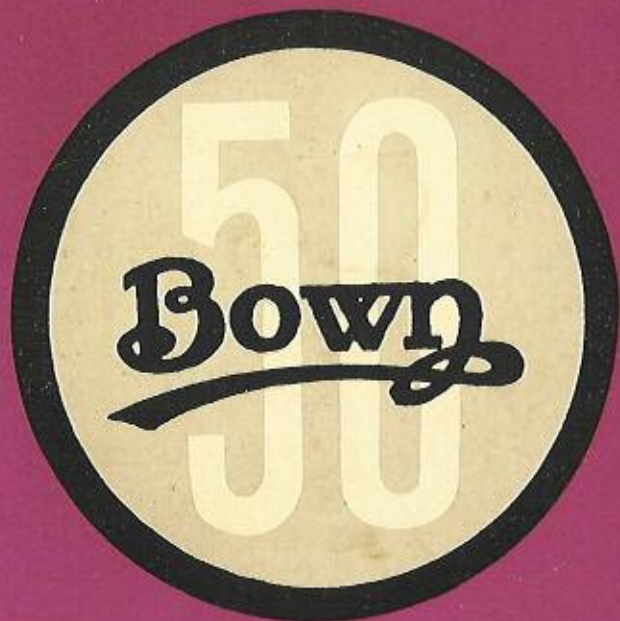


PRICE 3/-

RIDERS HANDBOOK



ABERDALE CYCLE CO. LTD.

EDMONTON, LONDON, N.18

76.50

CONTENTS

	Page
Introduction	2
General Data	3
Hints for Your First Ride	4, 8, 9
Illustration of Controls	5, 6, 7
Lubrication Charts	5, 6, 7
Running-in	10
Fuel and Lubricants	10, 11, 12
Carburettor Maintenance	13, 14
Decarbonising	14, 15
Electrical System Maintenance	16, 17
Wiring Diagram	18
Adjustments Gear Selector and Clutch	19, 20
Adjustments Carburettor	21
Hub Maintenance	22, 23
Troubles and Their Remedies	24, 25, 26
Repairs and Estimates	27
Guarantee	28

INTRODUCTION

The "**Bown 50**" Moped is hand-built by Craftsmen to a design which is entirely new and surpasses that of any other power-driven lightweight. It has been evolved after patient research and exhaustive trials ; it is backed, too, by the skill and traditions of one of the pioneer firms in the Cycle Industry, with 90 years' experience of building the highest grade Bicycles and Motor Cycles.

It is, therefore, a product of outstanding quality, and, properly maintained, will give you years of trouble-free service. Follow carefully the simple instructions in regard to running-in and subsequent maintenance contained in this book, and you will be rewarded with many thousands of miles of safe and economical travel.

If you have not ridden a Moped before, you will quickly master the controls, which are simple and light in action, and will delight in the sensation of effortless speed. If you have had previous experience, you will immediately appreciate the "**BOWN'S**" sterling qualities and will soon realise that the "**Bown 50**" is, in truth, "**Built for the Connoisseur.**"

GENERAL DATA

Unladen weight	95 lbs.
Overall length	70½ inches.
Wheelbase	45½ inches.
Width of Handlebars	23½ inches.
Ground clearance	4½ inches.
Fuel Tank capacity	9½ pints.
Engine Bore	38 mm.
Engine Stroke	42 mm.
Capacity	47 c.c.
Horsepower	1 h.p. at 4000 r.p.m.
"	1.6 h.p. at 4750 r.p.m.
Compression Ratio	6—1.
Clutch	2 plate insert.
Ignition System	Flywheel Magneto Dynamo.
Dynamo Output	6v. 17w. A.C.
Gear Box Ratios	1st Gear 2.78-1 ; 2nd Gear 1.77-1.
Final Gear Ratios	1st Gear 24.5 ; 2nd Gear 15.6.
Final Drive Chain	Roller Chain ½" x ½" x 98 links.
Gearbox	2 speed integral with engine.
Gear Selection	Twistgrip at Handlebar.
Sparking Plug	K.L.G. F.70 14 mm. Point Gap .016—.020.
Carburettor	Bing, with oil wetted air filter.
Carburettor Settings	Main Jet 56. Needle Jet 2.10.
" "	Needle position 3rd groove from top.
Ignition Timing	5/64"—3/32" before top dead centre.
Contact Breaker	Point Gap .015 maximum.
Lighting Set	Headlamp Bulb 6v. 15 watt A.C.
" "	Taillamp Bulb 6v. 3 watt.
Tyre Size	23 x 2.00.
Tyre Pressures	Weight of Rider
	10 st. 11 st. 12 st. 13 st.
Front	35 lbs. 38 lbs. 44 lbs. 50 lbs.
Rear	35 lbs. 38 lbs. 44 lbs. 50 lbs.
Lubrication	Engine : Petroil 25-1. Gearbox : ½ pint SAE.80.
Road Tax	17/6 per annum.
Petrol Consumption	Approx. 210 m.p.g.

HINTS FOR YOUR FIRST RIDE

Every "BOWN 50" engine has run for a certain length of time in the works. A bench test is followed up by a road test. The engine is thus ready for the road and the gearbox has already been filled with oil. It is only necessary to fill the tank and check the tyre pressure.

FILLING THE TANK: Two-stroke mixture 25:1.

25 parts of ordinary branded petrol should be thoroughly mixed in a separate container with one part of motor oil of viscosity SAE 50, before pouring into tank. Thus $\frac{1}{2}$ pint (100 c.c.) of oil are used for every $\frac{1}{2}$ gallon (2 $\frac{1}{4}$ litres) of petrol. Do not use oils containing additives (doped or HD oils) or racing oils. Insist on pure mineral oil. In this way you will ride more cheaply and just as reliably.

CONTROLS:

Throttle Twistgrip (No. 1). By turning it towards you the throttle slide in the carburettor is opened.

Gear Twistgrip (No. 2) with Clutch Lever (No. 4) mounted on the left handlebar. On pulling the lever, the clutch disconnects the flow of power from the engine to the gearbox and rear wheel. At the same time the catch locking the gear twistgrip is released the grip together with the clutch lever can then be swung up and down and in this way either of the gears or neutral can be selected.

Hand Brake Lever (No. 3) mounted on the right handlebar and acting on the front wheel.

Short-circuiting Push Button (No. 6) on left handlebar for switching off the ignition.

Fuel Tap (No. 8) at offside of tank.

Tickler for Carburettor (No. 9) on nearside of tank.

Hooter and Dipper Switch (No. 5) on right handlebar.

