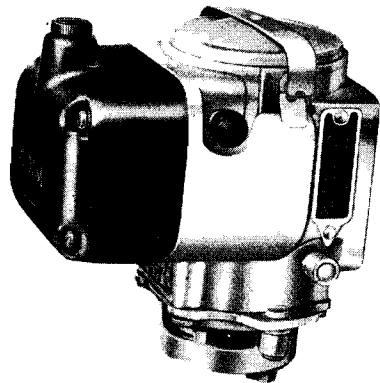


Service Parts List & Special instructions

for

SERIES A

WICO MAGNETOS



Wico-Built
Ignition

Balanced Electrical Circuit.

Precision Breaker Construction. Circulating Lubrication.

WICO ELECTRIC COMPANY
INC. IN MASSACHUSETTS.

LTD. LIABILITY

PERIVALE, ENGLAND

WICO ELECTRIC COMPANY, PERIVALE, ENGLAND.

Brief Instructions for care of SERIES A WICO MAGNETOS (TYPES A-1, A-R, A-2, A-G and A-4).

The Series A Wico Magneto can be furnished in a wide variety of specifications which include base or flange mounting; with inclosed impulse on the 45 M. M. shaft height, with adjustable impulse on 45 M.M. shaft height. The latter feature facilitates easy timing of magneto and is essential on some engines. (either 35 M.M. or 45 M.M. shaft height).

Interval between points where firing takes place in cylinders of engine.

A-1 1 cylinder	360°
A-R 2 cylinder	180°
A-2 2 cylinder	360°—720°
A-G 2 cylinder	180°—540°
A-4 4 cylinder	180°

INSTALLATION.

When installing the Series A Wico Magneto on a base mounted application, care should be taken to see that there is a proper alignment between the driving members and the lugs of the magneto drive cup. Before tightening the screws firmly this alignment should be checked by turning over the motor, at the same time ascertaining that the float member has sufficient play endwise during every turn of the cycle. Care should also be taken to be sure that the screws are short enough so that they are clamping the magneto down and not just bottoming in the tapped holes of the magneto. If chain driven with or without impulse, see that chain is not too tight and is free in all positions of drive.

TIMING TO IMPULSE SPARK.

When the impulse spark is to be used in timing the magneto to the engine, and in the absence of other information from the engine manufacturer, first remove the distributor cap. Then turn the magneto shaft over in the proper direction of rotation until the impulse coupling has just tripped. Note which tower of the distributor cap the distributor arm is nearest and the cylinder to which this tower is connected by the spark plug cable; then turn the engine over to top dead centre on this cylinder, on the compression stroke, and couple the magneto to the engine.

TIMING TO ADVANCE SPARK.

Where the engine flywheel is marked with the position of advance or running spark, a different procedure is followed. For multi-cylinder engines, turn the magneto shaft in a direction opposite to its ordinary rotation until the distributor arm is at the tower of the distributor cap to which is connected the spark plug cable leading to cylinder number one. By means of a thin piece of paper between the points, the exact instant of breaker opening can be determined. At this point the magneto is in position where a spark will be delivered to cylinder number one. Turn the engine over until the advance spark mark on the flywheel is correctly located on the compression stroke of cylinder number one and couple the magneto in this position. On one cylinder engines, the magneto of course has no distributor cap, and is coupled to the engine when the breaker points are just opening and when the piston is in the position of advance spark.

BREAKER POINT OPENING.

The breaker point opening should be adjusted to .015", by means of the screw head eccentric acting on the fixed contact. Admission to the breaker box is accomplished by removing the distributor cap and the gear housing on multi-cylinder machines, and by taking off the breaker box cover on the single cylinder.

IMPULSE COUPLING.

The impulse coupling is designed to give a spark of high intensity for starting. It automatically cuts out at about 165 FPM. The engine should not be run continuously below this speed, as this would cause an unnatural strain and wear on the impulse parts. The impulse also provides a retarded spark for starting, automatically advancing it as the engine gets up to speed. Any advance from 5° to 36° beyond impulse spark can be obtained by shifting the position of the impulse stop from one to another of the three holes in the end plate. The end plate as a whole may be shifted in its mounting slot to provide intermediate ranges between the holes.

FLUSHING OF IMPULSE.

If the impulse becomes clogged with dirt, the necessity for flushing it is evidenced by the trip arms' failing to engage or disengage, or by sluggishness in the action of the impulse when it trips. The impulse should be flushed out thoroughly with paraffin, taking care, however, not to allow any of the paraffin to work its way into the magneto housing. When a dust cover over the impulse is provided on the magneto, it must first be removed by loosening the clips at either side.

LUBRICATION.

The magneto is provided with two spring oilers, one on each side of the main housing, so that whichever way the magneto faces the engine, one oiler will always be convenient. Once every two hundred hours of operation, these oilers should be filled to overflowing with WICO, SAE 20 oil or Castrolite. On multi-cylinder engines it is necessary to lubricate the distributor gears in a similar manner after every 1000 hours of service by removing the oil plug located just below the distributor cap.

After every 1000 hours of service it is necessary to re-lubricate the cam oil pad. This is done by removing the pad and squeezing and working into it, some stringy grease. A summer grade of automobile transmission grease will very closely resemble that used at the factory. Do not use ordinary grease.

REMOVAL OF MAGNETO COVER.

Pull out the secondary interlead from the cover terminal, loosen the four screws holding the cover to the main housing and pull off the cover.

REMOVAL OF COIL.

