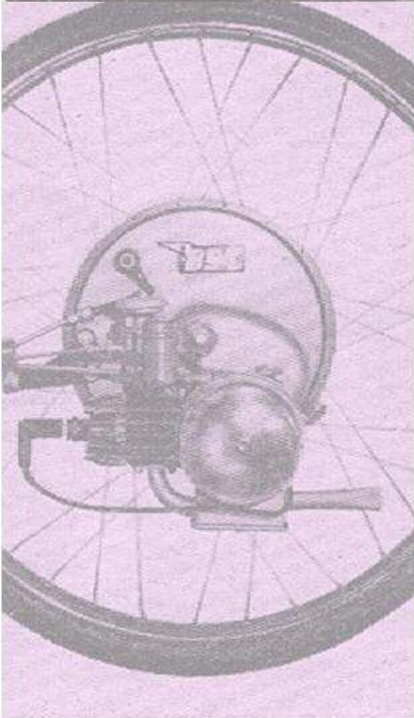


IceniCAM Information Service



www.icenicam.org.uk

SERVICE INSTRUCTIONS

FOR THE **WIPAC** SERIES 72 MK I

FLYWHEEL IGNITION GENERATOR

RUNNING MAINTENANCE

The magneto 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. (See Service Instructions.)

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

After every 5,000 miles it is necessary to re-lubricate the cam oil pad. This is done by removing the pad and

squeezing and working into it a Summer grade of motor transmission grease which will very closely resemble that used at the factory. Do not use ordinary grease.

Do not run with a faulty or damaged high-tension lead and occasionally clean away mud and dirt from around the H.T. insulator.

If the magneto requires any attention beyond the replacement of contact points and condenser, it is recommended that the complete machine should be sent to us or to an authorised Wico service station. The following information is given for the benefit of those unable to do so :—

GENERAL MAINTENANCE

Checking the Magneto for Spark

If the engine fails to start and there is an indication of the magneto causing trouble, the spark can be checked by holding the H.T. lead $\frac{1}{8}$ " away from a point on the frame. When the engine is kicked over in the usual way, a spark should jump this gap. If no spark is visible, see that the H.T. lead is in good condition and examine the contact breaker. Make sure there are no metallic particles inside the housing and that the contacts are perfectly clean, and the gap is correct to the recommended setting. If the contacts are found to be in a burnt or badly pitted condition, a faulty condenser is indicated. If the contact breaker appears to be in order, the flywheel rotor may be removed from the engine by means of the captive extractor nut, allowing full examination of the stator assembly. The leads of the ignition coil should be examined to ensure that there is no break in the wiring. One lead will be found to be joined to a tab which is held secure by one of the four main core screws which anchor the stator to the stator housing. If this is in order check the other end of the primary ignition coil which is connected to the insulated post together with the condenser lead, the insulated post thus forming part of the contact breaker assembly.

If both these leads are connected and the tabs are not earthing on the stator plate or core, the ignition coil should be in working order. In the unlikely event of the H.T. insulation of the secondary coil breaking down, it may be possible to detect signs of charring on the binding tape of the coil. Should, however, the breakdown be internal, then these symptoms will not be present.

Replacement of Ignition Coil.

To remove the coil, the stator assembly should be removed from the crankcase, thus allowing maximum freedom for the operations involved. Take off the H.T. insulator moulding by unscrewing the two fixing nuts, and free the live primary lead from the insulated post fitted to the fixed contact breaker plate.

Remove the two stator securing screws on either side of the ignition coil core, and if necessary just slacken off the remaining two stator securing screws. It is now possible to ease the ignition coil core clear of the two "Tee" shaped laminated stacks. There is no need to entirely remove the two stator securing screws which are remote from the coil, enough clearance being obtained if the foregoing instructions are carried out.

Four dowel pins are used to locate the iron circuit, so that when the four stator securing screws are re-tightened down, the positioning of these stacks should not have altered, assuring the correct air gaps on each of the six stator poles. This point should be carefully noted when reassembling the stator.

To refit the ignition coil proceed as follows :—

Assemble the ignition coil core to the coil, care being taken to see that the positioning of the coil H.T. terminal and coil core is in correct relation to mating parts. Now gently push the ignition coil core into its seating, and re-insert the securing screws on either side of the ignition coil. If the coil core is difficult to push right home, then a few taps on either end of the core should be sufficient to push the core completely home. Finally,

THE WIPAC GROUP — BLETCHLEY ENGLAND
NORTHERN AREA BRANCH AND SERVICE DEPOT 7 PARK SQUARE, LEEDS

SERVICE INSTRUCTIONS

tighten up all four stator screws, care being taken to see that the ignition coil primary earth tab, and the lighting coil earth tab, are secured by the two screws holding down the right-hand stator stack as observed when removing the flywheel rotor, and are clear of the rotor. Replace the high tension insulator moulding making sure that it is possible to observe the high tension terminal contact at the bottom of the ignition cable lead in. Replace the nuts and lock-washers and tighten firmly down.