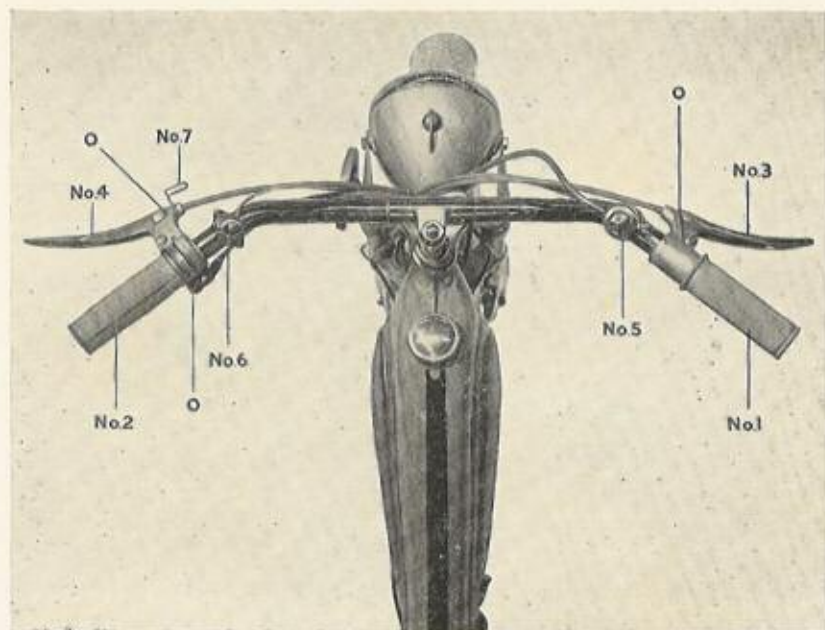
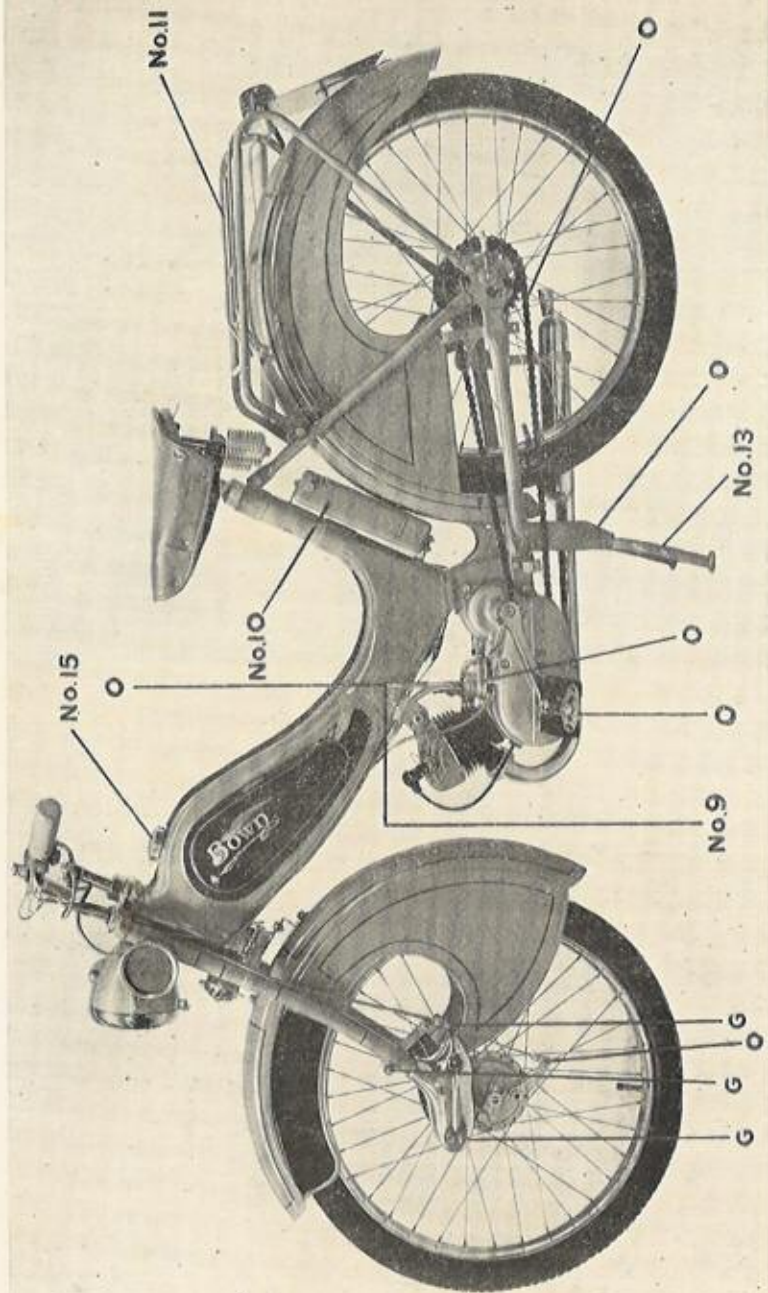


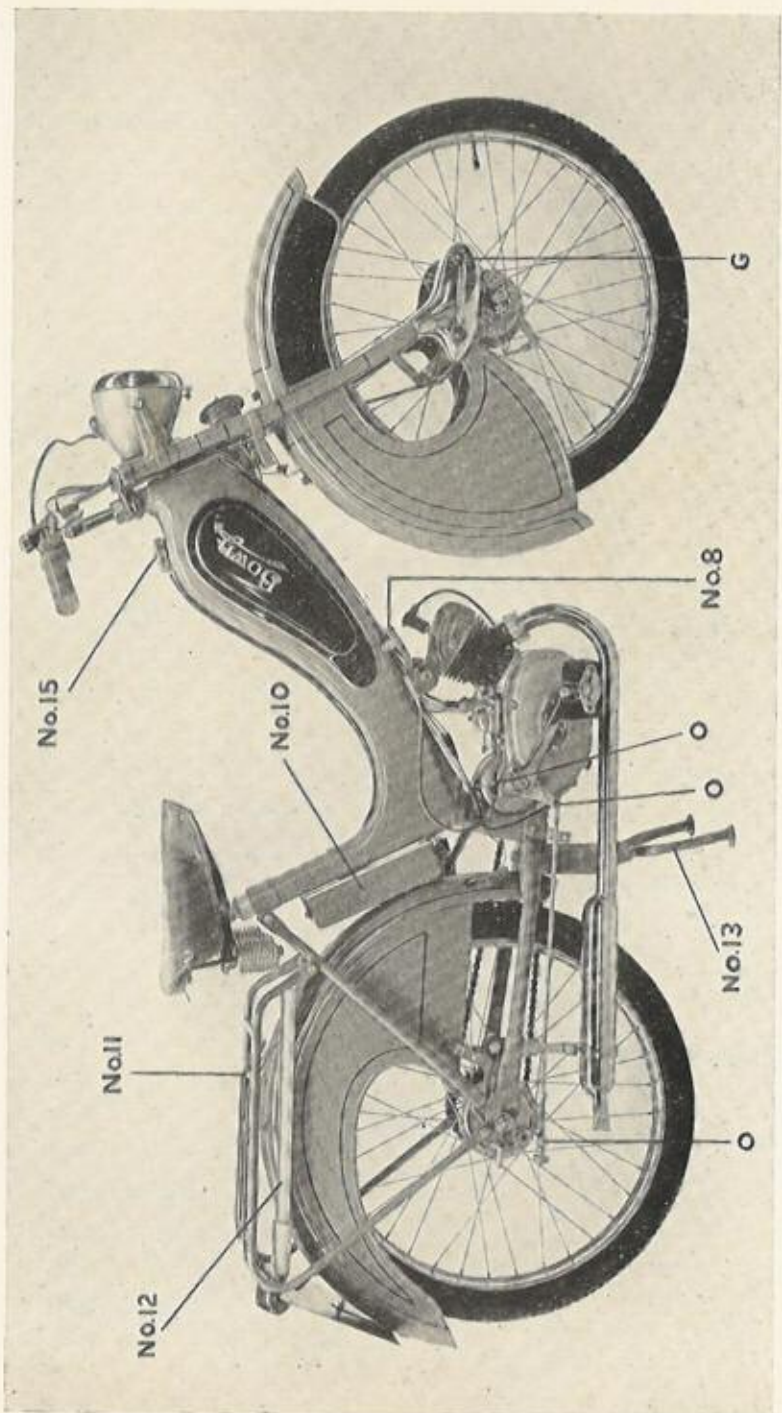
Fig. 1.