With the magneto cover off and the breaker box exposed, loosen the screw holding the primary lead to the condenser case in the breaker box. Straighten the curved end of this primary lead so that it will draw through the opening in the housing provided for it. Remove the two screws holding the core clamps with their lock washers. Turn the rotor of the magneto over until the magnetism no longer grips the coil core to the main housing. Pull the coil and the coil core free. The coil is held on the coil core by a wedge. If the coil is to be replaced, it will, therefore, be necessary to press with considerable force to remove the coil from the core. Great care should be exercised in avoiding damage to the winding during this operation.

In replacing the coil and coil core be sure the ground surface of the core is against the housing, that the primary to condenser lead is properly located and that the primary ground lead is fastened under the coil core clamp screw.

REMOVAL OF CONDENSER.

When the breaker box is exposed by removing the gear case in a multi-cylinder machine or by taking off the breaker box cover in the case of a single cylinder magneto, take out the screw holding the primary and ground lead to the bakelite condenser. The entire breaker box may then be removed by unscrewing the two fillister head screws at either side of it, holding it to the main housing. The condenser is then taken from the box by removing the two fillister head screws fastening it down. In replacing the breaker box be sure the locating mark at the top is lined up with the corresponding mark on the magneto housing.

REMOVAL OF DISTRIBUTOR.

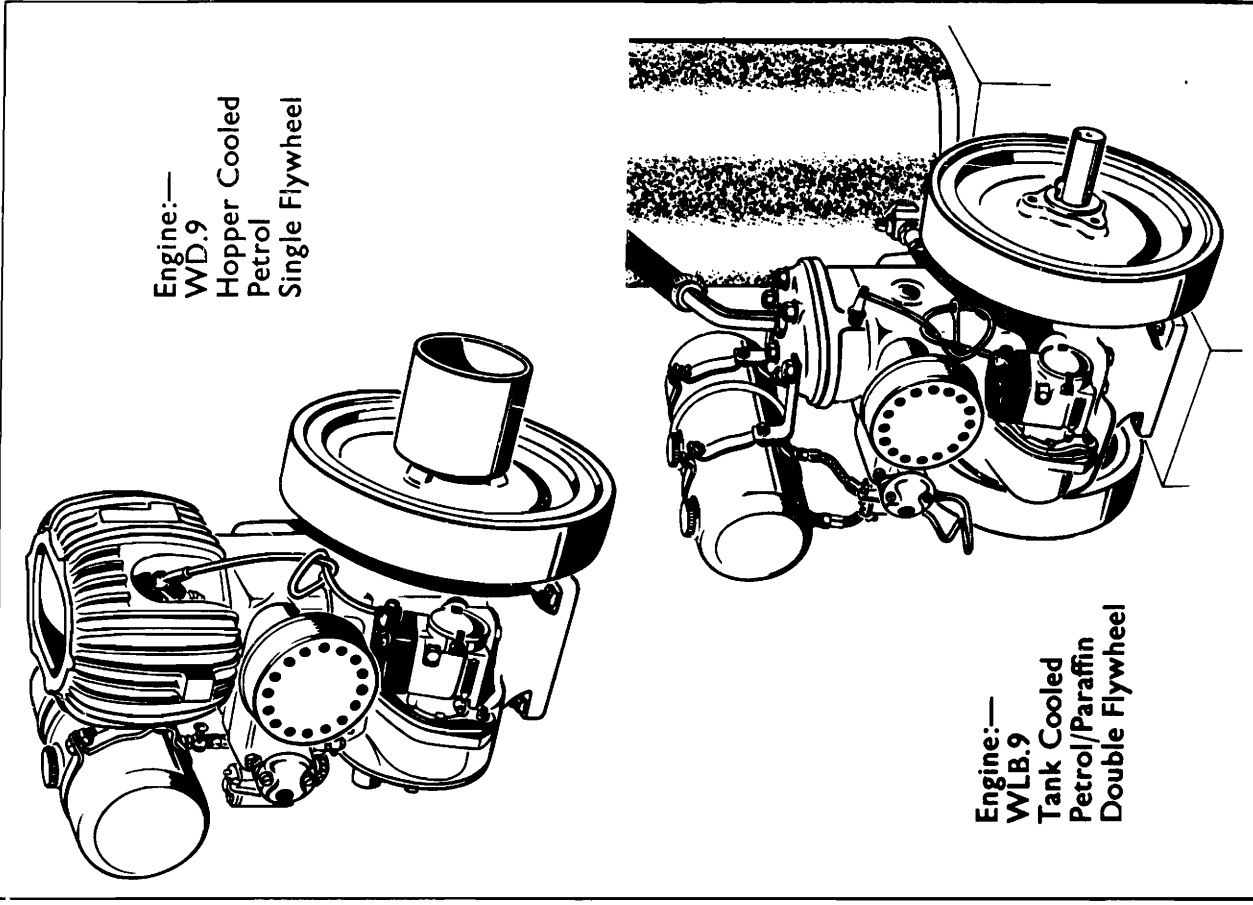
Wedge the distributor clips out with a screw driver and pull the cap off. The distributor arm can then be pulled directly off its stud. The cap should be free of any dust or dirt before being re-installed.

REPLACEMENT OF BREAKER POINTS.

It is recommended that if the points need replacing, both the fixed and moving points be replaced at the same time.

The breaker arm is integral with the spring and spring terminal and the moving contact point. To remove it, take off the breaker arm clamp screw, lock washer and clamp washer and the breaker arm spring terminal screw and lock washer and pull the assembly off the breaker arm pivot.

In reassembling, be sure that the steel breaker arm spacer is in place. With the breaker arm assembly off, the fixed contact plate may be taken off the breaker arm pivot, after the fixed contact screw has been removed



Engine:—
WD.9
Hopper Cooled
Petrol
Single Flywheel

Engine:—
WLB.9
Tank Cooled
Petrol/Paraffin
Double Flywheel

Typical examples of WICO series A Magnetos in use on Wolsley engines.