trouble is not due to some outside source such as a loose connection, or a short circuit in the wiring. If none of the above suggestions prove successful, the horn may be re-adjusted as follows: —

Slacken the locknut on the front of the horn. A slight turn of the screw in or out while depressing the horn button with the engine running, will enable the best note to be obtained. Finally, re-tighten the locknut. If the horn still gives trouble, it should be taken to a Wico-Pacy Service Agent, or removed and returned to the manufacturers for rectification.

Headlamp. The lamp front, together with the reflector and bulb assembly, is secured to the main lamp assembly by means of a clip under the lamp. To replace a bulb or battery therefore, it is only necessary to loosen the clip and the rim can be removed.

The best way of checking the setting of the lamp is to stand the scooter in front of a light coloured wall at a distance of about 25 feet. If necessary, slacken the bolts securing the headlamp and move the lamp until, with the main driving light switched on, the beam is projected straight ahead and parallel with the ground. With the lamp in this position, the height of the beam centre on the wall should be the same as the height of the centre of the headlamp from the ground.

Rear Lamp. Twin bulbs are employed, one for use when the scooter is stationary and the current is being drawn from the battery, the other being used when the scooter's engine is running, drawing its current direct from the generator. The transparent red plastic portion of the lamp can be removed by unscrewing the countersunk screws.

GENERAL NOTES.

The wiring is connected by means of snap connectors at various convenient places on the machine and it is desirable occasionally to check it over and make certain that these connections are tight.

BULB TYPES.

Headlamp (main bulb)	6 v. 18/18 w.
Headlamp (pilot bulb)	2.5 v. 0.2 amp.
Rear Lamp bulb	2.5 v. 0.2 amp. parking. 6 v. 3 w. driving.

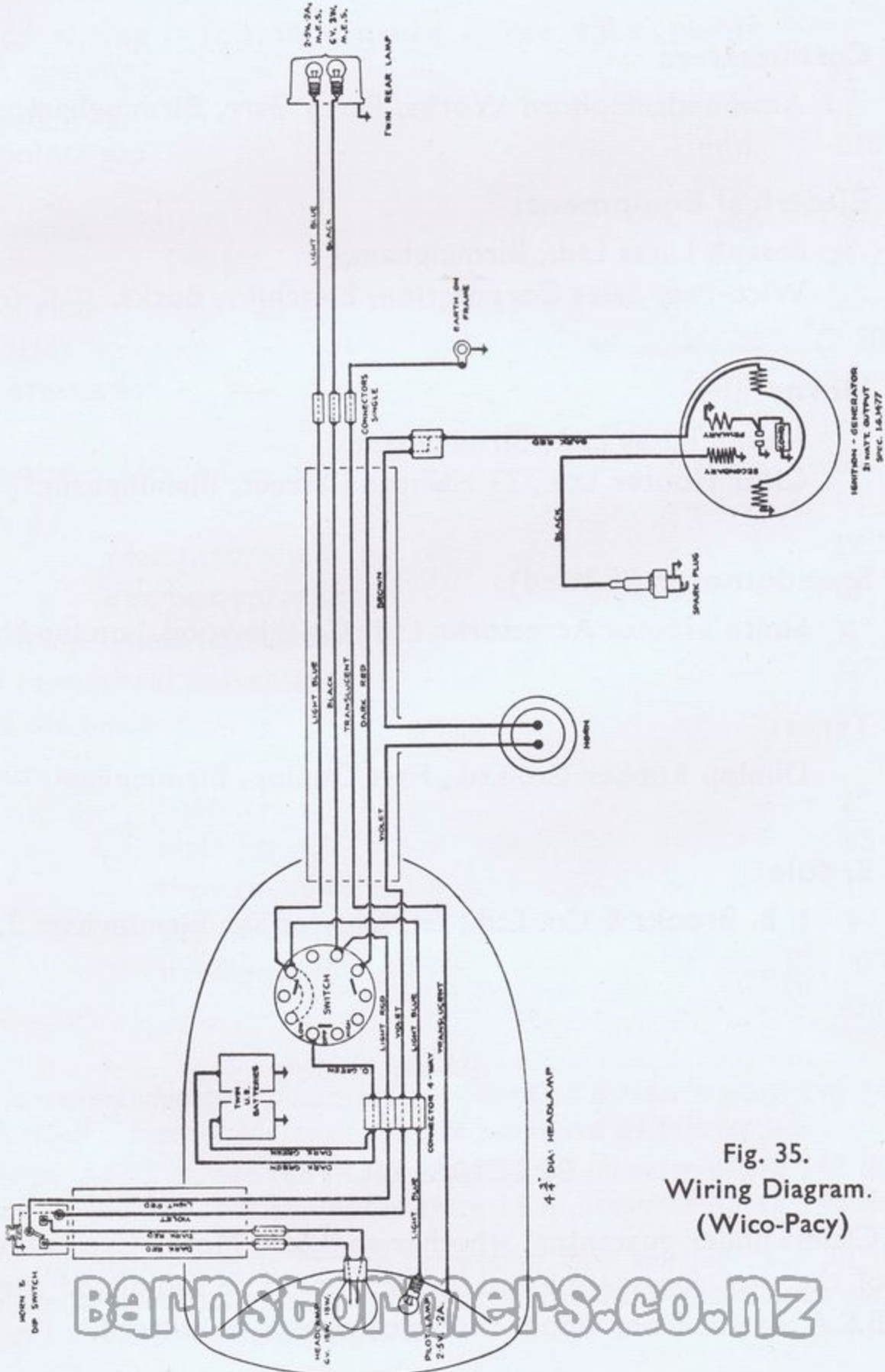


Fig. 35.
Wiring Diagram.
(Wico-Pacy)