1. Throttle Twistgrip.
2. Gear Twistgrip.
3. Front Brake Lever.
4. Clutch Lever.
5. Hooter Button and Dipper Switch.
6. Cut-out Button.
7. Clutch Locking Yoke.
8. Petrol Tap.
9. Carburettor Tickler.
10. Toolbox.
11. Rear Carrier with Sprung Parcel Clip
12. Tyre Inflator.
13. Kick Stand.
15. Petrol Filler Cap.



Points marked "O" should be lubricated with oil every 500 miles.
 Points marked "G" should be lubricated with a grease gun every 500 miles.

Fig. 2.



Points marked "O" should be lubricated with oil every 500 miles.
Points marked "G" should be lubricated with a grease gun every 500 miles.

Fig. 3.

STARTING :

Two different methods can be applied in order to start the engine.

- (a) Starting when the machine is on move.

Open the petrol tap.

If the engine is cold, slowly press the tickler on the carburettor right down for 5 or 6 seconds.

Leave the throttle twistgrip closed.

Engage 1st gear.

Pull up the clutch lever and start pedalling.

Release clutch lever slowly, simultaneously continue to pedal until the engine starts.

Only then open the throttle twistgrip slowly.

In case that engine did not start after about 30 feet, turn the throttle twistgrip a little. Should the engine stop again after having started, press the tickler once more.

- (b) Starting from the stand.

Open the petrol tap.

If the engine is cold, slowly press the tickler on the carburettor right down for 5—6 seconds.

Leave the throttle twistgrip closed.

Shift the gear change lever into neutral.

Tread down the pedal away from you.

Engine starts.

Pull up clutch lever.

Engage gear.

Release clutch lever slowly, simultaneously open throttle twistgrip.

CHANGING UP :

Close the throttle completely, i.e., turn the throttle twistgrip away from you as far as the stop.

Declutch, i.e., pull the clutch lever in to full extent. This lifts the gear locking catch on the handlebar.

Select gear. Turn the gear twistgrip together with the clutch lever towards you as far as the stop.

The mark on the grip will then point to 2.

Let in the clutch by slowly releasing the clutch lever. Open the throttle. Regulate speed with throttle twistgrip.

CHANGING DOWN :

If it is found, e.g., on a gradient, that speed is dropping considerably or if, in traffic, it is necessary to drive so slowly that the engine begins to run unsteadily, change down to first gear.

Close the throttle, i.e., turn the throttle twistgrip away from you.

Declutch by pulling up the clutch lever.

Select gear. Turn the gear twistgrip together with the clutch lever away from you as far as the stop.

Let in the clutch slowly. Release the clutch lever carefully, at the same time opening the throttle. When changing down, the clutch should be let in and the throttle opened simultaneously, so that the gearbox shafts are able to take up the correct speed relative to each other. Correct changing down is a matter of getting the feel of the gears and this comes automatically after a few rides.

SLOWING DOWN :

Close the throttle.

Apply the brakes. Back-pedal, as with an ordinary bicycle, thus actuating the rear brake. At the higher speeds which are possible on a Moped, always use the hand brake as well—acting on the front wheel. The hub brake in the front wheel has a high braking effect; if you make a point of using it as well, you will always be able to stop promptly without locking the rear wheel. If the road is sandy, wet or slippery, use the front brake cautiously to avoid a front wheel skid. Clearly, it is the throttle control and not the brakes which should be used for regulating speed. Ensure also that your normal leg position does not cause a partial brake application.

STOPPING THE MACHINE :

Close the throttle, declutch and apply the brakes. Select neutral. With the clutch lever pulled up, turn the gear twistgrip until the mark on the grip points to O. The clutch lever can then be released. Even when the Moped is at standstill the engine will continue to run steadily at idling speed.

MOVING OFF AGAIN :

Declutch, engage 1st gear.

Open the throttle. Slowly release the clutch lever, at the same time opening the throttle wider so that the engine does not stall. A "BOWN 50" can even be started on moderately steep inclines without using the pedals.

STOPPING THE ENGINE :

Close the throttle and select neutral. Switch off the ignition. To do this, press the cut-out push button (No. 6) on the left handlebar until the engine stops. When stopping for some time, close petrol tap (No. 8).

DOWNHILL RIDING :

On long and very steep descents the engine running with the throttle closed acts as an excellent brake. If the road affords a clear view and is not too steep, it is possible by selecting neutral to coast downhill almost noiselessly. The powerful brakes can always be relied upon to bring the "BOWN 50" to a standstill promptly, even from high speeds. It is best to leave the engine running while in neutral, so that there is no difficulty in re-engaging gear at the end of the gradient. Then when selecting gear, open the throttle so that the engine speed can match that of the gearbox.

RIDING WITH THE ENGINE SWITCHED OFF :

Your "BOWN 50" can be used like a bicycle when riding with the engine switched off. Please, take care of the following manipulations :

Pull up clutch lever.

Engage clutch locking yoke (No. 7).

Engage gear and pedal as bicycle.

RUNNING-IN

The new parts of the engine need about 270 miles to be run in. Do not drive too fast during the first period, and change down to first gear on gradients when you feel that the engine does not pull satisfactorily any longer.

FUEL AND LUBRICANTS

Engine: The cylinder bore, big end and main bearings are lubricated with motor oil, which is mixed with the fuel in the ratio 1:25 before being poured into the tank. If ready-mixed two-stroke fuel is not available at the service station, motor oil SAE 50 and petrol should be thoroughly mixed in a special container (mixing can) and then poured into the tank.

Any branded petrol is suitable. The engine does not require super fuel with a specially high anti-knock rating.

Gearbox: The gearbox of the engine is filled with oil before leaving the works. When the engine is running, this oil is in constant circulation between the housing containing the gears and pedal drive, and the clutch housing. Check the oil level in the gearbox when you take over your new "BOWN 50," and subsequently every three months. To do this, the oil check plug "K" situated on the right on the underside of the engine should be screwed out. If oil runs out here, this indicates that sufficient oil is present. If no oil appears, the oil filter plug "E" above the pedal shaft should be removed and gear oil added until oil begins to run out at the check plug "K." The gear oil should preferably be viscosity SAE 80. On no account should hypoid gear oil be used.

Although the gearbox oil may not undergo loss or become contaminated to any appreciable extent in use, it is nevertheless affected in the course of time by atmospheric oxygen. The oil should therefore be changed at least once a year. Should you wish to carry out the oil change yourself, run the machine far enough to warm up the engine and gearbox thoroughly, and then remove the oil check plug "K" and oil drain plug "A." The oil will then drain off completely from the gearbox. The clutch housing can be emptied by raising the front wheel of the Moped until the oil check plug hole on the clutch housing takes up its lowest position. The oil drain plug "A" is then screwed in again securely and gear oil is poured into the gearbox through the oil filter hole "E" until it starts to emerge at the oil check plug hole "K." Loosen the "S" cover on the right-hand side of the engine, so that the air from the gearbox can escape. Then screw in the oil filler plug "E" and oil check plug "K" and let the engine run for a short time. This will ensure that the gearbox walls also are thoroughly wetted with oil and that the oil is correctly distributed between the two housings, so that on re-checking the oil level a correct result can be obtained.