Any wire loops or wires that could come into contact with the flywheel rotor should be pushed back behind the radius of the stator to prevent fouling and electrical breakdown.

Replace the live primary ignition lead and the condenser lead on the insulated post which also carries the contact breaker return spring and tighten up the nut, making sure that the terminal tabs do not come into contact with any earth point. Make sure that all tabs are clean and all clamped connections are tight.

Removal of Flywheel Rotor

Only in the case of absolute necessity should the flywheel rotor be removed. Use a suitable spanner to undo the centre extracting nut.

Turn the nut in an anti-clockwise direction firmly holding the rotor until the rotor is felt to give from the taper then continue to turn the nut until the rotor is free of the shaft.

Removal of Condenser

Remove rotor as described above. Slacken off the nut of the insulated post, thus freeing the condenser lead. Unscrew condenser case fixing screw and withdraw condenser.

When reassembling, firmly re-tighten nut and screw, and make sure that the condenser lead is pushed back clear of the rotor.

Adjustment and replacement of Breaker Points

The only adjustable part of the magneto is the breaker plate which provides for the setting of the breaker points.

To set these points proceed as follows :—

Turn the engine over until the points are fully open, and insert the feeler gauge. Slacken off the locking screw which is to be found immediately above the points and if the gauge is tight, adjust the fixed contact plate by means of a suitable screwdriver engaged in the recess provided, in an anti-clockwise direction until the correct setting of 0.020" is obtained. Tighten up the locking screw. The breaker point setting should be adjusted in the manner described, and at no time should the fixed contact platform be bent to provide adjustment.

The moving contact is integral with the breaker arm. If the points need replacement, it is recommended that both fixed and moving contacts be replaced at the same time.

Before assembling the breaker arm to the pivot pin, smear the pin with oil or soft grease. An occasional smear of oil on the exposed end of the pivot pin will allow sufficient ingress of lubricant to prevent the parts running dry.

The contact breaker return spring is slotted to allow easy assembly of the moving contact assembly. Care should be taken to note that when fitting a new contact breaker, the insulating washers of the insulated post assembly are correctly placed, otherwise the primary winding will be permanently earthed. Tighten up the fixing nut, pushing the condenser lead behind the radius of the stator poles.

The Lighting Coils

These coils are of robust construction, and are therefore unlikely to develop faults under normal conditions of use. The coils are secured to the iron core by means of a varnish adherent, and are therefore not readily removed. In addition, the construction of the stator is such that the iron core must be taken off the stator plate before the coil can be removed from the core.

In order to be sure of sound assembly of coil to core, and to avoid damage to the paper former, the replacement lighting coil is supplied complete with core. Ample lead lengths are supplied for the necessary cross connecting, the coils being in series.

When fitting a new coil and core assembly, proceed as follows :—

Remove the stator securing screws of the coil core affected, and gently ease the core up to bring the dowel pins clear of the back plate. Refit the dowel pins to the new core and connect the new coil in circuit, care being taken to note that the finishes of the coils are connected together, and well insulated all connections.

Lower the core back into position and firmly screw home the stator securing screws. If difficulty is experienced in locating the core, slacken off the securing screws of the opposite core, when the replacement core will readily find its seating. Tighten up all four stator screws, seeing that the earth tabs of the lighting coils and ignition primary winding are in place and free of the flywheel rotor.

Bend all stray loops of wire and leads that can come into contact with the rotor, well clear behind the radius of the stator.

The Flywheel Rotor

The robust construction of the rotor reduces the possibility of any faults on this unit to a minimum. The three powerful magnet inserts are cast in the rim of the wheel and it is not possible to demagnetise them by ordinary usage. No keepers are necessary when the rotor is removed from the stator.

The boss of the flywheel rotor which carries the cam, is located on the crankshaft by a keyed taper and locked by the captive extractor nut of the rotor.

It is unnecessary to remove the flywheel unless at any time the engine has to be dismantled, or a fault develops in the magneto itself. No timing is necessary, the cam being keyed to the rotor boss. Contact setting is done through the ports provided in the rotor. When replacing, the rotor must be perfectly clean inside and out.