PROPRIETARY INSTRUMENTS, FITTINGS AND ACCESSORIES.

No expense is spared to secure as standard equipment the most suitable and highest quality instruments and accessories. Nevertheless, the Company's guarantee does not cover such parts, and in the event of trouble being experienced the parts in question should be returned to and claims made direct on the actual manufacturers, who will deal with them on the terms of their respective guarantees, as follows:

Carburetter:

Amal Ltd., Holford Works, Perry Barr, Birmingham.

Electrical Equipment:

Joseph Lucas Ltd., Birmingham.

Wico-Pacy Sales Corporation, Bletchley, Bucks.

Horn:

Joseph Lucas Ltd., Birmingham.

Clear Hooter Ltd., 33 Hampton Street, Birmingham.

Speedometer (if fitted):

Smith's Motor Accessories Ltd., Cricklewood, London N.W.2.

Tyres:

Dunlop Rubber Co. Ltd., Fort Dunlop, Birmingham.

Saddle:

J. B. Brooks & Co. Ltd., Gt. Charles St., Birmingham 3.

SPECIAL NOTE.

Claims under guarantee, whether to B.S.A. Motor Cycles Ltd., or any of the manufacturers listed above, should be submitted through the B.S.A. dealer from whom the machine was purchased.

TECHNICAL DATA.

Petrol tank capacity	-	-	-	-	-	-	-	6 pints
Bore	-	-	-	-	-	-	-	45 mm.
Stroke	-	-	-	-	-	-	-	44 mm.
Capacity	-	-	-	-	-	-	-	69.9 c.c.
Compression ratio	-	-	-	-	-	-	-	7.25—1
Piston ring gap	-	-	-	-	-	-	min.	.009"
							max.	.013"
Contact breaker gap	-	-	-	-	-	-	.015" (.018" Wico-Pacy)	
Ignition timing : (piston distance before t.d.c. points just opening)	-	-	-	-	-	-	-	$\frac{5}{32}$ "
Sparking plug	-	-	-	-	-	-	Champion	L7
Plug points gap	-	-	-	-	-	-	min.	.018"
							max.	.020"
Gear ratios	-	-	-	-	-	-	top	9.7
							first	21.2
Wheel rims	-	-	-	-	-	-	-	G5-J
Tyre sizes	-	-	-	-	-	-	20-2 $\frac{1}{2}$ "	(2.50-15)
Tyre pressures*	-	-	-	-	-	-	front	18
							rear	24
Chain size : $\frac{1}{2}$ " x $\frac{3}{16}$ "	-	-	-	-	-	-	itches	60
Teeth on :								
rear chainwheel	-	-	-	-	-	-	-	27
gearbox sprocket	-	-	-	-	-	-	-	13
Total front wheel movement	-	-	-	-	-	-	-	2 $\frac{1}{2}$ "
Total rear wheel movement	-	-	-	-	-	-	-	2 $\frac{1}{2}$ "
Brake dimensions	-	-	-	-	-	-	-	4" x $\frac{7}{8}$ "
Carburetter :								
bore	-	-	-	-	-	-	-	$\frac{1}{2}$ "
main jet	-	-	-	-	-	-	-	35 c.c.
throttle valve	-	-	-	-	-	-	-	3
needle position	-	-	-	-	-	-	-	3
needle jet	-	-	-	-	-	-	-	.0745"
Air cleaner	-	-	-	-	-	-	-	Amal

* The recommended tyre pressures are based on a rider's weight of 140 lb. If the rider is heavier increase the tyre pressures as follows :—

Front : Add 2 lb. per sq. in. for every 14 lb. increase above 140 lb.

Rear : Add 4 lb. per sq. in. for every 14 lb. increase above 140 lb.

If additional load is carried the actual load bearing upon each tyre should be determined and the pressures increased in accordance with the Dunlop Load and Pressure Schedule.

B.S.A. MOTOR CYCLES LTD., BIRMINGHAM 11

Telephones : Birmingham VICToria 2381

Telegrams and Cables : "SELMOTO", Birmingham

**SERVICE, SPARES AND REPAIRS DEPARTMENT—
WAVERLEY WORKS, BIRMINGHAM, 10**

Telephones : Birmingham VICToria 3711

Telegrams and Cables : "SELSERV", Birmingham

B.S.A. Motor Cycles Ltd., reserve the right to alter the designs or any constructional details of their manufacture at any time without giving notice.