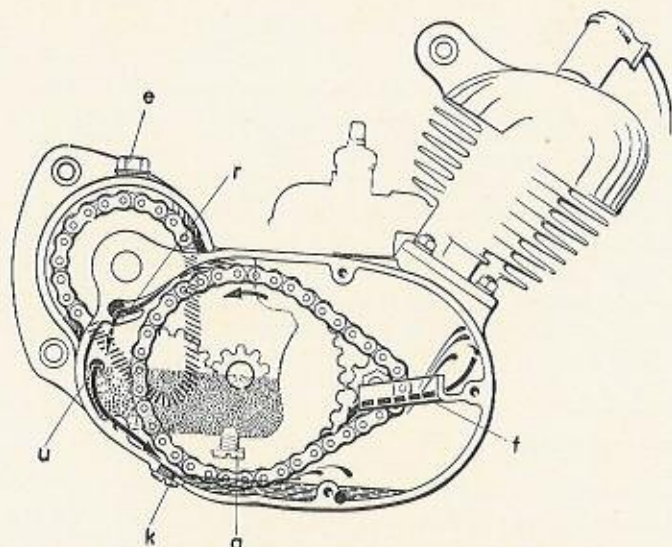


Fig. 4. Oil Circulation in Clutch Chamber and Gearbox.

a=Oil drain plug. e=Oil filler plug. f=Oil duct for lubricating primary chain.
k=Oil check plug. r=Oil return to gearbox. u=Oil overflow port from gearbox
to clutch chamber.

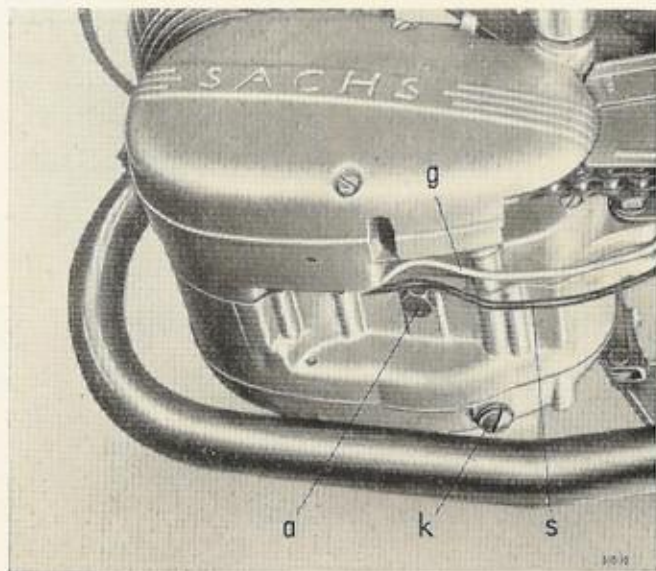


Fig. 5. Gearbox Lubrication.

a=Oil drain plug. g=Lighting cable. k=Oil check plug.
s=Short circuiting cable.

REAR CHAIN :

From time to time, at the latest when the chain rollers begin to appear dry and shiny, the rear chain should be lubricated with a thick motor or gear oil. It is better, however, to take off the chain, wash it in petrol or kerosene and then immerse it in warm chain grease of the normal type. The chain should be moved about in the grease periodically, so that the grease can penetrate effectively into the joints and rollers. Surplus lubricant must be allowed to drain from the chain on removing from the grease. When re-fitting the chain the spring link of the chain coupler must be so positioned that its closed end points in the direction of chain travel.

CONTROL CABLES :

The control cables for the carburettor, clutch, gear change and brake must also be lubricated from time to time. At the same time a drop of oil should be applied to the joints of the clutch and brake levers.

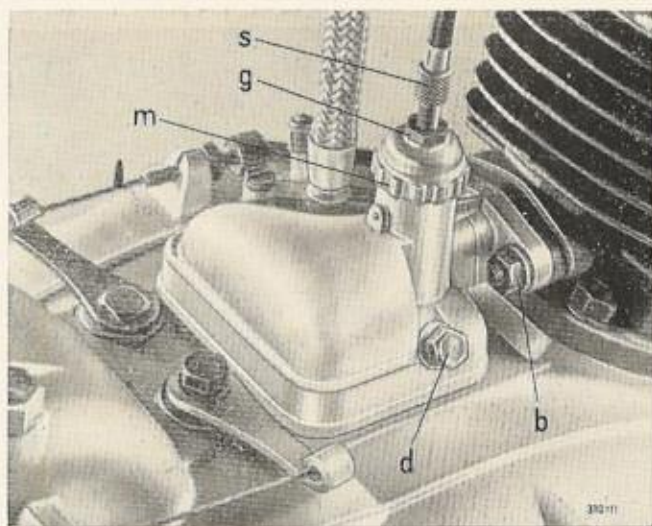


Fig. 6. Carburettor.

b = Securing nut. d = Jet. g = Lock nut. m = Mixing chamber cover.
s = Adjuster screw for control cable.

MAINTENANCE

CLEANING THE AIR FILTER

Depending on dust conditions, but usually approximately every 600 miles, the air filter on the carburettor intake must be cleaned. For this purpose the two carburettor securing nuts "B" at the cylinder must be taken off and the carburettor removed. The throttle control cable to the throttle slide, and the flexible fuel pipe, can remain connected. If the carburettor is turned a little so that its underside is visible, it is possible—without the use of tools—to grip the upturned ends of a spring ring "K" and withdraw it from the grooves in the carburettor housing. On removing the ring, the filter element "F" drops out of the carburettor. The element should be washed in petrol and wetted with motor oil before re-fitting.

CLEANING THE JET

For cleaning purposes, the jet "D" screwed into the outside of the carburettor must be removed and blown out. It may also be cleaned with a paintbrush bristle or a fine strand of copper wire—on no account use steel wire or a needle.

When re-fitting, do not over-tighten the jet, otherwise the transverse holes may be closed up under the excessive pressure.



Fig. 7. Air Filter in Carburettor.
f—Filter element. k—Spring ring.

CLEANING THE CARBURETTOR AND FUEL PIPE

The carburettor, too, must be cleaned periodically to remove the contaminants which are always present in the fuel. This entails taking it off, along with the fuel pipe. The mixing chamber cover must be removed so that the throttle slide can be lifted out. The slide, spring and cover can be left hanging on the control cable.

If the screws visible on the top of the carburettor are now taken out, the float chamber cover together with the fuel pipe can be detached from the carburettor. The float, together with the float needle, can then be removed from the float chamber in which most of the dirt collects. Sludge also settles in the mixing chamber plug on the underside of the carburettor.

When re-assembling, the throttle slide must **not** be oiled. If the fuel pipe is taken down for cleaning, or blowing out, the fuel tap should be unscrewed from the tank at the same time so that the gauze strainers in the tap, which are then accessible, can also be cleaned.

DECARBONISING

Every engine burns part of its lubricating oil to form carbon which adheres to all surfaces in contact with the combustion flame or exhaust gases. In a two-stroke engine, therefore, the parts concerned are the piston, cylinder head, exhaust port, exhaust pipe and silencer. Decarbonising of these parts must be carried out periodically, and must be performed without delay if the engine loses power or shows a tendency to four-stroke in spite of correct carburettor settings. Decarbonisation is usually necessary after every 2,500 miles.

To remove the carbon from the combustion chamber it is necessary to unscrew the cylinder head. The carbon can then be scraped out of the cylinder head, using a tool which should not be too sharp, e.g., a screwdriver. The cylinder head can be cleaned up to give a bright metallic finish. When dealing with the piston, however, only the burnt brown flakes should be removed from the crown, preferably by wire-brushing.

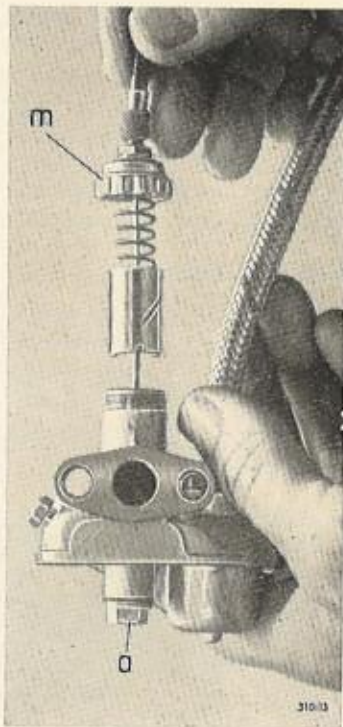


Fig. 8.

a = Mixing chamber plug.
m = Mixing chamber cover.

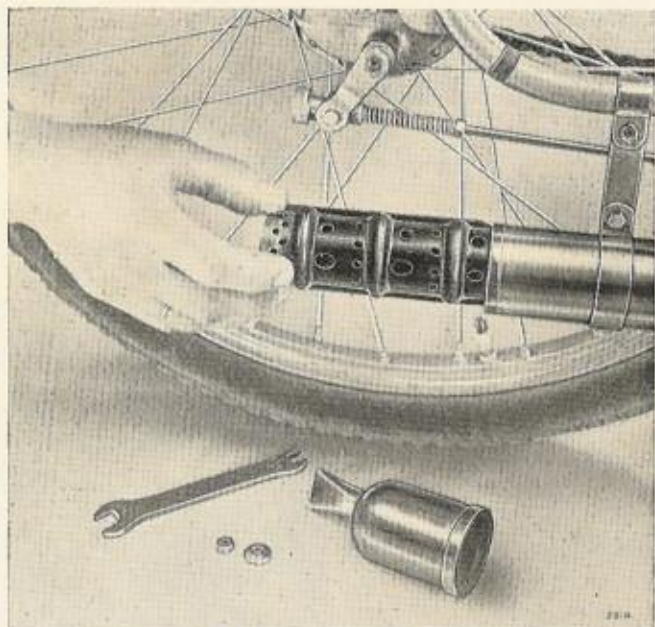


Fig. 9. Dismantling the Silencer.

To clean the exhaust port, take off the exhaust pipe and position the piston at B. D. C. The port can then be cleaned conveniently from outside. Any carbon which has dropped on to the piston will be blown out.

The exhaust pipe can only be cleaned in a workshop equipped with special brushes. A little carbon here does no harm. On the other hand, the smaller apertures in the silencer may become heavily clogged in the course of time. To dismantle the silencer, unscrew the nut on its rear end. The carbon should then be burnt out of the silencer element by heating it to red-heat in a forge, or by applying a welding torch. This is also a job which is best left to a workshop. On no account should the apertures in the silencer be altered in any way; any such interference may increase the exhaust noise and seriously affect engine performance.

MAINTENANCE OF THE ELECTRICAL SYSTEM :

A flywheel magneto-dynamo provides both an H.T. supply for ignition as well as a 6 volt A.C. supply for lighting purposes.

A 17 watt lighting coil is fitted—the current delivered is sufficient for a 6 volt 15/15 watt Bilux bulb and a 6 volt 2 watt tail light. In addition to the H.T. cable, two further cables lead out of the magneto-dynamo to the headlamp, a yellow one for the lighting current connecting to the switch in the headlamp and a black short-circuiting cable leading to the cut-out push button.

The only attention required by the magneto-dynamo is a check on the contact breaker gap approximately every 3000 miles. Remove the left-hand crank and take out the two cheese-head screws on the left-hand side of the housing so that it is possible to remove the cover below which are situated the magneto flywheel and the driving sprocket. The magneto flywheel has large openings affording easy access to the breaker contacts. To check the gap, turn the flywheel in the normal direction of rotation until the breaker contacts just begin to separate.

The contact breaker gap and the engine timing are correct if at this instant the mark "M" coincides with a line scribed on the housing. The piston is then in the firing position. If at this moment the marks are more than approx. 0.078—0.098 in. apart, the contact breaker gap needs adjustment. If on rotating the engine in the normal direction the mark "M" has not reached the mark on the housing, the gap between the contacts must be reduced, otherwise it must be increased. To do this, the screw which secures the anchor plate, i.e., the fixed breaker contact, to the baseplate must be slackened.

With the aid of a screwdriver, which should be inserted between the recess on the anchor plate and two small pins on the baseplate, the contact breaker gap can then be accurately adjusted. Finally, the clamping screw must be securely re-tightened and the adjustment checked again.

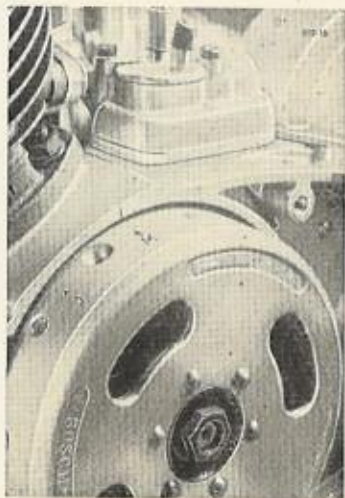


Fig. 10. Marks on the flywheel.
M—Timing mark.
O—T.D.C.

Any work on the flywheel magneto-dynamo which entails removal of the flywheel from the crankshaft should be entrusted to a competent workshop. For withdrawing the flywheel, extractor 277 750 and cap 277 700 are absolutely essential.

Apart from contact breaker contacts, the only other component liable to natural wear is the sparking plug. The plug gap when in new condition is 0.016—0.02 in., but gradually increases due to erosion. If the gap has increased beyond 0.031 in., the outer earth electrodes should be bent in towards the centre electrode, by using a suitable tool or by tapping lightly, until the gap has been restored to the original value of 0.016—0.02 in.

If ignition trouble is experienced, always examine the sparking plug first, as the electrodes and insulator must not be allowed to become fouled with combustion residues or oil.

CHECKING THE IGNITION SYSTEM

If when the trouble occurs a fault in the ignition system or sparking plug is suspected, the strength of the spark can easily be tested. When the engine is turned by hand, e.g., using the crank, the length of the spark formed in the open air between the end of the H.T. cable (remove the plug connector) and some part of the engine, e.g., the cylinder, must be at least $5/32$ in. If this is so, the ignition system itself is working satisfactorily. The plug can be tested for serious defects by unscrewing it, clipping on the H.T. cable and earthing the plug body, i.e., by holding it against some part of the engine such as the cylinder or cylinder head. By turning the cranks again a vigorous spark should now jump across the electrodes.

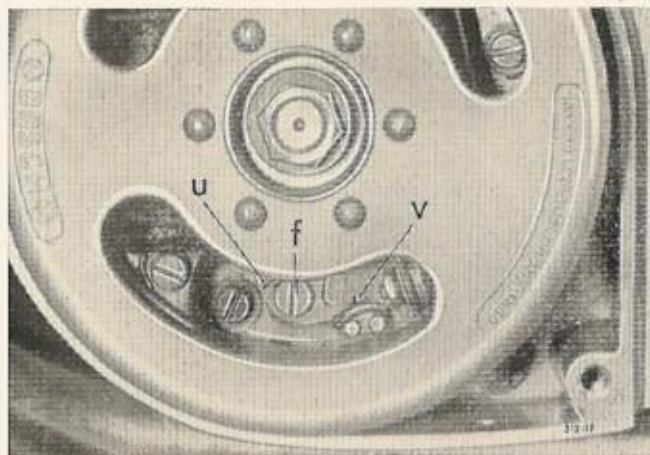
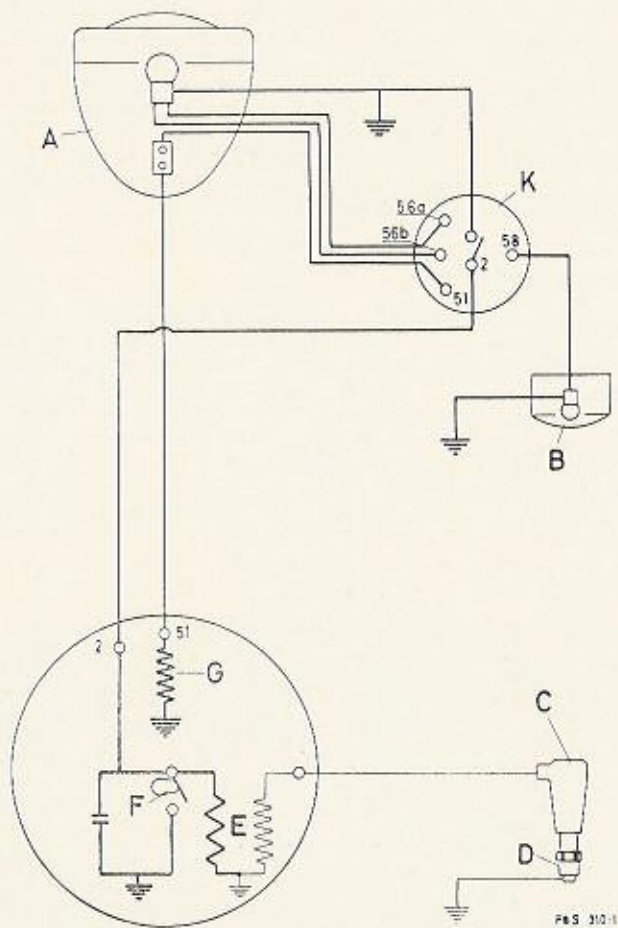


Fig. 11. Adjustment of the Contact Breaker.

f=Clamping screw. u=Breaker contacts. v=Adjusting slot of fixed contact.



P.S. 310-1

Electrical Wiring Diagram.

A = Headlamp, B = Tail Lamp, C = H.T. cable hood for plug, D = Sparking plug, E = Ignition coil, F = Contact breaker, G = Lighting coil, K = Lighting switch.

ADJUSTING THE GEAR SELECTOR

The gear actuating lever on the engine—the small lever on the top of the gearbox at the right-hand side—is operated via a control cable from the gear twistgrip on the handlebar. The gearbox incorporates a spring which always tends to rotate the gear actuating lever into the position giving second or high gear. Thus, even if the control cable is damaged it is always possible to ride 2nd gear.

To ensure that the projection on the clutch grip drops into the grooves of the gear locking catch on the gear twistgrip and that the marks on the gear position indicator are correct, the control cable from the twistgrip to the gearbox must be correctly adjusted. The control cable adjuster screw on the right-hand side of the gearbox is used for this purpose. If the control cable is taken down at any time, the lock nut must be screwed to the full extent on to the adjuster screw and the latter in turn screwed as far as possible into the housing lug. After selecting 2nd gear by means of the twistgrip, the free end of the control cable can easily be hooked into the gear actuating lever. The control cable adjuster screw must be unscrewed until only a very small amount of clearance can be felt in the cable sheath. Then select neutral by means of the handlebar control, pull up the clutch lever until the gear locking catch is released, and try to find the mid-position between the two gears by turning the gear twistgrip. Turn the adjuster screw until this mid-position corresponds exactly to the neutral mark on the grip.

ADJUSTING THE CLUTCH

The clutch in the "BOWN 50" must transmit the full engine output power. On the other hand, when stopping or changing gear, it must also completely disconnect the engine from the gearbox. In addition, it has to reconcile considerable differences of speed when the machine is started from rest. It will always perform these duties reliably if it is properly adjusted and if the slight amount of normal wear which occurs is promptly taken up. The following is the procedure for correct adjustment:

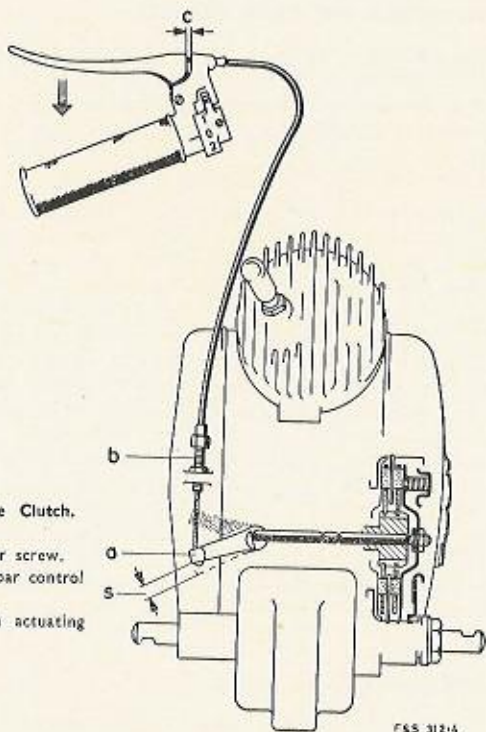


Fig. 12. Adjusting the Clutch.
 a—Motor clutch lever.
 b—Control cable adjuster screw.
 c—Free travel at handlebar control lever.
 s—Free travel at clutch actuating lever.

1. Detach the cable from the clutch actuating lever on the top of the gearbox at the left-hand side and check whether the end of the lever can be moved through approx. 0.4 in.
2. With the engine cold, set the adjuster screw on the clutch control cable to give a free travel of 0.04—0.1 in. of the clutch control lever on the handlebar.
3. As the clutch plates wear, the free travel at the handlebar control lever decreases. The necessary amount of free travel can be restored by screwing in the cable adjuster screw.
4. When it is no longer possible to screw in the cable adjuster any farther, the "S" cover on the right-hand side of the housing should be taken off. The inner adjuster screw together with the lock nut will then be accessible. After slackening the lock nut the inner adjuster screw should be turned until the free travel specified for the clutch actuating lever in para. 1 above has been restored.

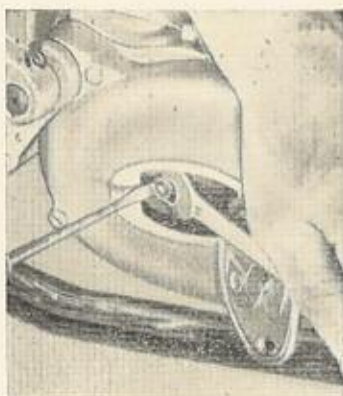


Fig. 13. Adjusting the Clutch.

ADJUSTING THE CARBURETTER :

Steady, slow running which does not alter even when the machine is stopped for a fairly long time, e.g., at a crossroad, always speaks well for both machine and rider. This slow running can be achieved with the "BOWN 50" if care is taken in setting the adjuster screw on the carburetter control cable. The adjustment should be made when the engine is thoroughly warmed up, since a thoroughly warmed up engine will run too quickly if the slow-running adjustment is made when the engine is cold. Main jet No. 56 in the carburettor need not be changed under any operating conditions, even during the running-in period. Who lays stress upon low fuel consumption, may put the jet needle somewhat deeper after 300 miles of drive.

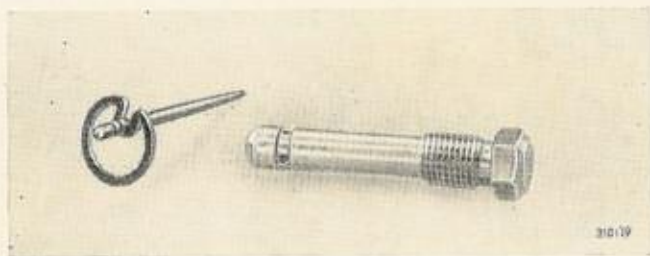


Fig. 14. Jet and Jet Needle with Clip.

To do so, the piston valve is withdrawn from the carburettor, taken off the control cable, and then the clip of the jet needle put from the third into the second notch.

HUBS AND HUB MAINTENANCE :

The hub brakes are designed on very robust lines, and so effective that the machine is always under perfect control even when travelling at top speed or in dense traffic. The hubs run on sturdy, adjustable ball bearings and the sealing arrangements are so efficient that there is no possibility of grease leaking out, or of road dust and moisture penetrating into the bearing assembly. Maximum durability is thereby ensured. Nor is there any need to carry out any routine re-lubrication of the hubs. The only time when this is necessary is during the main overhaul of the machine. The wheels should then be removed, the hubs stripped down, all parts carefully washed in petrol and fresh ball bearing grease applied. Before re-assembling check whether the seals require renewal.

FRONT WHEEL HUB :

Adjusting. After a long period of service the hand brake lever on the handlebar may develop too much free travel and in this event it will be necessary to adjust the control cable. Pull out or unscrew the cable adjuster from its abutment on the brake arm until the play in the brake lever is restored to normal; fix in this position by tightening locknut.

In time it may be found that there is insufficient thread left on the adjuster to permit further re-adjustment. To correct this, screw back the locknut as far as the head of the adjuster and then slacken the screw in brake arm holding the brake cable. With a pair of flat-nosed pliers pull the free end of the cable through until the free travel of the brake lever on the handlebar is almost completely taken up. Then re-clamp the cable by tightening the screw in the brake arm. Make any necessary final correction by means of the adjuster and locknut.

Repeated re-adjustment of the brake over a long period of service may result in the brake actuating lever on the hub making a larger angle than 90° with the control cable when the handlebar lever is pulled right up. This condition indicates that the brakes must be relined.

The brake must always be kept properly adjusted so that the hub is able to spin freely without rubbing on the brake shoes. At the same time the handlebar lever must allow a certain amount of free travel before the brake begins to bite.

Removing the Front Wheel. If it is intended to remove the front wheel from the hub, first slacken the brake cable by unscrewing the locknut and cable adjuster far enough to allow it to be unhooked from the slot in the end of the brake actuating lever on the hub. If a speedometer is fitted, detach the speedometer drive shaft from the drive unit (take the retaining screw right out and withdraw the flexible shaft from the drive box) and then slack back the two clamping bolts, then remove the two hub spindle nuts. The wheel can then be disengaged from the fork. Refitting is a reversal of the above procedure.

Adjusting the Bearings. When the hub is out of the frame the hub bearings should show a barely perceptible amount of end play. After the hub spindle has been refitted to the fork and securely tightened the rim should still permit a very slight trace of sideways movement. If the degree of play in the hub is incorrect, slacken the thin locknut below the speedometer drive box and re-position the adjustable cone located behind the nut. When doing this, however, remember that the bearing play will be reduced by a small amount when the locknut and spindle nut are re-tightened.

REAR WHEEL HUB :

Adjusting. The end of brake pullrod carries a knurled nut which must be turned clockwise if it is desired to lessen the free travel in the brake linkage. Do not over-tighten and make sure after adjusting that the hub still spins freely and without rubbing on the brake shoes. Repeated re-adjustment may ultimately result in an angle larger than 90° being formed between the brake actuating lever on the hub and the brake linkage when the brake is in the applied condition. In this case the brake actuating lever must be withdrawn from the expander spindle, moved back through one serration and refitted.

Removing the Rear Wheel. Back off knurled nut until the brake rod can be disengaged, in a downward direction, from the swivel in the brake actuating lever. At the same time the spring on the brake rod is pushed slightly forward. Then unscrew or slacken spindle nut and chain adjuster until the wheel can be pushed sufficiently far forward to enable the chain to be lifted off the rear sprocket.

If the rear wheel cannot be pushed far enough forward in the frame it will be necessary to remove the chain connector and open the chain. It will then be possible to withdraw the wheel rearward from the frame. When joining the rear chain after refitting the wheel, make sure that the connecting link is inserted from the inside and that the closed end of the spring link is on the outside of the chain faces in the direction of chain travel.

Adjusting the Hub Bearings. Correct hub adjustment is indicated when a barely perceptible amount of end float is present in the spindle with the wheel removed from the machine. With the wheel refitted and the spindle nuts securely tightened, this end float should disappear, but there should still be a slight trace of sideways motion at the rim. If this play disappears completely on tightening the spindle nuts, check to make sure that the fork ends are true and parallel with each other.

To alter the play in the hub bearings, first unscrew the spindle nut on the sprocket side of the hub and then slacken the thin locknut at back of the spindle nut until it is possible to turn the adjustable cone. Screw in the cone to reduce bearing play, and screw out to increase. When doing this remember that the play will be slightly reduced on tightening the locknut and spindle nut.

TROUBLES AND THEIR REMEDIES

Engine will not start

CAUSE :	REMEDY :
Fuel tap shut.	Open tap.
Tickler has not been used.	Press tickler on carburettor down for 4 seconds.
Throttle opened too soon.	Do not open twistgrip until engine fires.
No fuel in tank.	Fill up.
Jet blocked.	Unscrew jet and clean by blowing out.
Fuel pipe blocked. (Carburettor fails to flood even after using tickler for some time.)	Clean fuel pipe, tap and strainer in tap filter.
H.T. cable detached or damaged.	Clip plug on again or renew cable.
Sparking plug sooted up, bridged or defective.	Replace sparking plug, or clean.
Earth fault in H.T. cable or push button sticking.	Check and repair H.T. cable and short-circuiting push button.
Spark too weak.	Bend in sparking plug electrodes temporarily to 0.012 in.; have ignition system checked.

Engine starts, but quickly stops

CAUSE :	REMEDY :
Blocked air hole in tank filler cap.	Loosen or remove filler cap. Clear the vent. If necessary drill extra air holes.
Fuel pipe blocked. (Carburettor fails to flood even after using tickler for some time.)	Clean fuel pipe, tap and strainer in tap filter.
Sparking plug electrodes bridged.	Clean or replace sparking plug.

Engine runs with reduced power, or stops

CAUSE :	REMEDY :
No fuel in tank.	Fill up.
Jet blocked.	Clear the jet.
Fuel pipe blocked. (Carburettor fails to flood even after using tickler for some time.)	Clean fuel pipe, tap and strainer in tap filter.
Blocked air hole in tank filler cap.	Loosen or remove the filler cap. Clear the vent.
Exhaust system blocked.	Clean exhaust port and silencer.
Air filter blocked.	Clean the filter.

Engine runs unevenly

CAUSE :	REMEDY :
H.T. cable loose or damaged.	Fix cable, or renew.
Sparking plug sooted up, bridged or defective.	Replace sparking plug or clean.
Ignition system defective.	Have ignition system checked in a specialist workshop.

Engine four-strokes and pulls badly

CAUSE :	REMEDY :
Carburettor flooding owing to dirt on float needle seating.	Use tickler vigorously, or clean.
Float needle and seating in float chamber cover out of alignment.	Renew float needle and float chamber cover.
Float leaking.	Fit new float.
Jet loose in carburettor.	Tighten jet.
Exhaust system blocked.	Decarbonise exhaust port and silencer casing.

Engine will not pull**CAUSE :**

- Jet blocked.
- Fuel supply inadequate owing to dirty fuel pipe.
- Carburettor dirty.
- Clutch slipping.

REMEDY :

- Clean jet.
- Clean fuel pipe, tap and strainer in tap filter.
- Clean float chamber, jet and mixing chamber plug.
- Check setting of clutch and clutch control cable. Renew the Energit plates if necessary.

Engine misfires with blow-back in carburettor**CAUSE :**

- Sparking plug incandescent, owing to wrong heat value.
- Sparking plug electrodes or insulator bridged.
- Engine receiving too little fuel.

REMEDY :

- Use sparking plug with prescribed heat value.
- Clean or replace sparking plug.
- Check and clean fuel pipe, air vent in tank filler cap and carburettor.

Engine cannot be started because clutch slips**CAUSE :**

- Wrong clutch setting.
- Too much, or too viscous oil in gearbox.

REMEDY :

- Check setting, make sure there is adequate free travel and that control cable works easily.
- Check gearbox oil level. Use Gear Oil SAE 80.

Fuel consumption too high**CAUSE :**

- Leak in tank, fuel pipe or carburettor.
- Fuel level in carburettor too high.
- Needle and needle jet seriously worn after long service.

REMEDY :

- Check and repair.
- Carburettor must not overflow when machine is standing still. Check float, float needle and seating.
- Replace needle and jet.

Engine does not stop when switched off**CAUSE :**

- Ignition switch defective or short-circuiting cable broken.

REMEDY :

- Arrange for overhaul. Pending overhaul, remove H.T. cable to plug in order to stop engine.

REPAIRS AND ESTIMATES

REPAIRS

Parts forwarded to Aberdale Cycle Company Limited for repair, or replacement, must be sent via your local "Bown" Agent and should bear the sender's name and address, and instructions must accompany the parts. All parts must be forwarded carriage paid and care should be taken to ensure that all remittances are sent separately and not enclosed with the parts. Fragile units such as cylinders, pistons, etc., should always be boxed to prevent damage in transit. Complete machines should have fitments, such as mirrors, tools, etc., removed by the sender before despatch, as it is impossible for us to accept responsibility in the event of loss in transit.

ESTIMATES FOR REPAIRS

Before proceeding with any repair, we shall, if desired, be pleased to submit an estimate for the cost involved, but should an estimate not be accepted, a charge will be made covering cost of dismantling and re-assembling, if carried out.

All estimates must be treated as approximate only, and we reserve the right to include and charge for any additional parts found to be necessary on further examination, in order to make repair satisfactory.

ABERDALE CYCLE Co. Ltd.

EDMONTON, LONDON N. 18

ENGLAND

GUARANTEE

TERMS OF GUARANTEE : In substitution for any statutory or other warranty, express or implied, Aberdale Cycle Company (hereinafter called the Company) guarantees that every reasonable care has been taken to secure excellence of materials and workmanship in the manufacture of this machine, and the Company undertakes to replace any part found to be defective by reason of fair wear and tear free of charge for a period of six calendar months from the date of purchase subject to the following conditions :—

CONDITIONS

1. This Guarantee only becomes effective if the Guarantee Registration Card is duly completed and returned to the Company within ten days of the date of purchase. It is only applicable to the original purchaser who has purchased from an accredited Dealer at the Company's published Retail Selling Price and is not transferable.
2. This Guarantee applies to all parts of the machine manufactured by the Company, but does not apply to specialities or parts supplied by other firms, such as tyres, saddles, chains, lighting and electrical equipment, etc.
3. Claims under this Guarantee should in the first instance be made to an accredited Dealer who may be able to apply a quick remedy and who should be able to advise if the fault is due to fair wear and tear. Improper or excessive use or neglect are not covered by this Guarantee.
4. The return to the Company of the machine or any part should it be necessary, must be carriage paid to the Company's works, and the Company accepts no responsibility for damage or loss in transit, or from the Company's works.
5. When claiming under this Guarantee the claimant must advise the Company of the Frame and Engine numbers of the machine, the reference number of this Guarantee, the date of purchase and the name of the Dealer from whom it was purchased.
6. The Company reserves the right to charge for any labour involved in effecting any replacement under this Guarantee.
7. This Guarantee will be rendered invalid (a) if the machine is misused (the term "misused" shall include the carrying of more persons or a greater weight than that for which the machine was designed by the Company) or (b) if any unauthorised repair, modification, alteration or substitution of any part or parts of it be made or if any serial numbers are defaced or altered, or (c) in the case of (i) machines which have been used "for hiring out" purposes or (ii) machines from which the trade mark, name or manufacturing number has been altered or removed or (iii) any machine in which parts have been used not supplied by the Company.
8. A Dealer is entitled to charge for labour and carriage and packing costs involved.
9. No variation of the Terms and Conditions of this Guarantee is valid unless made in writing by the Company and signed by a Managing Director.
10. No guarantee, condition or warrant of any kind, statutory or otherwise, is given or is to be implied, nor is the Company to be under any liability whatsoever in respect of machines or parts not expressly covered by this Guarantee.

ABERDALE CYCLE CO. LTD., EDMONTON, LONDON, N.18

ENGLAND



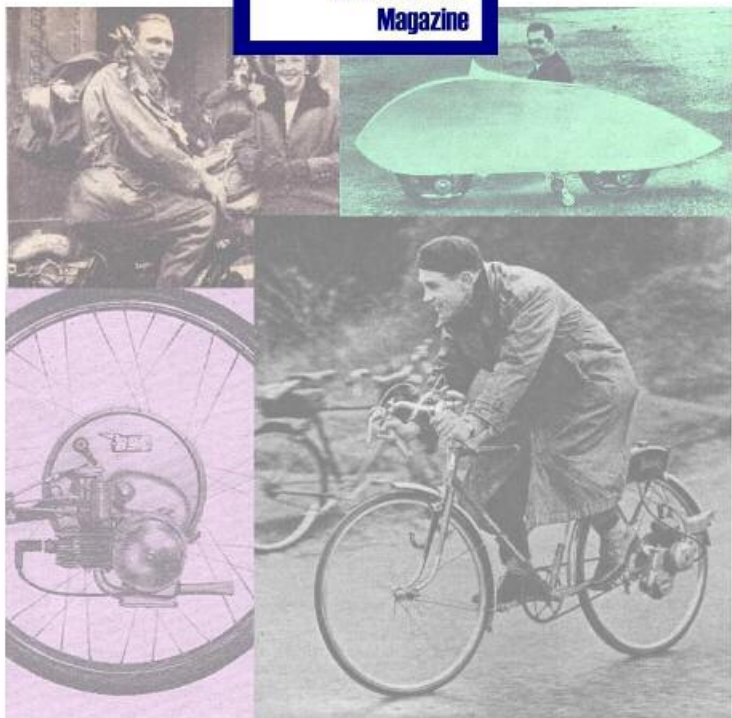


ABERDALE CYCLE CO. LTD.

EDMONTON, LONDON, N.18

ENGLAND

IceniCAM Information Service



www.icenicam.org.uk